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E.L.18/86

JOHN LYNCH CREEK, TASMANIA

ANNUAL REPORT FOR PERIOD OCTOBER 1986 - SEPTEMBER 1987

Roger Poltock Geological Pty. Ltd.

For N.W. Creasy

001

## CONTENTS

## SUMMARY

## INTRODUCTION

## PREVIOUS EXPLORATION

## WORK COMPLETED BY N.W. CREASY

## DISCUSSION OF RESULTS

## GEOLOGY

## GEOCHEMISTRY

## APPENDICES

- (1) Analytical Data Sheets (a) -80#+150#, -150# stream sediments
  - (b) Panned concentrate chromite residues
  - (c) Laterites - Analytical Services (W.A.) Pty. Ltd.  
- Genalysis Laboratory Services Pty. Ltd.
  - (d) Rocks
- (2) Sample Record and Analytical Data Sheets
  - (a) -80# +150#, -150# stream sediments
  - (b) Panned concentrates chromite residues
  - (c) Laterites
  - (d) Rocks
- (3) Mineralogist's Report - Gold and Platinum Group Minerals in Panned Concentrates.
  - (a) Dr. Jiri Just
  - (b) R.E. Hill CSIRO
- (4) Micron Research (W.A.) Size screening and magnetic separation of panned concentrates (chromite residue) and laterites.

002

## PLANS

- |    |  |          |
|----|--|----------|
| 1. | Interpretive Geology                   | 1:25,000 |
| 2. | Sample Locations and Results - Sheet 1 | 1:10,000 |
|    | Sheet 2                                | 1:10,000 |

## PLATES

1. R.P. 1208 376,600E 380,450N Tributary Creek Panned Concentrate sampling.
2. RP 1152 71,300E 86,800N Webb's Creek  
Basal Ordovician Moina sandstone with grains of chromite.
3. RP 1225. 71,800E 81,800N Tributary Creek  
Recrystallized Gordon limestone.
4. RP 1226 71,800E 81,800N Tributary Creek  
Silicified ultramafic.
5. RP 1241 376,000E 376,400N Pieman South Area  
Carbonate and silica alteration of ultramafics, black blebs are chromite grains.
6. RP 1264 376,00E 377,00N  
Tertiary gravel, partially consolidated, clasts derived primarily from the Crimson Creek Formation.
7. 376,400E 385,000N  
Quaternary Huskinson River Gravels.
8. RP 1234 373,250E 381,00N  
Laterite exposed in Comstaff costein in vicinity of DDH Hus. 1.
9. RP 1211 372,700E 380,600N  
Laterite in the Tributary Creek valley, with dense eucalypt, tea tree regrowth.

003

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Huskinson Grids  
Pieman Area

004

## SUMMARY

This report details phase one of the exploration programme on E.L. 18/86 in Western Tasmania. Work completed includes stream sediment and panned concentrate sampling directed toward locating chromite, gold and platinum group mineralization in the Cambrian Huskinson River Ultramafic Complex and associated laterites and Tertiary to Recent alluvials.

Anomalous concentrations of chromite, cassiterite, osmiridium and gold are associated with streams draining Tertiary gravel beds at the headwaters of Chromite, and Tributary Creeks and in addition the lower reaches of Tributary Creek in proximity to the Lower Pieman Dam Road.

Anomalous platinum in stream sediments and panned concentrates is associated with anomalous chrome, zinc and nickel in streams draining the main body of the ultramafic complex south of John Lynch Creek. The ultramafic is not anomalous for gold.

Pisolitic laterites are of limited extent, probably eroded from the topographically prominent ultramafic. A single sample from the most extensive laterite occurrence assayed 0.36ppm gold, located on Huskinson River terrace.

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## CONCLUSIONS

Platinum group, gold and chromite anomalies associated with alluvials and possibly hard rock have been defined by stream geochemistry.

1. Platinum anomalies in stream sediment and panned concentrates have been located in the Lynch Hill area, tributaries of John Lynch Creek and Tributary Creek. Layered pyroxenites and dunites similar to those at Riley Knob, an anomalous hard rock platinum area in the Wilson River Complex have been described by Brown 1984 in the Lynch Hill area.
2. Alluvial concentrations of platinum group minerals, gold, chromite and cassiterite are associated with Tertiary gravels at Chromite Creek and Tributary Creek.
3. The Huskinson River Ultramafic Complex is not anomalous in gold. This metal in alluvials is considered to have been derived from veins in the Huskinson Syncline sediments to the west and north west.

## RECOMMENDATIONS

1. Lynch Hill - Platinum in layered ultramafics.

Anomalous streams will be further investigated with detailed stream sampling, geological mapping and rock geochemistry to define a target for gridding and systematic bedrock geochemistry. The platinum anomalies are associated with anomalous nickel and zinc.

2. Gold and platinum group in alluvials.

Tertiary gravel beds and associated reworked Quaternary margins will be prospected by "Wacka" drilling to define the depth of gravels. This will be followed up with bulk sampling using an excavator. Initially small samples in the order of  $0.1\text{m}^3$  will be manually concentrated.

The areas to be tested can be accessed by old Comstaff exploration tracks in the Tributary and John Lynch Creek areas and logging tracks south of the Pieman Dam road on Tributary Creek.

007

## INTRODUCTION

E.L. 18/86 is located in Western Tasmania, covering an area of 62 square kilometres, and was granted to N.W. Creasy on the 27-10-1986.

The licence covers the entire Huskinson River Ultramafic Complex.

Access to the north and central part of the licence is via the AFH all weather logging roads from Hatfield and Boco on the Murchison Highway and the sealed Lower Pieman Dam Road. The main body of the ultramafic can only be accessed by 4WD along exploration roads developed by Comstaff nearly twenty years ago during their asbestos and nickel exploration programme.

AFH is currently extending their logging road from Boco to John Lynch Creek in the vicinity of the old Comstaff track crossing.

The southern part of the area is cut by the Murchison Highway and boat access would be possible on the Hydro-Electric Commission's Lake Pieman.

Current exploration has only been on a reconnaissance basis, consisting of stream sediment and panned concentrate geochemistry and geology.

Geology is dominated by the eastern limb and core of the NW striking and plunging Huskinson Syncline. The Huskinson River Ultramafic Complex, a serpentinized layered peridotite and pyroxenite strikes north through the centre of the licence and is probably continuous with the Wilson River Ultramafic beneath the syncline.

The Huskinson River Ultramafic is underlain to the east by tuffaceous sediments of the Cambrian Crimson Creek Formation and overlain in the west by Ordovician to Devonian sandstones, limestones and shales of the Huskinson Syncline.

At depth the area is probably intruded by Devonian granites, contact hornfels and Cu W pyrrhotite skarns are located 500m east of the licence in vicinity of the Murchison Highway, south of Lake Pieman. Comstaff reported granitic dykes and tourmaline quartz veins on their Huskinson Asbestos and Nickel prospect to the south of Lynch Hill. Recrystallized limestone and silicified ultramafics have been located in current exploration in the same area, the alteration is most likely associated with granitic intrusives.

Remnants of extensive Tertiary gravels are located at the head waters of Chromite and Tributary Creeks. The gravels contain chromite, cassiterite, gold and platinoids (mainly osmiridium). Alluvial workings have been located in streams draining these gravels.

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## PREVIOUS EXPLORATION

The area was initially prospected for tin, gold and osmiridium at the turn of the century, McIntosh Reid 1921 reporting on activities in the Wilson and Huskinson River districts.

Evidence of minor alluvial mining in stream channels has been located in Chromite Creek and John Lynch Creek.

Modern exploration in the area has focussed on tin tungsten skarn mineralization, with the exception of Comstaff who prospected the ultramafics for asbestos and nickel.

Comstaff Pty Ltd explored the area as part of E.L.5/63 during the period from 1968 to 1973 their targets:

Cu, Pb, Zn, Ag in Cambrian sediments and volcanics

Ni, Co, asbestos in the ultramafics.

Detailed regional stream sediment sampling defined several anomalous areas that were followed up with gridding and soil and rock geochemistry

- Huskinson Grids 1, 2, 3 Pb, Zn, Ni in Crimson Creek Formation sediments in the John Lynch Creek area.
- Huskinson Serpentinite Grid Ni, Co and asbestos immediately south of John Lynch Creek.
- Pieman West and South Grids, area between the Lower Pieman Dam Road and Lake Pieman, Cu, Pb, Zn, Ni anomalies in Dundas Group and Crimson Creek sediments, volcanics and ultramafics.

Diamond drilling was only carried out at the Huskinson Serpentinite Grid,

D.D.H. Hus 1 200m target a Ni, Co anomaly

D.D.H. Hus 2 200m target asbestos.

Only D.D.H. 2 has been located and relogged.

Australia and New Zealand Exploration Company held the northern and southern parts of the Huskinson Ultramafic as E.L.3/76, Comstaff retaining the main bulk of the complex.

ANZECO's target tin tungsten skarn mineralization associated with the Meridith Granite and carbonates in the Huskinson Syncline. The area was prospected with -80# and panned concentrate stream samples. The samples were assayed for a range of elements including Pt, Ir, Os, detection limits were very high 10, 2 and 10 ppm respectively. No anomalies were located in the current licence area, no further work was carried out.

Renison Ltd held the southern part of the Huskinson Syncline as E.L.17/77 Block 2.

Their target was tin tungsten skarns in the Huskinson Syncline. The area was assessed with stream sediments, panned concentrates and an airborne Electromagnetics survey. The geophysics overflying the NW sector of E.L.18/86, defining the ultramafic complex.

Broken Hill Pty Co Ltd held the northern extent of the ultramafics as part of E.L.32/79, their exploration target tin tungsten skarns in Precambrian-Cambrian sediments with similar stratigraphy to Renison Mine Sequence. The area was assessed with stream sediments and an airborne Digem Survey.

Getty Oil Development Co Ltd entered as a joint venture partner and followed up stream and DigEm anomalies with gridding, soil geochemistry and ground magnetics.

Significant mineralization wasn't located, but the ultramafics were mapped in the Webb's Creek area and granitic intrusives were located one kilometre north of the current licence.

WORK COMPLETED BY N.W. CREASY

### 1. Literature Search

A comprehensive review of historical data and exploration company activities since the 1960's has been compiled, locating anomalous features for followup work and to ascertain the appropriate exploration programme for the area.

### 2. Stream Sediments

All streams draining the ultramafic complex and alluvials were sampled, a total of 40 sites. The samples were sieved to -80# in the field from the active stream silt.

The samples were sieved at Analabs into two fractions, -80# to +150# and -150#.

In some cases there was not enough fine fraction for assay. All samples were assayed for Cu, Pb, Zn, Ag, Au, Pt, As, Bi, Ni, Cr some samples were also assayed for Hg, Pd, Sb and Te.

For analytical methods, detection limits, analytical data and sample descriptions see Appendices 1 (a) and 2 (a).

Data has been plotted on Plan 2, Sheets 1 & 2.

### 3. Panned Concentrates

At all stream sediment sites a concentrate of heavy minerals was collected to assess,

(a) presence of precious metals as native grains

(b) determine the Cr<sub>2</sub>O<sub>3</sub> grade and gold platinum group content of chromites. Up to 100kg of gravels were dug from trap sites in the stream bed, (see Plate 1) these sieved to -2mm and panned to produce a concentrate of gold PGM's and chromite ranging between 0.5 and 6.5kg.

The samples are qualitative the amount of gravel concentrated at each site variable.

The precious mineral concentrates were assessed by mineralogists to determine the phases of platinum group minerals and number of grains see Appendices 3 (a) and (b).

The chromite residues were processed by Micron Research, screened to various size fractions -2mm, 0.25mm and 0.18mm and then separated into variable high, low and non magnetic fractions see Appendices 4. Due to this variation in processing results are only qualitative, platinum group assays significantly enhanced in the finer size fractions.

These splits of chromite concentrates were assayed at Analytical Services (W.A.) Pty Ltd for the following elements Au, Pt, Pd, Ru, Rh, Ir, Os AuF, Ag, Cu, Pb, Zn, Ni, As, Mo, Co, Bi, Sn, Te, Hg, Al, Si, Fe, Cr, Ca, Mg, Ti see Appendices 1 (b).

### 4. Laterites

Six samples of pisolitic laterite have been collected from surface exposures. The laterites have developed on the ultramafics or in topographic lows adjacent to ultramafics.

These samples were processed by Micron Research, crushing to -0.18mm to liberating the different fractions for magnetic separation.

Samples RP 1149 and 1160 were contaminated at Micron Research, assaying upto 20ppm gold, see Appendices 1 (c). Splits of the original unprocessed sample were reassayed returning maximum values of 0.36ppm and repeating at 0.90ppm see Appendices 1 (c). All laterite samples were assayed for gold and platinum

group and in addition some assayed for the same range of elements as the chromite pan concentrates, see Appendices 1 (c) and 2 (c).

#### 5. Rock Geochemistry

Only minor mineralization and alteration has been located, six samples were submitted to Genalysis for assay see Appendices 1 (d) and 2 (d). These samples are of silicified ultramafic, recrystallized limestone, chromite bearing sandstone and limonite veined gabbro.

None of the samples were anomalous in gold or PGE's.

#### 6. D.D.H. Hus. 2

This drill core was obtained from B.H.P. at Waratah, who operate from the Old Comstaff exploration base.

The only mineralization observed in the 200m of serpentized ultramafics was fibrous magnetite on foliation surfaces and quartz/carbonate/magnetite veins. None of the core has been assayed.

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PLATE 1. RP 1208 376600E 380450N  
PANNED CONCENTRATE SAMPLING

## DISCUSSION OF RESULTS - GEOLOGY

### Precambrian and Success Creek Group

The oldest rocks in the licence are Precambrian quartzites and slates in the extreme NE corner.

These are overlain by the Eo-Cambrian Success Creek Group, a sequence of fine grained sediments including cherts and carbonates with stratigraphic and lithological similarities to the Renison Mine sequence. This horizon was prospected by B.H.P. and Getty Oil for tin tungsten skarn mineralization.

### Cambrian Crimson Creek Formation

The Crimson Creek Formation occupies the stratigraphic position between the older Success Creek Group and the overlying Huskinson Ultramafic Complex. Contact with the latter is probably in part faulted. This formation consists of pink mudstones and fine to medium grained volcanoclastics, derived from a basic volcanic terrain. Between John Lynch Creek and the Huskinson River grey shales and a carbonates occur near the contact with the serpentinites. Karst topography at 371700E 384500N is the only field evidence for these carbonates. Several small gabbroic dykes intrude the Crimson Creek Formation in the John Lynch Creek area, the dykes are considered by Brown 1984 to be the first of several phases of Cambrian gabbroic intrusives. The second phase intrudes the ultramafics and Dundas Group sediments in the Colebrook Hill area in the southern part of E.L. 18/86.

### Cambrian Huskinson River Ultramafic Complex

The Huskinson River Ultramafic Complex is considered to have been emplaced prior to the deposition of the younger Cambrian Dundas Group. This complex is located on the eastern flank of the Huskinson Syncline and is interpreted to be continuous with the Wilson River Complex beneath this syncline. Both complexes having lithological and geochemical similarities, Brown 1984 Regionally Brown subdivides the ultramafic into,

- (a) Layered Pyroxenite Dunite south of John Lynch Creek
- (b) Layered Dunite Harzburgite to the north of John Lynch Creek.

Comstaff carried out detailed mapping of the ultramafics as part of their Huskinson Asbestos Project 1972, subdividing variably serpentized dunites, pyroxenites and peridotites.

All ultramafics have undergone varying degrees of serpentization.

Layering in the ultramafics is described by Brown 1984 1 km SW of Lynch Hill "interlayered orthopyroxenite, olivine orthopyroxenite and subordinate dunite. Layers are between 5mm and 10mm in thickness. The texture and mineralogy of the layers are similar to the material at Riley Knob, .. "This feature may be of economic significance, Riley Knob being associated with anomalous PGE's in hard rock and the John Lynch Creek area anomalous platinum, zinc and nickel in stream samples.

### Cambrian Dundas Group

This younger Cambrian sequence occurs mainly in the southern part of the licence on the western side of the ultramafic. It is poorly exposed due to extensive Quaternary glacial cover.

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### Ordovician-Devonian Sediments of the Huskinson Syncline

It is interpreted that the ultramafics in this area occupied a topographic high or shallow water environment during the early Ordovician escape being blanketed by the Owen Conglomerate/Moina Sandstone. In the Webb's Creek valley approximately 50m of Moina Sandstone unconformably overlies the ultramafic, there is some potential for fossil placer deposits in these sediments overlying the ultramafics. Chromite grains have been located in the Moina Sandstone at Webb's Creek (See Plate 2). In all other localities the Gordon Limestone is in contact with the ultramafic, this contact may originally have been an unconformity but is now mainly a faulted feature. The limestone is a negative topographic feature, underlying the Huskinson valley in the north and Tributary Creek in the central part of the licence. Sandstones and siltstones overlay the limestone, these sediments belong to the Siluro-Devonian sequence ranging from the basal Crotty Quartzite to the Bell Shale in the core of the Huskinson Syncline at Chromite Creek. The quartzites typically form strike ridges and shales the intervening valleys. The axial zone of the syncline south of Chromite Creek is complicated by WNW to NW trending faults. With Devonian granites possibly underlying this structurally complex area potential for vein and replacement style mineralization for gold and PGE's may exist, particularly with the ultramafics probably located between the granite and this fractured host rocks.

### Devonian Granites

Most of the licence is probably underlain by granite, at an unknown depth. The Meredith Granite batholith is located 4km north of E.L. 18/86 cutting across the trend of the Huskinson Syncline. To the south the Pine Hill quartz porphyry is located 3km south of Renison Bell. Within the licence effects attributed to the granite are:-

- Colebrook Hill contact hornfels with Cu W Pyrrhotite skarns.
- Comstaff Pieman Grid metasomatized sediments.
- Huskinson Asbestos Grid granitic dykes and quartz tourmaline veins.
- Head waters of Tributary Creek, contact between limestone and ultramafic, recrystallized Gordon Limestone (See Plate 3) and microcrystalline quartz. chromite bearing rock interpreted to be silicified ultramafic (See Plates 4, 5).

These interpreted effects of the granite are localized, pervasive hornfelsing is absent, depth to the granite is probably +1,500m.

### Tertiary Basalts and Gravels

Lynch Hill is the southern most residual of the Tertiary basaltic lava flows which outcrop extensively further north in the Waratah area. Partially consolidated gravels (See Plate 6) are located on the watershed between John Lynch and Tributary Creeks, in Tributary Creek south of the Lower Pieman Dam Road and in the Chromite Creek valley. These sediments are interpreted to be sub-basaltic, Tertiary age, although similar gravels are not observed underlying basalts at Lynch Hill.

The gravel beds have been deposited as part of a regional drainage system in an extensive lake probably extending over most of the Huskinson Syncline. Detritus being derived from:-

- Crimson Creek Formation and ultramafics in the east, with associated PGM's and chromite.

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Meredith Granite, and contact metamorphic aureole and ultramafics in the west and the north, with associated tin, gold, chromite and PGM's.

Precious metals, tin and chromite occur in Tertiary gravels, significant upgrading has probably occurred on the reworked margins.

#### Quaternary

Reworked Tertiary gravels occur in the valleys of Chromite, John Lynch and Tributary Creeks, these gravels are generally confined to the drainage channel with only a few metres width and a metre depth. These have been worked in the past for tin, gold and osmiridium.

More extensive gravels occur around the edge of the Tertiary gravels at the head of Tributary Creek and further down stream below the HEC transmission line.

The Huskinson River gravels form an extensive terrace in the northern part of the licence overlying Crimson Creek Formation sediments and Gordon Limestone (See Plate 7). The gravels contain blocks of Tertiary basalt, indicating a post Tertiary age.

The drainage basin was similar to the present, lacking any ultramafics. The river course was also similar, deviating in the John Lynch Creek area where a section of these gravels has been stranded.

Glacial outwash deposits are located on an extensive plain north of Lake Pieman. These deposits consist of a surface layer of reworked coarse gravels, the primary deposit consists of varved clays, sands and gravel beds. Detritus has primarily been derived from the West Coast Range Conglomerate, with minor Mount Read Volcanics and Jurassic Dolerite.

Scattered erratics of the conglomerate have been located on the ultramafic SW of Lynch Hill.

Significant concentrations of chromite, gold and PGM's are not associated with these gravels.

Laterites associated with the ultramafic have been located overlying the Huskinson River gravels at 371200E 384600N, indicating that they are in least part Quaternary age, the main bodies on the ultramafics are probably a Tertiary feature.

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Plate 2. RP 1152 71,300E 86,800N Webb's Creek  
Basal Ordovician Moina Sandstone with grains of Chromite.



Plate 3. RP 1225 71,800E 81,800N  
Recrystallized Gordon Limestone.

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Plate 4. RP 1226 71,800E 81,800N  
Silicified Ultramafic



Plate 5. RP 1241 373,003E 376,400N Pieman South Area  
Carbonate and silica alteration of ultramafics, black blebs  
are chromite grains.

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Plate 6. RP 1264 37600E 37700N  
Tertiary gravels, partially consolidated, clasts derived primarily from the Crimson Creek formation.



Plate 7. 376400E 38500N  
Quaternary Huskinson River gravels.

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## DISCUSSION GEOCHEMISTRY

### Stream Sediments

Samples of active stream silts have been split into -80#, +150# and -150# to remove coarse gold and PGM grains that may only be associated with alluvial concentrations. This coarse fraction will be detected in the panned concentrates. This screening has been effectively achieved, sites with anomalous precious metals associated with cassiterite in panned concentrates assaying less than 0.01ppm gold and less than 0.008ppm platinum in the silt fractions.

Gold and platinum shed from a hard rock source in a drainage system would probably be associated with sulphides, the grains of metal shed being very fine grained.

Of the range of elements assayed, after a rudimentary statistical analysis only Pt, Ni, Zn and Cr were considered to occur at anomalous levels. Maximum gold assays 0.02ppm which is not anomalous in Western Tasmania.

Platinum shows a marked difference between the size fractions, only one value above the 0.008 detection limit in the coarse fraction of 0.015ppm. In the -150# samples five registrations above detection 0.015 to 0.104ppm. Two samples RP 1137, 1218 are anomalous 0.104 and 0.09ppm Pt respectively, associated with Ni 510, Zn 890 and Cr 7,300ppm. These two streams drain the interlayered pyroxenites and dunites mapped by Brown 1984 immediately south of John Lynch Creek. Brown points out mineralogical and textural similarities between this area and Riley Knob. The latter, the only recognised hardrock platinum group mineralization in the Wilson River and Huskinson Ultramafic complexes.

Nickel, only some samples contained enough -150# silt for assay. In the coarse fraction values greater than 500ppm were considered anomalous. The maximum 1500ppm at RP 1212 in streams draining ultramafics that were prospected for nickel by Comstaff.

Zinc reflects a similar pattern to nickel, greater than 600ppm is considered anomalous with maximum of 990ppm.

Cr<sub>2</sub>O<sub>3</sub>, both silt fractions were assayed, greater than 4% is considered anomalous with maximum levels of 25%. A significant difference occurs between the two fractions, streams only draining ultramafics have concentrations approximating a 1:1 ratio of -150# to -80# +150#. Whilst streams with an alluvial component have ratios in the order of 1:2 - 150# to -80# +150#, with maximums of 1:11.6. The chromites associated with Tertiary gravels indicate the introduction of coarser chromite grains and cassiterite from the Wilson River Ultramafic and Meredith Granite.

This difference in chromites is also reflected in Cr<sub>2</sub>O<sub>3</sub> panned and magnetically separated concentrates, chromites shed from the Huskinson Ultramafic Cr<sub>2</sub>O<sub>3</sub> 49.7-54.1%, Chromite Creek alluvials 67.25% Cr<sub>2</sub>O<sub>3</sub>.

### Panned Concentrates Native Metals

At each stream sample site a panned concentrate has been collected, this has been separated into a small concentrate of gold, PGM's, cassiterite and chromite and a residue sample of mainly chromite.

The concentrates of precious metals were not assayed, but were submitted to mineralogists, grains of PGM's and gold were identified by a scanning electron microscope equipped with x-ray energy dispersion spectrometer see

Appendices 3. Some concentrates with very, minor precious metals were only visually identified in the field the types of PGM's were not differentiated. Both lots of data have been plotted see Plan 2.

Gold and various natural alloys of osmium and iridium are the dominant precious metals, gold almost entirely associated with the tertiary alluvials.

Three anomalous areas from precious metal grain counts have been defined.

1. Lynch Hill ultramafic and alluvials

The maximum concentration of 14 grains of platinum were located at RP 1222 associated with 5 gold and 30 osmiridium. This stream drains the western edge of the ultramafic and Tertiary gravels 1km south of John Lynch Creek. The source is interpreted to be the Tertiary gravels, the stream is not anomalous in Ni or Zn in -80#, but the alluvials may be locally derived from the ultramafic. Concentrates from streams draining the ultramafic immediately to east and south contain 2 grains of Pt associated with anomalous Ni, Zn. RP 1306 Pt associated with sulphides and/or arsenides indicating a localized hard rock source see Appendices 3 (a).

2. South Pieman

4km south of Lower Pieman Road four sample sites on streams draining a narrow belt of ultramafics and Crimson Creek sediments have up to 9 colours of gold and 2 PGM's. Comstaff Orr 1974 located basemetal anomalies in soils in this area, the mineralization dolomite with visible chalcopyrite, sphalerite and galena, no gold assays were reported.

3. Chromite and Tributary Creeks

Up to 10 colours of gold associated with osmiridium, chromite and cassiterite have been located in Chromite Creek. These materials have been shed from Tertiary gravel beds in the headwaters of Chromite Creek and on the divide between this creek and the Huskinson River to the north. McIntosh Reid 1921 describes large quantities of low grade alluvial wash in this area. The Tertiary river bed described by McIntosh Reid underlying a button-rush plain about 500ft above sea level, has been located but the plain is underlain by Siluro-Devonian quartzite.

Panned Concentrates Chromite Residues

Chromite rich residues from panned concentrates were processed at Micron Research see Appendix 4 and the section in this report on work completed. Due to the various size and magnetic fractions assayed the analytical data is not quantitative, only  $Cr_2O_3$  from the medium magnetic split has been plotted see Plan 2, values range from 46.80% - 70.18%  $Cr_2O_3$  but most in the 50 - 55% range. The maximum values are from the Chromite Creek alluvials and the Tributary Creek alluvials downstream from the HEC transmission line. PGE's are significantly enhanced in the finer size fraction e.g.

RP 1138 MED MAG -1mm - +0.25mm Pt 5.5ppb  
-0.25mm Pt 800ppb

RP 1106 MED MAG -2mm - +1mm Pt 3ppb  
-1mm Pt 250ppb

The medium magnetic split is comprised primarily of chromite has been found to be anomalous in platinum in two areas:

- (a) the main ultramafic body immediately north and south of John Lynch Creek, samples RP 1138, 1200, 1223 are in part coincident with anomalous platinum in panned concentrates and stream silts, RP 1200 maximum for licence 4.2ppm platinum, this small stream drains the eastern contact between the ultramafic and the Crimson Creek Formation.

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- (b) Chromite Creek alluvials sample RP 1106 assayed Pt 250ppb, Ir 1600ppb, Os 1700ppb. This sample site is 500m east of the licence boundary but the source is probably Tertiary gravels within the licence.

#### LATERITES

Six isolated laterite occurrences have been sampled. These are developed on or adjacent to the ultramafic, most are less than 2ha in area. These are probably a feature of Tertiary weathering however the most extensive occurrence overlies the Quaternary Huskinson River gravels.

All samples were taken from the surface to a maximum 1m depth. The samples were submitted in two lots, for processing and assay

- (a) RP 1149 and 1160 crushed to -0.18mm then magnetically separated into high, medium and non magnetic fractions at Micron Research and analysed at Analytical Services (W.A.). All fractions from all samples reported anomalous gold upto 20ppm see Appendices 1 and 2. Subsplits of the original unprocessed samples were submitted to Genalysis, all resulting assays low, the maximum 360ppb in RP 1160, indicating that the samples had been contaminated during the milling process at Micron Research.
- (b) RP 1211, 1234, 1249 and 1253 were submitted in an unprocessed state to Genalysis see Appendices 1 and 2, all samples assayed less than 40ppb gold.

Of the precious metals only gold may be anomalous in the laterites at RP 1160 360ppb, platinum group assays were low with platinum and ruthenium occuring at the highest levels, 20 and 25ppb respectively.

The maximum  $\text{Cr}_2\text{O}_3$  assay was 12% in the medium magnetic split in sample RP 1160. Unprocessed laterites reported less than 2.1%  $\text{Cr}_2\text{O}_3$ .

#### ROCK GEOCHEMISTRY

Six rock samples of mineralization and alteration were submitted for assay, none were anomalous in base or precious metals see Appendices 1 (d) and 2 (d).

Limonitic joints in gabbros exposed in a Comstaff costein south of the HEC transmission line had elevated Ni 2650 and Cr 2850ppm.

021

875022



Plate 8. RP 1234  
373,250E 381,000N  
Laterite exposed in the Comstaff  
costen near DDH Hus. 1.



Plate 9. RP 1211  
372,700E 380,600N  
Laterite in the Tributary Creek  
valley, with eucalypt and tea  
tree regrowth.

024

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APPENDIX 1

ANALYTICAL DATA SHEETS

(a) -80# +150#, -150# stream sediments

## SAMPLE PREPARATION

Satisfactory sample preparation procedures are best selected through consultation prior to analysis.

CODE

### PRE-PREPARATION

1. Weighing, boxing, sorting for large sample batches Based on time

### COMPOSITING

2. Compositing samples Based on time

### CORE CUTTING

3. Splitting of core with diamond saw Based on time

### DRYING

4. Samples in geochemical paper bags less than 100g \$0.35 per sample  
 5. Samples up to 1Kg in calico bags \$0.55 per sample  
 6. Other samples \$0.60 per Kg

### SIEVING

7. Sieving to a specified screen size \$1.10 per Kg  
 8. Sieve analyses (including weighing)  
 Cost per sieve fraction \$3.05 per Kg

### CRUSHING

9. Crushing sample up to 2Kg \$1.40 per sample  
 10. Crushing samples greater than 2Kg \$0.55 per Kg

### COARSE PULVERISING

11. Hammer milling to nominal 600 microns (30 mesh) \$1.45 per Kg  
 12. Disc pulverising to nominal 180 microns (80 mesh) \$1.95 per Kg

### SPLITTING

13. Samples up to 2Kg \$0.90 per sample  
 14. Samples greater than 2Kg \$0.45 per Kg

### FINE PULVERISING

15. Disc pulverising to nominal 150 microns (100 mesh) \$2.40 per Kg  
 16. Ring mill pulverising to nominal 75 microns (200 mesh) samples up to 150g \$1.35 per sample  
 17. Ring mill pulverising to nominal 75 microns (200 mesh) samples up to 300g \$1.85 per sample  
 18. Ring mill pulverising to nominal 75 microns (200 mesh) samples up to 1Kg \$3.00 per sample

### STORAGE

19. Sample storage greater than 2 months  
 Minimum charge 1 cubic metre per month plus \$7.50 cage rental \$35.00 per cu.m.  
 20. Core storage  
 Cost per tray (three metalcraft racks)  
 Minimum charge thirty trays per month \$1.65 per month

HOURLY RATE FOR TIME DEPENDENT WORK \$30.00

Correct sample preparation procedures are essential for meaningful analytical data.

RESOURCE DEVELOPMENT LABORATORIES

## GEOCHEMICAL ANALYSIS BY AAS ATOMIC ABSORPTION SPECTROPHOTOMETRY

Rapid geochemical methods suitable for the analysis of rock, ore, soil and stream sediment samples.

Refer to Ore grade analysis for determinations outside ranges listed.

### SEE SAMPLE PREPARATION FOR APPROPRIATE PROCEDURES AND COSTS

CODE

101 Perchloric Acid digestion — Trace Determination

Elements (range PPM, %)

Ag (0.5, 20)	Bi (10,1000)	Cd (0.5,1000)	Co (5, 1%)	Cu (5, 1%)
Fe (5, 1%)	Mn (5, 1%)	Ni (5, 1%)	Pb (5, 5000)	Zn (5, 1%)

Nitrous Oxide

As (100, 1%)	Cr (5, 1%)	Mo (20, 1000)	V (20, 1000)
--------------	------------	---------------	--------------

Dissolution	\$1.20 per sample
Elements	\$0.65 per element
Nitrous Oxide Extra	\$0.25 per element
Over Range Extra	\$0.25 per dilution

102 Perchloric Acid Digestion — Low Level Trace Determination — Soils Only  
 Values outside recommended range may report low due to solubility problems.

Ag (0.1, 4)	Bi (1,200)	Cd (0.1,200)	Co (1,2000)	Cu (1,2000)
Ni (1,2000)	Pb (1,200)	Zn (1,2000)		

Dissolution	\$1.20 per sample
Elements	\$0.75 per element
Over Range Extra	\$0.25 per dilution

103 Perchloric, Nitric, Hydrochloric and Hydrofluoric Acid Digestion

Total Digestion of sample for trace determination

Ag (0.5,20)	Bi (10,1000)	Cd (0.5,1000)	Co (5,1%)	Cu (5,1%)
Fe (5, 1%)	Mn (5, 1%)	Ni (5,1%)	Pb (5,5000)	Zn (5,1%)

Nitrous Oxide

Mo (20,1000)	V (20,1000)
--------------	-------------

Dissolution	\$4.10 per sample
Elements	\$0.65 per element
Nitrous Oxide Extra	\$0.25 per element
Over Range Extra	\$0.25 per dilution

104 Perchloric, Nitric, Hydrochloric and Hydrofluoric Acid Digestion

Total Digestion of Sample

Ag (2.5, 250)	Bi (50,5%)	Cd (2.5,5%)	Co (25,5%)	Cu (25,5%)
Fe (25,5%)	Mn (25,5%)	Ni (25,5%)	Pb (25,5%)	Zn (25,5%)

Dissolution	\$4.60 per sample
Extra Elements	\$3.35 per element
Over Range Extra	\$0.65 per dilution

140 Aqua Regia/Perchloric Acid Digestion

Ag (0.5,20)	Bi (20,1000)	Cd (1,1000)	Co (5,1%)	Cu (5,1%)
Fe (10,1%)	Mn (5,1%)	Ni (10,1%)	Pb (5,1%)	Zn (5,1%)

Nitrous Oxide

As (100,1%)	Cr (5,1%)	Mo (5,300)	V (20,1000)
-------------	-----------	------------	-------------

Dissolution	\$1.55 per sample
Extra Elements	\$0.65 per element
Nitrous Oxide Extra	\$0.25 per element
Over Range Extra	\$0.25 per dilution

RESOURCE DEVELOPMENT LABORATORIES

0523

875024

## GEOCHEMICAL ANALYSIS BY ICP — INDUCTIVELY COUPLED PLASMA SPECTROSCOPY

ICP offers rapid, multi element determinations for a wide range of elements and sample matrices.

For whole rock analysis refer to appropriate section.

CODE

201 Perchloric, Hydrochloric and Hydrofluoric Acid Digestion

Element (D.L.)

Ag (5)	Al (100)	Ba (5)	Be (1)	Ca (50)
Ce (15)	Co (5)	Cr (10)	Cu (5)	Dy (5)
Er (2)	Eu (1)	Fe (100)	Gd (10)	Hf (10)
Ho (20)	K (500)	La (5)	Li (2)	Mg (15)
Mn (15)	Mo (5)	Na (50)	Nb (10)	Nd (20)
Ni (10)	P (100)	Pb (200)	Pr (20)	Re (10)
Sc (1)	Sm (5)	Sr (1)	Ta (10)	Tb (5)
Th (10)	Ti (10)	Tm (2)	U (200)	V (2)
Y (1)	Yb (2)	Zn (5)	Zr (5)	

First Element \$8.70 per sample  
Extra Elements \$0.25 per element

202 Alkali Fusion

Al (200)	B (10)	Ba (10)	Ca (500)	Cr (50)
Fe (200)	K (2000)	Li (5)	Mg (20)	Mn (20)
Mo (20)	Si (1000)	Ta (20)	Th (20)	Ti (20)
W (25)	V (5)			

First Element \$10.75 per sample  
Extra Elements \$0.25 per element

203 Alkali Fusion

Cr (50)	Mo (20)	Nb (20)	P (200)	Sn (100)
Ta (20)	W (50)			

First Element \$10.75 per sample  
Extra Elements \$0.25 per element

205 Data Retrieval (Refers to samples analysed previously)

First Element \$2.45 per sample  
Extra Elements \$0.25 per element

OTHER ELEMENTS AND SPECIAL DIGESTS — P.O.A.

## PRECIOUS METALS ANALYSIS

GEOCHEMICAL

CODE	Sample Wt	Digestion	Element D.L.	Cost per element
329	30g	Aqua Regia/AAS	Au (0.020)	\$ 4.60
334	30g	Aqua Regia/Carbon Rod	Au (0.001)	\$ 6.60
335	50g	Aqua Regia/AAS	Au (0.012)	\$ 6.25
336	50g	Aqua Regia/Carbon Rod	Au (0.001)	\$ 8.25

OTHER WEIGHTS AND DETECTION LIMITS AVAILABLE ON REQUEST

ASSAY

309	30g	Fire Assay Fusion/AAS	Au (0.008)	\$ 9.20
310	30g	Fire Assay Fusion/GRAV	Au	\$11.65
313	50g	Fire Assay Fusion/AAS	Au (0.005)	\$10.00
326	30g	Fire Assay Fusion/Carbon Rod	Au (0.001)	\$12.00

SCREENED FIRE ASSAY

315		Assay Cost	Au (0.008)	\$23.00
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Weighted average gold value is reported for a 1000g sample.

Special preparation required — not included in above price — Please discuss requirements.

CYANIDATION

308	Up to 500g	Cyanide Extractable/Bottle Roll	Au (0.025-0.05)	\$10.00
328	5kg	Cyanide Extractable/Zinc Collector — Static	Au (0.00005)	\$33.00
340	2kg	Cyanide Extractable/Bottle Roll	Au (0.00001)	\$17.50
		Other elements on above		P.O.A.

CYANIDE PLANT LIQUORS

318	20mls	Solvent Extraction/AAS	Au (0.025)	\$ 4.00
320	20mls	Fire Assay/AAS — Denver	Au (0.012)	\$13.00

CARBONS

330	5g	Fire Assay Fusion/GRAV	Au	\$27.00 Duplicate
331	1g	Ash/AAS	Au	\$22.00 Duplicate

BULLION

317		Fineness of Gold Bullion		\$85.00
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OTHER PRECIOUS METALS

311	30g	Fire Assay/Carbon Rod	Pt (0.008) Pd (0.001) Pt or Pd Pt + Pd Pt + Pd + Au	\$11.00 \$16.50 \$18.50
312	30g	Fire Assay/Carbon Rod	Rh (0.001)	\$12.50
337	50g	Fire Assay/Carbon Rod	Pt (0.005) Pd (0.001)	\$11.80 \$17.30
332	30g	Fire Assay/Grav Ag	One Element Two Elements	\$11.70

OTHER METHODS

333	30g	Au by Neutron Activation Analysis (NAA) after preconcentration by Fire Assay.		P.O.A.
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CODE

FUSION AAS

119 Be (1. 1%)	cost per determination	\$5.50
141 Cr (5. 1%)		\$5.50

VAPOUR GENERATION/AAS

114 As (1.100)	cost per determination or in conjunction with other 101 elements.	\$3.10
115 Se (0.1.25)	cost per determination	\$3.35
116 Te (0.1.25)		\$3.35
117 Sb (1.100)		\$4.00
122 Hg (0.005.1)		\$6.10

OTHER SPECIAL AAS TECHNIQUES

121 Mo (0.5.200)	modified 102 digest/solvent extraction or in conjunction with other 102 elements	\$3.45
135 Tl (0.5.50)	Special acid digest	\$4.00
143 Ba (5. 1%)	Mixed Acid Digest	\$4.00

UMPIRE AND SHIPMENT — CERTIFIED ANALYSIS — P.O.A.

ORE GRADE ANALYSIS — POA

OTHER DISSOLUTION PROCEDURES — P.O.A.

GEOCHEMICAL ANALYSIS BY  
MISCELLANEOUS TECHNIQUES

CODE

COST PER  
DETERMINATION

123 P (5.1000)	Perchloric Acid Digest 101/Colorimetry	\$ 5.00
124 W (0.5.200)	Total Acid Extraction/Colorimetry	\$ 4.60
126 U (0.1.100)	Total Digest 103 Fluorimetry	\$ 8.90
127 U (0.1.100)	Perchloric Acid Digest 101/Fluorimetry	\$ 6.00
129 F (100.1%)	Fusion/Specific Ion Electrode	\$10.00
130 Cl (100.1%)	Fusion/Specific Ion Electrode	\$15.00

Notes

025

875026

026

875027

# ANALABS

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

Phone (09) 458 7999

52 Murray Road, Welshpool, W.A. 6106

Telex AA92560

TLX AA 59224

**ANALYTICAL REPORT No.** 999.10.08.03983

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

G.M. Creasy  
 C/- Roger Poltock  
 Post Office  
 Wilmont Tasmania

ORDER No.	PROJECT
DATE RECEIVED	RESULTS REQUIRED
12/11/86	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	17/12/86	1	15

STATE OF SAMPLES	REFER BELOW	SAMPLE NUMBERS	PRE-TREATMENT						ANALYSIS			
			DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	REFER TO ANALYSIS SECTION	PREPARATION	METHOD
Various			SI	Prep: 006,016,0	3,018							Cu, Pb, Zn, Ag, Bi, Cu+, Pb+, Zn+, Ag+, Bi+/102, As, As+/1
Various			SI									Au, Au+/329
Various			SI									Pt, Pd/311, Te/116, Sb/402
1104, 1105, 1107			CL	Prep: 006,009,016								Wgh, Wgh+/199
Various			SI	Prep: 006,016,0	3,018							Zn, Zn+, Ni, Ni+, Cr, Cr+/101

**RESULTS TO**

G.M. Creasy  
 C/- Roger Poltock  
 Post Office  
 Wilmont Tasmania

**RESULTS TO**

**REMARKS**

STATE OF SAMPLES	ANALYSIS — PREPARATION				ANALYSIS — METHOD			
whole core	WC	perchloric acid	A1	cold acid	CA	atomic absorption	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	

*Handwritten signature*

027

875028

**ANALABS**

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**ANALYTICAL DATA**

SAMPLE PREFIX

REPORT NUMBER

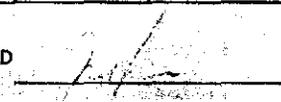
REPORT DATE

CLIENT ORDER No.

PAGE

SAMPLE PREFIX		999.10.08.03983				17/12/86				1 OF 1	
TUBE No.	SAMPLE No.	Cu	Cu+	Pb	Pb+	Zn	Zn	Zn+	Zn+		
1	1104	-	-	-	-	-	-	-	-		
2	1105	-	-	-	-	-	-	-	-		
3	1107	-	-	-	-	-	-	-	-		
4	1109 27211	8	7	10	9	-	35	-	28		
5	1111 27213	12	11	25	29	-	105	-	94		
6	1114 219	4	4	9	5	-	126	235	-		
7	1116 220	11	11	24	29	-	102	-	107		
8	1118 221	8	7	14	12	400	-	480	-		
9	1131 222	10	9	46	14	-	90	-	134		
10	1134 223	6	5	7	4	900	-	805	-		
11	1137 224	13	12	112	117	890	-	930	-		
12	1140 225	24	23	28	24	325	-	300	-		
13	1143 226	26	25	24	22	-	185	-	191		
14	1145 227	14	14	7	6	-	127	-	130		
15	1148 228	13	13	25	149	-	80	-	85		
16											
17											
18											
19											
20											
21											
22											
23	DETECTION	1	1	1	1	5	1	5	1		
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM		
25	METHOD	102	102	102	102	101	102	101	102		

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

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028

875029

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**ANALYTICAL DATA**

SAMPLE PREFIX

REPORT NUMBER

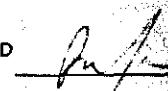
REPORT DATE

CLIENT ORDER No.

PAGE

		999.10.08.03983				17/12/86				1 OF 1	
TUBE No.	SAMPLE No.	As	As+	Ni	Ni+	Cr	Cr+	Wgh	Wgh+		
1	1104	-	-	-	-	-	-	370.9	53.0		
2	1105	-	-	-	-	-	-	400.3	42.4		
3	1107	-	-	-	-	-	-	526.8	26.4		
4	1109	2	3	30	30	.2650 .39	.3600 .53	-	-		
5	1111	3	1	55	55	.1600 .23	.1450 .24	-	-		
6	1114	2	2	75	130	18500 2.70	44500 6.50	-	-		
7	1116	2	3	50	50	2050 .30	3450 .50	-	-		
8	1118	3	3	275	295	83500 12.21	120000 17.55	-	-		
9	1131	3	3	100	125	15500 2.17	29000 4.14	-	-		
10	1134	1	1	575	595	230000 33.63	230000 33.63	-	-		
11	1137	3	4	425	510	86000 12.6	73000 10.67	-	-		
12	1140	4	4	140	130	14000 2.05	12000 1.75	-	-		
13	1143	6	4	90	100	1450 .21	1200 .18	-	-		
14	1145	4	3	130	135	15000 2.19	15500 2.26	-	-		
15	1148	4	4	40	40	.950 0.14	.950 0.14	-	-		
16											
17											
18											
19											
20											
21											
22											
23	DETECTION	1	1	5	5	5	5	0.1	0.1		
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	gms	gms		
25	METHOD	114	114	101	101	101	101	199	199		

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

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029

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# ANALABS

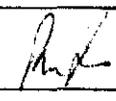
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## ANALYTICAL DATA

SAMPLE PREFIX      REPORT NUMBER      REPORT DATE      CLIENT ORDER No.      PAGE

SAMPLE PREFIX		REPORT NUMBER				REPORT DATE		CLIENT ORDER No.		PAGE	
		999.10.08.03983				17/12/86				1 OF 1	
TUBE No.	SAMPLE No.	Sb	Te	Au	Au+	Pd	PdChk	Pt	PtChk		
1	1104	-	-	-	-	-	-	-	-		
2	1105	-	-	-	-	-	-	-	-		
3	1107	-	-	-	-	-	-	-	-		
4	1109	-	-	0.01	0.01	-	-	-	-		
5	1111	-	-	0.01	<0.01	-	-	-	-		
6	1114	<3	1	0.01	<0.01	<0.001	-	<0.008	-		
7	1116	-	-	0.01	0.01	-	-	-	-		
8	1118	3	1	0.01	0.01	<0.001	<0.001	0.053	0.009		
9	1131	3	<1	0.02	0.01	<0.001	-	<0.008	-		
10	1134	5	1	0.01	0.01	<0.001	-	<0.008	-		
11	1137	<3	1	<0.01	<0.01	<0.001	<0.001	0.104	0.019		
12	1140	<3	<1	<0.01	<0.01	<0.001	<0.001	0.017	0.038		
13	1143	6	1	<0.01	<0.01	<0.001	-	<0.008	-		
14	1145	<3	<1	<0.01	0.01	<0.001	22	<0.008	-		
15	1148	-	-	0.01	<0.01	-	-	-	-		
16											
17											
18											
19											
20											
21											
22											
23	DETECTION	3	1	0.01	0.01	0.001	0.001	0.008	0.008		
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM		
25	METHOD	402	116	329	329	311	311	311	311		

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

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**ANALABS**

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**ANALYTICAL DATA**

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

		999.10.08.03983				18/12/86				1 OF 1	
TUBE No.	SAMPLE No.	Bi	Bi+	Hg	Hg+	Hg (1)	Hg (2+)	Ag	Ag+		
1	1104	-	-	-	-	-	-	-	-	-	-
2	1105	-	-	-	-	-	-	-	-	-	-
3	1107	-	-	-	-	-	-	-	-	-	-
4	1109	3	1	0.025	0.015	-	-	0.1	<0.1		
5	1111	<1	<1	0.040	0.035	-	-	0.2	<0.1		
6	1114	4	<1	-	-	IS	<3	0.2	<0.1		
7	1116	3	3	0.070	-	-	<3	0.2	0.2		
8	1118	<1	<1	-	-	IS	<3	<0.1	<0.1		
9	1131	<1	<1	-	0.065	<3	-	0.2	0.1		
10	1134	1	<1	-	-	IS	<3	<0.1	<0.1		
11	1137	<1	<1	-	-	IS	4	<0.1	<0.1		
12	1140	<1	<1	-	-	IS	<3	<0.1	<0.1		
13	1143	1	2	0.040	0.035	-	-	0.2	0.2		
14	1145	<1	4	-	-	<3	<3	0.1	0.1		
15	1148	<1	<1	0.060	-	-	<3	0.1	0.1		
16											
17											
18											
19											
20											
21											
22											
23	DETECTION	1	1	0.005	0.005	3	3	0.1	0.1		
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM		
25	METHOD	102	102	122	122	401	401	102	102		

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 

031

# ANALABS

875032

Phone (09) 458 7999

A division of MacDonald Hamilton & Co. Pty. Ltd.  
52 Murray Road, Welshpool, W.A. 6106  
TLX: RR 39224

Telex AA92560

ANALYTICAL REPORT No. 999.10.08.03998

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

3/2

G.M. Creasy 8 Luth Avenue Daglish Perth W.A. 6008	ORDER No.	PROJECT
	DATE RECEIVED	RESULTS REQUIRED
	19/11/86	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	19/01/87	1	20

STATE OF SAMPLES	REFER BELOW	SAMPLE NUMBERS	PRE-TREATMENT						ANALYSIS			
			DRY	CRUSH	SPLIT	PUL-VERISE	SIEVE	OTHER SEE REMARKS	NONE	REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	Various		PC	Prep: 006,016								Cu, Pb, Zn, Ag, Bi, Cu+, Pb+, Zn+, Hg+, Bi+/102, Cr, Cr+/1
	Various		PC									Au, Au+/329
	Various		PC									Hg, Hg+/122, Sb, Sb+/402
	1151, 1168, 1174, 1177, 1198		PC									Pt, Pd, Pt+, Pd+/312, Te, Te+/116
	Various		PC	Prep: 006,016								Au/309

N, 101  
-150#

RESULTS TO

G.M. Creasy  
8 Luth Avenue  
Daglish  
Perth W.A. 6008

RESULTS TO

REMARKS

STATE OF SAMPLES	ANALYSIS — PREPARATION	ANALYSIS — METHOD
whole core	perchloric acid A1	atomic absorption AAS
split core	hydrochloric acid A2	x-ray fluorescence XRF
cutting	nitric acid A3	spectrophotometry SPEC
rock	aqua regia A4	colorimetry COL
oil	nitric-perchloric A5	chromatography CHR
slip	HF mixture A6	titration TIT
water	HF under pressure A7	other chemicals means CHEM
tissue	fusion A8	miscellaneous MISC
stream sediment		fluorescence FLUOR
soil mineral		inductively coupled plasma ICP

AUTHORISED OFFICER 

032

875033

# ANALABS

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

## ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

999.10.08.03998

19/01/87

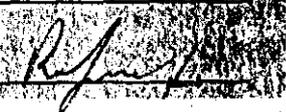
1 OF 1

TUBE No.	SAMPLE No.	Au	Au+	Au	Au+					
1	1151 27279	<0.01	0.01	-	-					
2	1155 230	<0.01	0.01	-	-					
3	1158 231	<0.01	0.02	-	-					
4	1162 232	<0.01	0.01	-	-					
5	1165 233	<0.01	0.01	-	-					
6	1168 234	<0.01	0.01	-	-					
7	1171 235	<0.01	<0.01	-	-					

17	1196	<0.01	0.01	-	-					
18	1198	0.01	0.01	-	-					
19	1201	<0.01	0.01	-	-					
20	1203	<0.01	<0.01	-	-					
21										
22										
23	DETECTION	0.01	0.01	0.008	0.008					
24	UNITS	PPM	PPM	PPM	PPM					
25	METHOD	329	329	309	309					

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



033

875034

# ANALABS

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

## ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

999.10.08.0399B

19/01/87

1 OF 1

TUBE No.	SAMPLE No.	Cu	Cu+	Pb	Pb+	Zn	Zn+	Ag	Ag+
1	1151	30	20	74	57	223	170	0.1	0.2
2	1155	2	3	<1	<1	16	13	0.2	<0.1
3	1158	2	3	1	<1	21	17	0.1	<0.1
4	1162	3	2	3	2	66	38	0.1	<0.1
5	1165	19	19	22	19	374	460	<0.1	<0.1
6	1168	19	17	18	18	246	301	0.1	<0.1
7	1171	8	11	8	12	94	149	<0.1	0.1

17	1196	7	14	11	7	362	216	0.2	<0.1
18	1198	3	3	2	3	216	306	0.1	<0.1
19	1201	24	22	7	8	70	93	0.1	<0.1
20	1203	19	17	15	11	145	149	<0.1	<0.1
21									
22									
23	DETECTION	1	1	1	1	1	1	0.1	0.1
24	UNITS	PPM	PPM						
25	METHOD	102	102	102	102	102	102	102	102

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

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034

875035

## ANALABS

A Division of MacDonald Hamilton &amp; Co. Pty. Ltd.

## ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

		999.10.08.0399B				19/01/87				1 OF 1	
TUBE No.	SAMPLE No.	Bi	Bi+	Cr	Cr+	As	As+	Hg	Hg+		
1	1151	<1	3	0865 .126	4150 .61	13	13	0.030	0.040		
2	1155	3	<1	0125 .02	0910 .13	1	1	0.040	0.030		
3	1158	3	<1	0420 .06	0830 .12	1	2	0.010	0.025		
4	1162	2	<1	9500 1.39	6400 .94	3	<1	0.010	0.010		
5	1165	<1	<1	22000 3.12	44000 6.43	4	4	0.020	0.035		
6	1168	2	<1	3800 .56	25000 3.66	6	6	0.040	0.025		
7	1171	3	<1	4900 .72	20000 2.92	1	3	0.010	<0.005		

17	1196	<1	41	96500 14.1	70000 10.2	<1	<1	-	-		
18	1198	<1	<1	73500 10.75	115000 16.81	1	1	-	-		
19	1201	<1	<1	4400 .81	6950 1.02	4	3	-	-		
20	1203	1	3	1050 .15	2300 .34	2	2	-	-		
21	NOTE: Too much interference from other elements to carry out Hg Analysis										
22	As per Telephone conversation with Perth Lab.										
23	DETECTION	1	1	5	5	1	1	0.005	0.005		
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM		
25	METHOD	102	102	101	101	114	114	122	122		

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

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 OFFICER
 

035

875036

# ANALABS

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

## ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

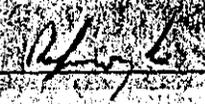
PAGE

		999.10.08.0399B				19/01/87				1 OF 1	
TUBE No.	SAMPLE No.	Pd	Pd+	Pt	Pt+	Sb	Sb+	Te	Te+		
1	1151	0.006	0.003	0.015	<0.008	4	6	<1	<1		
2	1155	-	-	-	-	<3	<3	-	-		
3	1158	-	-	-	-	5	<3	-	-		
4	1162	-	-	-	-	3	<3	-	-		
5	1165	-	-	-	-	9	10	-	-		
6	1168	<0.001	<0.001	<0.008	<0.008	<3	<3	<1	<1		
7	1171	-	-	-	-	4	<3	-	-		

17	1196	-	-	-	-	<3	<3	1	-		
18	1198	<0.001	<0.001	<0.008	<0.008	<3	4	<1	<1		
19	1201	-	-	-	-	<3	<3	-	-		
20	1203	-	-	-	-	4	3	-	-		
21											
22											
23	DETECTION	0.001	0.001	0.008	0.008	3	3	1	1		
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM		
25	METHOD	312	312	312	312	402	402	116	116		

Results in ppm unless otherwise specified.  
 - element present; but concentration too low to measure.  
 < element concentration is below detection limit.  
 - element not determined.

AUTHORISED OFFICER



036

875037

# ANALABS

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

Phone (09) 458 7999

52 Murray Road, Welshpool, W.A. 6106

Telex AA92560

## ANALYTICAL REPORT No. 1000.0.01.49688

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

Mr Creasy  
8 Luth Ave  
  
Daglish  
WA 6008

ORDER No.	PROJECT
DATE RECEIVED	RESULTS REQUIRED
09/03/87	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	11/03/87	1	10

STATE OF SAMPLES	REFER BELOW	SAMPLE NUMBERS	PRE-TREATMENT						ANALYSIS				
			DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER REMARKS	NONE	REFER TO ANALYSIS SECTION	PREPARATION	METHOD	
		1116 +150#							1	Pt			311
		1116 -150#											
		1165 +150#											
		1165 -150#											
		1196 +150#											
		1196 -150#											
		1201 +150#											
		1201 -150#											
		1203 +150#											
		1203 -150#											

RESULTS

TO

as above

RESULTS

TO

REMARKS

STATE OF SAMPLES	ANALYSIS -- PREPARATION	ANALYSIS -- METHOD
whole core WC	perchloric acid A1 cold acid CA	atomic absorption 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	filtration 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

037

875038

# ANALABS

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

## ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

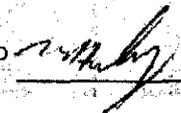
1000.0.01.49688

11/03/87

1 OF 1

TUBE No.	SAMPLE No.	Pt							
1	1116 +150#	x							
2	1116 -150#	x							
3	1165 +150#	x							
4	1165 -150#	x							
5	1196 +150#	x							
6	1196 -150#	I/S							
7	1201 +150#	x							
8	1201 -150#	x							
9	1203 +150#	x							
10	1203 -150#	I/S							
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23	DETECTION	0.008							
24	DIGESTION								
25	METHOD	311							

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 

875039

# ANALABS

Phone (09) 458 7999

A division of MacDonald Hamilton & Co. Pty. Ltd.  
52 Murray Road, Welshpool, W.A. 6105  
TEL. 08 59224

Telex AA7256C

ANALYTICAL REPORT No.

999.10.08.04037

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

ORDER No.

PROJECT

G.N. Creasy  
c/o Roger Pollock  
Post Office  
Wilmont Tasmania

DATE RECEIVED

RESULTS REQUIRED

02/12/86

ASAP

No. OF PAGES OF RESULTS

DATE REPORTED

No. OF COPIES

TOTAL No. OF SAMPLES

1

29/12/86

1

20

STATE OF SAMPLES	REFER TO ANALYSIS SECTION	PRE-TREATMENT							OTHER SEE REMARKS	NONE	ANALYSIS		
		DRY	CRUSH	SPLIT	PULVERISE	SIEVE	REFER TO ANALYSIS SECTION	PREPARATION			METHOD		
Various		SS	Prep: 004,016,013,018								Cu, Pb, Zn, Ag, Bi, Cu+, Pb+, Zn+, Ag+, Bi+/102, Cr, Cr+/1		
Various		SS									Au, Au+/329		
Various		SS									Hg, Hg+/122, Sb, Te, Sb+, Te+/402, Pt, Pd, Pt+, Pd+/311		

RESULTS

TO

G.N. Creasy  
c/o Roger Pollock  
Post Office  
Wilmont Tasmania

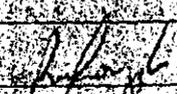
RESULTS

TO

REMARKS

STATE OF SAMPLES	ANALYSIS — PREPARATION	ANALYSIS — METHOD
home core	perchloric acid A1	atomic absorption AAS
port core	hydrochloric acid A2	x-ray fluorescence XRF
flung	nitric acid A3	spectrophotometry SPEC
rock	aquo regia A4	colorimetry COL
slip	nitric-perchloric A5	chromatography CHR
slip	HF mixture A6	titration TTN
slip	HF under pressure A7	other chemical means CHEM
slip	fusion A8	miscellaneous MISC
slip		fluorescence FLUOR
slip		inductively coupled plasma ICP

AUTHORISED OFFICER



039

875040

## ANALABS

A Division of MacDonald Hamilton &amp; Co. Pty. Ltd.

## ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

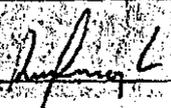
PAGE

		999.10.08.04037				29/12/86				1 OF 1	
TUBE No.	SAMPLE No.	Cu	Cu+	Pb	Pb+	Zn	Zn+	Ag	Ag+		
1	1205	2	3	2	1	10	15	0.1	<0.1		
2	1208	5	8	9	6	430	840	<0.1	<0.1		
3	1212	7	7	5	3	990	1050	<0.1	<0.1		
4	1215	6	6	9	4	840	855	<0.1	<0.1		
5	1218	6	6	7	6	825	860	<0.1	<0.1		
6	1221	5	4	9	5	135	215	<0.1	<0.1		
7	1227	19	15	49	44	255	210	<0.1	<0.1		
8	1230	33	21	21	15	390	205	<0.1	<0.1		
9	1235	19	13	15	11	480	495	<0.1	<0.1		
10	1238	10	9	12	9	95	140	<0.1	0.1		
11	1242	6	5	8	8	65	85	0.1	<0.1		
12	1245	2	3	1	2	20	40	0.1	<0.1		
13	1250	5	5	6	7	40	60	0.1	<0.1		
14	1255	14	14	29	27	230	245	<0.1	<0.1		
15	1258	8	7	8	8	60	80	0.1	0.1		
16	1261	14	9	9	11	105	95	<0.1	0.1		
17	1265	29	24	33	32	265	250	<0.1	<0.1		

22										
23	DETECTION	1	1	1	1	5	5	0.1	0.1	
24	UNITS	PPM								
25	METHOD	102	102	102	102	101	101	102	102	

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



040

875041

**ANALABS**

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

**ANALYTICAL DATA**

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

999.10.08.04037

29/12/86

1 OF 1

TUBE No.	SAMPLE No.	Bi	Bi+	Cr	Cr+	As	As+	Au	Au+
1	1205	<1	<1	.0225 .03	.2400 .35	2	2	<0.01	<0.01
2	1208	<1	<1	95000 13.89	200000 29.24	4	3	<0.01	<0.01
3	1212	<1	<1	210000 30.7	250000 36.55	2	1	<0.01	<0.01
4	1215	<1	<1	170000 24.85	185000 27.05	5	4	<0.01	<0.01
5	1218	<1	<1	105000 15.35	170000 24.85	2	1	<0.01	<0.01
6	1221	<1	<1	30000 4.39	55000 8.04	1	1	<0.01	<0.01
7	1227	<1	<1	.2700 .40	.7100 1.04	8	6	<0.01	<0.01
8	1230	<1	<1	13000 1.9	14500 2.12	4	3	<0.01	<0.01
9	1235	<1	<1	70000 10.23	73000 10.67	2	2	<0.01	<0.01
10	1238	2	<1	.1500 .22	15500 2.27	3	2	<0.01	<0.01
11	1242	<1	<1	.2200 .32	10000 1.46	2	<1	<0.01	<0.01
12	1246	<1	<1	.1900 .28	.6250 .91	<1	1	<0.01	0.01
13	1250	<1	<1	.1650 .24	.4950 .72	2	1	<0.01	<0.01
14	1255	<1	<1	22500 3.29	33500 4.90	1	2	<0.01	<0.01
15	1258	3	<1	.2700 .39	.6500 .95	1	1	<0.01	<0.01
16	1261	<1	<1	.0420 .06	.0780 .11	2	2	<0.01	<0.01
17	1265	<1	<1	.0660 .10	.1600 .27	5	5	<0.01	<0.01
22									
23	DETECTION	1	1	5	5	1	1	0.01	0.01
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
25	METHOD	102	102	101	101	114	114	329	329

Results in ppm unless otherwise specified  
 1 = element present, but concentration too low to measure  
 X = element concentration is below detection limit  
 - = element not determined

 AUTHORISED OFFICER  


041

875042

## ANALABS

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

## ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

999.10.08.04037

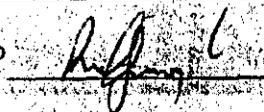
29/12/86

1 OF 1

TUBE No.	SAMPLE No.	Hg	Hg+	Sb	Sb+	Te	Te+	Pt	Pt+
1	1205	0.020	0.010	<3	4	<1	<1	<0.008	<0.008
2	1208	0.020	0.045	<3	<3	<1	<1	<0.008	<0.008
3	1212	0.100	0.015	<3	<3	1	<1	<0.008	<0.008
4	1215	0.020	0.080	<3	<3	<1	<1	<0.008	0.015
5	1218	<0.005	0.010	<3	<3	<1	<1	0.090	<0.008
6	1221	0.015	0.010	<3	5	<1	<1	<0.008	<0.008
7	1227	0.020	0.020	4	<3	<1	<1	<0.008	<0.008
8	1230	0.030	0.020	6	6	<1	<1	<0.008	<0.008
9	1235	0.030	0.020	<3	<3	<1	<1	<0.008	<0.008
10	1238	0.020	0.015	<3	<3	<1	<1	<0.008	<0.008
11	1242	0.005	0.010	6	<3	<1	1	<0.008	<0.008
12	1246	0.005	0.010	<3	4	<1	<1	<0.008	<0.008
13	1250	0.010	0.010	<3	4	<1	<1	<0.008	<0.008
14	1255	0.015	0.020	3	5	1	<1	<0.008	<0.008
15	1258	0.010	0.010	<3	<3	<1	<1	<0.008	<0.008
16	1261	0.020	0.010	3	6	<1	<1	<0.008	<0.008
17	1265	0.020	0.020	10	4	<1	<1	<0.008	<0.008

22									
23	DETECTION	0.005	0.005	3	3	1	1	0.008	0.008
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
25	METHOD	122	122	402	402	116	116	311	311

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

 AUTHORISED  
 OFFICER
 

042

875043

# ANALABS

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

## ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

999.10.08.04037

29/12/86

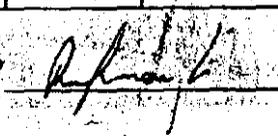
1 of 1

TUBE No.	SAMPLE No.	Pd	Pd+						
1	1205	0.002	<0.001						
2	1208	<0.001	<0.001						
3	1212	<0.001	<0.001						
4	1215	0.002	0.001						
5	1218	0.001	<0.001						
6	1221	0.005	<0.001						
7	1227	0.002	<0.001						
8	1230	0.001	<0.001						
9	1235	0.002	0.001						
10	1238	<0.001	<0.001						
11	1242	<0.001	0.005						
12	1246	<0.001	0.001						
13	1250	<0.001	<0.001						
14	1255	<0.001	<0.001						
15	1258	0.001	<0.001						
16	1261	0.001	0.001						
17	1265	0.004	0.005						

22									
23	DETECTION	0.001	0.001						
24	UNITS	PPM	PPM						
25	METHOD	311	311						

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



043

875044

# ANALABS

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

Phone (09) 458 7999

52 Murray Road, Welshpool, W.A. 6106  
TLX RR 39224

Telex AA92560

**ANALYTICAL REPORT No.** 999.10.08.04704

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

G.M. Creasy  
 8 Luth Avenue  
 Daglish  
 Perth W.A. 6008

ORDER No. **RE 03998** PROJECT

DATE RECEIVED **26/08/87** RESULTS REQUIRED **ASAP**

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	27/08/87	1	20

REF. NO.	SAMPLE NUMBERS	PRE-TREATMENT							ANALYSIS			
		DRY	CRUSH	SPLIT	PULVERISE	WASH	OTHER REMARKS	OTHER	REFER TO ANALYSIS SECTION	PREPARATION	METHOD	
	Various	PU								Ni/102		

**RESULTS TO**

G.M. Creasy  
 8 Luth Avenue  
 Daglish  
 Perth W.A. 6008

**RESULTS TO**

R. Pollock  
 C/- Post Office  
 Wilmot  
 Tasmania 7310

**REMARKS**

STATE OF SAMPLES	ANALYSIS — PREPARATION	ANALYSIS — METHOD
whole core WC	perchloric acid A1	atomic absorption AAS
split core SC	hydrochloric acid A2	x-ray fluorescence XRF
cutting CU	nitric acid A3	spectrophotometry SPEC
rock Ro	aqua regia A4	colorimetry COL
oil SO	nitric-perchloric A5	chromatography CHR
pulp PU	HF mixture A6	titration TTN
water WA	HF under pressure A7	other chemicals means CHEM
tissue TI	fusion A8	miscellaneous MISC
stream sediment SS		fluorescence FLUOR
heavy mineral HM		inductively coupled plasma ICP

044

875045

## ANALABS

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

## ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

999.10.08.04704

27/08/87

RE 0399B

1 OF 1

TUBE No.	SAMPLE No.	N1							
1	151	84							
2	155	10							
3	158	10							
4	162	23							
5	165	320							
6	168	230							
7	171	96							
8	174	76							
9	177	1400							
10	185	290							
11	188	84							
12	189	95							
13	190	91							
14	191	82							
15	194	56							
16	195	64							
17	196	290							
18	198	260							
19	201	53							
20	203	67							
21									
22									
23	DETECTION	1							
24	UNITS	PPM							
25	METHOD	102							

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


045

875046

# ANALABS

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

Phone (09) 458 7999

52 Murray Road, Welshpool, W.A. 6106

Telex AA92560

**ANALYTICAL REPORT No.** 999.10.08.04705

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

G.M. Creasy  
8 Luth Avenue  
Daglish  
Perth W.A. 6008

ORDER No.	PROJECT
RE 04037	
DATE RECEIVED	RESULTS REQUIRED
26/08/87	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	27/08/87	1	20

STATE OF SAMPLES	REFER BELOW	SAMPLE NUMBERS	PRE-TREATMENT						ANALYSIS				
			DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER USE PERLONKS	NONE	REFER TO ANALYSIS SECTION	PREPARATION	METHOD	
	Various		PU								Ni/102		

RESULTS TO	RESULTS TO	REMARKS
G.M. Creasy 8 Luth Avenue Daglish Perth W.A. 6008	R. Poltock C/- Post Office Wilmot Tasmania 7310	

STATE OF SAMPLES	ANALYSIS - PREPARATION	ANALYSIS - METHOD
whole core WC	perchloric acid A1	atomic absorption AAS
split core SC	hydrochloric acid A2	x-ray fluorescence XRF
cutting CU	nitric acid A3	spectrophotometry SPEC
rock Ro	aqua regia A4	colorimetry COL
soil SO	nitric-perchloric A5	chromatography CHR
pulp PU	HF mixture A6	titration ITN
water WA	HF under pressure A7	other chemical means CHEM
tissue TI	fusion A8	miscellaneous MISC
stream sediment SS		fluorescence FLUOR
heavy mineral HM		inductively coupled plasma ICP

046

875047

# ANALABS

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

## ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

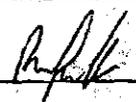
CLIENT ORDER No.

PAGE

			999.10.08.04705			27/08/87		RE 04037		1 OF 1	
TUBE No.	SAMPLE No.	Ni									
1	205	18									
2	208	330									
3	212	1500									
4	215	1300									
5	218	510									
6	221	220									
7	227	98									
8	230	240									
9	235	540									
10	238	95									
11	242	40									
12	246	33									
13	250	29									
14	255	198									
15	258	43									
16	261	38									
17	265	151									

22											
23	DETECTION	1									
24	UNITS	PPM									
25	METHOD	102									

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 

047

875048

APPENDIX 1

ANALYTICAL DATA SHEETS

(b) Panned concentrate chromite residues

AS0048

Reference Number 30045

15 JULY, 1987

MR M R Creasy  
\*\*\*\*\*

8 Luth Avenue

DAGLISH WA 6008

Analysis of Mineral Samples  
\*\*\*\*\*

This Report is Split into Multiple Printings  
This is .. PART 1

Analysed By :  
ANALYTICAL SERVICES (WA) PTY LTD  
19 Augusta St  
WILLETTON WA 6155  
Telephone 354 1888  
Telex AA 94767  
Facsimile 457 2569

Authorised By : T.K.Chan

REFERENCE NUMBER 30045

Page 1

SAMPLE NUMBER	Au ppb	Pt ppb	Pd ppb	Ru ppb	Rh ppb	Ir ppb	Os ppb	Cu ppm	Pb ppm
1	10	0.5	8.0	3.5	<0.5	2.0	< 2	< 10	10
2	10	1.0	1.5	18	<0.5	3.0	< 2	< 10	< 10
3	6	1.5	0.5	8.5	1.0	2.5	< 2	20	20
4	4	3.0	0.5	17	1.5	3.5	2	20	20
5	10	9.5	7.0	10	1.5	4.0	4	30	40
39496	220	1.0	4.0	5.0	<0.5	3.0	< 2	10	20
39497	54	2.5	<0.5	10	2.5	8.0	4	< 10	20
39498	58	2.5	2.5	20	4.0	15	38	< 10	< 10
39499	6	<0.5	2.0	8.5	1.0	8.0	2	< 10	< 10
39500	I.S.	20	30						
39501	74	15	<0.5	35	7.0	27	14	< 10	30
39502	72	7.5	<0.5	24	4.0	25	20	< 10	10
39503	10m	160	<0.5	2.0m	52	8.4m	3.0m	< 10	< 10
39504	330	10	16	8.5	3.5	24	8	40	30
39505	860	7.0	1.5	29	5.5	24	14	20	40
39506	42	6.0	5.0	28	6.5	15	12	20	30
39507	110	5.5	5.0	14	2.5	9.0	6	20	40
39508	I.S.	60	80						
39509	330	9.0	<0.5	6.5	7.5	20	12	20	40
39510	330	5.5	3.0	22	4.5	12	12	< 10	20
39511	70	<0.5	<0.5	3.5	2.0	6.5	4	10	50
39512	I.S.	30	1200						
39513	210	21	8.5	45	15	37	14	40	70
39514	1.6m	2.5	3.5	36	4.0	9.0	12	20	60
39515	850	0.5	3.0	8.5	0.5	7.0	8	20	50

REFERENCE NUMBER 30045

PAGE 3

\*\*\*\*\*

Notes on Analysis of these Samples

An 'm' Suffix after a result implies results are expressed in ppm for this sample  
A '%' Suffix after a result implies results are expressed in % for this sample

- Sample KR 105 was not received .
- Sample 1 ... Chromite Creek 1 -80 #
- Sample 2 ... Chromite Creek 2 -80 #
- Sample 3 ... John Lynch -80 #
- Sample 4 ... Tributary Creek 1 -80 #
- Sample 5 ... Tributary Creek 2 -80 #

Au Pt Pd Ru Rh Ir Os  
 have been determined by Fire Assay of the sample (in NEW pots) using Nickel Sulphide as the collection media. The Platinoids have been recovered from the Nickel Sulphide and analysed by ICP-Mass Spectrometry.

Cu Pb  
 have BEEN BROUGHT INTO SOLUTION WITH A MIXED ACID DIGEST.  
 THIS DIGEST PROCEDURE APPROACHES TOTAL EXTRACTION.  
 THE DIGEST HAS BEEN ANALYSED BY ATOMIC ABSORPTION SPECTROPHOTOMETRY.  
 Please Note.. If there are LEAD results over 2500 ppm, we recommend they be re-analysed using fusion dissolution techniques. Solubility effects in the acid digest used may produce low results.  
 I.S. MEANS THERE WAS INSUFFICIENT SAMPLE FOR THAT PARTICULAR DETERMINATION

AS

051

Reference Number 30045

15 JULY, 1987

MR M R Creasy  
\*\*\*\*\*

8 Luth Avenue

DAGLISH WA 6008

Analysis of Mineral Samples  
\*\*\*\*\*

This Report is Split into Multiple Printings  
This is .. PART 2

Analysed By :  
ANALYTICAL SERVICES (WA) PTY LTD  
19 Augusta St  
WILLETTON WA 6155  
Telephone 354 1888  
Telex AA 94767  
Facsimile 457 2569

Authorised By : T.K.Chan



REFERENCE NUMBER 30045

Page 1

\*\*\*\*\*

SAMPLE NUMBER	Zn ppm	Ni ppm	Ag ppm	As ppm	Mo ppm	W ppm	Bi ppm	Sb ppm	Te ppm
1	10	< 10	< 1	< 2	1	< 10	< 10	2	< 1
2	20	< 10	< 1	< 2	< 1	< 10	< 10	1	< 1
3	90	40	< 1	6	< 1	10	< 10	2	< 1
4	110	70	< 1	6	< 1	10	< 10	< 1	< 1
5	160	260	< 1	10	1	< 10	< 10	1	< 1
39496	70	30	< 1	86	< 1	< 10	< 10	3	< 1
39497	460	80	< 1	2	< 1	10	< 10	3	< 1
39498	40	10	< 1	< 2	< 1	< 10	< 10	< 1	< 1
39499	20	< 10	< 1	< 2	< 1	< 10	< 10	< 1	< 1
39500	170	40	4	100	6	< 10	< 10	< 1	< 1
39501	600	50	< 1	< 2	< 1	10	< 10	3	< 1
39502	50	< 10	< 1	< 2	< 1	10	< 10	< 1	< 1
39503	20	< 10	< 1	< 2	< 1	10	< 10	< 1	< 1
39504	230	410	< 1	32	4	10	< 10	4	< 1
39505	170	2300	< 1	20	6	30	< 10	< 1	< 1
39506	120	90	< 1	6	2	< 10	< 10	< 1	< 1
39507	220	200	< 1	22	2	10	< 10	2	< 1
39508	370	330	< 1	40	6	20	< 10	2	< 1
39509	340	780	< 1	14	< 1	20	< 10	< 1	< 1
39510	150	110	< 1	4	< 1	10	< 10	< 1	< 1
39511	110	110	< 1	10	< 1	< 10	< 10	< 1	< 1
39512	250	150	< 1	40	9	< 10	< 10	2	< 1
39513	290	150	< 1	32	5	< 10	< 10	1	< 1
39514	230	390	< 1	16	1	< 10	< 10	1	< 1
39515	140	100	< 1	14	< 1	10	< 10	< 1	< 1

\*\*\*\*\*

053

875054



REFERENCE NUMBER 30045

PAGE 3

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Notes on Analysis of these Samples

- Sample KR 105 was not received .
- Sample 1 ... Chromite Creek 1 -80 #
- Sample 2 ... Chromite Creek 2 -80 #
- Sample 3 ... John Lynch -80 #
- Sample 4 ... Tributary Creek 1 -80 #
- Sample 5 ... Tributary Creek 2 -80 #

Zn Ni Ag Bi  
 have BEEN BROUGHT INTO SOLUTION WITH A MIXED ACID DIGEST.  
 THIS DIGEST PROCEDURE APPROACHES TOTAL EXTRACTION.  
 THE DIGEST HAS BEEN ANALYSED BY ATOMIC ABSORPTION SPECTROPHOTOMETRY.

As Mo W  
 have BEEN BROUGHT INTO SOLUTION WITH A MIXED ACID DIGEST.  
 THIS DIGEST PROCEDURE APPROACHES TOTAL EXTRACTION.  
 THE DIGEST HAS BEEN ANALYSED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROPHOTOMETRY.  
 Please Note.. If there are TUNGSTEN results over 1000 ppm, we recommend they be re-analysed using fusion dissolution techniques. Solubility effects in the acid digest used may produce low results.

Sb  
 has BEEN BROUGHT INTO SOLUTION BY DIGESTION WITH NITRIC, HYDROFLUORIC AND SULPHURIC ACID  
 THIS DIGEST MAY BE EXPECTED TO RECOVER ALL OF THE ANTIMONY.  
 THE DIGEST HAS BEEN ANALYSED BY INDUCTIVELY COUPLED PLASMA - MASS SPECTROMETER.

Te  
 has BEEN EXTRACTED WITH DIGEST PROCEDURES DESIGNED FOR THESE ELEMENTS.  
 THE DIGEST HAS BEEN ANALYSED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROPHOTOMETRY.

054

AS

ANALYTICAL SERVICES (W.A.) PTY. LTD.

875055

Reference Number 30045

15 JULY, 1987

MR M R Creasy  
\*\*\*\*\*

8 Luth Avenue

DAGLISH WA 6008

Analysis of Mineral Samples  
\*\*\*\*\*

This Report is Split into Multiple Printings  
This is .. PART 3

Analysed By :  
ANALYTICAL SERVICES (WA) PTY LTD  
19 Augusta St  
WILLETTON WA 6155  
Telephone 354 1888  
Telex AA 94767  
Facsimile 457 2569

Authorised By : T.K.Chan

055

AS

ANALYTICAL SERVICES (W.A.) PTY. LTD.

875056

REFERENCE NUMBER 30045

Page 1

SAMPLE NUMBER	Hg ppb	Al %	Si %	Fe %	Ti %	Ca %	Mg %	CR2O3 ppm	B ppm
1	20								
2	10								
3	20								
4	40								
5	30								
39496	7.4m	5.0	32	1.9	0.37	0.38	0.39	1.2%	80
39497	1.7m	3.5	6.3	20	0.74	0.36	3.8	50%	200
39498	170	2.9	0.2	16	0.04	0.31	5.4	70%	260
39499	130	1.2	39	2.6	0.07	0.33	0.62	6.7%	80
39500	< 10	0.12	<0.1	<0.1	<0.01	0.25	0.07	< 20	< 20
39501	370	2.5	2.3	21	0.15	0.26	3.9	60%	240
39502	120	2.7	0.2	16	0.03	0.26	5.8	70%	280
39503	110	1.0	20	4.0	0.09	0.22	2.3	19%	120
39504	6.8m	6.5	21	13	0.57	3.2	6.2	1.2%	20
39505	810	2.3	3.8	40	4.4	0.59	3.5	19%	60
39506	330	4.8	2.5	23	0.79	0.73	5.8	50%	160
39507	790	3.3	28	13	0.25	1.8	3.2	8.0%	40
39508	9.2m	6.2	23	15	0.85	0.49	1.3	2.0%	20
39509	1.3m	5.1	6.3	29	4.0	0.65	3.7	26%	120
39510	510	6.7	1.4	23	0.66	0.40	5.6	32%	160
39511	1.2m	2.1	36	6.8	0.18	0.38	0.75	4.7%	20
39512	8.0m	6.7	28	9.1	0.79	0.37	1.3	6700	80
39513	2.4m	4.3	8.6	26	2.8	0.49	3.8	32%	120
39514	1.5m	4.9	3.5	25	1.2	0.52	5.0	42%	180
39515	2.0m	1.7	35	2.8	0.15	0.38	0.63	1.3%	40

056



REFERENCE NUMBER 30045

PAGE 3

\*\*\*\*\*

Notes on Analysis of these Samples

An 'm' Suffix after a result implies results are expressed in ppm for this sample  
A '%' Suffix after a result implies results are expressed in % for this sample

- Sample KR 105 was not received .
- Sample 1 ... Chromite Creek 1 -80 #
- Sample 2 ... Chromite Creek 2 -80 #
- Sample 3 ... John Lynch -80 #
- Sample 4 ... Tributary Creek 1 -80 #
- Sample 5 ... Tributary Creek 2 -80 #

Hg  
has BEEN BROUGHT INTO SOLUTION WITH A SINGLE ACID DIGEST.  
THE DIGEST HAS BEEN ANALYSED FOR MERCURY BY ATOMIC ABSORPTION SPECTROPHOTOMETRY USING  
VAPOUR GENERATION TECHNIQUE.

Al Si Fe Ti Ca Mg CR2O3 B  
have BEEN BROUGHT INTO SOLUTION BY FUSION WITH SODIUM PEROXIDE.  
THIS FUSION PROCEDURE RESULTS IN TOTAL EXTRACTION OF THE ELEMENTS OF INTEREST.  
THE DIGEST HAS BEEN ANALYSED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROPHOTOMETRY.

AS7

Reference Number 30045

15 JULY, 1987

MR M R Creasy  
\*\*\*\*\*

8 Luth Avenue

DAGLISH WA 6008

Analysis of Mineral Samples  
\*\*\*\*\*

This Report is Split into Multiple Printings  
This is .. PART 4

Analysed By :  
ANALYTICAL SERVICES (WA) PTY LTD  
19 Augusta St  
WILLETTON WA 6155  
Telephone 354 1888  
Telex AA 94767  
Facsimile 457 2569

Authorised By : T.K.Chan

REFERENCE NUMBER 30045

Page 1

\*\*\*\*\*  
 SAMPLE                    S    Au F  
 NUMBER                    %    ppm  
 \*\*\*\*\*

1			
2			
3			
4			
5			
39496	0.08	I.S.	
39497	0.01	I.S.	
39498	0.02	0.11	
39499	0.03	1.8	
39500	0.05	I.S.	
39501	0.02	I.S.	
39502	0.04	0.09	
39503	0.02	65	
39504	0.12	I.S.	
39505	<0.01	1.3	
39506	<0.01	0.57	
39507	<0.01	0.04	
39508	0.19	I.S.	
39509	<0.01	I.S.	
39510	0.02	0.35	
39511	0.04	0.04	
39512	0.17	I.S.	
39513	<0.01	I.S.	
39514	<0.01	2.5	
39515	0.04	0.07	

059

875060



REFERENCE NUMBER 30045

PAGE 3

\*\*\*\*\*

Notes on Analysis of these Samples

- Sample KR 105 was not received .
- Sample 1 ... Chromite Creek 1 -80 #
- Sample 2 ... Chromite Creek 2 -80 #
- Sample 3 ... John Lynch -80 #
- Sample 4 ... Tributary Creek 1 -80 #
- Sample 5 ... Tributary Creek 2 -80 #

S

has BEEN BROUGHT INTO SOLUTION BY FUSION WITH SODIUM PEROXIDE.  
THIS FUSION PROCEDURE RESULTS IN TOTAL EXTRACTION OF THE ELEMENTS OF INTEREST.  
THE DIGEST HAS BEEN ANALYSED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROPHOTOMETRY.

Au F

has BEEN DETERMINED BY FIRE ASSAY.  
APPROXIMATELY 30 gm OF SAMPLE HAS BEEN WEIGHED AND FIRED.  
THE RESULTING NOBLE METAL BEAD HAS BEEN ANALYSED BY ATOMIC ABSORPTION SPECTROPHOTOMETRY.

I.S. MEANS THERE WAS INSUFFICIENT SAMPLE FOR THAT PARTICULAR DETERMINATION

060

875061



ANALYTICAL SERVICES (W.A.) PTY. LTD.

MICRON 182  
Reference Number 30684

15 JULY, 1987

Order Number MICRON 182

Mr M G Creasy  
\*\*\*\*\*

8 Luth Avenue

DAGLISH WA 6008

Analysis of Mineral Samples  
\*\*\*\*\*

This Report is Split into Multiple Printings  
This is .. PART 1

Analysed By :  
ANALYTICAL SERVICES (WA) PTY LTD  
19 Augusta St  
WILLETTON WA 6155  
Telephone 354 1888  
Telex AA 94767  
Facsimile 457 2569

Authorised By : T.K.Chan



REFERENCE NUMBER 30684

Order No MICRON 182

Page 1

*****										
SAMPLE NUMBER	Au ppb	Pt ppb	Pd ppb	Ru ppb	Rh ppb	Ir ppb	Os ppb	Au F ppm	Ag ppm	Cu ppm
*****										
NIB MAG 1106 (1)-2mm +1mm	4	3.0	1.5	19	2.5	15	14		< 1	< 10
1106 (2) -1mm	2	250	2.0	370	19	1.6m	1.7m		< 1	< 10
1110 -1mm	4	4.0	1.5	18	4.5	13	16		< 1	< 10
1113 -1mm	6	4.5	1.5	29	5.5	9.5	14		< 1	< 10
1117 (1)-2mm +250u	4	4.0	1.5	25	4.0	17	20		< 1	< 10
1117 (2) -250u	6	4.5	1.5	18	4.5	6.0	6		< 1	< 10
1132 -1mm	2	4.0	2.5	35	6.5	21	30		< 1	10
1135 -1mm	2	9.0	2.5	35	6.5	13	14		< 1	< 10
1138 (1) -1mm +250u	2	5.5	1.5	16	3.5	5.5	8		< 1	< 10
1138 (2) -250u	34	800	12	17	8.5	5.5	6		< 1	10
1161 -1mm	8	14	2.5	25	6.5	4.0	4		< 1	< 10
1164 -1mm	14	2.5	3.5	36	9.5	14	16		< 1	< 10
1167 -2mm	4	17	2.5	24	4.5	6.5	8		< 1	< 10
1170 -2mm	4	18	3.0	22	5.0	17	20		< 1	< 10
1172 -2mm	< 2	2.5	2.0	20	5.5	13	12		< 1	< 10
1200 -1.4m	26	4.2m	22	15	86	60	42		< 1	10
1202 -1mm	10	13	1.5	25	5.0	11	14		< 1	< 10
NIB MAG 1138 O MAG -1mm	8	28	2.0	10	3.0	4.0	4		< 1	< 10
1179 O MAG -2mm +1mm	4	6.5	2.0	11	2.5	7.5	10		< 1	10
1187 O MAG -1mm	6	31	1.5	20	5.0	12	14		< 1	< 10
1200 O MAG -1.4mm	4	14	2.5	22	5.0	6.5	10		1	< 10



REFERENCE NUMBER 30684

Order No MICRON 182

PAGE 2

\*\*\*\*\*

Notes on Analysis of these Samples

An 'm' Suffix after a result implies results are expressed in ppm for this sample

Au Pt Pd Ru Rh Ir Os

have been determined by Fire Assay of the sample (in NEW pots) using Nickel Sulphide as the collection media. The Platinoids have been recovered from the Nickel Sulphide and analysed by ICP-Mass Spectrometry.

Au F

has BEEN DETERMINED BY FIRE ASSAY.  
APPROXIMATELY 30 gm OF SAMPLE HAS BEEN WEIGHED AND FIRED.  
THE RESULTING NOBLE METAL BEAD HAS BEEN ANALYSED BY ATOMIC ABSORPTION SPECTROPHOTOMETRY.

Ag Cu

have BEEN BROUGHT INTO SOLUTION WITH A MIXED ACID DIGEST.  
THIS DIGEST PROCEDURE APPROACHES TOTAL EXTRACTION.  
THE DIGEST HAS BEEN ANALYSED BY ATOMIC ABSORPTION SPECTROPHOTOMETRY.

00  
AS

ANALYTICAL SERVICES (WA.) PTY. LTD.

875064

Reference Number 30684

15 JULY, 1987

Order Number MICRON 182

Mr M G Creasy  
\*\*\*\*\*

8 Luth Avenue  
DAGLISH WA 6008

Analysis of Mineral Samples  
\*\*\*\*\*

This Report is Split into Multiple Printings  
This is .. PART 2

Analysed By :  
ANALYTICAL SERVICES (WA) PTY LTD  
19 Augusta St  
WILLETTON WA 6155  
Telephone 354 1888  
Telex AA 94767  
Facsimile 457 2569

Authorised By : T.K.Chan

REFERENCE NUMBER 30684

Order No MICRON 182

Page 1

SAMPLE NUMBER	Pb ppm	Zn ppm	Ni ppm	As ppm	Mo ppm	Bi ppm	Co ppm	Sn ppm	Te ppm	Hg ppb
1106 (1)	110	370	60	< 2	9	< 10	100	< 10	0.2	30
1106 (2)	90	80	< 10	< 2	< 1	< 10	10	< 10	0.1	40
1110	80	130	70	8	4	< 10	20	< 10	<0.1	40
1113	40	200	120	2	3	< 10	40	< 10	0.1	50
1117 (1)	30	230	220	4	5	< 10	80	< 10	<0.1	30
1117 (2)	40	350	130	2	7	< 10	90	< 10	<0.1	20
1132	30	90	90	4	1	< 10	30	< 10	<0.1	40
1135	50	320	310	< 2	8	< 10	140	< 10	<0.1	30
1138 (1)	100	440	350	2	3	< 10	70	< 10	0.1	20
1138 (2)	60	350	130	4	3	< 10	40	< 10	0.1	30
1161	30	100	440	8	5	< 10	120	< 10	<0.1	100
1164	40	300	80	< 2	2	< 10	60	< 10	<0.1	160
1167	20	180	110	4	1	< 10	30	< 10	<0.1	30
1170	30	170	60	6	2	< 10	30	< 10	<0.1	40
1172	20	70	90	4	< 1	< 10	20	< 10	<0.1	20
1200	30	150	1800	14	12	< 10	330	< 10	0.3	60
1202	30	80	40	4	1	< 10	20	< 10	0.2	40
1138 O MAG	110	580	1300	6	7	< 10	160	< 10	0.1	30
1179 O MAG	30	250	1600	8	3	< 10	130	< 10	0.4	30
1187 O MAG	30	250	230	6	1	< 10	40	< 10	0.2	20
1200 O MAG	20	80	120	4	2	< 10	20	< 10	0.2	10

REFERENCE NUMBER 30684

Order No MICRON 182

PAGE 2

\*\*\*\*\*

## Notes on Analysis of these Samples

Pb Zn Ni Bi Co

have BEEN BROUGHT INTO SOLUTION WITH A MIXED ACID DIGEST.

THIS DIGEST PROCEDURE APPROACHES TOTAL EXTRACTION.

THE DIGEST HAS BEEN ANALYSED BY ATOMIC ABSORPTION SPECTROPHOTOMETRY.

Please Note.. If there are LEAD results over 2500 ppm, we recommend they be re-analysed using fusion dissolution techniques. Solubility effects in the acid digest used may produce low results.

As Mo Sn

have BEEN BROUGHT INTO SOLUTION WITH A MIXED ACID DIGEST.

THIS DIGEST PROCEDURE APPROACHES TOTAL EXTRACTION.

THE DIGEST HAS BEEN ANALYSED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROPHOTOMETRY.

Te

has BEEN BROUGHT INTO SOLUTION BY DIGESTION WITH NITRIC, HYDROFLUORIC AND SULPHURIC ACID. THIS DIGEST MAY BE EXPECTED TO RECOVER ALL OF THE ANTIMONY.

THE DIGEST HAS BEEN ANALYSED BY INDUCTIVELY COUPLED PLASMA - MASS SPECTROMETER.

Hg

has BEEN BROUGHT INTO SOLUTION WITH A SINGLE ACID DIGEST.

THE DIGEST HAS BEEN ANALYSED FOR MERCURY BY ATOMIC ABSORPTION SPECTROPHOTOMETRY USING 1 VAPOUR GENERATION TECHNIQUE.

06b

875067

(AS) ANALYTICAL SERVICES (W.A.) PTY. LTD.

Reference Number 30684

15 JULY, 1987

Order Number MICRON 182

Mr M G Creasy  
\*\*\*\*\*

8 Luth Avenue

DAGLISH WA 6008

Analysis of Mineral Samples  
\*\*\*\*\*

This Report is Split into Multiple Printings  
This is .. PART 3

Analysed By :  
ANALYTICAL SERVICES (WA) PTY LTD  
19 Augusta St  
WILLETTON WA 6155  
Telephone 354 1888  
Telex AA 94767  
Facsimile 457 2569

Authorised By : T.K.Chan

067  
AS

REFERENCE NUMBER 30684

Order No MICRON 182

Page 1

*****										
SAMPLE NUMBER	Al %	Si %	Fe %	Ca %	Ti %	Mg %	B ppm	S %	Cr ppm	Cr <sub>2</sub> O <sub>3</sub> %
*****										
1106 (1)	2.3	0.4	15	0.03	<0.01	5.7	200	<0.01	46%	67.25
1106 (2)	2.7	0.3	16	<0.01	0.06	5.5	220	<0.01	48%	70.18
1110	4.8	1.5	24	0.12	0.95	4.6	160	<0.01	32%	46.8
1113	6.3	0.7	23	0.08	0.06	4.2	160	<0.01	34%	49.7
1117 (1)	5.4	1.5	21	0.08	0.09	5.8	180	<0.01	36%	52.6
1117 (2)	6.1	1.3	18	0.05	0.10	5.6	160	<0.01	36%	52.6
1132	5.1	0.7	19	0.05	0.22	4.6	220	<0.01	37%	54.1
1135	4.5	1.7	20	0.06	0.02	5.7	200	<0.01	37%	54.1
1138 (1)-1 + 25um	4.9	2.4	19	0.12	0.09	6.1	180	<0.01	34%	49.7
1138 (2)-25um	6.2	1.9	20	<0.01	0.37	5.1	180	<0.01	37%	54.1
1161	4.3	4.1	26	0.16	0.05	4.3	140	<0.01	26%	38.0
1164	6.1	0.7	21	0.14	0.36	4.4	180	<0.01	35%	51.2
1167	6.7	1.1	20	0.10	0.81	5.3	180	<0.01	34%	49.7
1170	7.0	1.1	18	0.06	1.3	5.9	180	<0.01	38%	55.6
1172	4.8	0.6	18	0.07	0.10	6.1	200	<0.01	41%	60.0
1200	2.1	3.1	38	0.07	2.0	4.7	80	<0.01	14%	20.5
1202	5.1	0.4	18	0.05	0.31	5.1	160	<0.01	40%	58.5
1138 MAG	3.1	4.6	33	0.03	0.35	5.8	120	<0.01	20%	29.2
1179 O MAG	2.0	2.9	22	0.09	<0.01	6.1	140	<0.01	35%	51.17
1187 O MAG	3.2	0.9	20	0.22	0.07	4.5	160	<0.01	42%	61.40
1200 O MAG	4.6	0.9	20	0.10	0.07	5.3	180	<0.01	40%	58.5

068  
AS

REFERENCE NUMBER 30684

Order No MICRON 182

PAGE 2

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Notes on Analysis of these Samples

A '%' Suffix after a result implies results are expressed in % for this sample

Al Si Fe Ca Ti Mg B S Cr

have BEEN BROUGHT INTO SOLUTION BY FUSION WITH SODIUM PEROXIDE.

THIS FUSION PROCEDURE RESULTS IN TOTAL EXTRACTION OF THE ELEMENTS OF INTEREST.

THE DIGEST HAS BEEN ANALYSED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROPHOTOMETRY

875070

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AS

ANALYTICAL SERVICES (WA) PTY. LTD.

Reference Number 32092

15 JULY, 1987

Mr M G Creasy  
\*\*\*\*\*

8 Luth Avenue  
DAGLISH WA 6008

Analysis of Mineral Samples  
\*\*\*\*\*

Analysed By :  
ANALYTICAL SERVICES (WA) PTY LTD  
19 Augusta St  
WILLETTON WA 6155  
Telephone 354 1888  
Telex AA 94767  
Facsimile 457 2569

Authorised By : T.K.Chan

070  
AS

REFERENCE NUMBER 32092

Page 1

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SAMPLE NUMBER	Au ppb	Pt ppb	Pd ppb	Ru ppb	Rh ppb	Ir ppb	Os ppb
MAGNETICS 1207	4	1.0	7.0	28	6.5	10	16
MAGNETICS 1210	4	3.0	5.5	28	5.5	17	22
MAGNETICS 1214	4	2.5	4.5	24	3.0	14	14
MAGNETICS 1217	6	2.0	2.5	16	2.5	4.5	6
MAGNETICS 1220	8	3.5	3.5	24	5.0	8.5	12
MAGNETICS 1223	12	600	11	24	34	14	12
MAGNETICS 1229	6	9.5	4.0	29	6.0	7.5	10
MAGNETICS 1237	36	5.5	2.0	20	3.5	4.5	6
MAGNETICS 1240	10	4.0	4.5	32	6.5	27	38
MAGNETICS 1257	6	3.5	5.0	36	3.5	11	14
<u>MAGNETICS 1260</u>	<u>4</u>	<u>3.0</u>	<u>3.5</u>	<u>29</u>	<u>4.5</u>	<u>13</u>	<u>20</u>
MAGNETICS 1305	18	4.5	5.5	21	4.0	6.0	10
MAGNETICS 1307	8	13	4.0	27	5.0	8.5	10
MAGNETICS 1313	10	7.0	3.5	22	3.0	5.5	8
MAGNETICS 1315	12	1.5	3.0	17	2.5	22	34
MAGNETICS 1317	6	3.5	5.0	29	2.5	64	84

071

AS

ANALYTICAL SERVICES (W.A.) PTY. LTD.

875072

REFERENCE NUMBER 32092

Page 2

\*\*\*\*\*  
 SAMPLE Au Pt Pd Ru Rh Ir Os  
 NUMBER ppb ppb ppb ppb ppb ppb ppb  
 \*\*\*\*\*

NON MAGS1214 8 12 1.5 140 6.5 980 820  
 NON MAGS1220 2 3.5 <0.5 18 3.5 28 28

SINK 1210 6 18 1.5 99 5.5 260 260  
 SINK 1217 8 7.5 <0.5 86 5.5 620 750  
 SINK 1305 4 4.5 1.5 9.0 3.0 3.0 6

REFERENCE NUMBER 32092

PAGE 3

\*\*\*\*\*

Notes on Analysis of these Samples

An 'm' Suffix after a result implies results are expressed in ppm for this sample

Au Pt Pd Ru Rh Ir Os

have been determined by Fire Assay of the sample (in NEW pots) using Nickel Sulphide as the collection media. The Platinoids have been recovered from the Nickel Sulphide and analysed by ICP-Mass Spectrometry.

## APPENDIX 1

## ANALYTICAL DATA SHEETS

- (c) Laterites - Analytical Services (WA) Pty. Ltd.  
- Genalysis Laboratory Services Pty. Ltd.

875075



ANALYTICAL SERVICES (W.A.) PTY. LTD.

Reference Number 30857

17 JULY, 1987

Order Number 188

Mr M G Creasy  
\*\*\*\*\*

8 Luth Avenue

DAGLISH WA 6008

Analysis of Mineral Samples  
\*\*\*\*\*

This Report is Split into Multiple Printings  
This is .. PART 1

Analysed By :  
ANALYTICAL SERVICES (WA) PTY LTD  
19 Augusta St  
WILLETTON WA 6155  
Telephone 354 1888  
Telex AA 94767  
Facsimile 457 2569

Authorised By : T.K.Chan

073

875076



ANALYTICAL SERVICES (W.A.) PTY. LTD.

REFERENCE NUMBER 30857

Order No 188

Page 1

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SAMPLE NUMBER	Au ppb	Pt ppb	Pd ppb	Ru ppb	Rh ppb	Ir ppb	Os ppb	Au F ppm	Ag ppm
1149 HI MAGS	5.5m	2.5	2.5	9.5	2.0	14	12	4.4	< 1
1149 LOW MAGS	1.6m	2.0	3.5	12	2.0	12	4	2.3	< 1
1149 MEDIUM MAGS	9.5m	2.5	1.5	14	2.0	11	6	7.7	< 1
1160 HI MAGS	6.5m	17	2.5	17	10	5.5	4	5.1	< 1
1160 LOW MAGS	4.6m	18	2.0	16	6.5	4.5	4	7.5	< 1
1160 MEDIUM MAGS	10m	19	1.5	17	8.5	5.5	4	9.0	< 1

\*\*\*\*\*

01 076

875077



ANALYTICAL SERVICES (W.A.) PTY. LTD.

REFERENCE NUMBER 30857

Order No 188

PAGE 2

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Notes on Analysis of these Samples

An 'm' Suffix after a result implies results are expressed in ppm for this sample

Au Pt Pd Ru Rh Ir Os

have been determined by Fire Assay of the sample (in NEW pots) using Nickel Sulphide as the collection media. The Platinoids have been recovered from the Nickel Sulphide and analysed by ICP-Mass Spectrometry.

Au F

has BEEN DETERMINED BY FIRE ASSAY.

APPROXIMATELY 30 gm OF SAMPLE HAS BEEN WEIGHED AND FIRED.

THE RESULTING NOBLE METAL BEAD HAS BEEN ANALYSED BY ATOMIC ABSORPTION SPECTROPHOTOMETRY

Ag

has BEEN BROUGHT INTO SOLUTION WITH A SINGLE ACID DIGEST.

THIS DIGEST PROCEDURE MAY NOT EXTRACT ALL OF THE ELEMENT OF INTEREST.

THE DIGEST HAS BEEN ANALYSED BY ATOMIC ABSORPTION SPECTROPHOTOMETRY.

AS 077

Reference Number 30857

17 JULY, 1987

Order Number 188

Mr M G Creasy  
\*\*\*\*\*

8 Luth Avenue

DAGLISH WA 6008

Analysis of Mineral Samples  
\*\*\*\*\*

This Report is Split into Multiple Printings  
This is .. PART 2

Analysed By :  
ANALYTICAL SERVICES (WA) PTY LTD  
19 Augusta St  
WILLETTON WA 6155  
Telephone 354 1888  
Telex AA 94767  
Facsimile 457 2569

Authorised By : T.K.Chan



078



ANALYTICAL SERVICES (W.A.) PTY. LTD.

875079

REFERENCE NUMBER 30857

Order No 188

Page 1

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SAMPLE NUMBER	Cu ppm	Pb ppm	Zn ppm	Ni ppm	As ppm	Mo ppm	Co ppm	Bi ppm	Sn ppm
1149 HI MAGS	10	30	70	310	44	17	30	< 10	< 10
1149 LOW MAGS	10	30	170	200	38	16	60	< 10	< 10
1149 MEDIUM MAGS	10	40	170	260	42	20	50	< 10	10
1160 HI MAGS	20	30	150	1300	28	21	500	< 10	< 10
1160 LOW MAGS	20	30	280	1100	18	9.0	680	< 10	10
1160 MEDIUM MAGS	20	30	320	1300	12	17	810	< 10	< 10

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079

875080



REFERENCE NUMBER 30857

Order No 188

PAGE 2

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Notes on Analysis of these Samples

Cu Pb Zn Ni Co

have BEEN BROUGHT INTO SOLUTION WITH A SINGLE ACID DIGEST.

THIS DIGEST PROCEDURE MAY NOT EXTRACT ALL OF THE ELEMENT OF INTEREST.

THE DIGEST HAS BEEN ANALYSED BY ATOMIC ABSORPTION SPECTROPHOTOMETRY.

Please Note.. If there are LEAD results over 2500 ppm, we recommend they be re-analysed using fusion dissolution techniques. Solubility effects in the acid digest used may produce low results.

As

has BEEN BROUGHT INTO SOLUTION WITH A SINGLE ACID DIGEST.

THIS DIGEST PROCEDURE MAY NOT EXTRACT ALL OF THE ELEMENT OF INTEREST.

THE DIGEST HAS BEEN ANALYSED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROPHOTOMETRY.

Mo Bi Sn

have been brought into solution with a mixed acid digest.

This digest procedure approaches total extraction for most elements.

The digest solution has then been analysed by Inductively Coupled Plasma Mass Spectrometry.

Reference Number 30857

17 JULY, 1987

Order Number 188

Mr M G Creasy  
\*\*\*\*\*

8 Luth Avenue  
DAGLISH WA 6008

Analysis of Mineral Samples  
\*\*\*\*\*

This Report is Split into Multiple Printings  
This is .. PART 3

Analysed By :  
ANALYTICAL SERVICES (WA) PTY LTD  
19 Augusta St  
WILLETTON WA 6155  
Telephone 354 1888  
Telex AA 94767  
Facsimile 457 2569

Authorised By : T.K.Chan



081

875082



ANALYTICAL SERVICES (W.A.) PTY. LTD.

REFERENCE NUMBER 30857

Order No 188

Page 1

*****									
SAMPLE NUMBER	Te ppm	Hg ppb	Al %	Si %	Fe %	Cr %	Ca %	Mg %	Ti %
*****									
1149 HI MAGS	<0.1	460	0.95	1.8	59	1.5	0.15	0.17	0.10
1149 LOW MAGS	0.3	420	1.9	5.0	42	5.7	0.14	0.36	0.21
1149 MEDIUM MAGS	0.2	430	1.7	3.2	51	5.6	0.15	0.32	0.17
1160 HI MAGS	0.3	350	1.3	4.9	52	2.7	0.21	1.2	0.11
1160 LOW MAGS	0.2	440	2.4	14	26	7.8	1.1	5.1	0.09
1160 MEDIUM MAGS	0.3	670	2.6	8.4	33	8.2	0.53	2.7	0.14

084

875083



REFERENCE NUMBER 30857

Order No 188

PAGE 2

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Notes on Analysis of these Samples

Te

has been brought into solution with a mixed acid digest.  
This digest procedure approaches total extraction for most elements.  
The digest solution has then been analysed by Inductively Coupled Plasma  
Mass Spectrometry.

Hg

has BEEN BROUGHT INTO SOLUTION WITH A SINGLE ACID DIGEST.  
THE DIGEST HAS BEEN ANALYSED FOR MERCURY BY ATOMIC ABSORPTION SPECTROPHOTOMETRY USING  
VAPOUR GENERATION TECHNIQUE.

Al Si Fe Ca Mg Ti

have BEEN BROUGHT INTO SOLUTION BY FUSION WITH SODIUM PEROXIDE.  
THIS FUSION PROCEDURE RESULTS IN TOTAL EXTRACTION OF THE ELEMENTS OF INTEREST.  
THE DIGEST HAS BEEN ANALYSED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROPHOTOMETRY.

Cr

has BEEN BROUGHT INTO SOLUTION WITH A MIXED ACID DIGEST.  
THIS DIGEST PROCEDURE APPROACHES TOTAL EXTRACTION.  
THE DIGEST HAS BEEN ANALYSED BY INDUCTIVELY COUPLED PLASMA EMISSION  
SPECTROPHOTOMETRY.

083

875084



ANALYTICAL SERVICES (WA.) PTY. LTD.

Reference Number 30857

17 JULY, 1987

Order Number 188

Mr M G Creasy  
\*\*\*\*\*

8 Luth Avenue

DAGLISH WA 6008

Analysis of Mineral Samples  
\*\*\*\*\*

This Report is Split into Multiple Printings  
This is .. PART 4

Analysed By :  
ANALYTICAL SERVICES (WA) PTY LTD  
19 Augusta St  
WILLETTON WA 6155  
Telephone 354 1888  
Telex AA 94767  
Facsimile 457 2569

Authorised By : T.K.Chan

084



REFERENCE NUMBER 30857

Order No 188

Page 1

\*\*\*\*\*

SAMPLE NUMBER	B ppm	S %
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\*\*\*\*\*

1149 HI MAGS	< 20	0.08
1149 LOW MAGS	< 20	0.07
1149 MEDIUM MAGS	20	<0.01
1160 HI MAGS	< 20	0.02
1160 LOW MAGS	20	<0.01
1160 MEDIUM MAGS	< 20	0.01

080

875086

REFERENCE NUMBER 30857

Order No 188

PAGE 2

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Notes on Analysis of these Samples

B S  
have BEEN BROUGHT INTO SOLUTION BY FUSION WITH SODIUM PEROXIDE.  
THIS FUSION PROCEDURE RESULTS IN TOTAL EXTRACTION OF THE ELEMENTS OF INTEREST.  
THE DIGEST HAS BEEN ANALYSED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROPHOTOMETRY.

**ANALYSIS LABORATORY SERVICES PTY. LTD.**  
**LABORATORY REPORT**

2 DAVIDSON ST. MADDINGTON, W.A. 6109. P.O. BOX 144 GOSNELLS W.A. 6110  
TELEPHONE (09) 459 2272, 459 4343. TELEX GLS 96166

KALGOORLIE SAMPLE PREPARATION DIVISION 241 DUGAN ST. KALGOORLIE W.A. 6430  
P.O. BOX 388 KALGOORLIE W.A. 6430 TELEPHONE (090) 21 6057

086

**JOB INFORMATION**

JOB CODE : 202.0/870578  
NO. SAMPLES : 24  
ELEMENTS : 14  
CLIENT O/N : LETTER  
DATE RECEIVED : 03/03/87  
DATE COMPLETED : 23/04/87

**LEGEND**

'X' = LESS THAN DETECTION LIMIT  
'N/L' = SAMPLE NOT RECEIVED  
'\*' = RESULTS CHECKED  
'( )' = RESULTS STILL TO COME  
'I/S' = INSUFFICIENT SAMPLE FOR ANALYSIS

COMMENTS : ATTENTION : M. CREASY....  
COMMENTS : PISLIT....

**SAMPLE INFORMATION**

ELEMENTS	Au	Cu	Ni	Cr	Co	Fe	Au-Rp1	Au-Rp2	Au-Rp3	Pt	Pd	Ru	Rh	Ir
UNITS	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb
DETECTION	0.01	1	1	1	1	0.01	0.01	0.01	0.01	1	1	1	1	1
METHOD	B/AAS	B/AAS	B/AAS	NIS/EA	NIS/EA	NIS/EA	NIS/EA	NIS/EA						

**SAMPLE NUMBERS**

SAMPLE NUMBERS	Au	Cu	Ni	Cr	Co	Fe	Au-Rp1	Au-Rp2	Au-Rp3	Pt	Pd	Ru	Rh	Ir
1131	N/L	N/L	N/L	N/L	N/L	N/L	N/L	N/L	N/L	N/L	N/L	N/L	N/L	N/L
1 1149	I	5	188							X	I	11	1	6
2 1149-SLINE	I	11	1860							20	2	23	12	5
3 1149.8	0.04	4	160	7600	50	40.00				X	I	11	1	6
4 11500	I	6	300	1.351	80	41.00				X	I	17	2	8
5 1150C	I	6	340	1.451	100	30.00				1	I	19	2	11
6 1160	0.36	8	1120				0.12	0.56	0.90	15	1	14	6	4
7 1160-SLINE	0.06	6	150				0.06			X	X	19	3	10

16 1211	0.04	6	4175	2250	1050	37.00				X	X	11	1	6
17 1234	0.02	4	2350	8100	360	36.00				X	X	25	2	10
18 1249	0.02	5	370	3200	140	17.00				X	X	6	1	3
19 1253	I	0	500	3900	310	25.00				X	X	7	1	3

22 Ch.0001(1149)	0.02	4	170		40									
23 STD 1:5YNI	4.65	220	410	1700	220	3.50								
24 STD 2:SARK7							3610	1400	450	210	70			

**PLEASE NOTE:** COARSE REJECTS AND PULPS WILL BE STORED FOR 60 DAYS WITHOUT CHARGE. AFTER THIS PERIOD ALL COARSE REJECTS AND PULPS WILL BE STORED AT A RATE OF \$25/cubic metre/month UNTIL YOUR ADVICE REGARDING COLLECTION OR DISPOSAL IS RECEIVED.

875087

10/03/87 08:47 A.M.

GENALYSIS

Information Sheet.

JOB NUMBER : 202.0/870578

M. CREASY  
8 LUTH AVE  
DAGLISH WA  
AUSTRALIA

6008

ORDER NO.            LETTER  
PROJECT  
DATE RECEIVED      03/03/87  
RESULTS REQUIRED     10/03/87  
NO. SAMPLES        21

MARK CREASY

KALGDORLIE JOB NUMBER :

RESULTS TO            :    M. CREASY

INVOICE TO            :    M. CREASY

COMMENTS             :

STORAGE CODE         :    0011--2.0

Abbreviations used for Sample States :

BU : Bulk            ; CR : Coarse Rejects    ; CS : Costeans            ; DC : Drill Core        ; DU : Duap                ;  
O : Other            ; PC : Percussion Chip    ; PU : Pulp                ; RB : RAB                ; RC : Reverse Circulation;  
RK : Rock            ; S : Soil                ; SL : Solutions          ; SS : Stream Sediments   ; TR : Trench              ;

Abbreviations used for Preparation codes :

CP : Course Pulverise ; CR : Crush                ; DR : Dry                 ; DS : Diamond Saw        ; FP : Fine Pulverise     ;  
HM : Hammer Mill     ; KM : Keagor Mill        ; MM : Mixer Mill         ; MS : Mix & Split        ; O : Other                ;  
NR : Not Required     ; QZ : Quartz             ; 2S : 2 Splits            ; 3S : 3 Splits            ; 4S : 4 Splits            ;  
SV : Sieve             ;

087

875088

SAMPLE NUMBERS STATE PRETREAT. ELEMENTS METHOD

1149,1149.0,1150B PISLIT 2KG,DR(CR) Au B/AAS  
1150C,1131,1160 MM  
1181,1182,1183,1184  
1211,1234,1249,1253  
1284,1331

1150B,1211,1234 Cu,Ni,Cr,Co,Fe B/AAS  
1253,1284,1149.0 Pt,Ir NISETA  
1150C,1131,1331  
1249

1149,1160,1181/4 Pt,Ir NISETA

-SLIME

1149,1160,1181/4 Au B/AAS  
Pt,Ir NISETA

MISSING SAMPLES

1131

088

875089

APPENDIX 1

ANALYTICAL DATA SHEETS

(d) Rocks

## LABORATORY REPORT

2 DAVISON ST. MADDINGTON, W.A. 6109. P.O. BOX 144 GOSNELLS W.A. 6110  
 TELEPHONE (09) 459 2272, 459 4343. TELEX GLS 96166

KALGOORLIE SAMPLE PREPARATION DIVISION 241 DUGAN ST. KALGOORLIE W.A. 6430  
 P.O. BOX 388 KALGOORLIE W.A. 6430 TELEPHONE (090) 21 6057

090

## JOB INFORMATION

JOB CODE : 202.0/870577  
 NO. SAMPLES : 15  
 ELEMENTS : 15  
 CLIENT O/N : LETTER  
 DATE RECEIVED : 03/03/87  
 DATE COMPLETED : 23/04/87

## LEGEND

'X' = LESS THAN DETECTION LIMIT  
 'N/L' = SAMPLE NOT RECEIVED  
 '\*' = RESULTS CHECKED  
 '( )' = RESULTS STILL TO COME  
 '1/8' = INSUFFICIENT SAMPLE FOR ANALYSIS

COMMENTS : ATTENTION : M. CREASY....  
 COMMENTS : ROCK....

## SAMPLE INFORMATION

ELEMENTS	Au	As	Ag	Cu	Pb	Zn	Ni	Cr	Co	Fe	Pt	Pd	Ru	Rh	Ir
UNITS	ppm	%	ppb	ppb	ppb	ppb	ppb								
DETECTION	0.01	5	0.1	1	1	1	1	1	1	0.01	1	1	1	1	1
METHOD	B/AAS	NIS/EA	NIS/EA	NIS/EA	NIS/EA	NIS/EA									
SAMPLE NUMBERS															
1 1152	0.02	55	0.8	49	130	50	88	470	17	2.25	1	3	2	1	1
1223	N/L	N/L	N/L	N/L	N/L										
2 1225	0.01	15	X	13	17	15	68	110	41	1.20	X	X	5	2	1
3 1226	0.01	X	X	9	4	6	410	270	96	2.40	2	X	2	1	1
4 1233	X	X	X	11	1	14	54	175	13	2.25	1	1	12	2	2
-----															
5 1241	X	5	X	8	2	1	27	130	6	0.70	1	1	4	1	1
6 1254	X	X	0.1	37	49	140	2650	2050	360	42.00	9	3	15	1	3
-----															
13 Ch.0021(1152)	0.01	60	0.8	52	145	52	94	430	21	2.50					
-----															
14 STD 1:SYN1	4.90	400	25.5	215	64	210	400	1700	210	3.60					
15 STD 2:SRM7											3600	1570	400	250	69

PLEASE NOTE: COARSE REJECTS AND PULPS WILL BE STORED FOR 60 DAYS WITHOUT CHARGE. AFTER THIS PERIOD ALL COARSE REJECTS AND PULPS WILL BE STORED AT A RATE OF \$25/cubic metre/month UNTIL YOUR ADVICE REGARDING COLLECTION OR DISPOSAL IS RECEIVED.

875091

JOB NUMBER : 202-0/871784

M. CREASY  
8 LUTH AVE  
DAGLISH WA  
AUSTRALIA

6008

ORDER NO. LETTER  
PROJECT  
DATE RECEIVED 08/06/87  
RESULTS REQUIRED 15/06/87  
NO. SAMPLES 83

MARK CREASY

KALGDORLIE JOB NUMBER :

RESULTS TO : M. CREASY-DAGLISH

INVOICE TO : DAGLISH

COMMENTS :

STORAGE CODE : 0011--3.0

Abbreviations used for Sample States :

BU : Bulk	; CR : Coarse Rejects	; CS : Costeans	; DC : Drill Core	; DU : Dump
D : Other	; PC : Percussion Chip	; PU : Pulp	; RB : RAB	; RC : Reverse Circulation
RK : Rock	; S : Soil	; SL : Solutions	; SS : Stream Sediments	; TR : Trench

Abbreviations used for Preparation codes :

CP : Course Pulverise	; CR : Crush	; DR : Dry	; DS : Diamond Saw	; FP : Fine Pulverise
HM : Hammer Mill	; KM : Keagor Mill	; MM : Mixer Mill	; MS : Mix & Split	; O : Other
NR : Not Required	; QZ : Quartz	; 2S : 2 Splits	; 3S : 3 Splits	; 4S : 4 Splits
SV : Sieve				

161

875092

SAMPLE NUMBERS

STATE

PRETREAT.

ELEMENTS

METHOD

1152,1223,1225,1226 ROCK  
1233,1241,1254  
1274/80

1.5Kg,CR  
MM

Au,As,Ag,Cu,Pb  
Zn,Ni,Cr,Co,Fe  
Pt, Ir

B/AAS  
NISEYA

MISSING SAMPLES

1223,1278

092

875093

093

875094

APPENDIX 2

SAMPLE RECORD AND ANALYTICAL DATA SHEETS

(a) -80# +150#, -150# stream sediments

ROGER POLTOCK GEOLOGICAL PTY. LTD.

SAMPLE RECORD AND ANALYTICAL DATA SHEET

COLLECTED BY: RP mac 094  
 DATE DISPATCHED:  
 DATE RECEIVED:

CLIENT MG Creasy  
 PROJECT Rn 18/86 John Lynch Creek  
 PROSPECT

LABORATORY ANALYSIS Co EE  
 SAMPLE TYPE Stream sedts -80# +150#, -150#

A 28305

SAMPLE NUMBER	LOCATION		DESCRIPTION	ANALYSES												%	
				ppm →												As	Pb
				Co	Pb	Cu	Ag	Ni	Cl	Al	B	Hg	Sb	Te			
1109	70900E	82220N	-80# +150#	7	9	28	<.1	30	3600	.01	3	.015					.53
			-150#	8	10	35	0.1	30	2650	.01	2	.025					.39
1111	70500E	82300N	-80# +150#	11	29	94	<.1	55	1450	<.01	1	.035					.21
			-150#	12	25	105	0.2	55	1600	.01	3	.040					.23
1114	70900E	82900N	-80# +150#	4	5	235	<.1	130	44500	<.01	2		<3	1			6.50
			-150#	4	9	126	0.2	75	18500	.01	2	I.S				<.0008 <.001	2.70
1116	71100E	82900N	-80# +150#	11	29	107	0.2	50	3450	.01	3						.50
			-150#	11	24	102	0.2	50	2050	.01	2	.070					.30
1118	71150E	82700N	-80# +150#	7	12	480	<.1	285	120000	.01	3	<.1					17.55
			-150#	8	14	400	<.1	275	83500	.01	3	<.1	3	1		.053 <.001	12.21
1131	71200E	82600N	-80# +150#	9	14	134	0.1	125	29000	.01	3	.065					4.24
			-150#	10	46	90	0.2	100	15500	.02	3	<.1	3	<.1		<.0008 <.001	2.27
1134	71300E	83200N	-80# +150#	5	4	805	<.1	575	230000	.01	1	<.1					33.63
			-150#	6	7	900	<.1	575	230000	.01	1		5	1		<.0008 <.001	33.63
1137	71500E	83100N	-80# +150#	12	117	930	<.1	510	73000	<.01	4	<.1	4				10.67
			-150#	13	112	890	<.1	425	86000	<.01	3	<.1	<3	1		.104 <.001	12.60
1140	71700E	83300N	-80# +150#	23	24	300	<.1	130	12000	<.01	4	<.1					1.75
			-150#	24	28	325	<.1	140	14000	<.01	4	<.1	<3	<.1		.017 <.001	2.05
1143	71800E	83600N	-80# +150#	25	22	191	0.2	100	1200	<.01	4	.035					.18
			-150#	26	24	185	0.2	90	1450	<.01	6	.040	6	1		<.0008 <.001	.21

I.S insufficient sample

875093

ROGER POLTOCK GEOLOGICAL PTY. LTD.

SAMPLE RECORD AND ANALYTICAL DATA SHEET

COLLECTED BY: RP mac

095

CLIENT MG Creasy  
 PROJECT Kh 1866 John Lynch Creek  
 PROSPECT

LABORATORY ANALABS COOEE  
 SAMPLE TYPE Stream sedls -80# +150#, -150#

DATE DISPATCHED:  
 DATE RECEIVED:

A 28005

SAMPLE NUMBER	LOCATION		DESCRIPTION	PPM → ANALYSES														
				Pb	Mo	Zn	Ag	Ni	Cr	Au	As	B	Hg	Sb	Te	Pf	Pd	Co
1145	71700E	83800N	-80# +150#	14	6	130	0.1	130	15500	.01	3	4						2.26
			-150#	14	7	127	0.1	135	15000	<.01	4	<1					<.005	2.19
1148	71800E	83800N	-80# +150#	13	149	85	0.1	40	950	<.01	4	<1						.14
			-150#	13	25	80	0.1	40	950	.01	4	<1						.14
1151	71300E	86800N	-80# +150#	20	57	170	0.2	64	4150	.01	13	3	.04	6	<1		<.005	.61
			-150#	30	74	223	.01		865	<.01	13	<1	.03	4	<1		.015	.12
1155	70900E	87100N	-80# +150#	3	<1	13	<.1	10	910	.01	1	<1	.03	<3				.13
			-150#	2	<1	16	0.2		125	<.01	1	3	.04	<3				.02
1158	71400E	85800N	-80# +150#	3	<1	17	<.1	10	830	.02	2	<1	.025	<3				.12
			-150#	2	1	21	0.1		420	<.01	1	3	.010	5				.06
1162	73500E	77100N	-80# +150#	2	2	38	<.1	23	6400	.01	<1	<1	.010	<3				.94
			-150#	3	3	66	0.1		9500	<.01	3	2	.010	3				1.39
1165	73700E	77100N	-80# +150#	19	19	460	<.1	320	44000	.01	4	<1	.035	10				6.43
			-150#	A	22	370	<.1		22000	<.01	4	<1	.020	9				3.22
1168	73400E	78500N	-80# +150#	17	18	301	<.1	230	25000	.01	6	<1	.025	<3	<1		<.005	3.66
			-150#	A	18	246	0.1		3000	<.01	6	2	.040	<3	<1		<.005	.56
1171	73300E	78600N	-80# +150#	11	12	149	0.1	96	20000	<.01	3	<1	<.0025	<3				2.92
			-150#	8	8	94	<.1		4900	<.01	1	3	.010	4				.72
1196	71100E	84800N	-80# +150#	4	7	216	<.1	290	70000	.01	<1	<1	-	<3				10.2
			-150#	7	11	362	0.2		9650	<.01	<1	<1	-	<3				14.1

075096

ROGER POLTOCK GEOLOGICAL PTY. LTD.

SAMPLE RECORD AND ANALYTICAL DATA SHEET

COLLECTED BY: R P MGC

098

CLIENT M G Creasy  
PROJECT En 8/26 John Lynch Creek  
PROSPECT

LABORATORY ADNALABS WOOEE  
SAMPLE TYPE Stream Sed -80# +150# , -150#

DATE DISPATCHED:  
DATE RECEIVED:

A 28305

SAMPLE NUMBER	LOCATION		DESCRIPTION	PPM → ANALYSES												
				Cu	Pb	Zn	Ag	Ni	Co	Al	As	Bi	Hg	Sb	Te	At
1198	71700E	24400N	-80# +150#	3	3	326	<.1	260	11500	<.01	<.1	4	<.1	<.002	<.001	16.81
			-150#	3	2	216	0.1	73500	.01	<.1	<.3	<.1	<.002	<.001	10.75	
1201	72000E	25500N	-80# +150#	22	8	93	<.1	53	6950	.01	<.1	<.3	<.1	<.002	<.001	1.02
			-150#	24	7	70	0.1	1400	<.01	<.1	<.3	<.1	<.002	<.001	.21	
1203	72000E	26000N	-80# +150#	17	11	149	<.01	67	2300	<.01	3	3	<.1	<.002	<.001	.34
			-150#	19	15	145	<.01	1050	<.01	2	4	<.1	<.002	<.001	.15	
1205	72300E	20400N	-80# +150#	3	1	15	<.01	18	2400	<.01	<.1	.01	4	<.1	<.002	.35
			-150#	2	2	10	0.1	225	<.01	2	.02	<.3	<.1	<.002	<.001	.03
1208	72600E	20500N	-80# +150#	8	6	240	<.1	330	20,000	<.01	<.1	.045	<.3	<.1	<.002	29.24
			-150#	5	9	430	<.1	95,000	<.01	4	.02	<.3	<.1	<.002	<.001	13.89
1212	72700E	20600N	-80# +150#	7	3	1050	<.1	1500	25,000	<.01	<.1	.015	<.3	<.1	<.002	36.55
			-150#	7	5	990	<.1	210,000	<.01	2	.10	<.3	1	<.002	<.001	30.7
1215	72400E	21000N	-80# +150#	6	4	855	<.1	1300	185,000	<.01	<.1	.08	<.3	<.1	.015	27.05
			-150#	6	9	840	<.1	170,000	<.01	5	.02	3	<.1	<.002	<.001	24.85
1218	72100E	21350N	-80# +150#	6	6	860	<.1	510	170,000	<.01	<.1	.01	<.3	<.1	<.002	24.85
			-150#	6	7	625	<.1	105,000	<.01	2	<.005	3	<.1	.09	<.002	15.35
1221	71800E	21800N	-80# +150#	4	5	215	<.1	220	55,000	<.01	<.1	.01	5	<.1	<.002	8.04
			-150#	5	9	135	<.1	30,000	<.01	1	.015	<.3	<.1	<.002	<.001	4.39
1227	73400E	21400N	-80# +150#	15	14	240	<.1	98	7100	<.01	<.1	.02	<.3	<.1	<.002	1.04
			-150#	19	19	255	<.1	2700	<.01	8	.02	4	<.1	<.002	<.001	.40

075097

ROGER POLTOCK GEOLOGICAL PTY. LTD.

SAMPLE RECORD AND ANALYTICAL DATA SHEET

COLLECTED BY: R.P. M.G.C.

097

CLIENT M.G. Creasy  
 PROJECT En 2/86 Schuylbach Creek  
 PROSPECT

LABORATORY ANALYSIS CODE

DATE DISPATCHED:

SAMPLE TYPE Stream Sedts -80# +150#, -150#

DATE RECEIVED:

A 28306

SAMPLE NUMBER	LOCATION		DESCRIPTION	ANALYSES												Cr <sub>2</sub> O <sub>3</sub>		
				PPM →														
				Ca	Pb	Zn	Mg	Ni	Cr	As	Ag	Bi	Hg	Sb	Te	A	Pa	
1230	73450E	81000N	-80# +150#	21	15	205	<.1	240	14500	<.01	<.1	.02	6	<.1		<.008		2.12
			-150#	33	21	390	<.1		13000	<.01	<.1	.03	6	<.1		<.008		1.9
1235	73400E	81350N	-80# +150#	13	11	495	<.1	540	73000	<.01	<.1	.02	<.3	<.1		<.008		10.67
			-150#	19	15	480	<.1		70000	<.01	<.1	.03	<.3	<.1		<.008		10.23
1238	72600E	77100N	-80# +150#	9	9	140	0.1	95	15500	<.01	<.1	.015	<.3	<.1		<.008		2.27
			-150#	10	12	95	<.1		1500	<.01	3	2	.020	<.3	<.1		<.008	
1242	73000E	75900N	-80# +150#	5	8	85	<.1	40	10000	<.01	<.1	.01	<.3	1		<.002		1.46
			-150#	6	8	65	0.1		2200	<.01	2	<.1	.005	6	<.1		<.008	
1246	74350E	73750N	-80# +150#	3	2	40	<.1	33	6250	.01	<.1	.01	3	<.1		<.008		.91
			-150#	2	1	20	0.1		1900	<.01	<.1	.005	<.3	<.1		<.008		.28
1250	74100E	75250N	-80# +150#	5	7	60	<.1	29	4950	<.01	<.1	.01	4	<.1		<.008		.72
			-150#	5	6	40	0.1		1650	<.01	2	<.1	.01	<.3	<.1		<.008	
1255	74000E	75900N	-80# +150#	14	27	245	<.1	178	33500	<.01	<.1	.02	3	<.1		<.008		4.90
			-150#	14	29	230	<.1		22500	<.01	1	<.1	.015	3	1		<.008	
1258	74000E	75650N	-80# +150#	7	8	80	0.1	43	6500	<.01	<.1	.01	<.3	<.1		<.003		.95
			-150#	8	8	60	0.1		2700	<.01	1	3	.01	<.3	<.1		<.008	
1261	73900E	77000N	-80# +150#	9	11	45	0.1	38	780	<.01	<.1	.01	6	<.1		<.008		.11
			-150#	14	9	105	<.1		420	<.01	2	<.1	.02	3	<.1		<.008	
1265	73150E	79100N	-80# +150#	24	32	250	<.1	151	1600	<.01	<.1	.02	4	<.1		<.008		.23
			-150#	29	33	265	<.1		660	<.01	5	<.1	.02	10	<.1		<.008	

075098

APPENDIX 2

SAMPLE RECORD AND ANALYTICAL DATA SHEETS

(b) Panned concentrates chromite residues

ROGER POLTOCK GEOLOGICAL PTY. LTD.

CLIENT M. C. Creasy  
 PROJECT EL 18/86 John Lynch Creek  
 PROSPECT

SAMPLE RECORD AND ANALYTICAL DATA SHEET

LABORATORY ANALYTICAL SERVICES (WA)  
 SAMPLE TYPE PANCONS - Chrome Residues

COLLECTED BY: RP MGC

DATE DISPATCHED:

DATE RECEIVED:

ANALYTICAL DATA SHEET

COLLECTED BY:

DATE DISPATCHED:

DATE RECEIVED:

099  
2

A 28305

A 28305

SAMPLE NUMBER	LAB NO	LOCATION	DESCRIPTION	Mag	Prach	wt	PPb						PPm												
							Av	Ag	As	Pf	Pd	Rc	Rh	Tr	Os	Ni	%	Co	Cu	Pb	Zn	Mo	Bi	Sb	Sn
1		Chrome C <sup>1</sup>				-80%	10	<1	<2	0.5	8.0	3.5	<0.5	2.0	<2	<10			<10	10	10	1	<10	2	<10
39496			Slimes				220	<1	86	1.0	4.0	5.0	<0.5	3.0	<2	30	1.2%		10	20	70	<1	<10	3	<10
39497			Hi Mag				54	<1	2	2.5	<0.5	10.0	2.5	8.0	4	80	50%		<10	20	460	<1	<10	3	10
39498			Lo Mag				58	<1	<2	2.5	2.5	20.0	4.0	15	38	10	70%		<10	<10	40	<1	<10	<1	<10
39499			Non Mag				6	<1	<2	<0.5	2.0	8.5	1.0	8	2	<10	6.7%		<10	<10	20	<1	<10	<1	<10
2		Chrome C <sup>2</sup>				-80%	10	<1	<2	1.0	1.5	18	<0.5	3	<2	<10			<10	<10	20	<1	<10	1	<10
39500			Slimes				1.5	4	100	1.5	1.5	1.5	1.5	1.5	1.5	40	<20 PPM		20	30	170	6	<10	<1	<10
39501			Hi Mag				74	<1	<2	15	<0.5	35	7	27	14	50	60%		<10	30	600	<1	<10	3	10
39502			Lo Mag				72	<1	<2	7.5	<0.5	24	4	25	20	<10	70%		<10	10	50	<1	<10	<1	10
39503			Non Mag				10000	<1	<2	160	<0.5	2000	52	8400	3000	<10	91%		<10	<10	20	<1	<10	<1	10
5		TRIBACK <sup>1</sup>				-80%	10	<1	10	9.5	7.0	10	1.5	4	4	260			30	40	160	1	<10	1	<10
39504			Slimes				330	<1	32	10	16	8.5	3.5	24	8	410	1.2%		40	30	230	4	<10	4	10
39505			Hi mag				860	<1	20	7	1.5	29	5.5	24	14	2300	19%		20	40	170	6	<10	<1	30
39506			Lo Mag				42	<1	6	6	5	28	6.5	15	12	90	50%		20	30	120	2	<10	<1	<10
39507			Non Mag				110	<1	22	5.5	5	14	2.5	9	6	200	8.0%		20	40	220	2	<10	2	10
4		TRIBACK <sup>1</sup>				-80%	4	<1	6	3.0	0.5	17	1.5	3.5	2	70			20	20	110	<1	<10	<1	10
39508			Slimes				1.5	<1	40	1.5	1.5	1.5	1.5	1.5	1.5	370	2.0%		60	80	330	6	<10	2	20
39509			Hi mag				330	<1	14	9	<0.5	6.5	7.5	20	12	780	26%		20	40	340	<1	<10	<1	20
39510			Lo Mag				330	<1	4	5.5	3.0	22	4.5	12	12	110	32%		<10	20	150	<1	<10	<1	10
39511			Non mag				70	<1	10	<0.5	<0.5	3.5	2.0	6.5	4	110	4.7%		10	50	110	<1	<10	<1	<10

ROGER POLTOCK GEOLOGICAL PTY. LTD.

CLIENT M.C. CREASY  
 PROJECT JOHN LYNCH CREEK EL 12/86  
 PROSPECT

SAMPLE RECORD AND ANALYTICAL DATA SHEET

LABORATORY ANALYTICAL SERVICES (WA)  
 SAMPLE TYPE PANCONS - Chrome residues.

COLLECTED BY: RP MGC

DATE DISPATCHED:

DATE RECEIVED:

ANALYTICAL DATA SHEET

COLLECTED BY:

DATE DISPATCHED:

DATE RECEIVED:

A 28305

10

SAMPLE NUMBER	LAB N°	LOCATION	DESCRIPTION	Mag	fresh	wt	Pb	Ppm	Ppm	Pbb	Ppb	Ppb	Pbb	Pbb	Pbs	Ppm	%	Co	Ppm	Ppm	Ppm	Ppm	Ppm	Ppm	Ppm
							Au	Ag	As	Pt	Pd	Ku	Rh	Ir	Os	Ni	CSO <sub>2</sub>	Cu	Pb	Zn	Mo	B	Sb	Sn	W
	3	John Lynch CK					6	<1	6	1.5	0.5	8.5	1.0	2.5	<2	40			20	20	90	<1	<10	2	10
39512			slimes				I.S	<1	40	I.S	I.S	I.S	I.S	I.S	I.S	150	0.67%		30	1200	250	9	<10	2	<10
39513			Hi mag				210	<1	32	21	8.5	45	15	37	14	150	32%		40	70	290	5	<10	1	<10
39514			Lo mag				1600	<1	16	2.5	3.5	36	4	9.0	12	390	42%		20	60	230	1	<10	1	<10
39515			Non mag				850	<1	14	0.5	3.0	8.5	0.5	7.0	8	100	1.3%		20	50	140	<1	<10	<1	10









ROGER POLTOCK GEOLOGICAL PTY. LTD.

CLIENT M.G. Creasy  
 PROJECT EL-18/86 JOHN LYNCH CREEK  
 PROSPECT

SAMPLE RECORD AND ANALYTICAL DATA SHEET  
 LABORATORY ANALYTICAL SERVICES  
 SAMPLE TYPE PAN CONS CHROMITE RESIDUE

COLLECTED BY: RP / MGC  
 DATE DISPATCHED:  
 DATE RECEIVED:

105

A 28305

SAMPLE NUMBER	LOCATION		SIZE FRACTN	MAG SEPRN	HEAVY METAL SEPRN	WT	PPB		PPM		PPB		PPB		PPB	
							Au	Ag	As	Pt	Pd	Ru	Rh	Ir	Cd	
RP 1207	72500E	80400N	2mm	Hi												
				MAG			4				1.0	7.0	28	6.5	10	16
				Non												
					Sink											
RP 1210	72600E	80500N	2mm	Hi												
				MAG			4				3	5.5	28	5.5	17	22
				Non												
					Sink		6				18	1.5	99	5.5	260	260
RP 1214	72700E	80600N	2mm	Hi			8				1	4	12	2	9	6
				MAG			4				2.5	4.5	24	3.0	14	14
				Non			8				12	1.5	140	6.5	980	820
RP 1217	72400E	81000N	2mm	Hi			12				2.5	1.0	7.5	1.5	2	2
				MAG			6				2	2.5	16	2.5	4.5	6
				Non												
					Sink		8				7.5	<0.5	86	5.5	620	750
RP 1220	72100E	81350N	2mm	Hi			24				2.5	2.0	14	3.0	6.5	4
				MAG			8				3.5	3.5	24	5.0	8.5	12
				Non			2				3.5	<0.5	18	3.5	28	28

875106



ROGER POLTOCK GEOLOGICAL PTY. LTD.

CLIENT M. G. CREAMY  
 PROJECT RL 18/26 JOHN LYNCH CREEK  
 PROSPECT

SAMPLE RECORD AND ANALYTICAL DATA SHEET

LABORATORY  
 SAMPLE TYPE PAN CONS

CHROMITE RESIDUES

COLLECTED BY: RP MGC  
 DATE DISPATCHED:  
 DATE RECEIVED:

107

A 2836

SAMPLE NUMBER	LOCATION		SIZE FRACTN	MAC. SEPN	CHROMITE RESIDUES															
					Pb	Ag	As	Pt	Pd	Ru	Rh	Ir	Os							
1252	74100E	75250N																		
1257	74000E	75400N	-2mm	Hi MED		6				3.5	5.0	36	3.5	11		14				
1260	74000E	75650N	-2mm	Hi MED		4				3.0	3.5	29	4.5	13		20				
1263	73900E	77000N																		
1267	73150E	79100N																		

875108

APPENDIX 2

SAMPLE RECORD AND ANALYTICAL DATA SHEETS

(c) Laterites



ROGER POLTOCK GEOLOGICAL PTY. LTD.

D.

CLIENT M.G. CRESTY.  
 PROJECT EL 12/86 JOHN LYNCH CREEK.  
 PROSPECT

SAMPLE RECORD AND ANALYTICAL DATA SHEET

COLLECTED BY: RP MGC  
 DATE DISPATCHED:  
 DATE RECEIVED:

LABORATORY GENALYSIS  
 SAMPLE TYPE Pisolitic laterite

ANALYTICAL DATA SHEET

COLLECTED BY:  
 DATE DISPATCHED:  
 DATE RECEIVED:

A 28306

A 28306

110

SAMPLE NUMBER	LOCATION		DESCRIPTION	PPB						
				Al	Ag	As	Pt	Pd	Ru	Rh
RP 1211	72700E	80650N		40		<1	<1	11	1	6
1234	73250E	81000N		20		<1	<1	25	2	18
1249	74500E	74400N		20		<1	<1	6	1	3
1253	74300E	75400N		<10		<1	<1	7	1	3

Y	PPM	%	PPM	PPM						
Fe	Ni	Cr <sub>2</sub> O <sub>3</sub>	Co	Cu	Pb	Zn	Mo	Br	Sb	Sn
37	4175	.33	1050	6						
36	2350	1.23	360	4						
17	370	.47	140	5						
25	500	.57	310	8						

APPENDIX 2

SAMPLE RECORD AND ANALYTICAL DATA SHEETS

(d) Rocks



## APPENDIX 3

## MINERALOGIST'S REPORT

## GOLD AND PLATINUM GROUP MINERALS IN PANNED CONCENTRATES

(b) R.E. Hill, CSIRO

875115

114 CSIRO

Division of Minerals and Geochemistry

Underwood Avenue, Floreat Park,  
WA, Australia

A Division of the Institute of Energy and Earth Resources

Private Bag, PO, Wembley, WA, Australia 6014  
Telephone (09) 387 4233 Telex AA 92178

6 February 1987.

Mr Mark Creasy  
c/- Mr M G Creasy  
22 Cunningham Terrace  
DAGLISH WA 6008

Dear Mark

Please find enclosed a list of PGM's identified in the samples you shipped from Tasmania. Most contain Osmium, Iridium and Au. Platinum is less widespread. Some of the samples contain multiphase grains of mineralogical interest. I trust the data meet with your approval. I haven't to date had time to begin the next batch of samples. Apologies for the delay but time has been rather scarce.

Yours sincerely



R E T HILL

enc

SAMPLE	NO. OF GRAINS	PHASES OBSERVED
Chromite Creek No. 1	3	Os-Ir (1) Os-Ir(Ru) (2)
Chromite Creek No. 2	12	Os-Ir (2) Os-Ir-Ru (2) Ir-Os (3) Au (5)
Trib. Creek No. 1	1	Au (1)
Trib. Creek No. 2	2	Au (2)
RP1106	7	Au (4) Os-Ir(Ru) (3)
RP1108	2	Os (1) Au (1)
RP1119	4	Au (1) Os-Ir(Ru) (2)
RP1126	7	Au (4) Os-Ir(Ru) (1) Ir-Os (1) Os-Ir (1)
RP1130	10	Os-Ir (2) Os-Ir-(Fe,Ru) (2) Os-Ir-Ru (2) Os-Ir(Ru) (2) Au (2)
RP1133	2	Pt-(Fe) (1) Ir-Os-Fe-Ni-Cu (1)
RP1139	8	Au (4) Os-Ir-Ru (2) Ir-Os-Ru (1)
		(Au with Os-Ir crystals attached in one grain)
RP1153	3	Au (2) Pt-Fe (1)

RP1163	2	Os-Ir (1) Pt-Rh-Fe-Ni (1)
RP1166	2	Os-Ir (1) Pt-Rh-Fe-Ni (1)
RP1169	8	Au (4) Os-Ir-Ru (4)

RP1199	4	Ir-Os (2) Os-Ir very high Os (1) Au (1)
--------	---	---

Notes made during sample preparation.

RP1106/ Some PGM grains with chromite attached.  
 RP1181 Could not locate Au reported.  
 RP1139 Could not find PGM reported.  
 RP1144 Could not find PGM reported.  
 RP1156 Could not find PGM reported.  
 RP1163 Found 2Au, 1PGM.

## APPENDIX 3

## MINERALOGIST'S REPORT

## GOLD AND PLATINUM GROUP MINERALS IN PANNED CONCENTRATES

(a) Dr. Jiri Just

REPORT  
on  
MINERALOGICAL EXAMINATION

of pan concentrates from Tasmania

prepared for Messrs

M. G. CREASY

at their request by

Jiri Just

Mineralogist

Perth, 13th June, 1987

Dr. Jiri Just, Mineralogist, Petrologist,  
30 Kay Street, SCARBOROUGH, W. A. 6019, tel. (09) 341 3778

REPORT ON MINERALOGICAL EXAMINATION OF PAN CONCENTRATES FROM  
TASMANIA

Dr. J. Just, Mineralogist

INTRODUCTION

Twenty eight pan concentrates of heavy minerals were received for mineralogical examination. The aim of the investigation was to extract and identify minerals containing platinum group elements and determine approximate composition of gold particles present in the samples.

The samples carried the following identification numbers:

PR 1206	PR 1239	PR 1301	PR 1327
PR 1209	PR 1251	PR 1304	PR 1329
PR 1213	PR 1256	PR 1306	PR 1334
PR 1216	PR 1262	PR 1314	PR 1345
PR 1222	PR 1266	PR 1316	PR 1351*)
PR 1231	PR 1269	PR 1318	PR 1355
PR 1236	PR 1272	PR 1325	PR 1358

\*) PR 1351 on paper slip, PR 1352 on the bag; PR 1351 taken for correct.

METHOD

Platinum group minerals (PGM) and PGM-like minerals were separated from the concentrates under a stereomicroscope and mounted on PERSPEX slides. The minerals were identified by means of GeoSEM 1, a scanning electron microscope equipped with x-ray energy dispersion spectrometer and specially modified for work on geological materials. The grains were mounted on the slides in horizontal rows, each row containing grains from only one sample. Mount A contains 6 rows, mount B 12 rows, and mount C 9 rows. The numbering of the grains goes from left to right. So although there are no numbers actually written on the slides any grain can be uniquely located.

## RESULTS

The PGM were tentatively identified by their EDS spectra but no effort was made to quantify the proportions of the elements in the grains. This was in most cases sufficient for identification of the species, e.g. platinum, osmium, iridian osmium, etc. but in some cases an unequivocal identification has not been achieved. So Pt >> Fe could be ferroan platinum or one of the Pt - Fe intermetallic compounds. Pt - As is most likely sperrylite, PtAs<sub>2</sub>, Ir - As - S is most likely irarsite, IrAsS, Ir As iridarsenite, IrAs<sub>2</sub>, Ir (>Os) - S could be kashinite, Ir<sub>2</sub>S<sub>3</sub>, or the unnamed IrS<sub>2</sub>, Os (>Ir) - S could be erlichmanite, OsS<sub>2</sub>. The iridium - osmium alloys found in the samples usually contain a variable but mostly small amount of ruthenium.

The results of examination of the individual samples are summarised in Table 1. as number of grains of the individual species found in the samples.

Iridian osmium and osmian iridium are the major PGE minerals in almost all samples, the Pt>>Fe phase is abundant in samples PR 1222 and PR 1355. The samples from PR 1306 on (except PR 1314, PR 1316, PR 1325, and PR 1358) differ from the rest of the samples by presence of PGE sulphides and/or arsenides. This might imply shorter transport of the material, i.e. the locations of these samples might be closer to the primary source.

### BRIEF CHARACTERISATION OF THE PGM IN THE INDIVIDUAL SAMPLES

PR 1206: 22 PGM grains, mostly iridian osmium, grains < 0.2 mm, largest grain 0.3 x 0.3 mm; grains of Pt>>Fe are smaller, approx. 0.1 x 0.1 mm; one grain of osmian ruthenium or ruthenian osmium, 0.15 x 0.15 mm; one composite grain probably iridian osmian ruthenium with Pt>>Fe, 0.25 x 0.25 mm.

PR 1209: 12 PGM grains, mostly iridian osmium, largest grain approx. 0.35 x 0.25 mm; one grain of native osmium, 0.1 x 0.1 mm; one grain of Pt>>Fe.

PR 1213: 61 PGM grains, predominantly iridian osmium, mostly < 0.2 mm, largest grain 0.8 x 0.3 mm.

PR 1216: 10 PGM grains, all < 0.1 mm, mostly iridian osmium, one grain of native osmium, one grain of native platinum,

- one grain of Pt>>>Fe.
- PR 1222: 44 PGM grains, mostly iridian osmium, largest grain 0.5 x 0.5 mm, three grains Ir>>>Os; Pt>>>Fe abundant, some grains contain appreciable Ni.
- PR 1231: 29 PGM grains, mostly iridian osmium, largest grains 0.6 x 0.4 mm and 0.65 x 0.3 mm, one grain of platinum on the centre of a hexagonal plate of an osmium - ruthenium - iridium phase, 0.4 mm in size.
- PR 1236: three small grains of iridian osmium.
- PR 1239: one small grain of iridian osmium.
- PR 1251: two grains of iridian osmium, the larger 0.3 x 0.35 mm.
- PR 1256: two small grains of iridian osmium, one grain osmian ruthenium, 0.1 x 0.1 mm, one grain Pt>>>Fe.
- PR 1262: no PGM found.
- PR 1266: one small grain of iridian osmium.
- PR 1301: 11 grains of iridian osmium, largest 0.85 x 0.4 and 0.55 x 0.3 mm.
- PR 1304: one grain of iridian osmium and two grains of Pt>>>Fe.
- PR 1306: one grain Pt>>>Fe, one composite grain Pt>>>Fe + a rhodium sulphide, one composite grain Pt>>>Fe + nat. rhodium?
- PR 1314: three grains of iridian osmium, largest 0.55 x 0.3 and 0.45 x 0.3 mm; one grain of osmian ruthenium, 0.1 mm.
- PR 1316: 12 PGM grains, mostly iridian osmium, largest grains 0.45 x 0.4 mm; abundant cassiterite, some grains transparent greyish-white, orange, or honey yellow.
- PR 1318: one grain of osmian iridium, three grains of iridian osmium, one composite iridian osmium + osmium - iridium sulphide + a ruthenium-rich phase grain, 0.2 x 0.2 mm; one grain of an iridium arsenide, 0.35 x 0.35 mm.

Table 1.

NUMBER OF GRAINS OF PLATINUM GROUP MINERALS  
found in the individual samples

Mount A	row	Au	Pt	Pt>>Fe	Os>Ir	Ir>Os	Ru	Ru-Os	Ir-S	Ir-As-S	Ir-As
Sample											
PR 1206	1	10	-	2	15	3	1	1	-	-	-
PR 1209	2	3	-	1	10	1	-	-	-	-	-
PR 1213	3	-	-	-	57	4	-	-	-	-	-
PR 1216	4	-	1	1	5	3	-	-	-	-	-
PR 1222	5	5	-	14	26	4	-	-	-	-	-
PR 1231	6	1	1*	-	25	2	-	1*	-	-	-
PR 1236	7	-	-	-	3	-	-	-	-	-	-
Mount B	row										
PR 1239	1	1	-	-	1	-	-	-	-	-	-
PR 1251	2	9	-	-	2	-	-	-	-	-	-
PR 1256	3	9	-	1	2	-	-	1	-	-	-
PR 1262	4	4	-	-	-	-	-	-	-	-	-
PR 1266	5	9	-	-	1	-	-	-	-	-	-
PR 1301	8	-	-	-	11	-	-	-	-	-	-
PR 1304	9	-	-	2	1	-	-	-	-	-	-
PR 1306#	10	1	-	3*	-	-	-	-	-	-	-
PR 1314	11	-	-	-	3	-	1	-	-	-	-
PR 1316	12	32	-	-	10	2	-	-	-	-	-

\* phases in one composite grain

# composite grains Pt>>Fe + Rh-S and Pt>>Fe + Rh

\$ one composite grain Os>Ir + Os-Ir-S + Ru?

& + one grain of sperrylite, PtAs<sub>2</sub>

APPENDIX 4

MICRON RESEARCH (W.A.)

SIZE SCREENING AND MAGNETIC SEPARATION OF  
PANNED CONCENTRATES (CHROMITE RESIDUE) AND LATERITES

# MICRON RESEARCH (W.A.) 875125

(Proprietor: Dabas Pty. Ltd. Trustee for The Micron Unit Trust)

124

APPROVED RESEARCH  
ORGANISATION No. 649

METALLURGICAL  
SERVICES  
LABORATORY



LABORATORY: Phone 446 8225  
UNIT 7,

14 KING EDWARD ROAD,  
OSBORNE PARK, W.A. 6017

13th October, 1986  
AVM:ABG

Mr. M.G. Creasy,  
8 Luth Avenue,  
DAGLISH, W.A. 6304

re: Micron Report No. 1380  
Samples for magnetic separation

Five samples were received at this laboratory with written instructions to deslime the samples and separate them into high, low and non-magnetic fractions.

#### NOTES:

1. No responsibility will be accepted for the data given in this report except insofar as it applies to the samples received.

#### SAMPLES

The samples from Chromite Creek I and II appeared to be a mixture of a black heavy mineral and a light coloured material. The other three samples contained the same black mineral but mixed with a heterogenous mixture of other minerals.

#### PRELIMINARY SEPARATION

Each sample was slurried and attritioned in a mill without rods for twenty minutes, and the slimes separated by screening. The products were dried before further processing.

#### MAGNETIC SEPARATION

The two Chromite Creek samples were treated in a similar fashion. The deslimed samples were passed through a Readings Induced Roll Magnet at low magnetic flux (1.0 A) to remove the most magnetic minerals. The non magnetic product was then passed at high magnetic flux (6 - 8 A) until the non magnetic fraction contained only a trace of the black mineral. The separation appeared to be effective under these conditions. The separation of the other samples was limited to one or two passes at the conditions used above to produce the best low magnetic grade of product. The non magnetic product

125

2.

875126



contained some of the black mineral which could have been scavenged to produce a middlings product.

The sample numbers and weights of the separated products are shown in Table No. 1. Samples of the products were sent to Sheen Analytical Services.

*A.V. May*

A.V. MAY.

# MICRON RESEARCH (W.A.) 875127

(Proprietor: Dabas Pty. Ltd. Trustee for The Micron Unit Trust)

126

APPROVED RESEARCH  
ORGANISATION No. 649

METALLURGICAL  
SERVICES  
LABORATORY



LABORATORY: Phone 446 8225  
UNIT 7,

14 KING EDWARD ROAD,  
OSBORNE PARK, W.A. 6017

7th December, 1986  
AFG:ABG

Mr. M.G. Creasy,  
8 Luth Avenue,  
DAGLISH, W.A. 6008

re: Micron Report No. 1398  
Heavy Mineral Separation

A total of 18 heavy mineral sands samples and 6 hard rock samples were received at the laboratory on 21 November 1986 with written instructions to conduct a series of tests and to deliver certain products (Hi and low magnetic products) to Analytical Services, Willetton for detailed and specific analyses. Preliminary work has been commenced on the 6 hard rock samples after crushing (and desliming) to 100% minus 1mm - but poor separation on the shaking table as concentrator suggested that a finer mesh of grind is necessary and this will be conducted now.

## SAMPLE PREPARATION

### 1. Heavy mineral samples (18)

An inspection indicated that all samples were wet and contained a variety of clays, heavy minerals and silicious minerals. Procedures used for these minerals were:-

#### 1. Attritioning

Each sample was transferred to a gallon glass bottle with water and agitated for 2 - 3 hours. Then the charge was transferred to a large beaker and water washed and slimes transferred to a bucket where in settlement of clays occurred. The supernatant liquor was syphoned to waste and the settled slimes were recovered by filtration, oven dried and weighed - these products are contained in a plastic bag together with other products. The weight of each slime fraction is shown in Table No. 1 attached.

#### 2. Sizing

An inspection of the oven dried deslimed samples show the presence of coarse ferruginous particles - too large for magnet separation so



each sample was screened on a laboratory sieve and the oversize inspected for (black) chromite fragments, this data is also shown in the accompanying table together with the respective weights of each oversize.

3. Magnetic separation

As previously the Reading IRM magnet was used at standard rotor speed but at two magnetic intensities to produce a Highly magnetic product and a medium magnetic product by the application of zero amps and 2.5 amps of current.

\* Low mags Few samples contained appreciable amounts of this product - where less than 50g. the product was combined with the medium mag product prior to sampling. Only four zero mags products (Nos. 1138, 1179, 1187 and 1200) were recovered as separate products, sampled and sent for analyses.

\* Medium mags All samples contained appreciable amounts of this product but in some cases repeated magnetic processing was required to produce relatively 'clean' chromite product due to the presence of ferruginous grains with similar magnetic susceptibility.

4. Heavy liquid separations

The non-magnetic fractions were weighed and found to vary in weight from a minimum of 23 grams to a maximum of 913 gr. The maximum weight for effective separation in our equipment is at 100 gr. and these non-mag samples were recovered separately in such increments for HM separation using T.B.E. - SG 2.9 units. The sink fractions were recovered and washed free of TBE using methyl alcohol then oven dried and weighed and inspected. Few black grains were located, except in sink fractions from samples Nos. 1187 and 1135. These were repassed over the magnet at 0 and 2.5 amps and the products weighed - some chromite grains were readily recognised - the medium mags from sample 1187 - but few from sample No. 1135. All these data are also shown in table attached. All the medium mags product were sampled by riffle splitting to give a subsample of plus 100gr. which was despatched to the analyst on 25 November, see attached (yellow) instruction form. All products have been packaged and sent by courier to the above address as instructed.

*A.F. Griffin*

A.F. GRIFFIN



TABLE NO. 1.

Micron No.	Description	Weight g.
39227	Chromite Creek I -2000 u. + 80# (180um)	
39496	Slimes	14.5
39497	High magnetics	12.9
39498	Low magnetics	2623.2
39499	Non magnetics	<u>606.2</u>
	Total:	<u>3256.8 g.</u>
39228	Chromite Creek II -2000 u. + 80#	
39500	Slimes	0.3
39501	High magnetics	7.2
39502	Low magnetics	1195.3
39503	Non magnetics	<u>214.0</u>
	Total:	<u>1416.8 g.</u>
39225	Trib. Creek II -2000 u. + 80#	
39504	Slimes	8.0
39505	High Magnetics	43.4
39506	Low magnetics	322.4
39507	Non magnetics	<u>325.7</u>
	Total:	<u>699.5 g.</u>
39224	Trib. Creek I -2000 u. + 80#	
39508	Slimes	2.0
39509	High magnetics	5.9
39510	Low magnetics	147.7
39511	Non magnetics	<u>275.7</u>
	Total:	<u>431.3 g.</u>
39226	John Lynch - 2000 u. + 80#	
39512	Slimes	2.0
39513	High magnetics	3.2
39514	Low magnetics	80.0
39515	Non magnetics	<u>188.5</u>
	Total:	<u>273.7 g.</u>



No.	Coarse Size	g.	Slimes		Mags		Non Mags	
			g.		Hi Mags	Mid Mags	g.	Sink
1106(1)	+ 2.0 mm	-1	59	-2mm + 4m Nil		1943	67	9
H06(2)	-	-	-	-1mm Nil		2189	744	67
1110	+ 1.0	36	12	Nil		412	153	5
1113	+ 1.0	105	5	Tr		392	242	24
- 1117(1)	+ 2.0	117	29	-2mm + 250 <sup>u</sup> Tr		1839	600	45
H17(2)	-	-	-	-250 <sup>u</sup> 35		525	205	5
1132	+ 1.0	110	6	4		163	104	3
* (2) 1135	+ 1.0	77	14	13		1504	282	272
* 1138(1)	+ 1.0	345	22	-1m + 250 <sup>u</sup> 19 <sup>100</sup>		<del>1007</del> 650	215 <sup>159</sup>	22
1138(2)	+ 1.0	55	9	-250 <sup>u</sup> 19		255	23	23
1164	+ 1.0	36	3	2		330	394	4
1167	+ 2.0	Nil	6	12		520	91	1
1170	+ 2.0	7	4	1		387	104	4
1172	+ 2.0	8	38	25		4224	732	14
1176	+ 2.0	1	13	Tr		1603	473	17
* 1179(1)	+ 2.0	34	31	-2mm + 1m 140		1351	44	25
H79(2)	-	-	-	-1mm Nil		1459	328	4
* (1) 1187	+ 1.0	317	76	250		4309	524	326
1193	+ 2.0	7	50	4		3351	913	7
* 1200	+ 1.4	156	37	76		1870	655	76
1202	+ 1.0	3	2	2		300	25	-1

## NOTES:

- \* (1) 1187 Repassed sink fraction over magnet to produce
- |         |  |
|---------|--|
| Hi Mags | Tr                                       |
| Mags    | 101 gr. (not recombined separate sample) |
| N/Mags  | <u>225</u>                               |
|         | 326                                      |
- \* (2) 1135 Repassed sink fraction over magnet to produce
- |         |                                     |
|---------|-------------------------------------|
| Hi Mags | Nil                                 |
| Mags    | 35 (not recombined separate sample) |
| N/Mags  | <u>237</u>                          |
|         | 272                                 |

130

# MICRON RESEARCH (W.A.)

875131

(Proprietor: Dabas Pty. Ltd, Trustee for The Micron Unit Trust)

APPROVED RESEARCH  
ORGANISATION No. 649

METALLURGICAL  
SERVICES  
LABORATORY



LABORATORY: Phone 446 8225  
UNIT 7,

14 KING EDWARD ROAD,  
OSBORNE PARK, W.A. 6017

15th December, 1986  
AFG:ABG

Mr. M.G. Creasy,  
8 Luth Street,  
DAGLISH, W.A. 6008

re: Micron Report No. 1398 (2)  
Crushing and magnetic separation

As mentioned in the previous report the hard rock samples, six in number required further investigations to determine the mesh of grind necessary to liberate the various magnetic minerals from the bulk. Initially each bulk sample was crushed to 100% minus 2mm and concentrated in the shaking table after desliming by standard elutriation procedures. These solids were recovered after settlement by pressure filtration and have been sampled and packaged separately. The examination of the concentrates and tailings revealed that liberation was not effected at this coarse separation and finer grinding was required. Hence each sample was reconstituted (except the initial fines) and riffle sampled to give a sample for further size reduction.

The balance of each - 2mm samples bulks are also packaged. The subsample from the first sample (1149) was progressively reduced to ultimately 100% minus 180 microns when liberation of the magnetics appeared satisfactory. This subsample was then deslimed and the coarse fraction was then oven dried and subjected to magnetic separation - the Rapid Lift magnet being considered to be the most appropriate. Three magnetic products were produced as detailed in the attached table. The other five samples were treated in the same manner with data also shown in the accompanying table.

All magnetic products so derived were sampled by riffle procedure and approx 100 gr. of each were despatched to Analytical Services for analyses as instructed. All other fractions have been packaged and awaiting delivery instructions.

*AW May*  
for A.F. GRIFFIN

131

875132



TABLE NO. 1.

INITIAL MOG AND DESLIMING @ 100% - 2mm

Sample No.	Sands gr.	Slimes gr.	Total
1149	5344	357.5	5701.5
1160	1614	762.3	2376.3
1181	2851	476.1	3327.1
1182	2412	304.8	3020.8
1183	10026	1684.5	11710.5
1184	6600	477.7	7077.7

TABLE NO. 2.

SIZE REDUCED SAND TO 100% - 180u. AND MAGNETIC SEPARATION

Sample No.	Hi Mags	Med Mags	Lo Mags	Slimes	Total
1149	379.4	102.2	417.4	413.1	1312.1
1160	92.0	71.3	178.8	333.7	675.8
1181	215.5	438.7	223.6	506.4	1384.2
1182	198.9	270.4	247.3	475.0	1191.6
1183	137.6	131.0	899.2	665.6	1833.4
1184	396.7	329.9	382.4	553.3	1662.3

132

875133

**MICRON RESEARCH (W.A.)**

(Proprietor: Dabas Pty. Ltd. Trustee for The Micron Unit Trust)

**APPROVED RESEARCH  
ORGANISATION No. 649****METALLURGICAL  
SERVICES  
LABORATORY**LABORATORY: Phone 446 8225  
UNIT 7,14 KING EDWARD ROAD,  
OSBORNE PARK, W.A. 601726th March, 1987  
AFG:ABGMr. M. Creasy,  
8 Luth Street,  
DAGLISH, W.A. 6008re: Micron Report No. 1423  
Heavy Minerals Separation

A total of three bags of samples were delivered to this laboratory with written instructions to process each separately as described in Micron Report No. 1398 and deliver certain samples to the external laboratory (Analytical Services Aust Ltd. Willetton) for detailed analyses at your instruction.

THE SAMPLES

The Heavy mineral samples contained in clear plastic bags - all were wet/damp. These were to be separated magnetically and the non magnetic fraction subject to TBE separation.

PROCEDUREPreparation

Each sample was water washed with copious amounts of water to remove clays which were discarded. The residues were oven dried and weighed - this data being recorded in the accompanying Table No. 1. The whole of each dried sample was screened on a 2mm sieve. The O/S was bagged, the weights also recorded in Table No. 1.

Magnetic Separation.

The whole of each deslimed, dry sample was passed over the Reading Induced Roll Separator at zero amps and at approx 150 RPM. The Hi magnetic fraction was recovered (after a cleaning pass) and the non magnetic fraction repassed with the application of 3 amps of power (approx 14,000 gauss). The gap was increased to 1/8 inch as 3/32 inch gap caused some obstructions to flow between the rotor and pole piece. Both products were repassed through the magnet many times as much iron oxide grains had about the same magnetic response and separation in some cases was not clear cut requiring many passes.



189

All the products were weighed and recorded in Table No. 1.

TBE Separation

All the non magnetic products (except (1) 1214, 1220, 1328, 1332 and 1360 as containing too much iron compounds - heavies and (2) 1346, 1350, 1352 being too small in weight) were separated into 'lights' and 'sinks' in separating funnels using TBE (SG 2.9). The lights were rejected to waste and the sinks alcohol washed, oven dried, weighed and bagged. These data are also shown in Table No. 1.

Sampling

Instructions being that a 200g. analytical sample was required.

1. Head sample

Each head was riffle sampled to produce a 200g. sample which is held in storage as requested (i.e. after removal of O/S). Six samples (1217, 1237, 1270, 1315, 1319 and 1352) unavoidably missed being sampled.

2. Hi Mags

Only 10 sample products were in excess of 200g. but those that were were riffle split - these are noted in Table No. 1 as (2) agreeing with the attached packing slip to Analytical Services.

3. Non Mags

Five of the non magnetic samples which were not subjected to TBE were also riffle sampled and these samples, marked (3) in Table No. 1 - were dispatched to Analytical Services.

4. Sink fractions

Only five sink fractions were in excess of 200g. and these were riffle sampled and re marked (4) in Table No. 1.

A.F. GRIFFIN



TABLE NO. 1

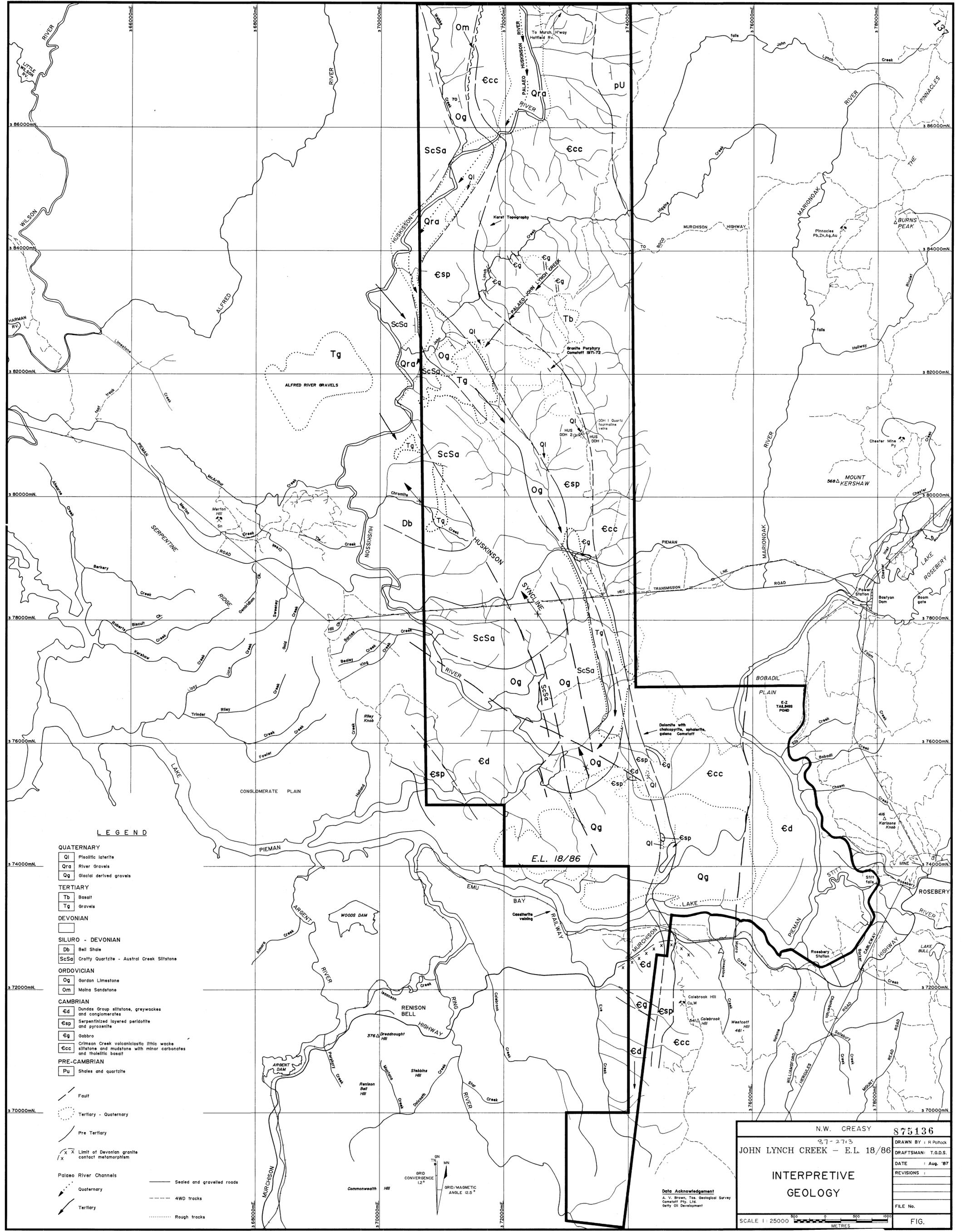
TYPE No. 1

MAGNETIC SEPARATION & HM TESTS

Client No.	Total Wt. gr.	O/S + 2mm g.	Hi Mags g.	Mags g.	N/Mags g.	Sink g.
1207	5364	30	Nil	3506	1542	42
1210	6240	170	100	4966	936	(4) 530
1214	6300	304	(2) 1466	4367	(3) 1288	N.D.
1217-	1640	46	(2) 185	1055	360	(2) 320
1220	4310	213	(2) 330	2277	(3) 1217	N.D.
1223	2234	120	10	1470	498	20
1229	950	10	5	606	130	11
1237	1015	68	40	624	225	55
1240	3154	5	5	2181	717	100
1257	1740	6	20	1005	497	30
1260	2210	Nil	5	1326	604	26
1270,	2084	32	(2) 444	767	833	122
1273	750	10	6	224	293	50
1305	2315	61	(2) 340	1167	465	(4) 405
1307	1760	303	(2) 203	880	380	72
1313	1154	160	5	456	355	55
1315-	1826	346	32	560	880	130
1317	3337	15	4	2470	781	60
1319,	1746	32	(2) 246	645	820	3
1328	4664	177	(2) 485	2400	(3) 1225	N.D.
1330	3453	80	82	1911	936	(4) 170
1332	2100	150	155	774	(3) 805	N.D.
1335	2990	72	72	2238	458	80
1339	4220	170	(2) 492	2750	750	(4) 325
1346	1143	Nil	2	715	282	N.D.
1350	825	13	15	583	107	N.D.
1352,	605	15	10	476	86	N.D.
1354	2400	23	4	1774	357	121
1359	976	17	6	406	377	75
1360	2197	44	(2) 130	444	(3) 1142	N.D.

N.D. Too much hydrated iron oxides. No separation with T.B.E.

- (1) ~~by~~ Magnetics No No
- (2) Hi Mags.
- (3) Non Mags.



**LEGEND**

**QUATERNARY**

- Ql Pisolitic laterite
- Qra River Gravels
- Qg Glacial derived gravels

**TERTIARY**

- Tb Basalt
- Tg Gravels

**DEVONIAN**

- Db Bell Shale
- ScSa Grotty Quartzite - Austral Creek Siltstone

**SILURO - DEVONIAN**

- Og Gordon Limestone
- Om Malna Sandstone

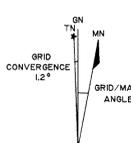
**ORDOVICIAN**

- Ed Dundas Group siltstone, greywackes and conglomerates
- Esp Serpentinized layered peridotite and pyroxenite
- Eg Gabbro
- Ecc Crimson Creek volcanoclastic lithic wacke siltstone and mudstone with minor carbonates and tholeiitic basalt

**PRE-CAMBRIAN**

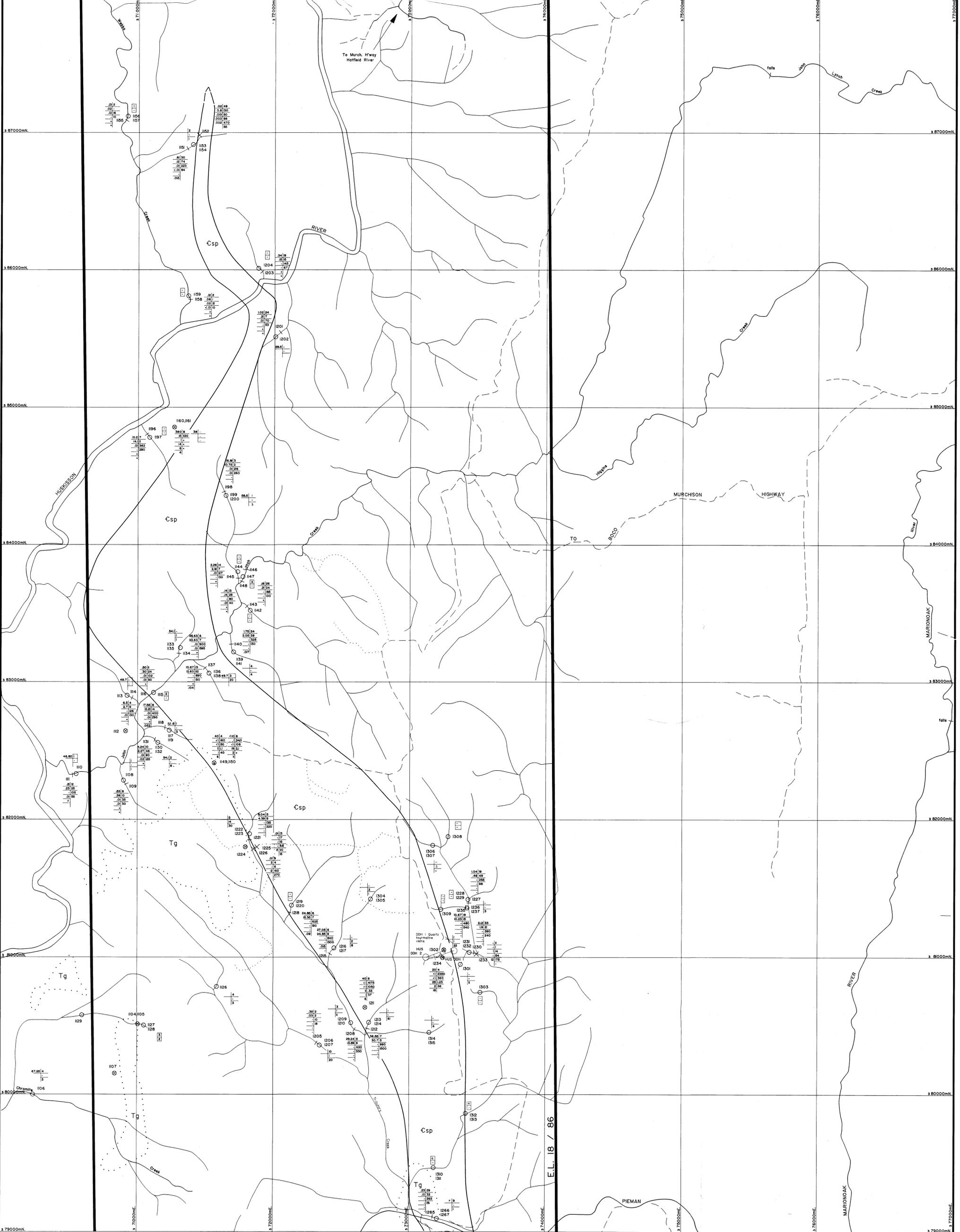
- Pu Shales and quartzite

- Fault
- Tertiary - Quaternary
- Pre Tertiary
- Limit of Devonian granite contact metamorphism
- Palaeo River Channels
- Quaternary
- Tertiary
- Sealed and gravelled roads
- 4WD tracks
- Rough tracks



N.W. CREASY		875136
37-2713		
JOHN LYNCH CREEK - E.L. 18/86		
<b>INTERPRETIVE GEOLOGY</b>		
DATE : Aug. '87		
REVISIONS :		
FILE No.		
SCALE 1 : 25000		FIG.

5 cm



**LEGEND**

- ⊗ Pisolitic laterite clay, consolidated gravels
- ⊗ Rock
- ⊗ Panned concentrate
- ⊗ chromite residue
- ⊗ -BOH

**STREAM SEDIMENTS:**

- Cr<sub>2</sub>O<sub>3</sub> % -BO
- Fe<sub>2</sub>O<sub>3</sub> % -BO
- Al<sub>2</sub>O<sub>3</sub> % -BO
- SiO<sub>2</sub> % -BO
- Ca % -BO
- Mg % -BO
- Na + K % -BO
- P<sub>2</sub>O<sub>5</sub> % -BO
- Sum % -BO

**PANNED CONCENTRATES**

- Cr<sub>2</sub>O<sub>3</sub> % medium magnetic
- Al<sub>2</sub>O<sub>3</sub> % native element identified by mineralogist
- Fe<sub>2</sub>O<sub>3</sub> %
- Sum %

Base grain counts are AU and P.M.'s  
 results identified in the field. These samples  
 not examined by mineralogist.

**ROCKS**

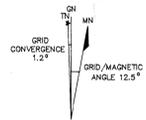
- Au ppm (Au ppm)
- Ag ppm (Ag ppm)
- Pb ppm (Pb ppm)
- Cu ppm (Cu ppm)
- Zn ppm (Zn ppm)
- Fe ppm (Fe ppm)
- Mn ppm (Mn ppm)
- Ca ppm (Ca ppm)
- Mg ppm (Mg ppm)
- Na + K ppm (Na + K ppm)
- Sum ppm (Sum ppm)

**PISOLITIC LATERITES AND CLAYS**

- Au ppm (Au ppm)
- Ag ppm (Ag ppm)
- Pb ppm (Pb ppm)
- Cu ppm (Cu ppm)
- Zn ppm (Zn ppm)
- Fe ppm (Fe ppm)
- Mn ppm (Mn ppm)
- Ca ppm (Ca ppm)
- Mg ppm (Mg ppm)
- Na + K ppm (Na + K ppm)
- Sum ppm (Sum ppm)

- Denotes below detection limit for assay  
 or grade of native precious metals not  
 identified in panned concentrates.  
 - Not Analyzed

**LOCATION**



N.W. CREASY		875137
JOHN LYNCH CREEK - E.L. 18/86		DRAWN BY: R. Pollock
SHEET 1		DRAFTSMAN: T.G.D.S.
SAMPLE LOCATIONS AND RESULTS		DATE: Aug. 1987
SCALE 1:10000		REVISIONS:
5 cm		FILE No.
		FIG.

187

