CALLINA N.L.
MINING & EXPLORATION

TECHNICAL REPORT

WILSON RIVER. N.W. TASMANIA
1986

000

CALLINA N.L.
MINING & EXPLORATION

953002

FIRST FLOOR, 100 MILL POINT ROAD
SOUTH PERTH, W.A. 6151
TELEPHONE: 474 1505 474 1644
TELEX: AA 96221, FAX: 368 2197

REPORT ON TASMANIAN PROSPECT

1. INTRODUCTION

During the period covered in this Report, the Company's major exploration activity focused on its Tasmanian platinum group element (P.G.E.) prospects at the WILSON RIVER north of ROSEBERY. Callina N.L. has an 80% interest in E.L. 24/85. The licence is 22 square km. in area and includes deposits formerly worked for alluvial gold and osmiridium. This report relates only to the Company's activity on that prospect.

2. GEOLOGY

Geological interest centres on an ultramafic instrusive complex of dunite-harzburgite which occurs topographically as a long, north-south trending ridge ("Serpentinite Ridge"). Records indicate that coarse and fine grained osmiridium and gold were formerly mined from shallow adits excavated in fault related shear zones at several locations within the lease. However, most former mining activity centred on an extensive surficial detrital unit which is best preserved on west facing slopes of SERPENTINITE RIDGE. A series of sub-parallel, west flowing creeks, have incised into this detrital unit and alluvial workings occur mainly along them.

The detrital unit appears to have originated as a deep soil cover developed over the ultramafics. This soil was subsequently lateritised, eroded from the ridge crest and redeposited along the lower flanks. An area of lateritic hardcap is preserved in the catchment of RILEY'S CREEK, and an extensive cover of pisolitic gravel occurs on the ridge's western flanks. An area of approximately 3 kilometres square of laterite covered slopes was selected for preliminary bulk sampling because of its accessibility and because extensive alluvial workings occurred along RILEY'S and LIPPY JANE CREEKS.

3. SAMPLING & ASSAY PROCEDURES

Nine costeans were dug using an excavator (capacity: 1 cubic metre, reach: 6 metres). Sites were selected to test both creek-beds and slope materials. Where possible samples of approximately 0.5 cubic metres were taken at one metre vertical intervals. In creek-beds depth to weathered bedrock was found to vary from 2 to more than 5 metres. On

slope sites bedrock was not reached using the excavator but subsequent tests using a power auger and portable percussion drill showed that depths ranged from 7.5 metres on the lower slopes,to 14.5 metres at the top of the spur dividing LIPPY JANE and RILEY'S CREEKS. Surface hardcap and loose pisolitic gravel range in depth from 0.75 to 2.0 metres.

A mobile (wet gravity) concentrator was used to process bulk samples on site.

Some difficulty was experienced in dispersing sandy clays which tended to "ball" in the trommel. Also coarse grained osmiridium has a tendency to hang in the plant causing contamination of subsequent samples. Only a minor proportion of the available chromite was extracted during bulk sampling as the small sampling jig was adjusted principally to extract gold and osmiridium metal. The total heavy mineral fraction (greater than 3.9 s.g.) is estimated to have varied from 10% to 20% of bulk materials. In lateritic gravels this proportion of H.M.F. is probably higher and crushing of oversize would increase the proportion of fines recovered. Thirty-six heavy mineral concentrates, each weighing about 5 kgs., were returned to Perth for analysis.

All visible gold and osmiridium metal was removed from concentrates by careful hand panning.

The heavy mineral concentrates were then agitated and washed through a 75 micron sieve. Fines so produced were dried prior to weighing and prepared for mineralogical and chemical analysis. Dried and deslimed concentrates were split at 500 microns producing coarse and fine sand size fractions. These were magnetically separated into high, medium and low magnetic products.

Size and magnetic products were sub-sampled (200 gms.) and analysed for platinum group elements (Pt, Pd, Rh, Ru, Os, Ir), gold and silver. Thirty of these sub-samples were also submitted for assay of chrome-iron ratios. Mineralogical examination of rock samples and composite concentrates of heavy minerals was undertaken by means of optical and scanning electron microscopes.

RESULTS

1. Colloidal gold particles (approximately 2 x 2 microns) were abundant in all slime fractions (less than 75 microns) optically examined. The largest particle observed under the scanning electron microscope was 6 x 5 microns. Particles of this size would not be visible to the naked eye and concentration by jigging is not likely to have occurred.

   Gold assays of 30 slime fractions washed from

concentrates range from a low of 0.03 ppm to a high of 9.63 ppm with an average of 1.08 ppm.

2. The quantity of osmiridium metal recovered from bulk samples ranged from trace amounts to 0.42 gms per cubic metre. Samples taken in alluvial workings at RILEY'S CREEK contained the most metal including grains up to 2mm x 2mm in size. More significant perhaps were values up to 0.22 gms per cubic metre recovered from the extensive detrital unit, upslope of creek workings.

3. Chrome/iron ratios indicate consistently high chrome values in the bulk of chromite present (mean value = 57.16% of 12 moderately magnetic fractions). Composition of chromite determined by electron microprobe analysis of 40 randomly selected grains in the fine sand size, moderately magnetic product, averaged 69.70% Cr203. The moderately magnetic product constitutes 47.8% of the total heavy mineral fraction sampled.

4. The low magnetic product represents 25% of the heavy mineral concentrates sampled. While high P.G.E. values occur sporadically in the medium magnetic product, such values are consistently high in the low magnetic product, especially in the finer sand fractions (-500um).

Iridium values range from a mean of 2.85 ppm (6 samples: range 1.30 ppm to 5.70 ppm) at LIPPY JANE Site 1, to a mean of 5.28 ppm (7 samples: range 1.60 ppm to 13.0 ppm) at LIPPY JANE Site 2. At LIPPY JANE Site 3, where depth of profile was tested to 7.5 metres, iridium recorded a mean of 10.75 ppm (8 samples: range 1.00 ppm to 35.0 ppm). Iridium values at the RILEY'S CREEK sites (1.2 km south) are higher with a mean of 14.05 ppm (10 samples: range 3.1 ppm to 28.0 ppm). Sixteen comparative assays of Iridium : Osmium indicate that these metals occur within the chromite approximately in a one to one ratio. Ruthenium values in the low magnetics ranged from a mean of 1.17 ppm in the 21 LIPPY JANE samples to an average of 2.62 ppm in the 10 RILEY'S CREEK samples. Similarly, platinum averages ranged from 0.45 ppm to 1.07 ppm.

Total platinoids contained in the low magnetic product range therefore from approximately 7.5 ppm in the LIPPY JANE samples to 32 ppm in the samples from RILEY'S CREEK.

Probe analysis has indicated that iridium/osmium values are related to discrete inclusions of these metals within chromite grains. This is important, since it implies that release may be achieved by grinding.

003

One concentrate sample returned iridium values of 7.00%, ruthenium 1.4% and platinum values of 2.7 ppm. In view of the unusually high values obtained in this sample it has been omitted from calculations of averages. Chromites which occur in this area are known to occasionally release abundant osmiridium after grinding.

DISCUSSION

1. The areal extent and thickness of the chromite, osmiridium and gold bearing materials, indicate the possibility of a major resource. The lateritised detrital unit is known to occur over an area of at least 3 km square. Its depth at sites tested ranged from 2 to 14 metres.

2. Concentrates from lateritised and clay-sand components returned high chrome, iridium, osmium, values with lesser ruthenium and platinum values. The high grade chromites and P.G.E. bearing low magnetic products are easily concentrated and separated as shown by testing.

3. Abundant colloidal (i.e. clay-size) gold particles have been observed in slime fractions of samples collected from sites over one kilometre apart. The average assay value of this fraction was 1.08 ppm, which may be significant considering the volume of clays present in the bulk material.

4. The high P.G.E. values in low magnetic chromites at RILEY'S CREEK raises the issue of "hard rock" exploration. It is clearly desirable that some drilling of shear-zone targets be budgeted for in 1986-87.

PROPOSED EXPLORATION 1986-87

The Directors believe that results of the preliminary programme are very encouraging. They have determined that Callina will spend the necessary funds to conduct a systemic sampling programme at RILEY'S CREEK during the coming field season. As part of this programme a wet gravity plant will be installed with a view to producing bulk concentrates for further evaluative tests.

The Board believe that the Company's main objective is to prove an alluvial reserve and endeavour to achieve an early cash flow. Where the sampling programme indicates likely hard-rock targets provision will be made for drilling.

004

Proposed Works Programme (1987).

STAGE 1

It is proposed to establish a primary grid with a four kilometer baseline om a bearing of 310 degrees. This would enable easy access to all parts of the EL. Three 1800m long lines would be cut perpendicular to this baseline. They would be spaced 250m apart and centred on the ridge between Three Mile Creek and Riley Creek (Figure 1.)

These lines would be sampled by auger drilling at 50m intervals for areas close to the base line, and at 100m intervals towards the end of the gridlines. A bulk sampling of surface materials would utilise the same grid co-ordinates.

STAGE 2

If the results from stage 1 of the drill programme are encouraging two extra lines, one either side of baseline will be cut. These will be 2km long and located towards the southern end of the baseline. Additional lines perpendicular to the baseline will be cut to cover the area between Riley Creek and Trinder Creek. (Figure 2.)

Further sampling would be as for stage 1.

SAMPLING

A tractor mounted Edson Series 2000 A Drill Rig has been purchased and fitted with an Edson Series 120mm I.D. reduction box to handle a 100mm hollow core auger. (Figure 3) The auger holes will be drilled to the bedrock, an estimated maximum depth of 20m. The core will be removed, placed in trays and labelled, ready for processing in the field laboratory.

Bulk sampling is also to be done in the field. A mobile, wet gravity separator will be on site to process approximately 20 cubic meters of lateritic material from several sites. This unit has three jigs and is larger than the one used previously. It should remove nearly all of the high specific gravity material. This bulk concentrate will give an indication of the total percentage of heavy minerals in the deposit. Concentrates will be placed in drums and shipped for analysis.

005

FIELD LABORATORY

It is proposed to set up a laboratory at the camp to:-

i determine percentage weight of water in the bulk sample.
ii determine percentage weight of size fractions (half phi intervals)
iii separate sample in to three fractions of varying magnetic properties.

The equipment purchased for the laboratory includes:-

- a wet drum magnetic separator
- a sieve shaker and nest of sieves
- an electronic balance, 6kg capacity, 1g accuracy.
- a mechanical balance, 20kg capacity
- a hammer mill
- a mixer to slurry the sample
- a filtration unit for fine particle removal

See figure 4 for proposed lay out.

SAMPLE SIZE

Proposed sample of core every 2m.

Volume of core sample = $(\text{diameter}/2)^2 \times \text{length}$
= $0.1/2 \times 22/7 \times 2$
= $0.015 m^3$

Estimates S.G. of sample = 2
therefore mass of sample = 2 x 0.015
= 0.03 tonnes
= 30kg

Approximately one third of this sample will be used.

i Percentage Weight of Water Determination.

A bulk sample will be weighed on the mechanical scale and then dried overnight. The sample is weighed again and the weight of water in the sample determined. The sample can then be dispersed and textural analysis carried out.

ii Percentage weight of size fractions.

Representative samples of the dried sand fraction from selected sites are to be sieved and size distribution recorded. Size fractions are to be sub-sampled for P.G.E. analysis

006

iii Magnetic Separation

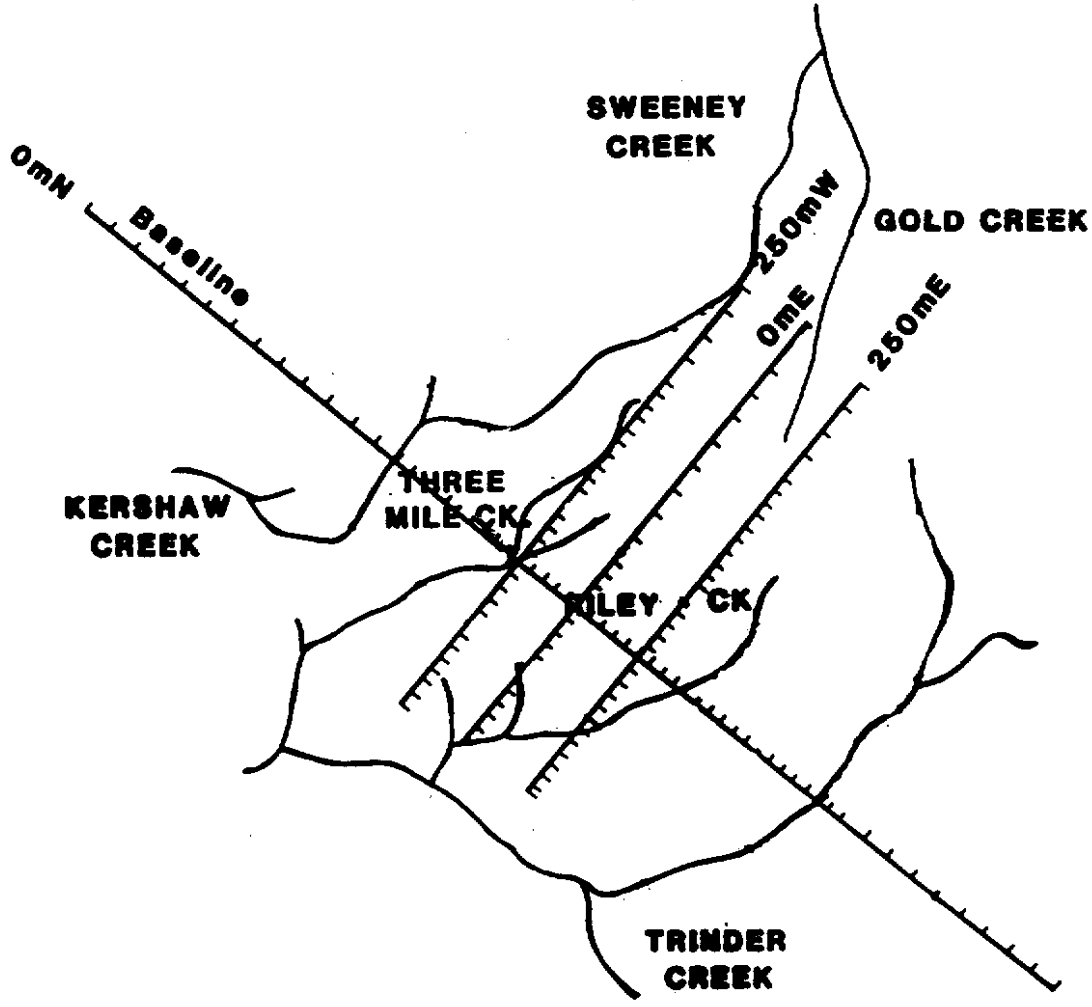
Sections of core are to be placed in a mixer and slurried. This slurry is passed through a series of coarse sieves, the finest of which is 2mm. The slurry is fed into the magnetic separator for the first pass with no current applied to the magnet. This removes the highly magnetic particles. The tailings are fed back into the holding tank and recycled until no more highly magnetic particles are removed.

The slurry is passed again through the magnetic separator, this time with a current applied to the magnet. This removes the moderately magnetic material. The discharge is recycled until no more medium magnetics are removed.

The low magnetic slurry is then passed through a fine sieve and filter to remove the solids.

All three magnetic fractions are then dried and weighed. Sub-samples are to be taken from each fraction for P.G.E. analysis.

STAGE 1 - DRILL SAMPLE SITES, WILSON RIVER, TASMANIA



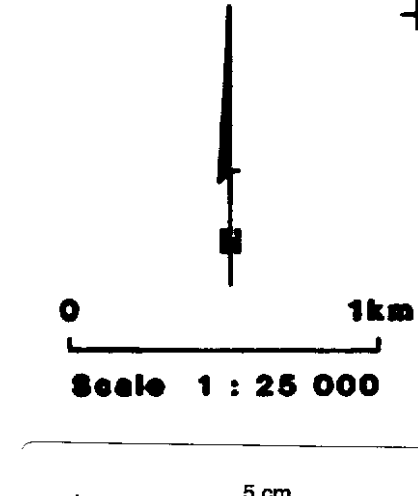


Figure 1

STAGE 2 - DRILL SAMPLE SITES, WILSON RIVER, TASMANIA

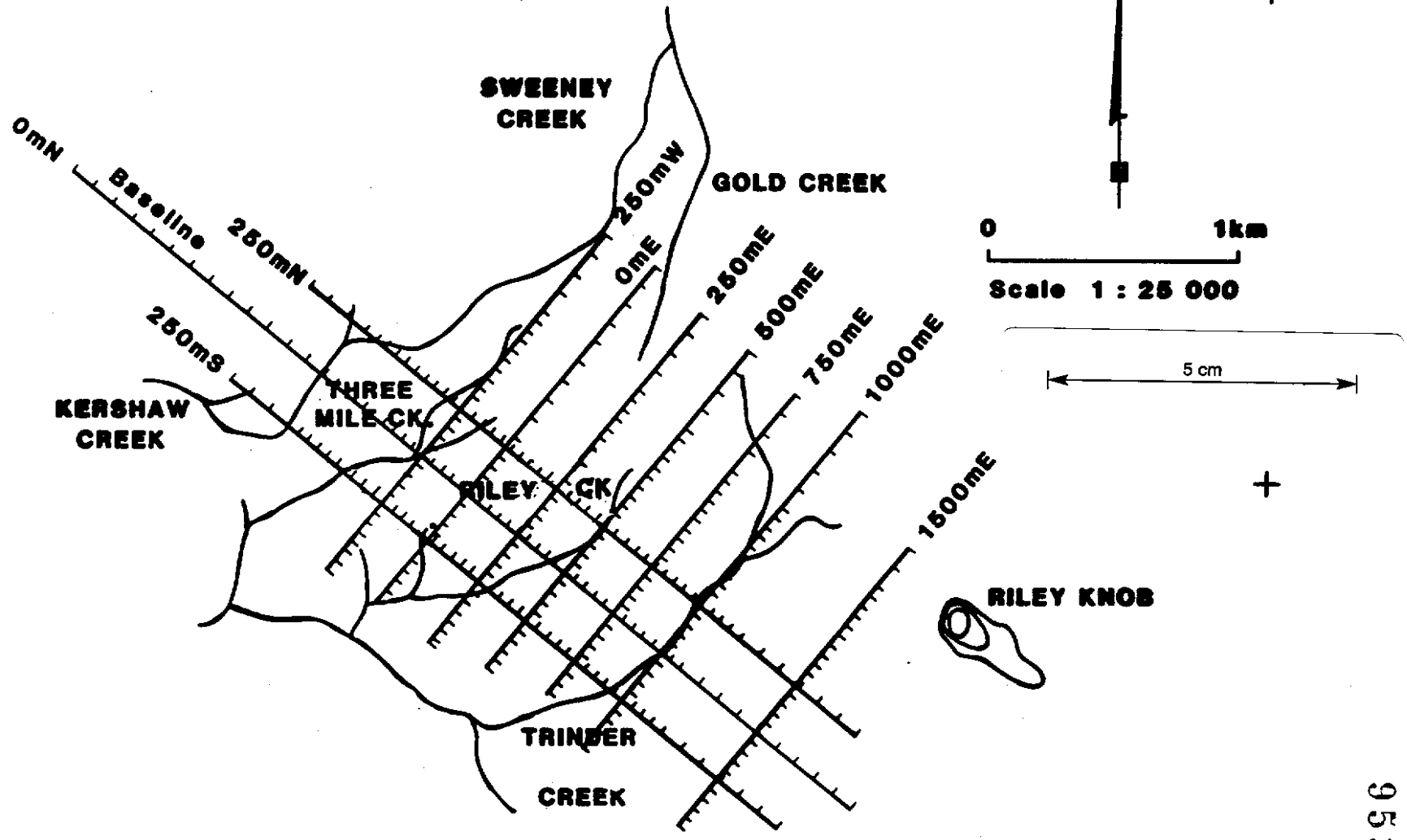


Figure 2

009

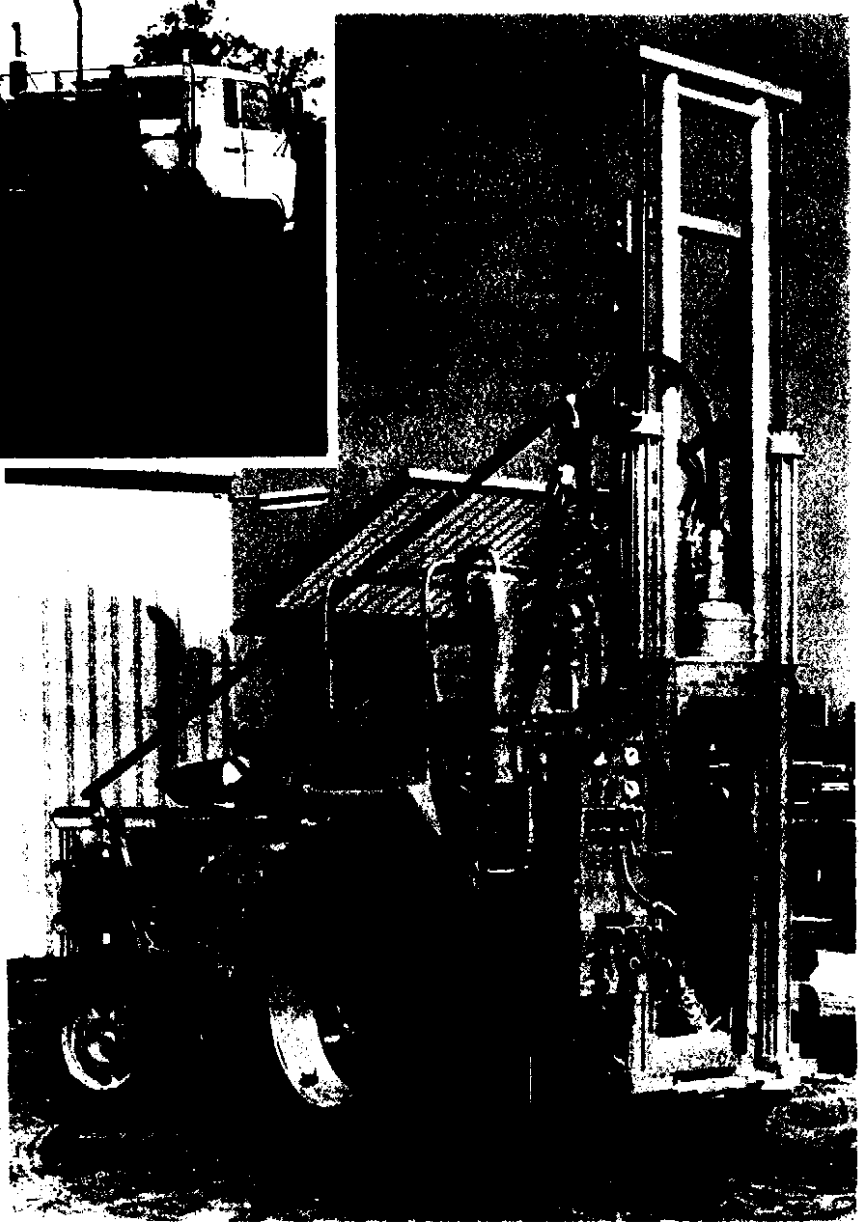
Edson
MINING EQUIPMENT

2000 SERIES DRILL

953011

MODEL 2000A

MODEL 2000



SETTING THE STANDARD INTERNATIONALLY

* Heavy Duty Construction
  Economical Operation
* Dependable Performance
* Proven Service Record
* Internationally Accepted
  Vacuum Sample
  Recovery System

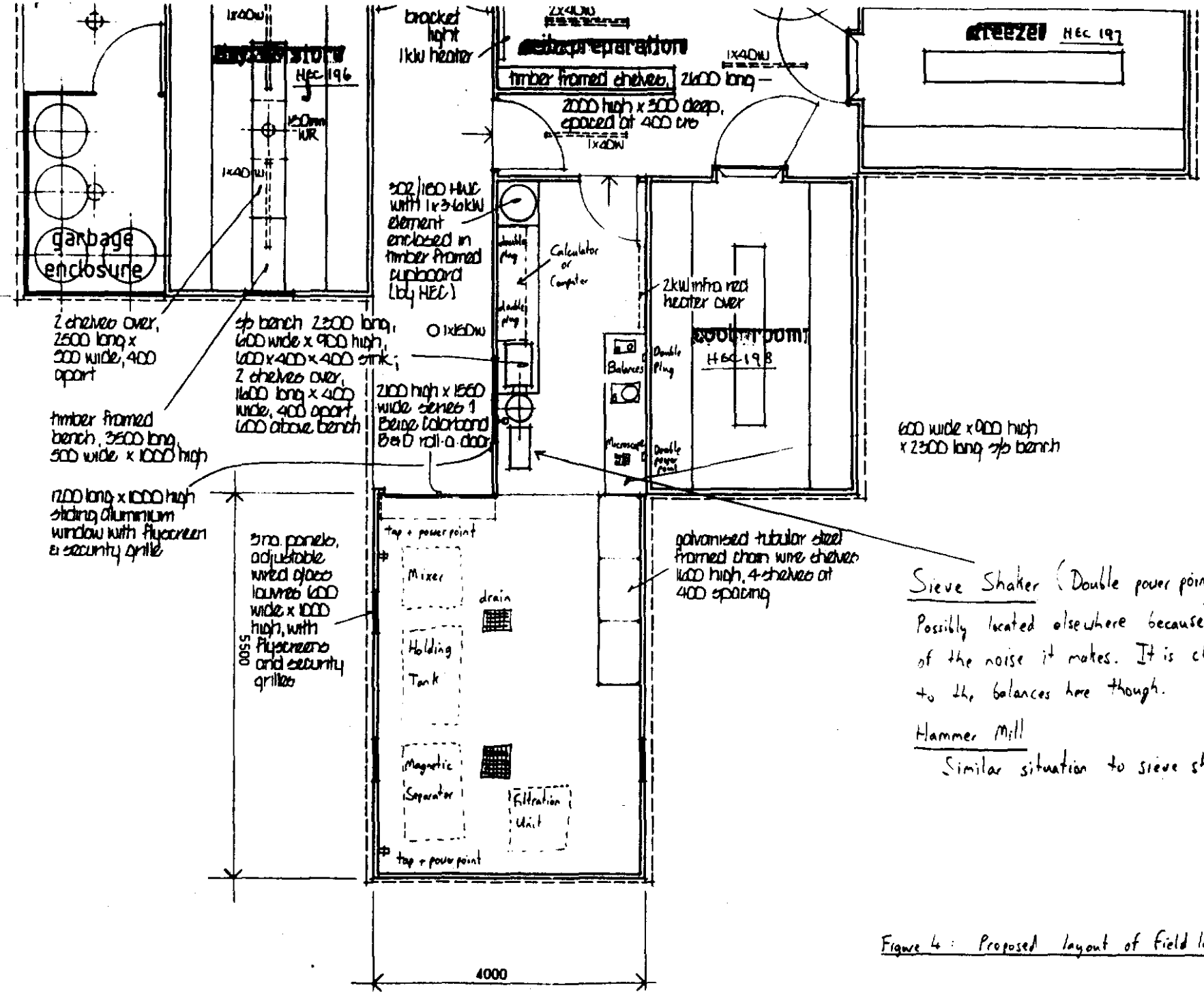
Designed for
- AUGER DRILLING
- VACUUM SAMPLING
- ROTARY AIR BLAST
- CORE DRILLING

Designed and Manufactured by

J. & M. B. THOMAS

(Established 1963)

216 WELSHPOOL ROAD, QUEENS PARK
WESTERN AUSTRALIA 6107
Phone (09) 451 6611, International 619-451 6611, Telex AA92089, Cable Address 'EDSONDRILL PERTH'



Sieve Shaker (Double power point)

Possibly located elsewhere because of the noise it makes. It is close to the balances here though.

Hammer Mill

Similar situation to sieve shaker.

Figure 4: Proposed layout of field laboratory

This drawing supersedes the layout on drawing no. A1-2

The drawing conforms to requirements

010

95012

APPENDIX 1

(Sampling)

Costean Locations

Costean Geology

Sample Location

Drillhole Locations

EL Location

The Costeans at Lippy Jane/Riley Creek.

See SAMPLING & ASSAY PROCEDURES at the front of the report. The costeans were dug in a clayey sand with a relatively high proportion of heavy minerals. The top 1m of each hole was generally lateritic gravel although hard cap does occur. See DWG.2 for the general cross-section of a costean.

Costean locations and sample numbers taken at each site are shown on DWG 4.

The AMG co-ordinates for the sites are listed below.

SITE		NORTHING	EASTING	SAMPLES
Lippy Jane	1	5 377 025	367 680	WC 1-8
	2	5 377 035	367 635	WC 9-15
	3	5 377 095	367 660	WC 16-23
Riley Creek	1	5 376 840	368 340	RC 1-3
	2	5 376 815	368 315	RC 4
	3	5 376 980	368 420	RC 5-6
	4	5 376 980	368 395	RC 7-8
	5	5 376 980	368 370	RC 9-11
	6	5 377 060	368 370	RC 12

Individual sample descriptions were not recorded as all samples were similar. A red colour clayey sand with an estimated 10-20% of heavy minerals, mostly magnetite and chromite.

Sample details. location see Drawing 1.

Lippy Jane 1.

a) Auger: two holes 1m apart, only one washed and despatched for assay.
0 - 1.5m lateritic gravel.
1.5 - 8.6m clay with laterite fragments.
8.6m serpentinized dunite.

b) Diamond drill non coring bit - washed and despatched for assay
0 - 1.5m lateritic gravel.
1.5 - 8.5m clay with laterite fragments.
8.5m serpentinized dunite.

Lippy Jane 2.

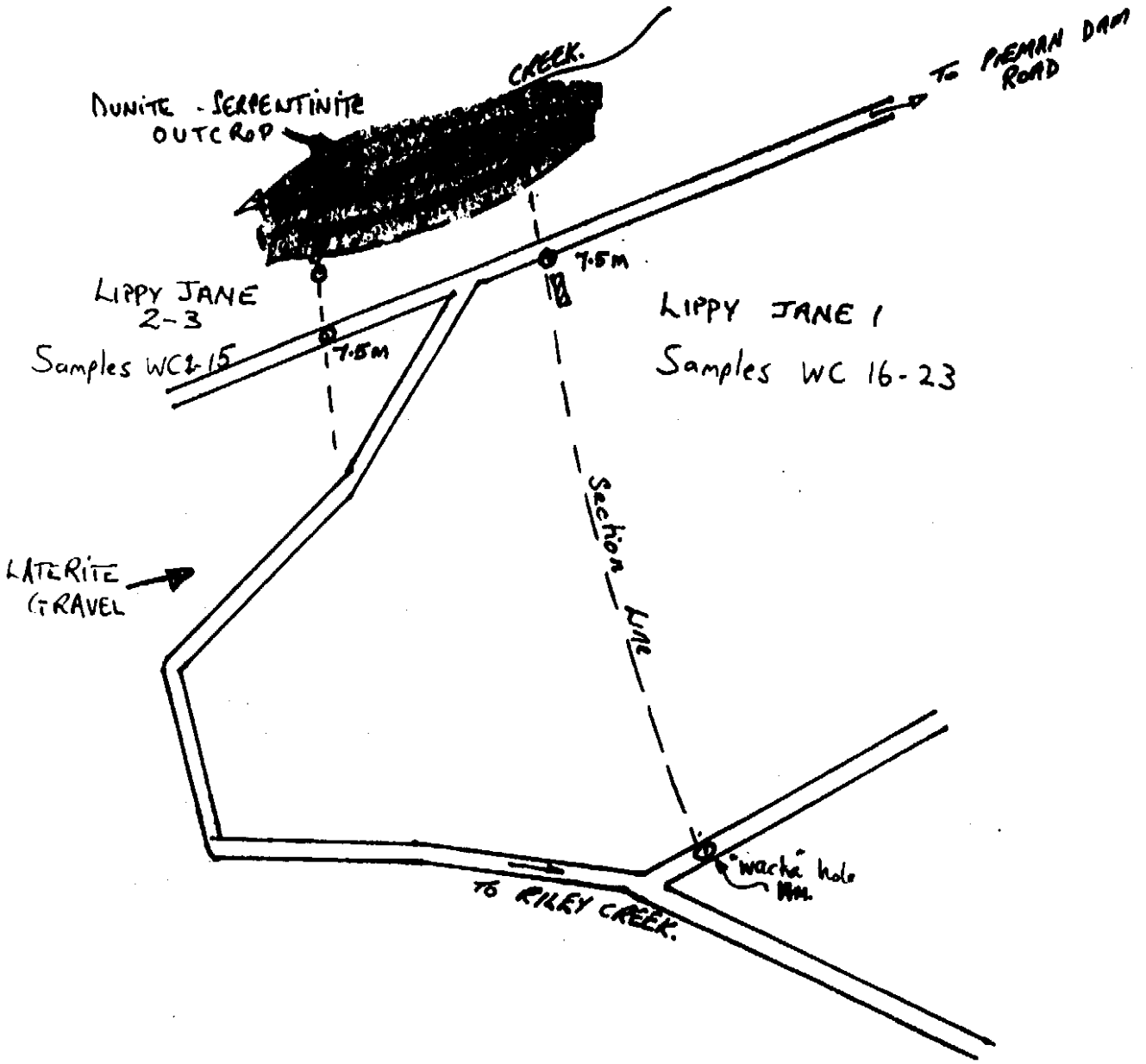
Auger: two holes 1m apart, only one washed and despatched for assay.
0-1.5m lateritic gravel.
1.5-7.6m clay with laterite fragments.
7.6m serpentinized dunite.

Lippy Jane 3.

a) Auger: sample washed despatched for assay.
0-1.2m laterite gravel.
1.2m-7.3 clay with laterite fragments.
7.3 serpentinized dunite.

b) Non coring bit - sample washed despatched for assay.
1.2m - 7.5m clay with laterite fragments.

014



DWG. 1 PLAN of LIPPY JANE AREA

SCALE 1:1000

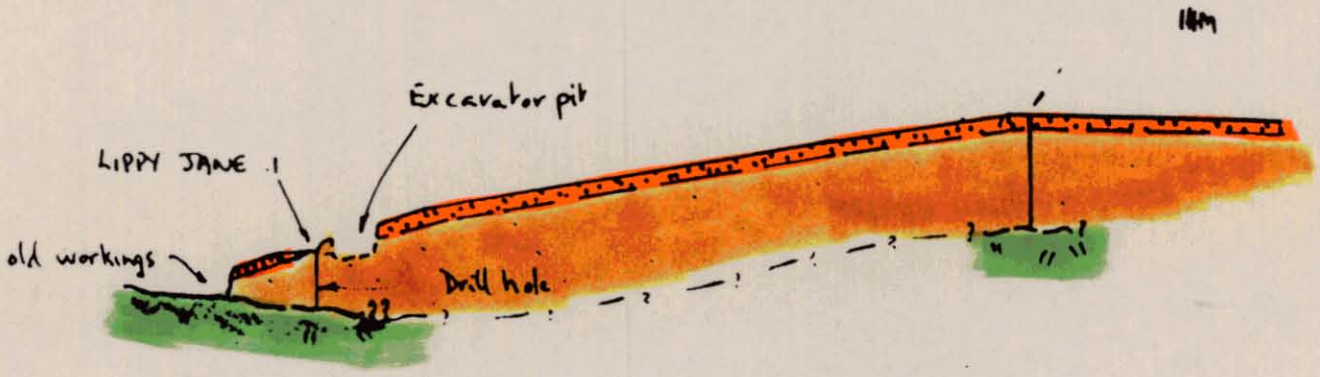
5 cm

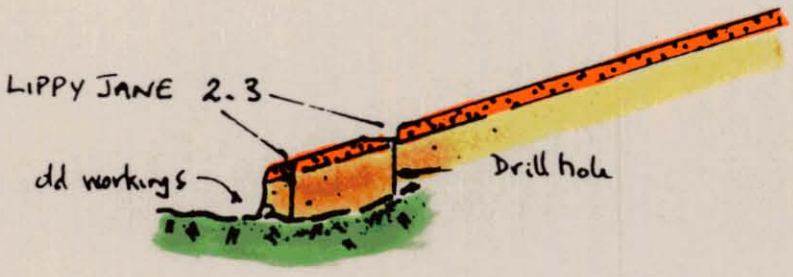
MN

Excavator sample pit

⊙ Drill hole sample.

015





DWG.2 SECTIONS LIPPY JANE AREA

SCALE 1:1,000

Section Line 170° magnetic

- Lateritic gravel
- Clay + Laterite fragments
- Dunite - Serpentinite

5 cm

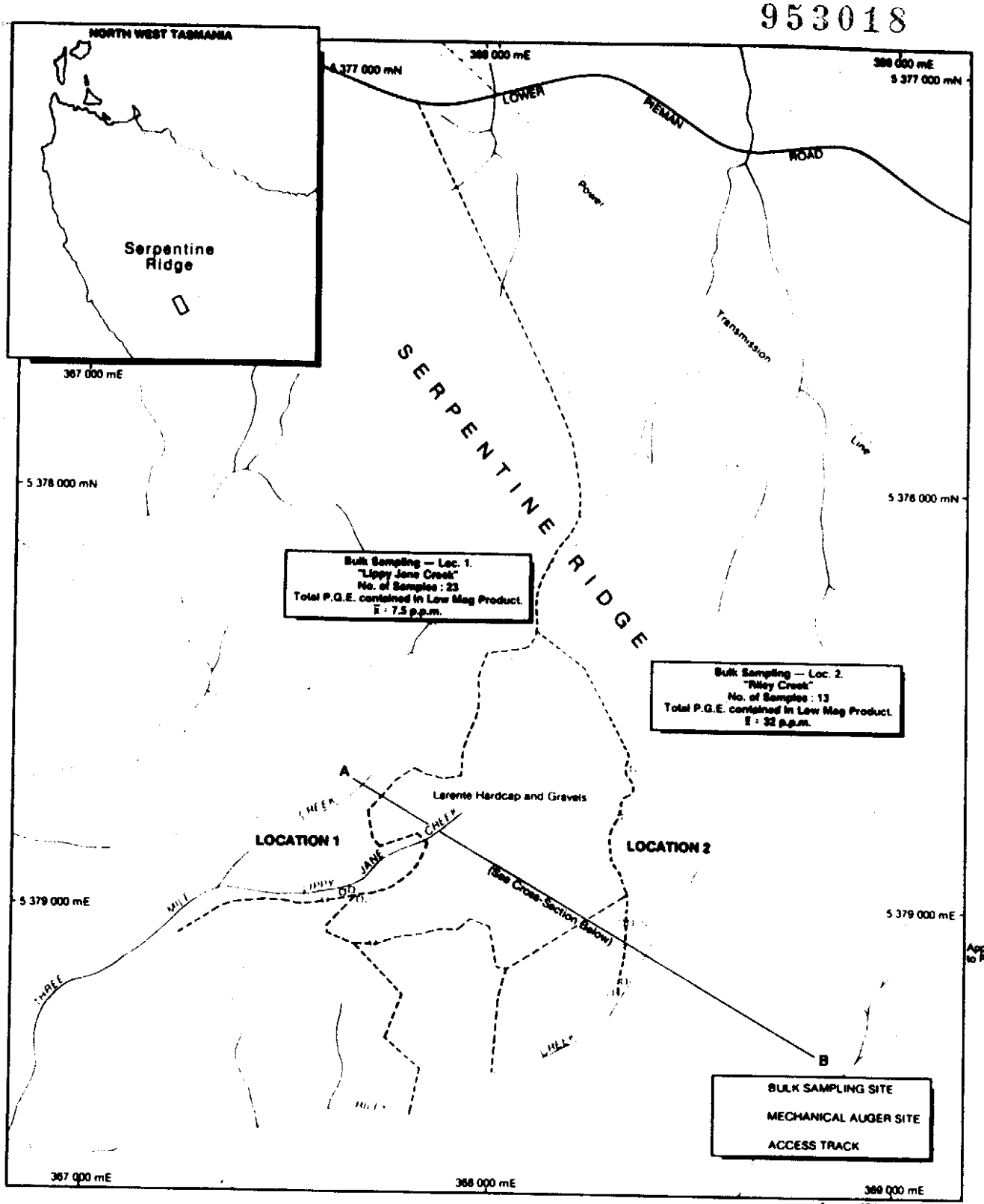


Figure 1

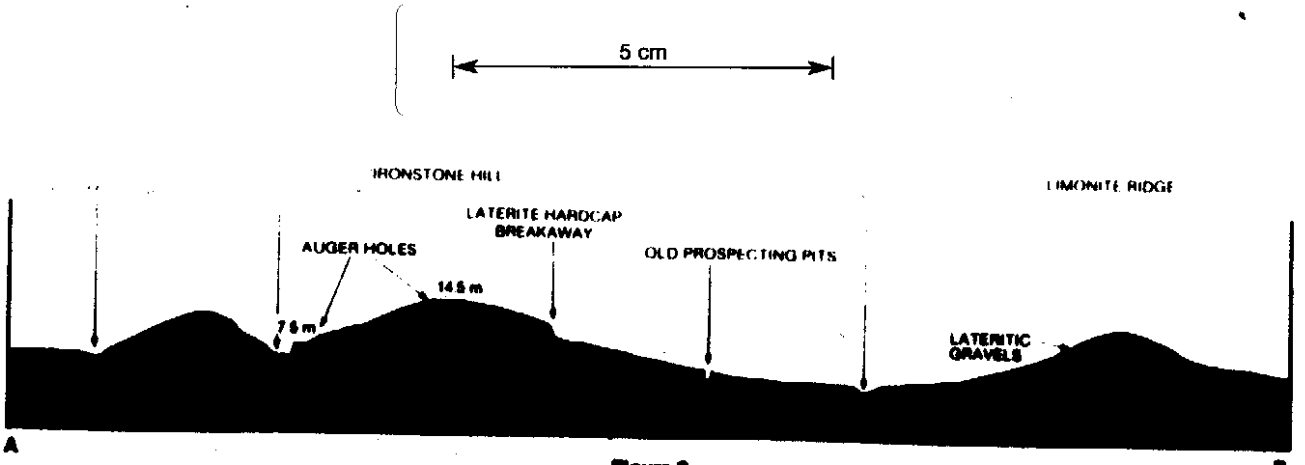


Figure 2

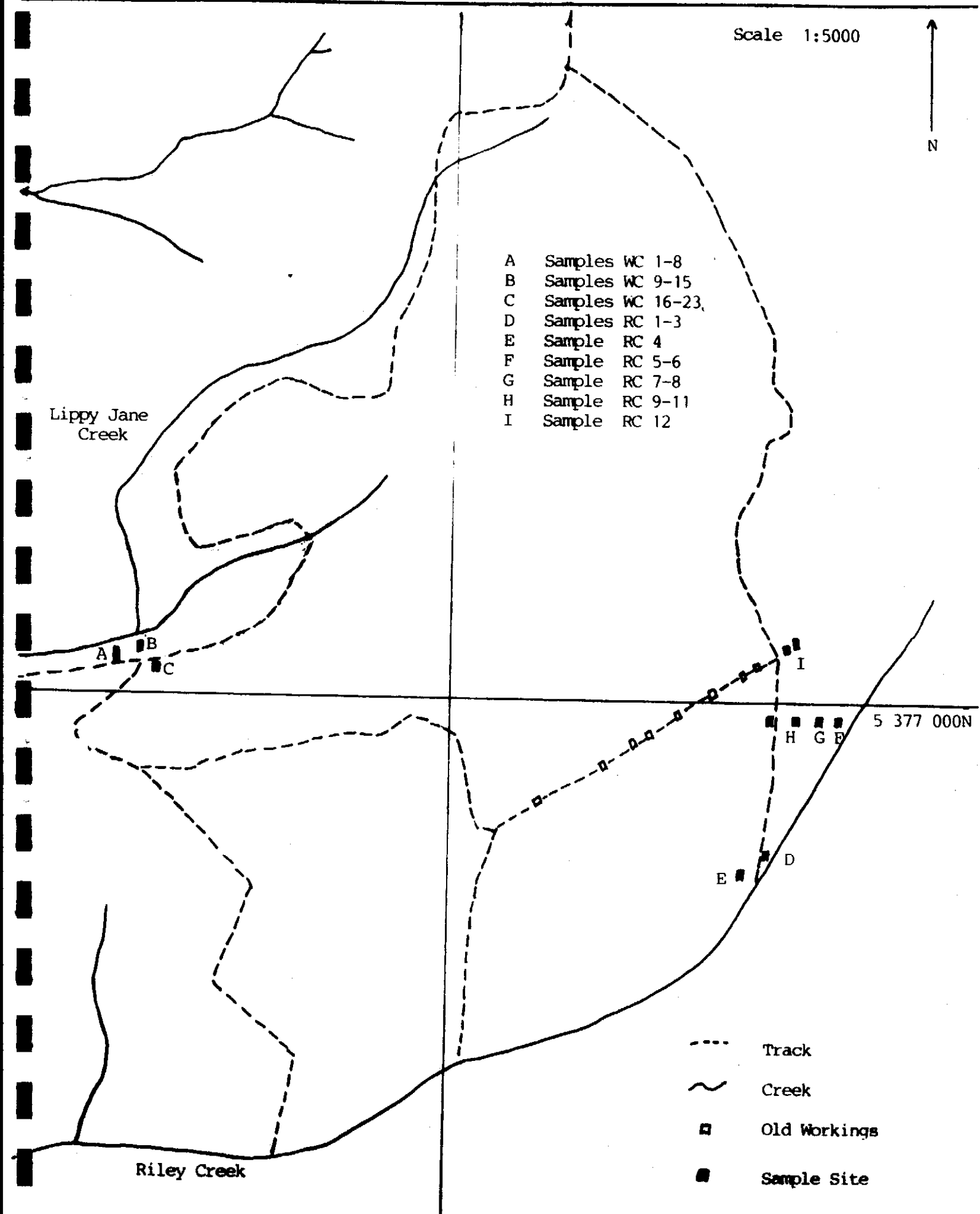
SURFACE LATERITIC GRAVELS

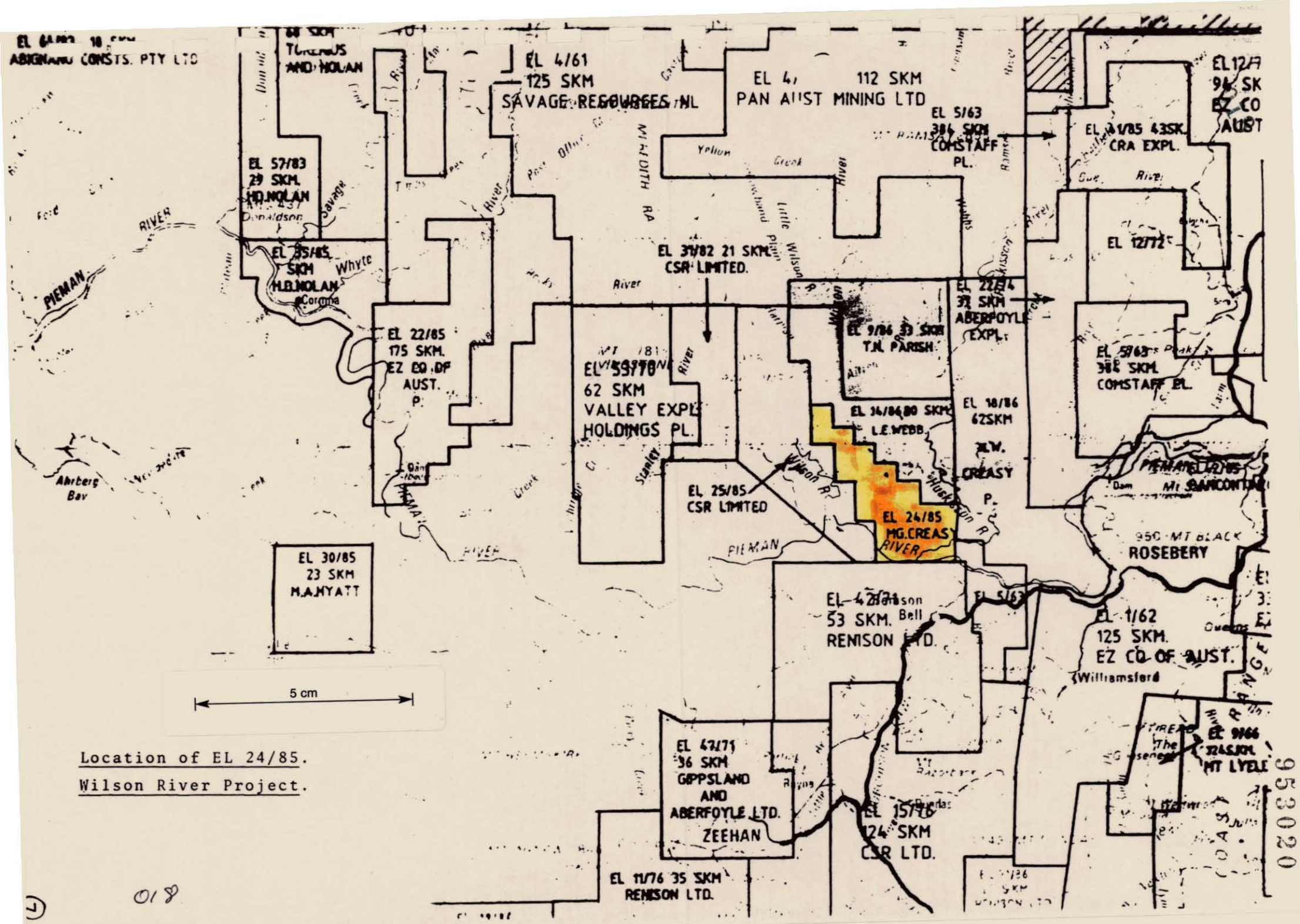
EL 24/85. Lippy Jane/Riley Creek.
Location of costeans and sample sites.

953019

017

5 cm





Location of EL 24/85.
Wilson River Project.

(L) 018

9530 20

A P P E N D I X 2

(Analytical Results)

Bulk Sample Reduction

Mineralogical Examination

Weight Percent Magnetic Fractions

Au & PGE Analysis Results

Cr & Fe Analysis Results

BULK SAMPLE REDUCTION

No quantative data concerning the reduction of bulk samples to heavy mineral concentrates is available. A 500kg sample was processed by a mobile (wet gravity) concentrator on site. As the small jig (70cm x 30cm) was adjusted principally to extract gold and osmiridium, the majority of the heavy minerals were discharged with the tailings. Approximately 20kg of heavy minerals sand was retained by the jig from each bulk sample and a 5kg sub-sample was returned to Perth for analysis. Heavy minerals were easily visible in the tailings and it is estimated by visual inspection that the bulk sample contained 10-20% heavy minerals (SG>3.9).

ANALYTICAL RESULTS

The following pages contain

i the gold assays of the slime fractions
ii the P.G.E. analysis of the low magnetic fractions taken from the costeans at Lippy Jane and Riley Creek.
iii a report on the probe results of 40 selected chromite grains
iv the chrome/iron rations of 30 sub samples
v a mineralogical report on rock samples, heavy mineral concentrates and pan concentrates.
vi the data set of all samples analysed for gold, silver and P.G.E.'s

021

953023

REPORT

on

MINERALOGICAL EXAMINATION

of rock samples (JJ 1911, JJ 1912),

composite concentrate of heavy minerals (JJ 1910), and

pan concentrates (RC 1, RC 4, RC 7, WC 4, WC 7)

from Tasmania

prepared for Messrs.

CALLINA N. L.

at their request by

Dr. Jiri Just

Mineralogist

Perth 17th September, 1986

Dr. Jiri Just, Mineralogist, Petrologist,
30 Kay Street, Scarborough, W.A. 6019

REPORT ON MINERALOGICAL EXAMINATION OF ROCK SAMPLES (JJ 1911, JJ 1912), COMPOSITE HEAVY MINERAL CONCENTRATE (JJ 1910), AND PAN CONCENTRATES (RC 1, RC 4 , RC 7, WC 4, WC 7) FROM TASMANIA.

SUMMARY

1. Two rock samples, 10 sized and magnetically separated fractions of composite heavy mineral concentrate, and 5 pan concentrates were investigated for presence of platinum group elements minerals (PGM) by means of optical microscopes and scanning electron microscope equipped with x-ray energy dispersion spectrometer.

2. One grain of **auricupride**, Cu_3Au, and one grain of **iridosmine** were found in the examined portion of the sample of serpentinised dunite. The sample contains also chromite, magnetite, awaruite, native nickel and native zinc (?). No gold or PGM were found in the sample of serpentinised harzburgite.

3. One grain of **iridosmine** has been found as inclusion in chromite in the moderately magnetic 250 um - 2 mm fraction of the composite concentrate.

4. Numerous small particles of free **gold** have been found in the slimes sample derived from the composite concentrate, one particle has been found also in the -38 um fraction.

5. **Composition of chromite** has been determined by electron microprobe analysis of 40 randomly selected grains in the moderately magnetic 250 um - 2 mm fraction of the composite concentrate (% wt):

	Average	Range: min.	max.
Cr_2O_3	69.70	66.70	72.21
FeO	16.58	13.30	21.16
MgO	8.42	4.63	11.12
Al_2O_3	4.41	2.58	8.17
V_2O_3	0.13	n.d.	0.31
MnO	0.66	n.d.	2.01

6. **Weights of PGM and gold** in pan concentrates (mg):

	PGM	Gold
RC 1	0.2	0.4
RC 4	96.3	0.5
RC 7	41.6	
WC 4	1.4	<0.1
WC 7	10.8	

023

INTRODUCTION

Two rock samples, 10 sized and magnetically separated fractions of a composite concentrate of heavy minerals, and 5 pan concentrates were received for mineralogical examination.

The aim of the study was:

1. rock samples: to investigate presence of platinum group elements minerals (further PGM) or minerals that could be related to platinum group elements (further PGE) mineralisation;

2. composite concentrate of heavy minerals: to investigate presence of PGM with special attention to PGM inclusions in chromite;
   to determine the average chemical composition of chromite;

3. pan concentrates: to separate the PGM and determine their weight.

The samples were processed under the submitted numbers, or, in their absence, internal numbers were allocated:

Rock samples:

dark rock (serpentinised dunite?)	JJ 1911
light rock (serpentinised harzburgite?)	JJ 1912

Composite concentrate fractions:

+ 2 mm		JJ 1910/1
2 mm - 250 um	strongly magnetic	JJ 1910/2A
	moderately magnetic	/2B
	weakly to non-magnetic	/2C
250 - 90 um	strongly magnetic	JJ 1910/3A
	moderately magnetic	/3B
	weakly to non-magnetic	/3C
90 - 38 um	strongly magnetic (hand magnet)	JJ 1910/4A
	remainder	/4B
-38 um		JJ 1910/5
slimes		JJ 1910/6

Numbers of the pan concentrates, RC 1, RC 4, RC 7, WC 4, WC 7 were retained.

024

METHOD

The samples were investigated by means of stereomicroscope, reflected light microscope, scanning electron microscope equipped with x-ray energy dispersion spectrometer (GeoSEM), and electron probe microanalyser (electron microprobe).

Rock samples.

Several fragments of each sample were cut into small slabs and suitable natural fracture surfaces or smoothly ground surfaces investigated with GeoSEM. Large portion of each sample has been crushed and panned by Mr. Creasy. The concentrates have been then mounted on Perspex slides and also investigated with the GeoSEM. Recovery of heavy minerals from hard rocks by crushing and panning, which has been popular for a long time especially in the USSR, has the advantage over slabbing in large volume of processed rock and so minerals occuring even in very small amounts can be detected. The disadvantage is possibility of significant losses during panning and loss of paragenetical information.

Composite concentrate.

The sized and magnetically separated fractions of the composite concentrate of heavy minerals, except the + 2 mm fraction and slimes, have been mixed with Araldite and cast into 30 mm diameter blocks. The 90 - 38 um fraction was first separated with a hand magnet into a strongly magnetic and less magnetic fraction. The slime cake was impregnated with Araldite and a polished section has been prepared in the usual manner. All polished sections were scanned with the GeoSEM in such a way as to ensure complete coverage of the whole section and detection of any outcropping PGM particle larger than 5 um. It is expected that every particle larger than 2 um has been found. GeoSEM investigation was in some cases preceeded by observation in reflected light in order to get information on the general character of the sample and character of introduced artefacts (metal shawings from machinery, etc.).

40 randomly selected grains of chromite in the polished section of sample JJ 1910/2B (i.e. 2 mm - 250 um moderately magnetic fraction) have been analysed with electron microprobe.

Pan concentrates.

All manageable grains of recognisable PGM have been hand-picked and their total weight in each sample determined. The results are in some cases only approximate as it proved impossible to recover all very small grains or to remove all adhering foreign material.

RESULTS

Rock samples.

JJ 1911, serpentinised dunite (?).

GeoSEM and reflected light microscope investigation of slabs indicated magnetite, chromite, and awaruite (a Ni-Fe alloy) as the major ore minerals and presence of trace amounts of native nickel, galena (?), acanthite (Ag_2S), covellite and possibly native zinc (one minute grain completely enclosed in chromite). One grain of a Cu - Au - Ag mineral, most probably argentian **auricupride**, Cu_3Au, 6 x 15 um in size, has been found in a very thin veinlet of fibrous magnetite. Auricupride, which is a rather rare mineral, is known only from gold deposits in ultramafic rocks.

One free grain of **iridosmine**, 25 x 20 um, has been found in the concentrate panned from the crushed material.

JJ 1912, serpentinised harzburgite (?).

GeoSEM investigation of slabs indicated chromite as the most abundant ore mineral, followed by magnetite. Some fracture surfaces have coating of a Fe - Mn oxide. Investigation of panned concentrate indicated even greater preponderance of chromite. Cassiterite and sphalerite are very rare. One roundish grain, about 10 um in diameter, with composition Ag > Au >>> Cu = Zn has been found on the Perspex slide outside the adhesive tape used for mounting the grains. While this is not a proof in itself, this and the composition of the grain suggests contamination from jewelry (for this reason I do not wear any jewelry myself but contamination at this size scale is global). No PGM have been found.

JJ 1910, composite concentrate of heavy minerals.

As all the samples are very much the same only unusual features have been described.

JJ 1910/1, +2 mm.

The sample has been investigated only visually.

JJ 1910/2A, 2 mm - 250 um, strongly magnetic.

Magnetite, maghemite, hematite after magnetite (all these minerals contain an appreciable amount of Cr and are indistinguishable in the GeoSEM), chromite. One grain of xenotime has been found enclosed in "magnetite".

JJ 1910/2B, 2 mm - 250 um, moderately magnetic.

Chromite, magnetite and its oxidation products, rare xenotime, zircon. One grain of **iridosmine** (Os > Ir > Ru, tr. Pt), approx. 30 x 30 um in size, has been found completely enclosed in chromite.

40 randomly selected grains of chromite have been analysed with electron microprobe. Average and range of the compositions is given below. Frequency plots of the individual analyses (separately for each element) appears to be unimodal what suggests that there is only one population of chromite in the sample and the composite sample seems to be a good representation of the individual samples that have been composited. Large number (> 100) would be required for confirmation.

Chromite composition:

	Average	Range: min.	max.
Cr_2O_3	69.70	66.70	72.21
FeO	16.58	13.30	21.16
MgO	8.42	4.63	11.12
Al_2O_3	4.41	2.58	8.17
V_2O_3	0.13	n.d.	0.31
MnO	0.66	n.d.	2.01

JJ 1910/2C, 2 mm - 250 um, weakly to non-magnetic.

Chromite, hematite, goethite, and possibly other products of oxidation of magnetite.

JJ 1910/3A, 250 - 90 um, strongly magnetic.

Chromian magnetite and its oxidation products, chromite. Surface contaminated with zinc chloride, lead bromide, Hg - Te - Zn compound, metallic nickel. Lead bromide contamination occurs in all samples (lead bromide from car exhausts is ubiquitous in the atmosphere).

JJ 1910/3B, 250 - 90 um, moderately magnetic.

Chromite, oxidation products of chromian magnetite.

JJ 1910/3C, weakly magnetic to non-magnetic.

Chromite, oxidation products of chromian magnetite, trace amounts of zircon, cassiterite, monazite. Chromite has been found also as inclusion in zircon.

JJ 1910/4A, 90 - 38 um, strongly magnetic (hand magnet).

Chromian magnetite, chromite, traces of monazite. Pb-Bi-Se and Bi-Pb-Se-S?-Cu phases are most likely contamination.

JJ 1910/4B, hand magnet non-magnetic.

Chromite, oxidation products of chromian magnetite, traces of cassiterite, zircon, thorian monazite.

JJ 1910/5, -38 um, not separated magnetically.

Chromian magnetite and its oxidation products, chromite, traces of pyrite, covellite, zircon, monazite, **gold**, sphalerite, arsenopyrite, and barite. Barite could be part of the sample, sphalerite and arsenopyrite are most likely contaminants. Brass, copper, and nickel shawings and globules of solder are certainly extraneous. Only one but relatively large (55 x 20 um) particle of **free gold** has been found.

JJ 1910/6, slimes.

Six fragments of dry filter cake have been impregnated with Araldite and made into a polished section. The well impregnated parts took good polish but only some grains were polished in the poorly impregnated parts.

Non-opaque minerals, chromite, chromian magnetite and its oxidation products represent the bulk of the material. Particles of **free gold** are relatively **abundant** suggesting that the Au content of the sample must be in tens of ppm (g/t). Numerous grains of sulphides Cu, Bi, Fe, and Se bring out the question of possibility of cross-contamination from samples previously processed by the laboratory.

The gold particles are mostly about 2 x 2 um in size, the largest found being 6 x 5 um. 14 particles were measured before recording was given up because of thoughts about contamination. Discussion with Mr. Creasy has since indicated that the gold is really part of the sample and the sample will be studied in more detail at a later date.

Pan concentrates.

Sample	weight (mg)	
	PGM	Au
RC 1	0.2	0.4
RC 4	96.5*	0.5
RC 7	41.6*	
WC 4	1.4	<0.1
WC 7	10.8*	

* indicates presence in/on PGM or gold of limonite and other minerals which could not be removed by treatment with sodium citrate followed by hot hydrochloric acid.

It was not possible to collect all of the smallest particles by repeated panning in a Petri dish and removing the particles by hand. The idea that the amount of PGM/PGE present either as inclusions in chromite or in the crystal lattice of chromite or other common minerals could be determined by hand-picking the PGM and assaying the rest of the sample therefore seems to be unworkable. It appears that there will always remain enough minute, microscopically unidentifiable PGM to make such analysis completely unreliable. Methods for two-stage selective decomposition should be investigated. The selected method would

ideally work like this: free PGM would be selectively quantitatively dissolved and PGE determined, then the rest of the sample would be quantitatively decomposed (probably by fusion, chromite is a very refractory mineral) and PGE again determined. The two figures would then represent the amount of PGE readily available for recovery and the amount of PGE that possibly could not be recovered or at high cost.

CONCLUSIONS

1. One grain of argentian **auricupride** has been found in thin magnetite veinlet in a slab cut from the sample of serpentinised dunite. One grain of **iridosmine** has been found in pan concentrate from crushed material. Other minerals present: abundant chromite, chromian magnetite, frequent awaruite, rare native nickel, covellite, possibly native zinc. Of these only magnetite and chromite were recovered into the pan concentrate. Only chromite and magnetite were found in the serpentinised harzburgite. However the area of the surfaces examined with the GeoSEM is statistically insufficient to give valid proof of absence of gold or PGM.

2. One grain of ruthenian **iridosmine**, approx. 30 x 30 um in size, has been found completely enclosed in chromite in the moderately magnetic 250 um - 2 mm size fraction of the composite concentrate.

3. Numerous small (mostly about 2 x 2 um) particles of **free gold** have been found in the slimes filter cake, one 55 x 20 um particle in the -38 fraction of the composite concentrate.

4. Electron microprobe analysis of 40 randomly selected grains in the moderately magnetic 250 um - 2 mm size fraction of the composite concentrate gave the following results (% wt.):

	Average	Range: min.	max.
Cr_2O_3	69.70	66.70	72.21
FeO	16.58	13.30	21.16
MgO	8.42	4.63	11.12
Al_2O_3	4.41	2.58	8.17
V_2O_3	0.13	n.d.	0.31
MnO	0.66	n.d.	2.01

Frequency distribution plots for individual elements appear to be unimodal what suggests that there is only one population of chromite in the sample and that the composite sample seems to be

a good representation of the composited samples.

5. Manageable particles of gold and PGM were hand-picked from the pan concentrates and their total weight in each sample determined. For results see text. It proved practically impossible to collect all of the very small particles. The amount of PGM/PGE present either as inclusions in chromite or in the crystal lattice of the rock-forming minerals cannot be therefore determined by simply removing the visible PGM by hand and analyse the rest of the sample. Selective decomposition has to be applied.

REFERENCE NUMBER 218.0/861393 ORDER No LETTER

SAMPLE NUMBER	Au ppb	Pt ppb	Pd ppb	Rh ppb	Ru ppb	Ir ppb
COMP - 2000+250 HIGH	8	5.3	3.5	4.8	26	24
COMP - 2000+250 MED	14	5.2	1.1	3.5	42	39
COMP - 2000+250 NON	11	2.5M	1.3	120	2.3M	14M
COMP - 250+290 HIGH	13	8.9	1.0	2.4	27	51
COMP - 250+ 90 MED	23	5.1	1.5	3.0	30	45
RC 1 - 2000+250 HIGH	8	4.8	0.9	3.7	42	54
RC 1 - 2000+250 MED	7	6.5	3.6	5.4	50	57
RC 1 - 2000+250 NON	11	4.7	1.6	4.0	49	65
RC 1 - 250+ 90 HIGH	17	6.4	5.2	7.4	27	17
RC 1 - 250+ 90 MED	5	3.5	0.7	3.4	43	34
RC 4 - 2000+250 HIGH	15	3.9	1.3	3.2	32	31
RC 4 - 2000+250 MED	16	5.7	2.9	5.6	49	48
RC 4 - 2000+250 NON	11	150	1.9	39	1.1M	7.0M
RC 4 - 250+ 90 HIGH	22	4.6	0.9	2.8	31	20
RC 4 - 250+ 90 MED	13	40	5.2	18	330	1.1M
RC 7 - 2000+250 HIGH	2	0.3	(0.1	1.2	17	7.1
RC 7 - 2000+250 MED	1.2M	130	2.6	24	800	3.7M
RC 7 - 2000+250 NON	17	1.5M	1.8	130	3.3M	17M
RC 7 - 250+ 90 HIGH	63	12	(0.1	1.8	26	32
RC 7 - 250+ 90 MED	370	5.8	2.1	4.6	46	41
WC 4 - 2000+250 MED	9	8.2	1.0	4.0	48	51
WC 4 - 2000+250 NON	8	5.2	0.9	4.3	47	42
WC 4 - 250+ 90 HIGH	190	3.9	1.4	2.6	27	29
WC 4 - 250+ 90 MED	52	20	1.7	4.9	56	290
WC 4 - 250+ 90 NON	2.1M	1.0M	9.7	150	4.6M	23M
WC 7 - 2000+250 HIGH	77	3.7	0.3	3.0	29	21
WC 7 - 2000+250 MED	27	4.6	0.6	3.8	41	34
WC 7 - 2000+250 NON	12	8.4	0.7	5.2	80	160
WC 7 - 250+ 90 HIGH	80	43	(0.1	10	240	800
WC 7 - 250+ 90 MED	5	5.2	2.9	4.6	39	45

THE LETTER 'M' AFTER A RESULT IMPLIES PARTS PER MILLION.
A '(' IN FRONTOF A RESULT IMPLIES LESS THAN.

REFERENCE NUMBER 218.0/861393 ORDER No LETTER

032

SAMPLE NUMBER	Cr203 %	SiO2 %	Fe203 %	TiO2 %	Al203 %	CaO %	MgO %	B ppm	S %	Sb ppm
COMP -2000+250 HIGH	21.8	0.9	69.5	0.04	1.77	(0.01	2.76	(100	0.34	(1
COMP -2000+250 MED	50.6	0.5	37.2	0.07	3.37	(0.01	5.69	(100	0.20	2
COMP -2000+250 NON	46.4	0.7	44.0	0.07	3.10	(0.01	4.89	(100	0.20	(1
COMP - 250+ 90 HIGH	27.4	0.9	67.0	0.04	1.30	0.03	2.96	(100	0.32	10
COMP - 250+ 90 MED	60.2	0.5	31.7	0.06	2.67	(0.01	5.90	(100	0.18	(1
RC 1 -2000+250 HIGH	24.2	1.1	72.4	0.06	1.92	(0.01	2.86	(100	0.34	(1
RC 1 -2000+250 MED	58.6	0.7	33.6	0.04	3.46	(0.01	6.47	(100	0.16	(1
RC 1 -2000+250 NON	52.3	1.0	39.7	0.07	3.38	(0.01	6.12	(100	0.18	(1
RC 1 - 250+ 90 HIGH	43.2	1.1	53.9	0.07	3.04	(0.01	4.74	(100	0.27	(1
RC 1 - 250+ 90 MED	58.9	0.6	30.3	(0.01	3.56	0.01	6.17	(100	0.29	(1
RC 4 -2000+250 HIGH	18.0	1.1	79.4	0.06	1.93	(0.01	2.46	(100	0.31	(1
RC 4 -2000+250 MED	60.3	0.5	31.6	0.06	3.37	(0.01	6.87	(100	0.17	(1
RC 4 -2000+250 NON	57.8	0.7	36.4	0.06	3.29	(0.01	6.43	(100	0.18	4
RC 4 - 250+ 90 HIGH	23.0	1.0	77.5	0.07	2.07	(0.01	2.57	(100	0.31	(1
RC 4 - 250+ 90 MED	69.6	0.5	27.8	0.04	3.58	0.06	7.28	(100	0.14	(1
RC 7 -2000+250 HIGH	31.5	0.7	66.3	0.02	2.20	(0.01	3.52	(100	0.34	(1
RC 7 -2000+250 MED	57.8	0.5	34.4	0.05	3.38	(0.01	6.83	(100	0.14	(1
RC 7 -2000+250 NON	52.8	0.6	41.7	0.07	3.32	0.15	5.98	(100	0.21	(1
RC 7 - 250+ 90 HIGH	23.1	0.9	75.3	(0.01	1.87	(0.01	2.58	(100	0.41	(1
RC 7 - 250+ 90 MED	56.7	1.0	35.9	0.06	3.71	(0.01	5.79	(100	0.17	(1
WC 4 -2000+250 MED	49.6	0.3	42.2	0.07	3.57	(0.01	4.54	(100	0.23	(1
WC 4 -2000+250 NON	46.0	0.5	45.9	0.09	3.42	0.04	4.17	(100	0.21	(1
WC 4 - 250+ 90 HIGH	64.4	0.4	31.8	0.08	3.93	0.04	5.19	(100	0.20	(1
WC 4 - 250+ 90 MED	62.1	0.2	30.0	0.08	3.51	0.07	5.10	(100	0.13	(1
WC 4 - 250+ 90 NON	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S
WC 7 -2000+250 HIGH	7.47	0.9	92.2	0.18	1.70	(0.01	0.45	(100	0.42	(1
WC 7 -2000+250 MED	44.5	0.3	47.5	0.08	3.32	0.07	3,83	(100	0.21	(1
WC 7 -2000+250 NON	36.0	0.6	55.6	0.09	3.02	0.10	3.30	(100	0.31	(1
WC 7 - 250+ 90 HIGH	47.7	0.3	45.1	0.10	3.24	0.19	3.65	(100	0.23	(1
WC 7 - 250+ 90 MED	57.1	0.3	36.2	0.06	3.42	0.09	4.81	(100	0.18	(1

95 0334

A "(" IN FRONT OF A RESULT IMPLIES LESS THAN I/S-INSUFFICIENT SAMPLE FOR THAT PARTICULAR DETERMINATION

033

LIPPY JANE SITE 1
Costean upslope of Creek: depth 3 metres)

953035

WC	SLIMES:<75um Au(ppm)	Size um	CHROMITE (LOW MAGNETICS) Contained P.G.E./Au (ppb) Ir	Os	Ru	Pt	Au	Low magnetics in total H.M.F.(%)
01 Laterite	1.20	(+500)	7500	3000	1000	350	12	37.64
		(-500)	2100	1450	320	62.5	580	
02	0.37	(+500)	560	ND*	120	38	30	46.62
		(-500)	5700	ND	1100	580	72	
03	0.4	(+500)	40	125	46	0.5	8	35.2
		(-500)	2200	2000	775	47	210	
04		(-2000+250)	42	ND	47	5.2	8	ND
	ND	(-250/+90)	23000	ND	4600	1000	2100	
05	(1.77) ch(1.70,1.85)	(+500)	38	ND	35	3.5	4	32.11
		(-500)	1300	ND	290	64	14	
06	(2.48) ch(1.50,2.65,3.3)	(+500)	33	ND	24	4	26	32.43
		(-500)	1900	ND	480	46	140	
07		(-2000+250)	160	ND	80	8.4	12	
	ND	(-250+90)	ND	ND	ND	ND	ND	
08	(3.3)	(+500)	1100	ND	310	1600	4	41.97
	(3.60,2.30,4.00)	(-500)	3900	ND	850	100	150	

Mean value: 1.58
Stn. Dev : 1.16
Variance : 1.36

(+500) 2850
(-500) 1644

*ND: Not done

034

LIPPY LANE SITE 2

(In creek bed excavation to 5metres below active channel)

953036

WC	SLIMES:<75um Au(ppm)	Size um	CHROMITE (LOW MAGNETICS) Ir	Os	Ru	Pt	Au	Low magnetics in total H.M.F.(%)
09	1.35 (1.35)	(+500)	180	ND	57	17	10	33.67
		(-500)	2900	ND	900	3700	60	
10	(1.0) 0.75 (1.25)	(+500)	33	ND	24	5	16	29.51
		(-500)	1600	ND	310	58	20	
11	(1.12) 1.20 (1.04)	(+500)	360	ND	93	38	14	33.05
		(-500)	2100	ND	270	400	26	
12	0.12	(+500)	1900	1400	290	190	6	30.06
		(-500)	13000	7000	2500	2200	350	
13	0.1	(+500)	40	ND	32	6	2	16.29
		(-500)	5500	ND	1500	350	280	
14	0.41	(+500)	1800	ND	580	72	60	23.6
		(-500)	6500	ND	740	190	390	
15	(0.56)	(+500)	32	ND	26	13	14	18.1
	0.50 (0.62)	(-500)	5400	ND	660	580	290	

035

LIPPY JANE SITE 3
(Excavation in bank 4.5 metres deep)

953037

WC	SLIMES:<75um Au(ppm)	Size um	CHROMITE (LOW MAGNETICS) Contained P.G.E./Au (ppb) Ir	Os	Ru	Pt	Au	Low magnetics in total H.M.F.(%)
16	0.37	(+500)	74	ND	22	5	54	16.08
		(-500)	8200	ND	1500	2600	350	
17	0.16	(+500)	75	132	48	3.5	26	30.22
		(-500)	10000	10000	1700	520	350 (420)	
18	0.14	(+500)	3100	3500	440	220	6	21.59
		(-500)	2800	3.5	600	92.5	30 (480)	
19	(1.24) 0.68 (1.80)	(+500)	3600	ND	430	280	10	20.52
		(-500)	8300	ND	1400	310	180	
20	(9.63) 4.80 (9.60,14.5)	(+500)	270	ND	74	14	100	18.18
		(-500)	6700	ND	1400	470	4	
21	(0.64) 0.74 (0.54)	(+500)	56	ND	28	5	8	24.48
		(-500)	1000	ND	230	200	4	
22	(0.73) 0.76 (0.70)	(+500)	3400	ND	770	780	120	26.18
		(-500)	14000	ND	2700	1300	22	
23	ND	(+500)	7200	ND	1100	410	4	21.47
		(-500)	35000	ND	5800	2300	270	

RILEY'S CREEK SITE 4
(Costean near SPRING, depth 3 metres)

RC	SLIMES:<75um Au(ppm)	Size um	CHROMITE (LOW MAGNETICS) Contained P.G.E./Au (ppb) Ir	Os	Ru	Pt	Au	Low magnetics in total H.M.F.(%)
01		(-2000+250)	65	ND	49	5	11	ND
02	(0.43) 0.66 (0.19)	(+500)	490	ND	110	100	4	21.03
		(-500)	4700	ND	1000	150	78	
03	0.03	(+500)	10000	10000	1300	530	4	25.98
		(-500)	12000	11000	1900	340	60 (20)	

RILEY'S CREEK SITE 5
(Costean 50 metres west of S4, depth 1 metre in former workings)

04		(-2000+500)	7000	ND	1100	150	11	ND

RILEY'S CREEK SITE 6
(Costean across workings 100m north of S4, depth 1.5m)

05	(3.00) 2.80 (3.20)	(+500)	39	ND	38	3	2	17.88
		(-500)	8200	ND	1600	290	1100	
06	0.22	(+500)	7250	3000	925	775	42	17.75
		(-500)	22000	28000	3200	950	340 (250)	

037

953039

RILEY'S CREEK SITE 7
(Costean across workings 25 metres west of S6, depth 2 metres)

RC	SLIMES:<75um Au(ppm)	Size um	CHROMITE (LOW MAGNETICS) Ir	Os	Ru	Pt	Au	Low magnetics in total H.M.F.(%)
07	ND	(-2000+250)	17000	ND	3300	1500	17	ND
08	0.34	(+500)	3400	ND	480	110	62	16.87
		(-500)	28000	ND	6500	1800	330	

RILEY'S CREEK SITE 8
(Costean across workings 25metres west of S7, depth of 2 metres)

09	(0.09)	(+500)	650	580	120	85	10	21
		(-500)	25000	20000	4500	1300	250 (200)	
10	0.03	(+500)	950	925	210	95	2	15.84
		(-500)	5500	5500	800	240	3400 (300)	
11	0.13	(+500)	1500	2500	380	54	6	14
		(-500)	18000	20000	3600	500	70	

RILEY'S CREEK SITE 9
(Costean across workings 75 metres north of S8 depth 3 metres)

12	0.1	(+500)	3800	4500	540	65	4	14.58
		(-500)	3100	2500	480	100	44	
13	(1.06) 0.58(1.55)	(+500)	2.10%	ND	3400	1800	20	4.85
		(-500)	7.00%	ND	1.40%	2700	670	

GENALYSIS LABORATORY SERVICES PTY. LTD.

LABORATORY REPORT

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

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

038

JOB INFORMATION

JOB CODE :218.0/861851
NO. SAMPLES :98
ELEMENTS :15
CLIENT O/N :VERBAL
DATE RECEIVED :29/08/86
DATE COMPLETED :12/09/86

COMMENTS : ATTENTION : L.KILLIGREW....
COMMENTS : HEVMIN... Zn & Cr BY C/AAS APPROACH COMPLETE DISSOLUTION OF CHROMITE...

LEGEND

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

SAMPLE INFORMATION

ELEMENTS		Zn	Zn	Au	Au-Rp1	Au-Rp2	As	Ag	Sb	Bi	Cu	Pb	Ni	Mo	Cr	W
UNITS		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
DETECTION		1	1	0.01	0.01	0.01	5	0.1	1	1	1	1	1	2	0.01	2
METHOD		C/AAS	B/AAS	B/AAS	B/AAS	B/AAS	B/AAS	B/AAS	B/AAS	B/AAS	B/AAS	B/AAS	B/AAS	B/AAS	C/AAS	F/COL
SAMPLE NUMBERS																
1	1:RC-02-500 HIGHMAG	680	72	0.23	0.02	0.03	X	X	X	X	3	3	2750	X	14.50	X
2	1:RC-03-500 HIGHMAG	640	48	0.01			X	X	1	X	3	2	3000	X	17.00	X
3	1:RC-05-500 HIGHMAG	660	44	X			X	X	2	X	4	1	2800	X	19.00	X
4	1:RC-06-500 HIGHMAG	720	60	0.01			X	X	X	X	21	1	2900	2	24.50	X
5	1:RC-08-500 HIGHMAG	500	88	0.04			X	X	X	X	12	X	3100	2	15.00	X
6	1:RC-09-500 HIGHMAG	660	76	0.66	0.05		X	X	1	X	145	3	2750	2	16.50	X
7	1:RC-10-500 HIGHMAG	640	94	0.01			X	X	2	X	7	2	3700	2	15.00	X
8	1:RC-11-500 HIGHMAG	620	125	X			X	X	X	X	74	2	5000	2	15.50	X
9	1:RC-12-500 HIGHMAG	660	68	0.01			X	X	X	X	7	X	4000	2	18.00	X
10	1:RC-13-500 HIGHMAG	660	60	0.01			X	X	X	X	28	2	3300	2	15.50	X
11	1:WC-01-500 HIGHMAG	160	56	0.12			X	X	1	X	7	11	600	6	3.20	2
12	1:WC-02-500 HIGHMAG	205	78	0.15			X	X	X	X	11	18	600	4	4.10	2
13	1:WC-03-500 HIGHMAG	420	76	2.15	1.20	I/S	X	X	X	X	13	20	900	18	10.20	2
14	1:WC-05-500 HIGHMAG	680	112	X			X	X	X	X	13	31	1000	18	13.00	2
15	1:WC-06-500 HIGHMAG	1160	84	2.20	1.65		X	0.2	X	X	6	16	800	4	22.00	X
16	1:WC-08-500 HIGHMAG	500	68	1.30	0.32	1.85	X	0.1	X	X	5	9	1600	4	11.00	X
17	1:WC-09-500 HIGHMAG	370	62	0.86			X	X	X	X	6	12	1750	4	9.20	X
18	1:WC-10-500 HIGHMAG	620	66	0.70	0.23		X	X	X	X	5	17	1850	4	13.50	X
19	1:WC-11-500 HIGHMAG	660	54	0.11			X	X	2	X	5	11	2150	2	13.50	X
20	1:WC-12-500 HIGHMAG	780	68	0.42	0.54		X	X	2	X	3	7	2000	2	17.50	X
21	1:WC-13-500 HIGHMAG	480	60	0.04			X	X	X	X	2	4	1800	X	14.50	X
22	1:WC-14-500 HIGHMAG	600	72	0.05			X	0.1	4	X	4	4	1850	X	16.00	X
23	1:WC-15-500 HIGHMAG	470	48	X			X	X	X	X	3	3	1700	2	14.50	X
24	1:WC-16-500 HIGHMAG	470	58	X			X	X	X	X	2	3	1600	2	15.00	X
25	1:WC-17-500 HIGHMAG	500	43	0.16			X	X	1	X	3	3	1600	2	15.00	X

9530040

	ELEMENTS	In	Zn	Au	Au-Rp1	Au-Rp2	As	Ag	Sb	Bi	Cu	Pb	Ni	Mo	Cr	W
26	1:WC-18-500 HIGHMAG	620	62	0.04			X	X	X	X	9	8	1350	X	16.50	X
27	1:WC-19-500 HIGHMAG	580	74	0.06			X	X	1	1	6	4	1700	2	14.00	X
28	1:WC-20-500 HIGHMAG	640	68	X			X	X	X	X	2	6	1650	2	16.50	X
29	1:WC-21-500 HIGHMAG	720	82	0.02			X	X	X	X	6	5	1500	2	20.00	X
30	1:WC-22-500 HIGHMAG	600	56	0.01			X	0.1	X	X	4	4	1900	2	15.50	X
31	1:WC-23-500 HIGHMAG	620	50	X			X	X	2	X	8	4	1700	X	14.50	X
32	2:RC-02+500 HIGHMAG	480	74	0.02			X	X	1	X	4	3	2500	2	14.50	X
33	2:RC-03+500 HIGHMAG	600	46	0.01			X	X	X	X	5	3	2100	2	17.50	X
34	2:RC-05+500 HIGHMAG	470	35	0.02			X	X	2	X	8	2	2150	2	18.00	X
35	2:RC-06+500 HIGHMAG	780	58	X			X	X	X	X	6	1	2650	6	26.50	X
36	2:RC-08+500 HIGHMAG	680	112	X			X	X	3	X	11	1	3600	4	19.00	X
37	2:RC-09+500 HIGHMAG	680	36	X			X	X	X	X	6	X	2100	4	22.00	X
38	2:RC-10+500 HIGHMAG	700	66	X			X	X	1	X	6	1	1750	4	21.00	X
39	2:RC-11+500 HIGHMAG	820	36	X			X	X	1	X	8	X	2200	4	24.50	X
40	2:RC-12+500 HIGHMAG	780	60	0.02			X	X	X	X	9	X	2450	2	27.00	X
41	2:RC-13+500 HIGHMAG	740	36	0.02			X	X	X	X	7	1	2450	2	20.50	X
42	2:WC-01+500 HIGHMAG	160	46	0.02			X	X	X	X	5	3	480	4	2.20	2
43	2:WC-02+500 HIGHMAG	140	58	X			X	X	1	X	5	4	500	4	2.45	2
44	2:WC-03+500 HIGHMAG	180	135	0.08			X	X	X	X	18	12	780	8	3.40	2
45	2:WC-05+500 HIGHMAG	285	86	X			X	X	X	X	28	33	920	28	3.80	2
46	2:WC-06+500 HIGHMAG	285	74	X			X	X	X	X	9	28	1120	8	3.60	X
47	2:WC-08+500 HIGHMAG	250	60	0.05			X	X	X	X	5	9	1150	4	4.40	X
48	2:WC-09+500 HIGHMAG	180	60	X			X	X	1	X	4	7	920	4	3.50	X
49	2:WC-10+500 HIGHMAG	235	66	0.01			5	X	X	X	4	15	1250	6	6.20	X
50	2:WC-11+500 HIGHMAG	540	72	0.01			X	X	2	X	3	10	1450	4	14.50	X
51	2:WC-12+500 HIGHMAG	600	82	X			X	X	X	1	3	8	1550	2	15.50	X
52	2:WC-13+500 HIGHMAG	640	56	0.01			X	X	X	X	2	4	1600	2	16.50	X
53	2:WC-14+500 HIGHMAG	600	54	0.02			X	X	X	X	4	4	1550	2	18.00	X
54	2:WC-15+500 HIGHMAG	430	56	X			X	X	1	X	9	2	1400	4	14.50	X
55	2:WC-16+500 HIGHMAG	430	64	0.02			X	X	X	X	5	3	1600	4	13.50	X
56	2:WC-17+500 HIGHMAG	280	56	X			X	X	3	X	4	3	1040	2	8.60	X
57	2:WC-18+500 HIGHMAG	580	60	0.07			X	X	X	X	7	6	1800	4	18.00	X
58	2:WC-19+500 HIGHMAG	480	56	0.01			X	X	2	X	3	6	1300	4	16.00	X
59	2:WC-20+500 HIGHMAG	580	66	0.01			X	X	X	X	2	6	1100	2	17.00	X
60	2:WC-21+500 HIGHMAG	680	66	0.08			X	X	X	X	3	5	1020	X	20.00	X
61	2:WC-22+500 HIGHMAG	470	64	X			X	X	X	X	3	5	1200	4	17.00	X
62	2:WC-23+500 HIGHMAG	560	62	0.01			X	X	X	X	6	5	1140	2	17.00	X
63	3:RC-02:SLIMES	410	145	0.66	0.19		X	X	2	X	27	17	5400	2	5.00	X
64	3:RC-03:SLIMES	440	215	0.03			X	X	X	X	31	21	6600	X	4.40	X
65	3:RC-05:SLIMES	410	235	2.00	3.20		X	X	X	X	40	21	6800	X	3.20	X
66	3:RC-06:SLIMES	380	215	0.22			X	X	X	X	40	27	8400	2	3.10	X
67	3:RC-08:SLIMES	380	215	0.34			X	X	X	X	29	11	6600	2	3.40	X
68	3:RC-09:SLIMES	450	265	0.09			X	X	X	X	27	15	5800	4	3.20	X
69	3:RC-10:SLIMES	430	225	0.03			X	X	X	X	33	10	5400	2	2.40	X
70	3:RC-11:SLIMES	440	230	0.13			X	X	X	X	37	8	7200	2	4.00	X

039

9530441

ELEMENTS	In	In	Au	Au-Rpl	Au-Rp2	As	Ag	Sb	Bi	Cu	Pb	Ni	Mo	Cr	W
71 3:RC-12:SLIMES	450	205	0.10			X	X	X	X	32	12	7000	2	4.00	X
72 3:RC-13:SLIMES	450	150	0.50	1.55		X	X	X	X	41	26	4000	2	2.70	2
73 3:WC-01:SLIMES	I/S	170	1.20	1.20		X	1.3	X	X	86	92	1250	26	I/S	2
74 3:WC-02:SLIMES	760	104	0.37			X	X	X	X	88	22	2150	2	12.50	X
75 3:WC-03:SLIMES	1250	100	0.40			X	X	X	X	42	38	700	8	17.50	2
76 3:WC-05:SLIMES	1650	96	1.70	1.85		X	0.2	X	X	34	24	720	X	28.00	2
77 3:WC-06:SLIMES	1450	86	1.50	2.65	3.30	X	X	X	X	33	21	900	2	20.00	X
78 3:WC-08:SLIMES	1550	120	3.60	2.30	4.00	X	0.5	X	X	50	23	1400	4	20.50	X
79 3:WC-09:SLIMES	1200	90	1.35	1.35		X	X	X	X	40	23	1250	4	19.00	X
80 3:WC-10:SLIMES	1650	155	0.72	1.25		X	X	X	X	47	62	2000	2	19.00	X
81 3:WC-11:SLIMES	1100	120	1.20	1.04		X	X	X	X	47	27	2350	4	12.50	X
82 3:WC-12:SLIMES	840	120	0.12			X	X	X	X	40	22	2600	2	8.40	X
83 3:WC-13:SLIMES	410	100	0.10			X	X	X	X	27	12	2750	X	6.40	X
84 3:WC-14:SLIMES	360	110	0.41			X	X	X	X	22	15	2600	X	4.10	X
85 3:WC-15:SLIMES	300	84	0.50	0.62		X	X	X	X	15	8	2350	2	3.00	X
86 3:WC-16:SLIMES	310	92	0.37			X	X	1	X	22	12	2100	2	4.30	X
87 3:WC-17:SLIMES	300	100	0.16			X	X	1	X	35	25	2000	4	5.60	X
88 3:WC-18:SLIMES	400	112	0.14			X	X	1	X	72	42	2150	4	8.20	X
89 3:WC-19:SLIMES	660	104	0.60	1.00		X	X	X	X	40	22	2350	2	8.60	X
90 3:WC-20:SLIMES	600	96	4.00	9.60	14.50	X	0.5	X	X	29	24	2000	2	8.40	X
91 3:WC-21:SLIMES	440	100	0.74	0.54		X	0.1	1	X	29	25	2550	4	7.40	X
92 3:WC-22:SLIMES	860	80	0.76	0.70		X	0.1	X	X	20	15	1950	2	15.50	X
93 Ch.0001(1:RC-02-500 HIGH)	620	56	0.07			X	X	X	X	4	4	2750	X	15.50	X
94 Ch.0026(1:WC-10-500 HIGH)	680	50	0.02			X	X	X	X	6	8	1350	X	10.00	X
95 Ch.0051(2:WC-12+500 HIGH)	620	60	0.01			X	X	1	X	3	8	1450	2	16.50	X
96 Ch.0076(3:WC-05:SLIMES)	1550	100	1.10			X	0.2	X	X	36	26	700	X	25.50	2
97 STD 1:GS19	230	420	0.13			105	4.9	12	2400	610	300	40	0	0.60	
98 STD 2:W50															60

PLEASE NOTE: COARSE REJECTS AND PULPS WILL BE STORED FOR 60 DAYS WITHOUT CHARGE. AFTER THIS PERIOD ALL COARSE REJECTS WILL BE DISCARDED AND PULPS STORED AT A RATE OF $25/cubic metre/month FOR A MAXIMUM OF 12 MONTHS , UNLESS OTHERWISE ADVISED IN WRITING.

040

93C042

GENALYSIS LABORATORY SERVICES PTY. LTD.

LABORATORY REPORT

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

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

041

JOB INFORMATION

JOB CODE : 218.0/861729
NO. SAMPLES : 53
ELEMENTS : 7
CLIENT O/N : VERBAL
DATE RECEIVED : 20/08/1986
DATE COMPLETED : 16/09/1986

COMMENTS : ATTENTION : L. KILLIGREW....
COMMENTS : HEVMIN....

LEGEND

'X' = LESS THAN STATED DETECTION LIMIT
'N/L' = SAMPLE NOT LOCATED
'*' = RESULT HAS BEEN CHECKED
'( )' = RESULT STILL TO COME
'I/S' = INSUFFICIENT SAMPLE FOR ANALYSIS

SAMPLE INFORMATION

ELEMENTS		Au	Pt	Pd	Rh	Ru	Ir	Ag
UNITS		ppb	ppb	ppb	ppb	ppb	ppb	ppm
DETECTION		2	0.5	0.5	0.5	0.5	0.5	1
METHOD		B2/AAS	B2/AAS	B2/AAS	B2/AAS	B2/AAS	B2/AAS	C/AAS
SAMPLE NUMBERS								
1	1:RC-08-500 LOWMAGS	330	1800.0	7.0	280.0	6500.0	28000	X
2	1:WC-02-500 LOWMAGS	72	580.0	1.0	70.0	1100.0	5700.0	X
3	1:WC-06-500 LOWMAGS	140	46.0	1.0	21.0	480.0	1900.0	X
4	1:WC-11-500 LOWMAGS	26	400.0	2.5	25.0	270.0	2100.0	X
5	1:WC-14-500 LOWMAGS	390	190.0	1.0	31.0	740.0	6500.0	X
6	1:WC-15-500 LOWMAGS	290	580.0	1.0	36.0	660.0	5400.0	X
7	1:WC-16-500 LOWMAGS	350	2600.0	1.5	86.0	1500.0	8200.0	X
8	1:WC-19-500 LOWMAGS	180	310.0	1.5	51.0	1400.0	8300.0	X
9	1:WC-20-500 LOWMAGS	4	470.0	1.0	62.0	1400.0	6700.0	X
10	1:WC-21-500 LOWMAGS	4	200.0	1.5	15.0	230.0	1000.0	X
11	1:WC-22-500 LOWMAGS	22	1300.0	1.5	140.0	2700.0	14000	X
12	1:WC-23-500 LOWMAGS	270	2300.0	1.5	250.0	5800.0	35000	X
13	2:RC-08-500 MEDMAGS	56	30.0	4.0	13.0	230.0	650.0	X
14	2:WC-02-500 MEDMAGS	64	7.0	1.0	3.0	34.0	110.0	X
15	2:WC-06-500 MEDMAGS	12	3.0	X	2.0	28.0	44.0	X
16	2:WC-11-500 MEDMAGS	4	250.0	1.0	26.0	280.0	2000.0	X
17	2:WC-14-500 MEDMAGS	24	4.5	3.0	3.5	34.0	46.0	X
18	2:WC-15-500 MEDMAGS	220	6.5	1.5	4.0	43.0	61.0	X
19	2:WC-16-500 MEDMAGS	86	9.0	2.0	5.5	65.0	100.0	X
20	2:WC-19-500 MEDMAGS	18	5.5	1.0	3.5	38.0	52.0	X
21	2:WC-20-500 MEDMAGS	110	18.0	2.5	6.0	61.0	91.0	X
22	2:WC-21-500 MEDMAGS	24	3900.0	2.5	46.0	85.0	540.0	X
23	2:WC-22-500 MEDMAGS	2	8.0	1.0	4.0	41.0	59.0	X
24	2:WC-23-500 MEDMAGS	66	17.0	1.0	3.5	50.0	280.0	X
25	3:RC-08+500 LOWMAGS	62	110.0	3.0	19.0	480.0	3400.0	X

042

	ELEMENTS	Au	Pt	Pd	Rh	Ru	Ir	Ag
26	3:WC-02+500 LOWMAGS	30	38.0	0.5	6.0	120.0	560.0	X
27	3:WC-06+500 LOWMAGS	26	4.0	1.5	2.5	24.0	33.0	X
28	3:WC-11+500 LOWMAGS	14	38.0	1.0	8.0	93.0	360.0	X
29	3:WC-14+500 LOWMAGS	60	72.0	0.5	17.0	580.0	1800.0	X
30	3:WC-15+500 LOWMAGS	14	13.0	1.0	3.0	26.0	32.0	X
31	3:WC-16+500 LOWMAGS	54	5.0	X	2.0	22.0	74.0	X
32	3:WC-19+500 LOWMAGS	10	280.0	X	21.0	430.0	3600.0	X
33	3:WC-20+500 LOWMAGS	100	14.0	1.5	5.5	74.0	270.0	X
34	3:WC-21+500 LOWMAGS	8	5.0	X	2.5	28.0	56.0	X
35	3:WC-22+500 LOWMAGS	120	780.0	1.0	42.0	770.0	3400.0	X
36	3:WC-23+500 LOWMAGS	4	410.0	1.0	45.0	1100.0	7200.0	X
37	4:RC-08+500 MEDMAGS	6	6.5	0.5	4.0	39.0	88.0	X
38	4:WC-02+500 MEDMAGS	4	16.0	X	3.0	26.0	38.0	X
39	4:WC-06+500 MEDMAGS	4	150.0	X	17.0	150.0	970.0	X
40	4:WC-11+500 MEDMAGS	6	14.0	1.0	3.0	23.0	29.0	X
41	4:WC-14+500 MEDMAGS	4	15.0	0.5	3.0	26.0	28.0	X
42	4:WC-15+500 MEDMAGS	8	16.0	0.5	3.5	30.0	36.0	X
43	4:WC-16+500 MEDMAGS	6	16.0	1.5	3.0	28.0	31.0	X
44	4:WC-19+500 MEDMAGS	4	42.0	1.5	8.5	160.0	1100.0	X
45	4:WC-20+500 MEDMAGS	X	6.5	X	2.5	28.0	65.0	X
46	4:WC-21+500 MEDMAGS	6	1000.0	1.5	14.0	120.0	500.0	X
47	4:WC-22+500 MEDMAGS	60	560.0	1.0	28.0	600.0	5300.0	X
48	4:WC-23+500 MEDMAGS	36	20.0	1.5	6.0	54.0	180.0	X
49	Ch.0002(1:WC-02-500 LOWM)	68	100.0	1.0	20.0	470.0	3900.0	X
50	Ch.0026(3:WC-02+500 LOWM)	22	10.0	1.5	3.0	42.0	180.0	X
51	STD 1:M3							14
52	STD 2:099		200.0	160.0				
53	STD 3:MR1	210						

9530444

GENALYSIS LABORATORY SERVICES PTY. LTD.

LABORATORY REPORT

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

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

043

JOB INFORMATION

JOB CODE :218.0/861728
NO. SAMPLES :35
ELEMENTS :7
CLIENT O/N :VERBAL
DATE RECEIVED :19/08/86
DATE COMPLETED :05/09/86

COMMENTS : ATTENTION : L. KILLIGREW....
COMMENTS : HEVMIN....

LEGEND

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

SAMPLE INFORMATION

ELEMENTS	Ag	Au	Pt	Pd	Rh	Ru	Ir
UNITS	ppm	ppb	ppb	ppb	ppb	ppb	ppb
DETECTION	1	2	0.5	0.5	0.5	0.5	0.5
METHOD	C/AAS	B2/AAS	B2/AAS	B2/AAS	B2/AAS	B2/AAS	B2/AAS
SAMPLE NUMBERS							
1 1:RC-02-500 LOWMAGS	X	78	150.0	X	41.0	1000.0	4700.0
2 1:RC-05-500 LOWMAGS	X	1100	290.0	1.5	62.0	1600.0	8200.0
3 1:RC-13-500 LOWMAGS	X	670	2700.0	1.0	540.0	1.40%	7.00%
4 1:WC-05-500 LOWMAGS	X	14	64.0	0.5	15.0	290.0	1300.0
5 1:WC-08-500 LOWMAGS	X	150	100.0	X	34.0	850.0	3900.0
6 1:WC-09-500 LOWMAGS	X	60	3700.0	1.5	71.0	900.0	2900.0
7 1:WC-10-500 LOWMAGS	X	20	58.0	1.0	16.0	310.0	1600.0
8 1:WC-13-500 LOWMAGS	X	280	350.0	X	61.0	1500.0	5500.0
9 2:RC-02-500 MEDMAGS	X	28	20.0	1.5	7.5	130.0	320.0
10 2:RC-05-500 MEDMAGS	X	10	7500.0	1.0	4.0	49.0	81.0
11 2:RC-13-500 MEDMAGS	X	60	85.0	X	23.0	530.0	1900.0
12 2:WC-05-500 MEDMAGS	X	8	62.0	X	4.0	40.0	54.0
13 2:WC-08-500 MEDMAGS	X	16	40.0	X	5.0	52.0	64.0
14 2:WC-09-500 MEDMAGS	X	15	30.0	1.0	8.5	170.0	500.0
15 2:WC-10-500 MEDMAGS	X	8	6.0	1.5	3.5	40.0	110.0
16 2:WC-13-500 MEDMAGS	X	40	6.0	X	4.0	42.0	40.0
17 3:RC-02+500 LOWMAGS	X	4	100.0	X	5.5	110.0	490.0
18 3:RC-05+500 LOWMAGS	X	2	3.0	X	4.0	38.0	39.0
19 3:RC-13+500 LOWMAGS	X	20	1800.0	X	170.0	3400.0	2.10%
20 3:WC-05+500 LOWMAGS	X	4	3.5	X	3.5	35.0	38.0
21 3:WC-08+500 LOWMAGS	X	4	1600.0	16.0	40.0	310.0	1100.0
22 3:WC-09+500 LOWMAGS	X	10	17.0	X	4.0	57.0	180.0
23 3:WC-10+500 LOWMAGS	X	16	5.0	1.0	3.5	24.0	33.0
24 3:WC-13+500 LOWMAGS	X	2	6.0	X	5.5	32.0	40.0
25 4:RC-02+500 MEDMAGS	X	2	67.0	X	9.5	190.0	700.0

9530045

ELEMENTS		Ag	Au	Pt	Pd	Rh	Ru	Ir
26	4:RC-05+500 MEDMAGS	X	16	5.0	0.5	3.5	34.0	40.0
27	4:RC-13+500 MEDMAGS	X	6	210.0	X	61.0	1800.0	4500.0
28	4:WC-05+500 MEDMAGS	X	4	4.0	X	15.0	32.0	46.0
29	4:WC-08+500 MEDMAGS	X	4	9.5	X	4.5	44.0	80.0
30	4:WC-09+500 MEDMAGS	X	X	14.0	3.0	3.0	29.0	35.0
31	4:WC-10+500 MEDMAGS	X	14	16.0	X	4.0	33.0	31.0
32	4:WC-13+500 MEDMAGS	X	16	13.0	X	4.0	30.0	30.0
33	Ch.0001(1:RC-02-500 LOWM)	X	76	150.0	X	40.0	1000.0	4600.0
34	Ch.0026(4:RC-05+500 MEDM)	X	18	5.0	0.5	3.5	32.0	40.0
35	STD 1:M1	29						

PLEASE NOTE: COARSE REJECTS AND PULPS WILL BE STORED FOR 60 DAYS WITHOUT CHARGE. AFTER THIS PERIOD ALL COARSE REJECTS WILL BE DISCARDED AND PULPS STORED AT A RATE OF $25/cubic metre/month FOR A MAXIMUM OF 12 MONTHS , UNLESS OTHERWISE ADVISED IN WRITING.

040

953046

GENALYSIS LABORATORY SERVICES PTY. LTD.

LABORATORY REPORT

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

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

045

JOB INFORMATION

JOB CODE : 218.0/861681
NO. SAMPLES : 47
ELEMENTS : 9
CLIENT O/N : VERBAL
DATE RECEIVED : 15/08/1986
DATE COMPLETED : 03/09/1986

COMMENTS : ATTENTION : L. KILLIGREW....
COMMENTS : HEVMIN....

LEGEND

'X' = LESS THAN STATED DETECTION LIMIT
'N/L' = SAMPLE NOT LOCATED
'*' = RESULT HAS BEEN CHECKED
'( )' = RESULT STILL TO COME
'I/S' = INSUFFICIENT SAMPLE FOR ANALYSIS

SAMPLE INFORMATION

ELEMENTS	Au	Ag	Pt	Pd	Rh	Ru	Ir	Os	Au
UNITS	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb
DETECTION	0.01	0.1	0.5	0.5	0.5	0.5	0.5	0.5	2
METHOD	B/AAS	B/AAS	B2/AAS	B2/AAS	B2/AAS	B2/AAS	B2/AAS	B2/AAS	B2/AAS
SAMPLE NUMBERS									
1 1:RC-03:-500 LOWMAG	0.02	X	340.0	1.5	77.5	1900.0	12000	11000	60
2 1:RC-06:-500 LOWMAG	0.34	X	950.0	1.0	130.0	3200.0	22000	28000	250
3 1:RC-09:-500 LOWMAG	0.25	X	1300.0	0.5	170.0	4500.0	25000	20000	200
4 1:RC-10:-500 LOWMAG	0.30	X	240.0	X	39.0	800.0	5500.0	5500	3400
5 1:RC-11:-500 LOWMAG	0.07	X	500.0	0.5	130.0	3600.0	18000	20000	2
6 1:RC-12:-500 LOWMAG	X	X	100.0	0.5	20.0	480.0	3100.0	2500	44
7 1:WC-01:-500 LOWMAG	0.58	X	62.5	0.5	13.0	320.0	2100.0	1450.0	1000
8 1:WC-03:-500 LOWMAG	0.21	X	47.0	0.5	21.0	775.0	2200.0	2000	46
9 1:WC-12:-500 LOWMAG	0.35	X	2200.0	1.5	140.0	2500.0	13000	7000	360
10 1:WC-17:-500 LOWMAG	0.42	X	520.0	0.5	62.5	1700.0	10000	10000	350
11 1:WC-18:-500 LOWMAG	0.03	X	92.5	X	19.0	600.0	2800.0	3.5	480
12 2:RC-03:-500 MEDMAG	X	X	6.0	3.0	5.0	52.0	120.0	180.0	12
13 2:RC-06:-500 MEDMAG	X	X	75.0	5.5	24.0	97.5	280.0	430.0	36
14 2:RC-09:-500 MEDMAG	0.03	X	3.5	4.5	4.0	42.0	56.0	80.0	100
15 2:RC-10:-500 MEDMAG	X	X	9.0	1.0	5.0	50.0	57.0	92.5	36
16 2:RC-11:-500 MEDMAG	X	X	7.0	1.5	4.0	47.0	170.0	250.0	68
17 2:RC-12:-500 MEDMAG	X	X	10.0	1.0	6.0	70.0	140.0	280.0	390
18 2:WC-01:-500 MEDMAG	0.04	X	13.0	0.5	2.5	28.0	29.0	43.0	56
19 2:WC-03:-500 MEDMAG	0.08	X	27.0	4.0	9.0	190.0	270.0	65.0	12
20 2:WC-12:-500 MEDMAG	0.03	X	700.0	1.5	47.0	900.0	2900.0	5000	14
21 2:WC-17:-500 MEDMAG	0.29	X	3.0	0.5	2.0	44.0	110.0	140.0	228
22 2:WC-18:-500 MEDMAG	X	X	12.0	39.0	2.5	23.0	27.0	46.0	24
23 3:RC-03:+500 LOWMAG	X	X	530.0	0.5	50.0	1300.0	10000	10000	4
24 3:RC-06:+500 LOWMAG	0.06	X	775.0	1.0	60.0	925.0	7250.0	3000	42
25 3:RC-09:+500 LOWMAG	X	X	85.0	0.5	9.0	120.0	650.0	580.0	10

95 3047

046

	ELEMENTS	Au	Ag	Pt	Pd	Rh	Ru	Ir	Os	Au
26	3:RC-10:+500 LOWMAG	X	X	95.0	1.5	26.0	210.0	950.0	925.0	2
27	3:RC-11:+500 LOWMAG	X	X	54.0	X	19.0	380.0	1500.0	2500	6
28	3:RC-12:+500 LOWMAG	X	X	65.0	0.5	16.0	540.0	3800.0	4500	4
29	3:WC-01:+500 LOWMAG	X	X	350.0	1.0	36.0	1000.0	7500.0	3000	12
30	3:WC-03:+500 LOWMAG	X	X	0.5	1.5	3.5	46.0	40.0	125.0	8
31	3:WC-12:+500 LOWMAG	X	X	190.0	1.0	24.0	290.0	1900.0	1400.0	6
32	3:WC-17:+500 LOWMAG	X	X	3.5	1.0	4.0	48.0	75.0	132.5	26
33	3:WC-18:+500 LOWMAG	X	X	220.0	1.0	32.0	440.0	3100.0	3500	6
34	4:RC-03:+500 MEDMAG	X	X	235.0	1.0	7.0	72.5	90.0	250.0	16
35	4:RC-06:+500 MEDMAG	X	X	460.0	1.5	72.5	800.0	5000.0	5000	28
36	4:RC-09:+500 MEDMAG	X	X	0.5	0.5	6.5	65.0	60.0	115.0	6
37	4:RC-10:+500 MEDMAG	X	X	36.0	1.0	7.0	92.5	110.0	200.0	10
38	4:RC-11:+500 MEDMAG	X	X	0.5	1.0	5.5	65.0	46.0	125.0	4
39	4:RC-12:+500 MEDMAG	X	X	2.0	1.0	5.5	57.0	52.0	95.0	14
40	4:WC-01:+500 MEDMAG	0.05	X	0.5	X	3.0	37.0	13.0	40.0	38
41	4:WC-03:+500 MEDMAG	X	X	0.5	1.0	5.5	56.0	33.0	62.5	4
42	4:WC-12:+500 MEDMAG	0.14	X	0.5	X	4.5	46.0	20.0	53.0	4
43	4:WC-17:+500 MEDMAG	X	X	0.5	1.0	4.5	48.0	23.0	53.0	60
44	4:WC-18:+500 MEDMAG	X	X	0.5	12.0	5.0	50.0	35.0	70.0	6
45	Ch.0001(1:RC-03:-500 LOW)	0.04	X	800.0	0.5	120.0	3100.0	14000	23000	10
46	Ch.0026(3:RC-10:+500 LOW)	X	X	210.0	0.5	41.0	750.0	4100.0	5000	8
47	STD 1:GS21	0.37	X							

GENALYSIS LABORATORY SERVICES PTY. LTD.

LABORATORY REPORT

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

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

047

JOB INFORMATION

JOB CODE : 218.0/861650
NO. SAMPLES : 15
ELEMENTS : 7
CLIENT O/N : VERBAL
DATE RECEIVED : 11/08/1986
DATE COMPLETED : 08/09/1986

COMMENTS : ATTENTION : L. KILLIGREN....
COMMENTS : EXPULP....

LEGEND

'X' = LESS THAN STATED DETECTION LIMIT
'N/L' = SAMPLE NOT LOCATED
'*' = RESULT HAS BEEN CHECKED
'( )' = RESULT STILL TO COME
'I/S' = INSUFFICIENT SAMPLE FOR ANALYSIS

SAMPLE INFORMATION

ELEMENTS		Au	Pt	Pd	Rh	Ru	Ir	Os
UNITS		ppb	ppb	ppb	ppb	ppb	ppb	ppb
DETECTION		2	0.5	0.5	0.5	0.5	0.5	0.5
METHOD		FIRE	B2/AAS	B2/AAS	B2/AAS	B2/AAS	B2/AAS	B2/AAS
SAMPLE NUMBERS								
1	WR-1	8	220.0	1.5	34.0	1200.0	6200.0	7900.0
2	WR-1-DUP	20	88.0	X	38.0	950.0	4500.0	5000.0
3	WR-2	6	760.0	1.0	100.0	2400.0	12000	12000
4	WR-2-DUP	30	500.0	7.5	130.0	2600.0	12000	12000
5	WR-3	34	2400.0	0.5	110.0	2300.0	13000	9800.0
6	WR-3-DUP	10	2900.0	0.5	310.0	8200.0	42000	36000
7	WR-4	8	7.0	1.0	2.5	31.0	54.0	45.0
8	WR-4-DUP	4	X	X	3.5	34.0	32.0	30.0
9	WR-5	6	17.0	1.5	7.0	98.0	700.0	740.0
10	WR-5-DUP	4	37.0	1.5	19.0	370.0	1200.0	1500.0
11	WR-6	34	2100.0	0.5	100.0	2700.0	14000	13000
12	WR-6-DUP	20	230.0	0.5	110.0	3000.0	13000	12000
13	Ch.0001(WR-1)							
14	STD 1:MR1	210						
15	STD 2:099		190.0	160.0				

953049