MINOTAUR EXPLORATION

ASX Release

JOGMEC Cloncurry JV Report

Summary

- Analytical results received for diamond holes at the Cormorant North, Woolshed Waterhole, Emu South, and Gidyea Bore targets seeking IOCG and ISCG mineralisation
- Drill hole MN15D41 at Cormorant North intersected pyrrhotite-rich breccias with low grade copper reported
- Drill hole MN15D39 at Woolshed Waterhole intersected broad magnetite-rich alteration zones showing low grade copper
- Holes MN15D38 (Emu South) and MN15D40 (Gidyea Bore) both intersected unmineralised graphitic sediments

Background

Exploration for Cu-Au mineralisation within the Cloncurry Joint Venture, ~80 km north of Cloncurry Queensland, is being undertaken in co-operation with JOGMEC (Japan Oil, Gas and Metals National Corporation, 56%).

Target areas selected for drill testing, based on previous geophysical surveys, to appraise their potential for Cu+Au mineralisation were Woolshed Waterhole, Emu South, Cormorant North and Gidyea Bore (Figure 1, Table 1). All targets are concealed by Mesozoic cover sediments ranging in thickness from 50–175m. Assay results are reported herein.

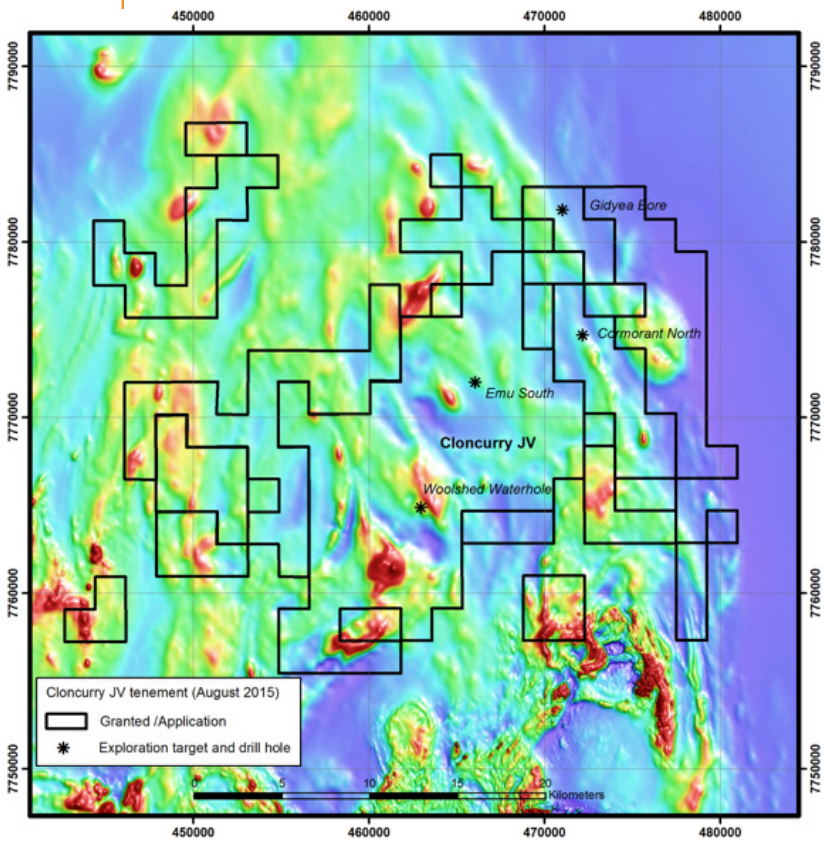

Figure 1: Drill hole locations at Cormorant North, Woolshed Waterhole, Emu South and Gidyea over regional TMI-RTP magnetic image

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Drill results and analysis

Drill hole MN15D41 (Cormorant North) targeted a strong basement conductor representing a continuation of the NNW-trending massive pyrrhotite-rich breccia system on the eastern portion of the Cloncurry JV tenements (Figure 1). Hole MN15D41 was sited midway between and 400m from previous holes MNDDH14 and MNDDH18 which both intersected significant Cu mineralisation[1]. Drill hole MN15D41 intersected similar pyrrhotite-rich breccias however copper grades are relatively low (Table 2).

Drill hole MN15D39 (Woolshed Waterhole) targeted a discrete positive magnetic anomaly and associated basement conductors defined from both ground EM survey and a down-hole EM survey within previous hole MN11D20 which revealed the presence of off-hole untested conductors. The best intercepts in hole MN11D20 were 7 m @ 0.3% Cu (87–94 m), including 0.6 m @ 1.12% Cu (89.4–90 m)[2].

Hole MN15D39 intersected broad magnetite-rich alteration zones containing pyrrhotite, pyrite and chalcopyrite sulphide however copper grades are relatively low (Tables 2 and 3). The magnetite and sulphide zones in the hole adequately explain the magnetic and conductivity anomalies.

Drill hole MN15D38 (Emu South) targeted a newly defined, NW-trending basement conductor interpreted to be located on the margin of a granitic intrusive. The hole intersected granite, containing small alteration zones of amphibole and pyrite, along with weakly graphitic argillite near the base of the hole, accounting for the EM conductor. No significant assays were reported.

Drill hole MN15D40 (Gidyea Bore) targeted a good basement conductor defined from ground EM surveys that had not been previously drill tested. The conductor is situated marginal to a regional positive gravity anomaly and just east of the regionally significant Mount Margaret Fault and was thought to represent structurally controlled ISCG-style mineralisation.

The hole intersected graphitic argillites with disseminated pyrite but was abandoned 50m short of the EM target due to very poor ground conditions. Portable XRF analyses reveal no significant Cu, Pb or Zn however as the hole did not reach its intended depth the lack of mineralisation may not be representative of the main target zone.

Excepting for Gidyea Bore the anomalies have been adequately explained and attention will now turn to generating new target opportunities elsewhere within the joint venture area.

1 Minotaur report to ASX *New 10km Cu-Au trend,* 5th September 2011
2 Minotaur report to ASX *Drilling Update Cloncurry copper-gold*, 21st December 2011

Target	Hole ID	Easting (m)	Northing (m)	Dip	Azimuth (T)	Depth (m)
Emu South	MN15D38	466065	7771990	-50	218	391.6
Woolshed Waterhole	MN15D39	462960	7764870	-55	343	297.2
Gidyea Bore	MN15D40	471003	7781812	-58	247	301.0
Cormorant North	MN15D41	472240	7774671	-50	240	423.0

Table 1: Collar details for recent drill holes within the JOGMEC Cloncurry Joint Venture. All coordinates refer to GDA94 datum, Zone 54.

HOLE ID	DEPTH FROM m	DEPTH TO m	INTERVAL m	Cu ppm	Au g/t	Pb ppm	Zn ppm
MN15D39	75.3	76	0.7	2760	-	-	-
MN15D39	76	77	1	2280	-	-	-
MN15D39	77	78.55	1.55	3990	-	-	-
MN15D39	87	88	1	2880	-	-	-
MN15D39	96.5	98	1.5	2910	-	-	-
MN15D39	130	131	1	2560	-	-	-
MN15D39	139	140	1	3290	-	-	-
MN15D39	141	142	1	2910	-	-	-
MN15D41	302	303	1	4920	-	-	-
MN15D41	303	304	1	3600	-	-	-
MN15D41	308	309	1	670	-	2870	6060
MN15D41	311	312	1	9850	-	-	-
MN15D41	314	315	1	2980	-	-	-
MN15D41	315	316	1	3490	-	-	-
MN15D41	321	322	1	3500	-	-	-
MN15D41	322	323	1	6700	-	-	-
MN15D41	327	328	1	3580	-	-	-
MN15D41	328	329	1	4140	-	-	-
MN15D41	336	337	1	3480	-	-	-
MN15D41	337.9	338.4	0.5	1630	0.56	-	-
MN15D41	338.4	339	0.6	3420	-	-	-
MN15D41	340.36	340.8	0.44	2670	-	-	-
MN15D41	340.8	341.43	0.63	3050	-	-	-
MN15D41	341.43	342.2	0.77	4780	-	-	-
MN15D41	347.5	348	0.5	3580	-	-	-
MN15D41	348	349	1	4010	-	-	-
MN15D41	349	350	1	2650	-	-	-
MN15D41	353.8	354.5	0.7	3600	-	-	-
MN15D41	383	384.5	1.5	3560	-	-	-
MN15D41	389	389.62	0.62	4040	-	-	-

Table 2: Mineralised intervals within holes MN15D39 and MN15D41. Metal values <0.5 g/t Au, <2,500 ppm Cu, <2,000 ppm Pb and <2,000 ppm Zn are not shown and metal values outside the reported intercepts are all less than these minimum values and have been omitted. No significant assays recorded in holes MN15D38 and MN15D40. Depths and intervals are downhole depths as true thicknesses are unknown.

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COMPETENT PERSON'S STATEMENT

Information in this report that relates to Exploration Results are based on information compiled by Mr G. Little, a Competent Person and a member of the Australian Institute of Geoscientists (AIG). Mr Little is a full time employee of the Company and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is 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 (JORC Code). Mr Little consents to inclusion in this document of the information in the form and context in which it appears.

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Section 1: Sampling Techniques and Data

Table 1

Criteria	JORC Code explanation	Commentary
Sampling techniques	*Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *Aspects of the determination of mineralisation that are Material to the Public Report.* *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	Drill holes MN15D38–MN15D41 were drilled from surface initially by Rotary Mud method (4.75 inch diameter) to basement and then diamond coring technique to total depth to appraise nature of basement lithologies for IOCG and ISCG style mineralisation. The NQ2 diamond drill bit size employed to sample the zone of interest is considered appropriate to indicate degree and extent of mineralisation. All drill core has been geologically logged, magnetic susceptibility and portable XRF measurements systematically recorded every 1m, specific gravity measurement recorded every 5m, core orientation determined where possible, photographs taken of all drill core trays, representative lithologies and mineralisation. Selected 1m intervals of quarter core were chosen for geochemical laboratory analysis based upon visual observations on lithologies, portable XRF measurements and perceived zones of alteration and mineralisation. Unsampled intervals are expected to be unmineralised.
Drilling techniques	*Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	Professional drilling contractors QEx Drilling carried out the entire drill program (MN15D38–MN15D41) using their CT14 rig under the supervision of experienced Minotaur geological personnel. A Ranger Digital Downhole survey system was used every ~30m by QEx Drilling to determine hole orientation.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.* *Measures taken to maximise sample recovery and ensure representative nature of the samples.* *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	Received drill core length was measured and recorded and compared to actual metres drilled as reported by the drill contractor. The ratio of measured length to drilled length is used to calculate total core recovery. Core recoveries of 100% were predominantly obtained.

Table 1

Criteria	JORC Code explanation	Commentary
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* *The total length and percentage of the relevant intersections logged.*	All drill core was geologically logged, magnetic susceptibility and portable XRF measurements systematically recorded every 1m, specific gravity measurement recorded every 5m, core orientation determined where possible, all drill core trays photographed with select lithologies and zones of mineralisation photographed. Lithological, geological and drilling data for the entire hole was entered onsite into Minotaur's OCRIS Mobile logging system. Rock quality data (RQD) was not recorded and no comprehensive geotechnical assessment has been undertaken on the drill core as this is unnecessary for early-stage regional exploration.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.* *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* *Whether sample sizes are appropriate to the grain size of the material being sampled.*	The core from drill holes MN15D38, MN15D39 and MN15D41 were cut and quarter core samples taken for geochemical analysis. In hole MN15D38, ~1 metre composite samples were collected from 335–356m and 282–391.6 m. In hole MN15D39, ~1 metre composite samples were collected from 75.3–168 m. No samples were analysed from hole MN15D40. In hole MN15D41, ~1 metre composite samples were collected from 299–358 m and 379.85–400 m. The sampled intervals were selected based upon visual observations on lithologies, portable XRF measurements and perceived zones of alteration and mineralisation. Unsampled core intervals are expected to be unmineralised. Each laboratory submission sample was collected in an industry-standard calico bag with sample number written in black on the bag and sample number ticket inserted into the bag. Sub-samples were placed in large plastic polyweave bags, labeled with the sample number range and secured with a plastic cable tie for direct transport to ALS Laboratories in Mount Isa by a Minotaur representative.

Table 1

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	Results reported in the body of this Report pertain soley to quarter core samples from drill holes MN15D38, MN15D39 and MN15D41 analysed by ALS Laboratories. A 49-element suite including Cu, Zn, Pb, Ag was analysed by four acid digest and ICP-MS/ICP-AES finish (ALS method ME-MS61): four acid digest is considered a near total digest for base metals and appropriate for regional exploratory appraisal. Gold analyses by fire assay with AAS finish (ALS method Au-AA25) to 0.01 ppm detection limit. ALS analysed regular blanks (around 1 in 20), regular standards (around 1 in 10) and regular duplicates (around 1 in 10) when analysing the samples from drill holes MN15D38, MN15D39 and MN15D41. As part of Minotaur's quality control procedure, additional commercially-sourced standards (around 1 in 40), standard blanks (around 1 in 40) and duplicates (around 1 in 100) were also submitted by Minotaur to ALS simultaneously with drill core samples from MN15D38, MN15D39 and MN15D41. For the laboratory results received and reported in the body of this Report an acceptable level of accuracy and precision has been confirmed by Minotaur's QAQC protocols.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.* *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	All drilling data, including collar coordinates, hole orientation, total depth, sampling intervals and lithological logging, were recorded using OCRIS Mobile logging software with inbuilt data validation. Significant intersections have been verified by Minotaur's project geologists and laboratory assays are consistent with mineralised intervals highlighted by geological logging and portable XRF analyses. No twinned holes were undertaken. No adjustments to assay data were undertaken.
Location of data points	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* *Specification of the grid system used.* *Quality and adequacy of topographic control*	Drill hole collar locations (GDA94, MGA Zone 54) were determined using handheld GPS with an accuracy of +/- 3m, which is considered appropriate level of accuracy for regional drilling appraisal. RL determined from handheld GPS. Ranger Digital system used every ~30m downhole to determine hole orientation during drilling. No downhole surveys were conducted after completion of drilling.

Table 1

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	*Data spacing for reporting of Exploration Results.* *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* *Whether sample compositing has been applied.*	Results reported in the body of this Report pertain solely to quarter core samples from drill holes MN15D38, MN15D39 and MN15D41 analysed by ALS Laboratories. Predominantly 1 metre intervals used for downhole geochemical sampling is considered appropriate for perceived degree of mineralisation present. There is no historic exploration drilling data within 300 m of holes MN15D38, MN15D40 and MN15D41, thus historic data are of insufficient drilling density to determine extents of mineralisation along strike or at depth from holes MN15D38, MN15D40 and MN15D41. No mineral resource or ore reserve estimation has been undertaken.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	Drill hole orientation was optimised to intersect the centre of the target geophysical anomalies. No orientation-based sampling bias has been identified.
Sample security	*The measures taken to ensure sample security.*	All drill samples were stored at a secure location and delivered to the Laboratory for analysis by Company personnel. Remnant drill core from MN15D38, MN15D39, MN15D40 and MN15D41 has been permanently retained.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data*	No independent audit or review undertaken.

Section 2: Reporting of Exploration Results

Table 2

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	The drilling reported herein was conducted on portions of tenements EPM8608, 18068 and 19530 which form part of the Cloncurry Joint Venture between Minotaur Exploration and Japan Oil Gas and Metals National Corporation (JOGMEC). Exploration activities are managed by Minotaur Exploration under a jointly agreed work program. There are no existing impediments to any tenement within the Cloncurry Joint Venture. Ground disturbing activities, such as drilling, required prior consultation with appropriate Native Title party and landowners.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Extensive historical exploration by other companies across the JV tenements includes airborne magnetic surveys, gravity surveys, induced polarization (IP) surveys, EM surveys and diamond drilling. However, no prior drilling had taken place within 400 m of holes MN15D38, MN15D40 and MN15D41. Historic hole MN11D20 is ~100 m from hole MN15D39.
Geology	*Deposit type, geological setting and style of mineralisation*	Within the eastern portion of Mt Isa Block targeted mineralisation styles include: IOCG-style mineralisation associated with ~1590–1500Ma granitic intrusions and fluid movement along structural contacts e.g. Eloise Cu-Au; and sediment-hosted Zn+Pb+Ag±Cu±Au deposits e.g. Mt Isa, Cannington
Drill hole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* • *easting and northing of the drill hole collar* • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* • *down hole length and interception depth* • *hole length.* *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	Full drill collar details for drillholes MN15D38, MN15D39, MN15D40 and MN15D41, including location coordinates, orientation and final depth are provided in Table 1 of the body of this Report. Assay results are reported in Table 2 of the body of this Report.

Table 2

Criteria	JORC Code explanation	Commentary
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	Assay results reported in the body of this Report pertain only to quarter core samples from drill holes MN15D38, MN15D39 and MN15D41 analysed by ALS Laboratories. No weighting, maximum and/or minimum grade truncations have been used. Assays are predominantly for 1 metre representative splits and are reported as downhole intervals. No aggregation of the assay results has been undertaken.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	All depths and intervals are reported as downhole measurements. True widths for holes MN15D38, MN15D39, MN15D40 and MN15D41 are not known.
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views*	See Figure 1 of this Report.
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	All results of significance have been reported within this Report.

Table 2

Criteria	JORC Code explanation	Commentary
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	No significant exploration data have been omitted.
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Extent of any future investigations at the Woolshed Waterhole, Emu South, Gidyea Bore and Cormorant North targets is dependent upon results from possible downhole geophysical surveying (DHEM).