

Moina Gold Pty. Ltd.
Annual Report on Exploration
EL 10/2016 “Mt Charter”
Feb. 2017 to Feb. 2018

Executive Summary

A scoping level study has been conducted on the Mt Charter gold+silver+barite+zinc+lead deposit in EL 10/2016.

As part of this work the resource was reassessed with a more critical eye by re-wireframing/re-modelling/re-estimating twice remodelled twice and new (non-JORC) resources calculated.

A smaller model was created with wireframing gold driven with a 0.7g/t gold cut-off to a depth of ~700 metres above sea level. The model hard domains the Mt Charter Main zone and specifically excludes the Upper West and Lower East zones as having insufficient data at this stage.

The second larger model was gold equivalent driven to place emphasis on barium, silver, lead and zinc content as well as gold. A nominal 0.7g/t gold equivalent cut-off was used but with reference to barium grades. This model encompassed the Main zone and most of the Lower East zone but again excludes the Upper West zone. The model extends to a depth of ~585 metres above sea level.

Total resource for the smaller model is

3,304,517t @ 1.21g/t gold, 28.2g/t silver, 0.039% copper, 0.357% lead, 0.912% zinc and 13.1% barium (= 3.51g/t gold equivalent)

for

128,462 ounces of gold, 2,995,954 ounces of silver, 1,285 tons of copper, 11,781 tons of lead, 30,131 tons of zinc, 432,231 tons of barium (= 373,272 gold equivalent ounces)

Total resource for the larger model is

14,697,251t @ 0.7g/t gold, 14.1g/t silver, 0.024% copper, 0.183% lead, 0.495% zinc and 6.9% barium (= 1.92g/t gold equivalent)

for

329,389 ounces of gold, 6,665,747 ounces of silver, 3,586 tons of copper, 26,848 tons of lead, 72,816 tons of zinc, 1,011,759 tons of barium (= 894,257 gold equivalent ounces)

For the Upper West zone a body of 300,000 – 400,000t @ 1.4-1.5g/t gold for 12,500 – 18,000 ounces of gold, 250,000 – 350,000 ounces of silver (27,000 – 37,000 gold equivalent ounces) and ~11% barium for 67,500 – 90,000 tons of barite is suggested from the drilling to date. Its position on/near surface means it is likely payable and just needs confirmatory drilling.

Above 730mRL (determined as approximate optimal pit base for smaller model) total resource for the smaller model (at a 0g/t gold equivalent cut-off – i.e. take all) is

3,119,729t @ 1.24g/t gold, 29.2g/t silver, 0.04% copper, 0.359% lead, 0.924% zinc, 13.3% barium and 3.58g/t gold equivalent

for

123,987 ounces of gold, 2,933,749 ounces of silver, 1,236t of copper, 11,211t of lead, 28,821t of zinc and 416,297t of barium and 359,421 gold equivalent ounces.

At a cut-off of 2.245g/t gold equivalent the larger gold equivalent driven model contains

3,060,425t @ 1.225g/t gold, 31.6g/t silver, 0.038% copper, 0.357% lead, 0.899% zinc, 13.4% barium and 3.582g/t gold equivalent

for

120,547 ounces of gold, 3,109,628 ounces of silver, 1,163t of copper, 10,926t of lead, 27,513t of zinc and 410,097t of barium and 352,490 gold equivalent ounces.

Costings (based on initial pit modelling for smaller model – does not inc. Upper West zone) can be categorised into:

- Open-cut mining – 8mt
- Beneficiation crushing and rock sorting on-site – 3mt
- Transport to Beaconsfield mill – 1-1.5mt
- Final milling, bacterial oxidation and cyanidation at Beaconsfield mill site – 1-1.5mt
- Environmental rehabilitation.

The Mt Charter gold + barite + silver + zinc orebody is considered a likely viable mining option.

Final conclusions hinge to a large degree on whether the Tomra rock sorter can separate barite+gold+sulphide veins successfully from the altered dacite wallrocks, and its efficiency in doing so. Initial indications are positive though assay results are awaited.

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1.0 Introduction

1.1 Introduction

This report details exploration activity carried on EL 10/2016 “Mt. Charter” during the period February 26th 2017 to February 26th 2018.

1.2 Location/Access/Land Usage

EL 10/2016 covers 4 sq. km, located 13km north-northeast of the township of Tullah, on the west coast of Tasmania. Access to the area is via the Murchison Highway and tracks which access the 220kv transmission lines which traverse the area.

1.3 Tenure

EL 10/2016 “Mt Charter” was granted to Moina Gold Pty Ltd under the ERA system. The ERA 1035 resulted from the expiry of RL11/1997 Mt Charter held by Bass Metals Ltd.

The licence was granted on 26th February 2017 and is in its second year of tenure.

1.4 Exploration Rationale

Moina Gold Pty Ltd is seeking to develop gold+/-polymetallic resources in the state of Tasmania. The Mt Charter deposit is a gold+silver+lead+zinc+barite deposit at an advanced stage of resource definition.

Moina Gold Pty Ltd is also aware of the geology of the Que-Hellyer Volcanics and the potential for further VHMS-style mineralisation at the base of the Mixed Sequence.

1.5 Geology

The base and precious metal deposits of the Hellyer - Que River - Mt Charter area lie above the main Central Volcanic Complex of the Mt Read Volcanics within a sequence of volcanics and sediments, known as the Mt Charter Group.

Within the Mt Charter Group is a volcanic package called the Que Hellyer Volcanics (QHV) comprising a group of andesitic to dacitic volcanics and sediments. The Que River, Hellyer and Mt Charter deposits are hosted by the highly variable ‘Mixed Sequence’, sandwiched between footwall andesitic and hangingwall basaltic volcanics. Volcanic-related and marine sediments cover the volcanics.

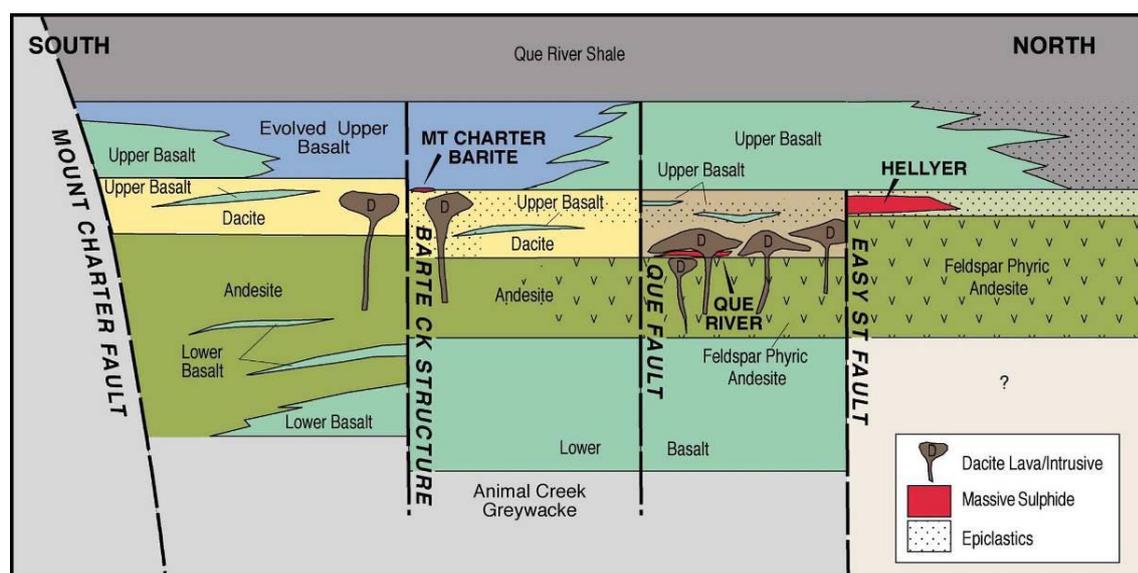


Figure 1.1: Schematic stratigraphic long-projection of the Que Hellyer Volcanics (Richardson, 2016)

The Que-Hellyer Volcanics are up to 1000m thick near Que and Hellyer, but wedge out to less than 50m to the northwest of Hellyer mine. The units of the QHV are summarized below:

- The Upper or Hellyer Basalt consists of massive to pillowed amygdaloidal basalt lava and volcaniclastic rocks.
- The Mixed Sequence host to the Que River, Hellyer and Mt Charter systems is comprised of epiclastics, dacitic lavas and breccias.
- The Feldspar Phyric Andesite, a porphyritic andesite lava which is the footwall unit to the Hellyer and Que River deposits and subsequently altered to Silica-Sericite-Pyrite mineralogy at these locations, which in turn is underlain by
- The Lower Basalt, a sequence of basaltic pillow lavas and volcaniclastics, which form the immediate footwall at Que River and Hellyer.

The Que-Hellyer Volcanics are overlain by the Que River Shale, which is in turn overlain by rhyolite, felsic volcaniclastics, greywacke and shale of the Southwell Subgroup. The Southwell Subgroup is overlain by the Mt Cripps subgroup which is a sequence of volcaniclastics, siltstones and conglomerates only outcropping along the eastern boundary of the Hellyer area tenements.

Beneath the Que-Hellyer Volcanics are the Animal Creek Greywacke and Black Harry Beds, a sequence of sediments defining the base of the Mt Charter Group (Richardson, 2016).

2.0 Review of Previous Work

2.1 Regional Work

Modern exploration of the Que Hellyer Volcanics (QHV) was carried out almost exclusively by Aberfoyle Resources Ltd (Aberfoyle). Only deep QHV beneath Southwell Subgroup cover, west of the Murchison Highway, have been explored by other companies (CSR, Placer, BHP, Pasminco).

Aberfoyle's involvement began in 1970 with the granting of EL 2/70. Regional mapping and stream sediment sampling programme covering west of the Mackintosh River was carried out. In early 1972 a combined airborne electromagnetic (EM) and magnetic survey was flown and one of the six anomalies recommended for follow up was coincident with anomalous stream sediment geochemistry. A follow up ground EM and soil sampling survey in 1973 discovered the outcropping S Lens mineralisation at Que River. The first diamond drill hole (QR1) in April 1974 intersected 11m of massive sulphide mineralisation and was followed by 25,000m of ore resource delineation drilling, which defined the main PQ lens and the P North, QR32 and S lenses. The Que River reserve was defined as containing 3.3Mt @ 13.6% Zn, 7.4% Pb, 0.7% Cu, 3.3 g/t Au and 195 g/t Ag.

The Que River lenses were mined mainly underground, using a shaft, with small opencuts, from February 1981 until 1990, with 2.46Mt of material trucked to and processed at Rosebery. The S lens was the final orebody mined, with its relatively lower grade Pb/Zn material blended with and processed at Hellyer.

Following the discovery at Que River, exploration was heavily focused on testing along strike from the known mineralisation. This led to step out diamond drill testing, on approximately 100m centres, for about 1.5km north and 1km south of the orebody.

In the 1970's the prospective stratigraphy was mapped at 1:2500 scale and covered with -80# C-horizon soil sampling on 50 or 100m spaced lines. Surface EM failed to see Que River main PQ lens, which came close to surface at the southern end of the orebody. This ultimately would be shown to be due to lack of electrical connectivity owing to the disrupted nature of the southern end of the orebody. At the time, this feature was taken to indicate that surface EM was not the best geophysical technique for application to the surrounding volcanics.

Induced Polarisation (IP) however did provide a strong anomalous response at Que River and IP was chosen as a drill targeting tool and widely applied throughout the QHV. However, IP was responding to the strongly pyritic footwall alteration zone enclosing the Que River orebodies rather than the ore itself. During this period, many drill holes were targeted at coincident soil geochemical and IP anomalies, only to intersect geochemically anomalous alteration.

Failure of IP to discover new deposits led to trialling of a new fixed loop time domain EM system - UTEM, at Que River mine in 1983. This time UTEM detected PQ Lens and it was therefore decided to completely cover all prospective volcanics with this system. Only one conductor as strong as Que River was detected; on the most northern line of the survey. The survey was extended to the north and indicated a deep moderately conductive body over a strike length of 400m, open to the north, where it plunged under conductive Que River Shale. The UTEM anomaly was coincident with weakly anomalous soil geochemistry, barite veining and fuchsite alteration. In August 1983 the first hole intersected 24m of massive sulphide in the Hellyer orebody.

By November 1984 approximately 22,000m of delineation drilling had been completed and in June 1986 a 1.3km adit was driven to intersect the orebody. The Hellyer reserve was defined as 16.9Mt @ 13.8% Zn, 7.2% Pb, 0.4% Cu, 167 g/t Ag and 2.5 g/t Au. Production commenced in December 1986, using underground methods, with production peaking at around 1.3mt pa until the orebody was mined out in June 2000. Material was processed at the newly constructed 1.3Mtpa Hellyer mill, purpose built to accommodate the fine grinding necessary to liberate the sulphides via flotation.

From 1984 to around 1992 exploration focussed on drill testing with targets grouped:

- continued drill testing of surface EM anomalies
- testing of targets at the Hellyer ore position at various prospective structural locations and in some cases a slightly deeper Que River ore position and
- testing of the Hellyer ore position, on top of the Hellyer footwall alteration zone, down plunge, north of the Hellyer orebody.

Generally, targets of the first and second categories intersected barren ore positions with no significant alteration.

All holes were surveyed with downhole EM.

North of Hellyer, a barren ore position underlain by strong footwall alteration and overlain by thick strongly fuchsite-carbonate altered basalt was followed north to 11400N in step-outs of up to 200m.

By 1992 it became clear that surface EM had effectively sterilised the QHV down to 200m for a Que River sized target and 400m for a Hellyer sized target.

In 1992 Etheridge and Henley (now SRK) produced a regional structural model to generate conceptual, deep, structural/stratigraphic targets. (Murphy in Bates, 2007). The structural / stratigraphic targets began to be tested from 1993 as the structural model evolved and targets became evident.

At this time reinterpretation of Mount Read Volcanics raised the possibility that the Rosebery orebody may be younger than Hellyer (rather than older as previously thought) and hosted by correlates of the Southwell Subgroup. Prospectivity of felsic volcanic sequences north of Hellyer was increased and these rocks were surveyed with surface EM. Only one anomaly worthy of follow up was located and drill tested. It was found to be due to Tertiary sediment.

The main period of drill testing from 1995 to 1996 identified structural / stratigraphic targets, with nine of the highest ranked areas being tested by at least one hole. Some targets provided sufficient encouragement for further drilling which was also carried out during this period. Of note was the “rediscovery” of the Hellyer alteration system down plunge from the orebody on section 12000N, where from earlier drilling it was thought to have died out. Although deep, the system remains open to the north.

Partial digest or Mobile Metal Ion (MMI) geochemistry was used in the Hellyer area in 1996. In-house research showed that partial digest soil geochemistry detected an anomalous response 300m above the Hellyer orebody. Given this potential it was decided to survey approximately 10km along strike north from Hellyer mine to the exploration licence boundary.

The survey only detected one coherent anomaly, which coincided with the highly ranked Mayday structural target, 4km north of Hellyer which was drill-tested in 1997 with a 1500m vertical diamond hole but it failed to intersect the QHV or a source for the anomalous soil geochemistry.

Western Metals took ownership in late 1998 and drilled four holes prior to the completion of mining at Hellyer. The Tasmanian Government (MRT), together with AMIRA completed a regional seismic traverse in 1996, with data available in 1998, across the Hellyer area to improve regional understanding. This was complemented in 2002-03 when the MRT flew close spaced airborne magnetics, radiometrics and EM across the entire Mt Read Volcanics belt.

Bass Metals acquired the tenements. In 2006 Geoinformatics Exploration Inc. carried out its geological modelling and target generating work regionally.

Drilling around the Southern Barite Lens prospect intersected high grade polymetallic sulphides. Further drilling defined the Fossey orebody. By 2009 a resource of 800kt @ 0.4% Cu, 5.8% Pb, 9.9% Zn, 137g/t Ag and 2.5g/t Au was defined. Mining commenced in January 2011 but due to problems ceased in May 2012.

A regional scale programme of drill core sampling combining a short wavelength infra-red (SWIR) spectral study utilising ASD, and trace element litho-geochemical study utilising ICPMS/OES analysis,

was carried out on drillcore from rocks in the footwall (predominantly) part of the stratigraphic sequence in the Que-Hellyer area with spectra collected over a total of 66,270 SWIR samples and 3451 geochemical samples from 186 drill holes.

This research highlighted nine high quality targets of which Mt Charter North and Mt Charter West are two. The nine target areas were identified by alteration facies and pathfinder elements combined (see figure 2.1).

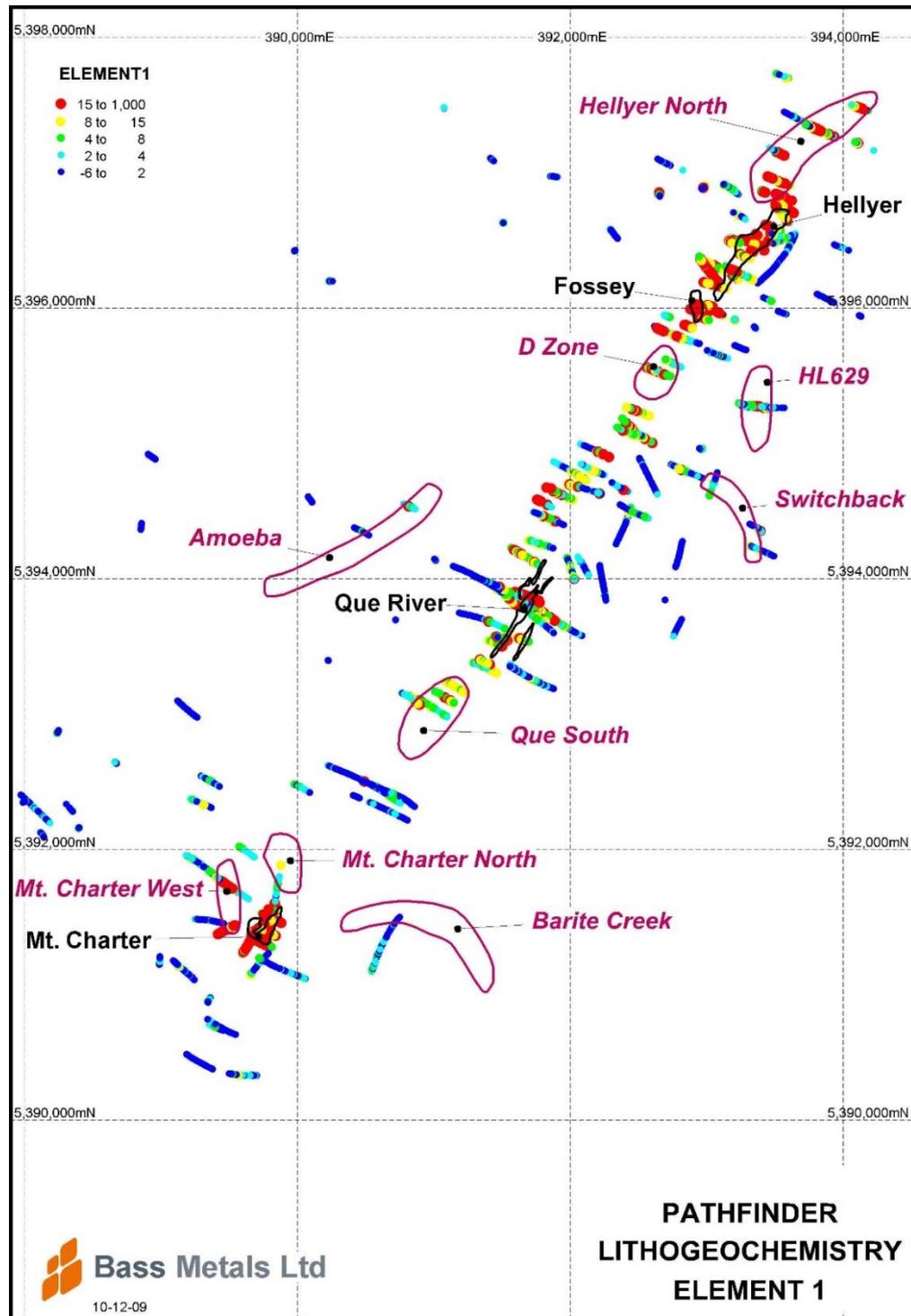


Figure 2.1: Trace element lithochemical dispersion of “pathfinder element 1” = Arsenic from Bass Metals work. Note anomalous responses at Mt Charter and Mt Charter West.

The Hellyer Mt Charter Corridor was flown with a new generation high power airborne EM survey, VTEM. The 600km flight line helicopter borne VTEM survey covered approximately 50km². 34.9 line-km was flown over Mt Charter with a strong IP effect interpreted over the South Charter anomaly but no conductive response identified.

“During 2013 the Mt Charter area was part of an external consultants review of the current geological model and exploration strategy for the Que Hellyer Volcanics. The scope of the review was to assess the current geological model and identify targets comprising alteration signatures that may be indicative of undiscovered mineralisation. The work was undertaken as a collaboration between Dr Scott Halley (Mineral Mapping Pty Ltd) and Dr Jun Cowan (Orefind) with consultants from JigSaw Geoscience; Dr Brian Krapez and Mr Carl Young together with Bass’ geologists.” (Richardson , 2014a)

In February 2013, Bass Metals sold its’ wholly owned subsidiary Hellyer Mill Operations Pty Ltd (HMO) to Ivy Resources Ltd. As part of this agreement Ivy Resources, through HMO, had a sub-licence agreement with Bass Metals over RL11/1997. This agreement gave Ivy Resources exclusive rights to the gold deposits on RL 11/1997, including the Mt. Charter Gold resource and future gold mineralisation discovered on RL 11/1997.

It appears that RL 11/1997 was inadvertently relinquished.

2.2 Mt Charter Prospect Exploration/Evaluation History

Systematic exploration of the Mount Charter prospect has been in progress since the discovery of Que River in the early 1970's. Previous workings in the area had exposed barite outcrops which were associated with pyrite-sericite- silica altered volcanics. Exploration has been primarily oriented toward discovery of massive sulphide deposits. (McNeill, 1997)

Drilling commenced at Mount charter in 1976 when MC1 (19S.5m) and MC2 (187.4m) were drilled to test a north-south trending IP frequency effect anomaly. Both holes intersected alteration and mineralisation similar to that in the footwall at Que River. (McNeill, 1997)

Diamond drill hole MC3 (260.4m) was drilled in 1978 to test the down dip extension of the massive baryte-pyrite mineralisation exposed by costeaning at Mount Charter. Drilling intersected similar alteration and mineralisation to that in MC1 and MC2.

Re-interpretation of the geology at Mount Charter (Hespe, 1984) indicated that the stratigraphy was striking north-west, south-east and dipping moderately to the south west. The implication of this interpretation was that down dip potential along the interpreted host horizon (andesite-dacite contact) existed to the south west.

Three diamond drill holes MCS (299.8m), MC6 (319.1m) and MC8 (235.3m) were drilled in a north easterly direction to test this position during 1984. MCS and MC8 intersected the interpreted host horizon which contained no significant mineralisation and were terminated in sericite-pyrite altered dacite. MC8 failed to reach the andesite-dacite contact and stopped in andesite. (McNeill, 1997)

The holes were systematically assayed for the same suite of metals as the BSM recent programs however, as the focus was not on gold at the time, a core-grind method was employed over intervals ranging from 4 to 10 metres to obtain indicative geochemical data only. Core has been subsequently cut and re-assayed. Intercepts from the early phases of drilling, pre-BSM, at Mt Charter included: (Murphy in Bates, 2007)

- 56.4m @ 1.6g/t Au, 38g/t Ag
- 64m @ 0.8g/t Au, 7g/t Ag
- 22m @ 1.0g/t Au, 46g/t Ag

Recognition of the potential of the Mount Charter mineralised system to host a large tonnage low grade gold resource encouraged the drilling of MAC23 (280.0m) to test variations in gold grade with

stratigraphic level in the mineralised system. The hole was drilled in 1989 and intersected similar mineralisation to that encountered in previous MC1, 2 and 3.

A further hole, MAC26 (850.7m), was drilled in 1990, to test the concept that base metal mineralisation in stringer veins at Mount Charter may have been remobilised from a massive sulphide deposit at depth beneath the dacite. This position would be stratigraphically closer to the Que River and possibly Hellyer host positions. The hole was successful in intersecting host type lithologies, i.e. volcanoclastics and basalt, near the base of the dacite but no massive sulphides were intersected. Precious metal mineralisation was intersected in the dacite as in previous drill holes. (McNeill, 1997)

Geological mapping, rock-chip sampling, and soil sampling by Aberfoyle Resources geologists over the Mt Charter area recognized several major structures in the area and interpreted these as growth faults due to changes in thickness of stratigraphic units across the structures. The barite-silica-pyrite alteration was interpreted as strongest at the intersection of these Cambrian faults. It was also recognized that the Mt Charter Au-Ag Barite associated mineralisation was located in the upper part of the Mixed Sequence as opposed to the Hellyer and Que River deposits which are located at the base of this unit.

Knowledge gained from the Hellyer drillout showed that a clear relationship exists between the orebody and the stratigraphic contact between footwall andesite and hangingwall basalt. This horizon, the Mixed Sequence, became a key target throughout the QHV. Comparison with Que River indicated the similar stratigraphic position of the Que River orebodies within a thicker Mixed Sequence. The Mt Charter mineralisation is also hosted by this unit. (Murphy in Bates, 2007).

In 1997 Aberfoyle estimated a resource for the Mt Charter deposit of 13 Mt at 0.3% Pb, 0.6% Zn, 16 g/t Ag and 0.9 g/t Au using a polygonal method. Assay data was taken from mostly core grind samples. In 1997 Aberfoyle applied for a Retention Licence over the Mt Charter prospect on the basis that further development in the metallurgical study of the Hellyer tailings may lead to the optimal development of the Mt Charter resource.

Bass Metals recommenced exploration in the Mt Charter area in the mid 2000's.

A 362 sample infill soil-sampling program was undertaken over Mt Charter with results defining the broad geometry and orientation of the mineralized zone. The highest soil sample assay returned 4.67ppm Au and the defined soil anomaly is continuous at grades of ~1ppm Au.

Five diamond drill holes (MCD020 – MCD024) were drilled into the Mt Charter resource in late 2005 (totalling 541.9m) with better results including: 56.4m @ 1.6g/t Au, 38g/t Ag, 64m @ 0.8g/t Au, 7g/t Ag, and 22m @ 1.0g/t Au, 46g/t Ag.

In 2006 a further twelve holes were drilled into the resource (MCD025-036) to reduce the drill-hole spacing to approximately 50m x 50m.

Intersections obtained during this program included: 51m @ 1.1g/t Au, 32.9g/t Ag, and 1.25% Zn, 92m @ 1.3g/t Au, 32.8g/t Ag, 51.7m @ 1.1g/t Au, 22g/t Ag, and 78m @ 1.7g/t Au, 70g/t Ag

Results were interpreted to suggest that the gold and silver mineralisation occurs in a NNE-striking, sub-vertical package of en-echelon barite ± galena ± sphalerite veins that are not intrinsically related to the Mixed Sequence/Hellyer Basalt (equiv.) contact.

Veins are generally in the order of 2cm to breccia zones of ~3m and are superimposed on a pre-existing sericite+pyrite altered "Mixed Sequence" dacite. This vein set is interpreted to host all Au, Ag, Zn, and Ba mineralisation at Mt Charter.

Drill-hole MCD025 was designed to test this contact at a deeper level to intersect contact-related mineralisation in MCD020 and 021. MCD025 intersected the pyrite-sericite-silica alteration but no veining was observed and no significant assay results were returned from the hole. This supports the

interpretation that mineralisation is associated with the east-west and north-northeast faults, and particularly where these intersect.

Digitally captured historic dipole-dipole 2D IP was 3D modelled with data suggesting that the area immediately to the north west of the Mt Charter deposit was sulphide altered.

Further a chargeability anomaly with characteristics similar to Mt Charter and totally covered by Hellyer Basalt equivalent rocks was defined approximately 400m SW of Mt Charter, the South Charter Prospect.

Diamond drill hole MC004 had a best intersection of 10m @ 0.69g/t Au and 2.5g/t Ag. The interpreted IP data in the above image suggests that there is less pyrite in the alteration at this location.

Re-evaluation of UTEM identified an anomaly lying to the west of the Mt Charter deposit considered similar in type to the existing Mt Charter UTEM anomaly which was tested by drillhole MCD037. The hole intersected a breccia unit with pyritic matrix (ca. 28-42m downhole) considered the most likely source of the UTEM anomaly. The mixed sequence stratigraphy at the end-of-hole position was largely unaltered.

Two soil programs designed to test the North Charter arsenic anomaly and South Charter IP anomaly were completed

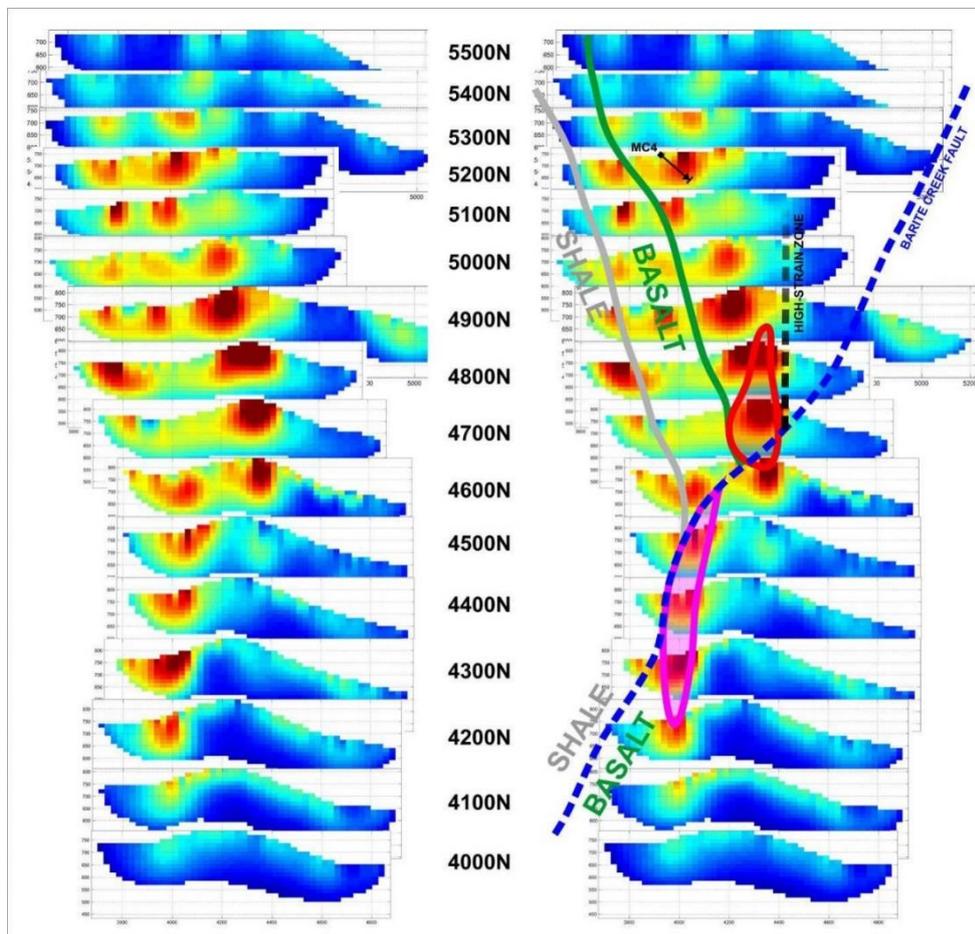


Figure 2.2: Inverted IP pseudo sections in the Mt Charter area. AGD84. Red polygon = Mt Charter resource, magenta polygon = South Charter IP anomaly.

The work confirmed the presence of coincident Sb and Tl with the As anomaly in the Aberfoyle soil dataset.

Detailed mapping of the Mt Charter area was undertaken which shed further light on the controls on mineralisation in the deposit and indicated some areas where shallow drilling could increase the tonnage (~10%) and at the southern end, potentially add some higher grade material also.

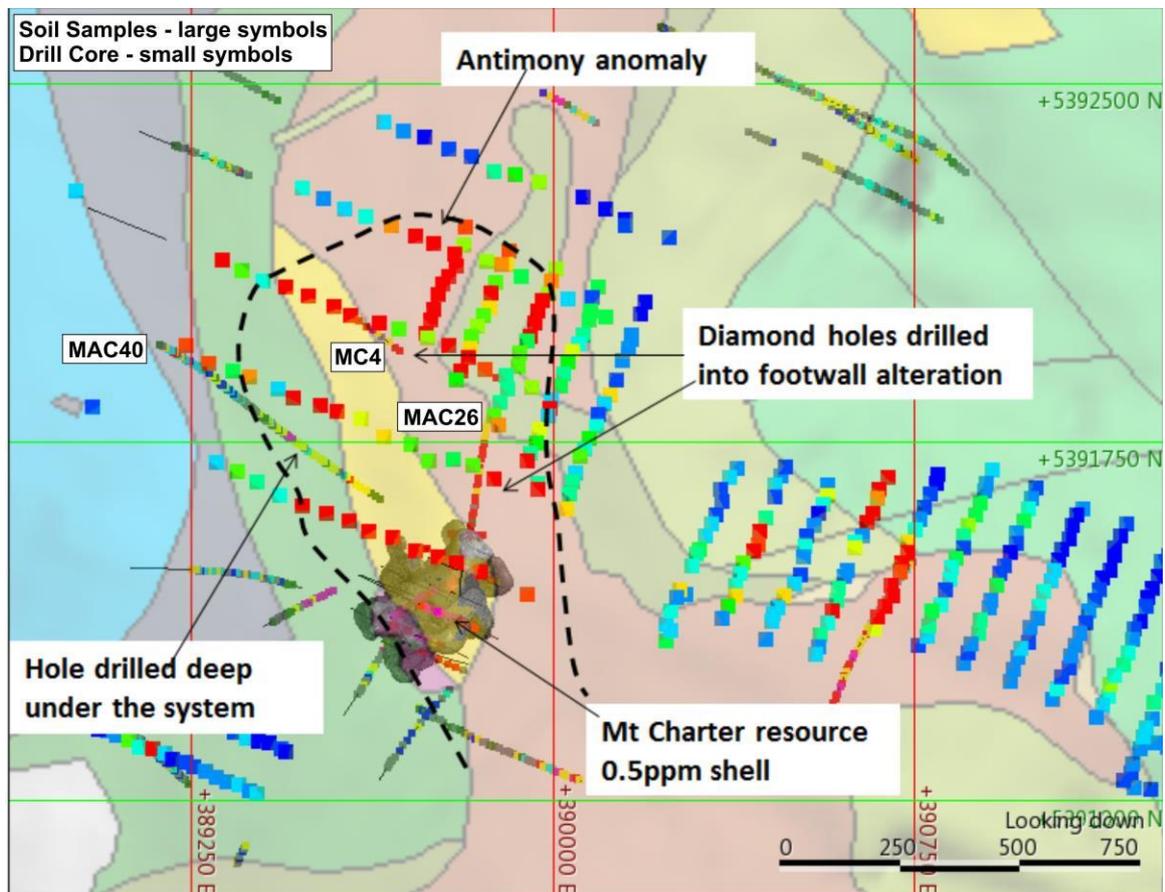


Figure 2.3: Trace element lithogeochemical sampling results at Mt Charter showing anomalous antimony extending beyond the hydrothermally altered zone (= yellow) and Mt Charter resource (Snowdens modelling) (after Richardson, 2014).

In 2014-15 124 C-horizon soil samples were collected. While no new targets were identified the known Mt Charter "pathfinder" anomaly was better defined. This suggests that the Mt Charter hydrothermal system is a major feature, extending well beyond the known gold-silver mineralisation at Mt Charter itself (Richardson, 2014b).

A single 400m diamond drill hole was proposed to explore the relatively poorly tested northern end of the anomaly (Richardson, 2015) but was never drilled.

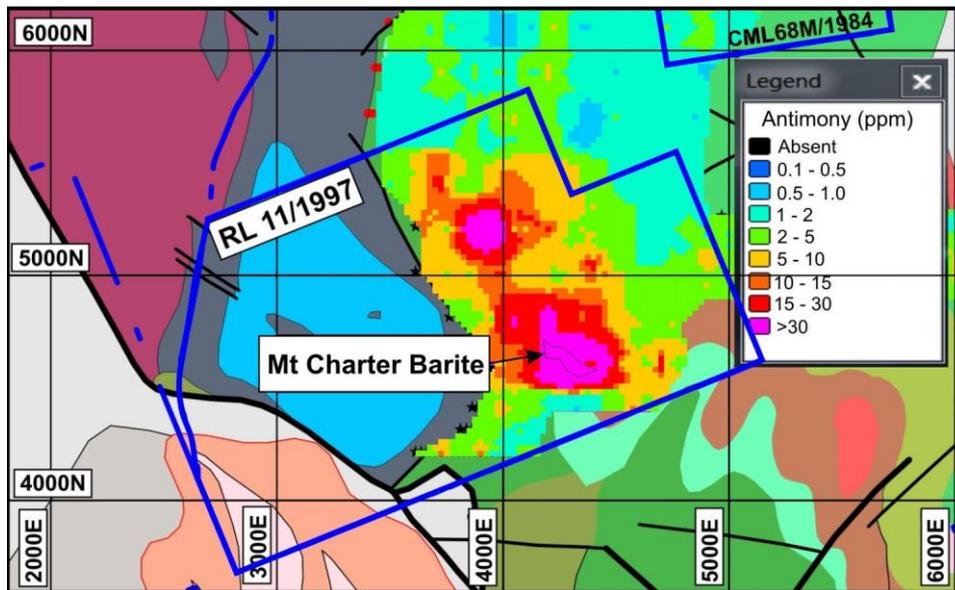


Figure 2.4: Antimony distribution following additional soil sampling in 2014/15 (Richardson, 2015)

2.3 Mt Charter Resource Estimation

The Mt Charter gold resource has been modelled and estimated on two occasions.

In 1997 McNeil modelled the resource for Aberfoyle using a planar polygonal model. He modelled the resource as a Pb+Zn+Ag+Au deposit akin to Hellyer and Que River nearby, i.e. as a base metal resource with precious metal credits.

His cruder estimation methodology calculated a resource of approximately

13 mt at 0.3% Pb, 0.6%Zn, 16 g/t Ag and 0.9 g/t Au (with 10 m.t. at 0.3%Pb, 0.6% Zn, 19 g/t Ag and 1 g/t Au above 137m below the surface i.e. ~700 masl) (McNeil, 1998).

In 2005-2007 Bass Metals carried out systematic grid based drilling in order to both extend and upgrade the knowledge of the resource. Bass were considering the deposit as a precious metal resource with base metal credits and a potential barite by product.

The current resource was determined by consultants from Snowden, in conjunction with Bass Metals Limited geologists, who modelled it as a Au+Ag+Ba+Zn resource. Snowden used ordinary kriging having determined a steeply wnw dipping, nne striking orientation to mineralisation. A 0.7g/t Au cut-off was employed.

The Mt Charter resource is based on 25 holes with a mixture of core grind and half core sampling. Drillholes are on a 50m x 50m pattern with most holes angled east-southeastwards.

Table 2.1: Mt Charter Resource estimate – Snowden 2007:

JORC Code Category	Tonnes Mt	Au g/t	Ag g/t	Ba %	Zn %	Au koz	Ag koz
Indicated	1.9	1.21	36.3	9.1	0.7	74	2,218
Inferred	4.2	1.22	35.2	10	0.4	165	4,754
TOTAL	6.1	1.22	35.5	9.7	0.5	239	6,971

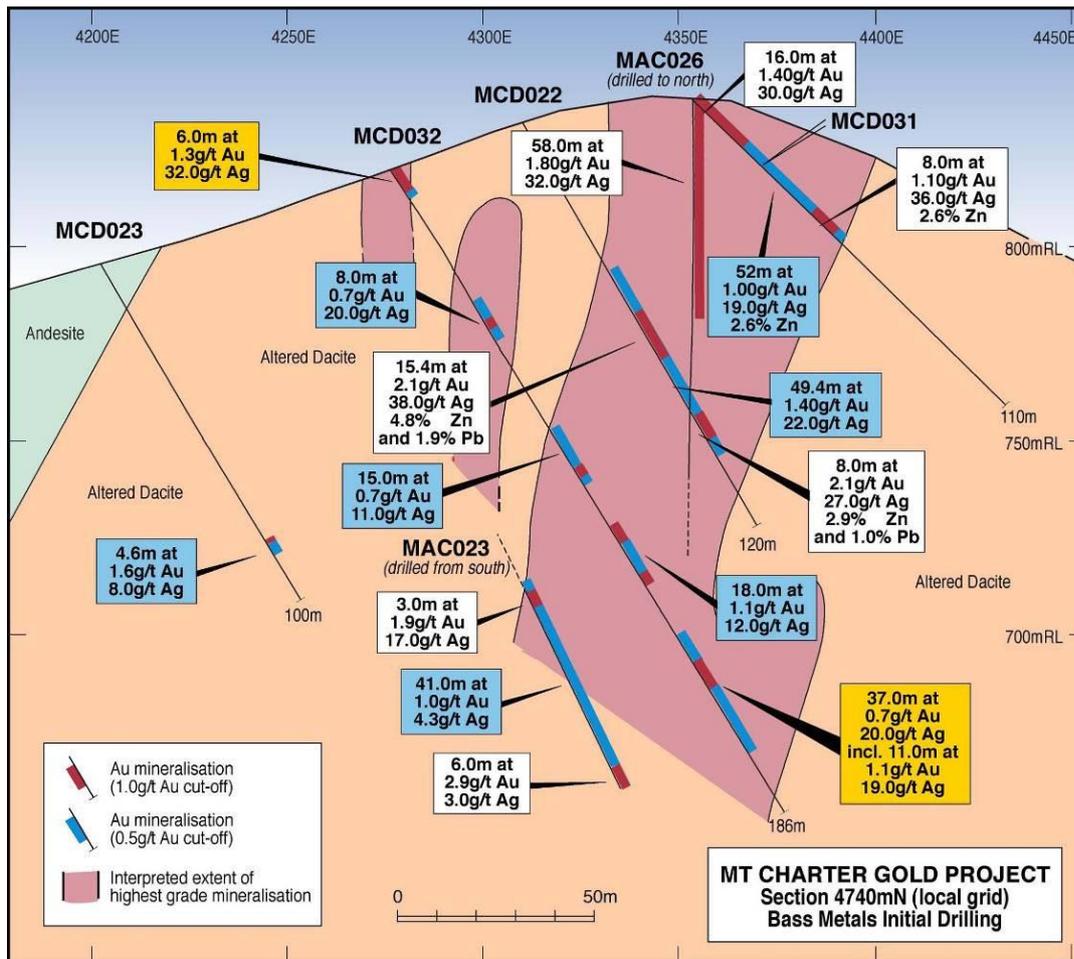


Figure 2.5: Mt Charter drill section 4740mN from Bass Metals resource drilling.

2.4 Metallurgy

Metallurgical testwork was carried out on the Mt Charter ore by Bass Metals in the mid 2000's with gold recoveries determined by direct cyanidation, sulphide flotation followed by cyanidation, barite recovery by gravity and barite recovery by flotation. Bond ball mill work index was determined to be 14.7kW/tonne.

Table 2.2: Bass Metals metallurgy testwork

Testwork	Elements				
	Au	Ag	Cu	Zn	Ba
Head Assay	1.6 ppm	34.2 ppm	594 ppm	1.50%	17.60%
	Recovery (%)				
Direct Cyanidation	48	10	12	0.2	-
Flotation	86	92	93	98	2
Cyanidation of Float Tails	60	34	13	4	-
Overall recovery for float followed by cyanidation	95	95	-	-	-
Barium Recovery by Flotation					84

Preliminary results showed encouraging recoveries using the sulphide flotation followed by cyanidation process.

“The objective of the flotation testwork was to assess the flotation behaviour of Au, Cu, Ag, Pb and Zn mineral species and to float a bulk sulphide concentrate. These preliminary, bench scale test results show encouraging recoveries using a flotation stage followed by a cyanidation process route” (Murphy, 2007).

Low recovery of precious metals by direct cyanidation are consistent with historic results and appear to be attributable to there being approximately 50% of the gold present within the sulphide mineral grains. Direct cyanide recovery was relatively insensitive to grind size over a 45 to 75 micron size range (Murphy, 2007).

A separate test was undertaken for barite to assess flotation as a possible process for upgrading barite into a potentially saleable product. The barite concentrate produced had a barium grade of 50.2 % which is equivalent to 85.3% barite which, at first pass, exceeds the 65% barite standard generally adopted in the drilling and chemical industries.

A geo-metallurgical study showed that there are two distinct types of pyrite in the paragenesis of the Mt Charter mineralisation, one Au-bearing and the other not. The barren pyrite would therefore dilute a sulphide-concentrate possibly to the detriment of the metallurgical evaluation of the deposit.

It was concluded that further more detailed metallurgical testwork was warranted.

3.0 Exploration Completed February 2017 to February 2018

Work completed in the first year has focused on determining a feasible way to develop the resource economically.

To this end work has focused on:

1. Reassessment of the resource with a more critical approach and with areas of insufficient data detailed. This involved attempting to recreate the Snowdens model in the first instance. Subsequent to this two new resource models were generated. The three models are shown in figure 3.1.
 - a. The first model was gold driven using a nominal 0.7g/t gold cut-off in modelling and only extended to a depth of ~700 metres above sea level. The model hard domains the Mt Charter Main zone and specifically excludes the Upper West and Lower East zones as having insufficient data at this stage for a mine plan to accommodate these two latter zones.
 - b. The second model was gold equivalent driven to place emphasis on barium, silver, lead and zinc content as well as gold. A nominal 0.7g/t gold equivalent cut-off was used but with reference to barium grades. This model encompassed the Main zone and most of the Lower East zone but again excludes the Upper West zone. The model extends to a depth of ~585 metres above sea level.
2. The nature of the gold+silver+lead+zinc+barite mineralisation and in particular the deportment of the precious metals.
3. Utilisation of rock sorting technology as a means of beneficiation on site. A field visit was made by Tomra.
4. Consideration of the two major environmental issues associated with the mining operation, i.e.
 - a. the sulphidic nature of the host rocks and the potential for acid mine drainage into Lake Mackintosh
 - b. the visual impact of the open-cut from the Cradle Mtn. reserve
5. Preliminary costing to allow for a scoping study level of economic assessment.

At the time of reporting the Beaconsfield gold mill was in the process of being acquired. This mill has the capacity to treat the Mt Charter ore but lies some distance away on Tasmania's north coast. Significantly the Beaconsfield mill has a bacterial oxidation circuit which is capable of dealing with refractory gold. Consideration has been given to the effectiveness of the Beaconsfield gold mill in treating Mt Charter ore.

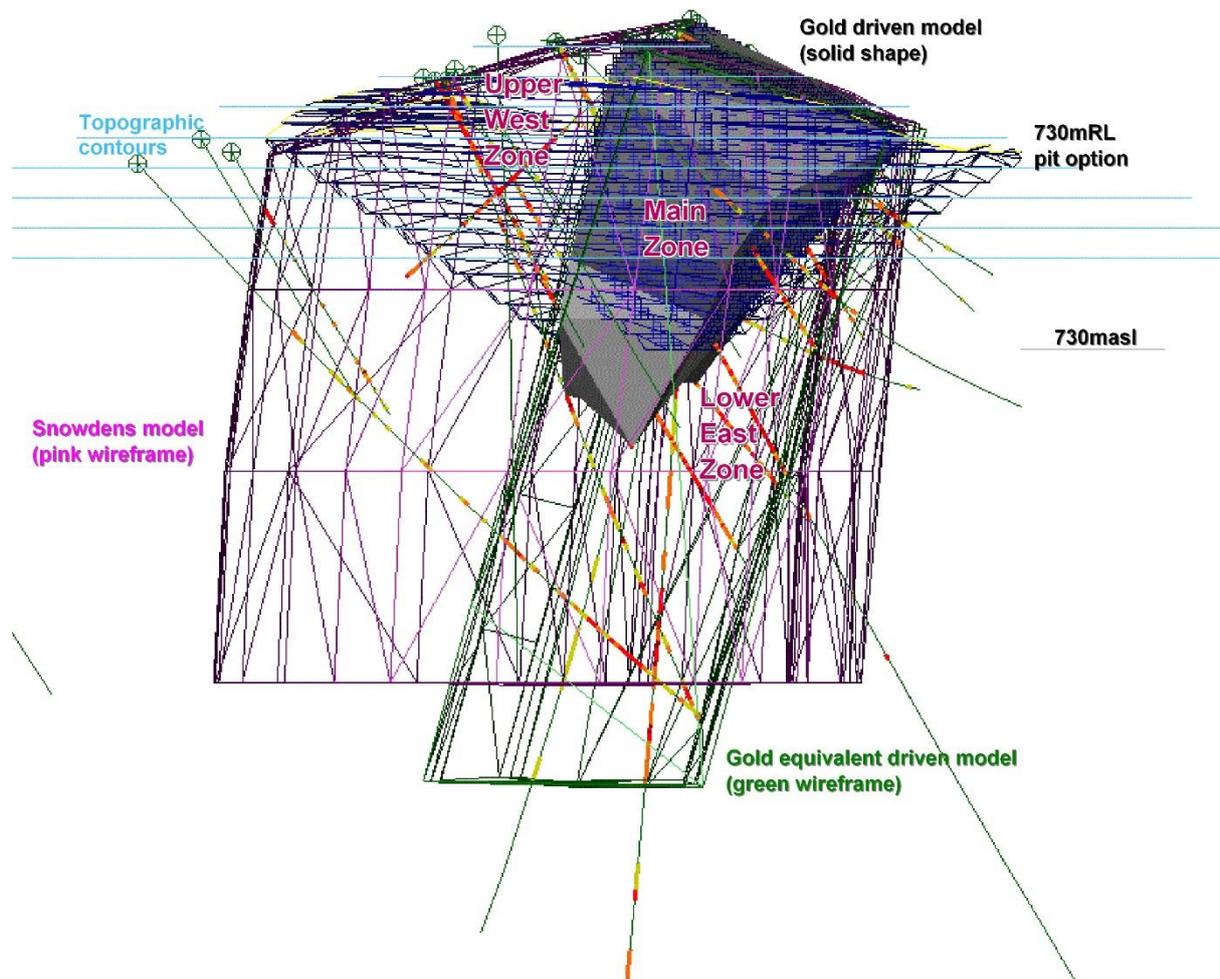


Figure 3.1: Looking towards 030° showing the three resource models and drill holes coloured by gold equivalence. The Snowden's wireframe (reconstructed approximately from their cross-sections) is in pink. The gold equivalent driven model is in green and the gold driven model is shown as a solid. The three mineralised zones, Main Zone, Upper West Zone and Lower East Zone are also shown.

4.0 Discussion of Results

The Mt Charter resource was remodelled and re-estimated twice in part in order to better determine the feasibility of developing the resource in the near term. It was not the intent to generate fully compliant JORC (2012) resources, however, the numbers generated are unlikely to differ from a JORC (2012) compliant resource significantly.

The first, smaller, model/estimation is gold driven and extends to ~700masl. The second, larger, model is gold-equivalent driven, placing emphasis on barium, silver, zinc and lead distribution as well as gold and extends deeper to ~585masl. Neither models include the Upper West Zone which is included in the Snowdens model precluding a direct comparison.

Both models were separately wireframed and with separate composite files. A single block model *mt_charter_model_v3.mdl* was created with both smaller model and larger model attributes included.

4.1 Resource Remodelling and Re-estimation – Gold Driven Model

4.1.1 Introduction

Snowden's 2006 resource was modelled using a large wireframe enclosing all mineralised intercepts and then utilising variography and Ordinary Kriging to statistically model the north-northeast striking, steeply west dipping (-70° to 290°) trend of mineralisation into separate zones by soft domaining. An attempt was made to recreate the Snowdens model using the sections in the report. The wireframe generated is included in the digital data accompanying this report as *snowdens_model_adjmg94ed.dtm/str*

Visual appraisal of the drill data in 2D sections and in 3D in SURPAC shows mineralisation to occur in three distinct discrete zones of barite+quartz+sulphide+silver+gold veining, i.e. Main, Upper West and Lower East zones (see figure 3.1).

Most mineralisation occurs in the coherent Main Zone where there has been most drilling. A lesser amount is found in the Upper West Zone (which was included in Snowden's wireframe) and less again in the less distinct Lower East Zone (which was not included in the Snowden wireframe due to its depth). The three zones are shown on figures 3.1 and 4.5 to 4.12.

The Main Zone was remodelled in SURPAC and estimated as a single hard domain herein. Estimation was done by Ordinary Kriging using the same variography and parameters as Snowden. New composites were generated. The wireframe generated is included in the digital data accompanying this report as *mt_charter_orebodyed_v3.dtm/str* and the composite file generated as *1m_comps_assays_smallermdl_all.str*.

The Upper West zone was not included in modelling and estimation as it needs (and warrants) further drilling. The Lower East zone is likely uneconomic and should be re-assessed in the light of more detailed studies on the feasibility of the Main and Upper West zones.

4.1.2 Mt Charter Main Zone Resource

Orebody Geometry

The Main zone, as defined by drilling and modelled accordingly, is 275m long, ranges in true thickness from 30m (northern end) to 80m (southern end) and has been intercepted and modelled to a depth of 140m.

The body strikes 020° and dips at -70° to 290°, reflecting the geometry of the barite+quartz+sulphide+gold+silver veins which host mineralisation.

The northern end of the resource remains open though mineralisation is weakening in this direction. The southern end is apparently discrete and quite abrupt with no significant mineralisation on section 4540 in holes MC2 and MCD25. It is likely a faulted surface and may be represented by the clayey zone in the upper part of MCD36 (needs visual confirmation). If so the fault is possibly a controlling structure from which the en-echelon array of barite+quartz+sulphide+gold+silver veins propagated.

Data

The access database used to carry out the modelling work is included in the digital data accompanying this report as *Mt_Charter_database_for_MRT.mdb*.

Table 4.1 lists all holes at Mt Charter which contain mineralised intercepts or which lie within the area modelled herein.

Table 4.1: Drill Holes Used in Re-modelling Mt Charter mineralisation

Hole Number	Easting (GDA94)	Northing (GDA94)	RL	Hole Length
MAC23	389776.968	5391566.794	818.976	280
MAC26	389894.297	5391605.38	837.845	850.7
MAC32	389967.779	5391739.836	805.6	278.4
MC1	389850.805	5391709.666	820	195.5
MCD21	389825.267	5391530.605	832.135	120.2
MCD22	389857.998	5391635.049	831.564	120.2
MCD26	389871.039	5391578.442	835.757	119.8
MCD27	389871.039	5391578.442	835.757	106.6
MCD28	389853.771	5391693.349	822.427	188.8
MCD29	389922.92	5391664.27	832.655	131.8
MCD30	389939.634	5391713.314	821.837	89.8
MCD31	389900.523	5391619.974	838.968	110.3
MCD32	389822.47	5391640.217	819.003	185.9
MCD33	389799.532	5391607.493	816.846	134.8
MCD34	389826.508	5391530.086	832.288	142.2
MCD35	389835.626	5391593.773	830.085	376.45
Rockchip Leg2	389918.415	5391613.095	827.7	51

The Main Zone was remodelled using the following intercepts. These intercepts are coded as “main” in the ore_smallmdl table in the *Mt_Charter.mdb* ACCESS database which is attached in the digital files accompanying this report.

Table 4.2: Drill Hole Intercepts Used in Re-modelling the Main Zone

Hole	From (m)	To (m)	Interval (m)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Ba (%)	Au equiv. (g/t)
MAC023	135	188.2	53.2	0.63	7.3	0.026	0.024	0.125	5.4	1.26
MAC026	0	106.2	106.2	1.21	24	0.06	0.78	1.38	14.5	4.25
MAC032	0	62.8	62.8	0.21	13.5	0.01	0.003	0.094	2.69	0.66

MC01	79	133	54	1.05	7.6	0.02	0.04	0.45	7.5	2.11
MCD021	0	80	80	1.62	61	0.025	0.165	0.728	17.1	4.32
MCD022	49.2	97.65	48.45	1.37	22	0.097	1.03	2.63	16.1	5.75
MCD026	9	80	71	1.44	35	0.053	0.398	0.994	10.7	3.8
MCD027	7	61	54	1.01	30	0.068	0.586	1.2	12.9	3.75
MCD028	73	131	58	0.72	5.7	0.031	0.174	0.514	6.7	1.84
MCD029	4.8	42	37.2	1.35	26	0.027	0.17	0.432	18.8	3.5
MCD030	16	44	28	0.96	21	0.024	0.114	0.414	14.1	2.67
MCD031	0	52	52	0.96	22	0.0347	0.358	0.762	11.6	2.95
MCD032	82	129	47	0.76	11	0.024	0.217	0.493	8.4	2.06
MCD033	90	134.8	44.8	0.54	11	0.015	0.133	0.294	5.7	1.42
MCD034	0	89	89	1.55	71.5	0.027	0.206	0.729	18.9	4.55
MCD035	49	111	62	1.29	13	0.041	0.415	0.95	11	3.31
ROCKCHIP LEG2	0	51	51	1.35	17	0.015	0.149	0.09	21.7	3.26

New 1m down hole composites were generated using the intercepts listed in table 4.2 (included as *1m_comps_assays_smallmdl_all.str*)

Geostatistics

Snowden's variography indicates a strike direction of 020° and a dip of -70° to 290° to mineralisation. The search ellipse employed in their estimation utilised a ratio of major to semi-major axis of 1:1 and major to minor axis of 2.4:1. These search parameters were replicated in the re-estimation herein.

Table 4.3: Spherical model traditional variogram parameters after back transformation (from Snowden 2006)

	Direction	Nugget	Sill 1	Range 1	Sill 2	Range 2
Au	-70 -> 290	0.13	0.63	25	0.24	270
	00 -> 200			10		100
	20 -> 290			25		65
Ag	-70 -> 290	0.14	0.56	55	0.31	135
	00 -> 200			17		200
	20 -> 290			20		80
Ba	-70 -> 290	0.12	0.72	35	0.16	100
	00 -> 200			50		60
	20 -> 290			35		40
Zn	-70 -> 290	0.15	0.48	20	0.37	110
	00 -> 200			20		120
	20 -> 290			30		120
Pb	-70 -> 290	0.10	0.77	60	0.13	80
	00 -> 200			27		10000
	20 -> 290			30		65
Cu	-70 -> 290	0.15	0.42	30	0.43	100
	00 -> 200			30		110
	20 -> 290			20		60
As	-70 -> 290	0.12	0.65	30	0.23	45
	00 -> 200			20		170
	20 -> 290			15		40
Fe	-70 -> 290	0.11	0.50	50	0.39	110
	00 -> 200			25		60
	20 -> 290			5		10

Bulk Density

Snowden used a bulk density of 3.0t/m³. Murphy (2007) includes digital bulk density data for 689 samples from the whole of Mt Charter with 689 of these corresponding to ore intercepts. These ore bulk densities have a mean of 3.12t/m³ and one standard deviation of 0.45. There is no mention as to how this was determined.

The Murphy (2007) data was estimated into the block model bulk density attribute using inverse distance squared (with a mean of 3.125) and tonnages calculated for each block from this attribute.

Block Model

A new block model was generated in SURPAC with the same size and orientation as the Snowden's larger model i.e. 10mE x 25mN x 5mRL with sub-blocking to 2.5mE x 6.25mN x 1.25mRL.

Estimation

The estimation methodology for gold, silver, copper, lead, zinc and barite were again determined by Ordinary Kriging. Each element was estimated separately with gold equivalence calculated in each block from these estimates using the gold equivalence factors shown in table 4.4.

A single pass estimation with a minimum 10 and maximum 40 samples was used and 2X x 4Y x 2Z discretisation points per block.

Table 4.4: Gold equivalence factors used

gold g/t	1 g/t silver =	1% copper =	1% lead =	1% zinc =	1% barium =
1.0000	0.0126 g/t Au	1.6362	0.6213	0.8283	0.0695

Tons and Grade

Total tons and grade at a range of cut-offs are listed in table 4.5 and shown graphed in figure 4.1.

The total resource (at a 0g/t gold cut-off grade) within the wireframe is

3,304,517t @ 1.21g/t gold, 28.2g/t silver, 0.039% copper, 0.357% lead, 0.912% zinc and 13.1% barium (= 3.51g/t gold equivalent)

for

128,462 ounces of gold, 2,995,954 ounces of silver, 1,285 tons of copper, 11,781 tons of lead, 30,131 tons of zinc, 432,231 tons of barium (= 373,272 gold equivalent ounces)

Table 4.5: Tons and Grade – Gold Driven Model at Range of Gold Cut-off Grades

gold cut-off g/t	volume m3	tons	gold g/t	silver g/t	copper %	lead %	zinc %	barium %	gold equiv. g/t	gold equiv. ounces
0	1071758	3304517	1.21	28.2	0.039	0.357	0.912	13.1	3.51	373272
0.5	1055879	3252527	1.22	28.5	0.039	0.361	0.923	13.2	3.55	371269
1	740625	2298524	1.38	35.2	0.042	0.374	0.984	15.1	3.99	294521
1.5	270508	840158	1.65	49.9	0.042	0.353	0.978	18.1	4.64	125213
2	2559	8349	2.10	35.5	0.085	0.993	1.874	24.7	6.57	1764

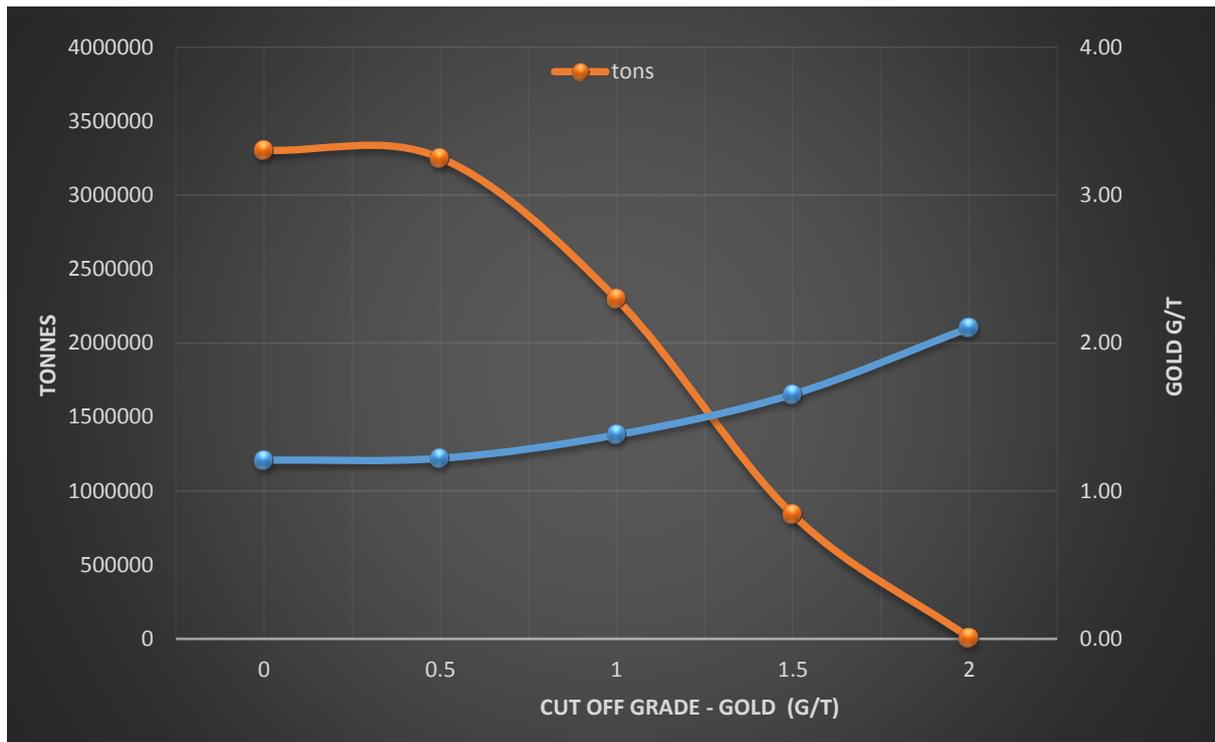


Figure 4.1: Tons and Grade Curves for Gold Driven Model at Range of Gold Cut-off Grades

Table 4.6: Tons and Grade – Gold Driven Model at Range of Gold-equivalent Cut-off Grades

gold equiv. cut-off g/t	volume m3	tons	gold equiv. g/t	gold g/t	silver g/t	copper %	lead %	zinc %	barium %	gold equiv. ounces
0	1071758	3304517	3.51	1.21	28.2	0.039	0.357	0.912	13.1	373272
1	1070527	3300566	3.52	1.21	28.2	0.039	0.357	0.913	13.1	373144
2	959199	2961074	3.73	1.27	30.5	0.041	0.384	0.976	13.9	355043
3	707266	2199749	4.17	1.37	35.8	0.046	0.447	1.116	15.4	294738
4	382969	1202900	4.69	1.50	44.5	0.051	0.494	1.256	17.3	181557
5	67031	218479	5.69	1.59	41.6	0.080	0.810	1.840	20.3	39937

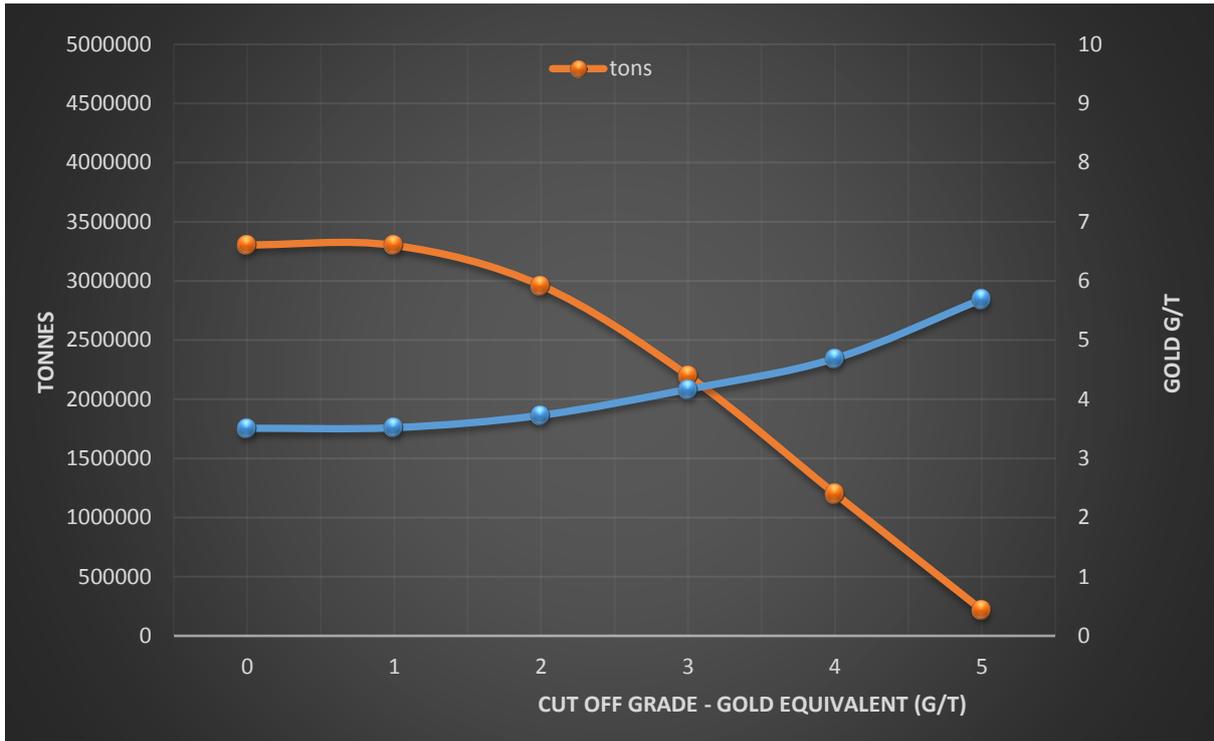


Figure 4.2: Tons and Grade Curves for Gold Driven Model at Range of Gold Equivalent Cut-off Grades

Further drilling may allow refinement of definable higher and lower grade gold, silver, lead and zinc zones within the overall barite veined zone but at this stage it is proposed to mine all barite vein material is if it is gold mineralised.

Pit Optimisation

Preliminary modelling of optimal pit size was commenced with 4 pit options designed and pit depth/size vs depth graphed. The graph shows that the deepest modelled ore is not payable and that a more optimal base of pit is 730mRL (above sea level).

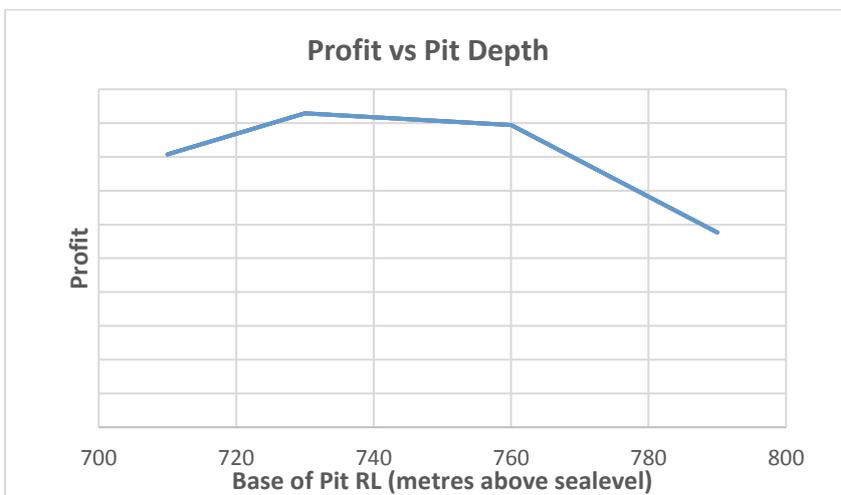


Figure 4.3: Estimated profit versus pit depth options.

4.1.3 Upper West Zone

The Upper West zone was not modelled due to the relative lack of data and the lack of a western bound, however, it is considered to be a robust zone of mineralisation which is worth further drill assessment. The zone is defined by intersections in 5 drill holes over a distance of 100m from section 4640 to 4740. Intercepts considered to define the Upper West zone of mineralisation are listed in table 4.5.

Four of the holes (MCD32, MCD33, MCD20 and MAC23) are collared in mineralisation and drilled eastwards thus not allowing definition of the western bound to this zone.

It is best defined on section 4640 with a thickness (true) of 45m at its southern end. Its northern end requires further drilling for better definition but has been intersected at 5m thick (true).

A body of 300,000 – 400,000t @ 1.4-1.5g/t gold for 12,500 – 18,000 ounces of gold, 250,000 – 350,000 ounces of silver (27,000 – 37,000 gold equivalent ounces) and ~11% barium for 67,500 – 90,000 tons of barite is suggested from the drilling to date. Its position on largely on surface means it is likely payable and just needs confirmatory drilling.

Defining the geometry of this zone to a workable level of confidence will require at least one shallow hole on each of sections 4640, 4690 and 4740, collared west of holes MCD20, MCD33 and MCD32 respectively and drilled easterly (as a minimum) with two or three deeper holes needed on sections 4690 and 4740 for depth definition and on section 4790 to test the extent of the zone.

Table 4.7: Drill Hole Intercepts - Upper West Zone

Hole	From (m)	To (m)	Interval (m)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Ba (%)	Au equiv. (g/t)
MAC023	0	19.9	19.9	0.87	16.5	0.015	0.23	0.15	3.9	1.64
MCD020	0	59.8	59.8	1.8	35	0.022	0.05	0.109	13.2	3.31
MCD032	0	7	7	1.19	33	0.03	0.226	0.673	17	3.54
MCD033	0	2	2	2.02	36.5	0.01	0.118	0.012	8.25	3.15
MCD033	2	8	6	0.495	9.8	0.007	0.083	0.087	3.46	0.99
MCD033	8	25	17	1.65	19	0.024	0.117	0.295	10.5	2.98
MCD036	39	53	14	1.19	40	0.015	0.099	0.082	7.15	2.35
MCD036	64	77	13	1.45	37	0.013	0.09	0.486	19.2	3.73
MCD036	109	116.4	7.4	1	9	0.023	0.045	0.146	5.94	1.71

4.1.4 Lower East Zone

Table 4.8: Drill Hole Intercepts - Lower East Zone

Hole	From (m)	To (m)	Interval (m)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Ba (%)	Au equiv. (g/t)
MAC023	196	222	26	1.245	3.7	0.028	0.126	0.307	3.9	1.94
MAC026	197.4	251.6	54.2	0.54	9	0.07	0.67	1.4	5.41	2.73
MCD021	89.4	100	10.6	1.04	25	0.019	0.146	0.326	6.9	2.23
MCD026	84	96	12	1.24	38	0.014	0.106	0.323	10.1	2.77
MCD032	144	166	22	0.95	15	0.033	0.4	1.05	13.9	3.27
MCD034	102	105	3	2.33	61	0.017	0.017	0.3	13.3	4.31
MCD035	132	152	20	0.83	18.3	0.021	0.466	1.06	19.5	3.61

4.2 Resource Re-modelling and Re-estimation – Gold equivalent driven model.

4.2.1 Introduction

Prices for barite and zinc have increased in recent times to the point that barite constitutes 24.5% of the total value of the Snowden resource with zinc constituting 15% and silver 16.2%. Gold constitutes 44.3% of the total value. This assumes the barite is not of sufficient quality to be used for industrial purposes. If this is incorrect and the barite can fetch the premium price accorded to industrial grade barium then barium will constitute over 50% of the total value of the Snowden resource.

The resource was completely remodelled with gold equivalence the driver but with consideration given to high grade barite outliers.

The resource was re-wireframed (*new_auequiv_model_ed_obj1.dtm/str*) with new composite files generated (*1m_comps_assays_largemdl_all.str*).

As opposed to the gold driven model this gold equivalent model was projected to approximately twice the depth of the former taking in much of the Lower East Zone but still completely excluding the Upper West Zone (due to the lack of significant spatial constraints on this zone).

4.2.2 Mt Charter Gold-equivalent (= Gold+Barium+Zinc+Silver+Lead) Resource

Orebody Geometry

The gold-equivalent driven model is wider than the gold driven model and incorporates much of the Lower East zone.

The wireframe created has a strike length of 300m, is around 80m thick throughout, and extends over 250m vertically to ~585mRL.

Data

The same holes as used for the gold driven model were used with 4 additional holes as listed in table 4.8. These holes come into play due to the broader and deeper wireframed model for the gold-equivalent driven model.

Table 4.9: Extra Drill Holes Used in Gold Equivalent Model

Hole Number	Easting (GDA94)	Northing (GDA94)	RL	Hole Length
MC2	389798.616	5391515.73	827.2	187.4
MC3	389711.07	5391654.375	791.4	260.4
MCD20	389767.202	5391556.551	818.865	100.6
Rockchip Leg1	389916.111	5391665.846	831.8	40

Intercepts used in the gold equivalent model are different to those used in the gold driven model and are listed in table 4.9. The Main Zone was remodelled using the following intercepts. These intercepts are coded as “ore” in the ore_barite_gold table in the *Mt_Charter.mdb* ACCESS database which is attached in the digital files accompanying this report.

Table 4.10: Drill Hole Intercepts Used in Gold-Equivalent Driven Model

Hole	From (m)	To (m)	Interval (m)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Ba (%)	Au equiv. (g/t)
MAC023	110	280	170	0.56	4.80	0.02	0.06	0.24	3.38	1.13
MAC026	0	268.1	268.1	0.74	12.41	0.05	0.50	1.02	7.86	2.67
MAC032	0	226.9	226.9	0.22	5.22	0.01	0.00	0.06	1.62	0.48
MC01	75	141	66	0.96	7.76	0.02	0.05	0.42	6.78	1.94
MC02	22.4	116.2	93.8	0.18	8.17	0.01	0.03	0.18	2.67	0.64
MC03	170.9	260.4	89.5	0.49	8.24	0.02	0.15	0.43	4.23	1.37
MCD020	97	100.6	3.6	0.01	4.44	0.00	0.00	0.05	0.61	0.15
MCD021	0	119	119	1.34	47.10	0.02	0.14	0.57	13.98	3.49
MCD022	49.2	110.6	61.4	1.14	18.61	0.08	0.82	2.10	13.17	4.67
MCD026	0	97	97	1.27	32.47	0.04	0.32	0.79	9.65	3.28
MCD027	0	62	62	0.95	28.95	0.06	0.53	1.05	11.54	3.42
MCD028	73	175	102	0.65	7.24	0.02	0.16	0.47	6.77	1.74
MCD029	0	59.5	59.5	1.02	20.21	0.02	0.12	0.29	13.09	2.53
MCD030	16	84	68	0.67	14.29	0.01	0.06	0.24	8.26	1.69
MCD031	0	59	59	0.89	21.75	0.03	0.32	0.68	10.87	2.73
MCD032	79	181	102	0.67	10.89	0.02	0.25	0.59	8.51	2.09
MCD033	66	134.8	68.8	0.52	10.39	0.02	0.13	0.30	6.01	1.43
MCD034	0	107	107	1.42	62.52	0.03	0.18	0.64	17.58	4.11
MCD035	29	161	132	0.91	12.73	0.03	0.35	0.74	10.10	2.65
ROCKCHIP LEG1	0	5	5	0.64	8.20	0.07	0.06	0.05	16.78	2.09
ROCKCHIP LEG2	0	51	51	1.35	17.27	0.02	0.15	0.09	21.67	3.26

Geostatistics

These same search parameters used in the gold driven model was used in this estimation.

Bulk Density

Bulk density was again estimated into the block model using Murphy's (2009) data.

Block Model

A new block model was created using the same block and sub-block sizes are the gold driven model. This model was extended to a depth of 250m.

Tons and Grade

Total tons and grade at a range of gold equivalent cut-offs are listed in table 4.11 and shown graphed in figure 4.2.

The total resource (at a 0g/t gold equivalent cut-off grade) within the wireframe is

14,697,251t @ 0.7g/t gold, 14.1g/t silver, 0.024% copper, 0.183% lead, 0.495% zinc and 6.9% barium (= 1.92g/t gold equivalent)

for

329,389 ounces of gold, 6,665,747 ounces of silver, 3,586 tons of copper, 26,848 tons of lead, 72,816 tons of zinc, 1,011,759 tons of barium (= 894,257 gold equivalent ounces)

Table 4.11: Tons and Grade – Gold-equivalent Driven Model at Range of Gold-equivalent Cut-off Grades

gold equiv. cut-off g/t	volume m3	tons	gold equiv. g/t	gold g/t	silver g/t	copper %	lead %	zinc %	barium %	gold equiv. ounces
0	4964941	14697251	1.92	0.70	14.1	0.024	0.183	0.495	6.9	894257
1	4191309	12108323	2.14	0.77	15.6	0.026	0.211	0.564	7.8	845494
2	1638574	5140549	3.13	1.05	25.2	0.035	0.328	0.821	11.9	495812
3	736270	2311242	3.97	1.32	34.1	0.043	0.414	1.027	15.0	290242
4	308926	1006671	4.68	1.49	43.0	0.052	0.504	1.259	17.4	146789
5	55977	228094	5.82	1.62	40.1	0.085	0.858	1.920	20.5	34317

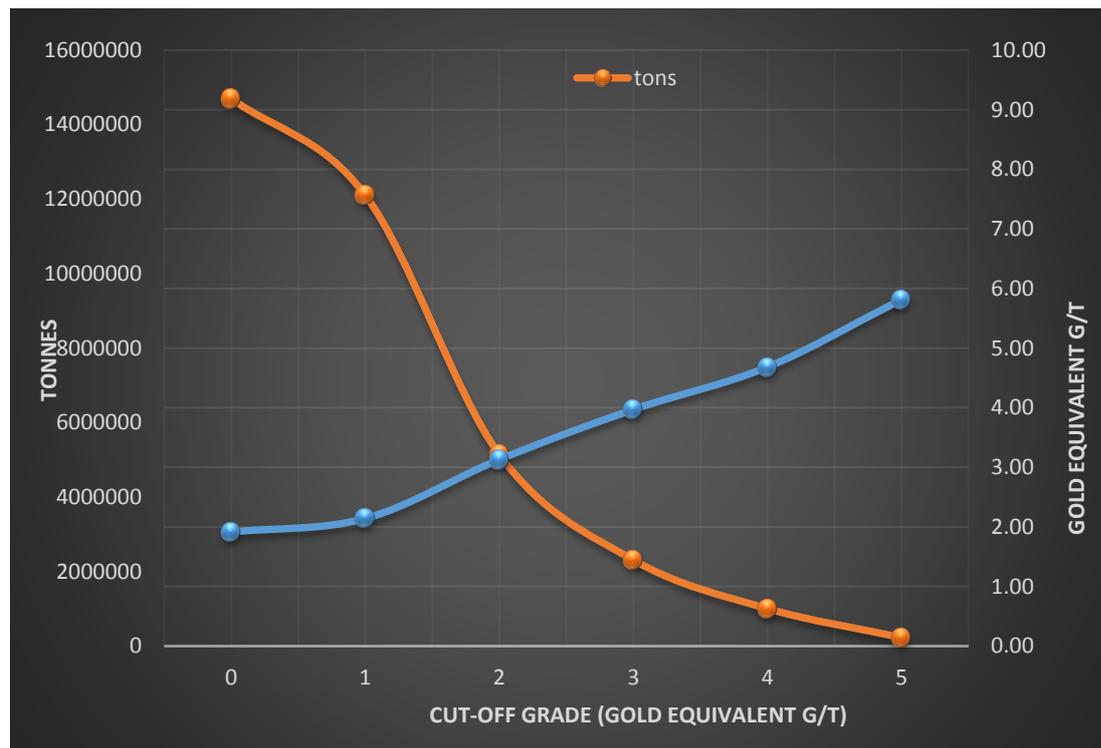


Figure 4.4: Tons and grade graph for gold-equivalent driven model at Range of Gold Equivalent Cut-off Grades

Pit Optimisation

No pit optimisation work has been done to date on the gold equivalent resource.

4.3 Comparison smaller gold driven model and larger gold equivalent driven models

Table 4.12: Tons and Grade – Gold Driven Model at Range of Gold-equivalent Cut-off Grades above 730mRL

gold equiv. cut-off g/t	volume m3	tons	gold equiv. g/t	gold g/t	silver g/t	copper %	lead %	zinc %	barium %	gold equiv. ounces
0	1014004	3119729	3.58	1.24	29.2	0.040	0.359	0.924	13.3	359421
1	1012773	3115778	3.59	1.24	29.3	0.040	0.360	0.925	13.4	359366
2	927266	2860023	3.75	1.28	31.2	0.041	0.382	0.974	14.0	345134
3	691250	2148304	4.18	1.38	36.3	0.046	0.444	1.112	15.4	288812
4	379141	1190444	4.70	1.51	44.8	0.051	0.493	1.254	17.3	179906
5	67031	218479	5.69	1.59	41.6	0.080	0.810	1.840	20.3	39937

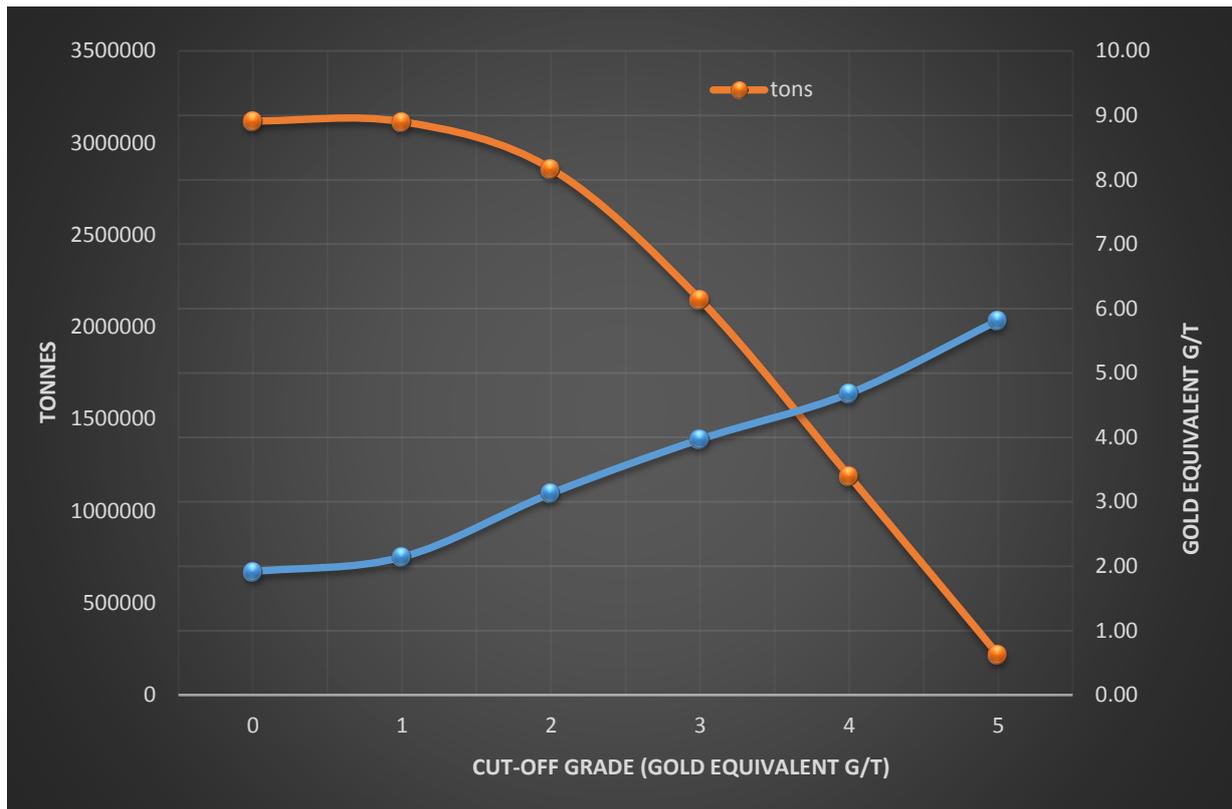


Figure 4.5: Tons and Grade - Gold Driven Model at Range of Gold-equivalent Cut-off Grades above 730mRL

Table 4.13: Gold Equivalent Driven Model at Range of Gold-equivalent Cut-off Grades above 730mRL

gold equiv. cut-off g/t	volume m3	tons	gold equiv. g/t	gold g/t	silver g/t	copper %	lead %	zinc %	barium %	gold equiv. ounces
0	1936992	5797611	2.62	0.95	23.0	0.028	0.232	0.616	9.8	488416
1	1805195	5415855	2.76	1.00	23.9	0.030	0.246	0.653	10.4	480461
2	1173906	3579924	3.38	1.17	29.6	0.036	0.325	0.832	12.7	388497
3	689707	2136852	4.01	1.34	35.2	0.044	0.412	1.028	15.1	275661
4	307676	971425	4.68	1.49	43.1	0.052	0.503	1.258	17.4	146276
5	55977	183538	5.82	1.62	40.1	0.085	0.858	1.919	20.5	34317

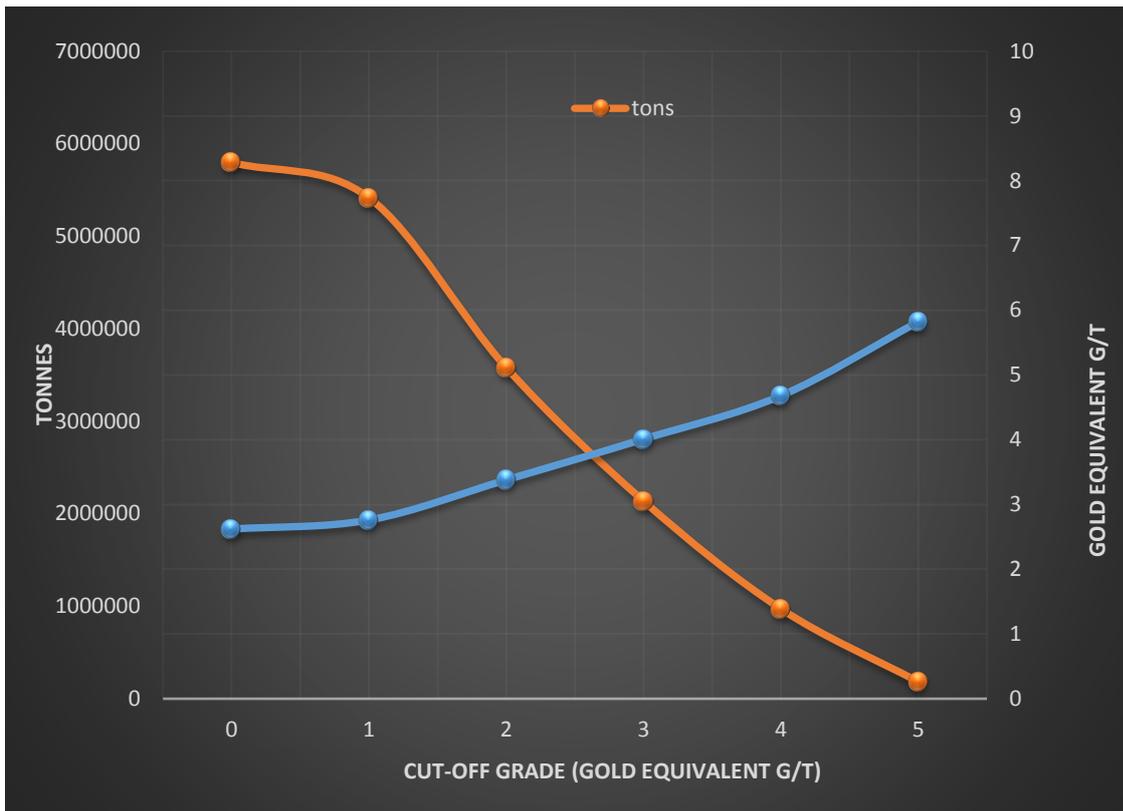


Figure 4.6: Tons and Grade - Gold Equivalent Driven Model at Range of Gold-equivalent Cut-off Grades above 730mRL

At 0g/t gold equivalent cut-off the **smaller gold driven model** contains **3,119,729t @ 1.24g/t gold, 29.2g/t silver, 0.04% copper, 0.359% lead, 0.924% zinc, 13.3% barium and 3.58g/t gold equivalent** for **123,987 ounces of gold, 2,933,749 ounces of silver, 1,236t of copper, 11,211t of lead, 28,821t of zinc and 416,297t of barium and 359,421 gold equivalent ounces.**

At a cut-off of 2.245g/t gold equivalent the **larger gold equivalent driven model** contains **3,060,425t @ 1.225g/t gold, 31.6g/t silver, 0.038% copper, 0.357% lead, 0.899% zinc, 13.4% barium and 3.582g/t gold equivalent** for **120,547 ounces of gold, 3,109,628 ounces of silver, 1,163t of copper, 10,926t of lead, 27,513t of zinc and 410,097t of barium and 352,490 gold equivalent ounces.**

i.e. very similar tons and grades from both models above 730mRL.

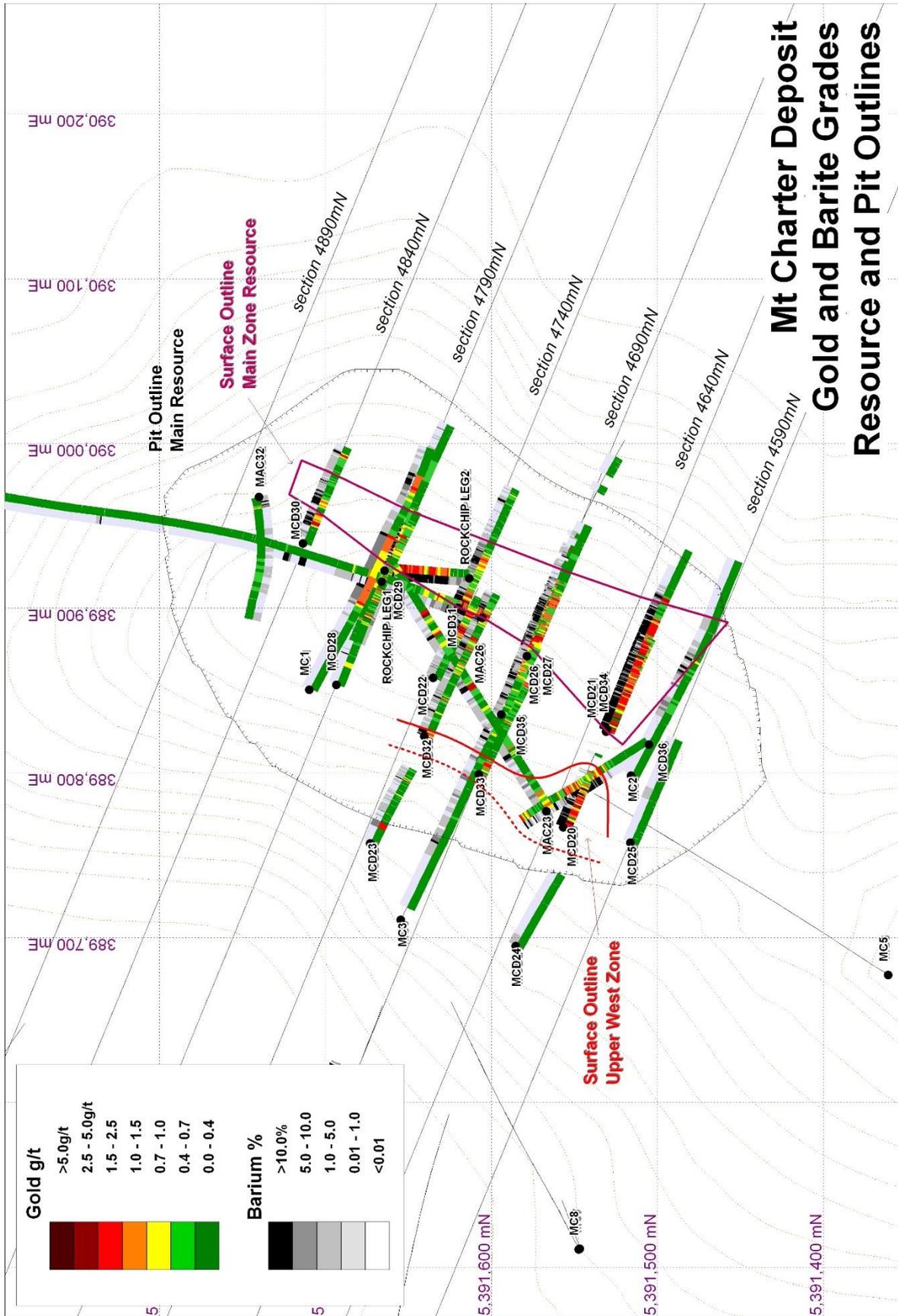


Figure 4.7: Mt Charter plan showing gold and barite distribution, Main zone resource outline, Upper West zone and approximate pit outline for 730mRL pit option.

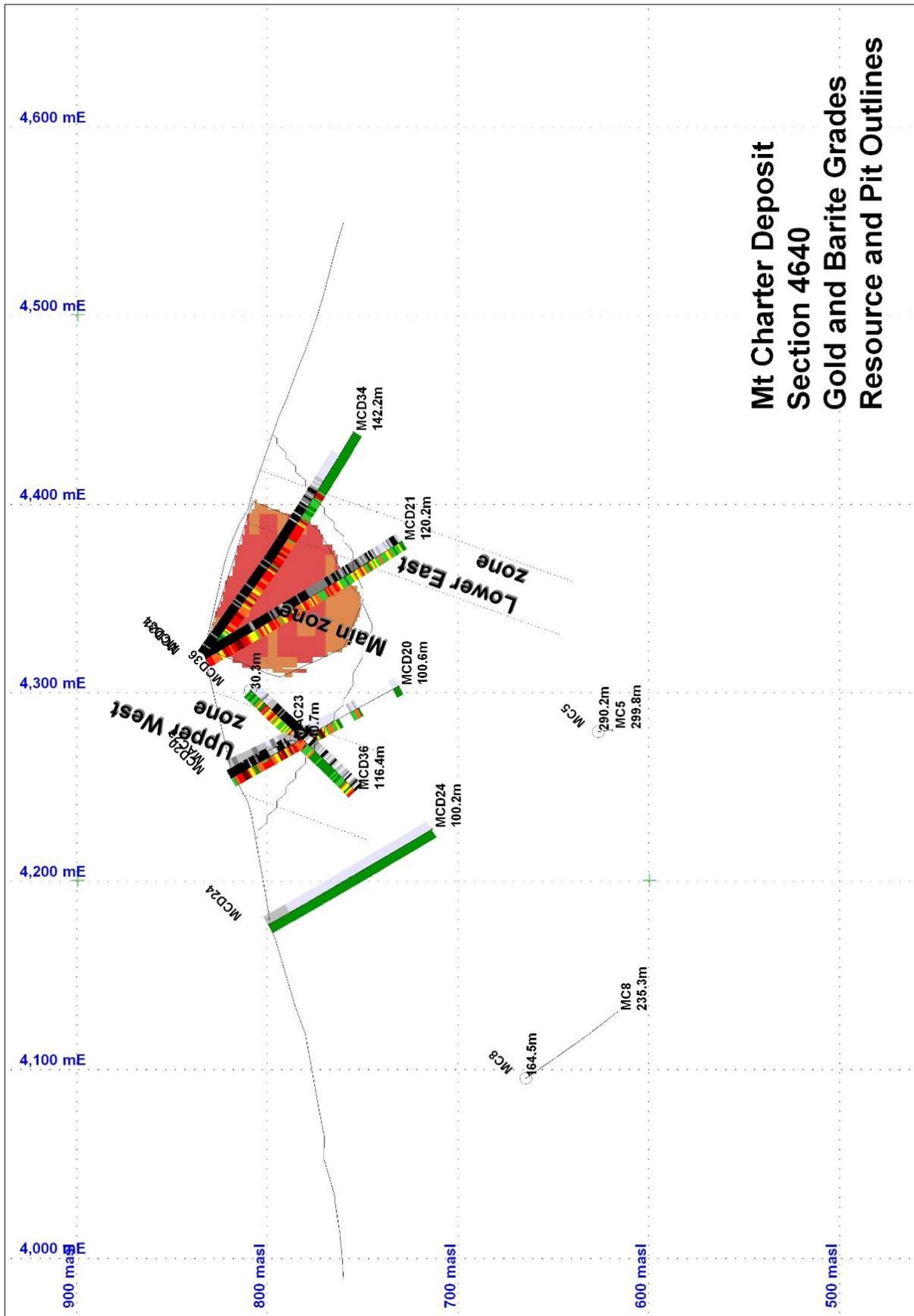


Figure 4.9: Drill section 4640mN (mine grid) showing drillhole gold and barite distribution, Main zone resource outline, Upper West and Lower East zones and approximate pit outline for 730mRL pit option.

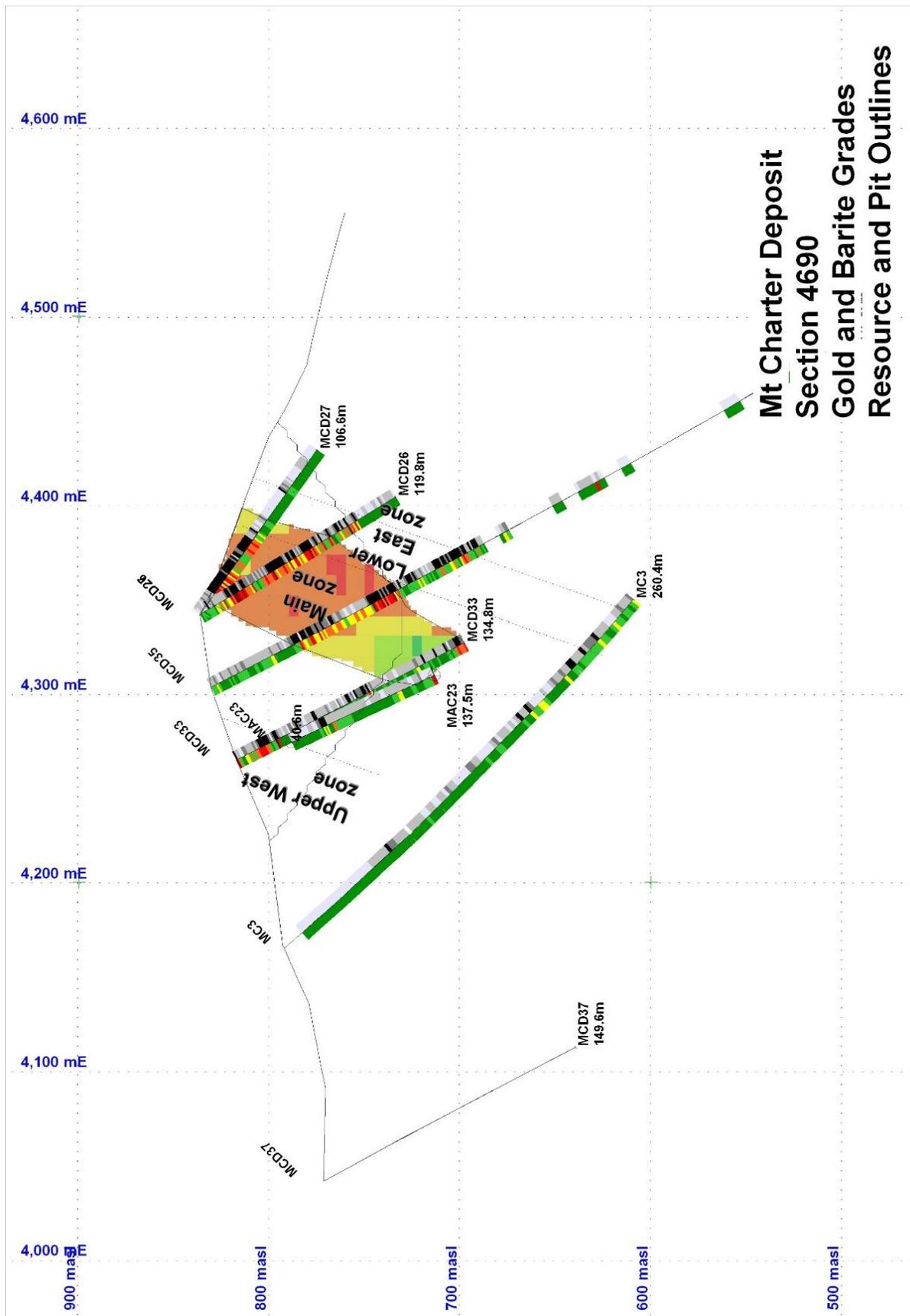


Figure 4.10: Drill section 4690mN (mine grid) showing drillhole gold and barite distribution, Main zone resource outline, Upper West and Lower East zones and approximate pit outline for 730mRL pit option.

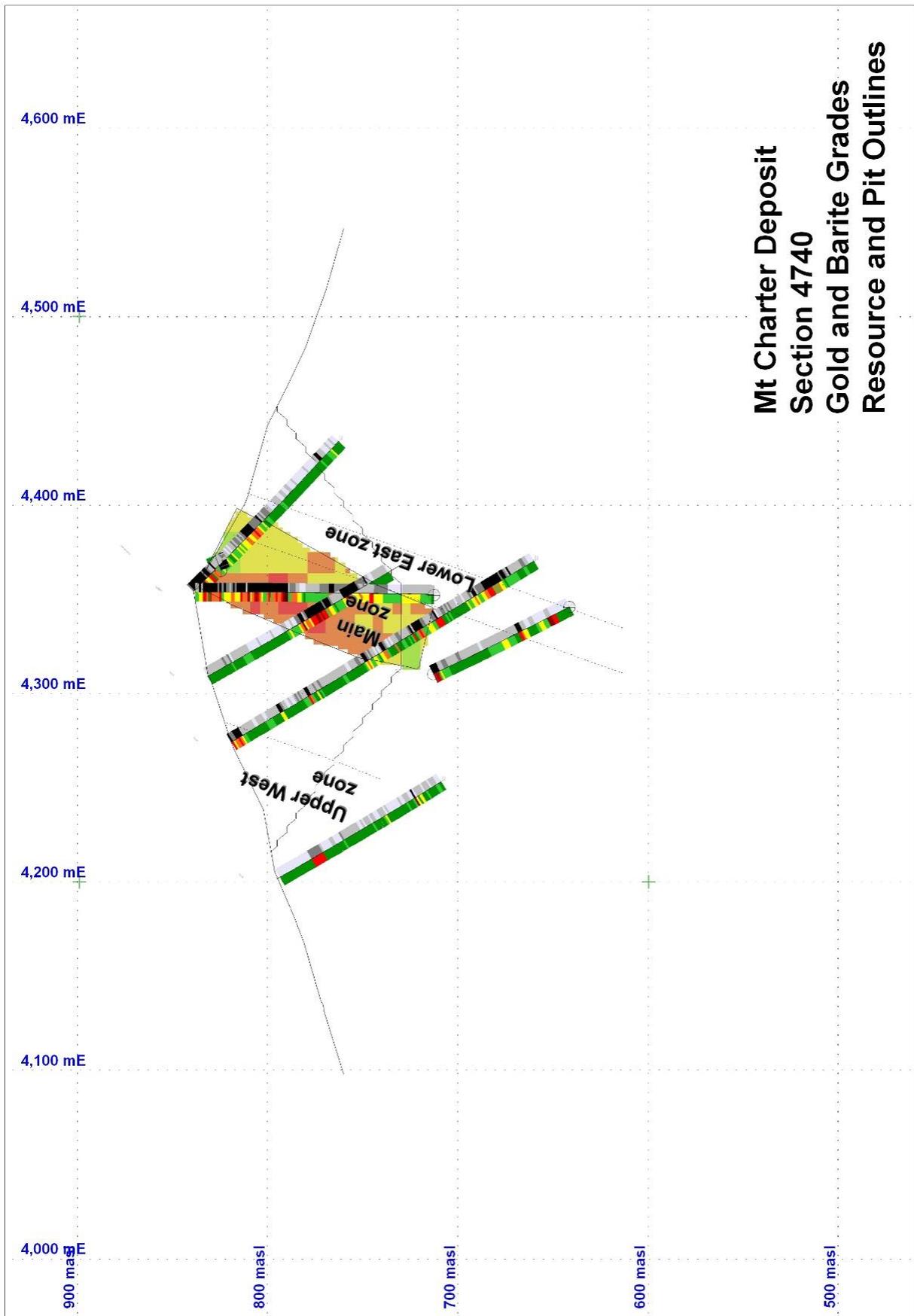


Figure 4.11: Drill section 4740mN (mine grid) showing drillhole gold and barite distribution, Main zone resource outline, Upper West and Lower East zones and approximate pit outline for 730mRL pit option.

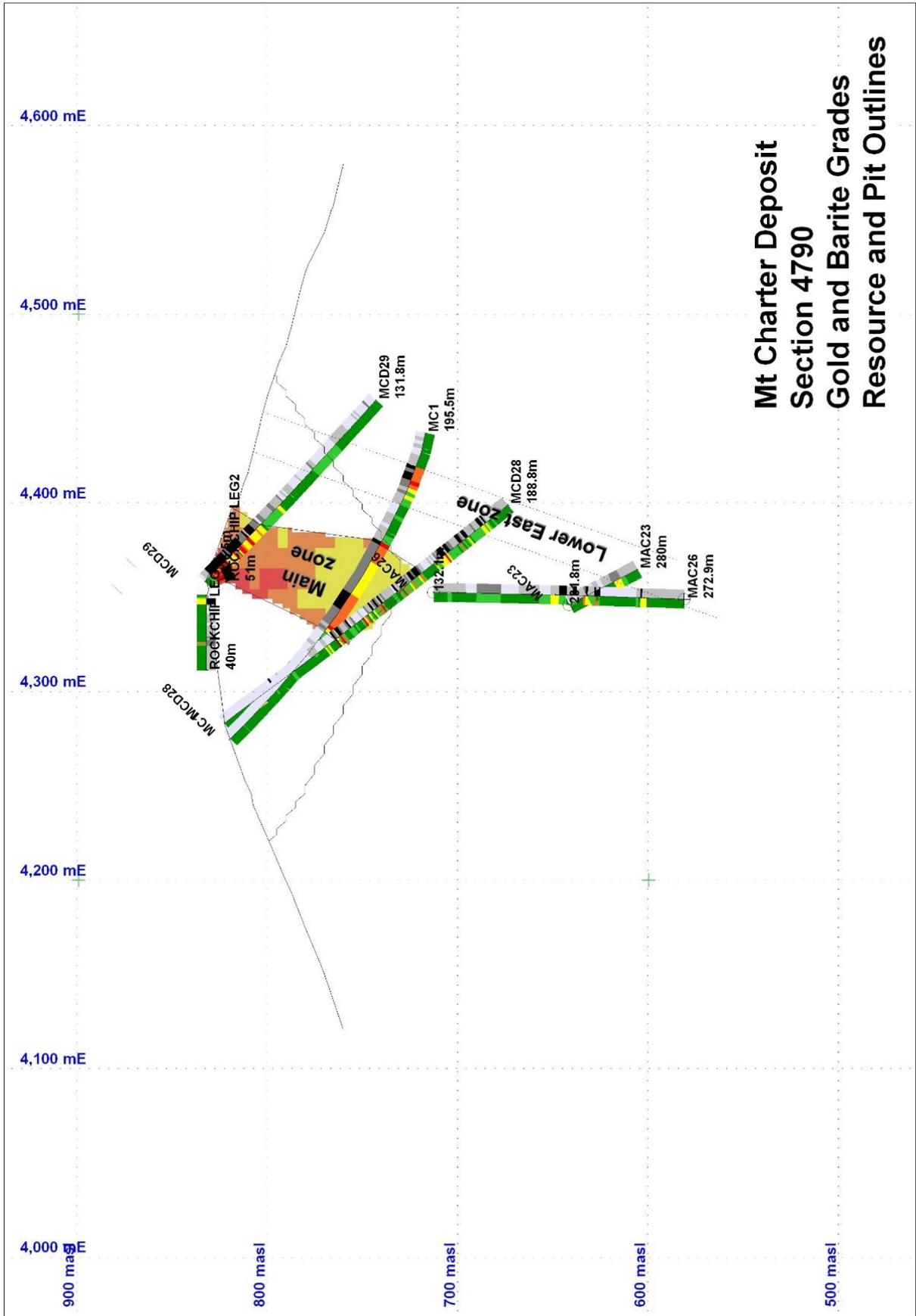


Figure 4.12: Drill section 4790mN (mine grid) showing drillhole gold and barite distribution, Main zone resource outline, Lower East zone and approximate pit outline for 730mRL pit option.

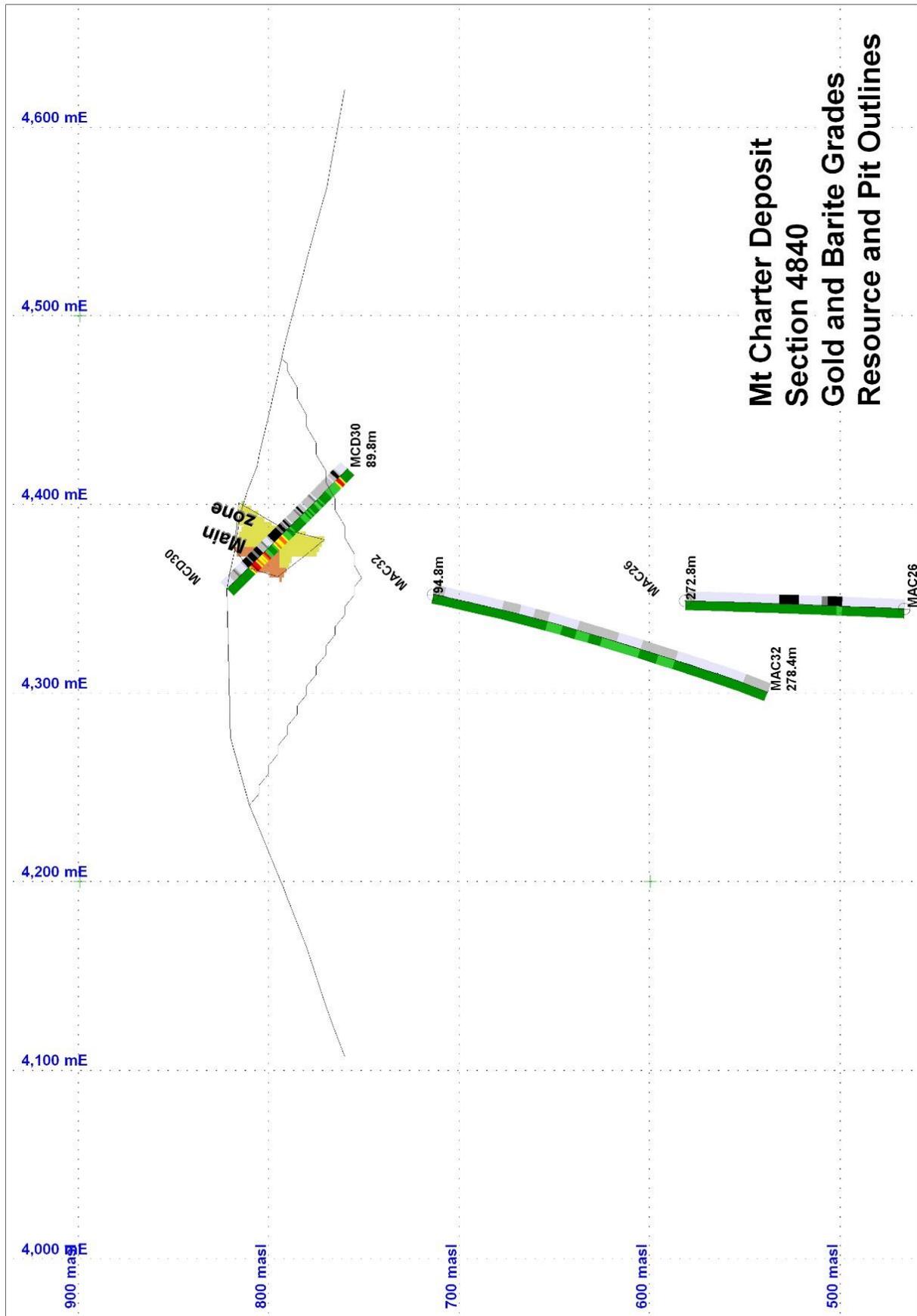


Figure 4.13: Drill section 4840mN (mine grid) showing drillhole gold and barite distribution and approximate pit outline for 730mRL pit option.

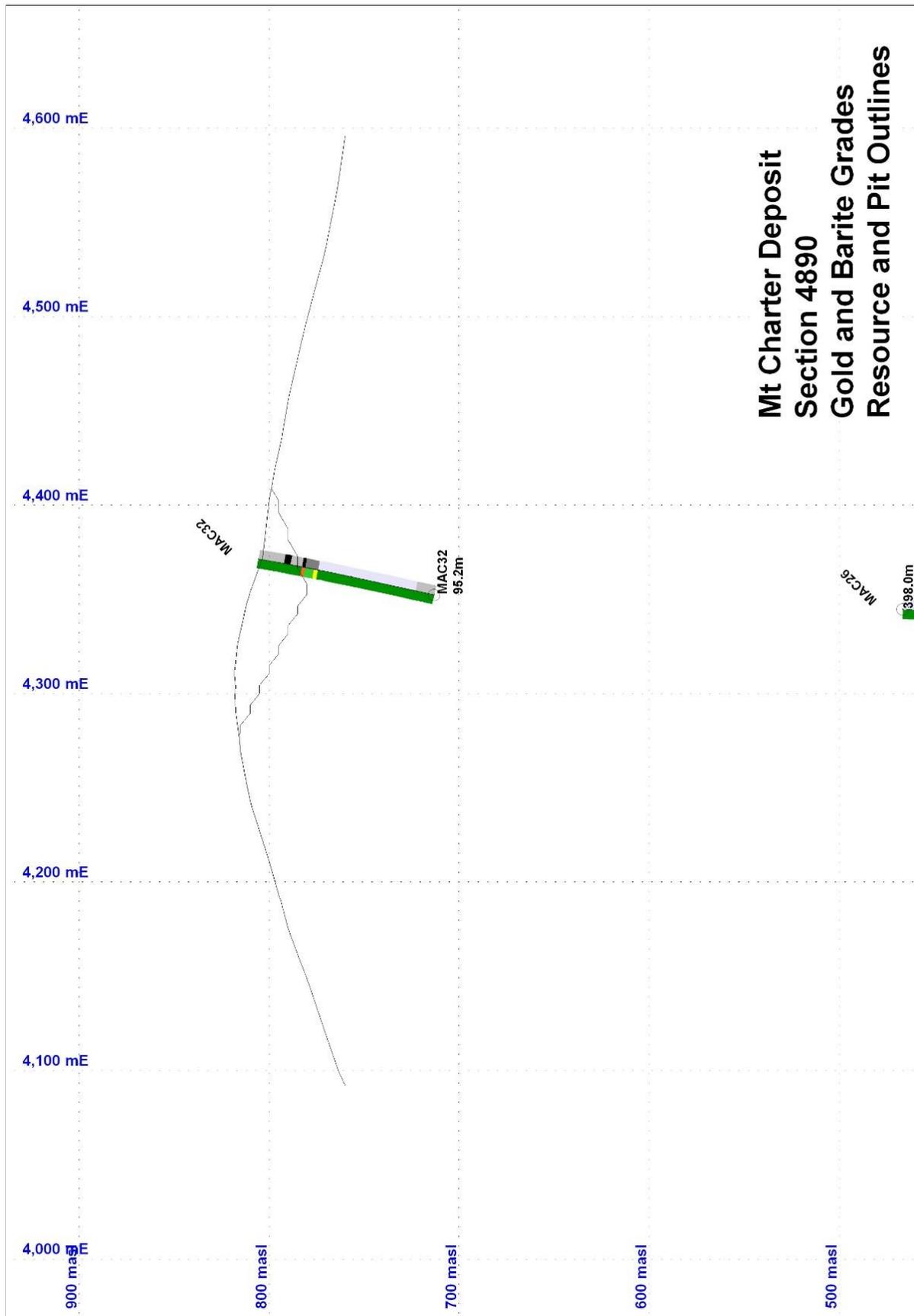


Figure 4.14: Drill section 4890mN (mine grid) showing drillhole gold and barite distribution and approximate pit outline for 730mRL pit option.

4.4 Metallurgy

It is assumed in previous discussion herein that the gold, silver, lead and zinc mineralisation accompanies barite veining though this requires confirmation, particularly the deportment of the refractory gold held in pyrite.

Previous metallurgical testwork has considered the generation of a sulphide+gold concentrate for further milling, however, this work has shown that there are two generations of pyrite, one auriferous and one barren which cannot be separated.

Whilst there has been effectively no study of gold (and silver) deportment other than Sven Rand's honour thesis at the University of Tasmania, reasonably strong correlations between assays for gold, silver and the base metals with barium strongly suggests that the auriferous pyrite is that found in the barite+base metal veins and the barren pyrite is the earlier generation found in the altered dacitic volcanics which host the veins.

The assumption that gold and silver (and lead and zinc) are solely hosted in barite veining needs confirmation by selective sampling/assaying and petrography.

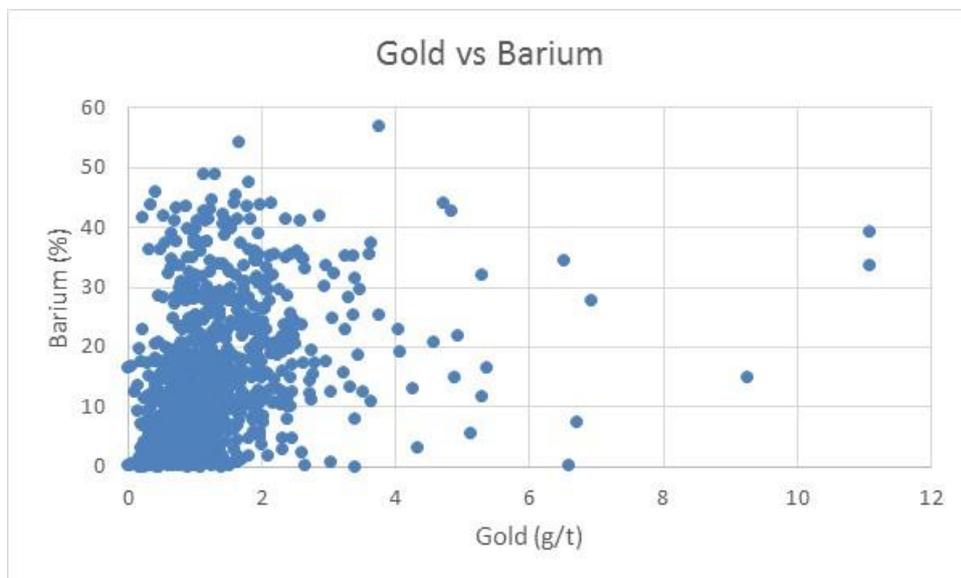


Figure 4.15: Gold vs Barium for whole of Mt Charter database

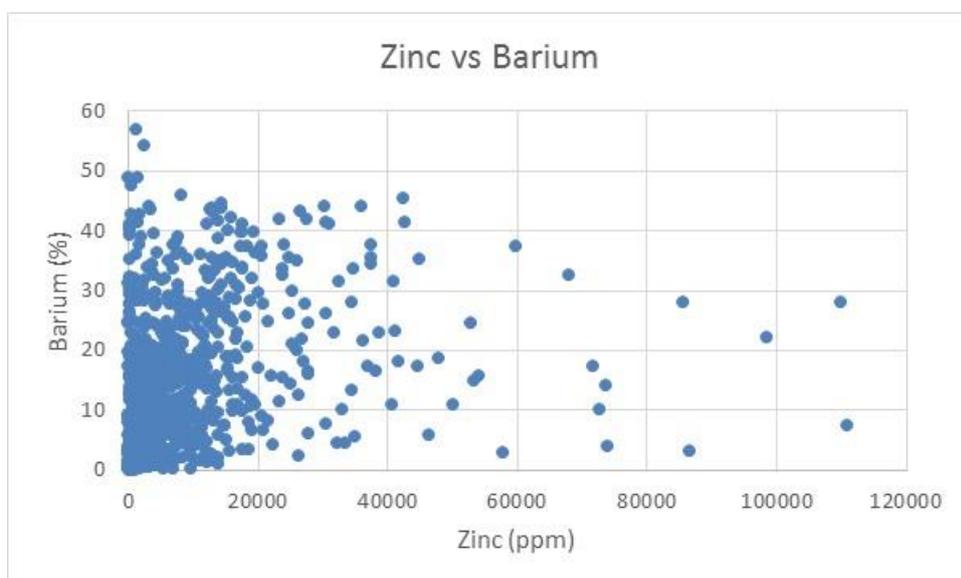


Figure 4.16: Zinc vs Barium for whole of Mt Charter database

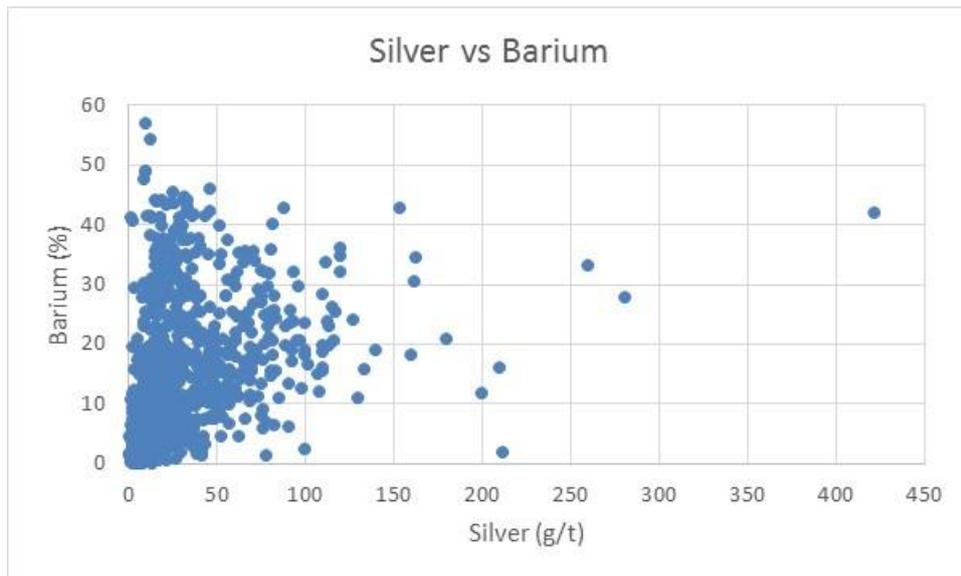


Figure 4.17: Silver vs Barium for whole of Mt Charter database

Test samples have been sent to Tomra who (amongst others) have developed rock sorters which discriminate rock fragments (10mm plus) on a conveyor and sort into ore and waste streams.

Physically sorting the denser white/grey coloured barite+quartz+sulphide veined fragments from lighter yellowish green/brown coloured sericite+pyrite altered dacite host rock appears to be potentially an effective method to beneficiate ore from waste on-site.

Results from rock sorting bench testwork will determine dilution and ore loss factors.

Initial indications are that the separation is achievable. Assay results are awaited to confirm this but are expected to be positive. The next step is bulk sampling and rock sorting. Approximately 4 x 44 gallon drums full of material will be dug by excavator and sent to Tomra.

4.5 Environmental Issues

Two environmental issues had been identified as potential show-stoppers, these being

1. the sulphidic nature of the waste rock to be exposed and removed from the pit.
2. the visual impact of open cut mining in line of site from Cradle Mountain in the Cradle Mountain Lake St. Clair reserve.

Waste and Acid Mine Drainage

Mitigation against acid mine drainage will be a major factor in determining the viability of mining Mt Charter.

The 730mRL pit option sees ~8mt of rock in total removed from the pit of which ~3mt will be ore for primary sorting on site generating a “concentrate” of between ~30% and 50% i.e. 1 – 1.5mt ore to be trucked to Beaconsfield.

The remaining 6.5-7mt will require waste dump storage near to the Mt Charter. Given the pyrite alteration ubiquitous throughout the altered dacite volcanic host rock controlling acid mine drainage from this waste will be an issue requiring more detailed consideration. Leaving it sealed under fresh lake water is a viable option.

Further, the pit will have pyrite altered dacite wallrock at least in a significant part of the pit walls.

Some consideration should be given to disposal of some or more of this waste back in the pit and left under water.

The transported ore will produce ~750kt – 1.3mt of waste tailings at the Beaconsfield mill site. These will need to be either accommodated at Beaconsfield or possibly returned as back loads to Mt Charter for disposal with the other waste.

Mining and Milling Rates

At a currently Beaconsfield mill constrained rate of 30t.p.h. the mine will take 3-4 years. Maintaining mill throughput will only require one truckload (10 yard truck with dog trailer) per hour.

The transported ore will produce 100,000 – 125,000 tons of concentrate over a 3 year period. Current assumptions are recoveries of 90% for all metals with 85% determined to date for barium. The precious metals will either be poured as bars at the Beaconsfield gold mills gold room or sent as gold bearing carbon to the mainland for stripping.

The concentrates considered desirable at first pass appear to be a zinc+lead+copper con and a barite con.

This will be trucked by road train to port.

Visual Impact

Visually the mining operation lies in line of site with the Cradle Mountain Lake St. Clair National parks northern end and in particular the peak of Cradle Mountain, however, with the maintenance of a tree-line on the western edge of the pit a visually shielded mining operation is achievable for the life of the mine's current design.

Incorporation of the Upper Western zone into a final pit design will also act to lower the western wall of the pit and reduce its visibility from the east.

4.6 Costings

Costings can be categorised into:

- Open-cut mining – 8mt
- Beneficiation crushing and rock sorting on-site – 3mt
- Transport to Beaconsfield mill – 1-1.5mt
- Final milling, bacterial oxidation and cyanidation at Beaconsfield mill site – 1-1.5mt
- Environmental rehabilitation.

5.0 Conclusions

The Mt Charter gold + barite + silver + zinc orebody is considered a likely viable mining option.

Final conclusions hinge to a large degree on whether the Tomra rock sorter can separate barite+gold+sulphide veins successfully from the altered dacite wallrocks, and its efficiency in doing so. Initial indications are positive though assay results are awaited.

6.0 Proposed Work

Work in the second year of the licence should focus on generating sufficient data to inform a mine plan to accompany a mine lease application and commencement of the DP&EMP process with the EPA prior to the end of the licences second year.

That data will include:

- Bulk sample of ore metallurgically tested by
 - Tomra rock sorting machine to separate ore from waste
 - Bench top to replicate the (modified) Beaconsfield mill
- Further resource definition drilling (proposed holes re shown in blue on figure 6.1) to
 - Define the western edge of the Upper West Zone
 - Close the Upper West Zone off at its northeastern end
 - Close off the Main Zone northeastern end better
 - Determine the nature of the southwestern end of the mineralised zone (fault?)
 - Further infill resource definition drilling.
- Geotechnical drill holes
- Hydrogeological drill holes
- Geochemical assessment of waste and pit wallrocks
- Desktop and baseline environmental studies

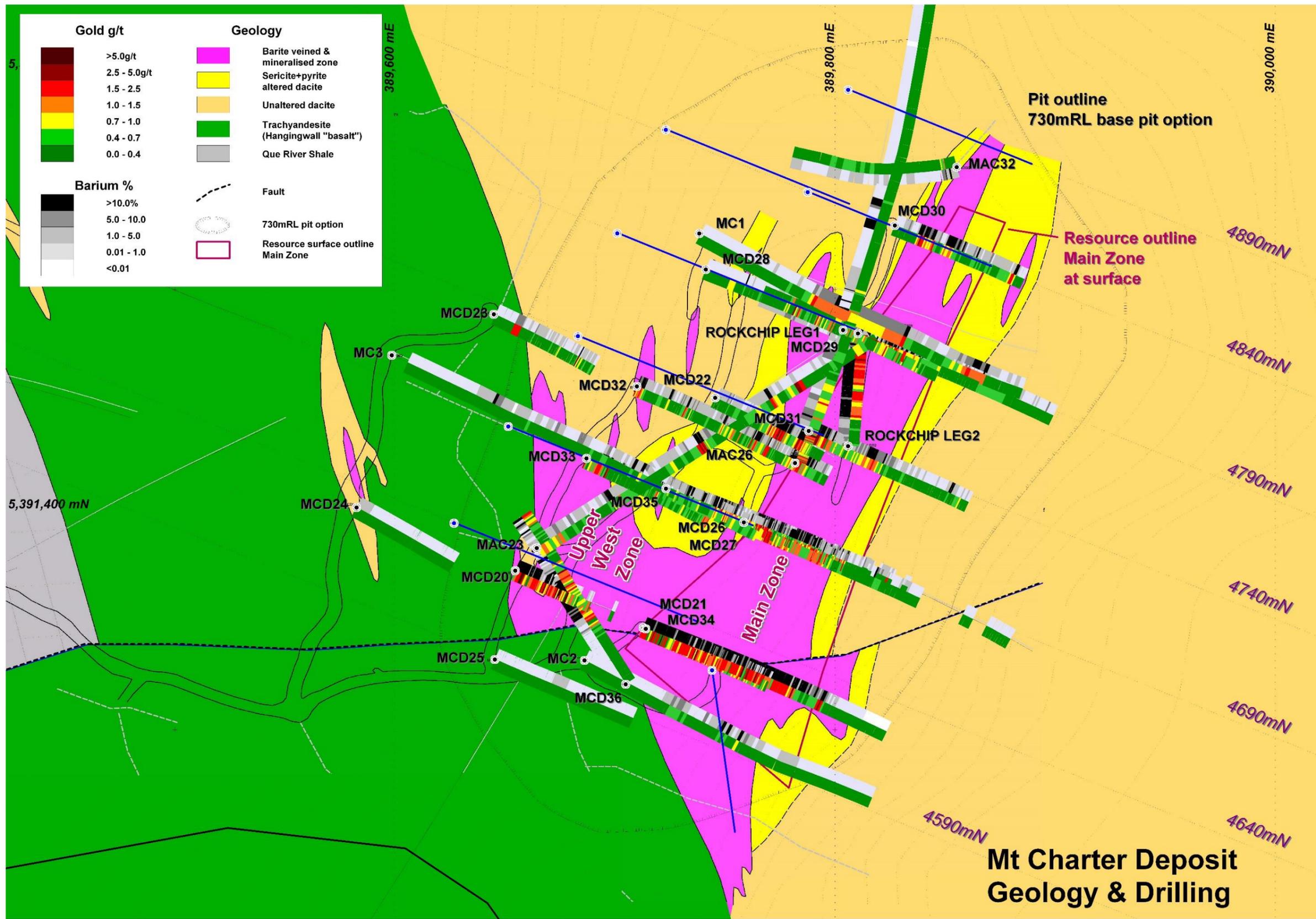


Figure 6.1: Mt Charter deposit showing geology and drilling to date. Proposed holes are shown in blue.

7.0 Environmental Management

To date the company has not carried out any fieldwork and there are not believed to be any outstanding issues.

It is acknowledge that some existing tracks have been left open by the previous holder in order to allow access for new drilling etc. by Moina Gold Pty Ltd.

8.0 Expenditure

	\$
Geology	7,500
Geochemistry	0
Geophysics	0
Remote Sensing	0
Drilling	0
Gridding	0
Land Access	0
Rehabilitation	0
Feasibility Studies	5,000
Other	0
Administration	1,250
Total	13,750

9.0 References

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- Snowdens (2006) Bass Metals Ltd: Mt Charter Project 5757 – Resource Estimate 2006 in Murphy (2007b)

10.0 Digital Files Accompanying Report

Exploration Work Type	Filename	File format
Report	EL102016_201802_01_Report.pdf	<i>pdf</i>
	EL102016_201802_02_appendixA_Mt_Charter_database_for_MRT.mdb	mdb
	EL102016_201802_03_AppendixA_snowdens_model_adjmga94ed.dtm/str	dtm/str
	EL102016_201802_04_AppendixA_mt_charter_snow.mdl	mdl
	EL102016_201802_05_AppendixA_mt_charter_orebodyed_v3.dtm/str	dtm/str
	EL102016_201802_06_AppendixA_mt_charter_model_v3.mdl	mdl
	EL102016_201802_07_AppendixA_1m_comps_assays_smallmdl_all.str	str
	EL102016_201802_08_AppendixA_new_auequiv_model_ed_obj1.dtm/str	dtm/str
	EL102016_201802_09_AppendixA_1m_comps_assays_largemdl_all.str	str
File Verification Listing <i>(this file)</i>	EL102016_201802_FileListing.xls	xls