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# GOLDFIELDS EXPLORATION

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2000-2001  
Annual Report

Tasmanian Gold Project

Anthony

EL 19/98

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PROSPECTS: Basin Lake, Langdon Prospect, Bradshaws Road, Lake Selina

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## SUMMARY

This report documents exploration completed on EL 19/1998 Anthony during the period September 2000 to August 2001.

A dipole-dipole IP survey was completed at the Langdon Prospect and defined the strike extents of a chargeable zone of pyrite alteration. Drill hole TYN019 targeted a previously untested IP anomaly on Line 4400N and intersected a thin zone of mylonitic quartz-feldspar porphyry with intense pyrite-pyrophyllite-silica-(minor chalcopyrite-tetrahedrite) alteration from 50.3 – 62.4m. This zone returned assays 10.2m at 0.25 g/t Au and 831 ppm Cu.

Drill hole TYN020 was designed to test the southern continuation of the Bradshaws Road Alteration Zone about 200m south of the exposure on Anthony Road. The hole was targeted at an IP anomaly that was not tested by drill hole TYN002. TYN020 intersected a thick sequence of interbedded black siltstones and pumiceous volcanoclastic sediments (Yolande River Sequence). The black siltstones are the most likely cause of the IP anomaly.

The following recommendations should be considered during the forth and fifth years of tenure:-

1. Drill holes TYN017 to TYN020 should be tested by DHEM.
2. Additional inversion of the IP data and integration of geological constraints should be made to define potential drill targets.
3. A drill hole targeting down dip of the exposure of the Bradshaws Road Alteration zone on the Anthony Road should be considered.
4. To reduce the high expenditure commitments on EL 19/1998 in its final years of tenure it is recommended that 5 sq km in the Lake Selina area be relinquished.

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1. Work Completed EL 19/98 - 1998 - 2001

## 1 INTRODUCTION

EL 19/98 - Anthony Road is held and explored by Goldfields Exploration Pty Ltd. It constitutes the relinquished area of the former EL 103/87 by a joint venture between Aberfoyle Resources Limited, Acacia Minerals Pty Ltd and Resolute Limited (Figure 1). It comprises two separate blocks: Anthony Road (8 sq km) and Mount Selina (5 sq km). The Anthony Road portion is located in western Tasmania, approximately 14 km north of Queenstown, and is situated on the flank of the Tyndall Range (Figure 1).

### 1.1 Location and Access

The major access to the EL is via the sealed Anthony Road, which runs alongside and dissects the tenement approximately 12 km east of the junction with the Zeehan Highway. Access from the eastern side of the tenement is provided by a gravel vehicular track that follows a HEC power line close to the eastern EL boundary. A series of grid lines and rehabilitated tracks provide access by foot within the tenement.

### 1.2 Topography and Vegetation

The Anthony EL lies along the peneplain between the steep, north - south trending Tyndall Ranges (1000m high) in the east and the 300m deep Henty Gorge to the west. The peneplain is between 450m and 550m ASL. The vegetation consists predominantly of button grass plains and light tea tree scrub with some patches of medium eucalypt forest and rainforest. The area has been extensively glaciated and reliable outcrop is restricted to road cuttings and topographic highs in the north and west of the EL. The EL is largely covered by glacial moraine and outwash.

### 1.3 Tenure

The EL comprises:

- Crown Land (Deferred Forest Land)
- Crown Land
- Land Vested in HEC.

The area is partly within the South West Tasmania Australian Heritage Act - Registered Entry (South West Conservation Area).

### 1.4 Aims

The Mount Read Volcanics are host to several world class gold rich base metal mineral deposits at Rosebery, Hellyer, Que River, Hercules, and Mount Lyell and to gold mineralisation at the *Goldfields* operated Henty Mine. Together these deposits constitute Tasmania's most productive gold province. The Henty Mine is the only gold only producer in Western Tasmania, all other deposits produce gold as a by-product of base metal treatment. In 1996 the gold reserves for Henty were 526000 tonnes @ 26.2 g/t Au.

Goldfields Exploration is actively exploring the Mount Read Volcanics in the Henty and South Henty areas immediately north of the Anthony EL. Exploration to date has focused on systematic drill testing of the Henty Horizon, which is defined as a zone of mineralisation, alteration and carbonate developed at the contact between the basal Tyndall Group and the underlying Central Volcanic Sequence. The exploration program has been highly successful and an inferred gold resource of 731000 tonnes @ 7.6g/t Au at Mount Julia in the south of the Henty Mine Lease has recently been delineated.

In early 1998 a joint venture with Resolute Limited was formed to enable testing of the southern strike extents of the Henty Horizon in the South Henty area. This highly prospective EL also includes known mineralisation at the stratigraphically lower *Spillway Horizon*. Both the *Henty* and *Spillway* Horizons are being actively explored and a recent drill hole SHD16 intersected a wide zone of moderate to strong sericite-pyrite-chalcopyrite mineralisation. The copper-gold association in SHD16 is spatially associated with a complex of Suite II andesite

and quartz porphyry and is considered to be analogous to the mineralisation at Prince Lyell and Garfield.

The Anthony EL is situated adjacent to the South Henty and Basin Lake ELs and includes the southern strike extents of the *Henty* and *Spillway* Horizons. Both these horizons are considered to be highly prospective for gold and gold-base metal mineralisation. The EL is largely covered by Suite II andesites and has considerable potential for porphyry related copper-gold mineralisation.

The distal carbonate rich and proximal sericite-pyrite rich alteration recognised in Anthony drillholes has many similarities with the zonation seen at South Henty and that surrounding the Western Tharsis ore body at Mt Lyell. The results of a recent study at Western Tharsis (Huston and Kamprad, 1998) have been re-examined by Goldfields to gain a greater insight in to the chemical zonation surrounding the ore as a possible geochemical vector. The results of this work have many implications for exploration in the South Henty EL and Anthony EL and are presented in Vicary, 1998.

Goldfield's Tasmanian exploration program targets the discovery of Henty style mineralisation and polymetallic gold rich base metal mineral deposits in the Cambrian Mount Read Volcanics. The results of previous exploration in the Anthony area suggest that this area is highly prospective. Discovery of an economic gold deposit in the Anthony Road area is important to supplement gold production at the nearby Henty mine.

### 1.5 Exploration Model

The current exploration model used in the Mount Read Volcanics is based on the recognition of several distinctive characteristic features of volcanic hosted massive sulphide deposits and Henty style gold deposits (Figure 2). These include:

- occurrence of mineral deposits in clusters along favourable horizons,
- spatial control of synvolcanic growth faults,
- distinctive zoned and asymmetric footwall alteration zones, and
- chemical sediments (exhalites) and sulphide clast rich mass flow units at the favourable horizon.

The initial phase of an exploration program is to define the favourable mineralised horizon. A systematic program of detailed geological mapping and logging of any existing core is performed with emphasis on delineating potential syn-volcanic growth faults and other target areas that are considered to have the greatest possibility for an economic grade mineral discovery.

The target areas identified in Phase 1 are prioritised and systematically drilled in Phase 2 of the program. A nominal drill spacing of 800m to 1000m along the favourable horizon is used to provide maximum geological information. Where significant mineralisation or alteration is intersected the spacing between adjacent drill holes is reduced. In areas that have been covered by surface geophysical surveys (e.g., IP) it is considered that the upper 200m of the bedrock have been adequately explored and drill holes generally target the favourable horizon about 300 to 350m down dip of the surface. It is hoped that any off hole conductors at depths greater than 200m will be found by routine DHEM surveying. Thus, each drill hole in this phase of the program will test a volume of rock and will provide maximum geological information.

Specific geochemical and isotopic techniques are also employed in Phase 3 of the program to determine the proximity to the mineralisation system (Table 2). Advanced exploration targets are rigorously tested by drilling in Phase 4 of the exploration program.

The exploration program depends entirely on the quality of the targets generated. Once a target worthy of advanced testing has been identified additional regional exploration targets are assessed. In this way a project could have several Phase 1 and Phase 4 targets that are simultaneously explored.

Figure 1

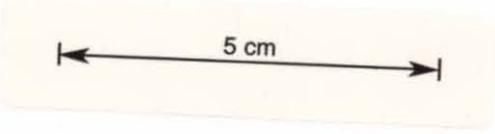
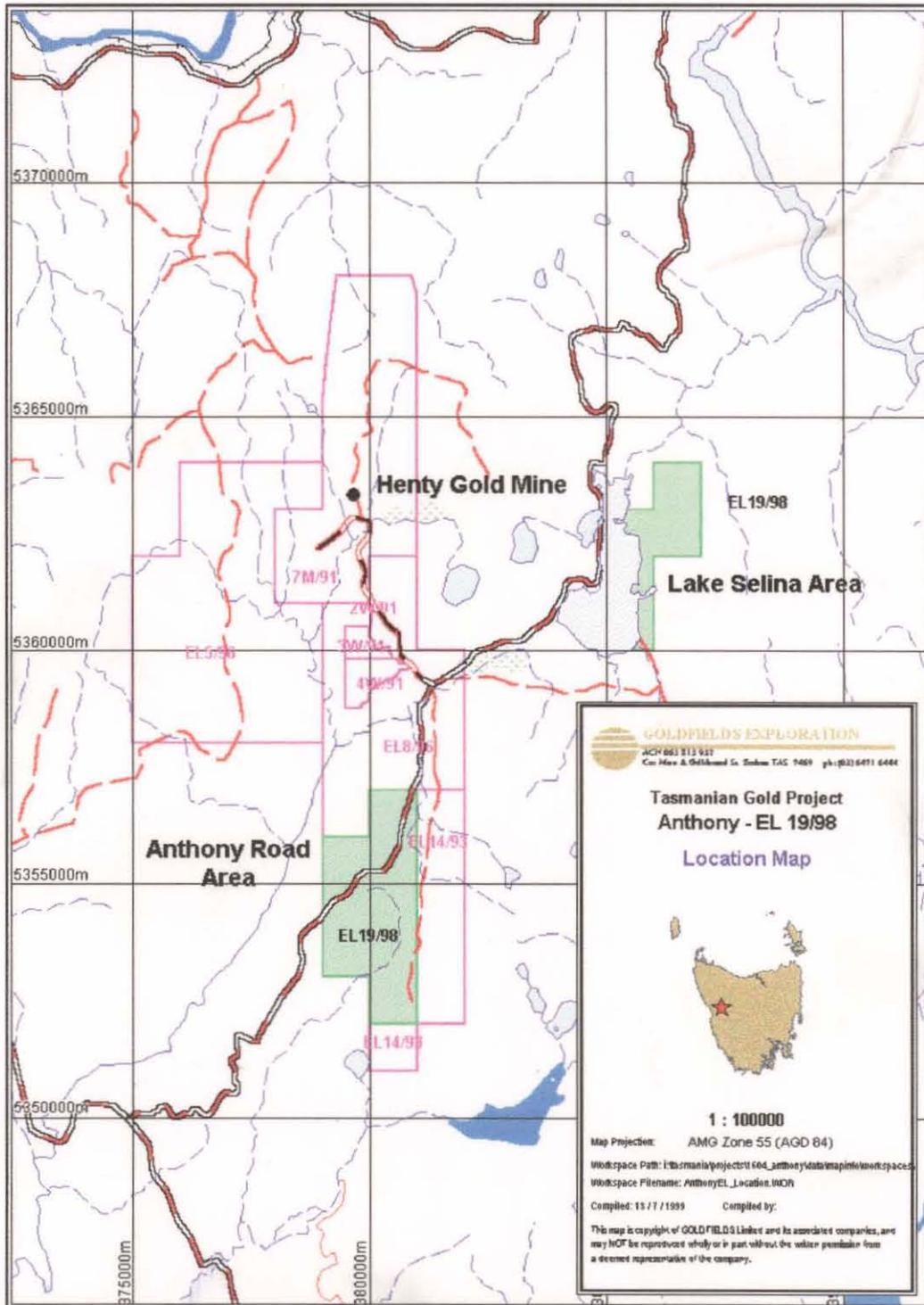
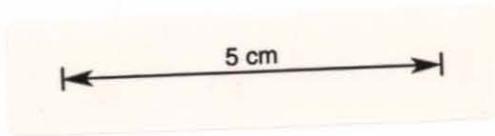
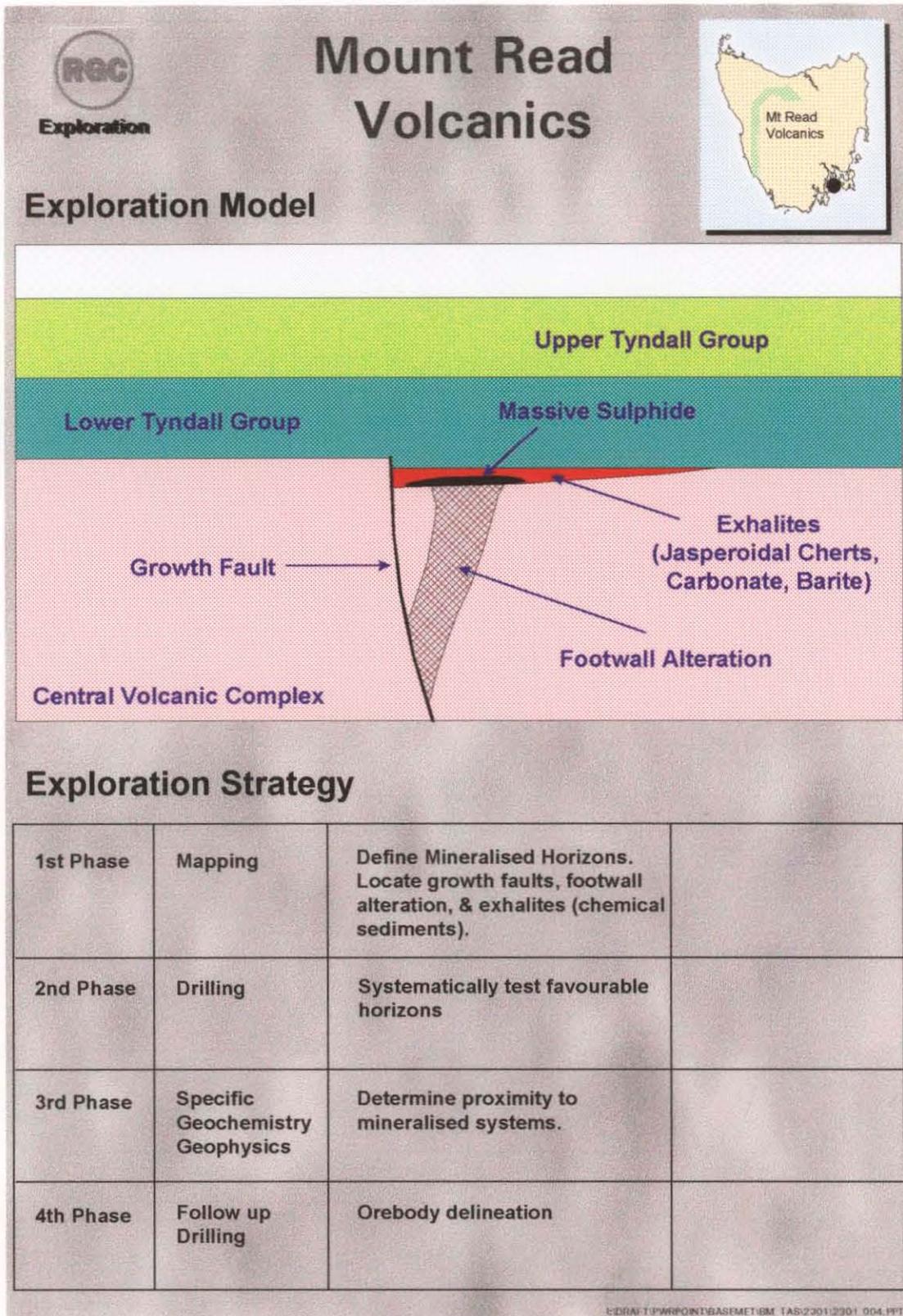


Figure 2



## 2 PREVIOUS EXPLORATION

Exploration prior to 1997 is comprehensively set out in Lewis (1995) and MacDonald & Ikstrums (1998).

During 1997-1998, Resolute Samantha Ltd, who held the ground in joint venture with Acacia Metals Pty Ltd and Aberfoyle Resources Limited, completed three short (~50m each) Diamond drill holes for a total of 170.5m. These holes, LHD 1-3, were drilled to test a single anomalous Cu wacker sample (0.34% Cu) associated with a structure interpreted by Aberfoyle to be a WNW-ESE trending Cambrian growth fault - the *Pyrite Corner Fault* (see MacDonald & Ikstrums, 1998). Pyritic alteration was only intersected in LHD1 where it was most intense (~3% Pyrite) from 25.5m to 30.0m and apparently associated with shearing at 28.2 and 30.0m. Coherent to hyaloclastic Anthony Road Andesite was the only rock type intersected and assay results were disappointing throughout with all Au <0.10g/t and all Cu <946ppm. As, Ag, Pb and Zn results are all low (i.e. background).

## 3 WORK COMPLETED

The exploration completed by Goldfields on EL 19/98 to date is summarised on the table on Page 6.

Table 1. Work Completed EL 19/98 - 1998-2001

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	1998-1999	1999-2000	2000-2001
<b>General</b>	1:5000 mapping and compilation	1:5000 mapping and compilation	
	Literature Review	24.7 km of grid re-established	
	Mt Selina Review	Nick Williams (BSc(Hons) Project	
<b>Drilling</b>	Relog old holes	TYN017 (305.4m)	TYN019 (351.3m)
		TYN018 (339.6m)	TYN020 (300.0m)
<b>Geochemistry</b>			
<b>Soils</b>			
<b>Rocks</b>	38 samples by AAS, XRF and NAA	19 samples by AAS, XRF and NAA	
<b>Core</b>	20 samples by AAS, XRF and NAA	164 samples by AAS. 46 samples by XRF and NAA	90 samples by AAS, 3 by NAA + XRF
<b>Isotopes</b>		1 XRD determination	
<b>General</b>	Compilation of soil + wacker data		
<b>Geophysics</b>	Compilation of 1986 gradient IP data	Inversion of 1967 dipole-dipole IP data	Dipole – Dipole IP Survey Technical Report
	Reprocessing of CSAMT data	Review of BL006-BL007 DHEM	
	Helimag data processing	Review of IP Data from Bradshaws Road area	
		Dipole – Dipole IP Survey (24.7 line km)	
<b>Reference</b>	Hill and Vicary, 1999	Vicary, 2000	This report.

## 4. RESULTS

### 4.1 GEOPHYSICS

#### 4.1.1 Dipole-Dipole IP Survey

A new dipole – dipole survey covering the strike extents of the Langdon and Basin Lake alteration zones was completed in August 2000 (Figure 3). The survey was conducted on both the Basin Lake and adjacent Anthony EL's.

The technical details of the survey are:-

Grid lines surveyed	5324000mN to 5348000mN (13 lines)
Grid Line spacing	200m
Eastings surveyed	380500 to 381500mE at n=6
Dipole spacing	100m
Receiver	SmartEM from Electromagnetic Imaging Technology
Contactor	Fugro Ground Geophysics

The results of the survey are presented in Appendix 4 and on the accompanying CD.

### 4.2 DRILLING

#### 4.2.1 TYN019

TYN019 was designed to test a dipole-dipole IP anomaly on Line 5354375mN (Grid line 4400N). The hole was drilled in May 2001 by Almac using a LF70 drill rig.

Collar location, surveys and detailed logs are presented in Appendix 2. A cross section of the drill hole is presented as Plan 1. A summary log of the hole is:-

0 – 3.2	Glacials
3.2 - 50.3	Feldspar phyric andesite
50.3 – 62.4	Mylonitic quartz-feldspar porphyry with intense pyrite-pyrophyllite alteration
62.4 – 260.0	Quartz-feldspar porphyry
260.0 – 268.0	Feldspar-hornblende phyric andesite
268.0 – 327.3	Feldspar-hornblende phyric andesite breccia with abundant white carbonate and hematitic marly carbonate microveins and matrix
327.3 -351.3	Feldspar-hornblende phyric andesite and breccia

Figure 4 shows the 2D chargeability inversion of Line 4400N with the drill trace of TYN019. The hole was designed to test the broad anomaly centred on 380800mE and 300RL. The pyrite-pyrophyllite alteration zone from 50.3 to 62.4m is considered to explain the shallow geophysical anomaly at about 380875mE and 475RL. The deeper anomaly was not explained by the drill hole. The hole should be surveyed by DHEM to determine if there are any off hole conductors present.

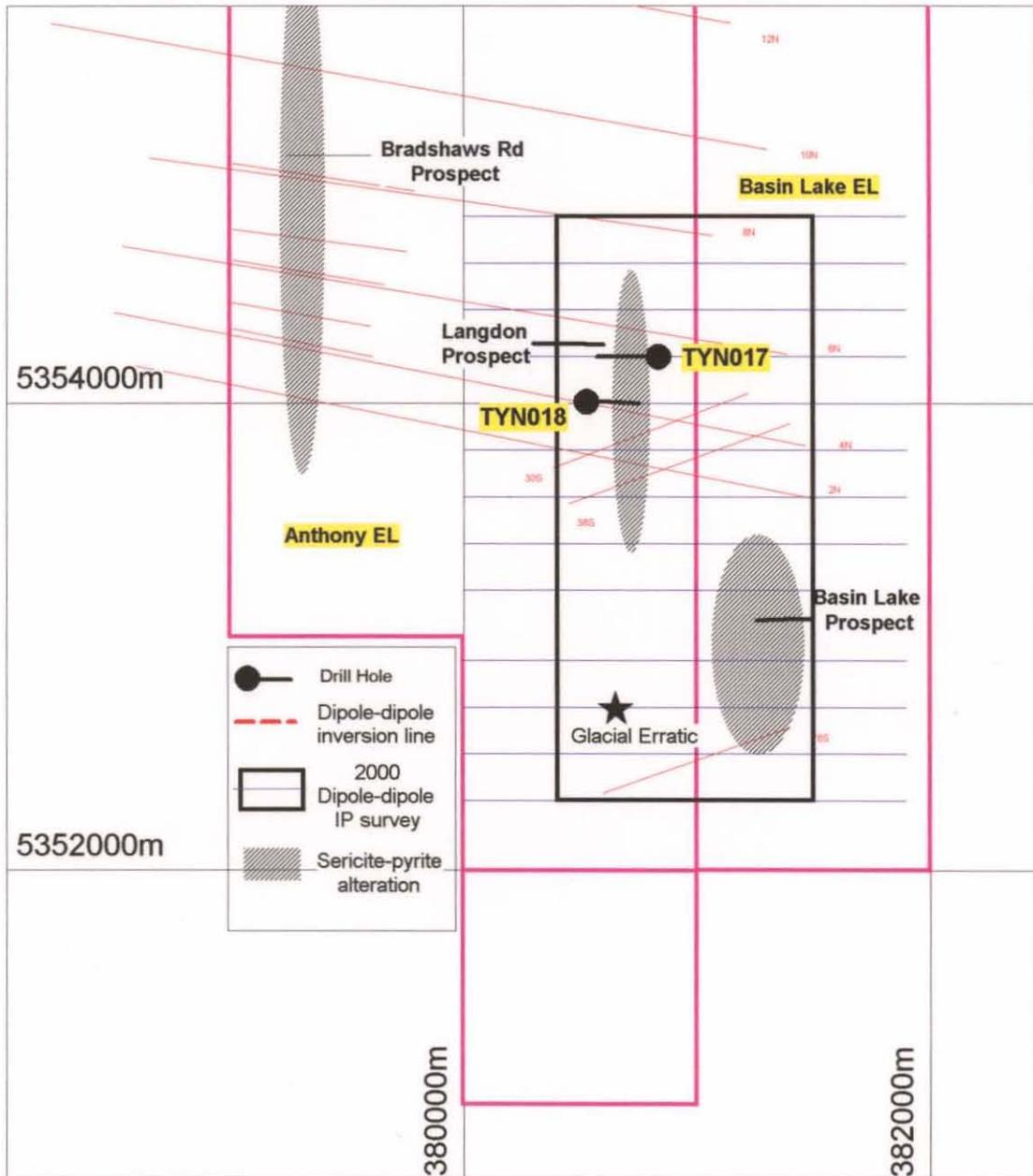
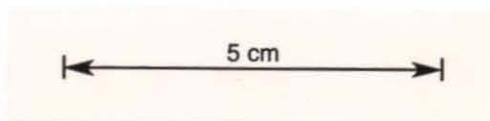


Figure 3 Dipole – Dipole IP Survey



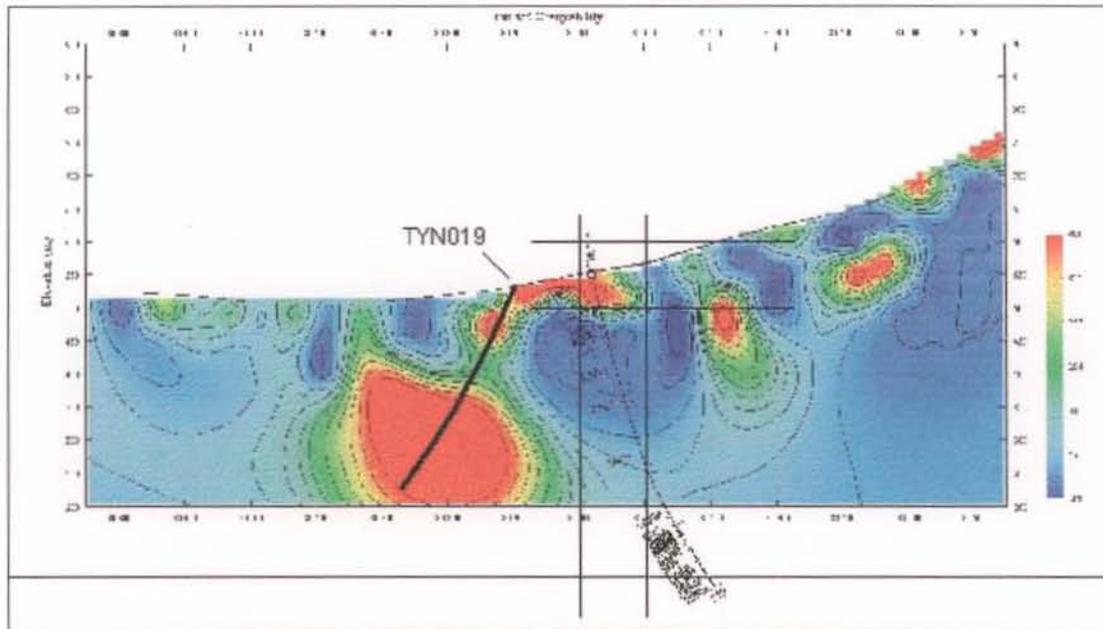


Figure 4. 2D chargeability inversion of Line 4400N

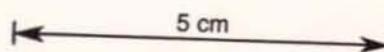
#### 4.2.2 TYN020

TYN020 was designed to test the southern continuation of the Bradshaws Road Alteration Zone. The hole was targeted at an IP anomaly centred at 1500ftE, -450ftRL on Line 4N. This anomaly was not tested by TYN002 located approximately 150m west of the TYN020 collar.

Collar location, surveys and detailed logs are presented in Appendix 2. A cross section of the drill hole is presented as Plan 2. A summary log of the hole is:-

0 – 2.4	Glacials (Qg)
2.4 - 19.0	Feldspar phyrlic pumiceous volcanoclastic sandstone (Cym)
19.0 – 24.7	Interbedded black siltstone and grey ashy siltstone (Cyss)
24.7 - 119.8	Feldspar phyrlic pumiceous volcanoclastic sandstone (Cym)
119.8 -128.4	Interbedded black siltstone and f gr volcanoclastic sst (Cyss)
128.4 - 200.4	Massive feldspar - (hornblende?) phyrlic dacite (Ccvl)
200.4 - 216.3	Interbedded black siltstone and f gr volcanoclastic sst (Cyss)
216.3 - 271.2	Feldspar phyrlic pumiceous volcanoclastic sandstone (Cym)
271.2 - 282.8	Interbedded black-grey siltstone and lithic rich massflows (Cyss/Cymf)
282.8 - 300.0	Interbedded ashy siltstone and lithic rich massflows (Cya/Cymf)

The hole intersected a sequence of interbedded fine to coarse grained pumiceous volcanoclastic massflow horizons, black siltstone and ashy siltstone with a thick intrusive sill of dacite. The volcanoclastic sediments and siltstones are correlated with the Yolande River Sequence and the intrusive sill with the Central Volcanic Sequence. There was no significant alteration intersected in the drill hole. The hole intersected several horizons of variably pyritic black siltstone. These are considered to be the source of the IP anomaly. The hole has been cased with PVC and will be surveyed by DHEM in late 2001.



### 4.3 GEOCHEMISTRY

#### 4.3.1 TYN019

Seventy five samples were collected from TYN019 and analysed by Analabs in Burnie for Cu, Pb, Zn, Ag, As and Bi by AAS and Au by fire assay. The results are tabulated in Appendix 3.

The zone of intense pyrite-pyrophyllite-silica-(minor chalcopyrite-tetrahedrite) alteration from 50.2m to 62.4m returned assays 10.2m at 0.25 g/t Au and 831 ppm Cu with a best intersection of 1.7m at 0.5 g/t Au from 51m.

#### 4.3.2 TYN020

Fifteen samples were collected from TYN020 and analysed by Analabs in Burnie for Cu, Pb, Zn, Ag, As and Bi by AAS and Au by fire assay. The results are tabulated in Appendix 3. There were no significant results.

Three samples were analysed for lithogeochemical discrimination. They were analysed for Ti, V, P, and Zr by XRF, and Au + 31 other elements by NAA by Analabs and Becquerel.

#### Anthony EL TYN020 - Lithogeochemistry

Sample	Rock	Ti/Zr	P2O5/TiO2	P2O5/Zr	La/Yb
1082688	Pumiceous volcanoclastic	5.9	.11	1.05	13.6
1082703	Feldspar-(Hornblende) Lava	12.6	.26	5.5	13.4
1082704	Pumiceous volcanoclastic	5.8	.10	0.96	13.3

The three samples have low Ti/Zr, P2O5/TiO2, P2O5/Zr and La/Yb ratios typical of Suite I. The low Ti/Zr values for the volcanoclastic sediments are more typical of rocks correlated with the Yolande River Sequence (Footwall Pumice Breccias Ti/Zr = 6.1 to 7.5), than the Central Volcanic Sequence (Ti/Zr = 12 to 15) (Hermann and MacDonald, 1996). Sample 1082703 is a peperitic sill and has a composition that supports a correlation with the Central Volcanics Sequence.

## 5. DISCUSSION and RECOMMENDATIONS

The results presented in Vicary, 1998 and Hill and Vicary, 1999 have suggested that the Basin Lake and Anthony areas have high potential for high sulphidation porphyry style mineralisation similar to that present at Mt Lyell. This supported by the presence of an enargite bearing glacial erratic which is assumed to be derived from a local alteration system characterised by the presence of the acid sulphate assemblage pyrophyllite and pyrite. The existence of such an alteration system has been proven by drill holes TYN011, TYN015, BL001 and BLD89-3 (the Basin Lake alteration zone) (Vicary, 1999) on the Basin Lake EL.

The enargite bearing glacial erratic is located at the contact between two distinct glacial formations and near a major change in thickness of glacial cover. The overlying formation contains predominantly Owen derived clasts. In contrast the lower formation is dominated by clasts of Cambrian age. Mapping and drill core logging has established that the lower formation is generally in contact with Cambrian bedrock and less than 15m thick. The erratic has been blasted during road construction and was initially about 4m in diameter. The size of the boulder and the proximity to bed rock suggest that the boulder has not been transported far from it's source. A feature of the erratic is the present of quartz phenocrysts. Quartz phenocrysts are uncommon in the Basin Lake – Anthony area being restricted to a phase of the Anthony Road Andesite (the Basin Lake or Suite II Porphyry). Significantly this unit hosts the pyrophyllite – pyrite alteration at the Basin Lake alteration zone.

The lithogeochemical evaluation of BL004 has shown that a small uneconomic massive sulphide intersection is associated with a similar alteration assemblage and is hosted by quartz phyrlic porphyry. This alteration zone, the Langdon Prospect, is a second zone from which the enargite bearing erratic could has been sourced. The BL004 intersection is located approximately 1.1 km north of the position of the erratic. Bowden, 1974 studied the glacial geomorphology in the Tyndall Range and has established that the general ice movement direct on the western flank of the range was to the south. This highlights the Langdon Prospect as the most likely source of the glacial erratic.

The Langdon and Basin Lake Prospects were the subject of a mineralogical and geochemical study by Williams, 2000. He has confirmed many of the above observations and has highlighted the high sulphidation of the nature of the alteration zone

The Langdon Prospect is defined by a chargeability high anomaly on early gradient IP array surveys. The Basin Lake alteration zone was located under thick glacial cover and had negligible IP response. It is apparent that gradient array IP was an ineffectual exploration method over areas of thick glacial cover.

Much of the Basin Lake – Anthony area was covered by an extensive CSAMT survey in the late 1980's by Billiton (Creagh and Hungerford, 1990). Mike Asten of Flagstaff Geoconsultants was contracted to re-evaluate this data using modern inversion techniques. The results of this study are presented in Asten, 1999. To provide a means to evaluate anomalies several lines of old dipole – dipole data were also inverted. In contrast to the reprocessing the CSAMT data the inversion of the dipole – dipole IP data was shown to be a highly effectual technique to define anomalies in the depth range 0 to 300m. It highlighted the area to the north of BL004 as a potential target area. This was supported by the re-evaluation of DHEM data from BL006 and BL007 (Richardson, 1996). Drill hole TYN017 was drilled to evaluate this target and intersected a zone of intense silica – pyrophyllite alteration and a thin zone of semi-massive pyrite with trace chalcopyrite and tennantite. It proved that the dipole – dipole IP inversion was an effectual exploration technique in the Basin Lake – Anthony area. A second hole, TYN018, was sited as a geological target about 200m south of TYN017. It intersected only weak sericite – pyrite alteration.

A dipole-dipole IP survey covering the strike extents to the Langdon and Basin Lake alteration zones was completed in mid 2000. The inversion of the dipole pseudo-sections and generation of level plans of the resistivity and chargeability data has successfully mapped out the limits of both the alterations zones. In May 2001, TYN019 was drilled at an untested IP

anomaly to the north of TYN017. The hole intersected a narrow zone of very intense pyrite-pyrophyllite alteration which assays 10.2m @ 0.25 g/t Au. This zone correlated with a shallow anomaly reproduced on the inversion, however the source of a deeper and stronger anomaly was not detected in the drill hole. It is hoped that a subsequent DHEM survey of the drill hole will help resolve some of the discrepancies between the dipole-dipole inversion and the observed geology.

Drill hole TYN020 was designed to test the southern continuation of the Bradshaws Road Alteration Zone about 200m south of the exposure on Anthony Road. The hole was targeted at an IP anomaly that was not tested by drill hole TYN002. TYN020 intersected a thick sequence of interbedded black siltstones and pumiceous volcanoclastic sediments (Yolande River Sequence). The black siltstones are the most likely cause of the IP anomaly. The hole failed to intersect any significant sericite - pyrite alteration and can not be considered to be an adequate test of the Bradshaws Road Pyrite zone.

### Recommendations

1. Drill holes TYN017 to TYN020 should be tested by DHEM.
2. Additional inversion of the IP data and integration of geological constraints should be made to define potential drill targets.
3. A drill hole targeting down dip of the exposure of the Bradshaws Road Alteration zone on the Anthony Road should be considered.
4. To reduce the high expenditure commitments on EL 19/1998 in its final years of tenure it is recommended that 5 sq km in the Lake Selina area be relinquished.

## 6. References

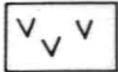
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- Williams, N., 2000** The Basin Lake High Sulphidation Alteration System, Western Tasmania. BSc(Hons) thesis (unpubl.) University of Tasmania.

**APPENDIX 1**

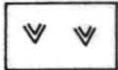
**Symbols and Codes used in drill logs**

## SYMBOLS FOR COHERENT TEXTURES

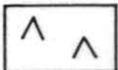
- single line symbols for low to moderate phenocryst abundance
- double line symbols for abundant phenocrysts
- smaller symbols for fine grained phenocrysts
- larger symbols for coarse grained phenocrysts
- additional "+" symbol for coarse, phenocryst-rich granitoid texture



basalt, poorly to moderately porphyritic basalt



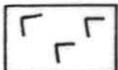
phenocryst-rich basalt



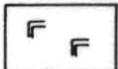
andesite, poorly to moderately porphyritic andesite



phenocryst-rich andesite



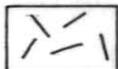
dacite, poorly to moderately porphyritic dacite



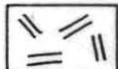
phenocryst-rich dacite



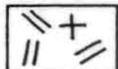
fine, poorly to moderately porphyritic rhyolite



coarse, poorly to moderately porphyritic rhyolite



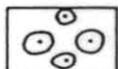
coarse, phenocryst-rich rhyolite



coarse rhyolitic porphyry



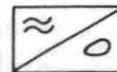
flow foliation



spherulites, lithophysae, alteration spots, nodular devitrification texture

## SYMBOLS FOR VOLCANICLASTIC TEXTURES

- closer spaced symbols for dominant grain size and grain type



pumice or relict pumice



angular, juvenile lava clasts



fiamme/vitriclast or relict vitriclast



accretionary lapilli



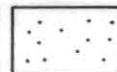
angular, polymict lithic clasts



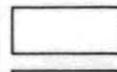
rounded, polymict lithic clasts



mudstone intraclast



sand-size particles, granular texture



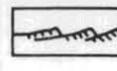
mud-size particles



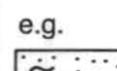
distinct planar stratification



diffuse planar stratification

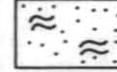


cross bedding



micro-cross lamination

e.g.



pumice clasts in sand matrix



angular polymict lithic clasts and mudstone intraclasts in sand matrix

## SYMBOLS FOR JUVENILE-CLAST-RICH DEPOSITS



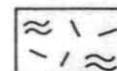
jigsaw-fit texture of fine, moderately porphyritic rhyolite



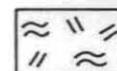
jigsaw-fit texture of coarse, moderately porphyritic rhyolite



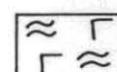
jigsaw-fit texture of coarse phenocryst-rich andesite



pumice-clast-rich deposit, coarse, moderately porphyritic rhyolitic composition



pumice-clast-rich deposit, coarse, phenocryst-rich rhyolitic composition



pumice-clast-rich deposit, coarse, moderately porphyritic dacitic composition

Fig. 9—Recommended composition and texture symbols for graphic logging of volcanic deposits.

(From:— McPhie, Doyle and Allen. CODES 1993)

## RGC EXPLORATION (ZEEHAN) - ROCK CODES

**TYPE**

- U - Volcanic (general)
- V - Volcaniclastic
- E - Epiclastic
- L - Lava
- I - Intrusive

**COMPOSITION**

- R - Rhyolite
- Y - Rhyodacite
- D - Dacite
- A - Andesite
- B - Basaltic
- F - Felsic
- M - Mafic
- U - Ultramafic

**CRYSTAL TYPE**

- X - Crystal rich
- A - Aphyric
- F - Feldspar phyrlic
- < - Feldspar - quartz phyrlic
- > - Quartz - feldspar phyrlic
- Q - Quartz phyrlic
- H - Hornblende phyrlic
- P - Pyroxene phyrlic
- B - Biotite phyrlic
- V - Vitric / glassy
- L - Lithic rich
- R - Reworked, commonly with Carbonate matrix

**OTHERS**

- TILL - Glacial moraine
- CLAY - Glacial clays
- SILT - Black pyritic siltstone
- FALT - Fault
- CARB - Massive Carbonate
- CBBX - Carbonate breccia
- VEIN - Vein
- GWAC - Greywacke
- CONG - Siliciclastic Conglomerate
- SAND - Siliciclastic Sandstone
- XXXX/YYYY - Interbedded units

**GRAINSIZE**

- B - Breccia
- C - Coarse
- M - Medium (Sandy)
- F - Fine (Silty)
- V - Very fine (Shaley)
- A - Ashy
- / - Undifferentiated
- X - Crystal Rich
- P - Pumiceous

**ALTERATION**

- P - Pyrite
- \$ - Mineralised
- Q - Quartz
- O - Chlorite
- C - Carbonate
- H - Hematite
- S - Sericite
- K - K feldspar
- A - Albite
- E - Epidote
- F - Fuchsite
- M - Magnetite
- L - Limonite

**N - Scale**

- 1 - Very Weak
- 3 - Weak
- 5 - Moderate
- 7 - Strong
- 9 - Intense

eg. AOC7

Strong albite-chlorite-carbonate alteration  
(albite>chlorite>carbonate, albite = 7)

848021

## **APPENDIX 2**

### **Diamond Drill Hole Logs and Summaries**

## GOLDFIELDS EXPLORATION DRILL HOLE RECORD

<b>HOLE NUMBER</b>	TYN019	<b>DRILLED BY</b>	ALMAC
<b>PROJECT</b>	Anthony EL 19/1998	<b>NORTHING</b>	5354375 (GPS)
<b>PROSPECT</b>	Langdon	<b>EASTING</b>	380896 (GPS)
<b>DESIGNED BY</b>	M Vicary	<b>RL</b>	527 (GPS)
<b>LOGGED BY</b>	M Vicary	<b>INCLINATION</b>	-66
<b>COMMENCED</b>	04/05/2001	<b>AZIMUTH</b>	270 AMG
<b>FINISHED</b>	15/05/2001	<b>EOH</b>	351.3m

### PURPOSE

To test dipole-dipole IP anomaly at 380800mE and 250mRL on Line 4400mN.

### SURVEY DATA

DEPTH	INC.	AZ.	DEPTH	INC.	AZ.	DEPTH	INC.	AZ.
0	-66	270	13	-64.8	269	239	-56.7	270
26	-65.7	268	152	-63.5	270	269	-55.5	271
59	-65.2	268	182	-61	269	299	-54.4	272
88	-64.3	269	212	-58.5	270	329	-53.3	277

### DRILLING DATA

HOLE SIZE	DEPTH	COMMENTS
HQ	0 - 78.2	Hole cased with PVC to 351.3m.
NQ	78.2 - 351.3	12m of HWT casing in top of hole

### SUMMARY

<b>Geological Summary:-</b>	
0 - 3.2	Glacials (Qg)
3.2 - 50.3	Feldspar phyric andesite (Ca)
50.3 - 62.4	Mylonitic quartz-feldspar porphyry with intense pyrite-pyrophyllite alteration (Cp)
62.4 - 260.0	Quartz-feldspar porphyry (Cp)
260.0 - 268.0	Feldspar-hornblende phyric andesite (Ca)
268.0 - 327.3	Feldspar-hornblende phyric andesite breccia with abundant white carbonate and hematitic marly carbonate microveins and matrix (Ca)
327.3 - 351.3	Feldspar-hornblende phyric andesite and breccia (Ca)
<b>Assays:-</b>	
Hole sampled at ~1m intervals from 3.2 to 67m, 154 to 161m and 248 to 260m.	
Sample Numbers 1082612 to 1082687	
Significant results:-10.2m at 0.25 g/t Au from 50.3m to 62.4m with a best intersection of 1.7m at 0.5 g/t Au from 51m. Au associated with low levels of Cu, As, Ag and Bi anomalism.	
<b>Geophysics:-</b>	

DataSet	Hole_Id	Depth_From	Depth_To	Metres	Recovery	RQD	Comments
TASNEW	TYN019	0.00	1.60	1.60	1.30	0.65	
TASNEW	TYN019	1.60	3.20	1.60	0.90	0.65	
TASNEW	TYN019	3.20	5.00	1.80	0.40	0.00	
TASNEW	TYN019	5.00	6.30	1.30	0.30	0.00	
TASNEW	TYN019	6.30	9.10	2.80	2.20	0.30	
TASNEW	TYN019	9.10	9.60	0.50	0.50	0.00	
TASNEW	TYN019	9.60	12.30	2.70	2.20	0.20	
TASNEW	TYN019	12.30	14.00	1.70	1.70	0.20	
TASNEW	TYN019	14.00	17.00	3.00	3.10	1.90	
TASNEW	TYN019	17.00	19.10	2.10	2.10	1.20	
TASNEW	TYN019	19.10	22.20	3.10	3.10	1.50	
TASNEW	TYN019	22.20	25.30	3.10	3.10	1.90	
TASNEW	TYN019	25.30	26.00	0.70	0.70	0.50	
TASNEW	TYN019	26.00	29.00	3.00	3.00	2.60	
TASNEW	TYN019	29.00	32.00	3.00	2.90	1.60	
TASNEW	TYN019	32.00	33.30	1.30	1.30	0.40	
TASNEW	TYN019	33.30	35.00	1.70	1.60	0.80	
TASNEW	TYN019	35.00	36.30	1.30	1.30	0.40	
TASNEW	TYN019	36.30	37.80	1.50	1.50	0.50	
TASNEW	TYN019	37.90	39.30	1.50	1.50	0.30	
TASNEW	TYN019	39.30	41.00	1.70	1.70	1.10	
TASNEW	TYN019	41.00	42.60	1.60	1.60	0.60	
TASNEW	TYN019	42.60	44.70	2.10	2.00	0.80	
TASNEW	TYN019	44.70	47.00	2.30	2.30	1.80	
TASNEW	TYN019	47.00	48.40	1.40	1.40	0.45	
TASNEW	TYN019	48.40	49.00	0.60	0.60	0.15	
TASNEW	TYN019	49.00	50.20	1.20	1.20	0.15	
TASNEW	TYN019	50.20	52.70	2.50	2.45	0.10	
TASNEW	TYN019	52.70	54.30	1.60	1.60	0.40	
TASNEW	TYN019	54.30	56.00	1.70	1.70	0.35	
TASNEW	TYN019	56.00	58.50	2.50	2.50	1.50	
TASNEW	TYN019	58.50	60.60	2.10	2.10	0.20	
TASNEW	TYN019	60.60	63.20	2.80	2.70	0.80	
TASNEW	TYN019	63.20	65.00	2.80	2.80	1.45	
TASNEW	TYN019	65.00	67.40	2.40	2.40	1.00	
TASNEW	TYN019	67.40	70.50	3.10	3.00	2.30	
TASNEW	TYN019	70.50	73.60	3.10	3.10	2.60	
TASNEW	TYN019	73.60	76.70	3.10	3.10	2.60	
TASNEW	TYN019	76.70	78.20	1.50	1.50	1.30	
TASNEW	TYN019	78.20	80.00	1.80	1.80	1.20	
TASNEW	TYN019	80.00	82.80	2.80	2.80	1.40	
TASNEW	TYN019	82.80	83.30	0.50	0.50	0.10	
TASNEW	TYN019	83.30	86.00	2.70	2.70	1.00	
TASNEW	TYN019	86.00	88.30	2.30	2.30	1.00	
TASNEW	TYN019	88.30	91.50	3.20	3.20	1.50	
TASNEW	TYN019	91.50	94.60	3.10	3.10	1.80	
TASNEW	TYN019	94.60	97.00	2.40	2.40	0.90	
TASNEW	TYN019	97.00	98.90	1.90	1.85	0.40	
TASNEW	TYN019	98.90	100.90	2.00	2.00	0.20	

DataSet	Hole_Id	Depth_From	Depth_To	Metres	Recovery	RQD	Comments
TASNEW	TYN019	100.90	102.90	2.00	2.00	0.60	
TASNEW	TYN019	102.90	105.90	3.00	3.00	1.00	
TASNEW	TYN019	105.90	109.00	3.10	3.10	1.30	
TASNEW	TYN019	109.00	109.40	0.40	0.40	0.10	
TASNEW	TYN019	109.40	111.20	1.80	1.80	0.50	
TASNEW	TYN019	111.20	113.00	1.80	1.80	1.80	
TASNEW	TYN019	113.00	116.00	3.00	3.00	2.70	
TASNEW	TYN019	116.00	119.00	3.00	3.00	2.20	
TASNEW	TYN019	119.00	121.70	2.70	2.70	2.20	
TASNEW	TYN019	121.70	124.70	3.00	3.00	2.00	
TASNEW	TYN019	124.70	126.20	1.60	1.60	0.10	
TASNEW	TYN019	126.20	126.50	0.30	0.30	0.00	
TASNEW	TYN019	126.50	128.00	1.50	1.50	1.30	
TASNEW	TYN019	128.00	131.00	3.00	3.00	2.50	
TASNEW	TYN019	131.00	134.00	3.00	3.00	2.90	
TASNEW	TYN019	134.00	137.00	3.00	3.00	2.90	
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TASNEW	TYN019	140.00	143.00	3.00	3.00	2.10	
TASNEW	TYN019	143.00	146.00	3.00	3.00	2.70	
TASNEW	TYN019	146.00	149.00	3.00	3.00	2.20	
TASNEW	TYN019	149.00	150.60	1.60	1.60	1.10	
TASNEW	TYN019	150.60	153.70	3.10	3.05	1.80	
TASNEW	TYN019	153.70	155.00	1.30	1.30	1.10	
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TASNEW	TYN019	158.00	161.00	3.00	3.00	2.70	
TASNEW	TYN019	161.00	164.00	3.00	3.00	2.70	
TASNEW	TYN019	164.00	167.00	3.00	3.00	2.90	
TASNEW	TYN019	167.00	170.00	3.00	3.00	2.80	
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TASNEW	TYN019	173.00	176.00	3.00	3.00	2.90	
TASNEW	TYN019	176.00	179.00	3.00	3.00	2.20	
TASNEW	TYN019	179.00	182.00	3.00	3.00	2.60	
TASNEW	TYN019	182.00	185.00	3.00	3.00	2.90	
TASNEW	TYN019	185.00	188.00	3.00	3.00	2.80	
TASNEW	TYN019	188.00	191.00	3.00	3.00	3.00	
TASNEW	TYN019	191.00	194.00	3.00	3.00	2.90	
TASNEW	TYN019	194.00	197.00	3.00	2.95	2.90	
TASNEW	TYN019	197.00	200.00	3.00	3.00	2.60	
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TASNEW	TYN019	212.00	215.00	3.00	3.00	2.30	
TASNEW	TYN019	215.00	218.00	3.00	3.00	2.40	
TASNEW	TYN019	218.00	219.90	1.90	1.90	0.80	
TASNEW	TYN019	219.90	223.00	3.10	3.10	2.40	
TASNEW	TYN019	223.00	226.10	3.10	3.10	2.70	
TASNEW	TYN019	226.10	229.20	3.10	3.10	2.90	
TASNEW	TYN019	229.20	230.00	0.80	0.80	0.80	

DataSet	Hole_Id	Depth_From	Depth_To	Metres	Recovery	RQD	Comments
TASNEW	TYN019	230.00	233.00	3.00	3.00	2.50	
TASNEW	TYN019	233.00	236.00	3.00	3.00	2.50	
TASNEW	TYN019	236.00	239.00	3.00	3.00	2.40	
TASNEW	TYN019	239.00	241.60	2.60	2.60	2.20	
TASNEW	TYN019	241.60	244.60	3.00	3.00	2.90	
TASNEW	TYN019	244.60	247.70	3.10	3.10	2.90	
TASNEW	TYN019	247.70	250.80	3.10	3.10	2.40	
TASNEW	TYN019	250.80	253.90	3.10	3.10	2.10	
TASNEW	TYN019	253.90	256.90	3.00	3.00	2.60	
TASNEW	TYN019	256.90	260.00	3.10	3.10	2.70	
TASNEW	TYN019	260.00	263.00	3.00	3.00	2.00	
TASNEW	TYN019	263.00	266.00	3.00	3.00	2.20	
TASNEW	TYN019	266.00	269.00	3.00	3.00	2.20	
TASNEW	TYN019	269.00	272.00	3.00	3.00	2.00	
TASNEW	TYN019	272.00	275.00	3.00	3.00	2.50	
TASNEW	TYN019	275.00	278.00	3.00	2.95	2.60	
TASNEW	TYN019	278.00	281.00	3.00	3.00	2.80	
TASNEW	TYN019	281.00	284.00	3.00	3.00	2.60	
TASNEW	TYN019	284.00	287.00	3.00	3.00	2.10	
TASNEW	TYN019	287.00	290.00	3.00	3.00	2.50	
TASNEW	TYN019	290.00	293.00	3.00	3.00	2.70	
TASNEW	TYN019	293.00	296.00	3.00	3.00	2.80	
TASNEW	TYN019	296.00	299.00	3.00	3.00	2.10	
TASNEW	TYN019	299.00	302.00	3.00	3.00	2.50	
TASNEW	TYN019	302.00	305.00	3.00	3.00	2.90	
TASNEW	TYN019	305.00	308.00	3.00	3.00	3.00	
TASNEW	TYN019	308.00	311.00	3.00	3.00	2.90	
TASNEW	TYN019	311.00	314.00	3.00	3.00	2.80	
TASNEW	TYN019	314.00	317.00	3.00	3.00	2.70	
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TASNEW	TYN019	323.00	326.00	3.00	3.00	2.65	
TASNEW	TYN019	326.00	329.00	3.00	3.00	2.80	
TASNEW	TYN019	329.00	332.00	3.00	3.00	2.80	
TASNEW	TYN019	332.00	335.00	3.00	2.95	2.90	
TASNEW	TYN019	335.00	338.00	3.00	3.00	2.60	
TASNEW	TYN019	338.00	341.00	3.00	3.00	2.70	
TASNEW	TYN019	341.00	344.00	3.00	3.00	2.60	
TASNEW	TYN019	344.00	347.00	3.00	3.00	2.80	
TASNEW	TYN019	347.00	350.00	3.00	3.00	2.30	
TASNEW	TYN019	350.00	351.30	1.30	1.30	1.20	

# RGC EXPLORATION PTY LTD

848026

DRILL HOLE No TYN019 (SUMMARY)

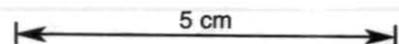
SHEET 1 OF 2

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⊕ Breccia
- ▨ Broken core
- ⋯ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :	ANTHONY
PROSPECT :	LANGDON
DATE :	MAY 2001
LOGGED BY :	M VICARY

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION				GEOLOGY NOTES	SUMMARY			
					SIL.	SER.	PY.	PHYOPH		FORMATION	ROCK	ALTERATION	
0				1 1 1 4 16 32 0 0 0 0					0-32	Glacials			
10				▨					32-50.3	Feldspar phyrlic Andesite (moderate pyrite veining)			
20				^									
30				^									
40				^									
50		50.2-62.4		⊕					50.3-62.4	Mylonitic Qtz Porphyry with intense Pyrite-Pyrophyllite alteration			
60		10.2m @ 0.25 g/t Au		⊕									
70				⊕					62.4-260.0	Qtz Porphyry and breccia			
80				⊕									
90				⊕									
100				⊕									
110				⊕									
120				⊕									
130				⊕									
140				⊕									
150				⊕									
160	Assayed			⊕									
170				⊕									
180				⊕									
190				⊕									
200				⊕									

REMARKS Scale 1:1000



# RGC EXPLORATION PTY LTD

DRILL HOLE No TYN019 (SUMMARY)

SHEET 2 OF 2

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- △ Breccia
- ▨ Broken core
- ◻ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY		
							FORMATION	ROCK	ALTERATION
260				<div style="display: flex; justify-content: space-around; font-size: 8px;"> <span>1/16</span> <span>1/4</span> <span>1</span> <span>4</span> <span>16</span> <span>32</span> </div>					
270						<p>260-268 feldspar hornblende phyric andesite</p>		<p>CP</p>	
280						<p>268-327.3 feldspar-hornblende andesite + breccia with abundant white carbonate and hercynitic marly carbonate microveins and matrix.</p>		<p>CP</p>	
300									
310						<p>327.3-351.3 Feldspar-hornblende phyric andesite + breccia</p>			
320									
330									
340									
350				<p>ED# 351.3</p>					

**REMARKS**

**RGC EXPLORATION PTY LTD**

DRILL HOLE No TYN019

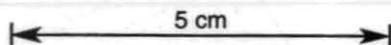
SHEET 1 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :	ANTHONY
PROSPECT :	LANGDON
DATE :	MAY 2001
LOGGED BY :	M VICARY

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION			GEOLOGY NOTES	SUMMARY	
					SIL.	SER.	PY.		ROCK	ALTERATION
0	10926	Au		1/16 1/4 1 4 16 32				0-3.2m Predominantly Owen derived glacial deposit	Qg	TILL
1										
2										
3										
4								3.2-7.8 highly broken zone High % core loss 3.2-6.3m		
5	12	-0.01								
6										
7								Predominantly massive feld (Qtz) phyric andesite.		OL-6
8	13	-0.01						Small zones of in situ brecciation indicated.		
9										
10										
11	14	-0.01						Strongly broken core limonitic joint surfaces common.	Qs	LAF/ LO-8
12										
13										
14	15	-0.01								
15										
16	16	-0.01								
17										
18	17	-0.01								QOP6
19										
20	18	-0.01								
21										
22	19	-0.01								
23										
24	20	-0.01								
25										
26	21	-0.01								

REMARKS Scale 1:100



**RGC EXPLORATION PTY LTD**

DRILL HOLE No TYN019

SHEET 2 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX %AZ	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY	
							ROCK	ALTERATION
70	Av							
1	22	-0.01		^	/			
2	23	-0.01			/			
3	24	-0.01			/			
4	25	-0.01		^	/			
5	26	-0.01			/			
6	27	-0.01		^	/			QOP6
7	28	-0.01			/			
8	29	-0.01		^	/			
9	30	-0.01			/			
30	31	-0.01			▨			
1	32	-0.01		^	▨			
2	33	-0.01		▨		broken zone		
3	34	-0.01		^	/			
4	35	-0.01			/			
5	36	-0.01			/			
6	37	-0.01		▲		grey ashly siltstone inclusion		QOP6
7	38	-0.01			/			
8	39	-0.01		^	/			
9	40	-0.01		▨		broken zone		
40	41	-0.01						

REMARKS

**RGC EXPLORATION PTY LTD**

DRILL HOLE No TYN019

SHEET 3 OF 6

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY	
							ROCK	ALTERATION
40	AJ			1/16 1/4 1 4 16 32	SIL. SER. PY.			
1	42	-0.01		^				
2	43	-0.01						
3	44	-0.01		^				
4	45	-0.01		^				
5	46	-0.01		▨		strongly broken core		GOR6
6	47	-0.01		^			G	LAF1
7	48	-0.01		^				
8	49	-0.01						
9	51	-0.01		▨		strongly broken core		LO-6
50	52	-0.01		▨		strongly broken core		
1	53	0.35		⊕	* CCP	intensely broken core Qtz Porphyry & intense pyrophyllite-pyrite alteration. Strong S <sub>1</sub> 20-30' sulphides in places.	CP FAULT	IP P QB
2	54	0.50		⊕	* CCP		IAZ	
3	55	0.40		⊕	* Tetrahedrite			
4	56	0.21	S <sub>1</sub> 25	⊕				
5	57	0.34		⊕				
6	58	0.24	S <sub>1</sub> 20	⊕				
7	59	0.24		▨				
8	60	0.06	S <sub>1</sub> 15	⊕		Texturally destructive alteration Possibly Qtz Porphyry but extremely foliated	IAZ   mylonite	IP P - 8
9	61	0.15		▨		Possible foliate closures in S <sub>1</sub> foliation slickensided joint surfaces common		

REMARKS

← 5 cm →



# RGC EXPLORATION PTY LTD

848032

DRILL HOLE No TUN019

SHEET 5 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION			GEOLOGY NOTES	SUMMARY	
					SIL.	SER.	PT.		ROCK	ALTERATION
80				<div style="display: flex; justify-content: space-around; font-size: 8px;"> <span>1/16</span> <span>1/4</span> <span>1</span> <span>4</span> <span>16</span> <span>32</span> </div>						IA<B
1										
2								Massive andesite feld-Hbl-(qtz) phyr.c		IA<B
3										IA<B
4										IA<B
5										IA<B
6										IA<B
7								Predominantly hyaloclastic andesite breccia feld<qtz phyr.c		O-6
8										O-6
9										O-6
90										O-6
1								Moderately broken core		IA<B
2										IA<B
3										IA<B
4										IA<B
5										IA<B
6										IA<B
7										IA<B
8										IA<B
9										IA<B
100										IA<B

REMARKS

# RGC EXPLORATION PTY LTD

DRILL HOLE No 848033  
TYNO19  
 SHEET 6 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY		
							ROCK	ALTERATION	
100				<div style="display: flex; justify-content: space-around; font-size: 8px;"> <span>1/16</span> <span>1/4</span> <span>1</span> <span>4</span> <span>16</span> <span>32</span> </div>					
1									
2									
3									
4									
5									
6									
7						broken zone with limonitic joints			
8						broken zone with limonitic joints			
9									
110						strongly broken zone with limonitic joint			
1									
2									
3									
4									
5									
6									
7									
8									
9									
170	REMARKS								

CP  
 IALB  
 0-6  
 0-6  
 100

# RGC EXPLORATION PTY LTD

848034

DRILL HOLE No TYNO19

SHEET 7 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚠ Breccia
- ▨ Broken core
- ◻ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY	
							ROCK	ALTERATION
100							JALB	CA-6
1				⊕				
2				⊕				
3				⊕				
4				⊕				
5						Broken Zone Limonitic joint surfaces		
6							CP	NO-6
7							JAL	LOAB
8				⊕				
9				⊕				
130			SPB	~		Poorly developed flow banding.		ADCT
1				~				
2				⊕				
3				⊕				
4				⊕				
5				⊕			JALB	CA-5
6				⊕				
7				⊕				
8				⊕		Qtz-carb-epd verry.		
9				⊕				

REMARKS

**RGC EXPLORATION PTY LTD**

DRILL HOLE No TUN019

SHEET 8 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚠ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY		
							ROCK	ALTERATION	
140					SIL. SER. PY.				
1						broken zone ± Qtz-chl veining			
2									
3						Qtz-chl-epid-carb veining			
4			S1 45						
5									
6									
7									
8									
9									
150						broken core			
1						broken core			
2									
3			S1 35						
4									
5	69	-0.01				minor pyrite veining			
6	70	-0.01							
7	71	-0.01							
8	72	-0.01							
9	73	-0.01							
160	74	-0.01	S1 30			broken zone ± limonitic joints			
REMARKS									

AD-6

CP  
TALB

QA-5

SOPB

**RGC EXPLORATION PTY LTD**

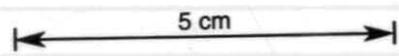
DRILL HOLE No TUN019

SHEET 9 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⬆ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX (0025-)	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY		
							ROCK	ALTERATION	
160	75	-0.01					JALB	SOB	
1									
2									
3									
4						Zone of abundant Qtz-carb-epid-chl veining		AO-6	
5									
6									
7									
8									
9									
170							JAL	AO-5	
1									
2									
3									
4									
5						Qtz-epid-carb-musc(?) vein			
6						Zone of several Qtz-chl-carb veining			
7									
8									
9								AO-6	
180	REMARKS								



# RGC EXPLORATION PTY LTD

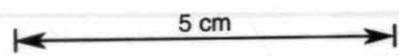
848037

DRILL HOLE No TUN019

SHEET 10 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚠ Breccia
- ▨ Broken core
- ◻ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG							ALTERATION	GEOLOGY NOTES	SUMMARY			
				1/16	1/4	1	4	16	32	SIL.			SER.	PY.	ROCK	ALTERATION
100																
1																
2																
3																
4																
5																
6													Qtz-carb-epid-pyrite vein			
7																
8																
9																
190																
1																
2			SIL													
3																
4																
5																
6																
7																
8																
9																
200																
REMARKS																
																

# RGC EXPLORATION PTY LTD

848038  
TUNO19

DRILL HOLE No \_\_\_\_\_

SHEET 11 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚠ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG						ALTERATION	GEOLOGY NOTES	SUMMARY				
				1/16	1/4	1	4	16	32			SIL.	SER.	PT.	ROCK	ALTERATION
200				⊕												
1																
2																
3																
4				⊕												
5				⊕												
6																
7																
8																
9				⊕												
210																
1				⊕												
2																
3																
4				⊕												
5																
6																
7																
8				⊕												
9																
220																
REMARKS																

CP  
IAL  
O.A.-G

Qtz carb chl veining

Qtz-carb-epid. veins

Qtz carb vein

Qtz-carb-epid vein

Dr. G

# RGC EXPLORATION PTY LTD

848039

DRILL HOLE No TYN019

SHEET 12 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- △ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY	
							PREFIX	ROCK
220				<div style="display: flex; justify-content: space-around; font-size: 8px;"> <span>1/16</span> <span>1/4</span> <span>1</span> <span>4</span> <span>16</span> <span>32</span> </div>			AD-6	
1				⊕		Zone of Qtz-carb-chl-epid veins		
2								
3				⊕				
4								OA-6
5				⊕				
6								
7								
8				⊕				
9						Qtz-carb-epid veining.	CP	IAL
230				⊕				AD-6
1								
2								
3				⊕				
4								
5				⊕				
6								
7								
8				⊕				
9				⊕				IR-L
240						Qtz-carb-chl-epid veining		AD-7
REMARKS								

# RGC EXPLORATION PTY LTD

DRILL HOLE No 848040  
TYN019  
 SHEET 13 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY	
							ROCK	ALTERATION
228	PREFIX KC26	AJ		1 1 1 4 16 32 SIL. SER. PY.				
1				⊕				
2								
3				⊕				
4								AO-7
5				⊕				
6								
7								
8								
9	76	-0.01				Minor pyrite microveining		
10	77	-0.01					CP	
11	78	-0.01		⊕		Minor pyrite veining	TEL	
12	79	-0.01						
13	80	-0.01						
14	81	-0.01		⊕		sp Qtz-carb-chl-veining		AOP7
15	82	-0.01						
16	83	-0.01		⊕				
17	84	-0.01						
18	85	-0.01		⊕				
19	86	-0.01						
20	87	-0.01		⊕		small puggy fault		
260								
REMARKS								
5 cm								

# RGC EXPLORATION PTY LTD

848041

DRILL HOLE No TUN019

SHEET 14 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY		
							ROCK	ALTERATION	
266				<div style="display: flex; justify-content: space-around; font-size: 8px;"> <span>1/16</span> <span>1/4</span> <span>1</span> <span>4</span> <span>16</span> <span>32</span> </div>					
1				▲		Qtz-carb-chl-ccp veining.			
2				▲		Massive andesite (feld-Hbl) with minor carbonate microveins			
3									
4				▲				LAFH	
5								OHCB	
6				▲					
7									
8									
9									
270								CA	
1						as above but white carb and hm wavy carbonate microveins and matrix common.			
2									
3									
4									
5								LACB	
6								OHCB	
7									
8									
9									
276	REMARKS								
						5 cm			

# RGC EXPLORATION PTY LTD

DRILL HOLE No 848042  
TUN019  
 SHEET 15 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE NO	ASSAY RESULTS	STRUCT.	GRAPHIC LOG						ALTERATION			GEOLOGY NOTES	SUMMARY		
				1	1	1	4	16	22	SIL.	SER.	PT.		ROCK	ALTERATION	
000																
1				☆	>											
2																
3				>	☆											
4				=	>											
5																
6				☆	=											
7				>												
8				=	☆											
9				>												
290				☆	=											
1				>	☆											
2				=	☆											
3				>	☆											
4				=	☆											
5				☆	>											
6				☆	>											
7				=	☆											
8				>	☆											
9				>	☆											
300																
REMARKS																

C1  
LACB  
OHCB

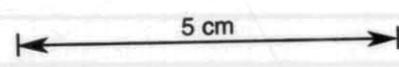
# RGC EXPLORATION PTY LTD

DRILL HOLE No 848043  
TUN019  
 SHEET 16 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚠ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY	
							PREFIX	ROCK
300				<div style="display: flex; justify-content: space-around; font-size: 8px;"> <span>1 16</span> <span>1 4</span> <span>1 1</span> <span>4 4</span> <span>16 22</span> </div>	<div style="display: flex; justify-content: space-around; font-size: 8px;"> <span>SIL.</span> <span>SER.</span> <span>PY.</span> </div>			Cg LACB OHCB
1								
2								
3								
4								
5								
6								
7								
8								
9								
310								
1								
2								
3								
4								
5								
6								
7								
8								
9								
320	REMARKS							





# RGC EXPLORATION PTY LTD

DRILL HOLE No 848045  
TYN019  
 SHEET 18 OF 18

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY	
							ROCK	ALTERATION
350					SIL. SER. F.			
1				^				
2				^				VAFM OCE6
3				^				
4				^				
5				^				
6				^			Ca	
7				^				LAFM OCE6
8				^				
9						Eld-Hbl andesite breccia maybe some reworked vlc's		LAFB
350								
1				EOH=351-3m				

REMARKS

## GOLDFIELDS EXPLORATION DRILL HOLE RECORD

<b>HOLE NUMBER</b>	TYN020	<b>DRILLED BY</b>	DDTAS
<b>PROJECT</b>	Anthony EL 19/1998	<b>NORTHING</b>	5354292 (GPS)
<b>PROSPECT</b>	Bradshaws Road	<b>EASTING</b>	379279 (GPS)
<b>DESIGNED BY</b>	M Vicary	<b>RL</b>	509 (GPS)
<b>LOGGED BY</b>	M Vicary	<b>INCLINATION</b>	-50
<b>COMMENCED</b>	23/05/2001	<b>AZIMUTH</b>	090 AMG
<b>FINISHED</b>	05/06/2001	<b>EOH</b>	300.0m

### PURPOSE

To test the southern extension of the Bradshaws Road alteration zone. The hole was designed to test an IP anomaly at 379400mE, 5354288mN and 400mRL. The IP anomaly is evident on a recent 2D inversion of the 1967 Basin Lake IP survey on Line 4N, 1500ftE, -450ftRL.
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### SURVEY DATA

DEPTH	INC.	AZ.	DEPTH	INC.	AZ.	DEPTH	INC.	AZ.
0	-50	090	99	-49.7	096.5	219	-41.5	(097.5)
15	-51	092	129	-47.5	096.5	249	-37	098
41	-51.5	093	159	-46	096	279	-33.4	098
69	-51.3	097.8	189	-44	097			

### DRILLING DATA

HOLE SIZE	DEPTH	COMMENTS
HQ	0 - 56.5	PVC to 300m
NQ	56.5 - 300	~6m HQWL casing in top of hole

### SUMMARY

Geological Summary:-	
0 - 2.4	Glacials (Qg)
2.4 - 19.0	Feldspar phyric pumiceous volcanoclastic sandstone (Cym)
19.0 - 24.7	Interbedded black siltstone and grey ashy siltstone (Cyss)
24.7 - 119.8	Feldspar phyric pumiceous volcanoclastic sandstone (Cym)
119.8 - 128.4	Interbedded black siltstone and f gr volcanoclastic sst (Cyss)
128.4 - 200.4	Massive feldspar - (hornblende?) phyric dacite (Ccvl)
200.4 - 216.3	Interbedded black siltstone and f gr volcanoclastic sst (Cyss)
216.3 - 271.2	Feldspar phyric pumiceous volcanoclastic sandstone (Cym)
271.2 - 282.8	Interbedded black-grey siltstone and lithic rich massflows (Cyss+Cymf)
282.8 - 300.0	Interbedded ashy siltstone and lithic rich massflows (Cymf)
Assays:-	
Hole sampled at ~1m to 2m intervals from 120 to 128.4m, and 203.6 to 212m.	
Sample Numbers 1082688 to 1082704. Lithochemical samples 1082688, 703 and 704	
Geophysics:-	

DataSet	Hole_Id	Depth_From	Depth_To	Metres	Recovery	RQD	Comments
TASNEW	TYN020	0.00	2.50	2.50	2.50	0.00	Start HQ
TASNEW	TYN020	2.50	4.40	1.90	1.90	0.00	
TASNEW	TYN020	4.40	5.50	1.10	1.10	0.90	
TASNEW	TYN020	5.50	8.50	3.00	3.00	1.95	
TASNEW	TYN020	8.50	11.50	3.00	3.00	2.40	
TASNEW	TYN020	11.50	14.50	3.00	3.00	2.20	
TASNEW	TYN020	14.50	17.50	3.00	3.00	1.00	
TASNEW	TYN020	17.50	20.50	3.00	3.00	1.10	
TASNEW	TYN020	20.50	23.50	3.00	3.00	0.00	
TASNEW	TYN020	23.50	24.70	1.20	1.20	0.00	
TASNEW	TYN020	24.70	26.50	1.80	1.80	1.30	
TASNEW	TYN020	26.50	29.50	3.00	3.00	0.30	
TASNEW	TYN020	29.50	30.50	3.00	3.00	0.60	
TASNEW	TYN020	30.50	32.50	2.00	2.00	0.80	
TASNEW	TYN020	32.50	35.50	3.00	3.00	1.60	
TASNEW	TYN020	35.50	38.50	3.00	3.00	1.80	
TASNEW	TYN020	38.50	41.50	3.00	3.00	2.40	
TASNEW	TYN020	41.50	44.50	3.00	3.00	2.60	
TASNEW	TYN020	44.50	47.50	3.00	3.00	1.70	
TASNEW	TYN020	47.50	50.50	3.00	3.00	2.50	
TASNEW	TYN020	50.50	53.50	3.00	3.00	1.65	
TASNEW	TYN020	53.50	56.50	3.00	3.00	2.10	End HQ
TASNEW	TYN020	56.50	59.50	3.00	3.00	1.00	Start NQ
TASNEW	TYN020	59.50	62.50	3.00	3.00	2.20	
TASNEW	TYN020	62.50	65.50	3.10	3.10	2.85	
TASNEW	TYN020	65.50	68.70	3.20	3.20	3.10	
TASNEW	TYN020	68.70	71.80	3.10	3.10	3.05	
TASNEW	TYN020	71.80	74.90	3.10	3.10	3.10	
TASNEW	TYN020	74.90	78.00	3.10	3.10	3.10	
TASNEW	TYN020	78.00	81.00	3.00	3.00	3.00	
TASNEW	TYN020	81.00	84.00	3.00	3.00	3.00	
TASNEW	TYN020	84.00	87.00	3.00	3.00	2.95	
TASNEW	TYN020	87.00	90.00	3.00	3.00	3.00	
TASNEW	TYN020	90.00	93.00	3.00	3.00	2.70	
TASNEW	TYN020	93.00	96.00	3.00	3.00	2.90	
TASNEW	TYN020	96.00	99.00	3.00	3.00	2.90	
TASNEW	TYN020	99.00	102.00	3.00	3.00	2.90	
TASNEW	TYN020	102.00	105.00	3.00	3.00	2.90	
TASNEW	TYN020	105.00	108.00	3.00	3.00	3.00	
TASNEW	TYN020	108.00	111.00	3.00	3.00	3.00	
TASNEW	TYN020	111.00	114.00	3.00	3.00	2.95	
TASNEW	TYN020	114.00	117.00	3.00	3.00	2.80	
TASNEW	TYN020	117.00	120.00	3.00	3.00	2.95	
TASNEW	TYN020	120.00	123.00	3.00	3.00	2.80	
TASNEW	TYN020	123.00	126.00	3.00	3.00	2.92	
TASNEW	TYN020	126.00	129.00	3.00	3.00	2.55	
TASNEW	TYN020	129.00	132.00	3.00	3.00	3.00	
TASNEW	TYN020	132.00	135.00	3.00	3.00	2.95	
TASNEW	TYN020	135.00	138.00	3.00	3.00	3.00	
TASNEW	TYN020	138.00	141.00	3.00	3.00	2.70	
TASNEW	TYN020	141.00	144.00	3.00	3.00	2.90	
TASNEW	TYN020	144.00	147.00	3.00	3.00	2.90	

DataSet	Hole Id	Depth From	Depth To	Metres	Recovery	RQD	Comments
TASNEW	TYN020	147.00	150.00	3.00	3.00	2.95	
TASNEW	TYN020	150.00	153.00	3.00	3.00	2.90	
TASNEW	TYN020	153.00	156.00	3.00	3.00	2.90	
TASNEW	TYN020	156.00	159.00	3.00	3.00	2.80	
TASNEW	TYN020	159.00	162.00	3.00	3.00	2.90	
TASNEW	TYN020	162.00	165.00	3.00	3.00	2.95	
TASNEW	TYN020	165.00	168.00	3.00	3.00	2.85	
TASNEW	TYN020	168.00	171.00	3.00	3.00	2.80	
TASNEW	TYN020	171.00	174.00	3.00	3.00	2.90	
TASNEW	TYN020	174.00	177.00	3.00	3.00	2.90	
TASNEW	TYN020	177.00	180.00	3.00	3.00	2.95	
TASNEW	TYN020	180.00	183.00	3.00	3.00	2.90	
TASNEW	TYN020	183.00	186.00	3.00	3.00	2.90	
TASNEW	TYN020	186.00	189.00	3.00	3.00	2.90	
TASNEW	TYN020	189.00	192.00	3.00	3.00	2.85	
TASNEW	TYN020	192.00	195.00	3.00	3.00	3.00	
TASNEW	TYN020	195.00	198.00	3.00	3.00	3.00	
TASNEW	TYN020	198.00	201.00	3.00	3.00	2.95	
TASNEW	TYN020	201.00	204.00	3.00	3.00	2.90	
TASNEW	TYN020	204.00	207.00	3.00	3.00	2.90	
TASNEW	TYN020	207.00	210.00	3.00	3.00	2.90	
TASNEW	TYN020	210.00	213.00	3.00	3.00	2.60	
TASNEW	TYN020	213.00	216.00	3.00	3.00	2.10	
TASNEW	TYN020	216.00	219.00	3.00	3.00	2.30	
TASNEW	TYN020	219.00	222.00	3.00	3.00	2.50	
TASNEW	TYN020	222.00	225.00	3.00	3.00	2.90	
TASNEW	TYN020	225.00	228.00	3.00	3.00	2.65	
TASNEW	TYN020	228.00	231.00	3.00	3.00	3.00	
TASNEW	TYN020	231.00	234.00	3.00	3.00	2.75	
TASNEW	TYN020	234.00	237.00	3.00	3.00	2.60	
TASNEW	TYN020	237.00	240.00	3.00	3.00	2.70	
TASNEW	TYN020	240.00	243.00	3.00	3.00	2.90	
TASNEW	TYN020	243.00	246.00	3.00	3.00	2.55	
TASNEW	TYN020	246.00	249.00	3.00	3.00	2.80	
TASNEW	TYN020	249.00	252.00	3.00	3.00	2.55	
TASNEW	TYN020	252.00	255.00	3.00	3.00	2.50	
TASNEW	TYN020	255.00	258.00	3.00	3.00	2.60	
TASNEW	TYN020	258.00	261.00	3.00	3.00	3.00	
TASNEW	TYN020	261.00	264.00	3.00	3.00	2.90	
TASNEW	TYN020	264.00	267.00	3.00	3.00	2.95	
TASNEW	TYN020	267.00	270.00	3.00	3.00	2.95	
TASNEW	TYN020	270.00	273.00	3.00	3.00	2.90	
TASNEW	TYN020	273.00	276.00	3.00	3.00	2.90	
TASNEW	TYN020	276.00	279.00	3.00	3.00	3.00	
TASNEW	TYN020	279.00	282.00	3.00	3.00	2.95	
TASNEW	TYN020	282.00	285.00	3.00	3.00	2.90	
TASNEW	TYN020	285.00	288.00	3.00	3.00	2.80	
TASNEW	TYN020	288.00	292.00	3.00	3.00	2.90	
TASNEW	TYN020	291.00	294.00	3.00	3.00	2.85	
TASNEW	TYN020	294.00	297.00	3.00	3.00	2.90	
TASNEW	TYN020	297.00	300.00	3.00	3.00	2.90	

**RGC EXPLORATION PTY LTD**

DRILL HOLE No TUN020 (SUMMARY)

SHEET 1 OF 2

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :	ANTHONY
PROSPECT :	BRADSHAW'S ROAD
DATE :	MAY-JUNE 2001
LOGGED BY :	M VICARY

HOLE DEPTH	SAMPLE NO PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY		
							FORMATION	ROCK	ALTERATION
0						0-2.4 Glacials	Qg	TILL	
10						2.4-19.0 M.gr feldspar phyric pumiceous volcanoclastic sst	Cym	VDFM	
20						19.0-24.7 black + grey ashy siltstone	Cys	SILT	
30						24.7-119.8 M.gr feldspar phyric pumiceous volcanoclastic sst	Cym	VDFM	
40						119.8-128.4 Interbedded thin bedded black siltstone and fine grained grey volcanoclastic sst.	Cys	SILT	
50						128.4-200.4 massive feldspar-(hornblende) phyric dacitic intrusive/lava	Ccu	LDFI	
60									

REMARKS

\* Lithogeochemical Sample

Scale 1:1000 5 cm

# RGC EXPLORATION PTY LTD

848050

DRILL HOLE No TN020 (SUMMARY)

SHEET 2 OF 2

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY			
							FOUNDTN	ROCK	ALTERATION	
200					<small>SIL. SER. PY.</small>	200.4-216.3 Interbedded black siltstone and F-M gr feldspar phyric ash volcaniclastic sandstone	CysS	SILT	VDF	
210	VDF						216.3-271.3 M gr feldspar phyric pumiceous volcaniclastic sst			
220						Cym			VDFM	
230					*					
240										
250						271.3-282.8 Interbedded black siltstone and lithic rich massflow deposits	CysS	SILT	VDFC	
260							Cym		VDF	
270							VDFC		VDF	
280						282.8-300 Interbedded ash siltstone and lithic rich massflow deposits				
290										
300										
				EOH=300.0m						
REMARKS										

**RGC EXPLORATION PTY LTD**

DRILL HOLE No TYN020

SHEET 1 OF 15

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :	ANTHONY
PROSPECT :	BRADSHAW'S ROAD
DATE :	MAY-JUNE 2001
LOGGED BY :	M VICARY

HOLE DEPTH	SAMPLE NO PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION				GEOLOGY NOTES	SUMMARY			
					SIL.	SER.	PY.	CH		Formation	ROCK	ALTERATION	
0									0-2.4	glacials	Qg	Tilt	
1													
2													
3			▨	└					2-4-19.0	M gr feldspar phytic pumiceous volcaniclastic sandstone			
6			▨	└									
5				└									S--6
6			▨	└									
7				└									
8				└									
9				└									
10				└								Cym	VDM
11				└									
12				└									
13				└									
14				└									
15			▨	└									
16				└									
17				└									
18				└									
19				└									
20				└									

REMARKS

Scale 1:100

5 cm

# RGC EXPLORATION PTY LTD

848052

DRILL HOLE No TYN020

SHEET 2 OF 15

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION				GEOLOGY NOTES	SUMMARY		
					SIL.	SER.	PT.	Chl		FORMATION	ROCK	ALTERATION
0				1 4 16 32								
1			Fold hinge	50 20°					19.0-24.7 Interbedded black siltstone and ashy grey siltstone (Ashy siltstone commonly thinly bedded) (highly broken core, some faulted contacts). fold hinge at 20.8m	C4SS	SILT	
2												
3												
4												
5				10cm raft of ashy siltstone								
6												
7									26.7-30.5 Intensely broken core with Qtz-chl veining			
8												
9												
30												
1												
2									Qtz-chl ven.	C4M	VDRM	5--6
3												
4												
5												
6												
7									Gaslike Qtz chl veins			
8												
9												50-6

REMARKS

# RGC EXPLORATION PTY LTD

DRILL HOLE No TYN020

SHEET 3 OF 15

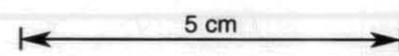
- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚠ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE NO PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION				GEOLOGY NOTES	SUMMARY		
					SIL.	SER.	PY.	CHL		FORMATION	ROCK	ALTERATION
0				1 2 1 4 16 22								
1				~ ~								
2				~ ~								
3				~ ~								
4				~ ~								
5			5135	~ ~								
6				~ ~								
7				~ ~					Minor Qtz-chl veining.			
8				~ ~								
9				~ ~								
50				~ ~								
1			5130	~ ~								
2				~ ~								
3				~ ~								
4				~ ~								
5				~ ~								
6				~ ~								
7				~ ~					Minor Qtz-chl veining			
8				~ ~								
9				~ ~					moderately broken			

H<sub>2</sub>O

REMARKS



Cqm  
 VDFM  
 50-L  
 50-L

**RGC EXPLORATION PTY LTD**

DRILL HOLE No TYN020

SHEET 4 OF 5

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚠ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION				GEOLOGY NOTES	SUMMARY		
					SIL.	SER.	PY.	CH.		REGISTRATION	ROCK	ALTERATION
0				▨					Qtz chl veining			50-6
1				~								
2				~								
3				~								
4				~								
5				~								
6				~								
7				~								
8				~								
9				~								
70			S135	~							Cym	VDFM
1				~								05-6
2				~								
3				~								
4				~								
5				~								
6			S440	~								
7				~								
8				~								
9				~								

REMARKS

# RGC EXPLORATION PTY LTD

848055

DRILL HOLE No TYN020

SHEET 5 OF 15

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ⊠ Broken core
- ▨ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE NO PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG						ALTERATION					GEOLOGY NOTES	SUMMARY		
				1	1	1	4	16	32	SIL.	SER.	PT.	CAI	Carb		ROCK	ALTERATION	
88				~	~													
1				~	~													
2				~	~													
3				~	~													
4				~	~													
5			Sr 25	~	~													
6				~	~									Qtz vein.				
7				~	~													
8				~	~													
9				~	~													
90			Sr 30	~	~													
1				~	~													
2				~	~													
3				~	~									Qtz-carb vein				
4				~	~													
5			Sr 35	~	~													
6				~	~													
7				~	~									Qtz vein.				
8				~	~													
9				~	~													

REMARKS

# RGC EXPLORATION PTY LTD

DRILL HOLE No 848056  
TYN020

SHEET 6 OF 15

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚠ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE NO	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION					GEOLOGY NOTES	SUMMARY		
					SIL.	SER.	PHY.	CH.	Carb.		FORMATION	ROCK	ALTERATION
100	PREFIX 102-- 705		S <sub>135</sub>							T <sub>12r</sub> =5.9 P <sub>20s/TiO2</sub> =0.11			
1				~									
2				~									OS-1
3				~									
4				~									
5			S <sub>135</sub>	~									
6				~									
7				~									
8				~								Cym	VDFM
9				~									
10			S <sub>130</sub>	~									
11				~									
12				~						112-114-6 Poorly defined grading			
13				~									
14				~									OS-6
15			S <sub>135</sub>	~						thinning of 1/8 black siltstone + Fgr ashy sst. (faulted unit) base of unit relatively lithic + pumice rich 5cm sperulitic-perlitic decalc lava clast		SIL	
16				~									
17				~									VDFM
18				~									
19			S <sub>135</sub>	~						well defined grading.			

REMARKS



# RGC EXPLORATION PTY LTD

DRILL HOLE No TYN020

SHEET 8 OF 15

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE NO PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION					GEOLOGY NOTES	SUMMARY		
					SIL.	SER.	PY.	Ch1	Ch2		FORMATION	ROCK	ALTERATION
0				18 1 1 4 16 32						Qtz carb vein			
1				└									
2				└									
3				▨									
4				└									LAFB
5				▨									
6				└									
7				└									
8				└						Carb vein			
9				└						Qtz-ch1 vein. minor albite selvage			
100				└									
1				└									
2				└									
3				└									
4				└						Qtz-ch1-carb vein, minor albite selvage			
5				└									
6				└									
7				└						Qtz-ch1-carb vein			
8				└									
9				└									

REMARKS

**RGC EXPLORATION PTY LTD**

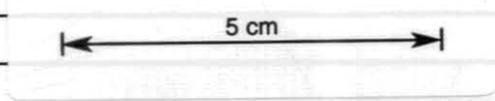
DRILL HOLE No T4N020

SHEET 9 OF 15

- Bedding
- ┌ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX 102	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY		
							Foliation	ROCK	ALTERATION
100				16 1 4 16 32	SIL. SER. PY. CHL Carb				
1	688			┌		T <sub>12r</sub> = 126 P <sub>20s</sub> / T <sub>102</sub> = 0.26			
2									
3				┌					OP-6
4									
5				┌					
6									
7				┌		Carbonate vein			
8				┌					
9				┌		Qtz-chl vein			
170									
1				┌					
2									
3				┌					
4									
5				┌					
6									
7				┌		Qtz-chl-carb vein ± albite selvage			
8									
9				┌					
100									
REMARKS									
Hf 161.5 - 161.75									



# RGC EXPLORATION PTY LTD

DRILL HOLE No 848060  
TYN020

SHEET 10 OF 15

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- △ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY		
							Foliation	ROCK	ALTERATION
0				16- 4- 1 4 16 22	SIL. SER. PY. CHL OPH				
1				└					
2									
3				└					
4						Qtz-chl carb vein & albite selvage			
5				└					
6									
7				└					
8				└		Qtz vein.			
9									
10				└				Coul	
11								LDF	
12				└					
13				└		Qtz carb veins			
14									
15				└					
16						Qtz-chl vein			
17				└					
18									
19				└				LDFB	
20				└					OS-6

REMARKS

# RGC EXPLORATION PTY LTD

848061

DRILL HOLE No TYN020

SHEET 11 OF 15

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⊠ Breccia
- ⊞ Broken core
- ⊞ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE NO	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY		
							FORMATION	ROCK	ALTERATION
200									
1			S <sub>0.65</sub>			← Invasive contact F gr grey ashly vlc sst + dark grey siltstone	Cul	CySS	VDF
2			S <sub>0.65</sub>			M gr feld phytic pumiceous vlc sst	CyM	VDFM	
3			S <sub>0.65</sub>			F gr grey ashly vlc sst + dark grey siltstone		VDF	
4	697		S <sub>0.55</sub>			Thinly bedded black siltstone		SILT	
5						F gr grey ashly vlc sst + dark grey siltstone		SILT	
6	698					Mixture - slumped (over) mixture of black siltstone and f gr grey vlc sst		SILT	
7			Highly variable S <sub>0</sub>			F gr grey ashly vlc sst + dark grey siltstone	CySS	SILT	VDF
8	699							SILT	
9								SILT	P-5
210	701		S <sub>0.20</sub>					SILT	
	702		S <sub>0.10</sub>					SILT	
1						F gr ashly sot blk siltstone		VDF	
2						F gr ashly sot		SILT	VDF
3								SILT	
4			S <sub>0.40</sub>					VDFM	
5			S <sub>0.35</sub>			f-m gr ashly vlc sst + clasts of black siltstone	CyM	VDFM	
6						M gr feldspar phytic pumiceous vlc sst		VDFM	
7						f-m gr ashly vlc sst + clasts of black siltstone	CySS	VDFM	
8								CyM	VDFM
9									S0-5

REMARKS

5 cm

# RGC EXPLORATION PTY LTD

DRILL HOLE No TYN020

SHEET 12 OF 15

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚠ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY		
							PREFIX	SIL.	SER.
220									

# RGC EXPLORATION PTY LTD

DRILL HOLE No 848063  
TYN020

SHEET 13 OF 15

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- △ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY			
							FOUR-TECH	ROCK	ALTERATION	
250				<div style="display: flex; justify-content: space-between;"> <span>1/16</span> <span>1/4</span> <span>1</span> <span>4</span> <span>16</span> <span>32</span> </div>						
1				~						
2				└						
3				~						
4				└						
5			S <sub>30</sub>	~						
6				└						
7				~						
8				└						
9	704			~		Ti <sub>2</sub> r = 5.8 P <sub>2</sub> O <sub>5</sub> /TiO <sub>2</sub> = 0.09				
250				└						
1				~						
2				└						
3				~						
4			S <sub>30</sub>	└						
5				~						
6				└						
7				~		minor Qtz veining				
8				└						
9				~						

REMARKS

# RGC EXPLORATION PTY LTD

848064

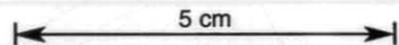
DRILL HOLE No T9N020

SHEET 14 OF 15

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :
PROSPECT :
DATE :
LOGGED BY :

HOLE DEPTH	SAMPLE No	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY			
							FORMATION	ROCK	ALTERATION	
260			Sls 50		SIL. SER. PY.					
1										
2										
3										
4										
5										
6										
7										
8			So 30			possible uphole grading.				
9										
270										
1						Ashy siltstone				
2			So 40			black siltstone	CySS	SILT	VDFF	
3						Major feldspar phytic volcanoclastic sst				
4						black siltstone				
5						litric rich massflow deposit - abundant black + ashy siltstone in				
6						Major feldspar rich matrix	Cymf		VDLC	
7										
8			So 40			Ashy Siltstone	CySS		VDFF	
9						Black Siltstone				
280										
REMARKS										



# RGC EXPLORATION PTY LTD

DRILL HOLE No 848065  
TYN020

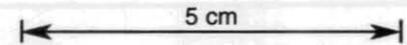
SHEET 15 OF 15

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⊠ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :  
PROSPECT :  
DATE :  
LOGGED BY :

HOLE DEPTH SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY		
						Formation	ROCK	ALTERATION
200			1 1 1 4 16 22 SIL. SER. PY.		Massflow with clasts of grey to black ashy siltstone in m gr matrix	Cymf	VDLC	VDFA
1								
2								
3		50 35						
4					finely bedded ashly siltstone	Cya	VDFA	
5					Massflow with clasts of grey to black ashy siltstone in f gr ashly matrix	Cymf	VDLC	
6					massive ashly siltstone	Cya	VDFA	
7								
8					Massflow with clasts of grey to black ashy siltstone in f gr ashly matrix	Cymf	VDLC	
9					f-m gr ashly vlc sat.	Cya	VDFA	
210								
1					mass flow with clasts of grey to black ashy siltstone in m gr sandy matrix		VDLC	
2								
3								
4					lithic rich massflow with clasts of grey ashly siltstone and black siltstone in m gr sandy matrix.	Cymf	VDLC	
5					Some siltstone rafts up to 30cm.			
6								
7								
8								
9								
230								

REMARKS E04 = 300.0



**APPENDIX 3**

**Analyses**

DataSet	Hole_Id	Sample No	Sample Type	Depth From	Depth To	AG_A
TASNEW	TYN019	1082612	HALFCORE	3.20	6.30	-1
TASNEW	TYN019	1082613	HALFCORE	6.30	9.60	-1
TASNEW	TYN019	1082614	HALFCORE	9.60	12.30	-1
TASNEW	TYN019	1082615	HALFCORE	12.30	14.00	-1
TASNEW	TYN019	1082616	HALFCORE	14.00	15.00	-1
TASNEW	TYN019	1082617	HALFCORE	15.00	16.00	-1
TASNEW	TYN019	1082618	HALFCORE	16.00	17.00	-1
TASNEW	TYN019	1082619	HALFCORE	17.00	18.00	-1
TASNEW	TYN019	1082620	HALFCORE	18.00	19.10	-1
TASNEW	TYN019	1082621	HALFCORE	19.10	20.00	-1
TASNEW	TYN019	1082622	HALFCORE	20.00	21.00	-1
TASNEW	TYN019	1082623	HALFCORE	21.00	22.00	-1
TASNEW	TYN019	1082624	HALFCORE	22.00	23.00	-1
TASNEW	TYN019	1082625	HALFCORE	23.00	24.00	-1
TASNEW	TYN019	1082626	HALFCORE	24.00	25.00	-1
TASNEW	TYN019	1082627	HALFCORE	25.00	26.00	-1
TASNEW	TYN019	1082628	HALFCORE	26.00	27.00	-1
TASNEW	TYN019	1082629	HALFCORE	27.00	28.00	-1
TASNEW	TYN019	1082630	HALFCORE	28.00	29.00	-1
TASNEW	TYN019	1082631	HALFCORE	29.00	30.00	-1
TASNEW	TYN019	1082632	HALFCORE	30.00	31.20	-1
TASNEW	TYN019	1082633	HALFCORE	31.20	32.40	-1
TASNEW	TYN019	1082634	HALFCORE	32.40	33.30	-1
TASNEW	TYN019	1082635	HALFCORE	33.30	34.00	-1
TASNEW	TYN019	1082636	HALFCORE	34.00	35.00	-1
TASNEW	TYN019	1082637	HALFCORE	35.00	36.00	-1
TASNEW	TYN019	1082638	HALFCORE	36.00	37.00	-1
TASNEW	TYN019	1082639	HALFCORE	37.00	38.00	-1
TASNEW	TYN019	1082640	HALFCORE	38.00	39.30	-1
TASNEW	TYN019	1082641	HALFCORE	39.30	40.00	-1
TASNEW	TYN019	1082642	HALFCORE	40.00	41.00	-1
TASNEW	TYN019	1082643	HALFCORE	41.00	42.00	-1
TASNEW	TYN019	1082644	HALFCORE	42.00	43.00	-1
TASNEW	TYN019	1082645	HALFCORE	43.00	44.00	-1
TASNEW	TYN019	1082646	HALFCORE	44.00	45.00	-1
TASNEW	TYN019	1082647	HALFCORE	45.00	46.00	-1
TASNEW	TYN019	1082648	HALFCORE	46.00	47.00	-1
TASNEW	TYN019	1082649	HALFCORE	47.00	48.00	-1
TASNEW	TYN019	1082651	HALFCORE	48.00	49.00	-1
TASNEW	TYN019	1082652	HALFCORE	49.00	50.20	-1
TASNEW	TYN019	1082653	HALFCORE	50.20	51.00	-1
TASNEW	TYN019	1082654	HALFCORE	51.00	52.70	1
TASNEW	TYN019	1082655	HALFCORE	52.70	54.00	3
TASNEW	TYN019	1082656	HALFCORE	54.00	55.00	1
TASNEW	TYN019	1082657	HALFCORE	55.00	56.00	2
TASNEW	TYN019	1082658	HALFCORE	56.00	57.00	1
TASNEW	TYN019	1082659	HALFCORE	57.00	58.00	-1
TASNEW	TYN019	1082660	HALFCORE	58.00	59.00	1
TASNEW	TYN019	1082661	HALFCORE	59.00	60.60	1

DataSet	Hole_Id	Sample No	Sample Type	Depth From	Depth To	AG_A
TASNEW	TYN019	1082662	HALFCORE	60.60	61.70	1
TASNEW	TYN019	1082663	HALFCORE	61.70	62.40	1
TASNEW	TYN019	1082664	HALFCORE	62.40	63.00	-1
TASNEW	TYN019	1082665	HALFCORE	63.00	64.00	-1
TASNEW	TYN019	1082666	HALFCORE	64.00	65.00	-1
TASNEW	TYN019	1082667	HALFCORE	65.00	66.00	-1
TASNEW	TYN019	1082668	HALFCORE	66.00	67.00	1
TASNEW	TYN019	1082669	HALFCORE	154.00	155.00	1
TASNEW	TYN019	1082670	HALFCORE	155.00	156.00	1
TASNEW	TYN019	1082671	HALFCORE	156.00	157.00	-1
TASNEW	TYN019	1082672	HALFCORE	157.00	158.00	-1
TASNEW	TYN019	1082673	HALFCORE	158.00	159.00	-1
TASNEW	TYN019	1082674	HALFCORE	159.00	160.00	-1
TASNEW	TYN019	1082675	HALFCORE	160.00	161.00	-1
TASNEW	TYN019	1082676	HALFCORE	248.00	249.00	-1
TASNEW	TYN019	1082677	HALFCORE	249.00	250.00	-1
TASNEW	TYN019	1082678	HALFCORE	250.00	251.00	-1
TASNEW	TYN019	1082679	HALFCORE	251.00	252.00	1
TASNEW	TYN019	1082680	HALFCORE	252.00	253.00	1
TASNEW	TYN019	1082681	HALFCORE	253.00	254.00	1
TASNEW	TYN019	1082682	HALFCORE	254.00	255.00	-1
TASNEW	TYN019	1082683	HALFCORE	255.00	256.00	-1
TASNEW	TYN019	1082684	HALFCORE	256.00	257.00	-1
TASNEW	TYN019	1082685	HALFCORE	257.00	258.00	-1
TASNEW	TYN019	1082686	HALFCORE	258.00	259.00	1
TASNEW	TYN019	1082687	HALFCORE	259.00	260.00	-1

Laboratory                      Analabs  
Method                            A102  
Units                               ppm  
Detection Limit                 1

Sample No	AS_A	AU_G	AUR_G	BI_A	CU_A	PB_A	ZN_A
1082612	-50	-0.01		-10	59	44	282
1082613	-50	-0.01		-10	62	83	270
1082614	-50	-0.01		-10	52	93	369
1082615	-50	-0.01		-10	60	54	274
1082616	-50	-0.01		-10	51	31	88
1082617	-50	-0.01		-10	54	31	42
1082618	-50	-0.01		-10	56	29	32
1082619	-50	-0.01		-10	51	20	43
1082620	-50	-0.01		-10	47	54	229
1082621	-50	-0.01	-0.01	-10	59	49	182
1082622	-50	-0.01		-10	56	37	68
1082623	-50	-0.01		-10	62	37	382
1082624	-50	-0.01		-10	61	45	271
1082625	-50	-0.01		-10	85	44	436
1082626	-50	-0.01		-10	82	74	309
1082627	-50	-0.01		-10	60	77	307
1082628	-50	-0.01		-10	51	91	273
1082629	-50	-0.01		-10	48	50	218
1082630	-50	-0.01		-10	42	63	129
1082631	-50	-0.01		-10	44	30	116
1082632	-50	-0.01		-10	50	41	238
1082633	-50	-0.01		-10	34	32	152
1082634	-50	-0.01		-10	30	42	133
1082635	-50	-0.01		-10	48	35	147
1082636	-50	-0.01		-10	50	21	145
1082637	-50	-0.01		-10	49	16	130
1082638	-50	-0.01		-10	52	27	121
1082639	-50	-0.01		-10	42	16	173
1082640	-50	-0.01		-10	43	24	236
1082641	-50	-0.01		-10	26	47	97
1082642	-50	-0.01		-10	35	32	128
1082643	-50	-0.01	-0.01	-10	41	40	73
1082644	-50	-0.01		-10	58	132	504
1082645	-50	-0.01		-10	46	40	170
1082646	-50	-0.01	-0.01	-10	52	406	614
1082647	-50	-0.01		-10	45	87	102
1082648	-50	-0.01		-10	36	25	151
1082649	-50	-0.01		-10	50	18	204
1082651	-50	-0.01		-10	51	30	117
1082652	-50	-0.01		-10	65	20	168
1082653	-50	0.35	0.35	-10	1375	30	64
1082654	80	0.5	0.51	-10	1190	86	38
1082655	1340	0.4	0.42	-10	3130	199	206
1082656	190	0.21		-10	626	62	44
1082657	575	0.34	0.33	19	1385	139	137
1082658	225	0.24		18	694	206	61
1082659	-50	0.06		-10	74	67	14
1082660	-50	0.09		-10	104	82	13
1082661	80	0.15	0.14	-10	184	101	18

Sample No	AS_A	AU_G	AUR_G	BI_A	CU_A	PB_A	ZN_A
1082662	250	0.14		-13	726	169	104
1082663	130	0.07		-10	411	111	146
1082664	-50	-0.01		-10	71	96	2030
1082665	-50	-0.01		-10	63	95	756
1082666	-50	-0.01		-10	46	51	1445
1082667	-50	-0.01		-10	62	99	1485
1082668	-50	-0.01		-10	89	72	437
1082669	-50	-0.01	-0.01	-10	54	12	88
1082670	175	-0.01		-10	84	108	46
1082671	-50	-0.01	-0.01	-10	78	42	71
1082672	-50	-0.01		-10	73	52	62
1082673	-50	-0.01		-10	52	15	108
1082674	-50	-0.01		-10	79	57	63
1082675	-50	-0.01		-10	45	49	29
1082676	-50	-0.01		-10	34	7	83
1082677	-50	-0.01		-10	55	59	150
1082678	-50	-0.01		-10	26	771	369
1082679	-50	-0.01		-10	38	2140	1805
1082680	65	-0.01		-10	34	1065	1400
1082681	-50	-0.01		-10	24	380	112
1082682	-50	-0.01		-10	27	30	237
1082683	-50	-0.01		-10	34	27	125
1082684	-50	-0.01	-0.01	-10	37	13	114
1082685	-50	-0.01		-10	41	28	127
1082686	-50	-0.01		-10	52	50	155
1082687	-50	-0.01		-10	73	118	287

Laboratory	Analabs						
Method	A102	F650	F650	A102	A102	A102	A102
Units	ppm						
Detection Limit	-50	-0.01	-0.01	-10	-2	-3	-2

DataSet	Hole_Id	Sample No	Sample Type	Depth From	Depth To	AG_A	AG_N	AS_A	AS_N	AU_G	AUR_G
TASNEW	TYN020	1082688	HALFCORE	161.50	161.75		-5		1		
TASNEW	TYN020	1082689	HALFCORE	120.00	121.00	-1		-50		-0.01	
TASNEW	TYN020	1082690	HALFCORE	121.00	122.00	-1		-50		-0.01	
TASNEW	TYN020	1082691	HALFCORE	122.00	123.00	-1		-50		-0.01	
TASNEW	TYN020	1082692	HALFCORE	123.00	124.00	-1		-50		-0.01	
TASNEW	TYN020	1082693	HALFCORE	124.00	125.00	-1		-50		-0.01	
TASNEW	TYN020	1082694	HALFCORE	125.00	126.00	-1		-50		-0.01	
TASNEW	TYN020	1082695	HALFCORE	126.00	127.00	-1		-50		-0.01	
TASNEW	TYN020	1082696	HALFCORE	127.00	128.40	-1		-50		-0.01	
TASNEW	TYN020	1082697	HALFCORE	203.60	205.00	-1		-50		-0.01	-0.01
TASNEW	TYN020	1082698	HALFCORE	205.00	207.00	-1		-50		-0.01	
TASNEW	TYN020	1082699	HALFCORE	207.00	209.00	-1		-50		-0.01	
TASNEW	TYN020	1082701	HALFCORE	209.00	211.00	-1		-50		-0.01	
TASNEW	TYN020	1082702	HALFCORE	211.00	212.00	-1		-50		-0.01	-0.01
TASNEW	TYN020	1082703	HALFCORE	100.00	100.20		-5		3		
TASNEW	TYN020	1082704	HALFCORE	249.00	249.20		-5		6		

Laboratory	Analabs	Analabs	Analabs	Analabs	Analabs	Analabs
Method	A102	N701	A102	N701	F650	F650
Units	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	5	50	1	0.01	0.01

Sample No	AU_N	BA_N	BI_A	BR_N	CA_N	CE_N	CO_N	CR_N	CS_N	CU_A	EU_N	FE_N	HF_N
1082688	-0.005	1230		-1	3.3	81	7	96	8		1.2	2.92	5.5
1082689			-10							33			
1082690			-10							34			
1082691			-10							35			
1082692			-10							40			
1082693			-10							43			
1082694			-10							42			
1082695			-10							43			
1082696			-10							47			
1082697			-10							37			
1082698			-10							28			
1082699			-10							24			
1082701			-10							28			
1082702			-10							34			
1082703	-0.005	750		-1	1.3	96	3	76	5		1.5	2.06	7.8
1082704	-0.005	1170		-1	-1	98	3	72	4		1.1	2.03	8

Analabs													
N701	N701	A102	N701	A102	N701	N701	N701						
ppm	ppm	ppm	ppm	%	ppm	%	ppm						
0.005	100	10	1	1	2	1	5	1	2	0.5	0.02	0.5	

Sample No	IR_N	K_N	LA_N	LU_N	MO_N	NA_N	P_X	PB_A	RB_N	SB_N	SC_N	SE_N	SM_N
1082688	-20	2	40.2	0.4	-5	2.31	535		84	0.9	10.1	-5	6.8
1082689								16					
1082690								22					
1082691								34					
1082692								34					
1082693								44					
1082694								43					
1082695								36					
1082696								89					
1082697								78					
1082698								36					
1082699								47					
1082701								68					
1082702								77					
1082703	-20	1.3	48.8	0.5	-5	1.83	150		90	0.5	7.8	-5	8
1082704	-20	1.7	49.1	0.5	-5	0.75	130		86	0.6	6.8	-5	7.8

Analabs													
N701	X401	A102	N701	N701	N701	N701	N701						
ppb	%	ppm	ppm	ppm	%	ppm							
20	0.2	0.5	0.2	5	0.01	30	3	20	0.2	0.1	5	0.2	

Sample No	TA_N	TE_N	TH_N	TI_X	U_N	V_X	W_N	YB_N	ZN_A	ZN_N	ZR_X	ZR_N
1082688	-1	-5	16.1	2810	4	51	-2	3		-100	223	-500
1082689									49			
1082690									111			
1082691									85			
1082692									95			
1082693									91			
1082694									91			
1082695									98			
1082696									122			
1082697									257			
1082698									105			
1082699									116			
1082701									77			
1082702									46			
1082703	-1	-5	19	1930	4	13	-2	3.6		-100	328	-500
1082704	-1	-5	20.8	1810	5	9	-2	3.7		-100	311	-500

Analabs												
N701	N701	N701	X401	N701	X401	N701	N701	A102	N701	X401	N701	N701
ppm												
1	5	0.5	100	2	5	2	0.5	2	100	5	500	

## APPENDIX 4

### Detailed IP Survey Basin Lake Grid (W.Tas) EL19/98 and EL 14/93

Michael W Asten

20-December 2000

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Report 0011/1

## **Detailed IP Survey, Basin Lake Grid (W. Tas) EL 19/98 and EL14/93**

Michael W Asten  
Flagstaff GeoConsultants Pty Ltd

**29-December-2000**

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## SUMMARY

A dipole-dipole resistivity-IP survey using electrode spacings of 100 m and separations to 600 m (n=6) outlines five zones of anomalous IP response along a NNW-SSE trend. The survey area is bisected by high-tension power-lines which create an impossibly high background noise level for conventional IP receivers; the use of a full-waveform instrument with tapered stacking (SmartEM) allowed data of acceptable quality to be acquired.

The best anomaly (D) has been tested at its north and south edges by holes TYN011 and TYN015 (450 m apart) but should be subject of further drilling. The second-best anomaly (C) has been adequately investigated by holes BL008 and TYN018 and leaves unanswered questions as to why the geophysical data does not correlate more closely with the observed geological logs.

Three further anomalous zones have not been drilled to date; it is recommended that these be drilled.

Results of borehole EM in hole BL006 and surface IP data appear to give complementary information and a drill target. There is scope for additional review and use of borehole EM data on the prospect in the search for massive/semi-massive sulfide mineralisation.

## LIST OF FIGURES

Fig. 1. Plan of Basin lake grid survey area for the dipole-dipole resistivity-IP survey.

Fig. 2. Trial segment of line 4400N, for comparison of SmartEM and GDP instruments: SmartEM data.

Fig. 3. Trial segment of line 4400N, for comparison of SmartEM and GDP instruments: GDP16 data.

Fig. 4. Depth slice, inverted resistivity data, at RL 450 m.

Fig. 5. Depth slice, inverted IP phase data, at RL 450 m.

Fig. 6. Depth slice, inverted resistivity data, at RL 350 m.

Fig. 7. Depth slice, inverted IP phase data, at RL 350 m.

Fig. 8. Depth slice, inverted IP phase data, at RL 350 m, with anomalous zones (drill targets) and fault F-F annotated.

IN APPENDIX 4 - (APP. B)

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## SURVEY SPECIFICATIONS

The survey location is shown on Figure 1. Prior data exists from frequency-domain surveys on lines 6N, 4N, 2N, 30S, 36S and 78S, acquired in 1967-68. That prior data was inverted and re-interpreted by Asten (1999a).

This survey was designed to give detailed coverage together with exact grid control over a target area which has been prospected for 40 years, covered with CSAMT profiles at 400 m spacing, and drilled with 19 diamond drill holes which have shown interesting alteration and geochemistry.

The survey was conducted by Monash University as part of a SPIRT project aiming to study the usefulness of CSAMT and IP surveys combined, for the mapping of alteration zones. Goldfields Exploration, as a sponsor of the SPIRT project, made the area available for the study, and reimbursed Monash University for the survey as a contribution to the SPIRT project.

The survey area is shown in Figure 1, and covers an area of 1.8 by 2.2 km, with lines of dipole-dipole IP at a line spacing of 200 m, electrode a-spacing of 100 m, with expansion to transmitter-receiver separations of 600 m ( $n=6$ ). The expected depth of penetration for the survey is about 300 m. The survey used 13 lines (4800N to 2400N). Note that lines labelled 3000N to 2400N are in fact close to northings 2900N to 2300N, due to a need to maintain consistency in labelling with a historical grid.

The presence of a high-tension power line bisecting the survey area created a noise problem in data acquisition. In order to maximise signal to noise ratio, a state-of-art receiver which records full-waveform data and applies tapered stacking (rather than conventional box-car stacking) was chosen for the survey. The receiver (SmartEM from Electromagnetic Imaging Technology, Perth) proved effective, although some delays were encountered due to the field crew having no prior experience with this instrument. As shown below, a conventional IP receiver (Zonge GDP16) proved incapable of gaining useful data in the presence of the power-line noise.

The Contractor was Fugro Ground Geophysics (formerly Geoterrex P/L). The Contractor provided a crew leader plus one assistant, while Goldfields provided on average two field assistants for the duration. The survey on 13 profiles, plus some comparison data with a GDP16 receiver on one line, took 22 days survey time, with 2 days lost due to rain. This was an excellent result, given the difficult conditions in July in west Tasmania.

As shown in Appendix A, the cost of the survey was \$42000 for the Contractor, plus approximately \$5000 for messing and accommodation for the crew.

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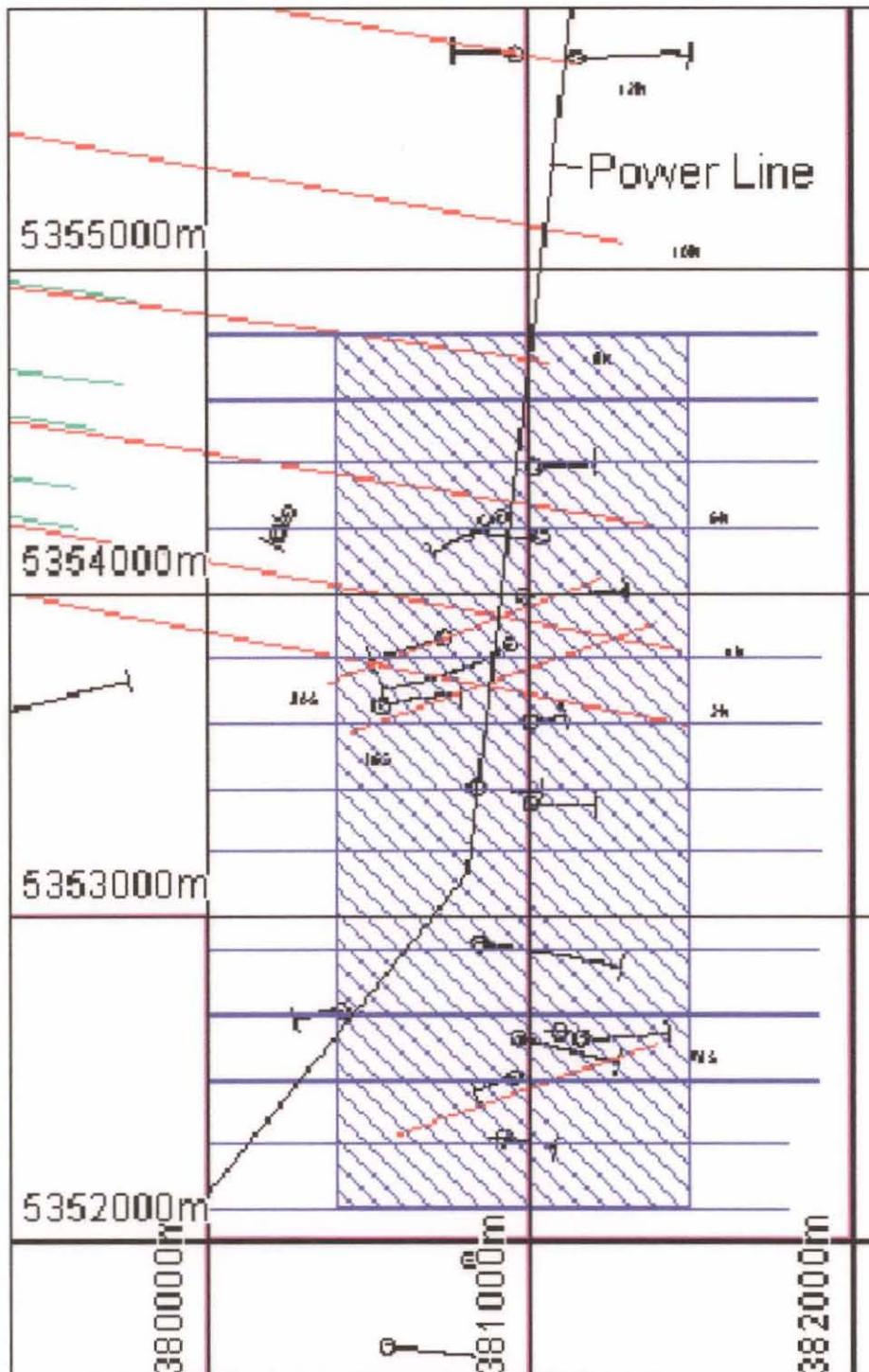


Fig. 1. Survey area for Basin Lake dipole-dipole resistivity-IP survey, 2000.

5 cm

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## COMPARISON OF SMARTEM INSTRUMENT WITH CONVENTIONAL IP RECEIVER IN THE PRESENCE OF POWERLINE NOISE

The area of the survey is bisected by high-tension power-lines at about 381000E as shown in Figure 1. The comparison was performed on Line 4400N. The SmartEM instrument uses full-waveform recording and smart signal processing in order to remove 50 Hz and other noise.

The GDP16 instrument uses an analog 50 Hz notch filter, followed by arithmetic stacking of the data.

Both data samples were acquired using a 0.25 Hz 100% duty-cycle square wave, with 16 stacks.

Both data sets required editing to remove readings where phases were obviously meaningless (phases near  $\pi/2$  or near  $\pi$ ).

The SmartEM data file retained 80% of field readings after such editing.

The GDP16 retained 54% of field readings after such stacking.

Figures 2 and 3 show comparisons of resistivity and phase data obtained by the two instruments. It is evident that the GDP16 chargeability (phase) data was corrupted by noise to such a degree that it could not provide useful data in this environment, adjacent to high-tension power-lines. These figures are included on the attached CD as file "SmartIP GDP16 comparison Dec.PPT".

## GEOLOGY

The target zone in prior drilling on this prospect is the contact between the Central Volcanic Sequence and Anthony Road Andesite, in the vicinity of the Great Lyell Fault. A complicating factor in interpretation of electrical and IP data is the existence of black siltstones in holes such as TYN011.

Sections of drill-hole data were supplied as DXF plots from Micromine by M. Vicary. These sections are superimposed on resistivity and IP inversion depth sections in Appendix B.

Prior drilling has only partially tested the resistivity and IP anomalous zones identified in this survey.

## FIELD DATA – PRESENTATION AND INVERSION

Dipole-dipole resistivity-IP data was acquired on 13 profiles from 4800N to 2300N. The data was manually edited to remove data points where IP phase values appeared corrupted by noise (ie. had unreasonable phase values below  $-50$  mrad or greater than

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200 mrad). The data was then inverted to depth sections using the inversion software described by Oldenburg and Li (1994). The set of sections output by the inversion, together with superimposed drill-hole sections supplied by M. Vicary, are shown in Appendix A. These sections are also supplied on the enclosed CD as a Powerpoint slide show, which permits "fly-through" study of the prospect on a screen, or production of hardcopy output at scale 1:5000. Note that the term "chargeability" used on the inversion output plots, corresponds in this case to IP phase.

The depth sections of resistivity and IP phase data are also transformed to depth slices at topographic levels from RL 550m to RL 200m, at 50 m intervals. This map-view presentation of the data proves the most useful presentation of the data for the purposes of identifying anomalous zones and assessing whether existing drill-holes have adequately tested these zones. Depth slices of inverted resistivity and IP phase for depths 450 m RL, and 350 m RL, are presented in Figures 4-7. As with the Sections, the set of depth slices of resistivity and IP phase are presented as a Powerpoint presentation on the enclosed CD. Traces of drill-holes are superimposed on the plots, with a color-coding so that red traces indicate holes above or below the slice, and black traces indicate hole within the depth slice (nominal depth +/- 25 m).

The near-surface depth slices are noisy, due to the fact that the 100 m dipole size used lacks resolution required to adequately sample near-surface material. The most useful depth slices are at RL 450m and RL 350m; these summarise the majority of the information available from the data. Figures 4-7 show the two depth slices, for each of resistivity and IP phase.

## INTERPRETATION

Figure 8 shows the depth slice of IP phase at RL 350 m, annotated with the main anomalous zones A, B, C, D, and E, plus a east-south-east trending fault F-F. The fault F-F shows clear evidence for dextral displacement of order 400 m, and is consistent with a previously geologically-inferred fault located 150 m north of hole TYN013.

The dominant strike of both conductive and IP phase anomalies is north-north-west.

Anomaly A on Lines 4800N-4600N is an interesting location which has not been drill tested. The IP phase anomaly is of moderate amplitude and extends in depth from RL 450m to RL 250 m. It does *not* have surface IP expression at RL 550 m in the mapped undifferentiated Central Volcanics, although its conductivity anomaly is in fact a surficial rather than deep expression (RL 500 m to RL 400 m). Since hole TYN013 is separated from this anomaly by the fault F-F, it is reasonable to conclude that the anomaly is untested. There is some suggestion that this anomaly could be associated with black siltstones drilled 800 m to the north in hole TYN001, and outlined by contours of a gradient-array IP survey shown on a summary map compiled by the Mt Lyell M&R Co in May 1982. However, there is also geological evidence for another E-W fault at about 5355400N, between this anomaly and

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TYN001, hence this anomaly could represent a drill target. I recommend a drill hole on this anomaly.

Anomaly B on Line 4400N is another IP phase anomaly of moderate amplitude, which appears to be a matching anomaly to anomaly A, as separated and laterally displaced by fault F-F. It has greater depth extent than anomaly A (having a resistivity and depth expression extending down to RL 250m. This anomaly has not been drill tested on Line 4400N, although it has been tested on Line 4200N with holes BL006 and TYN017. There is however a significant difference between the anomalies in depth section between Line 4400N (deep anomaly, strong at depth) and Line 4200N (strong, surficial anomaly, small in geometrical size). While it must be acknowledged that the high noise levels in the geophysical data in this survey may produce shifts in the apparent depth of inverted anomalous zones, the difference between Lines 4200N and 4400N is dramatic, and suggests a larger zone of higher-grade mineralisation below Line 4400N.

Hole BL006 shows intense sericite-pyrite alteration and excellent geochemistry (depths 341-347m show assays of order 3000ppm Cu and 0.3 g/t Au), but this geology must be compared with the geophysics with some care, since the inversion output tends to indicate that the resistivity-IP data is not detecting anomalous material at depths greater than 300 m. It seems reasonable to conclude that the data inversion process is yielding IP depth anomalies which are biased on the shallow side (ie higher RLs) from the position of likely geological sources. The geometrically larger anomalous zone on Line 4400N is a priority for further drilling. I also note that a re-interpretation of old borehole EM data from BL006 (Asten,2000, Figure 8 and Appendix) indicates an untested sulfide conductor at Line 4200N, depth about 280 m (ie RL 250 m), above hole BL006, below TYN017, and along strike from the anomalous zone B.

Anomaly C is the second- strongest anomaly on the prospect. It has a strike extent over Lines 4000N and 3800N and is obviously along the dominant strike from the excellent hole BL006. The anomaly has expression in both IP phase and resistivity, although at RLs 350 m to 200m the resistivity anomaly is shifted south by about 200m (lines 3800N-3600N, thus partially overlapping the IP phase anomaly).

Anomaly C is tested on Line 4000N by TYN018, which passes through the centre of the IP anomaly, and near the edge (but within) the conductive anomaly. Unfortunately TYN018 returned no significant alteration or assay values. A fault zone with mylonite over a 3 m interval (247-250 m) is the only geological feature likely to explain the resistivity low. The presence of the high IP phase anomaly on Line 4000N, without geological association in TYN018, is not easily explained. A possible geophysical explanation is that the inversion is simply wrong, and a non-unique, erroneous inversion fit has been produced. This possibility can be explored by doing further inversions with alternative starting models. A possible geological explanation is that mineralisation below 4000N has been faulted down, leaving the geophysical response from mineralised rock off-section, located south of 4000N.

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Anomaly C is also tested on Line 3800N by hole BL008 which passes through the anomalous IP zone as yielded by the inversion software. As with TYN018, the correlation between geology in the hole and the geophysical anomaly is poor. BL008 drilled barren andesites to a depth of 395 m, with moderate sericite-pyrite alteration in the interval 425-515 m. On this line, the inversion appears to be yielding an anomalous zone down to these depths, although a repeat inversion will be necessary to verify this observation.

It is instructive to compare the IP inversion for Line 3800N (containing holes BL004 and BL008) with Line 30S (Scintrex 1982 data, inversion reported in Asten, 1999a, Figure 7). The older data used dipole spacing  $a=60$  m and included double lateral coverage, thus giving significantly higher lateral resolution, but lacking useful sensitivities below depths of 120 m. The new data, with  $a=100$  m and  $n=6$  provides less lateral resolution but a strong target at depth, although as noted above the correlation with geology is poorer than we would wish.

The northern edge of Anomaly D has been drill tested by holes BL002 and TYN011. These holes show an intersection of black siltstone dipping 60 degrees west. Both the resistivity low and the IP phase in depth sections for Line 3400N suggest that the black siltstone may account for the anomalies on this line. Hole TYN011 also intersected a significant sericite-pyrite alteration zone from 282 to 444 m with low-order base-metal values in assays. This zone is below the geophysically anomalous zone and again raises the question whether the inversions are biased to shallow levels, and indicates that further efforts in inversion, with alternative starting models, should be attempted.

Anomaly D is the strongest and geometrically largest IP phase anomaly on the prospect, with a strike extent of at least 300 m (3200N to 2900N). The anomaly has not been drill-tested on Line 3200N, but is drilled on Line 2900N (labelled 3000N) by hole TYN015. Holes TYN011 and TYN015 effectively bracket this anomaly; both show black siltstone in the upper part of the hole, and sericite-pyrite alteration over a 200+ m interval (338 to 588 m in TYN015). However whereas the IP phase depth section on Line 3200N (containing TYN011) correlates with the location of black siltstone and shows little evidence of the alteration zone, the corresponding IP anomaly on Line 3000N (containing TYN015) is stronger, deeper, and elongated, indicating that the observed response is attributable to the alteration zone. Given the 300+ m strike extent of this zone, further drill testing is strongly recommended.

Anomaly E is a weak anomaly but interesting in that it has a 700 m strike length (3200N to 2500N) and is parallel to (west of) the major target zones C and D. Anomaly E is more limited in depth extent (RL 500m to 400 m) and could be associated with either black siltstones or sulfide alteration. Although the anomalies are weaker than the main trend (in both conductivity and IP), the size of the trend suggests that it should be drill tested near its centre. (Hole BLD89-1 is near the southern extent of the trend, but clearly did not test it).

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There is some evidence in the resistivity-IP depth slices for existence of an east-west fault at 5353500N, labelled G-G on Figure 8, between anomalies C and D. A comparison of holes TYN011 and TYN014 on either side of this fault gives some support to this construction; the target horizon intersected in TYN014 is 300 m deeper than that intersected in TYN011.

## RECOMMENDATIONS

- 1) IP data for Lines 4000N to 2800N should be re-inverted with some effort to introduce geological constraints, so as to maximise the possibility of constraining the location of the deep (300+ m) alteration zones.
- 2) Anomalies A, B and E represent new targets which should be drilled.
- 3) Anomaly D is the best target yielded by the IP survey; while it has been bracketted by holes TYN011 and TYN015 separated in strike by 450m, the major part of the anomaly is un-drilled, hence a new hole is recommended on Line 3200N.
- 4) the EM target above hole BL006 (located from a re-interpretation of Aberfoyle borehole EM data) should be drilled.
- 5) Existing TYN-series holes having PVC casing, and future holes, should be logged with borehole EM, since it is apparent that EM can generate additional targets which are likely to be massive/semi-massive sulfides.

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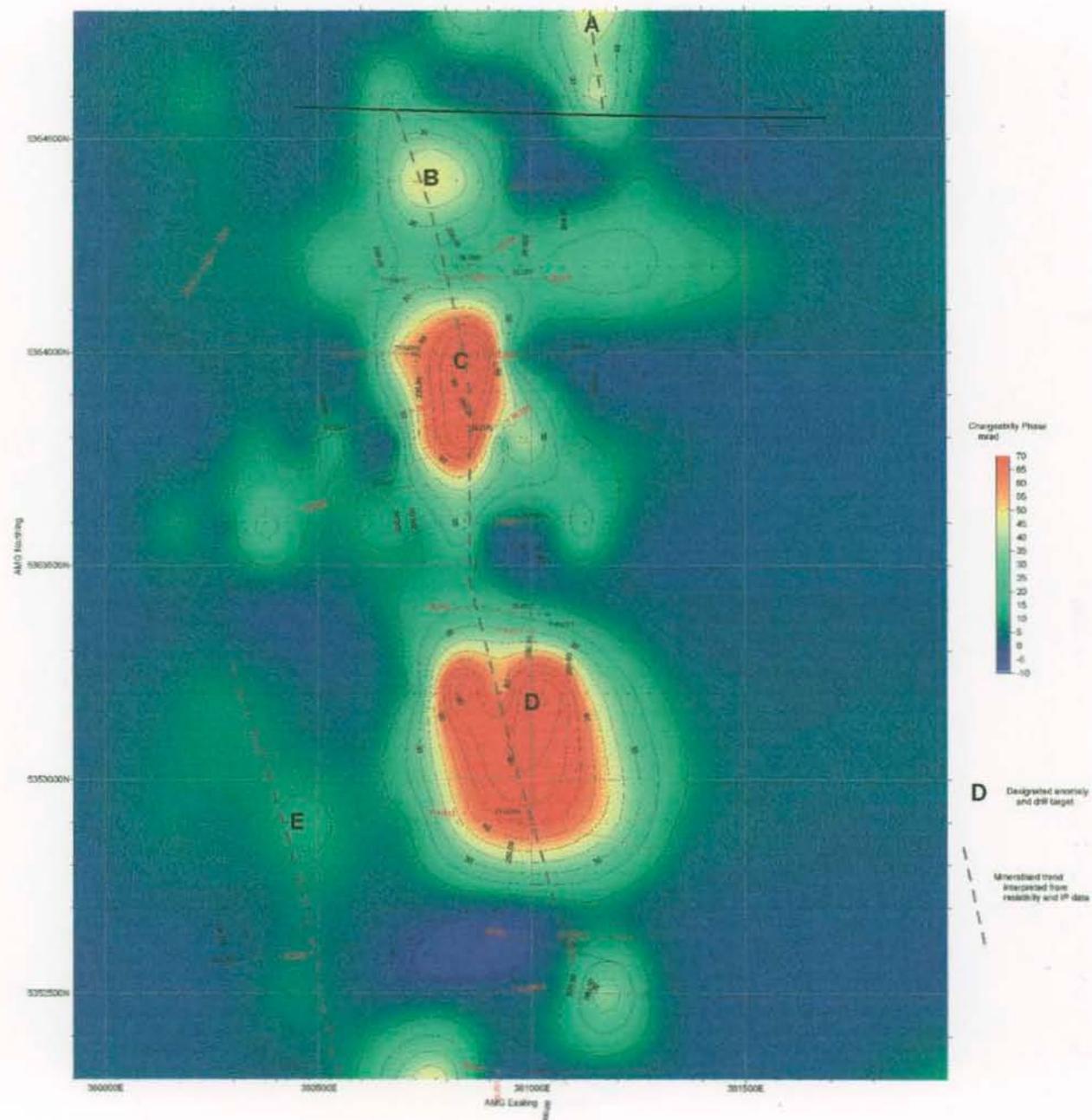


FIG. 8. IP Phase (chargeability) depth slice at RL 350m, with anomalies, fault and major geophysical trends added.

0 100 200 300 400 500  
SCALE 1:5000

GOLDFIELDS EXPLORATION  
BASIN LAKE PROSPECT: A to P 1998 (M. T&L)  
Dipole-Dipole IP (2000 data) Inversion  
CHARGEABILITY PHASE: Depth Slice RL +350m  
Map by: [unreadable]  
20/10/2008



5 cm

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Asten, M.W., 1999a, Re-interpretation of IP profiles, Anthony-Basin Lake Areas (W. Tas) EL 19/98 and EL 14/93: Report 9910/3 for Goldfields Exploration, Flagstaff GeoConsultants Pty Ltd, 27 Oct 1999.

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**Flagstaff GeoConsultants Pty. Ltd. (ACN 074 693 637)**

Suite 2, 337A Lennox Street, (PO Box 2236) Richmond South, Victoria, 3121 Australia

Phone: +61 3 9421 1000 Fax +61 3 9421 1099

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Flagstaff GeoConsultants



**APPENDIX A**

**Cost of the IP survey**

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**Flagstaff GeoConsultants Pty. Ltd. (ACN 074 693 637)**

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TO: Department of Earth Sciences  
 Monash University  
 Clayton Campus  
 Wellington Road  
 Clayton, VIC 3168  
 Attn: Mr Mike Asten

Tax Invoice No: 09037

**COST CENTRE:** Job No: 501 4-671 **DATE:** 16 August 2000

**Reference:** A Dipole-Dipole Induced Polarisation survey conducted on your behalf near Zeehan, Tasmania during July 2000.

**Mobilisation/Demobilisation**

As Agreed \$ 3,500.00

**Data Acquisition Charges**

**Production:**

Daily Production 22.3 days @ \$1,450 per day \$ 32,335.00

**Standby:**

Bad Weather 1.7 days @ \$950 per day \$ 1,615.00

\$ 37,450.00

Plus GST of 10% \$ 3,745.00

**TOTAL AMOUNT DUE:** \$41,195.00

Terms: Seven (7) days net.

**APPROVED BY:** Ray Lockwood

**SIGNED:**

**Distribution:** Clients:

Accounts:

Invoice File:

Job File:

**Banking Details**

**Account name:**

**Bank:**

Geoterrex-Dighem Pty Limited  
 Westpac Banking Corporation  
 341 George Street  
 SYDNEY NSW 2000

**Branch number (BSB):**

**Account number:**

032-000  
 407341

**APPENDIX B**

Depth sections of inverted resistivity and IP data

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**Flagstaff GeoConsultants Pty. Ltd. (ACN 074 693 637)**

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Phone: +61 3 9421 1000 Fax +61 3 9421 1099

Email: [postman@flagstaff-geoconsultants.com.au](mailto:postman@flagstaff-geoconsultants.com.au) WebSite: [www.flagstaff-geoconsultants.com.au](http://www.flagstaff-geoconsultants.com.au)

DEPTH SLICES OF INVERSIONS OF  
BASIN LAKE IP SURVEY 2000, EL 19/98, ZEEHAN (W.  
Tas.)  
WITH DRILL\_HOLE TRACES.

Michael W Asten  
Flagstaff GeoConsultants Pty Ltd  
26-Oct-2000

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**Confidentiality**

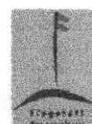
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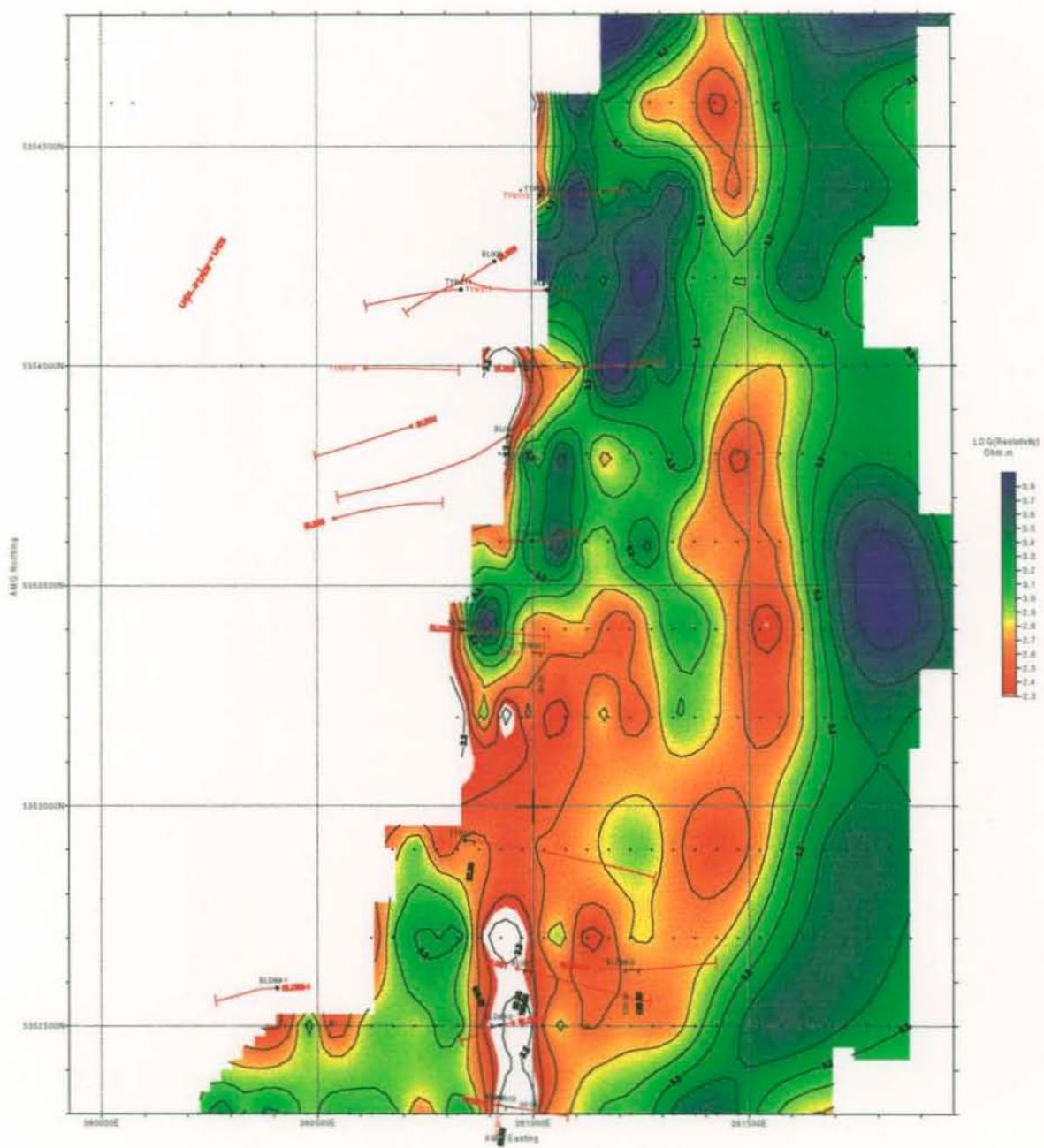
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RESISTIVITY AND CHARGEABILITY DEPTH SLICES  
INTERLACED, AT RLs 550 m DOWN TO 200 m.

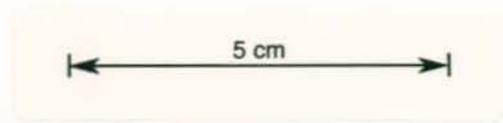




RESISTIVITY DEPTH SLICE AT RL 550 m

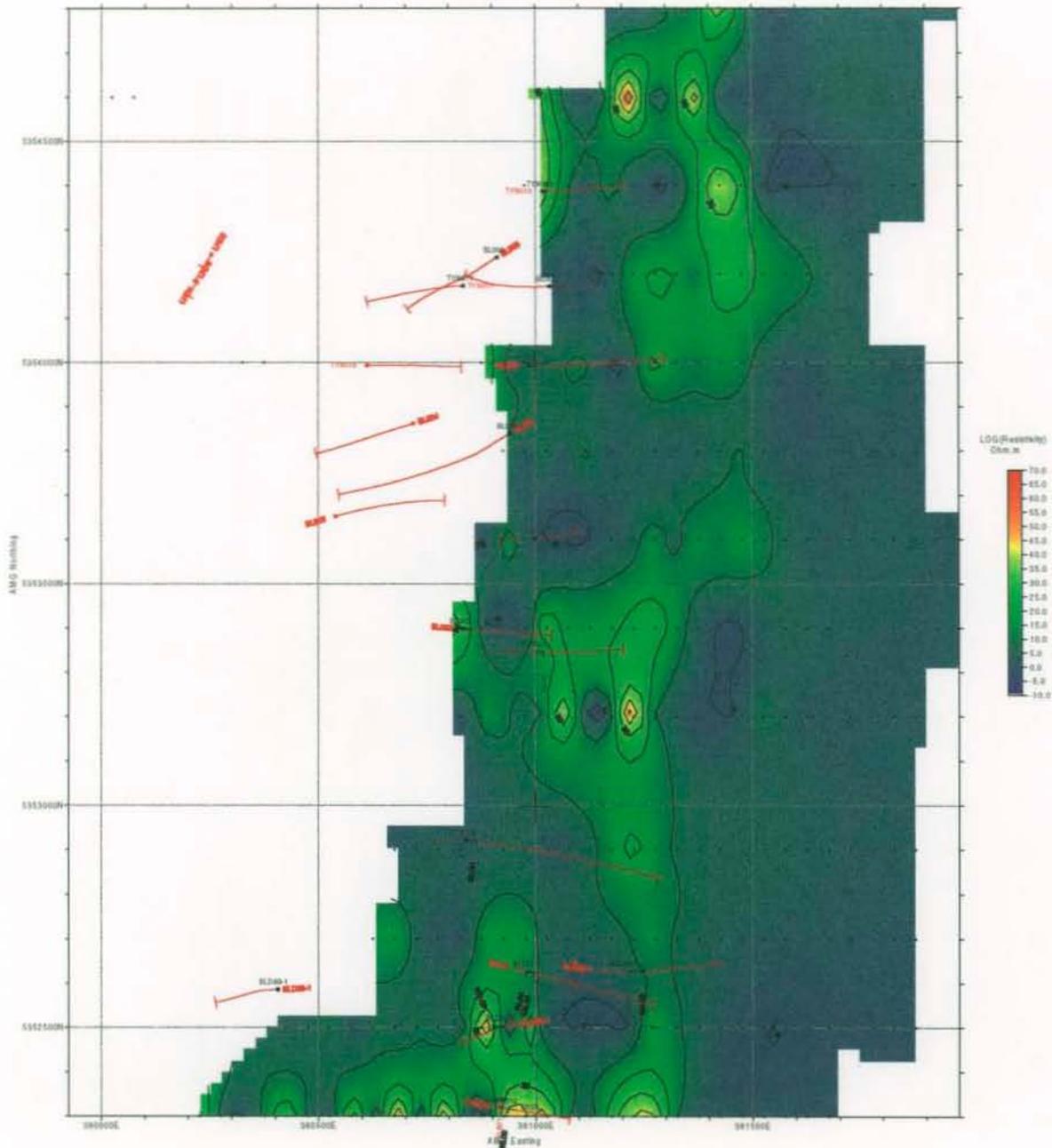


SCALE 1:5000



**GOLDFIELDS EXPLORATION**  
BASIN LAKE PROSPECT, A to P 1000 (M, Tel.)  
Dipole-Dipole IP (2000 Apts) Inversion  
RESISTIVITY Depth Slice RL 550 m.  
Data by: Hyslop Geo-Technology  
8 Jan 2006





CHARGEABILITY DEPTH SLICE AT RL 550 m

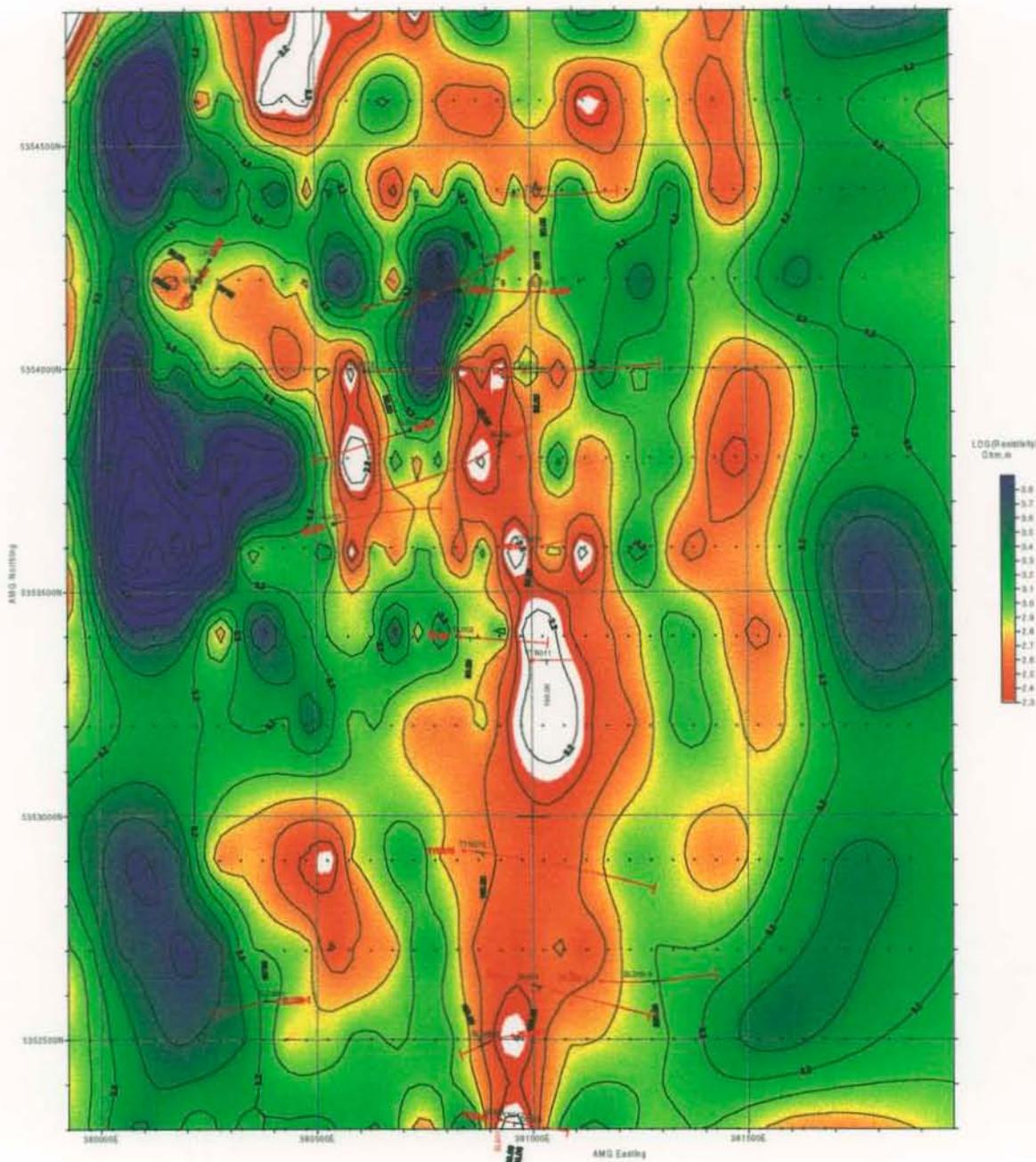
5 cm



SCALE 1:5000

<b>GOLDFIELDS EXPLORATION</b>
BASIN LAKE PROSPECT, A to P 1000 M Tail
Depth 0 to 500 m (CIPRO data) Inversion
CHARGEABILITY Depth Slice RL = 550 m
Scale of Map: 1:5000
Issue: 2000

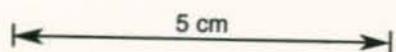




RESISTIVITY DEPTH SLICE AT RL 500 m WITH DRILL-HOLE TRACES

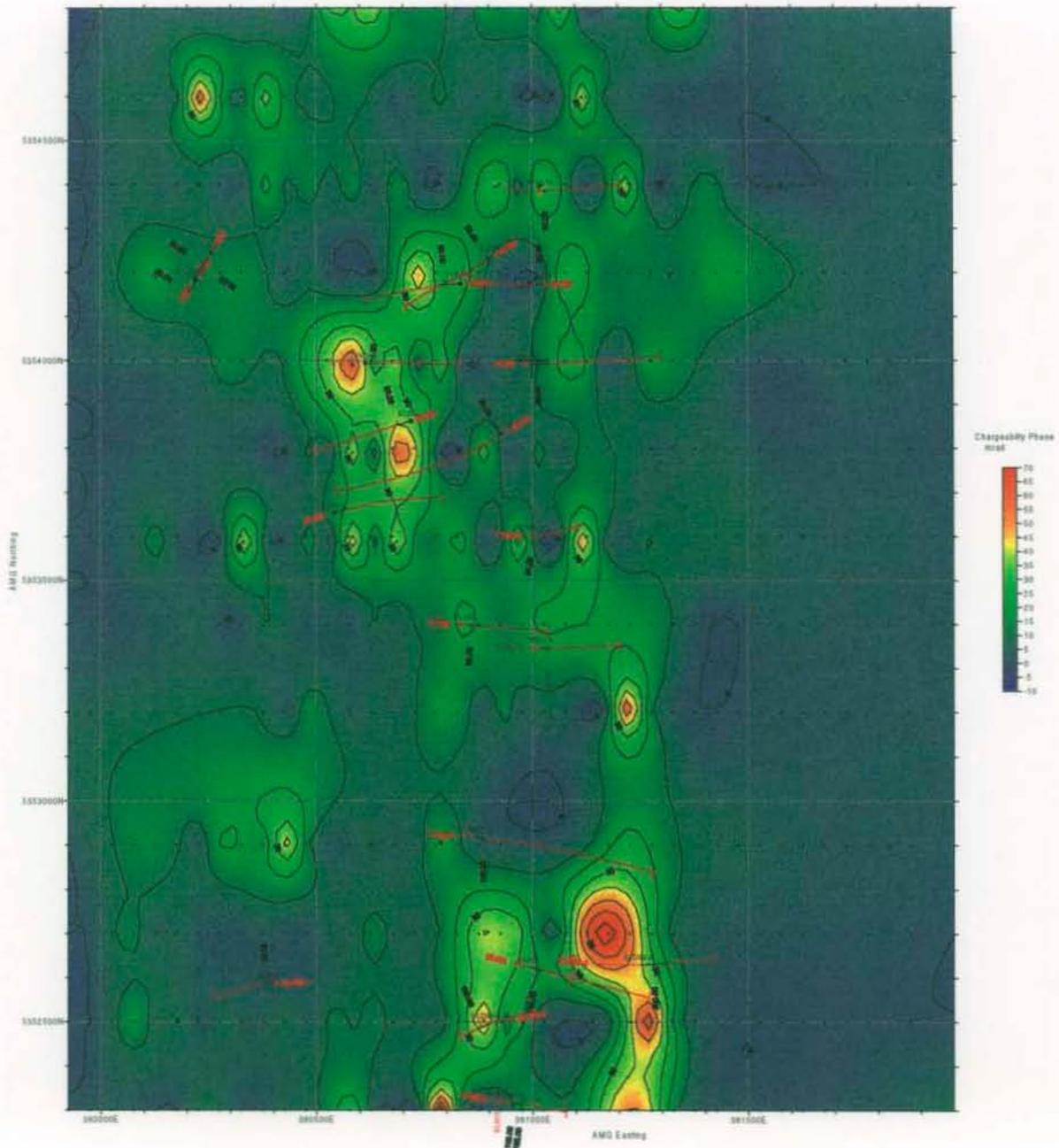


SCALE 1:5000



**GOLDFIELDS EXPLORATION**  
 BASIN LAKE PROSPECT A to F 10000 (M. Tals.)  
 Digital Image of 2000 data) Inversion  
 RESISTIVITY Depth Slice RL +500 m.  
 © 2000 Geophysical Survey Systems  
 4/20/2000





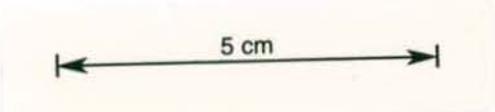
CHARGEABILITY DEPTH SLICE AT RL 500 m  
WITH DRILL-HOLE TRACES

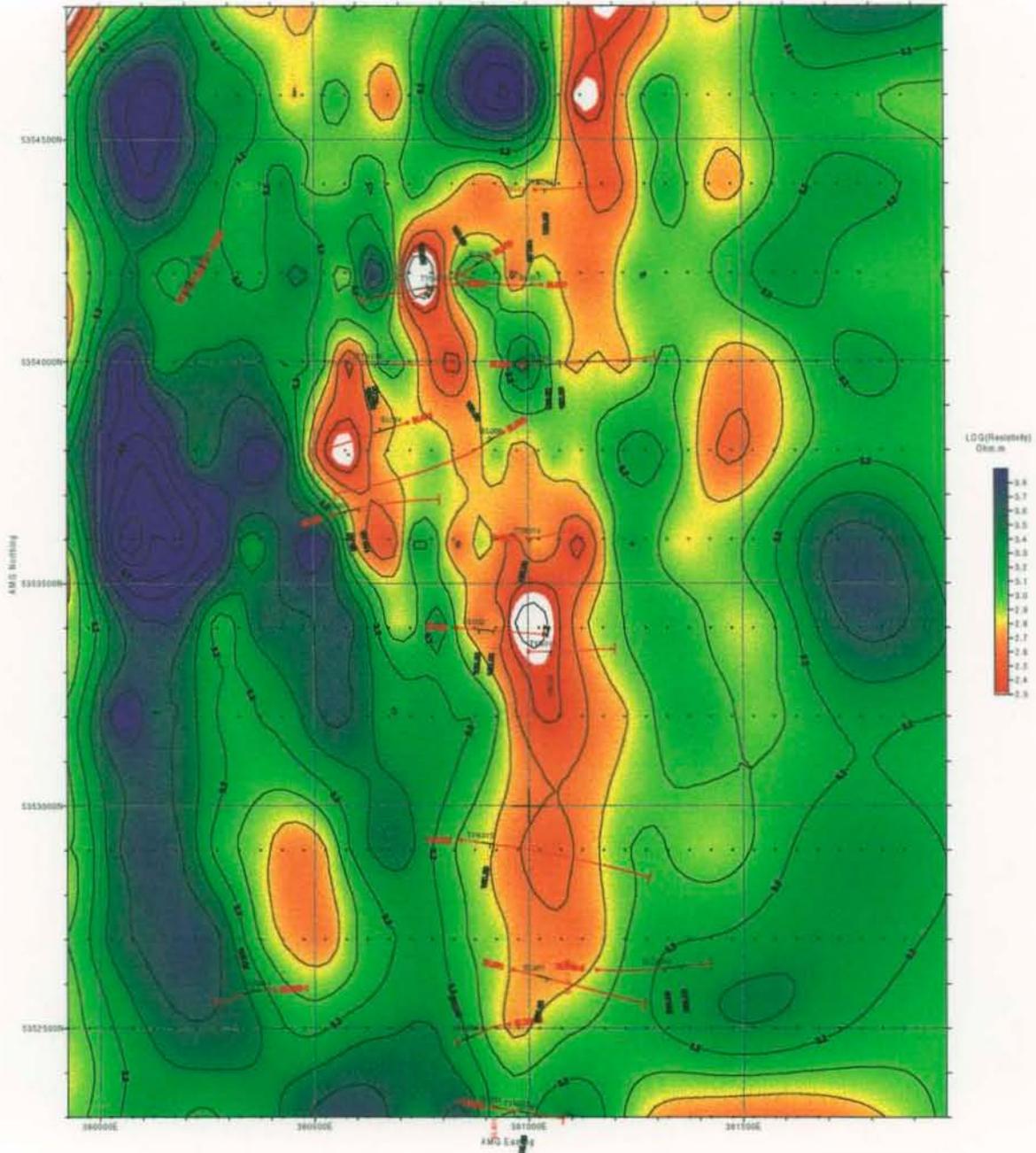
- ENTIRE DRILL-HOLE TRACE
- DRILL-HOLE TRACE THROUGH DEPTH SLICE



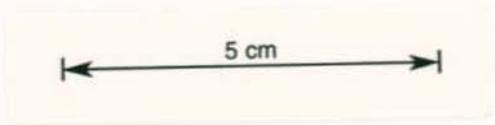
SCALE 1:5000

GOLDFIELDS EXPLORATION  
 BASIN LAKE PROSPECT: A & P 1000 (M. Tca.)  
 Dipole Dipole IP (DDIP data) Inversion  
 CHARGEABILITY PHASE Depth Slice RL = 500 m  
 Drawn by: *Flagstaff Power Generation*  
 6/10/2005





RESISTIVITY DEPTH SLICE AT RL 450 m

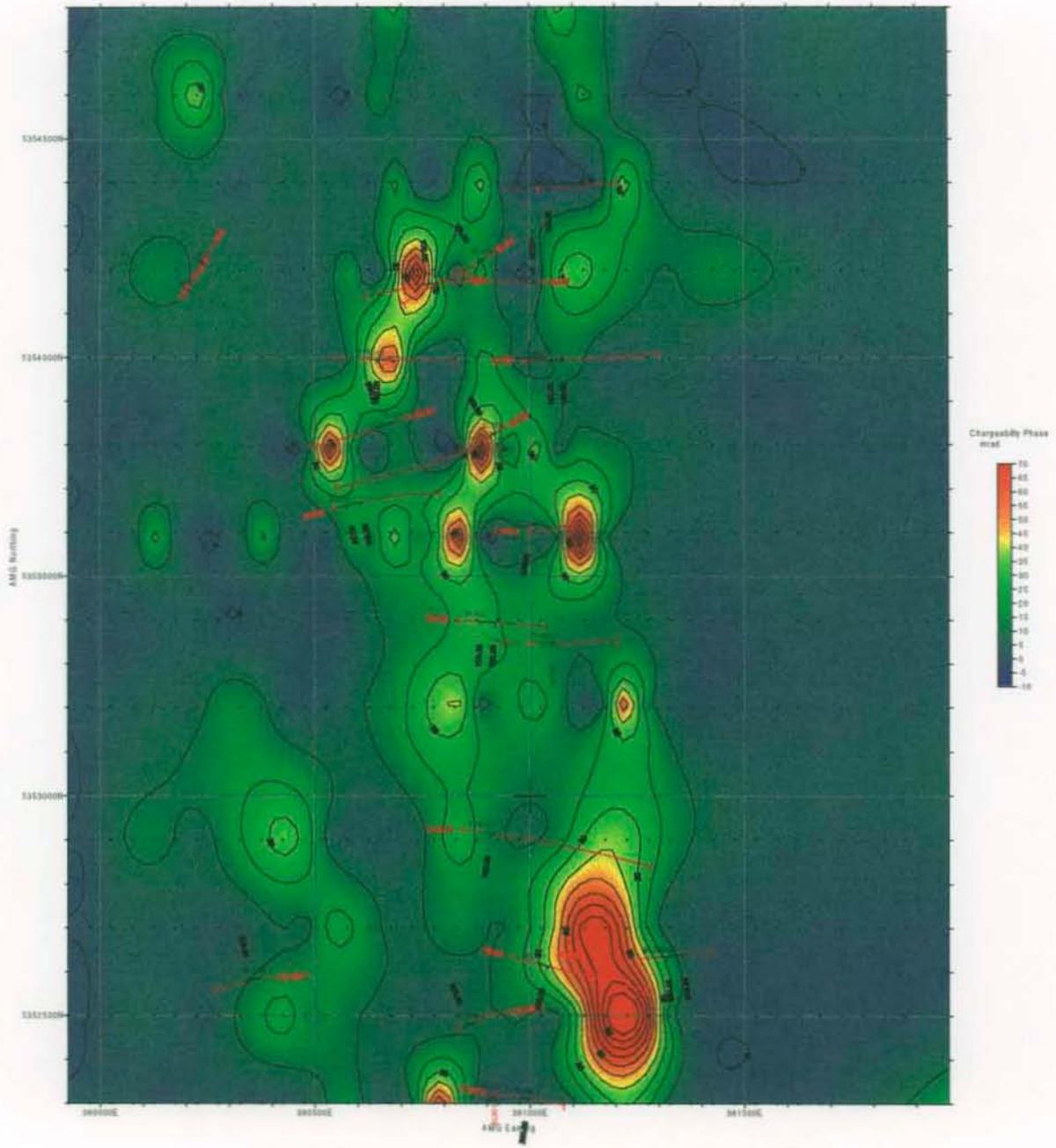


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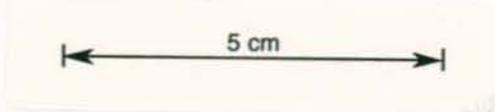
<b>GOLDFIELDS EXPLORATION</b>
BASIN LAKE PROSPECT: A to P 1998 (M. Ten.)
3-pole-Dipole IP (2000) Data Inversion
RESISTIVITY Depth Slice RL=450 m.
Drawn by: Stuart Mac-Cannan & Paul Allen



Fig. 4



CHARGEABILITY DEPTH SLICE AT RL 450 m

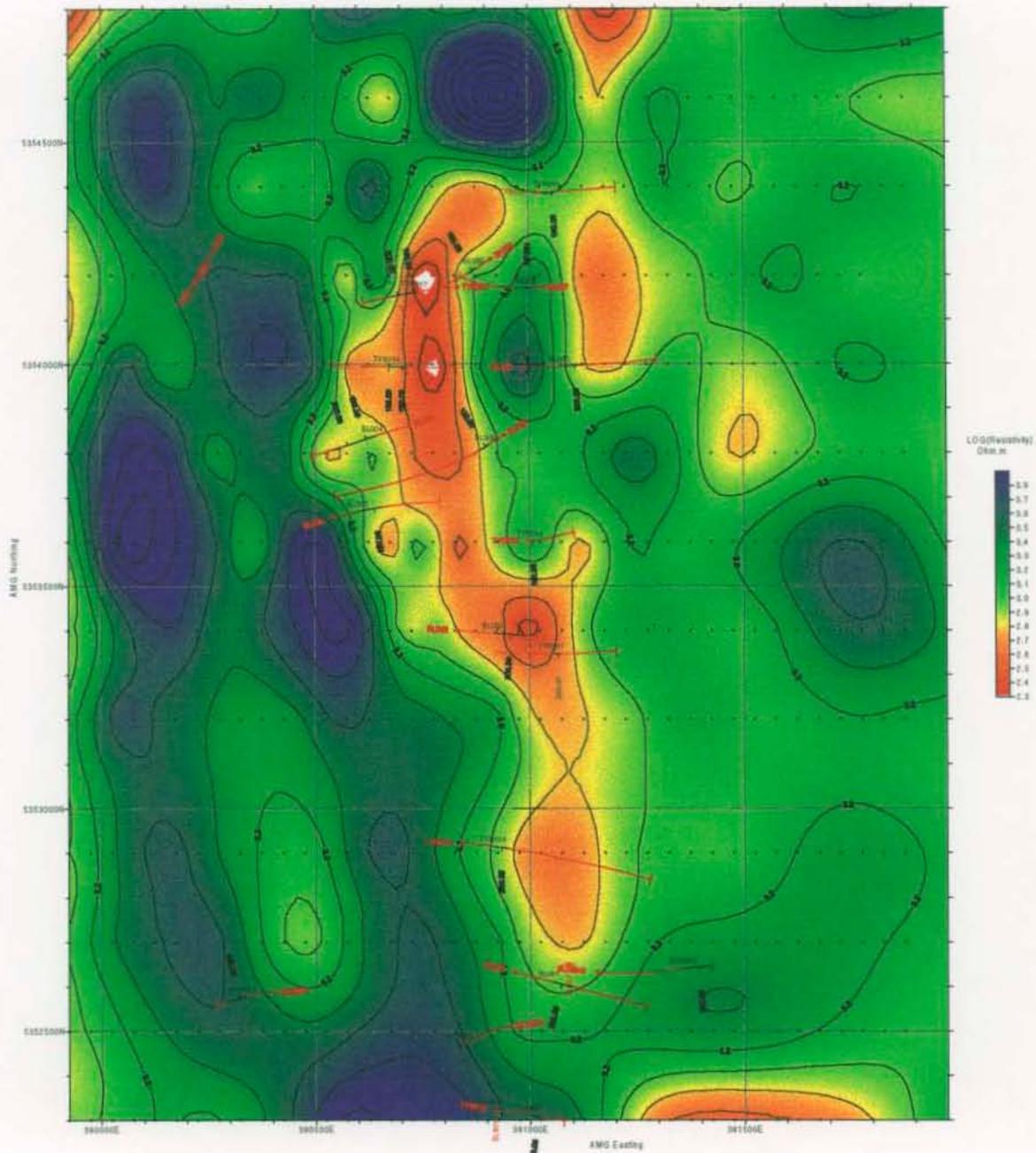


SCALE 1:5000

GOLDFIELDS EXPLORATION  
BASS LAKE PROSPECT: A & P 1988 (N. Tas.)  
Dipole Dipole IP (2000 data) Inversion  
CHARGEABILITY PHASE Depth Slice RL +450 m.  
Data V1, Original Site Coordinates  
© 2004



Fig.5



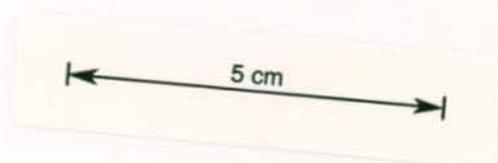
RESISTIVITY DEPTH SLICE AT RL 400 m  
WITH DRILL-HOLE TRACES

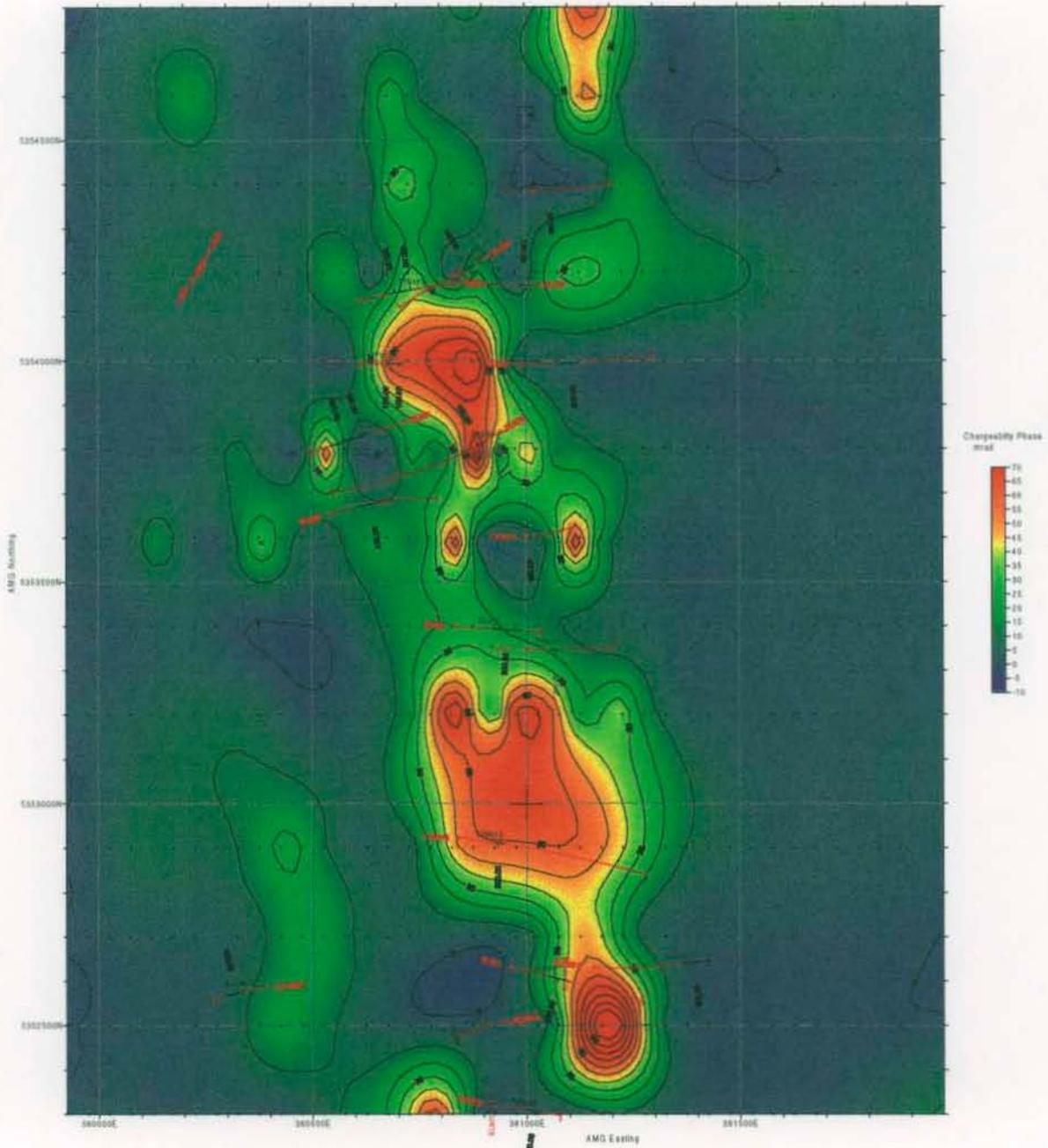
- ENTIRE DRILL-HOLE TRACE
- DRILL-HOLE TRACE THROUGH DEPTH SLICE



SCALE 1:5000

GOLDFIELDS EXPLORATION  
 BAIN LAKE PROSPECT, A to P 1000 (N. Tex.)  
 Data: Data of 2002 (GAS) Invariant  
 RESISTIVITY Depth Slice RL 400 m.  
 Data by: Flagstaff Geo-Consultants  
 © Jan 2004





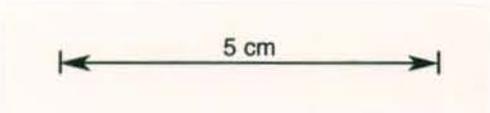
CHARGEABILITY DEPTH SLICE AT RL 400 m  
WITH DRILL-HOLE TRACES

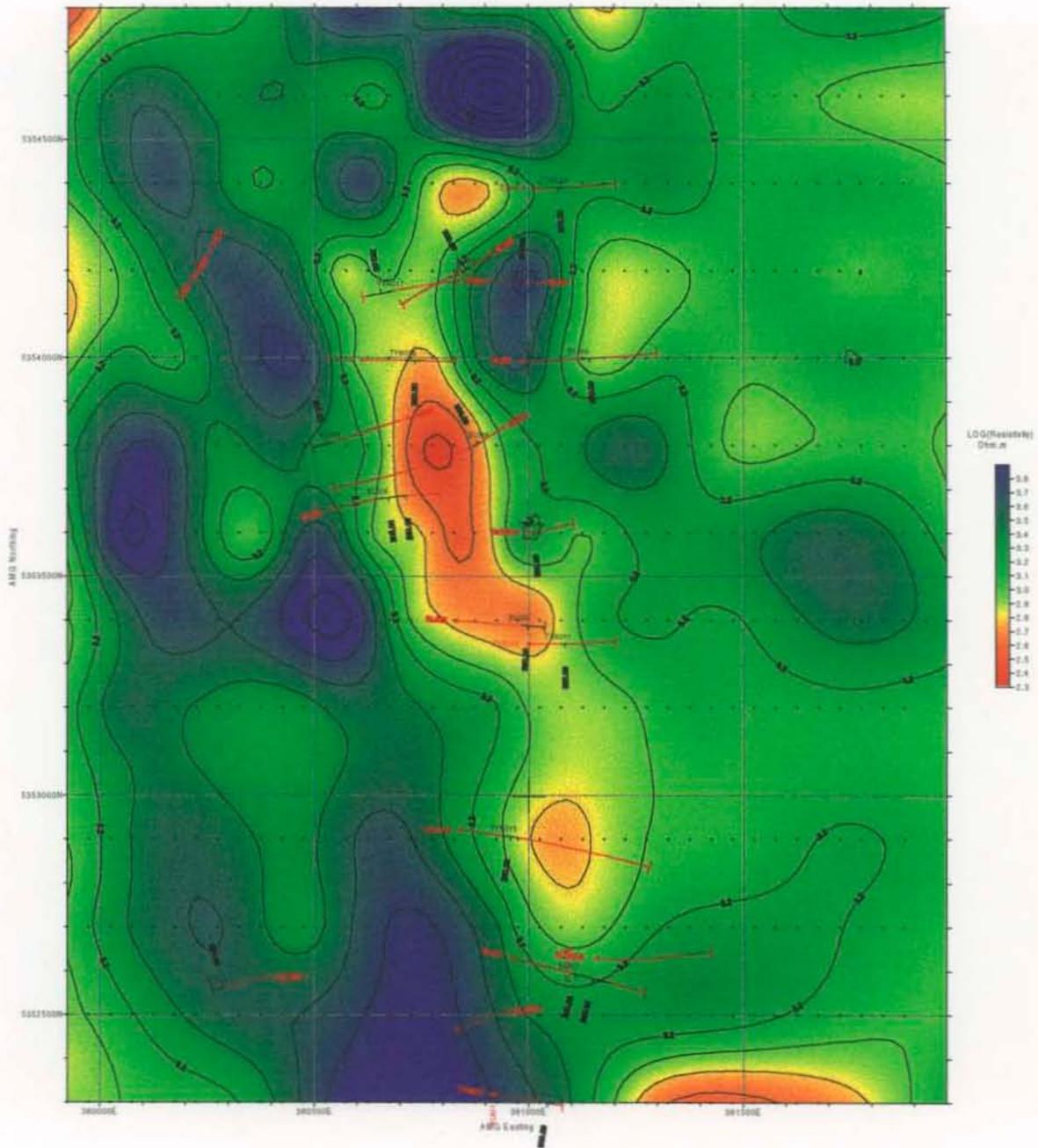
- ENTIRE DRILL-HOLE TRACE
- DRILL-HOLE TRACE THROUGH DEPTH SLICE



SCALE 1:5000

<b>GOLDFIELDS EXPLORATION</b>
BADIN LAKE PROSPECT, 6 & P 10996 (N. Taz.)
Depth Slice of 2000-6400 Inverted
CHARGEABILITY PHASE, Depth Slice RL = 400 m.
Drawn by: <i>Wagdy El-Comar</i>
17 Jun 2010





RESISTIVITY DEPTH SLICE AT RL 350 m

5 cm

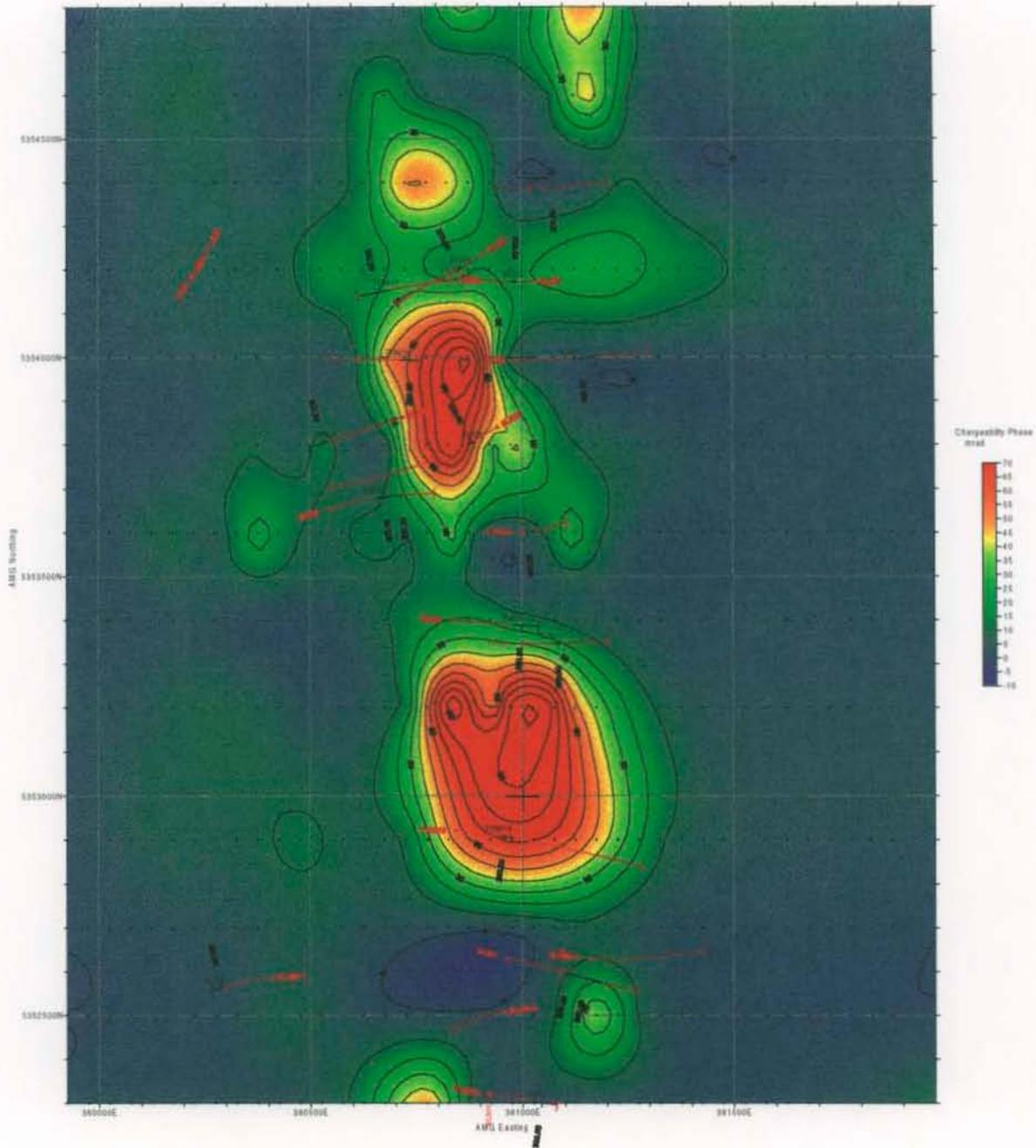


SCALE 1:5000

<b>GOLDFIELDS EXPLORATION</b>
BASIN LAKE PROSPECT, A N.P. 1890 (N. Tex.)
Open-Ended IP (2000 data) Inversion
RESISTIVITY Depth Slice RL -350 m.
Drawn by: Flight/Don Cameron & Tim O'Neil



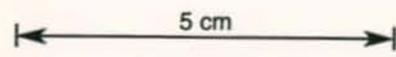
Fig. 6



CHARGEABILITY DEPTH SLICE AT RL 350 m



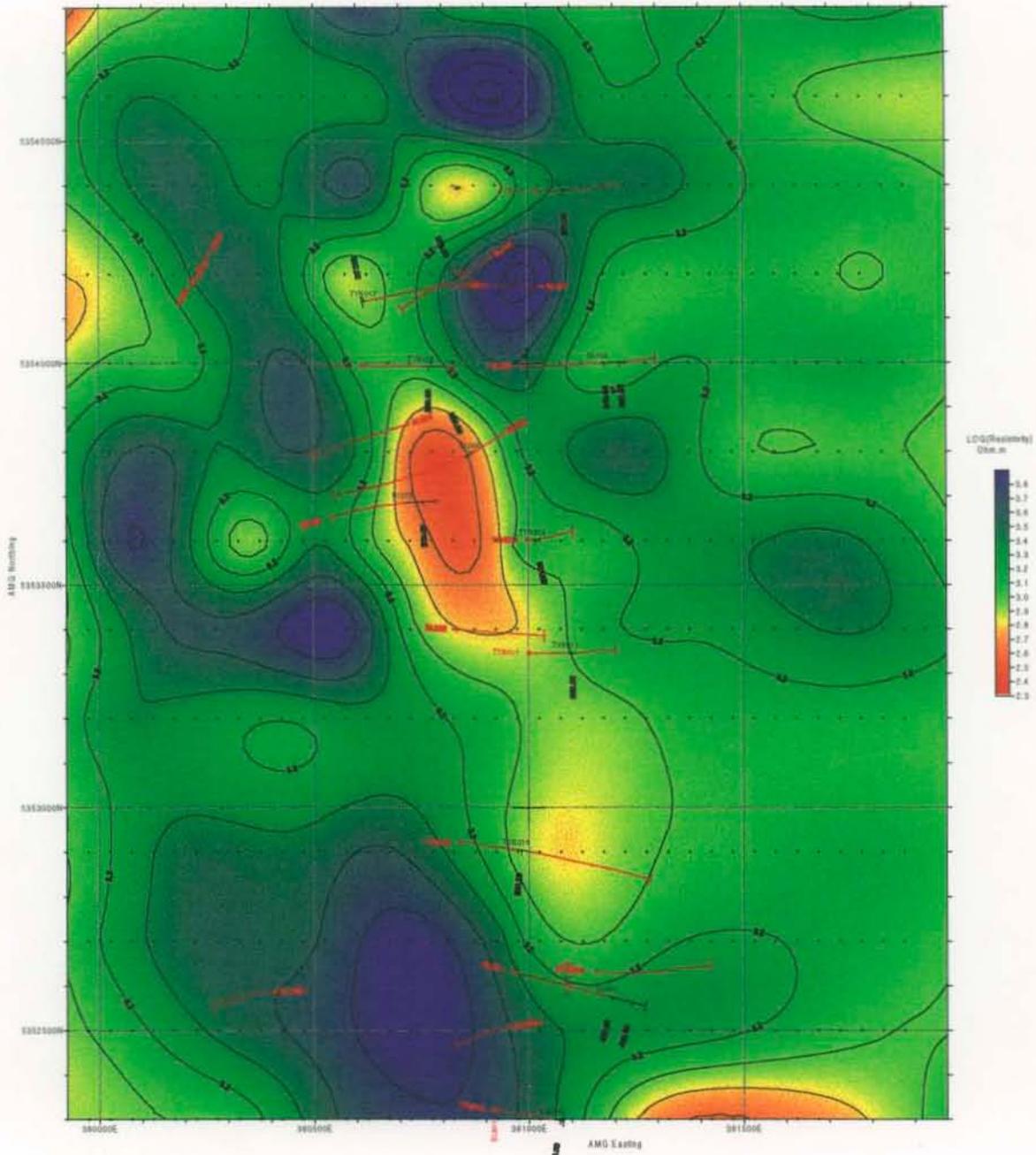
SCALE 1:5000



GOLDFIELDS EXPLORATION  
BAGIN LAKE PROSPECT, A N.P. 10860 (N. T.S.)  
Diagrams of 5000 Scale (Section)  
CHARGEABILITY PHASE (Depth 350 m RL -350 m)  
Drawn by: Enginsoft Inc. (2008)  
4/10/2008



Fig. 7

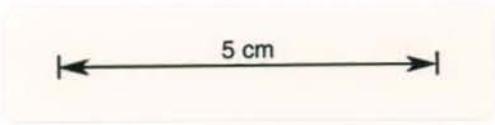


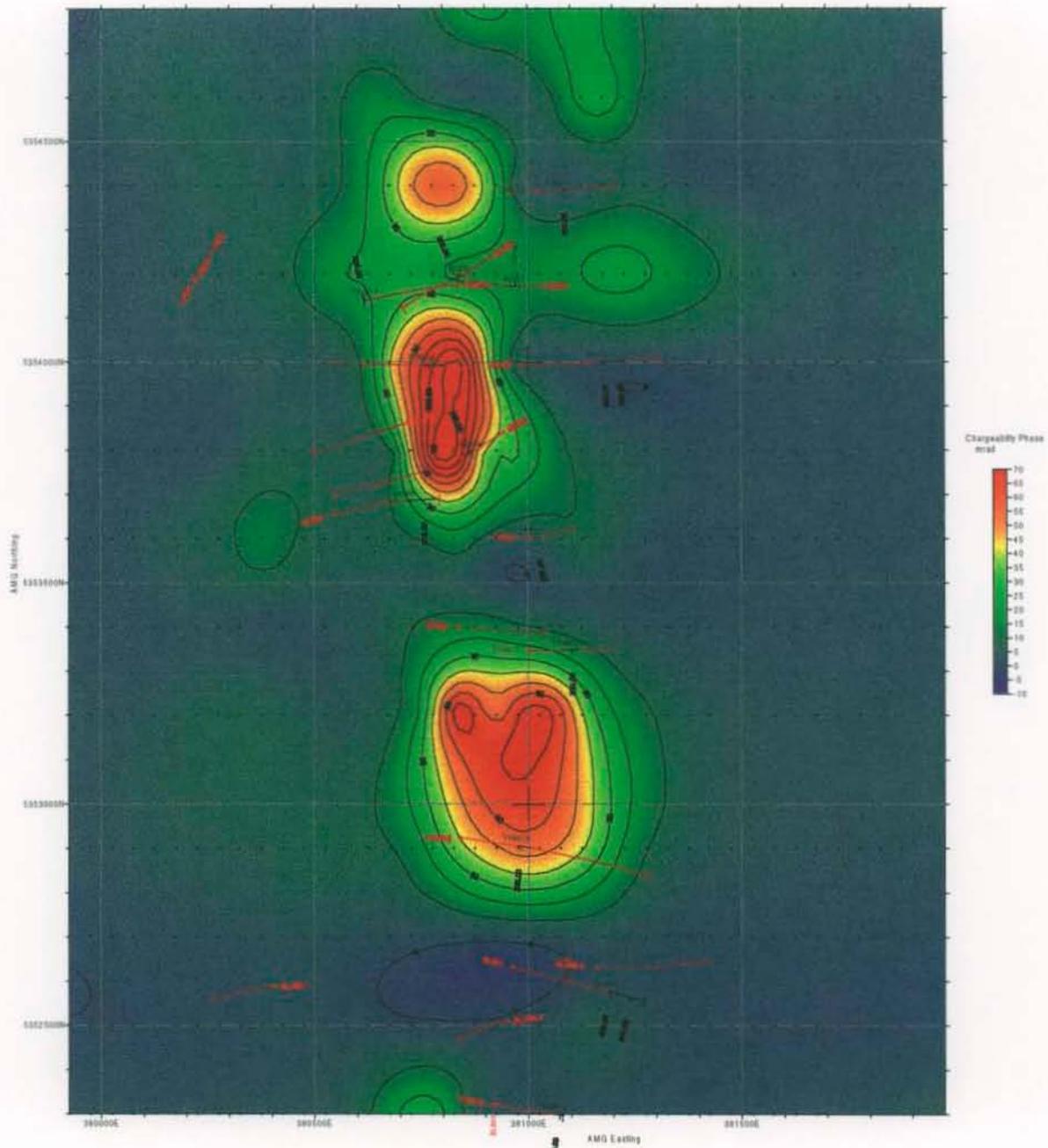
RESISTIVITY DEPTH SLICE AT RL 300 m  
WITH DRILL-HOLE TRACES



SCALE 1:5000

**GOLDFIELDS EXPLORATION**  
 BASIN LAKE PROSPECT, A to F 1000 (M. T42)  
 Dipole-Dipole IP (2000) Resistivity  
 RESISTIVITY Depth Slice RL +300 m.  
 Data by: FlightPac Technology  
 4/Jan/2002





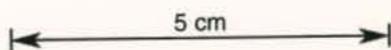
CHARGEABILITY DEPTH SLICE AT RL 300 m  
WITH DRILL-HOLE TRACES

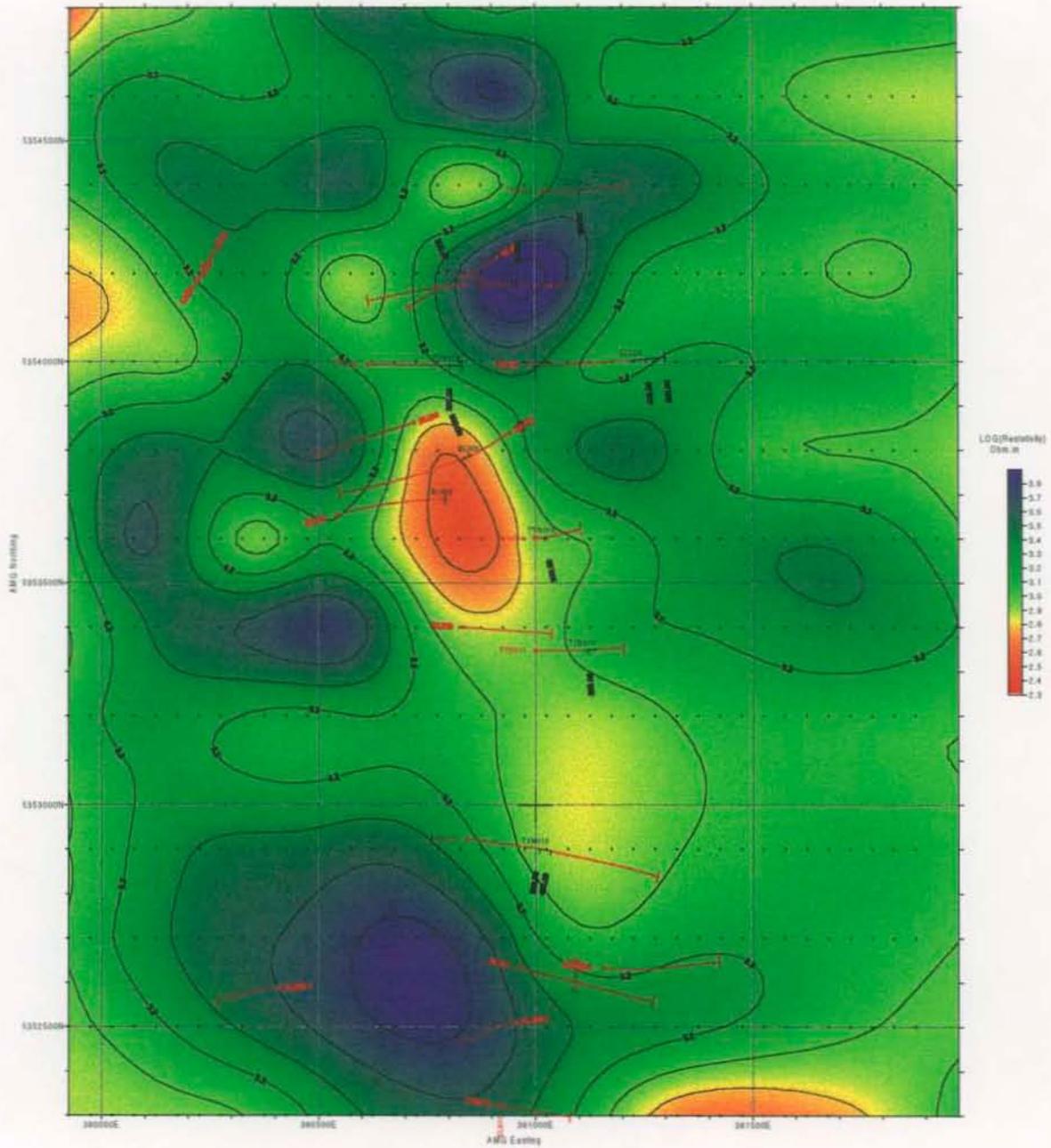
— ENTIRE DRILL-HOLE TRACE  
— DRILL-HOLE TRACE THROUGH DEPTH SLICE



SCALE 1:5000

**GOLDFIELDS EXPLORATION**  
 BASIN LAKE PROSPECT: A & P 1998 (M. Tals.)  
 Depth-Slice of 2000 data in-situ  
 CHARGEABILITY PHASE Depth Slice RL = 300 m.  
 Drawn by: Project Geo-Function  
 6/10/2005



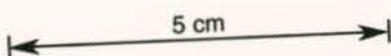


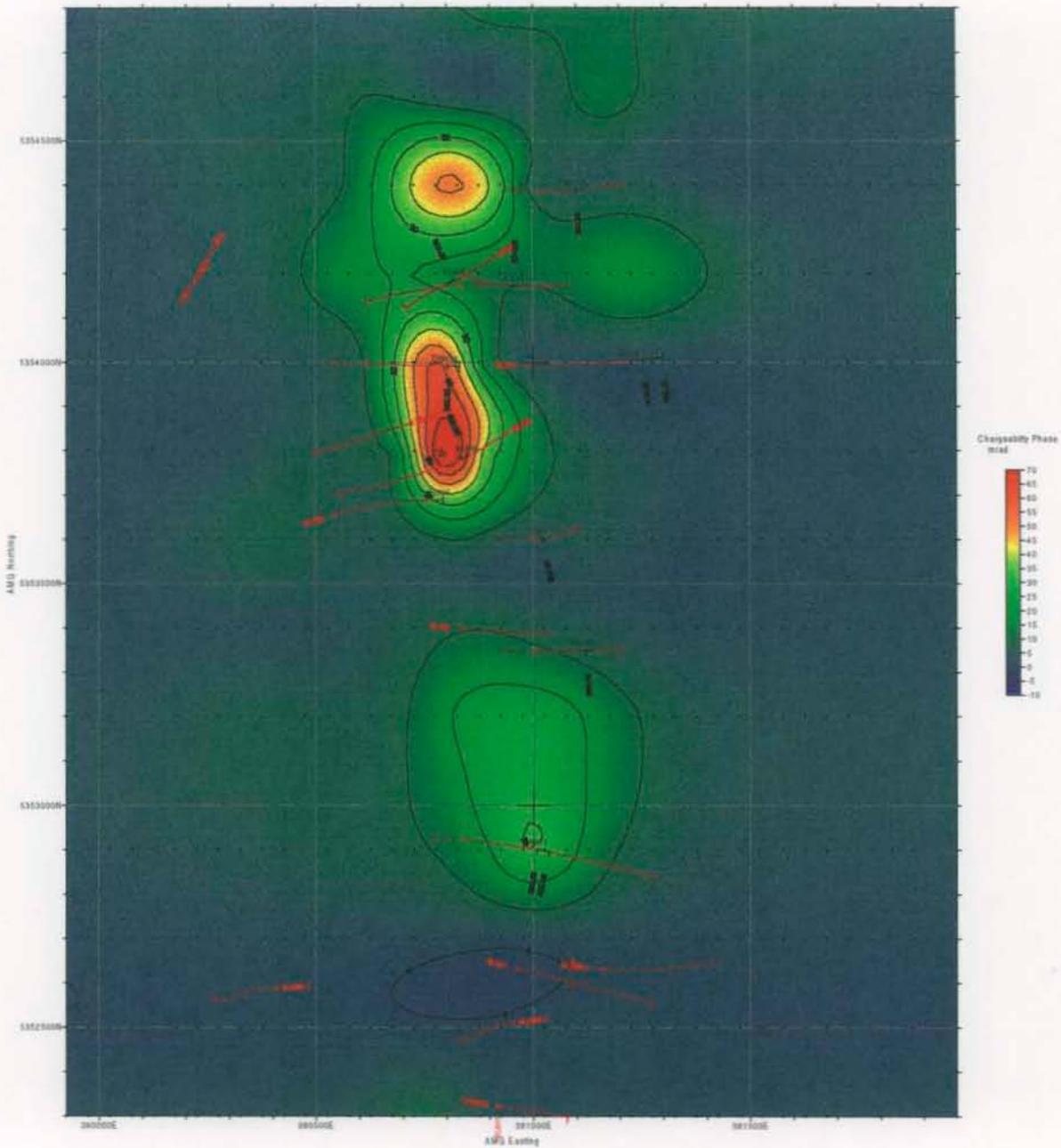
RESISTIVITY DEPTH SLICE AT RL 250 m



SCALE 1:5000

GOLDFIELDS EXPLORATION  
BAIN LAKE PROSPECT A to F 1000 (M. Ton.)  
Dipole-Dipole IP (1000 kHz) Inversion  
RESISTIVITY Depth Slice RL 250 m.  
Data by: Ringold Data Conversion  
4 Nov 2005





CHARGEABILITY DEPTH SLICE AT RL 250 m

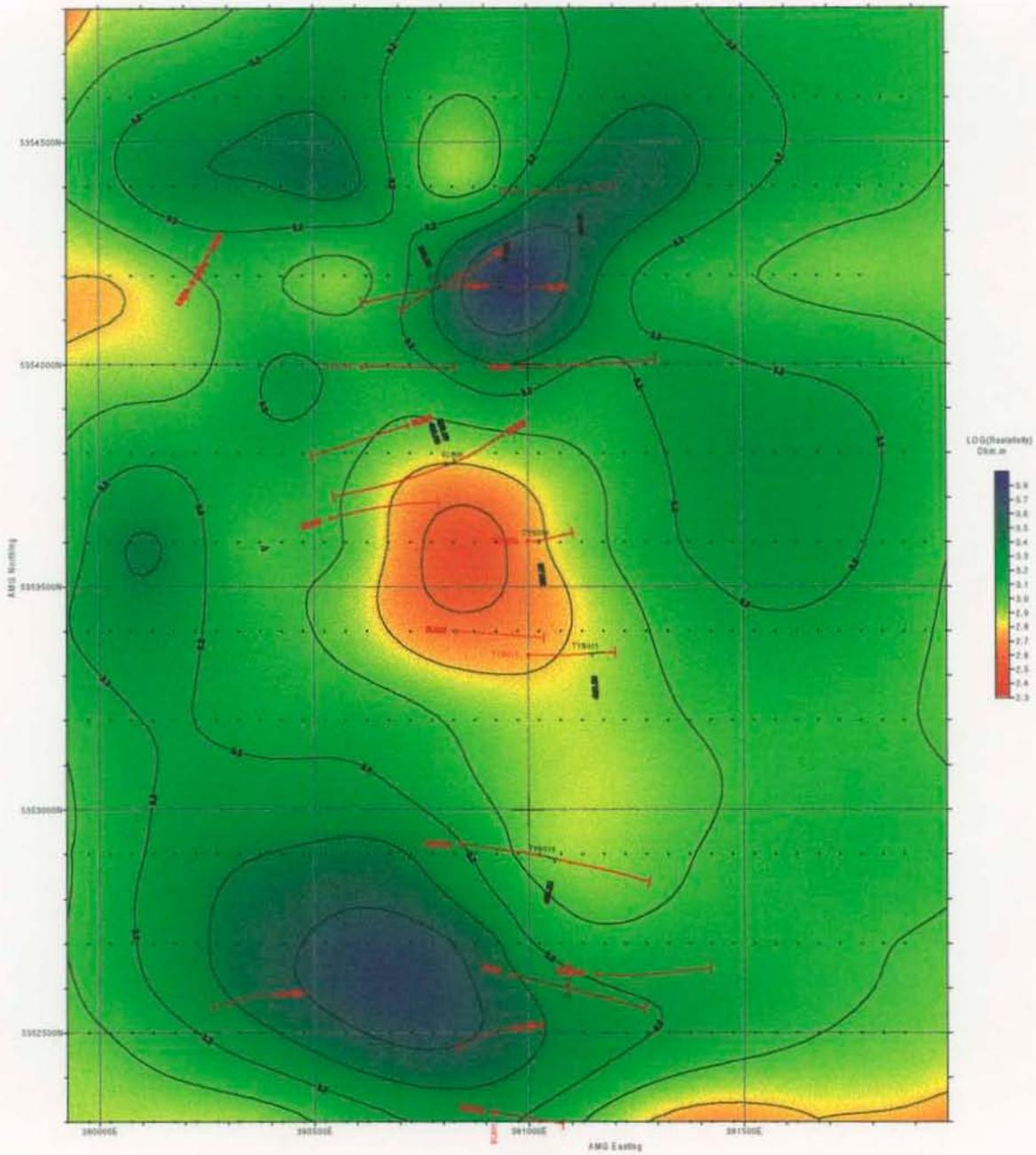
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SCALE 1:5000

**GOLDFIELDS EXPLORATION**  
BARR LAKE PROJECT: A to P 1998 (M. Tex.)  
Dipole-Dipole IP (2000 data) Inversion  
CHARGEABILITY PHASE Depth Slice RL = 250 m.  
Drawn by: Fitzgerald Geo-Data  
© 2000





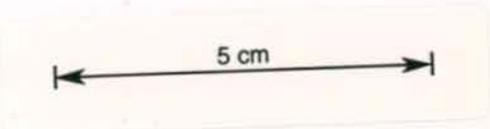
RESISTIVITY DEPTH SLICE AT RL 200 m  
WITH DRILL-HOLE TRACES

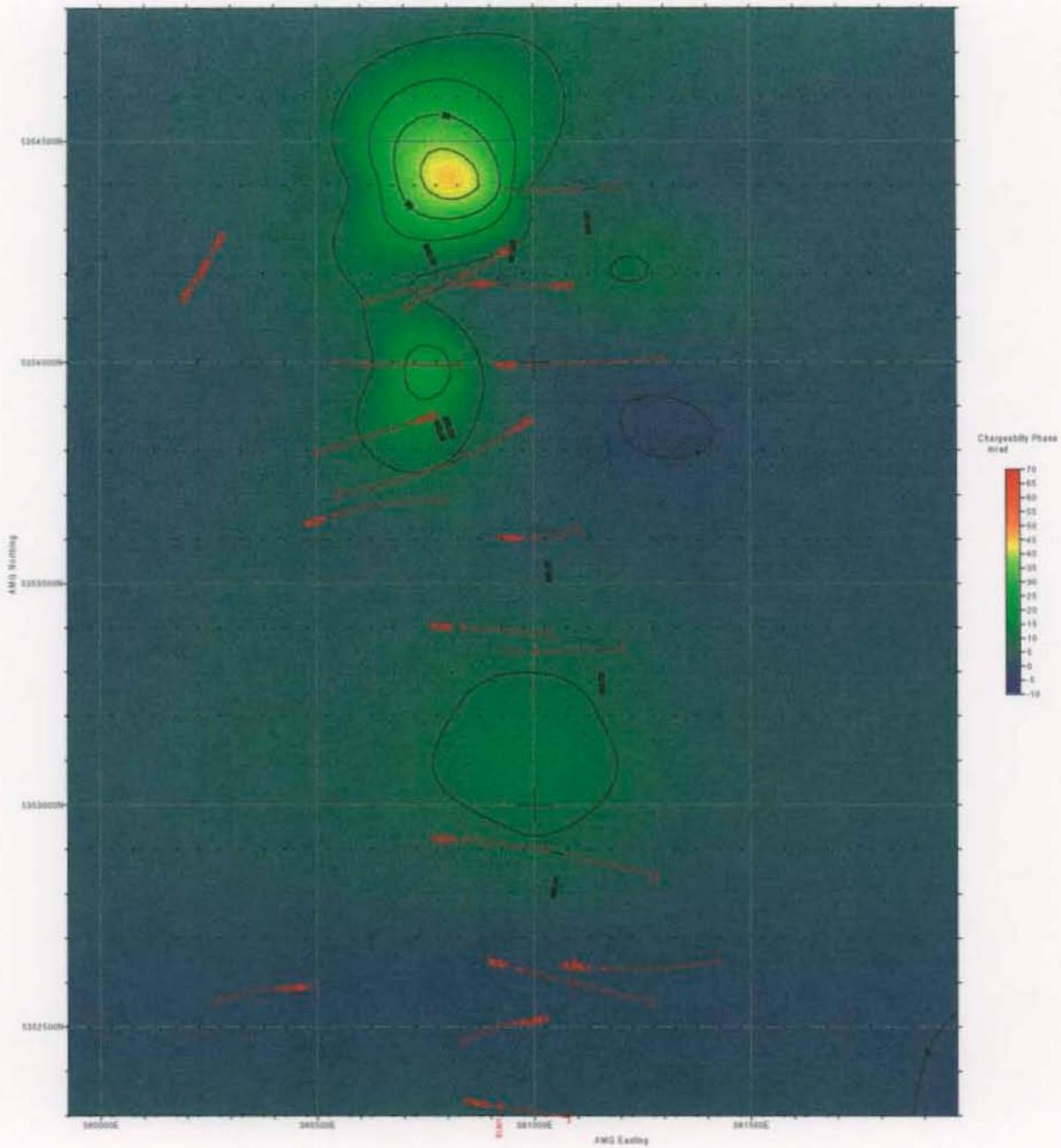
- ENTIRE DRILL-HOLE TRACE
- DRILL-HOLE TRACE THROUGH DEPTH SLICE



SCALE 1:5000

<b>GOLDFIELDS EXPLORATION</b>
BASIN LAKE PROSPECT, A 60 P 1898 (M. Tex.)
Depth Slice of 2000 60m2 Surveys
RESISTIVITY Depth Slice RL +200 m.
Drawn by: <i>Richard St. Laurent</i>
6/10/2010





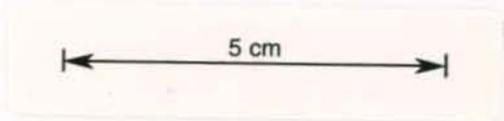
CHARGEABILITY DEPTH SLICE AT RL 200 m  
WITH DRILL-HOLE TRACES

- ENTIRE DRILL-HOLE TRACE
- DRILL-HOLE TRACE THROUGH DEPTH SLICE



SCALE 1:5000

<p><b>GOLDFIELDS EXPLORATION</b>                  BAWW LAKE PROSPECT, A W.P. 1000 (W. Taz.)                  Spide-Creek P. 2005 6403 Inventory                  CHARGEABILITY PHASE, Depth Slice RL -200 m.                  Drawn by: Flagstaff Earth Sciences                  4/Jan/2005</p>
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SECTIONS OF 2D-INVERSIONS OF  
BASIN LAKE IP SURVEY2000, EL 19/98, ZEEHAN (W. Tas.).  
WITH GEOLOGICAL SECTIONS SUPERIMPOSED

Michael W Asten

Flagstaff GeoConsultants Pty Ltd

18-Oct-2000

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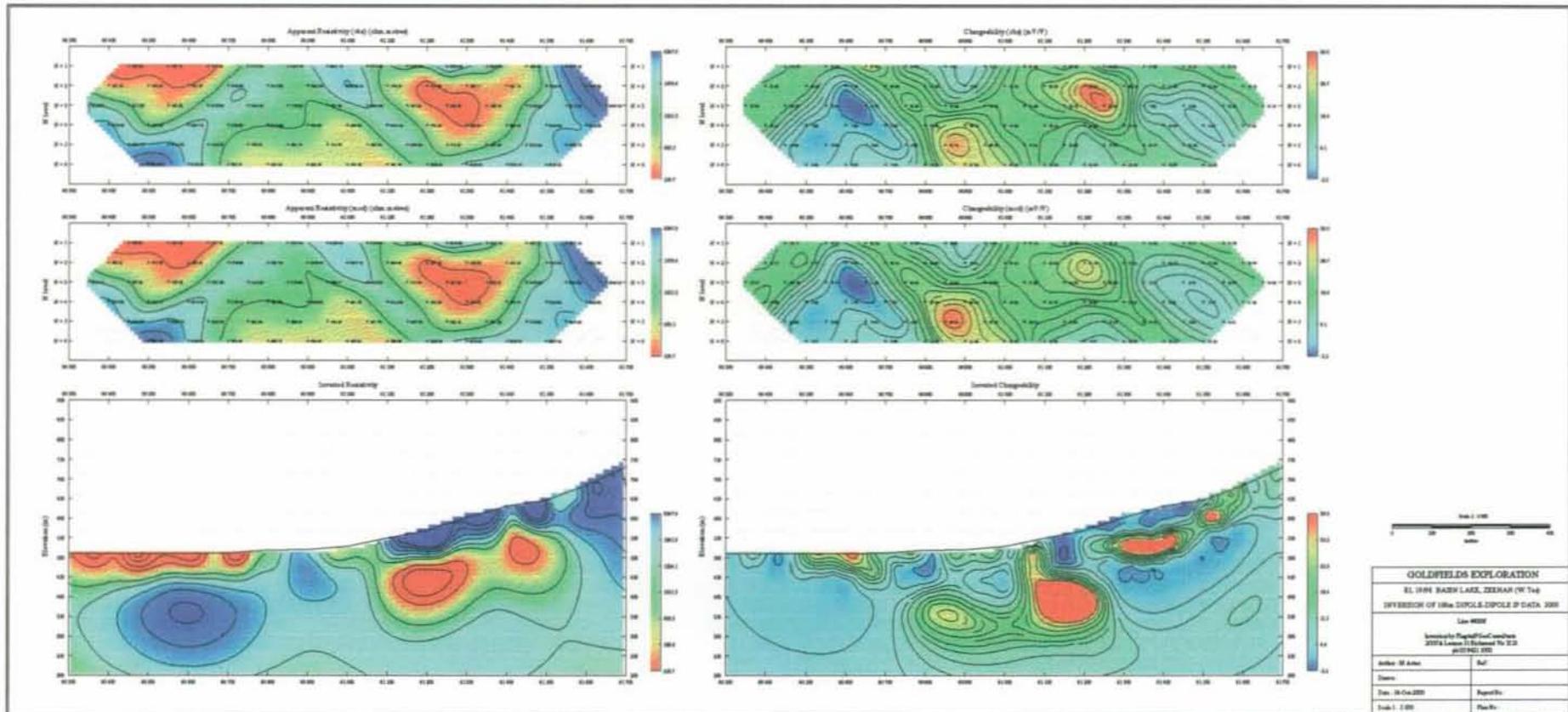
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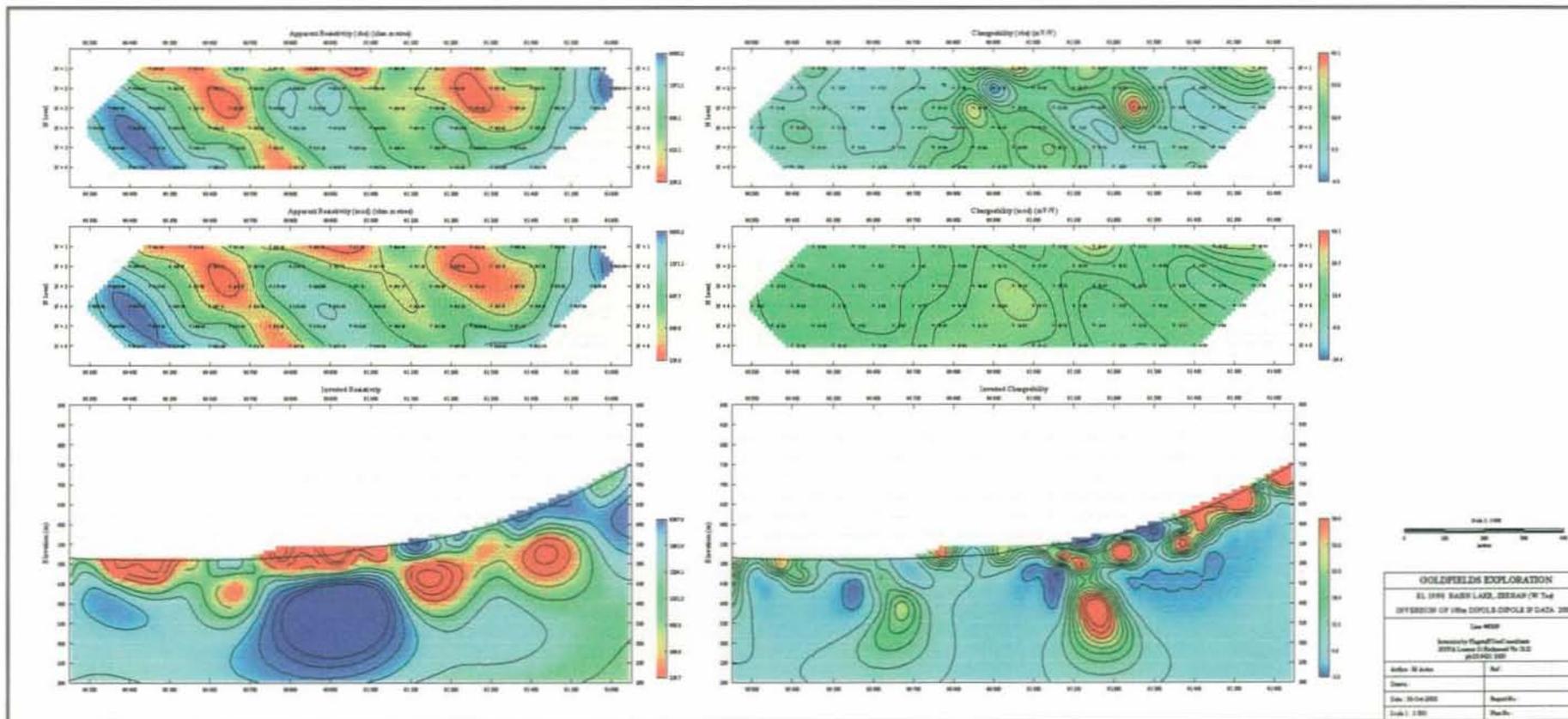
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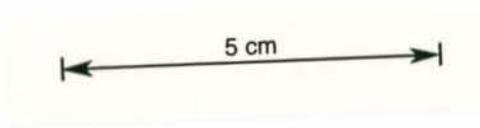


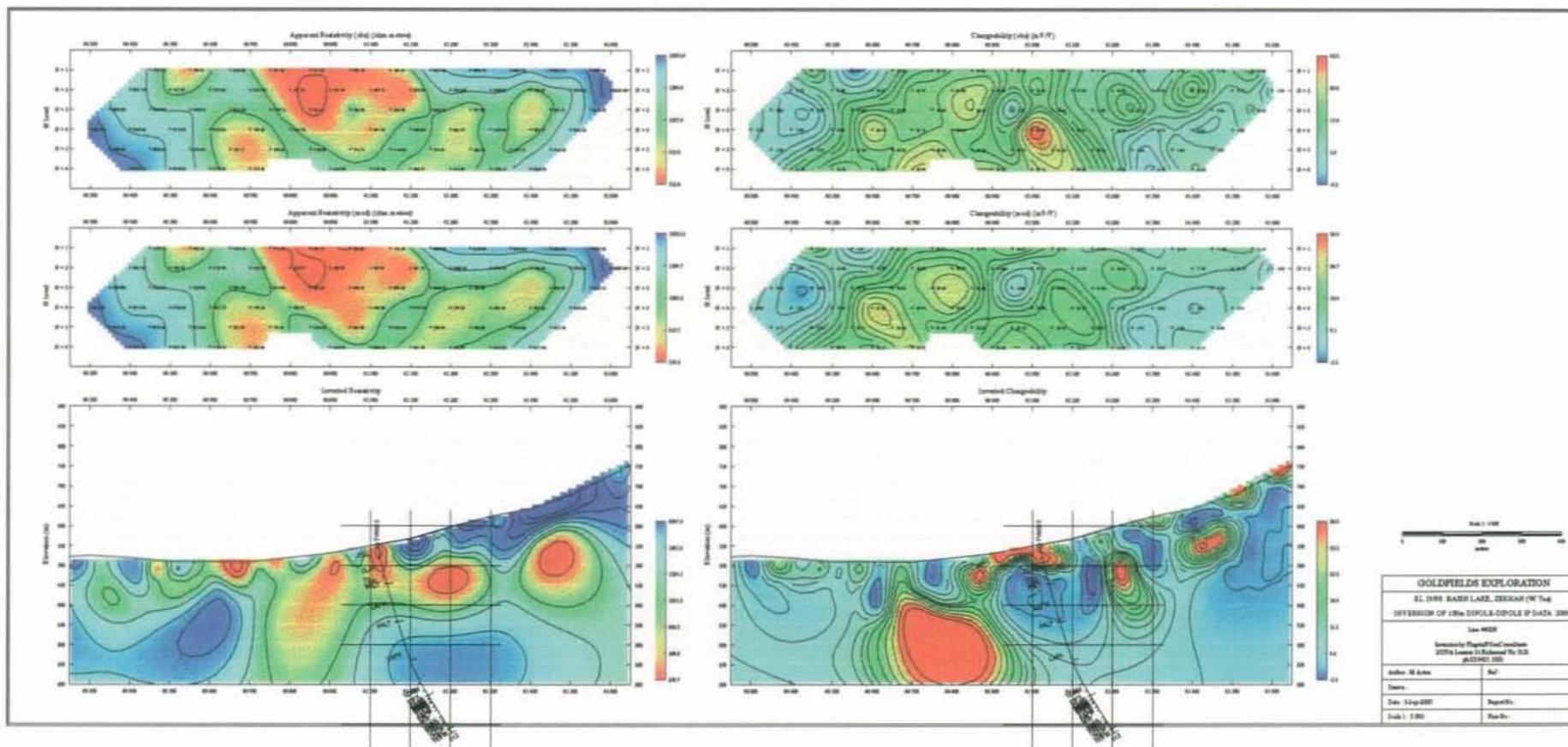
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LINE 4800N

5 cm

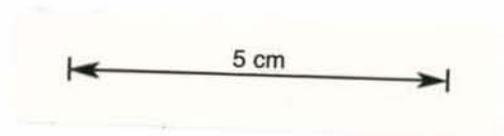


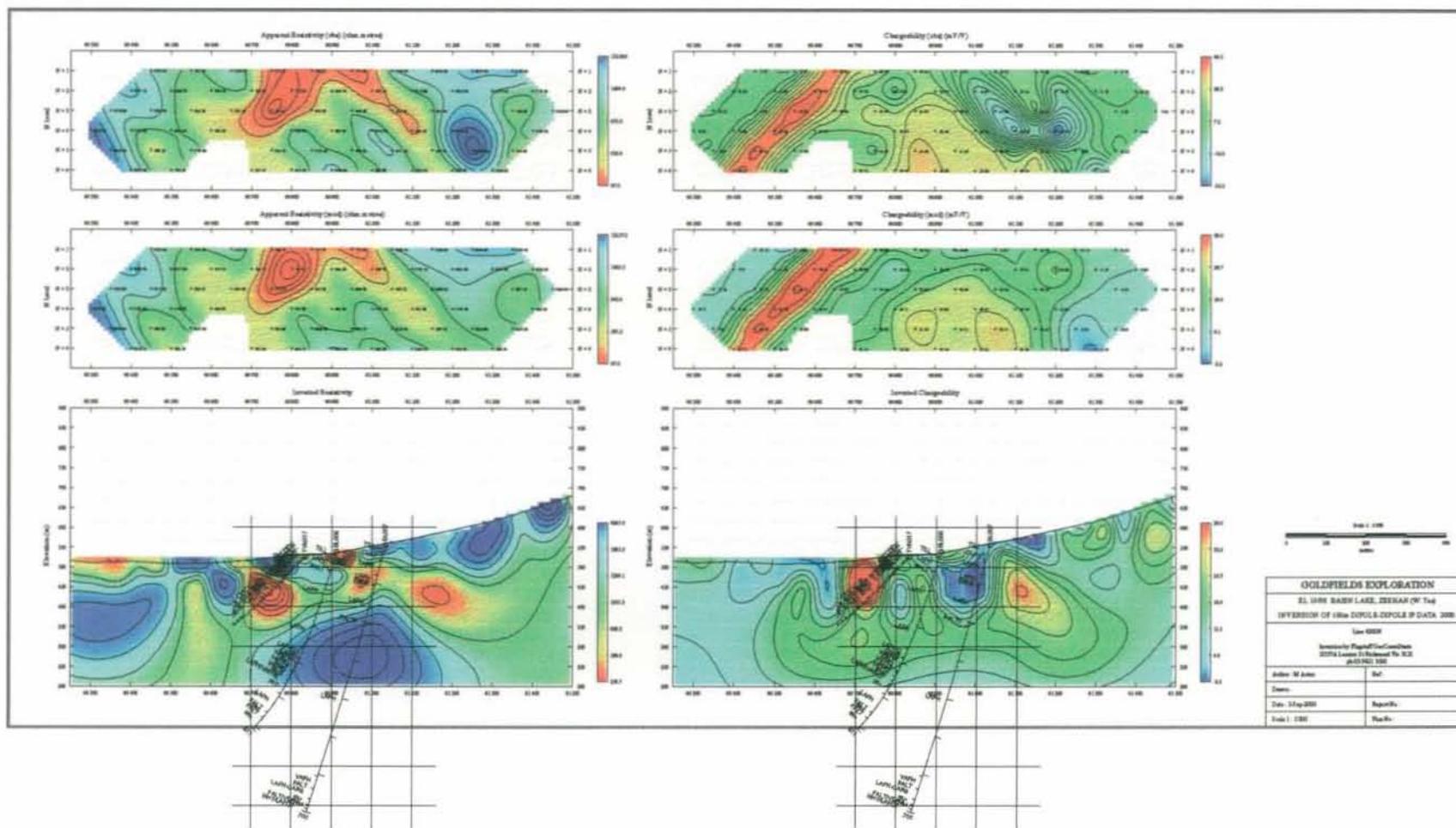
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 LINE 4600N





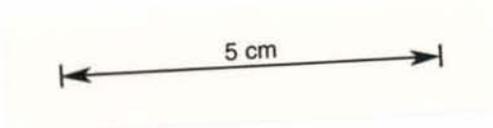
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 LINE 4400N

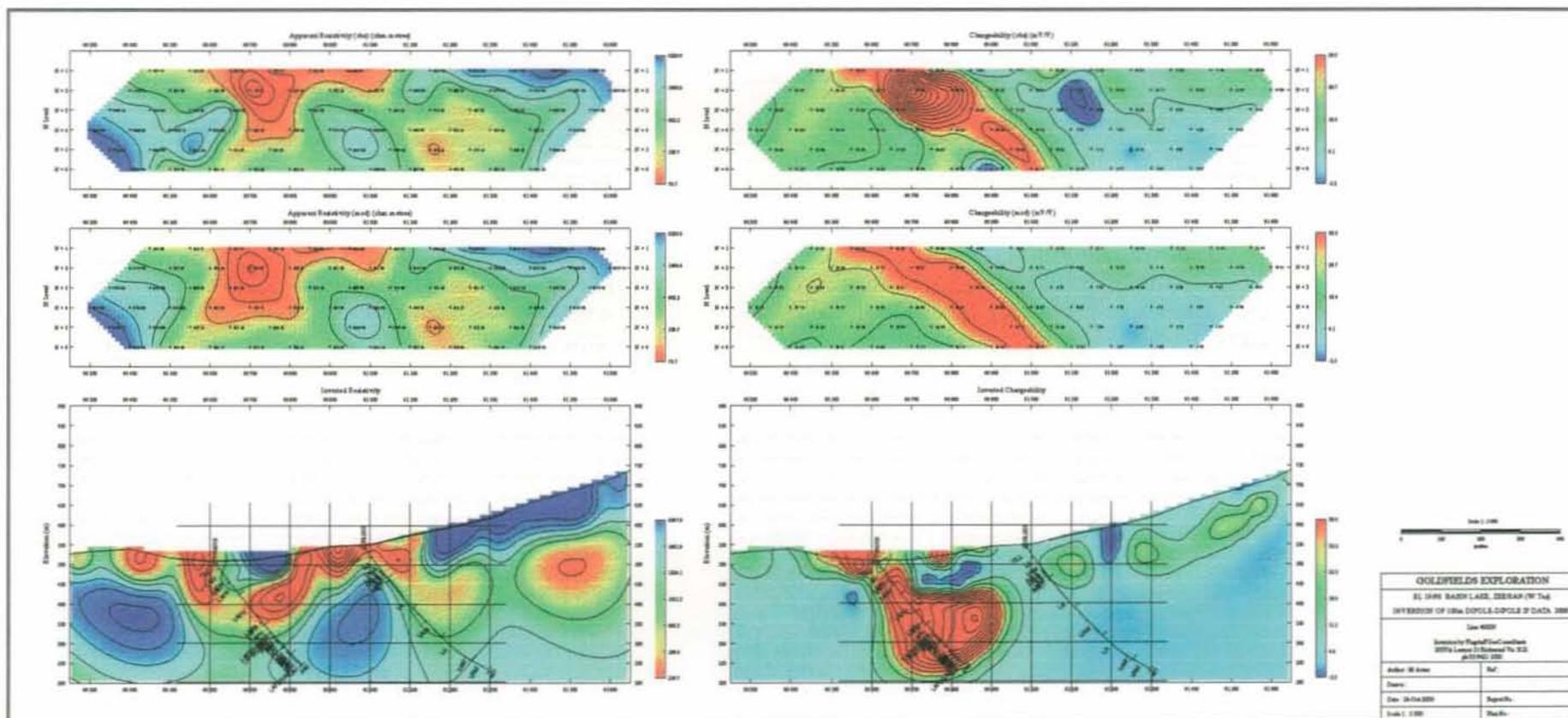




INVERSION - BASIN LAKE IP JULY 2000

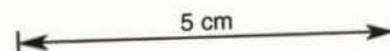
LINE 4200N

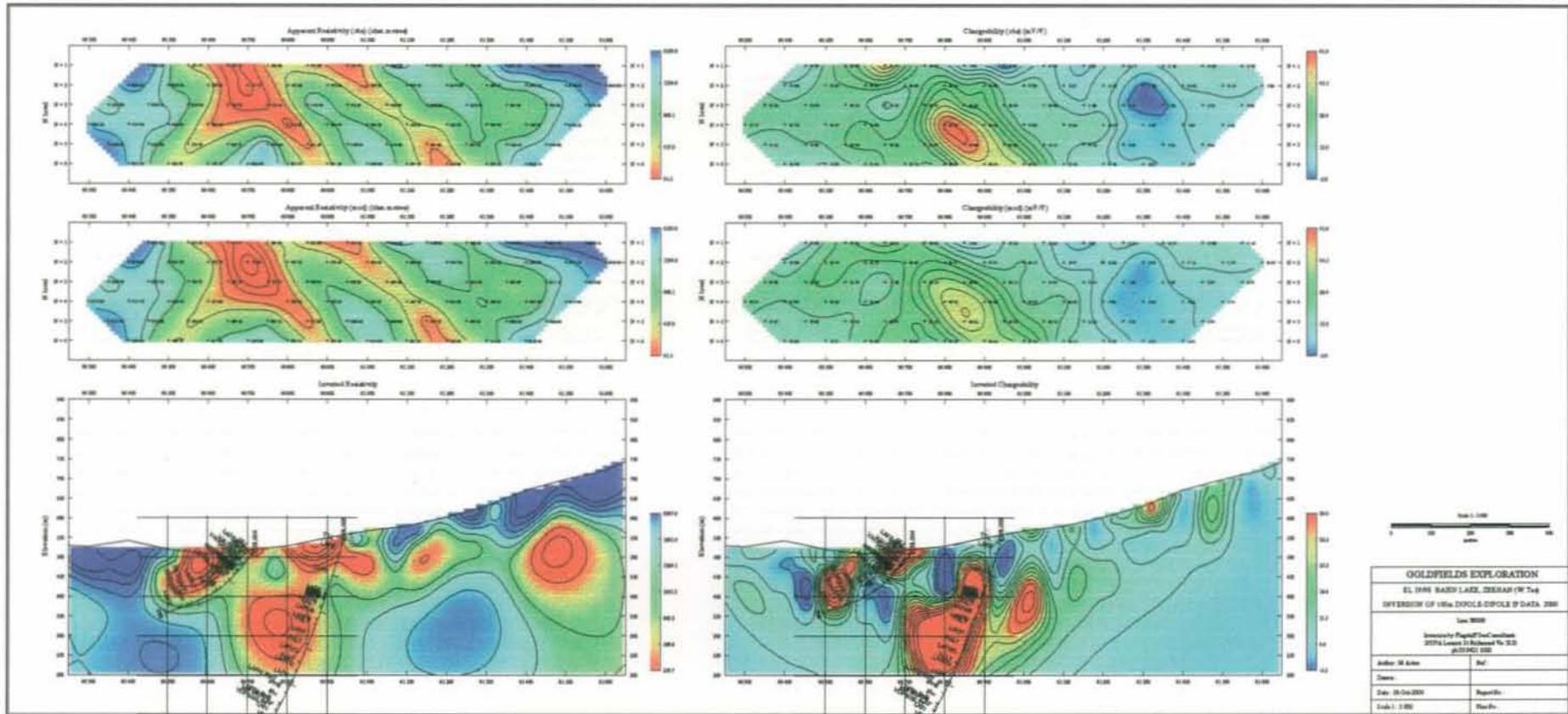




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LINE 4000N



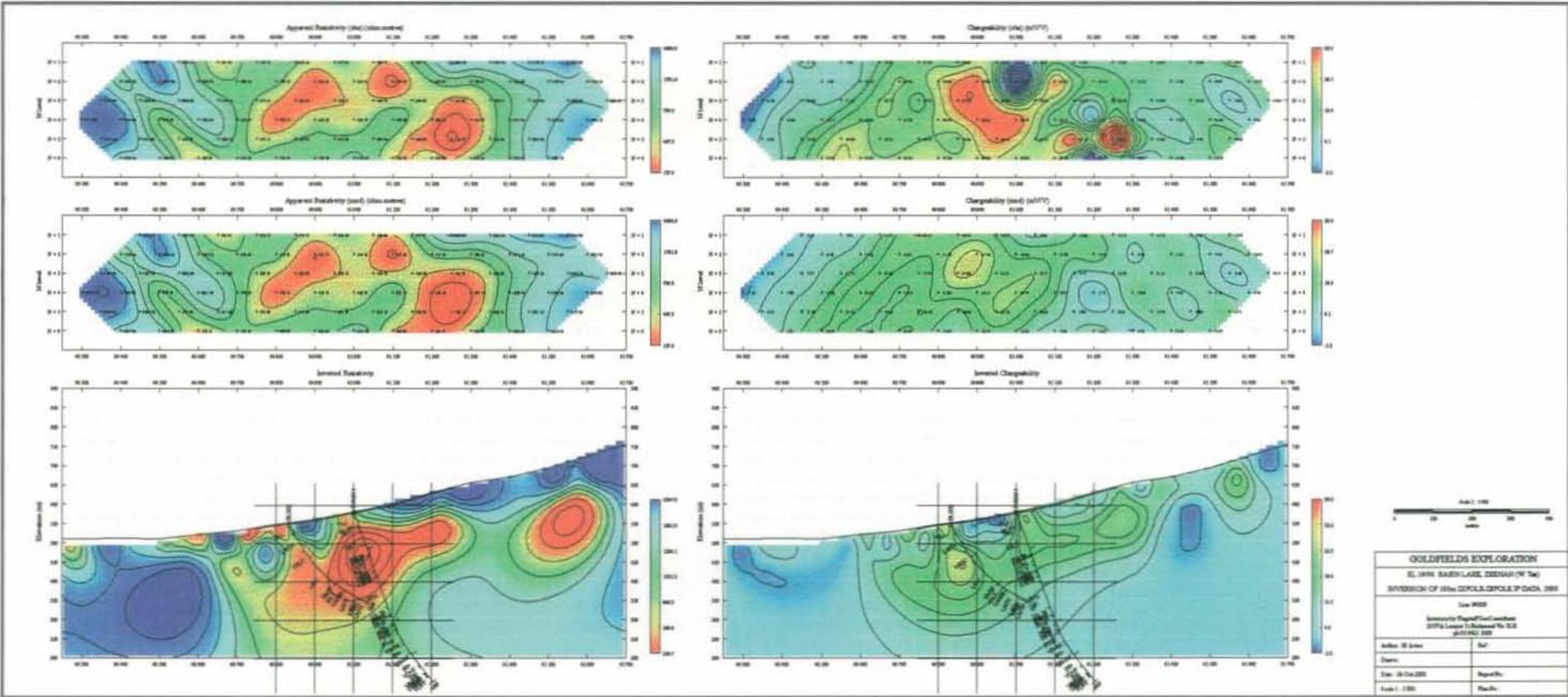


INVERSION - BASIN LAKE IP JULY 2000

LINE 3800N

5 cm

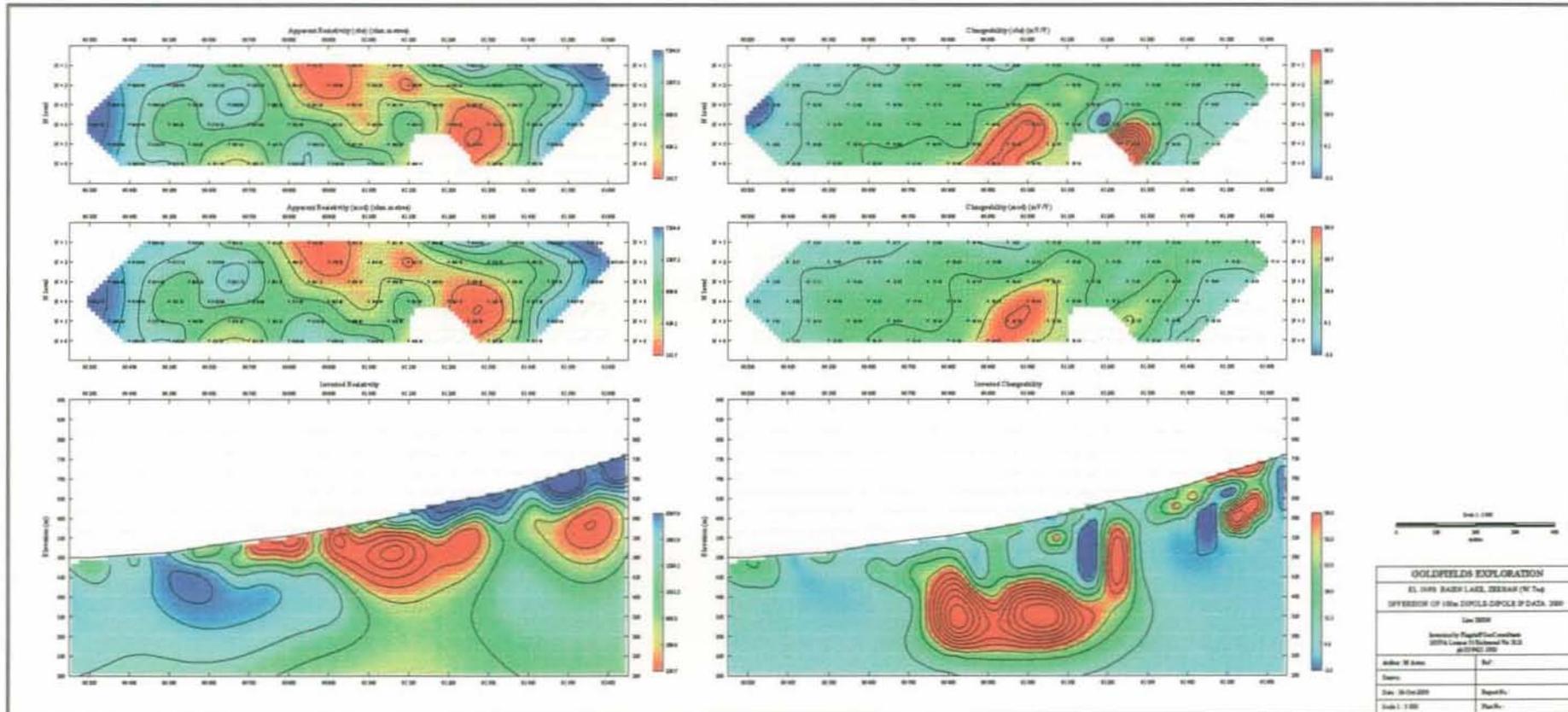




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LINE 3400N

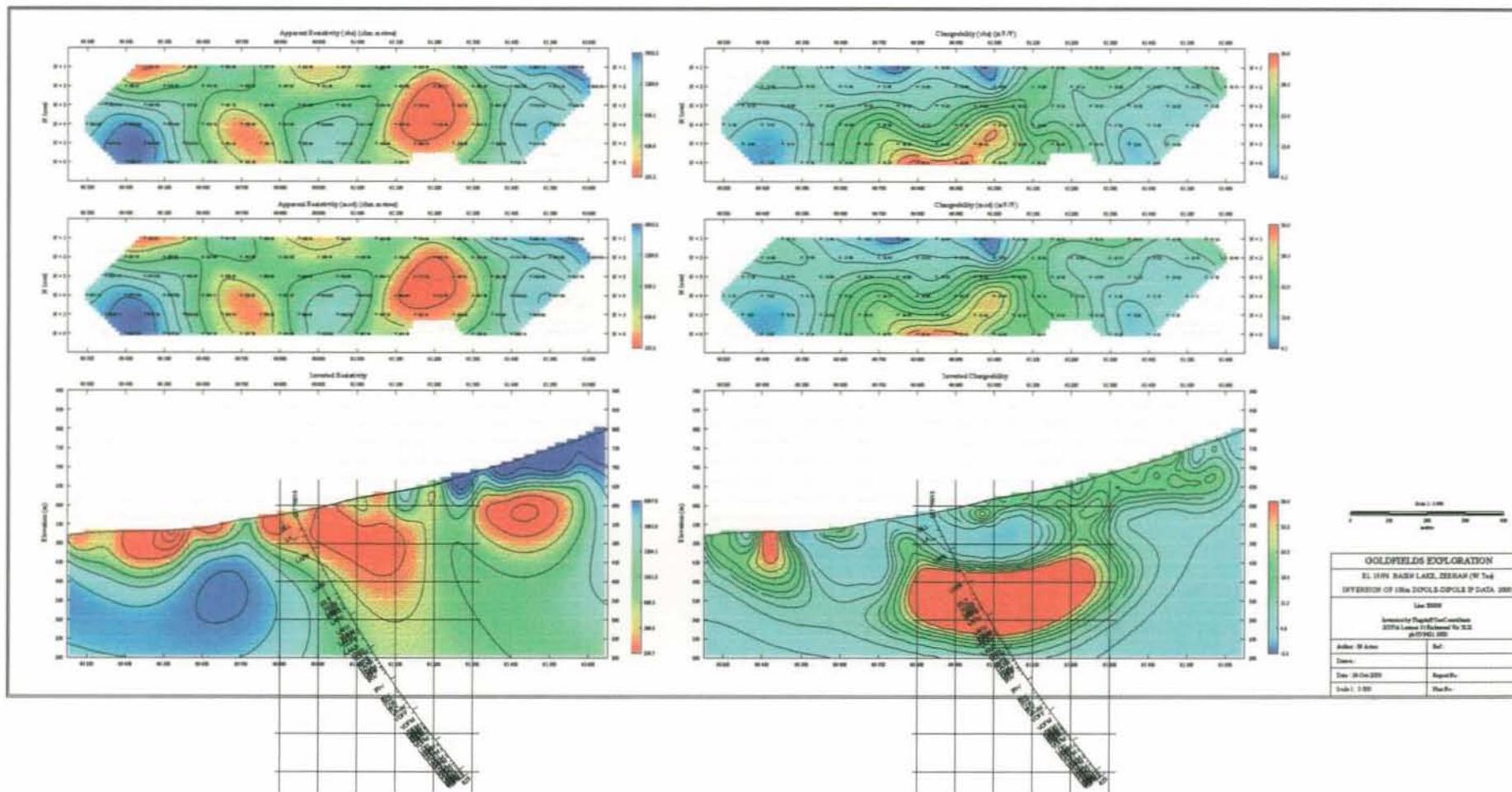
5 cm

848117



INVERSION - BASIN LAKE IP JULY 2000  
 LINE 3200N

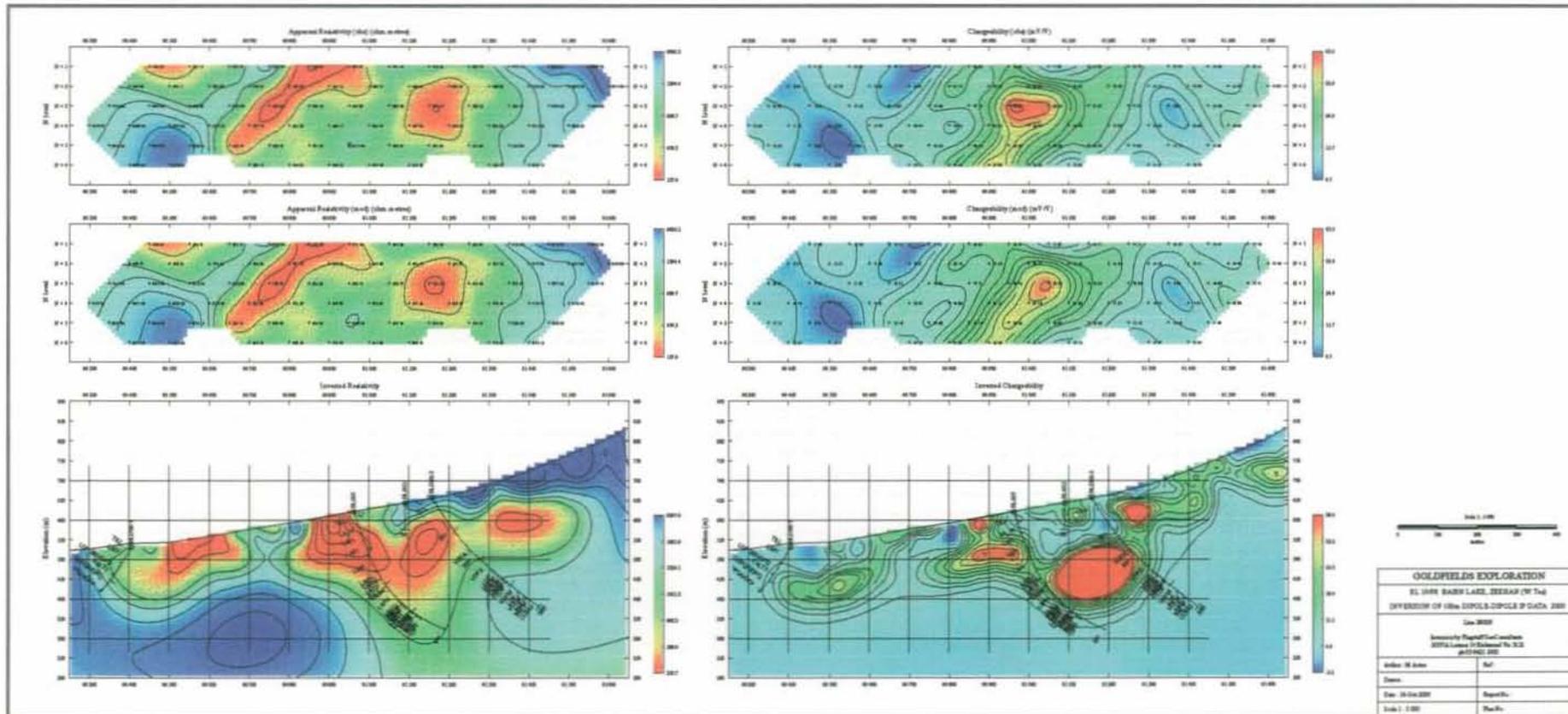
← 5 cm →



INVERSION - BASIN LAKE IP JULY 2000

LINE 3000N

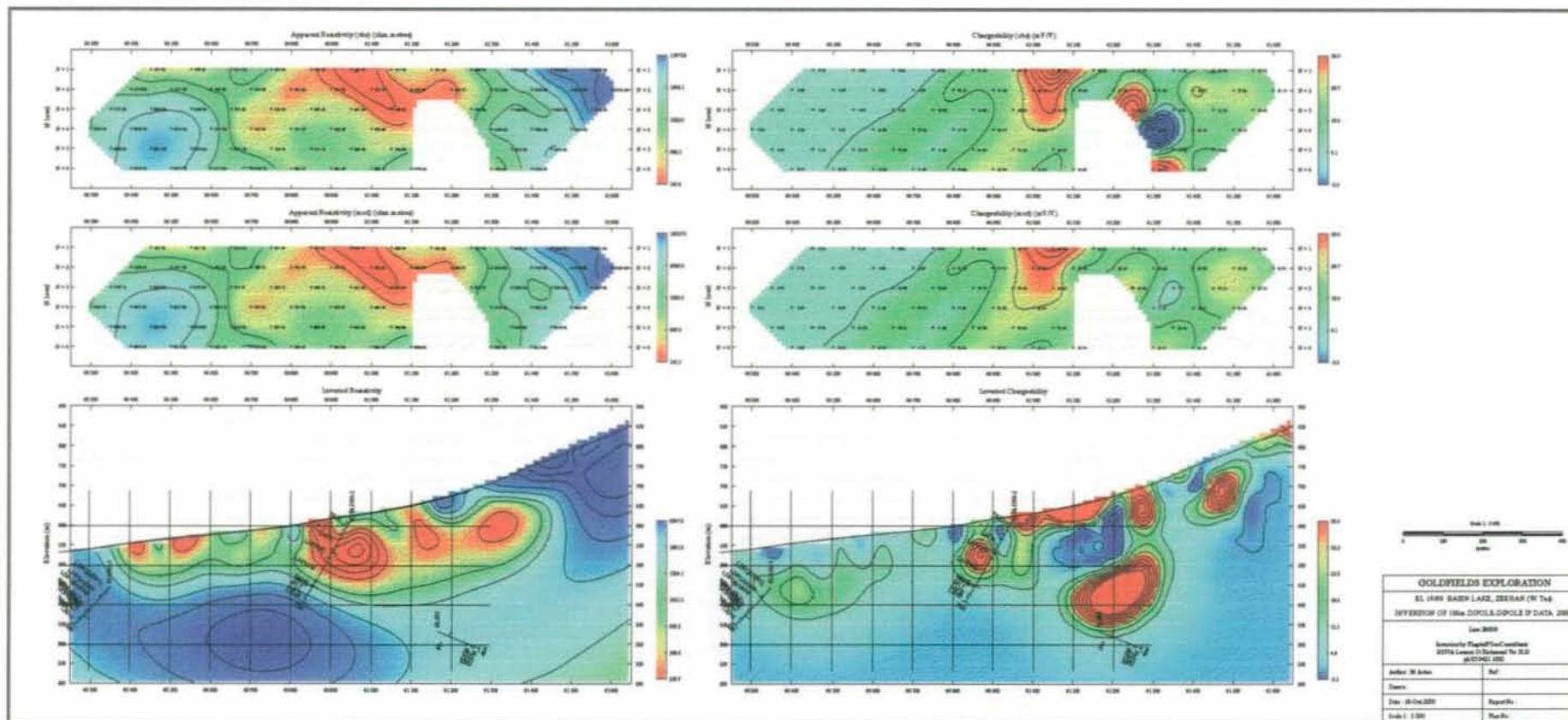
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INVERSION - BASIN LAKE IP JULY 2000

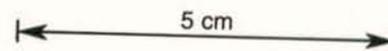
LINE 2800N

5 cm



INVERSION - BASIN LAKE IP JULY 2000

LINE 2600N





# **COMPARISON BETWEEN THE SmartIP AND GDP16 INSTRUMENTS**

848122

## **AT BASIN LAKE (Zeehan, W. Tas)**

The line is bisected by high-tension power-lines at about 381000E.

The SmartIP instrument uses full-waveform recording and smart signal processing in order to remove 50 Hz and other noise.

The GDP16 instrument uses an analog 50 Hz notch filter, followed by arithmetic stacking of the data.

Both data samples were acquired using a 0.25 Hz 100% duty-cycle square wave, with 16 stacks.

The test site on Line 4400N is extreme in its noise levels: the noisiest of 4 lines (4800N to 4200N) surveyed thus far.

## **EDITTING OF DATA**

Both data sets required editing to remove readings where phases were obviously meaningless (phases near  $\pi/2$  or near  $\pi$ ).

The SmartIP data file retained 80% of field readings after such editing.

The GDP16 retained 54% of field readings after such stacking.

## **CONCLUSION**

The GDP16 fails to deliver consistent readings in both resistivity and phase under these strong noise conditions.

The SmartIP instrument produces some non-physical artifacts from noise, such as the negative phase at 4400N, 80600E, and the stripe of negative phases near 4200N, 81100E, N=3-4-5. It is apparently at its limit in these conditions, but allows a useful dipole-dipole IP profile to be acquired.

## **RECOMMENDATION**

In the event of the SmartIP being unavailable for this survey, the survey should be deferred rather than proceeding with the GDP16.

Michael W. Asten

Flagstaff GeoConsultants 27/7/2000, 22/12/2000

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Subject:  
Line 4200N  
Date:  
Mon, 24 Jul 2000 21:54:07 +1000  
From:  
"Sylvester Werczynski" <sylvester.werczynski@fugroground.com>  
To:  
"Asten" <masten@mail.earth.monash.edu.au>

Mike,

In the morning we did some tests with Zonge receiver and I attached the following files:

- raw Zonge file TEST.RAW
- Geosoft format of the raw file TEST.DAT

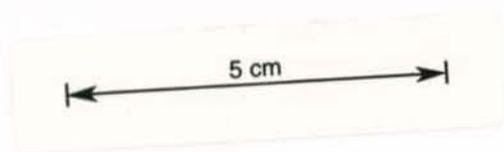
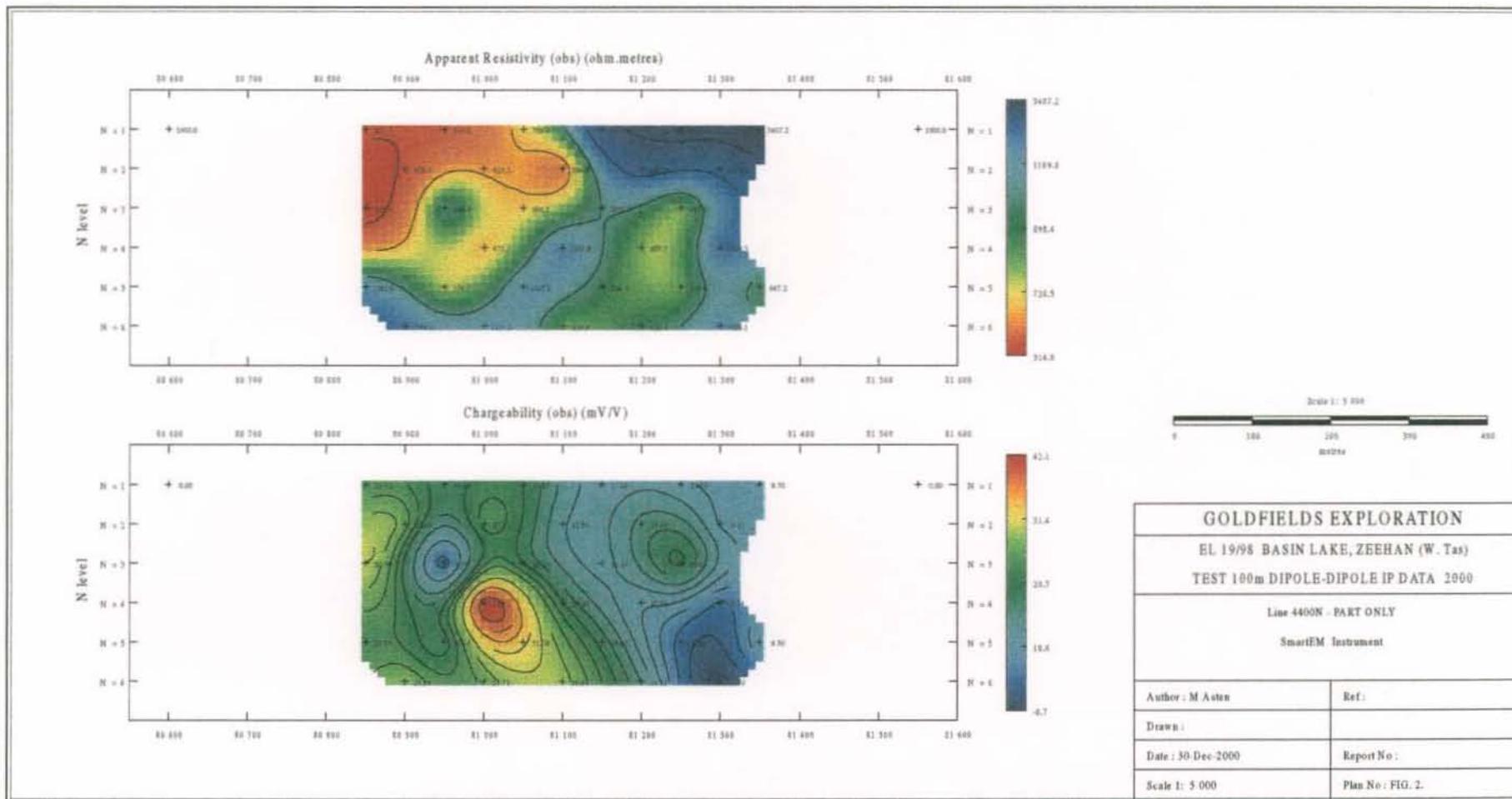
Prior to the readings I calibrated the receiver with powerline notch filter on and synchronised with the transmitter controller. The readings however were different than expected, because the phase values were huge. When I switched the powerline notch filter off, the raw phases were closer to the data from SmartIP, but in many cases totally different.

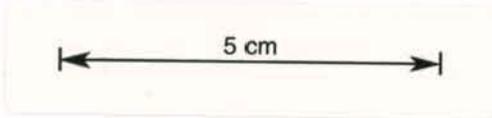
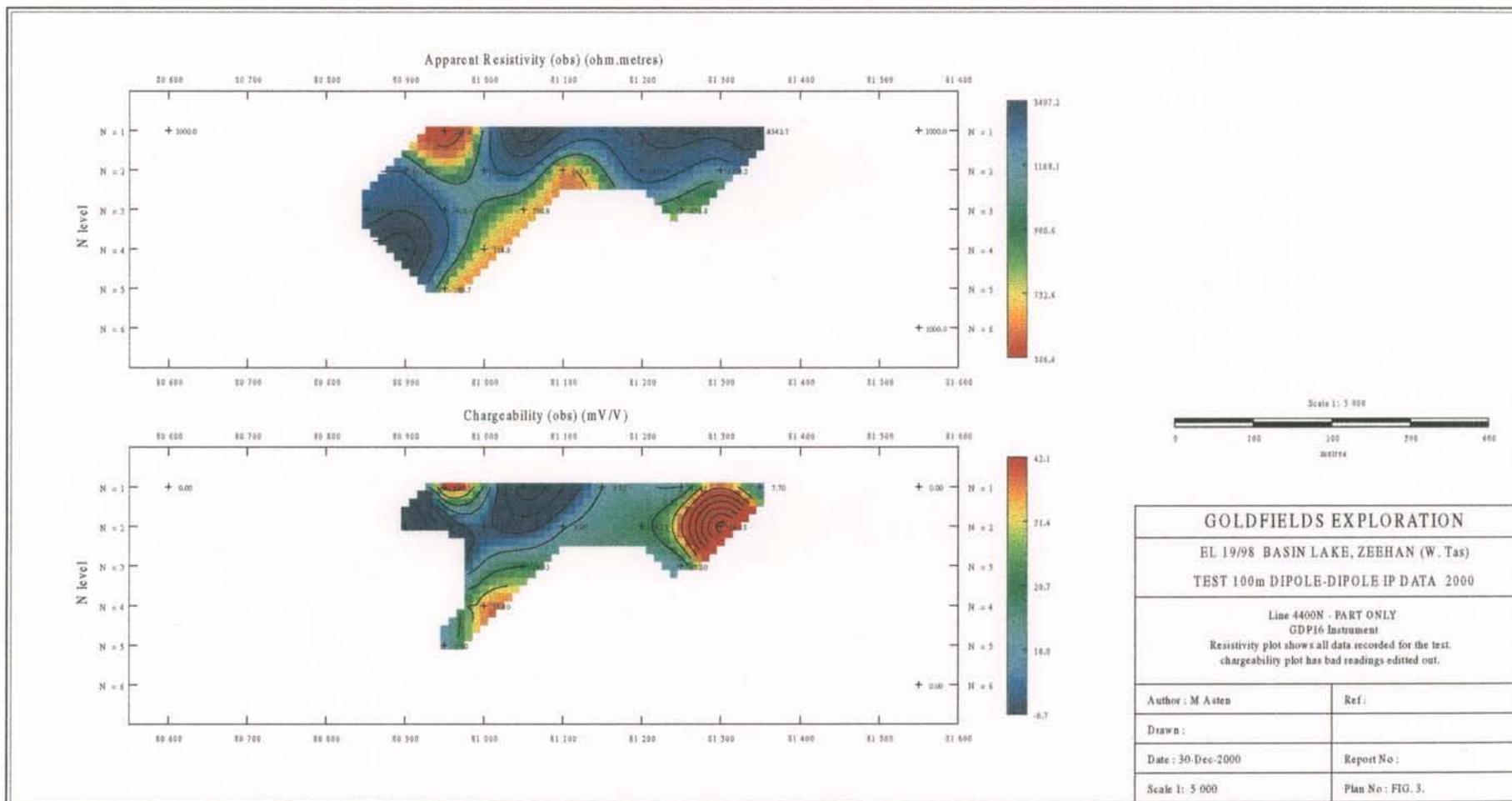
I tried two different filters:

- N50 with 50 and 150 Hz notch filters enabled
  - N50, 5 with 50, 150, 250, and 450 Hz notch filters enabled
- and the results were very close.

In the afternoon we started line 4200N at the eastern end, and also the data was very suspicious, as many phases were over the roof. I tried different things to get any reasonable readings, but it did not work.  
Please have a look at the file 4200.DAT which contains all yesterdays data.

Regards,  
Sylvester





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# PLANS

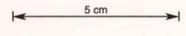


# TYN020 Section along 5354290mN

1:1000

Plan 2

848129



## 01\_4593

Annual report 2000-2001 - Tasmanian Gold Project -  
Anthony - EL191998  
Goldfields Exploration Proprietary Limited\*  
Vicary, M.J. EL191998



	<b>Ccvi</b> Central Volcanic Sequence - felsic felspar phyrlic lava and intrusives.
	<b>Cys</b> Yolande River Sequence - units of bedded siltstone, sandstone
	<b>Cym</b> Yolande River Sequence - rhyolitic-dacitic volcanoclastic sandstone
	<b>Cy</b> Yolande River Sequence - undifferentiated massflows, sandstones & black siltstones