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E.L. 18/86

JOHN LYNCH CREEK, TASMANIA

ANNUAL REPORT FOR THE PERIOD ENDING SEPTEMBER 1988

OPEN FILE

ROGER POLTOCK GEOLOGICAL PTY. LTD.

for M.G. CREASY

CONTENTS	PAGE
SUMMARY AND CONCLUSIONS	1
RECOMMENDATIONS	2
INTRODUCTION	3
EXPLORATION TARGETS	4
DESCRIPTION OF THE PROPERTY AND OWNERSHIP	5
LOCATION AND ACCESS	6
HISTORY AND PREVIOUS EXPLORATION	7
GEOLOGY AND MINERALIZATION OF THE PROPERTY	9
WORK CONDUCTED BY M.G. CREASY	13

FIGURES

- 1 LOCATION 1:500000
- 2 INTERPRETIVE GEOLOGY 1:25000
- 3 SAMPLE LOCATIONS AND RESULTS a) SHEET ~~12~~ 1:10000 - NOT WITH REPORT
OR MICROFICHE.
b) SHEET ~~1~~ 1:10000
- 4 SUMMARY SECTION COLEBROOK HILL SKARN SYSTEM

APPENDICES

- 1 MINERALOGISTS REPORTS
- 2 ANALYTICAL REPORTS
- 3 SAMPLE RECORD AND ANALYTICAL DATA SHEETS

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Huskisson Grids
Pieman Area

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SUMMARY AND CONCLUSIONS

Detailed stream geochemistry on the main body of the Huskisson River ultramafic south of John Lynch Creek, defined a 2.5skm area anomalous in platinum. The hard rock platinum potential of this area should be further tested with a soil and rock geochemical grid.

Revision of the licence boundary in the south by the Mines Department has incorporated into E.L.18/86 part of the Colebrook Hill copper tungsten skarn mineralization. The area was only assessed on a reconnaissance basis for gold. Extensive old workings and diamond drill cores have not been fully assessed for gold in the past.

The chromite, gold, cassiterite and osmiridium potential of Tertiary to Recent alluvials in the Tributary and Chromite Creek areas remains untested. Grade and volume estimates of these alluvials should be made in the coming season.

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RECOMMENDATIONS

The John Lynch Creek platinum anomaly should be assessed with a 200m x 25m soil and rock geochemical grid.

Drill core and old workings in the copper tungsten skarns at Colebrook Hill should be reassessed for their gold potential.

The grade and volume of alluvials in Tributary and Chromite Creeks should be tested with auger drilling and excavator pits.

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INTRODUCTION

Work on the exploration licence during 1987 and 1988 included the stream geochemical assessment of chromite, platinoids and gold associated with ultramafics and Cambrian sediments in the north and a review of the gold potential of skarns at Colebrook Hill.

Field work was conducted from Callina N.L.'s camp at Merton Hill. most parts of the licence are readily accessible from sealed roads and 4WD tracks.

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EXPLORATION TARGETS

E.L. 18/86 covers the Cambrian age Huskisson River Ultramafic. This partly fault emplaced body is enclosed within a sequence of Cambrian to Silurian aged sediments (see Fig 2).

The licence is underlain at depth by Devonian granitoids. A hornfelsed sequence containing skarns is located at Colebrook Hill in the south; north of the licence skarns are developed at Mount Ramsay adjacent to the Meridith granite.

The prime exploration target is chromite, platinoids and gold in the ultramafic and its associated alluvials and laterites. Chromites with particularly high Cr_2O_3 levels are associated with laterites on the Wilson River Ultramafic. This body is located 5km to the west and is interpreted to be continuous with the Huskisson body, the intervening area is covered by the Ordovician to Silurian sediments of the Huskisson Syncline.

A secondary target is gold associated with copper tungsten skarns as exposed at Colebrook Hill. Carbonates which would be favourable horizons for replacement style gold mineralization are located both in the Cambrian and Ordovician stratigraphy throughout the licence.

Neither of these two styles of mineralization are currently being mined in western Tasmania.

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DESCRIPTION OF THE PROPERTY AND OWNERSHIP

E.L 18/86 was granted to N.W. Creasy on 27-10-1986, an area of 62kms. During the second year the licence boundaries were adjusted by the Mines Dept' so as to conform to the AMG kilometre grid, thereby increasing the area to 63kms.

The land status within the licence consists primarily of non allocated crown land, Hydro Electric Commission reserves adjacent to Lake Pieman and some private land at Rosebery.

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LOCATION AND ACCESS

The licence is located between Rosebery, Renison Bell and Luina in the valleys of the Huskisson and Pieman Rivers in Western Tasmania (see Fig.1).

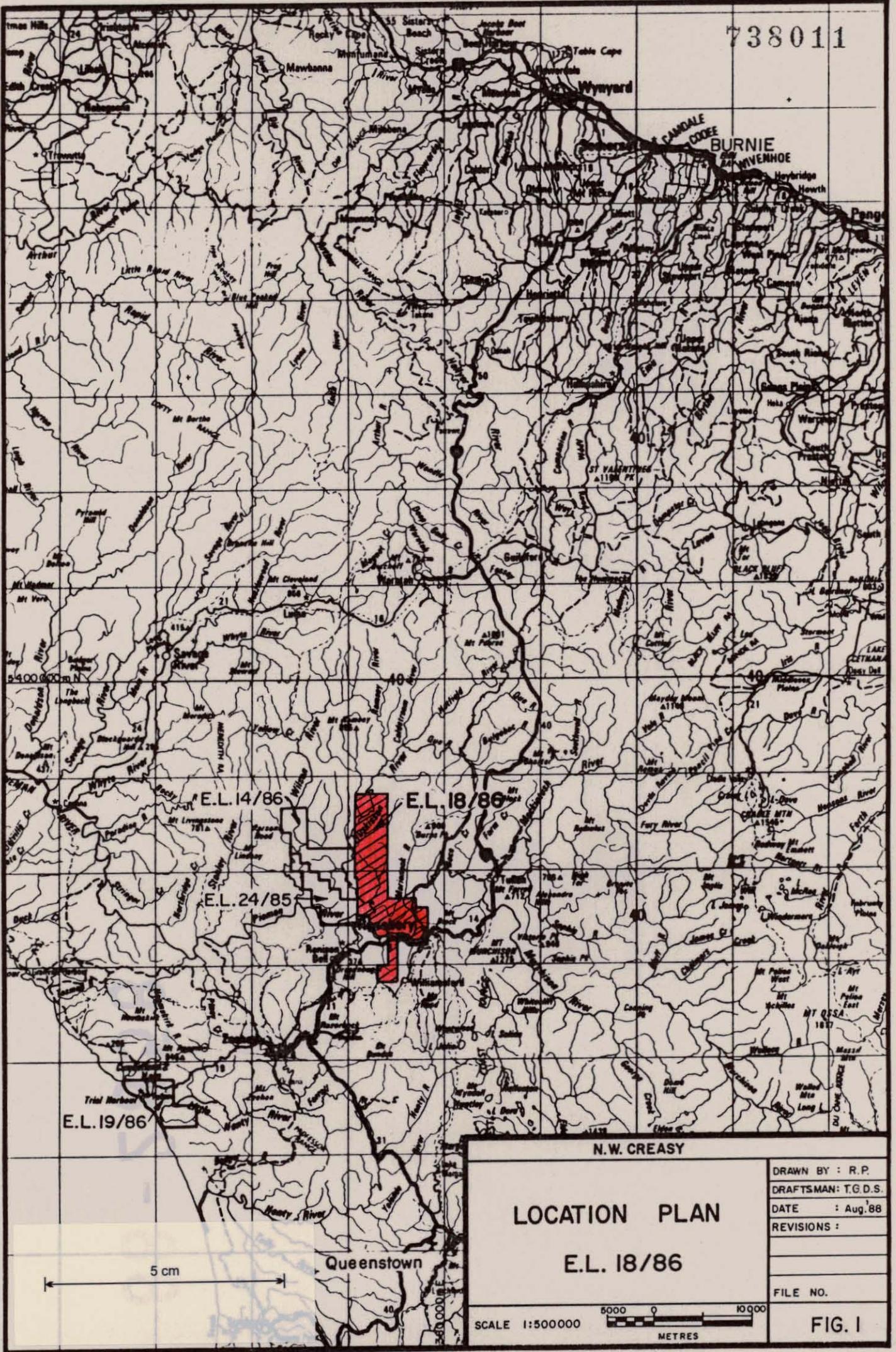
The climate and vegetation is typical of Western Tasmania. Rainfall averages 1800mm per year and supports temperate rainforest which frequently has an impenetrable scrub understorey. The ultramafics support a distinctive plant community consisting of a dense low scrub of cutting grass, vines and teatree.

Gridding requires line cutting which in some areas progresses at less than 500m per day for a two man crew of cutters.

All parts of the licence are within a half days walk of vehicle access. The main body of the ultramafic is accessed by the Associated Forest Holdings logging road and the sealed Lower Pieman Dam road. A network of 4WD tracks established by Comstaff during the 1960's and 70's connects the two road systems. AFH is currently extending their logging roads into the valley of John Lynch Creek. The southern part of the licence can be accessed from the Murchison Highway between Rosebery and Renison Bell.

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738011



E.L. 19/86

E.L. 14/86

E.L. 18/86

E.L. 24/85

Queenstown

N.W. CREASY

LOCATION PLAN

E.L. 18/86

5 cm

SCALE 1:500000

8000 0 10000

METRES

DRAWN BY :	R.P.
DRAFTSMAN :	T.G.D.S.
DATE :	Aug. 88
REVISIONS :	
FILE NO.	
FIG. I	

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HISTORY AND PREVIOUS EXPLORATION

The area was first prospected for osmiridium, gold, tin, copper and silver at the turn of the century. McIntosh Reid 1921 reported on alluvial mining activity in the Huskisson and Wilson River districts and Blissett 1962 outlined hardrock prospecting in the Colebrook Hill area.

Evidence of alluvial prospecting for gold and osmiridium has been located in tributaries of John Lynch Creek and Chromite Creek. The copper tungsten skarns at Colebrook Hill have been tested with opencuts and underground driving. Many of these workings are still accessable.

Modern exploration within what is now E.L 18/86 has been targeted at:

- tin tungsten copper granitoid related mineralization.
- copper lead zinc in Cambrian age tuffaceous sediments.
- nickel asbestos in the ultramafics.

The current licence has been held in its entirety or as parts of several EL's over the past 25 years by companies including the Electrolytic Zinc Company, Comstaff, Australian and New Zealand Exploration Co, Renison Ltd and Broken Hill Pty Ltd.

The Electrolytic Zinc Company of Australasia Ltd held the southern section of the current licence as E.L 1/62. Their exploration effort was directed toward assessing the skarns at Colebrook Hill for tin, tungsten and copper. The mineralization was tested with several diamond drill holes (see McDonald 1985). The Mines Department completing a vertical hole to 1063.75m in 1985, the granite contact was intersected at 1034m.

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Comstaff Pty Ltd explored the area as part of E.L. 5/63 during the period from 1968 to 1973 (see Comstaff 1970-71, Orr 1974 and Pigott 1972). Their exploration targets were:

-Cu, Pb, Zn, Ag associated with Cambrian sediments and volcanics.

- Ni, Co, asbestos in ultramafics.

Detailed regional stream sediment geochemistry defined several anomalous areas which were followed up with gridding and soil geochemistry:

-Huskisson Grids 1, 2 & 3: Pb, Zn, Ni anomalism in Crimson Creek Formation sediments in the John Lynch Creek area.

-Huskisson Serpentinite Grid, Ni, Co and asbestos immediately south of John Lynch Creek.

-Pieman West and South Grids, Cu, Pb, Zn, Ni anomalies in Dundas Group/ Crimson Creek sediments and serpentinites.

Exploration only reached diamond drilling stage at the Huskisson serpentinite grid:

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

-D.D.H.Hus 2 target asbestos, depth 200m.

Only the core from DDH 2 has been located and relogged.

In 1976 the Australia and New Zealand Exploration Company pegged the northern and southern sections of the Huskisson Ultramafic as part of E.L 3/76 (see Lockhart 1977). Comstaff retaining the main body of the ultramafic. The companies exploration target was primarily tin/tungsten skarns associated with Devonian Meredith Granite and carbonates in the Huskisson Syncline. The area was prospected using -80# and panned concentrate stream samples. These were assayed for a wide range of elements including Pt, Ir and Os. No anomalies were located and no further work was carried out.

Renison Ltd held the southern part of the Huskisson Syncline as E.L.17/77 Block 2. Their target was tin/tungsten skarns, the area was assessed with stream sampling and an airborne electromagnetic survey (see Martin 1982). The geophysics overflying the NW section of 18/86 defining the ultramafic complex, no anomalies were defined in what is now 18/86.

Broken Hill Pty Co Ltd held the northern extent of the Huskisson Ultramafics as E.L 32/79, their exploration target tin/tungsten skarns in Precambrian to Cambrian aged sediments which have lithological similarities to the Renison Mine sequence. The area was assessed with stream geochemistry and a DigEm survey. Getty Oil Development Co Ltd entered as a joint venture partner and followed up stream geochemical and DigEm anomalies with soil geochemistry and ground magnetics (see Fitzgerald and McNaught 1984). No mineralization was located.

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GEOLOGY AND MINERALIZATION OF THE PROPERTY

The regional geology has been recently mapped by the Geological Survey of Tasmania (Brown 1984), particular attention is paid to the ultramafic complexes.

From east to west the stratigraphic section comprises:
Precambrian undifferentiated sediments.
Eocambrian Success Creek Group.
Cambrian Crimson Creek Formation.
Cambrian Huskisson River Ultramafic Complex.
Ordovician-Devonian sediments of the Huskisson Syncline.

The oldest rocks in the licence are Precambrian quartzites and slates, outcropping in the NE corner of the licence.

This sequence is overlain by the Eo-Cambrian Success Creek Group, comprising shales, cherts and carbonates. These sediments have lithological similarities to the Renison Mine sequence 15km to the south and were prospected by BHP/Getty for tin/tungsten skarn mineralization in E.L 32/79.

The Cambrian Crimson Creek Formation overlies the Success Creek Group with apparent conformity, the contact with the ultramafics is probably a thrust. The formation consists of mudstone and tuffaceous greywackes which have been derived from a basic volcanic terrain. Between John Lynch Creek and the Huskisson River to the north, shales and carbonates occur near the serpentinite contact. Karst topography at 371700E 384500N is the only evidence for the carbonates. Gabbroic dykes intrude the formation. These dykes are considered by Brown 1984 to be the first of several phases of gabbroic intrusives, the second phase intruding ultramafics and Dundas Group sediments near Colebrook Hill.

The Huskisson River Ultramafic Complex is considered to have been emplaced prior to the deposition of the younger Cambrian Dundas Group. The Complex is located on the eastern flank of the Huskisson Syncline and is interpreted to be continuous with the Wilson River Ultramafic beneath this syncline. The two ultramafics have lithological and geochemical similarities. (Brown 1984).

Regionally Brown subdivides the ultramafic into two main rock types, a layered pyroxenite dunite south of John Lynch Creek and a layered dunite harzburgite north of John Lynch Creek.

Comstaff Pty Ltd carried out detailed mapping on the ultramafics as part of their Huskisson Asbestos Project 1972, subdividing the ultramafic into variably serpentized dunite, pyroxenite and peridotites.

Layering in the ultramafic 1km south west of Lynch Hill is described by Brown 1984; "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 in the Wilson River Ultramafic is a known hardrock occurrence of platinoids, the Lynch Hill area has anomalous platinum in stream samples.

The younger Cambrian Dundas Group occurs mainly in the southern part of the licence, to the west of the ultramafic. It is poorly exposed due to fluvio-glacial cover. It consists predominantly of medium grained sediments derived from a volcanic terrain. Basal conglomerates in other areas on the west coast contain ultramafic cobbles.

During the late Cambrian early Ordovician the ultramafics in the Huskisson area are interpreted to have occupied a topographic high. The thick basal Ordovician sequence of conglomerates and sandstones which is typical of western Tasmania is represented by a sandstone <50m thick. The upper Ordovician Gordon Limestone overlying the ultramafic in most locations.

This late Cambrian paleo depositional environment would be ideal for the formation of fossil placers of chromite and platinoids in localized basins and channels. The Basal Ordovician Moina Sandstones in the Webb Creek area in 18/86 has been prospected on a reconnaissance basis for this style of mineralization. Insignificant amounts of chromite were located.

The Gordon Limestone is conformably overlain by sandstone and shales of the Siluro-Devonian sequence in the core of the Huskisson Syncline.

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During the Devonian Tabberabberan Orogeny the sediments and ultramafics were folded and faulted. The most prominent structural feature associated with this event in the licence area is the NS striking and north plunging Huskisson Syncline.

Devonian aged granitoids intruded the Precambrian to Devonian aged lithologies. Most of the licence is probably underlain by granite at depth. At Colebrook Hill Mines Dep't drilling intersected the granite at 1034m below surface.

Within the licence features attributable to the granite include:

- copper tungsten skarns at Colebrook Hill
- metasomatized and veined sediments in Comstaff's South Pieman Grid
- granitic dykes and quartz tourmaline veins at the Comstaff Huskisson Asbestos Grid.
- recrystallized limestone and silicified ultramafics in the headwaters of Tributary Creek.

With granites probably underlying most of the licence, the folded and faulted carbonates of the Huskisson Syncline and Crimson Creek Formation are potential hosts for vein and carbonate replacement style gold mineralization.

Following a prolonged period of erosion the Devonian granites were unroofed. Carboniferous to Permian sedimentation may have taken place but no evidence remains of this.

Extensive Tertiary lacustrine sedimentation in the palaeo Huskisson valley was followed by basaltic lava flows. Detritus in the alluvials has been derived from two sources; the Crimson Creek Formation and ultramafics to the east and the Meredith Granite and ultramafics to the north and west. The Tertiary alluvials and basalts have been extensively eroded, remnants of the alluvials are confined to the Tributary and Chromite Creek areas, and the basalts to Lynch Hill. The alluvials are a potential target for chromite, cassiterite, gold and osmiridium.

Quaternary aged terrace gravel deposits occur in the Huskisson River Valley in the north of the licence. These gravels contain basalt cobbles indicating their post Tertiary age. No significant heavy minerals appear to be associated with these beds.

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Fluvioglacials are confined to the lower parts of the Pieman valley. These deposits consist of varved clays gravel beds and scattered boulder erratics. The detritus has been primarily derived from the West Coast Range Conglomerate, Jurassic dolerites and Cambrian volcanics. Streams cutting these gravels have been worked for gold and osmiridium in the Wilson River area to the west of 18/86.

Laterites associated with the ultramafics have been located overlying Quaternary gravels at 371200E 384600N. This indicates that some lateritization has occurred later than the Tertiary.

WORK CONDUCTED BY M.G.CREASY

Work conducted by M.G.Creasy during the 12 months to September 1988 included:

- Detailed stream sampling of platinum anomalous tributaries of John Lynch Creek on the ultramafic.
- Analysis of chromite samples from alluvials in Tributary Creek.
- Stream sampling an area of Crimson Creek Formation sediments in the NE of the licence (anomalous gold in soils reported by Getty Oil).
- Literature search and reconnaissance stream and rock geochemistry in the vicinity of the Colebrook Hill skarn.
- Rock chip sampling costeins in the South Pieman area (base metals associated with dolomites reported by Comstaff).

The work programs entailed:-

Collection of:

- 21 panned concentrates which were separated in the field to a concentrate of native metal particles and a chromite residue.
- 31 -150# active stream sediments.
- 10 rock samples.

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Assaying:

-stream sediments from areas of chromite and platinoid potential were assayed for Au Pt Pd Rh Ru Os Ir Cr.

-stream sediments from potential gold skarn areas were assayed for Cu Pb Zn As Sn W Mo Ag Au.

-chromite residues were assayed for Pt Pd Ru Rh Ir Os Au Cr Fe.

Electron microprobe analyses of eight chromite samples to determine the average contents for Cr_2O_3 , Al_2O_3 , Fe_2O_3 .

Mineralogical examination of native metal grains by the GeoSEM technique, three concentrates were examined.

The following details exploration conducted at the Lynch Hill platinum anomaly, the Tributary Creek alluvials, the Huskisson Drive-Getty Oil gold anomaly, Comstaff base metal occurrence in the South Pieman area and the Colebrook Hill skarns.

LYNCH HILL PLATINUM ANOMALY

Anomalous levels of platinum (0.104ppm), zinc and nickel in -150# stream sediments were located on the main body of the ultramafic immediately south of John Lynch Creek in the 1986/87 field season (see Poltock 1987). These anomalous drainages were followed up with more detailed -150# stream sediments and panned concentrates.

Maximum values in -150# stream sediments were Pt 0.053ppm, Au 0.028ppm, confirming the previous seasons results.

Panned concentrates were split into a concentrate of native metal particles (including PGE's, gold and minor chromite) and a chromite residue.

White metallic particles in panned concentrates were tentatively identified as platinoids in the field but were later identified by a mineralogist as grains of native? lead (see Appendix 1A). This anomalous concentration of lead is not reflected in other lead stream geochemistry, -150# <20ppm.

Chromites were assessed by a mineralogist for Cr Fe Mg content (see Appendix 1C). Samples 1135 and 1220 averaged 57.35-57.74% Cr_2O_3 .

The followup drainage sampling has confirmed last seasons results and defined an anomalous area with a 2000m strike length on the ultramafic. The anomaly warrants testing with a soil and rock geochemical grid. Tracks and bulldozed traverse lines constructed by Comstaff will be used where possible in this sampling program.

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TRIBUTARY CREEK / CHROMITE CREEK ALLUVIALS

These Tertiary to Quaternary aged gravel deposits are associated with anomalous levels of chromite, cassiterite, gold and osmiridium (see Poltock 1987). Panned concentrate sampling in streams draining the alluvials was the only field work carried out this season.

Four chromite samples were submitted to a mineralogist (see Appendix 1c). The average Cr_2O_3 content for the samples was 58.52%. sample 1244 from the lower section of Tributary Creek exhibited the greatest range 37.73 - 71.51%. There were no samples from the Chromite Creek area submitted.

It is recommended that a volume and grade estimate of the gravels be completed next season using a power auger or the Wacker percussion drill.

COLEBROOK HILL SKARN

With Mines Dept adjustments to the licence boundary in this area a significant portion of the Colebrook Hill Cu/W skarn has been included within E.L.18/86. The area is considered to have potential for replacement and structurally controlled gold mineralization. Previous exploration by E.Z and the Mines Dep't has not fully tested this potential. The best grades intersected in drilling are 0.68% Cu and 0.29%Cu, 0.97% W, the mineralization is steeply dipping, the intersections having a true width of 2 to 3m (see Fig 4).

A breif literature search was made of the data, some of the old workings chip sampled and the main drainages sampled.

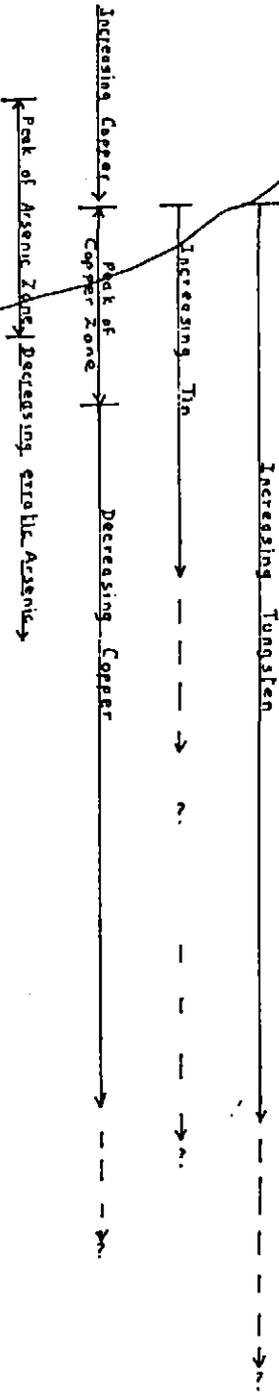
Four chip samples of pyrrhotite, arsenopyrite, chalcopyrite, axinite and quartz mineralization from the Western opencut were assayed for gold. The values ranged between 0.012 and 0.042ppm gold.

Three -150# stream sediments from streams draining Colebrook Hill were assayed for Cu Pb Zn As Mo Sn W Ag Au. Only one sample had sufficient sediment for a gold assay, this registering 0.054ppm which is probably anomalous. Tin was the only other element with anomalous levels, 210 - 520ppm.

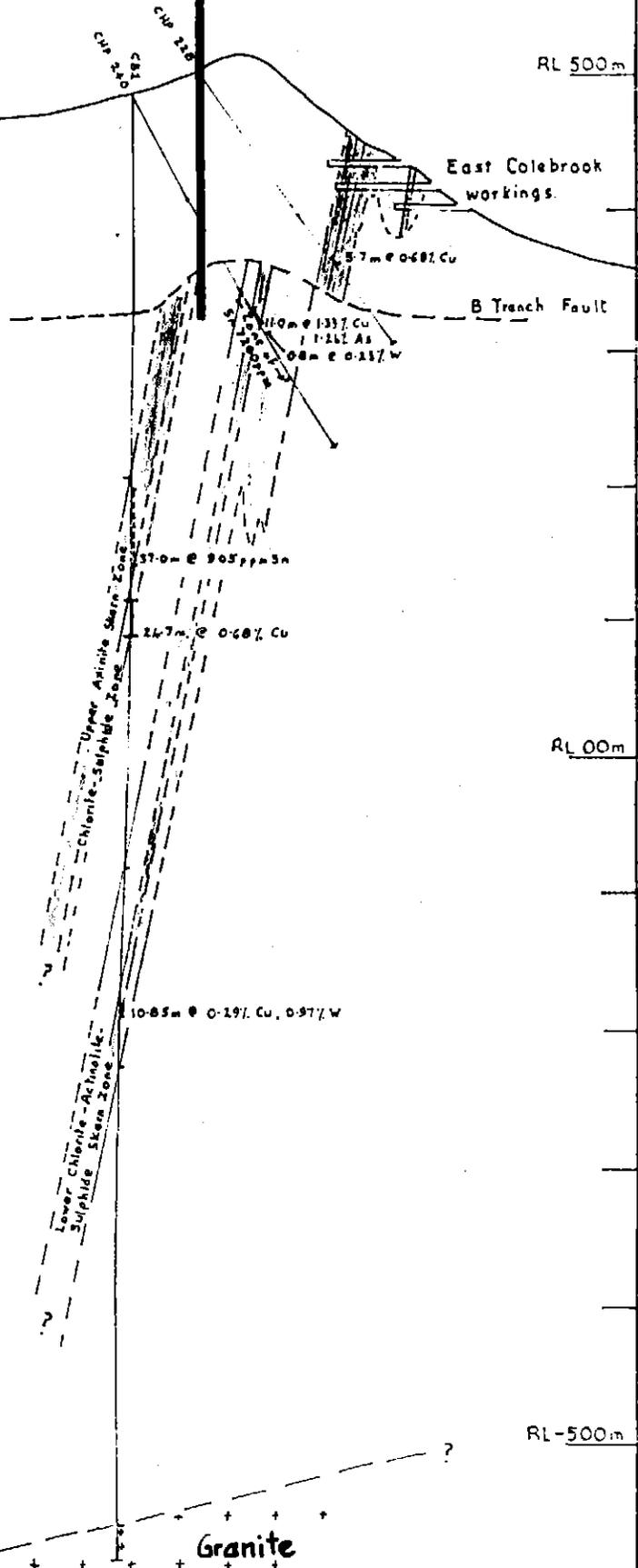
It is recommended that existing diamond drill core, grid soil and rock geochemistry and old workings should be further assessed for replacement and vein style gold mineralization.

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Mineralisation Zones



CB1 Hornfels Zones
Chlorite
Chlorite minor increasing Biotite
Chlorite and Biotite
Biotite
Hornblende

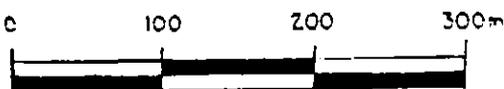


RL 500m

RL 00m

RL -500m

5 cm



Scale

N.W. CREASY	
COLEBROOK HILL SUMMARY SECTION	
E.L. 18/86	
DRAWN BY : R.P.	
DRAFTSMAN: T.G.D.S.	
DATE : Aug. 88	
REVISIONS :	
FILE NO.	
SCALE 1: 5000	
FIG. 4	

HUSKISSON DRIVE - GETTY OIL DEVELOPMENT GOLD ANOMALY

In the NE part of the licence Getty reported weak gold soil geochemical anomalies in Success Creek Group to Crimson Creek Formation sediments (see Fitzgerald and McNaught 1984). The area is readily accessed by the Huskisson Drive logging road from the Murchison Highway near the Hatfield River.

Three stream sediment sites were sampled and two of these were assayed for Cu Pb Zn As Mo Sn W Ag Au. The maximum gold value was 0.012ppm.

Further work in this area is not warranted.

SOUTH PIEMAN - COMSTAFF GAG GRID

Basemetal anomalism was reported by Comstaff in dolomites on the eastern contact of the ultramafic. Costeins in the area were relocated and sampled. No carbonates were located but cherts containing minor pyrite and quartz veining were sampled and assayed for gold. All samples returned <0.008ppm gold.

Further work in this area is not warranted.

APPENDIX 1

MINERALOGISTS REPORTS

- A. Report on mineralogical examination of heavy minerals concentrate samples 2015, 2022, and 2033.
- B. Report on mineralogical examination of samples 1135, 1138 and 1200.
- C. Report on the electron microprobe analyses of chromite samples 1135, 1172, 1200, 1207, 1220, 1240, 1244 and 1312

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REPORT ON MINERALOGICAL EXAMINATION OF HEAVY MINERALS CONCENTRATE
SAMPLES 2015, 2022, and 2033.

Dr. J. Just, Mineralogist

Perth, 23th June, 1988.

Three samples of heavy minerals concentrates were received for mineralogical examination. The aim of the examination was to determine presence and composition of platinum group minerals and any other minerals of potential economic interest.

The samples were panned in a panning dish under a stereomicroscope and any metallic or "suspect" grains were recovered and mounted on double-sided adhesive tape on small Perspex blocks for GeoSEM examination.

Sample 2015.

Lead!

No metallic particles were found. The sample contains numerous small white heavy particles, four of which were recovered for GeoSEM identification. When viewed at high magnification the particles have an appearance of soft metal. EDS spectrum indicates presence of lead and no other detectable element. In view of their white colour the particles appear to be either metallic lead coated with lead carbonate (or, less likely, sulphate) or carbonate (or sulphate) pseudomorphs after metallic lead. The origin of the particles cannot be readily explained. They are too small to be derived from lead shot. Car battery might be a possibility but I am quite ready to accept your argument for their natural origin.

Sample 2022.

Three metallic particles were recovered: Os = Ir > Ru
Os > Ir tr Ru
Os > Ir tr tr Ru

Heavy white particles similar to those in the previous sample are present but are less abundant. Two particles were recovered for GeoSEM identification. Their EDS spectra indicate only lead.

x

Sample 2033.

Nineteen metallic particles were recovered. Five particles were gold with no detectable silver, one particle was Pt + Fe, most likely tetraferroplatinum, 10 particles were iridosmium with Os > Ir with various amounts of ruthenium and 3 were osmiridium with Os = Ir, again with little or traces of ruthenium.

X

No other minerals of potential interest were found.

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REPORT ON MINERALOGICAL EXAMINATION
OF SAMPLES 1135, 1138, AND 1200

Dr. J. Just, Mineralogist

Perth, 19th November, 1987.

Three samples of pan concentrates, numbered 1135, 1138, and 1200 were received for mineralogical examination. The aim of the investigation was to identify the brown mineral abundant in the concentrates.

The samples were processed under internal numbers

JJ 2024 1135
JJ 2025 1138
JJ 2026 1200

Typical grains of the brown mineral and several grains of other minerals were separated from each concentrate and identified by means of GeoSEM 1 (scanning electron microscope equipped with EDS and specially modified for work with geological materials).

Sample 1135 (JJ 2024).

Eight grains were examined. Of those four were magnesium dominant orthopyroxene (brown grains), two were chromite with little Al and no detectable Mg (black grains), one a hematite - limonite pebble, and one grain of an iron silicate with little magnesium remained unidentified.

Sample 1138 (JJ 2025).

Ten grains were examined. Six grains (brown mineral) were orthopyroxene, generally with dominant Mg but one grain was zoned with iron-rich centre and two grain contained approx the same amount of Mg and Fe. Two grains were chromite with little Al and no or traces Mg. One green grain was an iron rich (but still Mg dominant) chromian clinopyroxene. One brown grain was a limonite pebble.

Sample 1200 (JJ 2026).

Eleven grains were investigated. Six grains (brown mineral) were magnesium-dominant orthopyroxene, two magnesium-dominant clinopyroxene, two chromite with little Al and trace of Mg, and one grain most probably zoisite or clinozoisite.

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REPORT
on
ELECTRON MICROPROBE ANALYSES
of
CHROMITE SAMPLES
1135, 1172, 1200, 1207, 1220, 1240, 1244, and 1312

prepared for Messrs

M. Creasy

at their request by

Jiri Just

Mineralogist

Perth, 4th January, 1988

Dr. Jiri Just, Mineralogist, Petrologist,
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REPORT ON ELECTRON MICROPROBE ANALYSES OF CHROMITE SAMPLES
1135, 1172, 1200, 1207, 1220, 1240, 1244, AND 1312.

Dr. J. Just, Mineralogist

Perth, 4th January, 1988.

Nine samples of chromite concentrates from Tasmania were received for electron microprobe analysis, however only eight of them were to be analysed. The aim was to determine average content of chromium, iron, aluminium, and magnesium in chromites in the individual samples and also the average composition derived from all the analysed samples.

Polished mounts were prepared from the eight selected samples. Twenty five randomly selected grains were analysed in each mount using x-ray energy dispersion spectrometer on the MAC 400S electron probe microanalyser. The raw data were reduced using "OXIDE" program of N. Ware. Content of Fe^{3+} was calculated to satisfy the charge balance at 4 oxygen atoms and 3 metal atoms per formula. Statistical calculations carried out on the first sample indicated that analysis of 25 grains gives very good representation of the average composition of chromites in the sample.

Average composition, range of content of the individual elements, analyses containing the highest and the lowest Cr value encountered in the sample and an empirical formula based on the average composition are given (in % wt) for each sample and for the whole suite.

Sample 1135

	Cr_2O_3	Al_2O_3	Fe_2O_3	FeO	MgO
Average	57.35	8.64	4.45	21.62	7.76
Range: highest	65.45	19.40	8.67	24.92	9.59
lowest	40.02	4.59	0.70	18.85	5.42
Analysis with					
highest Cr	65.45	4.59	1.61	19.13	9.04
lowest Cr	40.02	19.40	8.67	24.92	6.61

Empirical formula: $(\text{Fe}_{0.61}\text{Mg}_{0.39})(\text{Cr}_{1.54}\text{Al}_{0.35}\text{Fe}^{3+}_{0.11})\text{O}_4$

Sample 1172

	Cr ₂ O ₃	Al ₂ O ₃	Fe ₂ O ₃	FeO	MgO
Average	59.01	9.88	2.20	19.80	8.99
Range: highest	66.01	16.07	6.80	23.41	10.97
lowest	47.87	3.86	--	16.54	6.25
Analysis with					
highest Cr	66.01	3.86	0.77	22.95	6.25
lowest Cr	47.87	14.75	6.80	22.77	7.55

Empirical formula: $(\text{Fe}_{0.55}\text{Mg}_{0.45})(\text{Cr}_{1.56}\text{Al}_{0.39}\text{Fe}^{3+}_{0.05})\text{O}_4$

Sample 1200

	Cr ₂ O ₃	Al ₂ O ₃	Fe ₂ O ₃	FeO	MgO
Average	59.97	7.62	3.16	21.38	7.77
Range: highest	65.85	12.14	7.01	26.79	11.83
lowest	53.54	4.99	--	15.78	4.14
Analysis with					
highest Cr	65.85	6.66	--	19.58	7.91
lowest Cr	53.54	11.13	5.69	21.84	7.80

Empirical formula: $(\text{Fe}_{0.61}\text{Mg}_{0.39})(\text{Cr}_{1.61}\text{Al}_{0.31}\text{Fe}^{3+}_{0.08})\text{O}_4$

Sample 1207

	Cr ₂ O ₃	Al ₂ O ₃	Fe ₂ O ₃	FeO	MgO
Average	60.57	8.68	2.40	18.50	9.76
Range: highest	70.82	15.32	9.03	24.72	12.02
lowest	46.69	1.90	--	14.95	6.19
Analysis with					
highest Cr	70.82	1.90	--	18.49	8.80
lowest Cr	46.69	12.98	9.03	24.72	6.19

Empirical formula: $(\text{Fe}_{0.52}\text{Mg}_{0.48})(\text{Cr}_{1.60}\text{Al}_{0.34}\text{Fe}^{3+}_{0.06})\text{O}_4$

Sample 1220

	Cr ₂ O ₃	Al ₂ O ₃	Fe ₂ O ₃	FeO	MgO
Average	57.74	10.34	3.14	19.48	9.21
Range: highest	66.04	16.98	12.93	25.62	10.63
lowest	42.29	6.36	--	17.30	5.48
Analysis with					
highest Cr	66.04	6.83	--	17.90	9.22
lowest Cr	42.29	13.32	12.93	25.62	5.48

Empirical formula: $(\text{Fe}_{0.54}\text{Mg}_{0.46})(\text{Cr}_{1.52}\text{Al}_{0.40}\text{Fe}^{3+}_{0.08})\text{O}_4$

Sample 1240

	Cr ₂ O ₃	Al ₂ O ₃	Fe ₂ O ₃	FeO	MgO
Average	58.96	9.92	2.67	18.62	9.87
Range: highest	64.80	23.47	8.53	22.46	14.78
lowest	42.48	5.19	--	13.14	6.81
Analysis with					
highest Cr	64.80	6.82	0.65	17.46	10.27
lowest Cr	42.48	19.60	8.53	18.61	10.65

Empirical formula: $(\text{Fe}_{0.51}\text{Mg}_{0.49})(\text{Cr}_{1.54}\text{Al}_{0.39}\text{Fe}^{3+}_{0.07})\text{O}_4$

Sample 1244

	Cr ₂ O ₃	Al ₂ O ₃	Fe ₂ O ₃	FeO	MgO
Average	55.52	10.45	4.38	20.97	8.30
Range: highest	71.51	18.24	18.05	27.45	10.14
lowest	37.73	4.64	--	14.34	4.24
Analysis with					
highest Cr	71.51	4.64	--	14.34	9.05
lowest Cr	37.73	12.02	18.05	27.45	4.24

Empirical formula: $(\text{Fe}_{0.58}\text{Mg}_{0.42})(\text{Cr}_{1.47}\text{Al}_{0.41}\text{Fe}^{3+}_{0.12})\text{O}_4$

029

Sample 1312

	Cr ₂ O ₃	Al ₂ O ₃	Fe ₂ O ₃	FeO	MgO
Average	51.98	13.56	3.10	20.05	9.12
Range: highest	66.96	26.81	9.02	24.96	14.94
lowest	42.49	6.59	--	13.42	5.31
Analysis with					
highest Cr	66.96	6.67	--	17.62	8.30
lowest Cr	42.49	26.81	2.33	13.45	14.94

Empirical formula: $(\text{Fe}_{0.55}\text{Mg}_{0.45})(\text{Cr}_{1.37}\text{Al}_{0.53}\text{Fe}^{3+}_{0.10})\text{O}_4$

All 8 samples combined

	Cr ₂ O ₃	Al ₂ O ₃	Fe ₂ O ₃	FeO	MgO
Average	57.64	10.14	3.19	20.05	8.85
Range: highest	71.51	26.81	18.05	27.45	14.94
lowest	37.73	1.90	--	13.14	4.14
Analysis with					
highest Cr	71.51	4.64	--	14.34	9.05
lowest Cr	37.73	12.02	18.05	27.45	4.24

Empirical formula: $(\text{Fe}_{0.56}\text{Mg}_{0.44})(\text{Cr}_{1.52}\text{Al}_{0.40}\text{Fe}^{3+}_{0.08})\text{O}_4$

The analyses indicate that approx. 80% of the analysed grains are magnesian chromite and 20% are ferroan magnesiochromite. A few grains are approaching composition of chromian ferroan spinel.

Sample No 112
T102

738032

Sample No	T102	Al ₂ O ₃	Cr ₂ O ₃	Fe ₂ O ₃	FeO	MnO	MgO	CaO
112	8.42	61.10	2.20	18.29	Cr ₂ O ₃	9.82	45-50 I	
	6.54	62.31	2.02	17.94	42-41	10.01	25-55	
	16.02	53.24	.40	21.41	21-11	8.55	25-60	
	10.85	57.15	2.22	19.95	21-21	9.06	26-65	
	9.04	63.02	—	12.42	22-55	10.46	25-30	
	6.92	65.48	—	12.62	25-2	9.44		
	7.26	60.08	2.98	22.17	22-1	6.99	45-48 I	
	8.05	61.61	2.66	16.52	26-6	10.92	48-51	
	10.61	59.57	1.83	17.12	26-1	10.86	51-54	
	6.82	62.41	1.06	19.62	29-5	8.86	54-57	
	9.29	60.48	1.05	20.60	26-2	8.42	57-60	
	15.66	51.28	2.62	18.28		10.54	60-63	
	9.55	55.86	4.09	22.41		6.24	63-66	
	14.25	42.82	6.80	22.22		7.55	66-69 I	
	8.26	61.02	3.06	16.90		10.26		
	5.72	65.62	—	22.96		5.68		
	8.03	62.19	1.20	17.62		10.28		
	14.01	52.22	2.09	21.28		8.12		
	12.65	54.85	2.12	20.11		9.23		
	3.86	66.01	.72	22.95		6.25		
	9.85	56.24	4.22	21.86		7.67		
	10.12	60.61	.59	12.46		10.61		
	10.66	56.20	2.64	20.22		8.29		
	7.96	60.96	2.00	21.06		8.02		
	14.90	52.84	2.42	18.30		10.52		
	242.11	1475.22	55.06	494.91		224.84		
	9.88	59.01	2.20	19.80		8.99		21.28
	5.86	66.01	.72	22.95		6.25		4.28
	14.25	42.82	6.80	22.22		7.55		4.28

21.28
4.28
4.28

diff. FeO

Al₂O₃ Fe₂O₃ MnO

Sample No. 1200

032

TiO₂

	Al ₂ O ₃	Cr ₂ O ₃	Fe ₂ O ₃	FeO	SiO ₂	SiO	CaO
	6.54	61.95	2.52	19.58	-	9.10	51-54 I
	10.13	55.48	5.24	20.77		8.42	54-57 III
	11.20	54.48	4.07	22.96		7.09	57-60 IIIIIII
	5.34	67.80	1.78	22.22		7.12	60-67 IIIIIII
	5.95	62.67	2.20	21.95		7.22	67-68 IIIII
	6.66	65.85	-	19.58		7.91	
	12.14	57.50	1.94	17.95		10.48	
	11.33	60.11	.95	15.78		11.87	
	5.89	67.52	2.26	19.52		8.81	
	6.51	61.54	.87	26.79		4.14	
	6.77	61.86	2.99	20.72		8.07	
	7.82	58.96	4.63	20.77		8.43	
	6.64	62.80	2.05	19.80		8.71	
	7.24	54.54	7.01	26.09		4.74	
	7.63	60.07	1.98	24.84		5.52	
	5.41	57.51	6.63	25.01		5.32	
.25	11.49	58.96	.62	17.38		11.12	
	6.55	57.53	6.74	21.67		7.30	
	9.56	59.10	3.05	18.35		9.94	
	11.17	52.54	5.69	21.84		7.80	
	4.99	64.11	1.88	21.77		7.25	
	6.59	58.48	4.65	27.65		6.28	
	5.54	62.62	3.48	19.73		8.62	
	5.05	59.15	6.22	27.45		6.12	
	6.76	62.45	-	22.44		6.92	All Fe as FeO
	190.47	1499.37	79.06	534.45		194.32	
.25	7.62	59.97	3.16	21.38		7.77	24.22
	6.66	65.85	-	19.58		7.91	highest Cr
	11.13	53.54	5.69	21.84		7.80	lowest Cr

∅ (Fe 61 11.23) (Cr 61 11.21 Fe. no) O₄

Sample No 1207

033
TiO₂

	Al ₂ O ₃	Cr ₂ O ₃	Fe ₂ O ₃	FeO	SiO ₂	SiO ₂	CaO
	7.84	61.09	2.45	19.79		8.83	95-98
.20	12.98	46.69	9.03	24.72		6.19	78-51
	9.66	60.22	2.49	16.36		11.26	>51-54
	6.45	63.40	2.03	18.73		9.39	>49-52
	5.85	64.26	2.32	17.33		10.24	>7-60
	11.10	57.16	2.64	19.76		9.15	>60-63
	8.87	62.75	1.50	17.19		10.65	>62-66
	8.07	62.17	2.79	14.95		12.02	>66-69
.16	8.93	61.06	1.46	18.27		9.91	>69-72
	6.50	65.29	.72	16.86		10.62	
	15.32	49.00	5.47	20.52		9.20	
	8.19	60.76	2.04	17.95		10.06	
	6.92	63.82	1.61	17.26		10.40	
	8.24	60.37	2.89	19.30		9.19	
	6.12	62.17	2.21	19.97		8.57	
	6.69	63.00	2.00	19.22		9.09	
	13.57	56.85	1.73	16.95		11.29	
	6.60	63.43	1.37	19.21		9.10	
	5.94	63.64	2.88	17.26		10.29	
	10.44	58.88	2.74	17.06		10.28	
	10.71	52.59	2.48	17.12		10.87	
	7.75	63.49	.89	17.19		10.54	
	8.22	62.60	.91	18.61		9.66	
	14.11	51.73	3.87	22.30		7.82	
	1.90	70.82	-	18.49		8.80	all Fe as FeO
	216.97	1574.27	60.12	462.57		244.02	
4.25	8.68	60.57	2.40	18.50		9.76	20.66
	1.90	70.82	-	18.49		8.80	highest G
	12.98	46.69	9.03	24.72		6.19	lowest G

(Fe₅₁ Mg₄₅) (Cr₁₆ Al₇₁ Fe⁰⁺) O₄

Sample No. 1220

738035

034

TiO₂ Al₂O₃ Cr₂O₃ Fe₂O₃ FeO MnO MgO CaO

	6.23	66.09	-	17.90		9.22	42-45
	8.28	57.44	3.96	24.61		5.71	>45-48
	13.32	42.29	12.92	25.62		5.48	>48-51
	7.50	65.48	-	18.42		8.60	>51-54
	7.92	60.19	2.93	19.25		9.21	>54-57
	8.61	60.62	2.39	18.26		9.52	>57-60
	10.35	53.35	6.76	21.83		7.72	>60-63
	10.61	57.22	3.67	17.86		10.77	>63-66
	11.78	56.25	3.39	18.23		10.25	>66
	15.50	53.04	2.54	18.20		10.50	
	8.36	62.29	.21	17.30		10.53	
	9.74	58.27	3.52	18.67		9.75	
	15.18	51.25	4.49	18.99		10.09	
	7.12	61.22	2.42	20.96		8.10	
	9.31	59.78	2.71	18.13		10.07	
	7.52	62.85	.19	19.11		9.27	
	7.43	64.51	-	18.52		9.52	
	7.52	61.89	2.32	18.53		9.42	
	8.29	60.90	2.84	17.79		10.18	
	15.42	52.60	1.89	18.88		10.21	
15	15.69	48.15	5.50	22.29		8.07	
	6.36	63.97	1.95	17.63		10.10	
	7.52	62.07	1.90	19.33		9.11	
	15.22	49.12	5.70	21.05		8.71	
	16.98	49.65	4.21	18.45		10.63	all Fe as FeO
	258.49	1443.54	78.58	486.94		230.36	
25	10.34	57.74	3.14	19.48		9.21	22.71
	6.23	66.09	-	17.90		9.22	higher Cr
	13.32	42.29	12.93	25.62		5.48	lowest Cr

(Fe on Mn, 1/2 Cr, 1/2 Al, Fe²⁺) O₆

Sample No 1240

738036

.035

	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	Fe ₂ O ₃	FeO	SiO ₂	SiO ₂	Cr ₂ O ₃
		5.19	62.44	3.10	22.46		6.21	42-45
		9.58	54.61	6.51	21.24		7.96	45-48
.21		8.62	59.41	3.01	19.60		9.16	48-51
		9.24	61.04	1.48	18.22		10.00	51-54
		7.52	62.72	1.47	18.69		9.53	54-57
		19.44	50.80	1.11	16.40		12.26	57-60
.22		11.22	56.29	3.61	18.55		10.11	60-63
		5.69	63.85	2.64	18.10		9.72	63-66
		8.17	63.15	.40	18.66		9.62	
		8.62	58.78	3.25	20.69		8.22	
		7.22	64.50	.11	18.25		9.80	
.20		8.22	61.61	2.15	16.67		11.04	
		7.64	63.00	1.99	16.25		11.12	
		15.42	49.65	5.09	21.12		8.71	
		19.60	42.48	8.52	18.61		10.65	
		9.50	62.12	-	15.84		11.52	
		6.97	62.96	2.29	17.61		10.17	
		6.22	64.80	.65	17.46		10.27	
		12.22	52.06	5.66	22.22		7.67	
		7.98	60.07	2.42	19.52		9.01	
		22.47	46.35	2.16	12.14		14.78	
		7.86	61.83	2.17	17.32		10.64	
		8.21	62.20	1.91	16.65		10.91	
		6.01	62.22	2.52	21.80		7.24	
.17		7.04	62.64	1.07	18.15		9.94	
		247.91	1473.95	66.73	465.39		246.78	
.25		9.92	58.96	2.67	18.62		9.87	21.02
		6.82	64.80	.65	17.46		10.27	light G
		19.60	42.48	8.52	18.61		10.65	low G

(Fe, Mn, Co) (Cr, Al, Fe²⁺) O₄

Sample No. 1244
036

738037

	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	Fe ₂ O ₃	FeO	MnO	MgO	Cr ₂ O ₃
	70	6.18	57.10	5.62	24.45		8.04	36-39
		15.39	46.86	7.25	21.95		8.29	39-42
	73	8.87	55.01	4.00	24.50		6.29	42-45
		4.64	71.51	-	14.24		9.05	45-48
	12	10.73	55.71	3.25	21.12		8.21	48-51
		8.62	52.09	2.49	20.46		8.78	51-54
		11.73	55.29	2.57	18.94		10.02	54-57
		10.24	50.75	7.81	25.01		5.75	57-60
		12.35	56.48	2.16	18.74		10.12	60-67
		4.71	69.71	-	16.58		8.68	63-66
		18.24	47.32	4.62	19.66		9.96	66-69
		15.32	55.92	-	20.28		9.67	69-72
	19	9.60	57.13	2.71	20.61		8.93	
		14.77	52.92	2.55	19.45		9.71	
		9.24	59.01	2.44	19.98		9.44	
		7.13	54.19	6.81	25.34		5.71	
		9.52	59.22	2.66	18.93		9.56	
		14.58	48.69	6.29	21.11		8.81	
		6.24	65.12	-	20.60		7.45	
		6.79	57.52	5.69	22.68		6.97	
		12.02	27.73	18.05	27.45		4.24	
	24	13.53	53.32	2.95	19.63		9.97	
		9.10	59.21	7.90	18.76		10.14	
	25	12.67	47.56	7.96	22.89		6.94	
		9.79	56.12	5.01	20.26		8.70	
		261.35	1388.01	109.56	524.30		207.42	
2.25		10.45	55.52	4.38	20.97		8.30	24.91
		10.39	56.26	3.81	20.70		8.47	average discrepancy of 2%
		4.64	71.51	-	14.34		9.05	lyon Cr
		12.02	27.73	18.05	27.45		4.24	brad Cr

(Fe 58 71.92) (Cr 1.47 #1, E₂ 104

Sample No. 1312

738038

037
TiO₂

	Al ₂ O ₃	Cr ₂ O ₃	Fe ₂ O ₃	FeO	SiO ₂	SiO ₂	Fe ₂ O ₃ + FeO
	12.41	59.70	-	19.45		8.22	11-45
	15.58	49.79	4.42	21.53		8.14	45-48
	16.69	45.02	7.05	22.57		7.82	48-51
	6.92	62.56	1.23	21.93		7.35	51-54
	15.20	51.84	3.94	18.79		10.28	54-57
	12.59	53.40	3.73	22.57		7.53	57-60
	9.16	60.72	1.12	19.24		9.42	60-63
	12.78	57.41	2.83	22.28		7.20	63-66
	15.19	57.65	4.03	18.67		10.31	66-
	20.35	48.07	2.64	17.00		11.94	
	11.58	57.04	1.21	22.57		7.24	
.17	12.75	49.93	6.43	22.58	.43	7.48	
	11.01	57.18	2.88	19.74		9.19	
	6.59	59.20	3.94	24.96		5.71	
	14.27	50.99	5.23	20.52		8.99	
.24	21.55	46.42	2.62	16.12		12.78	
.17	26.81	42.49	2.33	13.42		14.94	
	15.31	44.60	9.02	23.53		7.12	
.21	10.24	61.12	-	18.61		9.53	
	10.80	57.58	1.93	21.11		8.28	
	6.67	66.96	-	17.62		8.30	
	22.12	44.32	3.65	19.29		10.61	
.16	9.18	59.60	2.62	18.09		10.08	
	11.23	60.45	-	17.94		10.22	
	11.77	55.25	3.54	20.99		2.44	
	335.95	1299.59	77.42	501.37		227.97	
4.25	13.56	51.98	3.10	20.05		9.12	22.84
	6.67	66.96	-	17.62		8.30	higher G
	26.81	42.49	2.33	13.45		14.94	lowest G

(Fe₂O₃ 17.45) (Cr₂O₃ 1.32 Al₂O₃ 57 Fe₂O₃) O₉

APPENDIX 2
ANALYTICAL REPORTS

039

ANALABS

738040

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52 Murray Road, Welshpool, W.A. 6106
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Telex AA92560

ANALYTICAL REPORT No. 999.10.08.05409

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

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

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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	
		2051/53, 2055/57, 2060	RO	Prep: 006, 010, 011, 012, 013, 016							Au, AuChk/309		

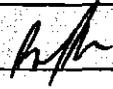
RESULTS TO

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

RESULTS TO

REMARKS

STATE OF SAMPLES	ANALYSIS — PREPARATION	ANALYSIS — METHOD
whole core 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	filtration 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

AUTHORISED OFFICER 

ANALABS

738041

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

040

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

999.10.08.05409

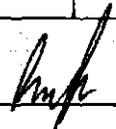
10/05/88

1 OF 1

TUBE No.	SAMPLE No.	Au	AuChk						
1	2051	0.012	0.010						
2	2052	0.031	-						
3	2053	0.042	-						
4	2055	<0.008	-						
5	2056	<0.008	-						
6	2057	<0.008	-						
7	2060	<0.008	-						
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23	DETECTION	0.008	0.008						
24	UNITS	PPM	PPM						
25	METHOD	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





ANALYTICAL SERVICES (WA.) PTY. LTD.

Reference Number 39456

22 JUNE, 1988

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.Chen



REFERENCE NUMBER 39456

Page 1

SAMPLE NUMBER	Au ppb	Pt ppb	Pd ppb	Ru ppb	Rh ppb	Ir ppb	Os ppb	Cr %	Fe %
2001	48	13	3.0	50	8.0	11	24	33	20
2002	18	16	5.0	50	8.5	20	32	30	18
2003	30	7.5	5.5	39	6.5	8.0	24	32	20
2006	18	7.0	3.5	26	5.5	9.0	26	31	19
2008	120	5.0	2.5	47	3.5	14	24	33	16
2019	16	5.0	4.5	20	5.5	15	24	34	18
2020	24	21	12	28	8.0	9.5	16	28	20
2021	12	9.0	4.5	26	6.5	15	24	33	18
2022	22	7.0	3.5	24	6.0	13	12	32	16
2022 DUP	20	6.0	4.5	25	7.0	15	14	32	16
2025	30	100	4.5	24	5.0	18	22	33	16
2025 DUP	32	120	3.5	27	6.0	20	24	33	16
2026	8	140	5.0	51	4.5	19	28	38	20
2032	8	12	6.0	40	9.0	17	18	35	20
2033	440	51	7.5	39	8.0	57	86	36	20
2033 DUP	500	55	6.5	42	9.5	61	90	36	20
2034	< 2	6.0	7.0	24	8.5	16	28	37	21
2035	18	2.5	6.5	30	4.5	11	12	38	19
2039	12	6.5	6.5	61	5.5	260	370	39	18
2039	10	7.5	5.5	65	6.5	280	380	39	18
2042	18	3.5	12	20	4.5	8.0	10	38	20
2073	16	99	2.0	25	7.0	18	20	19	39
2073 DUP	14	102	3.0	27	8.0	22	22	19	39



042

REFERENCE NUMBER 39456

PAGE 2

Sample Preparation

Sample preparation as instructed on submission form .

Sample Analysis

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. Recovery of Gold is not quantitative at levels below 500 ppb.

Cr Fe

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.

Sample Storage

Sample pulps and residues will be stored free of charge for ONE MONTH after reporting. Samples are then Palletised, and a fee of \$1.00 per day per Pallet required is levied.

044

ANALABS

738045

Phone (09) 458 7999

A division of MacDonald Hamilton & Co. Pty. Ltd.
52 Murray Road, Welshpool, W.A. 6106
FAX: 004 51 8890

Telex AA92560

ANALYTICAL REPORT No. 999.10.08.05432

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

ORDER No.

PROJECT

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

DATE RECEIVED

RESULTS REQUIRED

10/05/88

ASAP

No. OF PAGES
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OF COPIES

TOTAL No. OF SAMPLES

2

23/06/88

1

7

RATE 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	
	2054		RO	Prep: 005,009,011,012,013,016							Au/309		
	2063/64		SS	Prep: 005,016							Cu,Pb,Zn,Ag/101,As/114		
	2063/64		SS								Mo,Sn,W/401		
	2063/64		SS								Au/309		
	2066/68		SS	Prep: 005,007,016							Cu,Pb,Zn,Ag/101,As/114		

REMARKS

RESULTS

TO

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

RESULTS

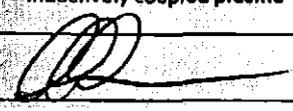
TO

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

AUTHORISED OFFICER 

ANALABS

738046

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

045

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

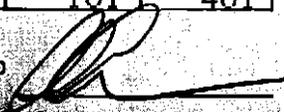
CLIENT ORDER No.

PAGE

		999.10.08.05432				23/06/88			1 OF 2	
Line No.	SAMPLE No.	Cu	Zn	As	Mo	Pb	Rh	Pd	Ag	Sn
1	2054	-	-	-	-	-	-	-	-	-
2	2063	20	100	5	15	-	-	-	<0.5	9
3	2064	5	25	2	<3	-	-	-	<0.5	5
4	2066	35	90	34	7	-	-	-	<0.5	210
5	2067	40	180	101	5	-	-	-	<0.5	290
6	2068	75	260	140	4	-	-	-	<0.5	520
7	2069	-	-	-	-	<2	31.0	4.5	-	-
8	↑ NOT ON 18/86									
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	5	5	1	3	2	0.5	0.5	0.5	3
24	UNITS	PPM	PPM	PPM	PPM	PPB	PPB	PPB	PPM	PPM
25	METHOD	AA	AA	AA	xR	ICP	ICP	ICP	AA	xR
		101	101	114	401	199	199	199	101	401

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

AUTHORISED OFFICER



ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

			999.10.08.05432				23/06/88				2 OF 2	
TUBE No.	SAMPLE No.	W	Os	Ir	Pt	Au	Au	Pb				
1	2054	-	-	-	-	-	0.026	-				
2	2063	<20	-	-	-	-	0.012	25				
3	2064	<20	-	-	-	-	<0.008	15				
4	2066	55	-	-	-	-	18	30				
5	2067	<20	-	-	-	-	0.054	30				
6	2068	<20	-	-	-	-	18	45				
7	2069	-	2.0	1.4	54.0	4	-	-				
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23	DETECTION	20	0.5	0.5	0.5	2	0.008	5				
24	UNITS	PPM	PPB	PPB	PPB	PPB	PPM	PPM				
25	METHOD	ICP 401	ICP 199	ICP 199	ICP 199	ICP 199	FA 309	AA. 101				

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


ANALABS TASMANIA

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

047

P.O. Box 210
Bentley, W.A. 6102

Account enquiries - (004) 31 6837

INVOICEM.G. Creasy
8 Luth Avenue
Daglish
Perth W.A. 6008*Expenses*
*September Quarter*Invoice No: 08-15273
Job ref: J 999.10.08.05432
Date: 30/06/88Page: 1 of 1
Order No:
Project:

Qty	Code	Description	Unit Price	Extended	Total
4	007	Seiving to specific fraction	1.10	4.40	
1	009	Crushing Sample to 2 Kg	1.40	1.40	
1	011	Rolls Crushing	1.45	1.45	
1	012	Disc pulv. - 180 microns	1.95	1.95	
12	013	Splitting samples < 2 Kg	0.90	10.80	
3	016	Ring Pulv. - 75 microns /150g	1.35	4.05	
5	101	Dissolution Charge	1.20	6.00	
20	101	Air Acetylene Elements / AAS	0.65	13.00	
5	114	Vapour Gen. / AAS (As)	1.90	9.50	
4	309	Au Fire assay fusion/AAS	9.20	36.80	
5	401	XRF pressed powder set-up	2.20	11.00	
15	401	XRF determinations	2.50	37.50	
1	9900	Service Charge	22.00	22.00	

TOTAL DUE

\$ 159.85

NET PAYMENT 7 DAYS

A Member of the Inchcape Group

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

Expenses
Sept, Quarter,

048

P.O. Box 210
Bentley, W.A. 6102

Account enquiries - (004) 31 6837

INVOICE

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

Invoice No: 08-15272
Job ref: J 999.10.08.05361
Date: 30/06/88

Page: 1 of 1
Order No:
Project:

Qty	Code	Description	Unit Price	Extended	Total
2	001	Pre-preparation	15.00	30.00	
25	007	Seiving to specific fraction	20.00	500.00	
25	199	Misc. Analysis	1.00	25.00	
25	406	Glass Fusion -XRF Set-Up	11.00	275.00	
50	406	Glass Fusion XRF - elements	6.00	300.00	
1	9900	Service Charge	22.00	22.00	
TOTAL DUE					\$ 1152.00

NET PAYMENT 7 DAYS



049

ANALABS

738050

Phone (09) 458 7999

A division of MacDonald Hamilton & Co. Pty. Ltd.
52 Murray Road, Welshpool, W.A. 6106
FAX: 004 31 8890

Telex AA92560

ANALYTICAL REPORT No. 999.10.08.05361

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

ORDER No.

PROJECT

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

DATE RECEIVED

RESULTS REQUIRED

21/04/88

ASAP

No. OF PAGES
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TOTAL No. OF SAMPLES

4

21/05/88

1

25

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	SS	Prep: 006,007							Wght/199		
		Various	SS								Cr, Fe/406		
		Various	SS								Au, Ir, Os, Pd, Pt, Rh, Ru/1807		

RESULTS

TO

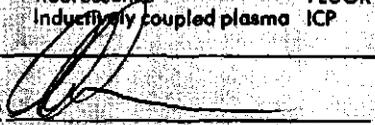
M.G. Creasy
8 Luth Avenue
Daglish
Perth W.A. 6008

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

AUTHORISED OFFICER 

ANALABS

738051

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

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

		999.10.08.05361				21/06/88		1 OF 4		
TUBE No.	SAMPLE No.	Cr %	Fe %	PPB Ru	PPB Rh	PPB Pd	PPB Os	PPB Ir	PPB Pt	PPB Au
1	2001	0.80	8.35	8	1.00	11.00	4.00	1.50	4.00	6
2	2002A	0.51	9.50	5	2.00	9.50	4.00	2.00	33.00	8
3	2002B	0.47	8.55	14	1.00	8.50	<0.05	1.00	4.50	4
4	2003	0.57	8.30	5	1.00	11.00	<0.05	1.50	30.00	4
5	2004	0.83	9.55	12	2.00	7.50	<0.05	1.50	6.00	12
6	2005	0.47	9.75	8	1.50	6.50	2.00	3.00	28.00	14
7	2006	0.66	8.75	21	1.50	10.00	2.00	1.50	5.50	28
8	2007	2.60	5.85	9	2.00	7.00	2.00	3.00	24.00	8
9	2009	0.65	5.25	10	0.50	5.00	4.00	2.50	2.00	28
10	2010	10.78	13.95	13	2.50	9.00	4.00	4.00	26.00	4
11	2011	2.02	4.30	8	1.00	6.00	<0.05	1.00	3.50	6
12	2013	6.14	11.15	13	4.00	8.00	6.00	5.00	24.00	2
13	2014	8.31	11.85	22	4.00	8.50	6.00	6.00	41.00	6
14	2015	6.48	16.20	29	8.00	8.00	36.00	27.00	26.00	6
15	2016	7.25	22.20	26	6.50	11.00	4.00	4.50	8.50	32
16	2017	4.85	24.20	19	3.00	8.50	4.00	5.00	77.00	16
17	2018	4.65	13.20	17	4.50	9.50	2.00	3.00	15.00	14
18	2019	5.34	13.95	16	4.50	9.50	4.00	4.50	10.00	10
19	2020	6.42	9.00	15	4.00	7.00	2.00	3.00	11.00	10
20	2021	8.88	14.40	20	4.00	5.50	4.00	5.00	16.00	10
21	2022	4.54	13.95	26	3.50	5.50	4.00	6.00	9.00	6
22	2025	4.97	5.80	11	2.00	6.50	<0.05	3.00	24.00	10
23	2027	0.31	5.50	3	0.50	5.00	<0.05	0.50	18.00	4
24	2028	0.47	6.25	9	1.00	12.00	<0.05	1.00	7.00	4
25	2033	5.13	10.05	17	2.50	4.50	2.00	4.00	39.00	10

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



051

ANALABS

738052

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

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

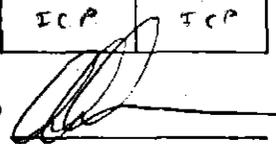
SAMPLE PREFIX		REPORT NUMBER				REPORT DATE		CLIENT ORDER No.		PAGE	
		999.10.08.053&1				21/06/88				2 OF 4	
TUBE No.	SAMPLE No.	Cr	Fe	Ru	Rh	Pd	Os	Ir	Pt	Au	
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22	DETECTION	0.01	0.05	2	0.05	0.05	0.05	0.05	0.05	2	
23	UNITS	%	%	PPB	PPB	PPB	PPB	PPB	PPB	PPB	
24	METHOD	406	406	199	199	199	199	199	199	199	
25		XR	XR	ICP	ICP	ICP	ICP	ICP	ICP	ICP	

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


052

ANALABS

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

738053

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

999.10.08.05361

21/06/88

3 OF 4

TUBE No.	SAMPLE No.	Wght								
1	2001	263.6								
2	2002A	371.9								
3	2002B	202.0								
4	2003	417.1								
5	2004	320.1								
6	2005	158.9								
7	2006	197.8								
8	2007	340.2								
9	2009	521.1								
10	2010	203.2								
11	2011	407.0								
12	2013	179.9								
13	2014	319.4								
14	2015	168.8								
15	2016	130.2								
16	2017	207.4								
17	2018	324.7								
18	2019	292.2								
19	2020	384.9								
20	2021	234.5								
21	2022	105.0								
22	2025	290.3								
23	2027	301.4								
24	2028	344.2								
25	2033	388.1								

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



053

ANALABS

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

738054

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

999.10.08.05361

21/06/88

4 OF 4

TUBE No.	SAMPLE No.	Wght							
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22	DETECTION	0.1							
23	UNITS	gms							
24	METHOD	199							
25									

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

AUTHORISED OFFICER



APPENDIX 3

SAMPLE RECORD AND ANALYTICAL DATA SHEETS

Rock

-150# Stream sediments

Panned concentrates - chromite residues.

- native metal grains.

ROGER POLTOCK GEOLOGICAL PTY. LTD.

CLIENT M. G. CREST.
 PROJECT EL 10/06
 PROSPECT JOHN LYNCH CREEK

SAMPLE RECORD AND ANALYTICAL DATA SHEET
 LABORATORY ANALABS
 SAMPLE TYPE ROCK

COLLECTED BY: C. CRESTY
 POLTOCK
 DATE DISPATCHED:
 DATE RECEIVED:
 A 28305

SAMPLE NUMBER	LOCATION		DESCRIPTION	PPM	ANALYSES										
				AU											
2029	324 500 N	371 400 E	Pyroxenites	NA											
2030	382 000 N	371 000 E	Quartzite with qtz veinlets	NA											
2051	375 000 E 371 500 N	COLEBROOK Hill W, open cut	Pyrrhotite	0.012											
2052	"	"	Chalcopyrite 3-5%, axinite	0.031											
2053	"	"	Massive arsenopyrite + axinite	0.042											
2054	"	"	Qtz vein with po py, flat lying.	0.026											
2055	376 000 N	374 300 E	Pyritic (2%) chert, Gemstone vein 80E 1000N	<.008											
2056	375 950 N	374 600 E	Weak limonitic chert, lim ex carbonate?	<.008											
2057	375 850 N	374 600 E	Chert with quartz veins + minor py	<.008											
2060	379 200 N	373 650 E	Composite sample, qtz pebbles from stream	<.008											

738056

ROGER POLTOCK GEOLOGICAL PTY. LTD.

CLIENT M.G. CREASY
 PROJECT EL 18186
 PROSPECT JOHN LYNCH CREEK

SAMPLE RECORD AND ANALYTICAL DATA SHEET
 LABORATORY ANALABS
 SAMPLE TYPE -150# STREAM SEDS

COLLECTED BY: CREASY
 DATE DISPATCHED:
 DATE RECEIVED:

055

A 2805

SAMPLE NUMBER	LOCATION		DESCRIPTION	Wt gms	%	%	PPB	PPB	PPB	PPB	PPB	PPB	PPB
					Cr ₂ O ₃	Fe	Ru	Rh	Pd	Os	Ir	Pt	Au
2001 ✓	382 750 N	371 800 E	Sed sieved to -200# in field	263.6	1.17	8.35	8	1.00	11.00	4.00	1.50	4.00	6
2002A ✓	382 550 N	372 600 E	" " " " " "	371.9	.75	9.50	5	2.00	9.50	4.00	2.00	33.00	8
2002B ✓	382 550 N	372 600 E	" not sieved.	262.0	.69	8.55	14	1.00	8.50	4.05	1.00	4.5	4
2003 ✓	382 800 N	372 100 E	" " " "	417.1	.83	8.30	5	1.00	11.00	4.05	1.50	30	4
2004 ✓	381 800 N	373 200 E	" " " " (Dets 1306 1307 ³²⁰⁻¹)	158.9	1.21	9.55	12	2.00	7.50	4.05	1.50	6.00	12
2005 ✓	383 050 N	371 500 E	" " " " (Dets 1136 1138)	197.8	.69	9.75	8	1.50	6.50	2.00	3.00	28.00	14
2006 ✓	382 900 N	371 700 E	" " " "	340.2	.97	8.75	21	1.50	10.00	2.00	1.50	5.50	28
2007 ✓	382 600 N	371 300 E	" " " "	521.1	.95	5.25	10	0.50	5.00	4.00	2.50	2.00	28
2008 ✓	382 600 N	371 350 E	" " " "	203.2	15.76	13.95	13	2.50	9.00	4.00	4.00	26.00	4
2011 ✓	381 950 N	371 850 E	" " " "	407.0	2.95	4.30	8	1.00	6.00	4.05	1.00	3.50	6
2013 ✓	381 600 N	372 300 E	" " " "	179.9	8.98	11.15	13	4.00	8.00	6.00	5.00	24.00	2
2014 ✓	381 600 N	372 250 E	" " " "	319.4	12.15	11.85	22	4.00	8.50	6.00	6.00	41.00	6
2015				168.8									
2016				130.2									
2017 ✓	381 600 N	372 600 E	" " " "	207.4	7.09	24.20	19	3.00	8.50	4.00	5.00	77.00	16
2018 ✓	381 850 N	372 150 E	" " " "	324.7	6.80	13.20	17	4.50	9.50	2.00	3.00	15.00	14
2019 ✓	381 800 N	372 150 E	" " " "	292.2	7.85	13.95	16	4.50	9.50	4.00	4.50	10.00	10
2020 ✓	381 800 N	372 600 E	" " " "	324.9	9.39	9.00	15	4.00	7.00	2.00	3.00	11.00	10

73000521

ROGER POLTOCK GEOLOGICAL PTY. LTD.

SAMPLE RECORD AND ANALYTICAL DATA SHEET

COLLECTED BY: CREAMY

057

CLIENT M.C. CREAMY

LABORATORY ANALYSIS

DATE DISPATCHED:

PROJECT EL 12/86

SAMPLE TYPE -ISO # STREAM SEDS

DATE RECEIVED:

PROSPECT SIXTH LYNCH CREEK.

A 2806

SAMPLE NUMBER	LOCATION		DESCRIPTION	Wt gms	%	%	PPB	PPB	PPB	PPB	PPB	PPB	PPB
					Cr ₂ O ₃	Fe	Ru	Rh	Pd	Os	Ir	Pt	Au
021	382 050 N	371 900 E	Sed' not sieved in field.	234.5	12.98	14.40	20	4.00	5.50	4.00	5.00	16.00	10
022	382 100 N	371 800 E	" " " "	105.0	6.64	13.95	26	3.50	5.50	4.00	6.00	9.00	6
025	384 500 N	371 600 E	Sed' sieved to -80µ in field 2903	290.3	7.27	5.80	11	2.00	6.50	<.05	3.00	24.00	10
027	386 000 N	371 900 E	" " " "	301.4	~4.5	5.50	3	0.50	5.00	<.05	0.50	18.00	4
028	385 550 N	372 000 E	" " " "	344.2	~6.9	6.25	9	1.00	12.00	<.05	1.00	7.00	4
033	382 800 N	371 650 E	Sed' not sieved in field	388.1	7.50	10.05	17	2.50	4.50	2.00	4.00	39.00	10
034	380 700 N	372 850 E											
035	380 700 N	372 900 E											
041	381 200 N	372 500 E											
044	381 300 N	372 650 E											
058													
059	382 600 N	371 400 E											
063	386 700 N	373 000 E		NA	-	-	-	-	-	-	-	-	-
064	387 900 N	373 400 E		NA	-	-	-	-	-	-	-	-	-
066	372 050 N	375 500 E		NA	-	-	-	-	-	-	-	-	-
067	372 000 N	373 500 E		NA	-	-	-	-	-	-	-	-	-
068	371 800 N	373 500 E		NA	-	-	-	-	-	-	-	-	-

738058

ROGER POLTOCK GEOLOGICAL PTY. LTD.

CLIENT M. G. CREAM
 PROJECT EL 18186
 PROSPECT JOHN LYNCH CREEK

SAMPLE RECORD AND ANALYTICAL DATA SHEET

COLLECTED BY: CREAM

LABORATORY ANALYTICAL SERVICES

DATE DISPATCHED:

SAMPLE TYPE PAN CONCENTRATES - Chromite Residues

05

738060

SAMPLE NUMBER	LOCATION		DESCRIPTION	%	%	PBB						
				Cr ₂ O ₃	Fe	Pt	Pd	Ku	Ru	Ir	Os	Au
2001	382 750N	371 800E		48.25	20	13	3.0	50	8.0	11	24	42
2002	382 550N	372 600E		43.86	18	16	5.0	50	8.5	20	32	18
2003	382 800N	372 100E		46.78	20	7.5	5.5	39	6.5	8.0	24	30
				45.32	19	7.0	3.5	26	5.5	9.0	26	18
2006	382 900N	371 700E										
2008	382 600N	371 350E		48.25	16	5.0	2.5	47	3.5	14	24	120
2010	382 000N	371 850E										
2013	381 600N	372 300E										
2014	381 600N	372 250E										
2015												
2019	381 800N	372 150E		49.71	18	5.0	4.5	20	5.5	15	24	16
2020	381 800N	372 600E		40.94	20	21	12	28	8.0	9.5	16	24
2021	382 050N	371 900E		48.25	18	9.0	4.5	26	6.5	15	24	12
2022	382 100N	371 800E		46.78	16	7.0	3.5	24	6.0	13	12	22
2022			Duplicate	46.78	16	6.0	4.5	25	7.0	15	14	20
2025	384 500N	371 600E		48.25	16	100	4.5	24	5.0	18	22	30
2025	"	"	Duplicate	48.25	16	120	3.5	27	6.0	20	24	32
2073	"	"	MAGNETIC SPLIT from 2025	27.78	39	99	2.0	25	7.0	18	20	16
2073	"	"	" " " " " DUF	27.78	39	102	3.0	27	8.0	22	22	14

ROGER POLTOCK GEOLOGICAL PTY. LTD.

CLIENT M.G. CREAMY
 PROJECT ELIOT/46
 PROSPECT JOHN LYNCH CREEK

SAMPLE RECORD AND ANALYTICAL DATA SHEET
 LABORATORY _____
 SAMPLE TYPE PAN CONCENTRATES - NATIVE METALS

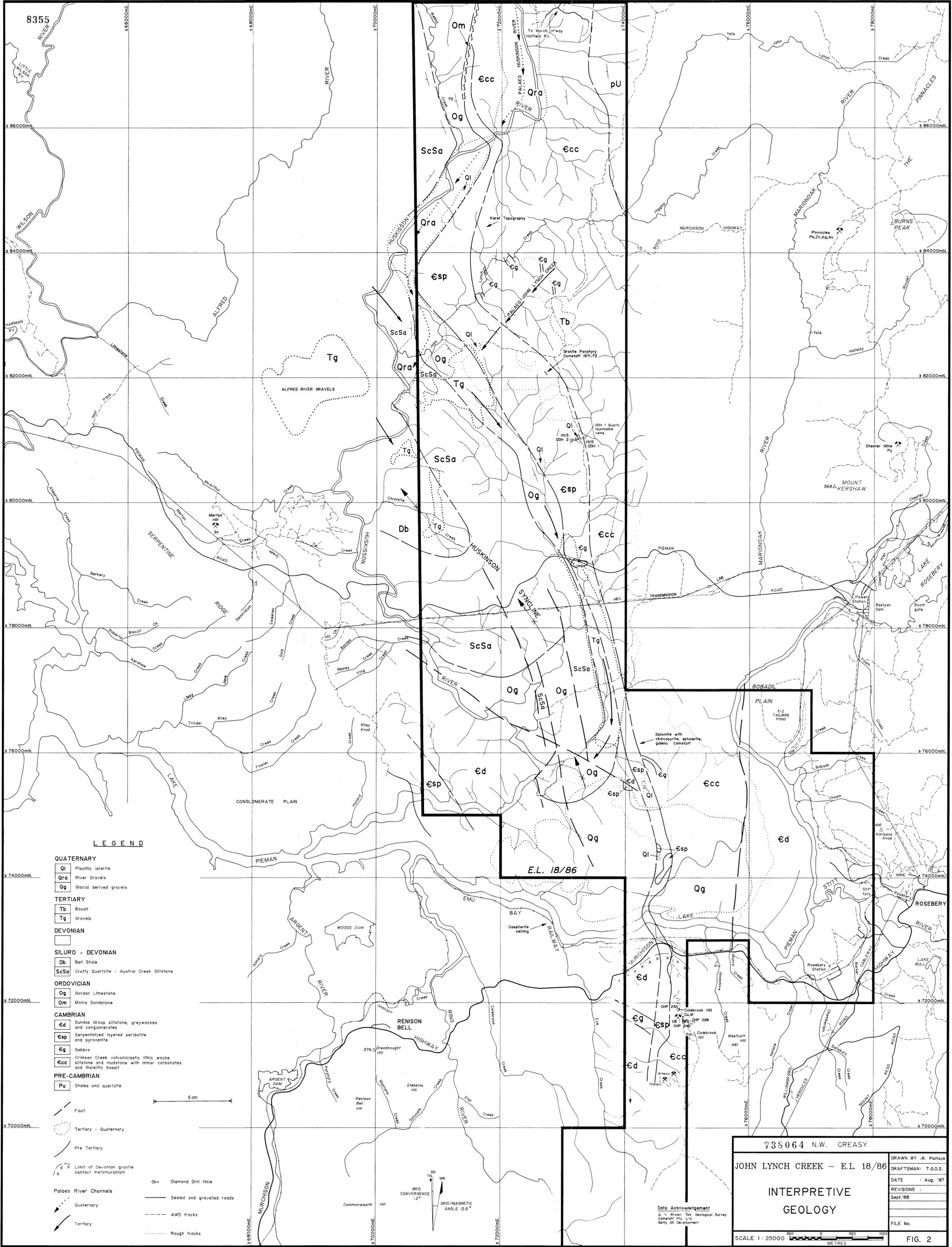
COLLECTED BY: M.G. CREAMY
 DATE DISPATCHED:
 DATE RECEIVED:

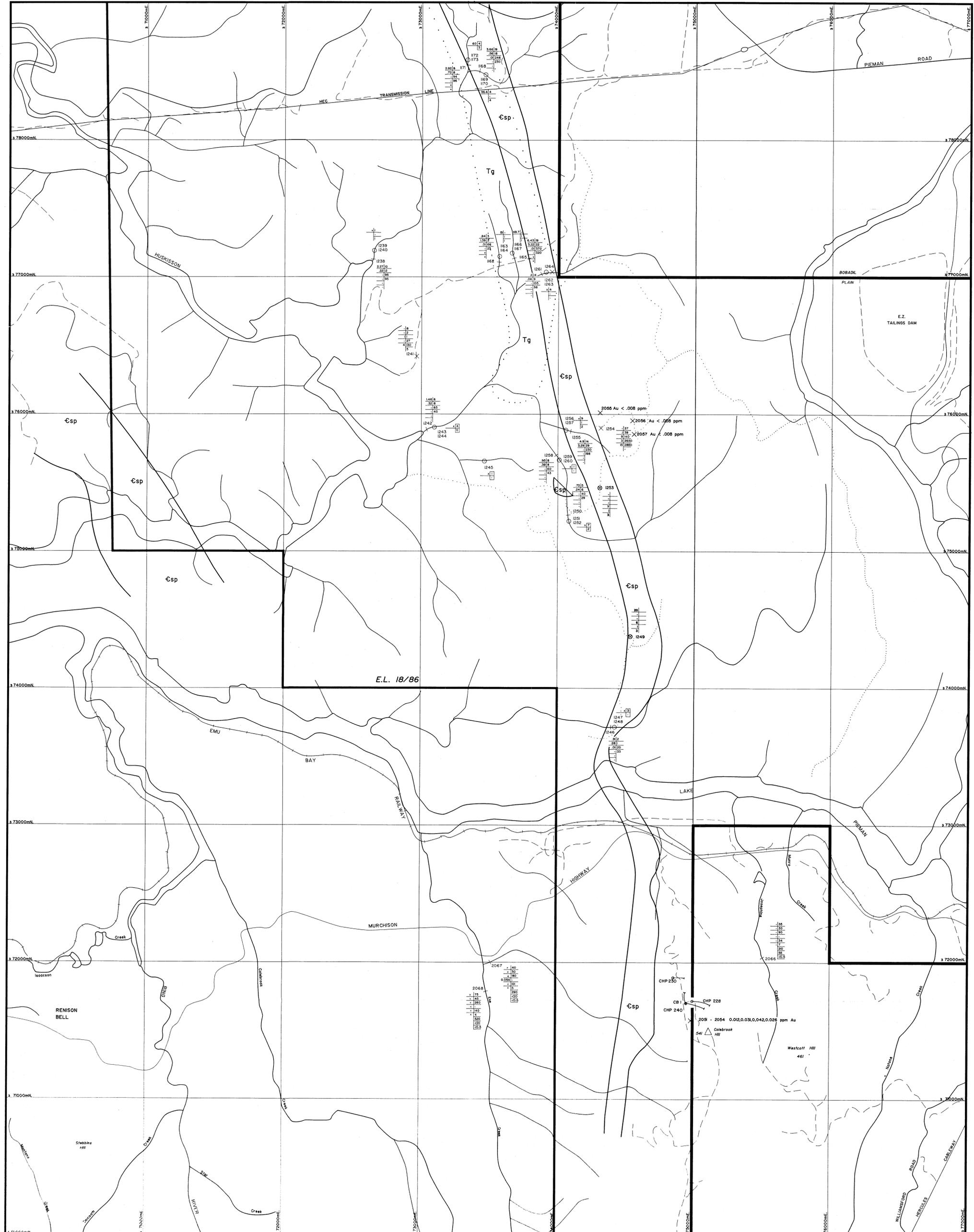
051190

A 28305

SAMPLE NUMBER	LOCATION	DESCRIPTION	ANALYSES											
2001		-												
2002		-												
2003		3 PGE												
2006		2 PGE												
2008		3 PGE + 2 Au												
2010		4 PGE + 2 Au												
2013		1 PGE												
2014		2 PGE												
2015		NATIVE LEAD + 100												
2019		" " " "												
2020		" " " "												
2021		" " " "												
2022		" " " 50												
2023		-												
2024		2 PGE												
2025		3 PGE + pyrite												

738062





E.L. 18/86

LEGEND

- Pleistocene, laterite, clay, consolidated gravels
- Panned concentrate
- Chromite residue
- RWH, 1958 stream sediment
- Diamond Drill Hole

STREAM SEDIMENTS:

- Cu 5% - 80 - 100 ppm - 100g
- Cu 5% - 100 - 200 ppm - 100g
- Au ppm - 100 - 200 ppm - 100g
- Pb ppm - 100 - 200 ppm - 100g
- Zn ppm - 100 - 200 ppm - 100g
- Ag ppm - 100 - 200 ppm - 100g
- As ppm - 100 - 200 ppm - 100g
- Co ppm - 100 - 200 ppm - 100g
- Cr ppm - 100 - 200 ppm - 100g
- Mn ppm - 100 - 200 ppm - 100g
- Ni ppm - 100 - 200 ppm - 100g
- Se ppm - 100 - 200 ppm - 100g
- Te ppm - 100 - 200 ppm - 100g
- U ppm - 100 - 200 ppm - 100g
- V ppm - 100 - 200 ppm - 100g
- W ppm - 100 - 200 ppm - 100g
- Y ppm - 100 - 200 ppm - 100g
- Zr ppm - 100 - 200 ppm - 100g

PANNED CONCENTRATES

- Cu 5% medium magnetic split (Au, grade of native element identified by micrograph)
- Fluorite
- Opal

ROCKS

- Au ppm - 100 - 200 ppm
- Ag ppm - 100 - 200 ppm
- Pb ppm - 100 - 200 ppm
- Zn ppm - 100 - 200 ppm
- As ppm - 100 - 200 ppm
- Co ppm - 100 - 200 ppm
- Cr ppm - 100 - 200 ppm
- Mn ppm - 100 - 200 ppm
- Ni ppm - 100 - 200 ppm
- Se ppm - 100 - 200 ppm
- Te ppm - 100 - 200 ppm
- U ppm - 100 - 200 ppm
- V ppm - 100 - 200 ppm
- W ppm - 100 - 200 ppm
- Y ppm - 100 - 200 ppm
- Zr ppm - 100 - 200 ppm

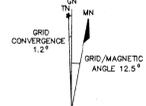
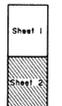
PISOLITIC LATERITES AND CLAYS

- Au ppm - 100 - 200 ppm
- Ag ppm - 100 - 200 ppm
- Pb ppm - 100 - 200 ppm
- Zn ppm - 100 - 200 ppm
- As ppm - 100 - 200 ppm
- Co ppm - 100 - 200 ppm
- Cr ppm - 100 - 200 ppm
- Mn ppm - 100 - 200 ppm
- Ni ppm - 100 - 200 ppm
- Se ppm - 100 - 200 ppm
- Te ppm - 100 - 200 ppm
- U ppm - 100 - 200 ppm
- V ppm - 100 - 200 ppm
- W ppm - 100 - 200 ppm
- Y ppm - 100 - 200 ppm
- Zr ppm - 100 - 200 ppm

Denotes below fraction (cell) per assay
 in grams of native element (not identified in panned concentrates).
 * Not Analyzed

5 cm

LOCATION



88-2858

738066 N.W. CREAMY	
JOHN LYNCH CREEK - E.L. 18/86	
SHEET 2	
SAMPLE LOCATIONS	
DRAWN BY: R. Pollock	DRAFTSMAN: T.G.D.S.
DATE: Aug. 1987	REVISIONS:
Sept. '88	
FILE No.	
SCALE 1:10000	FIG. 4b