

14 September 2017

DRILLING AND CHANNEL SAMPLING RESULTS AT THE BAUDWIN LEAD-ZINC-SILVER-COPPER PROJECT - MYANMAR

Highlights

- First drilling programme completed at the Bawdwin Lead-Zinc-Silver-Copper Project since the 1980's
- Diamond drilling programme totalled 21 holes for 2,965.6 metres supported by channel sampling in the shallow open pit
- Mineralisation confirmed outside of the known high-grade lodes that supported the historic mine, extending to surface in the open pit
- CSA Global site assessment of geology and development options completed in August 2017
- New Mineral Resource estimate and JORC Resource Report underway
- Mineral Resource report will underpin a Scoping Study to assess an open-pit mine development strategy at Bawdwin
- **Drilling results** include (*note the intervals are down-hole length, not true width; a full list of composites with cut-off criteria is tabulated in Appendix 1*):
 - * CHDD001 - 25.3m at 9.5% Pb, 2.5% Zn and 189 g/t Ag from 56.5m;
 - * CHDD001 - 2.2m at 2.3% Cu, 121 g/t Ag, 1.07% Ni and 0.42% Co from 86.8m;
 - * CHDD001 - 17.0m at 15.4% Pb, 5.7% Zn, 319 g/t Ag, 0.9% Cu, 0.15% Ni and 0.39% Co from 104m;
 - * CHDD002A - 6.6m at 2.4% Cu, 1.8% Pb, 123 g/t Ag, 0.56% Ni and 0.25% Co from 81.6m;
 - * CHDD003 - 4.3m at 2.1% Cu, 1.2% Pb and 75 g/t Ag from 64.35m;
 - * CHDD003 - 10.3m at 20.5% Pb, 2.2% Zn, 0.5% Cu, 540 g/t Ag, 0.12% Ni and 0.28% Co from 50.6m;
 - * CHDD004 - 9.3m at 8.2% Pb, 4.9% Zn and 73 g/t Ag from 64.35m;
 - * CHDD008 - 30.5m at 11.5% Pb, 7.5% Zn and 291 g/t Ag from 102.5m;
 - * CHDD009 - 8.0m at 1.4% Cu, 4.8% Pb, 1.5% Zn and 222 g/t Ag from 41m;
 - * CHDD009 - 10.8m at 9.9% Pb, 16.9% Zn and 251 g/t Ag from 51.5m;
 - * CHDD011 - 12.0m at 1.0% Cu, 4.7% Pb, 2.6% Zn and 292 g/t Ag from 16m;
 - * CHDD011 - 4.0m at 2.3% Cu, 1.9% Pb and 133 g/t Ag from 48.6m;
 - * SHDD001 - 10.0m at 5.6% Pb, 6.3% Zn and 159 g/t Ag from 219.7m; and
 - * SHDD001 - 11.0m at 12.0% Pb, 4.5% Zn and 299 g/t Ag from 227.7m.

- **Channel sampling results** include (*note the intervals are along-channel length, not true width; a full list of composites with cut-off criteria is tabulated in Appendix 2*):

* B12 -	8.0m at 5.0% Pb, 15.9% Zn and 180 g/t Ag from 3.7m;
* B29 -	11.5m at 5.25% Pb, 8.32% Zn and 73 g/t Ag from 22m;
* B109 -	8.0m at 19.5% Pb, 4.7% Zn, 0.4% Cu and 293 g/t Ag from 8.5m;
* CH002 -	9.0m at 17.6% Pb, 5.2% Zn, 0.7% Cu and 472 g/t Ag from 0m;
* CH004 -	11.9m at 7.2% Pb, 5.2% Zn, 1.1% Cu and 126 g/t Ag from 0m;
* CH004 -	10.7m at 8.0% Pb, 7.2% Zn, 1.5% Cu and 250 g/t Ag from 16.8m;
* CH005 -	7.5m at 4.5% Pb, 13.3% Zn and 129 g/t Ag from 21m;
* CH006 -	7.5m at 5.1% Pb, 7.6% Zn, 0.6% Cu and 350 g/t Ag from 31.5m;
* CH009 -	8.0m at 6.4% Pb, 17.0% Zn and 142 g/t Ag from 0m;
* CH007 -	14.0m at 6.9% Pb, 5.4% Zn, 0.4% Cu and 321 g/t Ag from 3m;
* CH010 -	25.0m at 16.3% Pb, 14.6% Zn, 0.3% Cu and 560 g/t Ag from 22m; and
* CH011 -	8.5m at 5.1% Pb, 12.1% Zn and 129 g/t Ag from 5m.

Myanmar Metals Limited (ASX: MYL) (“MYL” or “the Company”) is pleased to advise that it has received and reviewed all results from the recently completed drilling and channel sampling programme that was carried out at Bawdwin from November 2016 to July 2017.

The programme was completed by Australian-led Myanmar-based Geological Services Company, Valentis Services Limited (“Valentis”), for Win Myint Mo Industries Co. (“WMM”), the Myanmar company that holds the 38 km² Mining Concession over the Bawdwin Project.

As previously reported, MYL holds an option with WMM for the Bawdwin project.

The high-grade and laterally extensive surface channel and diamond drilling results highlight the potential of the Bawdwin Project to be redeveloped as a large-scale mining operation. The forthcoming Mineral Resource estimate and Scoping Study will further assess this potential.

Myanmar Metals Limited’s Chairman, John Lamb, commented:

“The results provide compelling support for the Company’s strategy to establish a modern, safe open-pit and underground mining operation for the benefit of the country of Myanmar, MYL’s shareholders and our future mine development partners.

We look forward to publishing a new resource estimate and the results of the scoping study as soon as possible.”

Bawdwin Mine Background

Mining of silver at Bawdwin dates back at least to the 15th Century and total historical production has been estimated at **c.10 MOz of silver** (United Nations, 1966). A large underground mine was developed by Burma Corporation from 1914, opening the 2.4-kilometre Tiger Tunnel at the No. 6 Level to provide mine drainage and ore haulage and the 520 metre Marmion Shaft to the No. 12 Level. The mine exploited three high-grade lodes, the Chinaman, Shan and Meingtha lodes. The current underground mine consists of 13 levels at approximately 40-m intervals and is free-draining through the Tiger Tunnel at Level 6.



Figure 1. Location map for the Bawdwin Project

Annual production before WW2 reached about 0.5 Mt of high-grade silver, lead, and zinc-rich ore. Ore was railed to the lead smelter at Namtu, 10 kilometres from Bawdwin, where lead, antimony and silver were recovered while zinc was sold in concentrate.

Before WW2, the mining 'reserve' was reported as 10.8 Mt at 14% Zn, 23% Pb, 1% Cu and 670 g/t Ag (Khin Zaw, 1990), as previously reported in an ASX release on 24 May 2017.

The mine and smelter were destroyed in the war but re-opened in 1951. The mine was nationalised in 1963. Production fell progressively, reflecting depleting resources and lack of investment in development and exploration. An open pit was developed in the 1970s to exploit lower grade mineralisation but suffered from poor recoveries. All mining ceased in 2008.

During the years of peak production before WW2, the only exploration conducted was by underground development and channel sampling. Limited exploration was completed as part of government-supported programmes by the UN (UNSFP 1962-64), Canada (CIDA, 1973-74), Germany (BGR, 1973-1976), and Australia (AMDEL, 1985-87).

The CIDA drill programme of 17 diamond core holes tested the halo mineralisation at the Chinaman Lode (10 holes) and peripheral targets. The BGR programme completed an additional eight diamond drill holes in the Shan and Chinaman lode area but mainly tested outlying targets. The DGSE (Myanmar Geological Survey) completed an additional eight outlying diamond drill holes between 1982-87. All drilling programmes suffered from poor recoveries. The collar locations for the historical drilling have been acquired but assay results have not yet been obtained.

In 1996, ASX-listed Mandalay Mining NL entered into an option agreement with the state-owned mining company, Mining Enterprise 1, over the mine concession. Based on the capture of historical drilling and underground assay data, a Mineral Resource estimate was completed by independent consulting company, Resource Service Group ("RSG") in accordance with the JORC Code 1996 Edition (Algar *et al.*, 1997). This historical estimate was reported in the Top End Minerals (TND) ASX release dated 24 May 2017.



Figure 2. Bawdwin pit looking north with the Marmion Shaft on the left side of the pit (Aug 2017)

Bawdwin Drilling Programme and Results

In 2016, WMM commissioned Valentis to complete an evaluation of the Bawdwin deposit including mapping and channel sampling in the open pit and diamond drilling, to support the estimation of a new Mineral Resource in accordance with the JORC Code (2012). A total of 435 channel samples were collected from accessible cleaned faces in the open pit, comprising 47 individual channels for 1,790.8 metres. A programme of 21 diamond drill holes (including two partial redrills) for 2,965.6 metres was completed between February and June 2017 by Titeline Valentis Drilling Myanmar. Fourteen (14) holes were completed on the Chinaman Lode (and two redrills), two on the Shan Lode, and three on the Meingtha lode. Drill collar data are provided in Table 1 and a drilling location plan is provided in Figure 3.

The primary aim of the channel sampling and drilling programme was to provide additional data on the extent and grade of the halo mineralisation that occurs around the high-grade lodes at Bawdwin, to supplement historical channel sampling results in underground exploration cross-cuts and to support the estimation of a new Mineral Resource for the project. The cross-cuts were the main historical method of exploration and were developed at regular intervals on every level, extending up to 150 metres away from the main lodes.

Drilling has confirmed the presence of mineralisation in both the hangingwall and footwall of the mined Chinaman (Figure 4), Shan and Meingtha lodes. Composite intersections based on strict cut-off criteria are tabulated in Appendix 1. Composites without cut-off criteria (so that composites continue across low grade zones and old stopes) further emphasise the extent and continuity of mineralisation in the central part of the Chinaman Lode. For example, from **37.5 metres**, CHDD001 intersected **69.7 metres at 8.5% Pb 0.46% Cu, 2.4% Zn and 170 g/t Ag** below an old mined stope (*no cut-off criteria applied*). From **6.6 metres**, CHDD008 intersected **123 metres at 4.9% Pb, 2.2% Zn and 120 g/t Ag** (*no cut-off criteria applied*).

Table 1. Drill hole collar details (UTM WGS84 Zone 47N)

Hole ID	Prospect	UTM (mE)	UTM (mN)	UTM Elevation (m)	Dip (°)	Azimuth (°)	Final Depth (m)
CHDD001	Chinaman	325560.5	2556574.8	982.5	-50	65	146.1
CHDD002	Chinaman	325405.9	2556741.7	999.1	-50	65	64.3
CHDD002A	Chinaman	325405.9	2556741.7	999.1	-50	65	154.2
CHDD003	Chinaman	325454.1	2556720.6	991.3	-50	65	89.0
CHDD004	Chinaman	325491.4	2556534.0	984.0	-60	65	158.8
CHDD004A	Chinaman	325491.4	2556534.0	984.0	-60	65	241.3
CHDD005	Chinaman	325473.8	2556861.0	1016.8	-50	65	100.0
CHDD006	Chinaman	325583.9	2556653.9	1020.4	-50	65	109.0
CHDD007	Chinaman	325683.4	2556425.4	1056.4	-53	50	61.8
CHDD008	Chinaman	325442.8	2556644.0	974.2	-55	65	223.1
CHDD009	Chinaman	325561.0	2556492.4	992.4	-55	65	208.0
CHDD010	Chinaman	325431.8	2556780.3	992.2	-50	35	106.3
CHDD011	Chinaman	325490.4	2556691.7	989.2	-50	65	126.3
CHDD012	Chinaman	325670.3	2556550.8	1047.2	-50	65	105.4
SHDD001	Shan	325461.3	2556927.9	1021.4	-50	230	260.1
SHDD002	Shan	325404.6	2557043.1	1016.9	-50	230	82.7
MEDD001	Meingtha	326003.3	2555994.6	1079.0	-52	65	183.9
MEDD002	Meingtha	325943.9	2556062.9	1093.5	-60	65	136.1

Hole ID	Prospect	UTM (mE)	UTM (mN)	UTM Elevation (m)	Dip (°)	Azimuth (°)	Final Depth (m)
MEDD003	Meingtha	326098.3	2555991.7	1066.3	-50	245	142.6
CHDD014	Chinaman	325530.0	2556625.0	981.0	-50	65	135.6
CHDD013	Chinaman	325575.5	2556714.1	1020.4	-50	65	131.0

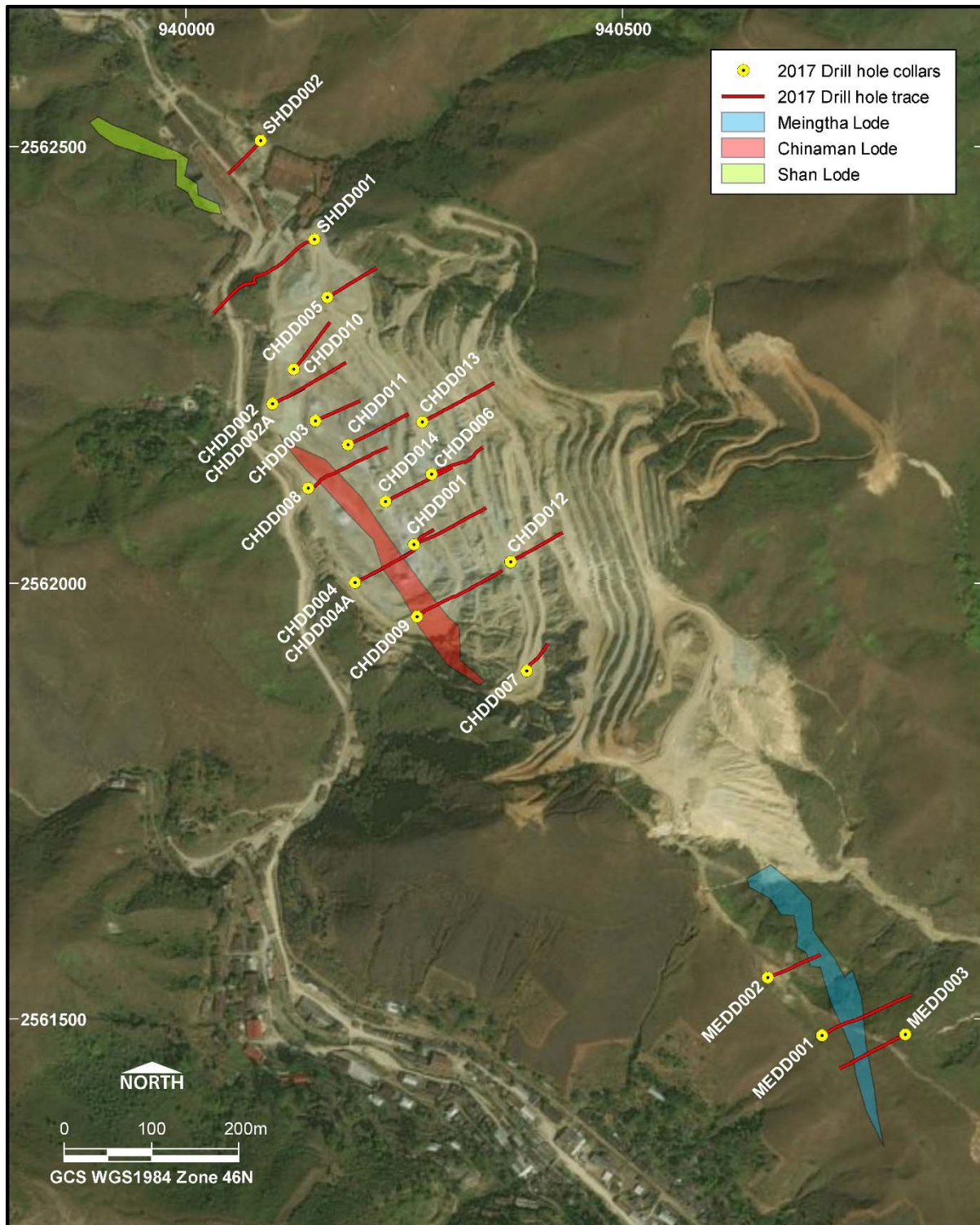


Figure 3. Satellite photograph showing drill hole locations and the main lode zones that were historically mined underground

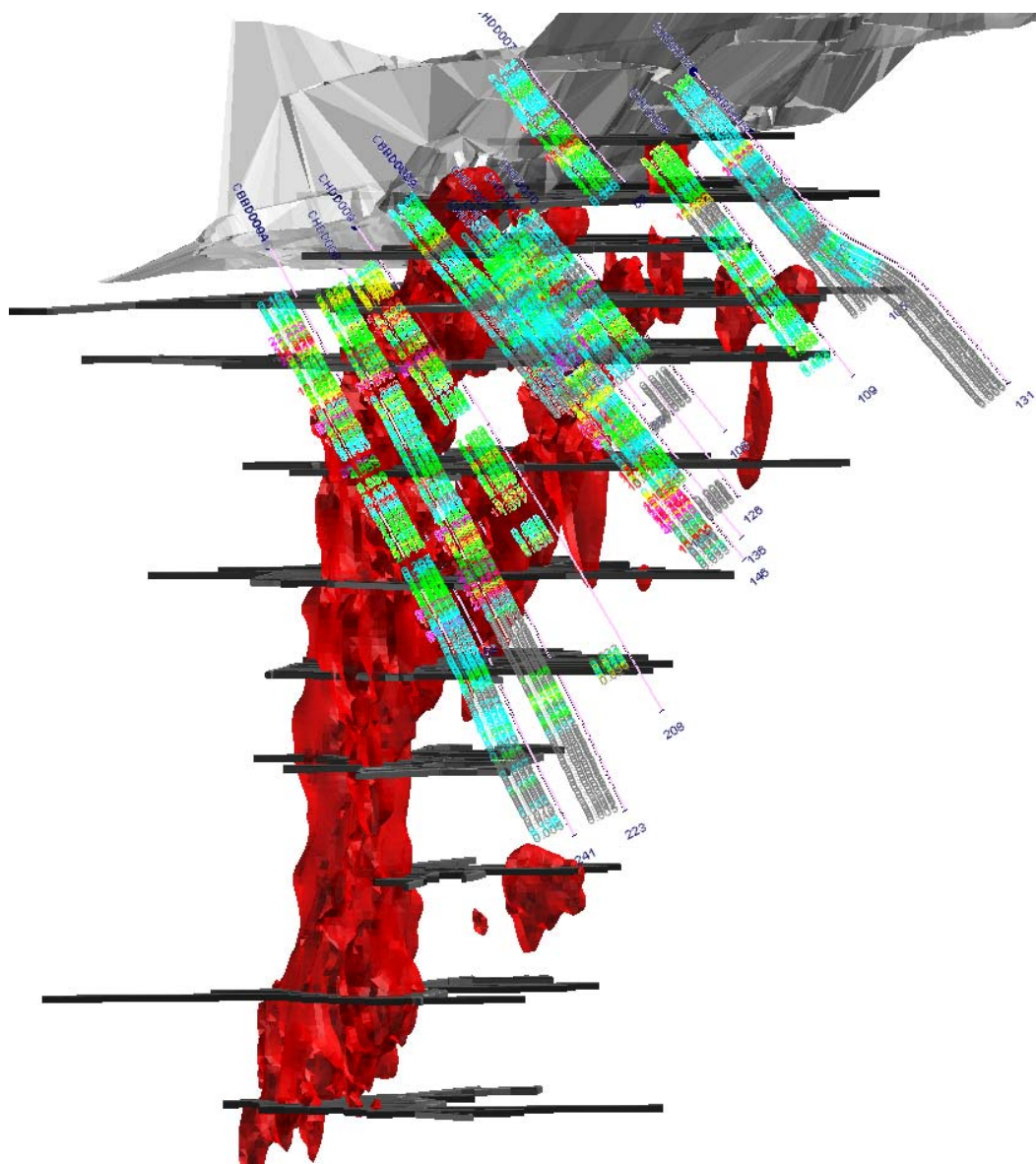


Figure 4. Oblique view of the Chinaman Lode looking north showing drill holes, the open pit, underground development, and the high-grade lodes in red that have been largely mined.

Channel Sampling Programme and Results

The open pit at Bawdwin was developed in 1980 according to a design developed by the German geological mission (BGR) and consultants. A mill and flotation plant was commissioned in the mid-1980s to process about 100,000 tpa of open pit ore. During the Mandalay Mining assessment in 1996, recovery was poor which probably reflected a combination of lack of maintenance and parts and partly oxidised ore in the pit. Mining and processing ceased in 2010.

The current pit is almost at the base of the partial oxidation surface and channel sampling largely sampled fresh sulphide mineralisation, though with secondary copper minerals also present, especially higher in the pit. The results of channel sampling confirm the presence of extensive high-to moderate-grade mineralisation at surface that includes narrow high-grade lodes and zones of disseminated and stockwork mineralisation. Channel collar data are tabulated in

Table 2 and a channel location plan is provided in Figure 5. Composite results are tabulated in Appendix 2.

Table 2. Channel samples collar details (UTM WGS84 Zone 47N)

Channel ID	UTM (mE)	UTM (mN)	UTM Elevation (m)	Dip (°)	Azimuth (°)	Total Length (m)
B101	325468.8	2556543.0	980.7	0	140	34.5
B102	325502.2	2556507.7	986.5	0	24	100.0
B103	325610.9	2556496.5	997.7	0	330	98.0
B104	325592.4	2556587.1	1002.1	0	345	44.0
B105	325561.8	2556650.2	1005.3	0	360	45.5
B106	325549.9	2556702.6	1009.8	0	21	42.0
B107	325552.5	2556740.4	1012.2	0	330	81.5
B108	325690.0	2556402.7	1056.2	0	14	61.5
B109	325707.0	2556463.0	1058.0	0	13	36.5
B11	325496.9	2556735.2	994.1	0	150	50.0
B111	325596.3	2556648.7	1022.3	0	152	83.0
B112	325623.3	2556650.8	1036.7	0	164	98.0
B12	325517.6	2556690.3	996.5	0	148	34.4
B15	325542.9	2556647.5	995.1	0	139	46.3
B19	325569.0	2556604.3	994.1	0	145	50.0
B2	325496.5	2556809.5	1011.4	0	146	43.4
B22	325444.8	2556808.9	999.2	0	111	20.5
B24	325439.0	2556824.5	1003.8	0	100	39.2
B26	325516.8	2556819.6	1020.4	0	177	50.0
B27	325541.1	2556778.2	1019.5	0	141	50.0
B28	325571.2	2556740.0	1021.7	0	147	50.0
B29	325589.8	2556696.4	1021.4	0	184	50.0
B30	325542.0	2556947.0	1028.0	0	170	50.0
B31	325472.7	2556946.1	1022.7	0	170	12.0
B32	325493.0	2556906.0	1021.7	0	115	18.5
B33	325525.4	2556867.1	1021.1	0	168	50.0
B34	325528.6	2556817.5	1022.6	0	165	20.0
B35	325619.2	2556686.9	1035.8	0	170	25.5
B8	325521.6	2556767.3	1006.9	0	156	23.0
CH001	325544.8	2556720.1	1007.5	0	198	24.0
CH002	325476.5	2556763.1	992.7	0	113	9.0
CH003	325513.0	2556724.1	997.5	0	110	25.3
CH004	325475.1	2556730.2	986.5	0	21	27.5
CH005	325504.0	2556691.8	991.0	0	147	28.5
CH006	325512.6	2556664.5	984.9	0	144	45.3
CH007	325541.3	2556626.3	982.6	0	98	8.0
CH009	325552.6	2556621.3	987.6	0	165	38.0
CH010	325566.0	2556589.7	984.0	0	153	47.0
CH011	325591.8	2556539.0	985.2	0	230	10.0
CH012	325583.0	2556546.0	982.1	0	38	5.5
CH013	325537.0	2556798.2	1023.5	0	140	31.5

Channel ID	UTM (mE)	UTM (mN)	UTM Elevation (m)	Dip (°)	Azimuth (°)	Total Length (m)
CH014	325569.0	2556760.5	1027.1	0	146	33.0
CH014A	325585.4	2556738.4	1028.0	0	233	1.7
CH014B	325588.6	2556734.4	1028.0	0	233	3.0
CH015	325593.6	2556730.3	1029.6	0	148	40.0
CH015A	325602.0	2556716.0	1030.0	0	233	1.7
CH016	325613.5	2556717.8	1035.4	0	155	4.5



Figure 5. Satellite photograph of the Chinaman pit showing channel sample locations and drill holes

Bawdwin Geology and Mineralisation

The Bawdwin deposit is hosted within an Early Ordovician volcanic and intrusive complex termed the Bawdwin Volcanic Centre. This comprises coarse volcanoclastic tuffs of the Bawdwin Volcanic Formation that interfinger with calcareous sediments of the Pangyun Formation, both intruded by co-magmatic rhyolite porphyry bodies.

The Chinaman, Meingtha and Shan lodes lie along 4 km of strike of the northwest-trending Bawdwin Fault zone, which cuts the east-to southeast-dipping stratigraphy. The lodes are steeply west-dipping to sub-vertical, plunge north and are offset by cross faults. The drilling results together with historic records confirm that the lodes are comprised of multiple anastomosing structurally-controlled massive sulphide zones, most likely related to a fault relay zone. The high-grade lodes are best developed within the Bawdwin Tuff and are enveloped by an extensive zone of disseminated and stockwork mineralisation and associated silicification and sericitic alteration. The zone of halo mineralisation is up to 150 metres wide and encompasses additional narrow high-grade lodes.

Sulphide mineralisation at Bawdwin is characterised by argentiferous galena, sphalerite, and pyrite together with smaller amounts of chalcopyrite, covellite, tetrahedite, gersdorffite, and cobaltite. Copper mineralisation occurs with lead and zinc, but also separately where it can be associated with nickel and cobalt. Sulphides are generally coarse grained in massive lodes and when disseminated in altered tuff.



Figure 6. Mineralised face in the Chinaman open pit at Bawdwin. High-grade mineralised zones (black) occur in altered tuff with disseminated sulphide. Channel CH011 across this face returned 8m at 5.1% Pb, 12.1% Zn and 129 g/t Ag. Note the old stope at right.

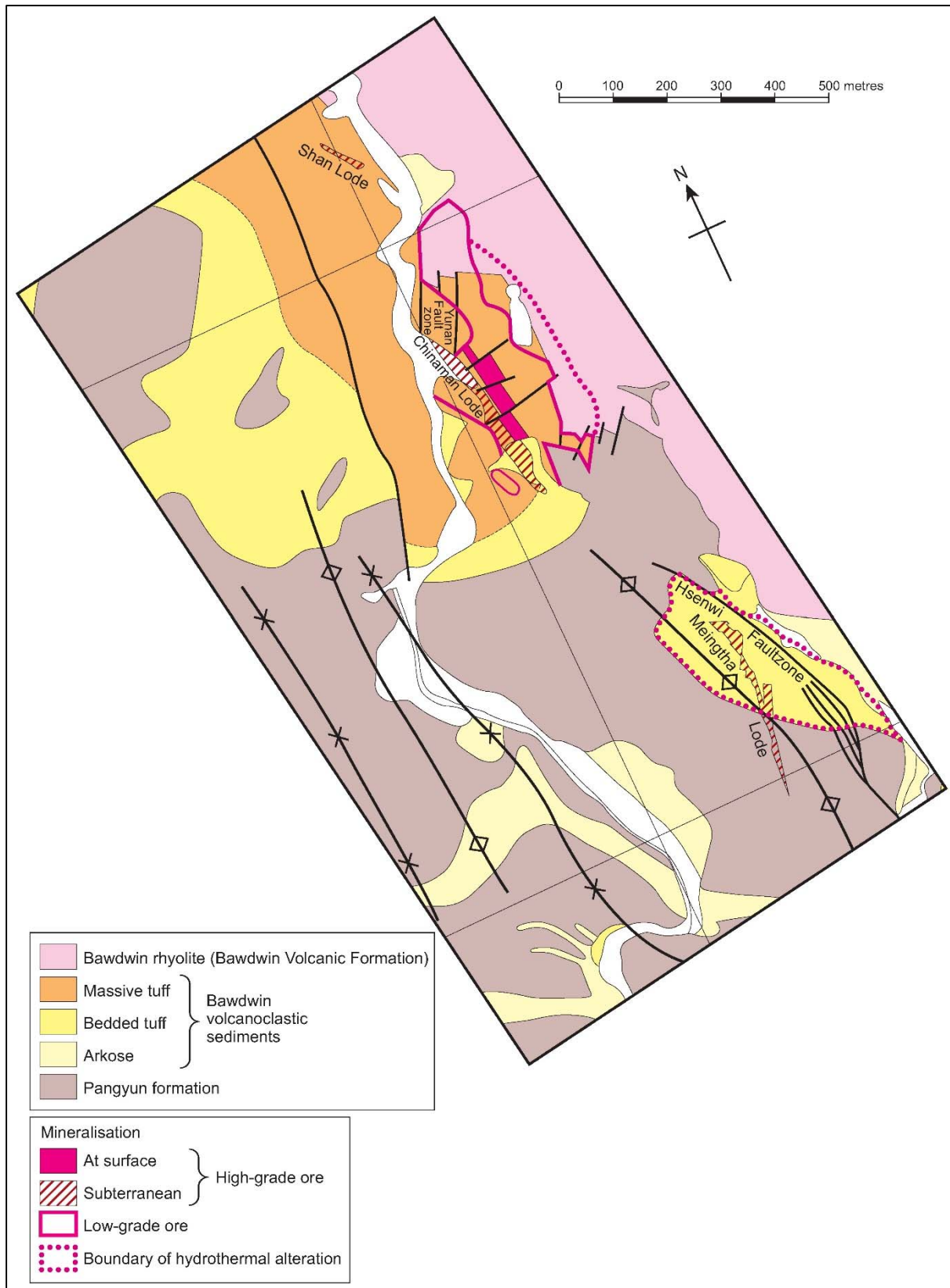


Figure 7. Geology of the Bawdwin deposit from Gardiner et al. (in press) after Brinkmann and Hinze (1981) showing the high-grade mined lodes and the extensive lower-grade mineralisation in the Chinaman Lode area (note the grid and north arrow refer to mine grid)



Figure 8. High-grade massive galena and sphalerite, SHDD001, 228.6m (NQ core diameter 47.6mm)



Figure 9. High-grade disseminated to massive sphalerite-galena mineralisation in altered tuff, SHDD001, 229m (NQ core diameter 47.6mm)



Figure 10. High-grade disseminated to semi-massive sphalerite-galena mineralisation in altered tuff, SHDD001, 229m (NQ core diameter 47.6mm)

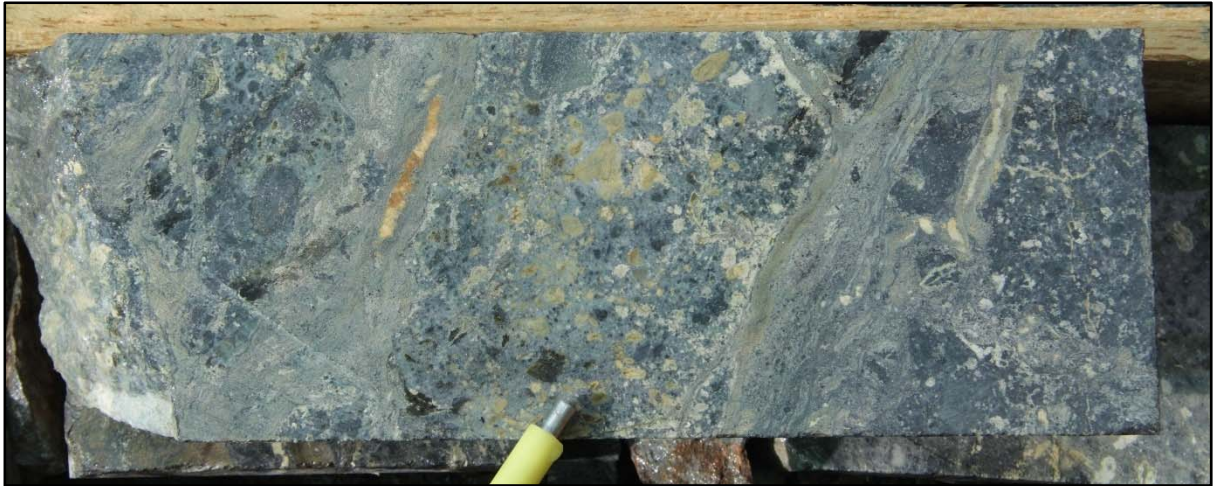


Figure 11. High-grade stockwork and disseminated sphalerite-galena mineralisation in altered tuff, CHDD001, 65.6m (HQ core diameter 63.5mm)



Figure 12. Stockwork and disseminated galena-sphalerite mineralisation in altered porphyry, SHDD001, 47.6m (HQ core diameter 63.5mm)

Bawdwin – Next Steps

A new Mineral Resource estimate reported in accordance with the JORC Code 2012 edition is nearing completion and will be reported as soon as possible. CSA Global has also commenced a Scoping Study on development of an open cut mine at Bawdwin.

References

- Algar, Warries, and Barnes, 1997, Bawdwin Project Database Development, Resource Estimation and Pit Optimisation, Resource Service Group report to Mandalay Mining Company NL.
- Brinckmann, J., and Hinze, C., 1981. On the Geology of the Bawdwin Lead-Zinc Mine, Northern Shan State, Burma, *Geologisches Jahrbuch D 43*, p. 7-45.

Gardiner, N., Robb, L., Searle, M.P., and Khin Zaw, in press. The Bawdwin Mine: a review of its geologic setting and genesis, *In Myanmar: Geology, Resources and Tectonics*, Publisher: The Geological Society, London, Editors: Anthony Barber, Michael Crow, Khin Zaw

Khin Zaw, 1990, Mineralogy, ore metal distribution and zonation at Bawdwin Mine, Northern Shan State, Myanmar (Burma); an Ag-rich volcanic-hosted, polymetallic massive sulphide deposit. Geological Society of Australia Abstracts No. 25, Tenth Australian Geological Convention, Hobart, 1990.

United Nations, 1966. A Survey of Lead and Zinc Mining and Smelting in Burma. United Nations Development Programme. United Nations, New York.

For More Information:

John Lamb, Chairman

Mob: +61 (0) 400 165 078

Email: j.lamb@myanmarmetals.com.au

Forward Looking Statements

The announcement contains certain statements, which may constitute “forward –looking statements”. Such statements are only predictions and are subject to inherent risks and uncertainties, which could cause actual values, results, performance achievements to differ materially from those expressed, implied or projected in any forward-looking statements.

Competent Person Statements

The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the ‘JORC Code’) sets out minimum standards, recommendations and guidelines for Public Reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves. The Information contained in this announcement has been presented in accordance with the JORC Code.

The information in this report that relates to Geology and Exploration Results is based, and fairly reflects, information compiled by Dr Neal Reynolds, who is a Member of the Australian Institute of Geoscientists. Dr Reynolds is employed by CSA Global Pty Ltd, independent resource industry consultants. Dr Reynolds has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Dr Reynolds consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

APPENDIX 1 DRILL-HOLE COMPOSITE INTERSECTIONS

Drilling sample composite intersections are reported based on a cut-off grade of 2.5% Pb or 50 g/t Ag, with additional reporting at cut-off grades of 0.5% Cu and 4% Zn to highlight copper- and zinc-rich intervals. Composites have been calculated with a maximum of 2m internal waste.

Note that composites are all length-weighted averages with no top-cut applied, and that composite intervals are down-hole length, which is greater than true width.

Hole ID	From (m)	To (m)	Interval (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Ni (%)	Co (%)	Cut-off Criterion
CHDD001	1.0	7.0	6.0	0.24	2.42	0.49	87.8	0.008	0.004	2.5% Pb
CHDD001	9.4	12.0	2.6	0.63	2.53	1.11	131.8	0.136	0.254	50 g/t Ag
CHDD001	56.5	81.8	25.3	0.01	9.46	2.47	189.4	0.049	0.108	50 g/t Ag
<i>including</i>										
CHDD001	56.5	78.5	22.0	0.01	7.91	2.61	179.9	0.100	0.050	2.5% Pb
CHDD001	79.2	82.8	3.6	0.02	18.57	1.33	229.8	0.139	0.050	2.5% Pb
CHDD001	86.8	89.0	2.2	2.34	0.15	0.83	121.2	1.065	0.422	0.5% Cu
CHDD001	93.5	100.2	6.7	0.27	9.52	0.95	84.4	0.064	0.050	2.5% Pb
CHDD001	104.0	121.0	17.0	0.86	15.42	5.65	319.4	0.152	0.392	50 g/t Ag
<i>including</i>										
CHDD001	109.6	116.6	7.0	0.02	17.63	11.94	366.1	0.105	0.040	4% Zn
CHDD001	127.2	130.6	3.4	0.72	6.19	0.08	106.7	0.146	0.245	50 g/t Ag
CHDD002	6.0	11.0	5.0	0.05	1.45	0.22	69.6	0.003	0.006	50 g/t Ag
CHDD002	18.0	20.0	2.0	0.01	6.87	0.52	76.0	0.007	0.007	50 g/t Ag
CHDD002A	79.0	81.6	2.6	0.14	4.13	0.05	41.3	0.022	0.062	50 g/t Ag
CHDD002A	81.6	88.2	6.6	2.41	1.79	0.04	123.5	0.559	0.252	0.5% Cu
<i>including</i>										
CHDD002A	83.7	88.2	4.6	3.26	2.52	0.05	164.3	0.346	0.760	50 g/t Ag
CHDD003	15.6	19.9	4.3	2.06	1.20	0.07	75.4	0.090	0.038	0.5% Cu
CHDD003	19.9	22.0	2.1	0.06	3.25	0.01	21.5	0.013	0.008	2.5% Pb
CHDD003	30.6	34.2	3.6	0.04	10.10	3.13	128.0	0.050	0.014	2.5% Pb
CHDD003	39.8	42.3	2.5	0.25	7.99	2.14	314.2	0.133	0.053	2.5% Pb
CHDD003	50.6	60.9	10.3	0.52	20.50	2.20	540.0	0.122	0.278	50 g/t Ag
<i>including</i>										
CHDD003	56.5	58.5	2.0	0.18	36.67	6.34	778.5	0.471	0.155	4% Zn
CHDD004	25.1	29.1	4.0	0.03	2.72	0.03	51.3	0.015	0.016	50 g/t Ag
CHDD004	27.1	48.2	21.1	0.09	8.41	0.49	40.7	0.014	0.015	2.5% Pb
<i>including</i>										
CHDD004	30.0	41.3	11.3	0.16	12.32	0.35	55.8	0.021	0.024	5% Pb
CHDD004	52.0	62.2	10.2	0.00	6.82	0.63	7.8	0.005	0.003	2.5% Pb
<i>including</i>										
CHDD004	56.3	62.2	5.9	0.00	8.33	0.78	6.2	0.005	0.004	5% Pb
CHDD004	64.4	73.6	9.3	0.01	8.23	4.92	73.2	0.008	0.008	2.5% Pb
<i>including</i>										
CHDD004	71.6	73.6	2.0	0.01	9.00	15.95	218.0	0.011	0.012	5% Pb
<i>and</i>										
CHDD004	64.4	68.3	4.0	0.01	12.70	2.42	50.8	0.011	0.011	5% Pb

Hole ID	From (m)	To (m)	Interval (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Ni (%)	Co (%)	Cut-off Criterion
CHDD004	97.4	100.1	2.7	0.13	1.35	0.28	102.1	0.005	0.014	50 g/t Ag
CHDD004	119.5	122.4	2.9	0.02	3.40	0.23	101.0	0.017	0.008	2.5% Pb
CHDD004	137.6	145.9	8.3	0.02	6.11	2.71	140.3	0.016	0.047	50 g/t Ag
<i>including</i>										
<i>CHDD004</i>	<i>143.2</i>	<i>145.9</i>	<i>2.7</i>	<i>0.02</i>	<i>12.05</i>	<i>6.86</i>	<i>223.8</i>	<i>0.071</i>	<i>0.031</i>	<i>2.5% Pb</i>
CHDD004A	134.4	137.4	3.0	0.00	3.23	1.02	59.0	0.019	0.011	2.5% Pb
CHDD004A	140.4	149.2	8.8	0.03	6.52	1.57	129.9	0.022	0.068	50 g/t Ag
<i>including</i>										
<i>CHDD004A</i>	<i>141.4</i>	<i>144.2</i>	<i>2.8</i>	<i>0.02</i>	<i>10.21</i>	<i>2.76</i>	<i>215.6</i>	<i>0.142</i>	<i>0.024</i>	<i>2.5% Pb</i>
<i>and</i>										
<i>CHDD004A</i>	<i>145.9</i>	<i>148.2</i>	<i>2.3</i>	<i>0.01</i>	<i>10.63</i>	<i>1.16</i>	<i>151.8</i>	<i>0.051</i>	<i>0.026</i>	<i>2.5% Pb</i>
CHDD005	5.4	9.7	4.3	0.30	3.83	0.20	38.3	0.013	0.008	2.5% Pb
CHDD005	8.7	15.7	7.0	0.16	3.73	0.15	89.0	0.005	0.009	50 g/t Ag
CHDD005	17.7	21.7	4.0	0.28	1.32	0.07	100.5	0.006	0.008	50 g/t Ag
CHDD006	0.0	6.0	6.0	0.03	4.39	1.32	26.2	0.003	0.001	2.5% Pb
CHDD006	8.0	13.0	5.0	0.00	3.00	1.51	11.4	0.001	0.001	2.5% Pb
CHDD006	15.5	19.2	3.7	0.00	0.99	6.54	24.8	0.001	0.014	2% Zn
CHDD006	23.2	26.4	3.2	0.17	9.71	0.83	95.9	0.084	0.045	2.5% Pb
CHDD006	47.6	51.6	4.0	0.04	4.09	3.19	53.3	0.016	0.010	2.5% Pb
CHDD006	55.2	58.9	3.7	0.01	2.59	0.66	15.7	0.006	0.006	2.5% Pb
CHDD006	61.1	63.7	2.6	0.66	5.70	0.06	31.8	0.067	0.061	2.5% Pb
CHDD006	66.5	68.5	2.0	0.04	7.92	2.13	81.5	0.014	0.014	2.5% Pb
CHDD007	6.1	24.1	18.0	0.08	1.39	0.05	169.7	0.003	0.005	50 g/t Ag
CHDD007	32.8	45.3	12.5	0.44	6.04	0.12	65.5	0.033	0.019	2.5% Pb
CHDD007	47.3	52.3	5.0	0.03	2.29	0.01	6.4	0.017	0.008	2.5% Pb
CHDD007	53.3	55.3	2.0	0.01	3.05	0.02	5.0	0.016	0.006	2.5% Pb
CHDD008	6.6	14.0	7.4	0.07	4.76	0.09	113.5	0.015	0.007	2.5% Pb
<i>including</i>										
<i>CHDD008</i>	<i>7.6</i>	<i>14.0</i>	<i>6.4</i>	<i>0.06</i>	<i>4.92</i>	<i>0.08</i>	<i>124.7</i>	<i>0.008</i>	<i>0.016</i>	<i>50 g/t Ag</i>
CHDD008	21.7	28.2	6.5	0.06	3.87	0.12	117.8	0.038	0.030	2.5% Pb
CHDD008	30.6	33.9	3.3	0.01	7.86	0.21	114.6	0.092	0.051	2.5% Pb
CHDD008	35.9	39.2	3.3	0.02	4.75	0.10	77.1	0.010	0.008	2.5% Pb
CHDD008	41.0	49.0	8.0	1.41	4.81	1.50	222.4	0.008	0.012	50 g/t Ag
<i>including</i>										
<i>CHDD008</i>	<i>41.0</i>	<i>44.4</i>	<i>3.4</i>	<i>0.27</i>	<i>12.59</i>	<i>1.38</i>	<i>375.5</i>	<i>0.118</i>	<i>0.056</i>	<i>2.5% Pb</i>
CHDD008	60.8	65.0	4.2	0.50	1.26	0.06	95.0	0.138	0.060	50 g/t Ag
CHDD008	81.3	85.0	3.7	0.02	5.20	3.74	113.4	0.026	0.012	2.5% Pb
CHDD008	102.5	133.0	30.5	0.10	11.45	7.52	291.1	0.058	0.026	2.5% Pb
<i>including</i>										
<i>CHDD008</i>	<i>102.5</i>	<i>112.5</i>	<i>10.0</i>	<i>0.27</i>	<i>13.02</i>	<i>8.68</i>	<i>330.3</i>	<i>0.087</i>	<i>0.052</i>	<i>5% Pb</i>
<i>and</i>										
<i>CHDD008</i>	<i>118.2</i>	<i>126.7</i>	<i>8.5</i>	<i>0.02</i>	<i>12.55</i>	<i>11.55</i>	<i>375.4</i>	<i>0.068</i>	<i>0.010</i>	<i>4% Zn</i>
<i>and</i>										
<i>CHDD008</i>	<i>124.7</i>	<i>133.0</i>	<i>8.3</i>	<i>0.02</i>	<i>14.59</i>	<i>7.32</i>	<i>317.5</i>	<i>0.040</i>	<i>0.019</i>	<i>5% Pb</i>

Hole ID	From (m)	To (m)	Interval (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Ni (%)	Co (%)	Cut-off Criterion
CHDD008	171.5	176.5	5.0	0.02	3.79	0.14	35.0	0.014	0.009	2.5% Pb
CHDD009	17.9	27.8	9.9	0.13	7.20	0.38	20.9	0.003	0.001	2.5% Pb
CHDD009	31.0	39.0	8.0	0.07	9.26	0.21	14.0	0.002	0.002	2.5% Pb
CHDD009	41.0	49.0	8.0	1.41	4.81	1.50	222.4	0.012	0.008	2.5% Pb
<i>including</i>										
CHDD009	46.0	49.0	3.0	3.41	8.70	3.58	255.7	0.030	0.018	5% Pb
CHDD009	51.5	62.3	10.8	0.08	9.95	16.90	251.4	0.018	0.009	2.5% Pb
<i>including</i>										
CHDD009	51.5	59.0	7.5	0.10	12.47	24.46	340.0	0.022	0.009	4% Zn
CHDD009	62.3	66.2	3.9	0.04	3.55	0.32	104.0	0.015	0.020	50 g/t Ag
CHDD009	70.9	74.2	3.3	0.00	3.47	0.88	50.7	0.006	0.004	2.5% Pb
CHDD009	86.6	92.6	6.0	0.01	2.48	0.36	23.0	0.006	0.004	2.5% Pb
CHDD009	181.8	185.2	3.4	1.36	2.32	0.03	36.2	0.070	0.175	50 g/t Ag
CHDD010	31.7	35.7	4.0	0.42	14.04	1.15	241.8	0.032	0.014	2.5% Pb
CHDD010	44.0	46.0	2.0	0.02	3.52	0.02	11.0	0.014	0.009	2.5% Pb
CHDD010	50.0	60.0	10.0	0.15	5.03	0.03	19.4	0.021	0.012	2.5% Pb
CHDD011	3.0	10.0	7.0	0.65	2.79	2.19	75.4	0.066	0.131	50 g/t Ag
CHDD011	4.0	6.0	2.0	0.94	2.69	3.70	66.5	0.140	0.069	2% Zn
CHDD011	9.0	22.0	13.0	0.56	4.53	3.68	126.8	0.094	0.056	2% Zn
CHDD011	16.0	28.0	12.0	1.01	4.65	2.63	291.5	0.170	0.084	50 g/t Ag
<i>including</i>										
CHDD011	23.0	26.0	3.0	2.28	2.73	0.38	609.0	0.321	0.138	0.5% Cu
CHDD011	25.0	28.0	3.0	0.45	9.46	2.28	297.3	0.146	0.056	2.5% Pb
CHDD011	32.0	34.0	2.0	0.07	2.75	0.03	28.0	0.031	0.025	2.5% Pb
CHDD011	34.0	37.0	3.0	1.90	0.27	0.05	127.0	0.271	0.191	50 g/t Ag
CHDD011	42.6	45.6	3.0	0.24	3.45	1.29	163.3	0.119	0.069	50 g/t Ag
CHDD011	48.6	53.6	5.0	1.97	1.61	0.04	117.6	0.393	0.630	50 g/t Ag
<i>including</i>										
CHDD011	48.6	52.6	4.0	2.26	1.87	0.04	133.0	0.709	0.430	0.5% Cu
CHDD013	1.5	5.7	4.2	0.30	12.28	0.05	77.0	0.015	0.005	2.5% Pb
CHDD014	2.0	5.4	3.4	0.16	2.39	2.10	65.4	0.031	0.014	2.5% Pb
CHDD014	7.5	9.5	2.1	0.01	3.90	5.02	58.1	0.017	0.007	2% Zn
CHDD014	12.1	14.2	2.1	0.03	6.53	2.37	58.0	0.015	0.012	2.5% Pb
CHDD014	20.2	26.6	6.4	0.00	0.95	2.96	23.4	0.005	0.003	2% Zn
CHDD014	51.2	53.2	2.0	0.03	7.89	2.97	108.0	0.083	0.035	2.5% Pb
CHDD014	52.2	57.6	5.4	0.62	2.32	2.75	60.6	0.346	0.224	2% Zn
CHDD014	62.7	65.7	3.0	0.01	7.43	0.25	41.0	0.064	0.022	2.5% Pb
CHDD014	74.7	81.0	6.3	0.07	4.02	1.03	75.5	0.020	0.021	50 g/t Ag
<i>including</i>										
CHDD014	76.0	81.0	5.0	0.08	4.56	1.04	78.8	0.024	0.024	2.5% Pb
MEDD001	34.0	43.0	9.0	0.01	0.45	0.12	121.9	0.001	0.004	50 g/t Ag
<i>including</i>										
MEDD001	39.0	43.0	4.0	0.02	0.62	0.03	186.0	0.005	0.002	50 g/t Ag
MEDD001	80.5	88.6	8.1	0.02	0.89	0.01	89.4	0.002	0.003	50 g/t Ag

Hole ID	From (m)	To (m)	Interval (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Ni (%)	Co (%)	Cut-off Criterion
<i>including</i>										
MEDD001	83.5	88.6	5.1	0.02	0.80	0.01	115.8	0.004	0.002	50 g/t Ag
MEDD001	89.6	98.3	8.7	0.04	3.74	0.02	265.3	0.002	0.003	50 g/t Ag
MEDD001	102.3	112.3	10.0	0.07	4.10	0.03	197.6	0.002	0.007	50 g/t Ag
MEDD001	128.0	134.6	6.6	0.28	6.05	0.03	42.4	0.002	0.002	2.5% Pb
<i>including</i>										
MEDD001	125.0	131.0	6.0	0.32	3.33	0.03	82.2	0.001	0.002	50 g/t Ag
MEDD002	24.2	26.2	2.0	0.01	0.30	0.02	154.5	0.002	0.003	50 g/t Ag
MEDD002	32.2	37.2	5.0	0.03	0.35	0.03	77.4	0.002	0.004	50 g/t Ag
MEDD002	39.2	53.2	14.0	0.02	2.51	0.02	111.2	0.002	0.004	50 g/t Ag
<i>including</i>										
MEDD002	46.2	53.2	7.0	0.02	4.03	0.02	119.6	0.002	0.001	2.5% Pb
MEDD002	54.2	57.2	3.0	0.01	1.01	0.03	69.3	0.001	0.001	50 g/t Ag
MEDD002	60.2	80.2	20.0	0.02	0.82	0.03	92.8	0.001	0.001	50 g/t Ag
MEDD002	78.2	82.2	4.0	0.01	2.44	0.02	41.8	0.001	0.001	2.5% Pb
MEDD002	122.0	127.0	5.0	0.00	2.87	0.43	49.0	0.005	0.004	2.5% Pb
MEDD002	126.0	136.1	10.1	0.01	6.25	0.17	132.7	0.010	0.009	50 g/t Ag
<i>including</i>										
MEDD002	128.0	136.1	8.1	0.01	7.01	0.18	148.5	0.009	0.012	2.5% Pb
MEDD003	15.5	30.2	14.7	0.16	1.80	0.06	143.5	0.008	0.004	50 g/t Ag
<i>including</i>										
MEDD003	16.5	20.5	4.0	0.32	2.98	0.11	165.5	0.005	0.012	2.5% Pb
MEDD003	24.5	27.5	3.0	0.17	2.52	0.06	166.7	0.004	0.017	2.5% Pb
MEDD003	32.0	53.0	21.0	0.04	0.87	0.01	119.8	0.001	0.004	50 g/t Ag
MEDD003	65.5	68.7	3.2	0.11	1.26	0.04	316.2	0.005	0.003	50 g/t Ag
MEDD003	69.5	87.5	18.0	0.09	1.82	0.02	150.3	0.006	0.012	50 g/t Ag
MEDD003	88.5	91.5	3.0	0.03	2.19	0.01	39.0	0.003	0.002	2.5% Pb
MEDD003	97.5	104.5	7.0	0.03	7.31	0.00	5.0	0.003	0.004	2.5% Pb
SHDD001	13.1	21.0	7.9	0.08	4.77	0.02	88.2	0.013	0.009	2.5% Pb
<i>including</i>										
SHDD001	16.1	20.0	3.9	0.06	5.82	0.02	61.3	0.015	0.007	5% Pb
SHDD001	37.0	39.0	2.0	0.14	11.11	0.07	93.0	0.070	0.047	2.5% Pb
SHDD001	41.3	70.7	29.4	0.10	11.78	0.32	129.9	0.056	0.026	2.5% Pb
<i>including</i>										
SHDD001	44.3	70.7	26.4	0.09	12.69	0.33	138.6	0.058	0.026	5% Pb
SHDD001	88.8	100.8	12.0	0.15	8.05	0.53	41.0	0.034	0.016	2.5% Pb
<i>including</i>										
SHDD001	89.8	99.8	10.0	0.17	8.96	0.59	45.9	0.040	0.019	5% Pb
SHDD001	104.8	110.0	5.2	0.00	2.88	0.01	9.8	0.006	0.003	2.5% Pb
SHDD001	138.0	146.0	8.0	0.08	4.58	1.78	264.5	0.041	0.021	2.5% Pb
<i>including</i>										
SHDD001	142.0	146.0	4.0	0.02	6.95	2.71	126.0	0.045	0.026	5% Pb
SHDD001	219.7	229.7	10.0	0.01	5.62	6.35	159.1	0.032	0.019	2% Zn
SHDD001	221.7	223.7	2.0	0.02	3.67	14.41	183.0	0.006	0.002	2.5% Pb

Hole ID	From (m)	To (m)	Interval (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Ni (%)	Co (%)	Cut-off Criterion
SHDD001	227.7	238.7	11.0	0.02	11.96	4.49	298.7	0.153	0.105	2.5% Pb
<i>including</i> SHDD001	227.7	236.7	9.0	0.02	13.66	4.37	340.3	0.178	0.124	5% Pb
SHDD001	237.7	240.7	3.0	0.03	4.99	3.72	103.7	0.026	0.013	5% Pb
SHDD002	46.0	51.0	5.0	0.03	3.13	0.01	30.8	0.020	0.009	2.5% Pb
SHDD002	57.0	59.0	2.0	0.01	3.90	2.87	54.0	0.025	0.005	2.5% Pb
SHDD002	64.0	71.0	7.0	0.01	4.29	4.27	48.3	0.006	0.004	2.5% Pb
<i>including</i> SHDD002	64.0	66.0	2.0	0.02	4.73	7.93	56.5	0.007	0.004	2% Zn
SHDD002	69.0	72.0	3.0	0.01	3.00	3.99	35.7	0.006	0.003	2% Zn
SHDD002	73.0	80.0	7.0	0.01	4.05	0.87	46.7	0.007	0.004	2.5% Pb
<i>including</i> SHDD002	77.0	80.0	3.0	0.01	5.54	0.54	59.3	0.016	0.008	5% Pb

APPENDIX 2 CHANNEL SAMPLING COMPOSITE INTERSECTIONS

Channel-sample composite intersections are reported based on a cut-off grade of 2.5% Pb or 50 g/t Ag, with additional reporting at cut-off grades of 0.5% Cu and 4% Zn to highlight copper- and zinc-rich intervals. Composites have been calculated with a maximum of 2m internal waste.

Note that composites are all length-weighted averages with no top-cut applied, and that composite intervals are along-channel length which may be greater than true width.

Channel ID	From (m)	To (m)	Interval (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Co (%)	Ni (%)	Cut-off Criterion
B2	1.7	4.5	2.8	0.19	8.42	0.58	104.0	0.004	0.013	2.5% Pb
B2	33.9	36.8	2.9	3.97	0.46	0.78	232.1	0.030	0.064	50g/t Ag
B12	3.7	11.7	8.0	0.03	4.98	15.88	180.2	0.008	0.031	50g/t Ag
B12	3.7	7.6	3.9	0.03	3.04	11.15	79.3	0.005	0.020	2.5% Pb
B12	9.0	11.7	2.7	0.03	9.47	24.16	386.7	0.013	0.052	2.5% Pb
B12	29.2	34.4	5.2	0.14	6.93	11.16	198.2	0.008	0.029	2.5% Pb
B15	15.6	19.1	3.5	0.03	8.07	14.43	237.5	0.015	0.037	50g/t Ag
B15	23.2	26.7	3.5	1.09	18.90	6.53	499.4	0.050	0.077	2.5% Pb
B15	32.4	37.3	4.9	0.56	18.45	11.29	837.5	0.035	0.114	2.5% Pb
B15	43.2	46.3	3.1	0.04	1.94	5.72	71.0	0.001	0.012	50g/t Ag
B24	2.0	4.0	2.0	0.60	7.02	2.17	83.0	0.001	0.002	2.5% Pb
B24	8.0	10.0	2.0	0.17	2.82	0.28	5.0	0.001	0.002	2.5% Pb
B24	18.0	20.0	2.0	0.11	3.27	0.06	15.0	0.004	0.007	2.5% Pb
B26	0.0	8.0	8.0	0.13	4.32	0.26	35.5	0.001	0.006	2.5% Pb
B26	8.0	10.0	2.0	0.18	1.40	0.03	73.0	0.002	0.007	50g/t Ag
B26	18.0	28.0	10.0	0.37	4.84	0.05	98.0	0.002	0.008	2.5% Pb
<i>including</i>										
B26	18.0	22.0	4.0	0.38	7.99	0.09	155.5	0.002	0.008	5% Pb
B26	28.0	30.0	2.0	0.04	0.76	0.01	57.0	0.001	0.002	50g/t Ag
B26	32.0	40.0	8.0	0.47	7.93	0.02	25.0	0.005	0.015	2.5% Pb
B26	42.0	48.0	6.0	0.34	6.29	0.01	87.3	0.010	0.024	2.5% Pb
B27	4.0	6.0	2.0	0.07	1.75	0.03	72.0	0.006	0.008	50g/t Ag
B27	8.0	14.0	6.0	0.05	6.16	0.04	18.0	0.003	0.007	2.5% Pb
B27	18.0	30.0	12.0	0.06	3.56	0.04	28.8	0.002	0.006	2.5% Pb
B27	32.0	34.0	2.0	0.44	2.70	0.02	55.0	0.003	0.007	2.5% Pb
B27	40.0	42.0	2.0	0.21	2.05	0.04	55.0	0.015	0.046	50g/t Ag
B27	46.0	50.0	4.0	0.23	12.34	0.10	37.3	0.012	0.036	2.5% Pb
B28	0.0	25.0	25.0	0.33	9.64	0.05	70.5	0.004	0.012	2.5% Pb
B28	26.0	28.0	2.0	0.32	6.85	0.03	49.0	0.005	0.014	2.5% Pb
B28	33.0	42.0	9.0	0.24	10.77	0.02	26.7	0.024	0.043	2.5% Pb
B28	44.0	48.0	4.0	0.47	13.43	0.52	229.5	0.002	0.009	2.5% Pb
B29	7.0	16.0	9.0	3.77	3.57	1.30	123.3	0.020	0.032	50g/t Ag
B29	13.0	17.0	4.0	2.06	7.90	2.93	87.8	0.032	0.060	2.5% Pb
B29	22.0	33.5	11.5	0.04	5.25	8.32	73.0	0.006	0.027	4% Zn
<i>including</i>										
B29	20.0	26.0	6.0	0.03	9.62	8.76	142.2	0.016	0.076	2.5% Pb
B29	30.0	33.5	3.5	0.08	4.30	5.53	17.4	0.002	0.005	2.5% Pb

Channel ID	From (m)	To (m)	Interval (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Co (%)	Ni (%)	Cut-off Criterion
B29	39.0	41.0	2.0	0.02	3.48	2.92	36.0	0.001	0.001	2.5% Pb
B29	48.0	50.0	2.0	0.01	4.20	0.58	54.0	0.004	0.006	2.5% Pb
B32	12.0	14.0	2.0	3.81	4.44	0.05	380.0	0.002	0.010	2.5% Pb
B33	14.0	18.5	4.5	0.14	8.64	0.10	104.0	0.002	0.005	2.5% Pb
B35	0.0	6.0	6.0	1.97	7.65	0.06	127.3	0.032	0.058	2.5% Pb
B35	19.5	25.5	6.0	0.16	9.24	2.77	189.0	0.010	0.022	2.5% Pb
B103	95.0	98.0	3.0	0.11	2.31	4.12	61.3	0.001	0.004	4% Zn
B104	40.0	42.0	2.0	0.09	10.09	27.23	443.3	0.020	0.095	2.5% Pb
B106	1.5	13.5	12.0	0.39	19.73	0.49	202.3	0.027	0.078	50g/t Ag
B106	4.0	13.5	9.5	0.39	24.63	0.58	222.9	0.030	0.094	2.5% Pb
B106	15.0	34.5	19.5	0.27	9.49	0.05	136.2	0.011	0.022	2.5% Pb
B106	37.5	42.0	4.5	0.22	10.61	0.16	55.0	0.007	0.020	2.5% Pb
B107	65.5	70.5	5.0	0.63	4.33	0.01	101.6	0.024	0.057	2.5% Pb
B109	8.5	16.5	8.0	0.42	19.50	4.66	293.3	0.020	0.063	2.5% Pb
B109	28.0	36.5	8.5	0.20	6.82	0.02	38.8	0.024	0.027	2.5% Pb
B111	29.0	33.5	4.5	2.69	9.79	3.67	186.0	0.017	0.027	2.5% Pb
B111	50.5	58.0	7.5	0.53	10.64	3.97	269.2	0.007	0.014	2.5% Pb
B111	77.0	83.0	6.0	0.03	4.90	7.16	75.8	0.003	0.008	2.5% Pb
B112	34.5	37.0	2.5	0.07	11.44	0.07	269.0	0.001	0.005	2.5% Pb
CH001	0.0	10.0	10.0	0.38	11.33	1.79	143.3	0.043	0.070	2.5% Pb
<i>including</i>										
CH001	0.0	2.5	2.5	0.01	14.49	5.49	129.8	0.004	0.014	4% Zn
CH001	8.5	11.5	3.0	2.04	2.52	0.65	341.0	0.084	0.126	0.5% Cu
CH001	13.0	15.5	2.5	0.77	7.29	0.29	70.0	0.017	0.023	2.5% Pb
CH002	0.0	9.0	9.0	0.69	17.55	5.21	472.2	0.035	0.087	2.5% Pb
CH003	9.0	13.4	4.4	0.51	12.31	3.57	190.8	0.098	0.172	2.5% Pb
CH003	23.0	25.3	2.3	3.92	11.10	1.39	216.3	0.087	0.139	2.5% Pb
CH004	0.0	11.9	11.9	1.13	7.22	5.18	126.2	0.018	0.040	2.5% Pb
CH004	16.8	27.5	10.7	1.45	7.98	7.24	250.1	0.037	0.090	2.5% Pb
CH005	0.0	28.5	28.5	2.77	4.46	3.96	488.3	0.053	0.120	50g/t Ag
<i>including</i>										
CH005	0.0	4.5	4.5	0.87	14.24	0.81	150.0	0.033	0.061	2.5% Pb
<i>and</i>										
CH005	4.5	21.0	16.5	4.48	1.77	0.54	743.8	0.077	0.174	0.5% Cu
CH005	9.5	12.0	2.5	2.38	3.12	0.29	812.0	0.020	0.049	2.5% Pb
CH005	15.0	18.0	3.0	5.27	4.58	1.46	612.0	0.078	0.180	2.5% Pb
CH005	21.0	28.5	7.5	0.14	4.51	13.35	129.1	0.013	0.035	2.5% Pb
CH006	27.2	34.5	7.3	0.69	6.74	5.61	332.7	0.061	0.127	4% Zn
CH006	31.5	40.5	9.0	0.49	4.48	6.43	304.7	0.057	0.140	50g/t Ag
CH006	31.5	39.0	7.5	0.58	5.05	7.57	352.2	0.068	0.166	2.5% Pb
CH006	40.5	45.0	4.5	0.08	10.00	10.45	169.0	0.022	0.061	2.5% Pb
CH007	0.0	8.0	8.0	0.08	6.44	16.95	141.8	0.011	0.039	2.5% Pb
CH009	0.0	8.0	8.0	0.12	10.57	5.30	227.0	0.024	0.056	2.5% Pb
CH009	24.0	28.0	4.0	0.02	1.47	6.74	133.0	0.005	0.023	50g/t Ag

Channel ID	From (m)	To (m)	Interval (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Co (%)	Ni (%)	Cut-off Criterion
CH009	32.0	38.0	6.0	0.45	4.03	14.45	241.3	0.011	0.033	2.5% Pb
CH010	3.0	17.0	14.0	0.44	6.92	5.43	321.1	0.014	0.033	2.5% Pb
CH010	22.0	47.0	25.0	0.26	16.30	14.60	560.4	0.041	0.100	2.5% Pb
CH011	1.5	10.0	8.5	0.14	5.10	12.11	128.5	0.006	0.015	2.5% Pb
CH012	0.0	5.5	5.5	0.15	3.73	5.97	136.8	0.005	0.011	2.5% Pb
CH013	5.0	9.5	4.5	4.46	6.07	0.16	358.0	0.031	0.064	2.5% Pb
CH013	28.0	31.5	3.5	4.26	13.43	0.02	42.0	0.009	0.024	2.5% Pb
CH014	0.0	4.5	4.5	2.40	10.17	0.21	260.0	0.025	0.046	2.5% Pb
CH014B	0.0	3.0	3.0	3.23	19.41	0.38	465.0	0.011	0.033	2.5% Pb
CH015	0.0	3.5	3.5	3.86	11.44	0.06	351.0	0.006	0.022	2.5% Pb
CH015	6.0	14.0	8.0	4.91	16.85	0.86	337.7	0.073	0.311	2.5% Pb
CH015	29.0	40.0	11.0	1.75	12.56	0.09	169.9	0.012	0.023	2.5% Pb
<i>including</i>										
CH015	33.5	40.0	6.5	2.29	12.33	0.07	144.0	0.011	0.024	2.5% Pb
CH016	0.0	4.5	4.5	3.08	12.63	10.97	354.0	0.010	0.032	2.5% Pb

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <i>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 down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i> <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> <i>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.</i> 	<ul style="list-style-type: none"> The 2017 evaluation programme at Bawdwin included diamond core drilling and systematic channel sampling in the Chinaman open pit. The diamond core drilling was completed from February to June 2017 using PQ, HQ and NQ triple tube diameter coring. A total of 21 diamond core drill holes were completed, of which two were redrills, for a total of 2965.6 metres. Drill core was geologically logged, cut and then ½ core samples sent to Intertek Laboratories for sample preparation in Yangon, Myanmar and then analysis in Manila, Philippines. The sample interval was nominally 1 metre or to geological and mineralisation boundaries. Channel sampling in the Chinaman open pit sampling was completed as part of a surface geological mapping programme in late 2016. Systematic channel sampling was completed by a team of Valentis and Win Myint Mo geologists over most of the available open pit area wherever clean exposure was accessible. A total of 435 samples were collected from 47 channels totalling 1790.8 metres. Samples were typically 1.5m in length or to geological and mineralisation boundaries. Approximately 3kg of representative sample was systematically chipped from cleaned faces. Samples were despatched to Intertek Laboratories for sample preparation in Yangon, Myanmar and then analysis in Manila, Philippines.
Drilling techniques	<ul style="list-style-type: none"> <i>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).</i> 	<ul style="list-style-type: none"> Drilling was completed by Titeline Valentis Drilling Myanmar (‘TVDM’) using two Elton 500 drill rigs. Drilling is a combination of triple tubed PQ, HQ and NQ diameter diamond coring. Holes were typically collared in PQ, then reduced to HQ around 50m, and later to NQ if drilling conditions dictated. Holes ranged from 63.4 metres to 260.1 metres depth. Attempts were made to orientate the core but the ground was highly fractured and broken with short drilling runs. Obtaining consistently meaningful orientation data was very difficult.

Criteria	JORC Code explanation	Commentary
Drill sample recovery	<ul style="list-style-type: none"> • <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i> • <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i> • <i>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.</i> 	<ul style="list-style-type: none"> • To maximise core recovery, triple tube PQ, HQ and NQ core drilling was used, with the drilling utilising TVDM drillers experienced in drilling difficult ground conditions. Drill penetration rates and water pressure were closely monitored to maximise recovery. • During the diamond drilling the length of each drill run and the length of sample recovered was recorded by the driller (driller's recovery). The recovered sample length was cross checked by the geologists logging the drill core and recorded as the final recovery. • Core recoveries were variable and often poor with a mean of 80% and a median of 87%, with lowest recoveries in the 10 to 30% range. Low recoveries reflect poor ground conditions and previously mined areas. Core recoveries were reviewed and two intervals were excluded due to very poor recovery. • At present, no relationships between sample recovery and grade bias due to loss/gain of fines or washing away of clay material has been identified. It is assumed that the grade of lost material is similar to the grade of the recovered core. • For channel chip sampling, every effort was made to sample systematically across each sample interval with sampling completed by trained geologists.
Logging	<ul style="list-style-type: none"> • <i>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.</i> • <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i> • <i>The total length and percentage of the relevant intersections logged.</i> 	<ul style="list-style-type: none"> • All diamond core samples were geologically logged in a high level of detail down to a centimetre scale. Quantitative logging for lithology, stratigraphy, texture, hardness, RQD and defects was conducted using defined logging codes. Colour and any other additional qualitative comments are also recorded. • The 2016 open pit channel rock samples were systematically geologically logged and recorded on sample traverse sheets. • All drill core and open pit sampling locations were digitally photographed.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> • <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> • <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> • <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> • <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> 	<ul style="list-style-type: none"> • All core was half-core sampled. Most core was cut using an electric diamond saw and some more friable intervals were split manually. All core for sampling was pre-marked with the cut line, and only the left hand side of the core was sent for assay to maintain consistency. • The core sampling intervals were generally at one metre intervals which were refined to match logged lithology and geological boundaries. A minimum sample length of 0.5m was used. • No sub-splitting of the open pit chips samples was undertaken.

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled. 	Sample lengths ranged from 1 to 2m (typically 1.5m). Sample intervals were refined to match geological boundaries.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established. 	<ul style="list-style-type: none"> The Valentis diamond drilling and open pit channel samples were all sent to Intertek Laboratories in Yangon for sample preparation. All samples were dried and weighed and crushed to in a Boyd Crusher. A representative split of 1.5kg was then pulverised in a LM5 pulveriser. A 200 gram sub-sample pulp was then riffle split from the pulverised sample. The crusher residue and pulverised pulp residue were stored at the Yangon laboratory. Sample pulps were sent to the Intertek analytical facility in Manila, Philippines where they were analysed using ICP-OES – Ore grade 4 acid digestion. Elements analysed were Ag, Fe, Cd, Co, Ni, Pb, Cu, Mn, S and Zn. Quality Control (QAQC) samples were submitted with each assay batch (certified reference standards, blanks and duplicate samples). Laboratory inserted QAQC samples were also analysed. All assay results returned were of acceptable quality based on assessment of the QAQC assays.
Verification of sampling and assaying	<ul style="list-style-type: none"> The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	<ul style="list-style-type: none"> All diamond drill core samples were checked, measured and marked up before logging in a high level of detail. The diamond drilling, sampling and geological data were recorded into standardised templates in Microsoft Excel by the logging/sampling geologists. Geological logs and associated data were cross checked by the supervising Project Geologist Laboratory assay results were individually reviewed by sample batch and the QAQC data integrity checked before uploading. All geological and assay data were uploaded into an Access database. The Access database was loaded into Micromine databases. This data was then validated for integrity visually and by running systematic checks for any errors in sample intervals, out of range values and other important variations. All drill core was photographed with corrected depth measurements

Criteria	JORC Code explanation	Commentary
		<p>before sampling.</p> <ul style="list-style-type: none"> No specific twin holes were drilled, however in two daughter holes were inadvertently cut due to challenging drilling conditions during re-entry through collapsed ground. The daughter holes intersected mineralisation of very similar tenor and grade to the parent hole
Location of data points	<ul style="list-style-type: none"> Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> The diamond drilling and pit mapping and channel sampling all utilised UTM WGS84 datum Zone 34 North. All diamond drill holes and pit mapping sampling traverse locations were surveyed using a Differential Global Positioning System (DGPS). The DGPS is considered to have better than 0.5m accuracy. All diamond drill holes have downhole surveys. These were taken using a digital single shot camera typically taken every 30 metres.
Data spacing and distribution	<ul style="list-style-type: none"> Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. 	<ul style="list-style-type: none"> The diamond drill holes completed at the Chinaman pit are spaced on approximately 70 metre spaced sections and were designed to provide systematic coverage along the strike/dip of the Chinaman lode. Three drill holes were drilled at the Meingtha Lode on 50 metre spaced sections and two holes drilled at the Shan Lode on 100 metre spaced sections. The open pit sampling was done on accessible berms and ramps. These traverses range from 10 metres to 30 metres apart.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	<ul style="list-style-type: none"> Drill holes were generally drilled on 065 azimuth (true) which is perpendicular to the main north and NNE striking lodes. Holes were generally inclined at -50 degrees to horizontal. The open pit channel sampling sample traverses were orientated perpendicular to the main trend of mineralisation where possible. However due to the orientation of the pit walls in many areas, sampling traverse are at an oblique angle to the main mineralised trend. The drilling orientation is not believed to have caused any sampling bias.
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> Drill core was taken twice daily from the drill rig, immediately following completion of day shift and night shift respectively. Core was transported to the core facility where it was logged and sampled. Samples were bagged and periodically sent to the Intertek laboratory in Yangon for preparation. All samples were delivered by a Valentis geologist to Lashio then transported to Yangon on express bus as

Criteria	JORC Code explanation	Commentary
		consigned freight. The samples were secured in the freight hold of the bus by the Valentis geologist. The samples collected on arrival in Yangon by a Valentis driver and delivered to the Intertek laboratory.
Audits or reviews	<ul style="list-style-type: none"> <i>The results of any audits or reviews of sampling techniques and data.</i> 	<ul style="list-style-type: none"> Integrity of all data (drill hole, geological, assay) was reviewed before being incorporated into the database system. No external reviews have been completed

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <i>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.</i> <i>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.</i> 	<ul style="list-style-type: none"> The Bawdwin Mine is located in NE Shan State, Myanmar The project owner is Win Myint Mo Co. Ltd who hold a Mining Concession which covers some approximately 38 square kilometres. Win Myint Mo has a current Production-sharing Agreement with the Myanmar Government. Myanmar Metals holds an exclusive six-month option agreement with Win Myint Mo, which can be extended to 12 months, under which it can acquire an 85% interest in the Project from WMM subject to approval by the Myanmar government
Exploration done by other parties	<ul style="list-style-type: none"> <i>Acknowledgment and appraisal of exploration by other parties.</i> 	<ul style="list-style-type: none"> The Bawdwin Mine was operated as an underground and open pit base metal (Pb, Zn, Ag, Cu) mine from 1914 until 2009. The only modern study on the mine was completed by Resource Service Group (RSG) in 1996 for Mandalay Mining. RSG compiled the historic underground data and completed a JORC (1995) Mineral Resource estimate. The digital data for this work was not located and only the hardcopy report exists
Geology	<ul style="list-style-type: none"> <i>Deposit type, geological setting and style of mineralisation.</i> 	<ul style="list-style-type: none"> The Bawdwin deposit is hosted in volcanic (Bawdwin Tuff), intrusive (Lo Min Porphyry) and sedimentary (Pangyun Formation) rocks of late Cambrian to early Ordovician age. The historic mine was based on three high-grade massive Pb-Zn-Ag-Cu sulphide lodes, the Shan, Chinaman and Meingtha lodes. These lodes were considered to be formed as one lode, and are now offset by two major faults the Hsenwi and Yunnan faults. The major sulphides are galena and sphalerite with lesser amounts of pyrite, chalcopyrite, covellite, gersdorffite, boulangerite, and cobaltite

Criteria	JORC Code explanation	Commentary
		<p>amongst other minerals.</p> <ul style="list-style-type: none"> • The lodes are steeply-dipping structurally-controlled zones and each lode incorporated anastomosing segments and footwall splays. • The lodes occur within highly altered Bawdwin Tuff which hosts extensive stockwork and disseminated mineralisation as well as narrow massive sulphide lodes along structures. This halo mineralisation is best developed in the footwall of the largest Chinaman Lode. • The main central part of the mineralised system is approximately 2 km in length by 400m width, while ancient workings occur over a strike length of about 3.5 km • The upper portion of the Chinaman Lode was originally covered by a large gossan which has been largely mined as part of the earlier open pit. The current pit has a copper oxide zone exposed in the upper parts, transitional sulphide mineralisation in the central areas and fresh sulphide mineralisation near the base of the pit • The Bawdwin deposit is interpreted as a structurally-controlled magmatic-hydrothermal replacement deposit emplaced within a rhyolitic volcanic centre
Drill hole Information	<ul style="list-style-type: none"> • 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"> ○ easting and northing of the drill hole collar ○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ○ dip and azimuth of the hole ○ down hole length and interception depth ○ hole length. • If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	<ul style="list-style-type: none"> • All collar and composite data are provided in tables in the body of the document or as Appendices
Data aggregation methods	<ul style="list-style-type: none"> • 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. • Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used 	<ul style="list-style-type: none"> • Length-weighted composites have been reported based on lower cut-off criteria that are provided in the composite tables, primarily 2.5% Pb or 50 g/t Ag. Additional composites based on cut-off of 4% Zn or 0.5% Cu have been reported to highlight zinc & copper-rich zones. • No top-cut has been applied. The Bawdwin deposit includes

Criteria	JORC Code explanation	Commentary
	<p>for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</p> <ul style="list-style-type: none"> The assumptions used for any reporting of metal equivalent values should be clearly stated. 	<p>extensive high grade massive sulphide lodes that constitute an important component of the mineralisation; top-cuts will be applied if appropriate during estimation of mineral resources</p> <ul style="list-style-type: none"> Composite incorporate a maximum of 2 metres internal waste Metal equivalents are not reported here.
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known'). 	<ul style="list-style-type: none"> Drill holes were orientated at an azimuth perpendicular to the main orientation of mineralisation with a dip at about 40-50° from the dip of mineralisation; reported drill composite intercepts are down-hole intervals, not true widths Channel sampling was at variable orientation dependent on the orientation of pit faces; reported drill composite intercepts are down-hole intervals, not true widths
Diagrams	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Diagrams that are relevant to this release have been included in the main body of the document.
Balanced reporting	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Results have been reported for all drill holes and channels to the cut-off criteria provided
Other substantive exploration data	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> All relevant data have been reported
Further work	<ul style="list-style-type: none"> The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	<ul style="list-style-type: none"> The details of additional work programmes will be determined by the results of the Mineral resource estimate and Scoping Study that are currently underway. It is envisaged that a substantial drilling program will be undertaken to improve confidence in the Mineral Resource and to test extension targets, supported by geology, geochemistry and geophysics