

## QUARTERLY REPORT



### Three Months Ending: 31 December 2011

ASX CODE: MZM

ISSUED SHARES: 67.41M

52 WEEK HIGH: \$0.93

52 WEEK LOW: \$0.25

CASH ON HAND: \$8.63M

### CONTACT:

JUSTIN BROWN

Managing Director

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### BOARD:

Seamus Cornelius: Chairman

Justin Brown: MD

John Ribbons: Non-Exec

### KEY PROJECTS:

BUTCHERBIRD (100%)  
Manganese, Copper

PEAK HILL (85-100%)  
Gold

DURACK (85%)  
Gold, Copper (VMS)

MT PADBURY (100% of gold)  
Gold, Manganese, Iron

### KEY SHARE HOLDINGS:

AUVEX MANGANESE LTD  
3,250,000 FPO Shares

BUXTON RESOURCES LTD  
3,010,000 FPO Shares

LITHEX RESOURCES LTD  
1,525,000 FPO Shares

EXTERRA RESOURCES LTD  
2,000,000 FPO Shares

## HIGHLIGHTS

### BUTCHERBIRD MANGANESE DSO ORE STUDY:

- Six potential DSO localities identified with five tested in current programme via bulk sampling using scraping and trenching.
- **Mn grades of +40% Mn achieved** at key localities.
- Test work emulated simple mining and mobile processing method, with very low capital requirements and operational risk.
- Further work to be undertaken in 2012 to confirm DSO surface deposits size, recoveries and product grades.

### BUTCHERBIRD MANGANESE RESOURCE UPGRADE:

- Mineral Resource Estimates completed for seven additional deposits.
- Additional Inferred Resources total **70 million tonnes @ 11.4% Mn** reported at a 10% Mn cut-off.
- Global Inferred Mineral Resources for the Butcherbird Manganese Project now stands at **119 million tonnes @ 11.6% Mn** at a 10% Mn cut-off, with
- A further low grade Mineral Resource of **55.9 million tonnes at 9.3% Mn** calculated for material grading 8-10% Mn.

### BUTCHERBIRD COPPER:

- Spectacular intersection of **61m @ 1.96% Cu and 228ppm Co** from 113m, including 6m @ 6.08% Cu and 631ppm Co.
- Drilling ~300m along strike from discovery hole returns **83m @ 0.43% Cu** from 118m including **3m @ 4.15% Cu**.
- **Prospectivity of the Butcherbird Shear Zone confirmed.**
- Follow up drilling awaiting commencement.

## BUTCHERBIRD (100%)

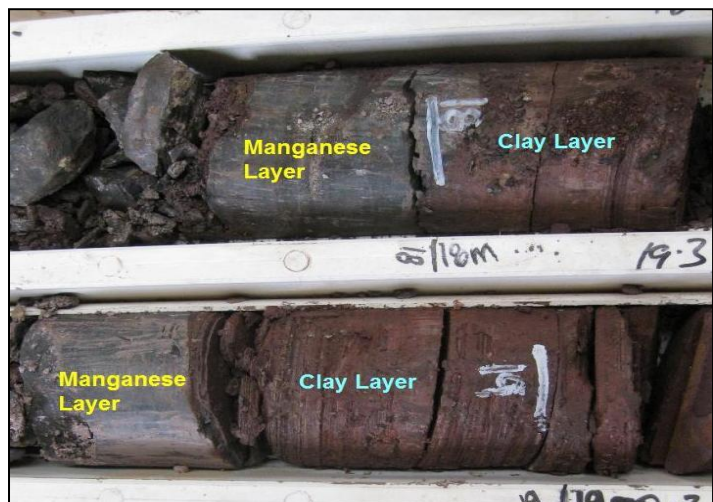
The Butcherbird Manganese and Copper project straddles the Great North Highway approximately 120km south of Newman. Work to date has successfully identified both copper and manganese mineralisation within the Project and work is ongoing to assess the commercial potential of the deposits discovered to date as well as to explore for further discoveries within the province.

## BUTCHERBIRD MANGANESE

The manganese mineralisation at Butcherbird occurs in shallow flat lying zones with the ore occurring as discrete high grade bands interbedded with clay waste.

This style of mineralisation is amenable to relatively low cost beneficiation contributed to the positive outcome of a Scoping Study completed in the previous quarter.

The Butcherbird Project hosts the largest onshore manganese occurrence in Australia and is further enhanced by its location which straddles the Great Northern Highway and the Goldfields Gas Pipeline.





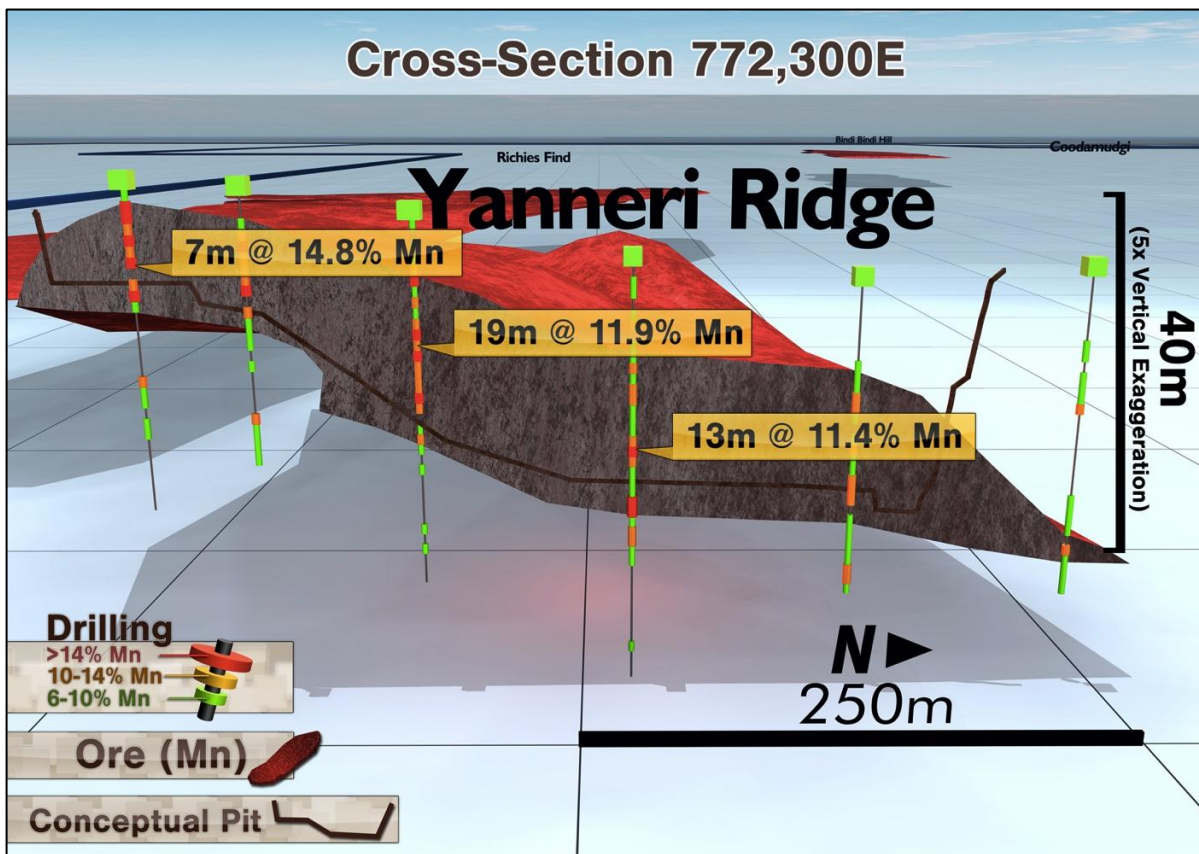


Figure 1. Cross Section through the Yanneri Ridge Resource showing conceptual pit design.

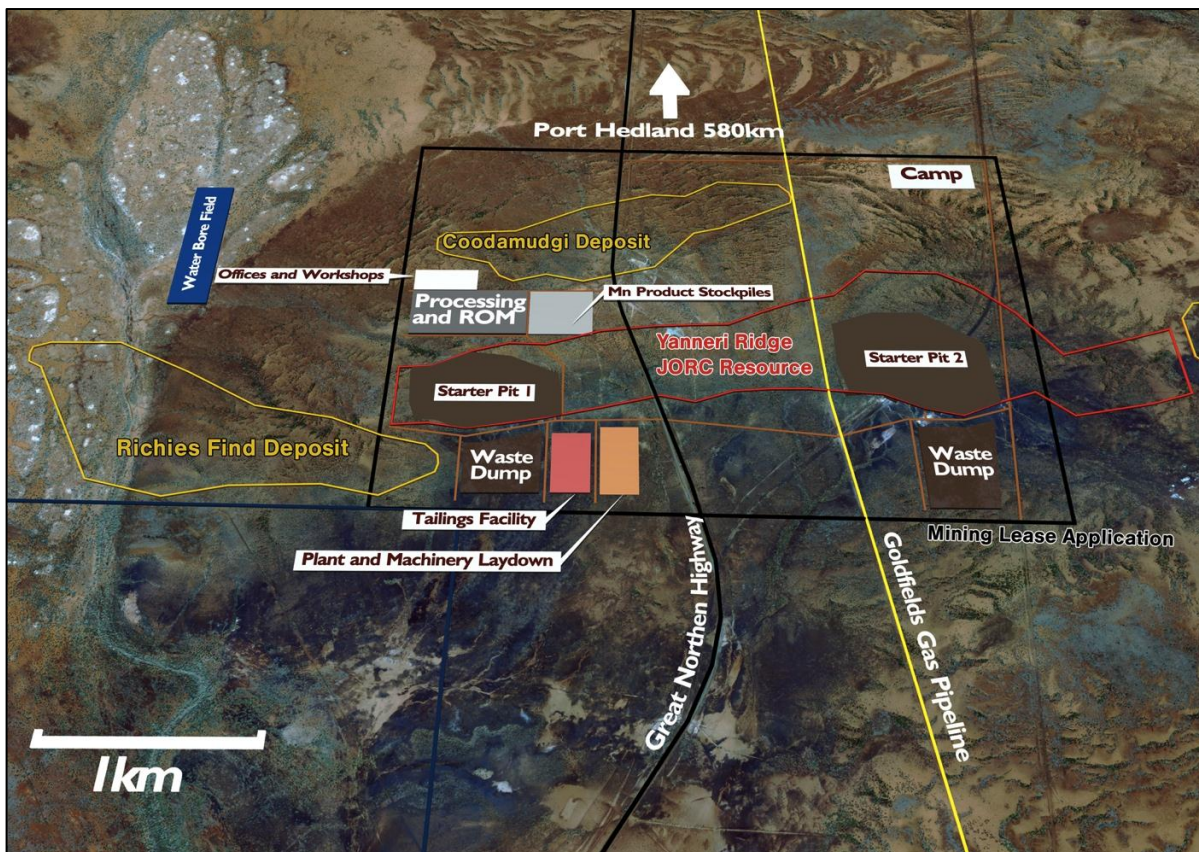


Figure 2. Conceptual mine layout plan showing key infrastructure within the Butcherbird Mining Lease Application surrounded by the Company's exploration tenure.

## Mineral Resource Update

The Company is pleased to advise that during the quarter, independent consultants Snowden Mining Industry Consultants completed a series of updated resource estimates for the Butcherbird project. The Mineral Resources have been reported as Inferred in accordance with the JORC Code (JORC, 2004) and associated guidelines (Table 3) for seven additional manganese deposits at the Butcherbird Manganese Project as follows:

Classification	Inferred Resource	
Cut-off	10% Mn	
Deposit	Tonnes (Mt)	Mn (%)
Bindi Bindi Hill	8.75	11.09
Budgie Hills	1.03	10.82
Cadgies Flats	0.25	11.08
Coodamudgi	12.9	11.48
Illgararie Ridge	17.0	10.71
Mundawindi	14.2	12.23
Richies Find	16.1	11.56
<b>SUBTOTAL</b>	<b>70.2</b>	<b>11.4</b>
<i>Yanneri Ridge</i>	<i>48.8</i>	<i>11.8</i>
<b>GLOBAL TOTAL</b>	<b>119.0</b>	<b>11.6</b>

**Table 1:** Inferred Mineral Resource Estimates at the Butcherbird Manganese Project are reported at a 10% Mn cut.

Additional Resources have been estimated at an 8% Mn cut-off for a beneficiated Mn product grading under 35% Mn. These Resources add another 55.9 Million tonnes @ 9.3% Mn to the global estimate. These additional tonnages are expected to provide additional flexibility with respect to blending during production

Classification	Inferred Resource	
Cut-off	8-10% Mn	
Deposit	Tonnes (Mt)	Mn (%)
Bindi Bindi Hill	5.7	9.2
Budgie Hills	3.5	8.9
Cadgies Flats	0.2	9.1
Coodamudgi	3.6	9.5
Illgararie Ridge	18.5	9.2
Mundawindi	2.1	9.4
Richies Find	6.6	9.4
<b>SUBTOTAL</b>	<b>40.1</b>	<b>9.3</b>
<i>Yanneri Ridge*</i>	<i>15.8</i>	<i>9.4</i>
<b>GLOBAL TOTAL</b>	<b>55.9</b>	<b>9.3</b>

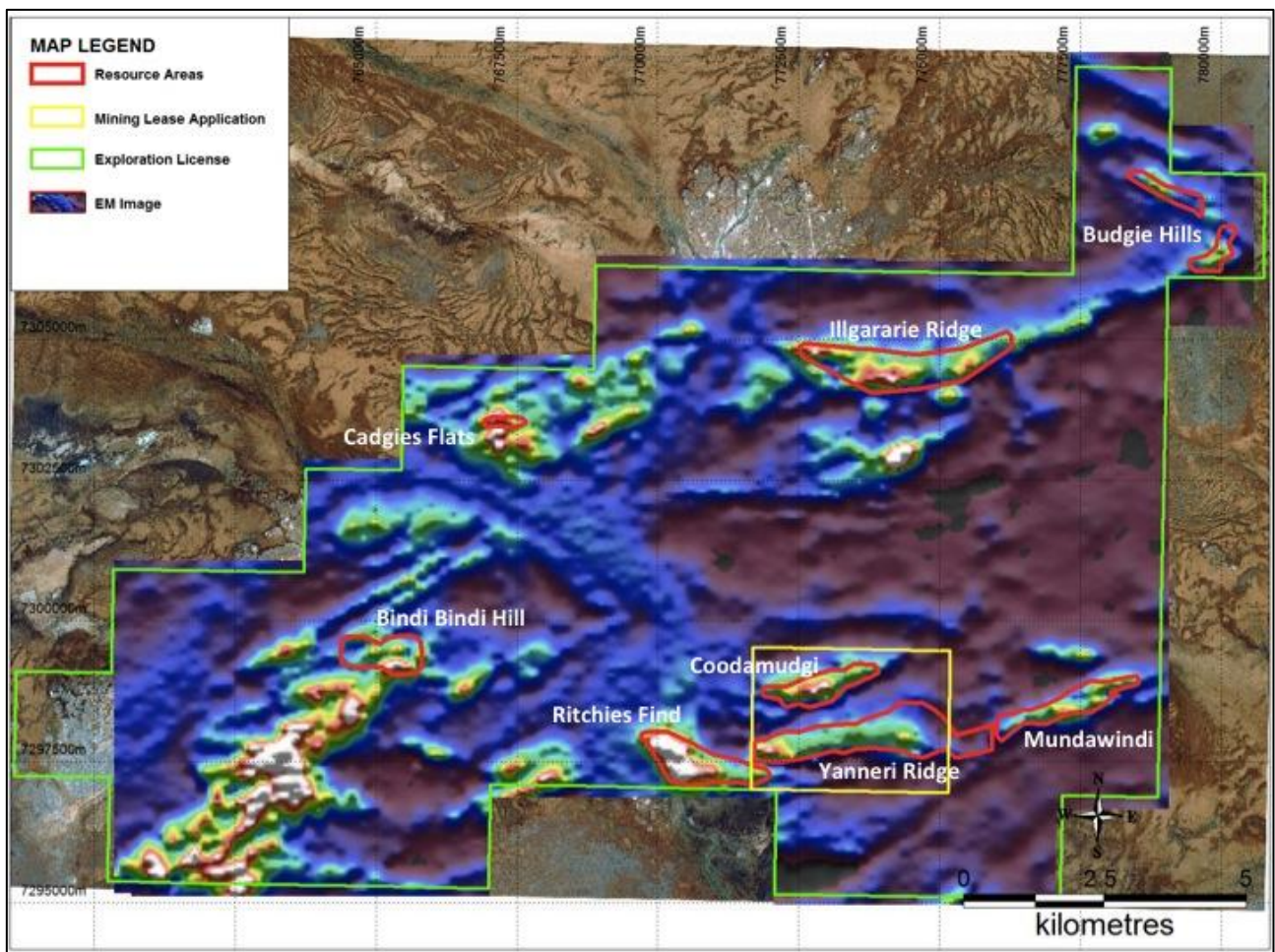
**Table 2:** Inferred Mineral Resource Estimates at the Butcherbird Manganese/Copper Project at a 8-10% Mn.



The extrapolated portions of the Inferred Resources in the seven Butcherbird prospects represent approximately between <1% and 30% of the total tonnage except for Cadies Flat which has been extrapolated 38% of the total tonnage. The extrapolated mineralisation has been extrapolated half the drillhole spacing along strike and across strike from the last sample.

The initial metallurgical test results from a diamond and reverse circulation programs, conducted by Montezuma indicates that a saleable product is achievable with the specifications,  $\geq 35\%$  Mn,  $< 0.1\%$   $P_2O_5$ ,  $< 18\%$   $SiO_2$ , and  $< 9\%$  Fe, at a 20% yield.

The style of mineralisation at the additional Resource areas is consistent with that seen at the Yanneri Ridge Resource where the Company is currently undertaking a Feasibility Study with a view to producing 0.5Mt – 1Mt of manganese product for export. Based on the geological similarities and preliminary metallurgical test work it is envisaged that these new resources will be amenable to the same mining and beneficiation processes being investigated for Yanneri Ridge and that they therefore represent important long term manganese inventories which enhance the projects overall long term commercial viability.



<i>Item</i>	<i>Comment</i>
Database integrity	<p>Snowden carried out the following basic validation checks on the data supplied by Montezuma prior to resource estimation:</p> <ul style="list-style-type: none"> <li>• Unsurveyed drill hole collar locations.</li> <li>• Drill holes with overlapping sample intervals.</li> <li>• Sample intervals with no assay data.</li> <li>• Duplicate records.</li> <li>• Assay grade ranges.</li> <li>• Collar coordinate ranges.</li> <li>• Valid hole orientation data.</li> </ul> <p>No significant errors were identified by the validation.</p>
Drilling Techniques	<p>Reverse circulation drilling is used on the all the prospects at a variable drilling spacing. The drill spacing (XY) for each prospect is summarised below -</p> <p><b>Richies Find, Coodamudgi and Munawindi</b> – 400 m by 100 m.</p> <p><b>Ilgarrarie Ridge</b> – 800 m by 100 m</p> <p><b>Budgie Hill</b> – 100 m by 200 m in the north and 100 x 100 m in the south</p> <p><b>Bindi Bindi Hill</b> – 100 m by 100 m in two drill lines (parallel and perpendicular to the strike). Some infill drilling down to 50 m by 50 m spacing around where the drill lines cross.</p> <p><b>Cadgies Flat</b> – 20 m by 40 m in two drill lines (parallel and perpendicular to the strike)</p>
Geological interpretation	<p>Domaining comprises a series of mineralised lodes within each prospect. The lodes have been interpreted by Montezuma based on a nominal 8% Mn cut-off.</p>
Dimensions	<p><b>Richies Find</b> - The area of mineralisation occurs within a series of lodes which extend over a 2.3 km strike length and average approximately 550 m in width. This area is extended to a known depth of around 9 m from surface. The thickness of the individual zones ranges from less than 1 m up to 15 m.</p> <p><b>Coodamudgi</b> – The mineralisation extends over a 1.3 km strike length and average approximately 600 m in width. Mineralisation extends from 5 m below the surface to a depth of 25 m. The thickness of the individual zones ranges from 2 m up to 25 m.</p> <p><b>Munawindi</b> - The area of mineralisation occurs within a series of lodes which extend over a strike length of 2.7 km and a width of 550 m. This area is extended to a known depth of around 33 m from surface. The thickness of the individual zones ranges from 1 m up to 22 m.</p> <p><b>Ilgarrarie Ridge</b> – Mineralisation occurs within a series of lodes which extend over a 3.7 km strike length and average approximately 600 m in width. Mineralisation starts approximately 8 m below the surface and extends down to a depth of around 28 m from surface. The thickness of the individual zones ranges from less than 1 m up to 15 m.</p> <p><b>Budgie Hill</b> - The area of mineralisation occurs within a series of lodes which extend over a 1.3 km strike length and average approximately 260 m in width. This area is extended to a known depth of around 32 m from surface. The thickness of the individual zones ranges from 1 m up to 12 m.</p> <p><b>Bindi Bindi Hill</b> - The area of mineralisation occurs within a series of lodes which extend over a 1.3km strike length and average approximately 1.3 km in width. This area is extended to a known depth of around 40 m from surface. The thickness of the individual zones ranges from less than 1 m up to 15 m.</p> <p><b>Cadgies Flat</b> - Mineralisation occurs within a series of lodes which extend over a 740 m strike length and average approximately 170 m in width. This area is extended to a known depth of around 11 m from surface. The thickness of the individual zones ranges from 1 m up to 9 m.</p>
Estimation and modelling techniques	<p>Grades for Mn, Fe, Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, and P<sub>2</sub>O<sub>5</sub> were estimated using ordinary block kriging into parent cells. Parent cells and number of informing samples were determined by KNA, with blocks sub-celled down to 12.5 m by 12.5 m by 0.5 m (YXZ) for all prospects.</p>

<b>Item</b>	<b>Comment</b>
Moisture	All tonnages have been estimated as dry tonnages.
Cut-off parameters	Resource estimate reported at a grade $\geq 10\%$ Mn. Low grade material 8 – 10% Mn has also been reported.
Mining factors and assumptions	No mining factors or assumptions have been applied.
Metallurgical factors and assumptions	Metallurgical testwork was completed by Montezuma. The product specification are Mn, $<0.1\%$ $P_2O_5$ , $<18\%$ $SiO_2$ , and $<9\%$ Fe, at a 20% yield.
In situ density	In-situ density set to $2.3\text{ t/m}^3$ for all zones was applied. Values where provided by Montezuma
Classification	The estimates have been classified as Inferred Mineral Resources based on geological confidence, the integrity of the data, the spatial continuity of the mineralisation as demonstrated by variography, and the quality of the estimation.
Audits and reviews	Snowden has completed an internal peer review of the estimate.
Relative confidence and accuracy	No studies of relative confidence have been carried out.

**Table 3:** Butcher Bird JORC assessment and reporting criteria for estimation and reporting.

The information in this report related to the Mineral Resources is based on information compiled by Shane Fieldgate under the supervision of Ivor Jones. Mr Fieldgate is a Member of the Australian Institute of Geoscientists (AIG) and the Australasian Institute of Mining and Metallurgy (AusIMM) and is a full time employee of Snowden Mining Industry Consultants. Mr Jones is a Fellow of the Australasian Institute of Mining and metallurgy (AusIMM), a Chartered Professional (Geology) and is a full time employee of Snowden Mining Industry Consultants. Mr Jones has sufficient experience that is relevant to the style of mineralisation, type of deposit under consideration and to the activity that he is undertaking to qualify as a Competent person as defined in the 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Ivor Jones and Shane Fieldgate consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

## Direct Ship Ore (DSO) Studies

In addition to the large scale dense media separation production operation currently under investigation, the Company is pleased to advise that results were received during the quarter for a bulk sampling programme targeting five of six identified sites with potential for Direct Ship Ore ("DSO") surface mineralisation grading 40% Mn.

The test work was undertaken to determine if these occurrences could complement the global JORC resources by providing early production material with low capital and operational costs with the benefit of minimal processing requirements.

Two sampling techniques were used; scraping, which removed the top 0.1m of material and trenching, which sampled the underlying 0.2-0.3m of material. Summary results are as follows:

Area/Raw Material Type	Exploration Target (t)	Mn Product Type	Est. Yield (%)	Product Grade %Mn
Cadgies Flats / Scrapings	30,000 - 50,000	Lump DSO	57%	40-42
Cadgies Flats / Trench	10,000 - 20,000	Lump DSO	46%	40-42
Bindi Bindi Hill / Scrapings	200,000 - 400,000	Lump DSO	59%	40-42
Bindi Bindi Hill / Trench	50,000 - 100,000	Lump DSO	20%	40-42
Budgie Hill / Scrapings	60,000 - 100,000	Lump DSO	72%	40-42
Illgararie Hill / Scrapings	50,000 - 80,000	Lump DSO	61%	40-42
Illgararie Hill / Trench	10,000 - 30,000	Lump DSO	32%	40-42
<b>TOTAL</b>	<b>410,000 – 780,000</b>	<b>Lump DSO</b>	<b>55%</b>	<b>40-42%</b>

**Table 1:** Summary results and Exploration Target estimates for DSO lump manganese products from several surface deposits at Butcherbird.

*\*\*It should be noted that the potential quantity and grade is conceptual in nature, that there has been insufficient exploration to define a Mineral Resource, and that it is uncertain if further exploration will result in the determination of a Mineral Resource.*

The surface detrital manganese deposits are separate to the previously reported JORC resources. The manganese discussed herein occurs as unconsolidated slabs of platy and botryoidal manganese, which have been subjected to tertiary upgrading via surface weathering.

The test work completed on the samples, which were collected in October of 2011, involved screening, washing and crushing only. No gravity separation techniques were applied. These test results are inclusive of both screened natural lump and crushed oversize (+6mm/-32mm) material.

Results to date suggest that a DSO lump product is achievable from these areas via simple surface mining, washing, screening and crushing, yielding the specifications,  $\geq 40\%$  Mn,  $< 0.1\%$  P,  $< 15\%$  SiO<sub>2</sub>, and  $< 7\%$  Fe. The significant tonnages of DSO ore which could be potentially recovered from these deposits represents important short term manganese inventories which are expected to enhance the projects commercial outcome.

The envisaged production from these areas is in addition to the work currently being completed as part of the Feasibility Study that is looking at long term production of up to 1Mt of manganese ore from the existing JORC resources.



Composite ID	Area Raw Material Type	Mn Product Type	Yield %	Mn %	Fe %	P %	SiO <sub>2</sub> %
BTD001-3	Cadgies Flats Scrapings	Lump DSO	57%	40.6	6.7	0.08	14.7
BTD004	Cadgies Flats Trench	Lump DSO	46%	41.3	6.0	0.10	14.3
BTD005-7	Bindi Bindi Hill Scrapings	Lump DSO	59%	41.5	6.0	0.05	14.2
BTD008	Bindi Bindi Hill Trench	Lump DSO	20%	40.1	6.6	0.07	15.4
BTD009-12	Budgie Hill Scrapings	Lump DSO	72%	39.6	6.6	0.07	16.2
BTD010	Budgie Hill Trench	Lump DSO	16%	33.4	11.2	0.08	18.2
BTD013	Illgararie Hill Scrapings	Lump DSO	61%	40.6	6.0	0.10	15.7
BTD014	Illgararie Hill Trench	Lump DSO	32%	39.9	7.0	0.10	15.6
BTD015-16	Yanneri Ridge Scrapings	Lump DSO	45%	36.5	8.3	0.11	17.7
*Not Tested	Mungajerry Scrapings	Lump DSO	Weather prevented access at the time.				

**Table 1.** Detailed assay results for surface DSO manganese bulk sampling programme. Assays are for the natural lump and lump generated through crushing. Assays were undertaken by Nagrom Laboratories using XRF analysis.

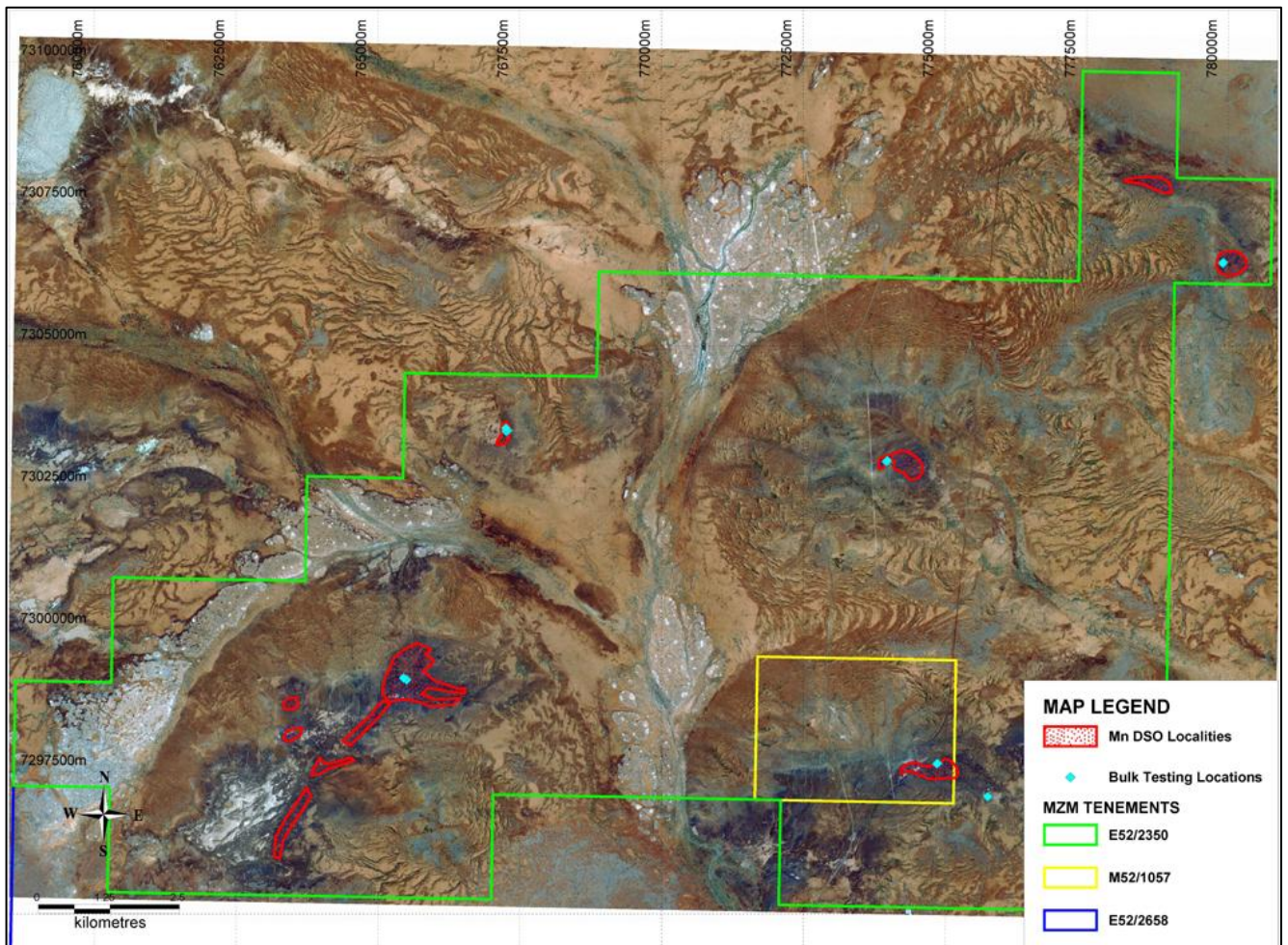


Figure 3. Potential DSO manganese occurrences at Butcherbird Manganese Project.

## BUTCHERBIRD COPPER

During the quarter, an RC drilling programme was completed at the Company's 100% owned Butcherbird Copper Project. The programme comprised twenty four RC drillholes for a total of 3,523m. The drilling was designed to further test the copper prospectivity of the Butcherbird Shear Zone along a target corridor in excess of 6km in strike extent.



Previous work involving an IP survey over this area, coupled with positive early drilling results around the historic Butcherbird Copper Mine had identified a number of priority targets, a selection of which were tested in the current programme.

The programme intersected a number of high grade copper/cobalt zones, including the spectacular results from BBRC00153 which returned 61m at 1.96% copper, with the hole ending in mineralisation due to limitations in rig capacity.

The mineralisation intersected to date is shear hosted, occurring in quartz carbonate veining, with the dominant minerals being chalcocite with minor chalcopyrite and tetrahedrite.

The results have confirmed the Butcherbird Shear Zone as a highly prospective copper exploration target and an aggressive follow up programme comprising approximately 3,500m is currently planned, approved and ready to commence as soon as the weather clears enough for rig access.



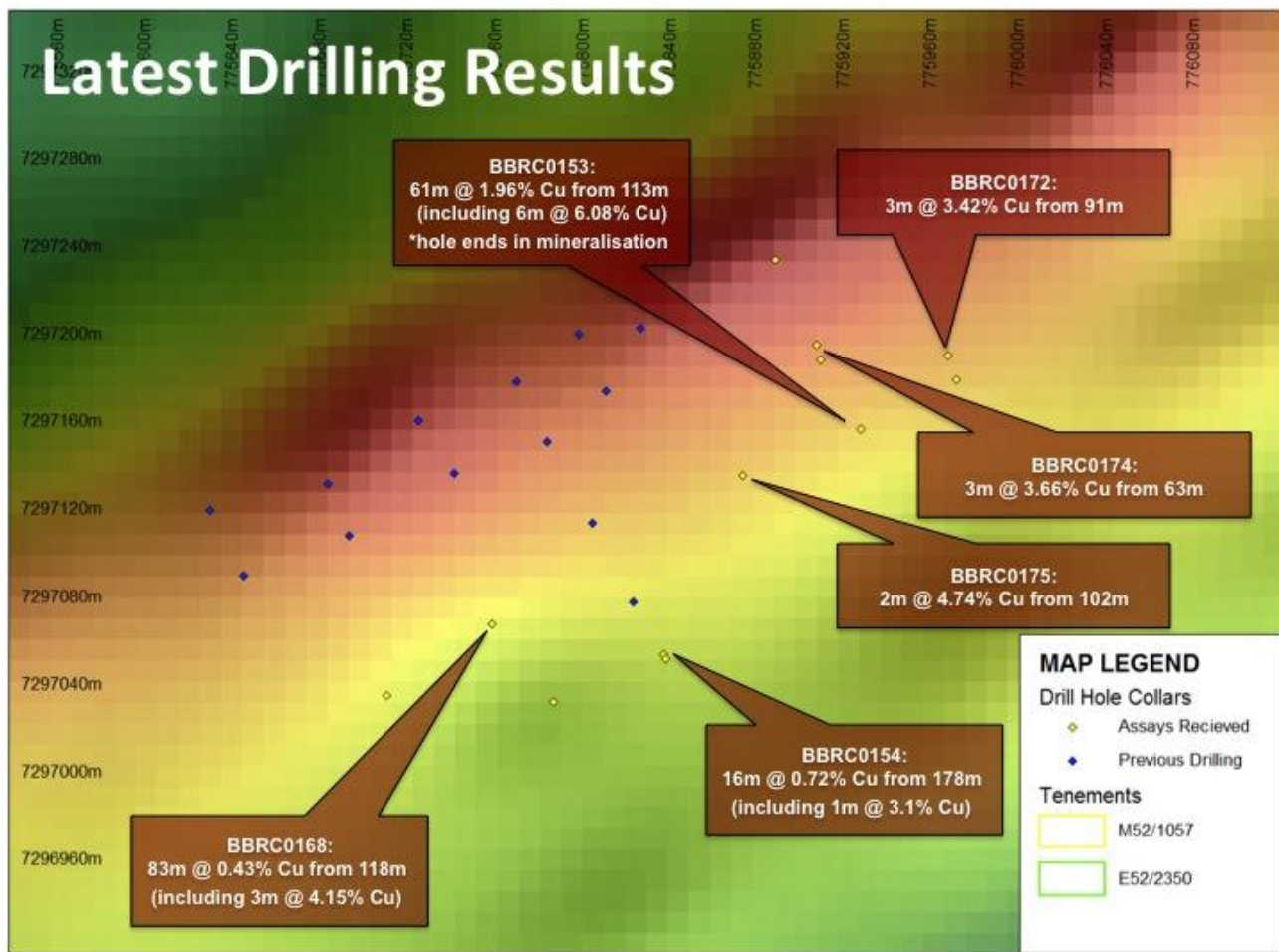


Figure 4. Drillhole collar locations and selected results from the current programme over ground IP resistivity data.

Hole ID	East MGA	North MGA	RL (m)	Depth (m)	Azim	Dip	From (m)	To (m)	Interval (m)	Cu (%)	Co (ppm)
BBRC00153	775921	7297162	610	174	330	-60	113	174	61	1.96	195
including							113	119	6	6.08	580
including							151	174	23	2.36	235
BBRC00154	775831	7297059	610	216	330	-60	179	180	1	3.14	108
							188	192	4	1.55	307
BBRC00168	775752	7297073	610	204	330	-55	119	122	3	4.15	2249
BBRC00172	775961	7297196	610	174	330	-60	91	94	3	3.42	476
BBRC00174	775901	7297201	610	78	330	-60	63	65	2	3.66	168
BBRC00175	775867	7297141	610	174	330	-60	102	104	2	4.74	130

**Table 2.** Significant assays using three acid digest and ICP-OES finish. All intersections are quoted as downhole widths.

Hole ID	Easting (MGAz50)	Northing (MGAz50)	RL	Depth (m)	Azimuth (mag)	Dip (Deg)
BBRC00152	7297240	775882	610	48	330	-60
BBRC00153	7297162	775921	610	174	330	-60
BBRC00154	7297059	775831	610	216	330	-60
BBRC00155	7296812	775135	610	88	332	-60
BBRC00156	7296770	775156	610	100	332	-60
BBRC00157	7296264	774367	610	96	332	-60
BBRC00158	7295975	774073	610	150	152	-60
BBRC00159	7296195	773961	610	174	332	-60

BBRC00160	7295502	773060	610	186	152	-60
BBRC00161	7295297	772420	610	150	152	-60
BBRC00162	7295346	772395	610	150	152	-60
BBRC00163	7295399	772369	610	150	152	-60
BBRC00164	7295449	772344	610	150	152	-60
BBRC00165	7295766	772844	610	150	152	-60
BBRC00166	7296080	772146	610	60	0	-90
BBRC00167	7297057	775832	610	131	330	-60
BBRC00168	7297073	775752	610	204	330	-55
BBRC00169	7297037	775780	613	204	330	-55
BBRC00170	7297040	775704	610	180	330	-55
BBRC00171	7297194	775903	610	168	360	-90
BBRC00172	7297196	775961	610	174	330	-60
BBRC00173	7297185	775965	610	168	330	-65
BBRC00174	7297201	775901	610	78	330	-60
BBRC00175	7297141	775867	610	174	330	-60

**Table 3.** Copper drillhole collar details.

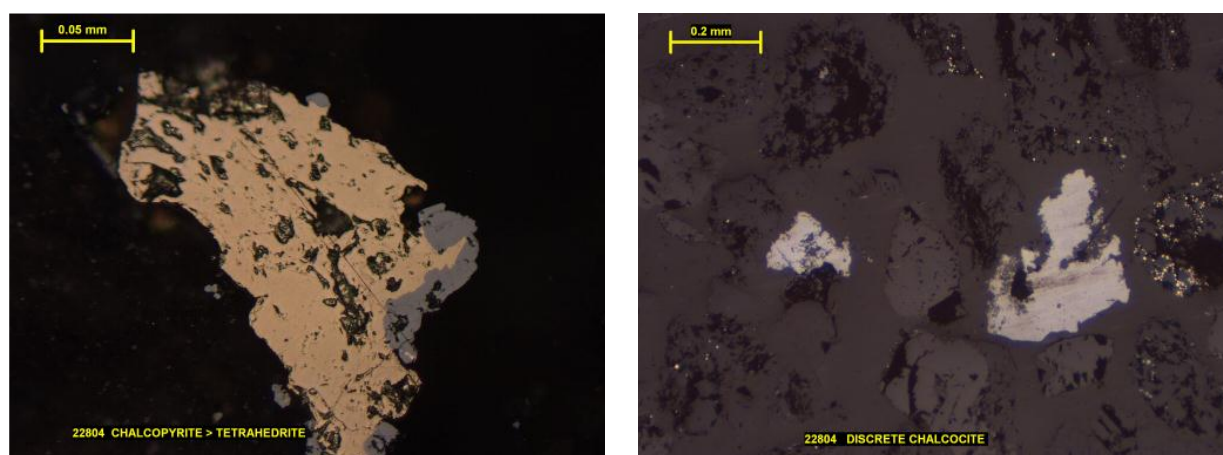


Figure 5. Photomicrographs showing chalcocite (dominant), chalcopyrite and tetrahedrite mineralisation from BBRC00153.

## Investor Coverage

Recent investor relations, corporate videos and broker/media coverage on the Company's projects can be viewed on the Company's website at <http://www.montezumamining.com.au>.

## About Montezuma Mining Company Ltd

Listed in 2006, Montezuma (ASX: MZM) is a diversified explorer primarily focused on manganese, copper and gold. Montezuma has a 100% interest in the Butcherbird Manganese/Copper Project and an 85-100% interest in the Peak Hill and Durack Gold Projects in the Murchison region of Western Australia.



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**More Information****Justin Brown**

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The Information in this report that relates to exploration results is based on information compiled by Justin Brown, who is a member of the Australian Institute of Mining & Metallurgy. Mr Brown is a geologist who is a full time employee of Montezuma Mining Company Ltd. and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Justin Brown consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.