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EL 3538

TREGALANA

PACE INITIATIVE : THEME 2, YEAR 4

DRILLING PARTNERSHIP – MYALL CREEK NEOPROTEROZOIC STRATABOUND BASE METAL (COPPER) MINERAL PROSPECT

PROJECT FINAL REPORT

Submitted by
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2007

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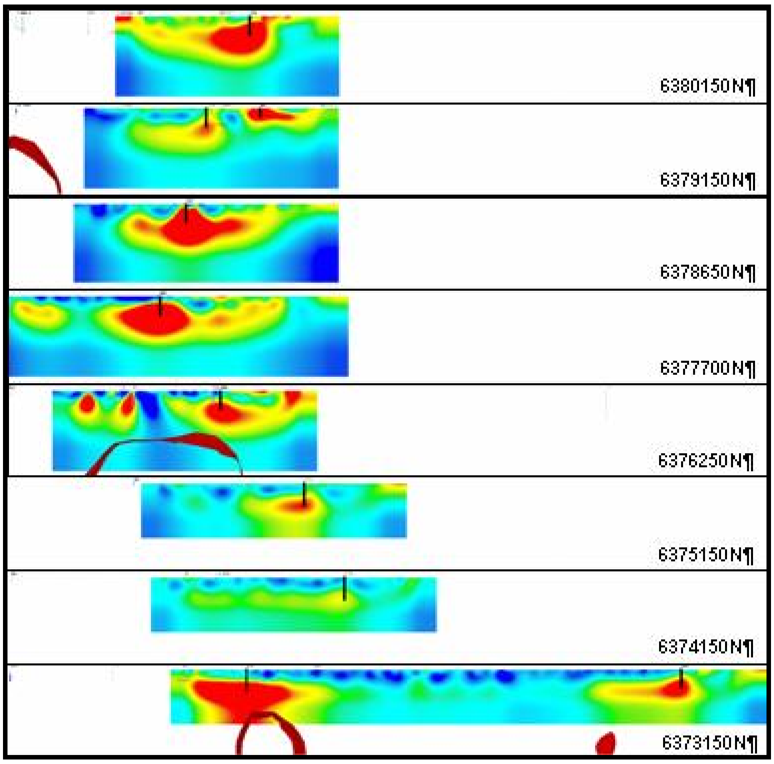
PACE PROJECT DPY4-47

STRATABOUND NEOPROTEROZOIC COPPER MINERALISATION MYALL CREEK



R.B. Flint

July 2007

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SUMMARY

- The Myall Creek copper prospect N of Whyalla consists of low-grade copper sulphides (0.3–2.2% Cu) extending over an area of ~3 km^2. The higher-grade zone lies within a poorly defined, broad zone (~3km x 15 km) of low-grade Cu–Zn–Pb–Ag mineralisation which occurs in a thin (0.5m–2 m) sedimentary horizon at the base of the Neoproterozoic Tapley Hill Formation at depths of ~50–200 m.
- Minotaur's IP survey defined a number of highly chargeable bodies at the right depth and in close proximity to previously known copper mineralisation. Assistance was obtained from PIRSA through the PACE initiative to drill test and evaluate these chargeable IP anomalies in order to appraise the effectiveness of the geophysical technique in exploring for deposits of this type and also to hopefully discover new high-grade zones of stratabound mineralisation within the basal Tapley Hill Formation.
- Four RC/DDH holes were drilled (total of 529.9 m) along IP Line 6373150mN and results indicate that the highly chargeable IP anomalies reflect the abundance of pyrite (FeS) rather than Cu-bearing sulphides such as bornite and chalcopyrite.
- Based upon historical records, a strong correlation exists between mineralisation within the Tapley Hill Formation and the nature of the underlying stratigraphic unit. Highest Cu values (e.g. UB1, UB3–4, UB27, SAU12) often occur where black shales of the Tapley Hill Formation directly overlie coarse-grained sandstone of the Pandurra Formation rather than basalt of the Beda Volcanics. This sharply defined redox boundary above the Pandurra Formation suggests the interaction between oxidised and reduced fluids was a significant contributor to mineralisation in the Myall Creek area.

MAP REFERENCE: 1:250 000:	PORT AUGUSTA (SI 53-4)
MAP REFERENCE: 1:100 000:	Roopena (6332), Cultana (6432)
DISTRIBUTION:	PIRSA
	Eagle Bay Resources NL
	Minotaur Exploration Ltd

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INTRODUCTION

The Tregalana tenement (EL 3538) covering an area of 381 km^2 of pastoral land straddling the main highway between Whyalla and Port Augusta, is prospective for stratabound copper mineralisation within Neoproterozoic sedimentary strata and is being explored in a 50:50 joint venture between Minotaur Exploration and Eagle Bay Resources. The tenement was granted on April 19th 2006 and has been renewed annually (Figure 1).

The Myall Creek copper prospect, centrally located on EL 3538, was discovered by Australian Selection (Pty) Ltd and Sims Metals Pty Ltd in March 1975 during reconnaissance exploration for Zambian copper-belt type ore bodies on the Stuart Shelf. Attention was focused on the basal unconformity between Adelaidean sedimentary strata and underlying crystalline basement of the Gawler Craton, and in particular basal sediments of the Tapley Hill Formation where low-grade copper–lead–zinc mineralisation extends over an area of ~15 x 3 km (Mason, 1972; Lambert *et al* 1984; Preiss, 1987, 1993; Dentith and Cowan, 2003).

In order to evaluate the lateral extent and continuity of the S-rich, mineralised base to the Tapley Hill Formation, ten lines of Dipole–Dipole Induced Polarisation (DDIP) were undertaken for Minotaur Exploration by Zonge Engineering and Research Organization (Zonge) during late 2006 (Figures 2–4). The IP data delineated a number of highly chargeable anomalies at a depth known to correspond with the base of the Tapley Hill Formation and in areas which had been poorly explored previously. Minotaur Exploration Ltd, on behalf of the Minotaur–Eagle Bay Joint Venture, successfully applied for a grant from Primary Industries and Resources of South Australia (PIRSA) through its Plan for Accelerated Exploration initiative (PACE) to drill test a number of the new IP targets in order to evaluate the usefulness of the Dipole–Dipole IP survey technique as a cost-effective exploration method in exploring for stratabound copper mineralisation within Neoproterozoic strata on northeastern Eyre Peninsula.

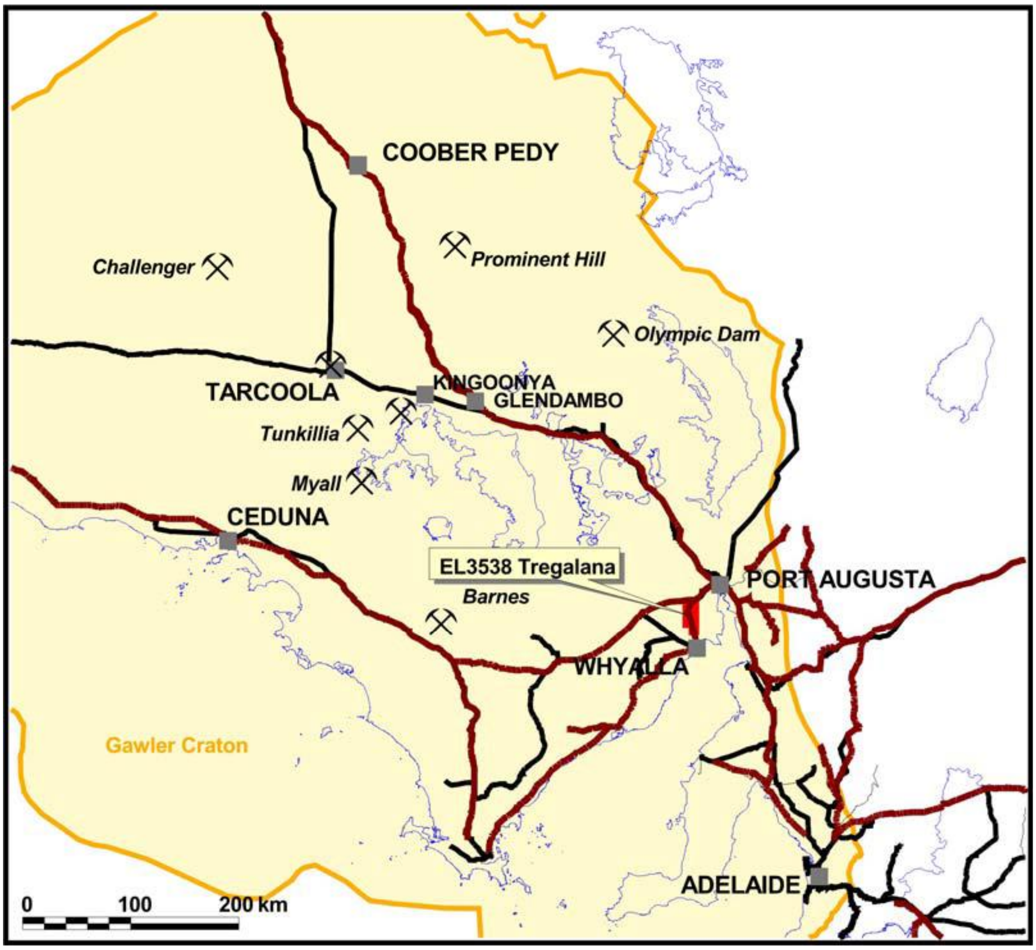

Figure 1: Location plan for the Myall Creek area on EL 3538 (Tregalana)

REGIONAL GEOLOGY

EL 3538 is situated near the eastern margin of the Gawler Craton with Palaeoproterozoic and/or Mesoproterozoic crystalline basement rocks exposed both to the west and east (Cultana Inlier) which are overlain by Mesoproterozoic sandstone, siltstone and shale of the Pandurra Formation. However, EL 3538 is characterised by exposures of flat-lying Neoproterozoic (Adelaidean) strata and formations present (both exposed and concealed) in ascending stratigraphic sequence include basal Adelaidean sandstone (Backy Point Beds) and interlayered basic lavas (Beda Volcanics), black shale of the Tapley Hill Formation, sandstone and siltstone (Cooraberra Sandstone) and quartzite (Simmens Quartzite). Adelaidean strata were deposited within a graben near the Gawler Craton margin peripheral to major faulting and sedimentation within the Adelaide Geosyncline. Initial faults within this peripheral graben trend ~N–S, abundant dolerite dykes of the Gairdner Dyke Swarm trend ~NW and were feeder dykes to basic lava flows of the Beda Volcanics. These mafic igneous rocks are clearly evident in both gravity and magnetic imagery for the region (Figures 3–4).

The Tapley Hill Formation consists mainly of pyretic black shale, dolomitic siltstone and dolostone with deposition of the basal part of the formation probably influenced by tectonism along N- to NW-trending faults. A basal sandstone unit, deposited in palaeo-topographic lows, is considered to contain the highest grade mineralisation.

Low-grade copper mineralisation occurs over an area of 15 x 3 km with a central zone of 3 km^2 where Cu grades exceed 0.5% and up to a maximum of 2.2% (Table 1). Base metal sulphides occur as both disseminations and as small cross-cutting and bedding-parallel veinlets. Chalcopyrite, chalcocite and bornite are the principal Cu minerals with rare tennantite. Sphalerite, galena and pyrite also occur. Bornite and pyrite tend to occur in thin carbonaceous silty laminae, otherwise the mineralisation is mainly disseminated throughout the sandy siltstone and dolostone.

Company	**Drillhole**	**Cu %**	**Thickness (m)**
Australian Selection	PUB27	2.1	2
Dampier Mining	UB4	2.0	1
Dampier Mining	UB3	2.4	1
Dampier Mining	UB1	1.5	0.7
Merritt Mining	SAU12	2.05	0.5

Table 1: Best drillhole mineralised intercepts for the Myall Creek copper prospect

Historically, drilling was undertaken on a broad 2 x 1 km grid. Infill drilling was erratic, often at 400 m between discovery holes, but in some instances at 200 m spacing and many gaps in drill coverage remain. Results from the previous drilling reveal a very irregular distribution of values for all metals, there are no consistent metal-grade values and no estimate for a mineral resource was possible.

The deposit has many features that are consistent with those recognised in syngenetic stratiform mineralisation:

- Wide areal extent of thin sedimentary sequence,
- Vertical and lateral mineral zoning,
- Associated carbonaceous shale,
- Immediately overlies a major erosional and angular disconformity,
- Occurs within basal sediments of a transgressive sequence.

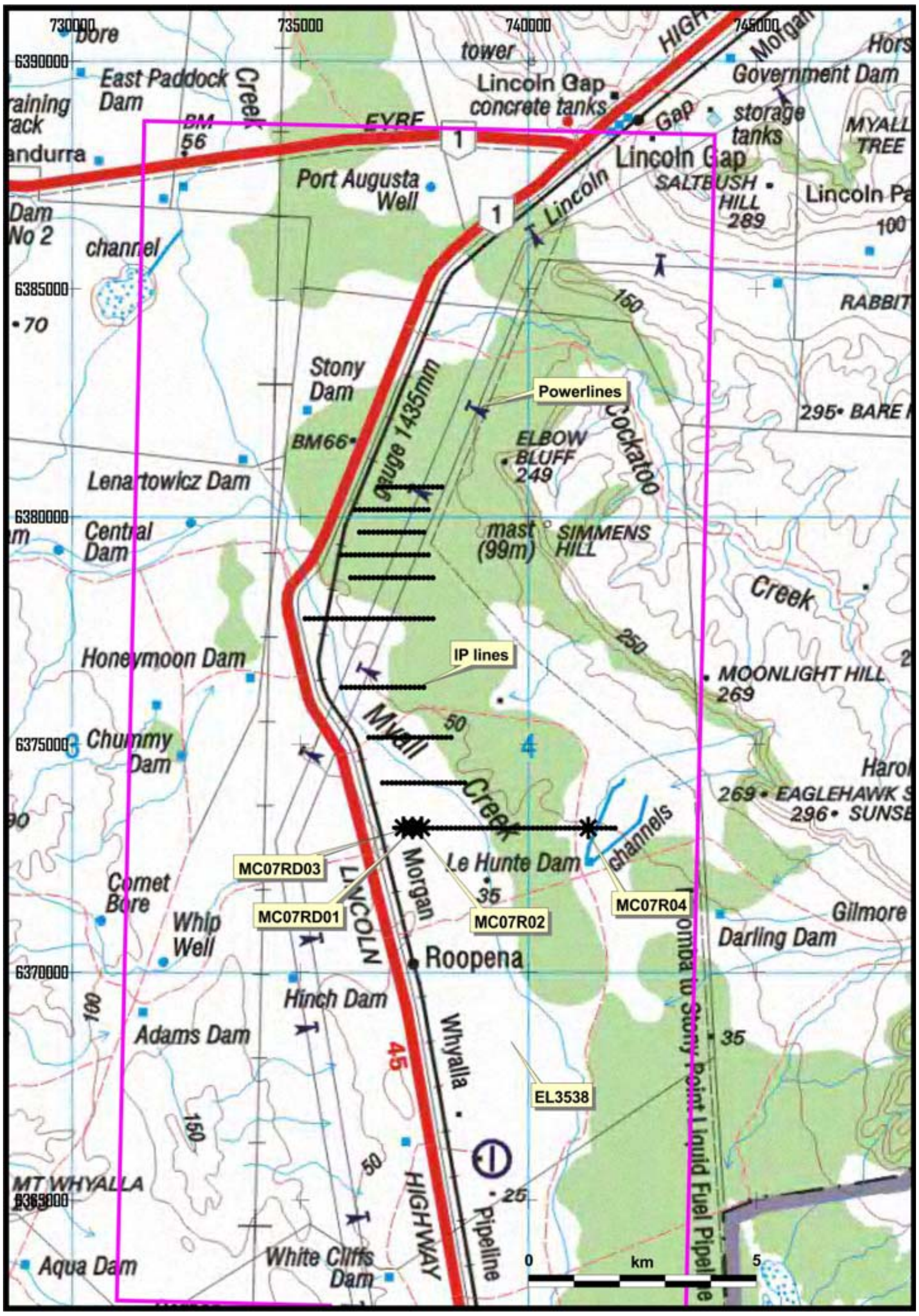

Figure 2: Topographic map for the Myall Creek copper prospect

TARGET GENERATION

Myall Creek prospect on EL 3538 is a sediment-hosted stratabound copper prospect similar in character to Zambian or Kupferschiefer style deposits. Low-grade copper–lead–zinc mineralisation occurs at the base of the Neoproterozoic Tapley Hill Formation over an area of about 15 x 3 km. The sub-economic deposit was discovered in 1975 by Australian Selection. Highest Cu values occur at the basal unconformity, and decrease upwards into the Tapley Hill Formation.

Merritt Mining N.L. in 1998 (Open File Env 9621) reviewed much of the earlier work and through extensive re-logging and re-assaying, concluded that a mineralising episode of possible Olympic Dam age must be present in basement rocks in the general vicinity based upon presence of S-bearing clasts within basal Adelaidean sediments.

Available geological, geophysical and drillhole data indicate that the Myall Creek region occupies a graben infilled with Mesoproterozoic Pandurra Formation, basal Adelaidean Beda Volcanics and interlayered Backy Point Beds, and Adelaidean Tapley Hill Formation. To the west (Roopena) and the east (Cultana) shallow basement ridges of Mesoproterozoic Gawler Range Volcanics and Hiltaba Granite are evident in outcrop and in the magnetics. In the Roopena area, the Gawler Range Volcanics and Wandearah Metasiltstone are brecciated and altered by chlorite, sericite, haematite and carbonate, and are anomalous in copper. At Cultana, the volcano-igneous complex is intensely hydrothermally altered, tourmaline and flourite–bearing, and haematite-veined, and has been dated as similar in age to the rocks and mineralising event at the Olympic Dam Mine. Copper mineralisation within basement rocks occurs at the historical Pandurra Copper Mine (to the west) and Point Lowly Copper Mine (to the east). Locating significant basement-penetrating structures in vicinity of the Myall Creek copper prospect may provide a direct vector to an iron oxide Cu-Au deposit in the basement rocks.

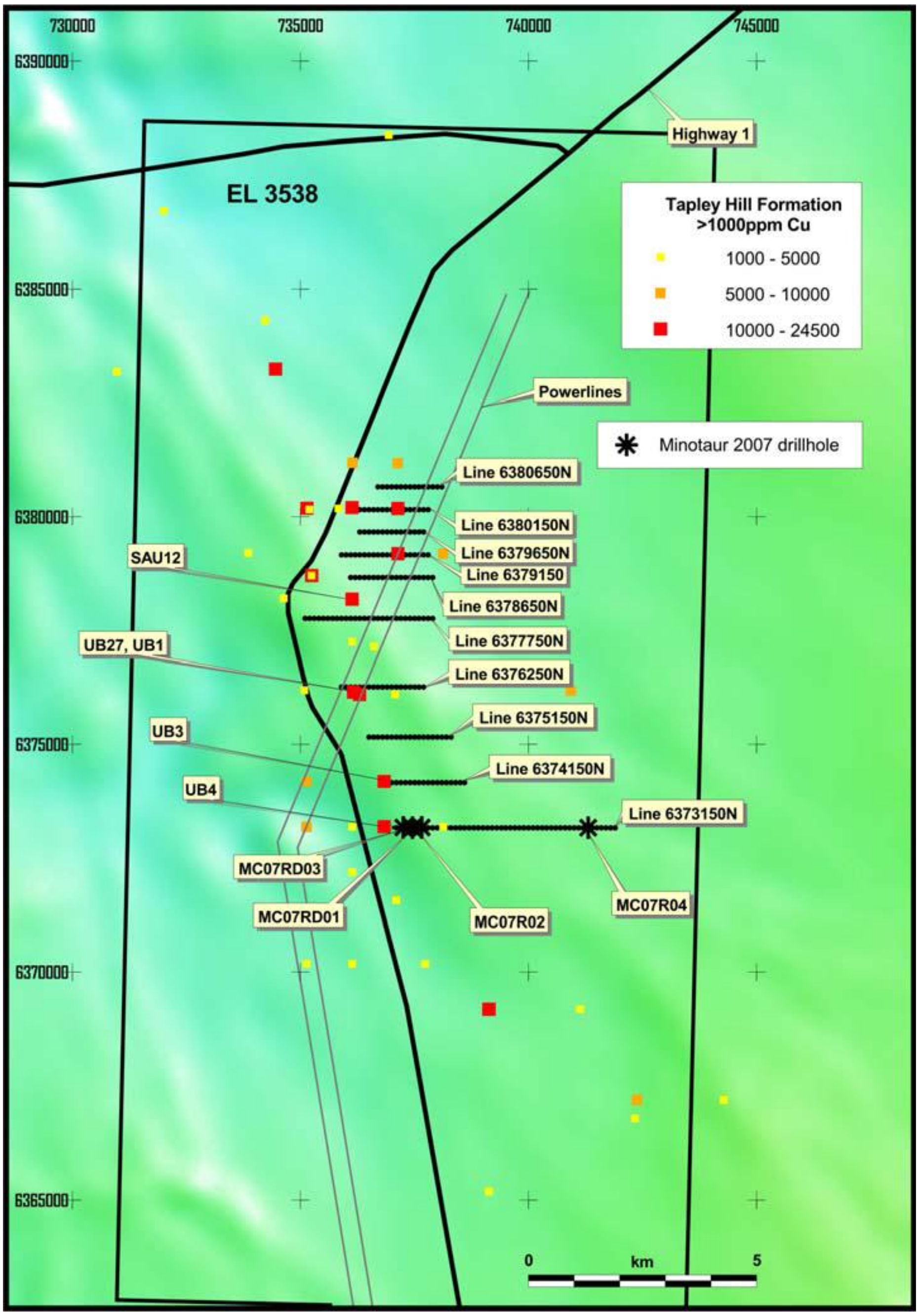

Figure 3: TMI-RTP image for the Myall Creek copper prospect area

Minotaur and Eagle Bay Resources both undertook gravity surveys in 2001 and 2002 to help define possible structural linear controls and identify potential exploration targets. Bouguer gravity data reveal a NW-trending gravity ridge passing directly beneath the Myall Creek copper prospect and is also coincident with NW-trending magnetic linears of the Gairdner Dyke Swarm (Figures 3–4).

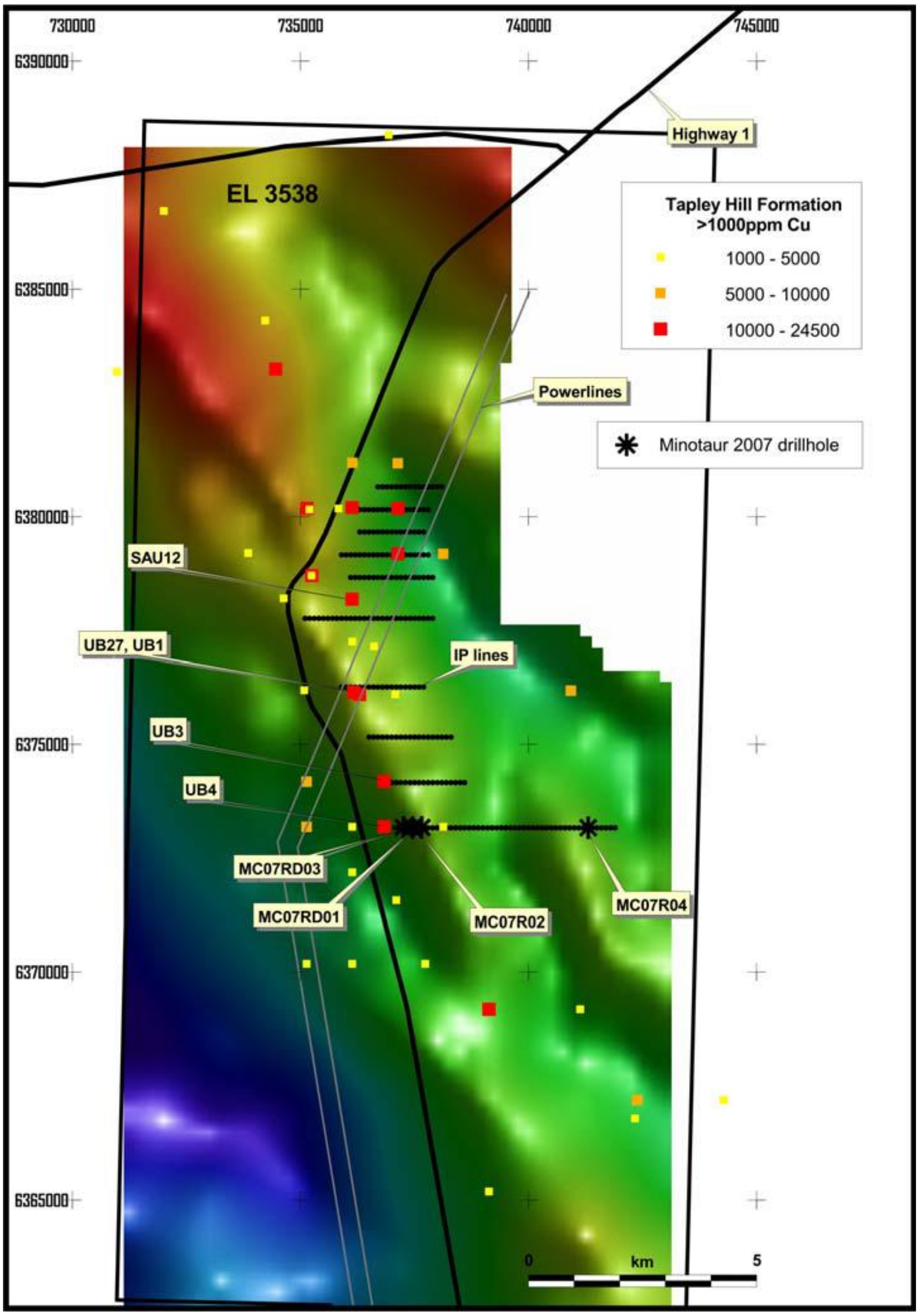

Figure 4: Bouguer gravity image for the Myall Creek copper prospect area

In order to test the possibility of both further extensions and better Cu grade and thickness for the Myall Creek copper prospect, ten Induced Polarisation (IP) lines were completed in late 2006. These were sited over the main anomaly area with highest Cu values in the central part of EL 3538, and it was believed that IP would detect the mineralised horizon and permit geophysical tracing of this mineralised horizon laterally to the east into areas poorly explored previously (Figures 3–5).

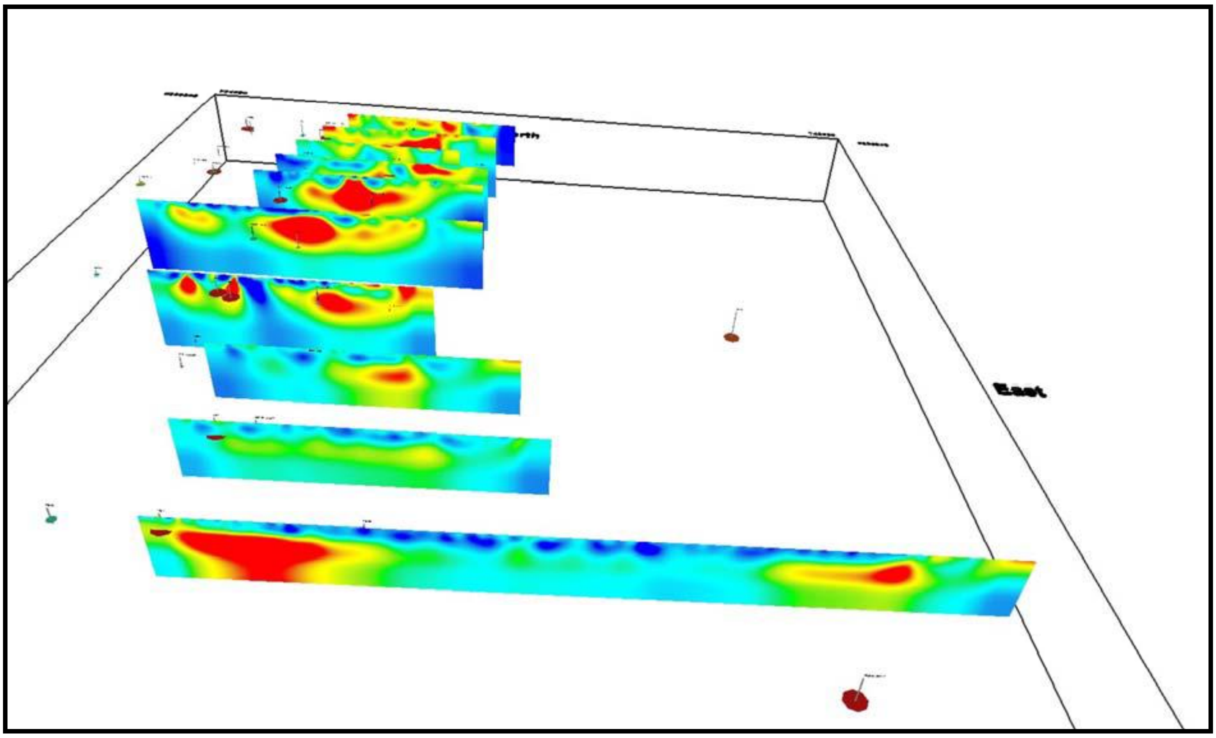

Figure 5: Ten IP lines and profiles at the Myall Creek copper prospect with historical drillholes displayed (view north)

Inversion modelling of these profiles confirmed known mineralisation from historic drillholes gave a detectable chargeable response. More significantly, zones of significantly higher chargeability are apparent that have not been drill tested by the historic broad drillhole network. Three examples of this are drillholes PUB44A, PUB25 and UB4. Hole PUB44A intersected 0.5 m of 1.5% Cu from 173 m and PUB25 intersected 0.5 m @ 1.8% Cu from 183 m. IP inversions of lines 6379150mN and 6380150mN reveal that in both instances the high-grade copper intersections correlate with the edge of an IP high (Figure 6). An even better example is Hole UB4 which intercepted 1 m at 2% Cu at 144 m — this hole is marginal to a highly chargeable IP anomaly with mineralisation at the same depth as expected depth to top of the chargeable anomaly (Figure 7).

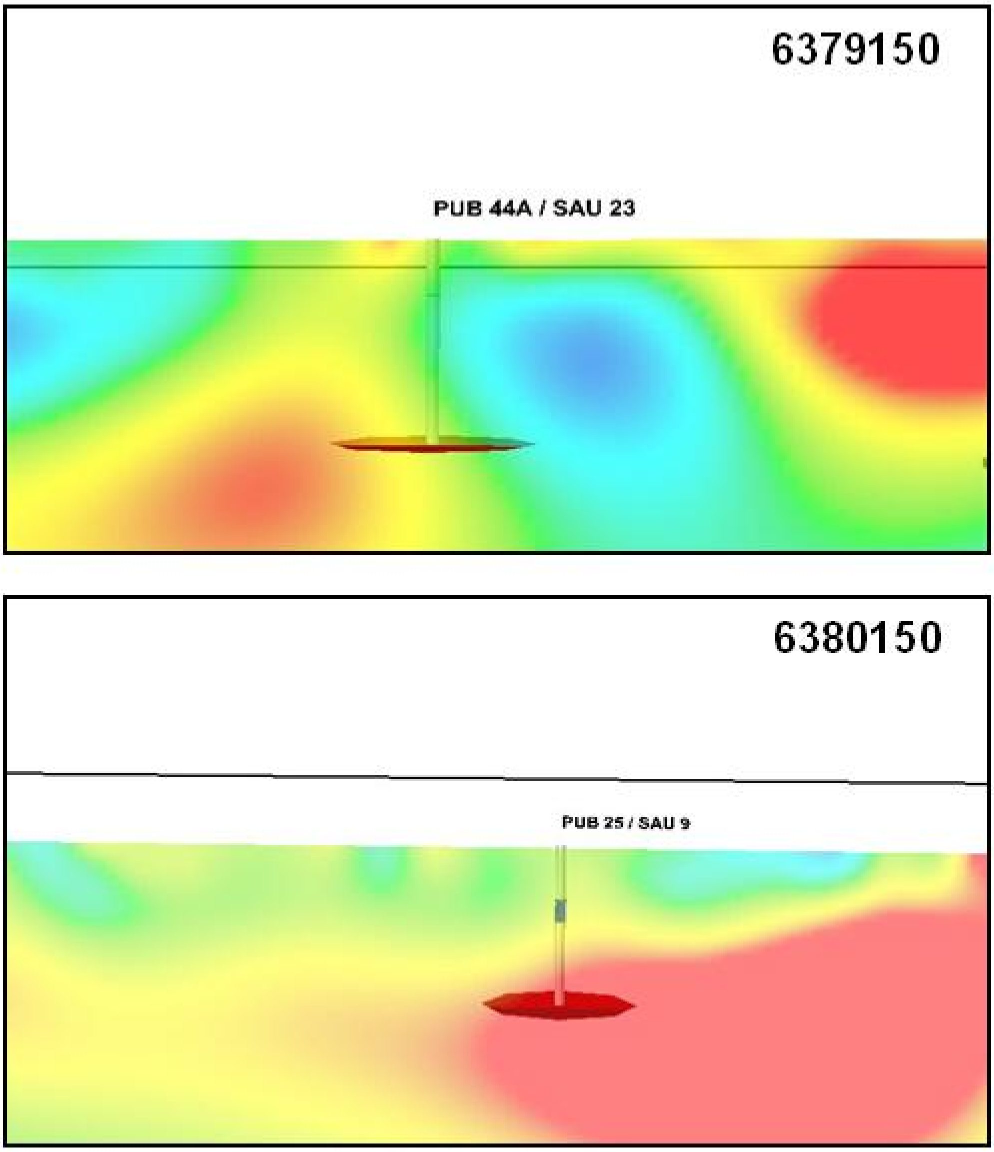

Figure 6: Examples of correlation between known high-grade copper intercepts within PUB44A and PUB25 (red horizontal discs) and IP chargeable horizons on Lines 6379150 and 6380150mN (orange to red shades in image)

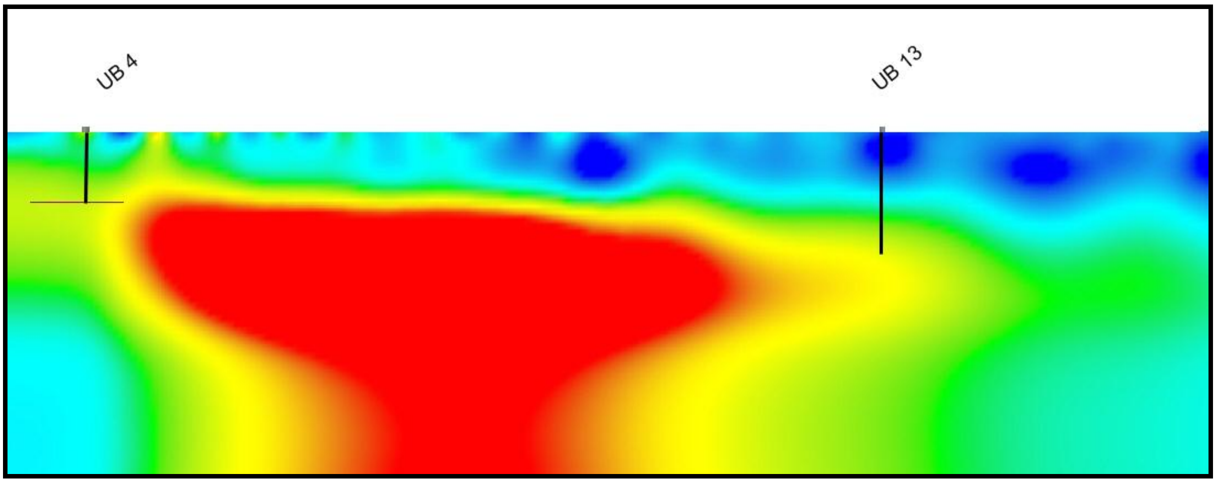

Figure 7: Example of correlation between known high-grade copper intercept within UB4 (thin red horizontal disc) and IP chargeable horizon on Line 6373150mN (red shade in image)

A number of possible sites were proposed to drill test these major new IP chargeable bodies in order to evaluate their potential to reflect mineralised horizons that were thicker and/or more mineralised than previously intercepted in historical drill holes (Figure 8).

DRILLING PROGRAM 2007

Eleven vertical drillholes for a total of 2 200 m were initially proposed at the Myall Creek copper prospect to test newly generated IP chargeability targets (Table 2 and Figure 8).

Hole	East	North	Dip	Azimuth	Depth
MCRC01	**737450**	**6373150**	**90**	**0**	**250**
MCRC02	741717	6373150	90	0	200
MCRC03	**738400**	**6374150**	**90**	**0**	**250**
MCRC04	**738000**	**6375150**	**90**	**0**	**250**
MCRC05	**737150**	**6376250**	**90**	**0**	**250**
MCRC06	**736550**	**6377750**	**90**	**0**	**200**
MCRC07	736800	6378650	90	0	200
MCRC08	737420	6380150	90	0	200
MCRC09	737000	6379150	90	0	200
MCRC10	737525	6379150	90	0	100
MCRC11	737850	6376250	90	0	100

Table 2: Proposed drill sites for the Myall Creek copper prospect (normal print = targets on northern IP lines; bold print = targets on southern IP lines)

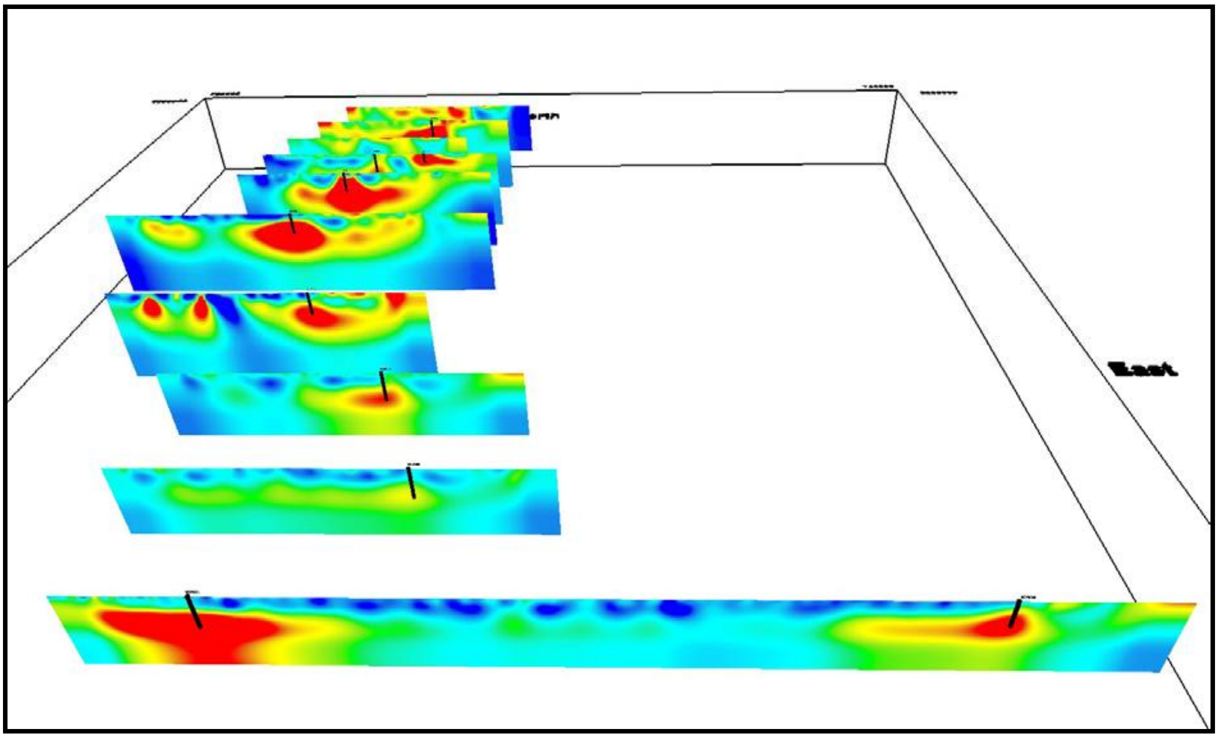

Figure 8: Location of initially proposed drill holes with respect to all IP profiles and anomalies (view north)

After submission of the proposal to PIRSA for PACE financial support and prior to drilling, a review was conducted of the IP data especially the spatial relationship between some anomalies and power lines. Traversing the Myall Creek copper prospect are three parallel power lines from Port Augusta to Whyalla and beyond to much of Eyre Peninsula. All of the significant chargeable anomalies on the northern IP lines (6377750mN and northwards) occur under or marginal to the exceedingly large high-voltage power lines. Historical drilling proves the existence of some copper mineralisation, however, ascertaining the significance of the IP chargeable anomalies for these northern lines is difficult due to cultural interference. Thus it was considered prudent to only target the southern IP lines and their anomalies (Lines 6373150, 6374150, 6375150 and 6376250mN).

United Drilling Services was contracted in June 2007 to undertake the drilling program using a multipurpose UDR1000 with the plan being to RC drill most of the holes and with limited coring of key stratigraphic intervals. Considerable problems were experienced during the RC drilling due to mechanical problems with the compressor and very high groundwater flows in both basal Cainozoic sediments and within fractured Adelaidean strata. As a consequence only one of four RC drillholes reached the targeted base of the Tapley Hill Formation and two holes had to be deepened by diamond drilling. After four holes were drilled and considerable extra time had elapsed then initially envisaged UDS then terminated the program due to their other contractural obligations. Total metres drilled during the current program were 529.9 m (Figures 9–10) (Table 3).

All completed drillholes were situated on the southernmost IP line (6373150mN) and principally targeted the highest chargeable anomaly near the western end of the IP line.

HOLE_ID	GDA94_mE	GDA94_mN	TYPE	metres by TYPE	TD	ORIEN	DRILLED
MC07RD01	737450	6373145	RC/DDH	0–163 (RC) 163–176.4 (DDH)	176.4	90^{o}	22/05/2007
MC07R02	737650	6373150	RC	0–94 (RC)	94	90^{o}	23/05/2007
MC07RD03	737250	6373150	RC/DDH	0–110 (RC) 110–180.5 (DDH)	180.5	90^{o}	24/05/2007
MC07R04	741304	6373144	RC	0–79 (RC)	79	90^{o}	25/05/2007

Table 3: Actual drill collars and particulars for Minotaur's 2007 drillholes at the Myall Creek copper prospect

Representative samples (chips and core) for holes MC07RD01 and MC07RD03 are permanently stored at PIRSA's Core Library in Adelaide.

DRILLING RESULTS

Instead of the originally planned eleven drillholes, only four sites were drilled, and of these only two holes reached the targeted base of the Tapley Hill Formation (MC07RD01 and MC07RD03). Holes MC07R02 (TD = 94 m) and MC07R04 (TD = 79 m) terminated within upper Adelaidean stratigraphic units and contained no valuable information on the targeted IP anomaly (Figure 9).

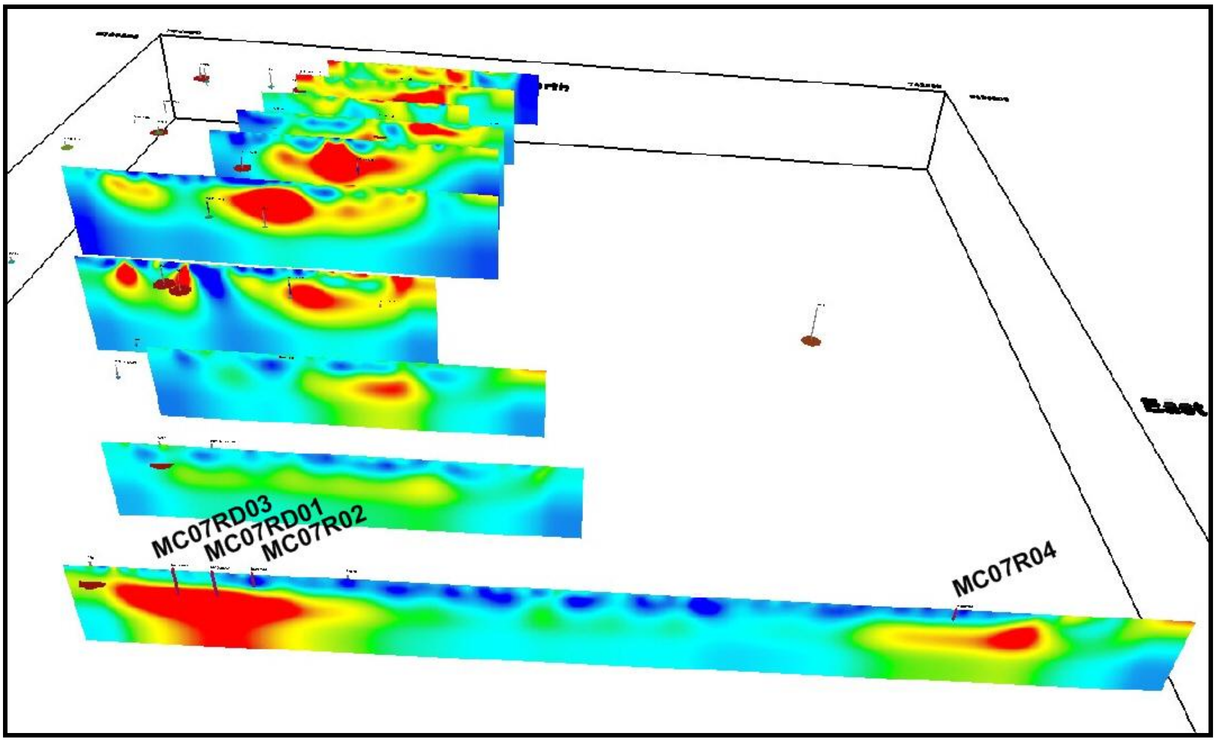

Figure 9: Location of Minotaur's 2007 drill holes on IP Line 6373150mN (view north)

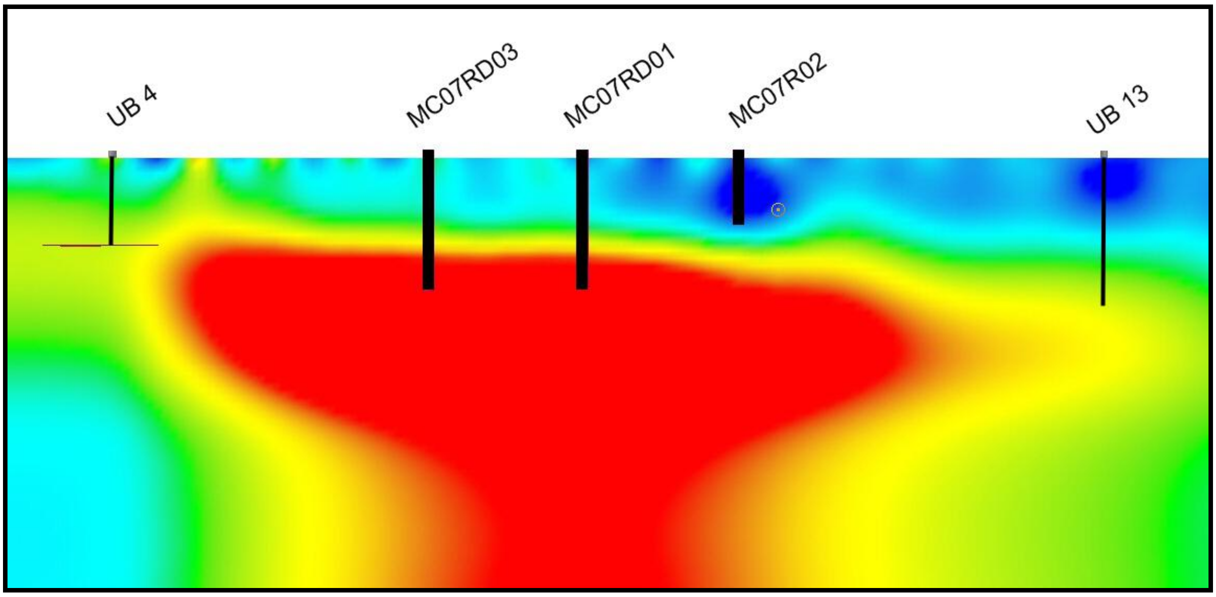

Figure 10: Minotaur's drill holes MC07RD01, MC07R02 and MC07RD03 with respect to highly chargeable anomaly on IP Line 6373150mN (view north)

Full integrated lithological descriptions of drill chips and core for each hole are presented in Table 4. Intersected below the Tapley Hill Formation in holes MC07RD01 and MC07RD03 is a thin succession of amygdaloidal basalt of the basal Adelaidean Beda Volcanics (13 m and 15.5 m thick respectively). This basalt overlies an arenaceous succession comprising poorly sorted and coarse-grained sandstone with minor conglomerate and shale interbeds which may correlate stratigraphically with either the basal Adelaidean Backy Point Beds and/or Mesoproterozoic Pandurra Formation.

HOLE_ID	DEPTH from	DEPTH to	DESCRIPTION
MC07RD01	0	4	Unconsolidated Quaternary calcareous sand and clay with minor pebbles.
MC07RD01	4	27	Dark brown finely laminated siltstone with claystone and minor fine-grained sandstone. Well rounded coarse granules more common toward the base.
MC07RD01	27	43	Pale brown fine-grained sandstone, minor medium-grained sandstone and occasional well-rounded granules.
MC07RD01	43	162.2	Dark grey to black laminated siltstone with minor sandstone. Traces of pyrite throughout. Very wet with drilling difficulties to base of percussion hole.
MC07RD01	162.2	175.3	Dense fine grained green to grey volcanics. Beda Volcanics
MC07RD01	175.3	176.4	Poorly sorted sandstone with gradational upper contact. Abundant calcite filled vein networks. Possible Backy Point Formation?
MC07R02	0	5	Light-brown to yellow clayey soil and sand. Gypsum with sub-angular to rounded gravel at base. Quaternary
MC07R02	5	16	Red-brown laminated siltstone with slatey fracture. Mid-grey colour and slightly sandy at base.
MC07R02	16	47	Chocolate brown fine-grained calcareous sandstone.
MC07R02	47	51	Grey coarse to very coarse grained sandstone/grit, weakly calcareous.
MC07R02	51	94	Dark grey laminated siltstone. Trace pyrite. Some up-hole contamination with very wet sample to 89m. Minor calcite veins. Lost sample 94m, hole blowing out.
MC07RD03	0	6	Orange sandy soil, calcrete nodules, quartz, very weathered ferruginous sandstones. Quaternary
MC07RD03	6	40	Brown-red weathered clayey sandstone, fine-grained weakly laminated in part with minor coarse granules toward the base.
MC07RD03	40	110	Mid to dark grey weakly laminated siltstone. Fractures along lamellae. Major water problems with loss of circulation and no sample return at 110m.
MC07RD03	109.36	151	Finely laminated grey shale. Regular even to wavey bedding. Minor very thin intraformational conglomerates (122.1m, 130.4m, 148.8m), thin fine-grained sandstones (122.1m, 124.9m, 125.5m) and carbonaceous shales (144.7 to 144.9m). Pyritic shales and pyritized conglomerates between 130.4m and 135.5m, and 148.8m and151m. Tapley Hill Formation.
MC07RD03	151	152	Thin poorly sorted sandstone with disrupted cross-bedding. Possible Backy Point Beds?
MC07RD03	152	167.5	Green to red, fine- to medium-grained, amygdaloidal basalt with felted texture. Minor pyrite associated with minor fractures. Beda Volcanics.
MC07RD03	167.5	180.5	Generally poorly sorted, coarse-grained sandstone and interbedded conglomerate. Yellow to yellow-brown colour with rare thin red shale beds, becoming better bedded and sorted down hole. Probable Pandurra Formation?
MC07R04	0	4	Light brown clayey sand. Quaternary
MC07R04	4	7	Light and dark brown gravel, sandstone, calcrete.
MC07R04	7	10	Red-brown clay with minor sandstone chips.
MC07R04	10	17	Dark brown to banded yellow-brown saprolitic clays.
MC07R04	17	20	Brown-red laminated siltstone, minor sandstone with planar fractures
MC07R04	20	79	Very fine-grained, laminated brown-red sandstone, oxidised with planar fractures. Minor claystone/siltstone chips. Red-brown colour passing to pale grey-green near base. Minor coarser grained sandstone and increasing water flows from 42m. Slowed drilling at 71m-73m, possible quartz/quartzite conglomerate clasts. Lost sample return at 79m.

Table 4: Lithological logs for Minotaur's 2007 drillholes at the Myall Creek copper prospect

Drillhole MC07RD01 started coring 1 m below the Tapley Hill Formation and the only drill core across the basal portion of the Tapley Hill Formation was MC07RD03. Upper portion of the Tapley Hill Formation consists of finely laminated, dark grey shale with minor pyrite. Thin fine-grained sandstone bands are also present. Towards the base, thin pyrite-rich laminae occur along with abundant disseminated fine-grained pyrite within black shale and also disseminated pyrite within thin conglomeratic sandstone beds. Individual pyrite-rich laminae are up to several millimetres thick. No chalcopyrite or bornite was observed.

The lowermost 10 m of RC chips from the Tapley Hill Formation in hole MC07RD01 were analysed for a full suite of elements (Appendix A). Minor anomalous Zn is present with maximum value of 530 ppm, however, Cu, Pb, Au, Ag and Co values are all exceedingly low (Table 5).

HOLE_ID	DEPTH from	DEPTH to	Cu ppm	Pb ppm	Zn ppm	Au ppm	Ag ppm	Co ppm
MC07RD01	153	154	82	95	93	<0.01	<0.2	22
	154	155	35	37	57	<0.01	<0.2	13
	155	156	97	113	530	<0.01	<0.2	27
	156	157	71	11	57	0.01	<0.2	34
	157	158	30	43	260	<0.01	<0.2	14
	158	159	28	42	71	<0.01	<0.2	11
	159	160	33	41	83	<0.01	<0.2	14
	160	161	41	40	82	<0.01	<0.2	12
	161	162	52	92	352	<0.01	<0.2	14
	162	163	40	54	63	<0.01	<0.2	22

Table 5: Summary geochemical results for Minotaur's drillhole MC07RD01

All 1 m RC chip bags and select drill core were also analysed on-site using a portable Niton XRF and full results are presented in Appendix A. Detection limits for the Niton portable XRF are variable even for the one element and are partly dependent upon internal instrument calibration and calibration of standards. A recordable elemental value is obtained when the sample reading is at least ~150% of the theoretical "detection" limit. The beam from the portable XRF is focused and encompasses only ~1 cm^2 of drill core.

For MC07RD03, no chalcopyrite or bornite was observed and in order to assess if standard laboratory analyses were required select intervals of drill core were analysed using the portable XRF (Table 6). Cu and Pb values were consistently very low and maximum values obtained were only 136 ppm and 217 ppm respectively. Two highly anomalous Zn values of 3016 and 1184 ppm were recorded at 148.85–148.86 m and 148.95–148.96 m corresponding to zones of abundant fine-grained, disseminated pyrite within black shale. Cu, Pb, As and Co values for these two intervals were all very low. One highly anomalous Co value of 889 ppm (150.34–150.35 m) also corresponds with a zone of disseminated pyrite within black shale, though associated Cu, Pb and Zn values were all very low. No anomalous geochemistry was recorded from pyrite-dominate laminae and bands.

MC07RD03							
DEPTH from	DEPTH to	Cu ppm	Pb ppm	Zn ppm	As ppm	Co ppm	LITHOLOGY
146.8	146.81	103	158	ND	ND	ND	siltstone
146.9	146.91	ND	44	ND	ND	ND	siltstone
148.85	148.86	ND	31	3016	ND	ND	very fine disseminated pyrite
148.95	148.96	ND	41	1184	ND	ND	very fine disseminated pyrite
149.19	149.2	ND	138	ND	ND	ND	very fine disseminated pyrite
149.26	149.27	136	177	ND	ND	ND	pyrite-rich band
149.44	149.45	ND	217	325	ND	ND	thin band of pyrite
149.63	149.64	ND	140	ND	ND	ND	shear zone
149.85	149.86	ND	66	ND	ND	ND	very fine disseminated pyrite
150.07	150.08	ND	98	ND	ND	ND	very fine disseminated pyrite
150.23	150.24	ND	65	66	ND	ND	very fine disseminated pyrite
150.34	150.35	ND	46	ND	ND	889	very fine disseminated pyrite
150.41	150.42	ND	49	ND	ND	ND	very fine disseminated pyrite
150.47	150.48	ND	60	ND	ND	ND	coarser siltstone to fine sandstone
150.52	150.53	ND	87	ND	ND	ND	siltstone
150.62	150.63	ND	33	ND	ND	ND	coarse sst layer with pyrite blebs
150.71	150.72	ND	70	ND	ND	ND	coarse sst layer with pyrite blebs
150.74	150.75	ND	75	ND	ND	ND	fine disseminated pyrite
150.78	150.79	ND	65	ND	ND	ND	coarse sst layer with pyrite blebs
150.86	150.87	ND	71	67	ND	ND	siltstone
150.91	150.92	ND	41	ND	ND	ND	sandstone with pyrite blebs
151.03	151.04	ND	ND	ND	ND	ND	coarse cross-bedded sandstone
151.06	151.07	ND	ND	ND	ND	ND	coarse sandstone (sst)
151.11	151.12	ND	ND	ND	ND	ND	contact- conglomeratic
151.16	151.17	ND	ND	ND	ND	ND	basalt
151.34	151.35	ND	ND	ND	ND	ND	basalt
151.54	151.55	92	ND	ND	ND	ND	basalt
151.83	151.84	ND	ND	ND	ND	ND	basalt
151.9	151.91	ND	ND	ND	ND	ND	calcite vein

Table 6: Summary portable XRF results for Minotaur's drillhole MC07RD03 (ND = not detected)

DISCUSSION

The Dipole–Dipole Induced Polarisation technique successfully delineated, even at depths of ~150 m, the sulphide-rich base to the Tapley Hill Formation. Drilling of the best, highly chargeable horizon on the western end of IP line 6373150mN revealed that the horizon consists of thin pyrite-rich laminae and thin beds rich in disseminated pyrite over a total accumulated thickness of ~10 m. Presumably this horizon is laterally continuous, at least locally, and readily conducts an electric current when charged. Unfortunately, this highly chargeable horizon on Line 6373150mN only reflects the abundance of pyrite (FeS) rather than Cu-bearing sulphides such as bornite and chalcopyrite (Figure 10).

Due to drilling difficulties and time constraints for the UDS drill rig other chargeable horizons on other IP lines were not drilled, though it is believed that these anomalies also reflect pyrite-rich horizons.

The factors influencing the distribution of Cu mineralisation at the base of the Tapley Hill Formation remain enigmatic. In assessing the recent drilling results along with the historical data, a surprising pattern emerges between mineralisation within the Tapley Hill Formation and the nature of the underlying stratigraphic unit (Figure 11). Highest Cu values (e.g. UB1, UB3–4, UB27, SAU12) often occur near the western limit of the Beda Volcanics, in other words, when black shales of the Tapley Hill Formation directly overlie coarse-grained sandstone of the Pandurra Formation. This suggests that mineralisation is not simply a function of depositional environment within the Tapley Hill Formation and/or local faults but that movement of very oxidised fluids within porous sediments of the Pandurra Formation was also a significant contributor. Thus a sharply defined redox boundary exists between the Tapley Hill Formation and underlying Pandurra Formation sandstone and is a better geological setting for mineralisation than when the underlying unit simply comprises basalt of the Beda Volcanics.

The Dipole–Dipole Induced Polarisation technique could still be used to target for sedimentary Cu mineralisation within the Tapley Hill Formation in the Myall Creek area, but rather than the centre of highly chargeable anomalies their western margins may be the more appropriate geophysical target. For the Myall Creek area, cultural features such as the powerlines, Port Augusta to Whyalla railway line and Highway 1 are complicating factors as their location in part coincides with the inferred favourable stratigraphic setting of Tapley Hill Formation directly overlying the Pandurra Formation. This geological setting NW of Highway 1 on the NW portion of EL 3538 and NW of any of the recent IP lines has been poorly tested by historical drillholes.

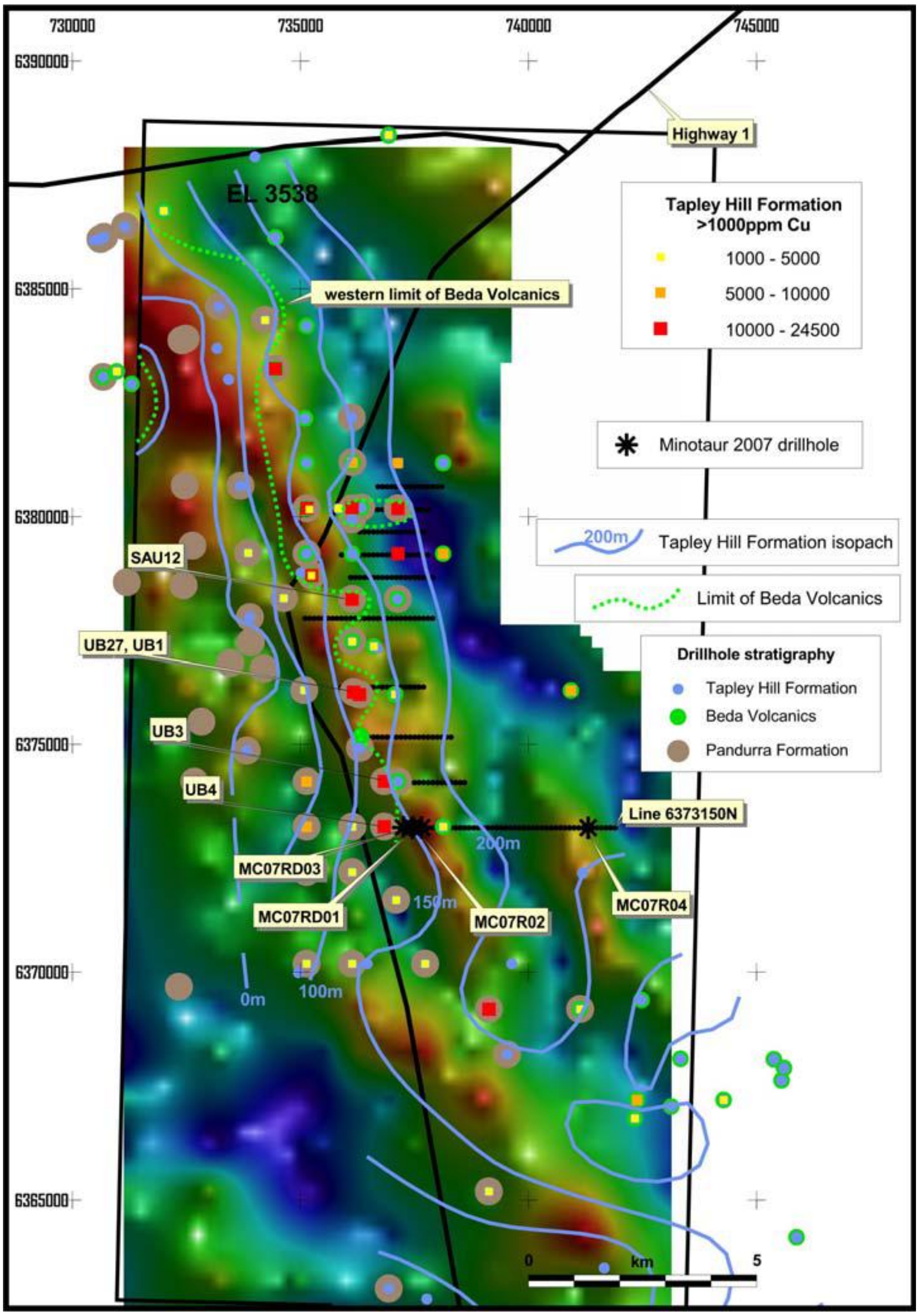

Figure 11: Subsurface distribution of the Tapley Hill Formation, Beda Volcanics and Pandurra Formation with respect to anomalous Cu values for the Tapley Hill Formation

REHABILITATION

Rehabilitation has been undertaken of all 4 RC/DDH holes drilled during June 2007 along with sites where sumps were prepared but not subsequently drilled. Rehabilitation was in accordance with PIRSA's guidelines and requirements for rehabilitation of exploration activities (Mineral Information sheets M21 and M33). In particular, each hole was plugged, all disturbed ground at each drill site and non-station access tracks were scarified in order to promote revegetation. All surface rubbish was removed along with any other evidence of exploration activities (Figures 12–17).

Figure 12: Drill site MC07RD01 during drilling operations; view ESE

Figure 13: Drill site MC07RD01 prior to exploration activities; view E

Figure 14: Drill site MC07RD01 immediately after rehabilitation; view E

Figure 15: Access track to drill site MC07R04 prior to rehabilitation; view E

Figure 16: Access track to drill site MC07R04 immediately after rehabilitation; view E

Figure 17: Drill site MC07R04 prior to rehabilitation; view E

Figure 18: Drill site MC07R04 immediately after rehabilitation; view E

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APPENDICES

APPENDIX A:

Down-hole geochemical data for drillholes MC07RD01 and MC07RD03

(digital format only)

H1000	Hole_ID	EASTING	NORTHING	ELEVATION	AZIMUTH	INCLINATION	MAX_DEPTH	DRILLED	DRILL_CONTRACTOR	DRILL_METHOD
H1001		metres	metres		degrees	degrees	metres			
H1004	Horizontal accuracy	2 metres	2 metres							
D	MC07RD01	737450	6373145	Not known	360	90	176.4	22/05/2007	United Drilling Services	RC 0-163, DIA 163-176.4m
D	MC07R02	737650	6373150	Not known	360	90	94	23/05/2007	United Drilling Services	RC 0-94m
D	MC07RD03	737250	6373150	Not known	360	90	180.5	24/05/2007	United Drilling Services	RC 0-110, DIA 110-180.5m
D	MC07R04	741304	6373144	Not known	360	90	79	25/05/2007	United Drilling Services	RC 0-79m
EOF										

H1000	Hole_ID	Depth_ from	Depth_ to	Sample_ ID	Au	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K
H1001		m	m		ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%
H1002	Assay_method				OG43	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s
H1003	Detection limit				0.01	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1	1	0.01	10	1	0.01
D	MC07RD01	153	154	MC0117	<0.01	<0.2	2.38	15	30	40	1.7	<2	9.43	<0.5	22	32	82	3.71	10	1	0.66
D	MC07RD01	154	155	MC0118	<0.01	<0.2	2.49	10	20	190	1.2	<2	9.51	<0.5	13	34	35	3.92	10	1	0.5
D	MC07RD01	155	156	MC0119	<0.01	<0.2	2.19	16	30	100	1.9	<2	8.12	1.6	27	29	97	3.72	10	1	0.59
D	MC07RD01	156	157	MC0120	0.01	<0.2	3.96	6	20	70	1	3	5.66	<0.5	34	150	71	5.85	20	1	0.17
D	MC07RD01	157	158	MC0121	<0.01	<0.2	2.44	10	20	200	1.3	2	11.35	0.6	14	32	30	3.53	10	<1	0.53
D	MC07RD01	158	159	MC0122	<0.01	<0.2	2.09	7	20	90	1.1	<2	15.7	<0.5	11	28	28	2.89	10	1	0.45
D	MC07RD01	159	160	MC0123	<0.01	<0.2	2.97	9	20	110	1.5	2	11.45	<0.5	14	37	33	3.84	10	<1	0.53
D	MC07RD01	160	161	MC0124	<0.01	<0.2	2.7	8	20	240	1.3	<2	13.3	<0.5	12	30	41	3.7	10	1	0.46
D	MC07RD01	161	162	MC0125	<0.01	<0.2	2.43	27	20	160	1.4	3	7.53	0.7	14	33	52	4.14	10	<1	0.34
D	MC07RD01	162	163	MC0126	<0.01	<0.2	3.29	22	20	60	1.3	3	4.97	<0.5	22	33	40	5.18	10	1	0.36
EOF																					

La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn
ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s	ME-ICP41s
10	0.01	5	1	0.01	1	10	2	0.01	2	1	1	0.01	10	10	1	10	2
10	1.97	1380	2	0.18	39	830	95	2.75	<2	7	128	0.01	<10	20	57	<10	93
10	4.33	2380	2	0.1	26	680	37	2.07	2	8	58	0.01	<10	20	66	<10	57
10	1.78	1200	5	0.12	48	790	113	2.97	2	7	107	0.01	<10	20	55	<10	530
10	4.6	922	1	0.18	86	620	11	0.83	<2	26	39	0.02	<10	10	205	<10	57
10	3.97	2330	4	0.15	24	680	43	1.9	<2	8	88	0.01	<10	20	64	<10	260
10	2.71	2170	2	0.18	20	600	42	1.68	<2	7	199	0.01	<10	40	53	<10	71
10	4.09	2130	2	0.16	24	720	41	1.83	<2	9	84	0.01	<10	30	72	<10	83
10	3.8	2250	2	0.09	21	620	40	2.03	3	7	99	0.01	<10	30	59	<10	82
20	2.58	1260	3	0.16	25	820	92	2.49	3	6	68	0.01	<10	20	61	<10	352
20	3.15	994	2	0.13	27	530	54	2.16	<2	7	33	0.01	<10	10	66	<10	63

H1000	Hole_ID	Depth_ from	Depth_ to	Sampl e_ ID	Cu	Pb	Zn	As	Co	Sample_ type	Lithology
H1001		m	m		ppm	ppm	ppm	ppm	ppm		
H1003					P-XRF	P-XRF	P-XRF	P-XRF	P-XRF		
D	MC07RD01	0	1	MC165	ND	ND	115	ND	ND	Cuttings	
D	MC07RD01	1	2	MC166	ND	ND	112	ND	ND	Cuttings	
D	MC07RD01	2	3	MC167	ND	ND	161	ND	ND	Cuttings	
D	MC07RD01	3	4	MC168	ND	ND	151	ND	ND	Cuttings	
D	MC07RD01	4	5	MC169	ND	ND	147	ND	ND	Cuttings	
D	MC07RD01	5	6	MC170	ND	31	190	ND	ND	Cuttings	
D	MC07RD01	6	7	MC171	ND	ND	149	ND	ND	Cuttings	
D	MC07RD01	7	8	MC172	ND	ND	151	ND	ND	Cuttings	
D	MC07RD01	8	9	MC173	ND	37	173	ND	ND	Cuttings	
D	MC07RD01	9	10	MC174	ND	26	141	ND	ND	Cuttings	
D	MC07RD01	10	11	MC175	ND	ND	147	ND	ND	Cuttings	
D	MC07RD01	11	12	MC176	ND	ND	160	ND	ND	Cuttings	
D	MC07RD01	12	13	MC177	ND	ND	124	ND	ND	Cuttings	
D	MC07RD01	13	14	MC178	ND	ND	123	ND	ND	Cuttings	
D	MC07RD01	14	15	MC179	ND	ND	172	ND	ND	Cuttings	
D	MC07RD01	15	16	MC180	ND	ND	127	ND	ND	Cuttings	
D	MC07RD01	16	17	MC181	ND	ND	98	ND	ND	Cuttings	
D	MC07RD01	17	18	MC182	ND	ND	104	ND	ND	Cuttings	
D	MC07RD01	18	19	MC183	ND	ND	175	ND	ND	Cuttings	
D	MC07RD01	19	20	MC184	ND	ND	137	ND	ND	Cuttings	
D	MC07RD01	20	21	MC185	ND	ND	101	ND	ND	Cuttings	
D	MC07RD01	21	22	MC186	ND	ND	155	ND	ND	Cuttings	
D	MC07RD01	22	23	MC187	ND	ND	164	ND	ND	Cuttings	
D	MC07RD01	23	24	MC188	ND	ND	167	ND	ND	Cuttings	
D	MC07RD01	24	25	MC189	ND	28	164	ND	ND	Cuttings	
D	MC07RD01	25	26	MC190	ND	ND	156	ND	ND	Cuttings	
D	MC07RD01	26	27	MC191	ND	ND	172	ND	ND	Cuttings	
D	MC07RD01	27	28	MC192	ND	ND	93	ND	ND	Cuttings	
D	MC07RD01	28	29	MC193	50	ND	153	ND	ND	Cuttings	
D	MC07RD01	29	30	MC194	ND	ND	125	ND	ND	Cuttings	
D	MC07RD01	30	31	MC195	ND	ND	115	ND	ND	Cuttings	
D	MC07RD01	31	32	MC196	ND	ND	112	ND	ND	Cuttings	
D	MC07RD01	32	33	MC197	ND	ND	130	ND	ND	Cuttings	
D	MC07RD01	33	34	MC198	ND	ND	106	ND	ND	Cuttings	
D	MC07RD01	34	35	MC199	ND	ND	140	ND	ND	Cuttings	
D	MC07RD01	35	36	MC200	ND	ND	153	ND	ND	Cuttings	
D	MC07RD01	36	37	MC201	ND	ND	169	ND	ND	Cuttings	
D	MC07RD01	37	38	MC202	ND	ND	175	ND	ND	Cuttings	
D	MC07RD01	38	39	MC203	ND	ND	123	ND	ND	Cuttings	
D	MC07RD01	39	40	MC204	ND	ND	128	ND	ND	Cuttings	
D	MC07RD01	40	41	MC205	ND	ND	167	ND	ND	Cuttings	
D	MC07RD01	41	42	MC206	ND	ND	184	ND	ND	Cuttings	
D	MC07RD01	42	43	MC207	ND	ND	168	ND	ND	Cuttings	
D	MC07RD01	43	44	MC208	ND	ND	112	ND	ND	Cuttings	
D	MC07RD01	44	45	MC209	63	ND	123	ND	ND	Cuttings	
D	MC07RD01	45	46	MC210	ND	ND	224	ND	ND	Cuttings	
D	MC07RD01	46	47	MC211	146	ND	194	ND	ND	Cuttings	
D	MC07RD01	47	48	MC212	347	43	229	ND	ND	Cuttings	
D	MC07RD01	48	49	MC213	111	58	228	ND	ND	Cuttings	
D	MC07RD01	49	50	MC214	71	35	244	ND	ND	Cuttings	
D	MC07RD01	50	51	MC215	126	31	238	ND	ND	Cuttings	
D	MC07RD01	51	52	MC216	ND	ND	185	ND	ND	Cuttings	
D	MC07RD01	52	53	MC217	ND	ND	138	ND	ND	Cuttings	
D	MC07RD01	53	54	MC218	ND	ND	234	ND	ND	Cuttings	
D	MC07RD01	54	55	MC219	119	ND	252	ND	ND	Cuttings	
D	MC07RD01	55	56	MC220	ND	ND	202	ND	ND	Cuttings	
D	MC07RD01	56	57	MC221	ND	37	158	ND	ND	Cuttings	
D	MC07RD01	57	58	MC222	ND	ND	214	ND	ND	Cuttings	
D	MC07RD01	58	59	MC223	ND	ND	222	ND	ND	Cuttings	
D	MC07RD01	59	60	MC224	ND	40	225	ND	ND	Cuttings	
D	MC07RD01	60	61	MC225	ND	ND	202	ND	ND	Cuttings	
D	MC07RD01	61	62	MC226	ND	31	238	ND	ND	Cuttings	
D	MC07RD01	62	63	MC227	65	ND	233	ND	618	Cuttings	
D	MC07RD01	63	64	MC228	ND	28	252	ND	ND	Cuttings	
D	MC07RD01	64	65	MC229	ND	35	231	ND	ND	Cuttings	
D	MC07RD01	65	66	MC230	ND	ND	260	ND	ND	Cuttings	
D	MC07RD01	66	67	MC231	ND	ND	215	ND	ND	Cuttings	
D	MC07RD01	67	68	MC232	ND	31	260	ND	ND	Cuttings	
D	MC07RD01	68	69	MC233	ND	ND	205	ND	ND	Cuttings	
D	MC07RD01	69	70	MC234	ND	33	265	ND	ND	Cuttings	
D	MC07RD01	70	71	MC235	ND	ND	232	ND	ND	Cuttings	
D	MC07RD01	71	72	MC236	ND	31	227	ND	ND	Cuttings	
D	MC07RD01	72	73	MC237	ND	34	174	ND	ND	Cuttings	
D	MC07RD01	73	74	MC238	ND	ND	154	ND	ND	Cuttings	
D	MC07RD01	74	75	MC239	63	31	212	ND	ND	Cuttings	
D	MC07RD01	75	76	MC240	ND	ND	255	ND	ND	Cuttings	
D	MC07RD01	76	77	MC241	74	39	209	ND	ND	Cuttings	
D	MC07RD01	77	78	MC242	ND	29	218	ND	ND	Cuttings	

H1000	Hole_ID	Depth_ from	Depth_ to	Sampl e_ ID	Cu	Pb	Zn	As	Co	Sample_ type	Lithology
D	MC07RD01	78	79	MC243	ND	35	259	ND	ND	Cuttings	
D	MC07RD01	79	80	MC244	ND	ND	229	ND	ND	Cuttings	
D	MC07RD01	80	81	MC245	ND	ND	241	ND	ND	Cuttings	
D	MC07RD01	81	82	MC246	ND	38	211	ND	ND	Cuttings	
D	MC07RD01	82	83	MC247	ND	ND	199	ND	ND	Cuttings	
D	MC07RD01	83	84	MC248	76	35	210	ND	ND	Cuttings	
D	MC07RD01	84	85	MC249	ND	ND	228	ND	ND	Cuttings	
D	MC07RD01	85	86	MC250	ND	ND	166	ND	446	Cuttings	
D	MC07RD01	86	87	MC251	ND	ND	253	ND	ND	Cuttings	
D	MC07RD01	87	88	MC252	ND	ND	239	ND	ND	Cuttings	
D	MC07RD01	88	89	MC253	ND	ND	212	ND	ND	Cuttings	
D	MC07RD01	89	90	MC254	ND	30	265	ND	ND	Cuttings	
D	MC07RD01	90	91	MC255	ND	ND	245	ND	ND	Cuttings	
D	MC07RD01	91	92	MC256	ND	ND	207	ND	ND	Cuttings	
D	MC07RD01	92	93	MC257	ND	ND	231	ND	ND	Cuttings	
D	MC07RD01	93	94	MC258	ND	ND	216	ND	ND	Cuttings	
D	MC07RD01	94	95	MC259	ND	25	182	ND	ND	Cuttings	
D	MC07RD01	95	96	MC260	ND	28	156	ND	ND	Cuttings	
D	MC07RD01	97	98	MC261	ND	ND	210	ND	ND	Cuttings	
D	MC07RD01	98	99	MC262	ND	ND	205	ND	ND	Cuttings	
D	MC07RD01	99	100	MC263	ND	32	230	ND	ND	Cuttings	
D	MC07RD01	100	101	MC264	ND	ND	246	ND	ND	Cuttings	
D	MC07RD01	101	102	MC265	ND	36	204	ND	ND	Cuttings	
D	MC07RD01	102	103	MC266	98	29	207	ND	ND	Cuttings	
D	MC07RD01	103	104	MC267	ND	ND	233	ND	ND	Cuttings	
D	MC07RD01	104	105	MC268	ND	34	212	ND	ND	Cuttings	
D	MC07RD01	105	106	MC269	ND	ND	175	25	ND	Cuttings	
D	MC07RD01	106	107	MC270	ND	ND	188	ND	ND	Cuttings	
D	MC07RD01	107	108	MC271	ND	ND	265	ND	ND	Cuttings	
D	MC07RD01	108	109	MC272	ND	29	273	ND	ND	Cuttings	
D	MC07RD01	109	110	MC273	61	34	268	ND	ND	Cuttings	
D	MC07RD01	110	111	MC274	ND	ND	206	ND	ND	Cuttings	
D	MC07RD01	111	112	MC275	ND	ND	249	ND	ND	Cuttings	
D	MC07RD01	112	113	MC276	ND	ND	194	ND	ND	Cuttings	
D	MC07RD01	113	114	MC277	ND	26	197	ND	ND	Cuttings	
D	MC07RD01	114	115	MC278	ND	ND	232	ND	ND	Cuttings	
D	MC07RD01	115	116	MC279	ND	54	232	ND	ND	Cuttings	
D	MC07RD01	116	117	MC280	ND	30	231	ND	ND	Cuttings	
D	MC07RD01	117	118	MC281	69	38	285	ND	ND	Cuttings	
D	MC07RD01	118	119	MC282	ND	41	249	ND	ND	Cuttings	
D	MC07RD01	120	121	MC283	ND	ND	256	ND	ND	Cuttings	
D	MC07RD01	121	122	MC284	ND	41	258	ND	ND	Cuttings	
D	MC07RD01	122	123	MC285	ND	38	309	ND	ND	Cuttings	
D	MC07RD01	123	124	MC286	ND	27	255	ND	ND	Cuttings	
D	MC07RD01	124	125	MC287	ND	26	218	ND	ND	Cuttings	
D	MC07RD01	125	126	MC288	ND	38	237	ND	ND	Cuttings	
D	MC07RD01	126	127	MC289	ND	41	255	ND	ND	Cuttings	
D	MC07RD01	127	128	MC290	ND	43	272	ND	ND	Cuttings	
D	MC07RD01	128	129	MC291	ND	32	300	ND	ND	Cuttings	
D	MC07RD01	129	130	MC292	ND	31	255	ND	ND	Cuttings	
D	MC07RD01	130	131	MC293	ND	39	282	ND	ND	Cuttings	
D	MC07RD01	131	132	MC294	ND	38	247	ND	ND	Cuttings	
D	MC07RD01	132	133	MC295	ND	36	285	ND	ND	Cuttings	
D	MC07RD01	133	134	MC296	ND	24	167	ND	508	Cuttings	
D	MC07RD01	134	135	MC297	63	ND	247	ND	ND	Cuttings	
D	MC07RD01	135	136	MC298	ND	40	242	ND	ND	Cuttings	
D	MC07RD01	136	137	MC299	ND	66	230	ND	ND	Cuttings	
D	MC07RD01	137	138	MC300	ND	27	255	ND	ND	Cuttings	
D	MC07RD01	138	139	MC301	ND	59	221	ND	ND	Cuttings	
D	MC07RD01	139	140	MC302	ND	44	241	ND	ND	Cuttings	
D	MC07RD01	140	141	MC303	ND	62	226	ND	625	Cuttings	
D	MC07RD01	141	142	MC304	ND	57	242	ND	ND	Cuttings	
D	MC07RD01	142	143	MC305	ND	52	274	ND	ND	Cuttings	
D	MC07RD01	143	144	MC306	ND	55	210	ND	ND	Cuttings	
D	MC07RD01	144	145	MC307	ND	53	247	ND	ND	Cuttings	
D	MC07RD01	145	146	MC308	68	28	210	ND	ND	Cuttings	
D	MC07RD01	146	147	MC309	ND	53	191	ND	ND	Cuttings	
D	MC07RD01	147	148	MC310	ND	54	481	ND	ND	Cuttings	
D	MC07RD01	148	149	MC311	ND	59	300	ND	ND	Cuttings	
D	MC07RD01	149	150	MC312	ND	49	406	ND	ND	Cuttings	
D	MC07RD01	150	151	MC313	69	42	795	ND	ND	Cuttings	
D	MC07RD01	151	152	MC314	ND	75	289	ND	ND	Cuttings	
D	MC07RD01	152	153	MC315	ND	39	318	ND	ND	Cuttings	
D	MC07RD01	153	154	MC316	ND	66	288	ND	ND	Cuttings	
D	MC07RD01	154	155	MC317	ND	37	255	ND	ND	Cuttings	
D	MC07RD01	155	156	MC318	ND	36	262	ND	ND	Cuttings	
D	MC07RD01	156	157	MC319	ND	48	346	ND	ND	Cuttings	
D	MC07RD01	157	158	MC320	ND	34	208	ND	ND	Cuttings	
D	MC07RD01	158	159	MC321	80	43	253	ND	ND	Cuttings	
D	MC07RD01	159	160	MC322	74	56	280	ND	ND	Cuttings	

H1000	Hole_ID	Depth_ from	Depth_ to	Sampl e_ ID	Cu	Pb	Zn	As	Co	Sample_ type	Lithology
D	MC07RD01	160	161	MC323	70	45	264	ND	ND	Cuttings	
D	MC07RD01	161	162	MC324	ND	33	220	ND	ND	Cuttings	
D	MC07RD01	162	163	MC325	ND	34	137	ND	ND	Cuttings	
D	MC07RD01	168.5	168.55	MC326	ND	ND	81	ND	ND	Core	
D	MC07RD03	0	1	MC327	ND	ND	148	ND	ND	Cuttings	
D	MC07RD03	1	2	MC328	ND	ND	163	ND	ND	Cuttings	
D	MC07RD03	2	3	MC329	ND	ND	144	ND	ND	Cuttings	
D	MC07RD03	3	4	MC330	ND	26	183	ND	ND	Cuttings	
D	MC07RD03	4	5	MC331	ND	ND	178	ND	ND	Cuttings	
D	MC07RD03	5	6	MC332	ND	ND	115	ND	ND	Cuttings	
D	MC07RD03	6	7	MC333	ND	34	178	ND	ND	Cuttings	
D	MC07RD03	7	8	MC334	ND	33	176	ND	ND	Cuttings	
D	MC07RD03	8	9	MC335	ND	25	175	ND	ND	Cuttings	
D	MC07RD03	9	10	MC336	ND	ND	187	ND	ND	Cuttings	
D	MC07RD03	10	11	MC337	ND	ND	159	ND	ND	Cuttings	
D	MC07RD03	11	12	MC338	ND	ND	130	ND	ND	Cuttings	
D	MC07RD03	12	13	MC339	ND	ND	134	ND	ND	Cuttings	
D	MC07RD03	13	14	MC340	ND	ND	161	ND	ND	Cuttings	
D	MC07RD03	14	15	MC341	ND	ND	158	ND	ND	Cuttings	
D	MC07RD03	15	16	MC342	ND	25	194	ND	ND	Cuttings	
D	MC07RD03	16	17	MC343	ND	ND	186	ND	ND	Cuttings	
D	MC07RD03	17	18	MC344	ND	ND	196	ND	ND	Cuttings	
D	MC07RD03	18	19	MC345	ND	ND	250	ND	ND	Cuttings	
D	MC07RD03	19	20	MC346	ND	27	168	ND	ND	Cuttings	
D	MC07RD03	20	21	MC347	ND	ND	209	ND	ND	Cuttings	
D	MC07RD03	21	22	MC348	ND	ND	198	ND	ND	Cuttings	
D	MC07RD03	22	23	MC349	ND	ND	213	ND	ND	Cuttings	
D	MC07RD03	23	24	MC350	ND	ND	194	ND	ND	Cuttings	
D	MC07RD03	24	25	MC351	ND	26	173	ND	ND	Cuttings	
D	MC07RD03	25	26	MC352	ND	27	177	ND	ND	Cuttings	
D	MC07RD03	26	27	MC353	ND	ND	164	ND	ND	Cuttings	
D	MC07RD03	27	28	MC354	ND	ND	183	ND	ND	Cuttings	
D	MC07RD03	28	29	MC355	ND	ND	173	ND	ND	Cuttings	
D	MC07RD03	29	30	MC356	ND	ND	148	ND	ND	Cuttings	
D	MC07RD03	30	31	MC357	ND	ND	167	ND	ND	Cuttings	
D	MC07RD03	31	32	MC358	ND	ND	181	ND	ND	Cuttings	
D	MC07RD03	32	33	MC359	ND	36	165	ND	ND	Cuttings	
D	MC07RD03	33	34	MC360	ND	ND	117	ND	ND	Cuttings	
D	MC07RD03	34	35	MC361	ND	ND	155	ND	ND	Cuttings	
D	MC07RD03	35	36	MC362	ND	ND	186	ND	ND	Cuttings	
D	MC07RD03	36	37	MC363	ND	ND	178	ND	ND	Cuttings	
D	MC07RD03	37	38	MC364	ND	ND	189	ND	ND	Cuttings	
D	MC07RD03	38	39	MC365	ND	ND	206	ND	ND	Cuttings	
D	MC07RD03	39	40	MC366	1363	25	246	ND	ND	Cuttings	
D	MC07RD03	40	41	MC367	ND	30	292	ND	ND	Cuttings	
D	MC07RD03	41	42	MC368	79	44	299	ND	ND	Cuttings	
D	MC07RD03	42	43	MC369	151	ND	248	ND	ND	Cuttings	
D	MC07RD03	43	44	MC370	104	38	207	ND	ND	Cuttings	
D	MC07RD03	44	45	MC371	ND	34	194	ND	ND	Cuttings	
D	MC07RD03	45	46	MC372	ND	ND	236	ND	ND	Cuttings	
D	MC07RD03	46	47	MC373	79	32	183	ND	ND	Cuttings	
D	MC07RD03	47	48	MC374	73	28	250	ND	ND	Cuttings	
D	MC07RD03	48	49	MC375	ND	27	216	ND	ND	Cuttings	
D	MC07RD03	49	50	MC376	ND	30	220	ND	ND	Cuttings	
D	MC07RD03	50	51	MC377	76	ND	214	ND	ND	Cuttings	
D	MC07RD03	51	52	MC378	ND	ND	207	ND	ND	Cuttings	
D	MC07RD03	52	53	MC379	ND	35	232	ND	ND	Cuttings	
D	MC07RD03	53	54	MC380	82	44	273	ND	ND	Cuttings	
D	MC07RD03	54	55	MC381	63	ND	264	ND	ND	Cuttings	
D	MC07RD03	55	56	MC382	ND	ND	224	ND	ND	Cuttings	
D	MC07RD03	56	57	MC383	ND	43	228	ND	ND	Cuttings	
D	MC07RD03	57	58	MC384	ND	ND	188	ND	ND	Cuttings	
D	MC07RD03	58	59	MC385	ND	37	210	ND	ND	Cuttings	
D	MC07RD03	59	60	MC386	ND	ND	184	ND	ND	Cuttings	
D	MC07RD03	60	61	MC387	ND	28	201	ND	ND	Cuttings	
D	MC07RD03	61	62	MC388	68	59	220	ND	ND	Cuttings	
D	MC07RD03	62	63	MC389	ND	ND	265	ND	ND	Cuttings	
D	MC07RD03	63	64	MC390	ND	27	225	ND	ND	Cuttings	
D	MC07RD03	64	65	MC391	ND	ND	231	ND	ND	Cuttings	
D	MC07RD03	65	66	MC392	ND	ND	203	ND	ND	Cuttings	
D	MC07RD03	66	67	MC393	66	ND	173	ND	ND	Cuttings	
D	MC07RD03	67	68	MC394	ND	31	265	ND	ND	Cuttings	
D	MC07RD03	68	69	MC395	ND	ND	232	ND	ND	Cuttings	
D	MC07RD03	69	70	MC396	87	ND	253	ND	ND	Cuttings	
D	MC07RD03	70	71	MC397	ND	ND	241	ND	ND	Cuttings	
D	MC07RD03	71	72	MC398	89	ND	244	ND	ND	Cuttings	
D	MC07RD03	72	73	MC399	ND	ND	259	ND	ND	Cuttings	
D	MC07RD03	73	74	MC400	ND	ND	286	ND	ND	Cuttings	
D	MC07RD03	74	75	MC401	ND	43	249	ND	ND	Cuttings	
D	MC07RD03	75	76	MC402	ND	26	208	ND	ND	Cuttings	

H1000	Hole_ID	Depth_ from	Depth_ to	Sampl e_ ID	Cu	Pb	Zn	As	Co	Sample_ type	Lithology
D	MC07RD03	76	77	MC403	129	ND	243	ND	ND	Cuttings	
D	MC07RD03	77	78	MC404	ND	34	247	ND	ND	Cuttings	
D	MC07RD03	78	79	MC405	ND	ND	237	ND	ND	Cuttings	
D	MC07RD03	79	80	MC406	ND	ND	239	ND	ND	Cuttings	
D	MC07RD03	80	81	MC407	63	ND	159	ND	ND	Cuttings	
D	MC07RD03	81	82	MC408	ND	28	184	ND	ND	Cuttings	
D	MC07RD03	82	83	MC409	ND	ND	274	ND	ND	Cuttings	
D	MC07RD03	83	84	MC410	ND	ND	216	ND	ND	Cuttings	
D	MC07RD03	84	85	MC411	ND	ND	266	ND	ND	Cuttings	
D	MC07RD03	85	86	MC412	ND	38	223	ND	ND	Cuttings	
D	MC07RD03	86	87	MC413	ND	ND	237	ND	ND	Cuttings	
D	MC07RD03	87	88	MC414	89	32	248	ND	ND	Cuttings	
D	MC07RD03	88	89	MC415	ND	42	274	ND	ND	Cuttings	
D	MC07RD03	89	90	MC416	ND	ND	255	ND	ND	Cuttings	
D	MC07RD03	90	91	MC417	ND	ND	255	ND	ND	Cuttings	
D	MC07RD03	91	92	MC418	ND	35	201	ND	ND	Cuttings	
D	MC07RD03	92	93	MC419	ND	ND	220	ND	ND	Cuttings	
D	MC07RD03	93	94	MC420	ND	32	175	ND	ND	Cuttings	
D	MC07RD03	94	95	MC421	66	26	270	ND	ND	Cuttings	
D	MC07RD03	95	96	MC422	62	ND	217	ND	ND	Cuttings	
D	MC07RD03	96	97	MC423	ND	28	281	ND	ND	Cuttings	
D	MC07RD03	97	98	MC424	ND	ND	178	ND	ND	Cuttings	
D	MC07RD03	98	99	MC425	ND	41	211	ND	ND	Cuttings	
D	MC07RD03	99	100	MC426	92	ND	239	ND	ND	Cuttings	
D	MC07RD03	100	101	MC427	ND	71	240	ND	ND	Cuttings	
D	MC07RD03	101	102	MC428	ND	ND	247	ND	ND	Cuttings	
D	MC07RD03	102	103	MC429	ND	31	263	ND	ND	Cuttings	
D	MC07RD03	103	104	MC430	59	ND	154	ND	ND	Cuttings	
D	MC07RD03	104	105	MC431	ND	ND	176	ND	402	Cuttings	
D	MC07RD03	105	106	MC432	ND	25	175	ND	ND	Cuttings	
D	MC07RD03	106	107	MC433	ND	32	238	ND	ND	Cuttings	
D	MC07RD03	107	108	MC434	72	ND	303	ND	ND	Cuttings	
D	MC07RD03	108	109	MC435	ND	30	247	ND	ND	Cuttings	
D	MC07RD03	109	110	MC436	ND	ND	224	ND	ND	Cuttings	
D	MC07RD03	146.8	146.81	MC437	103	158	ND	ND	ND	Core	siltstone
D	MC07RD03	146.9	146.91	MC438	ND	44	ND	ND	ND	Core	siltstone
D	MC07RD03	148.85	148.86	MC439	ND	31	3016	ND	ND	Core	very fine disseminated pyrite
D	MC07RD03	148.95	148.96	MC440	ND	41	1184	ND	ND	Core	very fine disseminated pyrite
D	MC07RD03	149.19	149.2	MC441	ND	138	ND	ND	ND	Core	very fine disseminated pyrite
D	MC07RD03	149.26	149.27	MC442	136	177	ND	ND	ND	Core	pyrite-rich band
D	MC07RD03	149.44	149.45	MC443	ND	217	325	ND	ND	Core	thin band of pyrite
D	MC07RD03	149.63	149.64	MC444	ND	140	ND	ND	ND	Core	shear zone
D	MC07RD03	149.85	149.86	MC445	ND	66	ND	ND	ND	Core	very fine disseminated pyrite
D	MC07RD03	150.07	150.08	MC446	ND	98	ND	ND	ND	Core	very fine disseminated pyrite
D	MC07RD03	150.23	150.24	MC447	ND	65	66	ND	ND	Core	very fine disseminated pyrite
D	MC07RD03	150.34	150.35	MC448	ND	46	ND	ND	889	Core	very fine disseminated pyrite
D	MC07RD03	150.41	150.42	MC449	ND	49	ND	ND	ND	Core	very fine disseminated pyrite
D	MC07RD03	150.47	150.48	MC450	ND	60	ND	ND	ND	Core	slightly coarser siltstone-fine sandstone
D	MC07RD03	150.52	150.53	MC451	ND	87	ND	ND	ND	Core	siltstone
D	MC07RD03	150.62	150.63	MC452	ND	33	ND	ND	ND	Core	coarse sandstone layer, 1cm with pyrite blebs
D	MC07RD03	150.71	150.72	MC453	ND	70	ND	ND	ND	Core	coarse sandstone layer, 1cm with pyrite blebs
D	MC07RD03	150.74	150.75	MC454	ND	75	ND	ND	ND	Core	fine disseminated pyrite
D	MC07RD03	150.78	150.79	MC455	ND	65	ND	ND	ND	Core	coarse sandstone layer, 1cm with pyrite blebs
D	MC07RD03	150.86	150.87	MC456	ND	71	67	ND	ND	Core	siltstone
D	MC07RD03	150.91	150.92	MC457	ND	41	ND	ND	ND	Core	sandstone with pyrite blebs
D	MC07RD03	151.03	151.04	MC458	ND	ND	ND	ND	ND	Core	coarse cross-bedded sandstone
D	MC07RD03	151.06	151.07	MC459	ND	ND	ND	ND	ND	Core	coarse sandstone
D	MC07RD03	151.11	151.12	MC460	ND	ND	ND	ND	ND	Core	contact- conglomeratic
D	MC07RD03	151.16	151.17	MC461	ND	ND	ND	ND	ND	Core	basalt
D	MC07RD03	151.34	151.35	MC462	ND	ND	ND	ND	ND	Core	basalt
D	MC07RD03	151.54	151.55	MC463	92	ND	ND	ND	ND	Core	basalt
D	MC07RD03	151.83	151.84	MC464	ND	ND	ND	ND	ND	Core	basalt
D	MC07RD03	151.9	151.91	MC465	ND	ND	ND	ND	ND	Core	calcite vein

H1000	Hole_ID	Depth_from	Depth_to	Lithology
H1001		m	m	
D	MC07RD01	0	4	Sand,clay
D	MC07RD01	4	27	Siltstone
D	MC07RD01	27	43	Sandstone
D	MC07RD01	43	162.2	Siltstone
D	MC07RD01	162.2	175.3	Volcanics
D	MC07RD01	175.3	176.4	Sandstone
D	MC07R02	0	5	Sand,clay
D	MC07R02	5	16	Siltstone
D	MC07R02	16	47	Sandstone
D	MC07R02	47	51	Sandstone
D	MC07R02	51	94	Siltstone
D	MC07RD03	0	6	Sand/soil
D	MC07RD03	6	40	Sandstone
D	MC07RD03	40	110	Siltstone
D	MC07RD03	109.36	151	Shale
D	MC07RD03	151	152	Sandstone
D	MC07RD03	152	167.5	Volcanics
D	MC07RD03	167.5	180.5	Sandstone
D	MC07R04	0	4	Soil
D	MC07R04	4	7	Gravel
D	MC07R04	7	10	Saprolite
D	MC07R04	10	17	Clay
D	MC07R04	17	20	Siltstone
D	MC07R04	20	79	Sandstone
EOF				

Description

Unconsolidated Quaternary calcareous sand and clay with minor pebbles.
Dark brown finely laminated siltstone with claystone and minor fine-grained sandstone.
Well rounded coarse granules more common toward the base.
Pale brown fine-grained sandstone, minor medium-grained sandstone and occasional well-rounded granules.
Dark grey to black laminated siltstone with minor sandstone. Traces of pyrite throughout.
Very wet with drilling difficulties to base of percussion hole.
Dense fine grained green to grey volcanics. Beda Volcanics
Poorly sorted sandstone with gradational upper contact. Abundant calcite filled vein networks. Possible Backy Point Formation?
Light-brown to yellow clayey soil and sand. Gypsum with sub-angular to rounded gravel at base. Quaternary
Red-brown laminated siltstone with slatey fracture. Mid-grey colour and slightly sandy at base.
Chocolate brown fine-grained calcareous sandstone.
Grey coarse to very coarse grained sandstone/grit, weakly calcareous.
Dark grey laminated siltstone. Trace pyrite. Some up-hole contamination with very wet sample to 89m. Minor calcite veins.
Lost sample 94m, hole blowing out.
Orange sandy soil, calcrete nodules, quartz, very weathered ferruginous sandstones. Quaternary
Brown-red weathered clayey sandstone, fine-grained weakly laminated in part with minor coarse granules toward the base.
Mid to dark grey weakly laminated siltstone. Fractures along lamellae. Major water problems with loss of circulation and no sample return at 110m.
Finely laminated grey shale. Regular even to wavey bedding. Minor very thin intraformational conglomerates (122.1m, 130.4m, 148.8m),
thin fine-grained sandstones (122.1m, 124.9m, 125.5m) and carbonaceous shales (144.7 to 144.9m).
Pyritic shales and pyritized conglomerates between 130.4m and 135.5m, and 148.8m and151m. Tapley Hill Formation.
Thin poorly sorted sandstone with disrupted cross-bedding. Possible Backy Point Beds?
Green to red, fine- to medium-grained, amygdaloidal basalt with felted texture. Minor pyrite associated with minor fractures. Beda Volcanics.
Generally poorly sorted, coarse-grained sandstone and interbedded conglomerate. Yellow to yellow-brown colour with rare thin red shale beds,
becomeing better bedded and sorted down hole. Probable Pandurra Formation?
Light brown clayey sand. Quaternary
Light and dark brown gravel, sandstone, calcrete.
Red-brown clay with minor sandstone chips.
Dark brown to banded yellow-brown saprolitic clays.
Brown-red laminated siltstone, minor sandstone with planar fractures
Very fine-grained, laminated brown-red sandstone, oxidised with planar fractures. Minor claystone/siltstone chips.
Red-brown colour passing to pale grey-green near base. Minor coarser grained sandstone and increasing water flows from 42m.
Slowed drilling at 71m-73m, possible quartz/quartzite conglomerate clasts. Lost sample return at 79m.