CARBINE RESOURCES
LIMITED

ASX / MEDIA ANNOUNCEMENT **30 August 2016**

Mount Morgan Resource increases by 215% to 850,000 oz

Outstanding potential to increase project mine life and production

Highlights

- **Mount Morgan Total Indicated and Inferred Resources increase to 37.2 Mt at 0.71g/t for 850,000 oz, comprising:**
  - **Total Indicated Mineral Resources stand at 394,000 oz**
  - **Total Inferred Mineral Resources increase to 456,000 oz**
- **Plus, a new Exploration Target incorporating all near-surface tailings, dumps and metallurgical slag mineralisation has been estimated at between1.9Mt - 4.9Mt at 1.2g/t for 70,000-190,000 oz. The potential quality and grade of the Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of the Mineral Resource.**
- **Definitive Feasibility Study scheduled for completion by end of September**

Carbine Resources Limited (ASX:CRB) is pleased to announce that total JORC Resources at its Mount Morgan gold-copper tailings treatment project in Queensland have increased by 215% to 850,000 oz.

The expanded inventory highlights the potential to increase project mine life and production.

The Definitive Feasibility Study on Mount Morgan is on track for completion at the end of September. This will be based solely on the Indicated Resource of 394,000oz (ASX: 9 August 2016).

The JORC 2012 Mineral Resource for Mount Morgan now stands at 37.2 million tonnes at 0.71g/t for 850,000 ounces of gold, comprised of an Indicated Mineral Resource of 10.2 million tonnes at 1.20g/t for 394,000 ounces of gold and an Inferred Mineral Resource of 27.0 million tonnes at 0.53g/t for 456,000 ounces of gold, using a 0.00 g/t gold cut-off grade (Table 1). This comprises six tailings dumps which make up the project (Table 1 and Figure 1). This new Mineral Resource also includes a total of 7.9 million tonnes of pyrite, 36 thousand tonnes of copper and 49 tonnes of silver.

carbine@carbineresources.com.au
www.carbineresources.com.au

ABN 81 122 976 818
Suite 23, 513 Hay Street
Subiaco WA 6008
PO Box 1311 Subiaco WA 6904
phone +61 8 6142 0986
fax +61 8 9388 8824

CARBINE RESOURCES
LIMITED

This Mineral Resource update incorporates new Inferred Mineral Resources for tailings from within the Mount Morgan Open Pit (In-Pit Tailings) and the upper reaches of Sandstone Gully above the present water level.

Table 1: Mount Morgan Tailings JORC 2012 Mineral Resource Summary

Area	Type	Category	Tonnage (Mt)	Gold (g/t)	Gold (Koz)	Copper (%)	Copper Metal (t)	Silver (g/t)	Silver Metal (kg)	Sulphur (%)	Pyrite Equiv. (wt %)
No 2 Mill	Sulphide	Indicated	2.71	1.11	97	0.12	3,184	1.14	3,078	13.7	25.6
	Oxide	Indicated	0.12	0.80	3	0.05	55	1.80	207	4.0	
Mundic Gully	Sulphide	Indicated	1.70	1.91	104	0.17	2,822	0.90	1,533	10.5	19.6
	Sulphide	Inferred	0.02	1.86	1	0.24	40	1.24	21	10.6	19.9
Shepherds	Sulphide	Indicated	4.83	0.84	131	0.17	8,195	1.42	6,889	12.4	23.2
Red Oxide	Oxide	Indicated	0.83	2.17	58	0.30	2,495	0.60	499	0.6	
	Oxide	Inferred	0.03	2.05	2	0.29	85	0.58	17	0.5	
Sandstone Gully	Sulphide	Inferred	0.25	0.85	7	0.07	175	1.20	301	12.0	22.4
	Oxide	Inferred	0.02	0.85	1	0.07	14	1.20	24	2.0	
In-Pit Tails	Sulphide	Inferred	26.67	0.52	446	0.07	18,672	1.38	36,884	11.3	21.1
Total Indicated	**Total Indicated**	**Indicated**	**10.19**	**1.20**	**394**	**0.16**	**16,750**	**1.20**	**12,207**	**11.4**	
	Sulphide	*Indicated*	*9.24*	*1.12*	*333*	*0.15*	*14,200*	*1.24*	*11,500*	*12.4*	*23.2*
	Oxide	*Indicated*	*0.95*	*2.00*	*61*	*0.27*	*2,550*	*0.74*	*706*	*1.0*	
Total Inferred	**Total Inferred**	**Inferred**	**26.99**	**0.53**	**456**	**0.07**	**18,986**	**1.38**	**37,246**	**11.3**	
	Sulphide	*Inferred*	*26.94*	*0.52*	*454*	*0.07*	*18,887*	*1.38*	*37,205*	*11.3*	*21.1*
	Oxide	*Inferred*	*0.05*	*1.56*	*2*	*0.2*	*99*	*0.84*	*41*	*1.1*	

(Carbine Resources Limited ASX announcements 18 July, 2016, 27 July, 2016, 1 Aug, 2016 and 9 Aug, 2016. Rounding errors can occur.)

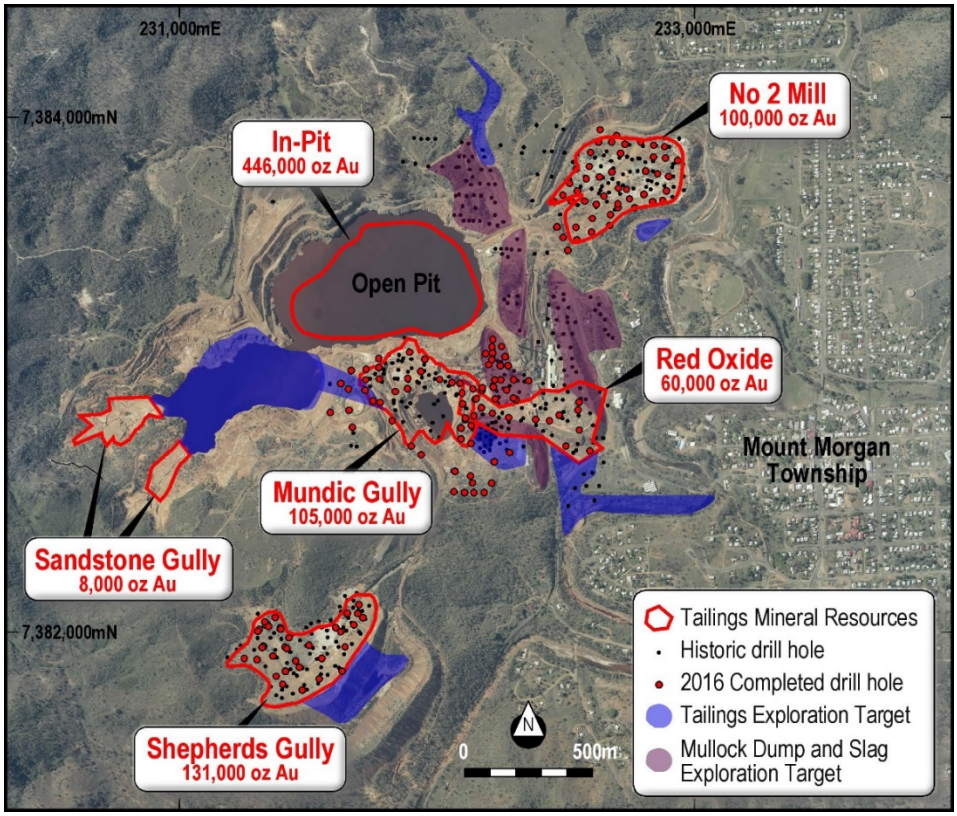


Figure 1. Plan view of the Mount Morgan JORC 2012 Mineral Resources and Exploration Targets. The potential quality and grade of the Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of the Mineral Resource.

CARBINE RESOURCES
LIMITED

An update to the Mount Morgan Exploration Target has also been completed in conjunction with this 2016 Carbine Resource Estimate Update. This study involved a detailed review of previous studies, the existing and new Mineral Resource estimates, all known historical drill and trench data, historical reports, plans and site photos, and visual site inspection of all visible mine dumps.

The new Exploration Target incorporating all near-surface tailings, dumps and metallurgical slag mineralization is 1.9Mt-4.9Mt at 1.2g/t for 70,000 -190,000 ounces of gold (Table 2). The potential quality and grade of the Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of the Mineral Resource.

Table 2: Carbine 2016 Exploration Target Summary

Category	Drillhole	Low Range					High Range				
	Number	Tonnes (kt)	Au Grade (g/t)	Au (koz)	Copper %	Sulphur %	Tonnes (kt)	Au Grade (g/t)	Au (koz)	Copper %	Sulphur %
Oxide Waste Dumps	54	290	1.8	16	0.1	2	600	2.3	40	0.1	2
Oxide Slag Dumps	5	280	1.0	9	0.4	1	1,000	0.8	26	0.6	1
Oxide Tailings Dumps	34	220	1.0	7	0.1	3	700	0.9	22	0.1	3
Total Oxide	***93***	***800***	***1.3***	***32***	***0.2***	***2***	***2,300***	***1.2***	***88***	***0.3***	***2***
Sulphide Waste Dumps	34	430	1.2	17	0.1	12	600	1.4	30	0.1	13
Sulphide Tailings Dumps	10	660	1.0	22	0.1	9	2,000	1.2	77	0.1	12
Total Sulphide	***46***	***1,100***	***1.1***	***39***	***0.1***	***10***	***2,600***	***1.3***	***106***	***0.1***	***12***
Total Sulphide and Oxide	**139**	**1,900**	**1.2**	**70**	**0.2**	**6.7**	**4,900**	**1.2**	**190**	**0.2**	**7.5**

(The potential quality and grade of the Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of the Mineral Resource. Rounding Errors will occur.)

The exploration target is a reduction to the previously stated exploration target due to ongoing drilling and Mineral Resource conversion. A total of 139 drillholes were used in the generation of this Exploration Target across the identified 9 waste dumps, 7 tailings dumps and 1 slag dump targets.

Drilling is expected to commence in 2017 to test the highest priority exploration targets based on both its potential size and its location, either adjacent to planned site infrastructure or within existing open pit designs.

Resource Summary

For the relevant summary of Mineral Resources also refer to previous Carbine ASX announcements for No 2 Mill (ASX: 18th July, 2016), Mundic Gully (ASX: 27th July, 2016), Shepherds Gully (ASX: 1st August, 2016) and Red Oxide (ASX: 9th August, 2016). The following summary relates to the Inferred Mineral Resources for both the Mt Morgan In-Pit tailings dump and Sandstone Gully tailings dump.

Open Pit Mining of the primary gold-copper orebody at Mount Morgan ceased in 1981. More than 40Mt tonnes of sulphide tailings were produced from processing of the orebody over the history of its production. After completion of the open pit, tailings were retreated by Mt Morgan Mines Limited

from 1982 to 1990 and were deposited back into the open pit. The Mount Morgan open pit subsequently flooded after the completion of the Operation in 1990.

The tailings residing in the Mount Morgan open pit have been sourced from the retreatment of tailings principally from the Sandstone Gully tailings dam (1983-1990), but included small components of tailings from Shepherds Gully (~1Mt, 1982-1983), Mundic Gully (~2Mt, 1986-1990) and No 2 Mill (~2Mt, 1989-90). The final monthly report for the Tailings Retreatment Plant (November 1990) recorded a total of 26,673,625 tonnes of reclaimed tailings that were deposited into the open pit at a grade of 0.52g/t gold, 1.38g/t silver, 0.07% copper and 11.3% sulphur.

All of the tailings sources come from the original processing of the 10 million ounce Mount Morgan primary gold-copper deposit. All tailings are sulphidic tailings consisting dominantly of quartz and pyrite, with minor amounts (<10%) of sericite, chlorite, feldspar, chalcopyrite and sphalerite. The tailings material from each tailings dam is identical, except in the age of creation. The historical recovery over the time period 1932 to 1981 varied with time and technology, with the highest grade tailings at Mundic Gully deposited first (1930-1940's) compared to the lowest grade tailings at Shepherds Gully deposited last (post-1960's).

Tailings are deposited as horizontal layers created by the tailings discharge process. Retreated tailings within the open pit were discharged from the southeast edge of the Mount Morgan open pit. The discharged tails formed shallow dipping (to the northwest) horizontal layering to the mineralization away from this discharge point.

The in-pit tailings dump filled a pre-existing open pit void with dimensions approximately 700m x 400m x 140m. The final open pit survey pickup was used to provide a solid shape to the floor of the tailings within the open pit, and a detailed Submerged Pit Topography survey completed in 2001 was used to determine the depth of water from surface and hence the top of the tailings surface (Figure 2). The top of the tailings averages 35m depth below the water level, varying from 10m depth at the discharge point to 43m at the furthest western limit of the open pit. The deepest level of tailings is at the base of the open pit at approximately 150m depth. Wireframes of these two surfaces were used to constrain the open pit tailings. The strong survey control to both the top and base of the in-pit tails gives high confidence in the full outline of the retreated tails in the pit, and also provides a volume check to the historical production figures of the tailings within the open pit. The volumes reported are within reasonable expectation using known historical bulk densities.

For Sandstone Gully, visible tailings exist above the current water line in both the northern and southern upper reaches of Sandstone Gully. The northern gully is approximately 250m x 100m to a depth of 0 to 7m, the southern gully is smaller, 200m x 80m but to a depth often exceeding 7m. In April 2016, fourteen test pits were dug to obtain basic geotechnical information regarding Sandstone Gully. Nine of the test pits intersected remnant tailings with five intersecting greater than a 6m thickness of sulphidic tailings. A remnant tailings volume was calculated comparing the original surface topography prior to the Sandstone Gully dam construction created by Contract Surveyors, with the 2106 topography (Lidar) survey, and subsequently validated by visual inspections incorporating all 14 geotechnical test pits. A conservative tonnage of exposed tailings was then derived using a bulk density of 1.3t/m^3 for oxide and 1.5t/m^3 for sulphide.

The resource estimate for the Mount Morgan In-Pit tailings is based on detailed monthly production records during the tailings retreatment operation from October 1982 through to November 1990. Tonnes were recorded by daily weightometer readings and grade by the discharged tails grade analyses of gold, silver, copper and sulphur. No extreme grades are present due to the uniform grade of the retreated tailings. Production records show smooth grade variations across months, which over the life of the project varied from a low of 0.36g/t gold in 1985/86 to a high of 0.69g/t gold in 1989/90. The tailings are deposited into the pit in horizontal layering extending upwards vertically over the nine years of production. Hence, monthly production grades provide an estimate of grade from the base to the top of the tailings profile over time. Continuity of grade is based on variations in both recovery and the grade of the feed source over this time period. Historical recovery averaged 44% prior to the installation of a de-slime circuit installed in 1984, with historical recovery improving to an average 51% after this installation. The highest tailings discharge grades were recorded in the later years of production when higher grade feed sources (Mundic Gully, No 2 Mill and early Sandstone Gully) were being reprocessed. Feed grade prior to retreatment increased steadily over time from 0.82g/t in 1980/81 to a peak of 1.40g/t in 1989/90.

Sandstone Gully tailings were assigned an average gold grade from the nearest six historical aircore drill holes (0.85g/t gold). This grade is considered an acceptable conservative estimate as it is lower than the average grade of retreated tailings from Sandstone Gully from the historical production records. Silver, copper, and sulphur grades were assumed to be equivalent to average historical production grades from Sandstone Gully which showed little variability over the life of the tailings retreatment operation.

Pyrite 'pyrite equivalent' was estimated using the stoichiometric chemical composition of pyrite from the sulphur production records. Good correlation between sulphur and iron (97%) and consistency of the ratio between these elements in analyses from all existing drilled tailings, confirms the validity of the given methodology of the pyrite resource estimation.

The estimated Mineral Resources are reported at a zero cut-off (0.00 g/t Au) to reflect the planned mining and processing of 100% of the tailings.

Reconciliation of feed grade, tails grade and recovery lead to high confidence in the In-Pit Mineral Resource estimate. Validation of tailings volumes by survey control were within tolerance of historical production records. The Mount Morgan In-Pit resource has been classified as Inferred Resource due to its reliance on historical data and representing a global estimate. Drilling is deemed required to improve the local estimate to upgrade this classification.

Sandstone Gully has been reported as an Inferred Resource due to a lack of detailed drilling and the confidence level in the original topographic survey. Grade control trenching is required during the anticipated mining of these tailings for plant commissioning to improve the confidence in both grade and tonnage to Indicated Resource classification.

Full details of the JORC Code 2012 reporting criteria and input parameters used to estimate the Mineral Resources are provided in Appendix 1.

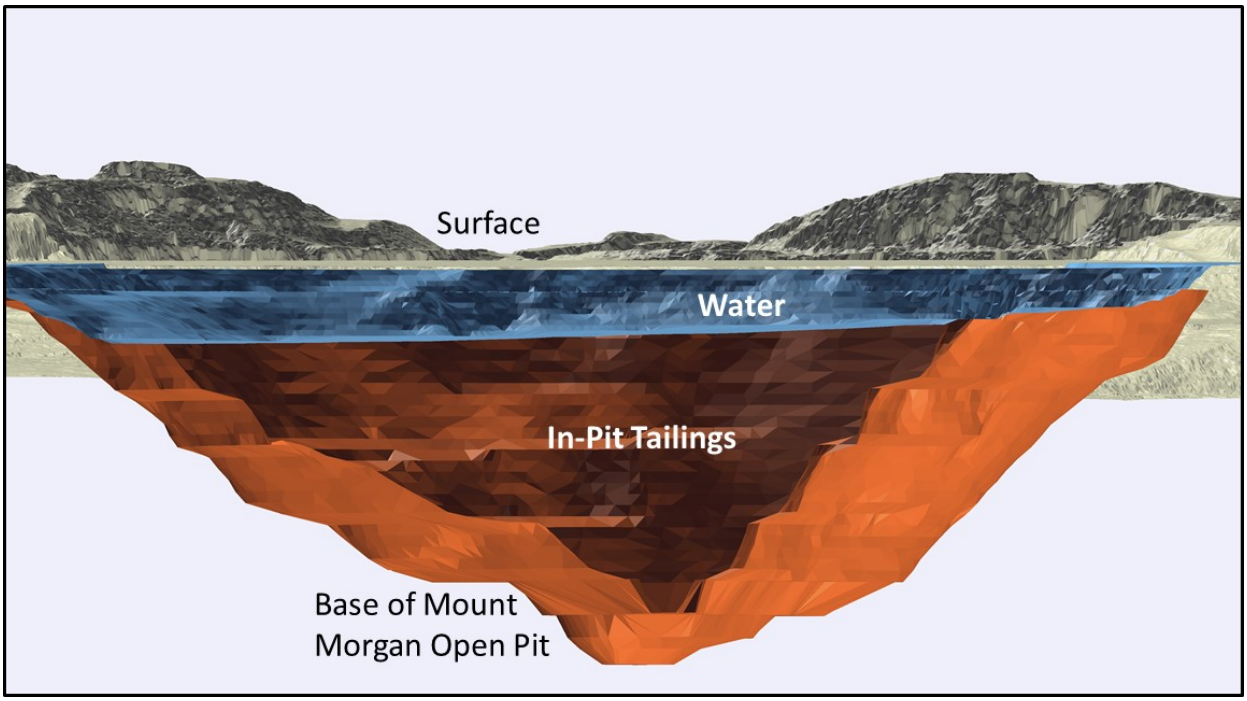


Figure 2. Mount Morgan In-Pit Tailings, cross sectional view looking east. The tailings have filled the open pit void with the top of the tailings corresponding to the measured depth profile of water in the Mount Morgan Pit. Note the very gentle dip to the top of the In-Pit tailings from south to north, away from the discharge point lying to the south (right) of picture.

Figure 3. Sandstone Gully. a) Thick tailings exposed in the upper reaches of the southern Sandstone Gully - 0.33m average oxide crust at surface, and b) test pit TP5 showing sulphidic tailings with thin oxide crust, southern Sandstone Gully.

CARBINE RESOURCES
LIMITED

Exploration Target Summary

An update to the Mt Morgan Project near-surface Exploration Target has been compiled in conjunction with the 2016 Carbine Resource Estimate. This study involved a detailed review of the previous Exploration Target studies, the existing and new Mineral Resource estimates, all known historical drill and trench data, historical reports, plans and site photos, and visual site inspection of all mine dumps where possible.

Separate targets were generated for all historic waste products, namely tailings, slag and mineralised waste rock. Targets were also separated into sulphidic or oxide Exploration Targets to reflect different process flow paths.

Drilling is expected to commence in 2017 to test the highest priority Exploration Targets based on size (largest) and location (within potential open pit designs and/or close to potential site infrastructure).

Mineralised Tailings

In excess of 40 million tonnes of sulphidic tailings were produced during the Mount Morgan mine history since 1932. Tailings records pre-1927 are non-existent, and the extent to which these tailings have been retreated or washed into Dee River is unknown. The best estimate for pre-1927 tailings is 9.4 million tonnes, of which the majority would be oxide tailings. 26.7 million tonnes of the reported sulphidic tailings have been reprocessed and deposited into the Mount Morgan open pit, and subsequently reported as an Inferred Mineral Resource in this announcement.

Each tailings dump was individually reviewed in plan and cross sectional view and compared against the 2016 Mineral Resource outline. Where Indicated and Inferred Mineral Resources could not be confirmed, an estimate of potential remaining tailings has been made using all historical information.

The new Exploration Target of mineralised tailings is estimated within a range of 0.9 million tonnes to 2.7 million tonnes at 1.0g/t to 1.1g/t gold and 0.1% copper. A total of 46 drill holes were used in the calculation, in addition to historical mining and processing production records.

Drill testing of the tailings exploration targets is expected to commence in 2017. The highest priority exploration targets are 1) Sandstone Gully below the current water level, with drilling to commence after Sandstone Gully pit dewatering, and 2) Frogs Hollow, where recent drilling and mapping along the Dee River has identified additional tailings where a significant initial improvement to the current Queensland Government environmental liability can be made.

Mineralised Waste Rocks

In excess of 93 million tonnes of waste rock was produced during the Mount Morgan mine history. 4.4 million tonnes was reportedly produced before 1927. No production records of the grade of the early (pre-1927) dump material exists, except for a 1908 plan showing the cut-off grade at 4.5g/t, with mine waste estimated at a grade between 1.5g/t to 2.5g/t. The top of some of the old waste dumps were mined during 1932 to 1941, but it is unknown how much of this material was mined.

The only known mine records identified approximately 0.65 million tonnes of oxide waste dump material that was mined and processed during the period of 1936 to 1942. The majority of the waste dumps produced after 1940 are not expected to be economic.

Metallurgical slag waste was produced throughout the life of the Mt Morgan Operation. Reverberatory Furnaces operated from 1939 through to 1956 dumping waste slag into Mundic Creek. Several historical reports on analyses of this slag from rock chip sampling reported grade ranges from 0.6g/t gold and 0.6% copper to 1.0g/t gold and 0.7% copper. Limited historical drilling yielded an average of 1.6g/t gold. Carbine drilling in 2016 yielded moderate grade and copper in slag in the location of the No 1 Reverberatory slag (Figure 6).

Each waste dump was individually reviewed in plan and cross sectional view with all available data. Where available drilling indicates potential for continuous mineralisation (>0.7g/t) that corresponds to known areas of historical waste dumps (pre-1940 for waste), a polygonal cross sectional estimate of potential volume and grade was created. All individual assay values were top-cut to 5.0g/t. These estimates were then analysed in association with historical information to determine a probable minimum and maximum value for each mineralised waste dump.

The exploration target for waste dumps is estimated within a range of 1.0 million tonnes at 1.3g/t gold, 0.2% copper, 6% sulphur and 2.2 million tonnes at 1.4g/t gold, 0.3% copper, 5% sulphur. A total of 93 drill holes with 633 individual assay results were used in this calculation, in addition to historical records which reported 730 grab samples and an additional 37 historical drill holes completed prior to 1940.

Concerns with drill density, historical drill collar survey control, and difficulties associated with sampling inhomogeneous waste dumps have currently prohibited the classification of these dumps as Inferred Resources under the JORC 2012 code. It is anticipated that further drilling and/or bulk sampling may be required to reach such classification.

Drill testing of several waste dumps is expected to commence in 2017. The earliest priority targets for testing are Grasstree Gully (ASX: 16th August 2016) and both the Linda Gully waste dump (Figure 5) and Reverberatory slag dump (Figure 6). These dumps will be mined as either part of establishing the site infrastructure or from the mining of the planned Red Oxide open pit.

Full details of the JORC Code 2012 reporting criteria and input parameters used to estimate the Exploration Target are provided in Appendix 1.

CARBINE RESOURCES
LIMITED

Figure 4: Photograph of the pre-1904 oxide dump known as K Dump (looking west). K Dump has an oxide Exploration Target between 20kt at 1.4g/t and 75kt at 1.5g/t gold. The potential quality and grade of the Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of the Mineral Resource.

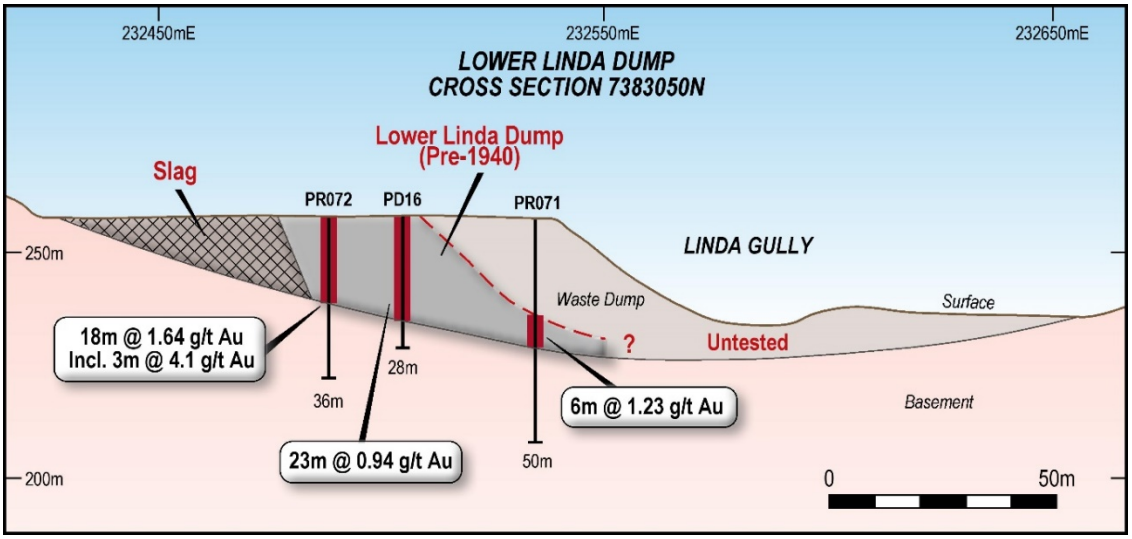


Figure 5: Cross Section 7383050N Linda Gully showing the Lower Linda Gully sulphide waste dump produced from 1935 to 1944. This mineralized waste dump overlies Blast Furnace waste slag produced pre-1925 (left), and subsequently overlain by lower grade sulphidic waste post 1940 (right). Lower Linda Gully has a sulphidic Exploration Target between 350kt at 1.1g/t and 500kt at 1.3g/t gold. The potential quality and grade of the Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of the Mineral Resource.

CARBINE RESOURCES
LIMITED

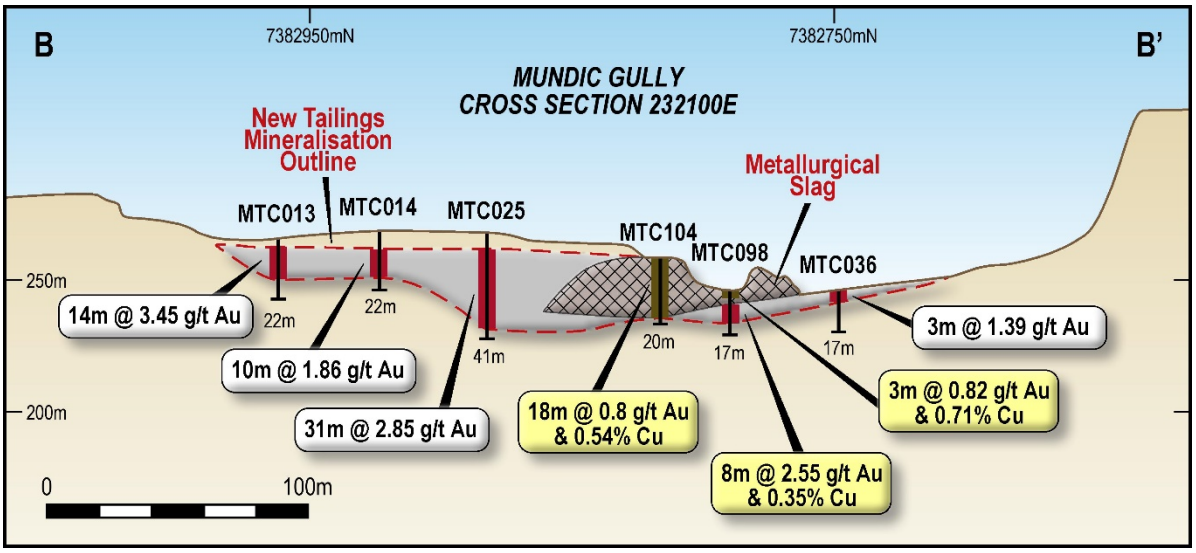


Figure 6: Mundic Gully Cross Section 232100E showing mineralised reverberatory slag (crosshatch) above tailings in Mundic Creek. The slag has an oxide exploration target between 280kt at 1.0g/t gold, 0.4% copper and 1Mt at 0.8g/t gold and 0.6% copper. The potential quality and grade of the Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of the Mineral Resource.

For further information, please contact:

Investors

Tony James – Carbine Resources
+61 8 6142 0986

Media

Paul Armstrong – Read Corporate
+61 8 9388 1474

Competent Person Statement

The information in this report that relates to Exploration Targets, Exploration Results and the Inferred Mineral Resources for Mount Morgan In-Pit and Sandstone Gully is based on, and fairly represents, information and supporting documentation prepared by Mr. C Newman, who is a Competent Person according to the JORC 2012 Code. Mr. C Newman is a fulltime employee of Carbine Resources and a Fellow of the Australasian Institute of Mining and Metallurgy. He has sufficient experience that is relevant to the style of mineralization and the 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 Exploration Results, Mineral Resources and Ore Reserves'. Mr. C Newman consents to the inclusion in the report of the matters based on the information in the form and context in which the Exploration Targets and Mineral Resources appear.

The information in this report that relates to the Mineral Resources for Mundic Gully, Shepherds Gully, No 2 Mill and Red Oxide is based on information compiled by Dr M. Abzalov, who is a Competent Person according to the JORC 2012 Code. Dr M. Abzalov is a Fellow of the Australasian Institute of Mining and Metallurgy. He has sufficient experience in estimation of resources of gold mineralisation, and has a strong expertise in the all aspects of the data collection, interpretation and geostatistical analysis to qualify as a Competent Person

as defined in the 2012 Edition of the 'Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves'. Dr M. Abzalov is independent consultant, contracted to Carbine Resources for providing the technical guidelines for resource definition drilling at the Mount Morgan tailings project and in estimating the Mineral Resources. The information in this report is extracted from previous company releases 'ASX: 18 July 2016, 27 July 2016, 1 August 2016 and 9 August 2016, and is available to view on the Carbine Resources website. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

CARBINE RESOURCES
LIMITED

Reporting criteria presented in the Section 1 of the JORC Table 1

(Sampling techniques and data)

Criteria of JORC Code 2012	Explanation given in the JORC Code 2012	Comments / Findings
(1.1.) Sampling techniques	☐*Nature and quality of sampling (eg cut channels, random chips, or specific specialized 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.*	For the Mount Morgan In-Pit tailings resource, data relied heavily on detailed monthly production records during the tailings retreatment from October 1982 through to November 1990. Tonnes were recorded by daily weightometer readings and discharged tails grade analyses of Au, Ag, Cu and S. Several core samples were taken to a depth of 0.8m at the top of the tailings within the open pit in the mid 1990's. These samples averaged 1.1g/t. These are not considered as representative of the entire tailings. They are considered to report higher than the production grades due to potentially coarser pyritic material preferentially occurring close to the discharge point and/or possible gold precipitation from the highly acidic open pit water. For Sandstone Gully, grade determinations relied on historical production records and on historical drilling prior to reclamation. Review of nearest drilling (6 aircore holes) gives a conservative grade compared to the historical mined grade. For exploration targets, data relied heavily on historical drilling (mostly post-1993) in addition to Carbine drilling. Historical records also included trenching and rock chip sampling. The main drilling type used for exploration targets were RC samples, but various other drill types have been utilized including aircore, Odex, Tubex, open hammer and diamond core. The Exploration Target contains: • Tailings – 46 drill holes • Mineralised Waste Rock - 88 drill holes • Metallurgical Slag – 5 drill holes

		Carbine drilling was completed by a Universal RC/Diamond drill rig (UDR650) equipped to collect the full sample through the cyclone or alternatively by PQ triple tube coring. Hole diameter 4.75 inches in the case of RC and PQTT (83mm). Samples are collected regularly, at 1m intervals. Historical samples are routinely 1m, but several pre-1990 drillholes were either 2m, 3m or 4m samples.
	☐*Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*	The majority of drilling is vertical (>99%), which is optimal for flat lying tailings, dump, and slag mineralization. 1m samples are well suited for estimation of resources for the mineralised tailings.
	☐ *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.*	Carbine drilling and sampling procedures were performed using above industry standard techniques and equipment. 1m samples were collected in total with average sample size around 15-20kg and transported in its entirety to Preplab at Rockhampton. The split of the sample was obtained in the initial sample preparation stage following drying of entire sample, crushing to 2mm and rotary splitting to 2 x 3kg splits and duplicate. Entire subsample (3kg) is pulverised using LM5 pulveriser requiring manual feeding. Sampling protocol is based on sampling nomogram constructed using theoretically deduced fundamental sampling error. Previous historical holes back to 2008 were re-assayed using the same process. Sampling protocol prior to this timeframe is unknown.
Drilling techniques (1.2.)	☐ *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,*	Carbine utilized a Universal RC/diamond drill rig. UDR650 model, Mounted on 6X6 Truck. Hole diameter 4.75 inch for RC and PQTT triple tube for core holes. The majority of historical holes are RC with minor aircore Odex, Tubex and diamond core.

	whether core is oriented and if so, by what method, etc).	
Drill sample recovery (1.3.)	☐*Method of recording and assessing core and chip sample recoveries and results assessed.*	Obtained samples by Carbine resources were weighed in the preparation laboratory in Rockhampton which was used as a non-direct control for possible sample loss. Records of sample recovery for 1990's drilling included the recorded visual recovery in geological logs.
	☐*Measures taken to maximise sample recovery and ensure representative nature of the samples.*	This was based on adjusting the drilling parameters to obtain the best recovery by collection and processing of the entire sample.
	☐ *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.*	No bias is expected as tails mineralization is relatively uniform in grainsize and nature. Bias may be expected in the mineralized waste rock due to the variable grainsize and gold distribution of this waste rock material. Further investigation of this bias is required to upgrade these exploration targets to any higher resource classification.
Logging (1.4.)	☐ *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.*	The drill hole samples and Sandstone Gully test pits have been geologically logged to a level of detail to support appropriate level of estimation. Geological logging concentrated on the diagnostic of tailing materials. Tails had to be logged separate from the surficial material, which was classified as either 'mixed', mullock waste rock, subsurface gravels, metallurgical slag or basement rocks. Oxidised or Sulphidised tailings were identified separately. Documentation also includes description of mineralogy and weathering.
	☐ *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*	Qualitative logging, primarily focused on the diagnostic of tailing materials and overburden.
	☐*The total length and percentage of the relevant intersections logged.*	100% of intersections were logged for drilling after 1990. All fourteen test pits at Sandstone Gully were 100% logged.

Sub-sampling techniques and sample preparation (1.5.)	☐ *If core, whether cut or sawn and whether quarter, half or all core taken*	For Carbine drilling, where applicable, Full PQ core samples were collected, after being photographed after extraction. No records for historical drilling has been located.
	☐ *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*	For Carbine drilling and historical drilling back to 2008, RC samples were collected in entirety to be subsequently dried, then crushed and split by rotary splitting into 3kg sub-samples for assay. No records for historical drilling has as yet been located.
	☐ *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	Carbine sampling and sample preparation protocols were optimised by construction of the sampling nomogram minimising the Fundamental Sampling Error. Initial sample preparation (all post 2008) involving drying, crushing and rotary splitting was undertaken by Preplab of Rockhampton. 3kg splits were freighted to ALS Townsville for remaining preparation following the standard post-crushing preparation technique. Samples (3kg) are pulverised using LM5 pulveriser requiring manual feeding. Aliquots are dissolved using 4 acid digest (near complete dissolution) and peroxide fusion (complete dissolution). Results are compared one digest against the other. The preparation approach, is standard and commonly used for medium grade gold mineralization. Sampling of historical drilling has not been reviewed in detail. Historical versus recent twin drill hole comparisons by Carbine Resources shows good repeatability.
	☐*Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*	For all subsampling stages post 2008, duplicate samples are collected and analysed. Namely, these coarse field duplicates (5-7%) after first splitting make 2mm size fraction, and pulp duplicates (>3%) after entire collected subsample is pulverized. QA/QC procedures also include using standard samples and blanks.

		Detailed records for historical drilling (pre-2008) have not been reviewed. Historical versus recent twin drill hole comparisons by Carbine Resources shows good repeatability for both waste dump and tails mineralization.
	☐ *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.*	Field duplicates and twin holes have been incorporated into the Carbine drill program. Duplicate samples show excellent repeatability.
	☐ *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Carbine Sample size is 15-20kg. Further subsampling is made strictly following optimal sampling protocols. According to estimates, this will achieve precision error less than 10% which is considered excellent for gold mineralisation. Historical drilling (pre-2008) does not report sample size.
Quality of assay data and laboratory tests (1.6.)	☐ *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	Carbine and post 2008 samples were assayed at the ALS laboratory. Gold was assayed using conventional fire-assay method with AAS finish. Reported detection limit is 0.01 g/t Au. Cu, Ag, Fe and S have been analysed by ICP-AES by ALS Townsville by method ME-ICP41 (post aqua regia digestion) to determine levels of chalcopyrite and pyrite. Detection limits are Ag-0.2ppm; Cu-1ppm; Fe- 0.01% and S- 0.01%. Sulphur results >10%S have lower accuracy and precision. Total sulphur and sulphide-sulphur by LECO analysis was conducted on several holes to validate the ICP sulphur results. Historical drill samples were typically assayed for gold only using conventional fire-assay method with AAS finish. No routine analysis of other elements were undertaken. Copper and Sulphur analyses were undertaken on some historical samples pre-1990, as described in various historical reports.

	☐ *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.*	Not applicable
	☐ *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	For all drilling after 2008, Quality control procedures include: • Twin holes • Field duplicate samples. Correlation (rho) 0.97 • Pulp (lab) duplicates. Correlation (rho) 0.99 Duplicate samples analysis has shown an excellent repeatability of the gold assays. Standards and blanks are incorporated into batches at greater than one standard or blank per 10 samples. No significant issues were identified. Historical drilling records show application of similar duplicates, blanks and standards. Detailed review of this data has not been undertaken.
Verification of sampling and assaying (1.7.)	☐ *The verification of significant intersections by either independent or alternative company personnel.*	Verification of results was undertaken after site visits by the Geology Manager – Carbine. Verification of historical databases against historical paper records was also undertaken.
	☐*The use of twinned holes.*	Several twin holes have been drilled to confirm the validity of the historic data for both tailings and waste rock. Good repeatability is observed for both.
	☐ *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	For Carbine drilling, field documentation was made on the paper log-sheets and then entered into electronic files. Assays are obtained from the ALS laboratory in electronic form and stored in a special folder created on the Carbine Resources Server. Historical data was received and accepted from historical databases. Validation between the

		historical database and original paper reports confirmed acceptable records for the noted classifications of either Inferred Resource or Exploration Target.
	☐ *Discuss any adjustment to assay data.*	No adjustments were needed. Assay results are reported as obtained from the lab or from historical databases.
Location of data points (1.8.)	☐ *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.*	Not applicable to the In-Pit tails, as Mineral Resource is based on detailed production records. Survey control of the final open pit surface and top of tailings is very strong. The majority of collars were surveyed in MGA94 Zone 56 grid by certified surveyors using differential GPS. Historical holes were identified to be out by small set distances in both northing and easting at certain locations. This is reflected in the reporting of drilled mineralized waste rocks as 'Exploration Target', and not as Inferred Resources.
	☐ *Specification of the grid system used.*	All coordinates are recorded as MGA (GDA94) zone 56 (south). All historical holes have been transformed to this grid. Historical holes were identified to be out by small set distances in both northing and easting at certain locations after transformation. This is reflected in the reporting of drilled mineralized waste rocks as 'Exploration Target', and not as Inferred Resources.
	☐ *Quality and adequacy of topographic control.*	Pre-mining topographic surface prepared from detailed ground and mine surveys completed historically. The final open pit survey pickup was re-digitised to provide a solid shape to the floor of the tailings within the open pit. Sandstone Gully original topography prior to dam construction was reconstructed by Vision Survey Contractors based from original surveys. Current topographic surface prepared from 2016 airborne LIDAR survey.

Data spacing and distribution (1.9.)	☐ *Data spacing for reporting of Exploration Results.*	Not applicable. Results are reported as Inferred Resources or Exploration Targets.
	☐ *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.*	In-Pit Mineral Resources are based on detailed monthly production records. Sandstone Gully resources are based on historical production figures, test pits and six wide spaced aircore holes (100m x 100m). Both are reported as Inferred Resources and require additional drilling to increase this resource classification. Exploration Targets are based on close spaced drilling (20m x 20m) through to little or no drilling, reflecting the lack of any resource classification.
	☐ *Whether sample compositing has been applied.*	No sample compositing has been applied. All samples assayed by 1m intervals.
Orientation of data in relation to geological structure (1.10.)	☐*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	The majority of drill holes (>99%) were drilled vertically which provides the best possible intersection to the flat lying mineralised tailings, dumps and slag.
	☐ *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.*	Not applicable. Drill hole intersects the tailings and waste rocks at approximately 90 degrees.
Sample security (1.11.)	☐ *The measures taken to ensure sample security*	For Carbine drilling and re-sampling of 2008 Norton samples, sample bags were collected by the Carbine Resources representative and delivered to the lab. The samples were not left unattended on site. The pulps are kept in a secure place in the laboratories as per internal security procedures of the ALS. No audit or review of historical sampling security of waste rocks has been undertaken and hence the classification as 'Exploration Target'.

Audits or reviews (1.12.)	☐*The results of any audits or reviews of sampling techniques and data.*	The historic data were reviewed in 2008 by Coffey Mining specialists who found them acceptable for resource estimation. Site visits and review were undertaken by Carbine personnel at both the Rockhampton sample preparation lab and Townsville ALS laboratory. No audit or review of historical sampling has been undertaken and hence the classification as 'Exploration Target'.

CARBINE RESOURCES
LIMITED

Reporting criteria presented in the Section 2 of the JORC Table 1

(Reporting of Exploration Results)

Criteria of JORC Code 2012	Explanation given in the JORC Code 2012	Comments / Findings
Mineral tenement and land tenure status (2.1)	☐*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 *Mount Morgan* project has been secured by *Mining Leases: ML 5589, ML 5602, ML 5608 – ML 5609, ML 5612 – ML 5628, ML 5633 – ML 5635, ML 5648, ML 5649, ML 5658 – ML 5660, ML 6692* issued to the Norton Gold Fields Limited. Carbine Resources entered an initial JV agreement with Norton Gold Fields Limited. There is no known native title related restrictions nor known environmental or social obstructions. Some areas of the site are currently listed on the Queensland Heritage Register. Minor components (<5%) of the exploration targets lie off these mining tenements. However, their reporting is deemed justified as they fall within areas required to be cleaned up as part of the Queensland Government environmental liability.
	☐ *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.*	*All MLs expire on the 31/08/2025*
Exploration done by other parties (2.2)	☐ *Acknowledgment and appraisal of exploration by other parties.*	The tailings, waste rock and slag have been deposited from over a hundred years of mining and processing. In-pit tailings have been historically processed in the 1980's. Several parties have explored and tested the remaining untreated tails, waste dumps and slag over the last twenty years. Most recently (2009) Norton Gold Fields Limited completed preliminary due diligence of treating the tails mineralization, however the tailings were only partially drill tested and the economic significance was not fully assessed.
Geology (2.3)	☐*Deposit type, geological setting and style of mineralisation.*	The historic mineralized waste products (tailings, slag, waste dumps) from the processing of primary and oxide gold-copper ores from the Mount

		Morgan mine. The In-Pit tailings reflect reprocessed tailings from these tailings dumps. Sandstone Gully sulphidic tailings have been oxidized to a depth varying from 10cm to 90cm.
Drill hole Information (2.4)	☐ *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:*	Not applicable. Mineralised tailings are estimated and reported as Inferred Resources or Exploration Targets. Slag and mineralized waste rock are reported as Exploration Targets.
	☐*Easting and Northing of the drill hole collar.*	In total, 139 drillholes are used in the reporting of the Exploration Target. 6 holes are used in the reporting of the Sandstone Gully Inferred Resource.
	☐*Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar.*	Average RL is approximately 280RL, but varies from 253RL to 318RL.
	☐dip and azimuth of the hole.	The majority of holes drilled vertically down (Dip -90 degrees)
	☐ *down hole length and interception depth*	Interception length is matching to the tailings, slag or mineralized waste rock thickness.
	☐*hole length.*	Average length of the drillholes is 46m.
	☐ *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.*	Not applicable.
Data aggregation methods (2.5)	☐*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are*	Not applicable for tailings mineralisation. In calculating exploration targets for mineralized waste rock and slag, a minimum cut-off grade of 0.5g/t is assumed with a top-cut of 5g/t applied.

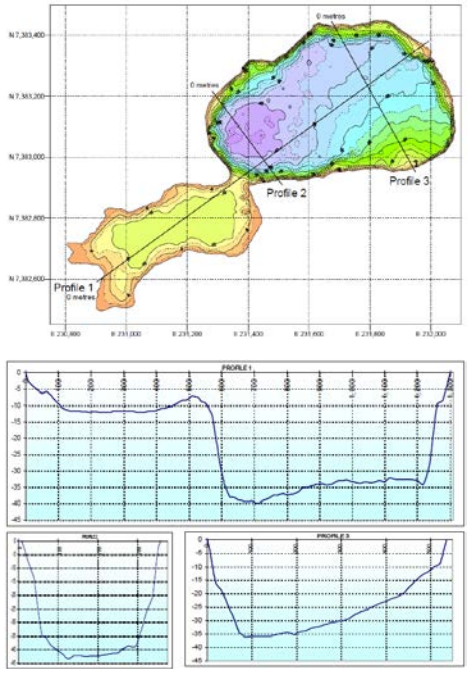
	usually Material and should be stated.	
	☐ *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*	Not applicable for tailings mineralisation. In calculating exploration targets for mineralized waste rock and slag, calculated intersections are based on aggregates of individual results greater than 0.5g/t with no more than 3m less than this value. High grade values are cut to 5g/t.
	☐ *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	Not applicable
Relationship between mineralisation widths and intercept lengths (2.6)	☐ *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.*	Not applicable. There is no relationships between tailings or waste depth, and mineralisation grade. Mineralisation is distributed as a flat lying bed in the tailings dam or on a flat dipping rill in the case of waste rock. All drill holes are vertical and intersect the mineralisation approximately orthogonally providing the good estimate of the true thickness of mineralization.
	☐ *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').*	Not applicable
Diagrams (2.7)	☐ *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.*	Not applicable
Balanced reporting (2.8)	☐ *Where comprehensive reporting of all Exploration Results is not practicable, representative*	Not applicable

	reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	
Other substantive exploration data (2.9)	☐ *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.*	Metallurgical recovery of the tailings has been extensively carried out by Carbine over several phases from 2014 to 2015. The phase 3 testwork on tailings for the pre-feasibility study provided the generation of three products – gold bullion, copper sulphate and a premium grade pyrite concentrate. 76% gold recovery, 90% pyrite recovery and 68% copper recovery (ASX: 23rd July, 2015). Metallurgical testwork on slag achieved gold recoveries of 72% (~70% majority leached in 8 hours) from the existing flowsheet. Copper recoveries of 58% were also achieved. No recent metallurgical testwork has been carried out on mineralized waste rock. Once crushed, the material is expected to perform identically to tailings. Deleterious elements are considered very low in the Mt Morgan deposit. Mining and processing of the sulphidic tailings and waste rock will improve the environmental legacy held by the Queensland Government for the Mt Morgan site.
Further work (2.10)	☐*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	Future drilling will focus on converting the Exploration Targets into Mineral Resources. Further exploration work will also involve evaluation of the deep (+300m deep) primary potential of the Mt Morgan gold-copper deposit.
	☐ *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Figures are included that highlight the areas of near-surface Mineral Resources and Exploration Targets. Future drilling will focus on converting the Exploration Targets into Mineral Resources.

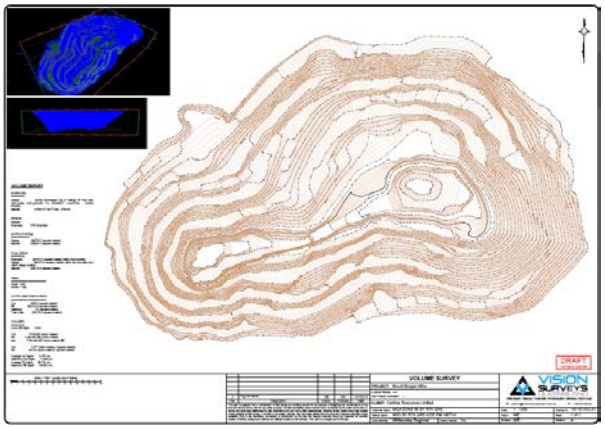
CARBINE RESOURCES
LIMITED

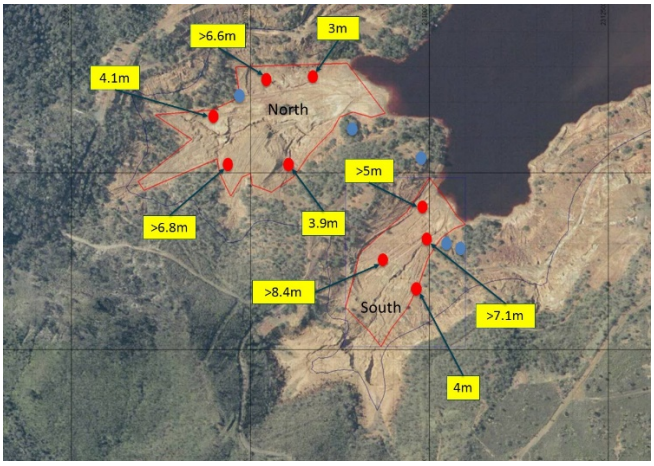
Reporting criteria presented in the Section 3 of the JORC Table 1 (Estimation and Reporting of Mineral Resources)

Criteria of JORC Code 2012	Explanation given in the JORC Code 2012	Reference to the Current Report Comments / Findings
Database integrity (3.1)	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*	A detailed project review of the historical production history was undertaken. Monthly report data was cross checked over various months against the total reported production. Several small transcription errors were identified, but were within the tolerance of acceptable error and significant figures (<1%). The historical database was compared against paper logging sheets and showed strong comparison.
	• *Data validation procedures used.*	Historical tonnage records were validated against expected volume calculations and bulk density. All balance within acceptable tolerances. Field measurements of water depth and position across the submerged sections of the mine open pit were collected to determine the top of the tailings (source: Mount Morgan Mine, Submerged Pit Topography September 2001, Technical annex, Department of Natural Resources and Mines by the Environmental Protection Agency). This was completed using a digital echo sounder to measure depth and a differentially corrected Global Positioning System (GPS) for location fixes. These measurements were taken from a boat traversing the pit to achieve transects at about 50 metre intervals. Depth soundings were recorded relative to water level as at 19 September 2001 and then converted to relative levels (RL). Positions were collected digitally at about 10 metre intervals along the transects, GPS time was logged as part of position information for correlation with depth soundings. A GPS differential beacon receiver was used to correct positions in real time using pseudo-range data corrections transmitted from the AMSA differential beacon station at Gladstone. Combined relative position error was estimated to be about 5 to 8 metres based on observations at a static location over 15 minutes. Depth soundings were obtained using a Sitex LCS-200 digital

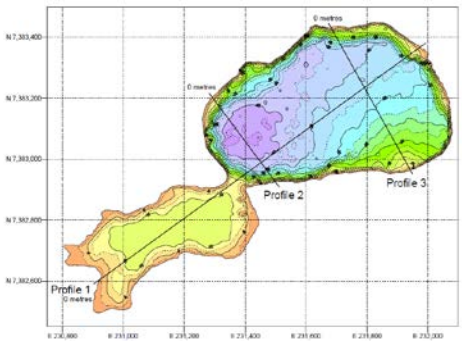
		echo sounder operating at a frequency of 200 kilohertz with a 12 degree transducer beamwidth. Plotting grids (produced using kriging) for pit relative depths and RL levels were used to produce contour plots of the submerged sections of the main pit and Sandstone Gully. The top of the tailings was variable in acoustic character with what may be a semi-fluid slimes or sludge layer between about 300mm and 500mm thick over the top of a distinct hard base of tailings.   Figures show the contoured depth of water (and subsequent top of tailings) in plan view across the open pit and lower Sandstone Gully, with three cross section profiles as indicated. Figures identify the flat top of the

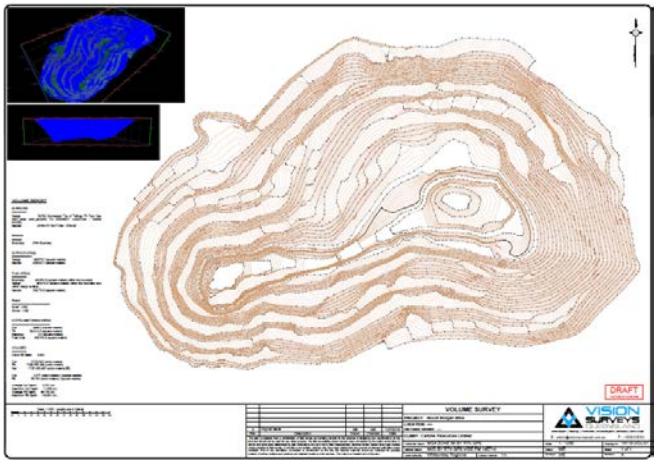
		tailings profile dipping away from the discharge point at the south-eastern edge of the open pit. The base of the tailings was identified as the open pit. Old surveyed final pit plans were digitised by consultant surveyors to determine an ultimate tailings volume of 17,261,567 m3 confirming the presence of the tailings remaining in the pit at acceptable bulk density measurements. Historical grade records were cross checked by comparing feed grade, claimed gold production, claimed recovery, and discharge tail grade. All balanced within acceptable tolerances. Life of mine tails reclamation produced 13,979kg of gold from 26.7Mt of tailing at a recovered grade of 0.52g/t. A retreated tailings discharge grade of 0.52g/t confirms the estimated 1.04g/t tailings feed grade and the 50% historical gold recovery. The lack of drilling and detailed local estimate has resulted in a lower resource classification. Sandstone Gully has had a more complex history due to tailings reclamation and the addition of potential waste and sludge fill. A volume of 591,928m3 of material has been measured to have infilled Sandstone Gully after an open-pit wall failure event late in the production history. Due to this complexity, all tailings remaining under the water level at Sandstone Gully have been reported as an Exploration Target only due to its lower confidence level.
Site visits (3.2)	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	Chris Newman (CP of the project) has visited the project site multiple times in 2016. No physical in-pit resource can be visual observed as the resource sits completely under water. The CP reviewed site historical records including detailed monthly reports and cross referenced these to the reported production totals for validation. The CP reviewed and inspected the exposed tailings and test pits within Sandstone Gully located above the current water line. Oxidation of sulphidic tailings was confirmed to be typically narrow (<40cm) and confined to exposed tailings to air.

	• *If no site visits have been undertaken indicate why this is the case.*	Not applicable
Geological interpretation (3.3)	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	Open Pit Mining ceased at Mount Morgan in 1981. The final open pit survey pickup was re-digitised to provide a solid shape to the floor of the tailings within the open pit.  Tailings were retreated by Mt Morgan Mines Limited from 1982 to 1990. The final monthly report for Tailings Retreatment Plant (November 1990) recorded a total 26,673,625 tonnes of reclaimed tailings that were deposited into the open pit. The Mount Morgan open pit has subsequently been flooded after the completion of the tailings retreatment. A detailed Submerged Pit Topography survey was completed in 2001 to determine the depth of water from surface. This was re-digitised to provide a solid shape to the top of the tailings. The strong survey control to both the top and base of the in-pit tails gives high confidence in the full outline of the retreated tails in the pit, providing a volume check to the tailings within the open pit. The volumes reported are within reasonable expectation using known historical bulk densities. Grade within the open pit is assumed from historical monthly production records of tailings discharged and provides a good global estimate of grade. The tailings are deposited into the pit in horizontal layering extending upwards vertically over the nine years of production. Hence, monthly production grades provide an estimate

		of grade from the base to the top of the tailings profile over time. For Sandstone Gully, visible tailings exist above the current water line in both the north and south upper gullies of Sandstone Gully. In April 2016, fourteen test pits were dug to obtain basic geotechnical information regarding Sandstone Gully (Figure). Nine of the test pits intersected remnant tailings with five intersecting greater than a 6m thickness of tailings. Estimated remnant tailings volume of 185,000m3 was reported by comparing the original topography prior to Sandstone Dam construction completed by Contract Surveyors, the 2016 current topography (Lidar) survey and visual inspections incorporating the 14 geotechnical test pits completed in 2016. Using a conservative bulk density of 1.3t/m3 for oxide and 1.5t/m3 for sulphide, 250kt of sulphide and 20kt of oxide tailings is estimated.  Figure: Upper reaches of Sandstone Gully showing the North and South Gully area of site inspection, and depths of tailings in trenches
	• *Nature of the data used and of any assumptions made.*	Several core samples were taken to a depth of 0.8m at the top of the tailings within the open pit in the mid 1990's. These samples averaged 1.1g/t. These are not considered as representative of the entire tailings. They are considered to report higher than the production grades due to potentially coarser pyritic material preferentially occurring close to the discharge point and/or possible gold precipitation from the highly acidic open pit water.

		Data relied heavily on detailed monthly production records during the tailings retreatment from October 1982 through to November 1990. Tonnes were recorded by daily weightometer readings and discharged tails grade analyses of Au, Ag, Cu and S. Sulphur assays for 1982, Jan 1983, November 1983 and July 1988 have been estimated using global averages, in addition to silver and copper assays for 1982. No direct detailed production figures of slimes discharge were recorded prior to a CIL circuit upgrade in 1984. However, production figures recorded approximate percentages of 16-18% of the feed with grades estimated at 75% of the 0.9g/t feed grade. The total slimes were estimated to be 3.7Mt at 0.6g/t gold, 0.2% copper and 9.4% sulphur. For Sandstone Gully, grade determinations relied on historical drilling prior to reclamation. Review of nearest drilling (6 holes) gives an estimated grade of 0.85g/t gold. This is considered a conservative grade compared to the historical mined grade of 1.0g/t. The lack of recent drilling has resulted in a lower confidence level of resource classification for both the In-Pit tails and Sandstone Gully.
	• *The effect, if any, of alternative interpretations on Mineral Resource estimation.*	There is little scope for alternative interpretations, so their potential impact on the Resource estimate is considered to be minimal.
	• *The use of geology in guiding and controlling Mineral Resource estimation.*	The tailings in the open pit have been sourced from the retreatment of tailings principally from the Sandstone Gully tailings dam (1983-1990), but included small components of tailings from Shepherds Gully (1Mt, 1982-1983), No 2 Mill (2Mt, 1989-90) and Mundic Gully (2Mt, 1986-1990). All of these tailing sources come from processing of the Mt Morgan primary gold-copper deposit. All tailings are sulphidic tailings consisting dominantly of quartz and pyrite, with minor amounts (<10%) of sericite, chlorite, feldspar, chalcopyrite and sphalerite. The tailings material from each tailings dam is identical, except in the age of creation and the historical recovery over the time period 1932 to 1981, with higher grade tailings Mundic (oldest) to lowest grade at Shepherds (youngest). Tailings were discharged from the southeast edge of the Mount Morgan Open Pit. The discharged tails formed

		shallow dipping (to the northwest) horizontal layering to the mineralization away from this discharge point. The grainsize of the tailings is relatively uniform except for minor segregation of coarser and finer material away from the discharge point, and from the separate discharge of slimes. The grade of the tailings discharged in the open pit varied on a monthly basis from a recorded low of 0.36g/t gold in 1985/86 to 0.69g/t gold in 1989/90. The tails discharge grade varied over time due to feed grade variations and recovery. Feed with higher sulphide (Pyrite) reported lower historical gold recoveries.
	• *The factors affecting continuity both of grade and geology.*	The horizontal layered nature of the mineralisation is created by the tailing infilling procedures. The discharged tails into the open pit formed shallow dipping (to the northwest) horizontal layering to the mineralization away from the discharge point.  Figure shows the flat nature to the top of the tailings extending on a shallow dip away from the south east corner of the open pit. (Open pit on right and lower Sandstone Gully dam on left) Minor segregation of coarser and finer material away from the discharge point is expected, with slight increase in grade expected in the coarser (pyrite) fraction. Production records for the In-Pit tailings show smooth grade variations across months, but over the life of the project varied from 0.36g/t gold in 1985/86 to 0.69g/t gold in 1989/90. Continuity of grade is based dominantly on both recovery and the grade of the feed source over time.

		Recovery averaged 44% prior to the installation of a de-slime circuit installed in 1984. Recovery averaged 51% after this. The highest tailings discharge grades were recorded in the later years of production when higher grade feed sources (Mundic and No 2 Mill) were being reprocessed. Feed grade increased steadily over time from 0.82g/t in 1980/81 to a peak of 1.4g/t in 1989/90.
Dimensions (3.4)	• *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.*	The In-Pit tailings dump fills a pre-existing open pit void with dimensions approximately 700m x 400m x 140m. The top of the tailings averages 35m depth below the water level, varying from 10m depth at the discharge point to 43m at the western end of the pit. The deepest level of tailings is at the base of the pit at approximately 150m depth.  Grade will vary vertically based on the tailings discharge grade at the time estimated by the monthly production figures. Tailings will be relatively uniform horizontally, except for some coarse versus fine segregation away from the southeast discharge point. Sandstone Gully tailings are exposed on surface and within existing trenches in both the northern and southern upper reaches of the Sandstone Gully. The Northern Gully is approximately 250m x 100m to a depth of 0 to 7m. The Southern Gully is smaller, 200m x 80m to a depth exceeding 7m. The surface of the tailings exposed at surface have been oxidized. Oxidation varies from 0.1m to 0.9m in thickness and averages 0.44m in the north gully and 0.33m in the south gully.

Estimation and modelling techniques (3.5)	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*	No computer assisted estimation method was used. Wireframes of the open pit shell and the top of the tailings (from submerged topographic survey) were used to constrain the open pit tailings. Original topography surveys and the 2016 LIDAR topography survey were used to constrain the Sandstone Gully tailings. Mineralisation grades (Au, Ag, Cu, S) for the open pit were estimated from detailed monthly production records covering October 1982 to November 1990. Sulphur (S, wt%) grade was converted into the 'pyrite-equivalent' (wt%) using stoichiometry of the pyrite, ➢ formula - FeS2 ➢ chemical composition Fe – 46.6%, S – 53.4% (this corresponds to 100wt% of pyrite in a sample) No extreme grades are present due to the uniform grade of the retreated tailings.
	• *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*	The In-Pit Mineral Resource is based on detailed monthly production records. Tailings were retreated by Mt Morgan Mines Limited from 1982 to 1990. The final monthly report for Tailings Retreatment Plant (November 1990) recorded a total 26,673,625 tonnes of reclaimed tailings at a grade of 0.52g/t. Sandstone Gully historically produced at 1.0g/t. The assigned grade to the resource is 0.85g/t, based on the nearest 6 drillholes. Silver, copper, and sulphur grades were assumed to be equivalent to average historical production grades and minimal variability was observed. Previous estimates by previous companies of the Sandstone Gully material above the water line included an exploration target of 250kt at 1.05g/t gold and 0.11% copper in 1990, a pre-JORC Inferred Resource of 300kt at 0.99g/t in 1993, and an exploration target of 200kt at 1.0g/t in 2008. Re-investigation of the original topographic surface by Contract surveyors and the digging of 14 test pits has provided improved confidence in this calculation.

	• *The assumptions made regarding recovery of by-products.*	The project flowsheet incorporates the upfront extraction of copper via resin-in-leach, followed by pyrite flotation to a saleable concentrate, and finally gold extraction by carbon-in-leach. Silver is also a minor by-product.
	• *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*	All production samples have been assayed for Au, Ag, Cu and S. Contents of potentially deleterious components (arsenic, antimony) has been negligible in the 100+ years of mining the primary Mt Morgan deposit and the retreatment of tailings. All sulphidic tailings are being processed to produce a pyrite concentrate to be taken to the Port of Gladstone hence removing the current environmental liability. The final waste tailings are expected to be non – acid generating. No cover rocks exist above the In-Pit and upper Sandstone Gully tailings.
	• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*	Not applicable
	• *Any assumptions behind modelling of selective mining units.*	It is assumed that tailings will be mined by dredging within the open pit from top to bottom. No other assumptions have been made. Sandstone Gully will be mined by conventional open pit means.
	• *Any assumptions about correlation between variables.*	Very little correlation is observed between each variable, with all variables remaining relatively constant.

	• *Description of how the geological interpretation was used to control the resource estimates.*	Understanding of the tailings geology and infilling procedures has been incorporated into the estimation procedures: • two type of tailings material – sulphidic and oxide for the Mt Morgan deposit source • Tailings in the open pit were bounded by the final open pit survey pick up and the water depth of the submerged pit topography • Tailings at Sandstone Gully were constrained by the LIDAR topography and original topography surveys. • Tailings were infilled evenly creating horizontal layering to the mineralisation
	• *Discussion of basis for using or not using grade cutting or capping.*	High grade cut-off was not used. Gold grade from tailings records (and the grades of other studied metals) is distributed normally forming approximately a bell shaped histogram. Outliers or extremely high grade values are lacking.
	• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	Core samples in the open pit were taken to a depth of 0.8m at the top of the tailings at the southern edge of the open pit and averaged 1.1g/t. These are not considered as representative of the tailings and are considered to report higher than the production grades due to coarser pyritic material preferentially occurring close to the discharge point and/or possible gold precipitation from the open pit water. Historical production tonnage records were reconciled to calculated tonnes from void volume calculations. Production grade records were reconciled by reviewing feed grades, discharged tail grades, known gold production and reported recoveries. The tests convincingly validates the current estimate confirming its level of accuracy as Inferred Resource. Drilling is required to increase this classification. For Sandstone Gully, historical drillhole information recorded a similar grade of 0.85g/t against historical production grade of 1.0g/t.

Moisture (3.6)	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Tonnages were estimated from monthly production figures on a dry basis.
Cut-off parameters (3.7)	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	Resources were reported at zero gold cut-off grade, because the production plan requires extraction and processing of all tailings material for final environmental reclamation.
Mining factors or assumptions (3.8)	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	Tailings have been mined from the Mt Morgan's Project from October 1982 to November 1990 by dredging. Therefore their amenability to this type of mining is well understood and confirmed by past production. Sandstone Gully will be mined by conventional open pit means. All tailings material is required to be removed from Sandstone Gully prior to construction of a new Tailings Dam. Sandstone Gully tailings are expected to be used as commissioning material for the new plant in its definitive feasibility study.

Metallurgical factors or assumptions (3.9)	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	The project flowsheet incorporates the upfront extraction of copper via resin-in-leach, followed by pyrite flotation to a saleable concentrate, and finally gold extraction by carbon-in-leach. Metallurgical recovery of the tailings has been extensively carried out by Carbine over several phases from 2014 to 2015 for other tailings at the Mt Morgan Project. The phase 3 testwork for the pre-feasibility study provided the generation of three products provided 76% gold recovery, 90% pyrite recovery and 68% copper recovery (ASX: 23rd July, 2015). This is the recovery expected for Sandstone Gully. No metallurgical sampling has been undertaken on the reprocessed tailings within the open pit due to it being submerged under water. The original tailings retreatment plant achieved relatively modest recoveries of 50%. The new flowsheet introduces significant improvement over the previous retreatment, namely: • Upfront removal of copper from the circuit to improve cyanide usage (and available concentration for gold leaching) and kinetics • Separation of pyrite concentrate and silicate tails for tailored extraction through different leaching circuits • Finer grinding of the pyrite fraction to a p80 of ~45um • Finer grinding of the silicate fraction to p80 of ~30um • Use of 48 hours leaching for both streams • Use of the hyperjet shear reactor to improve leach kinetics on both streams • Use of higher feed cyanide concentration with back end recovery The improved flow sheet is anticipated to expose additional gold surfaces and increase both leach time and kinetics. An estimate for the recoveries for the In-Pit tailings has been determined at 65% gold, 60% copper and silver and 90% for pyrite. Metallurgical testwork is required to confirm these recoveries and hence the Resource is classified at a lower confidence. Metallurgical sampling utilising the new flow sheet has not been undertaken at Sandstone Gully. Metallurgical

		characteristics are however expected to be identical to Shepherds Gully tailings. Financial modelling assuming these recoveries, capital for plant modifications, and implementation of a dredging system for open pit tailings, provides grounds for eventual economic extraction near current gold (AUD$1750/oz) and pyrite offtake (US$80/t) prices.

Environmental factors or assumptions (3.10)	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	Mining license includes all necessary environmental permits for mining and processing of the tailings. A special requirement is the extraction of all tailings material disturbed to eliminate the acid-waste drainage from these tailings. This condition has imposed the necessity to report resources at the zero grade cut-off. Pyrite will be extracted in the process resulting in the final tailings being non-acid generating.
Bulk density (3.11)	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.*	Dry bulk density has recently been measured on other tailings dumps using the sand replacement method. The method is certified in Australia (Australian standards - AS1289.5.3.1) for measuring densities of the soft materials. It was applied to the original tailings which were exposed in the specially excavated trenches. In total, 14 measurements have been made, • Mundic - 4 measurements • Shepherd's - 6 measurements • No 2 Mill - 4 measurements Based on these study the DBD values used for estimating other tailings at Mt Morgan is 1.76 t/m3. The In Pit tailings is identical in character to these other tailings (approximately 70% silica, 25% pyrite with <5% sericite, chlorite) and hence a similar dry density is assumed.

		Historical production records reported large bulk density fluctuations from approximately 1.5 t/m3 to 1.9 t/m3. Volume calculations suggest a bulk density of 1.55 t/m3, which is considered within tolerance of the many variables and the Inferred Resource Classification. A conservative bulk density of 1.3t/m3 for oxide and 1.5t/m3 for sulphide was assumed for Sandstone Gully, to reflect higher fines and moisture observed compared to other tailings.
	• *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.*	Historical reconciled production records are used to calculate tonnages. The sand replacement method test was applied rigorously following the procedures described in the Australian standards manual (AS1289.5.3.1).
	• *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	Tonnages have been assigned based on historical reconciled production records for In-Pit tailings. A conservative bulk density has been assigned to Sandstone Gully. Tailings are uniform is nature and considered as one material type.
Classification (3.12)	• *The basis for the classification of the Mineral Resources into varying confidence categories.*	Inferred Resource Classification is based on the reliance on historical production records, lack of drilling and knowledge of detailed local estimates. Further drilling is required to increase this classification. Sandstone Gully has been reported as an Inferred Resource due to a lack of recent drilling and confidence in the original topographic survey.

	• *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).*	All relevant factors have been reviewed and reported
	• *Whether the result appropriately reflects the Competent Person's view of the deposit.*	Mr C. Newman (the project's CP) is fully satisfied with the results of the estimation, including geometry, tonnage and grade of the mineralised tailings.
Audits or reviews (3.13)	• *The results of any audits or reviews of Mineral Resource estimates.*	None undertaken
Discussion of relative accuracy/ confidence (3.14)	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*	The resource estimate for the In-Pit tailings is based on detailed monthly production records during the tailings retreatment from October 1982 through to November 1990. Tonnes were recorded by daily weightometer readings and grade by the discharged tails grade analyses of Au, Ag, Cu and S. Reconciliation of feed grade, tails grade and recovery lead to high confidence in the resource estimate. Validation of tailings volumes within tolerance of historical production records provide additional confidence. The resource has been classified as Inferred Resource due to its reliance on historical data and it representing a global estimate. Drilling is deemed appropriate to upgrade the classification to Indicated Resource and to improve the local estimate. Sandstone has been reported as an Inferred Resource due to a lack of recent drilling and confidence in the original topographic survey. Grade control trenching is required during mining of these tails to improve this confidence in both grade and tonnage.
	• *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and*	The tailings are reported as an Inferred Resource well constrained by geological boundaries, but as a global estimate.

	economic evaluation. Documentation should include assumptions made and the procedures used.	Drilling is deemed appropriate to upgrade the classification to Indicated Resource and improve the local estimate.
	• *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	The In-Pit Mineral Resource estimate is based on detailed monthly production data during the tailings retreatment from October 1982 through to November 1990. The Sandstone Gully estimate is considered conservative in both tonnes and grade compared to historical mine records.