

**MT BLOCK  
EL48/2003**

**ANNUAL REPORT 2020**

**NORTH WEST TASMANIA**

**Prepared for: Bass Metals Ltd**

**David Round / Tim McManus,  
January 2020**

---

## **EXECUTIVE SUMMARY**

In 2017, three targets were identified for exploration drilling in the Que River area on or adjacent to EL48/2003. These include the Amoeba Zone, the Hangingwall Basalt Syncline (HBS) and South Que River.

Diamond drill hole HED28 was completed to 309.3m testing the HBS. The drillhole confirmed the synclinal structure but did not intersect any significant alteration or mineralisation. The syncline axis has not yet been drilled and there is a slight chance it may be associated with altered volcanics. Limited broad spaced drilling has not completely eliminated this conceptual target, however it would have to be considered as high risk and of lower priority.

The Amoeba Zone is an outcropping zone of silica-sericite-pyrite altered dacitic volcanics with associated low order soil geochemistry anomalies. It has previously been tested by one drillhole which identified strongly pyrite altered volcanics but no basemetal mineralisation. An additional drillhole could be drilled from the Que River access road. The limited basemetal mineralisation associated with this target makes it a high risk and lower priority target.

The South Que River target is located on the Que River Mine Lease adjacent to EL48/2003. It is the faulted offset of the Que River Zone south of the Que River Fault. Sparse early historic drilling confirmed sub economic basemetal mineralisation associated with intensely altered Que River Mineralised Sequence (QMS). The target occupies a similar stratigraphic-structural setting as the Fossey deposit adjacent to a major cross cutting fault that has not yet been drill tested. The target has the potential to host 0.5Mt of basemetal sulphide mineralisation. A single 3-400m drillhole is proposed to test the target during 2019. The hole could be collared from EL48/2003 but most of the hole is located on 68M/1984.

Work planned for 2019 included the drilling of the Sth Que target, minor field work and assessment and further target generation of the HBS, South Que River and Barite Creek Fault areas.

Whilst the company, due to a number of financial constraints, were unable to complete the work proposed for 2019, the Company believes this, and other contemplated exploration, should continue in the near future.

Bass Metals has recently agreed to transfer its rights in this tenement to Pieman Resources Pty Ltd and the Company shall provide all necessary data and details to the transferee in order to ensure the proposed exploration and development of this site continues.

## CONTENTS

Executive Summary	2
1 Introduction	4
1.1 Tenure	4
1.2 Location and access	4
2 Regional Geology	5
3 Exploration History	7
4 Work Completed 2018	11
5 Discussion	13
6 Proposed Work Program 2019	18
7 Environment	19
8 Proposed Expenditure	19

## LIST OF FIGURES

Figure 1	Tenement location plan	5
Figure 2	Schematic cross section of Que-Hellyer	7
Figure 3	Regional Geology of the Que Hellyer Volcanics	8
Figure 4	Section 5394100N. HED28 conceptual HBS target	12
Figure 5	Que River geology map, HED28 Location and proposed drilling	14
Figure 6	Soil As image, HED28 Location and proposed drilling	15
Figure 7	Soil Pb image, HED28 Location and proposed drilling	16
Figure 8	Soil Zn image, HED28 Location and proposed drilling	17
Figure 9	South Que River Section 6800N and proposed drilling	18
Additional Notes		20
References		20

## **1 INTRODUCTION**

This report is a summary of exploration activities completed on the Mt Block exploration license EL48/2003 between 11<sup>th</sup> January 2019 and 10<sup>th</sup> January 2020.

EL48/2003 surrounds the Hellyer Mine Lease (103M/1987) and the Que River Mine Lease (68M/1984). The Hellyer and Que River Mines are examples of world class poly metallic VHMS deposits. The Que River and Hellyer deposits are particularly enriched in precious metals Au and Ag as well as basemetal sulphides Cu, Pb, Zn. As such the tenement package is regarded as highly prospective for this style of mineralisation.

### **1.1 TENURE**

EL48/2003 Mt Block is held by Bass Metals Ltd (Bass) after acquisition from Saracen Metals Pty Ltd in October 2006. During the tenure of the EL it has undergone several reductions in land area as well as a merger with the former adjacent EL24/2004, Bulgobac River. The current tenement comprises a total of 46km<sup>2</sup> after the last partial relinquishment in 2016.

The Company has recently agreed to transfer its rights to the tenement.

EL48/2003 is a mature exploration license and as such requires ongoing term of extension applications and associated work commitments to maintain tenure. Mineral Resources Tasmania have advised Bass that tenure will only be renewed if a drilling program is completed on the EL. North Queensland Minerals have previously drilled the HBS syncline target in January 2018. The proposed work program detailed in this report is intended to provide targets for further exploration of the area beyond 2019.

### **1.2 LOCATION AND ACCESS**

The tenement is located approximately 15 km's north-northeast of the township of Tullah, on the west coast of Tasmania (Figure 1). Access to the area is via the Murchison Highway and tracks which access via the 220kv power line which traverses the area. Access within the tenement is via a limited number of 4WD tracks and ATV- only tracks. The license area lies on the Sophia (#8014) 1:100,000 map sheet and Charter (#3839) and Block (#3838) 1:25,000 topographic map sheets.

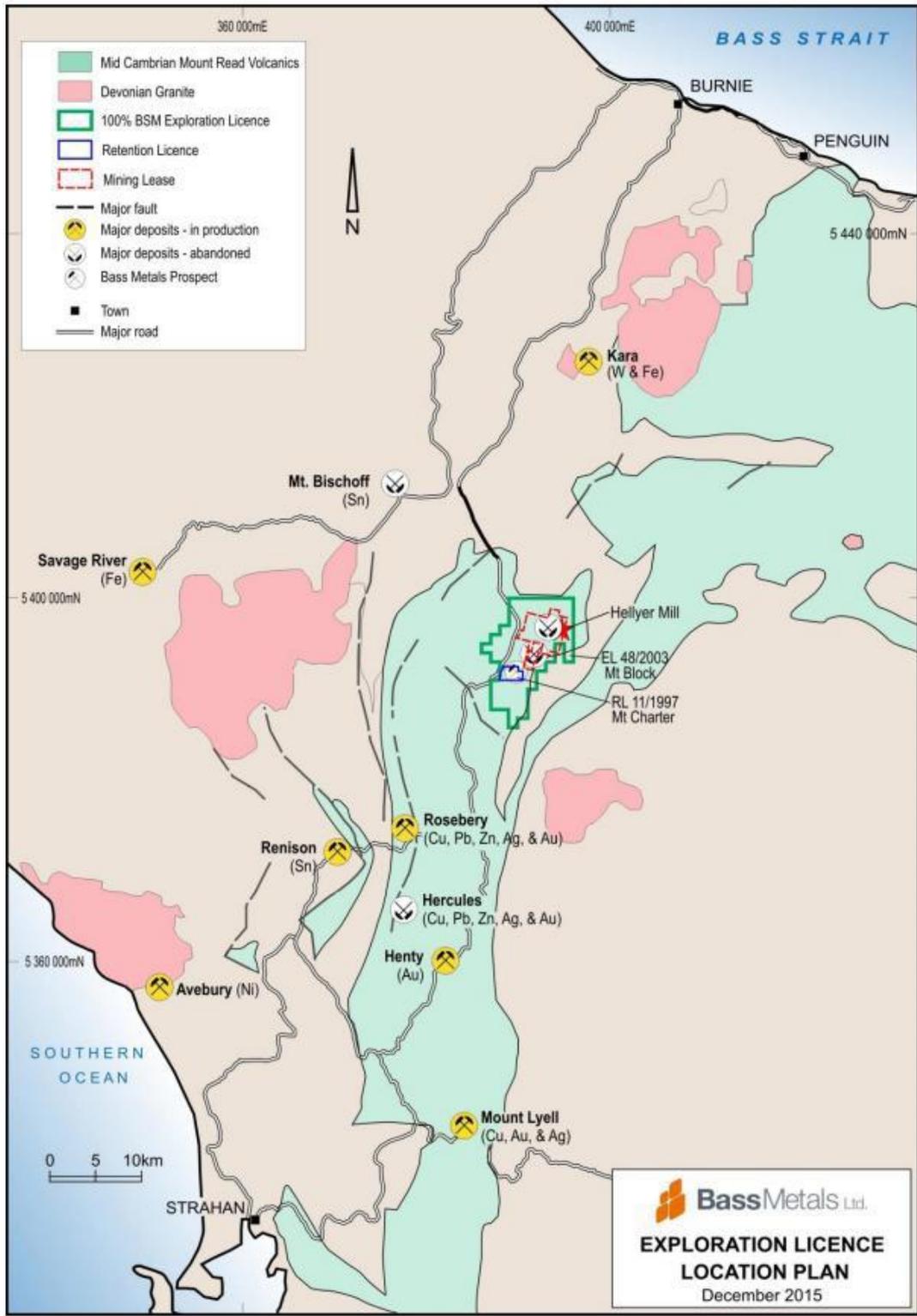


Figure 1. Tenement location plan.

## 2 REGIONAL GEOLOGY

The Que River, Hellyer and Fossey poly-metallic base metal sulphide and Mt Charter barite-precious metal deposits are hosted in the Que-Hellyer Volcanic (QHV) sequence within the Mt Charter Group of the Cambrian Mt Read Volcanics.

The QHV is a sequence of calc-alkaline mafic to felsic volcanics filling a northeast trending Cambrian submarine extensional basin. The basin depth varies dramatically from up to 1000m thickness near Que River and Hellyer but thins to 50m northwest of the Hellyer mine.

The QHV has been subdivided into several stratigraphic elements summarized below:

Hellyer Basalt (Upper Basalt) - consisting of massive to pillowed amygdaloidal basalt lava and associated volcanoclastic rocks. An associated andesite is located in the Mt Charter region to the south.

Mixed Sequence - host to the Que River, Hellyer and Mt Charter deposit is comprised of epiclastics, dacitic lavas and breccias.

The Feldspar Phyric Andesite consisting of a porphyritic andesite lava in the footwall of the Hellyer and Que River deposits.

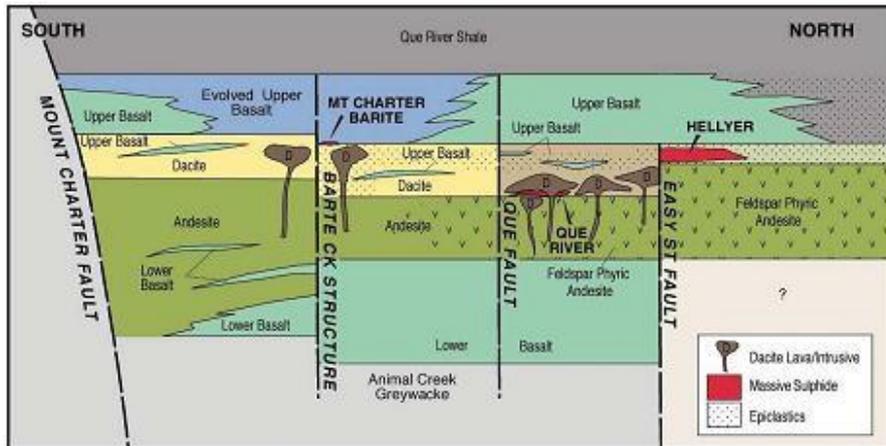
The Lower Basalt, a sequence of basaltic pillow lavas and volcanoclastics, which form the immediate footwall at Que River and Hellyer.

The QHV are overlain by the Que River Shale which is in turn overlain by the Southwell Subgroup consisting of felsic volcanoclastics, greywacke and shale. The Southwell subgroup is overlain by the Mt Cripps subgroup (a correlate of the Tyndall beds at the Henty mine) which is a sequence of volcanoclastics, siltstones and conglomerates only outcropping along the eastern boundary of the Hellyer area tenements

The Cambrian deposits have been subjected to the Mid Devonian regional deformation event resulting in folding, faulting, development of a regional foliation and prehnite-pumpellyite to lower greenschist metamorphism. Open, early NW trending folds and associated foliation has been overprinted by a later shallow NE-SW folding event.

Cambrian syn-depositional faults have been reactivated and later brittle faulting is associated with rheology contrasts between earlier alteration facies. Cambrian basin architecture has been a control on volcanism, mineralisation and subsequent deformation.

In the south of the area covered by EL48/2003, the QHV are bound to the east by the northeast trending Henty Fault. The Geology east of the Henty Fault is dominated by Cambrian to Silurian siliciclastic and calcareous sediments of the Wurawina Supergroup.



**Figure 2. Schematic cross section of Que-Hellyer Stratigraphic sequence.**

Much of the geology to the north of the EL is dominated by Tertiary basaltic lavas forming a thick plateau. The Tertiary basalts cover the underlying prospective volcanics making exploration expensive and difficult in the northern EL.

### **3 EXPLORATION HISTORY**

Work carried out in the Mt Block area prior to 2011 is summarised in the 2011 annual report (Denwer, 2011).

2013-2014 Work completed since 2011 included a geochemical review of prospective alteration zones within the QHV. The review was completed by external consultants and Bass Geological staff. Two zones of interest were identified on EL48/2003, the Amoeba Zone and the Barite Creek Fault.

2015           Compilation and digitization of petrographic reports and photographs (Richardson, 2015).

2016           Exploration on EL48/2003 during 2016-17 involved a review of historic data and target generation in the Que River area (Callaghan, 2017).

2018           Drilling one diamond Drillhole HED28 for 309.3m. The drillhole intersected unmineralised and unaltered mixed volcanics below the hangingwall basalt.

2019           Exploration on EL48/2003 during 2019 involved a review of historic data and target generation in the Que River area by the Company and independent parties .

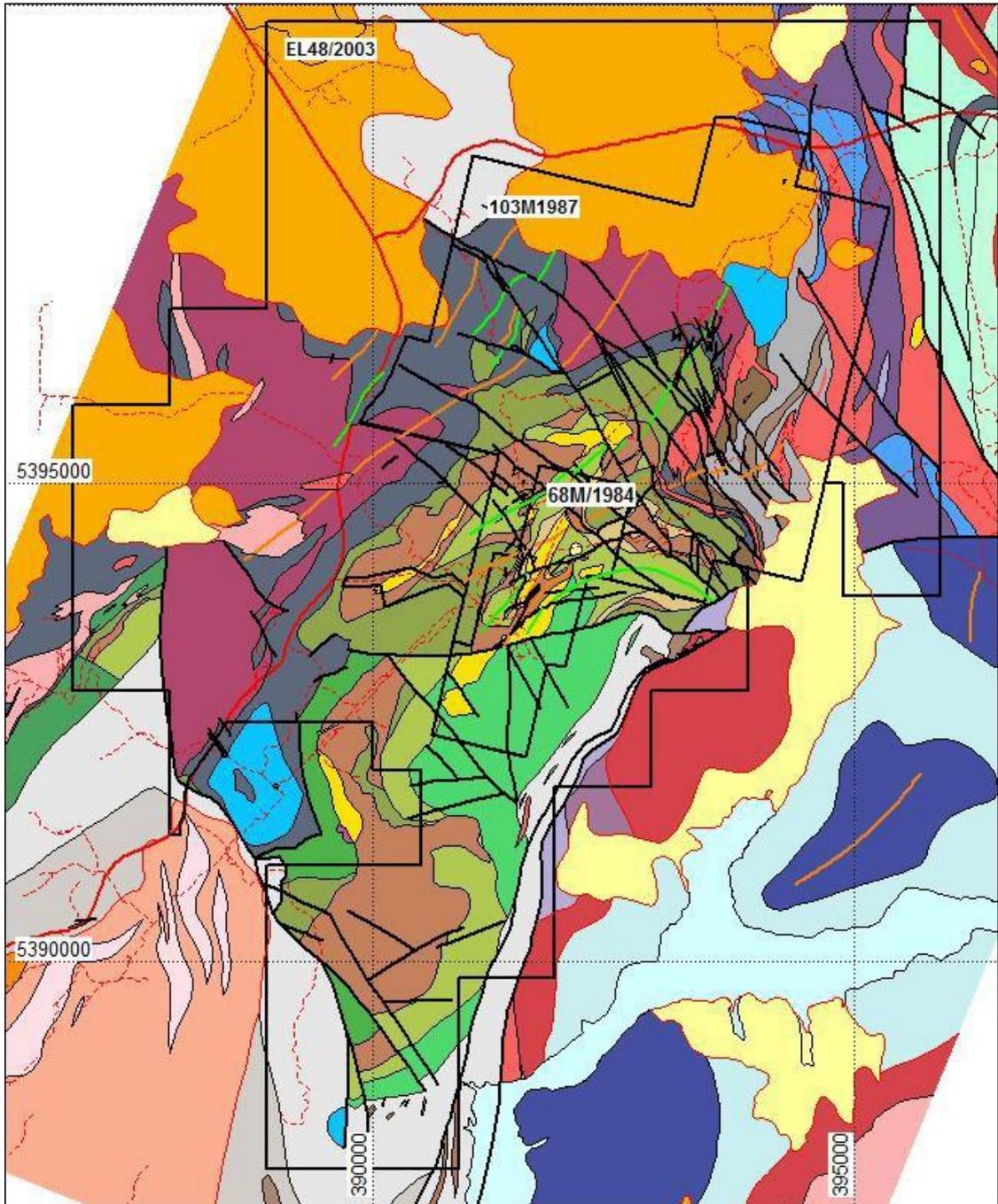


Figure 3. Regional Geology of the Que-Hellyer Volcanics (legend is on the following page).

#### 4 WORK COMPLETED 2019

Whilst limited field work was completed during 2019, an ongoing review of the works program undertaken in 2018 continued in order to better develop the next stage of development.

During 2018, three targets were identified in the Que River area on or adjacent to EL48/2003 including the Amoeba Zone, the Hangingwall Basalt Syncline (HBS) and South Que River (see Appendix 1). Richardson 2015 identified the Amoeba Zone and the Barite Creek Fault as potential targets on the EL. The Barite Creek Fault is located in the south of the EL and is relatively difficult to access.

Diamond drillhole HED28 was drilled to a depth of 309.3m targeting the HBS conceptual target. Details of the drill collar are contained in Table 1 and in Appendix 2 of this report.

BHID	Easting	Northing	RL	Depth	Azm	Dip	Date
HED28	390830	5394000	688	309.3	309	-55	1/02/2018

The drillhole was completed by contract drillers E Drill in January 2018. The hole was drilled HQ to a depth of 68.8m with the remainder drilled NQ. The drill site was located on the old Que River access Road and no earthworks were required. Recoveries were generally excellent below the weathered zone with the exception of minor core loss in discrete structures.

The drillhole intersected the entire Hellyer sequence, collaring in the Hangingwall Basalt pillow lava sequence. The Hellyer-Que River Host Sequence volcanics and dacites were intersected between 83.1m to 235.8m. The volcanics were only weakly albite and chlorite altered with no significant mineralisation logged. None of the core was cut and submitted for analysis. The drillhole ended in weakly chlorite altered feldspar phyric footwall andesite. A summary log is as follows

0 – 83.1	Hangingwall Basalt Sequence
83.1 – 92.2	Mixed Sequence Volcanics
92.2 – 95.8	Fault Zone
95.8 – 97.9	Mixed Sequence hyaloclastic basaltic andesite
97.9 – 150.8	Mixed Sequence dacite lava
150.8 – 177.6	Mixed Sequence polymict volcanics
177.6 – 200.1	Mixed Sequence dacite lava
200.1 – 235.8	Mixed Sequence polymict volcanics
235.8 – 309.3	Footwall Andesite

A plan and cross section of the hole are displayed in Figures 4 and 5.

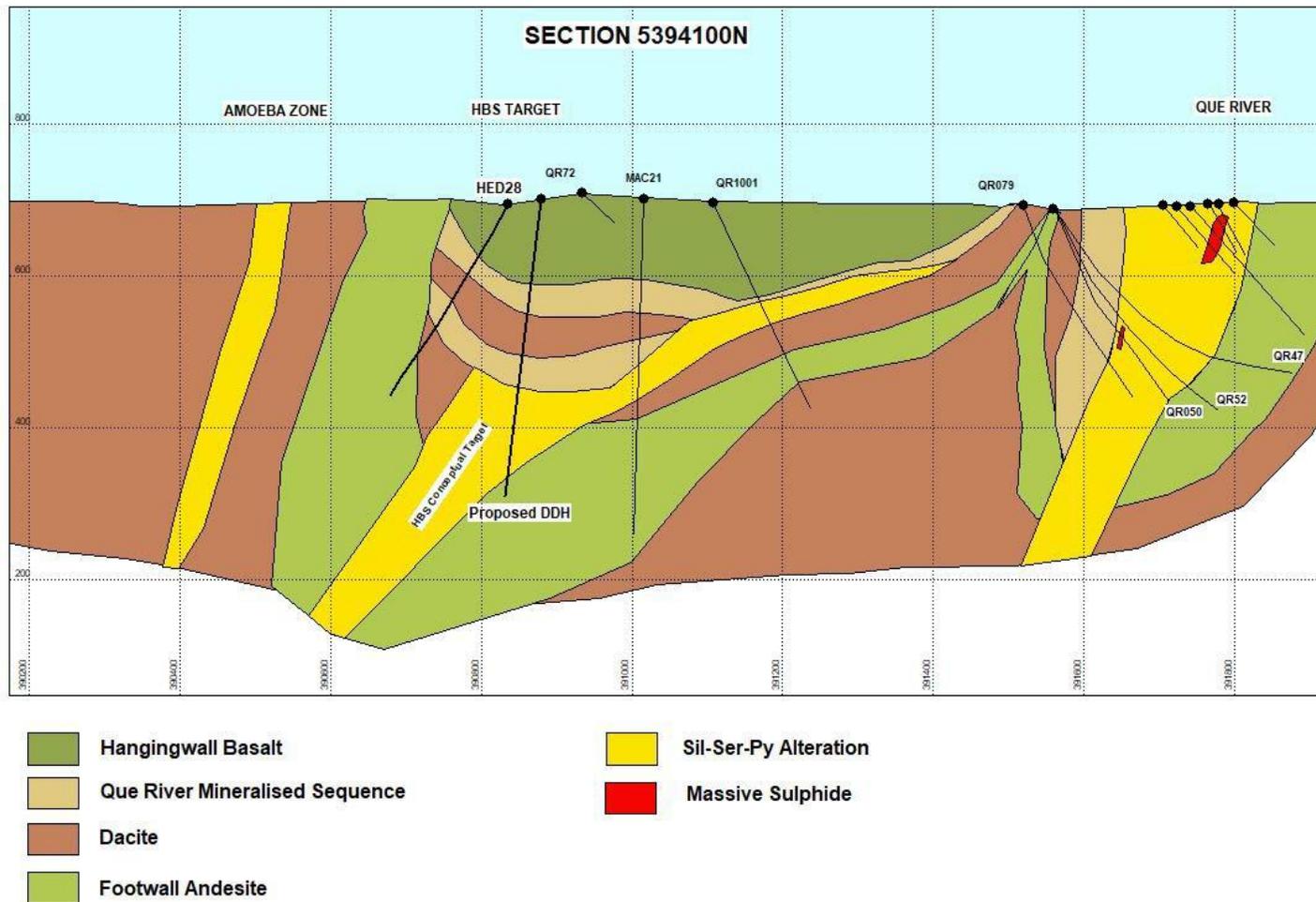


Figure 4. Section 5394100N. HED28 conceptual HBS target and proposed future DDH.

## 5 DISCUSSION

Whilst the 2018 program did not intersect any significant alteration or mineralisation on the western limb of the syncline, the Hangingwall Basalt Syncline target cannot be considered to be completely tested.

The Que River and Fossey deposits are tightly folded synclinal or anticlinal structures resulting from the deformation of ductile sericitic alteration associated with the deposits. Previous drilling of the HBS (MAC1 and QR1001) has identified altered Que River Mine Sequence (QMS) below the Hangingwall Basalt that is generally flat lying (Figure 4). HED28 intersected unaltered QMS on the western side of the syncline confirming the synclinal structure. However, it has not tested if the syncline axis is altered and folded into an isoclinal synclinal axis **IF** significant alteration was associated with the QMS. The very weak pyrite alteration intersected in the Footwall Andesite at the end of HED28 may be distal to a stronger alteration zone in the syncline axis.

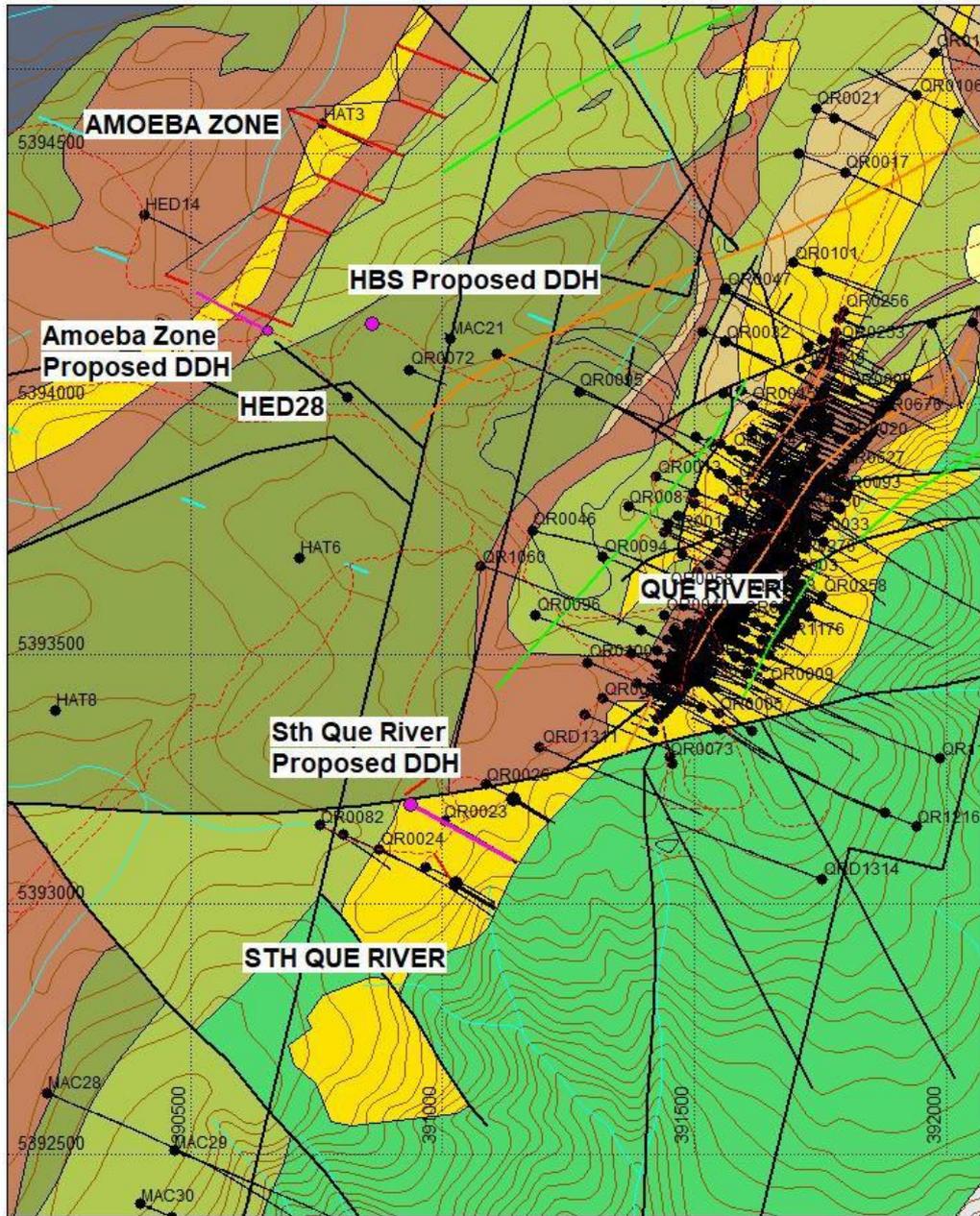
Another drillhole testing the syncline between MAC1 and HED28 is required to test the potential for mineralisation in the QMS down dip from the alteration identified in MAC1 and QR1001. This target is conceptual and consequently high risk. However, it has the potential to host significant basemetal sulphides as a large untested area is present. Further drilling could be completed with a steeply west dipping hole from a collar position close to HED28 (Proposed Hole Figure 4). This hole is a low priority drill hole due to the high risk conceptual target.

Other targets in the area include the Amoeba Zone and South Que River.

The Amoeba Zone has a strong coincident IP and geochemical anomaly associated with strong silica-sericite-pyrite alteration (Figure 4, 5 and 6). Historic drillhole HAT3 intersected the strongest zone of the anomaly with no significant mineralisation identified. Additional drilling could be conducted along strike testing the alteration to the south of HAT3. This hole is High Risk and Low Priority

The South Que River target is located on the Que River Mine Lease adjacent to EL48/2003. It is the faulted offset of the Que River Zone south of the Que River Fault. Sparse early historic drilling confirmed sub economic basemetal mineralisation associated with intensely altered QMS. The target occupies a similar stratigraphic- structural setting as the Fossey deposit adjacent to a major cross cutting fault that has not yet been drill tested. The target has the potential to host 0.5Mt of basemetal sulphide mineralisation. A single 3-400m drillhole is proposed to test the target. The hole could be collared from EL48/2003 but most of the hole and the target is located on 68M/1984. **MRT would need to provide advice on whether expenditure on this target is sufficient for the renewal of EL48/2003.**

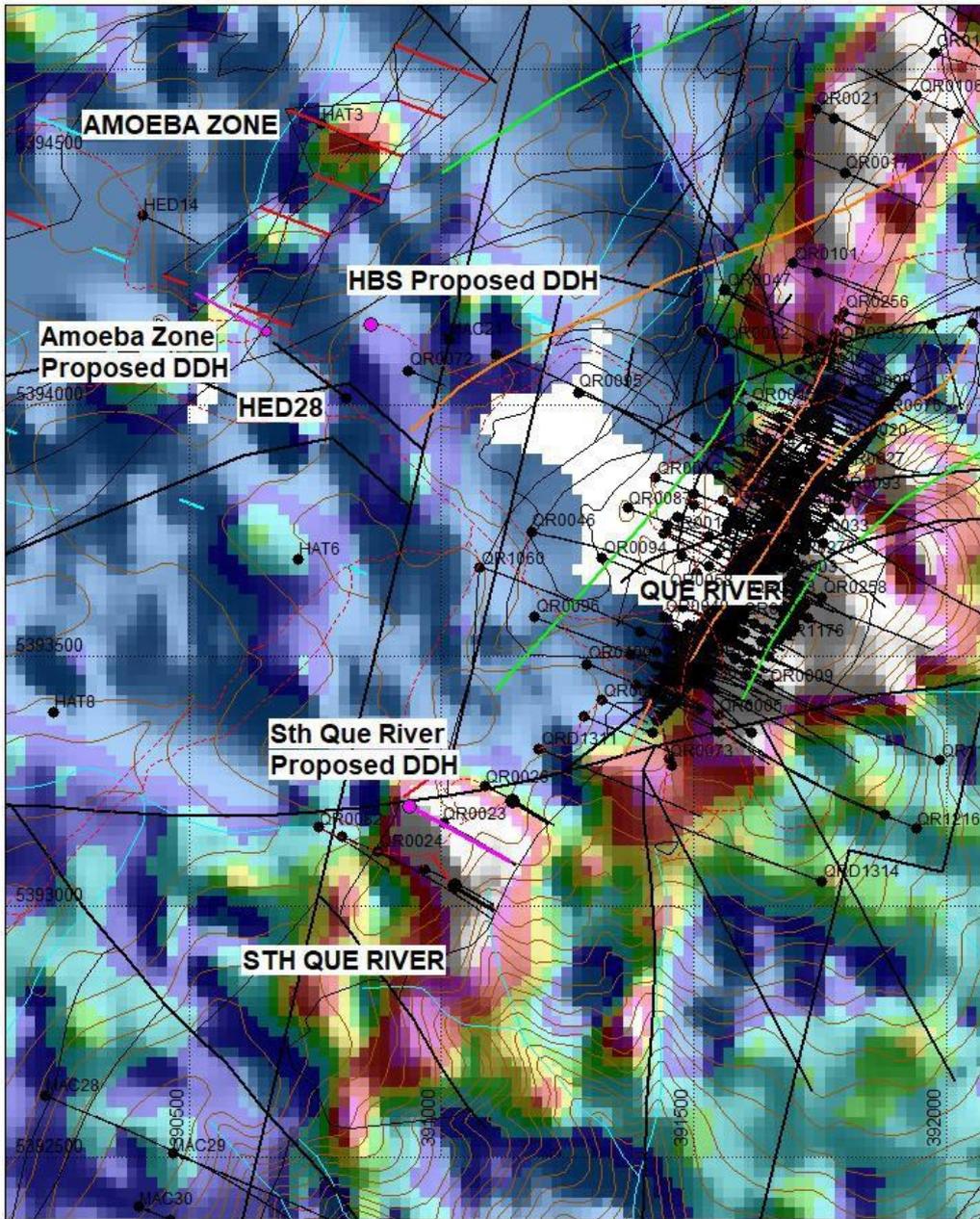
This hole is regarded as Low Risk and High Priority.



**LEGEND**

- |   |                    |   |                         |
|---|--------------------|---|-------------------------|
|  | Que River Shale    |  | Mixed Sequence          |
|  | Hangingwall Basalt |  | Mineralised Zone        |
|  | Hangingwall Dacite |  | Footwall Basalt         |
|  | Andesite           |  | IP Chargability anomaly |

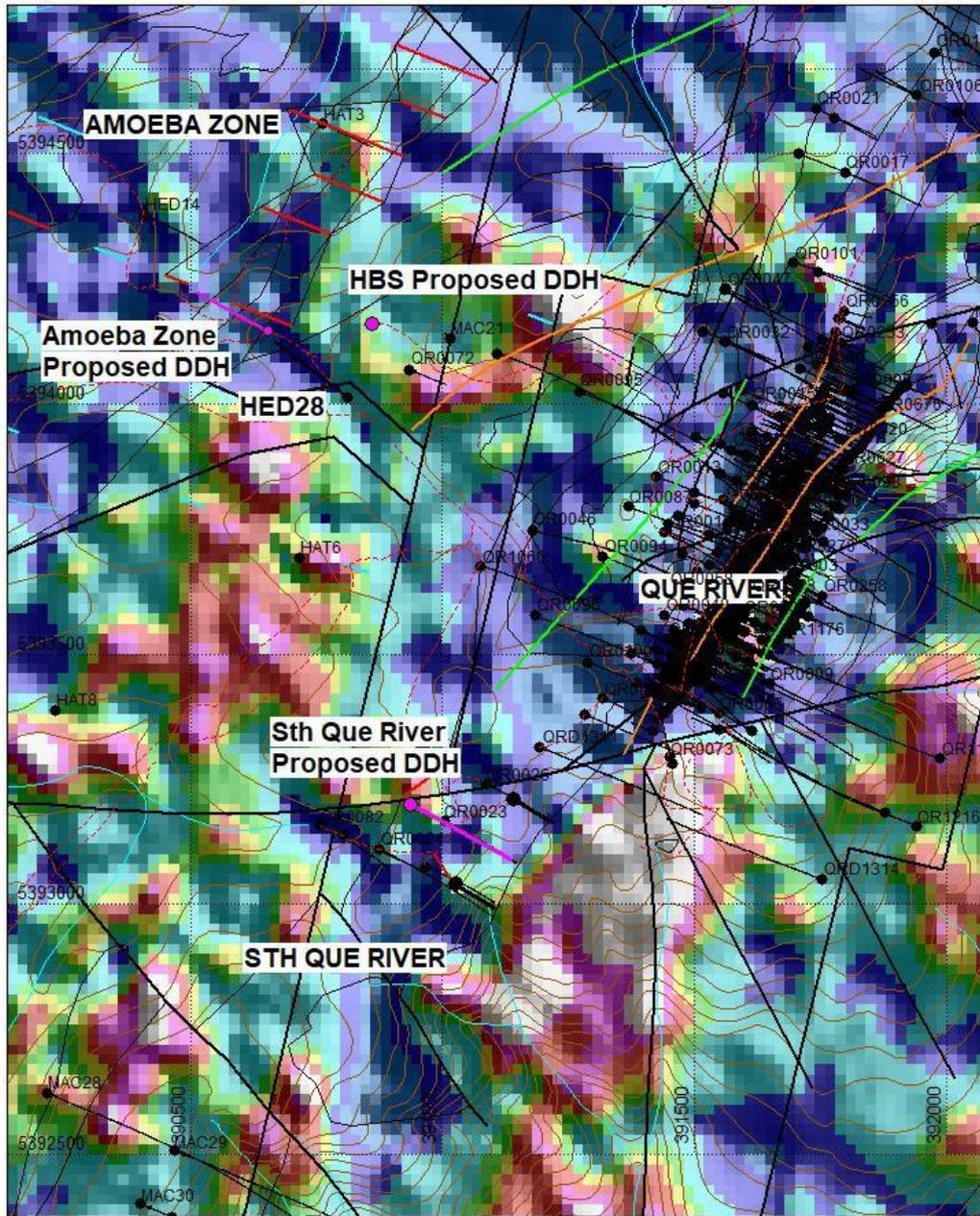
Figure 5. Que River geology map, HED28 Location and proposed drilling.



**LEGEND**

- |  |   |
|--|---|
|  Que River Shale    |  Mixed Sequence          |
|  Hangingwall Basalt |  Mineralised Zone        |
|  Hangingwall Dacite |  Footwall Basalt         |
|  Andesite           |  IP Chargability anomaly |

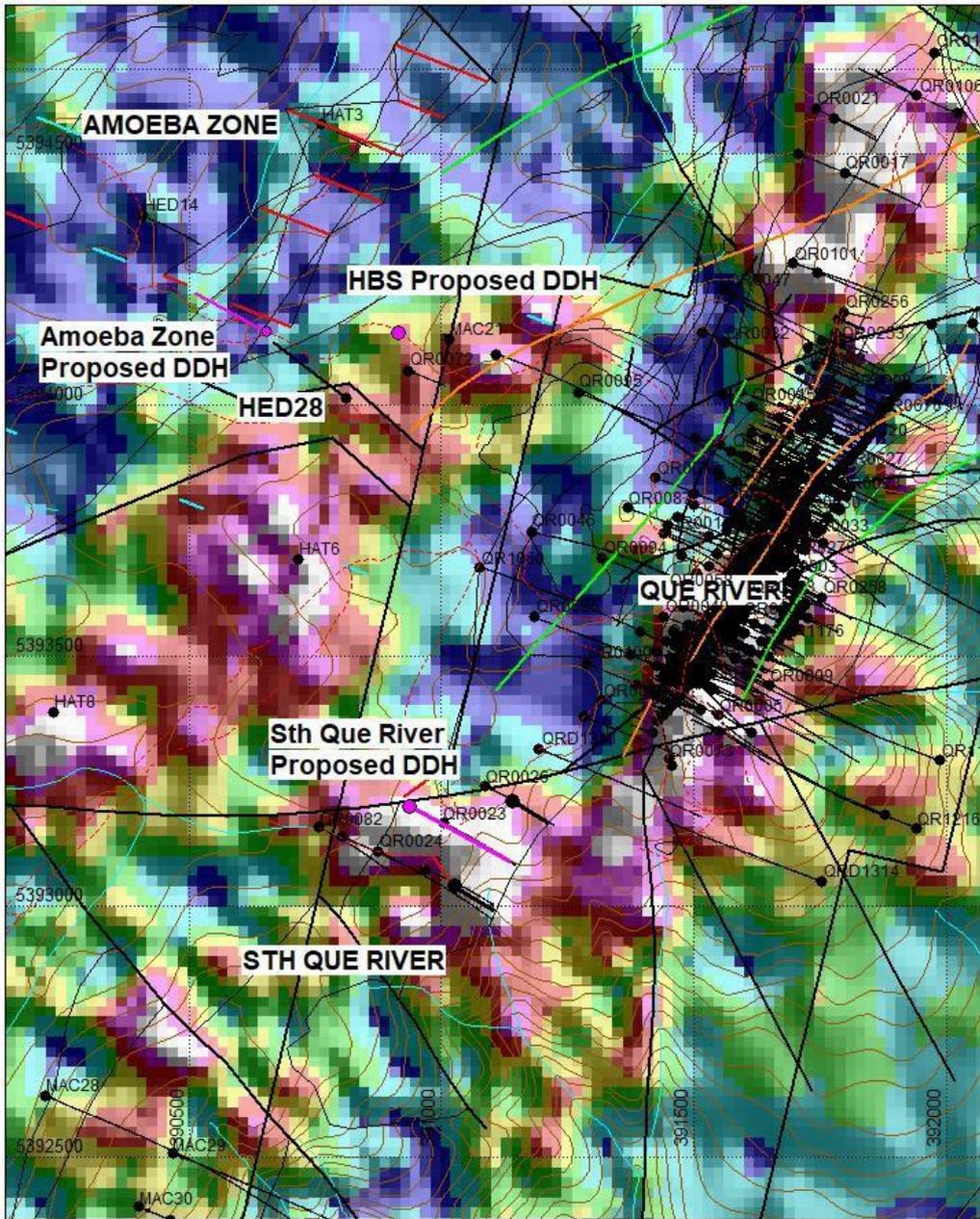
Figure 6. Soil As image, HED28 Location and proposed drilling



**LEGEND**

- |   |                    |   |                         |
|---|--------------------|---|-------------------------|
|  | Que River Shale    |  | Mixed Sequence          |
|  | Hangingwall Basalt |  | Mineralised Zone        |
|  | Hangingwall Dacite |  | Footwall Basalt         |
|  | Andesite           |  | IP Chargability anomaly |

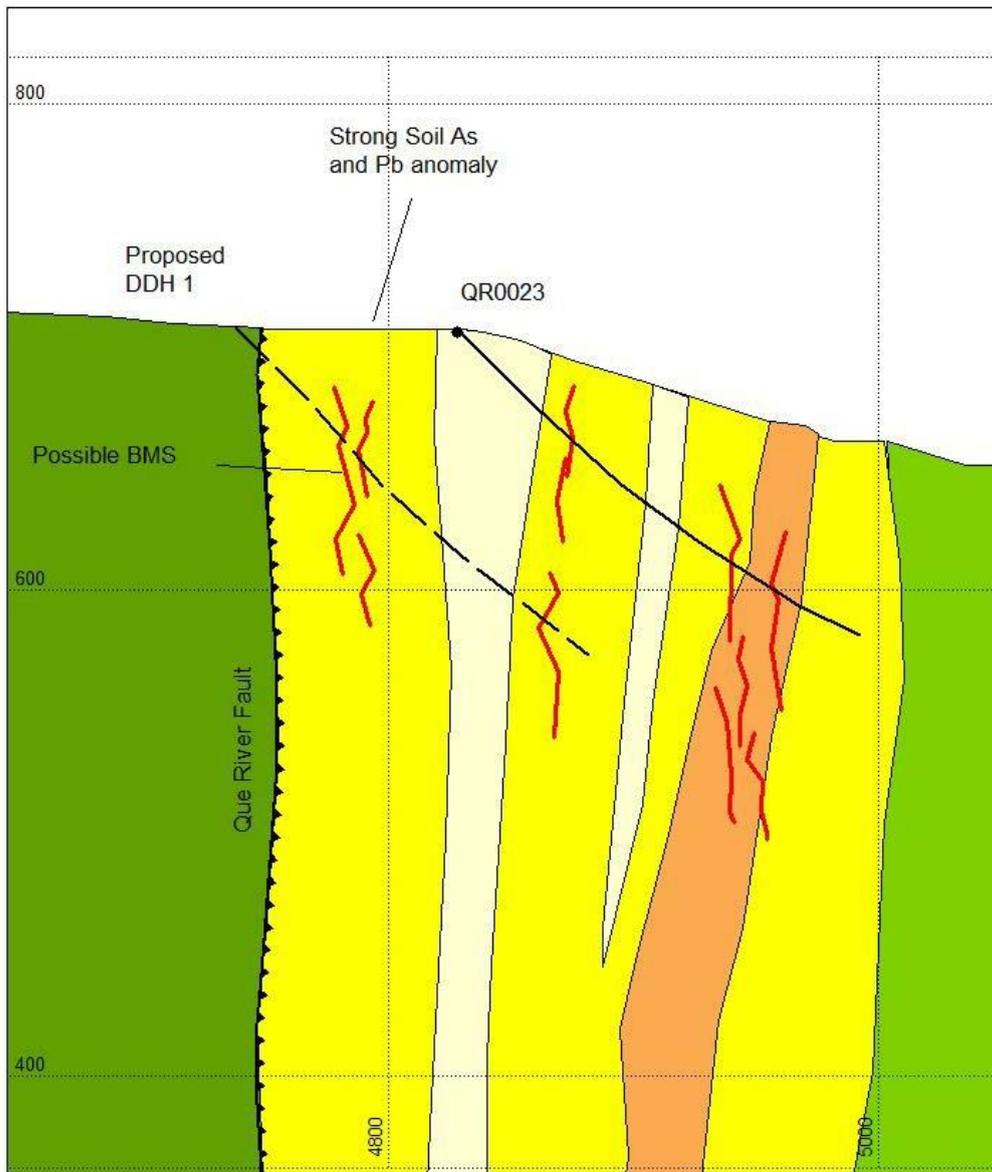
Figure 7. Soil Pb image, HED28 Location and proposed drilling



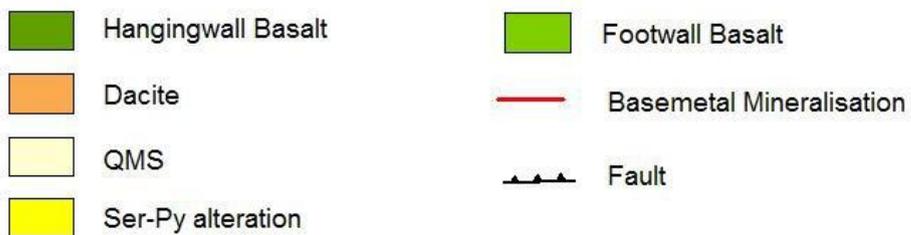
**LEGEND**

	Que River Shale		Mixed Sequence
	Hangingwall Basalt		Mineralised Zone
	Hangingwall Dacite		Footwall Basalt
	Andesite		IP Chargability anomaly

Figure 8. Soil Pb image, HED28 Location and proposed drilling



**Sth Que River Section 6800N**



**Figure 9. South Que River Section 6800N (Que Mine Grid) and proposed DDH.**

## **6 PROPOSED WORK 2020**

Of the three potential targets discussed in the Que River area, The South Que River drill hole has the most chance of success. The target is located on the Que River Mine Lease and not EL48/2003

Work proposed for 2020 includes drilling of the Sth Que target and further target generation of the HBS and Amoeba Zones. A review of drill intersections in the vicinity of the HBS and South Que River areas will be completed.

The Amoeba Zone is an outcropping zone of silica-sericite-pyrite altered dacitic volcanics with associated low order soil geochemistry anomalies. It has previously been tested by one drillhole which identified strongly pyrite altered volcanics but no basemetal mineralisation.

Minor field investigations of the HBS, South Que and Barite Creek areas will also be completed.

The proposed works above has been outlined to the tenement transferee and we understand they have submitted a detailed plan for the sites development for this year that may include many of the above factors but is not limited to the above.

## **7 ENVIRONMENT**

The drill site for HED28 was situated on the old Que River access road and required no earthworks. After the rig was demobilized the hole was capped and backfilled and the site cleaned up. No rehabilitation is required.

All proposed works will be conducted under the guidelines of Mineral Resources Tasmania's Exploration Code of Practice.

## **8 PROPOSED EXPENDITURE**

TBC

## REFERENCES

Callaghan, T. 2017 Mt Block, Tasmania, EL48/2003, Annual Progress Report for period Ended 10<sup>th</sup> January 2017. *Unpublished Report for Bass Metals Ltd.*

Callaghan, T. 2018 Mt Block, Tasmania, EL48/2003, Annual Progress Report for period Ended 10<sup>th</sup> January 2018. *Unpublished Report for Bass Metals Ltd.*

Denwer, K. 2011 Mt Block, Tasmania, EL48/2003, Annual Progress Report for period Ended 10<sup>th</sup> January 2011. *Unpublished Report for Bass Metals Ltd.*

Richardson, S. 2015. Mt Block, Tasmania, EL48/2003, Annual Progress Report for period Ended 10<sup>th</sup> January 2015. *Unpublished Report for Bass Metals Ltd.*

Richardson, S. 2016. Mt Block, Tasmania, EL48/2003, Annual Progress Report for period Ended 10<sup>th</sup> January 2016. *Unpublished Report for Bass Metals Ltd.*