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90-3183

E.L.18/86

OPEN FILE

Refer to letter
23.9.90

PROJECT NAME : JOHN LYNCH CREEK

NATURE OF REPORT : ANNUAL

PERIOD COVERED : 28 OCTOBER 1989 -
27 OCTOBER 1990

TENEMENT : EXPLORATION LICENCE
18/86

TENEMENT HOLDER : M.G. CREASY
8 LUTH AVENUE
DAGLISH WA 6008

OPERATOR : M.G. CREASY

AUTHOR OF REPORT : M.G. CREASY

DATE OF REPORT : SEPTEMBER 1990

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1.	Soil Geochemistry
2.	Rock Chip Geochemistry
3.	Stream Sediment Geochemistry

1. SUMMARY AND CONCLUSIONS

1) Lynch Hill platinum anomaly

Further work in this area failed to locate any hard rock mineralisation.

The source of the platinum soil anomaly defined by soil sampling is still unknown.

ii) Osmiridium stream sediment anomalous area

Extensive soil sampling by panning in the provenance area of the anomalous creeks showed that osmiridium particles are widely present in soils.

iii) Gold exploration

A preliminary investigation was carried out in the southern part of the licence in the vicinity of the fault system that further to the north-west is associated with the Merton Hill tin/silver/base metals mineralisation.

The samples taken indicate a possible gold anomalous zone.

2. EXPLORATION PROGRAM FOR 1990/1991

a) Lynch Hill platinum anomaly : further soil and rock chip sampling.

b) Merton Hill fault system : comprehensive stream sediment sampling program.

3. INTRODUCTION

This report details exploration on E.L. 18/86 for the 1989/90 licence year. Work included soil and rock geochemistry on the Huskisson River Ultramafic at Lynch Hill, soil sampling near Comstaff's Diamond drill sites and stream sediment sampling south of the Pieman Dam road.

Access to the main body of the ultramafic has been improved with the construction of an all weather logging road by Associated Forest Holdings from Boco on the Murchison highway to Lynch Hill and thence into the valley of the Tributary Creek.

4. 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.

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 Meredith granite.

Presently, there are two exploration targets :

- a) platinoids and gold in the ultramafic, and
- b) gold associated with the Merton Hill fault system in Ordovician sediments.

A similar geological setting to the above hosts the extensive gold mineralisation of the Tasmania mine at Beaconsfield.

5. DESCRIPTION OF THE PROPERTY AND OWNERSHIP

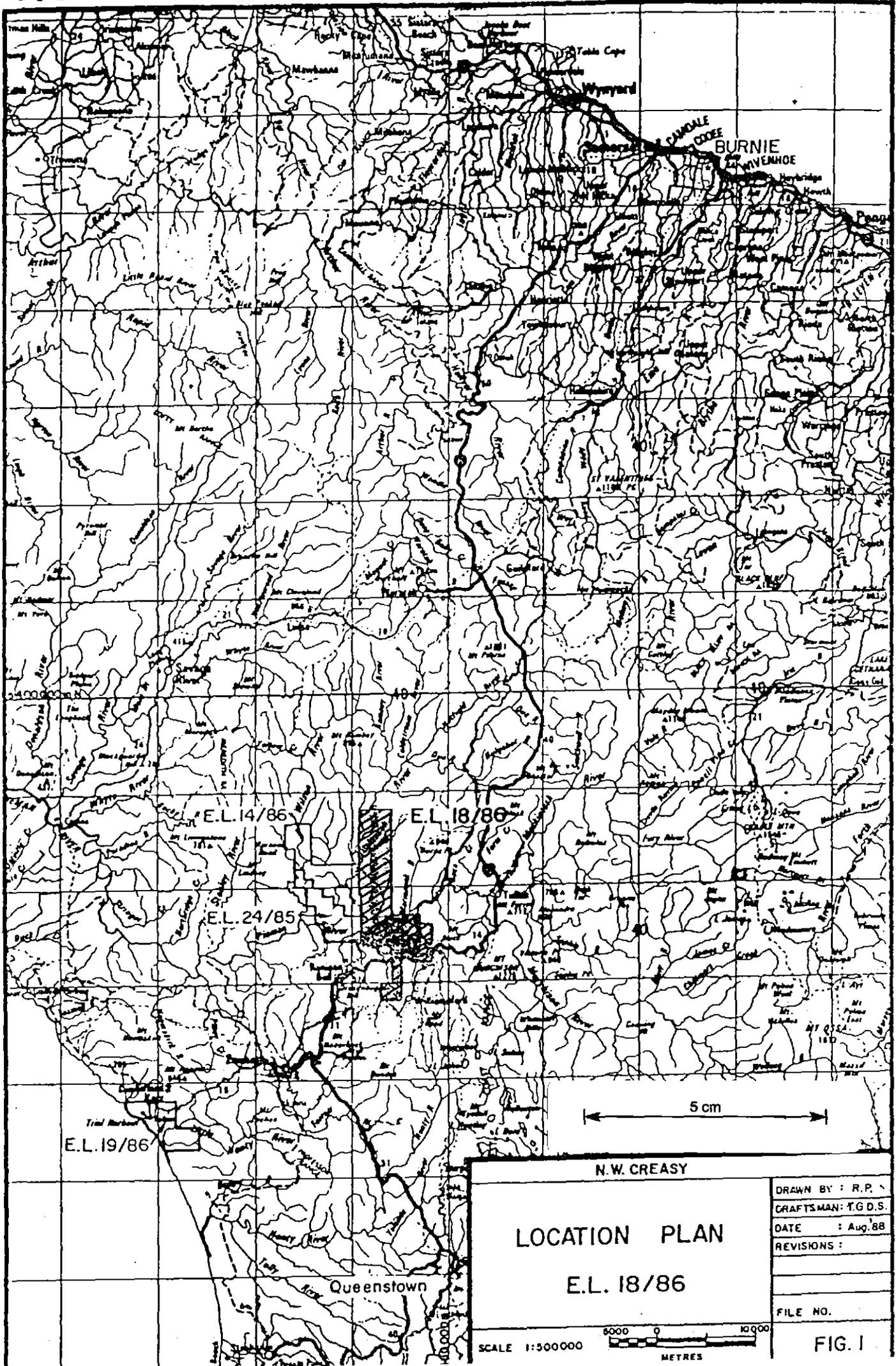
E.L. 18/86 was granted to N.W. Creasy on 27.10.1986, an area of 62 kms. During the second year the licence boundaries were adjusted by the Mines Department so as to conform to the AMG kilometre grid, thereby increasing the area to 63 kms, and the E.L. was transferred to M.G. Creasy.

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.

6. LOCATION AND ACCESS Fig. 1

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 1800 mm per year and supports a 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.



N.W. CREASY	
LOCATION PLAN	
E.L. 18/86	
DRAWN BY : R.P.	CRAFTSMAN: T.G.D.S.
DATE : Aug. 88	REVISIONS :
FILE NO.	FIG. I

SCALE 1:500000

6000 0 10000 METRES

Gridding requires line cutting which in some areas progresses at less than 500 m 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 valleys of John Lynch Creek and the Tributary Creek. The southern part of the licence can be accessed from the Murchison Highway between Rosebery and Renison Bell.

7. 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) detailed 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 accessible.

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

- tin tungsten copper granitoid related mineralisation.
- 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 mineralisation 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 and 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 200 m.
- D.D.H. Hus 2 target asbestos, depth 200 m.

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.

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Broken Hill Co Pty 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 mineralisation was located.

The following is a summary of work conducted by M.G. Creasy in the 1986/87, 1987/88 and 1988/89 seasons and conclusions drawn from that data.

Work in the 1986/87 season comprised:

- literature search;
- regional stream sediment and panned concentrate sampling;
- sampling mineralised and altered lithologies and laterites;
- relogging Comstaff diamond drill hold HUS 2.

Conclusions drawn from this work were :

- stream sediment sampling defined a platinum anomaly on the Huskisson River Ultramafic SW of Lynch Hill;
- panned concentrates and regional mapping outlined extensive Tertiary alluvials which were shedding anomalous levels of chromite, cassiterite, gold and platinoids in the Tributary and Chromite Creek drainages;
- Huskisson River Ultramafic and flanking structures and sediments were not anomalous in gold.

Work in the 1987/88 season comprised :

- detailed stream geochemistry on the Lynch Hill platinum anomaly;
- stream sediment sampling Cambrian sediments in the NE corner of the licence, investigating anomalous gold occurrences previously reported by Getty Oil;
- rock chip geochemistry in the South Pieman area investigating base metal occurrences reported by Constaff;
- literature search and reconnaissance rock geochemistry at Colebrook Hill.

Conclusions drawn from this work were :

- confirmation of the stream platinum anomaly at Lynch Hill;
- gold and base metal occurrences previously reported by Getty and Comstaff could not be confirmed;
- Colebrook Hill skarns are only associated with geochemical levels of gold.

Work in the 1988/89 season comprised :

- soil sampling traverse at Lynch Hill;
- joint venture partners Callina NL and potential joint venture partners, Delta Gold reviewed data and carried out brief field investigations, Callina's interest being in the alluvials in Tributary and Chromite Creeks and Delta's interests platinoids and gold in ultramafics and adjacent sediments.

Conclusions drawn from this work were :

- soil sampling located a 150 metre wide zone within the ultramafic with values up to 0.17 ppm platinum.
- Callina NL and Delta : nil.

8. GEOLOGY AND MINERALISATION 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, outcopping 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 mineralisation 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 subdivided the ultramafic into two main rock types, a layered pyroxenite dunite south of John Lynch Creek and a layered dunite harzburgite north of the 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 serpentinitised dunite, pyroxenite and peridotites.

Layering in the ultramafic 1 km 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 fluvioglacial 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 overlies the ultramafic in most locations.

This late Cambrian paeleo depositional environment would be ideal for the formation of fossil placers of chromite and platinoids in localised 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 mineralisation. 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.

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 Department 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;
- recrystallised 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 mineralisation.

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 north and west.

The Tertiary 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.

Fluvioglacials are confined to the lower parts of the Pieman valley. These deposits consist of varied 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 laterisation has occurred later than the Tertiary.

9. WORK CARRIED OUT

1. Lynch Hill platinum anomaly figures 2,3 and Appendices 1 and 2

The 1225 metre long traverse completed in the previous year was resampled at 10 metre intervals between the 650 and 820 metres marks.

Soil samples were collected from the entire soil profile from surface to weathered bedrock a depth not exceeding 0.8 m.

The samples were dried, sieved to -150 mesh and analysed by Analabs for Pt/Pd by method 311 fire assay with nickel sulfide as the collection medium.

Pulps from four samples were retrieved and reanalysed by Genalysis for all platinum group elements, Cr and Fe.

- II -

Composite samples over 25 metres weighing about 10kg were taken between the 525 and 900 metre marks, carted to water, panned off and the number of platinoids visible in the concentrate noted. A spot sample from the 710 metre mark was also collected and processed as above.

Four rock chips samples 1701 - 1704 from this location and a further seven 1708, 1712 ~~1712~~ 1717 from an area 150 metre to the north were collected and submitted to Genalysis for assay of Au, all platinum group elements Cr and Fe.

Samples 1708, 1712 - 1717 were a more or less continuous channel sample from rock outcropping in a cutting along a new road just constructed in the area by Associated Forests.

The results of the reassay of pulps show poor correlation of values.

No significant values were obtained from the rock chip samples.

The source of the anomalous platinum values in soils and visible platinoids in pan concentrates is yet to be determined.

2. Osmiridium stream sediment anomalous area.
Fig 2, Appendix 2

Streams draining west and east of the old Comstaff Diamond drill sites contain abundant osmiridium.

Numerous soil samples in this area were collected and panned off in an attempt to track back to a specific source. Visible 'colours' of osmiridium were observed in virtually all samples but never more than one or two. No area of enrichment over background was discovered.

Three grab samples from rock outcrops in this area 1733 - 1735 were analysed for all platinum group elements Cr and Fe with no significant result.

3. Stream sediment sampling south of Pieman Dam Road
Figure 3, Appendix 4

Four streams were sampled.

At each site a 10kg sample was collected and panned off. The number of gold 'colours' in the concentrate was noted.

A + 2kg sample of the finest material available, if possible, taken from a mid channel position, was obtained and submitted to Analabs. The samples were sieved to -200 mesh fired to remove any organic matter and analysed for gold.

Since only four sites were tested there is not really enough data to draw any firm conclusions. However, two sites reported elevated gold ~~volumes~~ values

10. REFERENCES

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439015

TO JOHN LYNCH CREEK

014

1717
1716
1708
1712
1713
1715

NEW ROAD

1149.150
2382

END OF TRAVERSE

1701-1704

2334 START OF TRAVERSE

Csp

382000m

1222
1223

1221
1226
1226

1224

1308

1306
1307

1219
1220

1218

1304
1305

1228
1229

1227
1236
1237

1309

381000 mN

1216
1217

1215

Quartz
Tourmaline
veins

HUS
DOH 2

1302

1231
1232

1230

1234

1301

FIGURE 2

SAMPLE LOCATIONS
LYNCH HILL PLATINUM ANOMALY
SCALE 1:10,000.

5 cm

1733-1735
numerous panned
concentrates
(no specific records
retained)

1126

1211

1209
1210

1213
1214

1212

1206

1206
1207

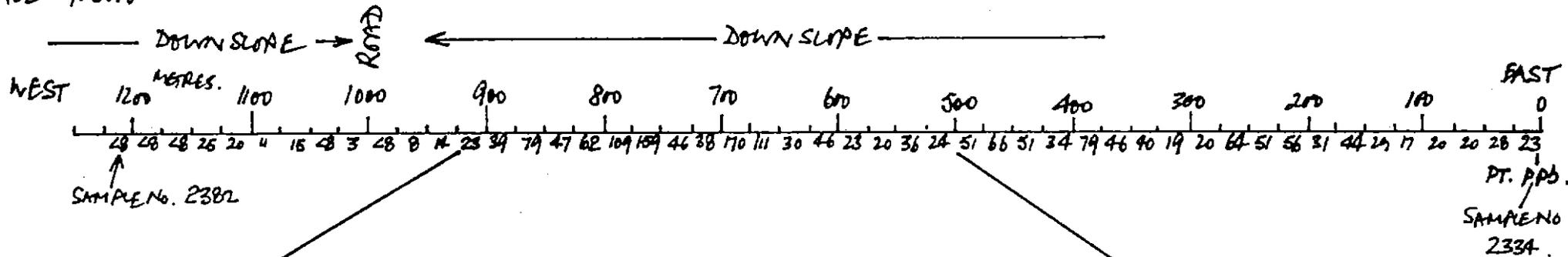
1208

1314
1315

372000ME

73000 ME

SCALE 1:500



SCALE 1:1500

EST 900 METRES	875	850	825	800	775	750	725	700	675	650	625	600	575	550	525	500	EAST
X	X	2	5	9	3	2	8	3	9	9	1	2	2	1	PANNING No. of PLATINOIDS Visible in GMC.		
39	79	47	62	109	159	46	38	170	111	30	46	23	20	36	P.C. P.P.S. SOILS COMPOSITE OVER 25 METRES ANALYSIS -150#		
82 60 215 83 89 87 73 36 24 65 41 218 78 268 191 50 157 135															P.C. P.P.S. SOILS EVERY 10 METRES ANALYSIS -150#		
70 90 44 46															P.C. P.P.S. GEOCHEMICAL ANALYSIS OF PULPS.		
SAMPLE No. 1704 1703 1702 1701															P.C. P.P.S. ROCKS GEOCHEMICAL ANALYSIS		

FIGURE 3. TRAVERSE AT LYNCH HILL PLATINUM ANOMALY. SITES AND RESULTS.

016

439017

71000mE

72000mE

78000mN

1743

2
①

1722

2
⊖

1721 10

①

1719

21
⑥

FIGURE 3
SCALE 1:10,000
SAMPLE LOCATIONS AND RESULTS
GOLD STREAM SEDIMENTS.

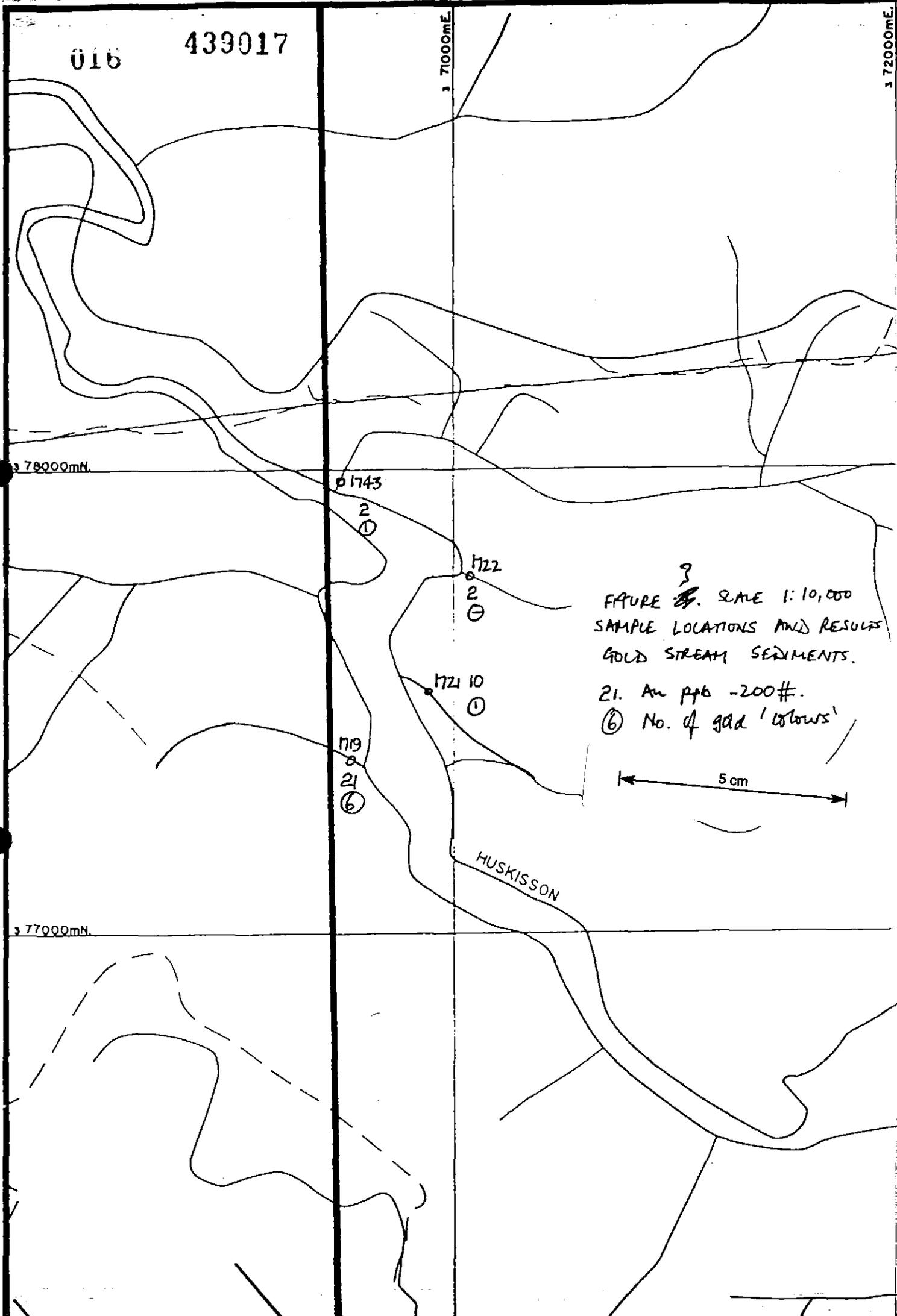
21. Au ppb -200#.

⑥ No. of gold 'lobes'

5 cm

HUSKISSON

77000mN



017

439018

APPENDIX 1

SOIL GEOCHEMISTRY

CLIENT M A CREST
 PROJECT EL 12/86
 PROSPECT LUNCH HILL

SAMPLE RECORD AND ANALYTICAL DATA SHEET

LABORATORY ANALABS
 SAMPLE TYPE SOIL

COLLECTED BY: R Pollock
 DATE DISPATCHED: 13-12-89
 DATE RECEIVED:

SAMPLE NUMBER	LOCATION	DESCRIPTION	ANALYSES				General analysis results	
			PC PAB	PC PAB	wt of pulp left after analysis gms.	PC PAB	PC PAB	
2383	650m	0.2m A-C horizon cream - pprox	135	2	-			
2384	660	0.3m B " " sep / pprox	157	3	-			
2385	670	0.3m B brn pprox	50	1	-			
2386	680	0.2m B-C dk red brn pprox-sep	191	3	-			
2387	670	0.2m B-C sep ofc	208	4	-			
2388	700	0.3m B latic	78	2	75.43	46	4	
2389	710	0.2m B cin brn	228	4	46.96	44	2	
2390	720	0.3m B " " - n.a.p.	41	2	-			
2391	730	0.2m A-B dk brn sep ofc	65	2	45.54			
2392	740	0.2m A-C " " sep / pprox ofc	54	2	59.18	90	2	
2393	750	0.2m A-C " " sep / dumble ofc	36	1	-			
2394	760	0.2m A-C " " sep ofc	73	4	-			
2395	770	0.2m B-C " " "	87	6	21.51			
2396	780	0.2m " " " "	89	4	22.13			
2397	790	0.2m " " " "	83	3	36.23	70	20	
2398	800	0.3m " " cream brn sep pprox ofc	215	4	-			
2399	810	0.3m " " red brn " "	60	2	-			
2400	820	0.2m " " " "	82	3	23.42			

ANALABS

Agents of MacDonald Hamilton & Co. Pty. Ltd.
52 Murray Road, Welshpool, W.A. 6106

Phone (09) 458 7999

Telex AA92560

ANALYTICAL REPORT No. 999.33.08.06730

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

18719

DATE RECEIVED

RESULTS REQUIRED

14/12/89

ASAP

No. OF PAGES OF RESULTS

DATE REPORTED

No. OF COPIES

TOTAL No. OF SAMPLES

1

23/01/90

1

18

STATE OF SAMPLES	SAMPLE NUMBERS	PRE-TREATMENT							OTHER REMARKS	ANALYSIS	REFER TO ANALYSIS SECTION	PREPARATION	METHOD
		DRY	CRUSH	SPLIT	PUR-VERSE	SEIVE	NONE						
	2383/2400	SG	Prep: 001,016							Pt, Pd/311			

RESULTS TO

M.G. 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	perchloric acid	atomic absorption
split core	hydrochloric acid	X-ray fluorescence
split core	nitric acid	spectrophotometry
split core	acetic acid	colorimetry
split core	nitro-perchloric	chromatography
split core	perchloric	titration
split core	hydrochloric	other chemical means
split core	nitric	miscellaneous
split core	perchloric	fluorescence
split core	hydrochloric	inductively coupled plasma

ANALABS

A Division of Incharge Inspection and Testing Services Australia Pty Ltd.

439021

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

999.33.08.06730

23/01/90

19719

1 OF 1

TUBE No.	SAMPLE No.	Pd	Pt						
1	2383	0.002	0.135						
2	2384	0.003	0.157						
3	2385	0.001	0.050						
4	2386	0.003	0.191						
5	2387	<0.001	0.208						
6	2388	0.002	0.078						
7	2389	<0.001	0.228						
8	2390	0.002	0.041						
9	2391	0.002	0.065						
10	2392	0.002	0.054						
11	2393	0.001	0.033						
12	2394	0.004	0.073						
13	2395	0.006	0.087						
14	2396	0.004	0.089						
15	2397	0.003	0.083						
16	2398	<0.001	0.215						
17	2399	0.002	0.060						
18	2400	0.003	0.082						
19									
20									
21									
22									
23	DETECTION	0.001	0.008						
24	UNITS	ppm	ppm						
25	METHOD	311	311						

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

AUTHORISED OFFICER

021

439022

GENALYSIS LABORATORY SERVICES PTY. LTD.

LABORATORY REPORT

17 DAVISON ST. MADDINGTON, W.A. 6109. P.O. BOX 144 GOSNELLS W.A. 6110
TELEPHONE (09) 459 9011, 459 2272. TELEX: GLS 96166.
FAX: (09) 459 5343.

KALGOORLIE SAMPLE PREPARATION DIVISION 12 KEOGH WAY KALGOORLIE W.A. 6430
P.O. BOX 388 KALGOORLIE W.A. 6430 TELEPHONE (090) 21 2881.
FAX: (090) 21 3476.

JOB INFORMATION

JOB CODE : 202.0/900439
NO. SAMPLES : 4
ELEMENTS : 9
CLIENT O/N : LETTER
DATE RECEIVED : 14/02/90
DATE COMPLETED : 21/02/90

LEGEND

'X' = LESS THAN DETECTION LIMIT
'N/L' = SAMPLE NOT RECEIVED
'*' = RESULTS CHECKED
'()' = RESULTS STILL TO COME
'I/S' = INSUFFICIENT SAMPLE FOR ANALYSIS
'E6' = RESULT x 1,000,000

COMMENTS : ATTENTION :
COMMENTS : PULP.....

PLEASE NOTE :

COARSE REJECTS AND PULPS WILL BE STORED FOR 60 DAYS WITHOUT CHARGE. AFTER THIS TIME ALL COARSE REJECTS AND PULPS WILL BE STORED AT A RATE OF \$1.20/cubic metre/day UNTIL YOUR WRITTEN ADVICE REGARDING COLLECTION OR DISPOSAL IS RECEIVED. EXPENSES RELATED TO THE RETURN OR DISPOSAL OF SAMPLES WILL BE CHARGED TO YOU AT COST.

SAMPLE PREPARATION DETAILS

SAMPLE STATE(S) & SAMPLE PREPARATION(S)

(0.07Kg)DR,FP
Zr-BOWL

Abbreviations used for Preparation codes :

CP : Course Pulverise	CR : Crush	DR : Dry
CUT : Diamond Saw Cut	FP : Fine Pulverise	HM : Hammer Mill
SSNG : Single Stage Mix & Grind	MS : Mix & Split	O : Other
NR : Not Required	QTZ : Quartz Clean Between	COMPS : Composite
2X : Two Splits		

Abbreviations used for Sample States :

CONC : Concentrates	COST : Costeans	CRJCT : Coarse Rejects
D/CHIP: Drill Chip	D/CORE: Drill Core	D/CUT : Drill Cuttings
HMC : Heavy Mineral Concentrates	PERC : Percussion Chip	PIGLIT: Pisolite
RC : Reverse Circulation	R/CHIP: Rock Chip	SOLM : Solutions
SOLM : Solutions	STRSED: Stream Sediments	UNSPEC: Unspecified
V/CHIP: Vacuum Chip	V/DRIL: Vacuum Drill	XCRJCT: Ex Coarse Rejects

APPENDIX 2

ROCK CHIP GEOCHEMISTRY

025

GENALYSIS LABORATORY SERVICES PTY. LTD.

LABORATORY REPORT

17 DAVISON ST. MADDINGTON, W.A. 6109. P.O. BOX 144 GOSNELLS W.A. 6110
 TELEPHONE (09) 459 9011, 459 2272. TELEX: GLS 96166.
 FAX: (09) 459 5343.

KALGOORLIE SAMPLE PREPARATION DIVISION 12 KEOGH WAY KALGOORLIE W.A. 6430
 P.O. BOX 388 KALGOORLIE W.A. 6430 TELEPHONE (090) 21 2881.
 FAX: (090) 21 3476.

JOB INFORMATION

JOB CODE : 202.0/901195
 NO. SAMPLES : 14
 ELEMENTS : 9
 CLIENT O/N : LETTER
 DATE RECEIVED : 04/04/90
 DATE COMPLETED : 30/04/90

LEGEND

'X' = LESS THAN DETECTION LIMIT
 'N/L' = SAMPLE NOT RECEIVED
 '*' = RESULTS CHECKED
 '()' = RESULTS STILL TO COME
 'I/S' = INSUFFICIENT SAMPLE FOR ANALYSIS
 'E6' = RESULT x 1,000,000

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

PLEASE NOTE:

COARSE REJECTS AND PULPS WILL BE STORED FOR 60 DAYS WITHOUT CHARGE. AFTER THIS TIME ALL COARSE REJECTS AND PULPS WILL BE STORED AT A RATE OF \$1.20/cubic metre/day UNTIL YOUR WRITTEN ADVICE REGARDING COLLECTION OR DISPOSAL IS RECEIVED. EXPENSES RELATED TO THE RETURN OR DISPOSAL OF SAMPLES WILL BE CHARGED TO YOU AT COST.

SAMPLE PREPARATION DETAILS

SAMPLE STATE(S) & SAMPLE PREPARATION(S)

(2.506g)DR, CR
(0.10Kg)MS, WC:SSMG

Abbreviations used for Preparation codes :

CP	: Course Pulverise	CR	: Crush	DR	: Dry
CUT	: Diamond Saw Cut	FP	: Fine Pulverise	HM	: Hammer Mill
SSMG	: Single Stage Mix & Grind	MS	: Mix & Split	O	: Other
NR	: Not Required	QTZ	: Quartz Clean Between	COMPS	: Composite
ZK	: Two Splits				

Abbreviations used for Sample States :

CONC	: Concentrates	COST	: Costeans	CRJCT	: Coarse Rejects
D/CHIP	: Drill Chip	D/CORE	: Drill Core	D/CUT	: Drill Cuttings
HMC	: Heavy Mineral Concentrates	PERC	: Percussion Chip	PISLIT	: Pisolite
RC	: Reverse Circulation	R/CHIP	: Rock Chip	SOLM	: Solutions
SOLM	: Solutions	STRSED	: Stream Sediments	UNSPEC	: Unspecified
V/CHIP	: Vacuum Chip	V/DRIL	: Vacuum Drill	XCRJCT	: Ex Coarse Rejects

APPENDIX 3

STREAM SEDIMENT GEOCHEMISTRY

ANALABS

Phone (09) 458 7999

32 Murray Road, Welshpool, W.A. 6105

Telex AA92560

ANALYTICAL REPORT No 999.10.08.06991

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

ORDER No.

PROJECT

029
 M.G. Creasy
 8 Luth Avenue
 Daglish
 Perth W.A. 6008

DATE RECEIVED

RESULTS REQUIRED

03/04/90

ASAP

No. OF PAGES OF RESULTS

DATE REPORTED

No. OF COPIES

TOTAL No. OF SAMPLES

2

19/04/90

1

26

STATE OF SAMPLES	SAMPLE NUMBERS	PRE-TREATMENT							ANALYSIS			
		DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	REFER TO ANALYSIS SECTION	PREPARATION	METHOD	
	1705, 1706	PU	Prep: 005,007							Wght/199		
	K17, 18/22, 24/32, 36/44, 53	PU	Prep: 005,007							LB1/615		
	K17, 18/22, 24/32, 36/44, 53	PU								Au, AuChk/326		
	K17, 18/22, 24/32, 36/44, 53	PU	Prep: 005,007							WGHT/199		

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	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
soil	nitric-perchloric A5	chromatography CHR
slip	HF mixture A6	titration ITN
sludge	HF under pressure A7	other chemical means CHEM
slime	fusion A8	miscellaneous MISC
stream sediment		fluorescence FLUOR
heavy metal		inductively coupled plasma ICP

AUTHORISED OFFICER

ANALABS

A Division of Incharge Inspection and Testing Services Australia Pty Ltd.

ANALYTICAL DATA

SAMPLE PREFIX		REPORT NUMBER				REPORT DATE	CLIENT ORDER No.			PAGE
		999.10.08.06951				19/04/90				1 OF 2
TUBE No.	SAMPLE No.	Au	AuChk	LOI	Wght	WGHT				
1										
2										
3										
4	1719	0.021	-	8.74	-	22.96				
5										
6	1721	0.010	-	9.89	-	90.33				
7	1722	0.002	-	10.52	-	105.46				
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24	1743	0.002	-	9.34	-	69.56				
25						42				

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

AUTHORISED OFFICER



031

ANALABS

439032

A Division of Incharge Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

999.10.08.06991

19/04/90

2 OF 2

TUBE No.	SAMPLE No.	Au	AuChk	LBI	Wght	WGHT				
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	0.001	0.001	0.01	0.01	0.01				
24	UNITS	ppm	ppm	%	gms	gms				
25	METHOD	326	326	615	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

AUTHORISED OFFICER