

28 October 2014

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# COPPER DISCOVERY GROWS AT TURKEY CREEK

## HIGHLIGHTS

- RC drilling highlights prospectivity of Cloncurry Copper Project
- Infill and Extension RC drilling about to recommence at Turkey Creek
- Mineral Resource estimate for Turkey Creek expected early in 2015
- Potential production from Turkey Creek may have material impact on financial metrics of Little Eva project

Altona Mining Limited ("Altona" or "the Company") is pleased to announce a recently completed programme of RC drilling at the Turkey Creek deposit has significantly increased the size of this new copper deposit at the Company's 100% owned Cloncurry Copper Project near Mt Isa in Queensland.

Turkey Creek is located 1.5 kilometres to the east of the planned Little Eva open pit mine and processing plant which lies within the granted Mining Leases. A total of 22 holes were drilled for 3,534 metres at Turkey Creek and at Green Hills.

Turkey Creek has now been drilled over a strike length of 1.2 kilometres and remains open to the north where the strongest mineralisation to date has been intersected. Drilling will recommence at the beginning of November and will attempt to fully define the deposit prior to the commencement of the wet season in northern Australia.

Better drill intercepts at a 0.3% copper cut-off grade include:

35 metres at 0.87% copper 34 metres at 0.68% copper 26 metres at 0.83% copper 38 metres at 0.56% copper 31 metres at 0.65% copper 14 metres at 1.02% copper

See Tables 1 to 4 and Figures 1 to 6 for full details of the drilling programme and the context and setting of Turkey Creek.

Commenting on the results, Altona Mining's Managing Director Dr Alistair Cowden said:

"Turkey Creek is a significant discovery and its growing strike length is surprising given the modest indications in soil sampling and shallow RAB drilling.

A discovery so close to the major Little Eva deposit, demonstrates the exploration potential of the entire Cloncurry Project where there has been little systematic testing of targets since the efforts of CRA some 30 years ago. Similar geochemical anomalism is commonplace within Altona's tenements.



Altona has compiled exploration data for all prior explorers and has ranked targets and exploration priorities accordingly with an initial focus on adding to the potential feed to the Little Eva development."

#### Impact on Little Eva's Financial Metrics

The Cloncurry Copper Project contains some 1.52 million tonnes of copper and 0.41 million ounces of gold in resources (see Table 4) and Altona is confident that this significant resource will grow further.

The proposed Little Eva development is a large scale and modest grade operation and as such, additional potential production from Turkey Creek will have an impact on the financial metrics of the project. Altona intends to complete a Mineral Resource estimate for Turkey Creek early in 2015 which will determine its effect upon the planned operations outlined in the Definitive Feasibility Study announced in March 2014.

The Turkey Creek discovery is located at the proposed site of the tailings storage facility for the 7 million tonne per annum Little Eva mill. The size of the deposit is such that the layout of surface infrastructure for the project will have to be redesigned to incorporate Turkey Creek. In addition, the potential to increase mine life and throughput for the project will require the mining and development schedule to be recast to accommodate Turkey Creek.

#### **Exploration Target**

The conceptual exploration target set for the Turkey Creek deposit is 14-16 million tonnes at a grade of 0.50-0.65% copper. This target is based on the RC drilling programme, as described in this ASX release, on first pass geological modelling and upon a preliminary block model. The model constrains the target to 150 metres deep and excludes copper oxide mineralisation. It does not assume extensions to currently drilled mineralisation.

Whilst it is uncertain that a Mineral Resource will be defined, the continuity and simple geometry of the mineralisation are excellent with true width increasing from approximately 10-30 metres for the southern part of the deposit to 30-40 metres in the north. Mineralisation is tabular in form and dips at 60 degrees to the east and is largely confined to biolite+/-scapolite schists associated with prominent marble units.

Mineralisation has developed in two parallel zones with lower grade mineralisation in between. Mineralisation in fresh rock consists of disseminated and carbonate vein-hosted chalcocite, chalcopyrite and bornite. Gold values are low. Oxide mineralisation is generally from surface to 15-30 metres deep and is predominantly malachite with lesser cuprite.

#### Infill and Extension RC Drilling

RC drilling is generally at 100 metre spacing and requires infill drilling before a Mineral Resource can be confidently estimated. A programme of infill RC drilling will be informed by block model variography and first pass open pit optimisations. Infill drilling will commence in early November, be reported in the first quarter of 2015 and will likely permit the estimation of a Mineral Resource.

In addition, extension RC drilling to determine the limits to mineralisation to the north and north-east will be completed and, if successful, will increase the size of the conceptual exploration target. If time permits, Altona will also test the Boomer and Airport targets which are located 10 kilometres and 16 kilometres south from Little Eva.





## **Other Targets**

The Boomer prospect is located approximately 800 metres east of the Dugald River Zinc mine and is an untested Magnetometric Resistivity ("MMR") Induced Polarisation ("IP") anomaly adjacent to anomalous bedrock geochemistry. Drilling by CRA Exploration in 1995 at the northern end of the anomaly intersected copper and gold mineralisation including 11.5 metres at 1.6% copper and 2g/t gold.

The Airport programme will test for the continuation of an intercept of 12 metres at 1.1% copper and 0.1g/t gold drilled in 2011.

The recent drill programme also tested an area of old workings at Green Hills outcropping strike with anomalous RAB results. A two hole section drilled in the middle of the target intersected only two narrow zones of mineralisation.

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### **About Altona**

Altona Mining Limited is an ASX listed company which recently sold its successful Outokumpu mine in Finland and is now focussed on a major copper development project in Australia.

The Cloncurry Copper Project near Mt Isa in Queensland is one of Australia's largest undeveloped copper projects. The first development envisaged is the 7 million tonnes per annum Little Eva open pit copper-gold mine and concentrator. Little Eva is fully permitted with proposed annual production<sup>1</sup> of 38,800 tonnes of copper and 17,200 ounces of gold for a minimum of 11 years. A Definitive Feasibility Study was published in March 2014. Total resources contain some 1.5 million tonnes of copper and 0.41 million ounces of gold. Altona is engaged in discussions with potential partners to enable the funding of this major development.

Altona Mining is listed on the Australian Securities Exchange and the Frankfurt Stock Exchange.

<sup>1</sup>Refer to the ASX release 'Cost Review Delivers Major Upgrade to Little Eva' dated 13 March 2014 which outlines information in relation to this production target and forecast financial information derived from this production target. The release is available to be viewed at www.altonamining.com or www.asx.com.au. The Company confirms that all the material assumptions underpinning the production target and the forecast financial information derived from the production target referred to in the above-mentioned release continue to apply and have not materially changed.

## **JORC 2012 and Competent Persons Statement**

Information in this ASX Release that relates to Exploration Results, Exploration Targets, Mineral Resources or Ore Reserves and commentary in JORC Table 1 on mining, metallurgy and environment is based on information compiled by Dr Alistair Cowden BSc (Hons) and Mr Jani Impola, MSc, MAusIMM who are full time employees of the Company and who have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Cowden and Mr Impola consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.



Figure 1: Location of Cloncurry Project



Figure 2: Turkey Creek location and drilling



Figure 3: Location of Turkey Creek, Greenhills and targets



Figure 4: Plan of the Turkey Creek mineralisation and drilling







Figure 6: Cross Section N7771450



# Table 1: Significant drill intercepts, November 2014

|              | From    | Width          | Copper       |          |
|--------------|---------|----------------|--------------|----------|
| Hole ID      | (metre) | (metre)        | (%)          | Туре     |
| Turkey Creek |         |                |              |          |
| TCKR011      | 7       | 30             | 0.42         | Oxide    |
| TCKR011      | 46      | 35             | 0.87         | Oxide    |
| TCKR011      | 88      | 8              | 0.49         | Oxide    |
| TCKR012      | 107     | 9              | 0.46         | Sulphide |
| TCKR012      | 142     | 38             | 0.56         | Sulphide |
| including    | 159     | 4              | 0.92         | Sulphide |
| TCKR013      | 2       | 31             | 0.65         | Oxide    |
| including    | 13      | 16             | 0.92         | Oxide    |
| TCKR014      | 74      | 18             | 0.59         | Oxide    |
| including    | 84      | 5              | 0.95         | Oxide    |
| TCKR015      | 39      | 12             | 0.84         | Sulphide |
| including    | 42      | 9              | 1.01         | Sulphide |
| TCKR015      | 59      | 5              | 0.41         | Sulphide |
| TCKR015      | 74      | 4              | 0.39         | Sulphide |
| TCKR015      | 83      | 22             | 0.54         | Sulphide |
| TCKR016      | 100     | 4              | 0.38         | Sulphide |
| TCKR016      | 116     | 5              | 0.50         | Sulphide |
| TCKR016      | 133     | 27             | 0.46         | Sulphide |
| TCKR017      | 94      | 13             | 0.73         | Sulphide |
| including    | 101     | 6              | 0.93         | Sulphide |
| TCKR017      | 114     | 7              | 0.45         | Sulphide |
| TCKR017      | 137     | 22             | 0.58         | Sulphide |
| TCKR018      | 83      | 4              | 0.76         | Sulphide |
| TCKR018      | 94      | 26             | 0.83         | Sulphide |
| including    | 94      | 14             | 1.24         | Sulphide |
| TCKR018      | 125     | 30             | 0.54         | Sulphide |
| TCKR019      | 80      | 5              | 0.31         | Sulphide |
| TCKR019      | 91      | 31             | 0.52         | Sulphide |
| TCKR020      | 175     | 26             | 0.53         | Sulphide |
| TCKR021      |         | No significant | t intercepts |          |
| TCKR022      | 153     | 5              | 0.51         | Sulphide |
| TCKR022      | 175     | 29             | 0.68         | Sulphide |
| including    | 183     | 7              | 0.92         | Sulphide |
| TCKR023      | 76      | 29             | 0.56         | Sulphide |
| including    | 79      | 5              | 1.00         | Sulphide |
| TCKR024      | 161     | 28             | 0.59         | Sulphide |
| including    | 161     | 9              | 0.92         | Sulphide |
| TCKR024      | 204     | 14             | 1.02         | Sulphide |
| TCKR024      | 223     | 58             | 0.41         | Sulphide |
| TCKR025      | 19      | 4              | 0.76         | Oxide    |
| TCKR025      | 29      | 34             | 0.68         | Sulphide |
| including    | 47      | 11             | 0.90         | Sulphide |
| TCKR026      | 88      | 4              | 0.71         | Sulphide |
| TCKR026      | 97      | 11             | 0.85         | Sulphide |

 $\checkmark$ 



## Table 2: RC drill hole collar information

|             | Hole |          |         |          | Elevation |         |       | Depth    |
|-------------|------|----------|---------|----------|-----------|---------|-------|----------|
| Hole ID     | Туре | Grid ID  | Easting | Northing | (metres)  | Azimuth | Dip   | (metres) |
| Turkey Cre  | ek   |          |         |          |           |         |       |          |
| TCKR011     | RC   | MGA94 54 | 412397  | 7771908  | 174       | 270     | -58.4 | 120      |
| TCKR012     | RC   | MGA94 54 | 412485  | 7771872  | 174       | 270     | -60.1 | 204      |
| TCKR013     | RC   | MGA94 54 | 412364  | 7772000  | 174       | 270     | -58.8 | 72       |
| TCKR014     | RC   | MGA94 54 | 412432  | 7772016  | 171       | 270     | -59.6 | 144      |
| TCKR015     | RC   | MGA94 54 | 412402  | 7771801  | 177       | 270     | -59.6 | 126      |
| TCKR016     | RC   | MGA94 54 | 412460  | 7771797  | 177       | 270     | -59.1 | 174      |
| TCKR017     | RC   | MGA94 54 | 412467  | 7771698  | 178       | 270     | -64.5 | 180      |
| TCKR018     | RC   | MGA94 54 | 412473  | 7771599  | 179       | 270     | -66.3 | 180      |
| TCKR019     | RC   | MGA94 54 | 412518  | 7771202  | 184       | 270     | -60.2 | 144      |
| TCKR020     | RC   | MGA94 54 | 412568  | 7771205  | 183       | 270     | -64.2 | 216      |
| TCKR021     | RC   | MGA94 54 | 412399  | 7772075  | 172       | 270     | -60.0 | 180      |
| TCKR022     | RC   | MGA94 54 | 412452  | 7772087  | 173       | 270     | -59.8 | 228      |
| TCKR023     | RC   | MGA94 54 | 412380  | 7772200  | 172       | 270     | -59.2 | 138      |
| TCKR024     | RC   | MGA94 54 | 412446  | 7772202  | 176       | 270     | -60.6 | 300      |
| TCKR025     | RC   | MGA94 54 | 412508  | 7771100  | 182       | 270     | -60.5 | 120      |
| TCKR026     | RC   | MGA94 54 | 412566  | 7771106  | 184       | 270     | -61.1 | 186      |
| TCKR027     | RC   | MGA94 54 | 412533  | 7770997  | 185       | 270     | -61.1 | 108      |
| TCKR028     | RC   | MGA94 54 | 412597  | 7770998  | 189       | 270     | -54.5 | 144      |
| TCKR029     | RC   | MGA94 54 | 412498  | 7771441  | 180       | 270     | -60.4 | 168      |
| TCKR030     | RC   | MGA94 54 | 412431  | 7771440  | 179       | 270     | -59.9 | 114      |
| Green Hills | S    |          |         |          |           |         |       |          |
| GHR270      | RC   | MGA94 54 | 413847  | 7768843  | 205       | 80      | -59.9 | 108      |
| GHR271      | RC   | MGA94 54 | 413802  | 7768833  | 201       | 80      | -60.2 | 180      |
|             |      |          |         |          |           |         |       | 2 524    |

3,534



Table 3: Table 1 of the JORC Code: Turkey Creek and Green Hills drilling programme

| Criteria   | Commentary   |  |  |
|--|--|--|--|
| Sampling<br>techniques                           | • Sampling was via a reverse circulation (RC) drilling rig to obtain 1m samples weighing an average 3-4kg. Samples were produced using a rig mounted cyclone and riffle splitter for a ratio of 87.5% to 12.5%. The majority of the samples were recorded dry. All samples were sent to be analysed at ALS Laboratories in Townsville.   |  |  |
| Drilling techniques                              | Reverse circulation using 5.5" bit.  |  |  |
| Drill sample<br>recovery                         | <ul> <li>Recovery was visually estimated and recorded. Recoveries are considered to be excellent averaging well over 90%, generally 100%. Occasionally lower recoveries were recorded within the top few metres prior to the casing of the hole.</li> <li>Every individual sample was collected into the cyclone prior to riffle splitting. Cyclone and sampling equipment was checked and cleaned after each rod.</li> <li>No significant changes in recoveries through the mineralised zones hence no subsequent bias to the grade.</li> </ul> |  |  |
| Logging  | <ul> <li>Logging was completed by Altona Mining geologists at the rig from wet rock chip samples using Altona logging procedures.</li> <li>Logging is qualitative and quantitative including, colour, lithology, mineralisation, alteration, sulphide and oxide mineralogy, sulphide and oxide amount, texture, grain size and structure.</li> <li>All holes were logged in full.</li> </ul>   |  |  |
| Sub-sampling                                     | No drill core  |  |  |
| techniques and sample preparation                | <ul> <li>The RC samples were split to 87.5%: 12.5% ratio using cyclone and riffle<br/>slitter. Vast majority of the samples were recorded dry, only few individual<br/>wet samples were encountered.</li> </ul>  |  |  |
|  | <ul> <li>The samples were sent to ALS Laboratories in Townsville for sample preparation and analysis. ALS Laboratories use best industry standard sample preparation including drying, crushing and pulverisation.</li> <li>Sample size is considered representative for typical copper mineralisation at Roseby area.</li> </ul>  |  |  |
| Quality of assay<br>data and laboratory<br>tests | <ul> <li>The samples were analysed using an Aqua Regia digest followed by ICP-<br/>MS for 41 elements. Aqua regia is considered to be a partial leach method.</li> <li>Gold was analysed using fire assay and AAS finish.</li> </ul>   |  |  |
|  | <ul> <li>No geophysical tools were used to determine the results reported here.</li> <li>Quality Control included certified reference materials from Geostats Ltd.<br/>Standards were inserted into the sequence at 1:20 ratio and included<br/>representative base metal material for copper, gold standards and blanks.</li> <li>Duplicates were taken using riffle splitter on site for every 20<sup>th</sup> sample.</li> <li>All duplicate and reference data is considered very good quality and within<br/>acceptable limits.</li> </ul>  |  |  |
| Verification of                                  | Results were checked by several Altona personnel.  |  |  |
| sampling and assaying                            | <ul> <li>No twinned holes.</li> <li>All field logging data was done using laptop and uploaded into the company<br/>Datashed database and validated by company database personnel.</li> </ul>   |  |  |
|  | All assay files were received in digital format from ALS Laboratories. Data     was uploaded into the Altona Datashed database and validated by company  |  |  |

Section 1: Sampling Techniques and Data

11.

| Criteria             | Commentary  |
|----------------------|---|
|                      | database personnel. No manual data inserts took place.                            |
|                      | No adjustments have been applied to the results.                                  |
| Location of data     | Collar locations have been surveyed using the company's own DGPS with             |
| points               | approximately 0.1 metre accuracy.   |
|                      | • Down hole surveys were completed at the end of each hole within drill rods      |
|                      | by Altona personnel using non-magnetic Gyro tool for azimuth and dip.             |
|                      | The Grid is MGA 94 Zone 54.   |
|                      | • Elevation accuracy of DGPS survey is considered to be less than 0.5m and        |
|                      | has been verified against detailed ground survey previously completed in          |
|                      | the area.   |
| Data spacing and     | <ul> <li>100 metre section spacing and generally two holes per section</li> </ul> |
| distribution         | approximately 50m apart   |
|                      | No resource estimate has been completed.  |
|                      | No sample compositing was applied.  |
| Orientation of data  | Mineralisation strike is approximately north – south for the mineralisation       |
| in relation to       | hence drilling direction to the west is appropriate. Drilling was completed       |
| geological structure | generally at 60 degree dip and with changing dip of the mineralisation true       |
|                      | widths are estimated to be 80% of the down hole intercepts in the north,          |
|                      | 90% in the central area and 80% in the south.                                     |
|                      | No bias is considered to result from drilling direction.                          |
| Sample security      | Samples were collected into numbered calico bags and delivered to ALS             |
|                      | Laboratories as they were collected. Unique sample number was retained            |
|                      | during the whole process. Samples were stored in Altona facilities in             |
|                      | Cloncurry prior to the transport to Townsville.                                   |
| Audits or reviews    | No audits or reviews have been undertaken   |

# Section 2: Reporting of Exploration Results

| Criteria                                      | Commentary   |
|---|--|
| Mineral tenement<br>and land tenure<br>status | <ul> <li>Turkey Creek is within Mining Lease 90125 and Green Hills within Mining Lease ("ML") 90124. Both MLs are 100% owned by Altona Mining Limited.</li> <li>No joint ventures apply.</li> <li>There are agreements in place with the native title holders, the Kalkadoon people and with landholders.</li> <li>No significant historic sites or national parks are located within the reported exploration sites.</li> <li>Both Mining Leases were granted in late 2012 and are in good standing.</li> </ul>   |
| Exploration done<br>by other parties          | <ul> <li>CRA Exploration completed soil surveys, RC drilling and mapping at Turkey<br/>Creek. Soil survey and mapping identified the mineralisation but drilling<br/>failed to intersect mineralisation due to the wrong drilling direction.</li> <li>Xstrata Exploration drilled two RC holes at the southern portion of Turkey<br/>Creek in 2011 intersecting copper mineralisation.</li> <li>Altona Mining followed with seven RC holes in 2012 extending the<br/>mineralisation some 400m to the north</li> <li>Minimal exploration work is known to have been carried out at Green Hills.<br/>CRA Exploration drilled one diamond hole approximately 100 metre north of<br/>the holes reported here with no significant results.</li> </ul> |

12.







Table 4: Summary of Mineral Resource Estimates for the Cloncurry Copper Project

See ASX release of 27 May 2014 (Little Eva) and 26 July 2011 (Longamundi, Great Southern, Caroline and Charlie Brown), 23 April 2012 (Bedford, Ivy Ann and Lady Clayre), 03 July 2012 (Blackard and Scanlan) and 22 August 2012 (Legend) for full details of resource estimation methodology and attributions. Note: All figures may not sum exactly due to rounding.

Little Eva is reported above a 0.2% copper lower cut-off grade, all other deposits are above 0.3% lower copper cut-off grade.