

95-3784

MICROFILMED
FICHE No. 013710-17

PLUTONIC OPERATIONS LIMITED

ACN 004 680 997

OPEN FILE

EXPLORATION LICENCES 4/92 AND 7/92

SORELL PENINSULA

Annual Report on Exploration Activity

September 1993 to August 1995

95-3784

**VOL 1 OF 2 - ELS 4/92 & 7/92 SORELL
PENINSULA ANNUAL REPORT 1993-95
CLOSE R.J, REID R - PLUTONIC OPERATIONS**

FILE NO.	
18 OCT 1995	
VOL. NO.	
EL4/92	SEE FOLIO 19, 20
EL7/92	SEE FOLIO 83
REVISION	DATE
18	

R.J Close and R Reid

21 August 1995

AMG REFERENCE POINTS ADDED

TABLE OF CONTENTS

753005

	Page No
1.0 SUMMARY AND RECOMMENDATIONS	6
1.1 Summary	6
1.2 Recommendations	6
2.0 INTRODUCTION	7
2.1 Tenure	7
2.2 Access and Land Usage	7
3.0 REGIONAL GEOLOGY	8
3.1 Introduction	8
3.2 Stratigraphy	8
3.2.1 Noddy Creek Volcanics	9
3.2.2 Timbertops Volcanics	11
3.2.3 Birch's Inlet - Mainwaring River Volcanics	12
3.2.4 Point Hibbs Melange Belt	13
3.2.5 Post-Cambrian Stratigraphy	14
4.0 EXPLORATION PHILOSOPHY	14
5.0 EXPLORATION HISTORY	14
6.0 WORK CONDUCTED 12 MONTHS TO AUGUST 1995	17
6.1 Introduction	17
6.2 Regional Studies	17
6.3 Thomas Creek Prospect	19
6.3.1 Introduction	19
6.3.2 Gridding	19
6.3.3 Geology	20
6.3.3.1 Volcanics	21
6.3.3.2 Intrusives	21
6.3.3.3 Alteration	23
6.3.3.4 Mineralisation	24
6.3.4 Geochemistry	25
6.3.5 Geophysics	
6.3.5.1 Introduction	28
6.3.5.2 Results	28
6.3.5.3 Conclusions	32
7.0 CONCLUSION	33
8.0 BIBLIOGRAPHY	34

FIGURES

1. ✓	Tenement Plan	1:1,250,000
2. ✓	Locality Plan	1:250,000
3. ✓	Regional Geology - Colour	1:500,000
4. ✓	Proposed GEOTEM Survey	1:250,000
5. ✓	Thomas Creek Prospect Grid	1:10,000
6. ✓	Thomas Creek Prospect Ti/Zr Plot	1:20,000
7. ✓	Thomas Creek Prospect Infill Grid Geology	1:4,000
8. ✓	Thomas Creek Cu - (Infill Grid)	1:4,000
9. ✓	Thomas Creek Pb - (Infill Grid)	1:4,000
10. ✓	Thomas Creek Co - (Infill Grid)	1:4,000
11. ✓	Thomas Creek Cu	1:20,000
12. ✓	Thomas Creek Pb	1:20,000
13. ✓	Thomas Creek Zn	1:20,000
14. ✓	Thomas Creek Co	1:20,000
15. ✓	Thomas Creek Au	1:20,000
16. ✓	Thomas Creek Alteration Index	1:20,000
17. ✓	Thomas Creek Alteration Index (Infill Grid)	1:4,000
18. ✓	Thomas Creek K (Infill Grid)	1:4,000
19. ✓	Thomas Creek K	1:20,000
20. ✓	Thomas Creek K/Na	1:20,000
21. ✓	Thomas Creek Ba/Na/100	1:20,000
22. ✓	Thomas Creek K/Fe	1:20,000
23. ✓	Thomas Creek Ca	1:20,000
24. ✓	Thomas Creek Na	1:20,000

FIGURES (Cont'd)

753003

25./	Thomas Creek Mg	1:20,000
26./	Thomas Creek Fe/Fe + Mg	1:20,000
27./	Thomas Creek P	1:20,000
28./	Thomas Creek Prospect - Cu Geochemistry and IP Anomalism	1:10,000

PLATES

	Scale
1. ✓ Regional Geology of the Sorell Peninsula	1:50,000
2. ✓ Aeromagnetic Contours of the Northern Tenement Area	1:50,000
3. ✓ Aeromagnetic Contours of the Southern Tenement Area	1:50,000
4. ✓ Radiometric Contours of the Northern Tenement Area	1:50,000
5. ✓ Radiometric Contours of the Southern Tenement Area	1:50,000
6. ✓ Aeromagnetic Contour Plan of the Thomas Creek Diorite Complex	1:10,000
7. ✓ Thomas Creek Prospect Geology	1:2,500
8. ✓ Thomas Creek Prospect Alteration Zones	1:2,500
9. ✓ Thomas Creek Prospect Geochemistry - Sample Locations	1:2,500
10. ✓ Thomas Creek Prospect Geochemistry - Copper Contours	1:2,500
11. ✓ Thomas Creek Prospect Gradient Array IP - Phase	1:2,500
12. ✓ Thomas Creek Prospect Gradient Resistivity	1:2,500

TABLES

1. Gradient Array Parameters
2. Dipole Dipole Parameters

APPENDICES

- I Geochemical Data
 - (a) Assay Results
 - (b) Data Base Tables of Elements and Ratios
 - (c) Data Plots (Figures 9 - 27)
- II Geophysical Data
 - (a) Gradient Array Plots
 - (b) Dipole Dipole Sections

1.0 SUMMARY AND RECOMMENDATIONS

1.1 Summary

A proposed airborne EM survey of the tenements had to be postponed because of unavailability of a suitable survey system during 1994/95.

Interpretation of image enhanced aeromagnetics and radiometrics over the tenement areas has indicated extensive development of VHMS prospective Noddy Creek Volcanics in the relatively unexplored region south of Timbertops through to the Wanderer River. In the Thomas Creek area, an intermediate sub-volcanic intrusive complex may represent a major volcanic centre for the Noddy Creek Volcanics. The surrounding volcanics are therefore prospective for caldera-related proximal massive sulphides, whereas the sub-volcanic intrusives could host significant porphyry style Cu (Au) mineralisation and related high level vein mineralisation.

Central to the intrusive complex at the Thomas Creek Prospect, detailed bedrock geochemical sampling, mapping and IP surveys have defined an 800m x 600m area of copper anomalism and associated potassic - phyllic alteration with coincident IP zones related to extensive pyrite development. The alteration is largely within andesites intruded by microdiorites, with the strongest pyrite-chlorite development and peak copper geochemistry localised marginal to the intrusives in ENE trending structural zones. It is intended to evaluate this important prospect by diamond drilling during the 1995/96 field season.

1.2 Recommendations

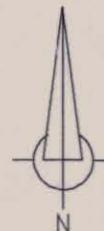
Three phases of exploration are proposed for the 1995/96 season.

The first stage is the flying in November/December of a GEOTEM survey of 75% of the tenements covering the prospective Noddy Creek Volcanics.

Following interpretation of this survey, detailed field surveys will evaluate prime massive sulphides targets, and reconnaissance drainage and mapping surveys will be conducted across prospective volcanic terrain to aid in regional interpretation and definition of new targets. This will involve establishment of new helipads and fly camps with crews operating out of the base camp at Thomas Creek.

The third phase will be diamond drilling of the Thomas Creek Prospect and any other significant prospect which has emerged from the earlier surveys.

AMG REFERENCE POINTS ADDED



41°

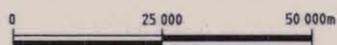
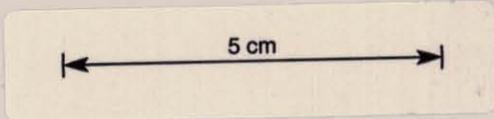
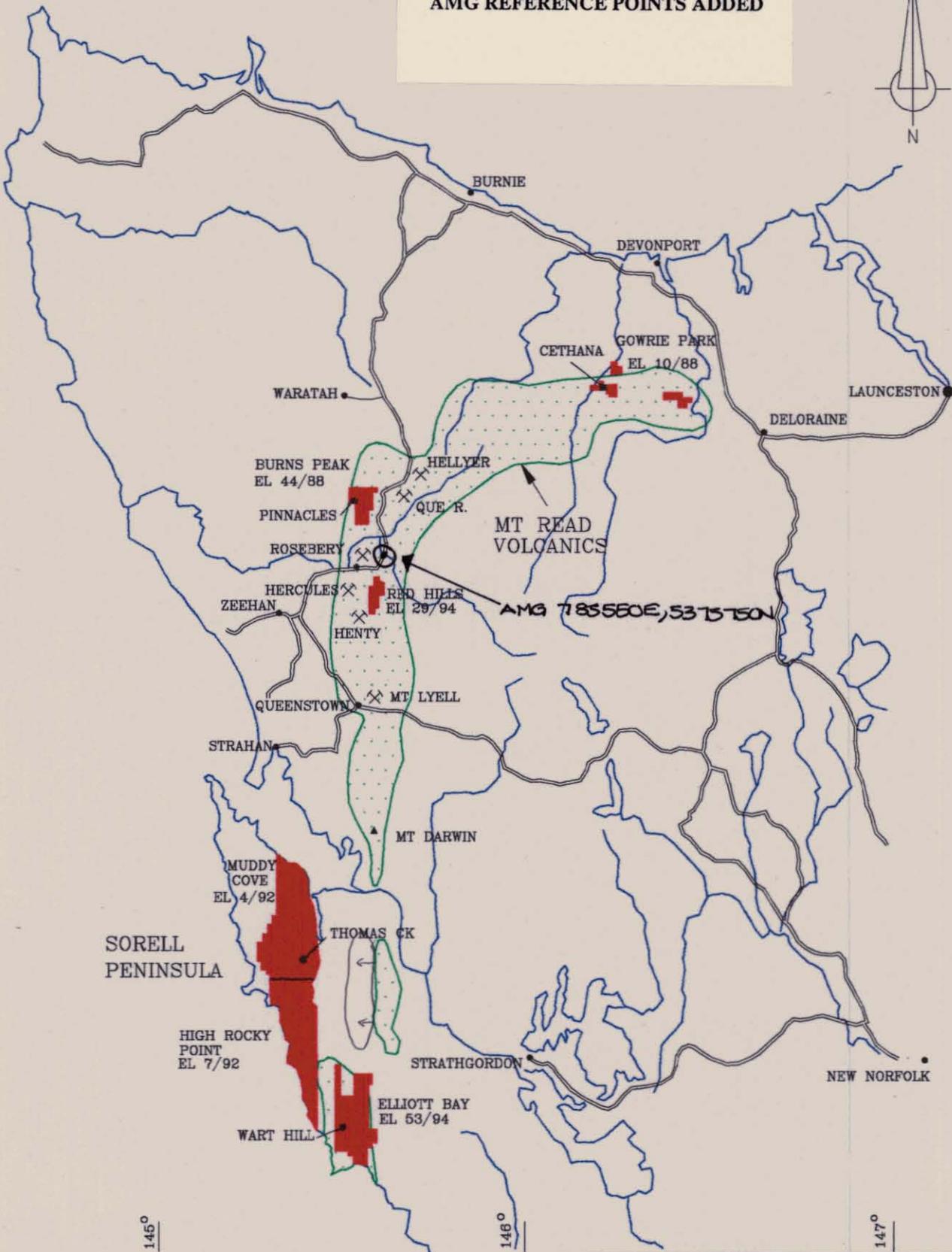
42°

43°

145°

146°

147°



SCALE 1:1250

REVISION	<h1>Plutonic</h1> <p>Plutonic Operations Limited A.C.N. 004 680 997</p>		
TECHNICAL REPORT NUMBER:			
CHECKED BY: R.J.C.	TENEMENT PLAN		
DATE: 2nd June 95			
SCALE: 1:1250	SOURCE:	DWG. NO. 1	

FIGURE 1

2.0 INTRODUCTION

2.1 Tenure

EL's 4/92 "Muddy Cove Creek" (243 km²) and 7/92 "High Rocky Point" (183 km²) were granted to Plutonic Operations Limited on 11 September 1992. The EL's are located in south-west Tasmania within the Sorell Peninsula as shown in Figures 1 and 2.

Following Plutonics initial assessment of the Sorell Peninsual tenements in 1993 it was evident that substantial exploration over a number of years would be required to bring any prospect to the development stage. Given that the Wilderness Society has proposed the Sorell Peninsula be added to the Tasmanian Wilderness World Heritage Area (TWWHA), it was therefore decided to quantify the sovereign risk perceived to be posed by conservation interests in inhibiting mining development within the South-West Conservation Area.

Assessment of this risk was achieved by presenting a hypothetical mining proposal for the Sorell Peninsula to the Tasmanian Department of Resources and Energy for its evaluation of environmental and conservation issues and the likelihood of approval for development. The Department responded in July 1994 with a document entitled "Issues for Consideration" which outlined the approval process and the requirement of any development to be declared a project of State Significance. In consideration of the fact the area has been declared a Strategic Prospectivity Zone and the strong support the Tasmanian Government has declared for any significant development in the area, Plutonic subsequently decided to proceed with the exploration of these tenements.

During 1993, whilst this assessment process was being conducted, no field exploration was undertaken and Plutonic was unable to fulfil its expenditure commitments of \$213,000 for the second year of these licences. However, Tasmania Development and Resources waived the expenditure in August 1994 provided Plutonic completed the proposed programme the following field season.

2.2 Access and Land Usage

Access and movement within these tenements is problematic with no roads or passable tracks for vehicles except for trail bikes in a few peripheral areas in the north. The prospective rocks are invariably under thick bush or forest with few natural helipads. Passage through this terrain is generally slow and physically demanding especially along creeks which are usually overgrown and difficult to travel along.

The Sorell Peninsula along the south-west coast, receives the full brunt of the roaring forties so that exploration in the winter months is not advisable and the field season is generally November to April.

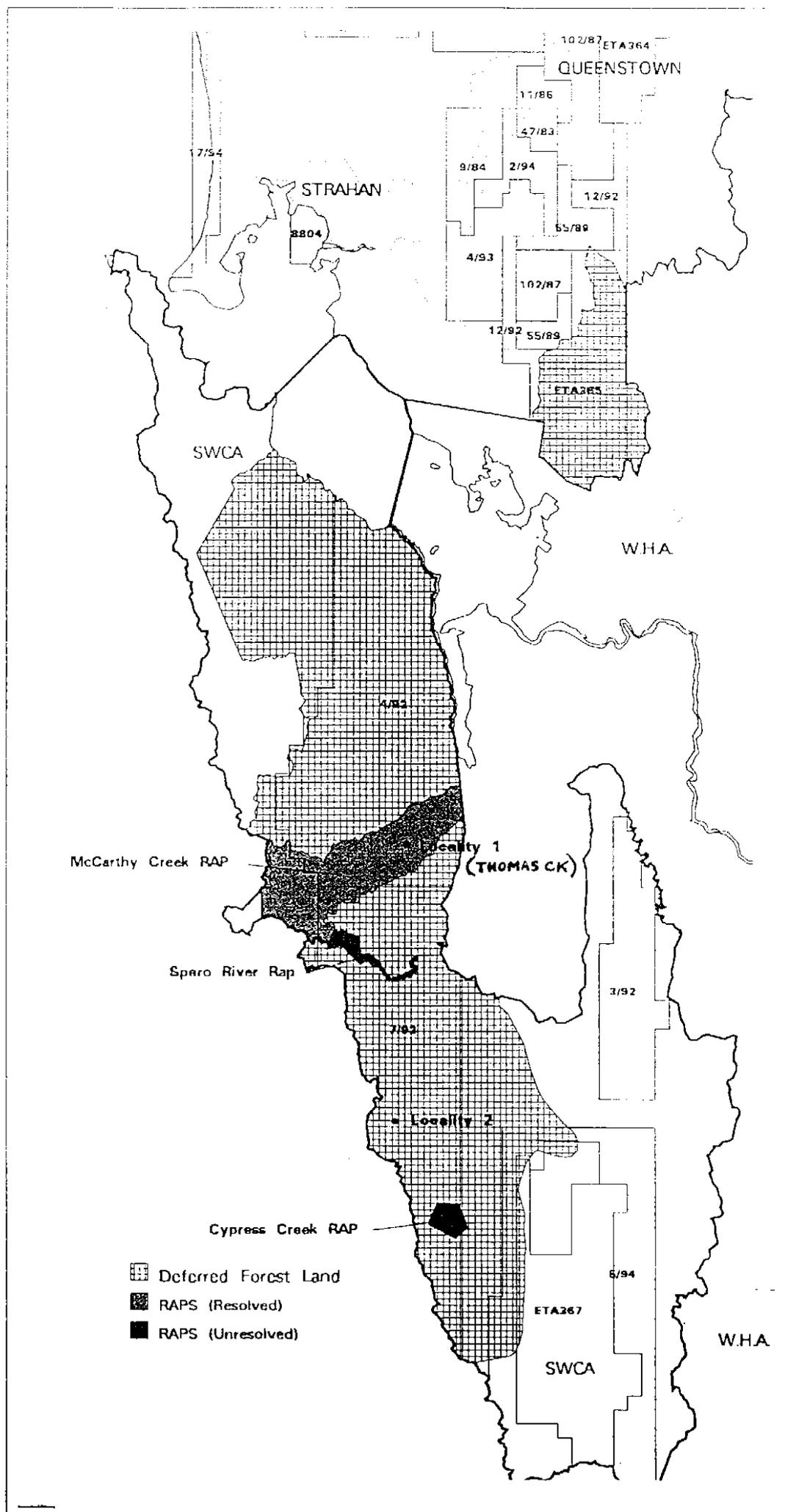


FIGURE 2

All of the area is included in the South-West Conservation Area. This means that although exploration is allowed, there are more stringent guidelines than in Crown Land elsewhere. This applies in particular to three Recommended Areas for Protection (RAPS) covering flora habitats within the tenement areas. Refer Figure 2. Given due care to minimise environmental disturbance and adherence to approved and safe exploration practice, work programmes in these areas such as at Thomas Creek Prospect, can be conducted satisfactorily.

3.0 REGIONAL GEOLOGY

3.1 Introduction

Due to the difficulty of access, lack of outcrop and minimal exploration to date, the geology of Sorell Peninsula is relatively poorly understood. For this reason an account of the geological work conducted in the area is presented.

The main belt of the Mt Read Volcanics extends for 170 km south from Hellyer, through Queenstown, along the West Coast Range to South Darwin Peak where it disappears under a Tertiary graben, to re-appear along the D'Aguillar Range and further south to the coast at Elliott Bay.

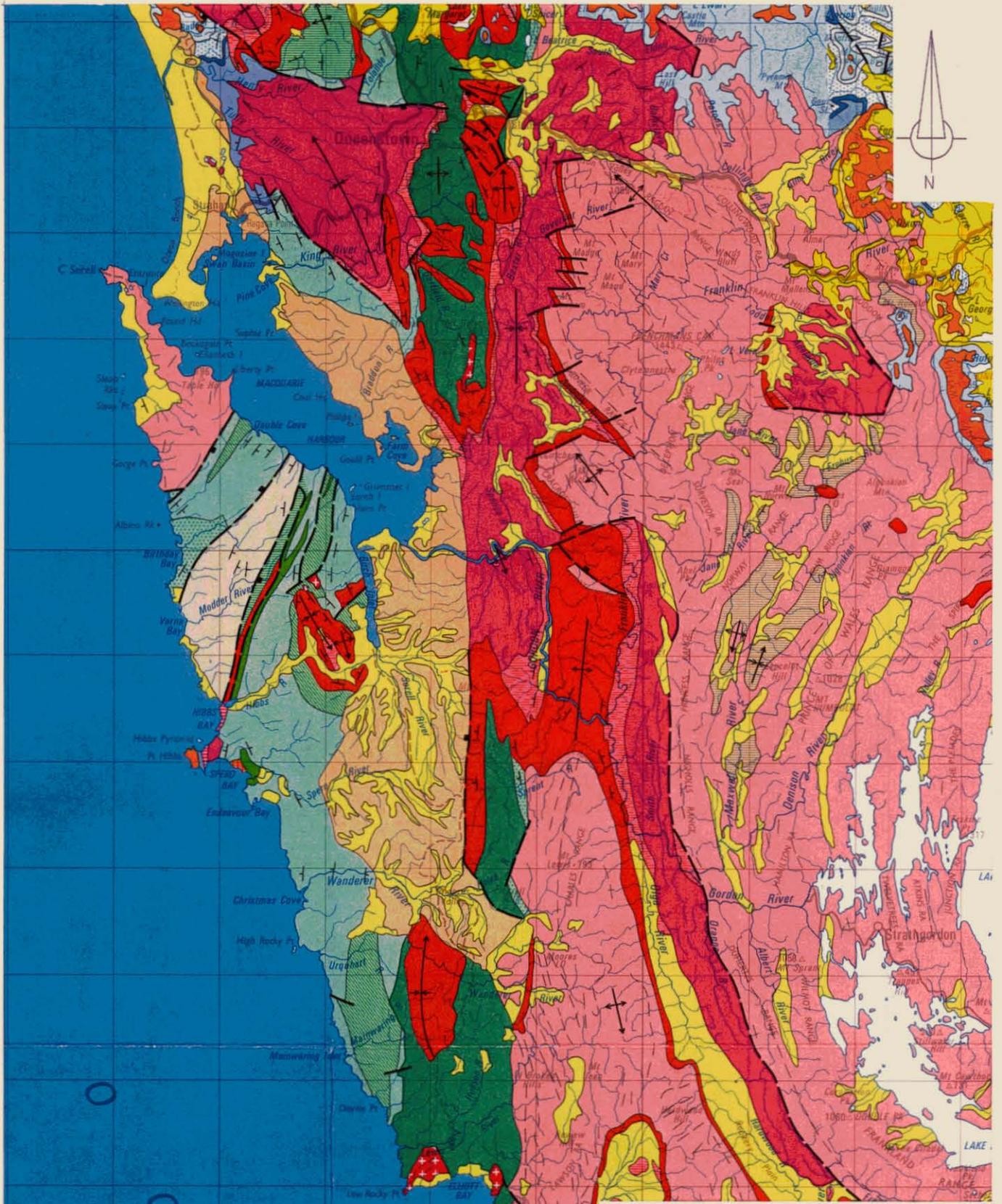
To the west of the D'Aguillar Range in the Sorell Peninsula, the Noddy Creek Volcanics are correlated with the Mt Reads on the basis of their petrology and calc-alkaline geochemical characteristics by a number of workers. However, it is difficult to structurally relate these volcanics with the main belt.

From regional scale magnetics and gravity it is clear that there is a major structure running north-south through Birch's Inlet on the east side of the Sorell Peninsula and a second north-westerly trending structure along the north side of Macquarie Harbour. The whole Sorell Peninsula may have been faulted south from a position west of Zeehan and the possibility of a separate sub-arc should not be discounted.

3.2 Stratigraphy

The geology of the Sorell Peninsula and the volcanics in particular has been described in company reports for BHP and Amoco/Cyprus, in White's PhD thesis and in recent Mines Department mapping by A Brown, D Seymour, M McClenaghan and D Findlay.

The first regional mapping of the area was completed by BHP in the late 1960s, however, it was based upon coastal and a few inland traverses and relied to a large degree on photo interpretation with the Cambrian and Precambrian left largely undifferentiated. Nevertheless Amoco/Cyprus (Ferris, 1984) relied heavily upon this mapping in their exploration and produced no map of their own other than the rough maps of their areas of interest.



5 cm

REVISION:	Plutonic Plutonic Operations Limited A.C.N. 004 680 997	
TECHNICAL REPORT NUMBER:		
CHECKED BY:	PROJECT:	REGIONAL GEOLOGY
R.J.L.D.S.E		
DATE:	SOURCE:	DWG. NO.:
SCALE: 1:500 000		

FIGURE 3

In order to rectify this situation the Tasmanian Mines Department instituted a 1:50,000 regional geological survey in the late 1980s, however due to funding restrictions this programme remains uncompleted. The area north of Varna Bay is covered by the Macquarie Harbour (1989) sheet and the area south of High Rocky Point covered by the Montgomery (1988) sheet. Unfortunately the central Point Hibbs sheet area covering the major area of interpreted Noddy Creek Volcanics and related intrusives has not been mapped apart from a few reconnaissance traverses.

The significant differences between the Mines Department mapping and the earlier BHP/Amoco/Cyprus mapping is the extension of the prospective Noddy Creek Volcanics south to the coast at High Rocky Point and the associated sediments down to Veridian Point. Noddy Creek Volcanics in the Point Hibbs quadrangle are interpreted mainly from aeromagnetics as well as limited reconnaissance mapping.

The structure of the Sorell Peninsula is discussed in Brown *et al.* (1991), Carey and Berry (1988) McClenaghan and Corbett (1989) and McClenaghan and Findlay (1993). Two thrust fault bounded belts of Cambrian rocks separated by Precambrian sedimentary sequences occur on the northern part of the Sorell Peninsula. The western-most belt contains the tholeiitic mafic to intermediate Lucas Creek Volcanics and associated carbonate and greywacke-mudstone sequences. The eastern belt, however contains a complex sequence of volcanic suites and associated volcanic derived sediments, intruded by mafic-ultramafic bodies and felsic to intermediate plutons. Refer Figure 3 and Plate 1.

The Cambrian-Ordovician sequences are confined by major north-north-east trending and easterly dipping thrust faults of probable Devonian age, along which late transcurrent movement is indicated by McClenaghan and Findlay (1993). This faulting together with limited mapping, poor exposure and the presence of isoclinal folding in sediment-dominant sequences, has combined to reduce the overall understanding of the relationships between major stratigraphic packages in this region.

However, Brown *et al* (1991) and McClenaghan and Findlay (1993) recognise the following Cambrian associations in the tenement areas:-

1. Calc-alkaline Noddy Creek Volcanics;
2. Boninitic Timbertops Volcanics;
3. Tholeiitic basalt Mainwaring-Birch's Inlet Volcanics;
4. Point Hibbs Melange Belt - mafic-ultramafic intrusives.

3.2.1 Noddy Creek Volcanics

The Noddy Creek Volcanics differ from the other volcanics on the Sorell Peninsula by the fact that they are a calc-alkaline island arc suite of rocks as opposed to the more exotic alkaline, tholeiitic and picritic basalts and boninitic andesites and ultramafics elsewhere on the peninsula.

It appears almost certain that the Noddy Creek Volcanics are a correlate of the VHMS mineralised Mt Read Volcanics in the Queenstown to Hellyer region. Based upon correlations with the other volcanic suites on the Peninsula, Brown (pers. comm.) feels that they may have been faulted south from around Zeehan. An alternative explanation suggested by McClenaghan and Corbett (1989) is that they are a separate sub-arc.

The Noddy Creek Volcanics and associated sediments were originally mapped by BHP in the 1960's, however they concentrated on the Timbertops area and the Point Hibbs ultramafic intrusives which are faulted against the western side of the Cambrian volcanics and sediments. (Close 1972.) Amoco/Cyprus gave a few localities some attention but not to the degree warranted by the prospectivity of the rocks.

Rocks considered by Brown (1988), McClenaghan and Findlay (1989), Brown *et al.* (1991), Brown (pers. comm.) and Seymour (pers. comm.) to be part of the Noddy Creek volcano-sedimentary association have been previously described in Hall *et al.* (1969), White (1975), McClenaghan and Corbett (1989). BHP and Amoco/Cyprus considered most of the sediments associated with these volcanics, from Macquarie Harbour to south of High Rocky Point, to be part of the Dundas Group.

Brown (1988), McClenaghan and Findlay (1993), Brown *et al.* (1991) and Seymour (pers. comm.) define the Noddy Creek volcano-sedimentary association in their mapping as being either pyroclastic, extrusive or intrusive, predominantly intermediate-acidic, calc-alkaline Cambrian volcanics or volcanoclastics and epiclastics derived from these volcanics. Where the association is dominated by the sedimentary component the volcanic units occur as pillowed and sheet lavas, breccia flows and porphyritic flows with volcanic xenoliths, interbedded with vitric tuff or volcanoclastic siltstone and volcanowacke beds.

Within the sediment dominated part of the section south of the Wanderer River, the sedimentary rocks form a flyschoid sequence which includes channelled sandstone and pebble-cobble conglomerate, suggesting a proximal submarine fan origin. The main clastic component is derived from a quartz-rich acid volcanic terrain with a minor component of metamorphic rock, exotic volcanic clasts and quartz fragments showing graphic intergrowths with feldspar.

In the Timbertops area and to the north two distinct groups of volcanics have been recognised. The first group consists of pyroxene/plagioclase phyric andesite lavas, while the second group consists of quartz/feldspar phyric rhyolitic lavas.

In the south, around High Rocky Point, three groups of pyroxene/plagioclase basaltic-andesite to andesitic rocks, and a later group of hornblende-bearing andesite-dacite dykes have been recognised, defining a chemically evolving suite of volcanic rocks consistent with the generally east facing nature of the sequence.

Geochemically the basaltic andesite and andesitic rocks have similarities with the Que-Hellyer Volcanics whilst the andesitic-dacite dykes from the southern part and the rhyolitic rocks from the northern part have geochemical similarities with the bulk of the acid to intermediate rocks of the Mt Read Volcanics.

In the northern exposures of Noddy Creek Volcanics from Muddy Cove Creek to Timbertops the Noddy Creek Volcanics were petrologically described by White (1975), Ferris (1984), Kay (1985) and McClenaghan and Findlay (1993).

White (1975) described weakly deformed and altered quartz-albite phyric acid lavas, welded quartz-rich lithic tuffs, non-porphyritic, and augite-albite phyric andesites, breccias and crystal lithic-vitric tuffs from sequences north of Timbertops. Whereas Ferris (1984) studying the Timbertops volcanics included augite \pm orthopyroxene-phyric basalts, basaltic andesitic tuffs and lavas, rhyodacites and siliceous andesites to trachyandesites as well as quartz microdiorites in the sequence. Rocks from the northern-most part of the Muddy Cove Creek area are described in Kay (1985) as acid tuffs, dacites, andesites as well as basalts, dolerite, gabbro, gabbro/norite and sediments including cherts.

In the Timbertops area to Muddy Cove Creek, McClenaghan and Findlay (1993) have broadly differentiated sequences of rhyolitic and andesitic composition, which in the Timbertops area are intruded by probable comagmatic felsic and intermediate-gabbro bodies. These may represent sub-volcanic intrusives into a former volcanic centre. They also recognise a separate group of boninitic lavas, referred to as the Timbertops Volcanics, which extend to the west and south of Timbertops.

South of Timbertops in the vicinity of Hibbs River and Thomas Creek, basaltic-andesitic tuffs, andesite, dacites and trachyandesites have been correlated with the Noddy Creek Volcanics. In the eastern part of this area adjacent to and probably underlying Ordovician sediments in the Timbertops Syncline, the volcanics are associated with a major intermediate intrusive centre referred to informally as the Thomas Creek diorite complex. The limits of this intrusive system are unknown but on the basis of aeromagnetic interpretation could cover 10 km². Mapped intrusives vary from medium to coarse grained augite-plagioclase phyritic diorite to microdiorite with locally strong chlorite-pyrite-magnetite-tourmaline alteration as at the Thomas Creek Prospect (528,6000N, 370,000E).

3.2.2 Timbertops Volcanics

In the Timbertops region outcrops of boninitic (high-Mg andesitic) lavas, breccias and crystal lithic tuffs, with interbedded mudstones and siltstones (McCleghan and Findlay 1993), are juxtaposed against the calc-alkaline Noddy Creek volcanics with the unexposed contact possibly a low angle thrust. These rocks are invariably altered with relatively pristine rocks consisting of talc and chlorite pseudomorphs of pyroxene in a matrix of talc, chlorite and spinel.

Microprobe analysis of spinels correlates these rocks with boninitic lavas around Zeehan. Boninitic volcanics were reported along the western side of the Timbertops Syncline as well as along the eastern flank of the ultramafics at the southern end of the Macquarie Harbour sheet.

BHP (McGregor and Bumstead, 1969) described the volcanics in the area mapped as Timbertops Volcanics by Brown *et al.* as being andesitic lavas with very minor basalt and gabbro bodies. They also noted the presence of talc and chlorite alteration of the andesites near contacts with intrusive diorite bodies.

White (1975) refers to these rocks as altered ultramafics, probably pyroxenites, and considered they may be interbedded with the Noddy Creek Volcanics.

Amoco (Ferris, 1984) noted a strong correlation between nickel in soils and chrome in sediments and volcanics west and south of the Timbertops region, as corresponding to the boninitic rocks of McClenaghan and Findlay (1993). This correlation suggests that soil geochemistry for Ni and stream geochemistry for Cr may be a useful mapping tool in delineating the boundary of the calc-alkaline Noddy Creek Volcanics from the Timbertops Volcanics.

3.2.3 Birch's Inlet-Mainwaring River Volcanics

Brown *et al.* (1991) consider that the mafic volcanics and associated sediments south of Urquhart River and those outcropping immediately to the west of Birch's Inlet but east of the Noddy Creek Volcanics, are from the same north-south trending belt with the central part hidden by Tertiary cover. Previous workers have considered the two mafic groups separately with the Mainwaring River Volcanics receiving by far the most attention because of their copper anomalous signature.

The two volcanic areas are correlated as a single belt on the basis of geochemical affinities, similar stratigraphy and the presence of a broad aeromagnetic high joining the two areas of outcrops separated by Tertiary sediments.

Brown *et al.* refer to this belt as being a picritic basalt-basalt association with intra-plate and island-arc affinities. The sequence is described as consisting of vesicular, pillow and sheet flows of pyroxene phyric and/or plagioclase phyric basaltic rocks interlayered with hyaloclastite and basalt breccia.

The proportion of sedimentary rocks in the sequence increases to the south. These consist of interbedded mudstones and chert, volcanoclastics siltstone, lithicwacke, carbonates, siliceous pebbly conglomerates and lithicwackes. Brown (1988) noted the northern sequence was east facing whilst in the south isoclinally folded sediments predominate.

Two groups of lavas have been identified in both volcanic areas, with the lower group generally picritic and the upper group tholeiitic. The lower group resembles lavas from the Miners Ridge basalt further north at Queenstown which are considered to represent the base of the Mt Read Volcanic sequences.

This is in contrast to Ferris (1984) who, tentatively correlated the volcanics with the calc-alkaline basic-intermediate Que-Hellyer Volcanics from the uppermost part of the Mt Read Volcanics.

In the Birch's Inlet area, McGregory and Bumstead (1969) on behalf of BHP described a sequence of spilitic basalts and laminated siltstone, whereas White (1975) refers to the Birch's Inlet Volcanics as spilitic with thin bands of basaltic tuff, volcanic greywacke and serpentinite. The lack of significant drainage anomalism over these volcanics and their tholeiitic mafic composition has not encouraged any detailed exploration of their economic potential.

In contrast, the volcanics in the Mainwaring River area to the south have received considerable attention, and they were perhaps the main focus of early BHP and late Amoco/Cyprus exploration because of their copper anomalous character.

Amoco/Cyprus (Ferris 1984) considered the Mainwaring Volcanics occurred within a discrete vent area due to the abnormal amount of explosive mafic volcanic rocks "agglomerates and breccias" interbedded with tuffaceous sediments. Only a minor acid volcanic component was recognised.

BHP (Hall and Corbett 1969) describe the lower (western) part of the Mainwaring Group as consisting of argillites, phyllites and greywackes cross-cut by diorite and gabbro bodies and intruded by andesitic sills. The upper part described as consisting predominantly of thick basaltic to andesitic tuffs with minor conglomerate also cut by small sill-like gabbro and diorite intrusives, corresponds to the Mainwaring River Volcanics of Brown *et al.* (1991). They consider the western sediment-dominated package is definitely not related to these mafic volcanics and is probably a distal correlate of the Noddy Creek Volcanics, faulted against the Mainwaring River Volcanics.

3.2.4 Point Hibbs Melange Belt

A major thrust bound sequence across the Sorell Peninsula consists variously of massive to highly sheared, talcose and/or serpentinitised peridotite with minor layered pyroxenite, intruded by gabbro-norite bodies and late lamprophyric dykes. West of the Timbertops area, the ultramafics are apparently associated with sheared, talc-rich boninitic andesite lavas (McClenaghan and Findlay, 1993). A similar association in the Dundas Trough near Zeehan may indicate an original spatial relationship between these two areas.

3.2.5 Post Cambrian Stratigraphy

Ordovician sequences in the Sorell Peninsula are restricted to isolated fault slivers on the western side of the Point Hibbs Melange Belt and the major north-west trending Timbertops Syncline. The Ordovician sequence at Timbertops unconformably overlies Cambrian strata, and consists of basal quartz sandstone with conglomerate interbeds and fossiliferous micaceous siltstone-sandstone correlated with the Denison Group. In the core of the syncline recessive outcrops of Gordon Limestone have been recognised (McClenaghan and Findlay, 1993).

Mid to Upper Palaeozoic sedimentary sequences and Jurassic dolerite are restricted to faulted zones between Hibbs Bay and Point Hibbs. Apart from thick unconsolidated quartzose Tertiary sediment cover in the Birch's Inlet to Wanderer River area, no other significant Palaeozoic or younger sequences exists on the Sorell Peninsula.

4.0 EXPLORATION PHILOSOPHY

The Sorell Peninsula tenements were acquired by Plutonic Resources to explore primarily for VHMS deposits related to the Noddy Creek Volcanics which are correlated with mineralised felsic to intermediate volcanic sequences of the Mt Read Volcanics.

In addition, some of the more mafic sequences have been equated with the Que-Hellyer basalts and therefore they may also be base metal prospective.

A secondary target is porphyry-style Cu-Au deposits associated with sub-volcanic intrusive equivalents to the Noddy Creek Volcanics. The Thomas Creek prospect may be an important example of this style of deposit.

5.0 EXPLORATION HISTORY

A detailed account of previous exploration was presented by MacDonald in the August 1993 report on these tenements therefore only an abbreviated version is presented here.

Apart from minor copper workings at Birthday Bay (Plate 1) and a small asbestos quarry at Asbestos Point no significant mining has ever been conducted on the Sorell Peninsula.

Earliest exploration by Lyell-EZ Exploration (LEE) from 1956 to 1962, concentrated on the volcanic sequences west of Birch's Inlet in search for VHMS mineralisation. They conducted airborne magnetics and a restricted EM survey which defined a series of anomalies mainly associated with the Point Hibbs Melange Belt. These anomalies were field checked with negative results and no further work was conducted.

From 1964 to 1972 BHP held title over most of South Western Tasmania which they regionally mapped and explored for various base metal mineralisation styles. On the Sorell Peninsula, BHP exploration involved follow-up of LEE geophysical anomalies as well as reconnaissance mapping and drainage surveys which were concentrated in the Cypress Creek area south of the Mainwaring River, and the Hibbs River-Noddy Creek area.

Copper mineralisation with associated Zn and Ni anomalism was outlined in several areas of Mainwaring River Volcanics with native copper and chalcopyrite identified in sheared or brecciated chlorite-epidote altered intermediate tuffs and gabbro in the Cypress Creek area. Semi-detailed grid surveys failed to locate a source for the copper mineralisation and because the mineralisation was not considered of VMS character no drilling or further work was undertaken.

In the Noddy Creek area, coincident EM magnetic and drainage anomalies over the ultramafics led to detailed surveys for Cu, Ni, platinoids and eventually asbestos mineralisation. During 1969 to 1971, costeaning and diamond drilling of serpentinites at Noddy Creek north of camp Sorell led to the discovery of a low-grade crysotile asbestos resource which was considered too small and remote to be economic (Close, 1972). Evaluation of an aeromagnetic anomaly south-west of Birch's Inlet during 1971-72 led to discovery of Cu-Pb anomalous and locally pyritic felsic to intermediate volcanics west of the Ordovician sediments. However no follow-up was undertaken before the tenement was relinquished.

Subsequent exploration during 1983-1988 by a joint venture involving Placer, Poseidon and Amoco (Cyprus) as managers, initially comprised a detailed airborne aeromagnetic and radiometric survey of the whole Sorell Peninsula with selected volcanic areas covered with Dighem surveys. Exploration targets were volcanic-hosted massive sulphides and gold mineralisation.

No significant primary Dighem anomalies were recognised, although a number of second class anomalies and other aeromagnetic anomalies were recommended for follow-up. In 1983-84 Amoco conducted reconnaissance mapping and sampling of the Noddy Creek Volcanics around Timbertops north to Briggs Creek and south to Thomas Creek to assess various aeromagnetic anomalies.

No mineralisation directly related to felsic or intermediate volcanics was discovered. However, some weak base metal veining was reported adjacent to diorite at Timbertops, and more significantly a Cu-As (Ba) association with diorites and intermediate volcanics was recognised in the "Warrens to Thomas Creek" area. Here a peak value of 0.2% Cu, 0.1% Ba and 0.97 g/t Au was related to a sub-volcanic diorite intrusion south west of the anomalous Cu-Pb volcanics and porphyries reported by BHP.

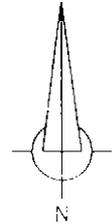
Follow-up bedrock soil surveys over a grid at the Thomas Creek Prospect in 1984, failed to repeat the gold results but defined a broad copper anomaly with no associated Pb or Zn over a roof pendant of intermediate volcanics within dioritic intrusives. This lack of significant Pb-Zn or Au downgraded the prospect and no further exploration was conducted.

Elsewhere Amoco evaluated the Lucas Creek Volcanics and Mainwaring River Volcanics for gold without success and no significant fieldwork was undertaken after a full interpretation of DIGHEM surveys by Bishop in 1986.

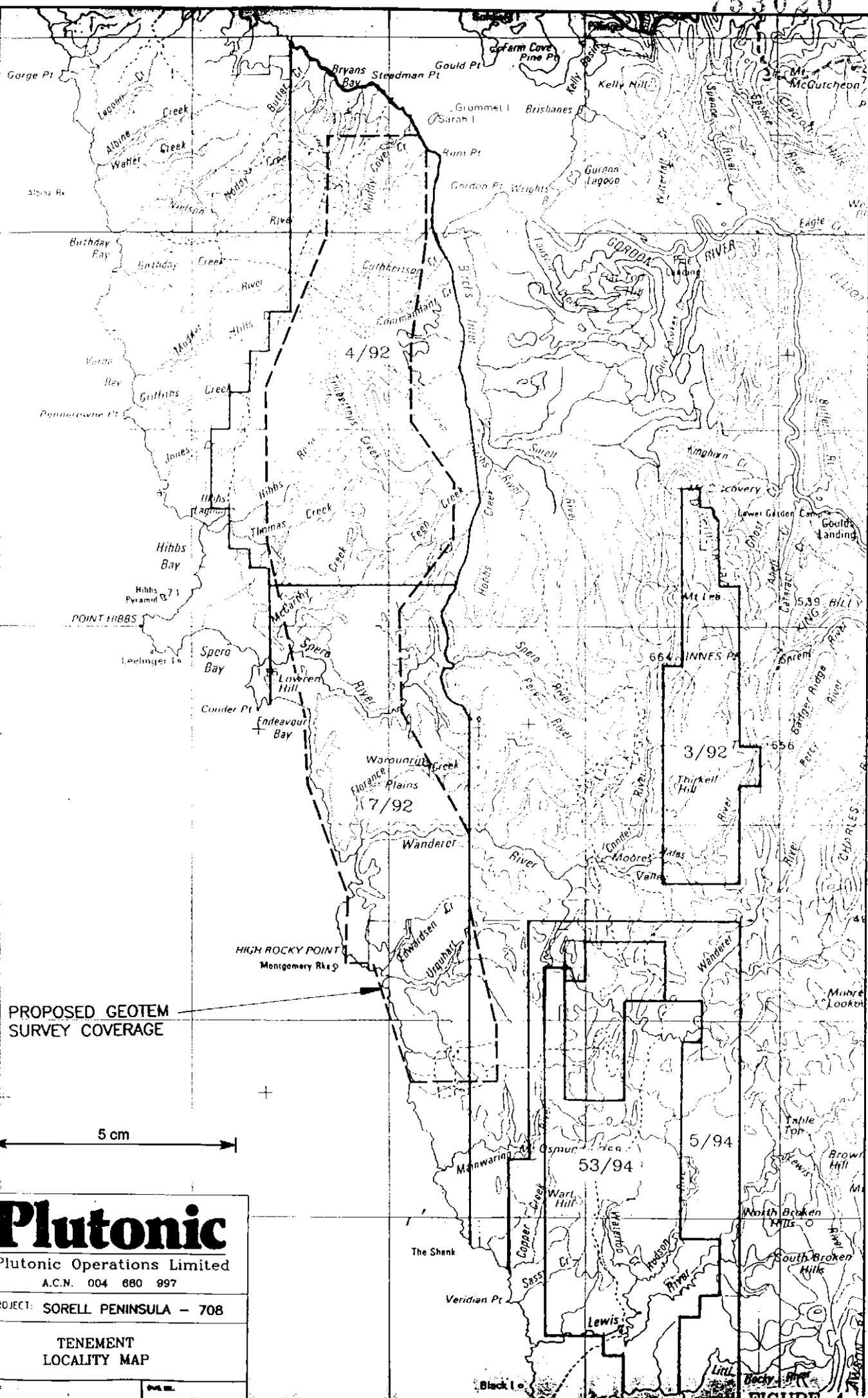
No other company exploration was conducted in the Sorell Peninsula until Plutonic Operations was granted the current licences in 1992.

In 1993, Plutonic conducted detailed geochemical and ground EM surveys in the Briggs Creek area over DIGHEM anomalies recommended by Bishop (1986) within the Noddy Creek Volcanics. These surveys failed to locate any significant EM or geochemical response and the airborne survey data or interpretation was considered questionable. A gold drainage and reconnaissance mapping survey in the Wanderer River following up Huminex anomalies was also unsuccessful.

At Thomas Creek however, mapping, sampling and petrology confirmed Amoco's results and indicated a significant zone of alteration with the characteristics of a porphyry Cu-Au system.



30



PROPOSED GEOTEM SURVEY COVERAGE

5 cm

REVISION	Plutonic	
	Plutonic Operations Limited	
	A.C.N. 004 680 997	
TECHNICAL REPORT NUMBER	PROJECT: SORELL PENINSULA - 708	
CHECKED BY:	TENEMENT LOCALITY MAP	
DATE: 3rd Oct 95		
SCALE: 1:25 000	SOURCE:	DWG. NO.:

FIGURE 4

6.0 WORK CONDUCTED IN THE 12 MONTHS TO AUGUST 1995

6.1 Introduction

As a result of Plutonic's exploration in 1993, it was considered that the most appropriate method to regionally evaluate the tenements for VHMS deposits was to fly a detailed fixed wing airborne EM-MAG survey over the prospective volcanics. Accordingly, in July 1994 Geoterrex was requested to conduct a 1600 line km Geotem survey as soon as the equipment was available. Unfortunately, the system was not scheduled to be in Australia until Easter 1995, and when it did arrive the fixed wing platform was unserviceable whilst suitable weather and conditions for flying existed in Tasmania. No other comparable EM system was available during this period, therefore the survey had to be rescheduled for early Summer 1995/96.

This delay forced a reorganisation of exploration activities for the 1994/95 summer field season. Hence minimal regional fieldwork was conducted and effort was concentrated on performing detailed grid surveys at Thomas Creek to bring this Cu (Au) prospect to the drilling stage. This was achieved in May following establishment of a camp and an extensive grid network which was mapped and bedrock sampled using hand augers.

Resultant geochemical anomalism and alteration zones were tested by gradient array and dipole-dipole IP surveys, which provided coincident geochemical and geophysical targets warranting drill evaluation. Work programmes were submitted to conduct this drilling during Winter from July to September, however a decision was subsequently made to defer this drilling until next field season when other prospects could be drilled concurrently.

6.2 Regional Exploration

Due to the delays in organising new airborne surveys over the tenements, it was decided to reprocess the 1984 Amoco Minerals aeromagnetic-radiometric survey of the region in an attempt to obtain a sufficiently detailed coverage to be useful for regional geological interpretation. Austirex International Ltd was commissioned to microlevel, verify and format the data from the original magnetic tapes onto Exabyte tape, which was then presented to Tasmania Development and Resources to integrate into its regional database for Western Tasmania. In return Development and Resources undertook digital manipulation of the data to produce relevant imaged and contoured data sets for presentation and interpretation purposes. The process worked well and a series of contour plans and imaged plots of the magnetic and radiometric data were produced for Plutonic at 1:100,000, 1:50,000 and 1:25,000 scales. Representative plans are presented in Plates 2 - 5.

Preliminary interpretation of the aeromagnetic imagery had the primary aim of defining areas of felsic to intermediate volcanic stratigraphy correlated with the prospective Noddy Creek Volcanics. (Plate 1.) All these areas were then incorporated within the proposed Geotem survey area which effectively excluded the bulk of the less prospective Birch's Inlet and Mainwaring River Volcanics in the eastern portions of the tenements.

Subsequent adjustments to the survey area shown in Figure 4, have excluded most of the Point Hibbs Melange Belt but have included portions of the Timbertops Syncline containing the Gordon Limestone which could be prospective for Irish-style strataform basemetal sulphides. The current survey proposal involves approximately 1600 kilometres at 200 metre east-west line spacing with a minimum terrain clearance of 105 metres.

The regional geological interpretation outlined in Plate 1 relies heavily on previous mapping and imagery prepared by Tasmania Development and Resources. The magnetics in particular are useful in defining structural and stratigraphic trends whereas the radiometrics were mainly relied on to outline broad lithological packages.

In the Hibbs River to Wanderer River areas, the magnetic data indicates a folded sequence of sediments and interbedded intermediate to mafic Noddy Creek Volcanics, transected by NNW to NE trending structures. In the Timbertops and Thomas Creek areas, strong circular to ovoid aeromagnetic highs and local radiometric highs are related to sub-volcanic intrusive centres probably co-magmatic with the Noddy Creek Volcanics and possibly also with the Timbertops Volcanics.

To the west and north of Timbertops, the major linear magnetic trends represent the Point Hibbs Melange Belt, in particular the ultramafic suite, as well as the Noddy Creek (intermediate) Volcanics east of Camp Sorell. The southern part of the ultramafic belt from Hibbs Lagoon to Spero Bay has been displaced and truncated a series of NNE and possibly younger NNW faults.

East of Timbertops, strong magnetic trends across to Birch's Inlet are related to mafic volcanics correlated with the Mainwaring River Volcanics. The abrupt truncation of the magnetic high zone east of Birch's Inlet is interpreted to mark a major N-S fault zone correlated with the Copper Creek Fault Zone and related high angle thrusts which mark the eastern termination of the Sorell Peninsula stratigraphy. These north-south fault zones however appear to be displaced by a NE trending dextral fault directly south of Birch's Inlet, which also cuts off the southern end of the Timbertops Syncline.

To the south in the Mainwaring to Urquart River areas mapped by Brown *et al* (1991), the more potassium-rich sediments and felsic-mafic tuffs correlated with the Noddy Creek Volcanics have a strong radiometric signature compared with the mafic sequences of the Mainwaring River Volcanics to the east.

Further south from Cyprus Creek the coastal sediment-rich package may also be correlated with the Noddy Creek Volcanics but it could represent a separate strongly folded sequence in faulted contact with the Mainwaring River Volcanics. From the Mainwaring Inlet to the Shank this sequence may form the faulted core of a north-north-west plunging syncline in which the mafic volcanics are wrapped around the sediments and extend offshore as a fault bounded block along NNW trending faults which are prominent in this area.

6.3 Thomas Creek Prospect

6.3.1 Introduction

In order to conduct detailed surveys over this prospect, a camp accommodating six to eight personnel was constructed beside an upgraded helipad originally located by Amoco Minerals in 1994 at 5275670N:369930E. (Figure 5.) Because the site is underlain by a peat bog and adjacent to tall myrtle forest to the south, safe helicopter access required the removal of several overhanging trees and the clearing of low level scrub and tree stumps.

The camp which was constructed during February 1995 consists of a 6m x 3m steel garden shed and a 4m x 3m tent set on wooden planks and stumps with wooden walkways all covered by heavy duty tarpaulin. Power is supplied by a portable petrol generator and hot water, heating and cooking by gas appliances. No open fires are permitted and all waste and rubbish were periodically removed from site and disposed of appropriately outside the Sorell Peninsula.

The camp was occupied from mid February to early May when it was closed down during the Winter period.

6.3.2 Gridding

Initially it was proposed to establish a detailed 100m x 200m AMG grid over the known area of geochemical anomalism defined by Amoco and subsequent Plutonic exploration in 1993. However, following regional interpretation of the aeromagnetic data it was apparent that the prospect area was closely associated with a central magnetic low (depletion zone) within an almost concentric area of strong magnetic anomalism over a 3km x 3km area of interpreted intrusives. (Plate 6.) An associated magnetic low zone which trended north west from the prospect area, was by analogy with the central area considered highly prospective. Therefore the grid was extended over a 2km x 1.5km area to cover these prospective magnetic low areas and associated potassium dominant radiometric anomalies.

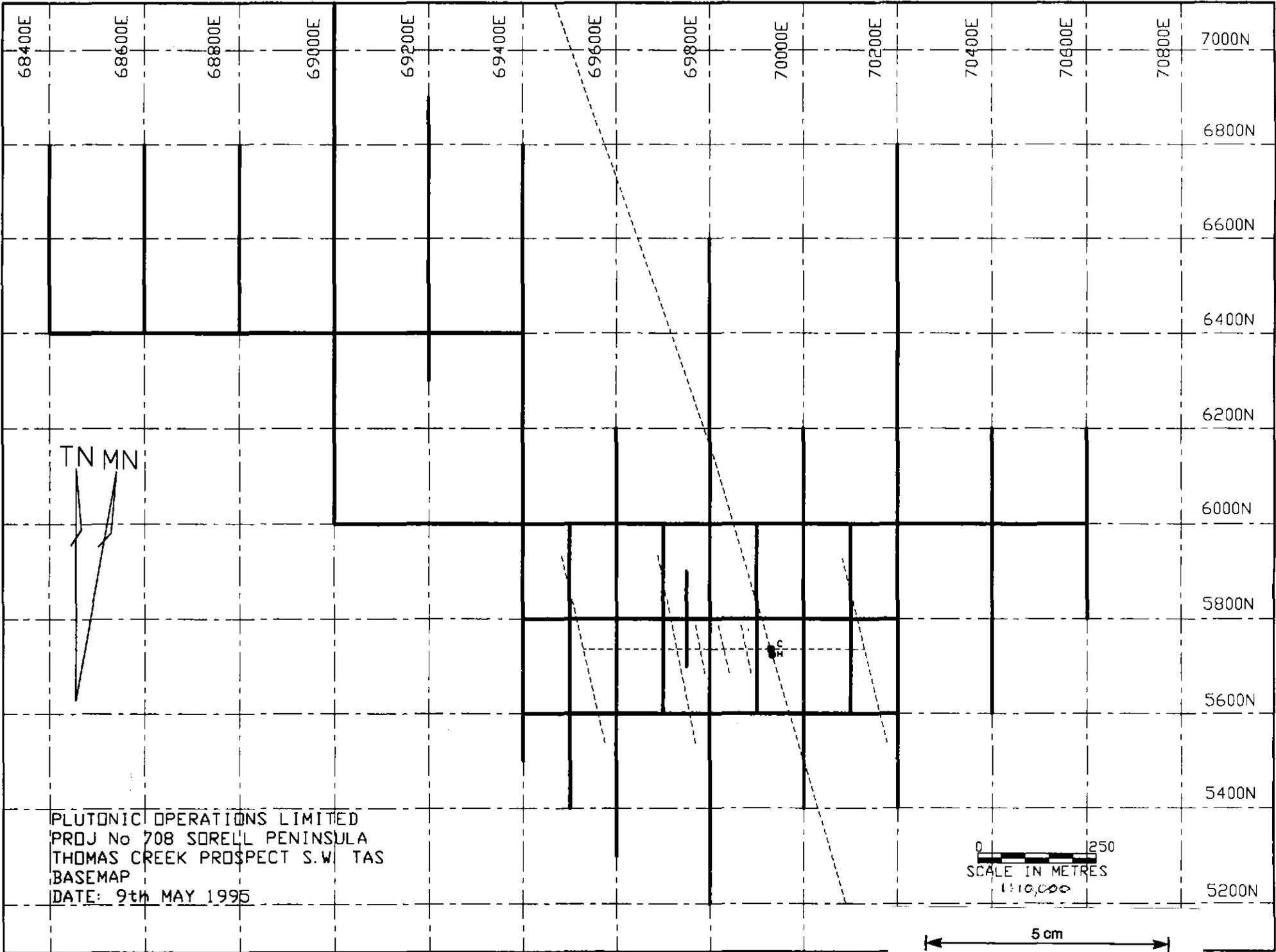


1. Aerial outline of Thomas Creek Prospect showing dense scrub and forest cover over alteration zone.



2. Thomas Creek camp and helipad April 1995.

FIGURE 5



The final grid pattern which involved 17 line kilometres of cutting as shown in Figure 5 and Plate 7, was designed to provide broad coverage of the geophysical targets as well as sufficient detail for correlation of geology and geochemistry on north-south lines generally 200 metres apart.

Lines were cut with no disturbance to trees over 15cm in diameter, using chainsaws and brush hooks with two man teams averaging 250 metres per day including tape and compass pegging of grids at 50 metre intervals. Early problems with line deviation due to strong local magnetic anomalism in the detailed grid were corrected by greater emphasis on backsighting along lines.

6.3.3 Geology

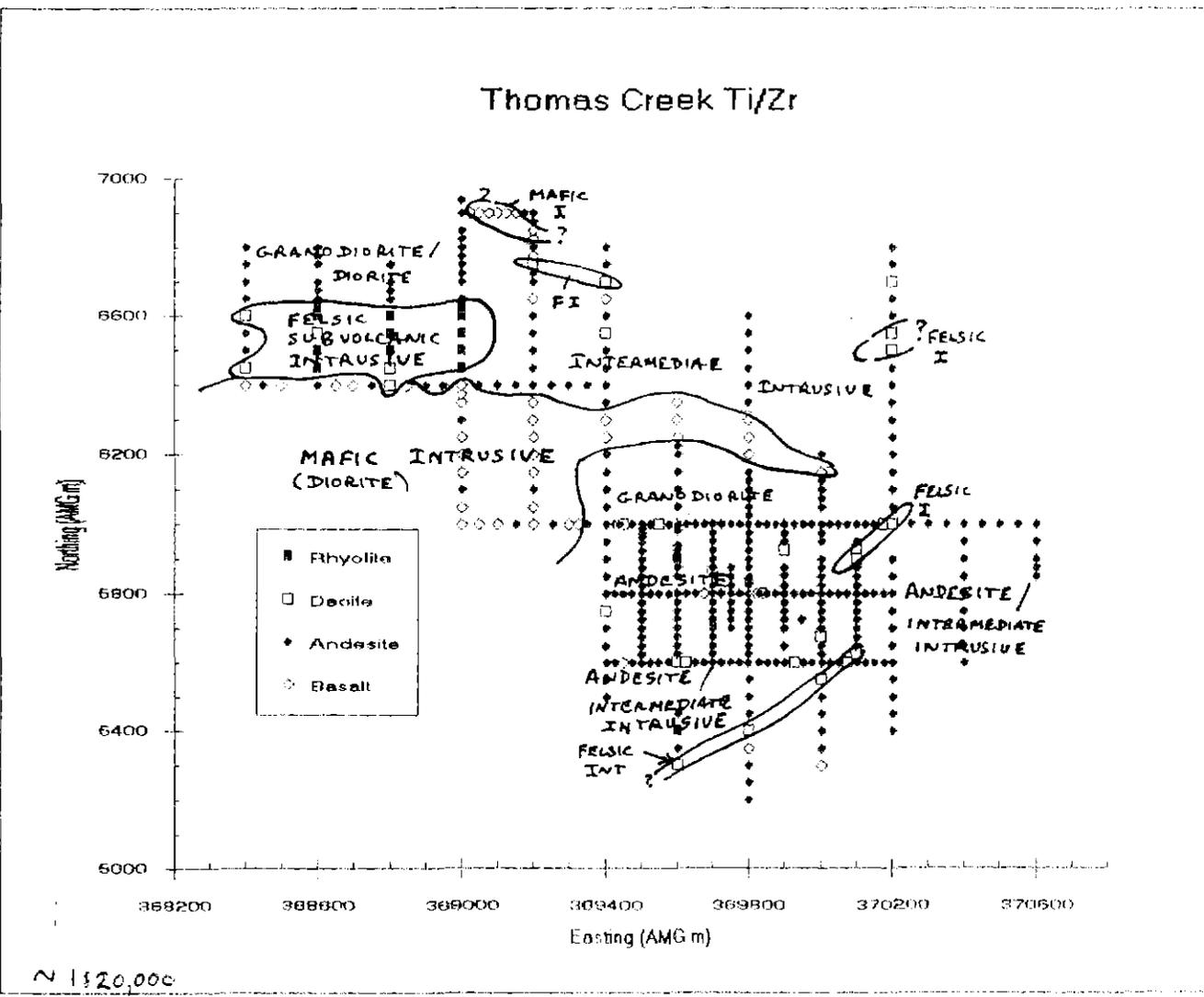
Previous exploration by Amoco and Plutonic showed that the copper (gold) anomalism at Thomas Creek may be related to porphyry-style mineralisation in Cambrian dioritic intrusives and intermediate extrusives belonging to the Noddy Creek Volcanics.

As a result of the isolation of this elevated plateau area, no regional mapping has been undertaken and prospect scale mapping at 1:2500 has been compiled from isolated outcrops and bedrock auger samples along grid lines. The resultant interpretative map presented as Plate 7 must be regarded as provisional only as limited petrology has been undertaken and the clay-rich weathered specimens used for identification were often difficult to classify. As mentioned previously major element and Ti/Zr geochemistry (Figure 6) was utilised to help classify some of the major rock types.

Most of the prospect area is underlain by intermediate medium to fine grained and sub-volcanic I-type intrusives belonging to the Thomas Creek Diorite Complex. In the immediate vicinity of the detailed grid area which is coincident with an aeromagnetic and a radiometric low, is a large roof pendant of intermediate and minor felsic extrusives. These are correlated with the Noddy Creek Volcanics and are probably co-magmatic with the surrounding intrusives which were petrologically described by Tony Crawford in MacDonald (1993).

In the north-western portion of the grid from 68400E to 69400E an east-west trending series of aeromagnetic lows and related radiometric highs was found to be related to K-feldspar-rich microdiorites to monzonite with only minor peripheral areas of volcanics. Although these fine-grained intrusives have accessory magnetite they are much less magnetic and more potassium-rich than the surrounding coarse-grained diorite-granodiorite intrusives.

FIGURE 6



753027

6.3.3.1 Volcanics

The volcanic facies in the Thomas Creek area which occupy a 1.2 km x 600m wide east-west trending zone in the south-eastern part of the grid, are dominantly lavas and crystal-rich tuffs of intermediate composition. Soil samples typically reveal a buff to light green \pm feldspar phyrlic weathered volcanic. Colour variations, to darker greens are apparently the result of chlorite alteration. Hornblende is uncommon, its presence being more useful for defining dioritic intrusive rocks.

The volcanics are only locally porphyritic with altered plagioclase and augite set in a vitrophyric groundmass which has been subject to low grade regional metamorphism with a recrystallisation assemblage of chlorite with minor albite and epidote. Later hydrothermal alteration and subsequent weathering has produced a variable assemblage of chlorite-quartz-sericite-epidote-actinolite \pm pyrite-magnetite and tourmaline.

These volcanics are considered by Crawford (in MacDonald 1993) to be very similar to andesites in the Que River area and the Beulah Formation in the Sheffield area. This supports the previous contention that these Noddy Creek Volcanics correlate with the more intermediate components of the Mt Read Volcanics.

Felsic appearing volcanics at Thomas Creek are uncommon relative to intermediate volcanics and are identified from their cream colour, feldspar-phyric nature and siliceous "dacitic" matrix reported by Crawford. These felsics are not revealed by Ti/Zr distribution plots so they may actually be intermediate in composition, but are considered more felsic and/or altered differently to the majority of volcanics present. These felsic units have only been differentiated in Plate 7 where a clear trend exists. Elsewhere difficulty in truly characterising the extent of felsic volcanics has resulted in them being left undifferentiated and classed as intermediate volcanics. This particularly applies in the NW of the detailed grid area where clay alteration is strongly developed.

6.3.3.2 Intrusives

The intrusives at Thomas Creek may be broadly classified as locally porphyritic microdiorite and diorite with a variety of phases present which include granodiorite, quartz-tonalite and possibly monzonite.

The microdiorites (MDI) occupy up to one quarter of the grid area as a series of irregular or dyke like, east-west or north-east trending bodies. The distribution of these fine to medium grained and locally porphyritic feldspar-hornblende intrusives is significantly greater than first thought. Their spacial extent is highlighted by both the geology and the Ti/Zr plots and the number of different phases of MDI intrusions is unclear.

Those recognised are quartz bearing, magnetite \pm K-spar bearing and a fine to medium grained phase with identical mineralogy to the diorite intrusives. A medium grained feldspar-quartz \pm magnetite "leucogranite" is also locally recognised. A number of phase have clearly been subjected to hydrothermal alteration which is discussed in Section 6.3.3.3.

Some of these intrusives are differentiated from the diorites by their more felsic Ti/Zr ratios. The large body of "MDI" in the NW of the grid has a rhyolitic signature which may be related to a quartz-K-spar-rich groundmass as these phases are not identifiable in hand specimen. This is in contrast to quartz \pm k-spar bearing phases in the south of the infill grid area which appear to have a dacitic signature.

Quartz content of the microdiorite intrusives is variable, being absent to minor in most cases. In the vicinity of 5850N, 69700E quartz is common but this may be an isolated occurrence of MDI of limited aerial extent. MDI may become progressively silicic with fractionation or alteration, and K-spar has been identified in association with quartz-bearing intrusives in several areas. These intrusives can still be considered as a microdiorite, but may tend toward quartz tonalite to monzonite composition which is also a favourable composition for porphyry Cu style mineralisation.

Quartz-bearing intrusive occurrences which have a dacitic Ti/Zr signature are identified at 5800N - 69830E, far NE 5600N - 69950E and the area of 5600N - 70075E. However these Quartz \pm K-spar bearing intrusives have not been mapped as separate bodies at this stage. In the SE of the grid (Figures 6 and 7) Ti/Zr plots outline an elongate NE trending body of this type which is associated with strong copper assays.

In the far NE (70200E - 6600N) of the grid (Plate 7), creek outcrops of MDI are strongly magnetic and contain feldspar, hornblende and minor quartz. Nearby outcrop of equally magnetic feldspar (hornblende) porphyry, with a dark grey/green aphanitic groundmass, may represent a chilled margin to the MDI or alternatively is an unrelated intrusive/extrusive. An identical rock occurs at 5600N, 70075E - 70100E and similar dark grey/green fine grained to aphanitic rocks located near the northern limits of lines 69000E and 69200E may also be chilled margins to MDI intrusives.

The coarser grained ($> 2\text{mm}$) commonly equigranular plagioclase, augite-hornblende intrusives (GDI) forming the main bulk of the intrusive complex, probably have similar compositions to the microdiorites and are considered to range in composition from mafic granodiorite to diorite. It is difficult in the field to interpret between GDI and MDI because the latter are merely finer grained or porphyritic variants of the former.

The granodiorites are classified by the presence of significant quartz, relative abundance of feldspar and their lower Ti/Zr ratio compared to the more hornblende rich diorites. However, these distinctions may only be academic and proper petrological and geochemical data are required for proper identification. These intrusives are best exposed along creeks in the more dissected terrain in the west of the grid.

6.3.3.3 Alteration

The Thomas Creek prospect contains an alteration suite which includes pyrite, magnetite, K-feldspar, tourmaline, actinolite, chlorite, epidote, silica, clay minerals, sericite and mica. Significant alteration as shown in Plate 8, is virtually confined to the detailed grid over the volcanics and sub-volcanic intrusives.

Overlapping zones of pyrite, chlorite and mica-clay mineralogy could represent various phases of classically zoned porphyry style hydrothermal alteration. A broad "outer" propylitic zone of chlorite-actinolite-epidote \pm magnetite \pm pyrite may be overprinted by a weathered phyllic zone of undifferentiated clay minerals-silica-muscovite \pm chlorite \pm pyrite best developed in northern and western parts of the volcanic roof pendant. Localised potassic "core" alteration within and immediately surrounding microdiorite intrusives particularly in the south east of the grid, consists of K-feldspar \pm tourmaline, biotite-magnetite \pm epidote \pm pyrite \pm haematite.

In general, chlorite alteration appears patchy but it can be pervasive in association with strong pyrite development and copper mineralisation along intrusive margins. Magnetite is common as a primary magmatic mineral in diorites and microdiorites as well as semi-pervasive alteration in these intrusives. The latter may represent intense development of replacement style chlorite-actinolite-magnetite-rich veins associated with altered microdiorites, and locally within diorite south of 5600N. Epidote is a relatively common accessory within apparently barren, weakly altered diorite, but together with pervasive chlorite-actinolite-albite \pm pyrite alteration, this assemblage according to Tony Crawford is indicative of calcic, rather oxidizing hydrothermal fluids, with temperatures around 300°C.

Recognition of various alteration types is necessarily tentative because of the limited mapping control and lack of drilling information. Perhaps the most obvious alteration is the clay-rich phyllic zone underlying the peat bog developed over the volcanic roof pendant. This topographic depression is coincident with a prominent magnetic low (Plate 6) which was originally considered to relate to a zone of magnetite depletion in the mafic to intermediate intrusives. However, it is probably a combination of alteration and the effect of the volcanic roof pendant surrounded by more magnetic intrusives.

The phyllic zone is recognised by grey-streaked-blotched micaceous clay \pm pyrite and silica within cream coloured volcanics. The pyrite is generally disseminated as very fine grained grains of grey metallic appearance constituting trace amounts to greater than 10% of the weathered bedrock. Visible diffuse vein-style silica is uncommon but constitutes locally up to 15% individual of samples, whereas pervasive silicification is generally minor. Chlorite may be an important but minor component of this alteration but it was probably originally present as a regional metamorphic phase in the volcanics. The mica occurs as fine-grained light brown to clear flakes disseminated through the clay altered volcanics as semi-continuous zones which may reflect variable alteration or primary lithological control. The composition of the micas and clays is indeterminate and will require detailed petrology to elucidate.

Potassic alteration in microdiorite intrusives is most readily identified where pink to red K-spar occurs. Locally coarse-grained biotite-rich mica zones occur marginal to intrusives and elsewhere epidote and/or magnetite \pm haematite occurs with K-spar. In porphyry systems K-spar alteration can be displayed as a very pale pink rather than the darker diagnostic pink colour. This may be important at Thomas Creek as cream coloured feldspar-quartz "leucogranite" intrusives have been identified at three locations. Whilst these could represent late stage highly fractionated intrusives, pervasive potassic K-spar rich alteration may be an important factor.

6.3.3.4 Mineralisation

Pyrite is the most common sulphide mineral observed at the Thomas Creek Prospect, but chalcopyrite has also been recognised. Disseminated pyrite occurs over a broad area approximately conforming to zones of anomalous copper (>200 ppm) in soils where a crude proportional relationship between pyrite abundance and copper concentration is evident. The highest copper concentrations are where pyrite is 10% - 20% verging on semi-massive veins with associated malachite. Semi-massive pyrite mineralisation also occurs in relatively quartz poor (<25% Qtz) veins/replacement zones in a creek outcrop in the far NE of the gridded area.

The bulk of the copper anomalism in Figures 8 and 9 and Plate 10, delineates a large 800m x 600m, low-grade mineralised zone within phyllic to potassic altered intermediate volcanics and sub-volcanic intrusives. This setting could be the root zone of an andesitic stratovolcanic complex which is a typical environment for development of porphyry-style mineralisation.

The ENE trends of the copper anomalism somewhat matches the sub-volcanic intrusive trends, however the mineralisation is undoubtedly structurally controlled but spatially related to mineralising late-stage microdiorites. The strong association between copper anomalism, pyrite and IP chargeability patterns in the detailed grid indicates the mineralisation extends to depth.

The paucity of recognised vein structure and quartz veining in general may merely be a result of poor exposure. However it could indicate the present level of erosion may have exposed a less fractured portion of a large porphyry type system.

6.3.4 Geochemistry

Previous rockchips and bedrock/soil geochemistry at Thomas Creek defined a 300m x 400m area containing copper anomalism greater than 300 ppm Cu and isolated gold values with an unrepeated maximum of 1 g/t Au. Approximately one kilometre to the north east of the helipad, BHP had located moderate Cu-Pb anomalism in volcanics and sediments presumably marginal to the Thomas Creek intrusive system. Amoco and recent Plutonic follow-up traverses in this area located base metal and gold bearing quartz vein mineralised float and creek outcrop with values to 3000 ppm Cu and 0.5 g/t Au. This material was considered to be related to a north-west trending structural zone peripheral to the intrusive system but possibly genetically related to the Thomas Creek mineralisation.

Hand auger geochemical sampling during this field season was undertaken over the whole Thomas Creek grid at a minimum of one C-horizon-weathered bedrock sample every 50 metres, with infill at 25 metre and locally 12.5 metres over anomalous portions of the detailed 100 metre grid surrounding the camp (Plate 9). A total of 454 (16501 - 16973) samples were collected from depths ranging from 0.30m to 1.65m.

All samples were sent to the Analabs facility in Burnie where they were dried and the total sample (averaging 250 gms) crushed and milled prior to splitting to obtain a representative sample. The initial batch of 79 samples was assayed for Cu, Pb, Zn, Mo, As and S by AAS methods GA140 and GM613 as well as gold by fire assay method GG309 for samples greater than 100 ppm Cu. Five samples from this first batch, covering a section of strong copper and pyrite mineralisation were also analysed by ICPOES for a range of elements to test element variations across this zone.

The strong copper-gold mineralisation is accompanied by elevated Co and possibly Ba, P with Na, Mg, Ca, Fe enrichment and K depletion.

Thomas Creek C-Horiz Cu (PPM)

■ <50 □ 50-200 ◆ 200-500 ◇ >500

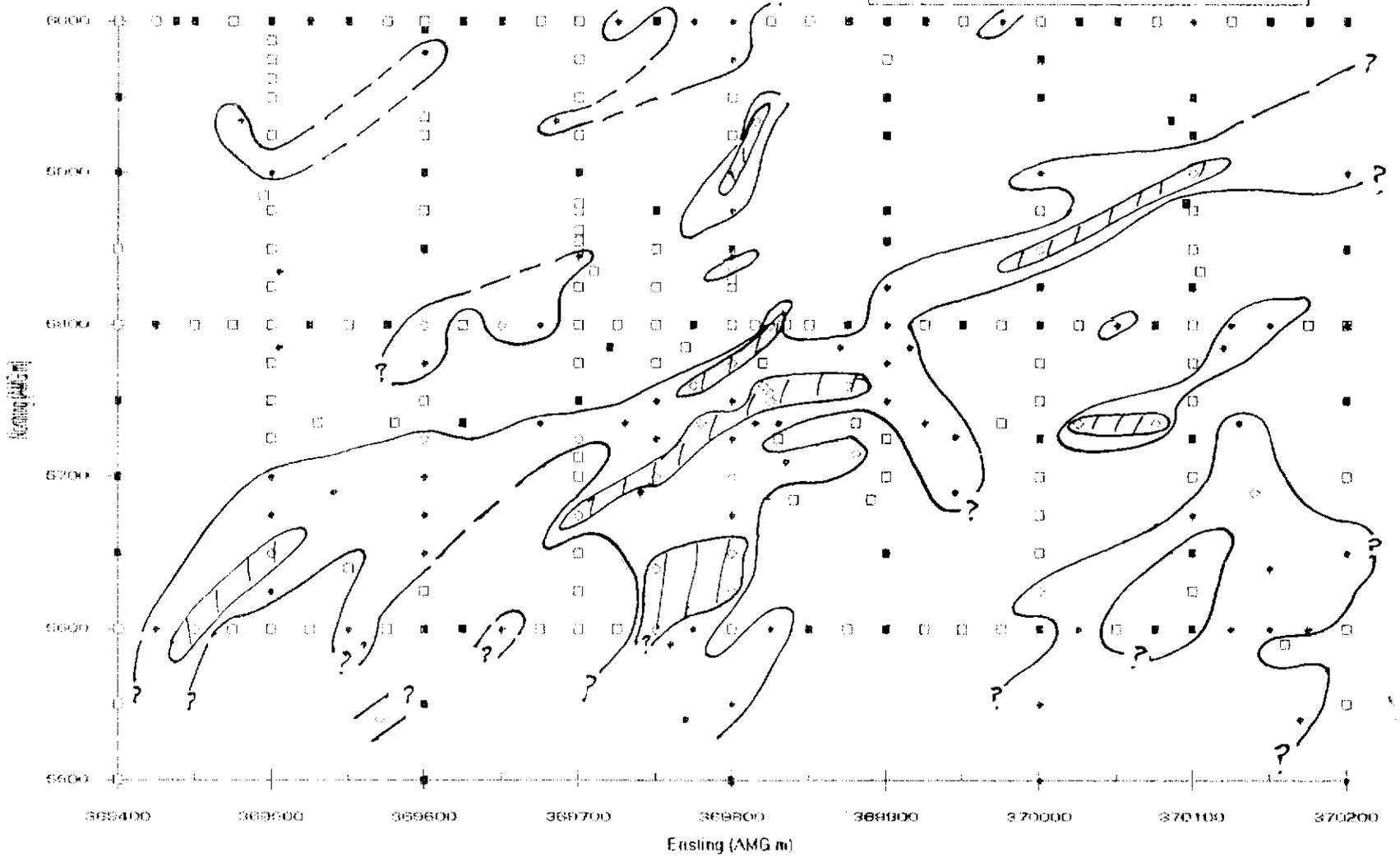


FIGURE 8

753034

This orientation survey of the ICPOES method suggested that major and minor element geochemistry could be useful in defining alteration zones as well as helping identify rock types with the use of Ti/Zr, for these weathered bedrock samples.

Comparison of assays from AAS and ICPOES techniques was favourable, with negligible variation apparent. Subsequently, all C-horizon soil analyses were by ICPOES method G1211 which offered a far broader spectrum of twenty-four elements including ten major elements than is available with the AAS methods. The following elements were selected for analysis - Cu, Pb, Zn, Ca, Fe, K, Mg, Na, P, Ti, Zr, Ba and Co. Gold for all samples were assayed by fire assay method GG309.

Analytical results are presented as raw data and as data plots in Figures 6 to 28 in Appendix I. Sample positions and copper results are also presented in Plates 9 and 10.

Base metal and gold results plotted in Figures 8 to 14 clearly show that copper is strongly anomalous in the detailed grid area, whereas both lead and zinc exhibit low values partly coincident with the copper but generally as a halo to it. Gold values are also generally very low (<0.01 ppm) but anomalism correlates with copper.

Copper values of significance extend over a 800m x 600m area, with values greater than 200 ppm (Figure 8) defining ENE trending linear zones open ended both north-east and south of the grid.

Peak copper values of 7.5% Cu and 2.38% Cu with associated 2.96 g/t Au and 1.04 g/t Au occur in narrow zones of highly pyritic, chloritic and malachite bearing microdiorite central to the grid at 5800N, 69825E (Plate 10). This zone forms the northern edge of the strongest area of copper anomalism which extends south for 200 metres and west for 200 metres from 369700E to 369900E.

Cobalt (Figure 10) with a peak value of 0.2% Co has a general association with copper but no other minor or major elements are strongly correlated with copper mineralisation.

The major elements and ratios as well as Ti/Zr proved useful in helping to identify lithological units at Thomas Creek. The Ti/Zr index was used as a mapping tool to classify both volcanics and intrusives into mafic, intermediate and felsic categories as shown in Figure 6. The volcanic compositional classification used was rhyolite 0-12, dacite 12-20, andesite 20-60 and basalt > 60.

The majority of ratios return values in the range 20 - 60 conforming to an andesitic volcanic composition, as expected. Few felsic volcanic values were delineated and where apparent probably represent late stage highly differentiated or altered leucocratic intrusives.

A broad zone of felsic Ti/Zr ratios (range 0 - 20) is present in the NW gridded area. These are logged as MDI (microdiorite) but their felsic Ti/Zr ratio suggests monzonite or granodiorite is more appropriate. Dacitic Ti/Zr ratios in the SE of the detailed grid area were returned from quartz-bearing microdiorites. Basaltic Ti/Zr ratio values conform to coarse grained dioritic intrusives, which in some cases are hornblende/augite rich (ie mafic appearing) whereas slightly less mafic intrusives mapped as granodiorite give andesite ratios in the north and north-eastern portions of the grid.

As expected from mapping most volcanics gave andesite Ti/Zr values including felsic appearing (cream clay-rich) volcanics in the detailed grid which may represent argillic/phyllitic altered andesites having suffered major loss of alkalis (Ca, Na, K).

The alteration index $AI = (K_2O + MgO/K_2O \times MgO + CaO + Na_2O)$ often applied to VHMS exploration, (Figures 16 and 17), indicates strongly altered lithologies (>90) are restricted to the southern part of the grid and overlap the copper anomalism. The higher AI values correlate broadly with potassium and K/Na, Ba, Ba/Na enriched zones (Figures 18-21) suggesting the index relates to potassic alteration surrounding microdiorite intrusives in the SE part of the grid.

The K/Fe ratio (Figure 22) provides highs associated with altered or feldspar-rich volcanics or sub-volcanic intrusives, whereas east-west Ca enrichment zones (Figure 23) correlate with barren diorites, and Na (Figure 24) enrichment with granodiorites. Magnesium (Figure 24) also exhibits east-west linear highs, (commonly marginal to microdiorite intrusives or peripheral to diorites), which are interpreted to be related to hydrothermal chlorite alteration in structures or along contacts. The Fe/Fe + Mg ratio (Figure 26) appears to indicate highs over relatively unaltered or more mafic intrusives.

Phosphorus (Figure 27) is not well constrained but may be related to apatite development in various intrusives as well as hydrothermal alteration associated with mineralised microdiorites in the southeastern part of the grid.

6.3.5 Geophysics

6.3.5.1 Introduction

During mid April to early May, Zonge Engineering Pty Ltd from Adelaide conducted two gradient array surveys totalling 7.0 line km over the grid area and three dipole-dipole lines amounting to 1.25km within the detailed grid. These surveys were designed to outline the extent and relative intensity of disseminated or stockwork vein controlled sulphide mineralisation in the Thomas Creek prospect area.

A proposed detailed ground magnetic survey of the grid was scheduled for completion after the IP survey, however poor weather conditions resulted in equipment failure and the survey was abandoned and will be completed in 1996.

6.3.5.2 Results

The equipment used was a medium power Zonge transmitter with a GDP-16 receiver, gradient array parameters as well as dipole-dipole parameters are presented in Tables 1 and 2. Data results presented by Zonge include contoured resistivity, raw phase angle and 3 point corrected phase with coupling effects removed. This data is attached as Appendix II and hand contoured plots for phase and resistivity of arrays 1 and 2 together are presented as Plates 11 and 12.

Table 1: Gradient Array Parameters

Array No	Electrode Positions	Current	Receiver Dipole Spacing	Lines Surveyed (E)	Co-ordinates (w)	Km
1	5200N, 9800E 6600N, 9800E		25	9400	5512.5 - 6187.5	0.675
				9500	5637.5 - 5987.5	0.350
				9600	5512.5 - 6187.5	0.675
				9700	5637.5 - 5987.5	0.350
				9800	5512.5 - 6187.5	0.675
				9900	5612.5 - 5987.5	0.375
				10,000	5512.5 - 6187.5	0.675
				10,100	5612.5 - 5987.5	0.375
2	6000N, 9000E 7200N, 9000E		25	8600	6412.5 - 6787.5	0.375
				8800	6412.5 - 6787.5	0.375
				9000	6212.5 - 6887.5	0.675
				9200	6412.5 - 6787.5	0.375
				9400	6412.5 - 6787.5	0.375
Total KM						7,000

Table 2: Dipole - Dipole Parameters

Line No (E)	Dipole Spacing (m)	Co-ordinates (N)	Km
9600	50	5600 - 6100	0.50
9700	25	5675 - 5925	0.25
9800	50	5550 - 6050	0.50
Total KM			1.25

Overall the data is regarded as good quality with spurious readings only recorded at one location which may be related to a local cultural feature.

Array 1 covered the prime target area over the detailed grid, whereas Array 2 surveyed the north western area of felsic to intermediate intrusives.

There is a significant difference in IP backgrounds between Array 1 and Array 2. Most of Array 1 appears to be in an anomalous IP zone, with the overall background being 14 to 18 milliradians (m.rads) (Plate 11). This difference in background is also evident on the Apparent Resistivity data, which indicates Array 2 occurs in a more resistive, environment than Array 1. (Plate 12.)

Array 1 provided the strongest IP anomalies which are localised in the central part of the detailed grid containing coincident pyrite alteration and copper anomalism (Figure 28) This copper mineralisation appears to be concentrated along the edges of chargeability highs combined with gradients into resistivity lows.

IP Zone A

This major IP zone defined by the 30 millirad contour with a peak value of 44.5 millirads, extends from 5550N to 6000N and between 69450E and 70000E. The IP anomaly is most likely responded from disseminated sulphides. A conductive zone coincides with the north-eastern portion of Zone A and continues eastwards where the anomaly is open ended. This conductive zone appears to be reflecting a zone of strong clay-mica alteration within volcanics.

To test the depth expression of Anomaly A dipole-dipole IP was completed on lines 9600E, 9700E and 9800E. Strong (2.5 to 3 times background) IP anomalies were detected on all three lines with anomalies shown in Plate 11 and as pseudo sections in Appendix II.

Anomalism is centred should at:-

- * 9600E, 5875N
- * 9700E, 5875N; and
- * 9800E, 5725N

These dipole-dipole IP anomalies coincide with the gradient array anomalies (Plate 1) and are associated with resistivity lows which reflect associated argillic/phyllitic alteration.

Anomaly 9600E, 5875N

Although elevated IP values occur at surface the strongest responses were detected at n=6, 7 and 8, indicating the IP zone extends to depth (150 - 200m). Dips are not obvious from the IP pseudosection, but the near-symmetrical anomaly shape suggests a steeply dipping chargeable zone.

Peak geochemical results between 5600N and 5800N coincide with a moderate (2 times background) IP zone. The maximum IP responses (3 times background) were detected between 5850N and 5925N.

Anomaly 9700E, 5875N

The IP values increase with depth with the strongest readings occurring at n=-6 (depth approximately 75m).

The dipole-dipole pseudosection suggests a localised IP anomaly off the southern end of the line (approximately 5660N) which is coincident with a gradient array high.

The low apparent resistivity zone between 5850N and 5950N coincides with a broad gradient array resistivity low.

Anomaly 9800E, 5725N

This anomaly is not as well defined as IP anomalies on 9600E and 9700E. The highest values occur at n=3 (depth approximately 75m).

A northern zone of low resistivity from 5825N to 6000N coincides with the extensive resistivity low detected with the gradient array and appears to reflect mineralised argillic alteration in andesitic volcanics.

IP Zone B

Zone B is a narrow, discrete chargeable zone immediately north of Zone A in Plate 11. This IP zone coincides with a resistive horizon which probably continues north-west into Array 2. This anomaly is most likely detecting a narrow zone of disseminated sulphides north of the main zone of alteration and close to the northern contact between volcanics and a microdiorite intrusive further north.

The southern limit of the resistivity high may be delineating the northern edge of clay alteration in the volcanics around 6000N, refer Plate 12.

IP Zones C and D

Chargeable zones C and D within Array 2 are relatively narrow or point source (2 times background) phase anomalies up to 32.8 millirads which occur in a relatively resistive (weakly altered) environment. These zones are peripheral to a major felsic sub-volcanic intrusion and probably reflect very weak sulphide mineralisation similar in character to that in Array 1. These results did not justify any follow-up dipole-dipole surveys of Array 2 targets.

6.3.5.3 Conclusions

The IP surveys successfully defined one major and three minor discrete chargeability zones in the prospect area. Zone A is a broad (600m x 400m) multi peaked, moderate to strong (3 times background) chargeability anomaly coincident with disseminated pyrite and copper anomalism in the detailed grid area. This zone represents a major target for drill evaluation at depth.

The other three anomalies B, C and D have no coincident geochemistry and probably represent weak sulphide development of little economic significance.

7.0 CONCLUSION

To date, regional VHMS investigations in the Sorell Peninsula have been hampered by non availability of equipment to fly a high quality airborne EM survey over the base metal prospective Cambrian Noddy Creek Volcanics. A GEOTEM survey has now been rescheduled for November/December 1995. Nevertheless, reprocessing and image enhancement of a detailed Amoco 1984 aeromagnetic and radiometric survey has provided excellent quality data for interpretation of major lithological packages in this region. As a result a larger area of potentially prospective volcanics which has never been mapped or effectively sampled has been interpreted to extend south from the upper Hibbs River to the Wanderer River. These volcanics and related intrusives warrant reconnaissance mapping and drainage surveys for stratabound and vein hosted base metal/gold mineralisation.

Further south equivalent sequences are apparently more distal from volcanic centres and volcanoclastic sediments are dominant. The mafic volcanics to the east, correlated with the Mainwaring River Volcanics are not considered particularly prospective for polymetallic basemetal mineralisation.

Volcanic-intrusive centres are recognised at Timbertops and at Thomas Creek where possible porphyry-style Cu (Au) mineralisation has been defined by detailed grid surveys over a 800m x 600m area centred on altered intermediate volcanics and mineralising microdiorites.

This significant prospect should be diamond drilled during the next field season and extensive regional geological and geochemical surveys are required to define new targets within and peripheral to this major sub-volcanic centre in the Noddy Creek Volcanics

8.0 BIBLIOGRAPHY

Bishop J. 1984

Summary of geophysical surveys conducted over Sorell Peninsula, in Ferris, B. 1984. Progress report for the 12 months to September 1984 EL's 35/85, 36/85, and 37/85. Sorell Peninsula, *unpub Tasmanian Mines Department Rep. for Amoco.*

Bishop J. 1986

Preliminary interpretation of DIGHEM surveys of the Muddy Cove, Spero River and Wanderer River North areas in Jones, P. 1986. Progress report for the 12 months to September 1986. EL'S 35/85, 36/85 and 37/85. Sorell Peninsula. *unpub Tasmanian Mines Department Rep. for Cyprus.*

Brown AV. 1988

Geological Atlas 1:50,000 Series. Sheet 78 (7912S), Montgomery, *Department of Mines, Tasmania.*

Brown AV, Findlay RH, McClenaghan MP and Seymour DB. 1991

Synopsis of the regional geology of the Macquarie Harbour, Point Hibbs and Montgomery 1:50,000 map sheet. *Rep. Div. Mines Mineral Resour. Tasmania. 1992/21.*

Carey SP, and Berry RF, 1988

Thrust sheets at Point Hibbs, Tasmania: palaeontology, sedimentology and structure. *Aust. J Earth Sci. 35:169-180.*

Close RJ, 1972

The Geology and Economic Potential of the Hibbs Ultramafic Belt in the Noddy Creek Area of SW Tas. *Unpub. Fellowship Thesis RMIT.*

Corbett KDC, 1992

Stratigraphic-volcanic setting of massive sulfide deposits in the Cambrian Mt Read volcanics, Tasmania. *In press.*

Ferris B, 1984

Progress report for the 12 months to September 1984. EL's 35/85, 36/85 and 37/85. Sorell Peninsula. *Unpub Tasmanian Mines Department Rep. for Amoco.*

Hall WDM, McIntire MH, and Hall K, 1969

EL13/65 South-west Tasmania geological report 1966/67. *BHP CR 778 (unpub).*

Hall WDM, McIntire MH, Corbett EB, McGregor PW, Fenton GR, Arndt CD, Bumstead ED. 1969

Report on field work EL13/65 SW Tasmania 1967/68. *BHP CR 793 (unpub).*

Jones P, 1986

Progress report for the 12 months to September 1986. EL's 35/85, 36/85 and 37/85. Sorell Peninsula. *Unpub Tasmanian Mines Department Rep. for Cyprus.*

8.0 BIBLIOGRAPHY (Con't)

Kary G, 1985.

Progress report for the 12 months to September 1985. EL 35/85, 36/85 and 37/85. Sorell Peninsula. *Unpub Tasmanian Mines Department Rep. for Amoco.*

MacDonald G, 1993

Annual Report on Exploration Activity for the 12 months to August 1993. EL's 4/92 and 7/92. Sorell Peninsula. *Unpub Tasmanian Mines Department Rep. for Plutonic Operations.*

McClenaghan MP, and Findlay RH, 1989.

Geological Atlas 1:50,000 Series. Sheet 64 (7913S). Macquarie Harbour. *Department of Mines, Tasmania.*

McGregor P. 1969

Report on 1968/69 field work EL 13/65 SW Tasmania. *BHP unpub.*

McClenaghan MP, and Corbett KDC, 1989 in Burrett, CF and Martin EL (eds). The geology and mineral resources of Tasmania. *Spec. Publ. geol. Soc. Aust. 15.*

Poltock R, 1988

Progress report for the 12 months to September 1988. EL 37/85 Spero River. *Unpub Tasmanian Mines Department Rep. for Cyprus.*

Rea P, 1994.

Annual report to August 1994. EL 4/92 and EL 7/92. Sorell Peninsula. *Unpub Tasmanian Mines Department Rep. for Plutonic Operations.*

Torrey C and Poltock R, 1987

Progress report for the 12 months to September 1987. EL 35/85, 36/85 and 37/85. Sorell Peninsula. *Unpub Tasmanian Mines Department Rep. for Cyprus.*

White NC, 1975

Cambrian volcanism and mineralisation in south-west Tasmania. *Unpub. PhD thesis, University of Tasmania.*

APPENDIX 1

GEOCHEMICAL DATA

- (a) Assay Results**
- (b) Data Bore Tables**
- (c) Data Plots - Figures 9 - 27**

(a) ASSAY RESULTS



Analabs

Analabs Pty. Ltd.
A.C.N. 004 591 684

Phone (004) 316837

14 Thirkell St, COOEE TAS 7320

Fax (004) 318890

ANALYTICAL REPORT No.

111715.60.10798

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

INVOICE TO:

Plutonic Operations Limited
P O Box 282
ZEEHAN TAS 7469

ORDER No.

PROJECT

2014705

DATE RECEIVED

RESULTS REQUIRED

24/03/95

ASAP

No. OF PAGES
OF RESULTS

DATE
REPORTED

No.
OF COPIES

TOTAL No.
OF SAMPLES

10

19/04/95

1

150

SAMPLE NUMBERS

SAMPLE DESCRIPTION

ELEMENT/METHOD

16591/560,16591/685

Prep : BP031/BP033

Cu,Pb,Zn,Mo/BA140 As/HA140
Cu,Cu(1)/BA104
Ag/BB309
S/BM613
Ag,Ba,Ca,Bi,Cd,Co,Cr,Fe,X,Li,Mg,
Mn,Mo,Na,P,S,Sb,Sr,Ti,V,Zr,Cu,
Pb,Zn,U/GI211

RESULTS
TO

Plutonic Operations Limited
Level 37
100 Miller Street
NORTH SYDNEY NSW 2060

RESULTS
TO

Rob Reid
Plutonic Operations Limited
P O Box 282
ZEEHAN TAS 7469

RESULTS
TO

REMARKS

AUTHORISED OFFICER

**ANALYTICAL DATA**

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10798

19/04/95

2014705

1 OF 10

METHOD	SAMPLE No.	Cu	Cu	Pb	Zn	Mo	Au	As	S	S
		GA140	GA104	GA140	GA140	GA140	GG309	HA140	GI211	OM613
1	16501	79	-	6	5	-	-	5.3	-	-
2	16502	317	-	12	11	-	-	5.6	-	-
3	16503	460	-	6	19	-	-	4.4	-	-
4	16504	103	-	4	7	-	-	5.1	-	-
5	16505	95	-	14	18	-	-	4.1	-	-
6	16506	163	-	<3	26	-	-	9.7	-	-
7	16507	220	-	4	15	-	-	3.9	-	-
8	16508	96	-	<3	12	-	-	4.9	-	-
9	16509	13	-	<3	5	-	-	1.6	-	-
10	16510	9	-	<3	<2	-	-	1.5	-	-
11	16511	262	-	15	11	-	-	2.5	-	-
12	16512	57	-	4	12	-	-	8.0	-	-
13	16513	111	-	7	20	-	-	8.5	-	-
14	16514	168	-	10	11	-	-	2.8	-	-
15	16515	1542	-	6	36	8	0.031	3.2	-	-
16	16516	345	-	8	18	-	-	9.6	-	-
17	16517	127	-	5	5	-	-	6.7	-	-
18	16518	292	-	<3	21	-	-	7.9	-	-
19	16519	35	-	10	<2	-	-	2.4	-	-
20	16520	185	-	11	8	-	-	9.0	-	-
21	16521	46	-	5	<2	-	-	2.2	-	-
22	16522	152	-	<3	<2	-	-	7.0	-	-
23	16523	166	-	<3	<2	-	-	9.1	-	-
24	16524	83	-	5	<2	-	-	10.0	-	-
25	16525	11	-	6	<2	-	-	3.8	-	-

**ANALYTICAL DATA**

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

		111715.60.10798				19/04/95		2014705		2 OF 10	
METHOD	SAMPLE No.	Cu	Cu	Pb	Zn	Mo	Au	As	S	S	
		GA140	GA104	GA140	GA140	GA140	GG309	HA140	GI211	OM613	
1	16526	240	-	27	27	-	-	4.9	-	-	
2	16527	100	-	<3	<2	-	-	7.5	-	-	
3	16528	74	-	11	<2	-	-	7.3	-	-	
4	16529	35	-	8	<2	-	-	2.1	-	-	
5	16530	141	-	5	11	-	-	3.0	-	-	
6	16531	90	-	<3	18	-	-	15.0	-	-	
7	16532	65	-	<3	17	-	-	9.7	-	-	
8	16533	22	-	3	34	-	-	11.0	-	-	
9	16534	116	-	4	29	-	-	4.7	-	-	
10	16535	40	-	<3	13	-	-	8.8	-	-	
11	16536	867	-	<3	36	17	<0.008	8.6	-	-	
12	16537	204	-	<3	12	-	-	1.2	-	-	
13	16538	546	-	4	29	9	0.028	14.0	-	-	
14	16539	340	-	<3	47	-	-	7.8	-	-	
15	16540	94	-	6	5	-	-	4.5	-	-	
16	16541	125	-	11	20	-	-	11.0	-	-	
17	16542	83	-	4	11	-	-	12.0	-	-	
18	16543	42	-	17	49	-	-	8.2	-	-	
19	16544	95	-	4	15	-	-	10.0	-	-	
20	16545	72	-	4	10	-	-	8.6	100	-	
21	16546	378	-	3	8	-	-	4.8	2100	-	
22	16547	>5000	2.41	8	46	16	1.036	2.1	49400	-	
23	16548	>5000	6.72	36	25	23	2.960	5.2	>50000	24.500	
24	16549	96	-	11	23	-	-	7.2	2450	-	
25	16550	184	-	5	34	-	-	15.0	-	-	



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

		111715.60.10798				19/04/95		2014705		3 OF 10	
	SAMPLE No.	Cu	Cu	Pb	Zn	Mo	Au	As	S	S	
METHOD		GA140	GA104	GA140	GA140	GA140	GB309	HA140	BI211	DM613	
1	16551	44	-	4	17	-	-	7.6	-	-	
2	16552	456	-	6	33	-	-	10.0	-	-	
3	16553	151	-	27	31	-	-	16.0	-	-	
4	16554	11	-	10	48	-	-	21.0	-	-	
5	16555	74	-	<3	13	-	-	15.0	-	-	
6	16556	21	-	11	44	-	-	9.4	-	-	
7	16557	63	-	8	44	-	-	40.0	-	-	
8	16558	333	-	16	46	-	-	11.0	-	-	
9	16559	46	-	9	44	-	-	15.0	-	-	
10	16560	110	-	13	29	-	-	6.8	-	-	
11	16591	220	-	12	40	-	-	21.0	-	-	
12	16592	511	-	13	44	<5	0.042	8.3	-	-	
13	16593	86	-	11	45	-	-	7.4	-	-	
14	16594	280	-	15	41	-	-	22.0	-	-	
15	16595	85	-	13	12	-	-	17.0	-	-	
16	16596	74	-	16	8	-	-	16.0	-	-	
17	16597	18	-	10	8	-	-	20.0	-	-	
18	16598	37	-	9	8	-	-	20.0	-	-	
19	16599	71	-	16	20	-	-	17.0	-	-	
20	16600	34	-	7	20	-	-	12.0	-	-	
21	16601	13	-	13	13	-	-	4.1	-	-	
22	16602	31	-	13	10	-	-	3.6	-	-	
23	16603	11	-	6	6	-	-	1.8	-	-	
24	16604	106	-	7	8	-	-	12.0	-	-	
25	16605	184	-	8	7	-	-	23.0	-	-	

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

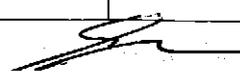
111715.60.10798

19/04/95

2014705

4 OF 10

	SAMPLE No.	Cu	Cu	Pb	Zn	Mo	Au	As	S	S
METHOD		GA140	GA104	GA140	GA140	GA140	GG309	HA140	GI211	OM613
1	16606	25	-	6	14	-	-	11.0	-	-
2	16607	47	-	7	21	-	-	11.0	-	-
3	16608	108	-	10	19	-	-	14.0	-	-
4	16609	52	-	11	14	-	-	9.8	-	-
5	16610	41	-	12	9	-	-	7.5	-	-
6	16611	23	-	7	6	-	-	3.7	-	-
7	16612	132	-	3	21	-	-	6.7	-	-
8	16613	507	-	6	50	<5	0.014	4.7	-	-
9	16614	36	-	11	31	-	-	8.3	-	-
10	16615	288	-	8	29	-	-	7.0	-	-
11	16616	311	-	6	27	-	-	8.4	-	-
12	16617	82	-	4	38	-	-	7.3	-	-
13	16618	99	-	6	30	-	-	10.0	-	-
14	16619	20	-	14	18	-	-	4.4	-	-
15	16620	20	-	4	38	-	-	8.3	-	-
16	16621	40	-	5	45	-	-	16.0	-	-
17	16622	114	-	22	34	-	-	15.0	-	-
18	16623	345	-	15	30	-	-	22.0	-	-
19	16624	100	-	10	32	-	-	5.5	-	-
20	16625	48	-	10	15	-	-	2.6	-	-
21	16626	31	-	13	17	-	-	1.9	-	-
22	16627	144	-	13	38	-	-	3.8	-	-
23	16628	202	-	12	32	-	-	3.5	-	-
24	16629	80	-	10	57	-	-	8.6	-	-
25	16630	12	-	9	12	-	-	1.6	-	-



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10798

20/04/95

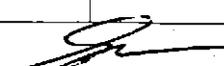
2014705

5 OF 10

METHOD	SAMPLE No.	Cu	Cu	Pb	Zn	Mo	Au	As	S	S
		GA140	GA104	GA140	GA140	GA140	GG309	HA140	GI211	OM613
1	16631	5	-	10	12	-	-	<0.5	-	-
2	16632	8	-	7	18	-	-	0.9	-	-
3	16633	252	-	15	21	-	-	5.9	-	-
4	16634	704	-	10	25	5	0.075	14.0	-	-
5	16635	870	-	9	24	7	0.011	6.6	-	-
6	16636	412	-	17	21	-	-	3.9	-	-
7	16637	963	-	16	27	<5	0.041	4.9	-	-
8	16638	385	-	13	31	-	-	1.2	-	-
9	16639	435	-	10	117	-	-	3.9	-	-
10	16640	703	-	9	39	<5	0.052	4.4	-	-
11	16641	85	-	12	21	-	-	6.0	-	-
12	16642	31	-	7	18	-	-	6.0	-	-
13	16643	193	-	10	18	-	-	14.0	-	-
14	16644	931	-	8	65	20	0.024	4.8	-	-
15	16645	92	-	16	17	-	-	6.0	-	-
16	16646	15	-	5	7	-	-	1.2	-	-
17	16647	199	-	15	35	-	-	18.0	-	-
18	16648	32	-	16	16	-	-	4.5	-	-
19	16649	37	-	15	120	-	-	17.0	-	-
20	16650	133	-	7	16	-	-	18.0	-	-
21	16651	20	-	20	43	-	-	10.0	-	-
22	16652	45	-	273	168	-	-	8.7	-	-
23	16653	24	-	8	20	-	-	5.2	-	-
24	16654	9	-	10	255	-	-	4.0	-	-
25	16655	2	-	9	4	-	-	3.4	-	-

Results in ppm unless otherwise specified
-- element not determinedIS = insufficient sample
SNR = sample not received

AUTHORISED



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10798

20/04/95

2014705

6 OF 10

	SAMPLE No.	Cu	Cu	Pb	Zn	Mo	Au	As	S	S
METHOD		GA140	GA104	GA140	GA140	GA140	GG309	HA140	GI211	DM613
1	16656	4	-	10	16	-	-	11.4	-	-
2	16657	46	-	9	11	-	-	8.3	-	-
3	16658	6	-	12	10	-	-	4.9	-	-
4	16659	10	-	10	434	-	-	2.8	-	-
5	16660	49	-	9	15	-	-	16.0	-	-
6	16661	35	-	12	10	-	-	15.0	-	-
7	16662	34	-	14	12	-	-	13.0	-	-
8	16663	42	-	13	7	-	-	15.0	-	-
9	16664	57	-	18	747	-	-	21.0	-	-
10	16665	6	-	10	5	-	-	9.4	-	-
11	16666	27	-	20	5	-	-	13.0	-	-
12	16667	19	-	13	14	-	-	11.0	-	-
13	16668	56	-	280	59	-	-	8.4	-	-
14	16669	80	-	13	25	-	-	9.0	-	-
15	16670	103	-	11	55	-	-	10.0	-	-
16	16671	26	-	9	41	-	-	16.0	-	-
17	16672	21	-	16	35	-	-	6.7	-	-
18	16673	62	-	12	42	-	-	5.9	-	-
19	16674	52	-	12	16	-	-	5.3	-	-
20	16675	245	-	11	50	-	-	4.7	-	-
21	16676	1015	-	10	75	<5	<0.008	3.3	-	-
22	16677	136	-	15	15	-	-	7.7	-	-
23	16678	206	-	26	53	-	-	4.6	-	-
24	16679	38	-	13	10	-	-	8.5	-	-
25	16680	19	-	8	34	-	-	8.4	100	-

Results in ppm unless otherwise specified
element not determinedIS = insufficient sample
SNR sample not received

AUTHORISED





ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

		111715.60.10798				19/04/95		2014705		7 OF 10	
	SAMPLE No.	Cu	Cu	Pb	Zn	Mo	Au	As	S	S	
METHOD		GA140	GA104	GA140	GA140	GA140	GG309	HA140	GI211	OM613	
1	16681	32	-	9	32	-	-	8.2	-	-	
2	16682	269	-	14	38	-	-	2.4	-	-	
3	16683	191	-	12	32	-	-	4.0	-	-	
4	16684	346	-	17	18	-	-	9.1	-	-	
5	16685	48	-	15	25	-	-	15.0	-	-	
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24	DETECTION	2	0.01	3	2	5	0.008	0.5	50	0.005	
25	UNITS	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	

Results in ppm unless otherwise specified
element not determinedIS = insufficient sample
SNR = sample not received

AUTHORISED

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10798

19/04/95

2014705

8 OF 10

	SAMPLE No.	Cu	Cu(1)	Ag	Ba	Ca	Bi	Cd	Co	Cr
METHOD		GI211	GA104	GI211						
1	16545	66	-	<0.5	710	1.63	<10	<1	8	81
2	16546	361	-	<0.5	431	5.39	<10	<1	57	216
3	16547	>10000	2.38	<0.5	627	0.11	<10	<1	477	122
4	16548	>10000	7.55	1.8	94	1.21	<10	<1	1890	51
5	16549	133	-	<0.5	284	0.20	<10	<1	35	57
6	16680	22	-	<0.5	1830	0.45	<10	<1	9	38
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24	DETECTION	5	0.01	0.5	5	0.05	10	1	5	10
25	UNITS	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10798

19/04/95

2014705

9 OF 10

	SAMPLE No.	Fe	K	Li	Mg	Mn	Mo	Na	P	Sb
METHOD		GI211								
1	16545	3.77	3.17	17	1.81	664	<10	2.54	<100	<5
2	16546	7.77	1.73	7	6.78	688	<10	0.38	150	<5
3	16547	11.90	2.21	46	3.49	459	11	0.09	1050	<5
4	16548	19.70	0.38	24	2.08	221	16	0.05	5200	50
5	16549	2.84	1.16	15	1.13	169	12	4.50	<100	<5
6	16680	7.42	7.37	19	1.27	341	<10	0.19	400	<5
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24	DETECTION	0.01	0.05	2	0.01	10	10	0.01	100	5
25	UNITS	%	%	ppm	%	ppm	ppm	%	ppm	ppm



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10798

19/04/95

2014705

10 OF 10

	SAMPLE No.	Sr	Ti	V	Zr	Pb	U	Zn		
METHOD		GI211								
1	16545	233	3650	120	151	<10	<50	28		
2	16546	39	2010	195	56	15	50	30		
3	16547	33	4350	343	134	17	50	59		
4	16548	<1	2530	212	73	50	100	39		
5	16549	118	3670	68	213	<10	<50	26		
6	16580	125	3150	154	230	12	100	42		
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24	DETECTION	1	10	2	5	10	50	5		
25	UNITS	ppm								

753057



Analabs Pty Ltd
ANALYTICAL LABORATORIES

Analabs Pty Ltd
A COMPANY OF

Phone (004) 316837

14 Thirkell St. COOEE TAS 7320

Fax (004) 318890

ANALYTICAL REPORT No.

111715.60.10873

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

INVOICE TO:

Plutonic Operations Limited
Level 37
100 Miller Street
NORTH SYDNEY NSW 2060

ORDER No. PROJECT
2014715

DATE RECEIVED RESULTS REQUIRED
24/04/95 ASAP

No. OF PAGES OF RESULTS
12

DATE REPORTED
12/05/95

No. OF COPIES
1

TOTAL No. OF SAMPLES
140

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
10000-10020	20 Precipitate/3000g	Au, Au(R), Au(S) / 56309 Cu, Pb, Zn, Ca, Fe, X, Mg, Na, P, Ir, Ti, Ba, Co / 61211

RESULTS TO
Rob Reid
Plutonic Operations Limited
P O Box 282
ZEECHED TAS 7460

RESULTS TO
Plutonic Operations Limited
100 Miller Street
North Sydney NSW 2060

RESULTS TO

REMARKS

AUTHORISED OFFICER



ANALYTICAL DATA

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

		111715.60.10873			12/05/95		2014715		1 OF 12	
	SAMPLE No.	Au	Au (R)	Au (S)	Cu	Pb	Zn	Ca	Fe	K
METHOD		GG309	GG309	GG309	GI211	GI211	GI211	GI211	GI211	GI211
1	16686	<0.008	-	-	7	20	24	0.71	9.34	0.61
2	16687	<0.008	-	-	7	18	17	0.84	1.73	2.97
3	16688	<0.008	-	-	7	18	19	0.52	0.65	2.53
4	16689	<0.008	-	-	28	13	17	1.56	2.22	2.66
5	16690	<0.008	-	-	7	14	14	0.15	0.56	3.24
6	16691	<0.008	-	-	9	20	12	0.10	0.95	2.15
7	16692	<0.008	-	-	12	15	17	0.75	1.44	3.40
8	16693	<0.008	-	-	<5	18	34	1.79	2.43	1.87
9	16694	<0.008	-	-	<5	17	14	0.64	1.13	0.92
10	16695	<0.008	-	-	5	20	25	0.44	0.91	1.12
11	16696	<0.008	-	-	8	10	25	2.44	2.04	1.29
12	16697	<0.008	<0.008	-	10	14	34	2.14	2.69	1.29
13	16698	<0.008	-	-	10	17	29	1.54	3.53	1.13
14	16699	<0.008	-	-	7	17	16	0.98	1.60	3.36
15	16700	<0.008	-	-	<5	24	18	0.48	1.27	2.83
16	16701	<0.008	-	-	6	16	19	0.30	0.81	3.35
17	16702	<0.008	-	-	<5	16	13	0.41	0.96	2.73
18	16703	<0.008	-	-	16	21	19	1.26	1.82	2.63
19	16704	<0.008	-	-	6	14	29	2.07	3.02	1.09
20	16705	<0.008	-	-	<5	14	21	2.43	2.58	1.81
21	16706	<0.008	-	-	<5	16	19	2.64	2.31	0.91
22	16707	<0.008	<0.008	-	7	15	16	0.31	0.67	1.08
23	16708	<0.008	-	-	<5	21	10	0.23	1.13	0.86
24	16709	<0.008	-	-	<5	12	8	0.17	0.47	0.67
25	16710	<0.008	-	-	<5	27	14	0.37	0.98	0.85

Results in ppm unless otherwise specified IS = insufficient sample
 ND = not determined SNP = sample not present

AUTHORISED OFFICER



ANALYTICAL DATA

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

		111715.60.10873			12/05/95		2014715		2 OF 12	
	SAMPLE No.	Au	Au (R)	Au (S)	Cu	Pb	Zn	Ca	Fe	K
METHOD		GG309	GG309	GG309	GI211	GI211	GI211	GI211	GI211	GI211
1	16711	<0.008	-	-	8	11	14	0.17	0.65	2.77
2	16712	<0.008	-	-	9	24	20	0.10	0.65	1.49
3	16713	<0.008	-	-	<5	20	20	1.77	1.90	1.46
4	16714	<0.008	-	-	28	15	39	4.02	6.05	0.64
5	16715	<0.008	-	-	15	11	34	3.62	8.95	0.52
6	16716	<0.008	-	-	61	15	53	0.95	2.91	0.77
7	16717	<0.008	-	-	11	17	18	1.42	1.48	1.49
8	16718	<0.008	-	-	37	18	54	3.38	5.72	0.50
9	16719	<0.008	-	-	43	17	35	0.36	3.35	0.54
10	16720	<0.008	-	-	169	<10	33	0.09	11.80	1.35
11	16721	<0.008	-	-	377	24	14	0.07	1.50	2.00
12	16722	<0.008	0.010	-	12	<10	24	2.71	3.26	0.88
13	16723	<0.008	-	-	26	14	13	0.91	2.07	0.97
14	16724	<0.008	-	-	31	17	15	0.91	1.23	0.67
15	16725	<0.008	-	-	57	17	18	0.10	0.96	3.82
16	16726	<0.008	-	-	54	15	12	0.32	1.16	0.46
17	16727	0.009	-	-	34	11	21	0.07	1.27	0.64
18	16728	<0.008	4	-	14	32	28	0.06	0.19	0.21
19	16729	<0.008	-	-	<5	20	56	0.17	0.09	<0.05
20	16730	<0.008	-	-	8	23	60	0.17	0.14	<0.05
21	16731	<0.008	-	-	8	21	72	0.19	0.10	<0.05
22	16732	<0.008	<0.008	-	376	25	15	0.09	1.47	1.35
23	16733	<0.008	-	-	8	17	45	0.10	0.08	<0.05
24	16734	<0.008	-	-	25	22	58	0.12	0.11	<0.05
25	16735	<0.008	-	-	129	15	42	0.24	3.37	2.18

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10873

12/05/95

2014715

3 OF 12

	SAMPLE No.	Au	Au(R)	Au(S)	Cu	Pb	Zn	Ca	Fe	K
METHOD		GG309	GG309	GG309	GI211	GI211	GI211	GI211	GI211	GI211
1	16736	<0.008	-	-	248	21	39	1.31	2.39	1.05
2	16737	0.024	-	-	496	21	26	0.58	2.74	0.52
3	16738	0.015	-	-	210	11	28	0.22	1.30	1.40
4	16739	<0.008	-	-	761	18	31	0.26	3.30	2.12
5	16740	<0.008	-	-	127	18	47	0.44	3.34	1.60
6	16741	<0.008	-	-	300	12	8	0.35	1.53	0.84
7	16742	<0.008	-	-	12	19	18	0.93	1.37	1.06
8	16743	<0.008	-	-	11	16	6	<0.05	0.37	0.61
9	16744	<0.008	-	-	21	12	28	0.66	3.83	2.77
10	16745	<0.008	-	-	441	24	26	0.05	18.70	1.66
11	16746	<0.008	-	-	47	11	13	<0.05	0.57	1.41
12	16747	<0.008	<0.008	-	1940	26	14	<0.05	0.97	1.26
13	16748	0.008	-	-	178	37	61	0.17	2.09	4.12
14	16749	<0.008	-	-	15	18	11	<0.05	0.29	1.15
15	16750	<0.008	-	-	14	11	18	<0.05	0.27	4.04
16	16751	<0.008	-	-	17	27	20	1.37	2.06	1.55
17	16752	<0.008	-	-	368	24	42	0.08	2.08	2.09
18	16753	0.016	-	-	45	13	14	<0.05	0.22	1.54
19	16754	<0.008	-	-	54	15	9	<0.05	0.35	4.61
20	16755	0.010	-	-	72	<10	14	<0.05	0.34	2.49
21	16756	<0.008	-	-	292	23	30	<0.05	2.02	4.20
22	16757	<0.008	<0.008	-	224	37	46	0.05	3.66	4.93
23	16758	<0.008	-	-	247	14	28	0.17	1.86	1.82
24	16759	<0.008	-	-	2120	39	27	0.05	2.84	4.47
25	16760	0.010	-	-	59	27	30	<0.05	1.63	2.63



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

SAMPLE PREFIX		REPORT No.			REPORT DATE			CLIENT ORDER No.		PAGE	
		111715.60.10873			12/05/95			2014715		4 OF 12	
METHOD	SAMPLE No.	Au	Au (R)	Au (S)	Cu	Pb	Zn	Ca	Fe	K	
		GG309	GG309	GG309	GI211	GI211	GI211	GI211	GI211	GI211	
1	16761	<0.008	-	-	87	18	34	<0.05	1.36	2.89	
2	16762	0.020	-	-	198	66	11	0.05	1.87	6.11	
3	16763	<0.008	-	-	32	47	114	0.05	3.92	2.53	
4	16764	<0.008	-	-	63	30	58	<0.05	2.98	4.83	
5	16765	<0.008	-	-	135	19	66	0.06	3.08	3.33	
6	16766	<0.008	-	-	24	20	25	0.12	1.86	3.23	
7	16767	0.020	-	-	1140	540	90	7.13	4.92	1.38	
8	16768	<0.008	-	-	114	18	31	0.08	3.39	2.51	
9	16769	<0.008	-	-	308	16	24	0.08	5.51	2.61	
10	16770	<0.008	-	-	43	24	42	0.12	3.69	1.72	
11	16771	<0.008	-	-	45	14	72	0.08	3.45	2.25	
12	16772	<0.008	<0.008	-	<5	26	27	5.02	5.27	0.32	
13	16773	<0.008	-	-	132	17	30	2.10	5.24	1.23	
14	16774	<0.008	-	-	7	17	18	1.95	2.05	0.97	
15	16775	<0.008	-	-	7	17	20	3.54	8.67	1.16	
16	16776	<0.008	-	-	<5	14	20	2.55	2.23	1.22	
17	16777	<0.008	-	-	<5	28	14	2.08	1.44	1.18	
18	16778	<0.008	-	-	<5	22	21	2.00	3.58	0.08	
19	16779	<0.008	-	-	<5	71	22	3.11	2.53	0.09	
20	16780	<0.008	-	-	6	14	11	0.84	0.88	0.35	
21	16781	<0.008	-	-	<5	14	14	1.05	0.73	0.31	
22	16782	<0.008	<0.008	-	336	16	44	0.05	3.02	5.95	
23	16783	0.027	-	-	113	11	67	0.06	1.47	4.93	
24	16784	<0.008	-	-	20	12	70	0.13	4.70	5.70	
25	16785	<0.008	-	-	54	13	30	0.09	1.72	4.99	



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

		111715.60.10873			12/05/95		2014715		5 OF 12	
	SAMPLE No.	Au	Au (R)	Au (S)	Cu	Pb	Zn	Ca	Fe	K
METHOD		GG309	GG309	GG309	GI211	GI211	GI211	GI211	GI211	GI211
1	16786	<0.008	-	-	20	<10	20	0.99	2.13	4.44
2	16787	0.054	-	-	236	14	15	0.16	2.07	6.56
3	16788	<0.008	-	-	13	<10	16	0.87	3.17	0.51
4	16789	<0.008	-	-	58	<10	33	5.53	5.41	0.37
5	16790	<0.008	-	-	7	11	24	3.91	4.09	0.69
6	16791	<0.008	-	-	<5	<10	33	2.42	4.44	3.92
7	16792	<0.008	-	-	<5	<10	23	2.60	5.96	4.47
8	16793	<0.008	-	-	<5	<10	37	1.77	2.87	2.85
9	16794	<0.008	-	-	10	14	31	3.14	4.48	3.36
10	16795	<0.008	-	-	7	10	18	1.50	2.23	4.37
11	16796	<0.008	-	-	<5	<10	23	0.56	2.29	4.78
12	16797	<0.008	<0.008	-	<5	13	21	4.00	5.67	1.09
13	16798	<0.008	-	-	<5	<10	28	4.01	9.04	2.23
14	16799	<0.008	-	-	15	<10	21	1.08	1.56	0.81
15	16800	<0.008	-	-	<5	<10	19	2.90	4.17	1.68
16	16801	<0.008	-	<0.008	<5	<10	20	2.83	3.50	1.56
17	16802	<0.008	-	-	7	<10	20	0.69	4.65	5.92
18	16803	0.018	-	-	5	<10	26	3.27	4.79	1.59
19	16804	<0.008	-	-	10	12	21	3.24	2.60	1.07
20	16805	<0.008	-	-	<5	<10	22	6.31	7.07	0.59
21	16806	<0.008	-	-	<5	<10	9	1.43	2.19	0.82
22	16807	<0.008	<0.008	-	<5	11	19	2.75	5.86	1.02
23	16808	<0.008	-	-	<5	<10	16	1.97	3.23	0.97
24	16809	<0.008	-	-	26	<10	8	0.05	0.65	0.98
25	16810	<0.008	-	-	37	<10	11	0.16	0.70	0.72



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

SAMPLE PREFIX		REPORT No.				REPORT DATE		CLIENT ORDER No.		PAGE	
		111715.60.10873				12/05/95		2014715		6 OF 12	
METHOD	SAMPLE No.	Au	Au(R)	Au(S)	Cu	Pb	Zn	Ca	Fe	K	
		GG309	GG309	GG309	GI211	GI211	GI211	GI211	GI211	GI211	
1	16811	<0.008	-	-	10	13	53	0.11	5.04	0.84	
2	16812	<0.008	-	-	22	<10	12	1.28	1.32	2.18	
3	16813	0.012	-	-	91	<10	21	0.07	1.70	4.87	
4	16814	<0.008	-	-	6	<10	9	0.07	1.16	5.27	
5	16815	<0.008	-	-	334	22	73	<0.05	4.46	4.83	
6	16816	<0.008	-	-	142	14	40	0.05	3.55	6.66	
7	16817	0.035	-	-	33	<10	30	0.16	2.35	2.87	
8	16818	0.010	-	-	72	16	31	0.05	1.94	5.14	
9	16819	0.029	-	-	181	13	71	0.07	3.91	3.07	
10	16820	<0.008	-	-	44	<10	18	0.06	1.70	6.22	
11	16821	<0.008	-	<0.008	51	19	35	0.12	1.21	8.52	
12	16822	<0.008	<0.008	-	128	22	49	0.07	2.88	6.07	
13	16823	<0.008	-	-	11	<10	7	0.10	0.49	1.40	
14	16824	<0.008	-	-	27	<10	41	0.08	2.48	2.23	
15	16825	0.165	0.148	0.164	4520	24	11	0.06	7.46	5.97	
16											
17											
18											
19											
20											
21											
22											
23											
24	DETECTION	0.008	0.008	0.008	5	10	5	0.05	0.01	0.05	
25	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10873

12/05/95

2014715

7 OF 12

	SAMPLE No.	Mg	Na	P	Zr	Ti	Ba	Co		
METHOD	GI211	GI211	GI211	GI211	GI211	GI211	GI211	GI211		
1	16686	0.80	0.29	150	168	9130	238	12		
2	16687	0.47	0.56	<100	499	4300	1010	<5		
3	16688	0.15	0.36	<100	411	1870	981	<5		
4	16689	0.48	0.75	<100	222	3140	936	5		
5	16690	0.11	0.76	<100	239	2390	1080	<5		
6	16691	0.23	0.54	<100	200	2220	628	<5		
7	16692	0.34	0.94	100	157	3260	1130	<5		
8	16693	0.87	2.54	100	144	3410	632	6		
9	16694	0.32	2.83	<100	173	4260	278	<5		
10	16695	0.15	2.47	100	128	2920	167	<5		
11	16696	1.42	3.88	<100	100	3450	318	6		
12	16697	1.54	2.32	<100	127	5510	431	6		
13	16698	1.10	1.81	<100	179	3530	199	7		
14	16699	0.49	0.94	100	247	2980	1100	<5		
15	16700	0.34	1.01	<100	316	3170	853	<5		
16	16701	0.33	0.34	100	264	2620	1230	<5		
17	16702	0.25	1.01	<100	250	2550	769	<5		
18	16703	0.41	1.74	150	246	6860	983	<5		
19	16704	1.27	2.75	<100	205	8680	336	8		
20	16705	1.32	3.02	100	159	6590	568	7		
21	16706	1.11	4.08	<100	191	4790	250	5		
22	16707	0.18	2.49	<100	301	2970	327	<5		
23	16708	0.32	1.64	<100	307	3020	278	<5		
24	16709	0.06	1.62	<100	245	2730	190	<5		
25	16710	0.11	1.50	100	282	2730	245	<5		

753065



Analabs

Analabs Pty. Ltd.

A.C.N. 004 591 664

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10873

12/05/95

2014715

8 OF 12

METHOD	SAMPLE No.	Mg	Na	P	Zr	Ti	Ba	Co		
		GI211								
1	16711	0.23	1.31	100	248	2350	799	<5		
2	16712	0.17	0.93	<100	192	4020	240	<5		
3	16713	0.76	3.95	<100	173	6190	409	<5		
4	16714	5.14	1.55	<100	70	3380	151	28		
5	16715	8.19	0.53	<100	46	2070	102	61		
6	16716	1.62	1.56	<100	121	4270	144	103		
7	16717	0.71	3.79	<100	123	4460	352	5		
8	16718	5.85	1.60	<100	98	3250	139	39		
9	16719	1.03	1.25	<100	166	7600	114	14		
10	16720	1.89	0.26	350	209	4340	245	46		
11	16721	0.32	0.49	100	159	4580	406	36		
12	16722	2.01	2.59	<100	180	5330	231	8		
13	16723	0.44	2.11	<100	178	5220	247	<5		
14	16724	0.26	3.05	<100	215	3790	244	<5		
15	16725	0.22	0.54	<100	180	4430	1320	7		
16	16726	0.19	0.58	<100	249	5060	105	<5		
17	16727	0.56	1.77	<100	154	4580	54	<5		
18	16728	0.09	0.15	<100	105	5370	28	<5		
19	16729	0.23	0.06	<100	6	109	11	<5		
20	16730	0.23	0.08	<100	6	130	24	<5		
21	16731	0.22	0.07	<100	13	144	25	<5		
22	16732	0.29	0.15	250	57	3570	239	6		
23	16733	0.26	0.09	<100	<5	84	16	<5		
24	16734	0.27	0.09	<100	<5	156	22	<5		
25	16735	1.60	1.28	<100	125	5360	593	35		

Results in ppm unless otherwise specified. IS = insufficient sample

AUTHORISED



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

		111715.60.10873				12/05/95		2014715		9 OF 12	
	SAMPLE No.	Mg	Na	P	Zr	Ti	Ba	Co			
METHOD		GI211	GI211	GI211	GI211	GI211	GI211	GI211			
1	16736	1.24	3.44	<100	110	4940	326	12			
2	16737	0.73	3.46	<100	126	4180	174	13			
3	16738	0.29	3.20	<100	113	4970	416	9			
4	16739	1.45	1.92	<100	173	6810	720	109			
5	16740	2.18	1.58	<100	150	4800	440	85			
6	16741	0.18	3.88	<100	127	4400	200	170			
7	16742	0.87	3.16	<100	146	5200	350	<5			
8	16743	0.16	0.10	<100	299	3510	149	<5			
9	16744	2.03	0.47	<100	160	4910	618	<5			
10	16745	0.13	0.05	3350	61	3050	125	15			
11	16746	0.19	0.09	150	129	4820	281	<5			
12	16747	0.22	0.14	300	137	5200	294	8			
13	16748	1.22	0.16	200	50	3780	1070	17			
14	16749	0.06	0.09	<100	154	2390	374	<5			
15	16750	0.08	0.55	<100	86	1890	1110	<5			
16	16751	1.23	1.88	100	116	4120	278	8			
17	16752	1.10	0.80	300	155	4290	582	7			
18	16753	0.05	0.06	<100	76	1540	530	<5			
19	16754	0.04	0.11	250	118	2840	1390	<5			
20	16755	0.08	0.10	150	134	3420	785	<5			
21	16756	1.21	0.14	200	119	5050	1470	<5			
22	16757	2.01	0.38	100	170	4660	1610	20			
23	16758	1.18	1.09	200	137	4690	482	7			
24	16759	0.95	0.16	250	178	4310	1510	23			
25	16760	1.03	0.09	100	169	4360	668	7			

Results in ppm unless otherwise specified
= element not determinedIS = insufficient sample
SNR = sample not receivedAUTHORISED
OFFICER



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.50.10873

12/05/95

2014715

10 OF 12

	SAMPLE No.	Mg	Na	P	Zr	Ti	Ba	Co		
METHOD		GI211								
1	16761	0.72	0.09	100	180	3580	979	<5		
2	16762	0.43	0.21	200	182	4580	2160	155		
3	16763	2.08	0.30	450	181	4200	917	70		
4	16764	1.68	0.18	100	171	4300	1850	23		
5	16765	2.03	0.12	150	186	4500	988	21		
6	16766	1.02	0.51	150	155	4480	1150	22		
7	16767	1.46	0.16	28769	140	7570	433	158		
8	16768	2.19	0.61	100	144	4620	389	43		
9	16769	1.58	0.16	100	123	4950	663	81		
10	16770	1.85	0.17	150	204	6170	317	35		
11	16771	2.19	0.24	100	221	5200	489	30		
12	16772	5.05	1.01	150	26	4610	79	20		
13	16773	2.26	0.92	<100	54	3770	325	20		
14	16774	1.40	2.87	150	87	5190	268	5		
15	16775	2.54	2.08	<100	81	6430	268	10		
16	16776	1.96	2.17	<100	101	3590	327	8		
17	16777	0.67	2.78	<100	123	4640	310	<5		
18	16778	0.51	2.27	<100	165	3740	40	<5		
19	16779	0.48	1.24	<100	131	3380	41	<5		
20	16780	0.10	1.69	<100	177	4270	111	<5		
21	16781	0.18	1.78	<100	145	2940	74	<5		
22	16782	1.58	0.24	100	117	4990	2210	24		
23	16783	0.36	0.23	<100	142	5450	577	13		
24	16784	2.07	0.53	100	176	4010	2130	11		
25	16785	0.57	1.30	150	137	5250	890	<5		

Results in ppm unless otherwise specified
- = element not determinedIS = insufficient sample
SNR = sample not receivedAUTHORISED
OFFICER



Analabs

Analabs Pty. Ltd.

A.C.N. 004 591 664

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

SAMPLE PREFIX		REPORT No.				REPORT DATE		CLIENT ORDER No.		PAGE	
		111715.60.10873				12/05/95		2014715		11 OF 12	
METHOD	SAMPLE No.	Mg	Na	P	Zr	Ti	Ba	Co			
		GI211	GI211	GI211	GI211	GI211	GI211	GI211			
1	16786	0.48	1.73	150	116	4030	1690	<5			
2	16787	0.58	0.65	100	130	4160	3420	10			
3	16788	0.79	4.54	<100	91	6690	166	6			
4	16789	9.01	0.99	<100	27	1460	115	39			
5	16790	1.75	4.30	<100	71	4600	238	9			
6	16791	1.60	2.09	250	169	3380	1160	10			
7	16792	1.82	1.27	150	165	4120	1300	11			
8	16793	1.07	3.15	<100	175	4080	938	6			
9	16794	1.29	1.78	250	202	3520	944	9			
10	16795	0.89	1.84	150	202	4070	1150	<5			
11	16796	0.74	1.53	<100	137	5070	909	<5			
12	16797	1.59	1.66	<100	71	3280	389	6			
13	16798	3.42	2.67	<100	79	3710	857	14			
14	16799	0.81	2.09	100	103	2830	228	7			
15	16800	1.23	3.55	300	114	3600	496	13			
16	16801	1.53	3.90	200	108	3450	477	7			
17	16802	0.85	1.29	250	118	3590	2020	<5			
18	16803	2.45	2.73	<100	54	3630	526	10			
19	16804	2.48	2.33	<100	54	3150	317	14			
20	16805	3.91	2.85	100	43	3520	140	15			
21	16806	0.81	2.25	<100	111	1750	189	<5			
22	16807	2.04	3.64	<100	65	3100	229	8			
23	16808	1.23	4.12	<100	97	2350	300	<5			
24	16809	0.31	0.18	<100	161	4880	352	<5			
25	16810	0.24	0.64	<100	109	3990	215	<5			

Results in ppm unless otherwise specified
= element not determinedIS = insufficient sample
SNR = sample not receivedAUTHORISED
OFFICER



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

SAMPLE PREFIX		REPORT No.				REPORT DATE		CLIENT ORDER No.		PAGE	
		111715.60.10873				12/05/95		2014715		12 OF 12	
METHOD	SAMPLE No.	Mg	Na	P	Zr	Ti	Ba	Co			
		GI211	GI211	GI211	GI211	GI211	GI211	GI211			
1	16811	2.32	2.28	<100	81	3380	109	12			
2	16812	0.64	1.08	400	139	5870	595	<5			
3	16813	0.72	0.43	200	161	3170	1860	11			
4	16814	0.11	0.22	150	158	3420	2040	<5			
5	16815	2.15	0.17	100	134	4560	1800	55			
6	16816	1.82	0.22	<100	132	4140	2450	18			
7	16817	1.34	0.83	<100	167	4330	920	20			
8	16818	0.96	0.17	100	165	4650	1330	10			
9	16819	2.47	0.44	100	200	5290	485	21			
10	16820	0.93	0.25	100	176	3940	2370	<5			
11	16821	0.44	0.52	100	117	3660	3850	12			
12	16822	1.85	0.26	150	190	4100	1970	10			
13	16823	0.12	0.32	<100	224	3530	499	<5			
14	16824	1.18	0.39	<100	175	5020	271	8			
15	16825	0.22	0.24	<100	180	3340	286	314			
16											
17											
18											
19											
20											
21											
22											
23											
24	DEFLECTION	0.01	0.01	100	5	10	5	5			
25	UNITS	%	%	ppm	ppm	ppm	ppm	ppm			

753070



Analabs

Analabs Pty Ltd

A.C.N. 004 501 604

Phone (004) 315837

14 Thirkell St. COBEE TAS 7320

Fax (004) 318890

ANALYTICAL REPORT No.

111715.60.10918

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

INVOICE TO:

Plutonic Operations Limited
Level 37
100 Miller Street
NORTH SYDNEY NSW 2060

ORDER No.

PROJECT

2014716

DATE RECEIVED

RESULTS REQUIRED

09/05/95

ASAP

No. OF PAGES OF RESULTS

DATE REPORTED

No. OF COPIES

TOTAL No. OF SAMPLES

3

23/05/95

1

57

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
15031-15087	50 Prep : GP031	Cu,Pb,Zn,Ag,Mn/6A140 Pb/6A104

RESULTS TO

Bob Close
Plutonic Operations Limited
Level 37
100 Miller Street
NORTH SYDNEY NSW 2060

RESULTS TO

Bob Reid
Plutonic Operations Limited
P O Box 782
ZEEHAN TAS 7467

RESULTS TO

REMARKS

AUTHORISED OFFICER



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10918

23/05/95

2014716

1 OF 3

METHOD	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Mn			
		GA140	GA140	GA104	GA140	GA140	GA140			
1	15031	7	3	-	22	<1	54			
2	15032	5	5	-	59	<1	302			
3	15033	32	>5000	0.78	1440	<1	22			
4	15034	10	18	-	44	<1	58			
5	15035	147	65	-	347	<1	784			
6	15036	14	106	-	55	<1	83			
7	15037	44	29	-	70	<1	189			
8	15038	7	8	-	62	<1	87			
9	15039	2	18	-	48	<1	40			
10	15040	2	4	-	28	<1	23			
11	15041	2	8	-	190	<1	94			
12	15042	4	<3	-	78	<1	177			
13	15043	5	18	-	18	<1	18			
14	15044	4	<3	-	29	<1	41			
15	15045	5	<3	-	233	<1	918			
16	15046	6	3	-	22	<1	64			
17	15047	5	87	-	1740	<1	29			
18	15048	3	<3	-	17	<1	25			
19	15049	2	<3	-	18	<1	16			
20	15050	2	<3	-	6	<1	22			
21	15051	3	51	-	17	<1	34			
22	15052	3	<3	-	20	<1	44			
23	15053	3	4	-	3	<1	7			
24	15054	2	<3	-	11	<1	20			
25	15055	<2	20	-	7	<1	11			



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10918

23/05/95

2014716

2 OF 3

	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Mn		
METHOD		GA140	GA140	GA104	GA140	GA140	GA140		
1	15056	<2	7	-	35	<1	77		
2	15057	<2	<3	-	21	<1	45		
3	15058	3	9	-	15	<1	18		
4	15059	2	<3	-	26	<1	16		
5	15060	2	6	-	12	<1	17		
6	15061	2	4	-	15	<1	11		
7	15062	<2	<3	-	13	<1	9		
8	15063	2	<3	-	13	<1	11		
9	15064	3	6	-	23	<1	56		
10	15065	2	19	-	13	<1	18		
11	15066	22	102	-	2000	<1	32		
12	15067	7	36	-	134	<1	52		
13	15068	3	7	-	19	<1	11		
14	15069	3	60	-	53	<1	8		
15	15070	<2	4	-	22	<1	8		
16	15071	2	3	-	14	<1	7		
17	15072	2	3	-	16	<1	12		
18	15073	3	4	-	10	<1	10		
19	15074	2	11	-	15	<1	13		
20	15075	2	<3	-	9	<1	6		
21	15076	2	15	-	34	<1	14		
22	15077	3	11	-	18	<1	8		
23	15078	3	13	-	31	<1	5		
24	15079	2	4	-	19	<1	13		
25	15080	21	186	-	44	<1	9		



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10918

23/05/95

2014716

3 OF 3

METHOD	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Mn			
		GA140	GA140	GA104	GA140	GA140	GA140			
1	15081	3	17	-	22	<1	6			
2	15082	2	33	-	24	<1	7			
3	15083	<2	111	-	25	<1	4			
4	15084	<2	9	-	6	<1	3			
5	15085	<2	4	-	11	<1	3			
6	15086	2	8	-	16	<1	21			
7	15087	2	5	-	7	<1	8			
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24	DETECTION	2	3	0.01	2	1	3			
25	UNITS	ppm	ppm	%	ppm	ppm	ppm			



Analabs Pty. Ltd.

A.C.N. 004 591 664

Phone (004) 316837

14 Thirkell St. COBEE TAS 7320

Fax (004) 318890

ANALYTICAL REPORT No.

111715.60.10922

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

INVOICE TO:

Plutonic Operations Limited
Level 37
100 Miller Street
NORTH SYDNEY NSW 2060

ORDER No.

PROJECT

2014717

DATE RECEIVED

RESULTS REQUIRED

11/05/95

ASAP

No. OF PAGES OF RESULTS

DATE REPORTED

No. OF COPIES

TOTAL No. OF SAMPLES

12

19/05/95

1

134

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
16826-759	SD Prep : 6P031/6P033	Cu, Pb, In, Ca, Fe, K, Mg, Na, P, Ti, Zr, Ba, Co/G1211

REMARKS

RESULTS TO

Rob Reid
Plutonic Operations Limited
P O Box 282
ZIEHLAN TAS 7469

RESULTS TO

Bob Close
Plutonic Operations Limited
Level 37
100 Miller Street
NORTH SYDNEY NSW 2060

RESULTS TO

[Empty box]

AUTHORISED OFFICER



ANALYTICAL DATA

SAMPLE PREFIX REPORT No REPORT DATE CLIENT ORDER No PAGE

111715.60.10922 19/05/95 2014717 1 OF 12

METHOD	SAMPLE No.	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P
		GI211								
1	16826	39	15	10	0.57	10.60	1.16	0.54	0.20	150
2	16827	124	<10	16	0.81	9.96	1.58	0.90	0.17	450
3	16828	30	14	44	0.29	7.92	0.65	0.35	0.28	150
4	16829	52	<10	16	<0.05	18.30	1.13	0.23	0.17	300
5	16830	34	<10	19	0.15	8.90	1.17	0.56	0.23	<100
6	16831	12	<10	24	5.12	3.96	1.68	5.29	2.89	<100
7	16832	6	<10	22	7.48	3.47	1.07	3.38	3.88	<100
8	16833	5	<10	24	2.47	2.08	2.85	1.74	3.26	<100
9	16834	<5	11	42	0.40	3.69	4.58	1.83	1.53	<100
10	16835	10	11	7	0.07	0.25	5.98	0.02	0.94	<100
11	16836	47	<10	37	4.52	4.18	1.71	4.90	1.78	<100
12	16837	<5	12	9	2.64	3.91	0.50	1.35	4.42	100
13	16838	7	21	30	3.01	7.60	0.77	2.42	4.57	150
14	16839	6	18	27	5.05	4.43	1.55	3.32	3.18	<100
15	16840	<5	12	36	3.32	6.15	0.84	2.71	4.43	<100
16	16841	106	17	15	0.74	9.20	0.20	1.56	0.25	150
17	16842	247	10	59	0.15	2.36	1.32	0.76	2.15	<100
18	16843	938	<10	46	0.49	2.69	1.52	0.84	3.39	<100
19	16844	231	<10	16	0.48	1.70	1.06	0.38	5.02	<100
20	16845	264	10	55	0.14	2.15	1.19	0.95	2.03	<100
21	16846	107	14	15	1.12	1.40	4.01	0.47	2.79	150
22	16847	53	<10	7	0.24	0.78	1.00	0.24	1.30	<100
23	16848	188	10	43	0.56	2.34	1.35	0.94	1.75	<100
24	16849	120	<10	14	1.39	3.86	1.06	1.06	2.35	<100
25	16850	61	14	79	0.16	1.49	1.07	0.84	0.93	<100

Results in ppm unless otherwise specified
- = element not determined

IS = insufficient sample
SNR = sample not received



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

SAMPLE PREFIX		111715.60.10922				19/05/95		2014717		2 OF 12	
METHOD	SAMPLE No.	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P	
		GI211	GI211	GI211	GI211	GI211	GI211	GI211	GI211	GI211	
1	16851	164	11	9	0.10	1.05	2.67	0.40	3.30	<100	
2	16852	415	11	41	0.25	2.28	1.58	1.43	0.61	<100	
3	16853	69	14	24	0.68	2.40	4.11	2.55	2.74	<100	
4	16854	195	14	11	<0.05	1.58	3.11	0.99	0.12	<100	
5	16855	117	12	11	<0.05	1.04	2.12	0.61	0.34	<100	
6	16856	64	<10	2.98	<0.05	0.60	1.16	0.26	0.13	<100	
7	16857	59	14	57	0.05	3.42	1.31	2.41	0.23	<100	
8	16858	88	<10	20	0.63	2.42	0.65	0.65	1.23	<100	
9	16859	83	14	42	0.21	2.25	1.80	2.08	2.03	<100	
10	16860	102	24	35	0.05	1.97	1.08	1.81	0.28	<100	
11	16861	94	<10	20	0.07	2.95	2.84	2.71	0.15	<100	
12	16862	476	<10	50	0.20	5.91	0.96	1.57	0.91	100	
13	16863	42	<10	16	0.82	1.27	1.22	0.45	1.20	500	
14	16864	69	<10	22	0.53	1.78	1.10	1.21	0.59	<100	
15	16865	65	13	34	4.77	5.98	0.89	3.37	3.08	<100	
16	16866	7	<10	23	4.97	2.82	1.14	2.51	4.27	<100	
17	16867	51	<10	14	0.74	1.35	0.96	0.83	1.25	<100	
18	16868	75	<10	15	0.19	1.13	1.28	0.90	0.25	<100	
19	16869	574	<10	36	1.44	3.20	1.06	1.61	2.12	<100	
20	16870	70	<10	29	2.46	3.01	1.85	2.54	1.96	<100	
21	16871	70	<10	18	2.05	2.55	1.60	2.05	2.24	100	
22	16872	831	<10	29	3.61	3.77	1.42	2.61	2.75	150	
23	16873	11	<10	11	0.64	1.12	1.04	0.70	1.61	<100	
24	16874	109	10	26	1.61	2.56	1.47	1.73	2.44	<100	
25	16875	55	<10	15	1.52	2.04	1.57	1.32	1.76	<100	

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10922

19/05/95

2014717

3 OF 12

	SAMPLE No.	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P
METHOD		GI211								
1	16876	317	<10	37	0.25	4.53	2.19	2.47	0.85	<100
2	16877	88	<10	44	1.34	3.08	2.42	1.68	2.36	150
3	16878	81	<10	23	0.54	3.40	2.66	3.85	0.93	150
4	16879	134	12	12	0.27	1.84	1.40	1.05	1.46	<100
5	16880	97	<10	14	0.38	0.84	1.49	0.44	1.86	<100
6	16881	24	<10	14	<0.05	0.78	1.85	0.91	0.15	<100
7	16882	145	14	15	0.08	1.04	3.95	0.59	0.62	<100
8	16883	64	<10	28	0.08	1.69	2.01	2.44	0.75	<100
9	16884	184	11	30	0.05	1.24	1.72	2.21	0.27	100
10	16885	176	<10	23	0.22	3.00	2.24	2.98	0.51	<100
11	16886	1340	14	35	0.24	6.62	2.60	2.53	1.79	<100
12	16887	354	<10	35	0.12	4.29	1.97	3.33	0.64	<100
13	16888	25	<10	18	2.37	2.25	1.83	1.42	3.06	<100
14	16889	9	<10	25	1.70	2.50	0.90	1.82	3.40	<100
15	16890	10	<10	18	6.12	5.22	1.03	3.21	3.39	<100
16	16891	45	<10	42	2.30	4.05	1.63	1.99	3.70	100
17	16892	33	<10	23	1.32	2.16	4.33	1.19	1.64	150
18	16893	124	11	20	0.09	1.67	4.41	0.64	0.21	450
19	16894	24	<10	15	1.61	1.97	5.27	0.77	1.66	150
20	16895	27	<10	11	1.05	1.23	4.47	0.76	2.27	150
21	16896	117	<10	15	0.11	8.50	2.53	0.51	0.27	150
22	16897	27	<10	11	0.18	2.02	2.25	0.36	2.30	100
23	16898	6	<10	10	0.06	0.50	1.41	0.67	0.12	<100
24	16899	30	12	31	0.09	1.59	2.94	2.73	0.73	<100
25	16900	12	12	22	0.24	3.37	2.36	2.30	0.61	<100

Results in ppm unless otherwise specified

IS = Insufficient sample

SNB = sample

AUTHORISED
OFFICER

ANALYTICAL DATA

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

		111715.60.10922				19/05/95		2014717		4 OF 12	
	SAMPLE No.	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P	
METHOD		GI211	GI211	GI211	GI211	GI211	GI211	GI211	GI211	GI211	
1	16901	153	<10	86	1.36	2.59	1.77	0.74	2.91	<100	
2	16902	187	15	17	0.15	10.40	0.88	0.60	0.16	350	
3	16903	129	<10	35	2.29	8.08	1.92	1.72	0.88	300	
4	16904	199	<10	22	0.27	13.70	0.74	0.62	0.26	400	
5	16905	162	11	30	<0.05	15.80	0.48	1.07	0.10	550	
6	16906	339	12	42	<0.05	9.60	0.91	0.43	0.14	150	
7	16907	438	<10	22	<0.05	12.70	4.05	0.68	0.08	750	
8	16908	85	<10	43	0.29	3.59	2.18	2.84	2.69	100	
9	16909	221	<10	49	1.30	4.14	1.32	3.22	3.05	350	
10	16910	10	<10	26	3.22	4.48	1.41	3.70	3.73	200	
11	16911	330	26	62	0.40	2.59	1.30	1.94	1.54	<100	
12	16912	32	10	12	2.50	3.34	2.00	1.57	2.79	<100	
13	16913	86	35	108	0.20	4.33	1.85	5.16	1.37	<100	
14	16914	15	<10	41	2.15	8.62	1.87	2.82	0.75	150	
15	16915	93	15	50	0.20	5.12	2.24	3.15	0.94	250	
16	16916	370	13	44	0.06	1.97	1.42	1.20	0.12	150	
17	16917	99	14	24	0.06	4.98	2.41	0.66	0.08	150	
18	16918	75	14	27	0.52	11.90	1.10	1.20	0.70	800	
19	16919	235	15	26	0.24	2.36	1.91	0.67	0.18	350	
20	16920	131	17	23	0.43	9.22	0.85	0.73	0.12	100	
21	16921	186	26	36	1.15	6.79	1.98	1.63	0.96	250	
22	16922	15	15	24	2.80	6.89	1.04	1.79	3.30	<100	
23	16923	147	14	48	<0.05	5.04	1.80	0.68	0.34	500	
24	16924	40	14	18	0.07	6.74	0.76	0.23	0.07	100	
25	16925	19	<10	12	0.30	5.99	2.07	0.46	0.21	100	

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

SAMPLE PREFIX		REPORT No.				REPORT DATE		CLIENT ORDER No.		PAGE	
		111715.60.10922				19/05/95		2014717		5 OF 12	
METHOD	SAMPLE No.	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P	
		GI211	GI211	GI211	GI211	GI211	GI211	GI211	GI211	GI211	
1	16926	20	<10	15	0.34	7.76	2.82	0.71	0.26	150	
2	16927	138	11	25	0.10	7.60	1.47	0.78	1.72	150	
3	16928	49	14	23	0.20	6.29	0.91	0.47	0.59	250	
4	16929	248	12	17	<0.05	7.28	1.41	0.27	0.13	200	
5	16930	273	13	13	<0.05	6.89	0.36	0.27	0.10	150	
6	16931	109	13	17	<0.05	10.20	0.82	0.34	0.07	150	
7	16932	82	19	16	0.05	8.33	0.44	0.32	0.12	150	
8	16933	120	21	31	0.07	8.78	1.07	1.34	0.11	250	
9	16934	29	12	74	0.44	9.49	1.97	1.37	0.34	300	
10	16935	51	15	34	<0.05	13.00	0.76	0.44	0.04	250	
11	16936	70	18	47	0.08	2.52	2.10	0.83	0.08	100	
12	16937	37	15	66	0.05	4.03	2.99	0.82	0.13	100	
13	16938	119	22	42	0.11	3.26	2.58	1.82	1.58	<100	
14	16939	<5	19	38	<0.05	3.65	1.42	2.32	0.04	100	
15	16940	<5	17	<5	<0.05	0.75	1.30	0.33	0.04	<100	
16	16941	16	17	14	0.06	0.88	2.25	0.44	0.98	<100	
17	16942	31	12	7	0.06	0.62	1.65	0.25	0.14	<100	
18	16943	29	15	11	0.05	0.71	1.56	0.37	0.08	<100	
19	16944	22	<10	9	<0.05	0.56	1.20	0.19	0.14	<100	
20	16945	195	<10	75	0.06	12.90	2.23	3.21	0.96	100	
21	16946	8	13	40	0.16	7.56	1.96	2.56	1.16	200	
22	16947	18	17	<5	0.06	0.43	0.88	0.15	0.07	<100	
23	16948	6	17	6	1.97	1.36	0.30	0.48	3.86	<100	
24	16949	5	14	13	1.91	1.70	0.39	0.86	1.59	<100	
25	16950	18	<10	35	1.18	3.09	2.60	1.42	2.63	350	



ANALYTICAL DATA

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

SAMPLE PREFIX		REPORT No.				REPORT DATE		CLIENT ORDER No.		PAGE	
		111715.60.10922				19/05/95		2014717		6 OF 12	
METHOD	SAMPLE No.	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P	
		GI211	GI211	GI211	GI211	GI211	GI211	GI211	GI211	GI211	
1	16951	49	12	20	1.25	14.80	0.49	1.94	0.39	250	
2	16952	39	16	13	1.20	12.70	0.34	1.75	0.16	150	
3	16953	98	21	32	0.92	17.50	0.78	2.22	0.30	250	
4	16954	54	12	33	1.18	7.39	0.18	1.67	2.68	150	
5	16955	56	<10	35	2.32	8.18	1.43	2.67	0.57	<100	
6	16956	62	<10	25	4.87	15.10	0.38	5.96	0.76	750	
7	16957	32	<10	13	1.81	10.30	0.52	0.99	2.36	150	
8	16958	186	19	21	1.28	2.02	0.94	0.77	2.25	<100	
9	16959	80	13	10	1.84	1.45	0.96	0.49	2.22	<100	
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24	DETECTION	5	10	5	0.05	0.01	0.05	0.01	0.01	100	
25	UNITS	ppm	ppm	ppm	%	%	%	%	%	ppm	



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

SAMPLE PREFIX		REPORT No.				REPORT DATE	CLIENT ORDER No.			PAGE
		111715.60.10922				19/05/95	2014717			7 OF 12
METHOD	SAMPLE No.	Ti	Zr	Ba	Co					
		GI211	GI211	GI211	GI211					
1	16826	7230	56	315	8					
2	16827	7580	146	407	11					
3	16828	12000	186	207	<5					
4	16829	8040	89	136	<5					
5	16830	3540	54	299	18					
6	16831	2590	31	260	11					
7	16832	4770	52	217	11					
8	16833	3390	96	824	7					
9	16834	5180	137	1450	6					
10	16835	2440	161	2470	<5					
11	16836	3940	25	419	23					
12	16837	4880	120	60	5					
13	16838	4880	54	149	8					
14	16839	5090	79	236	10					
15	16840	1890	44	250	8					
16	16841	10900	192	57	10					
17	16842	5280	174	350	21					
18	16843	5830	162	239	30					
19	16844	4780	127	125	75					
20	16845	3440	176	216	13					
21	16846	3960	126	1510	19					
22	16847	3130	156	316	<5					
23	16848	3910	193	232	6					
24	16849	4760	172	291	40					
25	16850	5470	210	331	6					


ANALYTICAL DATA

SAMPLE PREFIX

REPORT No

REPORT DATE

CLIENT ORDER No.

PAGE

		111715.60.10922				19/05/95	2014717		8 OF 12	
	SAMPLE No.	Ti	Zr	Ba	Co					
METHOD		GI211	GI211	GI211	GI211					
1	16851	5380	127	253	<5					
2	16852	5650	187	318	6					
3	16853	4370	101	402	6					
4	16854	5380	116	301	<5					
5	16855	4510	142	280	<5					
6	16856	5020	93	218	<5					
7	16857	5490	203	428	<5					
8	16858	7220	137	164	9					
9	16859	5260	97	237	8					
10	16860	5020	183	233	6					
11	16861	4540	115	796	<5					
12	16862	4320	161	401	139					
13	16863	4560	140	299	10					
14	16864	6690	84	266	9					
15	16865	5130	59	231	13					
16	16866	4630	64	209	8					
17	16867	4350	130	185	<5					
18	16868	5120	151	282	<5					
19	16869	4650	149	218	159					
20	16870	4630	144	452	45					
21	16871	4170	145	464	17					
22	16872	3600	114	377	158					
23	16873	3720	139	253	5					
24	16874	4090	145	283	14					
25	16875	4530	160	355	6					

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10922

19/05/95

2014717

9 OF 12

	SAMPLE No.	Ti	Zr	Ba	Co				
METHOD		GI211	GI211	GI211	GI211				
1	16876	4260	143	559	54				
2	16877	4020	148	569	12				
3	16878	4050	91	449	56				
4	16879	2260	147	360	<5				
5	16880	4390	154	452	<5				
6	16881	5200	117	384	<5				
7	16882	3840	108	2080	<5				
8	16883	2940	112	248	23				
9	16884	3110	106	145	<5				
10	16885	3330	117	329	87				
11	16886	4350	155	529	386				
12	16887	3930	140	310	174				
13	16888	5200	73	381	5				
14	16889	3400	55	116	7				
15	16890	3120	36	236	12				
16	16891	3190	96	424	13				
17	16892	4070	156	1450	14				
18	16893	4260	142	1340	18				
19	16894	4340	155	1670	<5				
20	16895	3490	102	1230	<5				
21	16896	2910	90	648	9				
22	16897	3780	78	482	121				
23	16898	2740	113	279	<5				
24	16899	1930	131	271	6				
25	16900	4490	121	355	71				

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10922

19/05/95

2014717

10 OF 12

METHOD	SAMPLE No.	Ti	Zr	Ba	Co					
		GI211	GI211	GI211	GI211					
1	16901	4530	161	372	123					
2	16902	3820	49	127	28					
3	16903	4870	151	401	21					
4	16904	4400	132	188	11					
5	16905	3430	115	127	19					
6	16906	4080	173	174	12					
7	16907	1980	135	957	7					
8	16908	4650	105	358	35					
9	16909	3570	108	302	30					
10	16910	3650	66	253	16					
11	16911	5190	65	371	11					
12	16912	4380	81	426	8					
13	16913	4020	103	518	20					
14	16914	5590	168	502	14					
15	16915	4870	136	834	9					
16	16916	5950	188	337	7					
17	16917	5350	154	867	<5					
18	16918	4880	164	300	11					
19	16919	5920	177	747	9					
20	16920	8490	285	390	7					
21	16921	5540	114	931	20					
22	16922	3650	75	211	10					
23	16923	3430	129	104	35					
24	16924	5140	236	281	<5					
25	16925	4250	207	705	<5					



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10922

19/05/95

2014717

11 OF 12

	SAMPLE No.	Ti	Zr	Ba	Co				
METHOD		GI211	GI211	GI211	GI211				
1	16926	3870	196	992	12				
2	16927	4480	235	429	8				
3	16928	4720	192	259	<5				
4	16929	5010	232	515	10				
5	16930	4500	236	142	<5				
6	16931	4740	192	106	6				
7	16932	5140	195	163	8				
8	16933	5730	145	324	10				
9	16934	5600	128	648	16				
10	16935	5050	138	305	8				
11	16936	5360	126	596	9				
12	16937	5060	146	106	10				
13	16938	5340	135	843	8				
14	16939	4680	174	218	<5				
15	16940	4310	134	178	<5				
16	16941	4900	143	659	<5				
17	16942	4590	168	567	<5				
18	16943	4880	171	310	<5				
19	16944	4760	138	392	<5				
20	16945	4630	104	630	<5				
21	16946	4200	91	487	6				
22	16947	3660	101	244	<5				
23	16948	4480	106	63	<5				
24	16949	3780	146	115	5				
25	16950	3230	157	970	32				

753086



Analabs

Analabs Pty. Ltd.
A.C.N. 004 591 604

ANALYTICAL DATA

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

SAMPLE PREFIX		REPORT No. 111715.60.10922				REPORT DATE 19/05/95	CLIENT ORDER No. 2014717			PAGE 12 OF 12
METHOD	SAMPLE No.	Ti	Zr	Ba	Co					
		GI211	GI211	GI211	GI211					
1	16951	6910	110	155	10					
2	16952	6800	108	102	14					
3	16953	5240	86	260	24					
4	16954	4450	66	78	19					
5	16955	6410	70	420	16					
6	16956	6720	58	70	28					
7	16957	6520	115	124	7					
8	16958	3940	123	361	14					
9	16959	4560	111	276	5					
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24	DETECTION	10	5	5	5					
25	UNITS	ppm	ppm	ppm	ppm					

Results in ppm unless otherwise specified. IS = Insufficient sample



Analabs

Analabs Pty. Ltd.

A.C.N. 004 591 664

Phone (004) 316837

14 Thirkell St. COOEE TAS 7320

Fax (004) 318890

ANALYTICAL REPORT No.

111715.60.10927

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

INVOICE TO:

Plutonic Operations Limited
Level 37
100 Miller Street
NORTH SYDNEY NSW 2060

ORDER No.

PROJECT

2014717

Add. Work

DATE RECEIVED

RESULTS REQUIRED

15/05/95

ASAP

No. OF PAGES OF RESULTS

DATE REPORTED

No. OF COPIES

TOTAL No. OF SAMPLES

2

22/05/95

1

14

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
15960-73	RO Prep : GP031	Cu,Pb,Zn,Ca,Fe,Mg,Na,P,Si,Zr, Ba,Ce/G1211

RESULTS TO

Rob Reid
Plutonic Operations Limited
P O Box 252
ZEEHAN TAS 7469

RESULTS TO

Bob Close
Plutonic Operations Limited
Level 37
100 Miller Street
NORTH SYDNEY NSW 2060

RESULTS TO

REMARKS

AUTHORISED OFFICER

753088



Analabs

Analabs Pty. Ltd.
A.C.N. 004 591 004

ANALYTICAL DATA

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

SAMPLE PREFIX		REPORT No.				REPORT DATE		CLIENT ORDER No.		PAGE	
		111715.60.10927				22/05/95		2014717		1 OF 2	
METHOD	SAMPLE No.	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P	
		GI211	GI211	GI211	GI211	GI211	GI211	GI211	GI211	GI211	
1	16960	8	19	76	<0.05	2.55	4.09	0.73	0.40	150	
2	16961	106	11	57	0.12	2.36	1.87	1.94	1.43	<100	
3	16962	1930	<10	54	0.77	4.44	1.35	2.30	2.28	150	
4	16963	454	14	50	0.63	3.29	1.79	2.37	1.17	<100	
5	16964	239	19	27	0.11	3.36	1.92	2.01	2.04	<100	
6	16965	66	<10	14	0.67	3.48	2.30	1.22	2.63	<100	
7	16966	151	11	43	0.54	9.78	2.43	1.28	1.71	<100	
8	16967	198	14	30	0.15	3.95	1.88	4.02	0.25	<100	
9	16968	35	10	17	0.35	0.79	1.48	0.39	2.16	<100	
10	16969	11	12	54	<0.05	5.61	1.88	1.49	0.06	<100	
11	16970	10	21	20	<0.05	4.24	3.25	1.51	0.07	<100	
12	16971	9	<10	13	0.07	0.75	0.64	0.75	0.29	150	
13	16972	13	14	15	<0.05	1.52	4.61	0.41	0.12	<100	
14	16973	22	19	22	<0.05	2.23	2.78	1.17	0.08	<100	
15											
16											
17											
18											
19											
20											
21											
22											
23											
24	DETECTION	5	10	5	0.05	0.01	0.05	0.01	0.01	100	
25	UNITS	ppm	ppm	ppm	%	%	%	%	%	ppm	



ANALYTICAL DATA

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

111715.60.10927

22/05/95

2014717

2 OF 2

	SAMPLE No.	Ti	Zr	Ba	Co					
METHOD		GI211	GI211	GI211	GI211					
1	16960	4110	117	211	51					
2	16961	3880	147	534	49					
3	16962	3870	137	287	333					
4	16963	3640	123	382	33					
5	16964	4270	133	271	77					
6	16965	3700	140	294	18					
7	16966	3380	134	742	13					
8	16967	4010	143	257	48					
9	16968	3890	174	470	<5					
10	16969	4200	129	331	49					
11	16970	4490	139	461	<5					
12	16971	3240	102	154	<5					
13	16972	3240	135	679	<5					
14	16973	4710	155	504	<5					
15										
16										
17										
18										
19										
20										
21										
22										
23										
24	DETECTION	10	5	5	5					
25	UNITS	ppm	ppm	ppm	ppm					

Results in ppm unless otherwise specified
- = element not determined

IS = Insufficient sample
SNR = sample not received

753090



Analabs Pty. Ltd.
A.O.N. 00460106

Phone (004) 318837

14 Thirkell St. COBEE TAS 7320

Fax (004) 318890

ANALYTICAL REPORT No.

111715.60.10955

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

INVOICE TO:

Plutonic Operations Limited
P O Box 282
ZEEHAN TAS 7469

ORDER No.

PROJECT

2014722

2014705 Add.

DATE RECEIVED

RESULTS REQUIRED

25/05/95

ASAP

No. OF PAGES
OF RESULTS

DATE
REPORTED

No.
OF COPIES

TOTAL No.
OF SAMPLES

14

07/06/95

1

145

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
VARIOUS	PU Pres : GP001 RETREIVE SAMPLES	Cu,Pb,In,Cs,Fe,k,Mn,Na,P,Ti,Zr, Ba,Co/61211

RESULTS
TO

Rob Close
Plutonic Operations Limited
Level 37
100 Miller Street
NORTH SYDNEY NSW 2060

RESULTS
TO

Rob Reid
Plutonic Operations Limited
P O Box 282
ZEEHAN TAS 7469

RESULTS
TO

[Empty box for results recipient]

REMARKS

AUTHORISED OFFICER

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NO

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10955

07/06/95

2014722

1 OF 14

	SAMPLE No.	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P
METHOD		GI211								
1	16501	91	<10	18	2.52	2.29	0.12	0.63	5.44	<100
2	16502	374	10	27	1.29	4.96	1.52	0.88	1.14	<100
3	16503	511	<10	33	0.10	2.38	1.10	1.07	1.99	100
4	16504	121	<10	24	0.87	1.76	0.94	0.86	1.12	<100
5	16505	105	14	32	0.08	1.92	1.46	0.35	0.23	150
6	16506	177	<10	34	0.15	1.87	1.93	0.40	1.20	<100
7	16507	246	<10	28	0.56	1.82	1.67	0.60	1.69	<100
8	16508	105	<10	28	2.12	1.67	1.13	0.93	4.87	<100
9	16509	9	<10	20	0.10	0.28	<0.05	0.13	0.05	<100
10	16510	9	<10	8	0.05	0.34	<0.05	0.13	0.07	<100
11	16511	291	<10	24	0.14	1.90	1.88	1.20	0.57	<100
12	16512	54	<10	29	4.67	3.78	0.81	3.10	2.57	<100
13	16513	117	<10	31	1.05	2.54	1.56	1.70	1.01	<100
14	16514	185	<10	25	0.06	1.17	2.37	0.33	0.67	<100
15	16515	1660	<10	48	0.36	3.91	1.73	2.11	2.31	150
16	16516	383	<10	34	0.47	2.68	3.06	1.47	0.31	900
17	16517	144	<10	19	0.48	3.94	2.87	0.89	1.70	250
18	16518	316	<10	34	0.72	7.08	2.44	2.08	1.01	200
19	16519	37	12	6	<0.05	0.44	6.91	0.08	0.16	200
20	16520	198	<10	19	<0.05	2.03	4.76	1.39	0.14	150
21	16521	47	<10	10	0.06	1.19	6.25	0.53	0.19	150
22	16522	171	<10	<5	<0.05	10.20	8.22	0.14	0.14	250
23	16523	191	<10	7	0.06	8.96	5.98	0.13	0.10	250
24	16524	92	<10	6	0.05	3.05	6.79	0.06	0.18	250
25	16525	10	<10	<5	0.06	0.65	6.71	0.16	0.17	150

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No

REPORT DATE

CLIENT ORDER No

PAGE

111715.60.10955

07/06/95

2014722

2 OF 14

	SAMPLE No	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P
METHOD		GI211								
1	16526	255	31	39	0.08	3.57	4.20	1.52	0.16	250
2	16527	113	<10	9	0.09	7.09	4.07	0.25	0.14	150
3	16528	80	<10	11	<0.05	1.09	1.47	0.18	0.39	<100
4	16529	39	<10	15	0.08	0.89	2.01	0.18	0.58	<100
5	16530	156	<10	25	0.25	1.40	0.87	0.63	3.03	<100
6	16531	97	<10	35	0.75	3.84	1.75	1.99	2.44	<100
7	16532	74	<10	35	1.63	2.63	2.80	1.64	2.12	<100
8	16533	19	<10	50	0.15	1.86	1.57	1.19	0.44	<100
9	16534	121	<10	44	1.25	3.45	2.30	2.17	3.32	<100
10	16535	38	<10	28	0.31	2.94	2.27	1.85	0.70	<100
11	16536	947	<10	50	0.74	3.82	1.53	2.32	3.45	<100
12	16537	197	<10	23	0.81	2.73	1.19	1.31	0.65	100
13	16538	569	<10	48	0.24	3.35	3.96	1.95	1.07	<100
14	16539	380	<10	69	0.28	4.38	2.53	3.31	1.43	<100
15	16540	100	<10	24	1.79	2.57	1.46	1.68	3.14	<100
16	16541	140	<10	44	2.75	5.01	2.89	3.95	2.31	<100
17	16542	84	<10	26	1.77	6.87	1.80	2.21	3.24	100
18	16543	38	21	73	1.51	5.82	1.53	2.37	3.58	150
19	16544	103	<10	33	1.57	4.98	3.11	2.84	1.73	<100
20	16550	185	<10	42	2.02	5.05	2.20	3.49	2.81	100
21	16551	40	<10	24	0.66	3.26	2.33	1.81	3.56	150
22	16552	460	12	43	0.10	3.03	1.61	2.13	2.11	<100
23	16553	164	25	37	<0.05	2.92	2.14	2.10	0.26	150
24	16554	15	12	62	0.05	5.22	4.05	3.48	0.82	<100
25	16555	78	<10	20	0.05	1.20	8.99	0.83	0.36	100

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No

REPORT DATE

CLIENT ORDER No

PAGE

111715.60.10955

07/06/95

2014722

3 OF 14

	SAMPLE No	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P
METHOD		GI211								
1	16556	18	<10	58	0.05	3.68	4.98	2.55	0.47	<100
2	16557	68	10	56	0.26	4.94	3.54	1.92	2.06	<100
3	16558	365	<10	61	0.36	5.26	2.88	3.48	0.69	300
4	16559	44	<10	58	0.13	4.67	3.41	3.70	0.53	150
5	16560	116	<10	36	0.22	6.07	2.70	2.83	1.73	100
6	16591	236	10	50	0.10	9.28	3.36	1.78	0.40	350
7	16592	467	<10	50	0.14	6.61	3.18	3.13	1.55	150
8	16593	83	<10	52	0.05	5.69	4.56	3.20	0.64	<100
9	16594	279	10	48	0.05	5.30	3.77	3.53	0.30	100
10	16595	85	<10	14	0.11	14.10	1.78	0.33	0.31	350
11	16596	74	<10	12	0.20	11.70	1.02	0.33	0.36	250
12	16597	13	<10	12	0.42	6.50	0.72	0.31	0.45	150
13	16598	38	<10	13	0.15	12.80	0.84	0.29	0.31	200
14	16599	77	15	43	0.09	9.16	1.99	0.49	0.39	400
15	16600	32	<10	25	0.11	7.11	1.95	0.40	2.98	600
16	16601	10	<10	20	0.10	1.02	1.31	0.30	0.31	100
17	16602	31	15	18	0.05	0.90	3.06	0.24	0.36	<100
18	16603	18	<10	11	0.05	0.38	0.38	0.04	0.10	<100
19	16604	114	11	26	0.11	0.88	0.78	0.13	4.95	<100
20	16605	189	<10	12	0.05	1.91	2.44	1.80	0.27	<100
21	16606	22	<10	23	0.05	2.42	2.04	1.26	0.42	<100
22	16607	47	<10	26	0.09	5.14	2.64	1.46	0.47	<100
23	16608	112	<10	23	0.08	2.51	2.12	1.67	0.28	<100
24	16609	49	<10	18	0.06	1.46	1.54	1.19	0.26	<100
25	16610	43	<10	16	0.05	1.00	1.55	0.83	0.24	<100

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10955

07/06/95

2014722

4 OF 14

	SAMPLE No.	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P
METHOD		GI211								
1	16611	23	<10	14	0.06	0.94	0.95	0.70	0.32	<100
2	16612	131	10	29	0.37	4.81	1.45	2.95	0.83	200
3	16613	495	<10	64	0.50	3.65	2.43	2.12	1.68	100
4	16614	45	16	79	0.19	5.97	1.32	3.19	0.98	<100
5	16615	282	<10	37	0.47	3.13	1.81	1.86	1.93	<100
6	16616	304	<10	32	0.44	4.55	1.72	2.80	0.87	150
7	16617	78	<10	45	0.38	4.05	1.77	2.45	0.56	100
8	16618	108	<10	36	0.40	4.54	1.85	2.67	0.41	<100
9	16619	22	11	45	0.48	2.05	1.44	1.49	0.21	<100
10	16620	15	<10	48	0.69	3.88	2.09	2.46	0.58	150
11	16621	34	<10	54	0.20	3.62	2.72	1.70	0.65	<100
12	16622	144	18	63	0.27	3.00	3.09	2.01	0.60	200
13	16623	359	<10	30	0.11	4.77	4.15	1.24	0.94	100
14	16624	111	<10	34	0.20	3.14	2.16	1.40	0.47	150
15	16625	48	<10	18	0.10	1.59	1.62	0.67	0.52	<100
16	16626	28	<10	17	0.07	1.20	1.90	0.29	0.33	<100
17	16627	161	<10	44	0.07	2.75	1.99	1.03	0.40	150
18	16628	232	<10	33	0.07	2.27	3.21	1.03	0.32	<100
19	16629	81	<10	50	0.07	2.33	4.51	1.30	0.30	100
20	16630	9	28	16	0.07	0.34	1.35	0.17	0.20	<100
21	16631	<5	<10	12	0.11	0.12	0.05	0.21	0.06	<100
22	16632	15	<10	20	0.17	0.15	0.08	0.21	0.05	<100
23	16633	307	<10	23	<0.05	0.57	5.95	0.12	0.16	150
24	16634	783	<10	13	1.78	16.80	1.55	2.38	0.12	1000
25	16635	1040	<10	29	<0.05	8.67	1.66	0.56	0.17	600

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10955

07/06/95

2014722

5 OF 14

	SAMPLE No.	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P
METHOD		GI211								
1	16636	484	<10	26	0.29	4.94	1.98	1.29	0.19	300
2	16637	1060	44	110	0.26	1.95	2.12	0.60	0.67	250
3	16638	467	<10	36	0.08	2.96	2.31	1.60	1.49	<100
4	16639	467	<10	104	0.07	4.64	1.85	1.69	2.39	150
5	16640	792	<10	46	0.19	3.26	1.93	1.13	2.87	200
6	16641	94	<10	26	1.58	3.32	2.19	2.03	1.78	150
7	16642	27	<10	21	0.21	2.33	3.00	4.58	0.50	<100
8	16643	260	<10	22	0.24	3.61	1.81	1.78	2.30	100
9	16644	1050	<10	20	0.19	4.30	1.58	1.16	1.61	<100
10	16645	114	<10	26	0.09	1.41	1.57	0.68	1.13	<100
11	16646	78	170	39	0.07	0.32	0.20	0.08	0.10	<100
12	16647	220	<10	44	0.09	2.80	1.60	1.70	0.80	<100
13	16648	37	<10	21	0.06	1.04	0.94	0.26	0.29	600
14	16649	35	<10	20	0.48	8.12	1.90	0.62	0.62	400
15	16650	167	<10	22	0.81	1.61	1.68	0.70	2.98	200
16	16651	21	15	54	2.27	7.41	4.02	1.45	2.20	350
17	16652	47	264	203	8.09	4.55	1.00	3.68	2.87	<100
18	16653	19	<10	27	4.71	6.55	1.17	2.70	3.10	<100
19	16654	<5	<10	22	1.66	1.88	0.36	1.20	5.45	<100
20	16655	<5	<10	8	0.26	0.41	1.41	0.12	3.33	<100
21	16656	<5	<10	22	1.82	4.48	1.68	1.47	4.23	200
22	16657	56	<10	20	1.67	2.45	1.44	1.30	3.33	<100
23	16658	9	<10	13	0.31	1.30	1.31	0.18	2.14	150
24	16659	7	<10	23	0.14	0.85	3.34	0.14	0.51	<100
25	16660	58	<10	15	0.19	24.90	1.27	0.33	0.13	300

ANALYTICAL DATA

SAMPLE PREFIX

REPORTING

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10955

07/06/95

2014722

6 OF 14

	SAMPLE No.	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P
METHOD		GI211								
1	16661	42	11	21	1.75	12.40	1.02	1.07	0.50	300
2	16662	36	<10	18	1.14	11.80	0.80	0.97	0.41	250
3	16663	56	<10	8	0.09	16.90	0.72	0.23	0.17	300
4	16664	62	<10	15	<0.05	13.30	2.68	0.19	0.24	650
5	16665	<5	<10	10	1.80	4.31	0.41	0.91	4.25	<100
6	16666	31	<10	20	9.82	10.20	0.19	2.77	0.54	100
7	16667	17	<10	26	3.39	6.22	1.22	3.11	2.33	<100
8	16668	56	315	77	2.20	4.77	0.45	2.72	2.81	200
9	16669	86	<10	28	0.05	3.19	1.60	1.02	0.17	<100
10	16670	117	11	63	0.11	6.11	2.46	1.52	0.40	100
11	16671	22	<10	52	2.43	4.12	1.63	1.24	2.74	150
12	16672	18	12	44	0.17	2.07	1.37	0.88	0.44	150
13	16673	70	<10	54	0.07	4.99	0.95	2.45	0.48	<100
14	16674	57	<10	18	0.24	1.21	3.51	0.40	0.40	150
15	16675	296	<10	72	0.09	1.71	2.13	0.81	0.97	<100
16	16676	1100	<10	102	<0.05	1.60	4.38	0.48	0.28	150
17	16677	163	<10	26	0.75	4.19	0.99	0.85	0.44	100
18	16678	242	14	64	0.26	2.49	1.74	1.09	0.59	100
19	16679	45	<10	15	1.75	4.60	0.75	1.11	2.93	<100
20	16681	33	<10	45	0.07	10.90	3.90	2.22	0.15	200
21	16682	307	<10	52	0.06	3.66	1.73	2.76	0.25	150
22	16683	215	<10	41	0.06	2.96	1.86	1.89	0.34	250
23	16684	401	<10	26	<0.05	7.47	4.11	0.75	0.16	500
24	16685	54	11	16	<0.05	1.72	3.28	0.53	0.17	100
25										

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No

REPORT DATE

CLIENT ORDER No

PAGE

111715.60.10955

07/06/95

2014722

7 OF 14

	SAMPLE No	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P
METHOD		GI211								
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24	DETECTION	5	10	5	0.05	0.01	0.05	0.01	0.01	100
25	UNITS	ppm	ppm	ppm	%	%	%	%	%	ppm

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NO

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10955

07/06/95

2014722

8 OF 14

	SAMPLE No	Ti	Zr	Ba	Co					
METHOD		GI211	GI211	GI211	GI211					
1	16501	3740	100	28	<5					
2	16502	5930	130	451	8					
3	16503	4720	43	109	11					
4	16504	6920	132	243	8					
5	16505	5880	253	702	10					
6	16506	5350	179	538	12					
7	16507	5570	172	442	13					
8	16508	4780	150	318	11					
9	16509	1080	77	19	<5					
10	16510	1340	89	23	<5					
11	16511	4960	171	329	15					
12	16512	3710	90	180	15					
13	16513	5020	135	322	12					
14	16514	5860	142	555	<5					
15	16515	4970	157	498	51					
16	16516	5710	102	1080	13					
17	16517	4930	100	899	9					
18	16518	3780	149	516	14					
19	16519	2500	103	2460	<5					
20	16520	4540	172	1450	11					
21	16521	4900	219	2590	<5					
22	16522	2490	161	2500	<5					
23	16523	3690	161	2210	<5					
24	16524	3400	169	2900	<5					
25	16525	4380	203	2540	<5					

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10955

07/06/95

2014722

9 OF 14

	SAMPLE No.	Ti	Zr	Ba	Cb					
METHOD		GI211	GI211	GI211	GI211					
1	16526	3780	177	1820	20					
2	16527	4110	173	1680	<5					
3	16528	5900	107	317	<5					
4	16529	5960	156	720	<5					
5	16530	4970	123	275	7					
6	16531	4830	171	456	96					
7	16532	4940	129	681	39					
8	16533	3820	159	623	49					
9	16534	4480	150	588	25					
10	16535	3580	126	347	45					
11	16536	4460	97	339	26					
12	16537	4370	159	321	13					
13	16538	5720	127	1090	19					
14	16539	4980	68	491	45					
15	16540	4330	153	337	13					
16	16541	5210	123	944	36					
17	16542	3340	111	309	98					
18	16543	3720	114	343	61					
19	16544	3970	94	930	14					
20	16550	3260	57	692	27					
21	16551	4850	124	463	30					
22	16552	4180	126	456	9					
23	16553	5400	154	457	12					
24	16554	4870	135	1090	105					
25	16555	5130	162	4220	<5					

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10955

07/06/95

2014722

10 OF 14

	SAMPLE No	T1	Zr	Ba	Co					
METHOD		GI211	GI211	BI211	GI211					
1	16556	5110	115	1610	40					
2	16557	4520	140	826	97					
3	16558	5290	134	386	35					
4	16559	5430	143	700	50					
5	16560	3870	158	467	40					
6	16591	4340	107	244	43					
7	16592	3650	93	307	46					
8	16593	4420	109	970	23					
9	16594	3820	142	459	55					
10	16595	6040	59	483	30					
11	16596	8210	86	269	15					
12	16597	11800	132	226	6					
13	16598	7150	222	289	13					
14	16599	4610	65	497	17					
15	16600	3300	87	188	9					
16	16601	4470	49	351	<5					
17	16602	4520	72	584	<5					
18	16603	4250	103	79	<5					
19	16604	4240	77	63	45					
20	16605	4340	75	617	<5					
21	16606	2210	83	296	11					
22	16607	2110	117	301	32					
23	16608	4110	101	306	5					
24	16609	4890	124	309	<5					
25	16610	3980	120	348	<5					

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10955

07/06/95

2014722

11 OF 14

	SAMPLE No.	Ti	Zr	Ba	Co					
METHOD		GI211	GI211	GI211	GI211					
1	16611	4750	265	236	<5					
2	16612	4070	117	503	47					
3	16613	3950	101	415	38					
4	16614	3940	131	268	94					
5	16615	5450	118	272	50					
6	16616	5010	121	348	125					
7	16617	5060	136	296	88					
8	16618	5580	143	322	100					
9	16619	5680	153	145	<5					
10	16620	6130	150	388	42					
11	16621	5460	145	646	84					
12	16622	6520	160	928	11					
13	16623	4930	130	1430	137					
14	16624	6060	162	372	24					
15	16625	4900	141	307	<5					
16	16626	4460	122	418	6					
17	16627	5530	139	328	10					
18	16628	5150	146	1370	14					
19	16629	4350	171	2160	6					
20	16630	2260	91	503	<5					
21	16631	91	<5	17	<5					
22	16632	77	<5	12	<5					
23	16633	5850	159	1870	<5					
24	16634	7650	165	330	17					
25	16635	6260	208	347	12					

ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10955

07/06/95

2014722

12 OF 14

	SAMPLE No.	P1	Zr	Ba	Co					
METHOD		GI211	GI211	GI211	GI211					
1	16636	6080	197	508	11					
2	16637	7370	240	454	6					
3	16638	5140	163	488	10					
4	16639	4580	152	756	53					
5	16640	5310	144	329	57					
6	16641	4500	118	405	14					
7	16642	5070	188	502	38					
8	16643	3440	150	358	186					
9	16644	3680	158	398	344					
10	16645	3720	146	350	65					
11	16646	1990	89	101	5					
12	16647	2860	120	321	54					
13	16648	4880	137	170	10					
14	16649	4530	105	496	14					
15	16650	6670	117	366	15					
16	16651	4860	107	1300	7					
17	16652	2890	41	206	18					
18	16653	4130	40	209	13					
19	16654	5100	96	58	6					
20	16655	5790	182	694	65					
21	16656	4330	145	502	9					
22	16657	4080	123	378	11					
23	16658	2390	159	374	65					
24	16659	5140	255	793	65					
25	16660	5420	49	372	16					



ANALYTICAL DATA

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

111715.60.10955 07/06/95 2014722 13 OF 14

	SAMPLE No.	Tl	Zr	Ba	Co					
METHOD		GI211	GI211	GI211	GI211					
1	16661	9480	166	288	14					
2	16662	11400	128	220	18					
3	16663	8100	94	143	12					
4	16664	7040	82	550	22					
5	16665	5070	93	85	14					
6	16666	4650	50	57	14					
7	16667	4550	55	279	19					
8	16668	3900	56	101	32					
9	16669	4260	135	184	42					
10	16670	3110	151	358	95					
11	16671	4060	174	576	91					
12	16672	5910	258	380	35					
13	16673	5510	141	250	79					
14	16674	5220	148	1670	<5					
15	16675	5670	159	580	10					
16	16676	5130	165	1120	26					
17	16677	7360	164	241	9					
18	16678	5740	136	500	12					
19	16679	5360	96	157	7					
20	16681	4300	185	1160	19					
21	16682	6080	190	190	23					
22	16683	5990	185	315	11					
23	16684	4290	187	1600	7					
24	16685	6630	159	90	<5					
25										





ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10955

07/06/95

2014722

14 OF 14

	SAMPLE No	Tl	Zr	Ba	Co					
METHOD		GI211	GI211	GI211	GI211					
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24	DETECTION	10	5	5	5					
25	UNITS	dpm	dpm	dpm	dpm					



Analabs

Analabs Pty. Ltd.

A.C.N. 004 501 664

708.8.3 AUGER SOILS

Phone (004) 318837

14 Thirkell St. CUDDEE TAS 7320

Fax (004) 318890

ANALYTICAL REPORT No.

111715.60.10835

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

INVOICE TO:

Plutonic Operations Limited
Level 37
100 Miller Street
NORTH SYDNEY NSW 2060

ORDER No.

PROJECT

2014885

DATE RECEIVED

RESULTS REQUIRED

10/04/95

NSAP

No. OF PAGES OF RESULTS

DATE REPORTED

No. OF COPIES

TOTAL No. OF SAMPLES

4

26/04/95

1

79

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
VARIOUS		As. Au (S) B5309

RESULTS TO

Bob Close
Plutonic Operations Limited
Level 37
100 Miller Street
NORTH SYDNEY NSW 2060

REMARKS

RESULTS TO

[Empty box for results recipient]

RESULTS TO

[Empty box for results recipient]


AUTHORISED OFFICER

ANALYTICAL DATA

708.83 AUGER SOLIDS

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10835

26/04/95

2014865

1 OF 4

	SAMPLE No.	Au	Au (R)						
METHOD		GG309	GG309						
1	16502	0.010	-						
2	16503	<0.008	-						
3	16504	<0.008	-						
4	16505	<0.008	-						
5	16506	<0.008	-						
6	16507	0.014	-						
7	16508	0.026	-						
8	16511	<0.008	-						
9	16512	0.028	-						
10	16513	<0.008	-						
11	16514	<0.008	-						
12	16515	<0.008	<0.008						
13	16517	<0.008	-						
14	16518	0.009	-						
15	16519	0.040	-						
16	16520	<0.008	-						
17	16521	<0.008	-						
18	16522	<0.008	-						
19	16523	<0.008	-						
20	16525	0.023	-						
21	16527	0.011	-						
22	16530	0.033	0.031						
23	16534	0.008	-						
24	16535	0.008	-						
25	16537	0.008	-						

ANALYTICAL DATA

708.8.2 Aufer 5000

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10835

26/04/95

2014865

2 OF 4

	SAMPLE No.	Au	Au (R)						
METHOD		GG309	GG309						
1	16539	<0.008	-						
2	16540	<0.008	-						
3	16541	<0.008	-						
4	16542	<0.008	-						
5	16546	0.008	-						
6	16549	<0.008	-						
7	16550	<0.008	-						
8	16551	<0.008	-						
9	16552	0.059	-						
10	16553	<0.008	-						
11	16558	<0.008	-						
12	16559	<0.008	<0.008						
13	16560	<0.008	-						
14	16591	<0.008	-						
15	16593	<0.008	-						
16	16594	0.015	-						
17	16604	<0.008	-						
18	16605	<0.008	-						
19	16608	<0.008	-						
20	16612	<0.008	-						
21	16614	<0.008	-						
22	16615	<0.008	<0.008						
23	16616	<0.008	-						
24	16622	<0.008	-						
25	16623	<0.008	-						



ANALYTICAL DATA

201503 14/03/2015

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10835

26/04/95

2014865

3 OF 4

METHOD	SAMPLE No.	Au	Au(R)						
		GG309	GG309						
1	16624	<0.008	-						
2	16625	<0.008	-						
3	16626	<0.008	-						
4	16627	<0.008	-						
5	16628	<0.008	-						
6	16633	<0.008	-						
7	16636	<0.008	-						
8	16638	<0.008	-						
9	16639	<0.008	-						
10	16641	<0.008	-						
11	16642	<0.008	-						
12	16643	<0.008	0.012						
13	16645	<0.008	-						
14	16647	<0.008	-						
15	16649	<0.008	-						
16	16650	<0.008	-						
17	16652	<0.008	-						
18	16654	<0.008	-						
19	16659	<0.008	-						
20	16664	<0.008	-						
21	16666	<0.008	-						
22	16669	0.008	<0.008						
23	16670	<0.008	-						
24	16675	0.014	-						
25	16677	<0.008	-						



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10835

26/04/95

2014865

4 OF 4

	SAMPLE No.	Au	Au (R)						
METHOD		GG309	GG309						
1	16678	<0.008	-						
2	16682	<0.008	-						
3	16683	<0.008	-						
4	16684	<0.008	-						
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24	DETECTION	0.008	0.008						
25	UNITS	ppm	ppm						



Phone (004) 316837

14 Thirkell St. COOEE TAS 7320

Fax (004) 318890

ANALYTICAL REPORT No.

111715.60.10927

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

INVOICE TO:

Plutonic Operations Limited
Level 37
100 Miller Street
NORTH SYDNEY NSW 2060

ORDER No.

PROJECT

2014717

Add. Work

DATE RECEIVED

RESULTS REQUIRED

15/05/95

ASAP

No. OF PAGES OF RESULTS

DATE REPORTED

No. OF COPIES

TOTAL No. OF SAMPLES

2

22/05/95

1

14

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
16960-73	RO Prep : 6P031	Cu, Pb, Zn, Ca, Fe, K, Mg, Na, P, Ti, Zr, Ba, Co/SI211

RESULTS TO

Rob Reid
Plutonic Operations Limited
P O Box 282
ZEEHAN TAS 7469

RESULTS TO

Bob Close
Plutonic Operations Limited
Level 37
100 Miller Street
NORTH SYDNEY NSW 2060

RESULTS TO

REMARKS

AUTHORISED OFFICER



ANALYTICAL DATA

SAMPLE PREFIX

REPORT No.

REPORT DATE

CLIENT ORDER No.

PAGE

111715.60.10927

22/05/95

2014717

1 OF 2

	SAMPLE No	Cu	Pb	Zn	Ca	Fe	K	Mg	Na	P
METHOD		GI211								
1	16960	8	19	76	<0.05	2.55	4.09	0.73	0.40	150
2	16961	106	11	57	0.12	2.36	1.87	1.94	1.43	<100
3	16962	1930	<10	54	0.77	4.44	1.35	2.30	2.28	150
4	16963	454	14	50	0.63	3.29	1.79	2.37	1.17	<100
5	16964	239	19	27	0.11	3.36	1.92	2.01	2.04	<100
6	16965	66	<10	14	0.67	3.48	2.30	1.22	2.63	<100
7	16966	151	11	43	0.54	9.78	2.43	1.28	1.71	<100
8	16967	198	14	30	0.15	3.95	1.88	4.02	0.25	<100
9	16968	35	10	17	0.35	0.79	1.48	0.39	2.16	<100
10	16969	11	12	54	<0.05	5.61	1.88	1.49	0.06	<100
11	16970	10	21	20	<0.05	4.24	3.25	1.51	0.07	<100
12	16971	9	<10	13	0.07	0.75	0.64	0.75	0.29	150
13	16972	13	14	15	<0.05	1.52	4.61	0.41	0.12	<100
14	16973	22	19	22	<0.05	2.23	2.78	1.17	0.08	<100
15										
16										
17										
18										
19										
20										
21										
22										
23										
24	DETECTION	5	10	5	0.05	0.01	0.05	0.01	0.01	100
25	UNITS	ppm	ppm	ppm	%	%	%	%	%	ppm



(b) DATA BASE TABLES

SAMPLE	Au GG309	Au(R) GG3	Au(s)GG30	Cu GI211	Pb GI211	Zn GI211	Ca GI211
16501				91	-1	18	2.52
16502				374	10	27	1.29
16503				511	-1	33	0.1
16504				121	-1	24	0.87
16505				105	14	32	0.08
16506				177	-1	34	0.15
16507				246	-1	28	0.56
16508				105	-1	28	2.12
16509				9	-1	20	0.1
16510				9	-1	8	0.05
16511				291	-1	24	0.14
16512				54	-1	29	4.67
16513				117	-1	31	1.05
16514				185	-1	25	0.06
16515				1660	-1	48	0.36
16516				383	-1	34	0.47
16517				144	-1	19	0.48
16518				316	-1	34	0.72
16519				37	12	6	-1
16520				198	-1	19	-1
16521				47	-1	10	0.06
16522				171	-1	-1	-1
16523				191	-1	7	0.06
16524				92	-1	6	0.05
16525				10	-1	-1	0.06
16526				255	31	39	0.08
16527				113	-1	9	0.09
16528				80	-1	11	-1
16529				39	-1	15	0.08
16530				156	-1	25	0.25
16531				97	-1	35	0.75
16532				74	-1	35	1.63
16533				19	-1	50	0.15
16534				121	-1	44	1.25
16535				38	-1	28	0.31
16536				947	-1	50	0.74
16537				197	-1	23	0.81
16538				569	-1	48	0.24
16539				380	-1	69	0.28
16540				100	-1	24	1.79
16541				140	-1	44	2.75
16542				84	-1	26	1.77
16543				38	21	73	1.51
16544				103	-1	33	1.57
16545				66	-1	28	1.63
16546				361	15	30	5.39
16547	1.036			23800	17	59	0.11
16548	2.96			75500	50	39	1.21
16549				133	-1	26	0.2
16550				185	-1	42	2.02
16551				40	-1	24	0.66
16552				460	12	43	0.1

16553			164	25	37	-1
16554			-1	12	62	0.05
16555			78	-1	20	0.05
16556			18	-1	58	0.05
16557			68	10	56	0.26
16558			365	-1	61	0.36
16559			44	-1	58	0.13
16560			116	-1	36	0.22
16591			236	10	50	0.1
16592			467	-1	50	0.14
16593			83	-1	52	0.05
16594			279	10	48	0.05
16595			85	-1	14	0.11
16596			74	-1	12	0.2
16597			13	-1	12	0.42
16598			38	-1	13	0.15
16599			77	15	43	0.09
16600			32	-1	25	0.11
16601			10	-1	20	0.1
16602			31	15	18	0.05
16603			18	-1	11	-1
16604			114	11	26	0.11
16605			189	-1	12	0.05
16606			22	-1	23	0.05
16607			47	-1	26	0.09
16608			112	-1	23	0.08
16609			49	-1	18	0.06
16610			43	-1	16	0.05
16611			23	-1	14	0.06
16612			131	10	29	0.37
16613			495	-1	64	0.5
16614			45	16	79	0.19
16615			282	-1	37	0.47
16616			304	-1	32	0.44
16617			78	-1	45	0.38
16618			108	-1	36	0.4
16619			22	11	45	0.48
16620			15	-1	48	0.69
16621			34	-1	54	0.2
16622			144	18	63	0.27
16623			359	-1	30	0.11
16624			111	-1	34	0.2
16625			48	-1	18	0.1
16626			28	-1	17	0.07
16627			161	-1	44	0.07
16628			232	-1	33	0.07
16629			81	-1	50	0.07
16630			9	28	16	0.07
16631			-1	-1	12	0.11
16632			-1	-1	20	0.17
16633			307	-1	23	-1
16634			783	-1	13	1.78
16635			1040	-1	29	-1

16636			484	-1	26	0.29
16637			1060	44	110	0.26
16638			467	-1	36	0.08
16639			467	-1	104	0.07
16640			792	-1	46	0.19
16641			94	-1	26	1.58
16642			27	-1	21	0.21
16643			260	-1	22	0.24
16644			1050	-1	20	0.19
16645			114	-1	26	0.09
16646			78	170	39	0.07
16647			220	-1	44	0.09
16648			37	-1	21	0.06
16649			35	-1	20	0.48
16650			167	-1	22	0.81
16651			21	15	54	2.27
16652			47	264	203	8.09
16653			19	-1	27	4.71
16654			-1	-1	22	1.66
16655			-1	-1	8	0.26
16656			-1	-1	22	1.82
16657			56	-1	20	1.67
16658			9	-1	13	0.31
16659			7	-1	23	0.14
16660			58	-1	15	0.19
16661			42	11	21	1.75
16662			36	-1	18	1.14
16663			56	-1	8	0.09
16664			62	-1	15	-1
16665			-1	-1	10	1.8
16666			31	-1	20	9.82
16667			17	-1	26	3.39
16668			56	315	77	2.2
16669			86	-1	28	0.05
16670			117	11	63	0.11
16671			22	-1	52	2.43
16672			18	12	44	0.17
16673			70	-1	54	0.07
16674			57	-1	18	0.24
16675			296	-1	72	0.09
16676			1100	-1	102	-1
16677			163	-1	26	0.75
16678			242	14	64	0.26
16679			45	-1	15	1.75
16680			22	12	42	0.45
16681			33	-1	45	0.07
16682			307	-1	52	0.06
16683			215	-1	41	0.06
16684			401	-1	26	-1
16685			54	11	16	-1
16686	-1		7	20	24	0.71
16687	-1		7	18	17	0.84
16688	-1		7	18	19	0.52

16689	-1			28	13	17	1.56
16690	-1			7	14	14	0.15
16691	-1			9	20	12	0.1
16692	-1			12	15	17	0.75
16693	-1			-1	18	34	1.79
16694	-1			-1	17	14	0.64
16695	-1			5	20	25	0.44
16696	-1			8	10	25	2.44
16697	-1	-1		10	14	34	2.14
16698	-1			10	17	29	1.54
16699	-1			7	17	16	0.98
16700	-1			-1	24	18	0.48
16701	-1			6	16	19	0.3
16702	-1			-1	16	13	0.41
16703	-1			16	21	19	1.26
16704	-1			6	14	29	2.07
16705	-1			-1	14	21	2.43
16706	-1			-1	16	19	2.64
16707	-1	-1		7	15	16	0.31
16708	-1			-1	21	10	0.23
16709	-1			-1	12	8	0.17
16710	-1			-1	27	14	0.37
16711	-1			8	11	14	0.17
16712	-1			9	24	20	0.1
16713	-1			-1	20	20	1.77
16714	-1			28	15	39	4.02
16715	-1			15	11	34	3.62
16716	-1			61	15	53	0.95
16717	-1			11	17	18	1.42
16718	-1			37	18	54	3.38
16719	-1			43	17	35	0.36
16720	-1			169	-1	33	0.09
16721	-1			377	24	14	0.07
16722	-1	0.01		12	-1	24	2.71
16723	-1			26	14	13	0.91
16724	-1			31	17	15	0.91
16725	-1			57	17	18	0.1
16726	-1			54	15	12	0.32
16727	0.009			34	11	21	0.07
16728	-1			14	32	28	0.06
16729	-1			-1	20	56	0.17
16730	-1			8	23	60	0.17
16731	-1			8	21	72	0.19
16732	-1	-1		376	25	15	0.09
16733	-1			8	17	45	0.1
16734	-1			25	22	58	0.12
16735	-1			129	15	42	0.24
16736	-1			248	21	39	1.31
16737	0.024			496	21	26	0.58
16738	0.015			210	11	28	0.22
16739	-1			761	18	31	0.26
16740	-1			127	18	47	0.44
16741	-1			300	12	8	0.35

16742	-1			12	19	18	0.93
16743	-1			11	16	6	-1
16744	-1			21	12	28	0.66
16745	-1			441	24	26	0.05
16746	-1			47	11	13	-1
16747	-1	-1		1940	26	14	-1
16748	0.008			178	37	61	0.17
16749	-1			15	18	11	-1
16750	-1			14	11	18	-1
16751	-1			17	27	20	1.37
16752	-1			368	24	42	0.08
16753	0.016			45	13	14	-1
16754	-1			54	15	9	-1
16755	0.01			72	-1	14	-1
16756	-1			292	23	30	-1
16757	-1	-1		224	37	46	0.05
16758	-1			247	14	28	0.17
16759	-1			2120	39	27	0.05
16760	0.01			59	27	30	-1
16761	-1			87	18	34	-1
16762	0.02			198	66	11	0.05
16763	-1			32	47	114	0.05
16764	-1			63	30	58	-1
16765	-1			135	19	66	0.06
16766	-1			24	20	25	0.12
16767	0.02			1140	540	90	7.13
16768	-1			114	18	31	0.08
16769	-1			308	16	24	0.08
16770	-1			43	24	42	0.12
16771	-1			45	14	72	0.08
16772	-1	-1		-1	26	27	5.02
16773	-1			132	17	30	2.1
16774	-1			7	17	18	1.95
16775	-1			7	17	20	3.54
16776	-1			-1	14	20	2.55
16777	-1			-1	28	14	2.08
16778	-1			-1	22	21	2
16779	-1			-1	71	22	3.11
16780	-1			6	14	11	0.84
16781	-1			-1	14	14	1.05
16782	-1	-1		336	16	44	0.05
16783	0.027			113	11	67	0.06
16784	-1			20	12	70	0.13
16785	-1			54	13	30	0.09
16786	-1			20	-1	20	0.99
16787	0.054			236	14	15	0.16
16788	-1			13	-1	16	0.87
16789	-1			58	-1	33	5.53
16790	-1			7	11	24	3.91
16791	-1			-1	-1	33	2.42
16792	-1			-1	-1	23	2.6
16793	-1			-1	-1	37	1.77
16794	-1			10	14	31	3.14

16795	-1			7	10	18	1.5
16796	-1			-1	-1	23	0.56
16797	-1	-1		-1	13	21	4
16798	-1			-1	-1	28	4.01
16799	-1			15	-1	21	1.08
16800	-1			-1	-1	19	2.9
16801	-1		-1	-1	-1	20	2.83
16802	-1			7	-1	20	0.69
16803	0.018			5	-1	26	3.27
16804	-1			10	12	21	3.24
16805	-1			-1	-1	22	6.31
16806	-1			-1	-1	9	1.43
16807	-1	-1		-1	11	19	2.75
16808	-1			-1	-1	16	1.97
16809	-1			26	-1	8	0.05
16810	-1			37	-1	11	0.16
16811	-1			10	13	53	0.11
16812	-1			22	-1	12	1.28
16813	0.012			91	-1	21	0.07
16814	-1			6	-1	9	0.07
16815	-1			334	22	73	-1
16816	-1			142	14	40	0.05
16817	0.035			33	-1	30	0.16
16818	0.01			72	16	31	0.05
16819	0.029			181	13	71	0.07
16820	-1			44	-1	18	0.06
16821	-1		-1	51	19	35	0.12
16822	-1	-1		128	22	49	0.07
16823	-1			11	-1	7	0.1
16824	-1			27	-1	41	0.08
16825	0.165	0.148	0.164	4520	24	11	0.06
16826				39	15	10	0.57
16827				124	-1	16	0.81
16828				30	14	44	0.29
16829				52	-1	16	-1
16830				34	-1	19	0.15
16831				12	-1	24	5.12
16832				6	-1	22	7.48
16833				5	-1	24	2.47
16834				-1	11	42	0.4
16835				10	11	7	0.07
16836				47	-1	37	4.52
16837				-1	12	9	2.64
16838				7	21	30	3.01
16839				6	18	27	5.05
16840				-1	12	36	3.32
16841				106	17	15	0.74
16842				247	10	59	0.15
16843				938	-1	46	0.19
16844				231	-1	16	0.48
16845				264	-1	55	0.14
16846				107	14	15	1.12
16847				53	-1	7	0.24

16848			188	10	43	0.56
16849			120	-1	14	1.39
16850			61	14	79	0.16
16851			164	11	9	0.1
16852			415	11	41	0.25
16853			69	14	24	0.68
16854			196	14	11	-1
16855			117	12	11	-1
16856			64	-1	6	-1
16857			59	14	57	0.05
16858			88	-1	20	0.63
16859			83	14	42	0.21
16860			102	24	35	0.05
16861			94	-1	20	0.07
16862			476	-1	50	0.2
16863			42	-1	16	0.82
16864			69	-1	22	0.53
16865			-1	13	34	4.77
16866			7	-1	23	4.97
16867			51	-1	14	0.74
16868			76	12	15	0.19
16869			574	-1	36	1.44
16870			70	-1	29	2.46
16871			70	-1	18	2.05
16872			831	-1	29	3.61
16873			11	-1	11	0.64
16874			109	10	26	1.61
16875			55	-1	15	1.52
16876			317	-1	37	0.25
16877			88	-1	44	1.34
16878			81	-1	23	0.54
16879			134	12	12	0.27
16880			97	-1	14	0.38
16881			24	-1	14	-1
16882			145	14	15	0.08
16883			64	-1	28	0.08
16884			184	11	30	0.05
16885			176	-1	23	0.22
16886			1340	14	35	0.24
16887			354	-1	35	0.12
16888			25	-1	18	2.37
16889			9	-1	25	1.7
16890			10	-1	18	6.12
16891			-1	-1	42	2.3
16892			33	-1	23	1.32
16893			124	11	20	0.09
16894			24	-1	15	1.61
16895			27	-1	11	1.05
16896			117	-1	15	0.11
16897			27	-1	11	0.18
16898			6	-1	10	0.06
16899			30	12	31	0.09
16900			12	12	22	0.24

16901				153	-1	86	1.36
16902				187	15	17	0.15
16903				129	-1	35	2.29
16904				199	-1	22	0.27
16905				162	11	30	-1
16906				339	12	12	-1
16907				438	-1	22	-1
16908				85	-1	43	0.28
16909				221	-1	49	1.3
16910				10	-1	26	3.22
16911				330	26	62	0.4
16912				32	10	12	2.5
16913				86	35	108	0.2
16914				15	-1	41	2.15
16915				93	15	50	0.2
16916				370	13	44	0.06
16917				99	14	24	0.06
16918				75	14	27	0.52
16919				235	15	26	0.24
16920				131	17	23	0.43
16921				186	26	36	1.16
16922				15	15	24	2.8
16923				147	14	48	-1
16924				40	14	18	0.07
16925				19	-1	12	0.3
16926				20	-1	15	0.34
16927				138	11	25	0.1
16928				49	14	23	0.2
16929				248	12	17	-1
16930				273	13	13	-1
16931				109	13	17	-1
16932				82	19	16	0.05
16933				120	21	31	0.07
16934				29	12	74	0.44
16935				51	15	34	-1
16936				70	18	47	0.08
16937				37	15	66	0.05
16938				119	22	42	0.11
16939				-1	19	38	-1
16940				-1	17	-1	-1
16941				16	17	14	0.06
16942				31	12	7	0.06
16943				29	15	11	0.05
16944				22	-1	9	-1
16945				195	-1	75	0.06
16946				8	13	40	0.16
16947				18	17	-1	0.06
16948				6	17	6	1.97
16949				6	14	13	1.91
16950				18	-1	35	1.18
16951				49	12	20	1.25
16952				39	16	13	1.2
16953				98	21	32	0.92

16954			54	12	33	1.18
16955			56	-1	35	2.32
16956			62	-1	25	4.87
16957			32	-1	13	1.81
16958			186	19	21	1.28
16959			80	13	10	1.84
16960			8	19	76	-1
16961			106	11	57	0.12
16962			1930	-1	54	0.77
16963			454	14	50	0.63
16964			239	19	27	0.11
16965			66	-1	14	0.67
16966			151	11	43	0.54
16967			198	14	30	0.15
16968			35	10	17	0.35
16969			11	12	54	-1
16970			10	21	20	-1
16971			9	-1	13	0.07
16972			13	14	15	-1
16973			22	19	22	-1

Fe GI211	K GI211	Mg GI211	Na GI211	P GI211	Ti GI211	Zr GI211	Ba GI211
2.29	0.12	0.63	5.44	-1	3740	100	28
4.96	1.52	0.88	1.14	-1	5930	130	451
2.38	1.1	1.07	1.99	100	4720	43	109
1.76	0.94	0.86	1.12	-1	6920	132	243
1.92	1.46	0.35	0.23	150	5880	253	702
1.87	1.93	0.4	1.2	-1	5350	179	538
1.82	1.67	0.6	1.69	-1	5570	172	442
1.67	1.13	0.93	4.87	-1	4780	150	318
0.28	-1	0.13	0.05	-1	1080	77	19
0.34	-1	0.13	0.07	-1	1340	89	23
1.9	1.88	1.2	0.57	-1	4960	171	329
3.78	0.81	3.1	2.57	-1	3710	90	180
2.54	1.56	1.7	1.01	-1	5020	135	322
1.17	2.37	0.33	0.67	-1	5860	142	555
3.91	1.73	2.11	2.31	150	4970	157	498
2.68	3.06	1.47	0.31	900	5710	102	1080
3.94	2.87	0.89	1.7	250	4930	100	899
7.08	2.44	2.08	1.01	200	3780	149	516
0.44	6.91	0.08	0.16	200	2500	103	2460
2.03	4.76	1.39	0.14	150	4540	172	1450
1.19	6.25	0.53	0.19	150	4900	219	2590
10.2	6.22	0.14	0.14	250	2490	161	2500
8.96	5.98	0.13	0.1	250	3690	161	2210
3.05	6.79	0.06	0.18	250	3400	169	2900
0.65	6.71	0.16	0.17	150	4380	203	2540
3.57	4.2	1.52	0.16	250	3780	177	1820
7.09	4.07	0.25	0.14	150	4110	173	1680
1.09	1.47	0.18	0.39	-1	5900	107	317
0.89	2.01	0.18	0.58	-1	5960	156	720
1.4	0.87	0.63	3.03	-1	4970	123	275
3.84	1.75	1.99	2.44	-1	4830	171	456
2.63	2.8	1.64	2.12	-1	4940	129	681
1.86	1.57	1.19	0.44	-1	3820	159	623
3.45	2.3	2.17	3.32	-1	4480	150	588
2.94	2.27	1.85	0.7	-1	3580	126	347
3.82	1.53	2.32	3.45	-1	4460	97	339
2.73	1.19	1.31	0.65	100	4370	159	321
3.35	3.96	1.95	1.07	-1	5720	127	1090
4.38	2.53	3.31	1.43	-1	4980	68	491
2.57	1.46	1.68	3.14	-1	4330	153	337
5.01	2.89	3.95	2.31	-1	5210	123	944
6.87	1.8	2.21	3.24	100	3340	111	309
5.82	1.53	2.37	3.58	150	3720	114	343
4.98	3.11	2.84	1.73	-1	3970	94	930
3.77	3.17	1.81	2.54	-1	3650	151	710
7.77	1.73	6.78	0.38	150	2010	56	431
11.9	2.21	3.49	0.09	1050	4350	134	627
19.7	0.38	2.08	0.05	5200	2530	73	94
2.84	1.16	1.13	4.5	-1	3670	213	284
5.05	2.2	3.49	2.81	100	3260	67	692
3.26	2.33	1.81	3.56	150	4850	129	463
3.03	1.61	2.13	2.11	-1	4180	126	456

2.92	2.14	2.1	0.26	150	5400	154	457
5.22	4.05	3.48	0.82	-1	4870	135	1090
1.2	8.99	0.83	0.36	100	5130	162	4220
3.68	4.98	2.55	0.47	-1	5110	115	1610
4.94	3.54	1.92	2.06	-1	4520	140	826
5.26	2.88	3.48	0.69	300	5290	134	386
4.67	3.41	3.7	0.53	150	5430	143	700
6.07	2.7	2.83	1.73	100	3870	158	467
9.28	3.36	1.78	0.4	350	4340	107	244
6.61	3.18	3.13	1.55	150	3650	93	307
5.69	4.56	3.2	0.64	-1	4420	109	970
5.3	3.77	3.53	0.3	100	3820	142	459
14.1	1.78	0.33	0.31	350	6040	59	483
11.7	1.02	0.33	0.36	250	8210	86	269
6.5	0.72	0.31	0.45	150	11800	132	226
12.8	0.84	0.29	0.31	200	7150	222	289
9.16	1.99	0.49	0.39	400	4610	65	497
7.11	1.95	0.4	2.98	600	3300	87	188
1.02	1.31	0.3	0.31	100	4470	49	351
0.9	3.06	0.24	0.36	-1	4520	72	584
0.38	0.38	0.04	0.1	-1	4260	103	79
0.88	0.78	0.13	4.95	-1	4240	77	63
1.91	2.44	1.8	0.27	-1	4340	75	617
2.42	2.04	1.26	0.42	-1	2210	83	296
5.14	2.64	1.46	0.43	-1	2110	117	301
2.51	2.12	1.67	0.28	-1	4110	101	306
1.46	1.54	1.19	0.26	-1	4890	124	309
1	1.55	0.83	0.24	-1	3980	120	348
0.94	0.95	0.7	0.32	-1	4750	265	236
4.81	1.45	2.95	0.83	200	4070	117	503
3.65	2.43	2.12	1.68	100	3950	101	415
5.97	1.32	3.19	0.98	-1	3940	131	268
3.13	1.81	1.86	1.93	-1	5450	118	272
4.55	1.72	2.8	0.87	150	5010	121	348
4.05	1.77	2.45	0.56	100	5060	136	296
4.54	1.85	2.67	0.41	-1	5580	143	322
2.05	1.44	1.49	0.21	-1	5680	153	145
3.88	2.09	2.46	0.58	150	6130	150	388
3.62	2.72	1.7	0.65	-1	5460	145	646
3	3.09	2.01	0.6	200	6520	160	928
4.77	4.15	1.24	0.94	100	4930	130	1430
3.14	2.16	1.4	0.47	150	6060	162	372
1.59	1.62	0.67	0.52	-1	4900	141	307
1.2	1.9	0.29	0.33	-1	4460	122	418
2.75	1.99	1.03	0.4	150	5530	139	328
2.27	3.21	1.03	0.32	-1	5150	146	1370
2.33	4.51	1.3	0.3	100	4350	171	2160
0.34	1.35	0.17	0.2	-1	2260	91	503
0.12	0.05	0.21	0.06	-1	91	5	17
0.15	0.08	0.21	0.05	-1	77	5	12
0.57	5.95	0.12	0.16	150	5850	159	1870
16.8	1.55	2.38	0.12	1000	7650	165	330
8.67	1.66	0.56	0.17	600	6260	208	347

RAWASSAY.XLS

4.94	1.98	1.29	0.19	300	6080	197	508
1.95	2.12	0.6	0.67	250	7370	240	454
2.96	2.31	1.6	1.49	-1	5140	163	488
4.64	1.85	1.69	2.39	150	4580	152	756
3.26	1.93	1.13	2.87	200	5310	144	329
3.32	2.19	2.03	1.78	150	4500	118	405
2.33	3	4.58	0.5	-1	5070	168	502
3.61	1.81	1.78	2.3	100	3440	150	358
4.3	1.58	1.16	1.61	-1	3680	158	398
1.41	1.57	0.68	1.13	-1	3720	146	350
0.32	0.2	0.08	0.1	-1	1990	89	101
2.8	1.6	1.7	0.8	-1	2860	120	321
1.04	0.94	0.26	0.29	600	4880	137	170
8.12	1.9	0.62	0.62	400	4530	105	496
1.61	1.68	0.7	2.98	200	6670	117	366
7.41	4.02	1.45	2.2	350	4860	107	1300
4.55	1	3.68	2.87	-1	2890	41	206
6.55	1.17	2.7	3.1	-1	4130	40	209
1.88	0.36	1.2	5.45	-1	5100	96	58
0.41	1.41	0.12	3.33	-1	3790	152	394
4.48	1.68	1.47	4.23	200	4330	145	502
2.45	1.44	1.3	3.33	-1	4080	123	378
1.3	1.31	0.18	2.14	150	2390	159	374
0.85	3.34	0.14	0.51	-1	5140	255	793
24.9	1.27	0.33	0.13	300	5420	49	372
12.4	1.02	1.07	0.5	300	9480	166	288
11.8	0.8	0.97	0.41	250	11400	128	220
16.9	0.72	0.23	0.17	300	8100	94	143
13.3	2.68	0.19	0.24	650	7040	82	550
4.31	0.41	0.91	4.25	-1	5070	93	85
10.2	0.19	2.77	0.54	100	4650	50	37
6.22	1.22	3.11	2.33	-1	4550	55	279
4.77	0.45	2.72	2.81	200	3900	56	101
3.19	1.6	1.02	0.17	-1	4260	135	184
6.11	2.46	1.52	0.4	100	3110	151	358
4.12	1.63	1.24	2.74	150	4060	174	576
2.07	1.37	0.88	0.44	150	5910	258	380
4.99	0.95	2.45	0.48	-1	5510	141	250
1.21	3.51	0.4	0.4	150	5220	148	1670
1.71	2.13	0.81	0.97	-1	5670	159	580
1.6	4.38	0.48	0.28	150	5130	165	1120
4.19	0.99	0.85	0.44	100	7360	164	241
2.49	1.74	1.09	0.59	100	5740	136	500
4.6	0.75	1.11	2.93	-1	5360	96	157
7.42	7.37	1.27	0.19	400	3160	230	1830
10.9	3.9	2.22	0.15	200	4300	185	1160
3.66	1.73	2.76	0.25	150	6080	190	190
2.96	1.86	1.89	0.34	250	5990	185	315
7.47	4.11	0.75	0.16	500	4290	187	1600
1.72	3.28	0.53	0.17	100	6630	159	90
9.34	0.61	0.8	0.29	150	9130	168	238
1.73	2.97	0.47	0.56	-1	4300	499	1010
0.65	2.53	0.15	0.36	-1	1870	411	981

RAWASSAY.XLS

2.22	2.66	0.48	0.75	-1	3140	222	936
0.56	3.24	0.11	0.76	-1	2390	239	1080
0.95	2.15	0.23	0.34	-1	2220	200	628
1.44	3.4	0.34	0.94	100	3260	157	1130
2.43	1.87	0.87	2.54	100	3410	144	632
1.13	0.92	0.32	2.83	-1	4260	173	278
0.91	1.12	0.15	2.47	100	2920	128	167
2.04	1.29	1.42	3.88	-1	3450	100	318
2.69	1.29	1.54	2.32	-1	5510	127	431
3.53	1.13	1.1	1.81	-1	3530	179	199
1.6	3.36	0.49	0.94	100	2980	247	1100
1.27	2.83	0.34	1.01	-1	3170	316	853
0.81	3.35	0.33	0.34	100	2620	264	1230
0.96	2.73	0.26	1.01	-1	2550	250	769
1.82	2.63	0.41	1.71	150	6860	246	983
3.02	1.09	1.27	2.75	-1	8680	205	336
2.58	1.81	1.32	3.02	100	6590	159	568
2.31	0.91	1.11	4.08	-1	4790	191	250
0.67	1.08	0.18	2.48	-1	2970	301	327
1.13	0.86	0.32	1.64	-1	3020	307	278
0.47	0.67	0.06	1.62	-1	2730	245	190
0.98	0.85	0.11	1.5	100	2730	282	245
0.65	2.77	0.23	1.31	100	2350	248	799
0.65	1.49	0.17	0.93	-1	4020	192	240
1.9	1.46	0.76	3.95	-1	6190	173	409
6.05	0.64	5.14	1.55	-1	3380	70	151
8.95	0.52	8.19	0.53	-1	2070	46	102
2.91	0.77	1.62	1.56	-1	4270	121	144
1.48	1.49	0.71	3.79	-1	4460	123	352
5.72	0.5	5.86	1.6	-1	3250	98	139
3.35	0.54	1.03	1.25	-1	7600	166	114
11.8	1.35	1.89	0.26	350	4340	209	245
1.5	2	0.32	0.49	100	4580	159	406
3.26	0.88	2.01	2.59	-1	5330	180	231
2.07	0.97	0.44	2.11	-1	5220	178	247
1.23	0.67	0.26	3.05	-1	3790	215	244
0.96	3.82	0.22	0.54	-1	4430	180	1320
1.16	0.46	0.19	0.58	-1	5060	249	105
1.27	0.64	0.56	1.77	-1	4580	154	54
0.19	0.21	0.09	0.15	-1	5370	105	28
0.09	-1	0.23	0.06	-1	109	6	11
0.14	-1	0.23	0.08	-1	130	6	24
0.1	-1	0.22	0.07	-1	144	13	25
1.47	1.35	0.29	0.13	250	3570	67	238
0.08	-1	0.29	0.09	-1	84	-1	16
0.11	-1	0.27	0.09	-1	136	-1	22
3.37	2.18	1.6	1.28	-1	5360	125	593
2.39	1.05	1.24	3.44	-1	4940	110	326
2.74	0.52	0.73	3.46	-1	4180	126	174
1.3	1.4	0.29	3.2	-1	4970	113	416
3.3	2.12	1.45	1.92	-1	6810	173	720
3.34	1.6	2.18	1.58	-1	4800	150	440
1.53	0.84	0.18	3.88	-1	4400	127	200

RAWASSAY.XLS

1.37	1.06	0.87	3.16	-1	5200	146	350
0.37	0.61	0.16	0.1	-1	3510	299	149
3.83	2.77	2.03	0.47	100	4910	160	618
18.7	1.66	0.13	0.05	3350	3050	61	125
0.57	1.41	0.19	0.09	150	4820	129	281
0.97	1.26	0.22	0.14	300	5200	137	294
2.09	4.12	1.22	0.16	200	3780	50	1070
0.29	1.15	0.06	0.09	-1	2390	154	374
0.27	4.04	0.08	0.55	-1	1890	86	1110
2.06	1.55	1.23	1.88	100	4120	116	278
2.08	2.09	1.1	0.8	300	4290	155	582
0.22	1.54	0.05	0.06	-1	1540	76	530
0.35	4.61	0.04	0.11	250	2840	118	1390
0.34	2.49	0.08	0.1	150	3420	134	786
2.02	4.2	1.21	0.14	100	5050	118	1470
3.66	4.93	2.01	0.38	100	4660	170	1610
1.86	1.82	1.18	1.09	200	4690	137	482
2.84	4.47	0.95	0.16	250	4310	178	1510
1.63	2.63	1.03	0.09	100	4360	169	668
1.36	2.89	0.72	0.09	100	3580	180	979
1.87	6.11	0.43	0.21	200	4580	182	2160
3.92	2.53	2.08	0.3	450	4200	181	917
2.98	4.83	1.68	0.18	100	4300	171	1850
3.08	3.33	2.03	0.12	150	4500	186	988
1.86	3.23	1.02	0.51	150	4480	155	1150
4.92	1.38	1.46	0.16	28769	7570	140	433
3.39	2.51	2.19	0.61	100	4620	144	389
5.51	2.61	1.58	0.16	100	4950	123	663
3.69	1.72	1.85	0.19	150	6170	204	317
3.45	2.25	2.19	0.24	100	5200	221	489
5.27	0.32	5.05	1.01	150	4610	26	79
5.24	1.23	2.26	0.92	-1	3770	54	325
2.05	0.97	1.4	2.87	150	5190	87	268
8.67	1.16	2.54	2.08	-1	6430	81	268
2.23	1.22	1.96	2.17	-1	3590	101	327
1.44	1.18	0.67	2.76	-1	4640	123	310
3.58	0.08	0.51	2.27	-1	3740	165	40
2.53	0.09	0.48	1.24	-1	3380	131	41
0.88	0.35	0.1	1.69	-1	4270	177	111
0.73	0.31	0.18	1.78	-1	2940	145	74
3.02	5.95	1.58	0.24	100	4990	117	2210
1.47	4.93	0.36	0.23	-1	5450	142	577
4.7	5.7	2.07	0.53	100	4210	176	2130
1.72	4.99	0.57	1.3	150	5250	137	890
2.13	4.44	0.48	1.73	150	4030	116	1690
2.07	6.56	0.58	0.65	100	4160	130	3420
3.17	0.51	0.79	4.54	-1	6690	91	166
5.41	0.37	9.01	0.99	-1	1460	27	115
4.09	0.69	1.75	4.3	-1	4600	71	238
4.44	3.92	1.6	2.09	250	3380	169	1160
5.96	4.47	1.82	1.27	150	4120	165	1300
2.87	2.85	1.07	3.15	-1	4080	175	938
4.48	3.36	1.29	1.78	250	3520	202	944

RAWASSAY.XLS

2.23	4.37	0.89	1.84	150	4070	202	1150
2.29	4.78	0.74	1.53	-1	5070	137	909
5.67	1.09	1.59	1.66	-1	3280	71	389
9.04	2.23	3.42	2.67	-1	3710	79	857
1.56	0.81	0.81	2.09	100	2830	103	228
4.17	1.68	1.23	3.55	300	3600	114	496
3.5	1.56	1.53	3.9	200	3450	108	477
4.65	5.92	0.85	1.29	250	3590	118	2020
4.79	1.59	2.45	2.73	-1	3630	54	526
2.6	1.07	2.48	2.33	-1	3150	54	317
7.07	0.59	3.91	2.85	-1	3520	43	140
2.19	0.82	0.61	2.25	-1	1750	111	189
5.86	1.02	2.04	3.64	-1	3200	65	227
3.23	0.97	1.23	4.12	-1	2350	87	300
0.65	0.98	0.31	0.18	-1	4880	161	352
0.7	0.72	0.24	0.64	-1	3990	109	215
5.04	0.84	2.32	2.28	-1	3380	81	109
1.32	2.18	0.64	1.08	400	5870	139	595
1.7	4.87	0.72	0.43	200	3170	161	1860
1.16	5.27	0.11	0.22	150	3420	158	2040
4.46	4.83	2.15	0.17	100	4560	134	1800
3.55	6.66	1.82	0.22	-1	4140	132	2450
2.35	2.87	1.34	0.83	-1	4330	167	920
1.94	5.14	0.96	0.17	100	4650	165	1330
3.91	3.07	2.47	0.44	100	5290	200	485
1.7	6.22	0.93	0.25	100	3940	176	2370
1.21	8.52	0.44	0.52	100	3660	117	3850
2.88	6.07	1.85	0.26	150	4100	190	1970
0.49	1.4	0.12	0.32	-1	3530	224	499
2.48	2.23	1.18	0.39	-1	5020	175	271
7.46	5.97	0.22	0.24	-1	3340	180	286
10.6	1.16	0.54	0.2	150	7230	56	315
9.96	1.58	0.9	0.17	450	7580	146	407
7.92	0.65	0.35	0.28	150	12000	186	207
18.3	1.13	0.23	0.17	300	8040	89	136
8.9	1.17	0.56	0.23	-1	3540	54	299
3.96	1.69	3.29	2.99	-1	2590	31	260
3.47	1.07	3.38	3.88	-1	4770	52	217
2.08	2.85	1.74	3.26	-1	3390	96	824
3.69	4.58	1.83	1.53	-1	5180	137	1450
0.25	5.98	0.02	0.94	-1	2440	161	2470
4.18	1.71	4.9	1.78	-1	3940	25	419
3.91	0.5	1.35	4.42	100	4880	120	60
7.6	0.77	2.42	4.57	150	4880	54	149
4.43	1.55	3.32	3.18	-1	5090	79	236
6.15	0.84	2.71	4.43	-1	1890	44	250
9.2	0.2	1.56	0.25	150	10900	192	57
2.36	1.32	0.76	2.15	-1	5280	174	350
2.69	1.52	0.84	3.39	-1	5830	162	259
1.7	1.06	0.38	5.02	-1	4780	127	125
2.16	1.19	0.98	2.03	-1	5440	176	216
1.4	4.01	0.47	2.79	150	3960	126	1510
0.78	1	0.24	1.3	-1	5130	166	316

RAWASSAY.XLS

2.34	1.35	0.84	1.75	-1	5910	193	232
3.86	1.06	1.06	2.35	-1	4760	172	291
1.49	1.07	0.84	0.93	-1	5470	210	331
1.05	2.67	0.4	3.3	-1	5380	127	253
2.28	1.58	1.43	0.61	-1	5650	187	318
2.4	1.11	2.55	2.74	-1	4370	101	402
1.58	3.11	0.99	0.12	-1	5380	116	301
1.04	2.12	0.61	0.34	-1	4510	142	280
0.6	1.16	0.26	0.13	-1	5020	93	218
3.42	1.31	2.41	0.23	-1	5490	203	428
2.42	0.65	0.65	1.23	-1	7220	137	164
2.25	1.8	2.08	2.03	-1	5260	97	237
1.97	1.08	1.81	0.28	-1	5020	183	233
2.95	2.84	2.71	0.15	-1	4540	115	796
5.91	0.96	1.57	0.91	100	4320	161	401
1.27	1.22	0.45	1.2	500	4560	140	299
1.78	1.1	1.21	0.59	-1	6690	84	266
5.98	0.89	3.37	3.08	-1	5130	59	231
2.82	1.14	2.51	4.27	-1	4630	64	209
1.35	0.96	0.83	1.25	-1	4350	130	185
1.13	1.28	0.9	0.25	-1	5120	151	282
3.2	1.06	1.61	2.12	-1	4650	149	218
3.31	1.85	2.54	1.96	-1	4630	149	482
2.55	1.6	2.05	2.24	100	4170	145	484
3.79	1.42	2.61	2.75	150	3600	119	297
1.12	1.04	0.7	1.61	-1	3720	138	263
2.56	1.47	1.73	2.44	-1	4090	148	283
2.04	1.57	1.32	1.76	-1	4530	160	355
4.53	2.19	2.47	0.85	-1	4260	143	559
3.08	2.42	1.68	2.36	150	4020	148	569
3.4	2.66	3.85	0.93	150	4050	91	449
1.84	1.4	1.05	1.46	-1	2260	147	360
0.84	1.49	0.44	1.86	-1	4390	154	452
0.78	1.85	0.91	0.15	-1	5200	117	384
1.04	3.95	0.59	0.62	-1	3840	108	2080
1.69	2.01	2.44	0.75	-1	2940	112	248
1.24	1.72	2.21	0.27	100	3110	106	145
3	2.24	2.98	0.51	-1	3330	117	329
6.62	2.6	2.53	1.79	-1	4350	155	529
4.29	1.97	3.33	0.64	-1	3930	140	310
2.25	1.83	1.42	3.06	-1	5200	73	381
2.5	0.9	1.82	3.4	-1	3400	55	116
5.22	1.03	3.21	3.39	-1	3120	36	236
4.05	1.63	1.99	3.7	100	3190	96	424
2.16	4.33	1.19	1.64	150	4070	156	1450
1.67	4.41	0.64	0.21	450	4260	142	1340
1.97	5.27	0.77	1.66	150	4340	155	1670
1.23	4.47	0.76	2.27	150	3490	102	1230
8.5	2.53	0.51	0.27	150	2910	90	648
2.02	2.25	0.36	2.3	100	3780	78	482
0.5	1.41	0.67	0.12	-1	2740	113	279
1.59	2.94	2.73	0.73	-1	1930	131	271
3.37	2.36	2.3	0.61	-1	4490	121	355

RAWASSAY.XLS

2.59	1.77	0.74	2.91	-1	4530	161	372
10.4	0.88	0.6	0.16	350	3820	49	127
8.08	1.92	1.72	0.88	300	4870	151	401
13.7	0.74	0.62	0.26	400	4400	132	188
15.8	0.48	1.07	0.1	550	3430	115	127
9.6	0.91	0.43	0.14	150	4080	173	174
12.7	4.05	0.68	0.08	750	1980	135	957
3.59	2.18	2.84	2.69	100	4650	105	358
4.14	1.32	3.22	3.05	350	3570	108	302
4.48	1.41	3.7	3.73	200	3650	66	253
2.59	1.3	1.94	1.54	-1	5190	65	371
3.34	2	1.57	2.79	-1	4380	81	426
4.33	1.85	5.16	1.37	-1	4020	103	518
8.62	1.87	2.82	0.75	150	5590	168	502
5.12	2.24	3.15	0.94	250	4870	136	834
1.97	1.42	1.2	0.12	150	5950	188	337
4.98	2.41	0.66	0.08	150	5350	154	867
11.9	1.1	1.2	0.7	800	4880	164	300
2.36	1.91	0.67	0.18	350	5820	177	747
9.22	0.85	0.73	0.12	100	8490	285	390
6.79	1.98	1.63	0.96	250	5540	114	831
6.89	1.04	1.79	3.3	-1	3650	75	211
5.04	1.8	0.68	0.34	500	3430	129	104
6.74	0.76	0.23	0.07	100	5140	236	281
5.99	2.07	0.46	0.21	100	4250	207	705
7.76	2.82	0.71	0.26	150	3870	196	992
7.6	1.47	0.78	1.72	150	4480	235	429
6.29	0.91	0.47	0.59	250	4720	192	259
7.28	1.41	0.27	0.13	200	5010	232	515
6.89	0.36	0.27	0.1	150	4500	236	142
10.2	0.82	0.34	0.07	150	4940	192	106
8.33	0.44	0.32	0.12	150	5140	195	163
8.78	1.07	1.34	0.11	250	5730	145	324
9.49	1.97	1.37	0.34	300	5600	128	648
13	0.76	0.44	0.04	250	5050	138	305
2.52	2.1	0.83	0.08	100	5360	126	596
4.03	2.99	0.82	0.13	100	5060	146	106
3.26	2.58	1.82	1.58	-1	5340	135	843
3.65	1.42	2.32	0.04	100	4680	174	218
0.75	1.3	0.33	0.04	-1	4310	134	178
0.88	2.25	0.44	0.98	-1	4900	143	659
0.62	1.65	0.25	0.14	-1	4590	168	567
0.71	1.56	0.37	0.08	-1	4880	171	310
0.56	1.2	0.19	0.14	-1	4760	138	392
12.8	2.23	3.21	0.46	100	4630	104	830
7.56	1.96	2.56	1.16	200	4200	91	487
0.43	0.88	0.15	0.07	-1	3630	101	244
1.36	0.3	0.48	3.89	-1	4480	106	63
1.7	0.39	0.86	4.59	-1	3780	146	115
3.09	2.6	1.42	2.63	350	3230	157	970
14.8	0.49	1.94	0.39	250	6910	110	155
12.7	0.34	1.75	0.16	150	6800	108	102
17.5	0.78	2.22	0.3	250	5240	86	260

RAWASSAY.XLS

7.39	0.18	1.67	2.68	150	4450	66	78
8.18	1.43	2.67	0.57	-1	6410	70	420
15.1	0.38	5.96	0.76	750	6720	58	70
10.3	0.52	0.99	2.36	150	6520	115	124
2.02	0.94	0.77	2.25	-1	3940	123	361
1.45	0.96	0.49	2.22	-1	4560	111	276
2.55	4.09	0.73	0.4	150	4110	117	211
2.36	1.87	1.94	1.43	-1	3880	147	534
4.44	1.35	2.3	2.28	150	3870	137	287
3.29	1.79	2.37	1.17	-1	3640	123	382
3.36	1.92	2.01	2.04	-1	4270	133	271
3.48	2.3	1.22	2.63	-1	3700	140	294
9.78	2.43	1.28	1.71	-1	3380	134	742
3.95	1.88	4.02	0.25	-1	4010	143	257
0.79	1.48	0.39	2.16	-1	3880	174	470
5.61	1.88	1.49	0.06	-1	4200	129	331
4.24	3.25	1.51	0.07	-1	4490	139	461
0.75	0.64	0.75	0.29	150	3240	102	154
1.52	4.61	0.41	0.12	-1	3240	135	679
2.23	2.78	1.17	0.08	-1	4710	155	504

Co GI211
-1
8
11
8
10
12
13
11
-1
-1
15
15
12
-1
51
13
9
14
-1
11
-1
-1
-1
-1
-1
20
-1
-1
-1
7
96
39
49
25
45
26
13
19
45
13
36
98
61
14
8
57
477
1890
35
27
30
9

12
105
-1
40
97
35
50
40
43
46
23
55
30
15
6
13
17
9
-1
-1
-1
45
-1
11
32
5
-1
-1
-1
47
38
94
50
125
88
100
-1
42
84
11
137
24
-1
6
10
14
6
-1
-1
-1
17
12

RAWASSAY.XLS

11
6
10
53
57
14
38
186
344
-1
5
54
10
14
15
7
18
13
6
-1
9
11
-1
-1
16
14
18
12
22
14
14
19
32
42
95
91
35
79
-1
10
26
9
12
7
9
19
23
11
7
-1
12
-1
-1

RAWASSAY.XLS

5
-1
-1
-1
6
-1
-1
6
6
7
-1
-1
-1
-1
-1
8
7
5
-1
-1
-1
-1
-1
-1
-1
28
61
103
5
39
14
46
36
8
-1
-1
7
-1
-1
-1
-1
-1
-1
6
-1
-1
35
12
13
9
109
85
170

-1
-1
-1
15
-1
8
17
-1
-1
8
7
-1
-1
-1
20
7
23
7
-1
155
70
23
21
22
158
43
81
35
30
20
20
6
10
8
-1
-1
-1
-1
-1
24
13
11
-1
-1
10
6
39
9
10
11
6
9

RAWASSAY.XLS

-1
-1
6
14
7
13
7
-1
10
14
15
-1
8
-1
-1
-1
12
-1
11
-1
55
18
20
10
21
-1
12
10
-1
8
314
8
11
-1
-1
18
11
11
7
6
-1
23
5
8
10
8
10
21
30
73
13
19
-1

6
40
6
-1
6
6
-1
-1
-1
-1
9
8
6
-1
139
10
9
13
8
-1
-1
159
45
17
158
6
14
6
54
12
56
-1
-1
-1
-1
23
-1
87
386
174
5
7
12
13
14
8
-1
-1
9
121
-1
6
71

123
28
21
11
19
12
7
35
30
16
11
8
20
14
9
7
-1
11
9
7
22
10
35
-1
-1
12
8
-1
10
-1
6
8
10
16
8
9
10
8
-1
-1
-1
-1
-1
-1
-1
6
-1
-1
6
32
10
14
24

19
16
28
7
14
-1
51
49
333
33
77
18
13
48
-1
49
-1
-1
-1
-1

OXIDRAT.XLS

SAMPLE	CaO	FeO	Fe2O3	Fe3O4	K2O	MgO	Na2O
16501	3.525	2.945	3.275	3.165	0.145	0.813	7.333
16502	1.805	6.379	7.093	6.855	1.832	1.136	1.537
16503	0.14	3.061	3.403	3.289	1.326	1.381	2.683
16504	1.217	2.263	2.517	2.432	1.133	1.11	1.51
16505	0.112	2.469	2.746	2.653	1.759	0.452	0.31
16506	0.21	2.405	2.674	2.584	2.326	0.516	1.618
16507	0.783	2.341	2.603	2.515	2.012	0.775	2.278
16508	2.966	2.148	2.388	2.308	1.362	1.201	6.565
16509	0.14	0.36	0.4	0.387		0.168	0.067
16510	0.07	0.437	0.486	0.47		0.168	0.094
16511	0.196	2.443	2.717	2.626	2.265	1.549	0.768
16512	6.533	4.861	5.405	5.224	0.976	4.002	3.464
16513	1.469	3.266	3.632	3.51	1.88	2.195	1.361
16514	0.084	1.505	1.673	1.617	2.856	0.426	0.903
16515	0.504	5.028	5.591	5.404	2.085	2.724	3.114
16516	0.658	3.446	3.832	3.704	3.687	1.898	0.418
16517	0.672	5.067	5.634	5.445	3.458	1.149	2.292
16518	1.007	9.105	10.124	9.785	2.94	2.685	1.361
16519	1.399	0.566	0.629	0.608	8.327	0.103	0.216
16520		2.611	2.903	2.805	5.736	1.794	0.189
16521	0.084	1.53	1.702	1.645	7.531	0.684	0.256
16522		13.117	14.586	14.096	7.495	0.181	0.189
16523	0.084	11.523	12.813	12.383	7.206	0.168	0.135
16524	0.07	3.922	4.362	4.215	8.182	0.077	0.243
16525	0.084	0.836	0.93	0.898	8.086	0.207	0.229
16526	0.112	4.591	5.105	4.934	5.061	1.962	0.216
16527	0.126	9.118	10.139	9.798	4.904	0.323	0.189
16528		1.402	1.559	1.506	1.771	0.232	0.526
16529	0.112	1.145	1.273	1.23	2.422	0.232	0.782
16530	0.35	1.8	2.002	1.935	1.048	0.813	4.084
16531	1.049	4.938	5.491	5.307	2.109	2.569	3.289
16532	2.28	3.382	3.761	3.635	3.374	2.117	2.858
16533	0.21	2.392	2.66	2.571	1.892	1.536	0.593
16534	1.749	4.437	4.934	4.768	2.772	2.801	4.475
16535	0.434	3.781	4.204	4.063	2.735	2.388	0.944
16536	1.035	4.913	5.463	5.279	1.844	2.995	4.651
16537	1.133	3.511	3.904	3.773	1.434	1.691	0.876
16538	0.336	4.308	4.791	4.63	4.772	2.517	1.442
16539	0.392	5.633	6.263	6.053	3.049	4.273	1.928
16540	2.504	3.305	3.675	3.552	1.759	2.169	4.233
16541	3.847	6.443	7.164	6.924	3.482	5.099	3.114
16542	2.476	8.835	9.824	9.494	2.169	2.853	4.368
16543	2.112	7.485	8.323	8.043	1.844	3.06	4.826
16544	2.196	6.404	7.121	6.882	3.748	3.666	2.332
16545	2.28	4.848	5.391	5.21	3.82	2.337	3.424
16546	7.541	9.992	11.111	10.738	2.085	8.753	0.512
16547	0.154	15.303	17.017	16.446	2.663	4.506	0.121
16548	1.693	25.334	28.171	27.225	0.458	2.685	0.067
16549	0.28	3.652	4.061	3.925	1.398	1.459	6.066
16550	2.826	6.494	7.222	6.979	2.651	4.506	3.788
16551	0.923	4.192	4.662	4.505	2.808	2.337	4.799
16552	0.14	3.897	4.333	4.187	1.94	2.75	2.844

OXIDRAT.XLS

16553		3.755	4.176	4.035	2.579	2.711	0.35
16554	0.07	6.713	7.465	7.214	4.88	4.493	1.105
16555	0.07	1.543	1.716	1.658	10.833	1.072	0.485
16556	0.07	4.732	5.262	5.086	6.001	3.292	0.634
16557	0.364	6.353	7.064	6.827	4.266	2.479	2.777
16558	0.504	6.764	7.522	7.269	3.47	4.493	0.93
16559	0.182	6.006	6.678	6.454	4.109	4.777	0.714
16560	0.308	7.806	8.68	8.389	3.254	3.654	2.332
16591	0.14	11.934	13.27	12.825	4.049	2.298	0.539
16592	0.196	8.5	9.452	9.135	3.832	4.041	2.089
16593	0.07	7.317	8.137	7.864	5.495	4.131	0.863
16594	0.07	6.816	7.579	7.325	4.543	4.557	0.404
16595	0.154	18.133	20.163	19.486	2.145	0.426	0.418
16596	0.28	15.046	16.731	16.169	1.229	0.426	0.485
16597	0.588	8.359	9.295	8.983	0.868	0.4	0.607
16598	0.21	16.461	18.304	17.69	1.012	0.374	0.418
16599	0.126	11.78	13.099	12.659	2.398	0.633	0.526
16600	0.154	9.143	10.167	9.826	2.35	0.516	4.017
16601	0.14	1.312	1.459	1.41	1.579	0.387	0.418
16602	0.07	1.157	1.287	1.244	3.687	0.31	0.485
16603		0.489	0.543	0.525	0.458	0.052	0.135
16604	0.154	1.132	1.258	1.216	0.94	0.168	6.673
16605	0.07	2.456	2.731	2.64	2.94	2.324	0.364
16606	0.07	3.112	3.461	3.344	2.458	1.627	0.566
16607	0.126	6.61	7.35	7.103	3.181	1.885	0.58
16608	0.112	3.228	3.589	3.469	2.555	2.156	0.377
16609	0.084	1.878	2.088	2.018	1.856	1.536	0.35
16610	0.07	1.286	1.43	1.382	1.868	1.072	0.324
16611	0.084	1.209	1.344	1.299	1.145	0.904	0.431
16612	0.518	6.186	6.878	6.647	1.747	3.808	1.119
16613	0.7	4.694	5.22	5.044	2.928	2.737	2.265
16614	0.266	7.677	8.537	8.251	1.591	4.118	1.321
16615	0.658	4.025	4.476	4.326	2.181	2.401	2.602
16616	0.616	5.851	6.507	6.288	2.073	3.615	1.173
16617	0.532	5.208	5.792	5.597	2.133	3.163	0.755
16618	0.56	5.838	6.492	6.274	2.229	3.447	0.553
16619	0.672	2.636	2.932	2.833	1.735	1.924	0.283
16620	0.965	4.99	5.548	5.362	2.518	3.176	0.782
16621	0.28	4.655	5.177	5.003	3.278	2.195	0.876
16622	0.378	3.858	4.29	4.146	3.723	2.595	0.809
16623	0.154	6.134	6.821	6.592	5.001	1.601	1.267
16624	0.28	4.038	4.49	4.339	2.603	1.807	0.634
16625	0.14	2.045	2.274	2.197	1.952	0.865	0.701
16626	0.098	1.543	1.716	1.658	2.29	0.374	0.445
16627	0.098	3.537	3.933	3.801	2.398	1.33	0.539
16628	0.098	2.919	3.246	3.137	3.868	1.33	0.431
16629	0.098	2.996	3.332	3.22	5.435	1.678	0.404
16630	0.098	0.437	0.486	0.47	1.627	0.219	0.27
16631	0.154	0.154	0.172	0.166	0.06	0.271	0.081
16632	0.238	0.193	0.215	0.207	0.096	0.271	0.067
16633		0.733	0.815	0.788	7.17	0.155	0.216
16634	2.49	21.605	24.024	23.218	1.868	3.073	0.162
16635		11.15	12.398	11.982	2	0.723	0.229

OXIDRAT.XLS

16636	0.406	6.353	7.064	6.827	2.386	1.665	0.256
16637	0.364	2.508	2.789	2.695	2.555	0.775	0.903
16638	0.112	3.807	4.233	4.091	2.784	2.066	2.009
16639	0.098	5.967	6.635	6.412	2.229	2.182	3.222
16640	0.266	4.192	4.662	4.505	2.326	1.459	3.869
16641	2.21	4.27	4.748	4.588	2.639	2.621	2.399
16642	0.294	2.996	3.332	3.22	3.615	5.913	0.674
16643	0.336	4.642	5.162	4.989	2.181	2.298	3.1
16644	0.266	5.53	6.149	5.943	1.904	1.498	2.17
16645	0.126	1.813	2.016	1.949	1.892	0.878	1.523
16646	0.098	0.412	0.458	0.442	0.241	0.103	0.135
16647	0.126	3.601	4.004	3.87	1.928	2.195	1.078
16648	0.084	1.337	1.487	1.437	1.133	0.336	0.391
16649	0.672	10.442	11.612	11.222	2.29	0.8	0.836
16650	1.133	2.07	2.302	2.225	2.024	0.904	4.017
16651	3.176	9.529	10.596	10.241	4.844	1.872	2.966
16652	11.318	5.851	6.507	6.288	1.205	4.751	3.869
16653	6.589	8.423	9.367	9.052	1.41	3.486	4.179
16654	2.322	2.418	2.688	2.598	0.434	1.549	7.347
16655	0.364	0.527	0.586	0.567	1.699	0.155	4.489
16656	2.546	5.761	6.406	6.191	2.024	1.898	5.702
16657	2.336	3.151	3.504	3.386	1.735	1.678	4.489
16658	0.434	1.672	1.859	1.797	1.579	0.232	2.885
16659	0.196	1.093	1.216	1.175	4.025	0.181	0.687
16660	0.266	32.021	35.607	34.412	1.53	0.426	0.175
16661	2.448	15.946	17.732	17.137	1.229	1.381	0.674
16662	1.595	15.175	16.874	16.308	0.964	1.252	0.553
16663	0.126	21.733	24.167	23.356	0.868	0.297	0.229
16664		17.104	19.019	18.381	3.229	0.245	0.324
16665	2.518	5.543	6.163	5.956	0.494	1.175	5.729
16666	13.738	13.117	14.586	14.096	0.229	3.576	0.728
16667	4.743	7.999	8.895	8.596	1.47	4.015	3.141
16668	3.078	6.134	6.821	6.592	0.542	3.512	3.788
16669	0.07	4.102	4.562	4.409	1.928	1.317	0.229
16670	0.154	7.857	8.737	8.444	2.964	1.962	0.539
16671	3.4	5.298	5.892	5.694	1.964	1.601	3.694
16672	0.238	2.662	2.96	2.861	1.651	1.136	0.593
16673	0.098	6.417	7.136	6.896	1.145	3.163	0.647
16674	0.336	1.556	1.73	1.672	4.23	0.516	0.539
16675	0.126	2.199	2.445	2.363	2.567	1.046	1.308
16676		2.058	2.288	2.211	5.278	0.62	0.377
16677	1.049	5.388	5.992	5.791	1.193	1.097	0.593
16678	0.364	3.202	3.561	3.441	2.097	1.407	0.795
16679	2.448	5.916	6.578	6.357	0.904	1.433	3.95
16680	0.63	9.542	10.611	10.254	8.881	1.64	0.256
16681	0.098	14.017	15.587	15.064	4.7	2.866	0.202
16682	0.084	4.707	5.234	5.058	2.085	3.563	0.337
16683	0.084	3.807	4.233	4.091	2.241	2.44	0.458
16684		9.606	10.682	10.324	4.953	0.968	0.216
16685		2.212	2.46	2.377	3.952	0.684	0.229
16686	0.993	12.011	13.356	12.908	0.735	1.033	0.391
16687	1.175	2.225	2.474	2.391	3.579	0.607	0.755
16688	0.727	0.836	0.93	0.898	3.049	0.194	0.485

16689	2.182	2.855	3.175	3.068	3.205	0.62	1.011
16690	0.21	0.72	0.801	0.774	3.904	0.142	1.024
16691	0.14	1.222	1.359	1.313	2.591	0.297	0.458
16692	1.049	1.852	2.059	1.99	4.097	0.439	1.267
16693	2.504	3.125	3.475	3.358	2.253	1.123	3.424
16694	0.895	1.453	1.616	1.562	1.109	0.413	3.815
16695	0.616	1.17	1.301	1.258	1.35	0.194	3.33
16696	3.414	2.623	2.917	2.819	1.554	1.833	5.23
16697	2.994	3.459	3.847	3.718	1.554	1.988	3.127
16698	2.154	4.54	5.048	4.878	1.362	1.42	2.44
16699	1.371	2.058	2.288	2.211	4.049	0.633	1.267
16700	0.672	1.633	1.816	1.755	3.41	0.439	1.361
16701	0.42	1.042	1.158	1.119	4.037	0.426	0.458
16702	0.574	1.235	1.373	1.327	3.29	0.336	1.361
16703	1.763	2.341	2.603	2.515	3.169	0.529	2.305
16704	2.896	3.884	4.319	4.174	1.313	1.64	3.707
16705	3.4	3.318	3.689	3.566	2.181	1.704	4.071
16706	3.693	2.971	3.303	3.192	1.097	1.433	5.5
16707	0.434	0.862	0.958	0.926	1.301	0.232	3.343
16708	0.322	1.453	1.616	1.562	1.036	0.413	2.211
16709	0.238	0.604	0.672	0.65	0.807	0.077	2.184
16710	0.518	1.26	1.401	1.354	1.024	0.142	2.022
16711	0.238	0.836	0.93	0.898	3.338	0.297	1.766
16712	0.14	0.836	0.93	0.898	1.795	0.219	1.254
16713	2.476	2.443	2.717	2.626	1.759	0.981	5.325
16714	5.624	7.78	8.652	8.361	0.771	6.636	2.089
16715	5.064	11.51	12.799	12.369	0.627	10.573	0.714
16716	1.329	3.742	4.161	4.022	0.928	2.091	2.103
16717	1.987	1.903	2.116	2.045	1.795	0.917	5.109
16718	4.729	7.356	8.18	7.905	0.603	7.565	2.157
16719	0.504	4.308	4.791	4.63	0.651	1.33	1.685
16720	0.126	15.175	16.874	16.308	1.627	2.44	0.35
16721	0.098	1.929	2.145	2.073	2.41	0.413	0.661
16722	3.791	4.192	4.662	4.505	1.06	2.595	3.491
16723	1.273	2.662	2.96	2.861	1.169	0.568	2.844
16724	1.273	1.582	1.759	1.7	0.807	0.336	4.111
16725	0.14	1.235	1.373	1.327	4.603	0.284	0.728
16726	0.448	1.492	1.659	1.603	0.554	0.245	0.782
16727	0.098	1.633	1.816	1.755	0.771	0.723	2.386
16728	0.084	0.244	0.272	0.263	0.253	0.116	0.202
16729	0.238	0.116	0.129	0.124		0.297	0.081
16730	0.238	0.18	0.2	0.193		0.297	0.108
16731	0.266	0.129	0.143	0.138		0.284	0.094
16732	0.126	1.89	2.102	2.032	1.627	0.374	0.175
16733	0.14	0.103	0.114	0.111		0.374	0.121
16734	0.168	0.141	0.157	0.152		0.349	0.121
16735	0.336	4.334	4.819	4.657	2.627	2.066	1.725
16736	1.833	3.074	3.418	3.303	1.265	1.601	4.637
16737	0.811	3.524	3.918	3.787	0.627	0.942	4.664
16738	0.308	1.672	1.859	1.797	1.687	0.374	4.314
16739	0.364	4.244	4.719	4.561	2.555	1.872	2.588
16740	0.616	4.295	4.776	4.616	1.928	2.814	2.13
16741	0.49	1.968	2.188	2.114	1.012	0.232	5.23

16742	1.301	1.762	1.959	1.893	1.277	1.123	4.26
16743		0.476	0.529	0.511	0.735	0.207	0.135
16744	0.923	4.925	5.477	5.293	3.338	2.621	0.634
16745	0.07	24.048	26.741	25.843	2	0.168	0.067
16746		0.733	0.815	0.788	1.699	0.245	0.121
16747		1.247	1.387	1.341	1.518	0.284	0.189
16748	0.238	2.688	2.989	2.888	4.965	1.575	0.216
16749		0.373	0.415	0.401	1.386	0.077	0.121
16750		0.347	0.386	0.373	4.868	0.103	0.741
16751	1.917	2.649	2.946	2.847	1.868	1.588	2.534
16752	0.112	2.675	2.974	2.875	2.518	1.42	1.078
16753		0.283	0.315	0.304	1.856	0.065	0.081
16754		0.45	0.501	0.484	5.555	0.052	0.148
16755		0.437	0.486	0.47	3	0.103	0.135
16756		2.598	2.889	2.792	5.061	1.562	0.189
16757	0.07	4.707	5.234	5.058	5.941	2.595	0.512
16758	0.238	2.392	2.66	2.571	2.193	1.523	1.469
16759	0.07	3.652	4.061	3.925	5.386	1.226	0.216
16760		2.096	2.331	2.253	3.169	1.33	0.121
16761		1.749	1.945	1.88	3.482	0.93	0.121
16762	0.07	2.405	2.674	2.584	7.363	0.555	0.283
16763	0.07	5.041	5.606	5.417	3.049	2.685	0.404
16764		3.832	4.261	4.118	5.82	2.169	0.243
16765	0.084	3.961	4.404	4.257	4.013	2.621	0.162
16766	0.168	2.392	2.66	2.571	3.892	1.317	0.687
16767	9.975	6.327	7.036	6.799	1.663	1.885	0.216
16768	0.112	4.36	4.848	4.685	3.025	2.827	0.822
16769	0.112	7.086	7.879	7.615	3.145	2.04	0.216
16770	0.168	4.745	5.277	5.1	2.073	2.388	0.256
16771	0.112	4.437	4.934	4.768	2.711	2.827	0.324
16772	7.023	6.777	7.536	7.283	0.386	6.52	1.361
16773	2.938	6.739	7.493	7.242	1.482	2.918	1.24
16774	2.728	2.636	2.932	2.833	1.169	1.807	3.869
16775	4.952	11.15	12.398	11.982	1.398	3.279	2.804
16776	3.567	2.868	3.189	3.082	1.47	2.53	2.925
16777	2.91	1.852	2.059	1.99	1.422	0.865	3.72
16778	2.798	4.604	5.119	4.948	0.096	0.658	3.06
16779	4.351	3.254	3.618	3.496	0.108	0.62	1.672
16780	1.175	1.132	1.258	1.216	0.422	0.129	2.278
16781	1.469	0.939	1.044	1.009	0.374	0.232	2.399
16782	0.07	3.884	4.319	4.174	7.17	2.04	0.324
16783	0.084	1.89	2.102	2.032	5.941	0.465	0.31
16784	0.182	6.044	6.721	6.495	6.869	2.672	0.714
16785	0.126	2.212	2.46	2.377	6.013	0.736	1.752
16786	1.385	2.739	3.046	2.944	5.35	0.62	2.332
16787	0.224	2.662	2.96	2.861	7.905	0.749	0.876
16788	1.217	4.077	4.533	4.381	0.615	1.02	6.12
16789	7.736	6.957	7.736	7.477	0.446	11.632	1.335
16790	5.47	5.26	5.849	5.652	0.831	2.259	5.796
16791	3.386	5.71	6.349	6.136	4.724	2.066	2.817
16792	3.637	7.665	8.523	8.237	5.386	2.35	1.712
16793	2.476	3.691	4.104	3.966	3.434	1.381	4.246
16794	4.393	5.761	6.406	6.191	4.049	1.665	2.399

OXIDRAT.XLS

16795	2.099	2.868	3.189	3.082	5.266	1.149	2.48
16796	0.783	2.945	3.275	3.165	5.76	0.955	2.062
16797	5.596	7.292	8.108	7.836	1.313	2.053	2.238
16798	5.61	11.625	12.927	12.493	2.687	4.415	3.599
16799	1.511	2.006	2.231	2.156	0.976	1.046	2.817
16800	4.057	5.363	5.963	5.763	2.024	1.588	4.785
16801	3.959	4.501	5.005	4.837	1.88	1.975	5.257
16802	0.965	5.98	6.65	6.426	7.134	1.097	1.739
16803	4.575	6.16	6.85	6.62	1.916	3.163	3.68
16804	4.533	3.344	3.718	3.593	1.289	3.202	3.141
16805	8.828	9.092	10.11	9.771	0.711	5.048	3.842
16806	2.001	2.816	3.132	3.027	0.988	0.788	3.033
16807	3.847	7.536	8.38	8.099	1.229	2.634	4.907
16808	2.756	4.154	4.619	4.464	1.169	1.588	5.554
16809	0.07	0.836	0.93	0.898	1.181	0.4	0.243
16810	0.224	0.9	1.001	0.967	0.868	0.31	0.863
16811	0.154	6.481	7.207	6.965	1.012	2.995	3.073
16812	1.791	1.698	1.888	1.824	2.627	0.826	1.456
16813	0.098	2.186	2.431	2.349	5.868	0.93	0.58
16814	0.098	1.492	1.659	1.603	6.35	0.142	0.297
16815		5.736	6.378	6.164	5.82	2.776	0.229
16816	0.07	4.565	5.077	4.906	8.025	2.35	0.297
16817	0.224	3.022	3.361	3.248	3.458	1.73	1.119
16818	0.07	2.495	2.774	2.681	6.194	1.239	0.229
16819	0.098	5.028	5.591	5.404	3.699	3.189	0.593
16820	0.084	2.186	2.431	2.349	7.495	1.201	0.337
16821	0.168	1.556	1.73	1.672	10.267	0.568	0.701
16822	0.098	3.704	4.118	3.98	7.314	2.388	0.35
16823	0.14	0.63	0.701	0.677	1.687	0.155	0.431
16824	0.112	3.189	3.546	3.427	2.687	1.523	0.526
16825	0.084	9.594	10.668	10.31	7.194	0.284	0.324
16826	0.797	13.632	15.158	14.649	1.398	0.697	0.27
16827	1.133	12.809	14.243	13.765	1.904	1.162	0.229
16828	0.406	10.185	11.326	10.945	0.783	0.452	0.377
16829		23.534	26.169	25.291	1.362	0.297	0.229
16830	0.21	11.445	12.727	12.3	1.41	0.723	0.31
16831	7.163	5.093	5.663	5.473	2.036	4.247	4.031
16832	10.465	4.462	4.962	4.796	1.289	4.364	5.23
16833	3.456	2.675	2.974	2.875	3.434	2.246	4.394
16834	0.56	4.745	5.277	5.1	5.519	2.363	2.062
16835	0.098	0.322	0.358	0.346	7.206	0.026	1.267
16836	6.323	5.375	5.977	5.777	2.061	6.326	2.399
16837	3.693	5.028	5.591	5.404	0.603	1.743	5.958
16838	4.211	9.774	10.868	10.503	0.928	3.124	6.16
16839	7.065	5.697	6.335	6.122	1.868	4.286	4.287
16840	4.645	7.909	8.795	8.499	1.012	3.499	5.972
16841	1.035	11.831	13.156	12.714	0.241	2.014	0.337
16842	0.21	3.035	3.375	3.262	1.591	0.981	2.898
16843	0.266	3.459	3.847	3.718	1.832	1.084	4.57
16844	0.672	2.186	2.431	2.349	1.277	0.491	6.767
16845	0.196	2.778	3.089	2.985	1.434	1.265	2.736
16846	1.567	1.8	2.002	1.935	4.832	0.607	3.761
16847	0.336	1.003	1.115	1.078	1.205	0.31	1.752

16848	0.783	3.009	3.346	3.234	1.627	1.084	2.359
16849	1.945	4.964	5.52	5.335	1.277	1.368	3.168
16850	0.224	1.916	2.131	2.059	1.289	1.084	1.254
16851	0.14	1.35	1.502	1.451	3.217	0.516	4.448
16852	0.35	2.932	3.26	3.151	1.904	1.846	0.822
16853	0.951	3.086	3.432	3.317	1.338	3.292	3.694
16854		2.032	2.259	2.184	3.748	1.278	0.162
16855		1.337	1.487	1.437	2.555	0.788	0.458
16856		0.772	0.858	0.829	1.398	0.336	0.175
16857	0.07	4.398	4.891	4.726	1.579	3.111	0.31
16858	0.881	3.112	3.461	3.344	0.783	0.839	1.658
16859	0.294	2.894	3.218	3.11	2.169	2.685	2.736
16860	0.07	2.533	2.817	2.723	1.301	2.337	0.377
16861	0.098	3.794	4.219	4.077	3.422	3.499	0.202
16862	0.28	7.6	8.451	8.168	1.157	2.027	1.227
16863	1.147	1.633	1.816	1.755	1.47	0.581	1.618
16864	0.741	2.289	2.545	2.46	1.326	1.562	0.795
16865	6.673	7.69	8.551	8.264	1.072	4.351	4.152
16866	6.953	3.627	4.033	3.897	1.374	3.24	5.756
16867	1.035	1.736	1.931	1.866	1.157	1.072	1.685
16868	0.266	1.453	1.616	1.562	1.542	1.162	0.337
16869	2.015	4.115	4.576	4.422	1.277	2.079	2.858
16870	3.442	4.257	4.733	4.574	2.229	3.279	2.642
16871	2.868	3.279	3.647	3.524	1.928	2.647	3.02
16872	5.05	4.874	5.42	5.238	1.711	3.37	3.707
16873	0.895	1.44	1.602	1.548	1.253	0.904	2.17
16874	2.252	3.292	3.661	3.538	1.771	2.233	3.289
16875	2.126	2.623	2.917	2.819	1.892	1.704	2.372
16876	0.35	5.826	6.478	6.26	2.639	3.189	1.146
16877	1.875	3.961	4.404	4.257	2.916	2.169	3.181
16878	0.755	4.372	4.862	4.699	3.205	4.97	1.254
16879	0.378	2.366	2.631	2.543	1.687	1.356	1.968
16880	0.532	1.08	1.201	1.161	1.795	0.568	2.507
16881		1.003	1.115	1.078	2.229	1.175	0.202
16882	0.112	1.337	1.487	1.437	4.76	0.762	0.836
16883	0.112	2.173	2.417	2.336	2.422	3.15	1.011
16884	0.07	1.595	1.773	1.714	2.073	2.853	0.364
16885	0.308	3.858	4.29	4.146	2.699	3.847	0.687
16886	0.336	8.513	9.467	9.149	3.133	3.266	2.413
16887	0.168	5.517	6.135	5.929	2.374	4.299	0.863
16888	3.316	2.894	3.218	3.11	2.205	1.833	4.125
16889	2.378	3.215	3.575	3.455	1.085	2.35	4.583
16890	8.562	6.713	7.465	7.214	1.241	4.144	4.57
16891	3.218	5.208	5.792	5.597	1.964	2.569	4.988
16892	1.847	2.778	3.089	2.985	5.218	1.536	2.211
16893	0.126	2.148	2.388	2.308	5.314	0.826	0.283
16894	2.252	2.533	2.817	2.723	6.35	0.994	2.238
16895	1.469	1.582	1.759	1.7	5.386	0.981	3.06
16896	0.154	10.931	12.155	11.747	3.049	0.658	0.364
16897	0.252	2.598	2.889	2.792	2.711	0.465	3.1
16898	0.084	0.643	0.715	0.691	1.699	0.865	0.162
16899	0.126	2.045	2.274	2.197	3.543	3.524	0.984
16900	0.336	4.334	4.819	4.657	2.844	2.969	0.822

OXIDRAT.XLS

16901	1.903	3.331	3.704	3.579	2.133	0.955	3.923
16902	0.21	13.374	14.872	14.373	1.06	0.775	0.216
16903	3.204	10.391	11.554	11.167	2.314	2.221	1.186
16904	0.378	17.618	19.591	18.933	0.892	0.8	0.35
16905		20.319	22.594	21.836	0.578	1.381	0.135
16906		12.346	13.728	13.267	1.097	0.555	0.189
16907		16.332	18.161	17.551	4.88	0.878	0.108
16908	0.392	4.617	5.134	4.961	2.627	3.666	3.626
16909	1.819	5.324	5.92	5.721	1.591	4.157	4.111
16910	4.505	5.761	6.406	6.191	1.699	4.777	5.028
16911	0.56	3.331	3.704	3.579	1.567	2.505	2.076
16912	3.498	4.295	4.776	4.616	2.41	2.027	3.761
16913	0.28	5.568	6.192	5.984	2.229	6.662	1.847
16914	3.008	11.085	12.327	11.913	2.253	3.641	1.011
16915	0.28	6.584	7.322	7.076	2.699	4.067	1.267
16916	0.084	2.533	2.817	2.723	1.711	1.549	0.162
16917	0.084	6.404	7.121	6.882	2.904	0.852	0.108
16918	0.727	15.303	17.017	16.446	1.326	1.549	0.944
16919	0.336	3.035	3.375	3.262	2.302	0.865	0.243
16920	0.602	11.857	13.185	12.742	1.024	0.942	0.162
16921	1.623	8.732	9.71	9.384	2.386	2.104	1.294
16922	3.917	8.861	9.853	9.522	1.253	2.311	4.448
16923		6.481	7.207	6.965	2.169	0.878	0.458
16924	0.098	8.668	9.638	9.315	0.916	0.297	0.094
16925	0.42	7.703	8.566	8.278	2.494	0.594	0.283
16926	0.476	9.979	11.097	10.724	3.398	0.917	0.35
16927	0.14	9.774	10.868	10.503	1.771	1.007	2.319
16928	0.28	8.089	8.995	8.693	1.097	0.607	0.795
16929		9.362	10.41	10.061	1.699	0.349	0.175
16930		8.861	9.853	9.522	0.434	0.349	0.135
16931		13.117	14.586	14.096	0.988	0.439	0.094
16932	0.07	10.712	11.912	11.512	0.53	0.413	0.162
16933	0.098	11.291	12.555	12.134	1.289	1.73	0.148
16934	0.616	12.204	13.571	13.115	2.374	1.769	0.458
16935		16.718	18.59	17.966	0.916	0.568	0.054
16936	0.112	3.241	3.604	3.483	2.531	1.072	0.108
16937	0.07	5.183	5.763	5.569	3.603	1.059	0.175
16938	0.154	4.192	4.662	4.505	3.109	2.35	2.13
16939		4.694	5.22	5.044	1.711	2.995	0.054
16940		0.965	1.073	1.037	1.567	0.426	0.054
16941	0.084	1.132	1.258	1.216	2.711	0.568	1.321
16942	0.084	0.797	0.887	0.857	1.988	0.323	0.189
16943	0.07	0.913	1.015	0.981	1.88	0.478	0.108
16944		0.72	0.801	0.774	1.446	0.245	0.189
16945	0.084	16.461	18.304	17.69	2.687	4.144	0.62
16946	0.224	9.722	10.811	10.448	2.362	3.305	1.564
16947	0.084	0.553	0.615	0.594	1.06	0.194	0.094
16948	2.756	1.749	1.945	1.88	0.362	0.62	5.244
16949	2.672	2.186	2.431	2.349	0.47	1.11	6.187
16950	1.651	3.974	4.419	4.27	3.133	1.833	3.545
16951	1.749	19.033	21.164	20.454	0.59	2.505	0.526
16952	1.679	16.332	18.161	17.551	0.41	2.259	0.216
16953	1.287	22.505	25.025	24.185	0.94	2.866	0.404

OXIDRAT.XLS

16954	1.651	9.504	10.568	10.213	0.217	2.156	3.613
16955	3.246	10.519	11.697	11.305	1.723	3.447	0.768
16956	6.813	19.419	21.593	20.868	0.458	7.694	1.024
16957	2.532	13.246	14.729	14.235	0.627	1.278	3.181
16958	1.791	2.598	2.889	2.792	1.133	0.994	3.033
16959	2.574	1.865	2.074	2.004	1.157	0.633	2.993
16960		3.279	3.647	3.524	4.928	0.942	0.539
16961	0.168	3.035	3.375	3.262	2.253	2.505	1.928
16962	1.077	5.71	6.349	6.136	1.627	2.969	3.073
16963	0.881	4.231	4.705	4.547	2.157	3.06	1.577
16964	0.154	4.321	4.805	4.644	2.314	2.595	2.75
16965	0.937	4.475	4.976	4.809	2.772	1.575	3.545
16966	0.755	12.577	13.985	13.516	2.928	1.652	2.305
16967	0.21	5.08	5.649	5.459	2.265	5.19	0.337
16968	0.49	1.016	1.13	1.092	1.783	0.503	2.912
16969		7.214	8.022	7.753	2.265	1.924	0.081
16970		5.453	6.063	5.86	3.916	1.949	0.094
16971	0.098	0.965	1.073	1.037	0.771	0.968	0.391
16972		1.955	2.174	2.101	5.555	0.529	0.162
16973		2.868	3.189	3.082	3.35	1.51	0.108

OXIDRAT.XLS

P2O5	TiO2	ZrO2	Ti/Zr	Alteration I	Fe/(Fe + Mg)	K/Na	K/Ca
	0.624	0.014	37.4	8.11	78.42	0.02	0.05
	0.989	0.018	45.62	47.04	84.93	1.33	1.18
229.1	0.787	0.006	109.77	48.96	68.99	0.55	11
	1.154	0.018	52.42	45.13	67.18	0.84	1.08
343.65	0.981	0.034	23.24	83.97	84.58	6.35	18.25
	0.892	0.024	29.89	60.86	82.38	1.61	12.87
	0.929	0.023	32.38	47.65	75.21	0.99	2.98
	0.797	0.02	31.87	21.19	64.23	0.23	0.53
	0.18	0.01	14.03	124.98	68.29		
	0.224	0.012	15.06	118.82	72.34		
	0.827	0.023	29.01	79.82	61.29	3.3	13.43
	0.619	0.012	41.22	33.24	54.94	0.32	0.17
	0.837	0.018	37.19	59.01	59.91	1.54	1.49
	0.977	0.019	41.27	76.88	78	3.54	39.5
343.65	0.829	0.021	31.66	57.07	64.95	0.75	4.81
2061.9	0.952	0.014	55.98	83.85	64.58	9.87	6.51
572.75	0.822	0.014	49.3	60.86	81.57	1.69	5.98
458.2	0.631	0.02	25.37	70.37	77.29	2.42	3.39
458.2	0.417	0.014	24.27	83.92	84.62	43.19	
343.65	0.757	0.023	26.4	119.15	59.36	34	
343.65	0.817	0.03	22.37	96.03	69.19	32.89	104.17
572.75	0.415	0.022	15.47	118.72	98.65	44.43	
572.75	0.615	0.022	22.92	97.12	98.57	59.8	99.67
572.75	0.567	0.023	20.12	96.35	98.07	37.72	135.8
343.65	0.731	0.027	21.58	96.36	80.25	39.47	111.83
572.75	0.631	0.024	21.36	95.54	70.14	26.25	52.5
343.65	0.686	0.023	23.76	94.32	96.59	29.07	45.22
	0.984	0.014	55.14	177.25	85.83	3.77	
	0.994	0.021	38.21	74.81	83.18	3.47	25.13
	0.829	0.017	40.41	29.57	68.97	0.29	3.48
	0.806	0.023	28.25	51.88	65.87	0.72	2.33
	0.824	0.017	38.29	51.66	61.59	1.32	1.72
	0.637	0.021	24.03	81.02	60.98	3.57	10.47
	0.747	0.02	29.87	47.24	61.39	0.69	1.84
	0.597	0.017	28.41	78.81	61.38	3.24	7.32
	0.744	0.013	45.98	45.98	62.21	0.44	2.07
229.1	0.729	0.021	27.48	60.87	67.57	1.83	1.47
	0.954	0.017	45.04	80.39	63.21	3.7	16.5
	0.831	0.009	73.24	75.94	56.96	1.77	9.04
	0.722	0.021	28.3	36.83	60.47	0.46	0.82
	0.869	0.017	42.36	55.21	55.92	1.25	1.05
229.1	0.557	0.015	30.09	42.32	75.66	0.56	1.02
343.65	0.62	0.015	32.63	41.41	71.06	0.43	1.01
	0.662	0.013	42.23	62.08	63.68	1.8	1.98
	0.609	0.02	24.17	51.91	67.56	1.25	1.94
343.65	0.335	0.008	35.89	57.37	53.4	4.55	0.32
2405.55	0.726	0.018	32.46	96.3	77.32	24.56	20.09
11913.2	0.422	0.01	34.66	64.1	90.45	7.6	0.31
	0.612	0.029	17.23	31.04	71.54	0.26	5.8
229.1	0.544	0.009	48.66	51.97	59.13	0.78	1.09
343.65	0.809	0.017	37.6	47.34	64.3	0.65	3.53
	0.697	0.017	33.17	61.11	58.72	0.76	16.1

OXIDRAT.XLS

343.65	0.901	0.021	35.06	124.72	58.17	8.23	
	0.812	0.018	36.07	88.86	60	4.94	81
229.1	0.856	0.022	31.67	95.54	59.11	24.97	179.8
	0.852	0.016	44.43	92.96	59.07	10.6	99.6
	0.754	0.019	32.29	68.23	72.01	1.72	13.62
687.3	0.882	0.018	39.48	84.74	60.18	4.17	8
343.65	0.906	0.019	37.97	90.84	55.79	6.43	26.23
229.1	0.646	0.021	24.49	72.35	68.2	1.56	12.27
801.85	0.724	0.014	40.56	90.33	83.91	8.4	33.6
343.65	0.609	0.013	39.25	77.5	67.86	2.05	22.71
	0.737	0.015	40.55	91.17	64	7.13	91.2
229.1	0.637	0.019	26.9	95.05	60.02	12.57	75.4
801.85	1.007	0.008	102.37	81.81	97.71	5.74	16.18
572.75	1.369	0.012	95.47	68.39	97.26	2.83	5.1
343.65	1.968	0.018	89.39	51.5	95.45	1.6	1.71
458.2	1.193	0.03	32.21	68.84	97.78	2.71	5.6
916.4	0.769	0.009	70.92	82.3	94.92	5.1	22.11
1374.6	0.55	0.012	37.93	40.73	94.67	0.65	17.73
229.1	0.746	0.007	91.22	77.9	77.27	4.23	13.1
	0.754	0.01	62.78	87.8	78.95	8.5	61.2
	0.711	0.014	41.36		90.48	3.8	
	0.707	0.01	55.06	13.96	87.13	0.16	7.09
	0.724	0.01	57.87	92.38	51.48	9.04	48.8
	0.369	0.011	26.63	86.53	65.76	4.86	40.8
	0.352	0.016	18.03	87.78	77.88	6.14	29.33
	0.686	0.014	40.69	90.59	60.05	7.57	26.5
	0.816	0.017	39.44	88.65	55.09	5.92	25.67
	0.664	0.016	33.17	88.19	54.64	6.46	31
	0.792	0.036	17.92	79.9	57.32	2.97	15.83
458.2	0.679	0.016	34.79	77.25	61.98	1.75	3.92
229.1	0.659	0.014	39.11	65.65	63.26	1.45	4.86
	0.657	0.018	30.08	78.25	65.17	1.35	6.95
	0.909	0.016	46.19	58.44	62.73	0.94	3.85
343.65	0.836	0.016	41.4	76.08	61.9	1.98	3.91
229.1	0.844	0.018	37.21	80.46	62.31	3.16	4.66
	0.931	0.019	39.02	83.62	62.97	4.51	4.63
	0.947	0.021	37.12	79.31	57.91	6.86	3
343.65	1.022	0.02	40.87	76.52	61.2	3.6	3.03
	0.911	0.02	37.66	82.56	68.05	4.18	13.6
458.2	1.088	0.022	40.75	84.19	59.88	5.15	11.44
229.1	0.822	0.018	37.92	82.29	79.37	4.41	37.73
343.65	1.011	0.022	37.41	82.84	69.16	4.6	10.8
	0.817	0.019	34.75	77.01	70.35	3.12	16.2
	0.744	0.016	36.56	83.07	80.54	5.76	27.14
343.65	0.922	0.019	39.78	85.4	72.75	4.98	28.43
	0.859	0.02	35.27	90.76	68.79	10.03	45.86
229.1	0.726	0.023	25.44	93.4	64.19	15.03	64.43
	0.377	0.012	24.84	83.4	66.67	6.75	19.29
	0.015	0.001	18.2	58.53	36.36	0.83	0.45
	0.013	0.001	15.4	54.63	41.67	1.6	0.47
343.65	0.976	0.021	36.79	119.27	82.61	37.19	
2291	1.276	0.022	46.36	65.07	87.59	12.92	0.87
1374.6	1.044	0.028	30.1	175.31	93.93	9.76	

OXIDRAT.XLS

687.3	1.014	0.027	30.86	85.96	79.29	10.42	6.83
572.75	1.229	0.032	30.71	72.44	76.47	3.16	8.15
	0.857	0.022	31.53	69.58	64.91	1.55	28.88
343.65	0.764	0.021	30.13	57.06	73.3	0.77	26.43
458.2	0.886	0.019	36.88	47.79	74.26	0.67	10.16
343.65	0.751	0.016	38.14	53.29	62.06	1.23	1.39
	0.846	0.023	30.18	90.78	33.72	6	14.29
229.1	0.574	0.02	22.93	56.59	66.98	0.79	7.54
	0.614	0.021	23.29	58.27	78.75	0.98	8.32
	0.62	0.02	25.48	62.68	67.46	1.39	17.44
	0.332	0.012	22.36	59.67	80	2	2.86
	0.477	0.016	23.83	77.39	62.22	2	17.78
1374.6	0.814	0.019	35.62	75.56	80	3.24	15.67
916.4	0.756	0.014	43.14	67.21	92.91	3.06	3.96
458.2	1.113	0.016	57.01	36.25	69.7	0.56	2.07
801.85	0.811	0.014	45.42	52.23	83.63	1.83	1.77
	0.482	0.006	70.49	28.17	55.29	0.35	0.12
	0.689	0.005	103.25	31.25	70.81	0.38	0.25
	0.851	0.013	53.13	17.02	61.04	0.07	0.22
	0.632	0.021	24.93	27.64	77.36	0.42	5.42
458.2	0.722	0.02	29.86	32.23	75.29	0.4	0.92
	0.681	0.017	33.17	33.34	65.33	0.43	0.86
343.65	0.399	0.021	15.03	35.31	87.84	0.61	4.23
	0.857	0.034	20.16	82.64	85.86	6.55	23.86
687.3	0.904	0.007	110.61	81.6	98.69	9.77	6.68
687.3	1.581	0.022	57.11	45.54	92.06	2.04	0.58
572.75	1.902	0.017	89.06	50.79	92.4	1.95	0.7
687.3	1.351	0.013	86.17	76.63	98.66	4.24	8
1489.15	1.174	0.011	85.85	144.83	98.59	11.17	
	0.846	0.013	54.52	16.83	82.57	0.1	0.23
229.1	0.776	0.007	93	20.83	78.64	0.35	0.02
	0.759	0.007	82.73	41.03	66.67	0.52	0.36
458.2	0.651	0.008	69.64	37.12	63.68	0.16	0.2
	0.711	0.018	31.56	91.56	75.77	9.41	32
229.1	0.519	0.02	20.6	87.67	80.08	6.15	22.36
343.65	0.677	0.024	23.33	33.45	76.87	0.59	0.67
343.65	0.986	0.035	22.91	77.03	70.17	3.11	8.06
	0.919	0.019	39.08	85.26	67.07	1.98	13.57
343.65	0.871	0.02	35.27	84.43	75.16	8.78	14.63
	0.946	0.021	35.66	71.59	67.86	2.2	23.67
343.65	0.856	0.022	31.09	120.95	76.92	15.64	
229.1	1.228	0.022	44.88	58.24	83.13	2.25	1.32
229.1	0.957	0.018	42.21	75.14	69.55	2.95	6.69
	0.894	0.013	55.83	26.75	80.56	0.26	0.43
916.4	0.527	0.031	13.74	92.24	85.39	38.79	16.38
458.2	0.717	0.025	23.24	96.18	83.08	26	55.71
343.65	1.014	0.026	32	93.06	57.01	6.92	28.83
572.75	0.999	0.025	32.38	89.62	61.03	5.47	31
1145.5	0.716	0.025	22.94	124.98	90.88	25.69	
229.1	1.106	0.021	41.7	133.74	76.44	19.29	
343.65	1.523	0.023	54.35	56.09	92.11	2.1	0.86
	0.717	0.067	8.62	68.44	78.64	5.3	3.54
	0.312	0.056	4.55	72.78	81.25	7.03	4.87

	0.524	0.03	14.14	54.5	82.22	3.55	1.71
	0.399	0.032	10	76.62	83.58	4.26	21.6
	0.37	0.027	11.1	82.84	80.51	6.32	21.5
229.1	0.544	0.021	20.76	66.2	80.9	3.62	4.53
229.1	0.569	0.019	23.68	36.29	73.64	0.74	1.04
	0.711	0.023	24.62	24.42	77.93	0.33	1.44
229.1	0.487	0.017	22.81	28.12	85.85	0.45	2.55
	0.575	0.014	34.5	28.16	58.96	0.33	0.53
	0.919	0.017	43.39	36.66	63.59	0.56	0.6
	0.589	0.024	19.72	37.71	76.24	0.62	0.73
229.1	0.497	0.033	12.06	63.96	76.56	3.57	3.43
	0.529	0.043	10.03	65.44	78.88	2.8	5.9
229.1	0.437	0.036	9.92	83.56	71.05	9.85	11.17
	0.425	0.034	10.2	65.2	78.69	2.7	6.66
343.65	1.144	0.033	27.89	47.62	81.61	1.54	2.09
	1.448	0.028	42.34	30.9	70.4	0.4	0.53
229.1	1.099	0.021	41.45	34.21	66.15	0.6	0.74
	0.799	0.026	25.08	21.58	67.54	0.22	0.34
	0.495	0.041	9.87	28.88	78.82	0.44	3.48
	0.504	0.041	9.84	36.4	77.93	0.52	3.74
	0.455	0.033	11.14	26.76	88.68	0.41	3.94
229.1	0.455	0.038	9.68	31.47	89.91	0.57	2.3
229.1	0.392	0.034	9.48	64.46	73.86	2.11	16.29
	0.671	0.026	20.94	59.12	79.27	1.6	14.9
	1.032	0.023	35.78	26	71.43	0.37	0.82
	0.564	0.009	48.29	48.99	54.07	0.41	0.16
	0.345	0.006	45	65.96	52.22	0.98	0.14
	0.712	0.016	35.29	46.8	64.24	0.49	0.81
	0.744	0.017	36.26	27.65	67.58	0.39	1.05
	0.542	0.013	33.16	54.26	49.4	0.31	0.15
	1.268	0.022	45.78	47.5	76.48	0.43	1.5
801.85	0.724	0.028	20.77	89.51	86.19	5.19	15
229.1	0.764	0.021	28.81	78.82	82.42	4.08	28.57
	0.889	0.024	29.61	33.42	61.86	0.34	0.32
	0.871	0.024	29.33	29.67	82.47	0.46	1.07
	0.632	0.029	17.63	17.51	82.55	0.22	0.74
	0.739	0.024	24.61	84.92	81.36	7.07	38.2
	0.844	0.034	20.32	39.41	85.93	0.79	1.44
	0.764	0.021	29.74	37.56	69.4	0.36	9.14
	0.896	0.014	51.14	56.34	67.86	1.4	3.5
	0.018	0.001	18.17	154.08	28.13		
	0.022	0.001	21.67	161.46	37.84		
	0.024	0.002	11.08	164.22	31.25		
572.75	0.595	0.009	53.28	86.92	83.52	10.38	15
	0.014	0		145.88	21.62		
	0.023	0		150.98	28.95		
	0.894	0.017	42.88	69.48	67.81	1.7	9.08
	0.824	0.015	44.91	30.7	65.84	0.31	0.8
	0.697	0.017	33.17	22.27	78.96	0.15	0.9
	0.829	0.015	43.98	30.85	81.76	0.44	6.36
	1.136	0.023	39.36	59.99	69.47	1.1	8.15
	0.801	0.02	32	63.33	60.51	1.01	3.64
	0.734	0.017	34.65	17.87	89.47	0.22	2.4

OXIDRAT.XLS

	0.867	0.02	35.62	30.15	61.16	0.34	1.14
	0.585	0.04	11.74		69.81	6.1	
229.1	0.819	0.022	30.69	79.28	65.36	5.89	4.2
7674.85	0.509	0.008	50	94.04	99.31	33.2	33.2
343.65	0.804	0.017	37.36	291.65	75	15.67	
687.3	0.867	0.019	37.96	304.43	81.51	9	
458.2	0.631	0.007	75.6	93.51	63.14	25.75	24.24
	0.399	0.021	15.52	788.66	82.86	12.78	
	0.315	0.012	21.98	115.24	77.14	7.35	
229.1	0.687	0.016	35.52	43.71	62.61	0.82	1.13
687.3	0.716	0.021	27.68	76.79	65.41	2.61	26.13
	0.257	0.01	20.26	318.91	81.48	25.67	
572.75	0.474	0.016	24.07	128.71	89.74	41.91	
343.65	0.57	0.018	25.52	168.72	80.95	24.9	
229.1	0.842	0.016	42.8	122.36	62.54	30	
229.1	0.777	0.023	27.41	93.61	64.55	12.97	98.6
458.2	0.782	0.019	34.23	68.52	61.18	1.67	10.71
572.75	0.719	0.024	24.21	95.86	74.93	27.94	89.4
229.1	0.727	0.023	25.8	139.66	61.28	29.22	
229.1	0.597	0.024	19.89	140.76	65.38	32.11	
458.2	0.764	0.025	25.16	95.73	81.3	29.1	122.2
1030.95	0.701	0.024	23.2	92.36	65.33	8.43	50.6
229.1	0.717	0.023	25.15	116.92	63.95	26.83	
343.65	0.751	0.025	24.19	96.43	60.27	27.75	55.5
343.65	0.747	0.021	28.9	85.9	64.58	6.33	26.92
65909.78	1.263	0.019	54.07	25.82	77.12	8.63	0.19
229.1	0.771	0.019	32.08	86.23	60.75	4.11	31.38
229.1	0.826	0.017	40.24	94.06	77.72	16.31	32.63
343.65	1.029	0.028	30.25	91.32	66.61	9.05	14.33
229.1	0.867	0.03	23.53	92.71	61.17	9.38	28.13
343.65	0.769	0.004	177.31	45.16	51.07	0.32	0.06
	0.629	0.007	69.81	51.29	69.87	1.34	0.59
343.65	0.866	0.012	59.66	31.09	59.42	0.34	0.5
	1.073	0.011	79.38	37.62	77.34	0.56	0.33
	0.599	0.014	35.54	38.12	53.22	0.56	0.48
	0.774	0.017	37.72	25.65	68.25	0.43	0.57
	0.624	0.022	22.67	11.41	87.53	0.04	0.04
	0.564	0.018	25.8	10.79	84.05	0.07	0.03
	0.712	0.024	24.12	13.76	89.8	0.21	0.42
	0.49	0.02	20.28	13.54	80.22	0.17	0.3
229.1	0.832	0.016	42.65	95.9	65.65	24.79	119
	0.909	0.019	38.38	94.21	80.33	21.43	82.17
229.1	0.702	0.024	23.92	91.41	69.42	10.75	43.85
343.65	0.876	0.019	38.32	78.23	75.11	3.84	55.44
343.65	0.672	0.016	34.74	61.63	81.61	2.57	4.48
229.1	0.694	0.018	32	88.72	78.11	10.09	41
	1.116	0.012	73.52	18.22	80.05	0.11	0.59
	0.244	0.004	54.07	57.11	37.52	0.37	0.07
	0.767	0.01	64.79	21.53	70.03	0.16	0.18
572.75	0.564	0.023	20	52.26	73.51	1.88	1.62
343.65	0.687	0.022	24.97	59.12	76.61	3.52	1.72
	0.681	0.024	23.31	41.74	72.84	0.9	1.61
572.75	0.587	0.027	17.43	45.69	77.64	1.89	1.07

OXIDRAT.XLS

343.65	0.679	0.027	20.15	58.35	71.47	2.38	2.91
	0.846	0.019	37.01	70.23	75.58	3.12	8.54
	0.547	0.01	46.2	30.06	78.1	0.66	0.27
	0.619	0.011	46.96	43.54	72.55	0.84	0.56
229.1	0.472	0.014	27.48	31.84	65.82	0.39	0.75
687.3	0.6	0.015	31.58	29	77.22	0.47	0.58
458.2	0.575	0.015	31.94	29.49	69.58	0.4	0.55
572.75	0.599	0.016	30.42	75.27	84.55	4.59	8.58
	0.605	0.007	67.22	38.09	66.16	0.58	0.49
	0.525	0.007	58.33	36.92	51.18	0.46	0.33
	0.587	0.006	81.86	31.25	64.39	0.21	0.09
	0.292	0.015	15.77	26.08	78.21	0.36	0.57
	0.534	0.009	49.23	30.62	74.18	0.28	0.37
	0.392	0.012	27.01	24.91	72.42	0.24	0.49
	0.814	0.022	30.31	83.49	67.71	5.44	19.6
	0.666	0.015	36.61	52.01	74.47	1.13	4.5
	0.564	0.011	41.73	55.39	68.48	0.37	7.64
916.4	0.979	0.019	42.23	51.54	67.35	2.02	1.7
458.2	0.529	0.022	19.69	90.94	70.25	11.33	69.57
343.65	0.57	0.021	21.65	94.27	91.34	23.95	75.29
229.1	0.761	0.018	34.03	115.75	67.47	28.41	
	0.691	0.018	31.36	96.59	66.11	30.27	133.2
	0.722	0.023	25.93	79.44	63.69	3.46	17.94
229.1	0.776	0.022	28.18	96.13	66.9	30.24	102.8
229.1	0.882	0.027	26.45	90.88	61.29	6.98	43.86
229.1	0.657	0.024	22.39	95.38	64.64	24.88	103.67
229.1	0.61	0.016	31.28	92.58	73.33	16.38	71
343.65	0.684	0.026	21.58	95.58	60.89	23.35	86.71
	0.589	0.03	15.76	76.33	80.33	4.38	14
	0.837	0.024	28.69	86.85	67.76	5.72	27.88
	0.557	0.024	18.56	94.83	97.14	24.88	99.5
343.65	1.206	0.008	129.11	66.25	95.15	5.8	2.04
1030.95	1.264	0.02	51.92	69.23	91.71	9.29	1.95
343.65	2.002	0.025	64.52	61.2	95.77	2.32	2.24
687.3	1.341	0.012	90.34	339.36	98.76	6.65	
	0.59	0.007	65.56	80.4	94.08	5.09	7.8
	0.432	0.004	83.55	35.95	54.62	0.57	0.33
	0.796	0.007	91.73	26.48	50.66	0.28	0.14
	0.565	0.013	35.31	41.98	54.45	0.87	1.15
	0.864	0.019	37.81	75.04	66.85	2.99	11.45
	0.407	0.022	15.16	84.12	92.59	6.36	85.43
	0.657	0.003	157.6	49.02	46.04	0.96	0.38
229.1	0.814	0.016	40.67	19.55	74.33	0.11	0.19
343.65	0.814	0.007	90.37	28.09	75.85	0.17	0.26
	0.849	0.011	64.43	35.15	57.16	0.49	0.31
	0.315	0.006	42.95	29.82	69.41	0.19	0.25
343.65	1.818	0.026	56.77	62.17	85.5	0.8	0.27
	0.881	0.024	30.34	45.28	75.64	0.61	8.8
	0.972	0.022	35.99	37.62	76.2	0.45	8
	0.797	0.017	37.64	19.2	81.73	0.21	2.21
	0.907	0.024	30.91	47.93	68.79	0.59	8.5
343.65	0.661	0.017	31.43	50.52	74.87	1.44	3.58
	0.856	0.022	30.9	42.04	76.47	0.77	4.17

	0.986	0.026	30.62	46.32	73.58	0.77	2.41
	0.794	0.023	27.67	34.1	78.46	0.45	0.76
	0.912	0.028	26.05	61.64	63.95	1.15	6.69
	0.897	0.017	42.36	44.87	72.41	0.81	26.7
	0.942	0.025	30.21	76.19	61.46	2.59	6.32
	0.729	0.014	43.27	49.92	48.48	0.41	1.63
	0.897	0.016	46.38	132.66	61.48	25.92	
	0.752	0.019	31.76	139.17	63.03	6.24	
	0.837	0.013	53.98	340.09	69.77	8.92	
	0.916	0.027	27.04	92.5	58.66	5.7	26.2
	1.204	0.019	52.7	38.98	78.83	0.53	1.03
	0.877	0.013	54.23	61.57	51.96	0.89	8.57
	0.837	0.025	27.43	89.05	52.12	3.86	21.6
	0.757	0.016	39.48	95.84	52.12	18.93	40.57
229.1	0.721	0.022	26.83	67.88	79.01	1.05	4.8
1145.5	0.761	0.019	32.57	42.59	73.84	1.02	1.49
	1.116	0.011	79.64	65.27	59.53	1.86	2.08
	0.856	0.008	86.95	33.38	63.96	0.29	0.19
	0.772	0.009	72.34	26.64	52.91	0.27	0.23
	0.726	0.018	33.46	45.03	61.93	0.77	1.3
	0.854	0.02	33.91	81.77	55.67	5.12	6.74
	0.776	0.02	31.21	40.78	66.53	0.5	0.74
	0.772	0.02	31.07	47.52	56.58	0.94	0.75
229.1	0.696	0.02	28.76	43.73	55.43	0.71	0.78
343.65	0.6	0.016	30.25	36.71	59.22	0.52	0.39
	0.62	0.019	26.96	41.3	61.54	0.65	1.63
	0.682	0.02	27.64	41.95	59.67	0.6	0.91
	0.756	0.022	28.31	44.42	60.71	0.89	1.03
	0.711	0.019	29.79	79.58	64.71	2.58	8.76
343.65	0.671	0.02	27.16	50.14	64.71	1.03	1.81
343.65	0.676	0.012	44.51	80.27	46.9	2.86	4.93
	0.377	0.02	15.37	56.47	63.67	0.96	5.19
	0.732	0.021	28.51	43.75	65.63	0.8	3.92
	0.867	0.016	44.44	154.22	46.15	12.33	
	0.641	0.015	35.56	85.35	63.8	6.37	49.38
	0.49	0.015	26.25	83.23	40.92	2.68	25.13
229.1	0.519	0.014	29.34	91.9	35.94	6.37	34.4
	0.555	0.016	28.46	86.8	50.17	4.39	10.18
	0.726	0.021	28.06	69.95	72.35	1.45	10.83
	0.656	0.019	28.07	86.62	56.3	3.08	16.42
	0.867	0.01	71.23	35.18	61.31	0.6	0.77
	0.567	0.007	61.82	33.03	57.87	0.26	0.53
	0.52	0.005	86.67	29.08	61.92	0.3	0.17
229.1	0.532	0.013	33.23	35.59	67.05	0.44	0.71
343.65	0.679	0.021	26.09	62.47	64.48	2.64	3.28
1030.95	0.711	0.019	30	93.76	72.29	21	49
343.65	0.724	0.021	28	62.06	71.9	3.17	3.27
343.65	0.582	0.014	34.22	58.44	61.81	1.97	4.26
343.65	0.485	0.012	32.33	87.74	94.34	9.37	23
229.1	0.631	0.011	48.46	48.65	84.87	0.98	12.5
	0.457	0.015	24.25	91.26	42.74	11.75	23.5
	0.322	0.018	14.73	86.43	36.81	4.03	32.67
	0.749	0.016	37.11	83.39	59.44	3.87	9.83

OXIDRAT.XLS

	0.756	0.022	28.14	34.65	77.78	0.61	1.3
801.85	0.637	0.007	77.96	81.18	94.55	5.5	5.87
687.3	0.812	0.02	32.25	50.81	82.45	2.18	0.84
916.4	0.734	0.018	33.33	69.91	95.67	2.85	2.74
1260.05	0.572	0.016	29.83	281.75	93.66	4.8	
343.65	0.681	0.023	23.58	374.19	95.71	6.5	
1718.25	0.33	0.018	14.67	128.9	94.92	50.63	
229.1	0.776	0.014	44.29	61.03	55.83	0.81	7.79
801.85	0.595	0.015	33.06	49.22	56.25	0.43	1.02
458.2	0.609	0.009	55.3	40.45	54.77	0.38	0.44
	0.866	0.009	79.85	60.7	57.17	0.84	3.25
	0.731	0.011	54.07	37.94	68.02	0.72	0.8
	0.671	0.014	39.03	80.7	45.63	1.35	9.25
343.65	0.932	0.023	33.27	59.46	75.35	2.49	0.87
572.75	0.812	0.018	35.81	81.39	61.91	2.38	11.2
343.65	0.992	0.025	31.65	92.99	62.15	11.83	23.67
343.65	0.892	0.021	34.74	95.14	88.3	30.13	40.17
1832.8	0.814	0.022	29.76	63.24	90.84	1.57	2.12
801.85	0.971	0.024	32.88	84.56	77.89	10.61	7.96
229.1	1.416	0.039	29.79	72.04	92.66	7.08	1.98
572.75	0.924	0.015	48.6	60.62	80.64	2.06	1.71
	0.609	0.01	48.67	29.88	79.38	0.32	0.37
1145.5	0.572	0.017	26.59	144.66	88.11	5.29	
229.1	0.857	0.032	21.78	86.31	96.7	10.86	10.86
229.1	0.709	0.028	20.53	81.46	92.87	9.86	6.9
343.65	0.646	0.026	19.74	83.93	91.62	10.85	8.29
343.65	0.747	0.032	19.06	53.05	90.69	0.85	14.7
572.75	0.787	0.026	24.58	61.3	93.05	1.54	4.55
458.2	0.836	0.031	21.59	248.54	96.42	10.85	
343.65	0.751	0.032	19.07		96.23	3.6	
343.65	0.824	0.026	25.73	1165.88	96.77	11.71	
343.65	0.857	0.026	26.36	80.28	96.3	3.67	8.8
572.75	0.956	0.02	39.52	92.46	86.76	9.73	15.29
687.3	0.934	0.017	43.75	79.41	87.38	5.79	4.48
572.75	0.842	0.019	36.59	1069.36	96.73	19	
229.1	0.894	0.017	42.54	94.25	75.22	26.25	26.25
229.1	0.844	0.02	34.66	95	83.09	23	59.8
	0.891	0.018	39.56	70.5	64.17	1.63	23.45
229.1	0.781	0.024	26.9	140.02	61.14	35.5	
	0.719	0.018	32.16	307.75	69.44	32.5	
	0.817	0.019	34.27	70.01	66.67	2.3	37.5
	0.766	0.023	27.32	89.45	71.26	11.79	27.5
	0.814	0.023	28.54	92.99	65.74	19.5	31.2
	0.794	0.019	34.49	351.61	74.67	8.57	
229.1	0.772	0.014	44.52	90.66	79.95	4.85	37.17
458.2	0.701	0.012	46.15	76.02	74.7	1.69	12.25
	0.605	0.014	35.94	87.55	74.14	12.57	14.67
	0.747	0.014	42.26	10.93	73.91	0.08	0.15
	0.631	0.02	25.89	15.14	66.41	0.08	0.2
801.85	0.539	0.021	20.57	48.87	68.51	0.99	2.2
572.75	1.153	0.015	62.82	57.64	88.41	1.26	0.39
343.65	1.134	0.015	62.96	58.49	87.89	2.13	0.28
572.75	0.874	0.012	60.93	69.23	88.74	2.6	0.85

343.65	0.742	0.009	67.42	31.07	81.57	0.07	0.15
	1.069	0.009	91.57	56.29	75.39	2.51	0.62
1718.25	1.121	0.008	115.86	50.98	71.7	0.5	0.08
343.65	1.088	0.016	56.7	25	91.23	0.22	0.29
	0.657	0.017	32.03	30.6	72.4	0.42	0.73
	0.761	0.015	41.08	24.33	74.74	0.43	0.52
343.65	0.686	0.016	35.13	117.16	77.74	10.23	
	0.647	0.02	26.39	69.42	54.88	1.31	15.58
343.65	0.646	0.019	28.25	52.55	65.88	0.59	1.75
	0.607	0.017	29.59	67.97	58.13	1.53	2.84
	0.712	0.018	32.11	62.83	62.57	0.94	17.45
	0.617	0.019	26.43	49.23	74.04	0.87	3.43
	0.564	0.018	25.22	59.95	88.43	1.42	4.5
	0.669	0.019	28.04	93.17	49.56	7.52	12.53
	0.647	0.024	22.3	40.2	66.95	0.69	4.23
	0.701	0.017	32.56	145.91	79.01	31.33	
	0.749	0.019	32.3	128.6	73.74	46.43	
343.65	0.54	0.014	31.76	78.06	50	2.21	9.14
	0.54	0.018	24	125.53	78.76	38.42	
	0.786	0.021	30.39	136.17	65.59	34.75	

Ba/Ca	Ba/Na	(Mg + K)/(N	K/Fe
11.11	5.15	0.94	5.24
349.61	395.61	9.88	30.65
1090	54.77	10.38	46.22
279.31	216.96	9.05	53.41
8775	3052.17	58.39	76.04
3586.67	448.33	17.26	103.21
789.29	261.54	10.09	91.76
150	65.3	2.95	67.66
190	380		
460	328.57		
2350	577.19	43.38	98.95
38.54	70.04	5.4	21.43
306.67	318.81	15.83	61.42
9250	828.36	36.99	202.56
1383.33	215.58	14.38	44.25
2297.87	3483.87	58.08	114.18
1872.92	528.82	17.25	72.84
716.67	510.89	26.13	34.46
	15375		1570.45
	10357.14		234.48
43166.67	13631.58	271.2	525.21
	17857.14		60.98
36833.33	22100	381.88	66.74
58000	16111.11	297.83	222.62
42333.33	14941.18	298.7	1032.31
22750	11375	238.33	117.65
18666.67	12000	187.83	57.4
	812.82		134.86
9000	1241.38	33.18	225.84
1100	90.76	4.57	62.14
608	186.89	11.72	45.57
417.79	321.23	11.84	106.46
4153.33	1415.91	46.78	84.41
470.4	177.11	9.78	66.67
1119.35	495.71	40.79	77.21
458.11	98.26	9.19	40.05
396.3	493.85	17.12	43.59
4541.67	1018.69	45.11	118.21
1753.57	343.36	34.15	57.76
188.27	107.32	6.37	56.81
343.27	408.66	13.52	57.68
174.58	95.37	8	26.2
227.15	95.81	7.66	26.29
592.36	537.57	18.03	62.45
435.58	279.53	11.94	84.08
79.96	1134.21	14.75	22.27
5700	6966.67	285	18.57
77.69	1880	19.52	1.93
1420	63.11	4.87	40.85
342.57	246.26	11.78	43.56
701.52	130.06	9.81	71.47
4560	216.11	16.92	53.14

	1757.69		73.29
21800	1329.27	86.55	77.59
84400	11722.22	239.51	749.17
32200	3425.53	144.81	135.33
3176.92	400.97	23.53	71.66
1072.22	559.42	60.57	54.75
5384.62	1320.75	107.73	73.02
2122.73	269.94	28.36	44.48
2440	610	102.8	36.21
2192.86	198.06	37.34	48.11
19400	1515.63	112.46	80.14
9180	1530	208.57	71.13
4390.91	1558.06	50.24	12.62
1345	747.22	24.11	8.72
538.1	502.22	11.84	11.08
1926.67	932.26	24.57	6.56
5522.22	1274.36	51.67	21.72
1709.09	63.09	7.61	27.43
3510	1132.26	39.27	128.43
11680	1622.22	80.49	340
	790		100
572.73	12.73	1.8	88.64
12340	2285.19	132.5	127.75
5920	704.76	70.21	84.3
3344.44	700	78.85	51.36
3825	1092.86	105.28	84.46
5150	1188.46	85.31	105.48
6960	1450	82.07	155
3933.33	737.5	43.42	101.06
1359.46	606.02	36.67	30.15
830	247.02	20.87	66.58
1410.53	273.47	38.55	22.11
578.72	140.93	15.29	57.83
790.91	400	34.5	37.8
778.95	528.57	44.89	43.7
805	785.37	55.8	40.75
302.08	690.48	42.46	70.24
562.32	668.97	35.83	53.87
3230	993.85	52	75.14
3437.04	1546.67	58.62	103
13000	1521.28	51.33	87
1860	791.49	53.13	68.79
3070	590.38	36.94	101.89
5971.43	1266.67	54.75	158.33
4685.71	820	64.26	72.36
19571.43	4281.25	108.72	141.41
30857.14	7200	157.03	193.56
7185.71	2515	56.3	397.06
154.55	283.33	15.29	41.67
70.59	240	13.18	53.33
	11687.5		1043.86
185.39	2750	20.68	9.23
	2041.18		19.15

1751.72	2673.68	68.13	40.08
1746.15	677.61	29.25	108.72
6100	327.52	24.9	78.04
10800	316.32	14.39	39.87
1731.58	114.63	10	59.2
256.33	227.53	12.56	65.96
2390.48	1004	106.76	128.76
1491.67	155.65	14.13	50.14
2094.74	247.2	15.22	36.74
3888.89	309.73	18.44	111.35
1442.86	1010	16.47	62.5
3566.67	401.25	37.08	57.14
2833.33	586.21	34.29	90.38
1033.33	800	22.91	23.4
451.85	122.82	6.28	104.35
572.69	590.91	12.24	54.25
25.46	71.78	4.27	21.98
44.37	67.42	4.96	17.86
34.94	10.64	2.19	19.15
1515.38	118.32	4.26	343.9
275.82	118.68	5.21	37.5
226.35	113.51	5.48	58.78
1206.45	174.77	6.08	100.77
5664.29	1554.9	53.54	392.94
1957.89	2861.54	50	5.1
164.57	576	9.29	8.23
192.98	536.59	11.42	6.78
1588.89	841.18	36.54	4.26
	2291.67		20.15
47.22	20	2.18	9.51
3.77	68.52	2.86	1.86
82.3	119.74	7.57	19.61
45.91	35.94	6.33	9.43
3680	1082.35	119.09	50.16
3254.55	895	78.04	40.26
237.04	210.22	5.55	39.56
2235.29	863.64	36.89	66.18
3571.43	520.83	61.82	19.04
6958.33	4175	61.09	290.08
6444.44	597.94	27.74	124.56
	4000		273.75
321.33	547.73	15.46	23.63
1923.08	847.46	33.29	69.88
89.71	53.58	3.97	16.3
4066.67	9631.58	135	99.33
16571.43	7733.33	278.18	35.78
3166.67	760	144.84	47.27
5250	926.47	93.75	62.84
	10000		55.02
	529.41		190.7
335.21	820.69	14.1	6.53
1202.38	1803.57	24.57	171.68
1886.54	2725	30.45	389.23

600	1248	13.59	119.82
7200	1421.05	36.81	578.57
6280	1847.06	54.09	226.32
1506.67	1202.13	22.13	236.11
353.07	248.82	6.33	76.95
434.38	98.23	3.57	81.42
379.55	67.61	4.36	123.08
130.33	81.96	4.29	63.24
201.4	185.78	6.35	47.96
129.22	109.94	6.66	32.01
1122.45	1170.21	20.05	210
1777.08	844.55	21.28	222.83
4100	3617.65	57.5	413.58
1875.61	761.39	21.06	284.38
780.16	574.85	10.24	144.51
162.32	122.18	4.9	36.09
233.74	188.08	5.74	70.16
94.7	61.27	3.01	39.39
1054.84	131.85	4.52	161.19
1208.7	169.51	6.31	76.11
1117.65	117.28	4.08	142.55
662.16	163.33	5.13	86.73
4700	609.92	20.27	426.15
2400	258.06	16.12	229.23
231.07	103.54	3.88	76.84
37.56	97.42	10.38	10.58
28.18	192.45	20.99	5.81
151.58	92.31	9.52	26.46
247.89	92.88	4.22	100.68
41.12	86.88	12.77	8.74
316.67	91.2	9.75	16.12
2722.22	942.31	92.57	11.44
5800	828.57	41.43	133.33
85.24	89.19	5.45	26.99
271.43	117.06	4.67	46.86
268.13	80	2.35	54.47
13200	2444.44	63.13	397.92
328.13	181.03	7.22	39.66
771.43	30.51	6.52	50.39
466.67	186.67	14.29	110.53
64.71	183.33		
141.18	300		
131.58	357.14		
2644.44	1830.77	74.55	91.84
160	177.78		
183.33	244.44		
2470.83	463.28	24.87	64.69
248.85	94.77	4.82	43.93
300	50.29	3.09	18.98
1890.91	130	4.94	107.69
2769.23	375	16.38	64.24
1000	278.48	18.71	47.9
571.43	51.55	2.41	54.9

376.34	110.76	4.72	77.37
	1490		164.86
936.36	1314.89	42.48	72.32
2500	2500	179	8.88
	3122.22		247.37
	2100		129.9
6294.12	6687.5	161.82	197.13
	4155.56		396.55
	2018.18		1496.3
202.92	147.87	8.55	75.24
7275	727.5	36.25	100.48
	8833.33		700
	12636.36		1317.14
	7860		732.35
	10500		207.92
32200	4236.84	161.4	134.7
2835.29	442.2	23.81	97.85
30200	9437.5	258.1	157.39
	7422.22		161.35
	10877.78		212.5
43200	10285.71	251.54	326.74
18340	3056.67	131.71	64.54
	10277.78		162.08
16466.67	8233.33	297.78	108.12
9583.33	2254.9	67.46	173.66
60.73	2706.25	3.9	28.05
4862.5	637.7	68.12	74.04
8287.5	4143.75	174.58	47.37
2641.67	1668.42	115.16	46.61
6112.5	2037.5	138.75	65.22
15.74	78.22	8.91	6.07
154.76	353.26	11.56	23.47
137.44	93.38	4.92	47.32
75.71	128.85	6.58	13.38
128.24	150.69	6.74	54.71
149.04	112.32	3.82	81.94
20	17.62	1.38	2.23
13.18	33.06	1.31	3.56
132.14	65.68	1.78	39.77
70.48	41.57	1.73	42.47
44200	9208.33	259.66	197.02
9616.67	2508.7	182.41	335.37
16384.62	4018.87	117.73	121.28
9888.89	684.62	40	290.12
1707.07	976.88	18.09	208.45
21375	5261.54	88.15	316.91
190.8	36.56	2.4	16.09
20.8	116.16	14.39	6.84
60.87	55.35	2.97	16.87
479.34	555.02	12.24	88.29
500	1023.62	16.25	75
529.94	297.78	7.97	99.3
300.64	530.34	9.45	75

766.67	625	15.75	195.96
1623.21	594.12	26.41	208.73
97.25	234.34	4.73	19.22
213.72	320.97	8.46	24.67
211.11	109.09	5.11	51.92
171.03	139.72	4.51	40.29
168.55	122.31	4.59	44.57
2927.54	1565.89	34.19	127.31
160.86	192.67	6.73	33.19
97.84	136.05	6.37	41.15
22.19	49.12	4.91	8.35
132.17	84	3.89	37.44
82.55	62.36	4.79	17.41
152.28	72.82	3.61	30.03
7040	1955.56	56.09	150.77
1343.75	335.94	12	102.86
990.91	47.81	13.22	16.67
464.84	550.93	11.95	165.15
26571.43	4325.58	111.8	286.47
29142.86	9272.73	185.52	454.31
	10588.24		108.3
49000	11136.36	314.07	187.61
5750	1108.43	42.53	122.13
26600	7823.53	277.27	264.95
6928.57	1102.27	108.63	78.52
39500	9480	230.65	365.88
32083.33	7403.85	140	704.13
28142.86	7576.92	240	210.76
4990	1559.38	36.19	285.71
3387.5	694.87	72.55	89.92
4766.67	1191.67	206.33	80.03
552.63	1575	22.08	10.94
502.47	2394.12	25.31	15.86
713.79	739.29	17.54	8.21
	800		6.17
1993.33	1300	45.53	13.15
50.78	86.96	6.14	42.68
29.01	55.93	3.92	30.84
333.6	252.76	8.01	137.02
3625	947.71	33.21	124.12
35285.71	2627.66	59.41	2392
92.7	235.39	10.49	40.91
22.73	13.57	2.62	12.79
49.5	32.6	4.21	10.13
46.73	74.21	5.92	34.99
75.3	56.43	4.58	13.66
77.03	228	17.78	2.17
2333.33	162.79	9.04	55.93
1363.16	76.4	6.59	56.51
260.42	24.9	2.62	62.35
1542.86	106.4	10	55.09
1348.21	541.22	11.46	286.43
1316.67	243.08	8.05	128.21

414.29	132.57	9.48	57.69
209.35	123.83	5.67	27.46
2068.75	355.91	17.52	71.81
2530	76.67	9.03	254.29
1272	521.31	35	69.3
591.18	146.72	10.7	46.25
	2508.33		196.84
	823.53		203.85
	1676.92		193.33
8560	1860.87	132.86	38.3
260.32	133.33	6.99	26.86
1128.57	116.75	17.32	80
4660	832.14	87.58	54.82
11371.43	5306.67	252.27	96.27
2005	440.66	22.79	16.24
364.63	249.17	8.27	96.06
501.89	450.85	20.63	61.8
48.43	75	5.43	14.88
42.05	48.95	3.95	40.43
250	148	8.99	71.11
1484.21	1128	49.55	113.27
151.39	102.83	7.5	33.13
195.93	245.92	9.93	55.89
236.1	216.07	8.51	62.75
82.27	108	6.34	37.47
410.94	163.35	7.73	92.86
175.78	115.98	7.9	57.42
233.55	201.7	8.81	76.96
2236	657.65	42.36	48.34
424.63	241.1	11.08	78.57
831.48	482.8	44.29	78.24
1333.33	246.58	14.16	76.09
1189.47	243.01	8.62	177.38
	2560		237.18
26000	3354.84	64.86	379.81
3100	330.67	53.61	118.93
2900	537.04	122.81	138.71
1495.45	645.1	71.51	74.67
2204.17	295.53	25.27	39.27
2583.33	484.38	69.74	45.92
160.76	124.51	5.99	81.33
68.24	34.12	5.33	36
38.56	69.62	4.46	19.73
184.35	114.59	6.03	40.25
1098.48	884.15	18.65	200.46
14888.89	6380.95	168.33	264.07
1037.27	1006.02	18.47	267.51
1171.43	541.85	15.75	363.41
5890.91	2400	80	29.76
2677.78	209.57	10.52	111.39
4650	2325	115.56	282
3011.11	371.23	69.15	184.91
1479.17	581.97	54.82	70.03

273.53	127.84	5.88	68.34
846.67	793.75	47.74	8.46
175.11	455.68	11.48	23.76
696.3	723.08	25.66	5.4
	1270		3.04
	1242.86		9.48
	11962.5		31.89
1278.57	133.09	16.9	60.72
232.31	99.02	10.44	31.88
78.57	67.83	7.35	31.47
927.5	240.91	16.7	50.19
170.4	152.69	6.75	59.88
2590	378.1	44.65	42.73
233.49	669.33	16.17	21.69
4170	887.23	47.28	43.75
5616.67	2808.33	145.56	72.08
14450	10837.5	219.29	48.39
576.92	428.57	18.85	9.24
3112.5	4150	61.43	80.93
906.98	3250	28.73	9.22
716.38	865.63	17.03	29.16
75.36	63.94	4.64	15.09
	305.88		35.71
4014.29	4014.29	70.71	11.28
2350	3357.14	49.61	34.56
2917.65	3815.38	58.83	36.34
4290	249.42	12.36	19.34
1295	438.98	17.47	14.47
	3961.54		19.37
	1420		5.22
	1514.29		8.04
3260	1358.33	44.71	5.28
4628.57	2945.45	133.89	12.19
1472.73	1905.88	42.82	20.76
	7625		5.85
7450	7450	183.13	83.33
2120	815.38	211.67	74.19
7663.64	533.54	26.04	79.14
	5450		38.9
	4450		173.33
10983.33	672.45	25.87	255.68
9450	4050	95	266.13
6200	3875	148.46	219.72
	2800		214.29
13833.33	1804.35	104.62	17.42
3043.75	419.83	34.24	25.93
4066.67	3485.71	79.23	204.65
31.98	16.2	1.33	22.06
60.21	25.05	1.92	22.94
822.03	368.82	10.55	84.14
124	397.44	14.82	3.31
85	637.5	15.37	2.68
282.61	866.67	24.59	4.46

66.1	29.1	4.79	2.44
181.03	736.84	14.19	17.48
14.37	92.11	11.26	2.52
68.51	52.54	3.62	5.05
282.03	160.44	4.84	46.53
150	124.32	3.57	66.21
	527.5		160.39
4450	373.43	24.58	79.24
372.73	125.88	11.97	30.41
606.35	326.5	23.11	54.41
2463.64	132.84	18.28	57.14
438.81	111.79	10.67	66.09
1374.07	433.92	16.49	24.85
1713.33	1028	147.5	47.59
1342.86	217.59	7.45	187.34
	5516.67		33.51
	6585.71		76.65
2200	531.03	38.61	85.33
	5658.33		303.29
	6300		124.66

SAMPLE	CaO	FeO	Fe2O3	Fe3O4	K2O	MgO	Na2O	P2O5	TiO2	ZrO2	Ti/Zr	Alteration Index			Fe/(Fe+Mg)	
6501	3.525	2.945	3.275	3.165	0.145	0.813	7.333		0.624	0.014	37.4	8.11	78.42	0.02	0.05	11
16502	1.805	6.379	7.093	6.855	1.832	1.136	1.537		0.989	0.018	45.62	47.04	84.93	1.33	1.18	34
16503	0.14	3.061	3.403	3.289	1.326	1.381	2.683	229.1	0.787	0.006	109.77	48.96	68.99	0.55	11	10
6504	1.217	2.263	2.517	2.432	1.133	1.11	1.51		1.154	0.018	52.42	45.13	67.18	0.84	1.08	27
6505	0.112	2.469	2.746	2.653	1.759	0.452	0.31	343.65	0.981	0.034	23.24	83.97	84.58	6.35	18.25	87
16506	0.21	2.405	2.674	2.584	2.326	0.516	1.618		0.892	0.024	29.89	60.86	82.38	1.61	12.87	35
16507	0.783	2.341	2.603	2.515	2.012	0.775	2.278		0.929	0.023	32.38	47.65	75.21	0.99	2.98	78
6508	2.966	2.148	2.388	2.308	1.362	1.201	6.565		0.797	0.02	31.87	21.19	64.23	0.23	0.53	15
6509	0.14	0.36	0.4	0.387		0.168	0.067		0.18	0.01	14.03	124.98	68.29			19
16510	0.07	0.437	0.486	0.47		0.168	0.094		0.224	0.012	15.06	118.82	72.34			46
16511	0.196	2.443	2.717	2.626	2.265	1.549	0.768		0.827	0.023	29.01	79.82	61.29	3.3	13.43	23
6512	6.533	4.861	5.405	5.224	0.976	4.002	3.464		0.619	0.012	41.22	33.24	54.94	0.32	0.17	38
6513	1.469	3.266	3.632	3.51	1.88	2.195	1.361		0.837	0.018	37.19	59.01	59.91	1.54	1.49	30
16514	0.084	1.505	1.673	1.617	2.856	0.426	0.903		0.977	0.019	41.27	76.88	78	3.54	39.5	92
16515	0.504	5.028	5.591	5.404	2.085	2.724	3.114	343.65	0.829	0.021	31.66	57.07	64.95	0.75	4.81	13
6516	0.658	3.446	3.832	3.704	3.687	1.898	0.418	2061.9	0.952	0.014	55.98	83.85	64.58	9.87	6.51	22
6517	0.672	5.067	5.634	5.445	3.458	1.149	2.292	572.75	0.822	0.014	49.3	60.86	81.57	1.69	5.98	18
16518	1.007	9.105	10.124	9.785	2.94	2.685	1.361	458.2	0.631	0.02	25.37	70.37	77.29	2.42	3.39	71
16519	1.399	0.566	0.629	0.608	8.327	0.103	0.216	458.2	0.417	0.014	24.27	83.92	84.62	43.19		
6520		2.611	2.903	2.805	5.736	1.794	0.189	343.65	0.757	0.023	26.4	119.15	59.36	34		
6521	0.084	1.53	1.702	1.645	7.531	0.684	0.256	343.65	0.817	0.03	22.37	96.03	69.19	32.89	104.17	43
16522		13.117	14.586	14.096	7.495	0.181	0.189	572.75	0.415	0.022	15.47	118.72	98.65	44.43		
16523	0.084	11.523	12.813	12.383	7.206	0.168	0.135	572.75	0.615	0.022	22.92	97.12	98.57	59.8	99.67	36
6524	0.07	3.922	4.362	4.215	8.182	0.077	0.243	572.75	0.567	0.023	20.12	96.35	98.07	37.72	135.8	58
6525	0.084	0.836	0.93	0.898	8.086	0.207	0.229	343.65	0.731	0.027	21.58	96.36	80.25	39.47	111.83	42
16526	0.112	4.591	5.105	4.934	5.061	1.962	0.216	572.75	0.631	0.024	21.36	95.54	70.14	26.25	52.5	22
16527	0.126	9.118	10.139	9.798	4.904	0.323	0.189	343.65	0.686	0.023	23.76	94.32	96.59	29.07	45.22	18
6528		1.402	1.559	1.506	1.771	0.232	0.526		0.984	0.014	55.14	177.25	85.83	3.77		
6529	0.112	1.145	1.273	1.23	2.422	0.232	0.782		0.994	0.021	38.21	74.81	83.18	3.47	25.13	90
16530	0.35	1.8	2.002	1.935	1.048	0.813	4.084		0.829	0.017	40.41	29.57	68.97	0.29	3.48	11
16531	1.049	4.938	5.491	5.307	2.109	2.569	3.289		0.806	0.023	28.25	51.88	65.87	0.72	2.33	60
6532	2.28	3.382	3.761	3.635	3.374	2.117	2.858		0.824	0.017	38.29	51.66	61.59	1.32	1.72	41
6533	0.21	2.392	2.66	2.571	1.892	1.536	0.593		0.637	0.021	24.03	81.02	60.98	3.57	10.47	41
16534	1.749	4.437	4.934	4.768	2.772	2.801	4.475		0.747	0.02	29.87	47.24	61.39	0.69	1.84	47
6535	0.434	3.781	4.204	4.063	2.735	2.388	0.944		0.597	0.017	28.41	78.81	61.38	3.24	7.32	11
6536	1.035	4.913	5.463	5.279	1.844	2.995	4.651		0.744	0.013	45.98	45.98	62.21	0.44	2.07	45
6537	1.133	3.511	3.904	3.773	1.434	1.691	0.876	229.1	0.729	0.021	27.48	60.87	67.57	1.83	1.47	39
16538	0.336	4.308	4.791	4.63	4.772	2.517	1.442		0.954	0.017	45.04	80.39	63.21	3.7	16.5	45
6539	0.392	5.633	6.263	6.053	3.049	4.273	1.928		0.831	0.009	73.24	75.94	56.96	1.77	9.04	17
6540	2.504	3.305	3.675	3.552	1.759	2.169	4.233		0.722	0.021	28.3	36.83	60.47	0.46	0.82	18
6541	3.847	6.443	7.164	6.924	3.482	5.099	3.114		0.869	0.017	42.36	55.21	55.92	1.25	1.05	34
16542	2.476	8.835	9.824	9.494	2.169	2.853	4.368	229.1	0.557	0.015	30.09	42.32	75.66	0.56	1.02	17
6543	2.112	7.485	8.323	8.043	1.844	3.06	4.826	343.65	0.62	0.015	32.63	41.41	71.06	0.43	1.01	22
6544	2.196	6.404	7.121	6.882	3.748	3.666	2.332		0.662	0.013	42.23	62.08	63.68	1.8	1.98	59
6545	2.28	4.848	5.391	5.21	3.82	2.337	3.424		0.609	0.02	24.17	51.91	67.56	1.25	1.94	43
16546	7.541	9.992	11.111	10.738	2.085	8.753	0.512	343.65	0.335	0.008	35.89	57.37	53.4	4.55	0.32	79
6547	0.154	15.303	17.017	16.446	2.663	4.506	0.121	2405.55	0.726	0.018	32.46	96.3	77.32	24.56	20.09	57
6548	1.693	25.334	28.171	27.225	0.458	2.685	0.067	11913.2	0.422	0.01	34.66	64.1	90.45	7.6	0.31	77
6549	0.28	3.652	4.061	3.925	1.398	1.459	6.066		0.612	0.029	17.23	31.04	71.54	0.26	5.8	14
16550	2.826	6.494	7.222	6.979	2.651	4.506	3.788	229.1	0.544	0.009	48.66	51.97	59.13	0.78	1.09	34
6551	0.923	4.192	4.662	4.505	2.808	2.337	4.799	343.65	0.809	0.017	37.6	47.34	64.3	0.65	3.53	70
6552	0.14	3.897	4.333	4.187	1.94	2.75	2.844		0.697	0.017	33.17	61.11	58.72	0.76	16.1	45
16553		3.755	4.176	4.035	2.579	2.711	0.35	343.65	0.901	0.021	35.06	124.72	58.17	8.23		
16554	0.07	6.713	7.465	7.214	4.88	4.493	1.105		0.812	0.018	36.07	88.86	60	4.94	81	21
6555	0.07	1.543	1.716	1.658	10.833	1.072	0.485	229.1	0.856	0.022	31.67	95.54	59.11	24.97	179.8	84
6556	0.07	4.732	5.262	5.086	6.001	3.292	0.634		0.852	0.016	44.43	92.96	59.07	10.6	99.6	32
16557	0.364	6.353	7.064	6.827	4.266	2.479	2.777		0.754	0.019	32.29	68.23	72.01	1.72	13.62	31
16558	0.504	6.764	7.522	7.269	3.47	4.493	0.93	687.3	0.882	0.018	39.48	84.74	60.18	4.17	8	10
6559	0.182	6.006	6.678	6.454	4.109	4.777	0.714	343.65	0.906	0.019	37.97	90.84	55.79	6.43	26.23	53
6560	0.308	7.806	8.68	8.389	3.254	3.654	2.332	229.1	0.646	0.021	24.49	72.35	68.2	1.56	12.27	21
16591	0.14	11.934	13.27	12.825	4.049	2.298	0.539	801.85	0.724	0.014	40.56	90.33	83.91	8.4	33.6	24
16592	0.196	8.5	9.452	9.135	3.832	4.041	2.089	343.65	0.609	0.013	39.25	77.5	67.86	2.05	22.71	21
6593	0.07	7.317	8.137	7.864	5.495	4.131	0.863		0.737	0.015	40.55	91.17	64	7.13	91.2	19
6594	0.07	6.816	7.579	7.325	4.543	4.557	0.404	229.1	0.637	0.019	26.9	95.05	60.02	12.57	75.4	91
16595	0.154	18.133	20.163	19.486	2.145	0.426	0.418	801.85	1.007	0.008	102.37	81.81	97.71	5.74	16.18	43
16596	0.28	15.046	16.731	16.169	1.229	0.426	0.485	572.75	1.369	0.012	95.47	68.39	97.26	2.83	5.1	13

lines 700.
columns 18

6597	0.588	8.359	9.295	8.983	0.868	0.4	0.607	343.65	1.968	0.018	89.39	51.5	95.45	1.6	1.71	53
6598	0.21	16.461	18.304	17.69	1.012	0.374	0.418	458.2	1.193	0.03	32.21	68.84	97.78	2.71	5.6	19
6599	0.126	11.78	13.099	12.659	2.398	0.633	0.526	916.4	0.769	0.009	70.92	82.3	94.92	5.1	22.11	55
16600	0.154	9.143	10.167	9.826	2.35	0.516	4.017	1374.6	0.55	0.012	37.93	40.73	94.67	0.65	17.73	17
6601	0.14	1.312	1.459	1.41	1.579	0.387	0.418	229.1	0.746	0.007	91.22	77.9	77.27	4.23	13.1	35
6602	0.07	1.157	1.287	1.244	3.687	0.31	0.485		0.754	0.01	62.78	87.8	78.95	8.5	61.2	11
16603		0.489	0.543	0.525	0.458	0.052	0.135		0.711	0.014	41.36		90.48	3.8		
16604	0.154	1.132	1.258	1.216	0.94	0.168	6.673		0.707	0.01	55.06	13.96	87.13	0.16	7.09	57
6605	0.07	2.456	2.731	2.64	2.94	2.324	0.364		0.724	0.01	57.87	92.38	51.48	9.04	48.8	12
6606	0.07	3.112	3.461	3.344	2.458	1.627	0.566		0.369	0.011	26.63	86.53	65.76	4.86	40.8	59
16607	0.126	6.61	7.35	7.103	3.181	1.885	0.58		0.352	0.016	18.03	87.78	77.88	6.14	29.33	33
16608	0.112	3.228	3.589	3.469	2.555	2.156	0.377		0.686	0.014	40.69	90.59	60.05	7.57	26.5	38
6609	0.084	1.878	2.088	2.018	1.856	1.536	0.35		0.816	0.017	39.44	88.65	55.09	5.92	25.67	51
6610	0.07	1.286	1.43	1.382	1.868	1.072	0.324		0.664	0.016	33.17	88.19	54.64	6.46	31	69
16611	0.084	1.209	1.344	1.299	1.145	0.904	0.431		0.792	0.036	17.92	79.9	57.32	2.97	15.83	39
16612	0.518	6.186	6.878	6.647	1.747	3.808	1.119	458.2	0.679	0.016	34.79	77.25	61.98	1.75	3.92	13
6613	0.7	4.694	5.22	5.044	2.928	2.737	2.265	229.1	0.659	0.014	39.11	65.65	63.26	1.45	4.86	83
6614	0.266	7.677	8.537	8.251	1.591	4.118	1.321		0.657	0.018	30.08	78.25	65.17	1.35	6.95	14
16615	0.658	4.025	4.476	4.326	2.181	2.401	2.602		0.909	0.016	46.19	58.44	62.73	0.94	3.85	57
16616	0.616	5.851	6.507	6.288	2.073	3.615	1.173	343.65	0.836	0.016	41.4	76.08	61.9	1.98	3.91	79
6617	0.532	5.208	5.792	5.597	2.133	3.163	0.755	229.1	0.844	0.018	37.21	80.46	62.31	3.16	4.66	77
6618	0.56	5.838	6.492	6.274	2.229	3.447	0.553		0.931	0.019	39.02	83.62	62.97	4.51	4.63	80
16619	0.672	2.636	2.932	2.833	1.735	1.924	0.283		0.947	0.021	37.12	79.31	57.91	6.86	3	30
16620	0.965	4.99	5.548	5.362	2.518	3.176	0.782	343.65	1.022	0.02	40.87	76.52	61.2	3.6	3.03	56
6621	0.28	4.655	5.177	5.003	3.278	2.195	0.876		0.911	0.02	37.66	82.56	68.05	4.18	13.6	32
6622	0.378	3.858	4.29	4.146	3.723	2.595	0.809	458.2	1.088	0.022	40.75	84.19	59.88	5.15	11.44	34
16623	0.154	6.134	6.821	6.592	5.001	1.601	1.267	229.1	0.822	0.018	37.92	82.29	79.37	4.41	37.73	13
16624	0.28	4.038	4.49	4.339	2.603	1.807	0.634	343.65	1.011	0.022	37.41	82.84	69.16	4.6	10.8	18
6625	0.14	2.045	2.274	2.197	1.952	0.865	0.701		0.817	0.019	34.75	77.01	70.35	3.12	16.2	30
6626	0.098	1.543	1.716	1.658	2.29	0.374	0.445		0.744	0.016	36.56	83.07	80.54	5.76	27.14	59
16627	0.098	3.537	3.933	3.801	2.398	1.33	0.539	343.65	0.922	0.019	39.78	85.4	72.75	4.98	28.43	46
6628	0.098	2.919	3.246	3.137	3.868	1.33	0.431		0.859	0.02	35.27	90.76	68.79	10.03	45.86	19
6629	0.098	2.996	3.332	3.22	5.435	1.678	0.404	229.1	0.726	0.023	25.44	93.4	64.19	15.03	64.43	30
6630	0.098	0.437	0.486	0.47	1.627	0.219	0.27		0.377	0.012	24.84	83.4	66.67	6.75	19.29	71
16631	0.154	0.154	0.172	0.166	0.06	0.271	0.081		0.015	0.001	18.2	58.53	36.36	0.83	0.45	15
6632	0.238	0.193	0.215	0.207	0.096	0.271	0.067		0.013	0.001	15.4	54.63	41.67	1.6	0.47	70
6633		0.733	0.815	0.788	7.17	0.155	0.216	343.65	0.976	0.021	36.79	119.27	82.61	37.19		
6634	2.49	21.605	24.024	23.218	1.868	3.073	0.162	2291	1.276	0.022	46.36	65.07	87.59	12.92	0.87	18
16635		11.15	12.398	11.982	2	0.723	0.229	1374.6	1.044	0.028	30.1	175.31	93.93	9.76		
6636	0.406	6.353	7.064	6.827	2.386	1.665	0.256	687.3	1.014	0.027	30.86	85.96	79.29	10.42	6.83	17
6637	0.364	2.508	2.789	2.695	2.555	0.775	0.903	572.75	1.229	0.032	30.71	72.44	76.47	3.16	8.15	17
16638	0.112	3.807	4.233	4.091	2.784	2.066	2.009		0.857	0.022	31.53	69.58	64.91	1.55	28.88	61
16639	0.098	5.967	6.635	6.412	2.229	2.182	3.222	343.65	0.764	0.021	30.13	57.06	73.3	0.77	26.43	10
6640	0.266	4.192	4.662	4.505	2.326	1.459	3.869	458.2	0.886	0.019	36.88	47.79	74.26	0.67	10.16	17
6641	2.21	4.27	4.748	4.588	2.639	2.621	2.399	343.65	0.751	0.016	38.14	53.29	62.06	1.23	1.39	25
16642	0.294	2.996	3.332	3.22	3.615	5.913	0.674		0.846	0.023	30.18	90.78	33.72	6	14.29	23
16643	0.336	4.642	5.162	4.989	2.181	2.298	3.1	229.1	0.574	0.02	22.93	56.59	66.98	0.79	7.54	14
6644	0.266	5.53	6.149	5.943	1.904	1.498	2.17		0.614	0.021	23.29	58.27	78.75	0.98	8.32	20
6645	0.126	1.813	2.016	1.949	1.892	0.878	1.523		0.62	0.02	25.48	62.68	67.46	1.39	17.44	38
16646	0.098	0.412	0.458	0.442	0.241	0.103	0.135		0.332	0.012	22.36	59.67	80	2	2.86	14
16647	0.126	3.601	4.004	3.87	1.928	2.195	1.078		0.477	0.016	23.83	77.39	62.22	2	17.78	35
6648	0.084	1.337	1.487	1.437	1.133	0.336	0.391	1374.6	0.814	0.019	35.62	75.56	80	3.24	15.67	28
6649	0.672	10.442	11.612	11.222	2.29	0.8	0.836	916.4	0.756	0.014	43.14	67.21	92.91	3.06	3.96	10
16650	1.133	2.07	2.302	2.225	2.024	0.904	4.017	458.2	1.113	0.016	57.01	36.25	69.7	0.56	2.07	45
16651	3.176	9.529	10.596	10.241	4.844	1.872	2.966	801.85	0.811	0.014	45.42	52.23	83.63	1.83	1.77	57
6652	11.318	5.851	6.507	6.288	1.205	4.751	3.869		0.482	0.006	70.49	28.17	55.29	0.35	0.12	25
6653	6.589	8.423	9.367	9.052	1.41	3.486	4.179		0.689	0.005	103.25	31.25	70.81	0.38	0.25	44
16654	2.322	2.418	2.688	2.598	0.434	1.549	7.347		0.851	0.013	53.13	17.02	61.04	0.07	0.22	34
16655	0.364	0.527	0.586	0.567	1.699	0.155	4.489		0.632	0.021	24.93	27.64	77.36	0.42	5.42	15
6656	2.546	5.761	6.406	6.191	2.024	1.898	5.702	458.2	0.722	0.02	29.86	32.23	75.29	0.4	0.92	27
6657	2.336	3.151	3.504	3.386	1.735	1.678	4.489		0.681	0.017	33.17	33.34	65.33	0.43	0.86	22
16658	0.434	1.672	1.859	1.797	1.579	0.232	2.885	343.65	0.399	0.021	15.03	35.31	87.84	0.61	4.23	12
16659	0.196	1.093	1.216	1.175	4.025	0.181	0.687		0.857	0.034	20.16	82.64	85.86	6.55	23.86	56
6660	0.266	32.021	35.607	34.412	1.53	0.426	0.175	687.3	0.904	0.007	110.61	81.6	98.69	9.77	6.68	19
6661	2.448	15.946	17.732	17.137	1.229	1.381	0.674	687.3	1.581	0.022	57.11	45.54	92.06	2.04	0.58	16
16662	1.595	15.175	16.874	16.308	0.964	1.252	0.553	572.75	1.902	0.017	89.06	50.79	92.4	1.95	0.7	19
16663	0.126	21.733	24.167	23.356	0.868	0.297	0.229	687.3	1.351	0.013	86.17	76.63	98.66	4.24	8	15

16664		17.104	19.019	18.381	3.229	0.245	0.324	1489.15	1.174	0.011	85.85	144.83	98.59	11.17			
16665	2.518	5.543	6.163	5.956	0.494	1.175	5.729		0.846	0.013	54.52	16.83	82.57	0.1	0.23	47	
16666	13.738	13.117	14.586	14.096	0.229	3.576	0.728	229.1	0.776	0.007	93	20.83	78.64	0.35	0.02	3.	
16667	4.743	7.999	8.895	8.596	1.47	4.015	3.141		0.759	0.007	82.73	41.03	66.67	0.52	0.36	82	
16668	3.078	6.134	6.821	6.592	0.542	3.512	3.788	458.2	0.651	0.008	69.64	37.12	63.68	0.16	0.2	45	
16669	0.07	4.102	4.562	4.409	1.928	1.317	0.229		0.711	0.018	31.56	91.56	75.77	9.41	32	36	
16670	0.154	7.857	8.737	8.444	2.964	1.962	0.539	229.1	0.519	0.02	20.6	87.67	80.08	6.15	22.36	32	
16671	3.4	5.298	5.892	5.694	1.964	1.601	3.694	343.65	0.677	0.024	23.33	33.45	76.87	0.59	0.67	23	
16672	0.238	2.662	2.96	2.861	1.651	1.136	0.593	343.65	0.986	0.035	22.91	77.03	70.17	3.11	8.06	22	
16673	0.098	6.417	7.136	6.896	1.145	3.163	0.647		0.919	0.019	39.08	85.26	67.07	1.98	13.57	35	
16674	0.336	1.556	1.73	1.672	4.23	0.516	0.539	343.65	0.871	0.02	35.27	84.43	75.16	8.78	14.63	69	
16675	0.126	2.199	2.445	2.363	2.567	1.046	1.308		0.966	0.021	35.66	71.59	67.86	2.2	23.67	64	
16676		2.058	2.288	2.211	5.278	0.62	0.377	343.65	0.856	0.022	31.09	120.95	76.92	15.64			
16677	1.049	5.388	5.992	5.791	1.193	1.097	0.593	229.1	1.228	0.022	44.88	58.24	83.13	2.25	1.32	32	
16678	0.364	3.202	3.561	3.441	2.097	1.407	0.795	229.1	0.957	0.018	42.21	75.14	69.55	2.95	6.69	19	
16679	2.448	5.916	6.578	6.357	0.904	1.433	3.95		0.894	0.013	55.83	26.75	80.56	0.26	0.43	89	
16680	0.63	9.542	10.611	10.254	8.881	1.64	0.256	916.4	0.527	0.031	13.74	92.24	85.39	38.79	16.38	40	
16681	0.098	14.017	15.587	15.064	4.7	2.866	0.202	458.2	0.717	0.025	23.24	96.18	83.08	26	55.71	16	
16682	0.084	4.707	5.234	5.058	2.085	3.563	0.337	343.65	1.014	0.026	32	93.06	57.01	6.92	28.83	31	
16683	0.084	3.807	4.233	4.091	2.241	2.44	0.458	572.75	0.999	0.025	32.38	89.62	61.03	5.47	31	52	
16684		9.606	10.682	10.324	4.953	0.968	0.216	1145.5	0.716	0.025	22.94	124.98	90.88	25.69			
16685		2.212	2.46	2.377	3.952	0.684	0.229	229.1	1.106	0.021	41.7	133.74	76.44	19.29			
16686	0.993	12.011	13.356	12.908	0.735	1.033	0.391	343.65	1.523	0.023	54.35	56.09	92.11	2.1	0.86	33	
16687	1.175	2.225	2.474	2.391	3.579	0.607	0.755		0.717	0.067	8.62	68.44	78.64	5.3	3.54	12	
16688	0.727	0.836	0.93	0.898	3.049	0.194	0.485		0.312	0.056	4.55	72.78	81.25	7.03	4.87	18	
16689	2.182	2.855	3.175	3.068	3.205	0.62	1.011		0.524	0.03	14.14	54.5	82.22	3.55	1.71	60	
16690	0.21	0.72	0.801	0.774	3.904	0.142	1.024		0.399	0.032	10	76.62	83.58	4.26	21.6	72	
16691	0.14	1.222	1.359	1.313	2.591	0.297	0.458		0.37	0.027	11.1	82.84	80.51	6.32	21.5	62	
16692	1.049	1.852	2.059	1.99	4.097	0.439	1.267	229.1	0.544	0.021	20.76	66.2	80.9	3.62	4.53	15	
16693	2.504	3.125	3.475	3.358	2.253	1.123	3.424	229.1	0.569	0.019	23.68	36.29	73.64	0.74	1.04	35	
16694	0.895	1.453	1.616	1.562	1.109	0.413	3.815		0.711	0.023	24.62	24.42	77.93	0.33	1.44	43	
16695	0.616	1.17	1.301	1.258	1.35	0.194	3.33	229.1	0.487	0.017	22.81	28.12	85.85	0.45	2.55	37	
16696	3.414	2.623	2.917	2.819	1.554	1.833	5.23		0.575	0.014	34.5	28.16	58.96	0.33	0.53	13	
16697	2.994	3.459	3.847	3.718	1.554	1.988	3.127		0.919	0.017	43.39	36.66	63.59	0.56	0.6	20	
16698	2.154	4.54	5.048	4.878	1.362	1.42	2.44		0.589	0.024	19.72	37.71	76.24	0.62	0.73	12	
16699	1.371	2.058	2.288	2.211	4.049	0.633	1.267	229.1	0.497	0.033	12.06	63.96	76.56	3.57	3.43	11	
16700	0.672	1.633	1.816	1.755	3.41	0.439	1.361		0.529	0.043	10.03	65.44	78.88	2.8	5.9	17	
16701	0.42	1.042	1.158	1.119	4.037	0.426	0.458	229.1	0.437	0.036	9.92	83.56	71.05	9.85	11.17	41	
16702	0.574	1.235	1.373	1.327	3.29	0.336	1.361		0.425	0.034	10.2	65.2	78.69	2.7	6.66	18	
16703	1.763	2.341	2.603	2.515	3.169	0.529	2.305	343.65	1.144	0.033	27.89	47.62	81.61	1.54	2.09	78	
16704	2.896	3.884	4.319	4.174	1.313	1.64	3.707		1.448	0.028	42.34	30.9	70.4	0.4	0.53	16	
16705	3.4	3.318	3.689	3.566	2.181	1.704	4.071	229.1	1.099	0.021	41.45	34.21	66.15	0.6	0.74	23	
16706	3.693	2.971	3.303	3.192	1.097	1.433	5.5		0.799	0.026	25.08	21.58	67.54	0.22	0.34	94	
16707	0.434	0.862	0.958	0.926	1.301	0.232	3.343		0.495	0.041	9.87	28.88	78.82	0.44	3.48	10	
16708	0.322	1.453	1.616	1.562	1.036	0.413	2.211		0.504	0.041	9.84	36.4	77.93	0.52	3.74	12	
16709	0.238	0.604	0.672	0.65	0.807	0.077	2.184		0.455	0.033	11.14	26.76	88.68	0.41	3.94	11	
16710	0.518	1.26	1.401	1.354	1.024	0.142	2.022	229.1	0.455	0.038	9.68	31.47	89.91	0.57	2.3	66	
16711	0.238	0.836	0.93	0.898	3.338	0.297	1.766	229.1	0.392	0.034	9.48	64.46	73.86	2.11	16.29	47	
16712	0.14	0.836	0.93	0.898	1.795	0.219	1.254		0.671	0.026	20.94	59.12	79.27	1.6	14.9	24	
16713	2.476	2.443	2.717	2.626	1.759	0.981	5.325		1.032	0.023	35.78	26	71.43	0.37	0.82	23	
16714	5.624	7.78	8.652	8.361	0.771	6.636	2.089		0.564	0.009	48.29	48.99	54.07	0.41	0.16	37	
16715	5.064	11.51	12.799	12.369	0.627	10.573	0.714		0.345	0.006	45	65.96	52.22	0.98	0.14	28	
16716	1.329	3.742	4.161	4.022	0.928	2.091	2.103		0.712	0.016	35.29	46.8	64.24	0.49	0.81	15	
16717	1.987	1.903	2.116	2.045	1.795	0.917	5.109		0.744	0.017	36.26	27.65	67.58	0.39	1.05	24	
16718	4.729	7.356	8.18	7.905	0.603	7.565	2.157		0.542	0.013	33.16	54.26	49.4	0.31	0.15	41	
16719	0.504	4.308	4.791	4.63	0.651	1.33	1.685		1.268	0.022	45.78	47.5	76.48	0.43	1.5	31	
16720	0.126	15.175	16.874	16.308	1.627	2.44	0.35	801.85	0.724	0.028	20.77	89.51	86.19	5.19	15	27	
16721	0.098	1.929	2.145	2.073	2.41	0.413	0.661	229.1	0.764	0.021	28.81	78.82	82.42	4.08	28.57	58	
16722	3.791	4.192	4.662	4.505	1.06	2.595	3.491		0.889	0.024	29.61	33.42	61.86	0.34	0.32	85	
16723	1.273	2.662	2.96	2.861	1.169	0.568	2.844		0.871	0.024	29.33	29.67	82.47	0.46	1.07	27	
16724	1.273	1.582	1.759	1.7	0.807	0.336	4.111		0.632	0.029	17.63	17.51	82.55	0.22	0.74	26	
16725	0.14	1.235	1.373	1.327	4.603	0.284	0.728		0.739	0.024	24.61	84.92	81.36	7.07	38.2	13	
16726	0.448	1.492	1.659	1.603	0.554	0.245	0.782		0.844	0.034	20.32	39.41	85.93	0.79	1.44	32	
16727	0.098	1.633	1.816	1.755	0.771	0.723	2.386		0.764	0.021	29.74	37.56	69.4	0.36	9.14	77	
16728	0.084	0.244	0.272	0.263	0.253	0.116	0.202		0.896	0.014	51.14	56.34	67.86	1.4	3.5	46	
16729	0.238	0.116	0.129	0.124	0.297	0.081			0.018	0.001	18.17	154.08	28.13			64	
16730	0.238	0.18	0.2	0.193		0.297	0.108		0.022	0.001	21.67	161.46	37.84			14	

6731	0.266	0.129	0.143	0.138		0.284	0.094		0.024	0.002	11.08	164.22	31.25			13
6732	0.126	1.89	2.102	2.032	1.627	0.374	0.175	572.75	0.595	0.009	53.28	86.92	83.52	10.38	15	26
6733	0.14	0.103	0.114	0.111		0.374	0.121		0.014	0		145.88	21.62			16
6734	0.168	0.141	0.157	0.152		0.349	0.121		0.023	0		150.98	28.95			18
6735	0.336	4.334	4.819	4.657	2.627	2.066	1.725		0.894	0.017	42.88	69.48	67.81	1.7	9.08	24
6736	1.833	3.074	3.418	3.303	1.265	1.601	4.637		0.824	0.015	44.91	30.7	65.84	0.31	0.8	24
6737	0.811	3.524	3.918	3.787	0.627	0.942	4.664		0.697	0.017	33.17	22.27	78.96	0.15	0.9	30
6738	0.308	1.672	1.859	1.797	1.687	0.374	4.314		0.829	0.015	43.98	30.85	81.76	0.44	6.36	18
6739	0.364	4.244	4.719	4.561	2.555	1.872	2.588		1.136	0.023	39.36	59.99	69.47	1.1	8.15	27
6740	0.616	4.295	4.776	4.616	1.928	2.814	2.13		0.801	0.02	32	63.33	60.51	1.01	3.64	10
6741	0.49	1.968	2.188	2.114	1.012	0.232	5.23		0.734	0.017	34.65	17.87	89.47	0.22	2.4	57
6742	1.301	1.762	1.959	1.893	1.277	1.123	4.26		0.867	0.02	35.62	30.15	61.16	0.34	1.14	37
6743		0.476	0.529	0.511	0.735	0.207	0.135		0.585	0.04	11.74		69.81	6.1		
6744	0.923	4.925	5.477	5.293	3.338	2.621	0.634	229.1	0.819	0.022	30.69	79.28	65.36	5.89	4.2	93
6745	0.07	24.048	26.741	25.843	2	0.168	0.067	7674.85	0.509	0.008	50	94.04	99.31	33.2	33.2	25
6746		0.733	0.815	0.788	1.699	0.245	0.121	343.65	0.804	0.017	37.36	291.65	75	15.67		
6747		1.247	1.387	1.341	1.518	0.284	0.189	687.3	0.867	0.019	37.96	304.43	81.51	9		
6748	0.238	2.688	2.989	2.888	4.965	1.575	0.216	458.2	0.631	0.007	75.6	93.51	63.14	25.75	24.24	62
6749		0.373	0.415	0.401	1.386	0.077	0.121		0.399	0.021	15.52	788.66	82.86	12.78		
6750		0.347	0.386	0.373	4.868	0.103	0.741		0.315	0.012	21.98	115.24	77.14	7.35		
6751	1.917	2.649	2.946	2.847	1.868	1.588	2.534	229.1	0.687	0.016	35.52	43.71	62.61	0.82	1.13	20
6752	0.112	2.675	2.974	2.875	2.518	1.42	1.078	687.3	0.716	0.021	27.68	76.79	65.41	2.61	26.13	72
6753		0.283	0.315	0.304	1.856	0.065	0.081		0.257	0.01	20.26	318.91	81.48	25.67		
6754		0.45	0.501	0.484	5.555	0.052	0.148	572.75	0.474	0.016	24.07	128.71	89.74	41.91		
6755		0.437	0.486	0.47	3	0.103	0.135	343.65	0.57	0.018	25.52	168.72	80.95	24.9		
6756		2.598	2.889	2.792	5.061	1.562	0.189	229.1	0.842	0.016	42.8	122.36	62.54	30		
6757	0.07	4.707	5.234	5.058	5.941	2.595	0.512	229.1	0.777	0.023	27.41	93.61	64.55	12.97	98.6	32
6758	0.238	2.392	2.66	2.571	2.193	1.523	1.469	458.2	0.782	0.019	34.23	68.52	61.18	1.67	10.71	28
6759	0.07	3.652	4.061	3.925	5.386	1.226	0.216	572.75	0.719	0.024	24.21	95.86	74.93	27.94	89.4	30
6760		2.096	2.331	2.253	3.169	1.33	0.121	229.1	0.727	0.023	25.8	139.66	61.28	29.22		
6761		1.749	1.945	1.88	3.482	0.93	0.121	229.1	0.597	0.024	19.89	140.76	65.38	32.11		
6762	0.07	2.405	2.674	2.584	7.363	0.555	0.283	458.2	0.764	0.025	25.16	95.73	81.3	29.1	122.2	43
6763	0.07	5.041	5.606	5.417	3.049	2.685	0.404	1030.95	0.701	0.024	23.2	92.36	65.33	8.43	50.6	18
6764		3.832	4.261	4.118	5.82	2.169	0.243	229.1	0.717	0.023	25.15	116.92	63.95	26.83		
6765	0.084	3.961	4.404	4.257	4.013	2.621	0.162	343.65	0.751	0.025	24.19	96.43	60.27	27.75	55.5	16
6766	0.168	2.392	2.66	2.571	3.892	1.317	0.687	343.65	0.747	0.021	28.9	85.9	64.58	6.33	26.92	95
6767	9.975	6.327	7.036	6.799	1.663	1.885	0.216	65909.78		1.263	0.019	54.07	25.82	77.12	8.63	0.
6768	0.112	4.36	4.848	4.685	3.025	2.827	0.822	229.1	0.771	0.019	32.08	86.23	60.75	4.11	31.38	48
6769	0.112	7.086	7.879	7.615	3.145	2.04	0.216	229.1	0.826	0.017	40.24	94.06	77.72	16.31	32.63	82
6770	0.168	4.745	5.277	5.1	2.073	2.388	0.256	343.65	1.029	0.028	30.25	91.32	66.61	9.05	14.33	26
6771	0.112	4.437	4.934	4.768	2.711	2.827	0.324	229.1	0.867	0.03	23.53	92.71	61.17	9.38	28.13	61
6772	7.023	6.777	7.536	7.283	0.386	6.52	1.361	343.65	0.769	0.004	177.31	45.16	51.07	0.32	0.06	15
6773	2.938	6.739	7.493	7.242	1.482	2.918	1.24		0.629	0.007	69.81	51.29	69.87	1.34	0.59	15
6774	2.728	2.636	2.932	2.833	1.169	1.807	3.869	343.65	0.866	0.012	59.66	31.09	59.42	0.34	0.5	13
6775	4.952	11.15	12.398	11.982	1.398	3.279	2.804		1.073	0.011	79.38	37.62	77.34	0.56	0.33	75
6776	3.567	2.868	3.189	3.082	1.47	2.53	2.925		0.599	0.014	35.54	38.12	53.22	0.56	0.48	12
6777	2.91	1.852	2.059	1.99	1.422	0.865	3.72		0.774	0.017	37.72	25.65	68.25	0.43	0.57	14
6778	2.798	4.604	5.119	4.948	0.096	0.658	3.06		0.624	0.022	22.67	11.41	87.53	0.04	0.04	20
6779	4.351	3.254	3.618	3.496	0.108	0.62	1.672		0.564	0.018	25.8	10.79	84.05	0.07	0.03	13
6780	1.175	1.132	1.258	1.216	0.422	0.129	2.278		0.712	0.024	24.12	13.76	89.8	0.21	0.42	13
6781	1.469	0.939	1.044	1.009	0.374	0.232	2.399		0.49	0.02	20.28	13.54	80.22	0.17	0.3	70
6782	0.07	3.884	4.319	4.174	7.17	2.04	0.324	229.1	0.832	0.016	42.65	95.9	65.65	24.79	119	44
6783	0.084	1.89	2.102	2.032	5.941	0.465	0.31		0.909	0.019	38.38	94.21	80.33	21.43	82.17	96
6784	0.182	6.044	6.721	6.495	6.869	2.672	0.714	229.1	0.702	0.024	23.92	91.41	69.42	10.75	43.85	16
6785	0.126	2.212	2.46	2.377	6.013	0.736	1.752	343.65	0.876	0.019	38.32	78.23	75.11	3.84	55.44	98
6786	1.385	2.739	3.046	2.944	5.35	0.62	2.332	343.65	0.672	0.016	34.74	61.63	81.61	2.57	4.48	17
6787	0.224	2.662	2.96	2.861	7.905	0.749	0.876	229.1	0.694	0.018	32	88.72	78.11	10.09	41	21
6788	1.217	4.077	4.533	4.381	0.615	1.02	6.12		1.116	0.012	73.52	18.22	80.05	0.11	0.59	19
6789	7.736	6.957	7.736	7.477	0.446	11.632	1.335		0.244	0.004	54.07	57.11	37.52	0.37	0.07	20
6790	5.47	5.26	5.849	5.652	0.831	2.259	5.796		0.767	0.01	64.79	21.53	70.03	0.16	0.18	60
6791	3.386	5.71	6.349	6.136	4.724	2.066	2.817	572.75	0.564	0.023	20	52.26	73.51	1.88	1.62	47
6792	3.637	7.665	8.523	8.237	5.386	2.35	1.712	343.65	0.687	0.022	24.97	59.12	76.61	3.52	1.72	50
6793	2.476	3.691	4.104	3.966	3.434	1.381	4.246		0.681	0.024	23.31	41.74	72.84	0.9	1.61	52
6794	4.393	5.761	6.406	6.191	4.049	1.665	2.399	572.75	0.587	0.027	17.43	45.69	77.64	1.89	1.07	30
6795	2.099	2.868	3.189	3.082	5.266	1.149	2.48	343.65	0.679	0.027	20.15	58.35	71.47	2.38	2.91	76
6796	0.783	2.945	3.275	3.165	5.76	0.955	2.062		0.846	0.019	37.01	70.23	75.58	3.12	8.54	16
6797	5.596	7.292	8.108	7.836	1.313	2.053	2.238		0.547	0.01	46.2	30.06	78.1	0.66	0.27	97

16798	5.61	11.625	12.927	12.493	2.687	4.415	3.599		0.619	0.011	46.96	43.54	72.55	0.84	0.56	21
16799	1.511	2.006	2.231	2.156	0.976	1.046	2.817	229.1	0.472	0.014	27.48	31.84	65.82	0.39	0.75	21
16800	4.057	5.363	5.963	5.763	2.024	1.588	4.785	687.3	0.6	0.015	31.58	29	77.22	0.47	0.58	17
16801	3.959	4.501	5.005	4.837	1.88	1.975	5.257	458.2	0.575	0.015	31.94	29.49	69.58	0.4	0.55	16
16802	0.965	5.98	6.65	6.426	7.134	1.097	1.739	572.75	0.599	0.016	30.42	75.27	84.55	4.59	8.58	29
16803	4.575	6.16	6.85	6.62	1.916	3.163	3.68		0.605	0.007	67.22	38.09	66.16	0.58	0.49	16
16804	4.533	3.344	3.718	3.593	1.289	3.202	3.141		0.525	0.007	58.33	36.92	51.18	0.46	0.33	97
16805	8.828	9.092	10.11	9.771	0.711	5.048	3.842		0.587	0.006	81.86	31.25	64.39	0.21	0.09	22
16806	2.001	2.816	3.132	3.027	0.988	0.788	3.033		0.292	0.015	15.77	26.08	78.21	0.36	0.57	13
16807	3.847	7.536	8.38	8.099	1.229	2.634	4.907		0.534	0.009	49.23	30.62	74.18	0.28	0.37	82
16808	2.756	4.154	4.619	4.464	1.169	1.588	5.554		0.392	0.012	27.01	24.91	72.42	0.24	0.49	15
16809	0.07	0.836	0.93	0.898	1.181	0.4	0.243		0.814	0.022	30.31	83.49	67.71	5.44	19.6	70
16810	0.224	0.9	1.001	0.967	0.868	0.31	0.863		0.666	0.015	36.61	52.01	74.47	1.13	4.5	13
16811	0.154	6.481	7.207	6.965	1.012	2.995	3.073		0.564	0.011	41.73	55.39	68.48	0.37	7.64	99
16812	1.791	1.698	1.888	1.824	2.627	0.826	1.456	916.4	0.979	0.019	42.23	51.54	67.35	2.02	1.7	46
16813	0.098	2.186	2.431	2.349	5.868	0.93	0.58	458.2	0.529	0.022	19.69	90.94	70.25	11.33	69.57	26
16814	0.098	1.492	1.659	1.603	6.35	0.142	0.297	343.65	0.57	0.021	21.65	94.27	91.34	23.95	75.29	29
16815		5.736	6.378	6.164	5.82	2.776	0.229	229.1	0.761	0.018	34.03	115.75	67.47	28.41		
16816	0.07	4.565	5.077	4.906	8.025	2.35	0.297		0.691	0.018	31.36	96.59	66.11	30.27	133.2	49
16817	0.224	3.022	3.361	3.248	3.458	1.73	1.119		0.722	0.023	25.93	79.44	63.69	3.46	17.94	57
16818	0.07	2.495	2.774	2.681	6.194	1.239	0.229	229.1	0.776	0.022	28.18	96.13	66.9	30.24	102.8	26
16819	0.098	5.028	5.591	5.404	3.699	3.189	0.593	229.1	0.882	0.027	26.45	90.88	61.29	6.98	43.86	69
16820	0.084	2.186	2.431	2.349	7.495	1.201	0.337	229.1	0.657	0.024	22.39	95.38	64.64	24.88	103.67	39
16821	0.168	1.556	1.73	1.672	10.267	0.568	0.701	229.1	0.61	0.016	31.28	92.58	73.33	16.38	71	32
16822	0.098	3.704	4.118	3.98	7.314	2.388	0.35	343.65	0.684	0.026	21.58	95.58	60.89	23.35	86.71	28
16823	0.14	0.63	0.701	0.677	1.687	0.155	0.431		0.589	0.03	15.76	76.33	80.33	4.38	14	49
16824	0.112	3.189	3.546	3.427	2.687	1.523	0.526		0.837	0.024	28.69	86.85	67.76	5.72	27.88	33
16825	0.084	9.594	10.668	10.31	7.194	0.284	0.324		0.557	0.024	18.56	94.83	97.14	24.88	99.5	47
16826	0.797	13.632	15.158	14.649	1.398	0.697	0.27	343.65	1.206	0.008	129.11	66.25	95.15	5.8	2.04	55
16827	1.133	12.809	14.243	13.765	1.904	1.162	0.229	1030.95	1.264	0.02	51.92	69.23	91.71	9.29	1.95	50
16828	0.406	10.185	11.326	10.945	0.783	0.452	0.377	343.65	2.002	0.025	64.52	61.2	95.77	2.32	2.24	71
16829		23.534	26.169	25.291	1.362	0.297	0.229	687.3	1.341	0.012	90.34	339.36	98.76	6.65		
16830	0.21	11.445	12.727	12.3	1.41	0.723	0.31		0.59	0.007	65.56	80.4	94.08	5.09	7.8	19
16831	7.163	5.093	5.663	5.473	2.036	4.247	4.031		0.432	0.004	83.55	35.95	54.62	0.57	0.33	50
16832	10.465	4.462	4.962	4.796	1.289	4.364	5.23		0.796	0.007	91.73	26.48	50.66	0.28	0.14	29
16833	3.456	2.675	2.974	2.875	3.434	2.246	4.394		0.565	0.013	35.31	41.98	54.45	0.87	1.15	33
16834	0.56	4.745	5.277	5.1	5.519	2.363	2.062		0.864	0.019	37.81	75.04	66.85	2.99	11.45	36
16835	0.098	0.322	0.358	0.346	7.206	0.026	1.267		0.407	0.023	15.16	84.12	92.59	6.36	85.43	35
16836	6.323	5.375	5.977	5.777	2.061	6.326	2.399		0.657	0.003	157.6	49.02	46.04	0.96	0.38	92
16837	3.693	5.028	5.591	5.404	0.603	1.743	5.958	229.1	0.814	0.016	40.67	19.55	74.33	0.11	0.19	22
16838	4.211	9.774	10.868	10.503	0.928	3.124	6.16	343.65	0.814	0.007	90.37	28.09	75.85	0.17	0.26	49
16839	7.065	5.697	6.335	6.122	1.868	4.286	4.287		0.849	0.011	64.43	35.15	57.16	0.49	0.31	46
16840	4.645	7.909	8.795	8.499	1.012	3.499	5.972		0.315	0.006	42.95	29.82	69.41	0.19	0.25	75
16841	1.035	11.831	13.156	12.714	0.241	2.014	0.337	343.65	1.818	0.026	56.77	62.17	85.5	0.8	0.27	77
16842	0.21	3.035	3.375	3.262	1.591	0.981	2.898		0.881	0.024	30.34	45.28	75.64	0.61	8.8	23
16843	0.266	3.459	3.847	3.718	1.832	1.084	4.57		0.972	0.022	35.99	37.62	76.2	0.45	8	13
16844	0.672	2.186	2.431	2.349	1.277	0.491	6.767		0.797	0.017	37.64	19.2	81.73	0.21	2.21	26
16845	0.196	2.778	3.089	2.985	1.434	1.265	2.736		0.907	0.024	30.91	47.93	68.79	0.59	8.5	15
16846	1.567	1.8	2.002	1.935	4.832	0.607	3.761	343.65	0.661	0.017	31.43	50.52	74.87	1.44	3.58	13
16847	0.336	1.003	1.115	1.078	1.205	0.31	1.752		0.856	0.022	30.9	42.04	76.47	0.77	4.17	13
16848	0.783	3.009	3.346	3.234	1.627	1.084	2.359		0.986	0.026	30.62	46.32	73.58	0.77	2.41	41
16849	1.945	4.964	5.52	5.335	1.277	1.368	3.168		0.794	0.023	27.67	34.1	78.46	0.45	0.76	20
16850	0.224	1.916	2.131	2.059	1.289	1.084	1.254		0.912	0.028	26.05	61.64	63.95	1.15	6.69	20
16851	0.14	1.35	1.502	1.451	3.217	0.516	4.448		0.897	0.017	42.36	44.87	72.41	0.81	26.7	25
16852	0.35	2.932	3.26	3.151	1.904	1.846	0.822		0.942	0.025	30.21	76.19	61.46	2.59	6.32	12
16853	0.951	3.086	3.432	3.317	1.338	3.292	3.694		0.729	0.014	43.27	49.92	48.48	0.41	1.63	59
16854		2.032	2.259	2.184	3.748	1.278	0.162		0.897	0.016	46.38	132.66	61.48	25.92		
16855		1.337	1.487	1.437	2.555	0.788	0.458		0.752	0.019	31.76	139.17	63.03	6.24		
16856		0.772	0.858	0.829	1.398	0.336	0.175		0.837	0.013	53.98	34.09	69.77	8.92		
16857	0.07	4.398	4.891	4.726	1.579	3.111	0.31		0.916	0.027	27.04	92.5	58.66	5.7	26.2	85
16858	0.881	3.112	3.461	3.344	0.783	0.839	1.658		1.204	0.019	52.7	38.98	78.83	0.53	1.03	26
16859	0.294	2.894	3.218	3.11	2.169	2.685	2.736		0.877	0.013	54.23	61.57	51.96	0.89	8.57	11
16860	0.07	2.533	2.817	2.723	1.301	2.337	0.377		0.837	0.025	27.43	89.05	52.12	3.86	21.6	46
16861	0.098	3.794	4.219	4.077	3.422	3.499	0.202		0.757	0.016	39.48	95.84	52.12	18.93	40.57	11
16862	0.28	7.6	8.451	8.168	1.157	2.027	1.227	229.1	0.721	0.022	26.83	67.88	79.01	1.05	4.8	20
16863	1.147	1.633	1.816	1.755	1.47	0.581	1.618	1145.5	0.761	0.019	32.57	42.59	73.84	1.02	1.49	36
16864	0.741	2.289	2.545	2.46	1.326	1.562	0.795		1.116	0.011	79.64	65.27	59.53	1.86	2.08	50

6865	6.673	7.69	8.551	8.264	1.072	4.351	4.152		0.856	0.008	86.95	33.38	63.96	0.29	0.19	48
6866	6.953	3.627	4.033	3.897	1.374	3.24	5.756		0.772	0.009	72.34	26.64	52.91	0.27	0.23	42
6867	1.035	1.736	1.931	1.866	1.157	1.072	1.685		0.726	0.018	33.46	45.03	61.93	0.77	1.3	25
6868	0.266	1.453	1.616	1.562	1.542	1.162	0.337		0.854	0.02	33.91	81.77	55.67	5.12	6.74	14
6869	2.015	4.115	4.576	4.422	1.277	2.079	2.858		0.776	0.02	31.21	40.78	66.53	0.5	0.74	15
6870	3.442	4.257	4.733	4.574	2.229	3.279	2.642		0.772	0.02	31.07	47.52	56.58	0.94	0.75	19
6871	2.868	3.279	3.647	3.524	1.928	2.647	3.02	229.1	0.696	0.02	28.76	43.73	55.43	0.71	0.78	23
6872	5.05	4.874	5.42	5.238	1.711	3.37	3.707	343.65	0.6	0.016	30.25	36.71	59.22	0.52	0.39	82
6873	0.895	1.44	1.602	1.548	1.253	0.904	2.17		0.62	0.019	26.96	41.3	61.54	0.65	1.63	41
6874	2.252	3.292	3.661	3.538	1.771	2.233	3.289		0.682	0.02	27.64	41.95	59.67	0.6	0.91	17
6875	2.126	2.623	2.917	2.819	1.892	1.704	2.372		0.756	0.022	28.31	44.42	60.71	0.89	1.03	23
6876	0.35	5.826	6.478	6.26	2.639	3.189	1.146		0.711	0.019	29.79	79.58	64.71	2.58	8.76	22
6877	1.875	3.961	4.404	4.257	2.916	2.169	3.181	343.65	0.671	0.02	27.16	50.14	64.71	1.03	1.81	42
6878	0.755	4.372	4.862	4.699	3.205	4.97	1.254	343.65	0.676	0.012	44.51	80.27	46.9	2.86	4.93	83
6879	0.378	2.366	2.631	2.543	1.687	1.356	1.968		0.377	0.02	15.37	56.47	63.67	0.96	5.19	13
6880	0.532	1.08	1.201	1.161	1.795	0.568	2.507		0.732	0.021	28.51	43.75	65.63	0.8	3.92	11
6881		1.003	1.115	1.078	2.229	1.175	0.202		0.867	0.016	44.44	154.22	46.15	12.33		
6882	0.112	1.337	1.487	1.437	4.76	0.762	0.836		0.641	0.015	35.56	85.35	63.8	6.37	49.38	26
6883	0.112	2.173	2.417	2.336	2.422	3.15	1.011		0.49	0.015	26.25	83.23	40.92	2.68	25.13	31
6884	0.07	1.595	1.773	1.714	2.073	2.853	0.364	229.1	0.519	0.014	29.34	91.9	35.94	6.37	34.4	29
6885	0.308	3.858	4.29	4.146	2.699	3.847	0.687		0.555	0.016	28.46	86.8	50.17	4.39	10.18	14
6886	0.336	8.513	9.467	9.149	3.133	3.266	2.413		0.726	0.021	28.06	69.95	72.35	1.45	10.83	22
6887	0.168	5.517	6.135	5.929	2.374	4.299	0.863		0.656	0.019	28.07	86.62	56.3	3.08	16.42	25
6888	3.316	2.894	3.218	3.11	2.205	1.833	4.125		0.867	0.01	71.23	35.18	61.31	0.6	0.77	16
6889	2.378	3.215	3.575	3.455	1.085	2.35	4.583		0.567	0.007	61.82	33.03	57.87	0.26	0.53	68
6890	8.562	6.713	7.465	7.214	1.241	4.144	4.57		0.52	0.005	86.67	29.08	61.92	0.3	0.17	38
6891	3.218	5.208	5.792	5.597	1.964	2.569	4.988	229.1	0.532	0.013	33.23	35.59	67.05	0.44	0.71	18
6892	1.847	2.778	3.089	2.985	5.218	1.536	2.211	343.65	0.679	0.021	26.09	62.47	64.48	2.64	3.28	10
6893	0.126	2.148	2.388	2.308	5.314	0.826	0.283	1030.95	0.711	0.019	30	93.76	72.29	21	49	14
6894	2.252	2.533	2.817	2.723	6.35	0.994	2.238	343.65	0.724	0.021	28	62.06	71.9	3.17	3.27	10
6895	1.469	1.582	1.759	1.7	5.386	0.981	3.06	343.65	0.582	0.014	34.22	58.44	61.81	1.97	4.26	11
6896	0.154	10.931	12.155	11.747	3.049	0.658	0.364	343.65	0.485	0.012	32.33	87.74	94.34	9.37	23	58
6897	0.252	2.598	2.889	2.792	2.711	0.465	3.1	229.1	0.631	0.011	48.46	48.65	84.87	0.98	12.5	26
6898	0.084	0.643	0.715	0.691	1.699	0.865	0.162		0.457	0.015	24.25	91.26	42.74	11.75	23.5	46
6899	0.126	2.045	2.274	2.197	3.543	3.524	0.984		0.322	0.018	14.73	86.43	36.81	4.03	32.67	30
6900	0.336	4.334	4.819	4.657	2.844	2.969	0.822		0.749	0.016	37.11	83.39	59.44	3.87	9.83	14
6901	1.903	3.331	3.704	3.579	2.133	0.955	3.923		0.756	0.022	28.14	34.65	77.78	0.61	1.3	27
6902	0.21	13.374	14.872	14.373	1.06	0.775	0.216	801.85	0.637	0.007	77.96	81.18	94.55	5.5	5.87	84
6903	3.204	10.391	11.554	11.167	2.314	2.221	1.186	687.3	0.812	0.02	32.25	50.81	82.45	2.18	0.84	17
6904	0.378	17.618	19.591	18.933	0.892	0.8	0.35	916.4	0.734	0.018	33.33	69.91	95.67	2.85	2.74	69
6905		20.319	22.594	21.836	0.578	1.381	0.135	1260.05	0.572	0.016	29.83	281.75	93.66	4.8		
6906		12.346	13.728	13.267	1.097	0.555	0.189	343.65	0.681	0.023	23.58	374.19	95.71	6.5		
6907		16.332	18.161	17.551	4.88	0.878	0.108	1718.25	0.33	0.018	14.67	128.9	94.92	50.63		
6908	0.392	4.617	5.134	4.961	2.627	3.666	3.626	229.1	0.776	0.014	44.29	61.03	55.83	0.81	7.79	12
6909	1.819	5.324	5.92	5.721	1.591	4.157	4.111	801.85	0.595	0.015	33.06	49.22	56.25	0.43	1.02	23
6910	4.505	5.761	6.406	6.191	1.699	4.777	5.028	458.2	0.609	0.009	55.3	40.45	54.77	0.38	0.44	78
6911	0.56	3.331	3.704	3.579	1.567	2.505	2.076		0.866	0.009	79.85	60.7	57.17	0.84	3.25	92
6912	3.498	4.295	4.776	4.616	2.41	2.027	3.761		0.731	0.011	54.07	37.94	68.02	0.72	0.8	17
6913	0.28	5.568	6.192	5.984	2.229	6.662	1.847		0.671	0.014	39.03	80.7	45.63	1.35	9.25	25
6914	3.008	11.085	12.327	11.913	2.253	3.641	1.011	343.65	0.932	0.023	33.27	59.46	75.35	2.49	0.87	23
6915	0.28	6.584	7.322	7.076	2.699	4.067	1.267	572.75	0.812	0.018	35.81	81.39	61.91	2.38	11.2	41
6916	0.084	2.533	2.817	2.723	1.711	1.549	0.162	343.65	0.992	0.025	31.65	92.99	62.15	11.83	23.67	56
6917	0.084	6.404	7.121	6.882	2.904	0.852	0.108	343.65	0.892	0.021	34.74	95.14	88.3	30.13	40.17	14
6918	0.727	15.303	17.017	16.446	1.326	1.549	0.944	1832.8	0.814	0.022	29.76	63.24	90.84	1.57	2.12	57
6919	0.336	3.035	3.375	3.262	2.302	0.865	0.243	801.85	0.971	0.024	32.88	84.56	77.89	10.61	7.96	31
6920	0.602	11.857	13.185	12.742	1.024	0.942	0.162	229.1	1.416	0.039	29.79	72.04	92.66	7.08	1.98	90
6921	1.623	8.732	9.71	9.384	2.386	2.104	1.294	572.75	0.924	0.015	48.6	60.62	80.64	2.06	1.71	71
6922	3.917	8.861	9.853	9.522	1.253	2.311	4.448		0.609	0.01	48.67	29.88	79.38	0.32	0.37	75
6923		6.481	7.207	6.965	2.169	0.878	0.458	1145.5	0.572	0.017	26.59	144.66	88.11	5.29		
6924	0.098	8.668	9.638	9.315	0.916	0.297	0.094	229.1	0.857	0.032	21.78	86.31	96.7	10.86	10.86	40
6925	0.42	7.703	8.566	8.278	2.494	0.594	0.283	229.1	0.709	0.028	20.53	81.46	92.87	9.86	6.9	23
6926	0.476	9.979	11.097	10.724	3.398	0.917	0.35	343.65	0.646	0.026	19.74	83.93	91.62	10.85	8.29	29
6927	0.14	9.774	10.868	10.503	1.771	1.007	2.319	343.65	0.747	0.032	19.06	53.05	90.69	0.85	14.7	42
6928	0.28	8.089	8.995	8.693	1.097	0.607	0.795	572.75	0.787	0.026	24.58	61.3	93.05	1.54	4.55	12
6929		9.362	10.41	10.061	1.699	0.349	0.175	458.2	0.836	0.031	21.59	248.54	96.42	10.85		
6930		8.861	9.853	9.522	0.434	0.349	0.135	343.65	0.751	0.032	19.07		96.23	3.6		
6931		13.117	14.586	14.096	0.988	0.439	0.094	343.65	0.824	0.026	25.73	1165.88	96.77	11.71		

16932	0.07	10.712	11.912	11.512	0.53	0.413	0.162	343.65	0.857	0.026	26.36	80.28	96.3	3.67	8.8	32
16933	0.098	11.291	12.555	12.134	1.289	1.73	0.148	572.75	0.956	0.02	39.52	92.46	86.76	9.73	15.29	46
16934	0.616	12.204	13.571	13.115	2.374	1.769	0.458	687.3	0.934	0.017	43.75	79.41	87.38	5.79	4.48	14
16935		16.718	18.59	17.966	0.916	0.568	0.054	572.75	0.842	0.019	36.59	1069.36	96.73	19		
16936	0.112	3.241	3.604	3.483	2.531	1.072	0.108	229.1	0.894	0.017	42.54	94.25	75.22	26.25	26.25	74
16937	0.07	5.183	5.763	5.569	3.603	1.059	0.175	229.1	0.844	0.02	34.66	95	83.09	23	59.8	21
16938	0.154	4.192	4.662	4.505	3.109	2.35	2.13		0.891	0.018	39.56	70.5	64.17	1.63	23.45	76
16939		4.694	5.22	5.044	1.711	2.995	0.054	229.1	0.781	0.024	26.9	140.02	61.14	35.5		
16940		0.965	1.073	1.037	1.567	0.426	0.054		0.719	0.018	32.16	307.75	69.44	32.5		
16941	0.084	1.132	1.258	1.216	2.711	0.568	1.321		0.817	0.019	34.27	70.01	66.67	2.3	37.5	10
16942	0.084	0.797	0.887	0.857	1.988	0.323	0.189		0.766	0.023	27.32	89.45	71.26	11.79	27.5	94
16943	0.07	0.913	1.015	0.981	1.88	0.478	0.108		0.814	0.023	28.54	92.99	65.74	19.5	31.2	62
16944		0.72	0.801	0.774	1.446	0.245	0.189		0.794	0.019	34.49	351.61	74.67	8.57		
16945	0.084	16.461	18.304	17.69	2.687	4.144	0.62	229.1	0.772	0.014	44.52	90.66	79.95	4.85	37.17	13
16946	0.224	9.722	10.811	10.448	2.362	3.305	1.564	458.2	0.701	0.012	46.15	76.02	74.7	1.69	12.25	30
16947	0.084	0.553	0.615	0.594	1.06	0.194	0.094		0.605	0.014	35.94	87.55	74.14	12.57	14.67	40
16948	2.756	1.749	1.945	1.88	0.362	0.62	5.244		0.747	0.014	42.26	10.93	73.91	0.08	0.15	31
16949	2.672	2.186	2.431	2.349	0.47	1.11	6.187		0.631	0.02	25.89	15.14	66.41	0.08	0.2	60
16950	1.651	3.974	4.419	4.27	3.133	1.833	3.545	801.85	0.539	0.021	20.57	48.87	68.51	0.99	2.2	82
16951	1.749	19.033	21.164	20.454	0.59	2.505	0.526	572.75	1.153	0.015	62.82	57.64	88.41	1.26	0.39	12
16952	1.679	16.332	18.161	17.551	0.41	2.259	0.216	343.65	1.134	0.015	62.96	58.49	87.89	2.13	0.28	85
16953	1.287	22.505	25.025	24.185	0.94	2.866	0.404	572.75	0.874	0.012	60.93	69.23	88.74	2.6	0.85	28
16954	1.651	9.504	10.568	10.213	0.217	2.156	3.613	343.65	0.742	0.009	67.42	31.07	81.57	0.07	0.15	66
16955	3.246	10.519	11.697	11.305	1.723	3.447	0.768		1.069	0.009	91.57	56.29	75.39	2.51	0.62	18
16956	6.813	19.419	21.593	20.868	0.458	7.694	1.024	1718.25	1.121	0.008	115.86	50.98	71.7	0.5	0.08	14
16957	2.532	13.246	14.729	14.235	0.627	1.278	3.181	343.65	1.088	0.016	56.7	25	91.23	0.22	0.29	68
16958	1.791	2.598	2.889	2.792	1.133	0.994	3.033		0.657	0.017	32.03	30.6	72.4	0.42	0.73	28
16959	2.574	1.865	2.074	2.004	1.157	0.633	2.993		0.761	0.015	41.08	24.33	74.74	0.43	0.52	15
16960		3.279	3.647	3.524	4.928	0.942	0.539	343.65	0.686	0.016	35.13	117.16	77.74	10.23		
16961	0.168	3.035	3.375	3.262	2.253	2.505	1.928		0.647	0.02	26.39	69.42	54.88	1.31	15.58	44
16962	1.077	5.71	6.349	6.136	1.627	2.969	3.073	343.65	0.646	0.019	28.25	52.55	65.88	0.59	1.75	37
16963	0.881	4.231	4.705	4.547	2.157	3.06	1.577		0.607	0.017	29.59	67.97	58.13	1.53	2.84	60
16964	0.154	4.321	4.805	4.644	2.314	2.595	2.75		0.712	0.018	32.11	62.83	62.57	0.94	17.45	24
16965	0.937	4.475	4.976	4.809	2.772	1.575	3.545		0.617	0.019	26.43	49.23	74.04	0.87	3.43	43
16966	0.755	12.577	13.985	13.516	2.928	1.652	2.305		0.564	0.018	25.22	59.95	88.43	1.42	4.5	13
16967	0.21	5.08	5.649	5.459	2.265	5.19	0.337		0.669	0.019	28.04	93.17	49.56	7.52	12.53	17
16968	0.49	1.016	1.13	1.092	1.783	0.503	2.912		0.647	0.024	22.3	40.2	66.95	0.69	4.23	13
16969		7.214	8.022	7.753	2.265	1.924	0.081		0.701	0.017	32.56	145.91	79.01	31.33		
16970		5.453	6.063	5.86	3.916	1.949	0.094		0.749	0.019	32.3	128.6	73.74	46.43		
16971	0.098	0.965	1.073	1.037	0.771	0.968	0.391	343.65	0.54	0.014	31.76	78.06	50	2.21	9.14	22
16972		1.955	2.174	2.101	5.555	0.529	0.162		0.54	0.018	24	125.53	78.76	38.42		
16973		2.868	3.189	3.082	3.35	1.51	0.108		0.786	0.021	30.39	136.17	65.59	34.75		

(c) DATA PLOTS

Thomas Creek Pb (PPM)

■ BLD □ 0-17 ◆ 17-25 ◇ >25

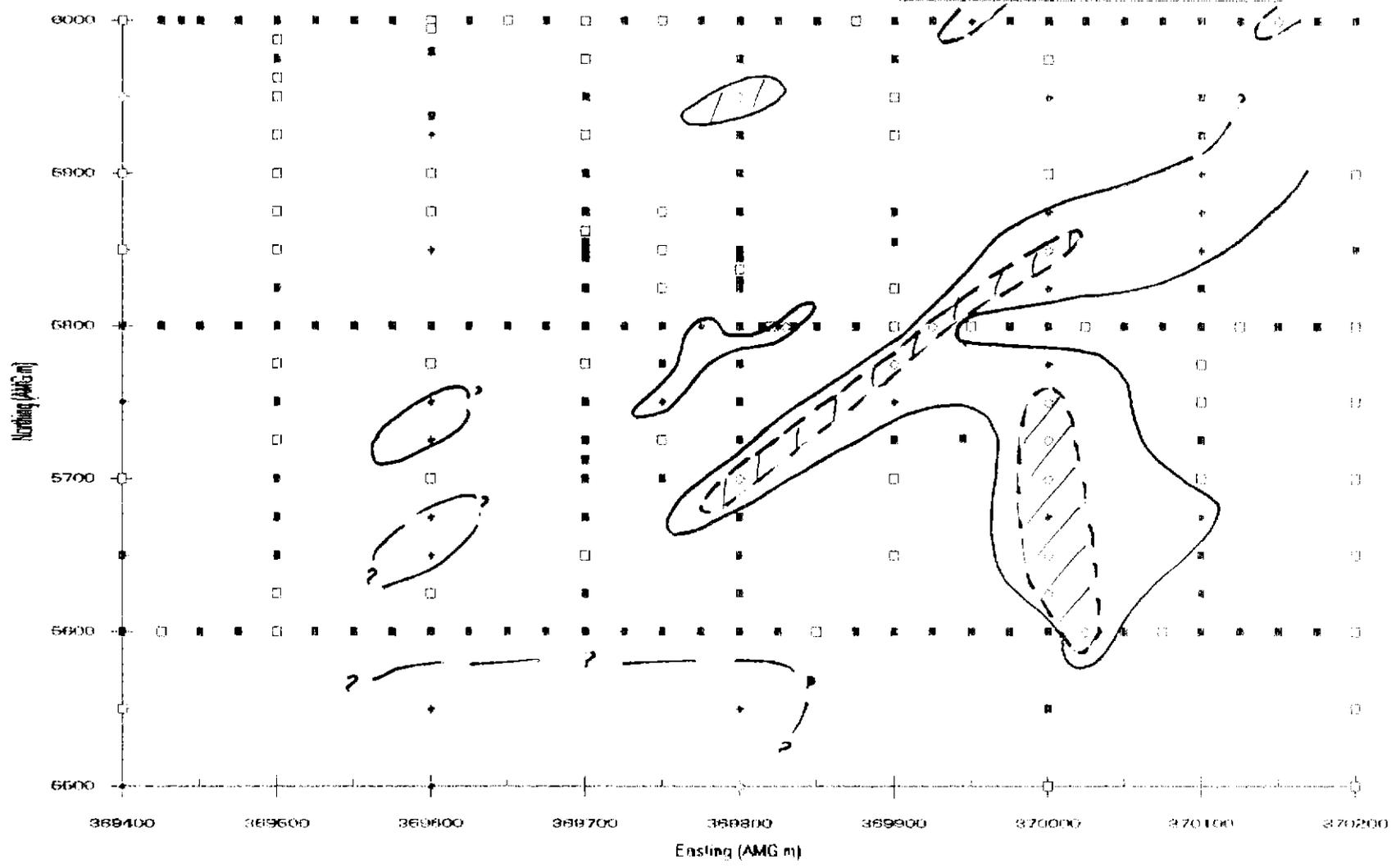


FIGURE 9

Thomas Creek Co (PPM)

■ <10 □ 10-30 ◆ 30-100 ◇ >100

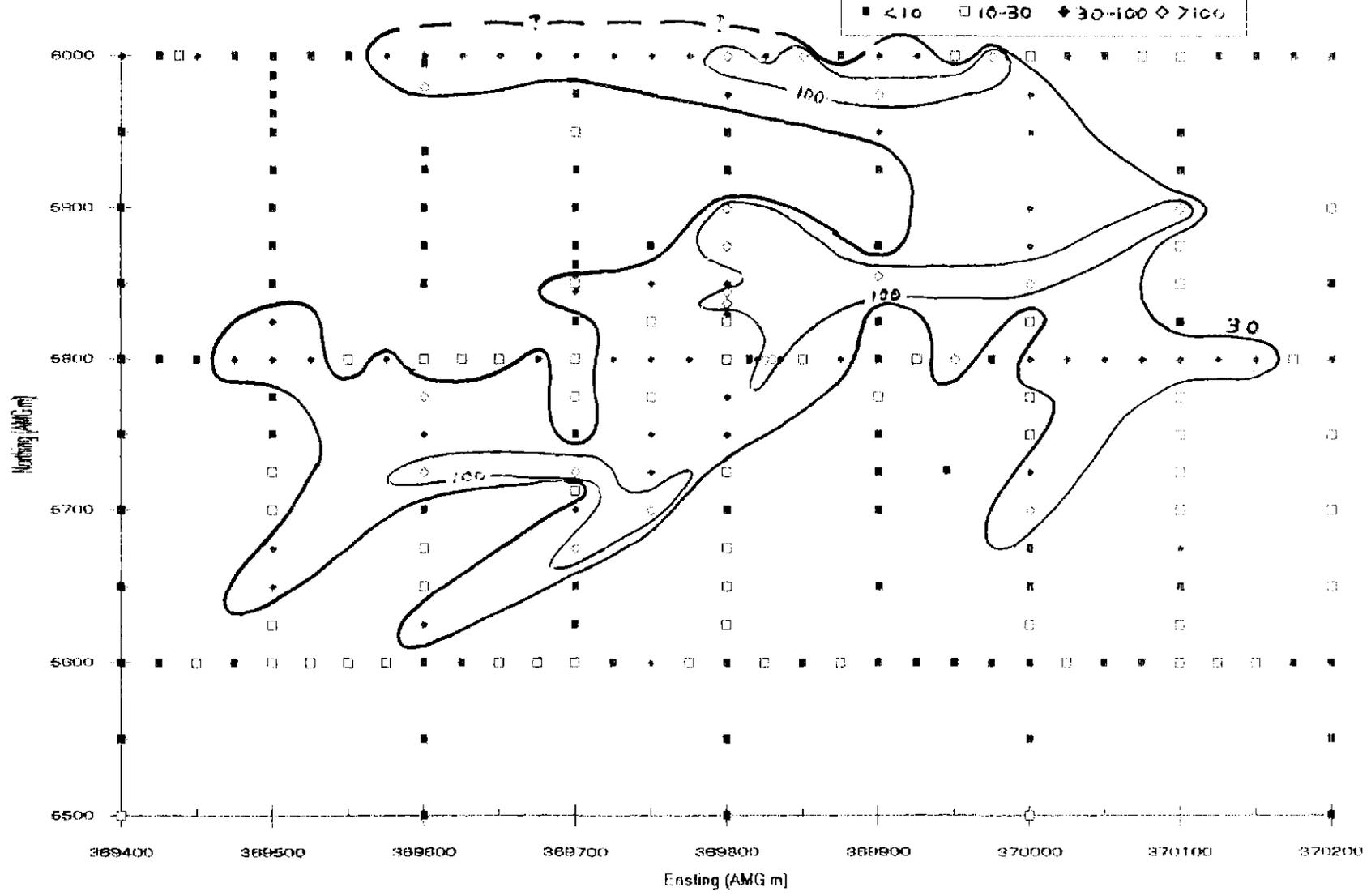
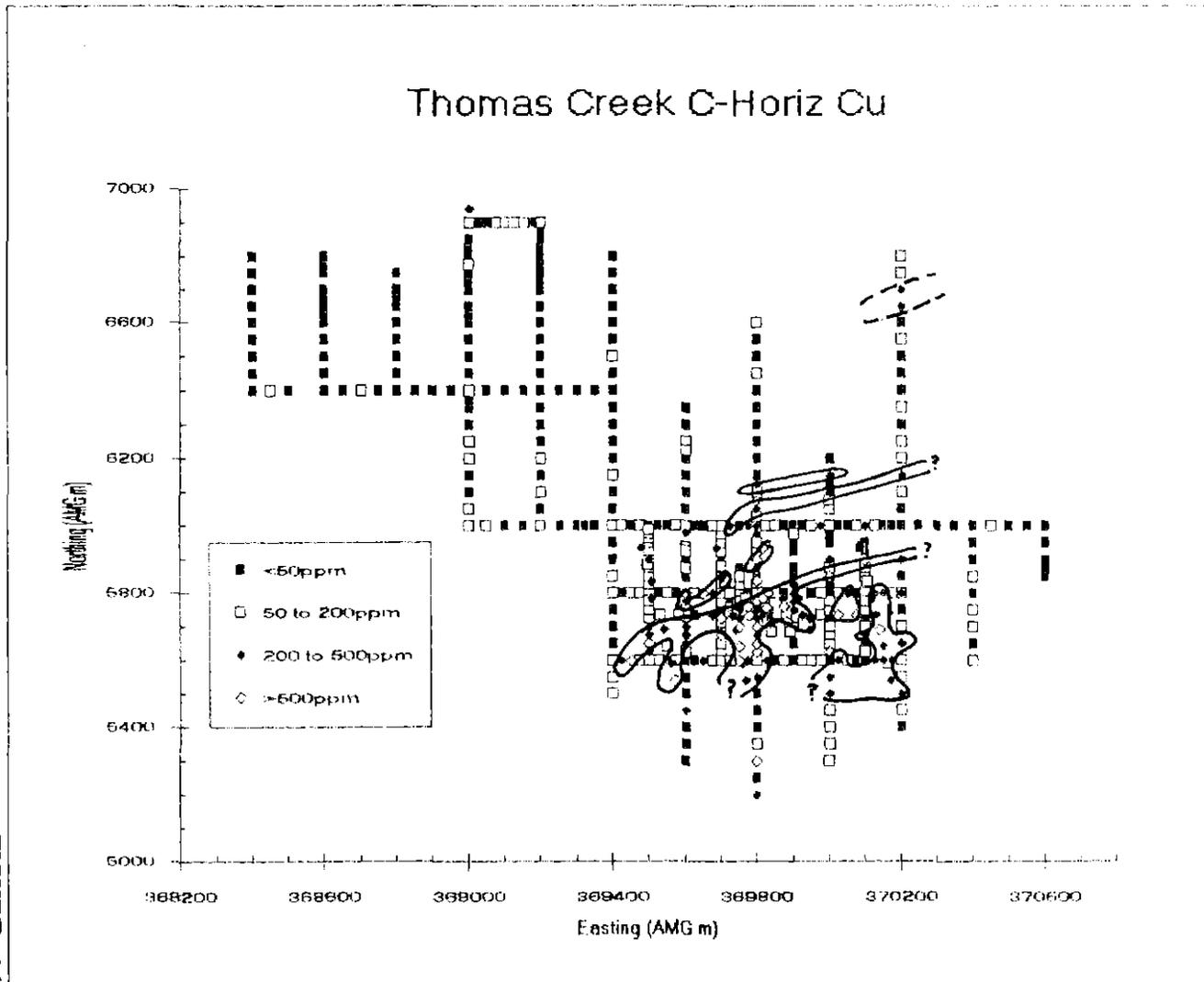


FIGURE 10

FIGURE 11



01/20/2010 10:10:10

Thomas Creek Pb

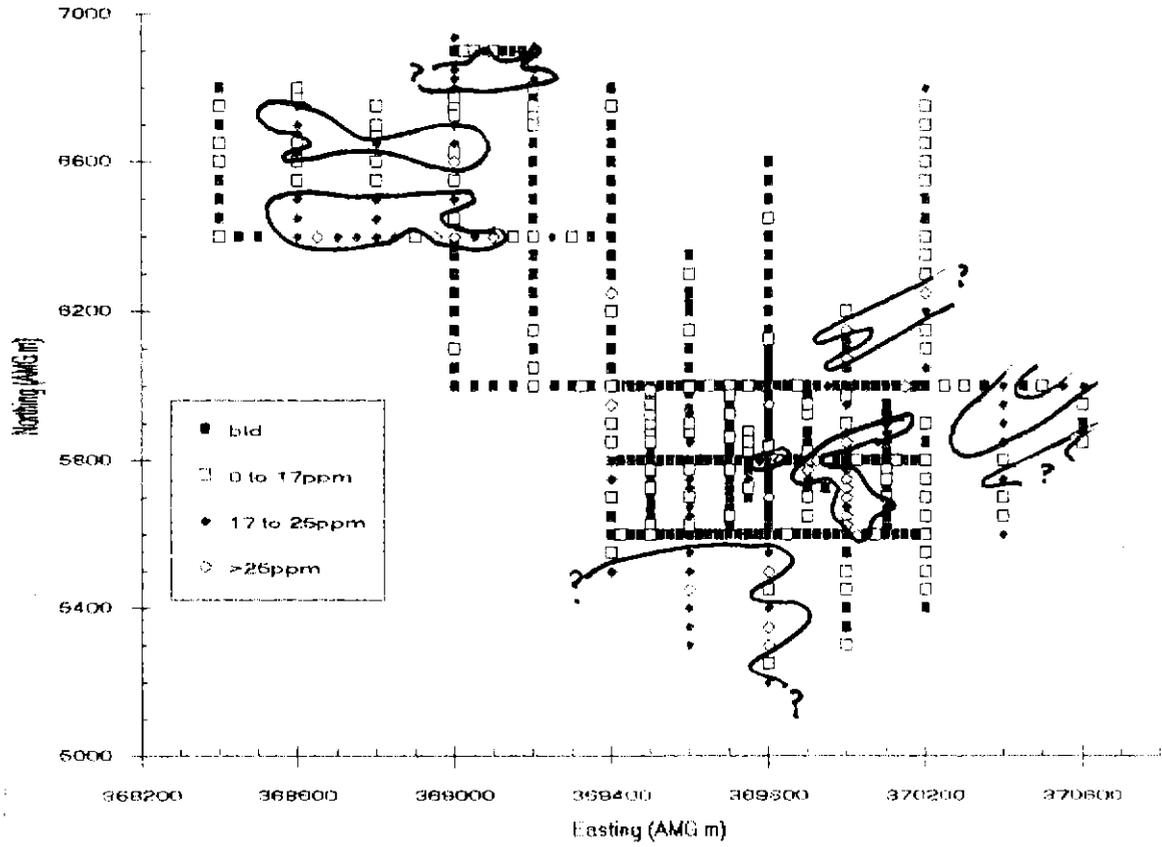
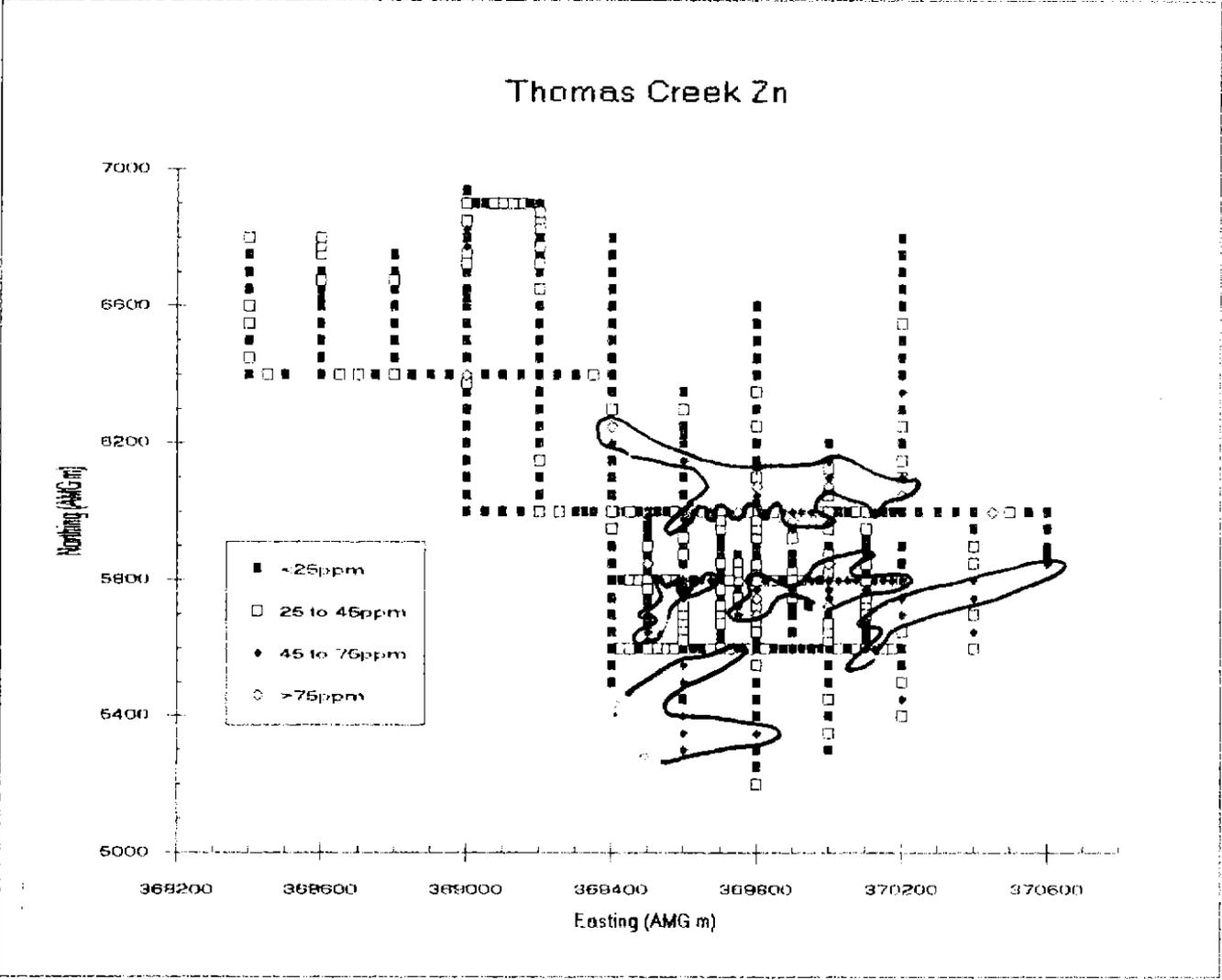


FIGURE 12

FIGURE 13



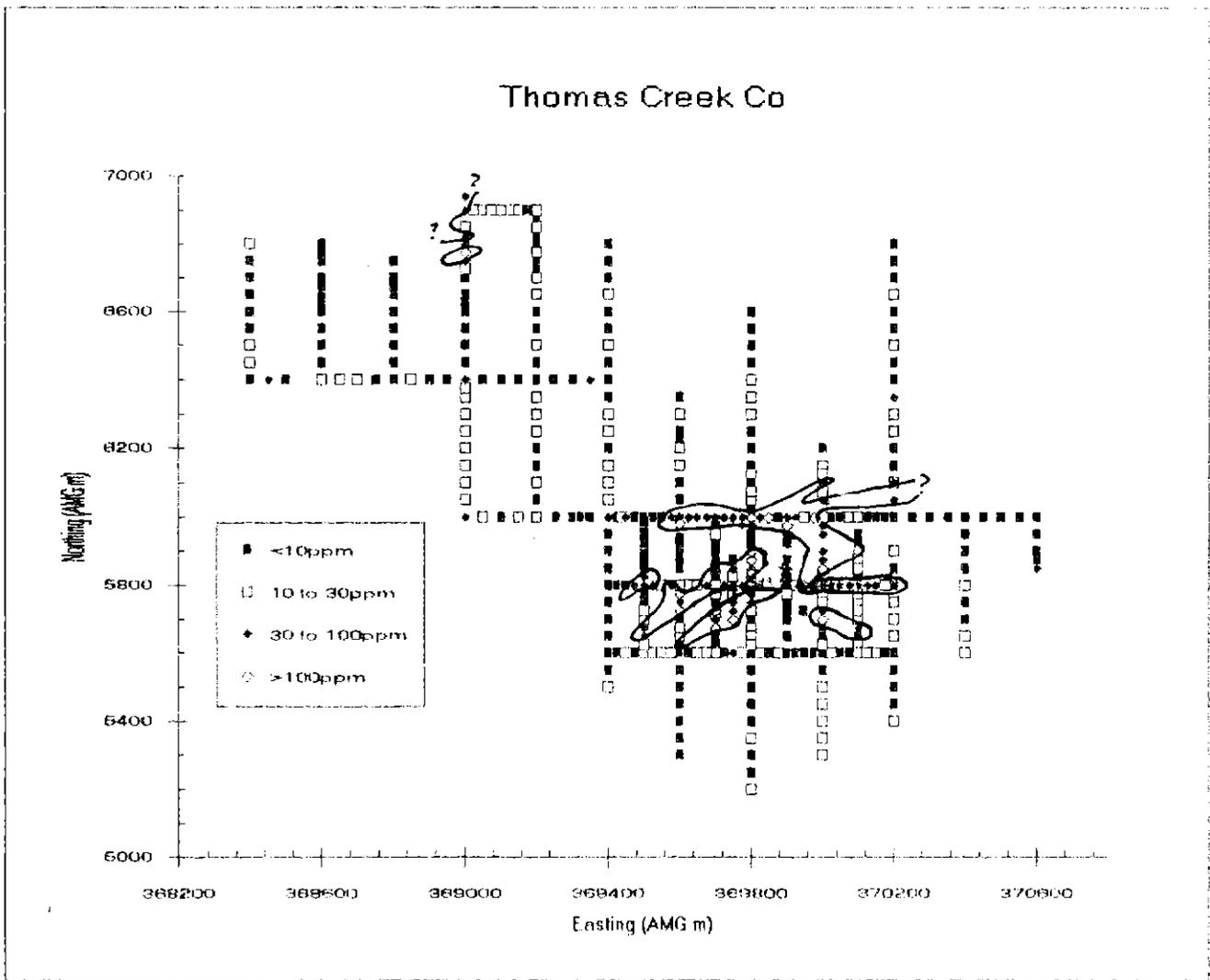


FIGURE 14

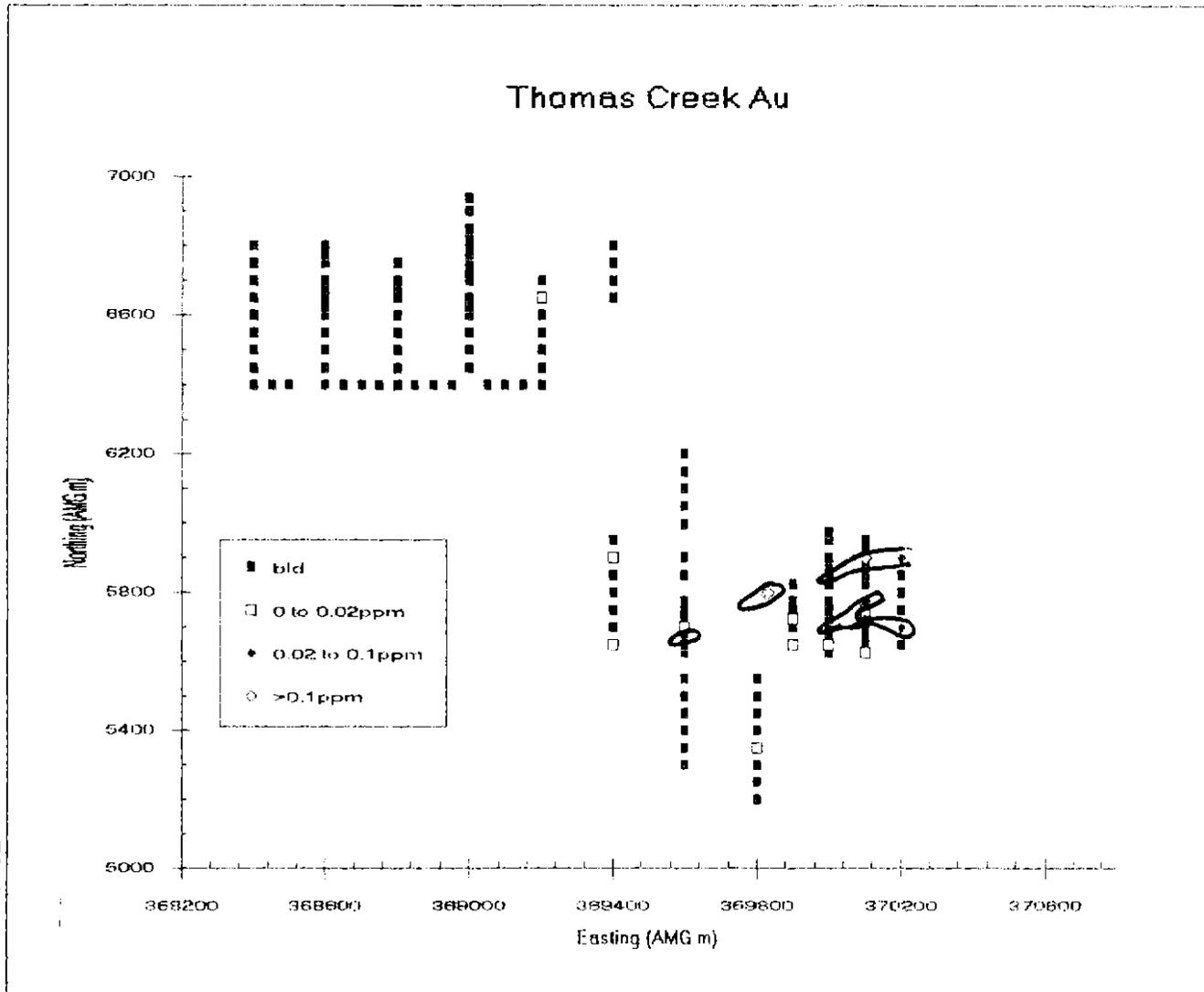


FIGURE 15

Thomas Creek Alteration Index

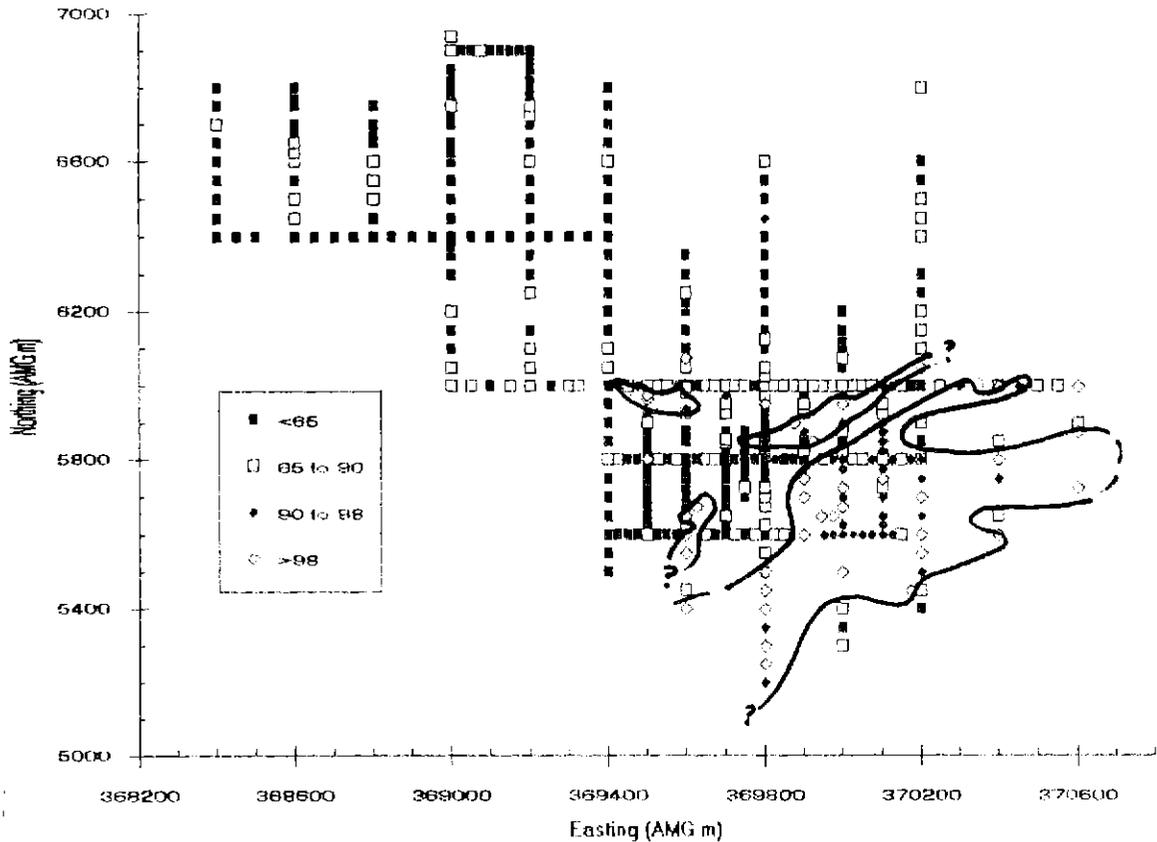


FIGURE 16

Thomas Creek Alteration Index

■ <65 □ 65-90 ◆ 90-98 ◇ >98

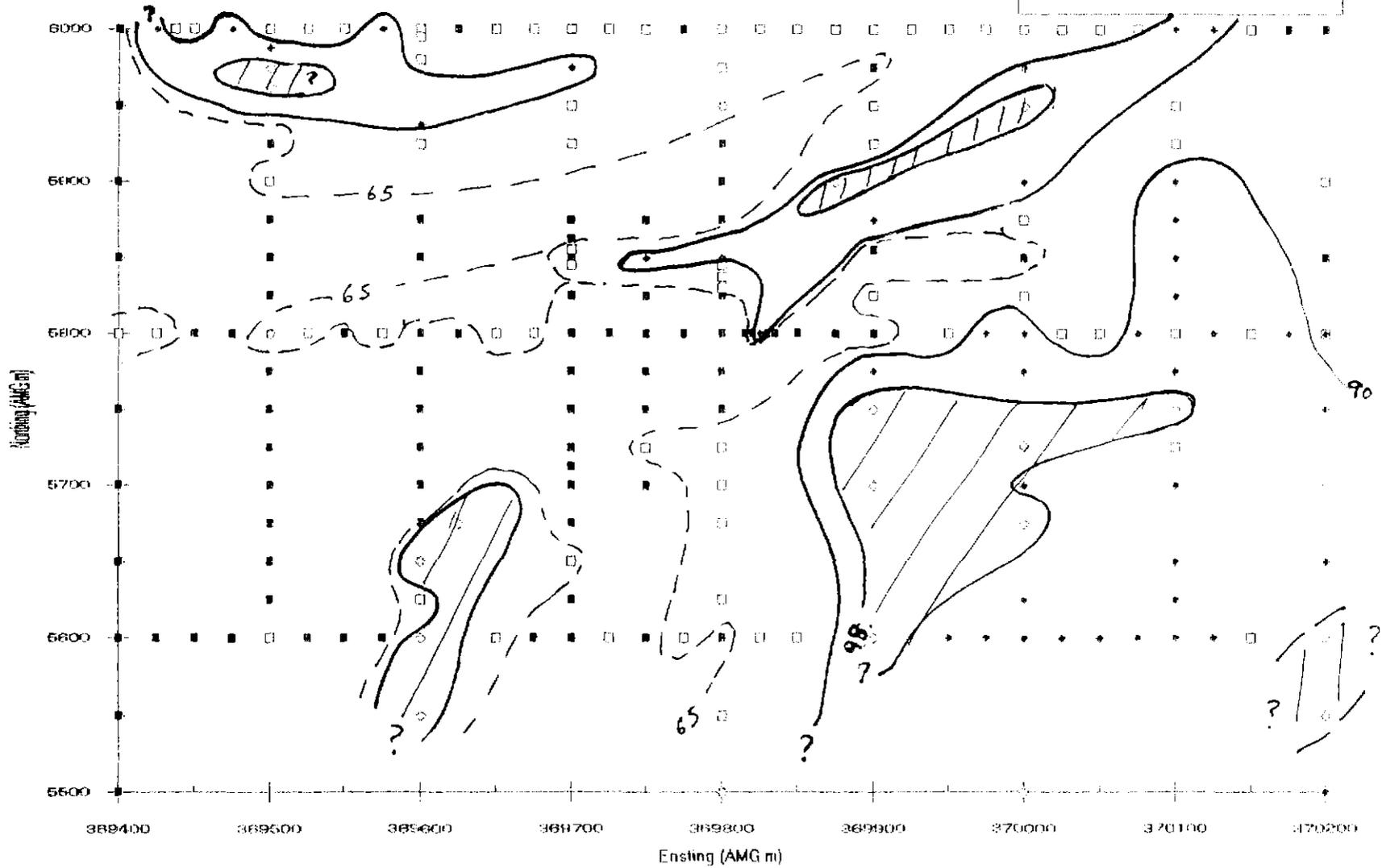


FIGURE 17

Thomas Creek K (wt %)

■ <1.7 □ 1.7-2.9 ◆ 2.9-5.0 ◇ >5.0

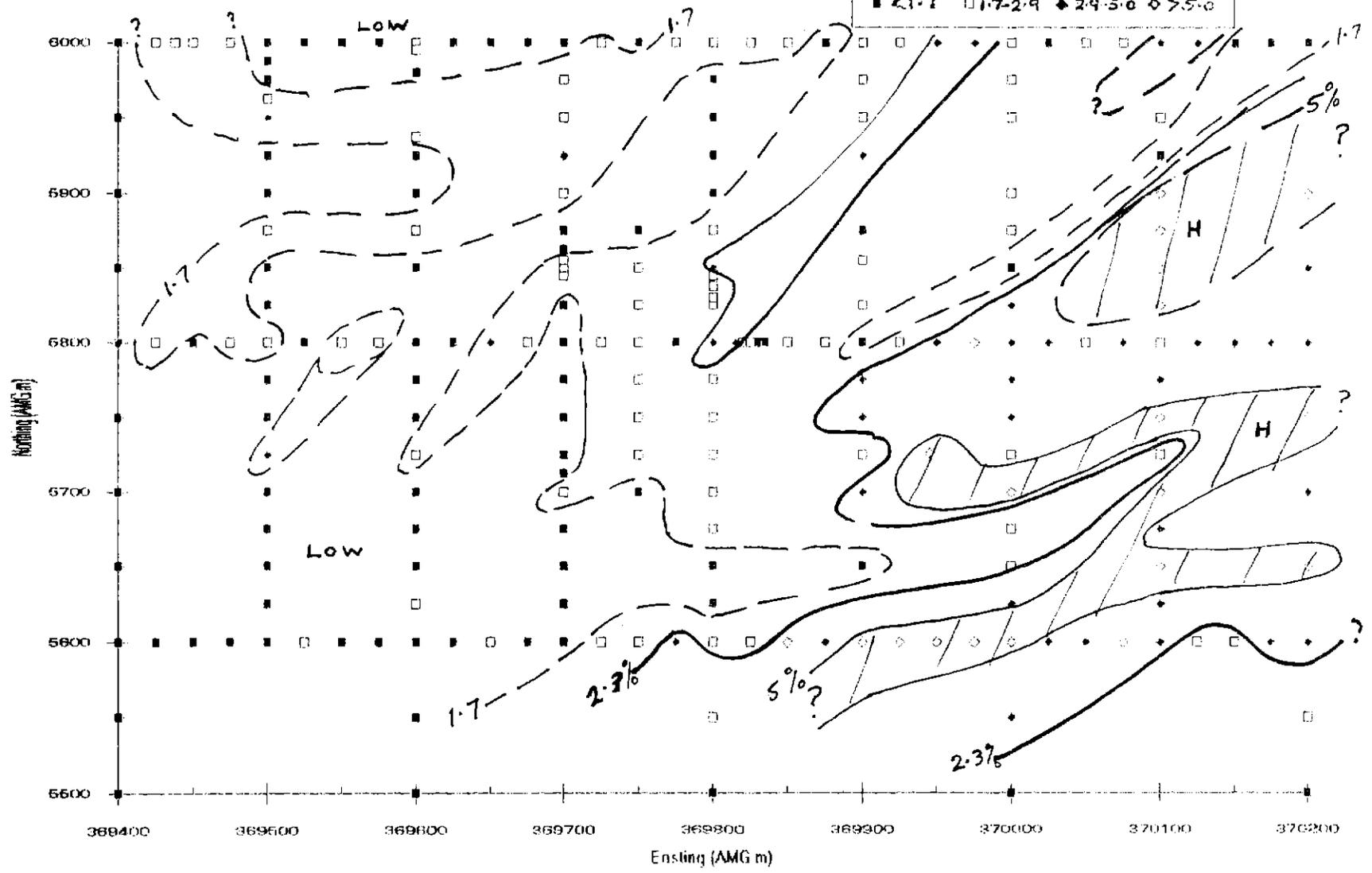


FIGURE 18

FIGURE 19

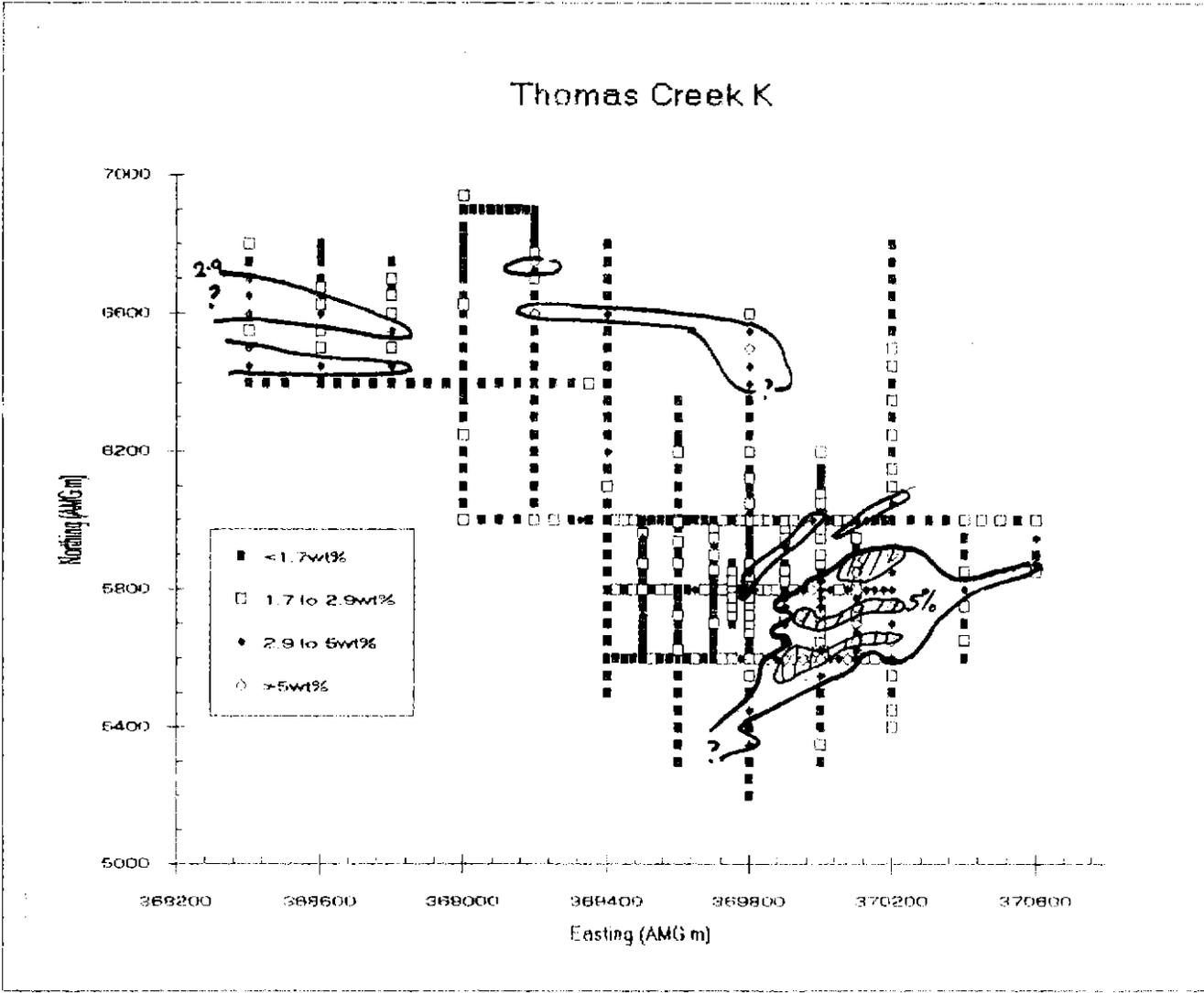


FIGURE 20

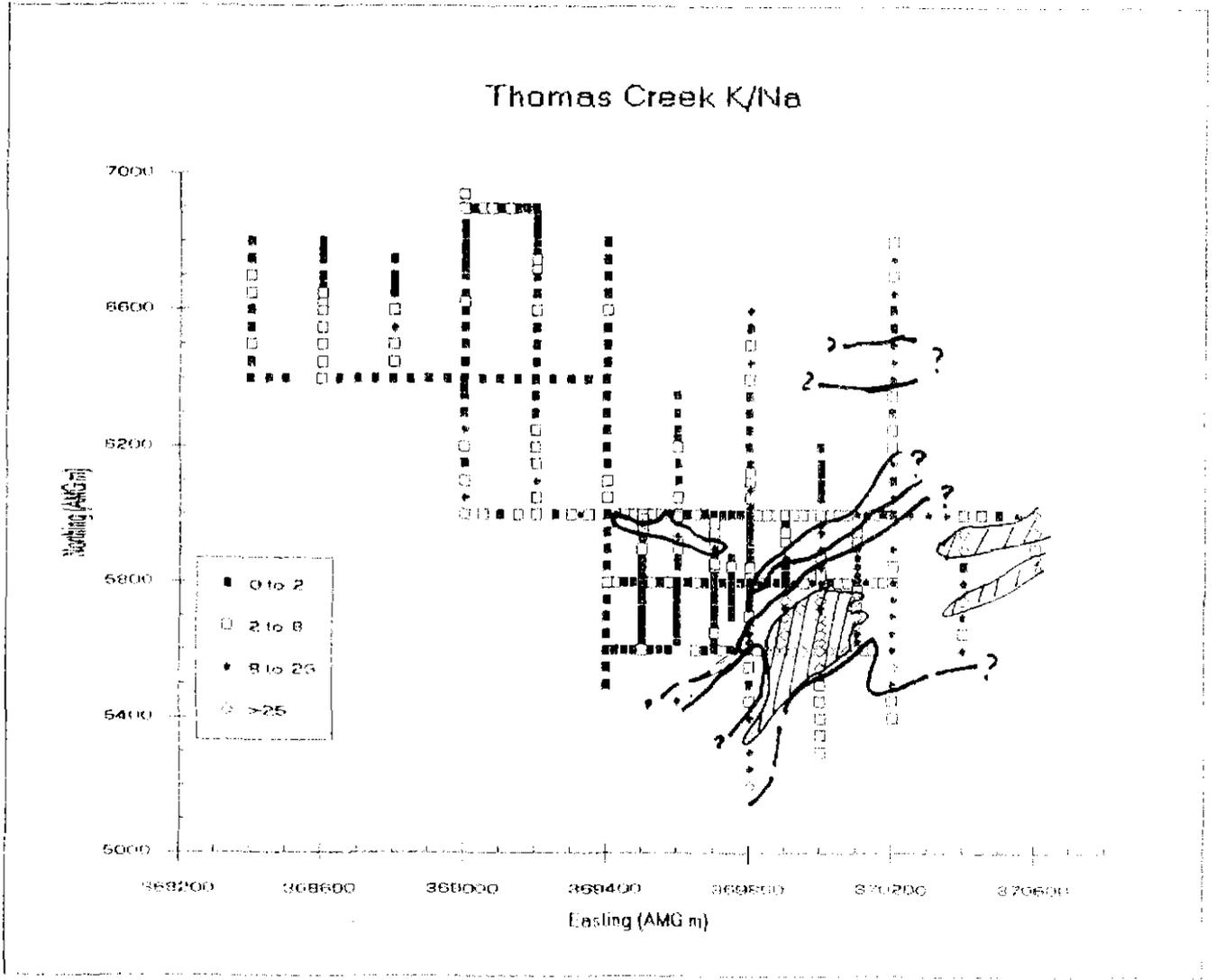
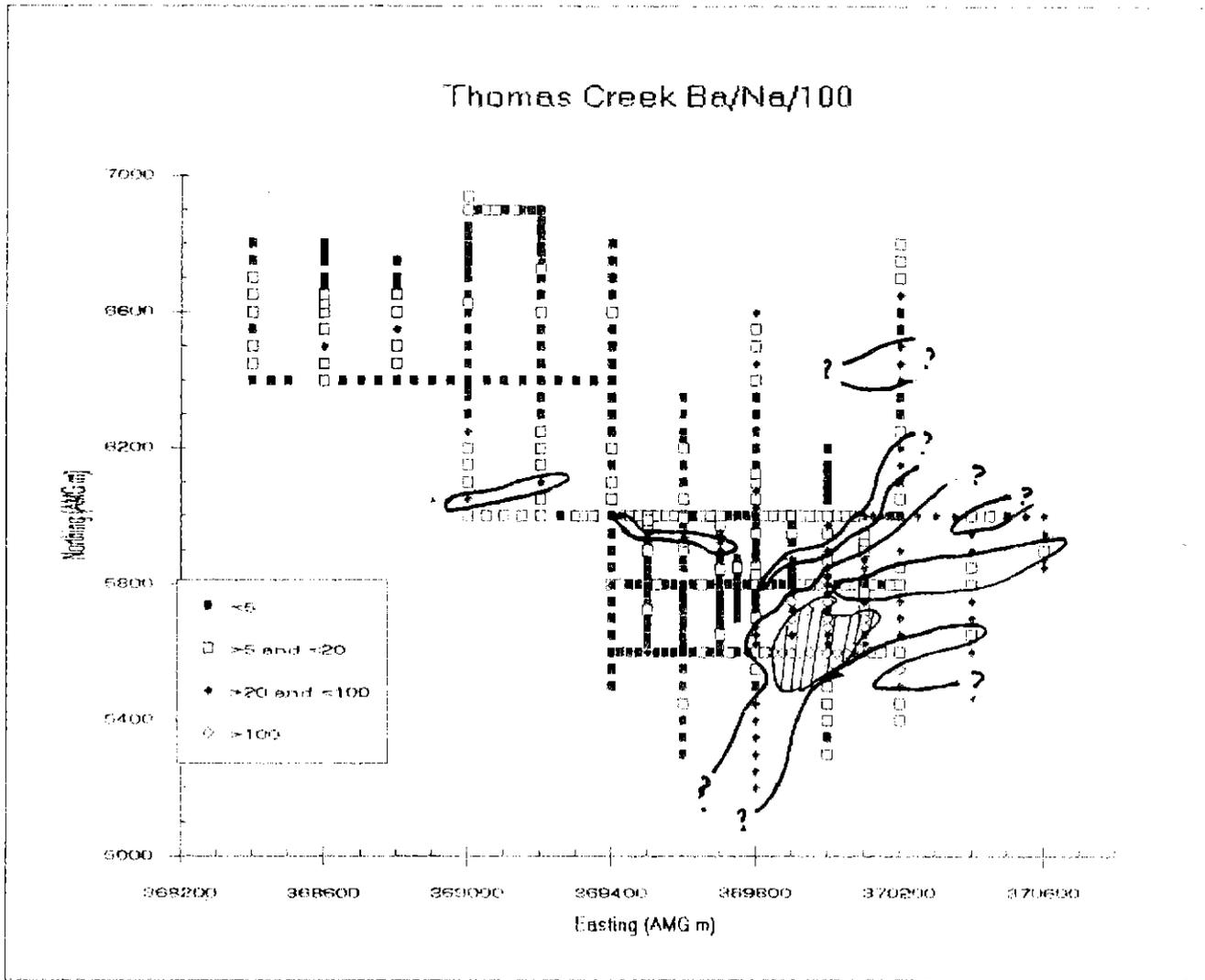


FIGURE 21



Thomas Creek K/Fe

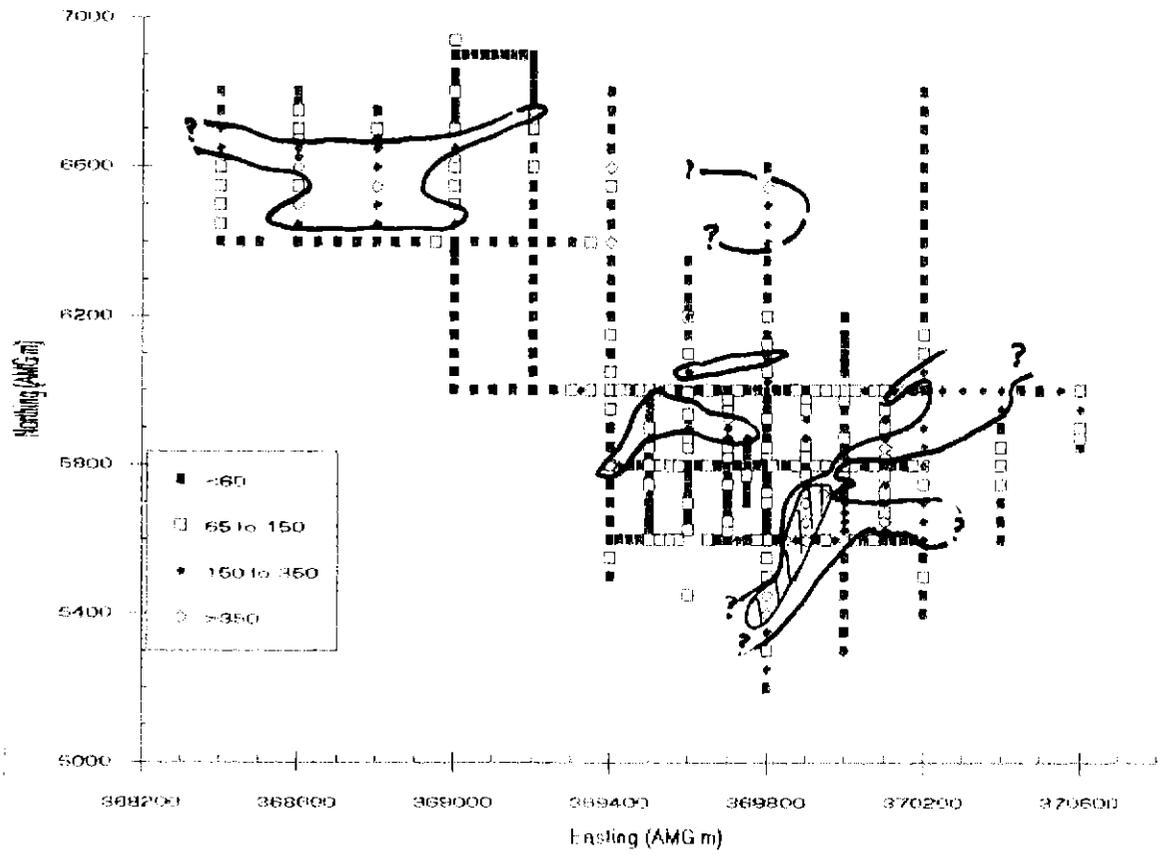


FIGURE 22

FIGURE 23

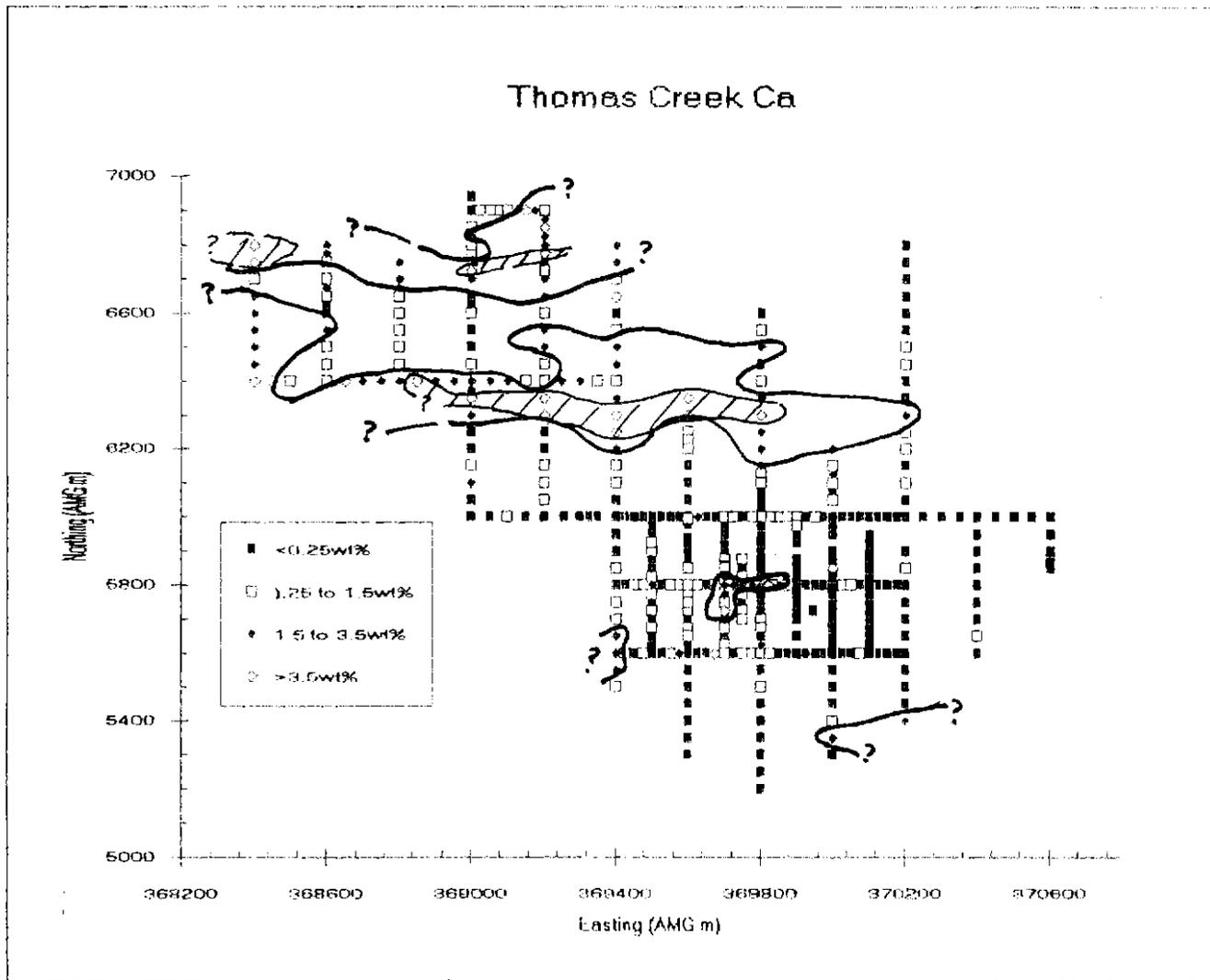
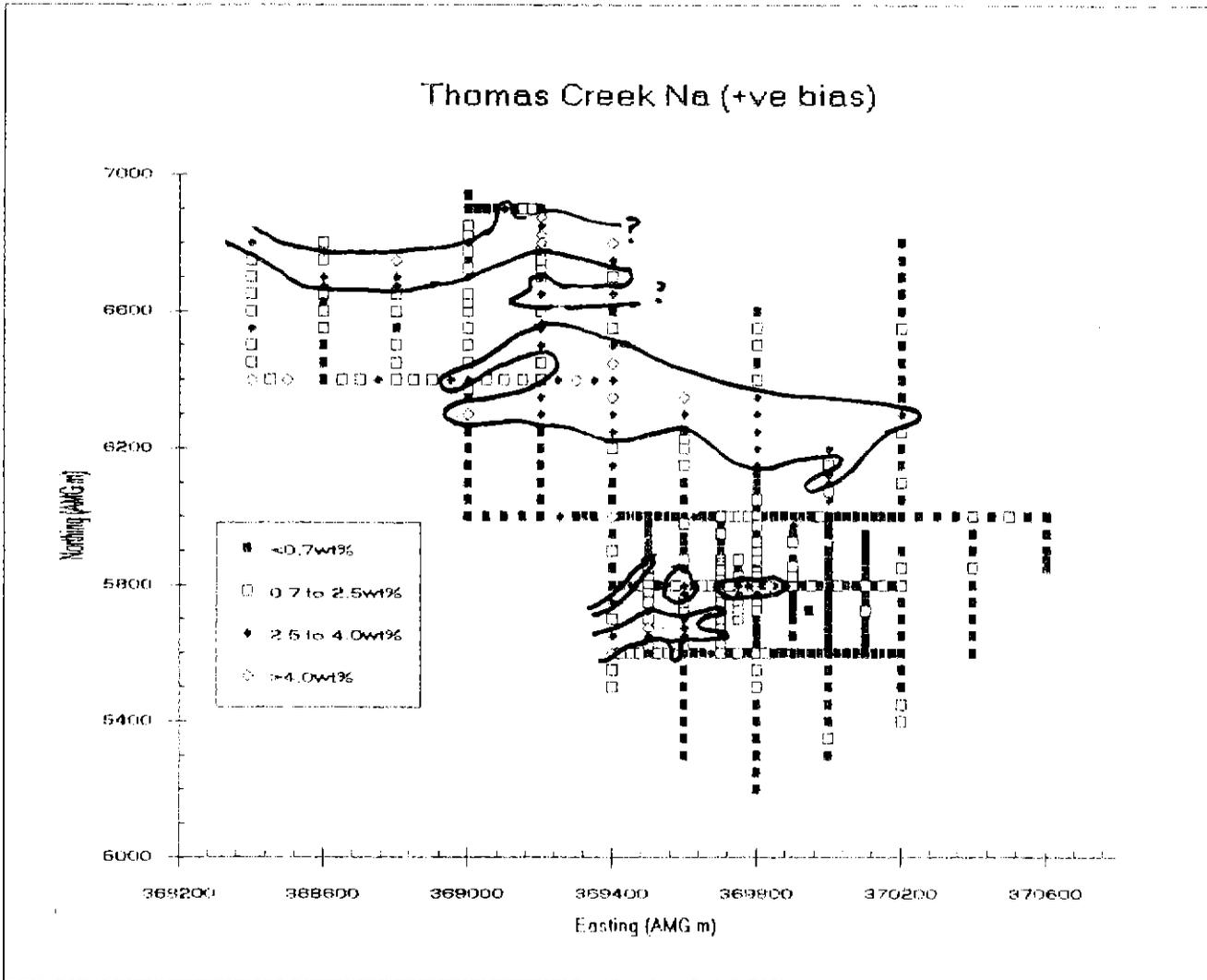


FIGURE 24



Thomas Creek Mg

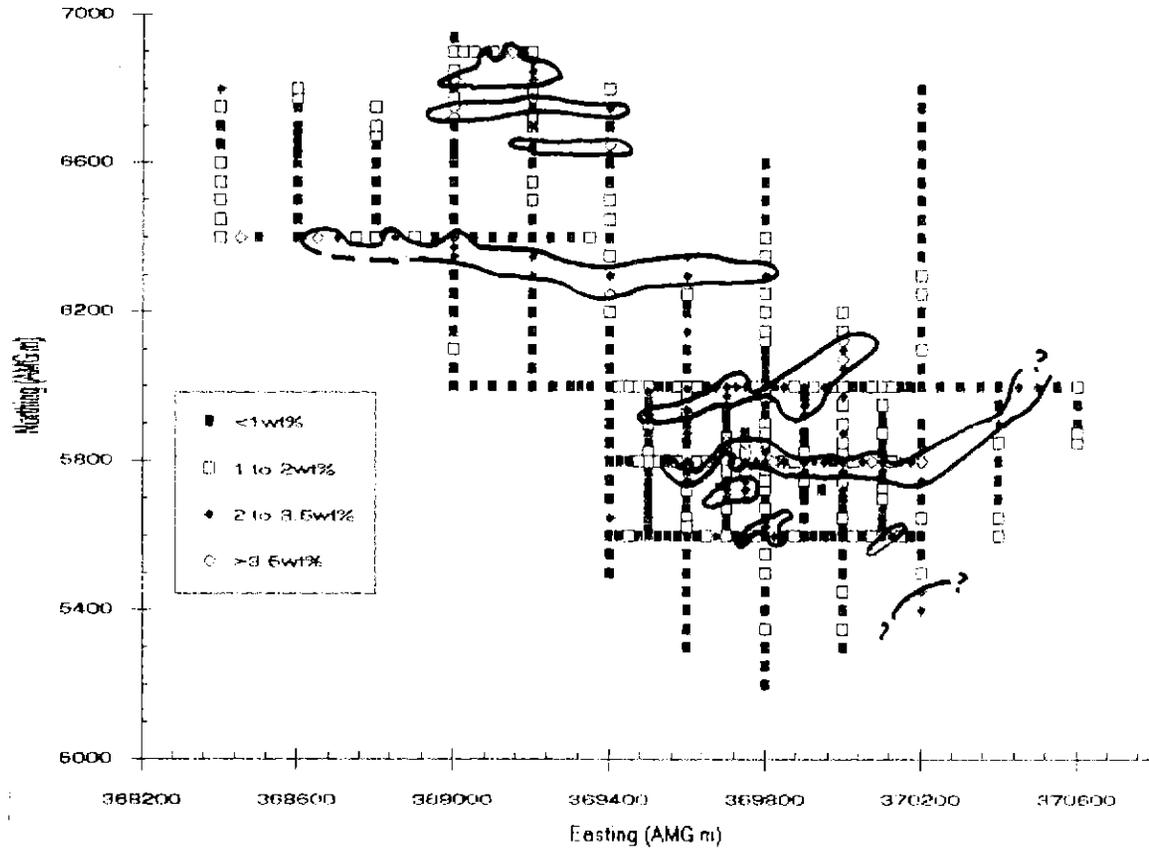


FIGURE 25

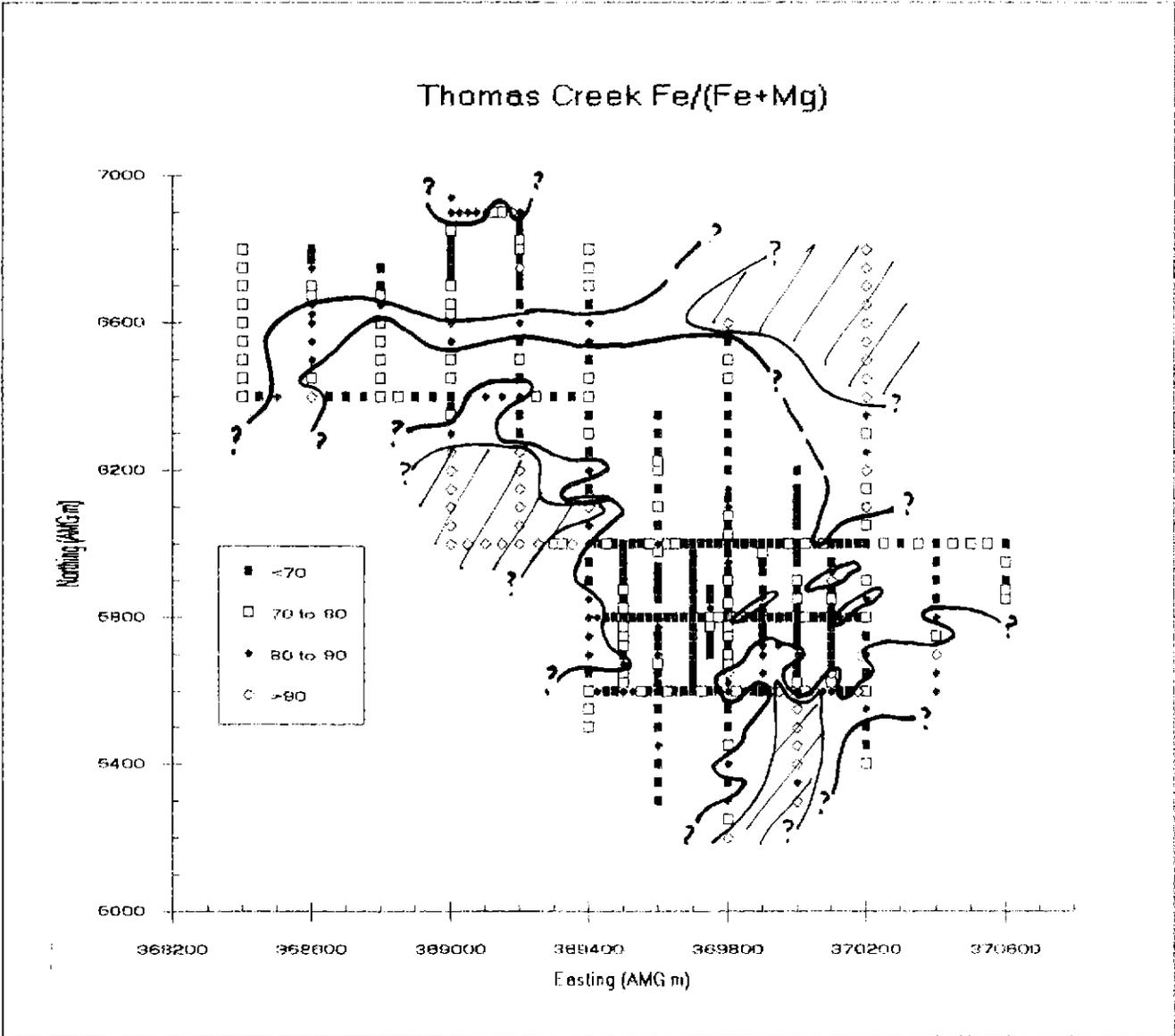
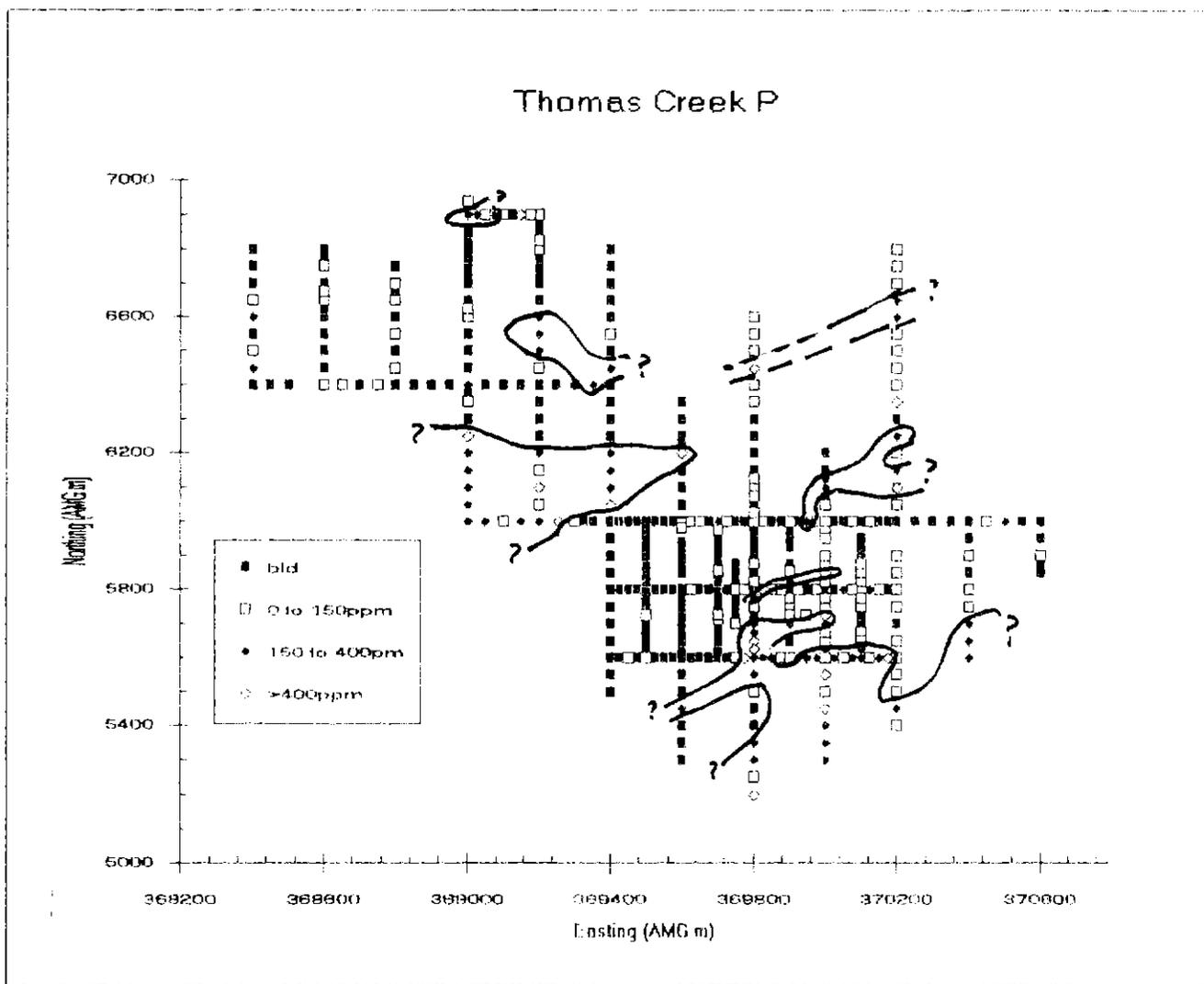


FIGURE 26

FIGURE 27



PHASE IP 34mr

B

A

CAMP
S/H

← PROPOSED GRID
EXTENSION

0 250

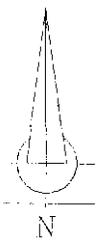


SCALE IN METRES

5 cm

Cu > 200ppm

Cu > 500ppm



REVISION:	Plutonic Plutonic Operations Limited A.C.N. 004 680 997	
TECHNICAL REPORT NUMBER:		
CHECKED BY:	PROJECT: 708 SORELL PENINSULA	
DATE:	THOMAS CREEK PROSPECT IP and Cu ANOMALISM	
SCALE:	SHEET:	DWG. NO:

753125

95-3784

MICROFILMED
FICHE No. D13710-17

APPENDIX II

GEOPHYSICAL DATA

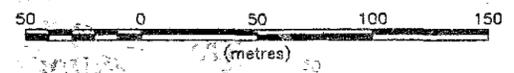
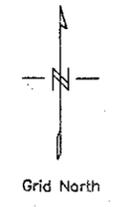
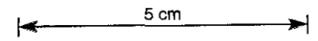
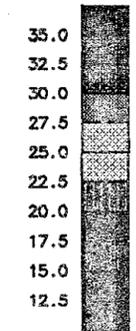
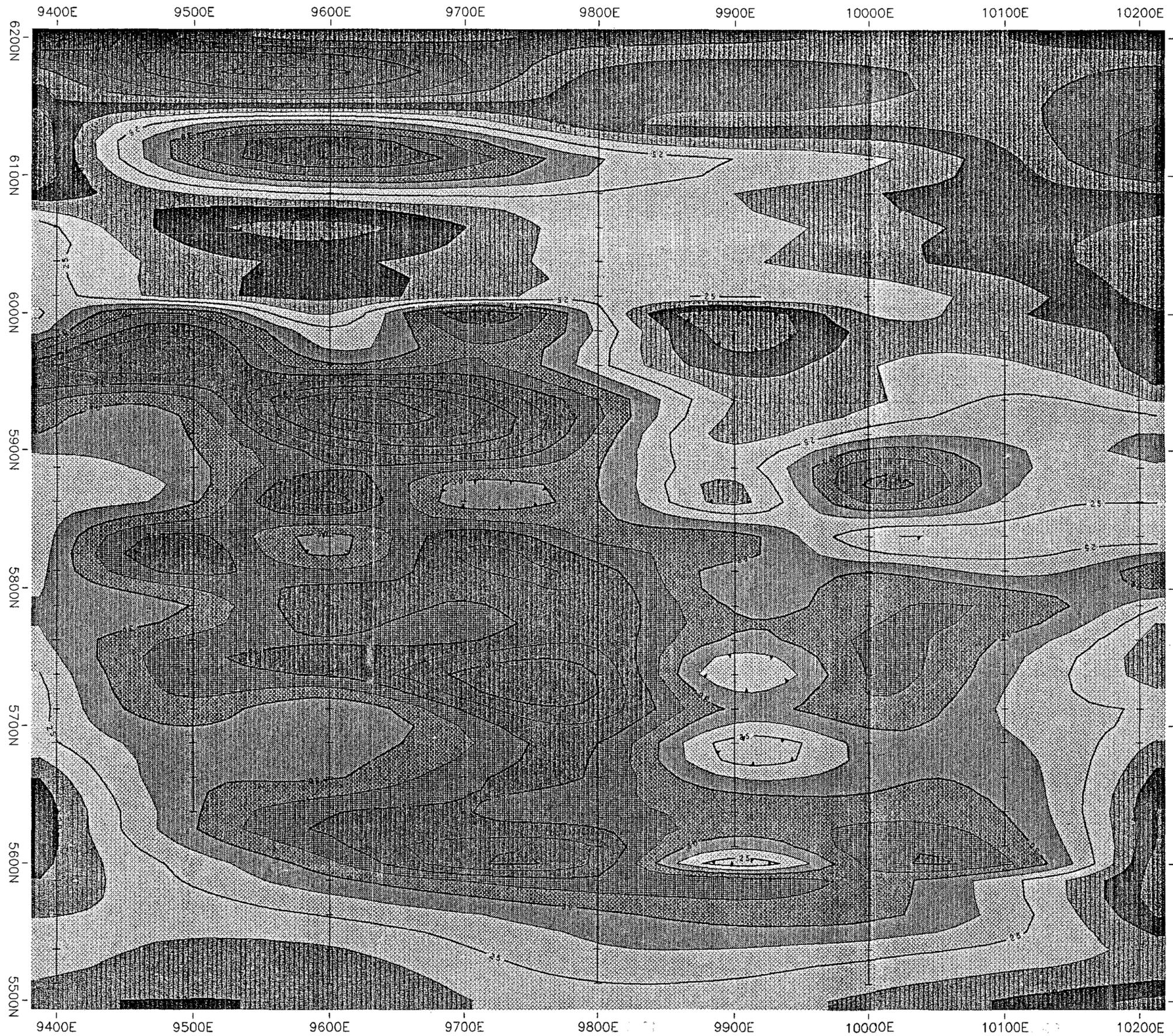
- (a) Gradient Array Plots
- (b) Dipole-Dipole Sections

95-3784

**VOL 2 OF 2 - ELS 4/92 & 7/92 SORELL
PENINSULA ANNUAL REPORT 1993-95
CLOSE R.J. REID R. PLUTONIC OPERATIONS**

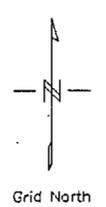
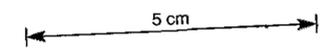
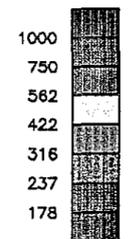
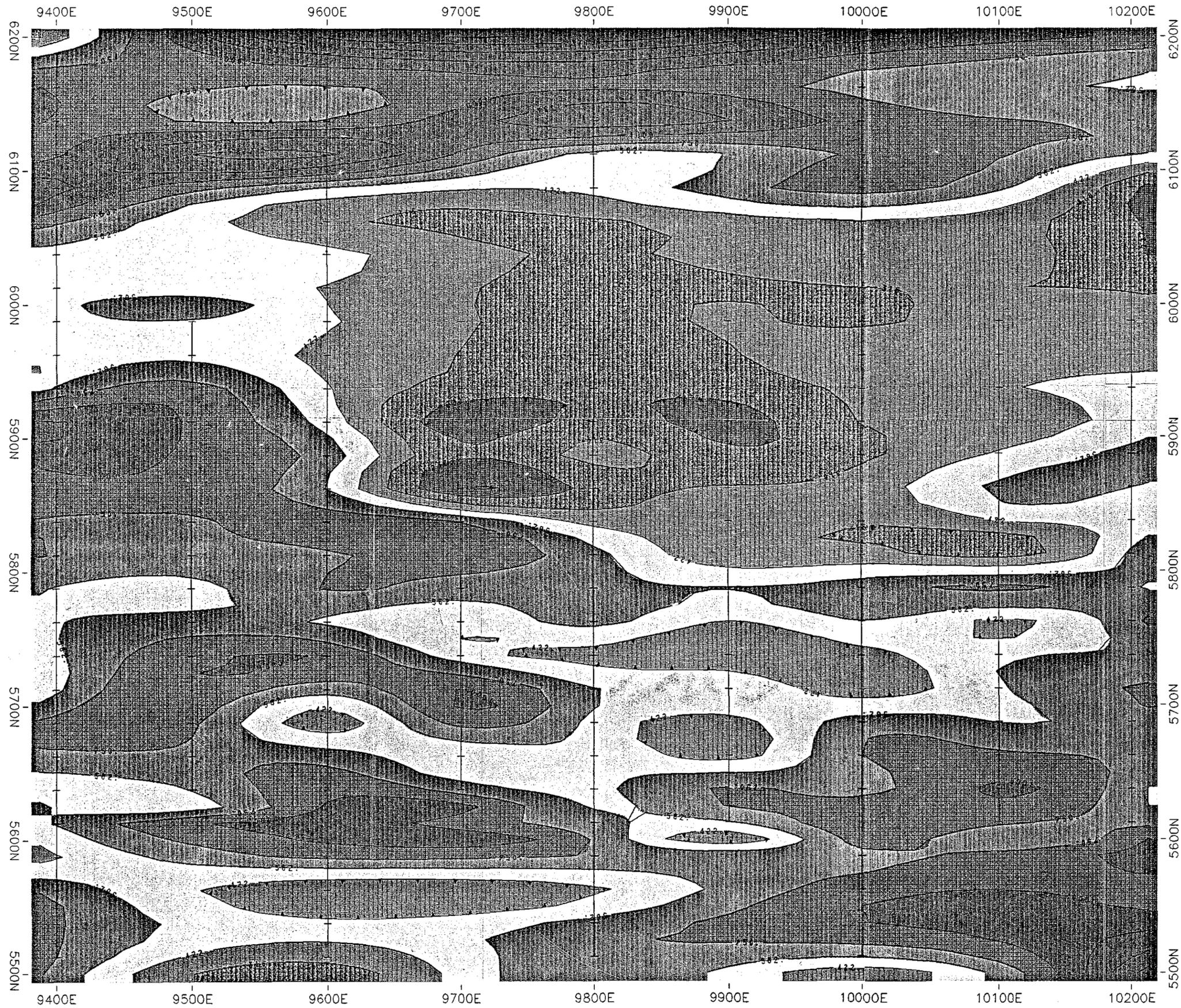
OPEN FILE

(a) GRADIENT ARRAY PLOTS



753127

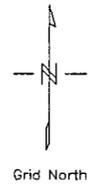
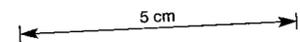
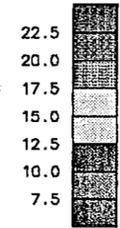
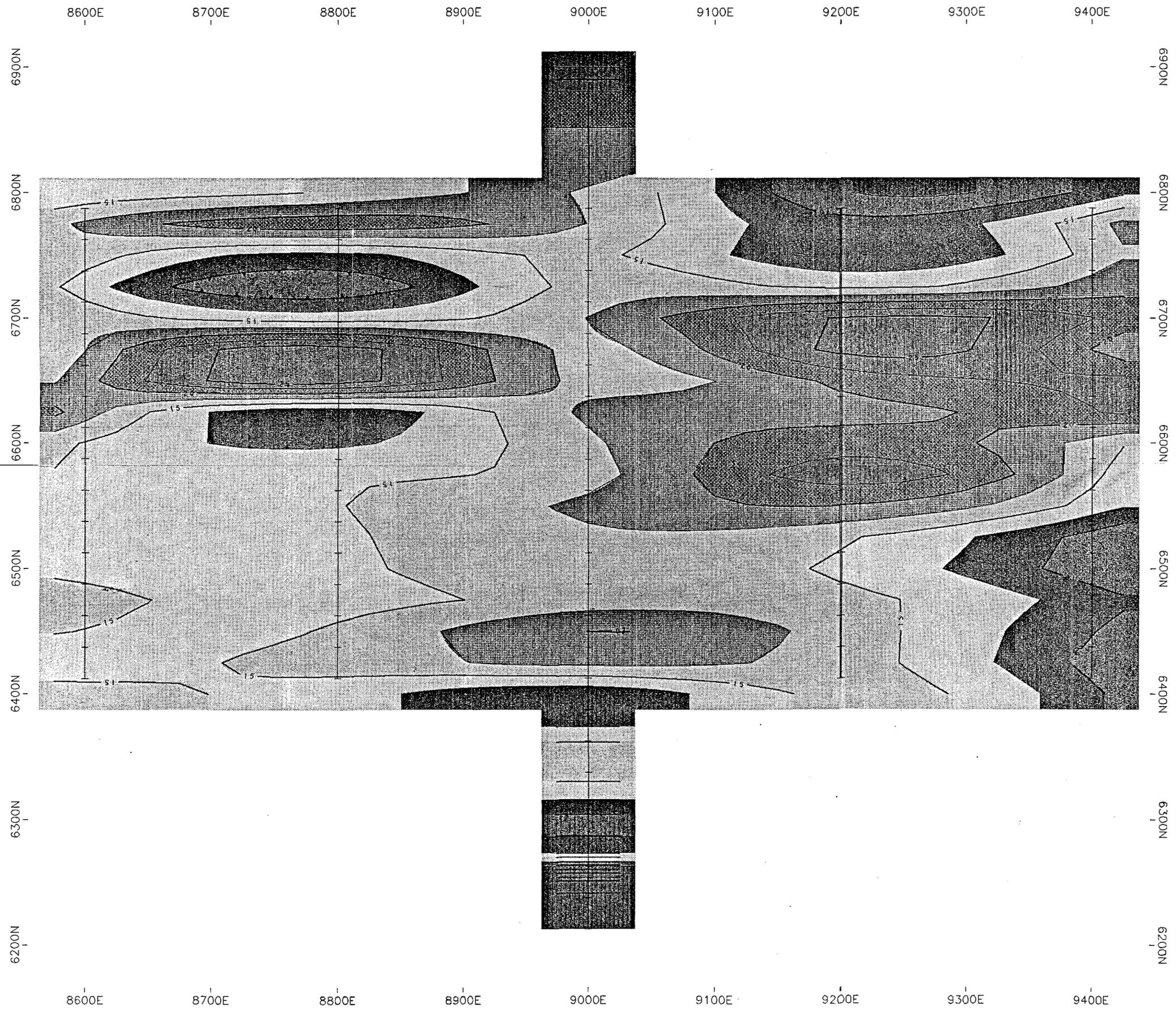
PLUTONIC RESOURCES LTD				
THOMAS CREEK GRADIENT SURVEY				
3-pt. Corrected Phase Contours				
Grid Centred on 69800E				
AUTHOR	DRAWN	DATE	SCALE	REPORT
M. Hatch	Zonge	May 95	1:2 500	
REF.	FILE	PLAN	No.	4



753128



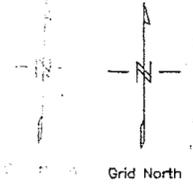
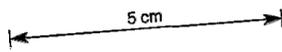
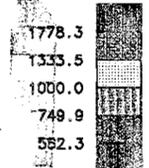
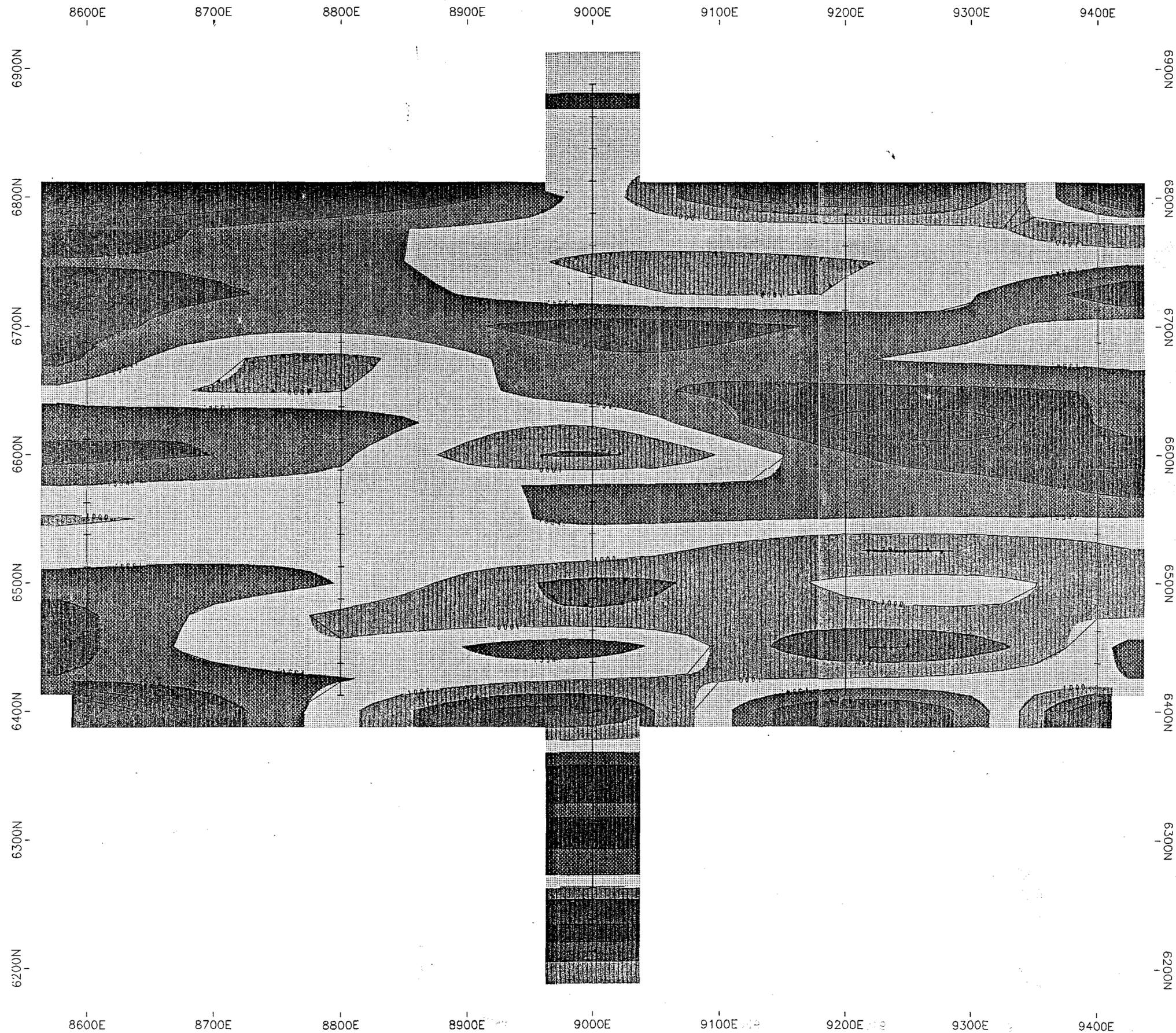
PLUTONIC RESOURCES LTD				
THOMAS CREEK GRADIENT SURVEY				
Apparent Resistivity Contours				
Grid Centred on 69800E				
AUTHOR	DRAWN	DATE	SCALE	REPORT
M. Hatch	Zonge	May 95	1:2 500	
REF.	FILE	PLAN No.	5	



753129



PLUTONIC RESOURCES LTD				
THOMAS CREEK GRADIENT SURVEY				
3pt Corrected Phase Contours				
Grid Centred on 69000E				
AUTHOR	DRAWN	DATE	SCALE	REPORT
M. Hatch	Zonge	May 95	1:2 500	
REF.		FILE	PLAN No.	6

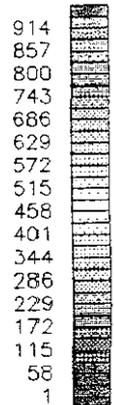


753130

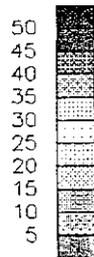


PLUTONIC RESOURCES LTD				
THOMAS GREEK GRADIENT SURVEY				
Apparent Resistivity Contours				
Centre Grid Centred on 69000E				
AUTHOR	DRAWN	DATE	SCALE	REPORT
M. H.	M. H.	May 95	1:2 500	
REF.	FILE	PLAN	FILE	PLAN No.

(b) DIPOLE-DIPOLE SECTIONS

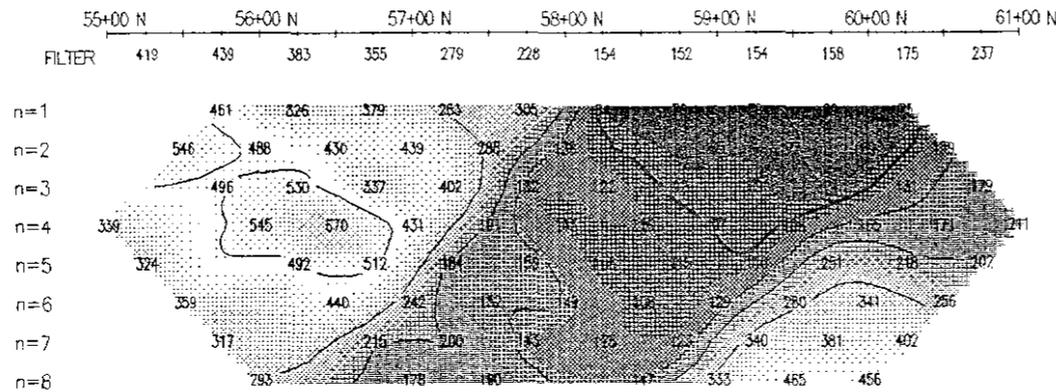


App. Resistivity (Ohm-m)

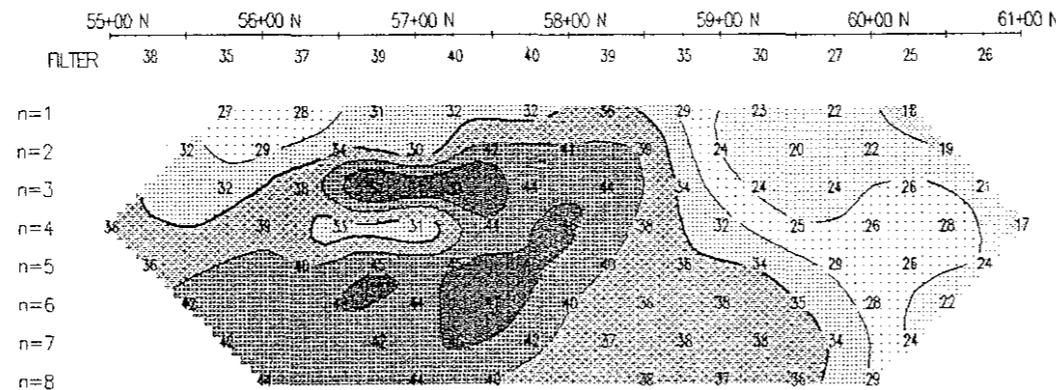


App. Chargeability (mrad)

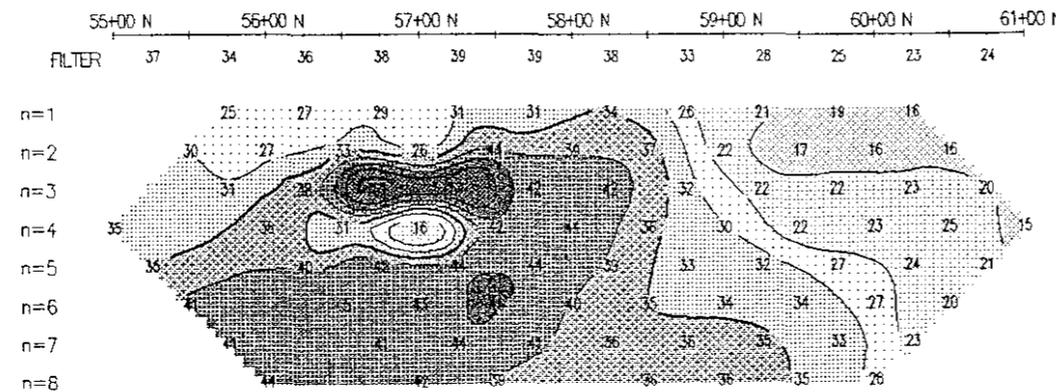
Zonge



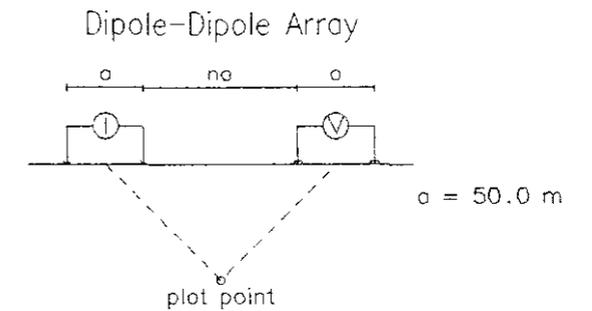
RESISTIVITY (ohm-m)



PHASE, 0.125 HZ (mrad)

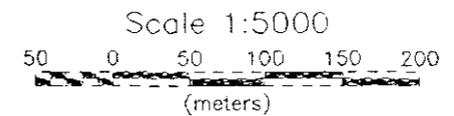


3-PT DC PHASE (mrad)

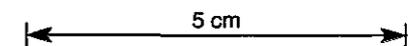


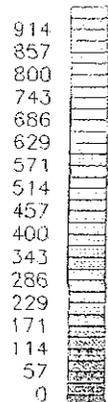
Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Linear Contours 0.0, 5.0, 10.0, 15.0, 20.0, ...

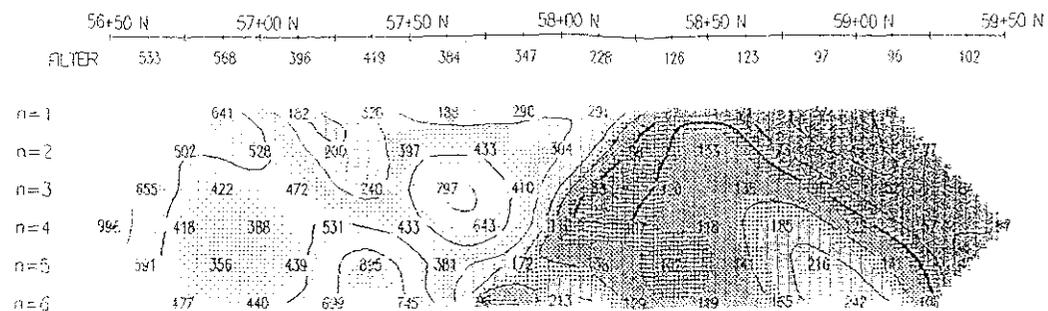


PLUTONIC				
THOMAS CREEK				
Line 9800E				
Resistivity, Raw Phase and 3Pt Phase				
CR-IP INDUCED POLARIZATION SURVEY DATA				
AUTHOR	DRAWN	DATE	SCALE	REPORT
Zonge	Zonge	02/06/95	1:5000	
REF.	FILE	PLAN No.		

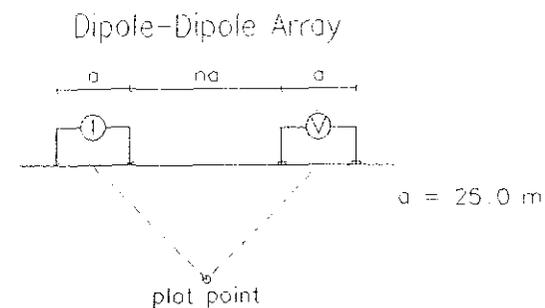




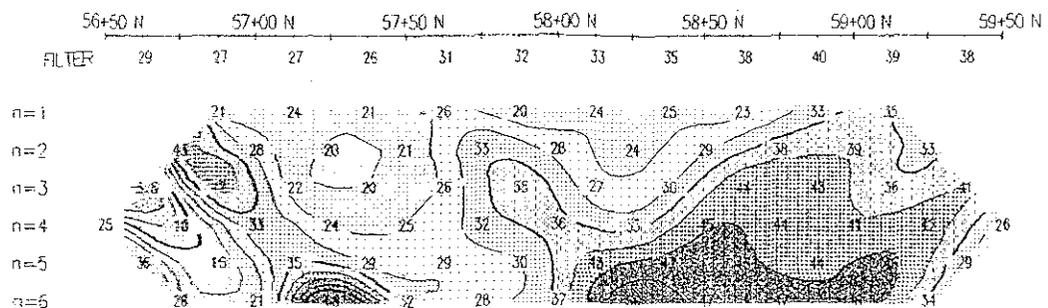
App. Resistivity (Ohm-m)



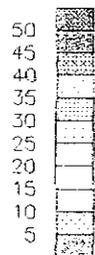
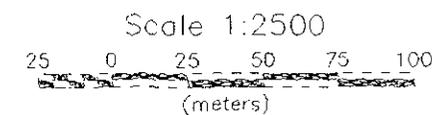
RESISTIVITY (ohm-m)



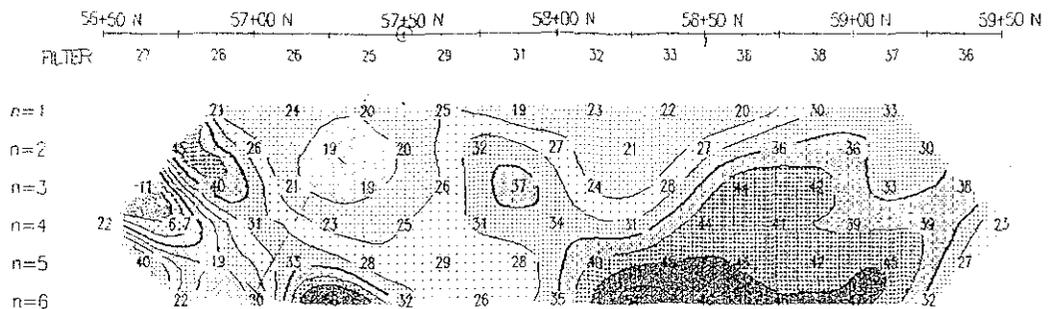
Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...
 Linear Contours 0.0, 5.0, 10.0, 15.0, 20.0, ...



PHASE, 0.125 HZ (mrad)



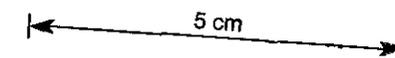
App. Chargeability (mrad)



3-PT DC PHASE (mrad)

PLUTONIC				
THOMAS CREEK				
Line 9700E				
Resistivity, Raw Phase and 3Pt Phase				
CR-IP INDUCED POLARIZATION SURVEY DATA				
AUTHOR	DRAWN	DATE	SCALE	REPORT
Zonge	Zonge	18/05/95	1:2500	
REF.	FILE	PLAN No. Ξ		

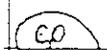
Zonge



5 cm

Line 9800E
THOMAS CREEK
for
PLUTONIC

Field Job 270
ZONGE ZPLOT 7.10 UNAVERAGED
Plotted 02 Jun 95



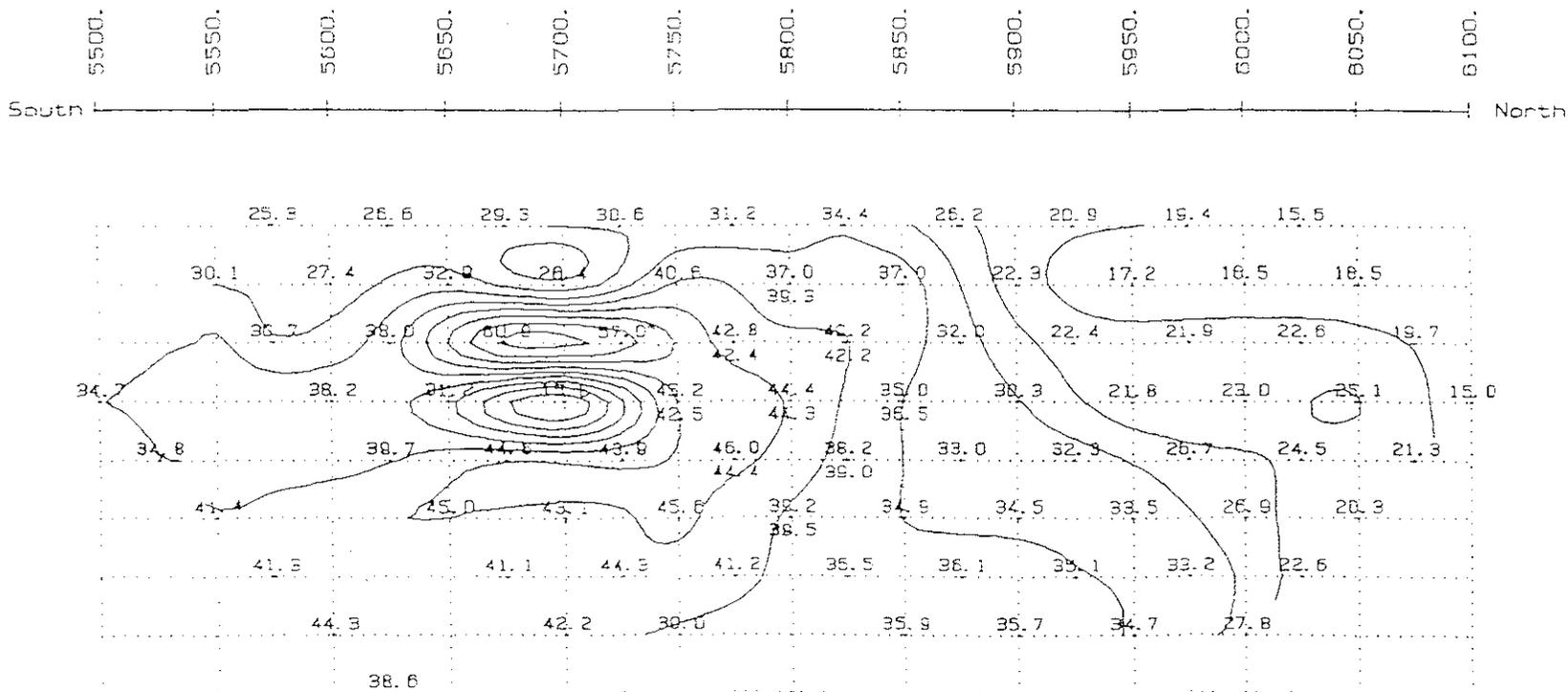
CR-IP SURVEY DATA
3-PT DC PHASE

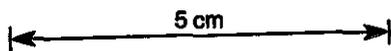
values in milliradians
.125..375..625 Hz

SURVEY LINE DATA
Line Orient= North
A - Spacing= 50 m
Survey Date= 5/95

(Plot limits) and ARITHMETIC CONTOURS
(Interval: 5.00)

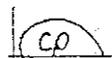
15.0	[82.2]
20.0	
25.0	
30.0	
35.0	
40.0	
45.0	
50.0	
55.0	
60.0	





Line 9800E
THOMAS CREEK
for
PLUTONIC

Field Job 270
ZONCE ZPLOT 7.10 UNAVERAGED
Plotted 02 Jun 95



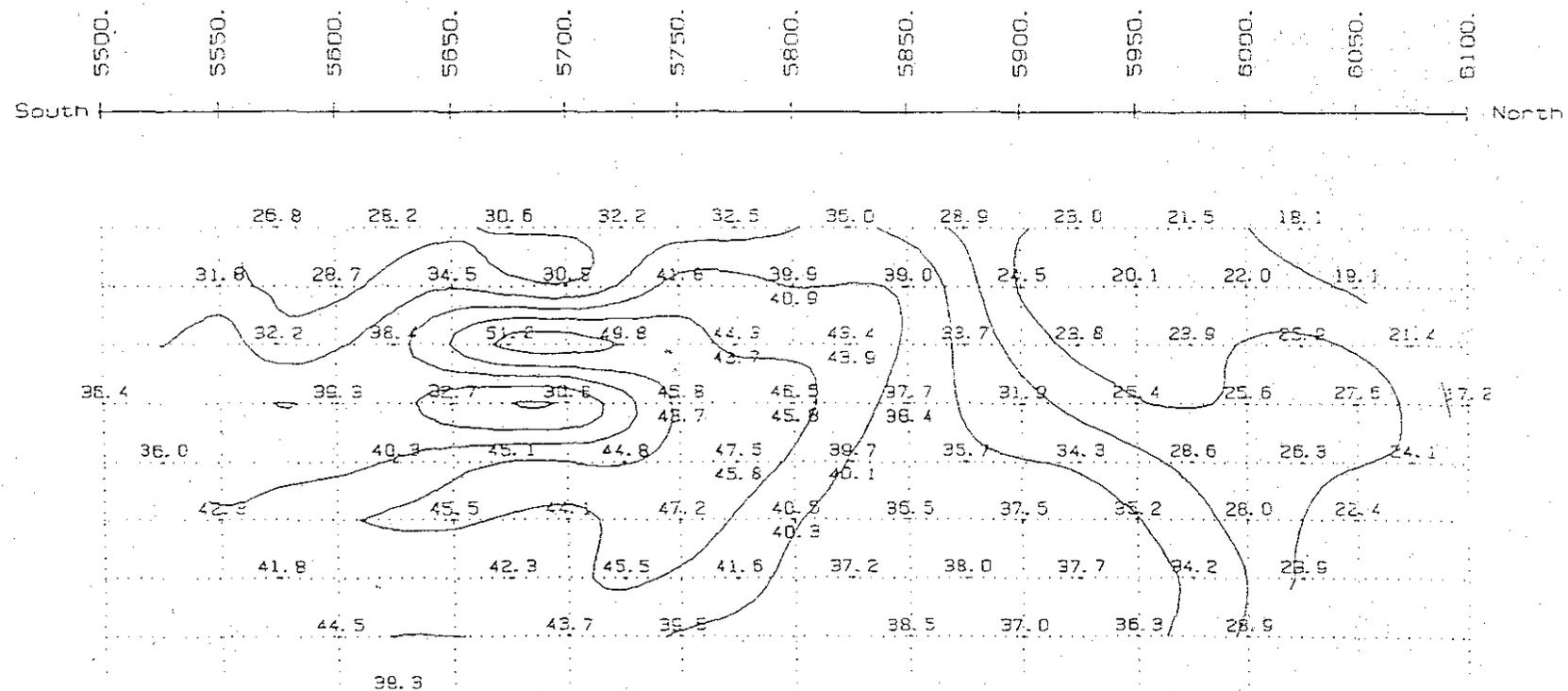
CR-IP SURVEY DATA
Raw PHASE Angle

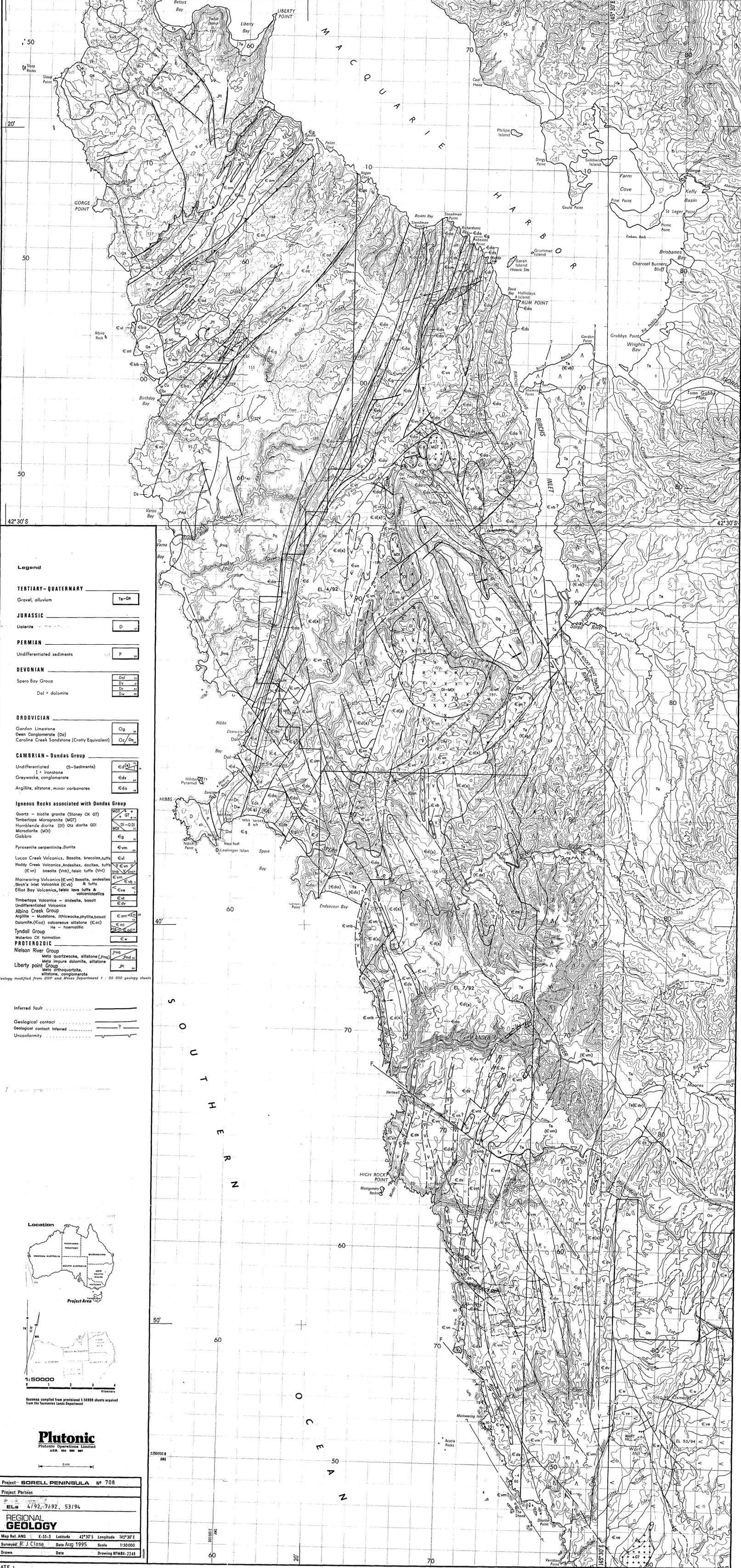
values in milliradians
0.125 Hz

SURVEY LINE DATA
Line Orient= North
A - Spacing= 50 m
Survey Date= 5/95

[Plot limits] and ARITHMETIC CONTOURS
(Interval: 5.00)

- [17.2]
- 20.0
- 25.0
- 30.0
- 35.0
- 40.0
- 45.0
- 50.0
- [52.0]





Legend

TERTIARY-QUATERNARY

Gravel, alluvium Ts-Qs

JURASSIC

Dolerite D

PERMIAN

Undifferentiated sediments P

DEVONIAN

Spero Bay Group

Dol	43
Ds	42
Dr	41
Dw	40

Dol = dolomite

ORDOVICIAN

Gordon Limestone Og

Owen Conglomerate (Oo)

Caroline Creek Sandstone (Crotty Equivalent) Oc, Oo₁

CAMBRIAN - Dundas Group

Undifferentiated (S-Sediments) Ed(s)

Greywacke, conglomerate Eds

Argillite, siltstone, minor carbonates Eda

Igneous Rocks associated with Dundas Group

Quartz - biotite granite (Stoney CK GT) MGT

Timbertops Microgranite (MGT) Di-O Di

Hornblende diorite (Di) or diorite QDI MDI

Microdiorite (MDI) Eg

Gabbro Eg

Pyroxenite, serpentinite, Dunite Evm

Lucas Creek Volcanics, Basalts, breccias, tuffs Evl

Noddy Creek Volcanics, Andesites, dacites, tuffs (Evn) Evn

Basalts (Vnb), felsic tuffs (Vnt) Vnb

Mainwaring Volcanics (Evm) Basalts, andesites Evm

Blich's Inlet Volcanics (Evb) & tuffs Evb

Elliot Bay Volcanics, felsic lava tuffs & volcanoclastics Eve

Timbertops Volcanics - andesite, basalt Evt

Undifferentiated Volcanics Evd

Albina Creek Group Eam

Argillite - Mudstone, lithicwacke, phyllite, basalt Eoc

Dolomite (Ead) calcareous siltstone (Eac) Ead

He - haemolite Ew

Tyndall Group Ew

Waterloo CK formation Ew

PROTEROZOIC

Nielson River Group Pna

Meta quartzwacke, siltstone (Pna) Pna

Meta impure dolomite, siltstone Pnd

Liberty point Group Jpl

Meta orthoquartzite, siltstone, conglomerate Jpl

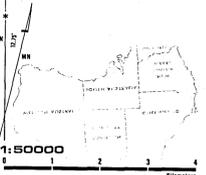
Geological symbols:

Inferred fault

Geological contact

Geological contact Inferred

Unconformity



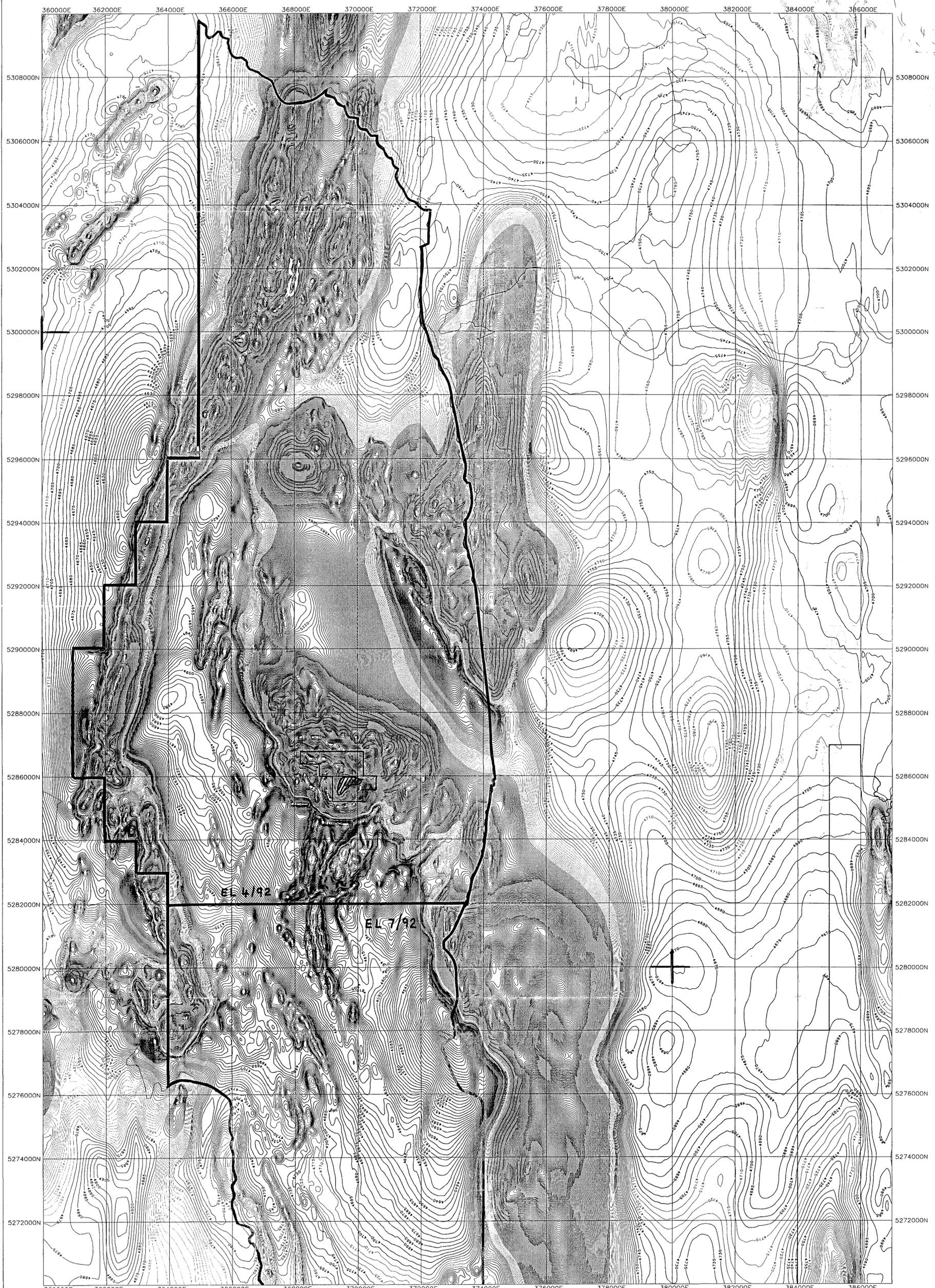
Basemap compiled from provisional 1:50000 sheets acquired from the Tasmanian Lands Department

Plutonic
Plutonic Operations Limited
A.C.N. 100 100 100

Project - SORELL PENINSULA No 708	
Project Partner	
ELs	4792, 7192, 53194
REGIONAL GEOLOGY	
Map Ref. ANG	K-55-5 Latitude 42°30'S Longitude 145°30'E
Surveyed	R.J. Close Date Aug 1995 Scale 1:50000
Drawn	Date Drawing NFMB4-2248

95-3784
 VOL 2 OF 2
 753137

Southwest Tasmania



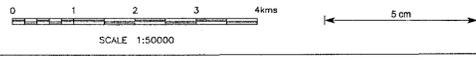
Magnetic Intensity
SCALE 1:50000

Mesh size 40m Contour Interval 5nT
Colour changes at 4710,4730,4760,4800,4870 nT

753138 Total Magnetic Intensity Contours

Sheet 2 of 2

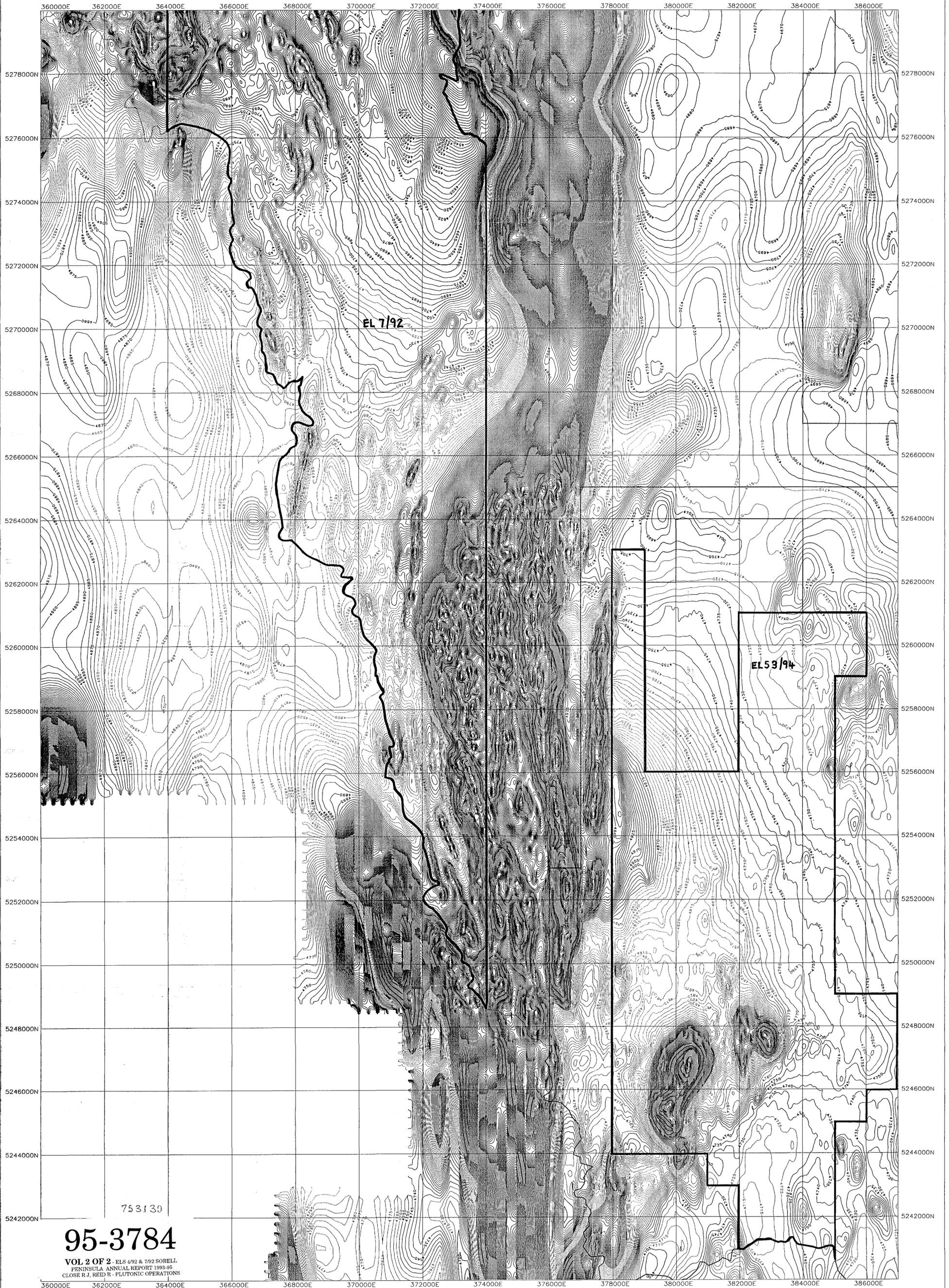
Industry Safety and Mines, Tasmania 1995



95-3784

VOL 2 OF 2 - ELS 492 & 792 SOREL
PENINSULA ANNUAL REPORT 1993-95
PT 492 & 792 IN THE PENINSULA ANNUAL REPORT

Southwest Tasmania



EL 7/92

EL 53/94

753139

95-3784

VOL 2 OF 2 - ELS 4/92 & 7/92 SORELL
PENINSULA ANNUAL REPORT 1993-95
CLOSE R.J. REID R - PLUTONIC OPERATIONS

Mesh size 40m Contour Interval 5nT
Colour changes at 4710,4730,4760,4800,4870 nT

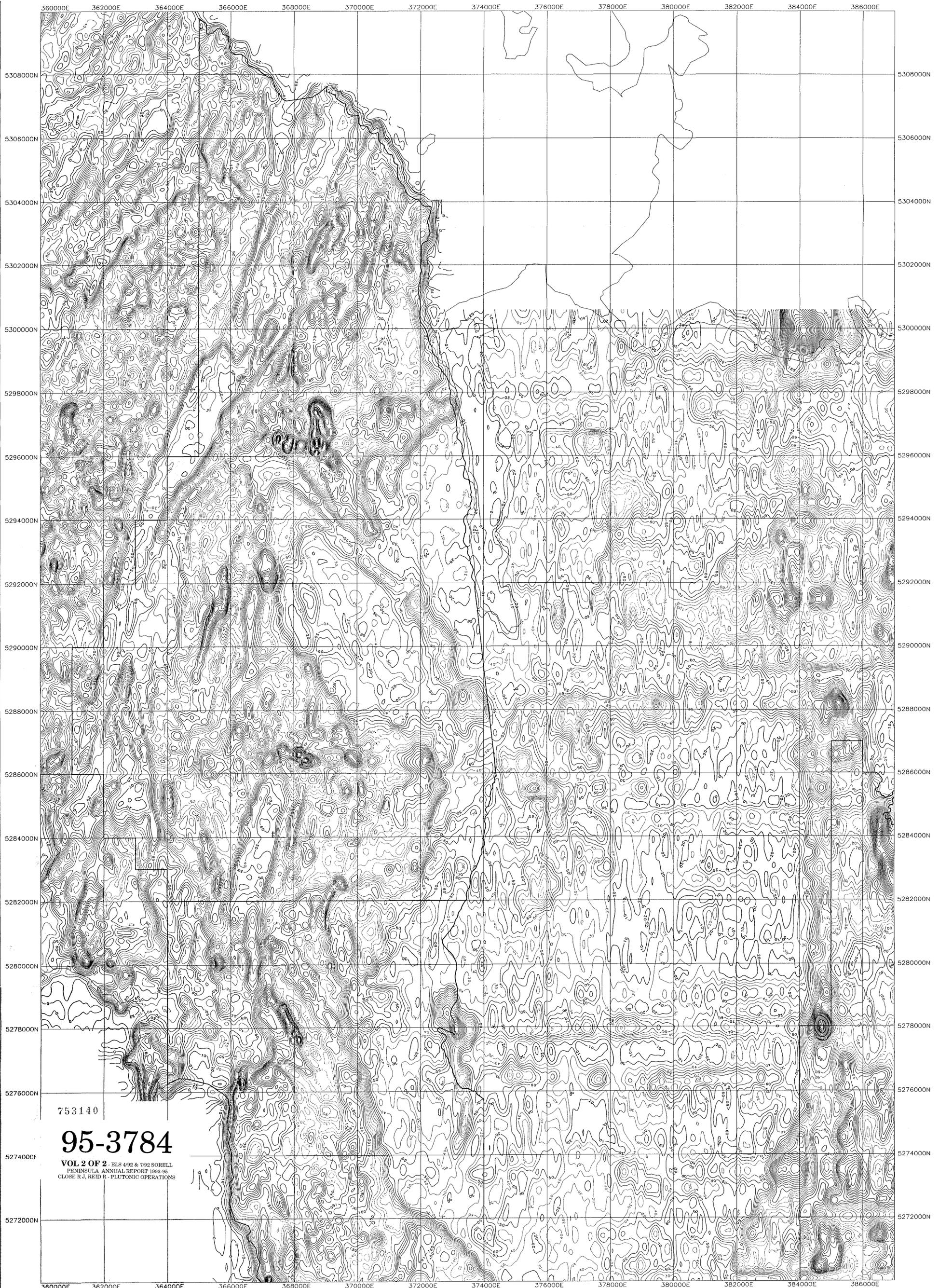
Total Magnetic Intensity Contours



Sheet 1 of 2

Industry Safety and Mines, Tasmania 1995

Southwest Tasmania



753140

95-3784

VOL 2 OF 2 - ELS 4/92 & 7/92 SORELL
PENINSULA ANNUAL REPORT 1993-95
CLOSE R.J. REID R - PLUTONIC OPERATIONS

Mesh size 40m Contour Interval 10cps
Colour changes at 30,50,80,110,150 cps
Smoothed with 250m Gaussian filter

Radiometric Total Count Contours

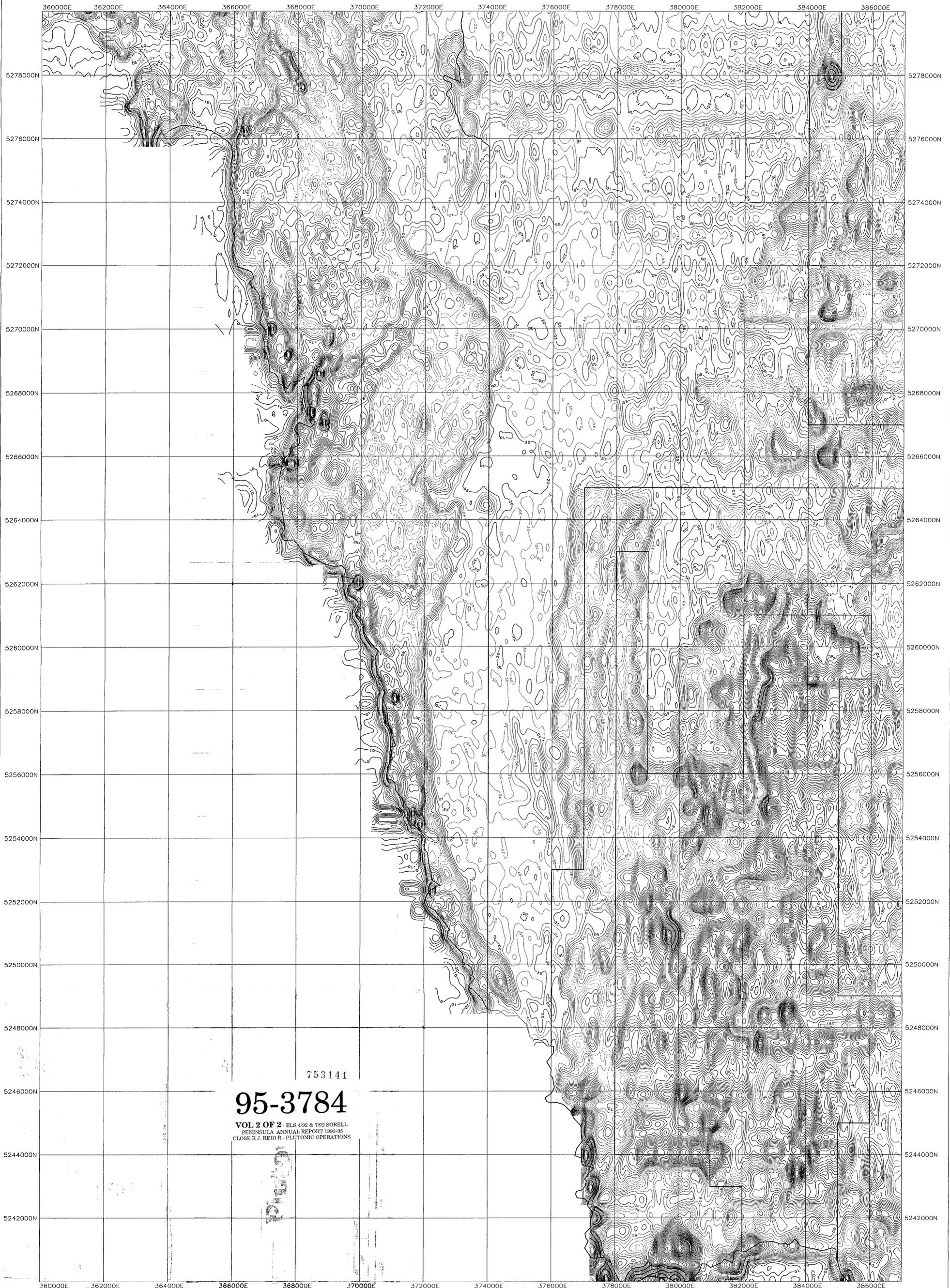
5cm

0 1 2 3 4kms
SCALE 1:50000

Sheet 2 of 2

Industry Safety and Mines, Tasmania 1995

Southwest Tasmania



753141

95-3784

VOL 2 OF 2 - ELS 4/92 & 7/92 SORELL
PENINSULA ANNUAL REPORT 1993-95
CLOSE R.J. REID R. PLUTONIC OPERATIONS

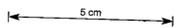
PLATE 5

Mesh size 40m Contour Interval 10cps

Colour changes at 30,50,80,110,150 cps

Smoothed with 250m Gaussian filter

Radiometric Total Count Contours

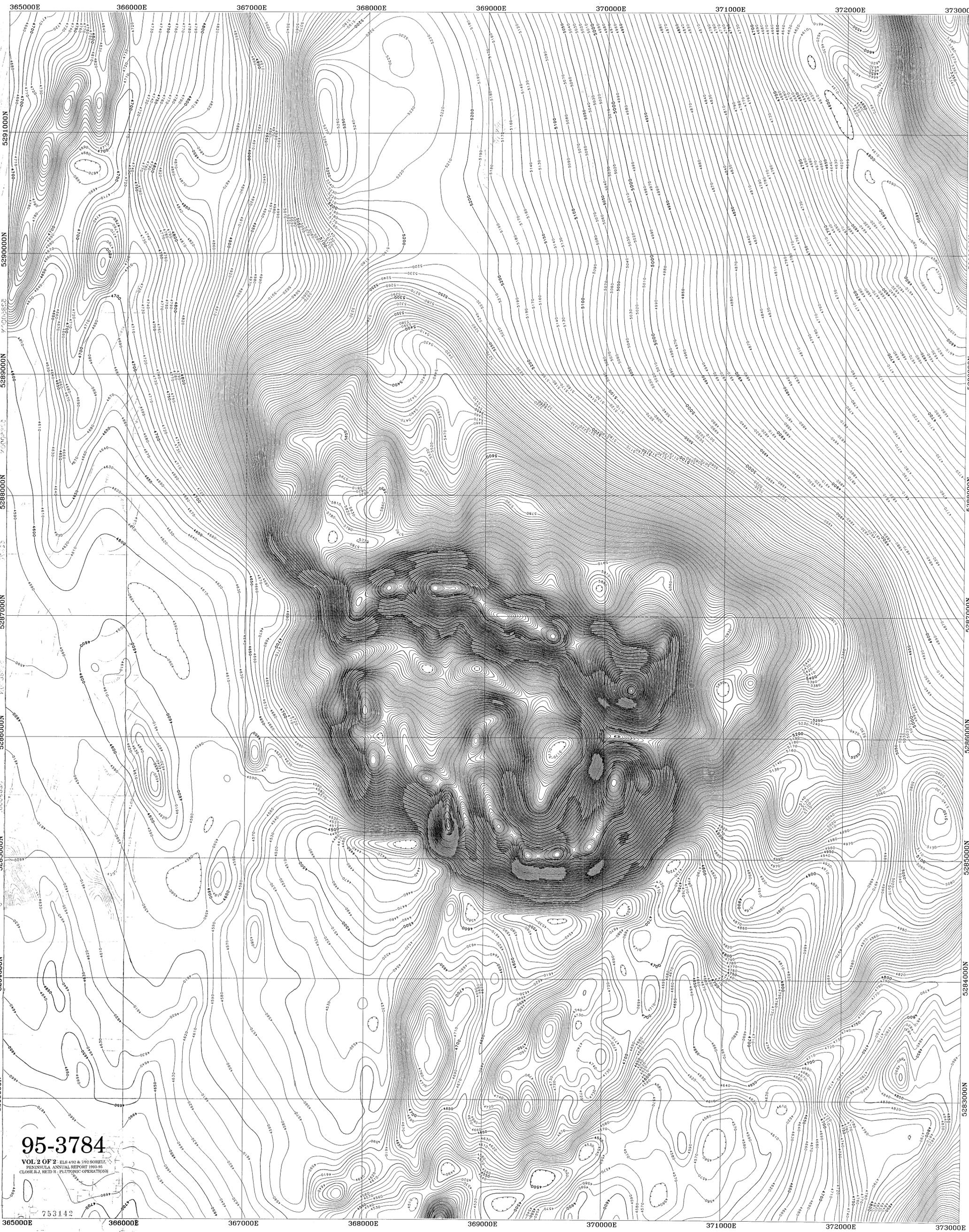


SCALE 1:50000

Sheet 1 of 2

Industry Safety and Mines, Tasmania 1995

Thomas Creek - Magnetic Intensity



95-3784

VOL 2 OF 2 - BLR 492 & 292 SORELL

TASMANIA ANNUAL REPORT 1995/96

CLOSE & J. REID R. PLATONIC OPERATIONS

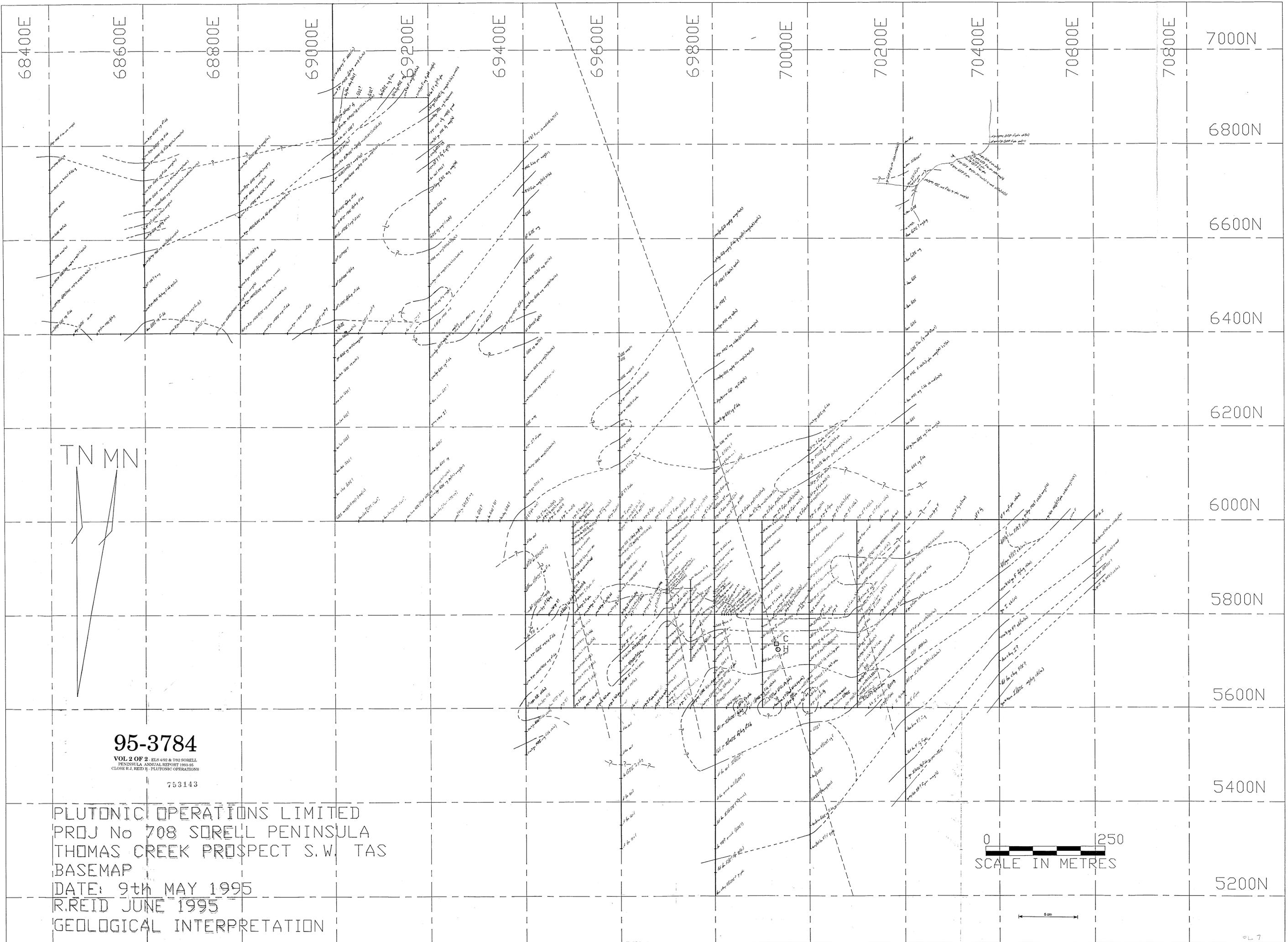
753142

Contour Interval 2nT

Mesh size 40m



Industry Safety and Mines, Tasmania



TN MN

95-3784

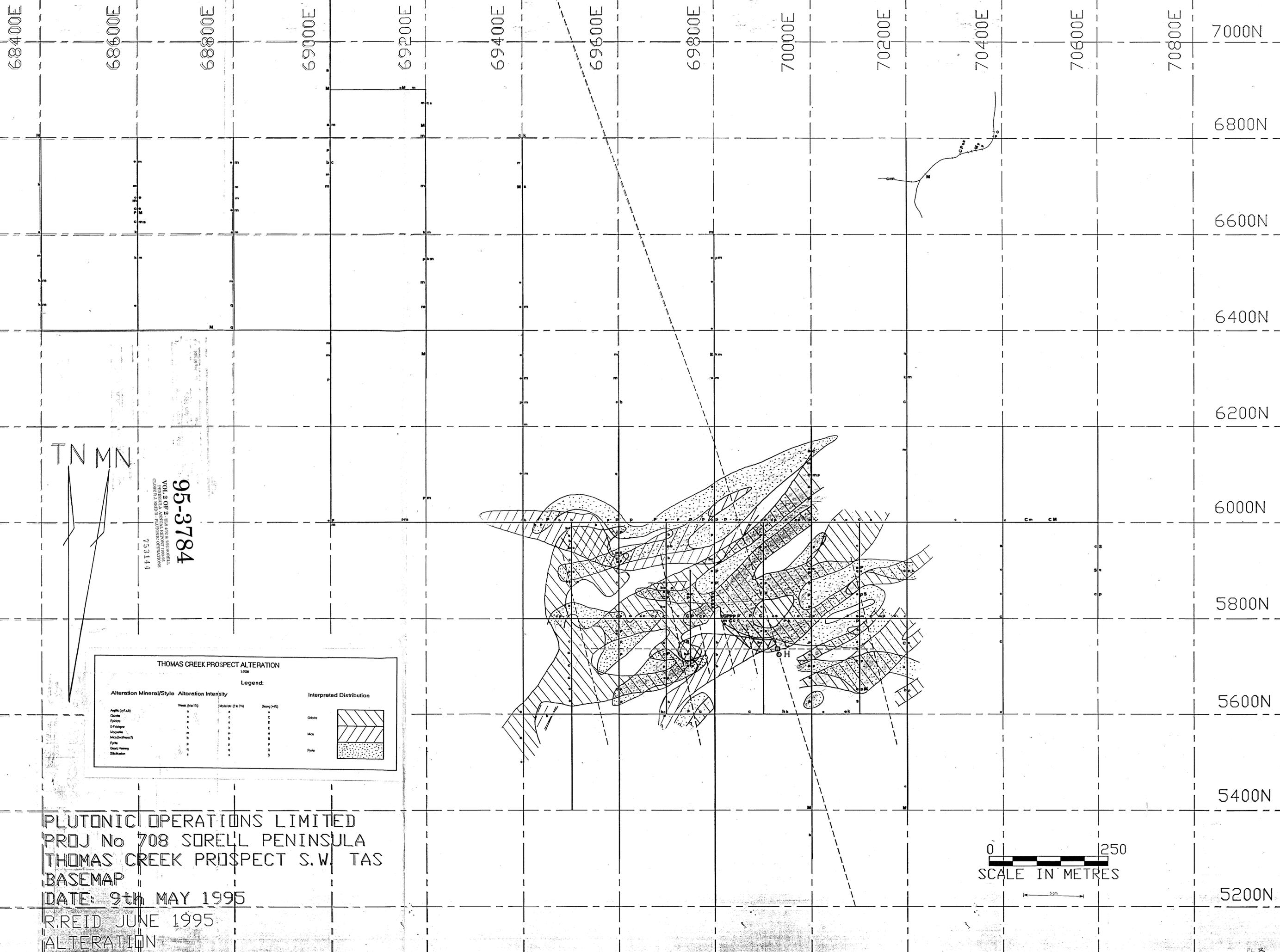
VOL 2 OF 2 - ELS 492 & 752 SORELL
PENINSULA ANNUAL REPORT 1993-95
CLOSE R.F. REID P. - PLUTONIC OPERATIONS

753143

PLUTONIC OPERATIONS LIMITED
 PROJ No 708 SORELL PENINSULA
 THOMAS CREEK PROSPECT S.W. TAS
 BASEMAP
 DATE: 9th MAY 1995
 R.REID JUNE 1995
 GEOLOGICAL INTERPRETATION

0 250
SCALE IN METRES

5m

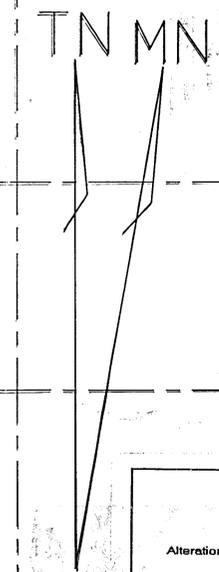
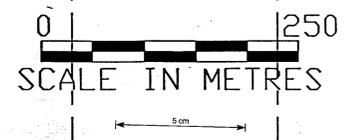


95-3784
 VOL 2 OF 2
 CLASSIFIED BY PLUTONIC OPERATIONS
 753144

THOMAS CREEK PROSPECT ALTERATION
 1995

Alteration Mineral/Style	Alteration Intensity			Interpreted Distribution
	Weak (0 to 10)	Moderate (2 to 20)	Strong (>40)	
Albite (by AX)	o	o	A	
Chlorite	o	o	C	
Epithermal	o	o	E	
Fe Hydroxide	o	o	K	
Magnetite	o	o	M	
Mica (Sphenc)	o	o	S	
Pyrite	o	o	P	
Quartz Veining	o	o	Q	
Stibicon	o	o	S	

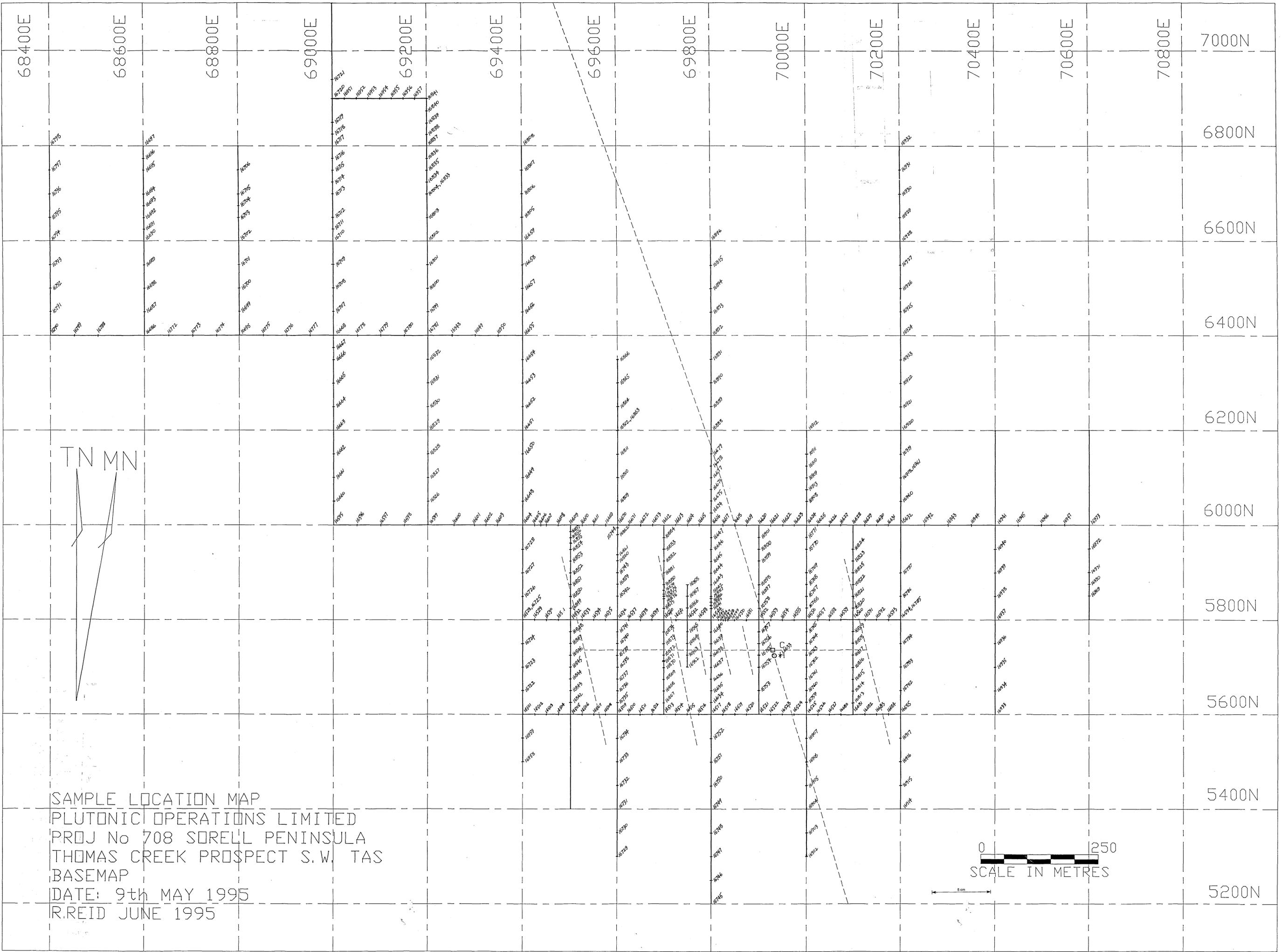
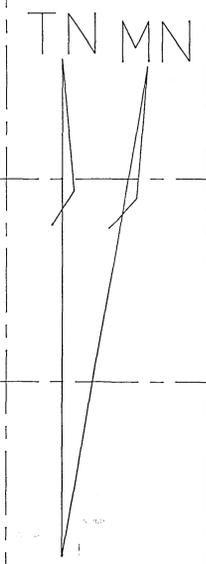
PLUTONIC OPERATIONS LIMITED
 PROJ No 708 SORELL PENINSULA
 THOMAS CREEK PROSPECT S.W. TAS
 BASEMAP
 DATE: 9th MAY 1995
 R REID JUNE 1995
 ALTERATION



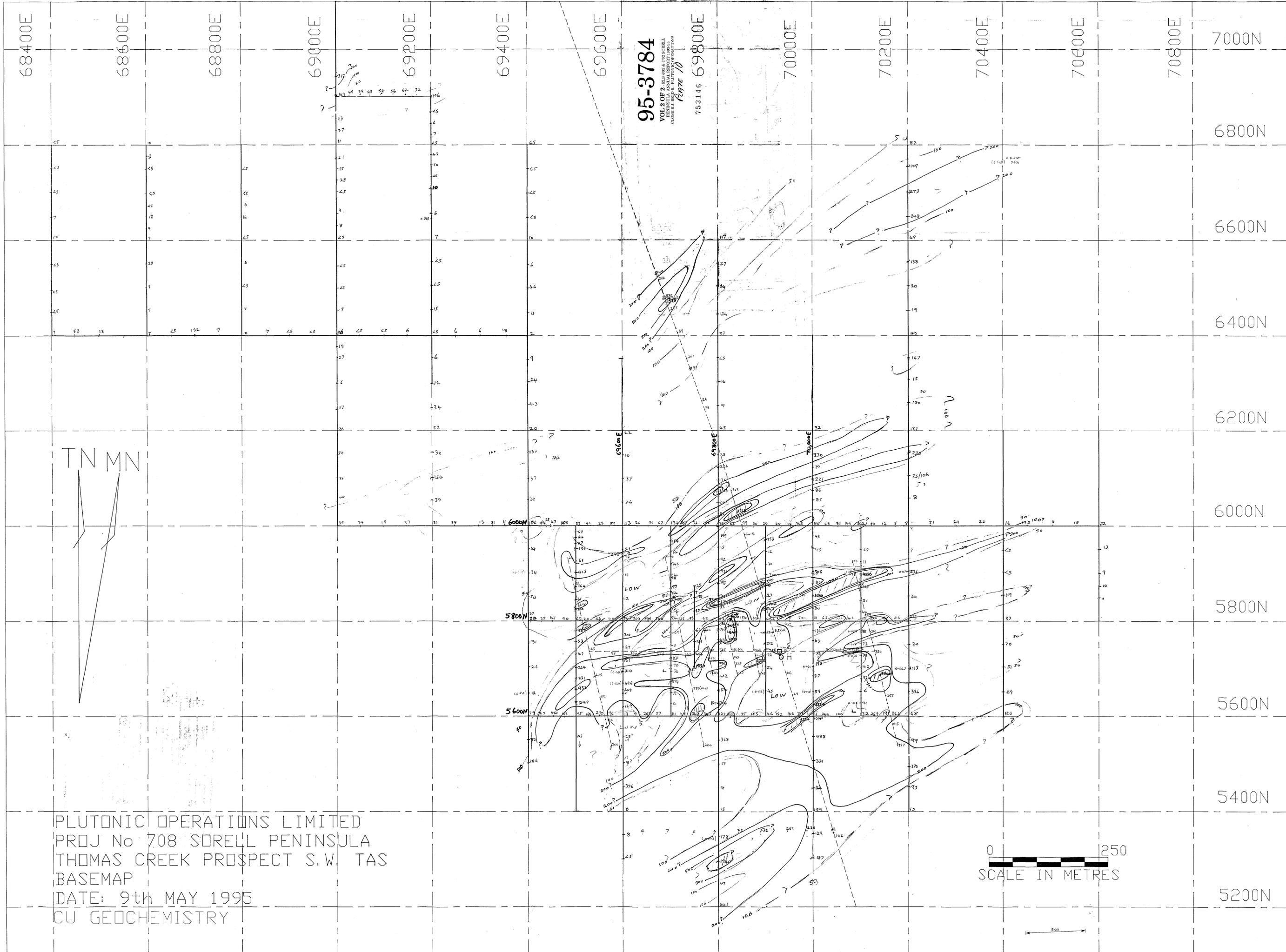
95-3784

VOL 2 OF 2 ERS 492 & 502 SORELL
CLASS R.L. REID R. PLUTONIC OPERATIONS

SAMPLE LOCATION MAP
PLUTONIC OPERATIONS LIMITED
PROJ No 708 SORELL PENINSULA
THOMAS CREEK PROSPECT S.W. TAS
BASEMAP
DATE: 9th MAY 1995
R.REID JUNE 1995



Cu. GEOCHEMISTRY.

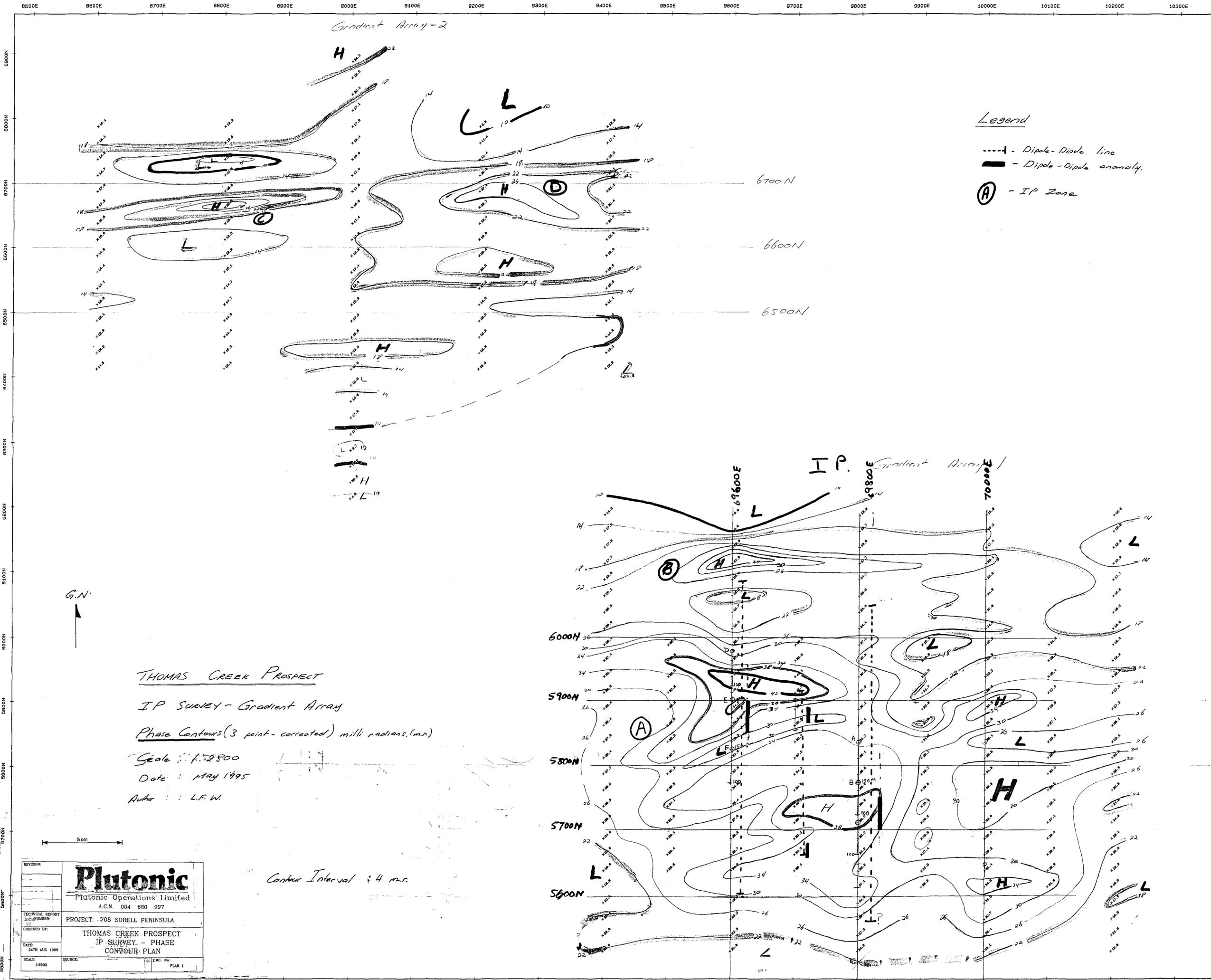


PLUTONIC OPERATIONS LIMITED
 PROJ No 708 SORELL PENINSULA
 THOMAS CREEK PROSPECT S.W. TAS
 BASEMAP
 DATE: 9th MAY 1995
 CU GEOCHEMISTRY

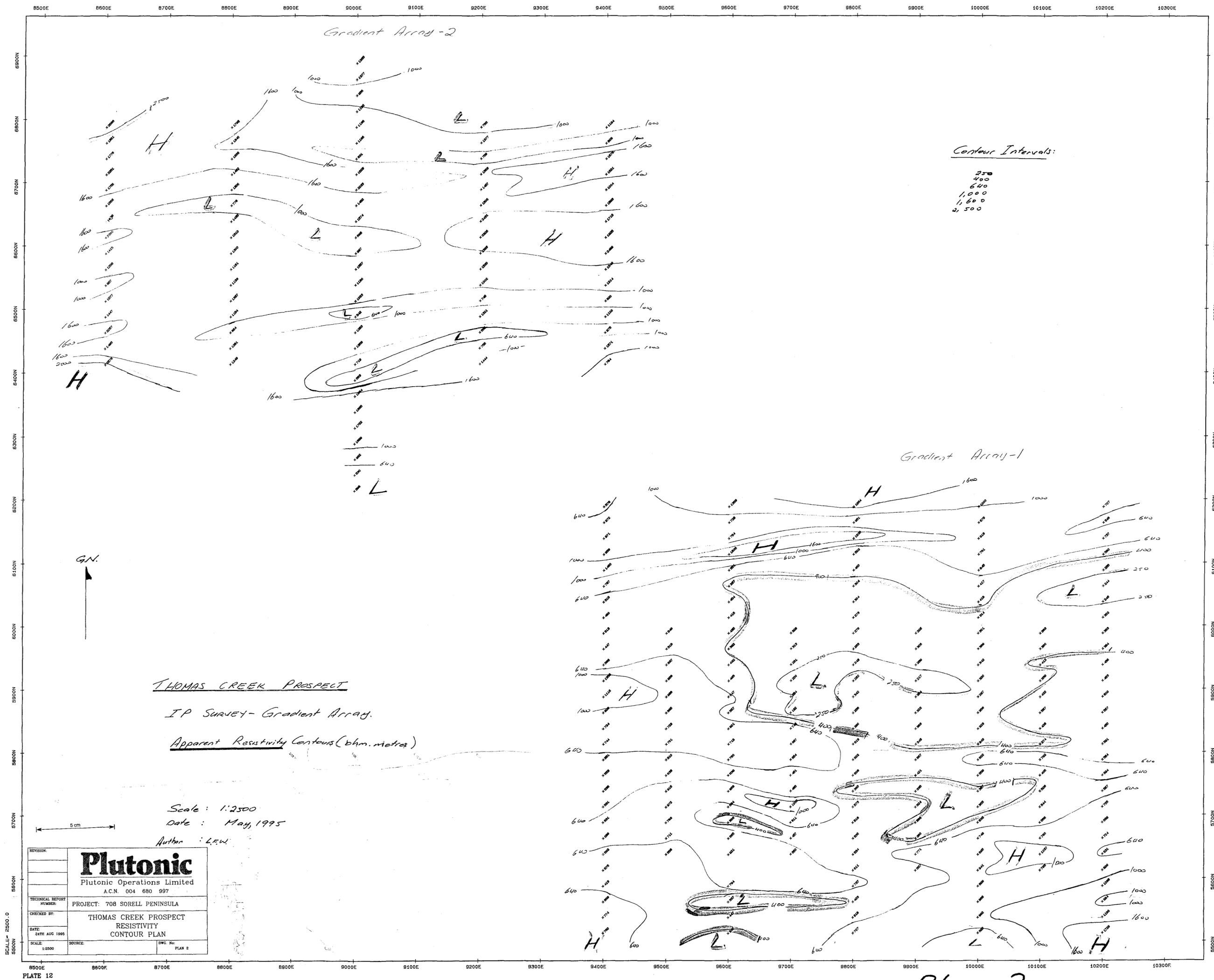
0 250
 SCALE IN METRES

5cm

IP (Phase-m.r.)



Apparent Resistivity



Contour Intervals:
 250
 400
 640
 1,000
 1,600
 2,500

THOMAS CREEK PROSPECT
 IP SURVEY - Gradient Array.
Apparent Resistivity Contours (ohm.meters)

Scale: 1:2500
 Date: May, 1995
 Author: L.E.W.

REVISION:	Plutonic	
	Plutonic Operations Limited	
	A.C.N. 004 680 997	
TECHNICAL REPORT NUMBER:	PROJECT: 708 SORELL PENINSULA	
CHECKED BY:	THOMAS CREEK PROSPECT RESISTIVITY CONTOUR PLAN	
DATE:	24TH AUG 1995	
SCALE:	1:2500	DWG. No. PLAN 2

Plan. 2.

VOL 2 OF 2
 PENINSULA ANNUAL REPORT 1995
 CLAUSE R.1 REVISION: PLUTONIC OPERATIONS
 753148