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CLONCURRY PROJECT: BEDFORD RESOURCE UPGRADE

- **Bedford deposit Mineral Resource increased to 4.8 million tonnes at 0.80% copper and 0.21g/t gold**
- **Contained copper metal increased by 124% and contained gold by 191%**
- **Global Mineral Resource for the Cloncurry Project now stands at 1.67 million tonnes contained copper and 0.4 million ounces contained gold**

Altona Mining Limited ("Altona" or the "Company") is pleased to announce a new Mineral Resource estimate for the Bedford deposit at the Company's 100% owned Cloncurry Copper Project near Mt Isa in Queensland. Bedford is located 6 kilometres southeast of the planned Little Eva open pit mine and processing plant and lies within granted mining leases.

The new resource estimate is: 4.8 million tonnes at 0.80% copper and 0.21g/t gold for 38,000 tonnes of contained copper and 32,000 ounces contained gold.

The resource is reported at a 0.3% lower cut-off grade and is classified as indicated and inferred. A full tabulation is given in Tables 1 and 2. A detailed summary of the supporting data and methodology is given in Appendix 1, being Table 1 of the 2012 Edition of the JORC Code.

The global Mineral Resource for the Cloncurry Project is now:

290 million tonnes at 0.58% copper, 0.05g/t gold for 1.67 million tonnes of contained copper and 0.4 million ounces contained gold (Appendix 2).

The new Bedford Mineral Resource estimate is based on a new geological model informed by detailed surface geochemical and geological mapping. The new model was also informed by two additional diamond drillholes drilled for metallurgical samples and geotechnical studies.

The Mineral Resource reports sulphide ore only and extends from 20 metres to 140 metres below surface. An oxide cap ranging from surface to depths of 20 to 30 metres is excluded from the resource estimate.

The increase from the 2012 estimate resulted primarily from better understanding of continuity and geometry. The mineralised structures were able to be better defined based on mapping of surface workings and high resolution copper-in-soil sampling. An increase in tonnage also resulted from new bulk density data from diamond core as opposed to prior conservative estimates.

The Bedford deposit is part of the Little Eva mine development and is scheduled to commence production in year 2 of the mine plan. The new model indicates the potential to increase Bedford ore reserves and pit optimisations are planned as part of the project optimisation.

Geology

The Bedford deposit is an Iron-Oxide-Copper Gold (IOCG) style mineral system typical of the Cloncurry district. The neighbouring Little Eva deposit is a more typical IOCG deposit with similarities to the major Ernest Henry deposit located 70 kilometres to the southeast.

The deposit is hosted within a steep, west-dipping shear zone striking north to north-northeast. The shear zone varies from 50 to 120 metres wide within which there are en-echelon and overlapping arrays of mineralised structures. Mineralisation is best developed in two separate zones, 'Bedford North' and 'Bedford South' within a strike length of 2.5 kilometres. Individual mineralised structures associated with ore grade mineralisation (>0.3% copper) have true widths ranging from 5 to 12 metres.

Host stratigraphy comprises a north to north-northeast striking, moderate to steep west dipping interlayered sequence of amphibolite and biotite schist. The stratigraphy is intruded by narrow planar concordant granite and pegmatoidal dykes/sills.

Bedford South mineralised structures are largely layer parallel. At Bedford North the mineralised structures are interpreted to trend north-south, crosscutting north-northeast striking stratigraphy. Secondary north-northeast linking structures are found along bedding/foliation. Magnetite-biotite alteration assemblages with quartz veining are concentrated in the mineralised structures with a strongly feldspar-hematite altered footwall below.

The dominant ore mineral is coarse-grained chalcopyrite (with minor magnetite, pyrite, pyrrhotite and gold) which occurs within quartz veins, breccia fill and as disseminations in host rocks.

The deposit is sub-cropping. An irregular 20 to 30 metres thick zone of weathering with secondary copper oxide mineralisation blankets the deposit.

Resource Definition and Modelling

Drilling is mostly at a spacing of approximately 25 metres along strike and 25 metres down dip over the main zones with spacing between drill lines increasing to 100 metres along strike from the main zones. Drilling comprises 99 RC and 2 diamond holes for a total of 10,139 metres drilled. All drill holes were drilled west to east to intersect approximate true widths of mineralisation. RC drilling was completed using a face sampling hammer. A small number of RAB holes (13) were used where no other data were available and resources derived from RAB data are classified as inferred.

Samples were collected routinely on 1 metre intervals for logging and assaying. All samples were submitted for multi-element ICPAES and/or AAS analysis at reputable laboratories. Quality Assurance/Quality Control (QA/QC) samples were routinely inserted and monitored. Quality monitoring ensured that the accuracy and precision of this analysis is acceptable.

3D geological models constructed from surface mapping, detailed surface geochemistry and drilling data were used to constrain resource estimation. Resource estimation was conducted using block model methodologies consistent with planned semi-selective mining parameters. Copper and gold grades were estimated using ordinary kriging at the parent block scale. Post-processing of the data by uniform conditioning was applied to copper to estimate block grades at the selective mining scale.
In-situ bulk density values are based on physical measurements conducted on diamond drill core and on comparitive data from the neighbouring deposits.

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About Altona

Altona Mining Limited is an ASX listed company focussed on the Cloncurry Project in Queensland, Australia. The Project has Mineral Resources containing some 1.65 million tonnes of copper and 0.41 million ounces of gold. It is envisaged that a 7 million tonnes per annum open pit copper-gold mine and concentrator will be developed at the Project. The development is permitted with proposed annual production[1] of 38,800 tonnes of copper and 17,200 ounces of gold for a minimum of 13 years. A Definitive Feasibility Study was published in March 2014. Altona has completed a Framework Agreement with Sichuan Railway Investment Group to fully fund and develop the Project through its Hong Kong subsidiary, China Sichuan International Investment Limited. The transaction is scheduled to close prior to 31 July 2017.

[1]*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.*

Competent Persons Statement

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on a report prepared by Mr Frank Browning, MSci (Hons), MSc, GAIG a full time employee of Altona, has five years relevant experience but is not a full member of AIG. The report was supervised and audited by Mr Roland Bartsch, BSc (Hons), MSc, MAusIMM and this public release is based on information compiled by Mr Bartsch. Mr Bartsch is a full time employee of the Company and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being 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'. Mr Bartsch consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Table 1: Bedford Mineral Resource as a 0.3% copper cut-off

	Tonnes (million)	Copper (%)	Gold (g/t)	Contained Copper (tonnes)	Contained Gold (ounces)
Measured	-	-	-	-	-
Indicated	2.3	0.95	0.23	22,000	17,000
Inferred	2.5	0.66	0.19	16,000	15,000
Total	**4.8**	**0.80**	**0.21**	**38,000**	**32,000**

Note: Totals may not match sub-totals due to rounding.

Table 2: Bedford Mineral Resource reported above a range of cut-off grades

Cut-off Grade (% Cu)	Tonnes (million)	Copper (%)	Contained Copper (tonnes)	Gold (g/t)	Contained Gold (ounces)
0	29.2	0.19	56,000	0.06	51,000
0.15	7.1	0.61	43,000	0.17	39,000
0.2	5.9	0.70	41,000	0.19	36,000
0.3[R]	**4.8**	**0.80**	**38,000**	**0.21**	**32,000**
0.4	4.1	0.88	36,000	0.22	29,000
0.5	3.4	0.97	33,000	0.24	26,000

[R] *Mineral Resource reported cut-off grade.*

Table 3: Comparison of Bedford Mineral Resource estimates above a cut-off grade of 0.3% copper

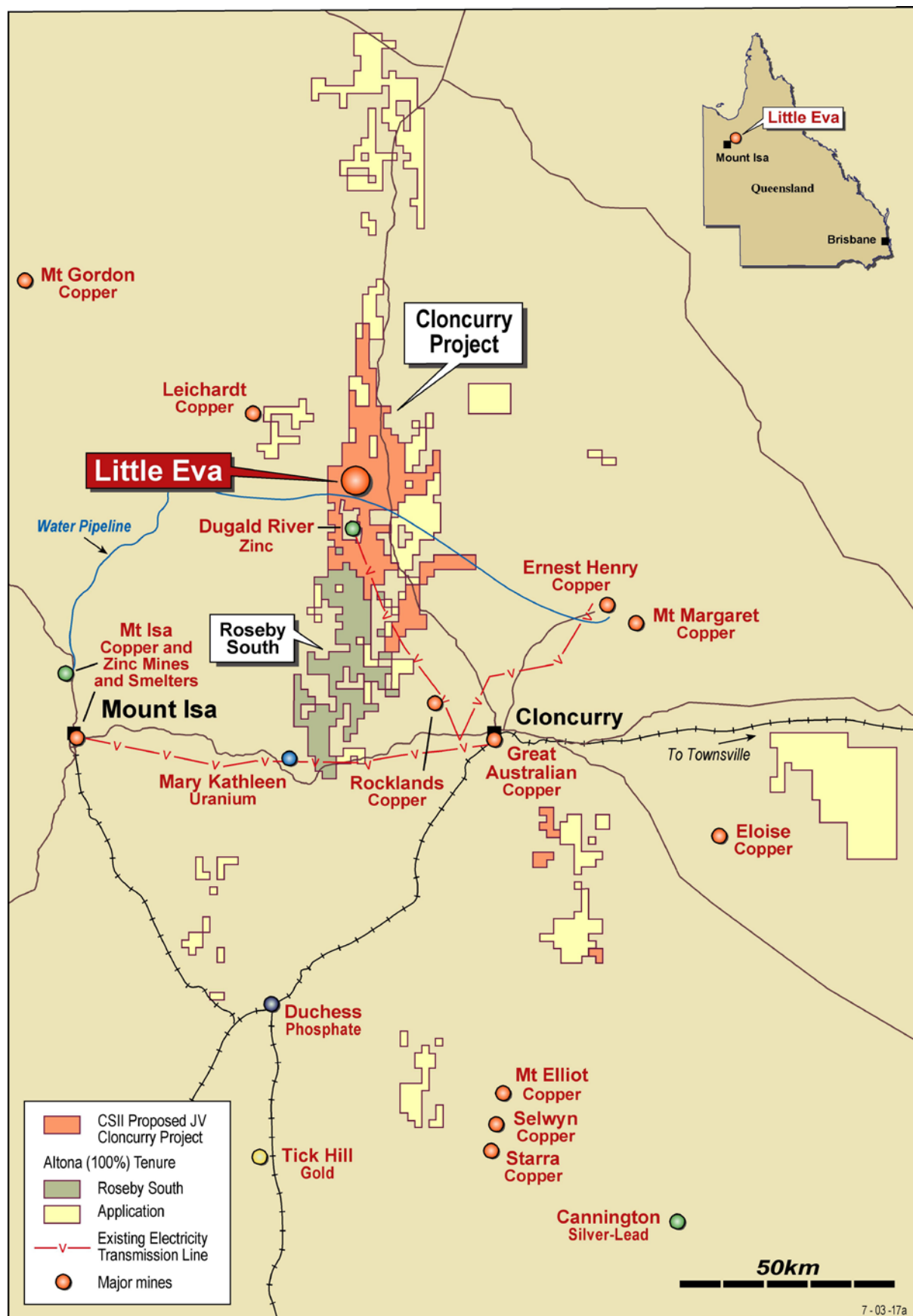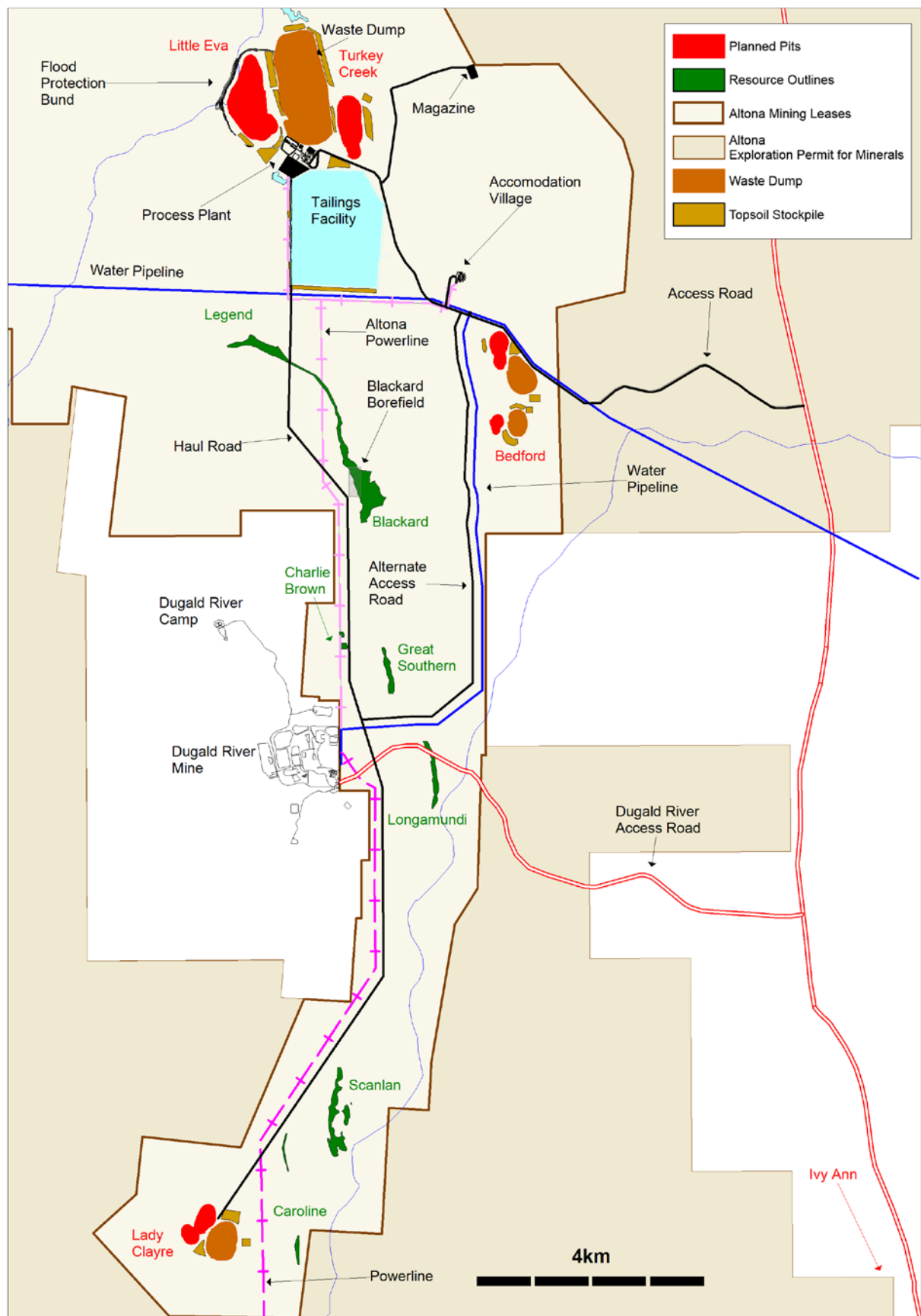|	Tonnes (million)	Copper (%)	Gold (g/t)	Contained Copper (tonnes)	Contained Gold (ounces)
2017 estimate	4.8	0.80	0.21	38,000	32,000
2012 estimate	1.7	0.99	0.20	17,000	11,000
% Change	182%	-19%	5%	124%	191%

Figure 1: Cloncurry Project location map

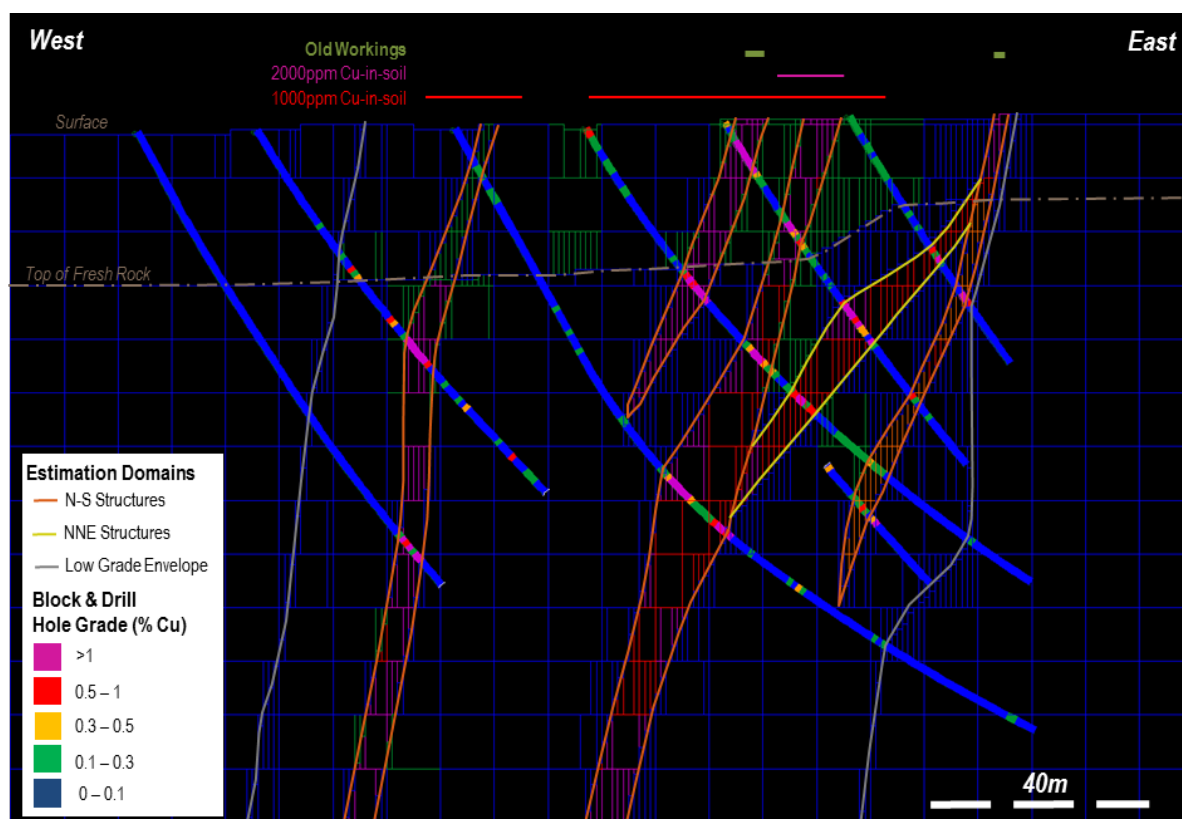**Figure 2: Little Eva Project layout including Bedford**

Figure 3: Bedford North block model cross section N7767750. Block colour represents ordinary kriging derived copper grade. Estimation domains and surface datasets utilised in modelling are also labelled
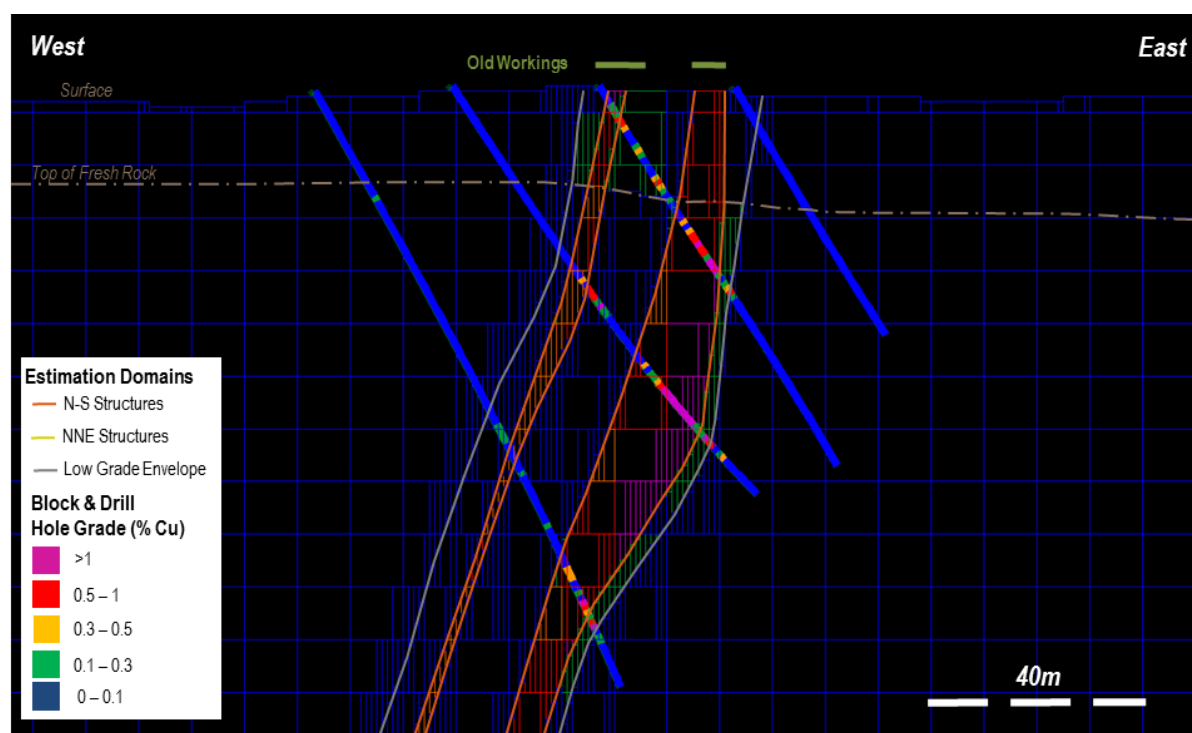

Figure 4: Bedford South block model cross section N7766425. Block colour represents ordinary kriging derived copper grade. Estimation domains and surface datasets utilised in modelling are also labelled
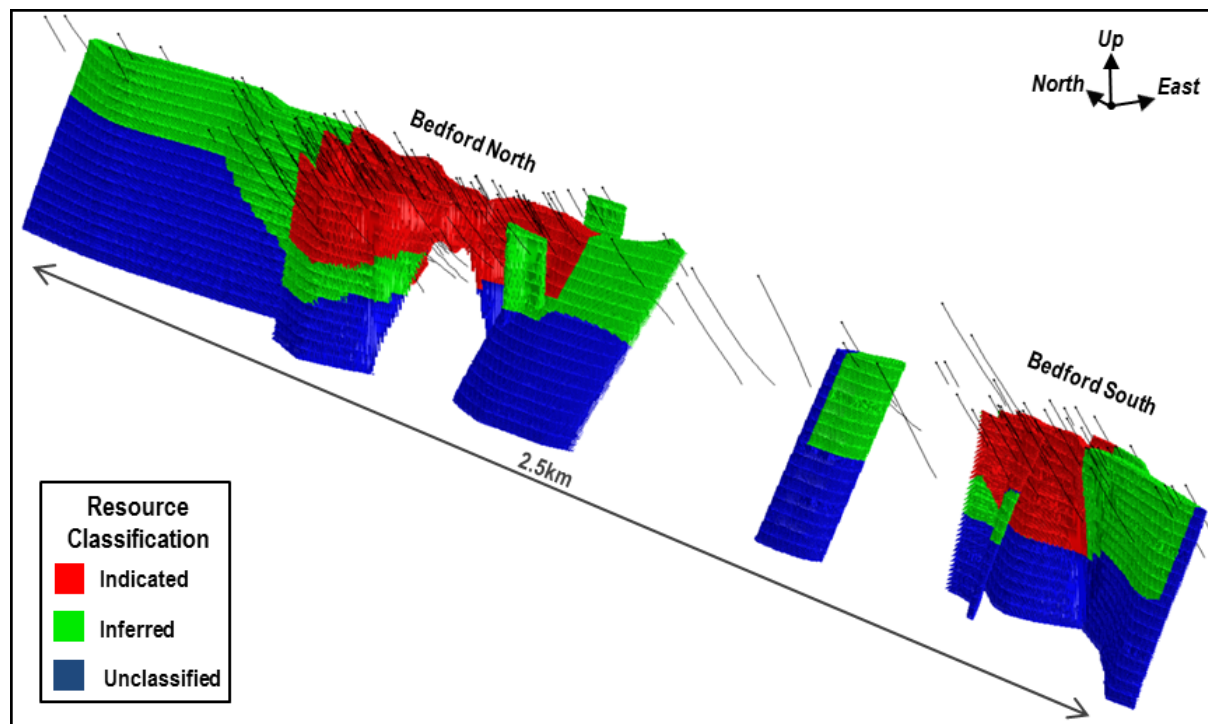
Figure 5: Oblique three dimensional view (looking northeast) of the classified resource model excluding oxide (Unclassified) and low grade envelope domains (Inferred)

APPENDIX 1: TABLE 1 OF THE 2012 EDITION OF THE JORC CODE

The table below is a description of the assessment and reporting criteria used in reporting the Exploration Results that reflects those presented in Table 1 of The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves.

Section 1: Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	• The drilling dataset incorporates 24 Rotary Air Blast (RAB), 99 Reverse Circulation (RC) and 2 diamond drill holes for a total of 11,061m. • RAB accounts for 8% of drilled metres and was only utilised in the absence of RC or DD sampling (13 holes within resource area), where the tenor and thickness of mineralisation is consistent with results from adjacent drill sections and overlying Cu-in-soil geochemistry. All mineralisation delineated by RAB drilling is classified as Inferred Resources. • 84% of samples were collected at 1m intervals. The remainder were collected at 2m intervals, with a small quantity of partial metre sample lengths (<1%). • Approximately 2-3kg sample weights were obtained from each interval for geochemical analysis. • 2 RC drillholes were completed by CRAE in 1990 (1.6% of drilling dataset). All remaining drilling was conducted by Altona Mining (or precursor company Universal Resources) between 2003 and 2015. • CRAE RC and Universal RAB sampling procedures are not available. • Altona RC samples were collected directly using a trailer mounted cyclone and cone (35%) or triple deck riffle splitter (65%). A small number of wet intervals were sub-sampled with a scoop (<1%). • Altona diamond core sampling was guided by geology, with quarter or half core submitted for analysis. • All samples were collected into pre-numbered calico bags, packed by Altona staff into polyweave or bulka bags and shipped by truck to laboratories in Townsville.
Drilling techniques	• RAB drilling specifications are not available. • RC holes were drilled using 5.375", 5.5", or 6" face sampling hammers. • HQ3 and NQ3 core sizes were used in diamond drilling. • Holes were drilled at a dip angle of ~-60° to intersect mineralisation at optimal true width angles.
Drill sample recovery	• Core recovery was measured and RC sample recovery visually estimated. • Recoveries are considered to be excellent averaging > 90%, and typically 100%. Lower recoveries were occasionally observed in the hole collars (top few metres). • The majority of samples were dry. • Every individual RC sample was collected into the cyclone prior to cone splitting. • RC sample bias due to preferential loss/gain of fine/coarse material is considered well within acceptable limits. • Best practice methods were used for diamond coring to ensure the return of high quality core samples.
Logging	• All Altona drill holes were logged by geologists at the rig using Altona standard logging procedures. • Altona logging was qualitative and quantitative including, colour, lithology, mineralisation, alteration, sulphide and oxide mineralogy, sulphide and oxide

Criteria	Commentary
	• amount, texture, grain size and structure. • Representative drill core and RC chips have been retained.
Sub-sampling techniques and sample preparation	• CRAE RC and Universal RAB sampling procedures are not available. • Altona RC samples were split at an 87.5% : 12.5% ratio using cyclone and cone or riffle splitter to obtain a ~2-3kg sub-sample for analysis. Occasional wet intervals were sub-sampled using a scoop. • Diamond core intervals were halved or quartered to produce sub-samples. • Samples were sent to ALS or SGS Analabs Laboratories in Townsville for sample preparation and analysis. Both are independent commercial certified laboratories that use industry standard preparation including drying, crushing and pulverisation. • Typical sub-sample sizes are considered representative for typical copper mineralisation in the Cloncurry Project area.
Quality of assay data and laboratory tests	• The majority of samples (98%) were analysed at SGS Analabs in Townsville as outlined below. • Copper was analysed using a mixed acid digestion (hydrochloric, perchloric, hydrofluoric) followed by inductively coupled plasma atomic emission spectrometry (ICPAES) with a re-assay of ore grade (>1% Cu) samples by AAS. • From 2003 to 2006 Gold was analysed using a 50g fusion followed by aqua regia digestion of the Au/Ag prill with a AAS determination. In 2009 Gold was analysed by fire assay with AAS finish. • Quality Control comprised standards (certified reference materials for gold, copper and blanks) inserted into the sampling sequence at a ~1:20 ratio, to test the accuracy of laboratory analysis for each sample batch. Field duplicates were also collected at a ~1 : 20 ratio to control sampling precision, involving the riffle splitting of bulk RC samples or splitting of diamond core sub-samples. • Duplicate data display acceptable accuracy and precision. Results for standard reference materials do not exhibit positive bias beyond Altona's two standard deviation benchmark. • Field duplicate 2nd split were submitted to an umpire laboratory on a 1:20 basis and compared well. • No geophysical tools were used to determine the results reported here.
Verification of sampling and assaying	• Results were checked by several Altona personnel. • No twinned holes. • Field logging data was primarily collected using a laptop and uploaded into the company Datashed database and validated by company database personnel. • All assay files were received in digital format from SGS Analabs Laboratory. Data was uploaded into the Altona Datashed database and validated by company database personnel. No manual data inserts took place. • No adjustments have been applied to the results.
Location of data points	• CRAE collar locations were measured using a hand-held GPS. • Altona RC and diamond collar locations have been surveyed by licensed surveyors using a DGPS with approximately 0.1m or better horizontal accuracy. Elevation accuracy is considered to be less than 0.5m. RAB holes have reported accuracies from 0.005 to 3m. • 25% of Altona RC and diamond drill holes have been down-hole surveyed with professional gyro systems, 69% have down-hole camera surveys and the remaining 6% have collar orientations only.

Criteria	Commentary
	• The Grid is GDA94 MGA Zone 54.
Data spacing and distribution	• Drilling has typically been completed at 25m intervals along 25m spaced east-west sections. Section line spacing increases to 50-100m outside the main mineralised zones. • The majority of samples were collected at 1m downhole intervals. Other sample lengths do not exceed 2m.
Orientation of data in relation to geological structure	• Mineralisation in Bedford South strikes NNE-SSW, changing to a N-S orientation in Bedford North. Both zones exhibit steep westerly dips. • Drilling was completed to the east at -60 degree dip, such that with changing mineralisation dip, true widths are estimated to vary from 80-100% of down hole intercepts. • No bias is considered to result from drilling direction.
Sample security	• Samples from RC and diamond drilling were collected and bagged into pre-numbered calico bags at the drill site during the drilling operation. Unique sample numbers were retained during the whole process. • Samples were collected and delivered to SGS Analabs as they were collected. • Samples were stored in Altona facilities in Cloncurry prior to transport to Townsville. • All samples were then catalogued and sealed prior to dispatch to laboratory by Altona staff.
Audits or reviews	• QA/QC samples were routinely monitored by the database manager and geologist on a batch and campaign basis. The accuracy of key elements such Cu and Au, was acceptable and the field duplicate assay data was unbiased and shows an acceptable level of precision. • No external audits or reviews have been undertaken.

Section 2: Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	• Bedford is within Mining Lease 90164; 100% owned by Altona Mining. • No joint ventures apply. • There are agreements in place with the native title holders, the Kalkadoon people and with landholders. • No significant historic sites or national parks are located within the reported exploration site. • The Mining Lease was granted in late 2012 and is in good standing.
Exploration done by other parties	• CRAE completed mapping (Bedford South) and ground magnetics, followed by 5 reconnaissance RC drill holes in 1990. • Universal Resources completed RAB (43 holes), followed by RC (97 holes) and diamond drilling (3 holes) from 2003 to 2009. • Altona Mining completed an additional diamond drill hole in 2015, as well as assaying a previously unsampled geotechnical diamond hole. • In 2015 Altona also completed detailed mapping and high resolution soil sampling over Bedford North on a 20 x 10m spacing.
Geology	• Bedford deposit is interpreted to be part of the broader Iron-Oxide-Copper Gold (IOCG) style mineral system common to the Cloncurry district. • Bedford host lithology is characterised by a north to north northeast striking, steep west dipping interlayered sequence of amphibolite and biotite schist, underlain by

Criteria	Commentary
	psammite and intruded concordantly by planar granite and pegmatite intrusions. • Alteration appears to be zoned, with magnetite-biotite alteration and quartz veining concentrated in ore zones, above a strongly feldspar-hematite altered foot wall. • Sulphide mineralisation is associated with a steep west dipping shear zone and comprises chalcopyrite and pyrite in planar bodies that can be parallel or slightly oblique to bedding. Copper oxide species occur above top of fresh rock, in a ~20 to 30m zone of variably weathered bedrock. • Ore formation is interpreted to be structurally controlled, with brittle fracturing facilitating hydrothermal fluid flow and accommodation of metal sulphide precipitation. Structural development at interfaces between rocks of contrasting competency is evident. Moderate to shallow northerly plunging ore shoots are interpreted to be the result of the low angle intersection of transgressive mineralised structures and more competent stratigraphy.
Drill hole Information	• Exploration results are not being reported for the Mineral Resource area. Drill hole information is provided in the Mineral Resource estimation section.
Data aggregation methods	• Exploration results are not being reported for the Mineral Resource area.
Relationship between mineralisation widths and intercept lengths	• Exploration results are not being reported for the Mineral Resource area. • Drilling azimuths are considered to be approximately perpendicular to the strike and dip of the mineralisation resulting in unbiased true widths.
Diagrams	• Refer to the Figures 1 to 5.
Balanced reporting	• Exploration results are not being reported for the Mineral Resource area.
Other substantive exploration data	• Exploration results are not being reported for the Mineral Resource area.
Further work	• Additional work in the future will consist of diamond core drilling for metallurgical and/or geotechnical testwork sampling, as well as infill and exploration step-out RC drilling for resource definition purposes.

Section 3: Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	• Data used for estimation is stored within a SQL Server database and is managed using DataShed software. The structure of the drilling and sampling data is based on the Maxwell Data Model. • Drill data is logged directly into digital logging systems and uploaded to the database by the database administrator (Altona standard procedures since 2005). • Laboratory data has been received in digital format and uploaded directly to the database. (Altona standard procedures since 2002). • In both cases the data was validated on entry to the database, by a variety of means, including the enforcement of coding standards, constraints and triggers. These are features built into the data model that ensure that the data meets

Criteria	Commentary
	essential standards of validity and consistency.
	• Original data sheets and files have been retained and are used to validate the contents of the database against the original logging.
	• Validation of existing collar, downhole survey and assay data was completed. Validation steps included:
	• Drillhole collar locations were compared to the topographic surface.
	• Downhole deviations of all drillhole traces were examined and problematic surveys were excluded.
	• All data (e.g. assay, bulk density, RQDs, core recovery) was checked for incorrect values by deriving minimum and maximum values.
	• Lithology data was checked to ensure standard rock type codes were used.
	• Meta-data fields were checked to ensure they were populated and that the data recorded was consistent.
Site visits	• Numerous site visits have been undertaken by Mr Bartsch and Mr Browning.
Geological interpretation	• Confidence in the geological interpretation of the deposit is moderate to high. Good local constraints exist on the spatial extent and geometry of separate lithological and structural components through the integrated analysis of surface mapping, surface geochemistry, surface geophysics, drill hole logging, downhole geochemistry, magnetic susceptibility and radiometrics. Drilling and high resolution soil sampling (10mE by 25mN) provide good deposit scale constraints on the geometry and continuity of mineralisation.
	• Bedford deposit is interpreted to be part of the broader Iron-Oxide-Copper Gold (IOCG) style mineral system common to the Cloncurry district.
	• Mineralisation occurs at surface, is exposed in sub-crop, and is confirmed through drilling in the main zones down dip to ~140m vertical depth below surface.
	• The deposit is hosted within a steep west dipping shear zone striking north to north northeast. The shear zone varies from 50 to 120m wide with internal arrays of mineralised structures.
	• Mineralisation has been defined in two separate zones, 'Bedford North' and 'Bedford South', the shear zone is however through going. The overall deposit extends over a strike length of 2.5km; the northern zone 1.15km and southern zone 850m long. Within the shear zone individual mineralised structures associated with ore grade mineralisation (>0.3% copper) are planar and have true widths ranging from 5 to 12m.
	• Host stratigraphy comprises a north to north northeast striking, moderate to steep west dipping interlayered sequence of amphibolite and biotite schist, underlain by psammite and intruded concordantly by narrow planar granite and pegmatoidal dykes/sills.
	• In Bedford South mineralised structures are interpreted to be bedding/foliation parallel. In Bedford North the main mineralised structures are interpreted to trend north-south stepping across north northeast striking stratigraphy, with the development of a set of secondary north northeast linking structures along bedding/foliation. Moderate to shallow northerly plunging ore shoots are interpreted to be the result of the low angle intersection of transgressive mineralised structures and more competent stratigraphy.
	• Magnetite-biotite alteration and quartz veining are concentrated in the ore zones, above a strongly feldspar-hematite altered foot wall.
	• The dominant ore mineral is coarse grained chalcopyrite (with minor magnetite,

Criteria	Commentary
	pyrite, pyrrhotite and gold) which occurs within quartz veins, breccia fill and disseminations within the host shear zone. • An irregular 20 to 30m thick zone of weathering with oxide mineralisation blankets the deposit. Although the top of fresh rock is well defined variability of copper mineral species within the weathering profile is not well understood. • Geological interpretation was completed on a sectional basis; from which polylines were interpolated to create 3D solid wireframes for mineralisation and surfaces for weathering interfaces. • The main mineralisation domains were defined using grade constraints. A nominal cut-off grade of 0.3% Cu was used to define boundaries between strongly mineralised structures and a weakly-mineralised low grade envelope, which was itself separated from unmineralised rock by a 0.1% Cu grade shell. • Three main geological domains were defined based on observed internal consistency in geological characteristics: north-south trending mineralised structures, north-northeast trending linking mineralised structures and low grade envelopes. • Statistical and geostatistical analysis verified the domain definition by confirming statistical homogeneity and the presence of distinct continuity characteristics. • Contact analysis informed the selection of hard domain boundaries for estimation. • All domains were further subdivided using a top of fresh rock surface to separate oxide mineralisation and primary sulphide mineralisation.
Dimensions	• The main zone of mineralisation extends over a strike length of 2.5km, including a distinct 1.15km long northern zone 'Bedford North' and 850m long southern zone 'Bedford South'. • Mineralisation dips broadly west at 70-80°. • Mineralisation occurs at surface, is exposed in sub-crop, and is confirmed through drilling in the main zones down dip to ~140m vertical depth below surface. • The deposit remains open to north and south along strike, down dip and between the two zones.
Estimation and modelling techniques	• Drillhole sample data was flagged from estimation domain wireframes. • Sample data was composited to a 1m downhole length. • The influence of extreme outliers was reduced by top-cutting, with top-cut levels determined by a combination of qualitative (grade histograms, lognormal probabilty plots) and quantitative analysis (decile analysis). Top-cuts were applied to nine gold and two copper samples, less than 1.5% of samples in affected domains. • Variography was completed to characterise copper and gold continuity in each sulphide domain. Nugget varies greatly as a proportion of overall variance in different domains, recording changes in the degree of small scale variability and/or errors. High influence is modelled in the north-south mineralised structures, accounting for ~30% of copper and 13% of gold variability. Geometric anisotropy is consistent with the geological model, with variogram reference planes striking north to north-northeast and dipping steeply west (70-80°). A shallow (20-25°) northerly plunge is also evident on this plane. Directional variogram model ranges include: North-south mineralised structures - 54m along strike, 90m down dip, 3.8m across plane. North-northeast linking mineralised structures - 52m along strike, 30m down dip, 4m across plane. Low grade envelope - 55m along strike, 40m down dip, 6m across plane.

Criteria	Commentary
	• Drillhole spacing ranges from 25m to 100m along strike; 25m on-section spacing is typical.
	• Grade estimation was into parent blocks of 10mE by 20mN on 10mRL via ordinary kriging.
	• Three estimation passes were completed with search ellipse orientations derived from principal directions of continuity in the variogram. Search distances in the first search were optimised by domain type using quantitative kriging neighbourhood analysis. These distances were doubled and subsequently trippled in the second and third estimation passes.
	• Search parameters in the second and third estimation passes for the north-south trending mineralised structures were further optimised, with reduced minimum and optimum sample numbers improving local accuracy at the transitions between dense and sparse sample data.
	• Post-processing of the ordinary kriged panel data by uniform conditioning was used to estimate copper grades at the selective mining unit (SMU) scale of 5mE by 5mN by 5mRL.
	• The ordinary kriged copper and gold panel model grades were visually validated against the input drillhole data. Comparisons were also carried out between domain wireframe and domain block model volumes, average domain sample and domain block grades, as well as grade-tonnage curves for different estimation methods.
Moisture	• Tonnes have been estimated on a dry basis. • Moisture content has not been tested.
Cut-off parameters	• The Mineral Resource is reported above a 0.3% copper cut-off grade and within 140m of the surface, to reflect current commodity prices and open pit mining.
Mining factors or assumptions	• Planned extraction is by open pit mining. • Mining factors such as dilution and ore loss have not been applied.
Metallurgical factors or assumptions	• No metallurgical assumptions have been built into the resource models. • Preliminary metallurgical and mineralogical testing on samples from sulphide mineralisation support recovery and indicate that economic concentrate grades can be achieved.
Environmental factors or assumptions	• The Bedford resource is included as a component of the Little Eva Project covered by a granted Environmental Authority (EA). • Baseline and ongoing studies form part of EA requirements. • Analysis of simulated tailings fluids and solids prepared through laboratory scale test work indicates favourable environmental results for the neighbouring Little Eva deposit. Simulated sulphide and oxide tailings were found to be benign in terms of potential for formation of acidic, saline or metalliferous drainage. • By nature of similar setting to Little Eva, in-part shared host rocks and low sulphide content, no adverse environmental considerations have been built into the resource model.
Bulk density	• 23 in-situ bulk density measurements were collected by Altona personel from BFD163 in 2015. Values are based on physical measurements conducted on core samples using the weight in air / weight in water method. • Samples were primarily collected from partially weathered rock. Excluding two outliers an average density of 2.78 was returned. • In-situ bulk densities applied to the resource estimate are: oxidised rock 2.4 t/m^3,

Criteria	Commentary
	and, fresh rock 2.8 t/m^3. These values are considered conservative.
Classification	• Bedford Mineral Resources have been classified on the basis of confidence in geological and grade continuity using the drilling density, geological model, modelled grade continuity, estimation passes and conditional bias measures (slope of the regression and kriging efficiency) as criteria. • Measured Mineral Resources - none defined • Indicated Mineral Resources - have been defined in areas where drill spacing is 25m by 25m or less, extending to a down dip extent of up to 25m below drilling. Block grades were primarily calculated in the first estimation pass. Further drilling is percieved unlikely to result in material change. • Inferred Mineral Resources have been defined in areas where extension of mineralisation is supported by sparse drill data (50-100m spacing along strike) and good continuity in Cu-in-soil anomalism. A significant proportion of block grades have been calculated in later estimation passes. • The classification considers all available data and quality of the estimate and reflects the Competent Person's view of the deposit.
Audits or reviews	• The geological interpretation, estimation parameters and validation of the resource models has been internally reviewed by Altona staff.
Discussion or relative accuracy / confidence	• The assigned classification of Indicated and Inferred reflects the Competent Person's assessment of the accuracy and confidence levels in the Mineral Resource estimate.

APPENDIX 2: SUMMARY OF MINERAL RESOURCE ESTIMATES FOR THE CLONCURRY PROJECT

| DEPOSIT | TOTAL | | | CONTAINED METAL | | MEASURED | | | INDICATED | | | INFERRED | | |
| | Tonnes | Grade | | Copper | Gold | Tonnes | Grade | | Tonne | Grade | | Tonnes | Grade | |
	million	Cu %	Au g/t	tonnes	ounces	million	Cu %	Au g/t	million	Cu %	Au g/t	million	Cu %	Au g/t
LITTLE EVA PROJECT														
Little Eva	105.9	0.52	0.09	546,000	295,000	37.1	0.60	0.09	45.0	0.46	0.08	23.9	0.50	0.10
Turkey Creek	21.0	0.59		123,000	-	-	-		17.7	0.59		3.4	0.58	-
Ivy Ann[A]	7.5	0.57	0.07	43,000	17,000	-	-	-	5.4	0.60	0.08	2.1	0.49	0.06
Lady Clayre[A]	14.0	0.56	0.20	78,000	85,000	-	-	-	3.6	0.60	0.24	10.4	0.54	0.18
Bedford	4.8	0.80	0.21	38,000	32,000	-	-	-	2.3	0.95	0.23	2.5	0.66	0.19
Sub-total	153.3	0.54	0.09	829,000	430,000	37.1	0.60	0.09	74.0	0.52	0.07	42.2	0.53	0.11
OTHER DEPOSITS														
Blackard[A]	76.4	0.62	-	475,000	-	27.0	0.68	-	6.6	0.60	-	42.7	0.59	-
Scanlan[A]	22.2	0.65	-	143,000	-	-	-	-	18.4	0.65	-	3.8	0.60	-
Longamundi[A]	10.4	0.66	-	69,000	-	-	-	-	-	-	-	10.4	0.66	-
Legend[A]	17.4	0.54	-	94,000	-	-	-	-	-	-	-	17.4	0.54	-
Great Southern[A]	6.0	0.61	-	37,000	-	-	-	-	-	-	-	6.0	0.61	-
Caroline[A]	3.6	0.53	-	19,000	-	-	-	-	-	-	-	3.6	0.53	-
Charlie Brown[A]	0.7	0.40	-	3,000	-	-	-	-	-	-	-	0.7	0.40	-
Sub-total	136.7	0.61	-	840,000	-	27.0	0.68	-	25.0	0.64		84.7	0.59	-
TOTAL	290.0	0.58	0.05	1,668,000	430,000	64.1	0.63	0.05	99.0	0.55	0.05	126.9	0.57	0.04

[A] This information was prepared and first disclosed under the JORC Code 2004 Edition. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. All other resources classified and reported in accordance with JORC Code 2012 edition.

Note: Tonnages are dry metric tonnes and have been rounded, hence small differences may be present in the totals.

See ASX release of 23 October 2007 and 26 July 2011 (Longamundi, Great Southern, Caroline and Charlie Brown), 23 April 2012 (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.

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