

ASX Announcement

23 January 2017

## **High grade cobalt and graphite on Eyre Peninsula**

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### **Highlights**

- Assays from historical drilling reports up to:
  - 42.8% graphitic Carbon (Cg) - highest grade yet recorded on Eyre Peninsula.
  - up to 0.2% Cobalt (Co).
- Assays from historical drilling confirm the extension of the Sugarloaf mineralisation.
- Drill holes within 5km of proposed Sugarloaf Graphite Processing Facility.
- Tenement does not form part of the proposed Cobalt Bull joint venture and represents a significant increase to Archer's cobalt footprint.
- Archer to undertake follow up work in next quarter.

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Archer Exploration Limited (ASX: "AXE") is pleased to announce high grade graphite and cobalt results from assaying of previous drilling undertaken by others on Archer's Cockabidnie tenement located near Cleve, Central Eyre Peninsula, South Australia. The Cockabidnie tenement abuts Archer owned farm land to the south. This tenement is 100% owned by Archer and is not included as part of Cobalt Bull joint venture proposal.

The drill holes assayed by Archer are located approximately 5km south of the Company's proposed Sugarloaf Graphite Processing Facility and confirm the southern extension of the Sugarloaf deposit (Figure 1).

The Sugarloaf deposit contains an Exploration Target of 60 – 90 million tonnes at a grade of 10 – 12% TC (ASX announcement 09/08/16). Investors should be aware that the potential quantities and grades presented in the Exploration Target quoted above and elsewhere in this announcement are conceptual in nature, there has been insufficient exploration to define an overall Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource.

## About Cockabidnie

The Cockabidnie tenement was granted to Archer in mid-2016 and since that time Archer has been methodologically reviewing historical exploration data and assaying prospective drill samples for graphite, cobalt and other minerals.

Exploration efforts and drilling by other explorers at Cockabidnie was primarily focussed on the discovery of zinc and nickel deposits; Intervals of graphite were recorded in drill holes, but assaying for graphite (and in many instances cobalt) was not undertaken at the time.

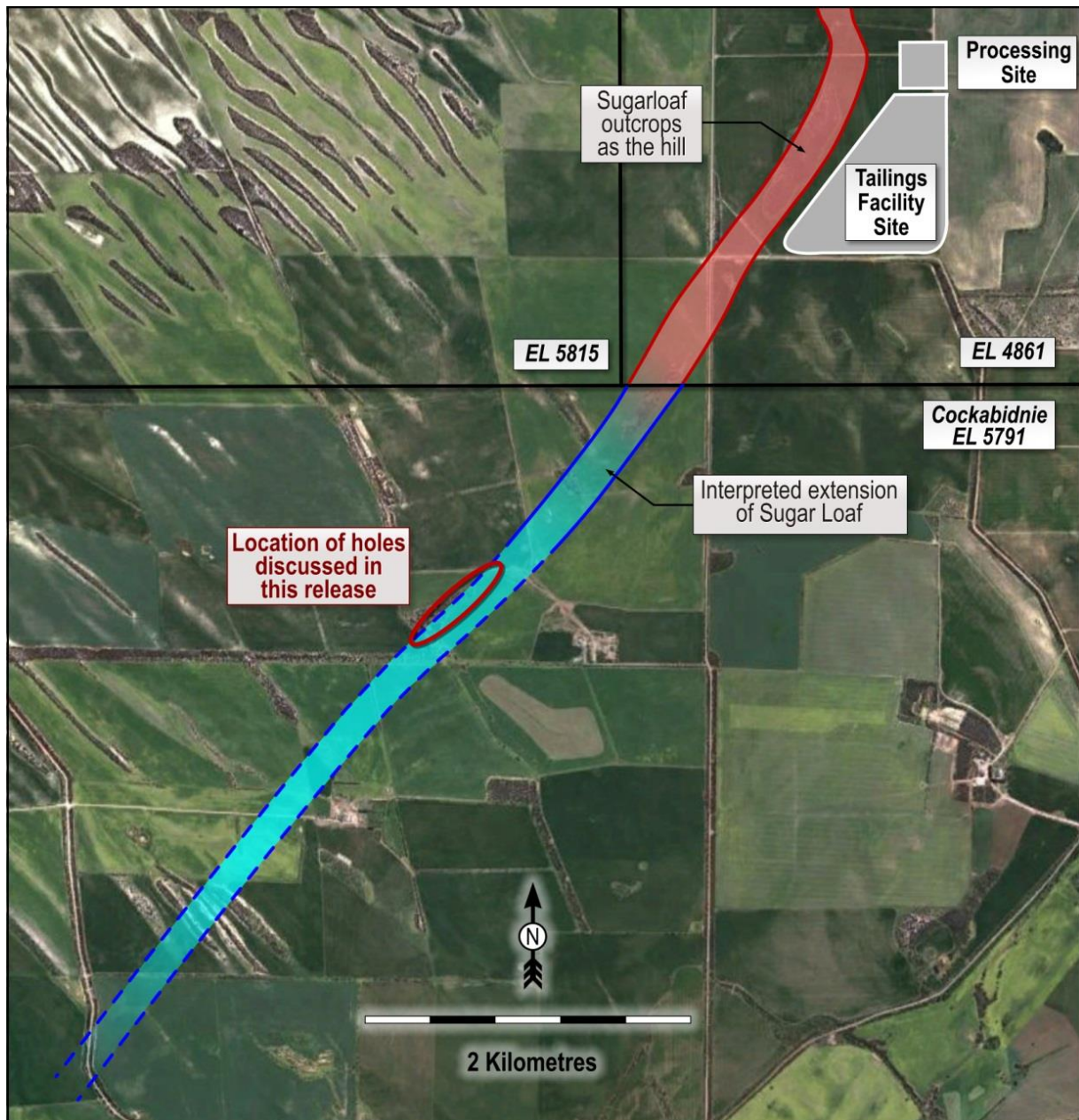


Figure 1: Location of drill holes within the interpreted extension of Sugarloaf (proposed Sugarloaf Graphite Process Plant and associated tailing storage facility shown in north west corner of image).



## Significant exploration results

Archer recovered sample pulps (remnant material from the assay process) and submitted available intervals for graphitic carbon assay. Subsequent assay results received by Archer include **42.8% Cg** from 52m to 54m (2m interval) (Hole CBAC033) which is the highest-grade graphite interval reported on the Eyre Peninsula.

Significant graphite results from the assay work undertaken are shown below.

Hole Id	From (m)	To (m)	Cg%
CBAC031	62	64	14.75
CBAC032	14	19	8.79
	27	32	10.6
CBAC033 incl.	32	56	11.22
	52	54	<b>42.8</b>
CBAC034	26	40	8.9
CBAC035	44	70	15.06

A significant average cobalt grade of **0.2% Co** was reported in hole CBAC034 over a broad 8m downhole intercept (from 30 to 38m). Archer will undertake more work to identify and report other significant cobalt intervals within the larger tenement area.

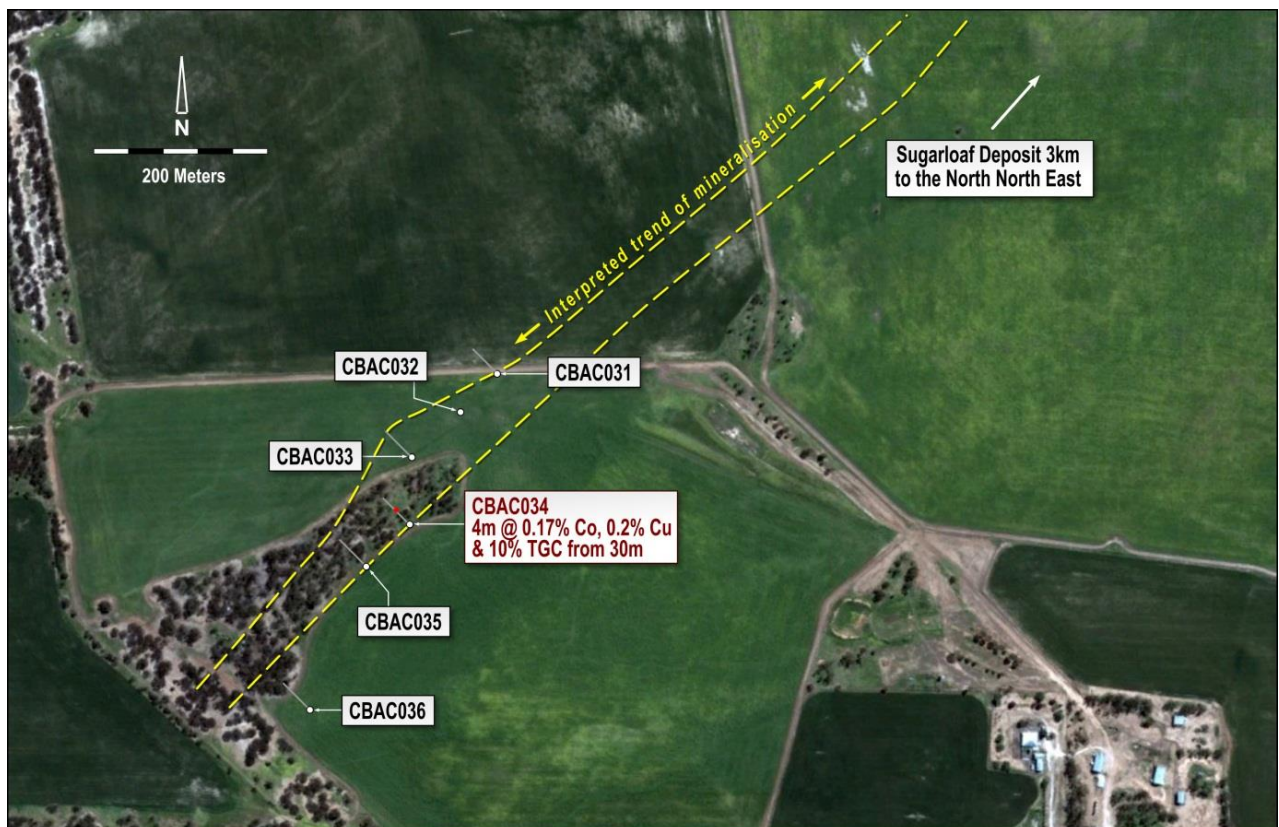


Figure 2: Location of drill holes being reported (CBAC 033) and significant cobalt interval

In addition to the discovery of high grade cobalt, the assay results also confirm the southern extension of the Sugarloaf deposit. Although the exact morphology of the graphite is unknown at this stage, Archer believes it to be similar to that at Sugarloaf.

## Next Steps

While the Company remains focused on developing the Leigh Creek Magnesite project, the high-grade cobalt and graphite discovered to date has encouraged Archer to continue its detailed review of exploration results, drill pulps and other data at Cockabidnie, Waddikee and other tenements on the Eyre Peninsula. Archer will report these results as they come to hand.

The review of historic exploration data allows Archer to add value to both the Eyre Peninsula Graphite Project and the Cobalt Project in a cost-effective manner without the need for expensive drilling at this stage.

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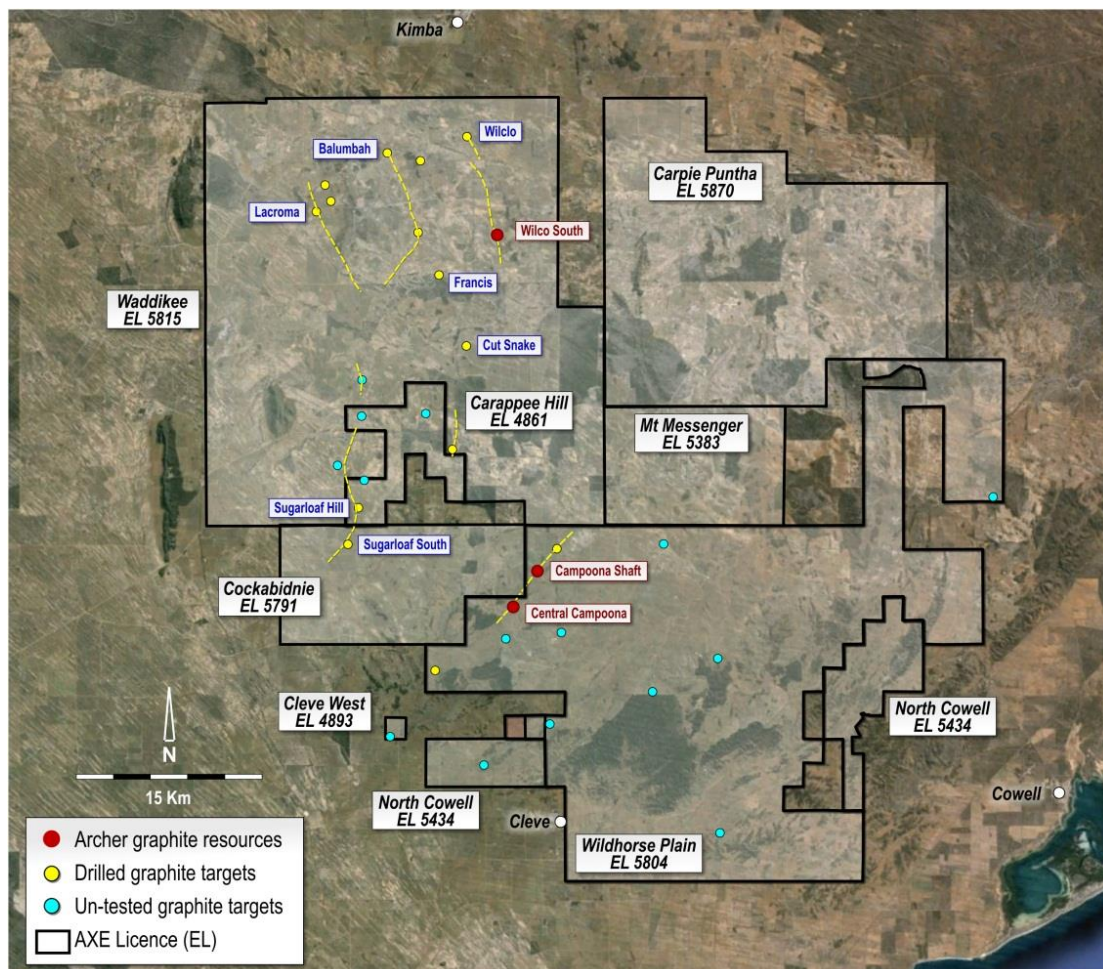


Figure 3: Eyre Peninsula Graphite Project

## Competent Person Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Wade Bollenhagen, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of Archer Exploration Limited. Mr Bollenhagen has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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. Bollenhagen consents to the inclusion in the report of the matters based on his information in the form and context in which it appears

## Summary of drill hole information

The following table provides information on RC drilling results reported elsewhere in this announcement. The drilling was undertaken by Lincoln Minerals prior to 2010.

Hole ID	Easting	Northing	RL (m)	Final Depth (m)	Dip (°)	Azimuth (°)
CBAC031	621601	6291589	0	79	-60	310
CBAC032	621558	6291547	0	97	-90	0
CBAC033	621502	6291496	0	70	-60	310
CBAC034	621498	6291420	0	58	-60	320
CBAC035	621449	6291372	0	70	-60	310
CBAC036	621384	6291210	0	63	-60	310

## Summary of drilling results

The following table provides the significant intersections from RC drilling done by Lincoln Minerals Limited prior to 2010. The following table only reports intervals > 5% graphitic carbon (Cg), with intervals < 5% Cg also included when present within a larger interval with an overall grade of >5% Cg. All other intervals are reported as “NSR” (No Significant Result).

Significant assays listed within the announcement to which this table is attached are summaries of the data below.

Hole ID	From (m)	To (m)	Interval (m)	Co (ppm)	Cu (ppm)	Zn (ppm)	Cg (%)
CBAC031	60	62	2	NSR			
CBAC031	62	64	2	40	49	404	14.75
CBAC031	64	79	15	NSR			
CBAC032	0	14	14	NSR			
CBAC032	14	15	1	9	341	714	12.35
CBAC032	15	16	1	36	263	554	11.1
CBAC032	16	17	1	19	208	748	9.21
CBAC032	17	18	1	11	122	406	4.44
CBAC032	18	19	1	11	60	838	6.86
CBAC032	19	20	1	18	111	831	5.71
CBAC032	20	21	1	139	133	1055	6.05
CBAC032	21	22	1	87	104	779	7.74



Hole ID	From (m)	To (m)	Interval (m)	Co (ppm)	Cu (ppm)	Zn (ppm)	Cg (%)
CBAC032	22	23	1	111	127	1415	5.71
CBAC032	23	24	1	23	82	816	0.19
CBAC032	24	25	1	13	66	1050	4.62
CBAC032	25	26	1	12	37	665	3.84
CBAC032	26	27	1	9	71	732	6.46
CBAC032	27	28	1	17	93	899	9.21
CBAC032	28	29	1	39	121	1145	4.25
CBAC032	29	30	1	6	45	187	3.79
CBAC032	30	31	1	48	175	935	7.9
CBAC032	31	32	1	12	112	901	27.9
CBAC032	32	97	65	NSR			
CBAC033	0	2	2	NSR			
CBAC033	2	4	2	28	444	455	5.09
CBAC033	4	6	2	29	314	212	3.37
CBAC033	6	8	2	6	136	110	3.98
CBAC033	8	10	2	2	169	50	3.41
CBAC033	10	12	2	2	743	53	5.12
CBAC033	12	14	2	2	1030	76	5.76
CBAC033	14	16	2	2	860	30	3.54
CBAC033	16	18	2	1	704	21	3.04
CBAC033	18	20	2	9	458	15	3.42
CBAC033	20	22	2	131	887	56	5.07
CBAC033	22	24	2	94	1410	165	4.4
CBAC033	24	26	2	530	1580	450	
CBAC033	26	28	2	168	600	652	
CBAC033	28	30	2	160	990	1090	
CBAC033	30	32	2	110	469	939	
CBAC033	32	34	2	39	184	762	6.97
CBAC033	34	36	2	25	59	556	6.36
CBAC033	36	38	2	12	73	773	7.07
CBAC033	38	40	2	11	51	553	6.43
CBAC033	40	42	2	19	118	639	7.23
CBAC033	42	44	2	6	39	611	4.98
CBAC033	44	46	2	4	30	296	5.54
CBAC033	46	48	2	7	150	447	12.95
CBAC033	48	50	2	6	31	186	8.47
CBAC033	50	52	2	12	47	331	19.55
CBAC033	52	54	2	11	58	338	42.8
CBAC033	54	56	2	7	29	219	6.28
CBAC033	56	70	14	NSR			
CBAC034	0	26	26	NSR			
CBAC034	26	28	2	258	463	295	6.38
CBAC034	28	30	2	25	95	545	6.85
CBAC034	30	32	2	2180	2360	568	10.8
CBAC034	32	34	2	2460	2620	397	7.97
CBAC034	34	36	2	1200	1360	273	11
CBAC034	36	38	2	1040	1770	356	10.55
CBAC034	38	40	2	311	631	229	9.06
CBAC034	40	58	18	NSR			
CBAC035	0	28	28	NSR			
CBAC035	28	30	2	2	80	58	5.57
CBAC035	30	32	2	3	248	165	3.48
CBAC035	32	34	2	9	217	87	<0.02

Hole ID	From (m)	To (m)	Interval (m)	Co (ppm)	Cu (ppm)	Zn (ppm)	Cg (%)
CBAC035	34	36	2	8	348	393	0.45
CBAC035	36	38	2	24	317	108	3.73
CBAC035	38	40	2	74	428	132	4.53
CBAC035	40	42	2	9	524	392	5.33
CBAC035	42	44	2	7	331	326	5.69
CBAC035	44	46	2	17	451	531	6.85
CBAC035	46	48	2	12	200	295	11.45
CBAC035	48	50	2	26	208	521	16.8
CBAC035	50	52	2	16	134	307	20.9
CBAC035	52	54	2	36	168	404	0.95
CBAC035	54	56	2	46	465	163	3.52
CBAC035	56	58	2	14	393	21	17.8
CBAC035	58	60	2	29	899	19	21.2
CBAC035	60	62	2	15	605	11	33.2
CBAC035	62	64	2	22	958	18	20.2
CBAC035	64	66	2	24	1400	39	12.75
CBAC035	66	68	2	28	1750	26	13.3
CBAC035	68	70	2	16	838	23	16.8
CBAC036	0	63	63	NSR			

## JORC Code, 2012 Edition – Table 1

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code Explanation	Commentary
<b>Sampling Techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where ‘industry standard’ work has been done this would be relatively simple (e.g. ‘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 (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>The samples as reported were generated from Aircore drilling by the previous tenement owner, it is understood that ALS were the laboratory used for the analyses of the drill intervals.</li> <li>All samples were sent ALS laboratory in Adelaide for preparation and forwarded to Peth for multi-element analyses.</li> <li>The mineralisation being reported is above 5% graphitic Carbon , intervals below this grade were not being reported. Intervals that reported &lt;5% within a series of samples that reported &gt;5% graphitic carbon are being reported.</li> <li>All samples are crushed using LM2 mill to –4 mm and pulverised to nominal 80% passing –75 µm.</li> </ul>
<b>Drilling Techniques</b>	<ul style="list-style-type: none"> <li>Drill type (e.g. core, reverse circulation, open hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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.).</li> </ul>	<ul style="list-style-type: none"> <li>All material being reported comes from historical data generated by the tenements previous owner, all holes were Aircore.</li> </ul>



Criteria	JORC Code Explanation	Commentary
<b>Drill Sample Recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Archer cannot comment on the recovery of sample and its relationship (if any) to grade, it does believe that the exploration undertaken at the time would have been to industry standard and if bias was noticed then comment would have appeared in digital logs.</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>No detailed lithological logging was performed on the material being sampled</li> <li>Spot samples had brief descriptions of lithological type noted for future referencing.</li> </ul>
<b>Sub-Sampling Techniques and Sample Preparation</b>	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>The sample is indicative of the intervals geochemistry potential</li> <li>All sample material was dry.</li> <li>No additional quality control measures were taken for the sample submission.</li> <li>The sample sizes are considered appropriate for the material being sampled.</li> </ul>

Criteria	JORC Code Explanation	Commentary
<b>Quality of Assay Data and Laboratory Tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>Only laboratory standards were used in the assessment of the analyses.</li> <li>Analyses was by ALS Perth using a methodology that is not reported.</li> <li>Graphitic Carbon was reported using the C-IR18 methodology</li> </ul>
<b>Verification of Sampling and Assaying</b>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>No verification of sampling, no use of twinned holes.</li> <li>Data is exploratory in nature and exists as excel spread sheets.</li> <li>No data adjustment.</li> </ul>
<b>Location of Data Points</b>	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>MGA94 Zone 53 grid coordinate system is used.</li> <li>A hand-held GPS was used to identify the sample location</li> </ul>
<b>Data Spacing and Distribution</b>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>There is no pattern to the sampling, the spacing is random</li> <li>Data spacing and distribution are sufficient to establish the degree of geological and grade continuity for future drill planning, but not for resource reporting.</li> <li>Sample compositing has occurred at the time for the sample being taken, i.e. there are composited intervals being reported.</li> </ul>

Criteria	JORC Code Explanation	Commentary
<b>Orientation of Data in Relation to Geological Structure</b>	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>It is unknown whether the drill holes have interested the mineralisation in a perpendicular manner.</li> <li>Of the 6 holes being reported all holes were drilled at a dip -60° towards roughly 320° CBAC032 was drilled vertically.</li> </ul>
<b>Sample Security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>It is assumed that best practices were undertaken at the time</li> </ul>
<b>Audits or Reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>None undertaken.</li> </ul>

## Section 2 Reporting of Exploration Results

*(Criteria listed in the preceding section also apply to this section.)*

Criteria	JORC Code Explanation	Commentary
<b>Mineral Tenement and Land Tenure Status</b>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Tenement status confirmed on SARIG.</li> <li>All work being reported is from EL 5791 (owned by Pirie Resources Pty Ltd, a subsidiary of AXE). The tenement is in good standing with no known impediments. Results are from pulps recovered from the previous owner, when it was drilled under its former EL number (EL 3609)</li> </ul>
<b>Exploration Done by Other Parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Lincoln Minerals was the former owner of the ground now covered by EL 5791, it has been historically explored CRA in 1980's (Campoona Syncline) and later by WMC, 1990's. The results being reported are from drilling first reported by LML on the 14<sup>th</sup> November 2007 as a part of base metals exploration.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>As the material being assayed was from a laboratory generate pulp, which was ground by a ring mill to a size fraction less than 75 micron the size of the graphite cannot be commented on. It is assumed that it will be similar to that of the Sugarloaf Deposit to the North.</li> <li>The orientation of the mineralisation is unknown.</li> </ul>



Criteria	JORC Code Explanation	Commentary
<b>Drillhole Information</b>	<ul style="list-style-type: none"> <li>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: <ul style="list-style-type: none"> <li>Easting and northing of the drill hole collar</li> <li>Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>Dip and azimuth of the hole</li> <li>Downhole length and interception depth</li> <li>Hole length</li> </ul> </li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>All details are presented at the end of the release before this table.</li> </ul>
<b>Data Aggregation Methods</b>	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>No high-grade cuts were necessary.</li> <li>No equivalents were used.</li> </ul>
<b>Relationship Between Mineralisation Widths and Intercept Lengths</b>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. ‘downhole length, true width not known’).</li> </ul>	<ul style="list-style-type: none"> <li>All drill intervals are down hole length, the true width is not known.</li> </ul>

Criteria	JORC Code Explanation	Commentary
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>See main body of report.</li> </ul>
<b>Balanced Reporting</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The reporting is considered to be balanced.</li> </ul>
<b>Other Substantive Exploration Data</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>No other exploration data to report.</li> </ul>
<b>Further Work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>No additional work is planned at this stage, additional work would include confirming the intervals through drill hole twinning as well as regularising a pattern over the top of the mineralisation.</li> </ul>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<ul style="list-style-type: none"> <li>Not Applicable</li> </ul>