Annual Technical Report

GR083 AMALGAMATED REPORT

TITLES MA366 (COXCO & AMELIA), MA455 (COXCO VALLEY) AND MA456 (AMELIA SOUTH)

Title Holder: Mount Isa Mines Limited
Operator: McArthur River Mining Pty Ltd
Commodities: Zn & Pb
For the period 21 August 2015 – 20 August 2016

Bauhinia Downs 1:250,000 SE53-3
Borroloola and Glyde 1:100,000 6165 and 6164

Date, Version	18th of October 2016, GR083-09_2016_GA
Department, Area	Geology Department, McArthur River Mine
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4.0 Summary

Amalgamated Group GA083 comprises titles MA366, MA455 and MA456 that are situated in the north-east of the Northern Territory, 750 kilometres southeast of Darwin, approximately 100 kilometres south of the Gulf of Carpentaria and within the McArthur River Station pastoral lease. The work completed for this reporting period is summarised below with a summary of work planned for the coming renewal period.

4.1 Work Completed

The following work completed for MA366, MA455 and MA456 is provided below:

- Assay results collected in the previous reporting period from MA366 were returned and confirmed the elevated concentrations of Zn, Pb and Cu. These results showed a large variability in grades across the sampled areas.
- The Coxco (MA366) 2016 resource model was generated, with the following updates made:
    - Reinterpreted geological and mineralised wireframes using Leapfrog; and
    - An updated Ordinary Kriged estimate to include assay information from the 2012 drilling.
    - A summary of the Coxco 2016 Mineral Resource is shown below in Table 1.

Table 1: Coxco 2016 Mineral Resource using a cut-off grade of 2.5% Zn.

Resource Category	Tonnes (Mt)	Zn %	Pb %	Ag ppm
Indicated	3.3	4.32	0.88	2.60
Inferred	2.2	3.71	0.66	3.08
Total	**5.5**	**4.08**	**0.77**	**2.79**

- Assay results collected from the previous reporting period for MA455 were returned and showed no prospectivity for base metals;
- A total of 17 samples were collected from MA366 and MA455 with results of the analysis pending; and
- Tenement familiarisation on MA456 which included assessing access for potential EM survey, and for safety reasons; locating and logging of old mine shafts.

Scheduled field activities were delayed during the reporting period until late in the dry season due to restrictions in engaging appropriate resources and therefore limited activities were completed by the contract Exploration Geologist. As a result, a Variation of Condition has been submitted for titles MA455 and MA456.

4.2 Work Planned

The following work has been planned for the coming renewal period:

- XRD analysis of the 17 samples that were collected from MA366 and MA455;
- A structural mapping campaign for MA456;
- Conducting an EM survey across the cover sequence of all tenements;
- Defining drill targets across MA366 and MA455 pending results of the EM survey; and
- Begin the approvals process for drilling.

5.0 Introduction

MA's 366, 455 and 456 are situated in the north-east of the Northern Territory, 750 kilometres southeast of Darwin, approximately 100 kilometres south of the Gulf of Carpentaria and within the McArthur River Station pastoral lease (Figure 1). These titles are within the highly prospective Proterozoic McArthur Basin, just south of the world class McArthur River (HYC) zinc-lead-silver deposit. This report summarises the exploration work conducted on these leases between the period 2008 and 2015. A detailed report of the exploration activities conducted on MA366, MA455 and MA456 is also provided for the reporting period 21st August 2015 to 20th August 2016 and recommendations for further work.

Figure 1: Location of McArthur River Mine, Northern Territory (Grid: MGA94).

6.0 Tenement Details

The Carpentaria Exploration Company (CEC) explored in the area currently covered by MA366, MA455 and MA456 during the 1960s-70s under tenements MR581 and EL597 'Amelia Springs'. This region was subsequently held by CEC under a 'Reservation from Occupation' (RO 581) that was granted on January 14, 1977.

In June 1990, CEC entered into an agreement with the Northern Territory government to explore the newly declared annexure AN314 on the southern portion of RO581 (Figure 2) for a period of 2 years. AN343, covering the HYC deposit to the north, was contiguous with AN314 within RO581. Under the agreement exploration on AN314 was to comply with the conditions and obligations specified in Sections 24 & 34 of the Mining Act (as if an Exploration Licence) and carried an annual exploration commitment of $500K. In June 1992, AN314 was replaced by AN366. In the periods up to, including, and after 1993, according to statutory relinquishment requirements, AN366 was reduced. Figure 3 shows the known reductions (although most specific dates and details are unclear).

The applications for AN's 455-457, submitted by McArthur River Mining Pty Ltd in September 1996, were driven by further statutory relinquishment requirements on AN366, the departure of MIM Exploration from the Northern Territory and the perception that the ground should be held. These AN's were formerly granted on 21st August, 2006 after considerable delay due to an intervening native title moratorium on the granting of exploration licences.

As per the Department of Resources recommendations, one minute block reductions were made to AN's 455-456 using the change from AGD66 to the GDA94 datum (file ref MT0010/0249). Two blocks from AN455 and one block from AN456 were relinquished according to statutory requirements (Figure 4 & Figure 5). Tenements AN455 and AN456 were later renamed MA455 and MA456 respectively, during 2012 (Table 2).

MA455 'Coxco Valley' comprises 4 graticule blocks and is located approximately 5km south of the McArthur River Mine. MA456 'Amelia South' lies approximately 25km south of the McArthur River Mine and comprises 1 graticule block, covering the southern extension of MA366 (South) centred on the Amelia Prospect (Figure 6).

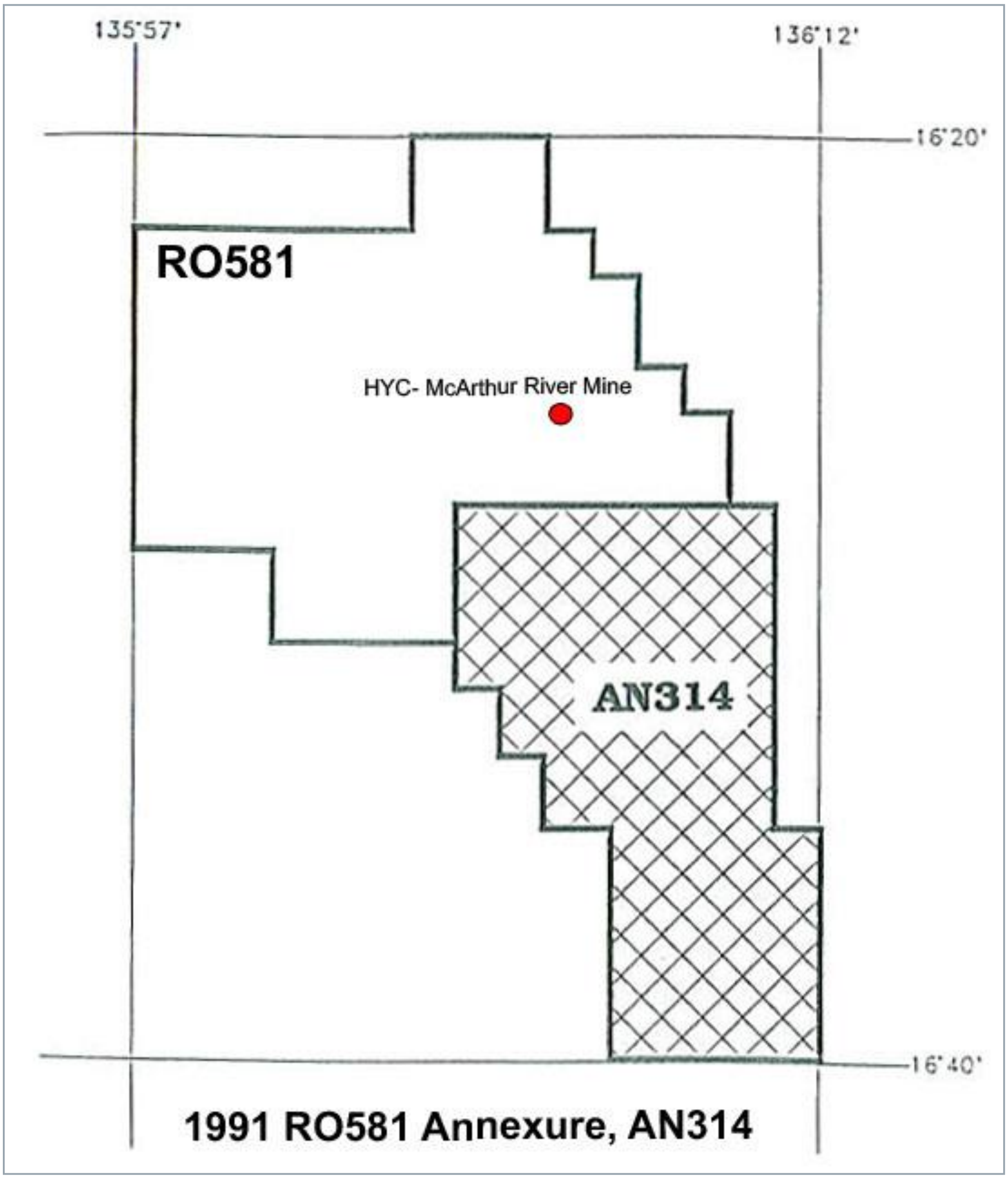

Figure 2: Location of 'Reservation from Occupation' RO581 and the 1991 annexure.

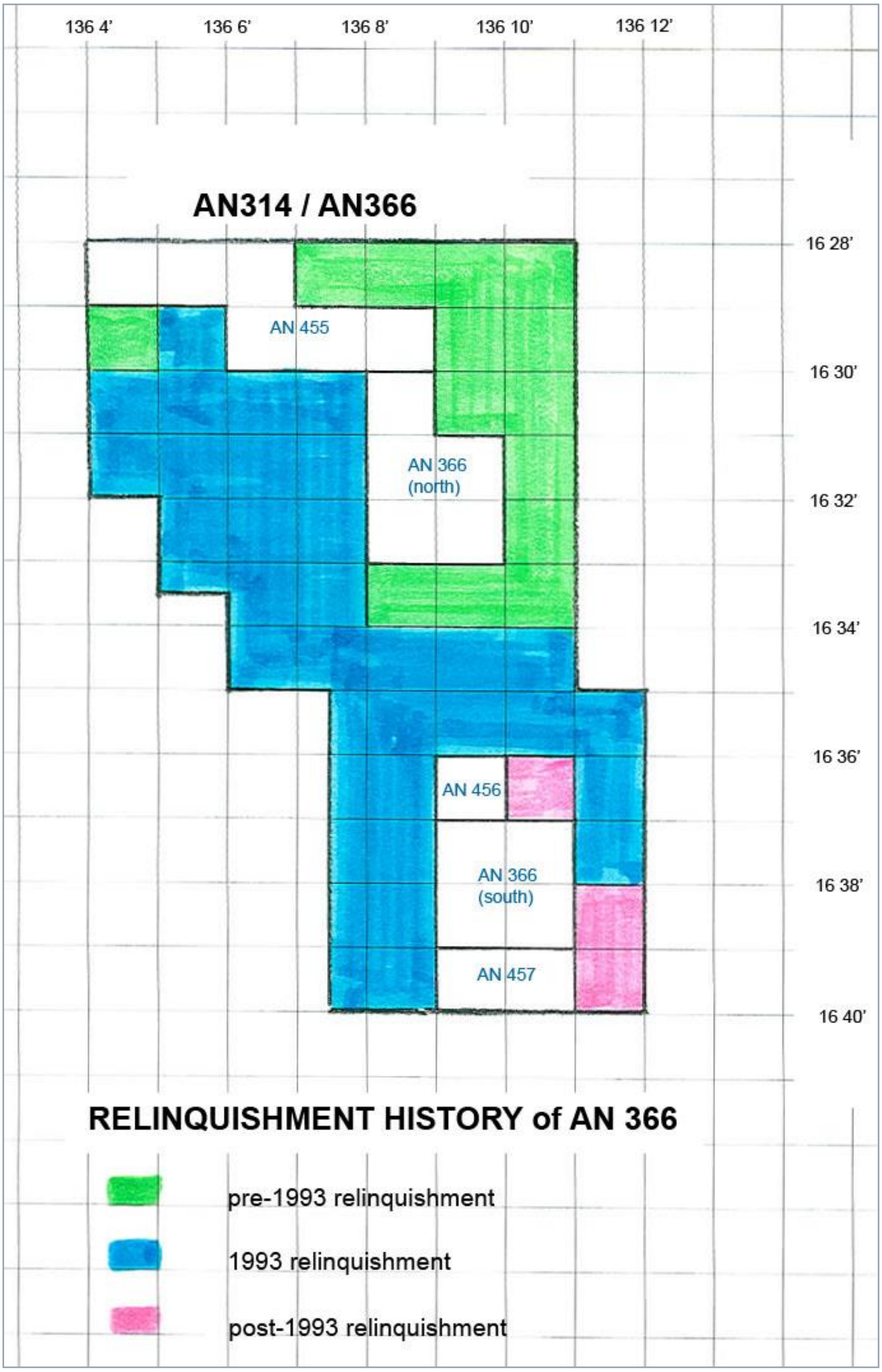

Figure 3: Relinquishment history of AN 366 showing AN's 455-457.

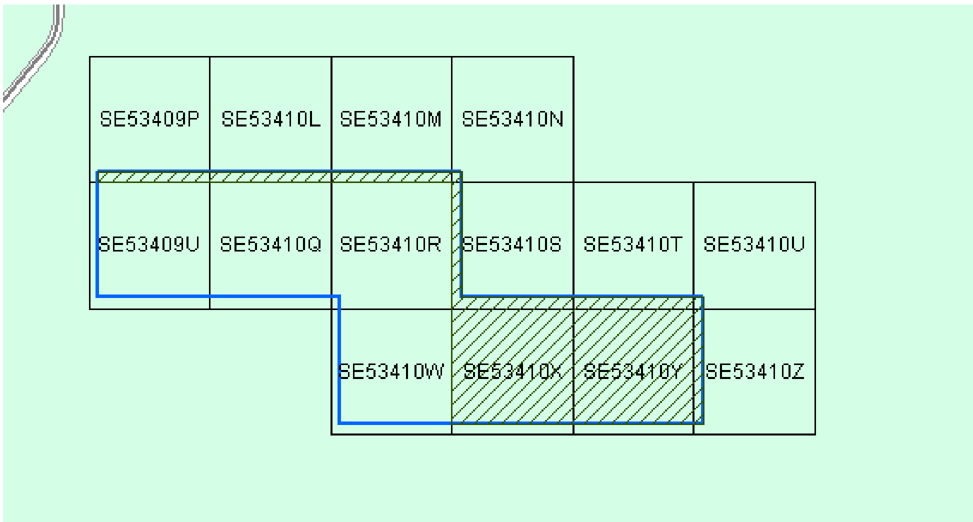

Figure 4: AN455 – 2010 grid reduction and block relinquishment.

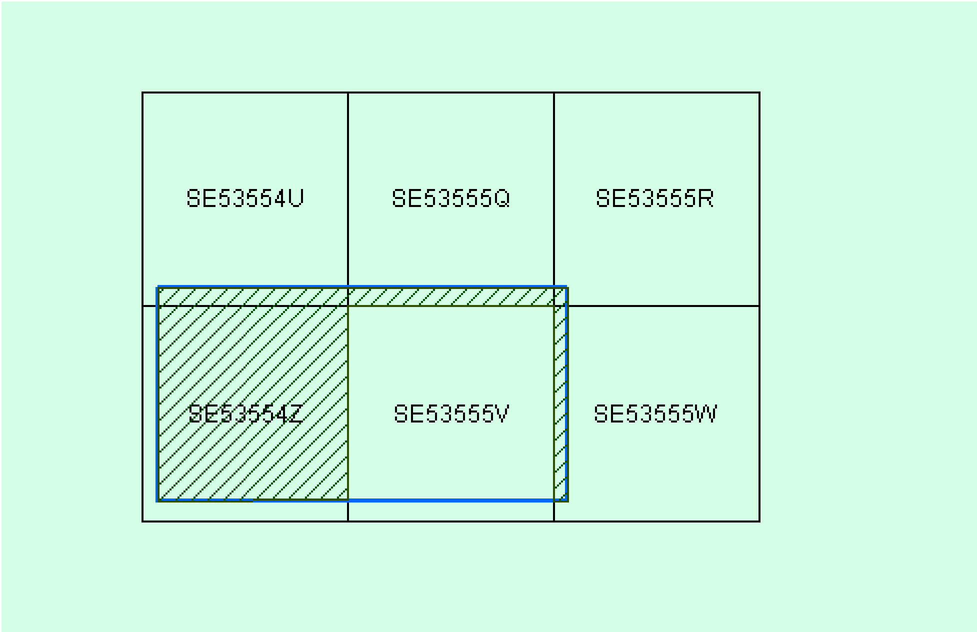

Figure 5: AN456 – 2010 grid reduction and block relinquishment.

Table 2: Tenement details.

Previous Lease Name	Current Lease Name	Status	Grant Date	Expiry Date	Area (blocks)
AN366	MA366	Renewal Granted	8-Jun-92	7-Jun-16	9
AN455	MA455	Renewal Granted	21-Aug-06	20-Aug-16	4
AN456	MA456	Renewal Granted	21-Aug-06	20-Aug-16	1

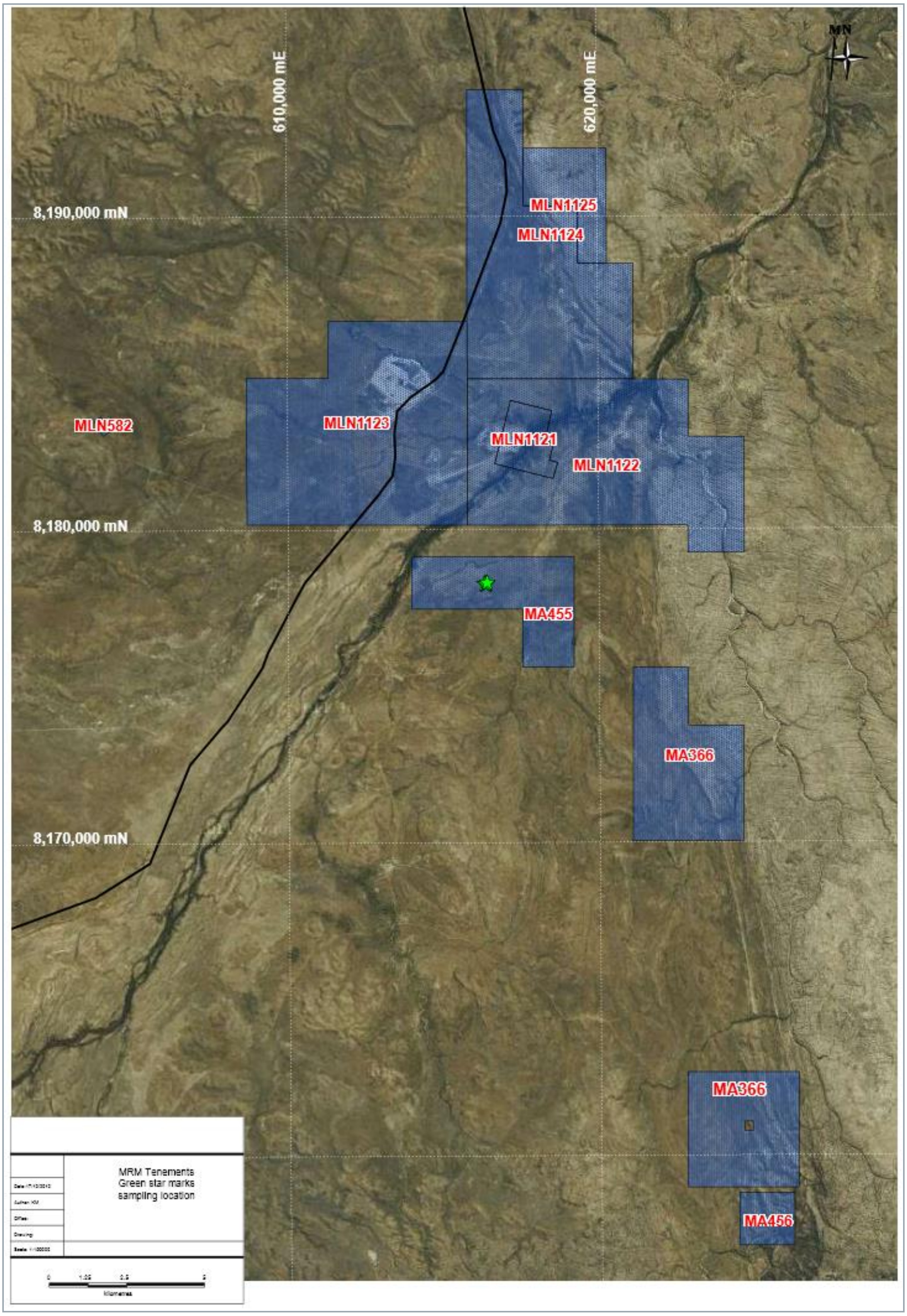

Figure 6: MRM Exploration and Mining Leases 2015 (Grid: MGA94).

7.0 Geological Setting

Figure 7 shows a simplified geological map of the McArthur River region and the approximate location of the tenements MA366, MA455 and MA456.

Studies in the early to mid-1990s suggested that significant inversion accompanied HYC-McArthur River ore formation at Barney Creek-time (1640Ma) in the McArthur River region. During this 1640Ma Barney-time inversion, different domains, in particular along and adjacent to the Emu Fault Zone, were variably (a) downwarped to form Barney Creek depocentres (or 'sub-basins') which accumulated the thick sedimentary successions that host the HYC deposit, or (b) upwarped to erode, karstify and shed (largely) dolomitic detritus into adjacent downwarps. (Hinman, 1994, 1995; Logan, 1979; Neudert, 1998).

The map pattern presented in Figure 7 attests to the tectonic importance of Barney Creek-time by the simple observation that all units older than Barney Creek (outcropping predominantly south of HYC) show approximate N-S fold patterns with axes sub-parallel to the Emu Fault Zone, while successions younger than Barney Creek (Batten Subgroup; outcropping north of HYC) show more E-W trending fold patterns. This contrast in fold patterns in successions deposited within a short period of time is incompatible with the N-S trending fold pattern being developed during a major E-W shortening event ('Isan D2') nearly 90Ma after Batten Subgroup deposition, as has been previously argued. Those that argued for this late folding event have also suggested this timing for the formation of the mineralisation at Coxco and Amelia.

Much evidence along the lines of that outlined above suggests that the accumulation of Barney Creek Formation, which hosts the giant HYC-McArthur River Zn-Pb-Ag Mine, is very irregular and tectonically controlled. Recent work at Coxco (Selley, 1999; Hinman, 1999, 2000) suggests that significant tectonic disruption of the pre-Barney dolomitic successions (Teena Dolomite and stratigraphically earlier) was accompanied by mineralising fluid flow. This Barney-time (1640Ma) fluid flow, rather than a much later (Isan D2; 1550Ma) fluid flow event associated with E-W shortening, formed both the fracture and breccia-hosted mineralisation at Coxco as well as the minor sedimentary breccia and shale-hosted stratiform mineralisation. The equivalence of the Pb isotopic signatures of Coxco and HYC mineralisation (Walker et al., 1983) argue against the hypothesis that the mineralised Coxco sedimentary breccias were of Caranbirini depositional age as has also been previously suggested. Fluids with HYC Pb (isotopic composition) ages had ceased flowing well before Caranbirini time.

South of Coxco in the Amelia Prospect area (and surrounds) detailed mapping by CEC and MIM Exploration in the 1960s-70s described a very limited and modified stratigraphic succession in the Barney Creek stratigraphic position. The successions at Coxco and Amelia were both described as passing from Mara Dolomite up through a 'Coxco Dolomite' unit comprising chaotically brecciated and disrupted massive dolomite (commonly deeply karst) upwards into a heterogeneous, commonly thin, 'Reward' Dolomite unit comprising lenticular, irregularly-bedded dolomitic sediments varying through sedimentary breccias, grits and sands, through cherts and chert breccias to carbonaceous shales. This heterogeneous unit was commonly mapped to pass upward into regionally recognisable Lynott Formation.

At HYC, the 'Cooley Breccia' unit in the Western Fault Block immediately adjacent to HYC-McArthur River (see Figure 7) has been shown to be a normal Mara-Mitchell Yard-Teena (-W-Fold Shale) sequence folded and strongly tectonised during the Barney-time inversion (Hinman, 1994, 1995). At Coxco, mapping by Selley (1999) has suggested similar tectonic disruption of the Mara to Teena Dolomite units. It seems feasible that Barney-time tectonism significantly disrupted the recently accumulated dolomitic sequences, most especially along the active Emu Fault Zone, to form so-called 'Cooley Breccias' and 'Coxco Dolomites' comprising folded, faulted, brecciated and generally disrupted Mara to Teena Dolomite stratigraphy.

It is argued here that at Barney Creek-time while HYC was forming in the north, to the south along the Emu Fault Zone, a number of things happened concurrently: (1) some fairly limited fluid flow occurred along the southern Emu Fault Zone and associated structures, (2) the pre-Barney dolomitic sequences were deformed, faulted and brecciated; locally uplifted and karst, and were locally mineralised, and (3) a highly variable package of sediments locally accumulated, some of which were also infiltrated by hydrothermal fluids and were mineralised.

It is unsurprising that the best demonstrated stratiform mineralisation in the southern Emu Fault Zone at the Coxco Prospect sits immediately adjacent and above well-developed fracture and breccia-hosted mineralisation. In addition, in the broader Coxco and Amelia region, it has been commonly observed that it is precisely the 'Coxco Dolomite' to 'Reward' Dolomite part of the stratigraphy that returned anomalous Zn-Pb stream, soil and rock chip geochemistry. This is hardly surprising if (1) the dolomite tectonic disruption was associated with Barney-time tectonism, (2) the 'Reward' sedimentation was in part at least Barney Creek equivalent accumulation and (3) some fluid access was provided by the adjacent active Emu Fault Zone and linked structures.

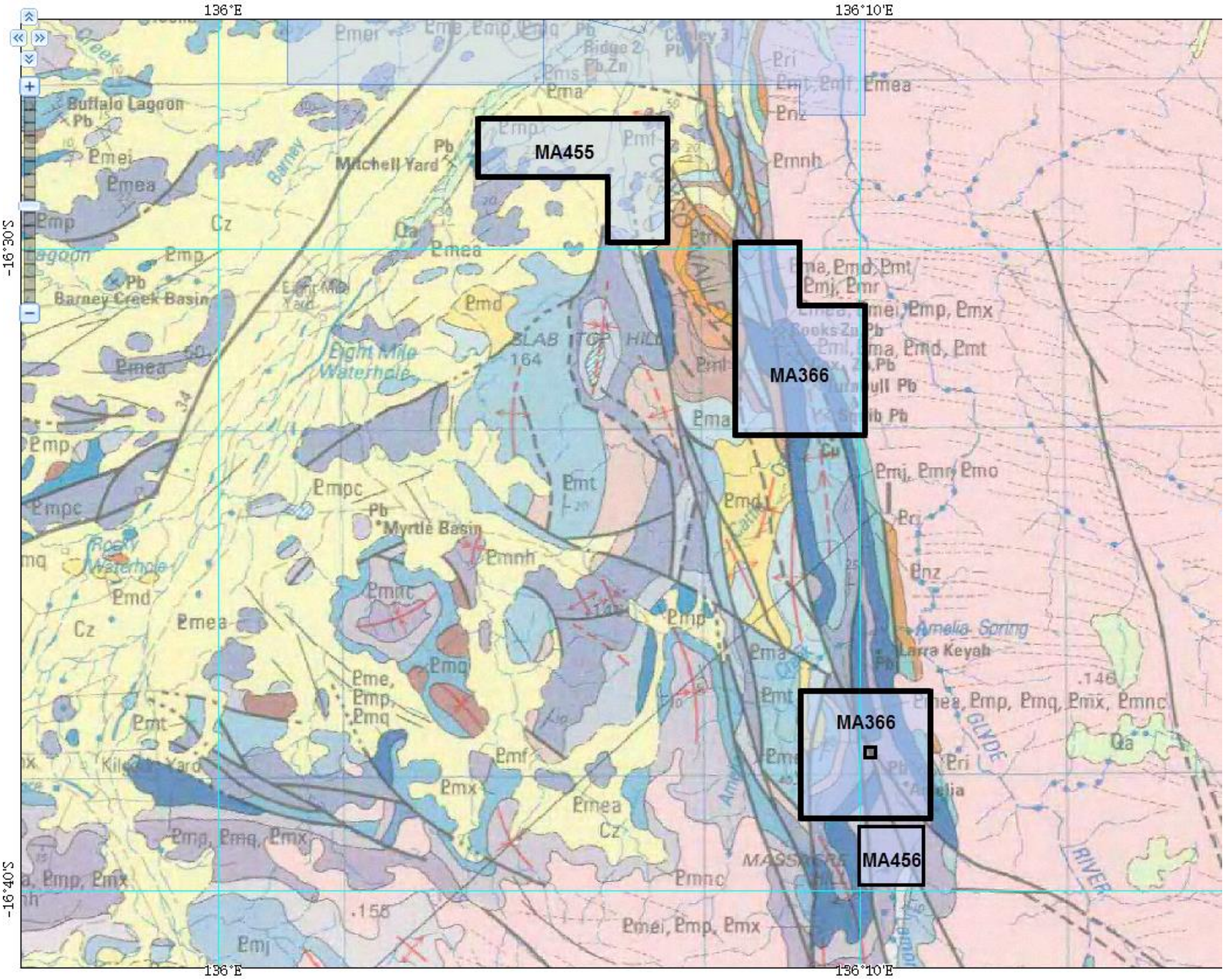

Figure 7: Bauhinia Downs 250k Geological Map with locations of Mineral Authorities held by Mount Isa Mines.

8.0 Coxco (MA366 North) - Local Geology

Figure 8 illustrates the most recent interpretation of the Coxco surface geology. Breccia and fracture/vein sphalerite-pyrite-galena mineralisation is well developed within the 'Coxco Dolomite' complex (the domain between the controlling Emu and Coxco faults) and has been the primary focus of the more recent drilling campaigns of MRM in 2012, 2009 and North Ltd. in 1999-2000. Mineralisation demonstrably shows a close spatial relationship with faults and major fractures within the dolomite complex. An asymmetric zonal arrangement of breccia and fracture intensity around significant fractures and faults within the dolomite complex was commonly observed in all holes from the 1999-2000 and 2009 programs for both pyrite-dominant portions of the system as well as sphalerite-dominant parts.

This zonal development of brecciation and fracturing comprises outward from the controlling fault or significant fracture:

- A thin zone of milling immediately adjacent to the structure which is commonly only moderately mineralised (reduced permeability as a result of the milling);
- A zone of intense brecciation, high permeability and strong mineralisation;
- A zone of strong vein networking, transitional into true breccia inward within the zone and transitional through vein networks or breccia veins into spaced veining outward. This zone can have high permeability and also be well mineralised;
- An outer veined zone with decreasing vein density, permeability and mineralisation strength outward;
- A barren dolomite zone.

The presence of a tightly milled zone and absence of significant open space within and along these controlling structures suggests they are transpressive. The generally moderate to steep orientations (see below) coupled with the geometry of secondary Riedel fracturing would indicate reverse senses of movement on them.

The overall resource potential within the tectonically brecciated and fractured dolomite complex is a function of what gross volume contains a sufficient density of these individual zoned breccia-breccia vein-vein systems. Two aspects of this are critical. Firstly, the simple down hole density of these zones will determine whether the bulk volume will grade sufficiently well. And secondly, the geometric arrangement of these zones (and their controlling structures) within the volume will significantly impact on how mineralisation continuity within, and between, sections is established. These geometries will control the grade distribution within the volume and ultimately what bulk grade is assigned to the volume. Current drilling densities may remain insufficient to attempt such between-section correlation.

The block containing significant breccia- and vein-hosted mineralisation within 'Coxco Dolomite' is bounded to the West by the steep Emu Fault Zone (cored by Masterton Sandstone) and to the east by the moderately WNW-dipping Coxco Fault. How the Coxco Fault runs out at its currently-mapped, southwest termination and its relationship with the most eastern third strand of the Emu Fault (in the south) and the cross-cutting NW-SE structure, remains unresolved (but will be discussed further below). This area of current termination is, however, coincident with the well drilled, shallow, oxide resource at Coxco (Cook's workings) where deep information and detailed geometry is currently lacking and begs further drill investigation.

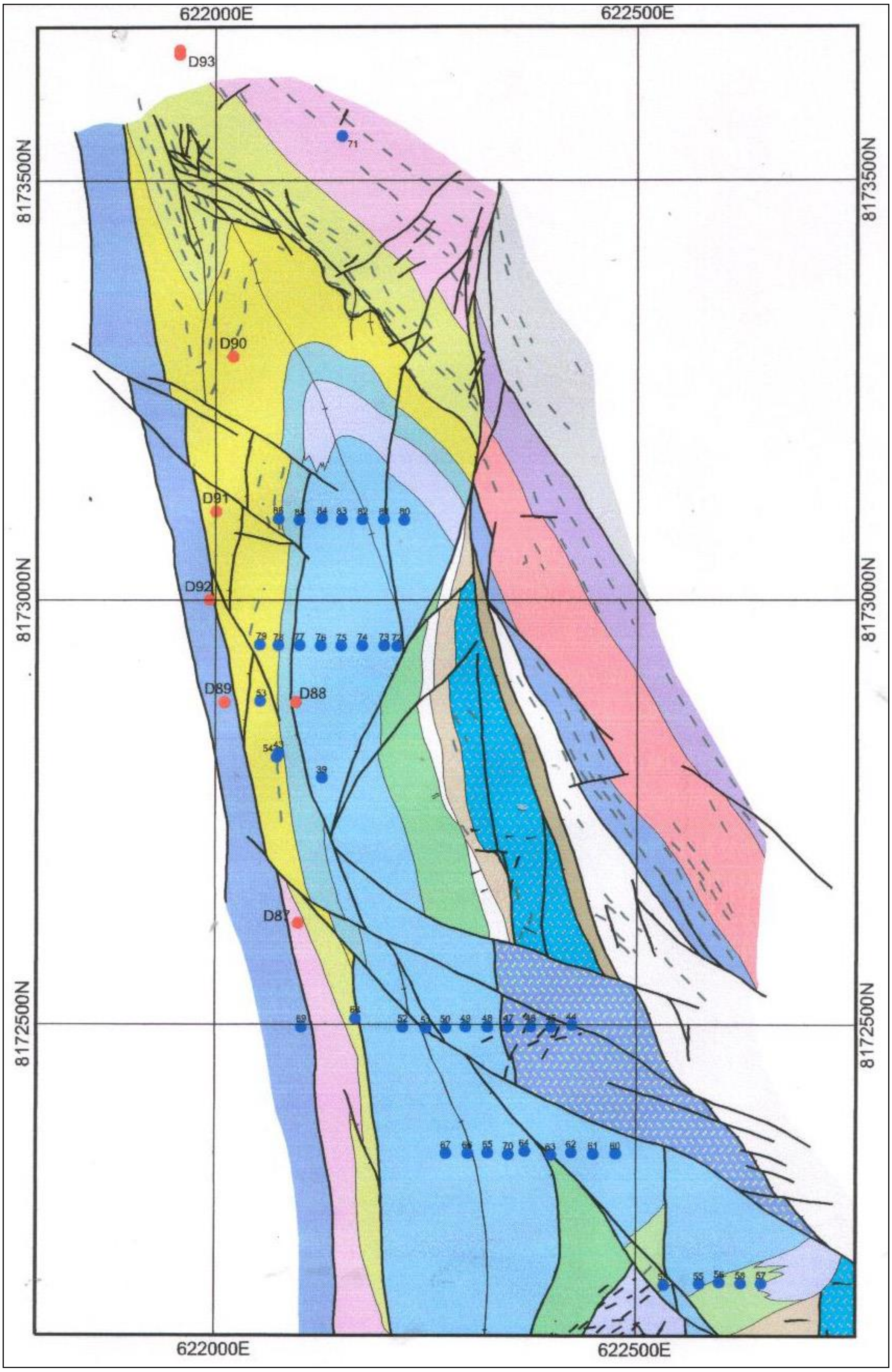

Figure 8: Interpretive Geological Map of the Coxco Prospect (Selley, 1999) highlighting significant structures, showing MRM 2009 collars (black) and North Limited 1999-2000 DDH (red) and RC (blue) collars.

9.0 Amelia (MA366 South) - Local Geology

(Summarised from Wilkins, 1991)

Four units are present in the Amelia Area: Basal Mara Dolomite is followed by Coxco Dolomite, Reward Dolomite and the lower portion of the Hot Springs Member. MIMEX geologists indicated that the Hot Spring Member (Lynott Formation/Reward Dolomite boundary is to be taken at the uppermost Reward grey dolomite unit (laterally transgressive with arenites) that is overlain conformably by white, Hot Spring Member laminated siltstones and massive chert breccias/conglomerates. Hence 1991 mapping puts part of the 1979 "Lower Lynott" Member into the underlying Reward Dolomite.

The Coxco Dolomite/Reward Dolomite boundary is usually easy to pick, as massive grey dolomites grade into laminated yellow dolosiltstones. Characteristically, the contact between these two lithologies appears to be disrupted. The overlying Reward dolosiltstones often have a "chaotic" structure, caused by large strike and dip variations. In places, gently dipping "thrusts" and "faults" are developed on a small scale and are likely to relate to soft sediment deformation. At a locality to the north (Amelia Creek), the Coxco/Reward boundary is well exposed and shows basal Reward infilling a likely Proterozoic karst surface at the top of the Coxco Dolomite, where Reward has slumped into large holes (palaeosurface?, solution collapse cavities?). In the area mapped, there is no evidence to suggest any thrusts propagated at the Coxco/Reward boundary.

The Coxco Dolomite/Mara Dolomite boundary is difficult to pick. Surface weathering texture, the absence of prominent stromatolites and the presence of rare radiating psuedomorphs after gypsum are some of the few characteristics available to separate these two units.

There is still some argument among MIMEX geologists concerning the location of unit boundaries and the best characteristics for the recognition of the individual units in the field.

9.1 Breccias

The interpretation of tectonic breccias vs. sedimentary breccias/conglomerates vs. siliceous cap rock breccias are critical to correctly mapping fault zones and their associated alteration and sulphide stockworks at Amelia.

1979 mapping interpreted Fe-stained siliceous cap rock breccias associated with fault zones (e.g. Casey's Hill) as a sedimentary bed and included it in the Hot Springs Member (Lower Lynott Member). To the north of Casey's Hill, siliceous cap rock breccias are clearly sitting on top of brecciated altered (dolomitised) and mineralised (stockwork vein network) Coxco Dolomite adjacent to a major fault (E strand of the Emu Fault). A careful search in areas of siliceous cap rock breccias will usually lead to the recognition of the underlying stratigraphy or proximity to a fault zone. These cap rock breccias are not exclusively developed over more permeable fault zones, so care must be taken in each case to understand their likely genesis.

Chaotic recemented (dolomitised?/silicified) tectonic breccias are common in fault zones (e.g. Emu Fault, Lamont East Fault). Where breccias clasts are large and outcrop poor, detailed measurements of S0 indicates tectonized zones.

Alternatively, sedimentary breccias/conglomerates can be distinguished from the above two types on the basis of their more typical bedded appearance. Even when breccias are more massive and coarse grained (e.g. Basal

Hot Spring Member chert breccias) bedded units, crude grading and interbedded sediments can usually be located.

9.2 Alteration and Mineralisation

At outcrop and drill core hand specimen scale, alteration in the Amelia Prospect is believed to be dominantly dolomitisation with minor silicification along faults or associated with chalcopyrite (Wilkins, 1991). There are possibly three types of dolomitisation:

1) Early diagenetic? – MIMEX geologists suggested that dolomitisation started very early in the post depositional history of the rocks. For example, massive grey dolomite forming lithological horizons within yellow laminated Reward dolosiltstones could be related to diagenetic processes.
2) Alteration (dolomitisation?) is typically associated with tectonic breccias in close proximity to fault zones. In these zones the rocks have undergone multiple phases of alteration (and brecciation), often distinguished by cross-cutting irregular patches or veins of differently coloured dolomite? (cream, grey, yellow, orange, brown). Individual breccias clasts can be surrounded by a dolomite? breccias cement or partially or totally replaced. Alteration produces a massive recemented grey dolomite that typically hosts a stockwork of irregular (mm to a few cm wide) Py +/- Sphal +/- Galena +/- Ccpy +/- Chlorite +/- Qtz veins. This type of alteration and stockwork mineralisation is found along the length of, and adjacent to, the eastern strand of the Emu Fault from Casey's Hill north to the limit of mapping. The second major zone occurs to the south of the Gap Fault Zone bounded by Casey's Fault and the Lamont East Fault. 1:1000 mapping between Casey's Fault and the Lamont East Fault has defined a zone of brecciation and alteration consistent with a zone of stockwork mineralisation, all cross-cutting lithological units.
3) In the hinge of the anticline in the north-east of the Amelia area, Coxco Dolomite exhibits areas of minor mineralised vein stockworks and cross-cutting fine quartz veins. This style of veining and minor mineralisation appears to be related to brittle failure of more competent layers during fold formation.

9.3 Structure

The structures in the Amelia Prospect zone (folds and faults) can all be related to deformation along the Emu Fault Zone (EFZ), a zone of strike-slip deformation. Reliable sense of shear indicators have not been found in the prospect area, however, the map-scale arrangements of faults and macro-structural synthesis indicates sinistral strike-slip movement on the EFZ.

There is a strong correlation between brecciation, alteration and stockwork-style Zn mineralisation with deformation zones. As in many situations, the Emu Fault is not mineralised, whereas the second and third order structures tend to host mineralisation. The main types of mineralisation at Amelia are:

i. Stockworks due to brittle failure and fluid flow through more competent units in the hinges or anticlines parallel to the Emu Fault;
ii. Stockworks along faults;
iii. Stockworks adjacent to faults; and
iv. Stockworks in extensional zones between major faults.

10.0 Exploration History

There is now a long history of exploration in the McArthur River district, dating back at least to drilling which occurred at the Cooks workings (at Coxco) in 1912 (Walker, 1975). It is beyond the scope of this report to outline the large volume of work which has been completed over many decades. A large amount of exploration history is available in Open File reports, such as those listed below in Table 3.

Table 3: Open File Reports relating to MR581, EL597, RO581, AN314, AN366, AN455-457.

Year	Title	Title Holder/Company	Report ID
1956	Report on Bauhinia - McArthur Area. Northern Territory, Field Season, 1956	MIM Exploration	CR1957-0009
1957	Bauhinia authority to prospect No. 510 2,352 square miles, progress report no. 1 period ending 30-04-1957 to 31-05-1957	MIM Exploration	CR1957-0007
1957	Bauhinia authority to prospect No. 510 (Joint Agreement)	MIM Exploration	CR1957-0008
1962	Exploration and mineralisation in the McArthur River	Carpentaria Exploration Company	CR1962-0012
1963	Exploration in the Carpentaria area during 1962	Carpentaria Exploration Company	CR1963-0004
1966	Annual Report McArthur River geology 1966	Carpentaria Exploration Company	CR1966-0030
1968	McArthur annual report 1967, geology and geophysics	Carpentaria Exploration Company	CR1968-0014
1969	Stream sediment reconnaissance geochemical survey of the Amelia Dolomite, West of the Tawallah Fault, McArthur River District, NT	Carpentaria Exploration Company	CR1969-0012
1971	Report on Exploration, Carpentaria NT	Carpentaria Exploration Company	CR1971-0010
1972	Report on Exploration within PA 3319 Carpentaria NT, year ending 31-12-71	Carpentaria Exploration Company	CR1972-0015
1972	Supplementary final report for AP3319 'Carpentaria'	Carpentaria Exploration Company	CR1974-0087
1973	Progress Report Amelia Springs, NT for quarter ended 20-12-1972	Carpentaria Exploration Company	CR1973-0011
1974	Quarterly Report for EL 597 Amelia Springs, year ending 20 June 1974	Carpentaria Exploration Company	CR1974-0126
1974	Progress Report year ending 20-12-73, Amelia Springs	MIM Exploration	CR1974-0130
1975	Anual Report for year ending 20-9-74, Amelia Springs	Carpentaria Exploration Company	CR1975-0002
1975	Progress Report Coxco Vallery Exploration 74	Carpentaria Exploration Company	CR1976-0116
1976	Annual Report Amelia Springs year ending 19-9-75	MIM; Carpentaria Exploration Company	CR1976-0003
1976	Technical Report 648 Emu Fault Zone McArthur Distrrict	Carpentaria Exploration Company	CR1976-0111
1976	Annual Report Amelia Springs year ending 19-9-76	Carpentaria Exploration Company	CR1976-0115
1977	McArthur River Series 1 inch to 1600 feet geological maps	Carpentaria Exploration Company	CR1977-0003
1977	Extract from progress report for year ending 20-12-72, Amelia Springs	Carpentaria Exploration Company	CR1977-0019
1991	Annual Report year ending 7 June 1991	Mount Isa Mines	CR1991-0416
1992	RO 581, AN 314 Emu Fault Zone Annual report ended 7 June 1992	Mount Isa Mines	CR1992-0494
1993	AN 366 Emu Fault Zone Annual Report year ending 7 June 1993	Mount Isa Mines	CR1993-0428
1993	AN 366 Emu Fault Zone report on area relinquished on 7 June 1993	Mount Isa Mines	CR1993-0520
1994	AN 366 Emu Fault Zone Annual Report year ending 7 June 1994	Mount Isa Mines; MIM Exploration	CR1994-0486
1994	AN 366 Emu Fault Zone NT relinquishment report for the year ending on 7 June 1994	Mount Isa Mines	CR1994-0645
1996	AN 366 Emu Fault Zone Annual Report year ending 7 June 1995	Mount Isa Mines; MIM Exploration	CR1996-0044
1996	AN 366 Emu Fault Zone Annual Report for year ending 7 June 1996	Mount Isa Mines	CR1996-0613
1997	AN 366 Emu Fault Zone fifth annual report for the year ended 7 June 1997	MIM Exploration	CR1997-0440
2010	Relinquishment Report on AN 455 Coxco Valley and AN 456 Amelia North period ending 21 August 2010	Mount Isa Mines	CR2010-0629
2010	Final Report on AN 457	Mount Isa Mines	CR2010-0785
2011	Relinquishment Report for AN 455 Coxco Valley period ending 21 August 2011	McArthur River Mining	CR2011-0442

In order to streamline this report, the exploration history of the tenements is outlined in Appendix A. This report will discuss exploration on MA366, MA455 and MA456 during the 2015/2016 reporting period only.

11.0 Exploration Activities - 2015/2016 Reporting Period

This section outlines the exploration activities for MA366, MA455 and MA456 held by Mount Isa Mines and operated by McArthur River Mine, as well as a brief summary of the planned exploration activities for the upcoming renewal period.

As a result of scheduled field activities being delayed until late in the dry season, there were restrictions in engaging appropriate resources and therefore limited activities were completed by the contract Exploration Geologist.

11.1 MA366 Exploration

11.1.1 Analysis Results

Eighty-two soil samples from the 2014/2015 reporting period were returned from Australian Laboratory Services (ALS) Brisbane which covered infill areas of previous sampling campaigns.

The results confirmed the elevated concentrations of Zn, Pb and Cu and showed large variability in grades across the sampled areas. Table 4 below summarises the basic statistics of the results.

Table 4: Basic statistics from the 2015 soils program.

	Count	Min	Max	Mean	Variance	STD	CoV
Zn (ppm)	82	5	24,400	812	8,068,243	2,840	3.50
Pb (ppm)	82	4	10,700	482	2,174,484	1,475	3.06
Cu (ppm)	82	2	1,450	128	67,501	260	2.03

11.1.2 Coxco Model Rebuild

A new resource model for the Coxco deposit was generated for this reporting period and included the following updates:

- Reinterpreted geological and mineralised wireframes using Leapfrog; and
- An updated Ordinary Kriged estimate to include assay results from the 2012 drilling.

Mineralisation wireframes were generated using the interval selection method in Leapfrog which is shown below in Figure 9. This, coupled with the vein modelling tool allowed for easy manipulation and interpretation of the hangingwall and footwall surfaces, but also the clipping of merging or bifurcating lenses (Figure 10).

While 6 individual lenses were modelled (A to F), only 3 (A, B and C) were estimated in the block model as the other 3 zones are only weakly mineralised (Figure 11).

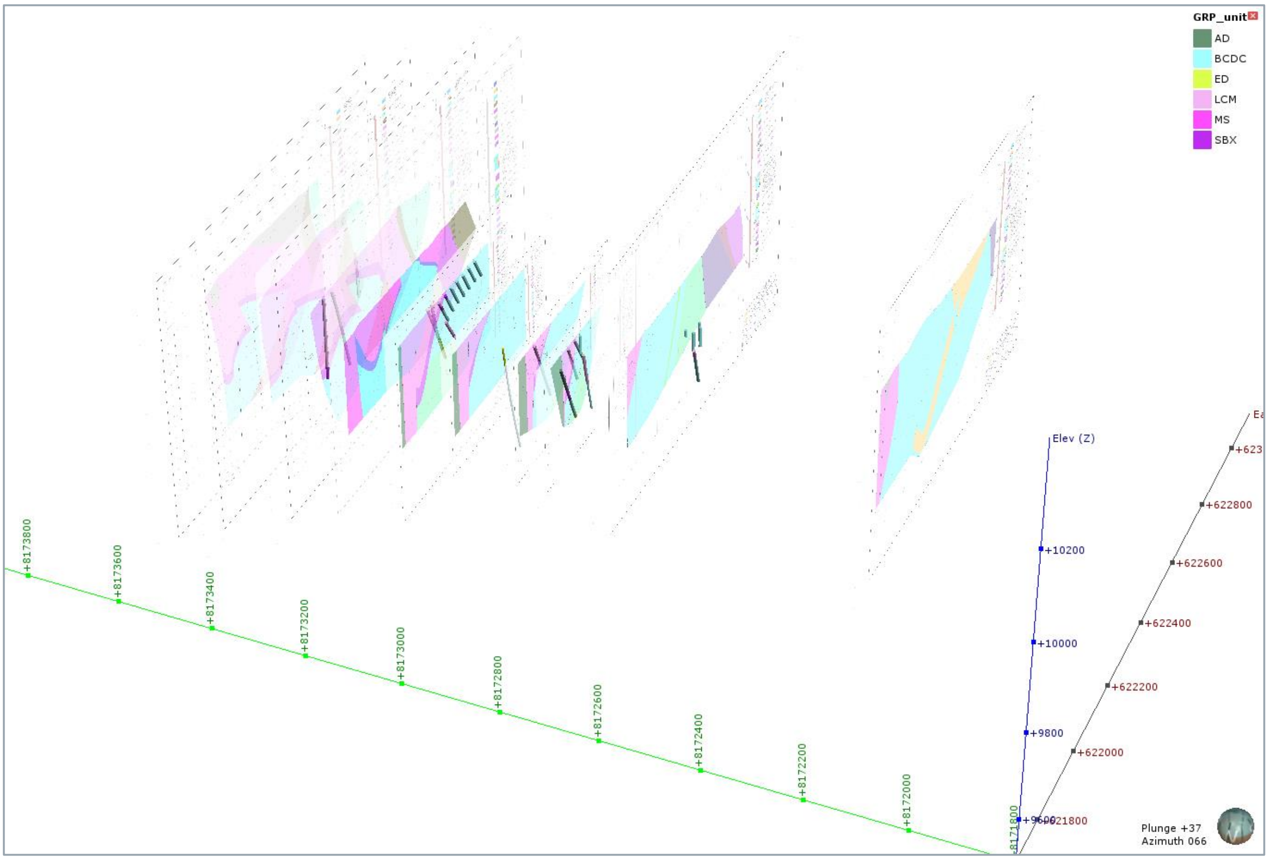

Figure 9: Cross sections used for building the Coxco 2016 model.

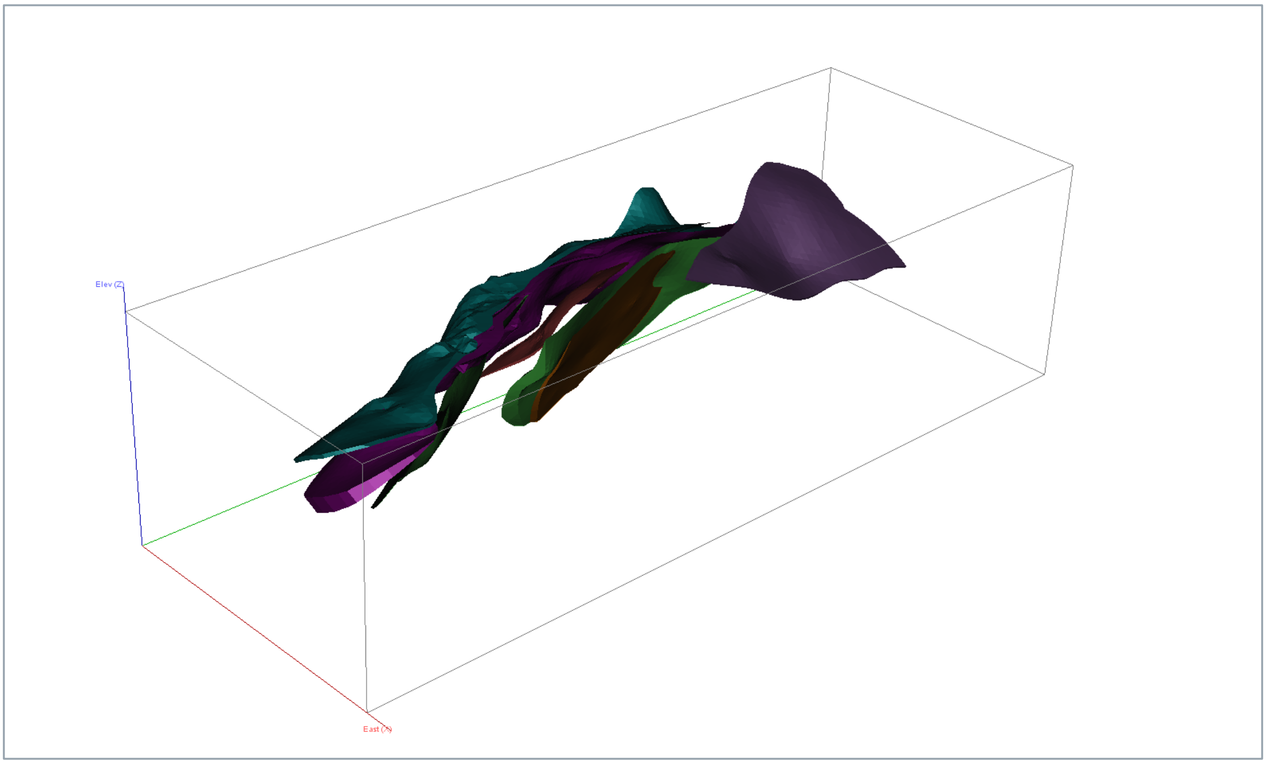

Figure 10: Mineraliased lenses A to F.

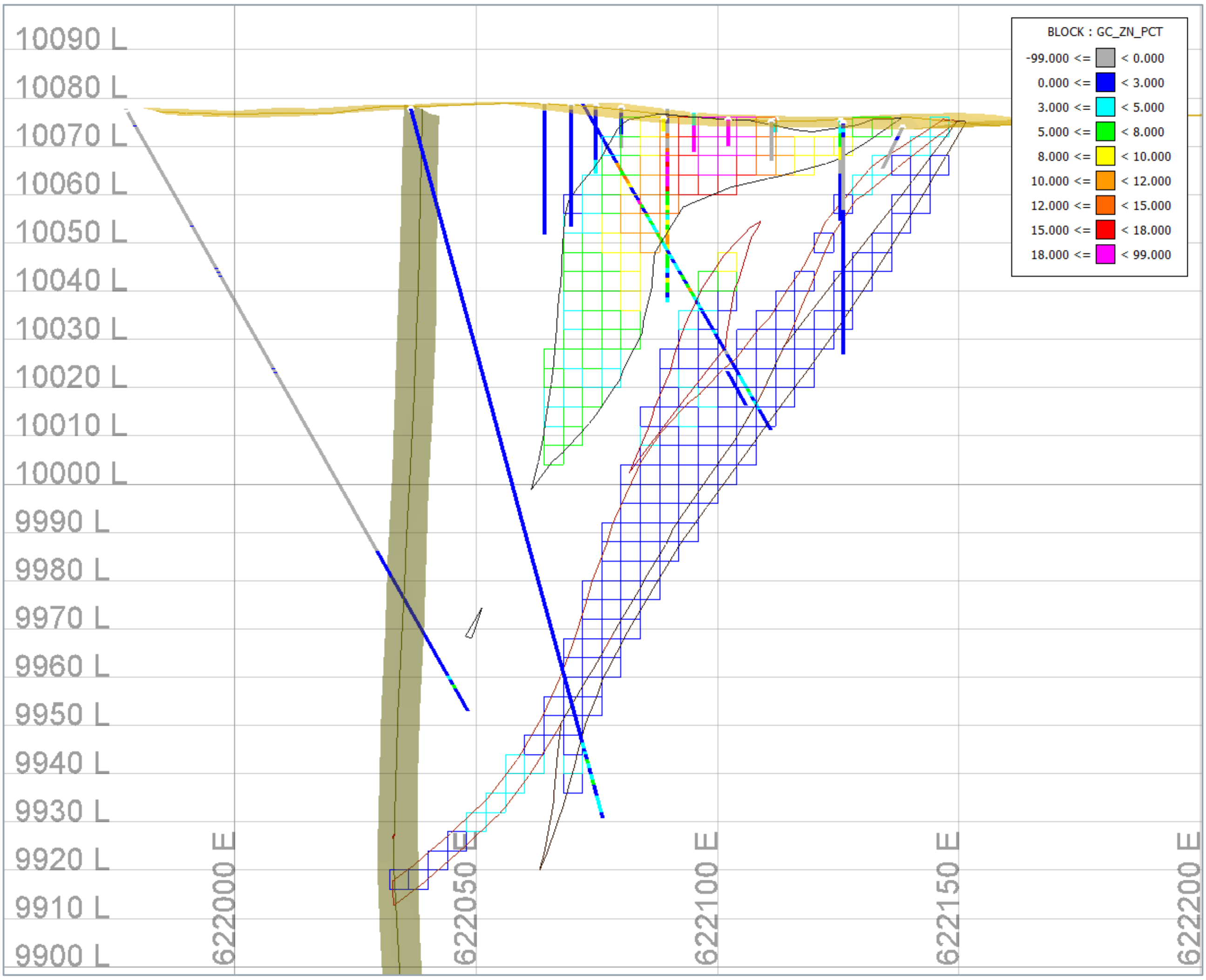

Figure 11: Cross-section 8172800mN looking north of the Coxco 2016 block estimates against drill holes.

Results from RC samples were not used in the estimation due to the variability and uncertainty of the assayed grades, as outlined in the 2005 annual report (Pevely, 2005). The report outlined potential underestimation in the oxide zone and a slight over estimation in the primary zone. This was attributed to the following:

- Unfavourable RC drilling orientation (drilling sub-paraell to narrow, high grade structures);
- Downhole RC sample contamination by very high grade, oxidised, supergene mineralisation;
- Poor recovery of wet and dry samples when drilling through cavities; and
- Highly variable grade distribution in the cavernous, intensely weathered oxide zone.

The Coxco 2016 Mineral Resource is summarised below in Table 5 and Table 6 using a cut-off grade of 2.5% Zn. It must be noted that the Mineral Resource is unconstrained and that further work would be needed to assess the true recoverable Mineral Resource using a series of optimised pit shells and geometallurgical test work.

Due to the lack of density data, all blocks which satisfy the criteria for a Measured Resource were downgraded to Indicated.

Table 5: Coxco 2016 Mineral Resource using a cut-off grade of 2.5% Zn.

Resource Category	Tonnes (Mt)	Zn %	Pb %	Ag ppm
Indicated	3.3	4.32	0.88	2.60
Inferred	2.2	3.71	0.66	3.08
Total	**5.5**	**4.08**	**0.77**	**2.79**

Table 6: Coxco 2016 Indicated Resource by material type using a cut-off grade of 2.5% Zn.

Material Type	Tonnes (Mt)	Zn %	Pb %	Ag ppm
Oxides	0.7	5.81	1.80	0.63
Primary	2.6	3.92	0.64	3.13
Total	**3.3**	**4.32**	**0.88**	**2.60**

Figure 12 below represents the grade tonnage curve for oxide and primary resources.

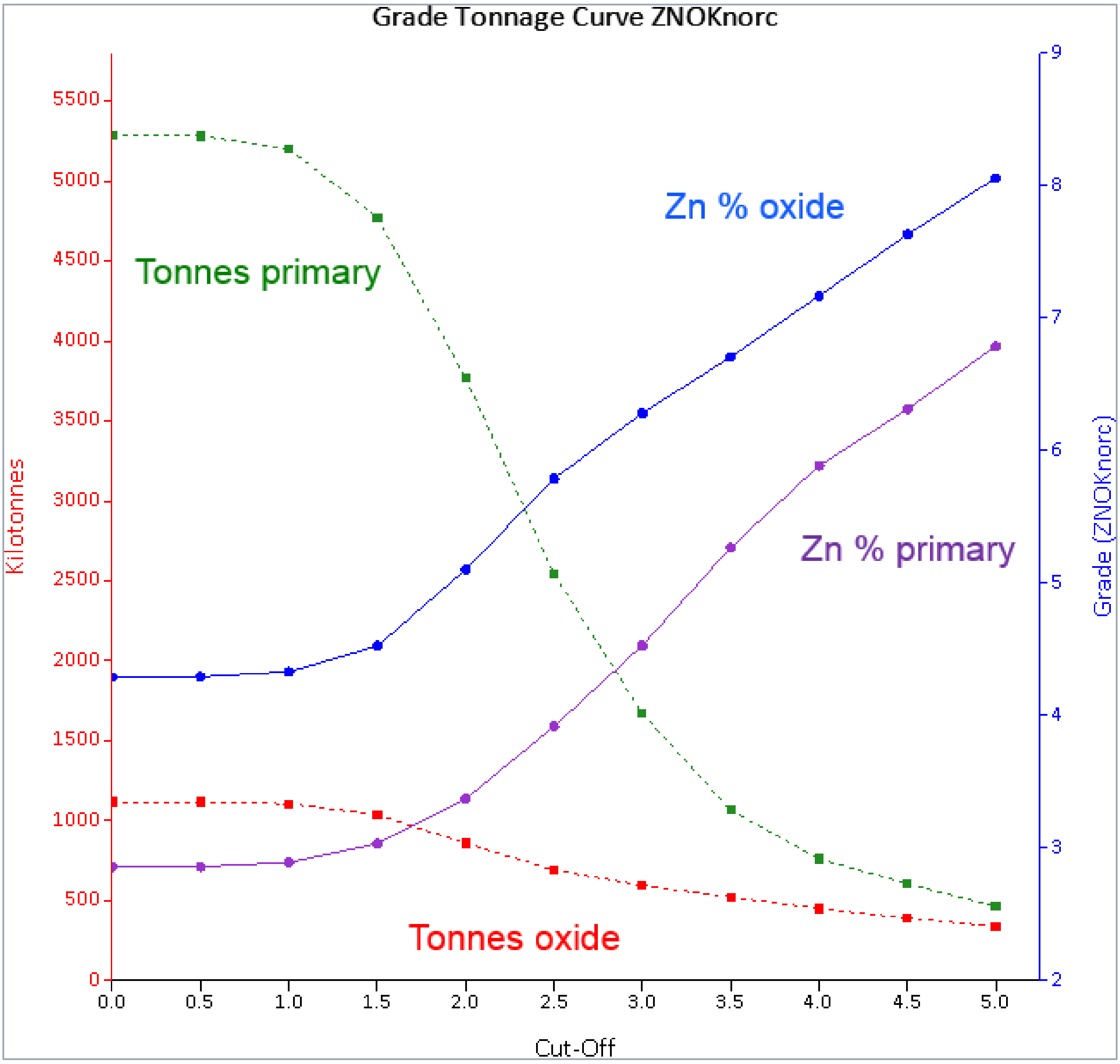

Figure 12: Grade tonnage curve for all resource categories.

Other work completed for this reporting period included:

- The collection of 12 rock chip samples.

11.2 MA455 Exploration

Results from 158 soil samples collected from the last reporting period were returned from ALS. These samples were collected from within the cover sequence towards the western limit of the tenement as shown in below in Figure 13.

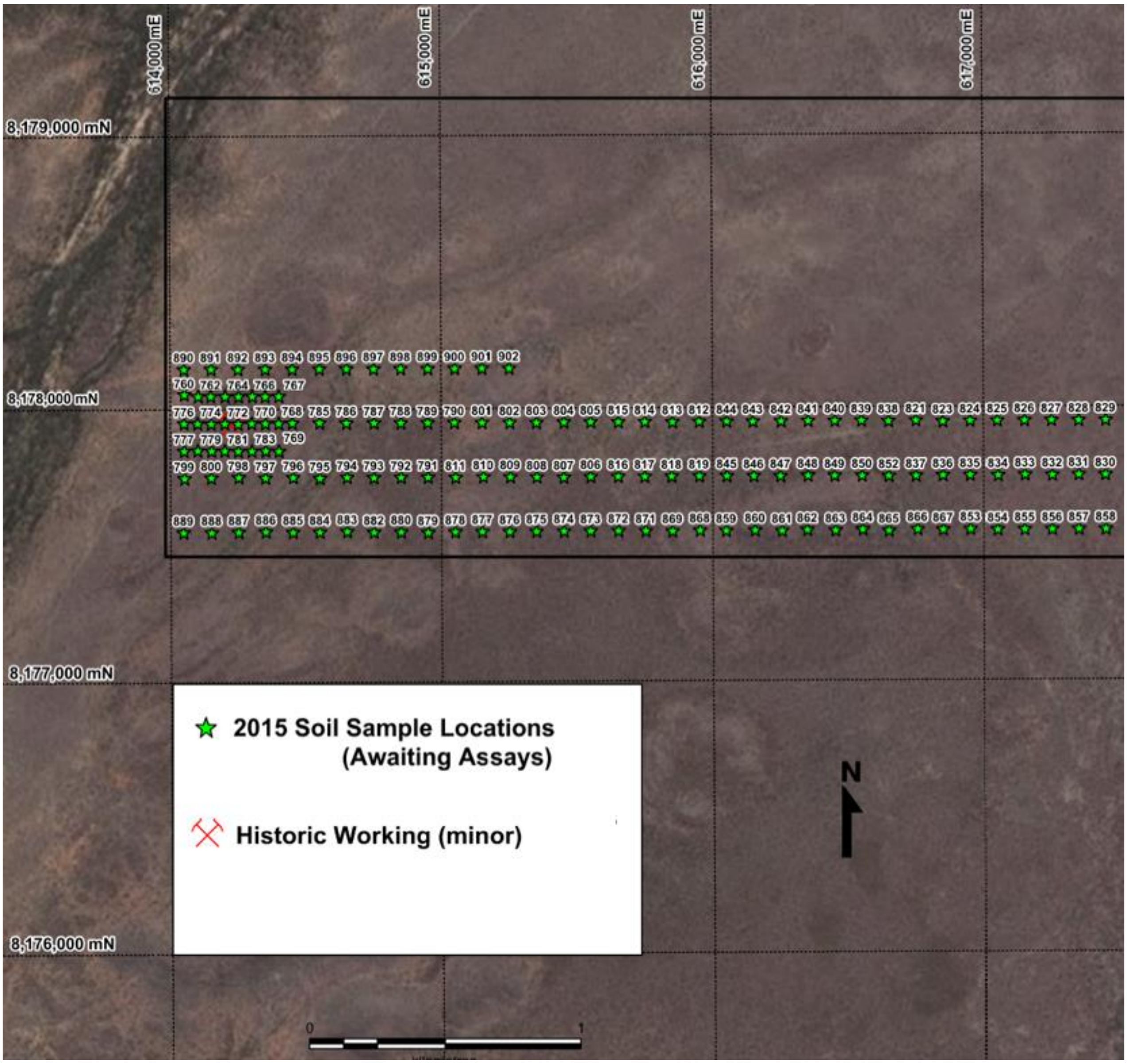

Figure 13: Sample points for late 2015 sampling program.

Sample MA4550798 was the only sample to show elevated concentrations of base metals (3,640ppm Pb). This sample was located near the old mine workings towards the western limit of the tenement. Table 7 below summarises the basic statistics of results from sampling completed for the 2015 period.

Table 7: Basic statistics for samples returned for MA455.

	Count	Min	Max	Mean	Variance	STD	CoV
Zn (ppm)	158	6	584	47	4,110	64	1.36
Pb (ppm)	158	8	3,640	58	84,185	291	5.02
Cu (ppm)	158	5	87	16	96	10	0.63

Overall, the results show there to be no evidence of elevated base metals, however, this is likely due to the fact that samples were taken from the cover sequence which is not indicative of bedrock geochemistry.

Work completed for this reporting period include the following:

- The collection of 5 rock chip samples; and
- Additional field trips to assess the following:
    - Tenement access; and
    - Suitability for EM survey.

11.3 MA456 Exploration

This reporting period saw the Graduate and Project Geologist become familiarised with the tenement through a number of field trips which assessed the following:

- Tenement access;
- Suitability for EM survey; and
- For safety reasons, logging the location of old mine shafts.

12.0 Conclusions and Recommendations

The assay results from the previous reporting period of MA366 confirmed the elevated concentrations of base metals which showed a large variability in grades across the sampled areas. These elevated base metal concentrations show that further work is required to assess any potential bedrock mineralisation, as these results confirm what has already been known from historic soil sampling campaigns - that a near surface anomaly exists.

The Coxco 2016 resource update included the following improvements:

- Reinterpreted geological and minerliased wireframes using Leapfrog; and
- Updated Ordinary Kriged estimate to include assay data from the 2012 drilling.

The use of Leapfrog (implicit modelling) in rebuilding the geological model is by far a vast improvement when compared to historic manual methods. Although this is the case, the geological model and mineralised wireframes should only be used as a guide given the lack of geological information from drill hole data. Therefore this resource update is still considered to be a non-JORC compliant resource.

Results from the preivous reporting period of MA455 showed there to be no evidence of base metals at the surface and further work would be required to assess any potential bedrock mineralistaion.

From this, the following recommendations and activities have been proposed for the next reporting period:

- XRD analysis of the 17 samples that were collected from MA366 and MA455;
- A structural mapping campaign for MA456;
- Conducting an EM survey across the cover sequence of all tenements;
- Defining drill targets across MA366 and MA455 pending results of EM survey; and
- Begin the approvals process for drilling.

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