

# MANDALAY RESOURCES CORPORATION CONTINUES TO EXTEND THE SHEPHERD ZONE AND PROVIDES UPDATE ON THE COSTERFIELD DEEP DRILLING PROGRAM

Significant southern extension added to the Shepherd Zone, currently with a strike of 500 metres ("m"). Costerfield Deep Drilling program has intercepted veining with visible gold.

TORONTO, ON, October 5, 2021 – Mandalay Resources Corporation ("Mandalay" or the "Company") (TSX: MND, OTCQB: MNDJF) is pleased to provide an update on drilling progress at its Costerfield operation in Victoria, Australia.

Further diamond drilling underneath the Youle orebody has resolved the Shepherd Zone into five distinct veins. These veins are grouped into the Eastern and Western horizons veins as described within the previous Shepherd Zone update (see June 8, 2021, press release). The Eastern veining group has been extended to the south and can be traced over 400 m of strike, and approximately 100 m of vertical extent. The Shepherd system still remains open to the north, south and at depth with the southernmost drillhole showing persistent veining with significant gold and antimony grade.

The Costerfield Deeps program has progressed with another drillhole completed since the last update in 2020. Drillhole CD002 and wedge hole CD002W1 were drilled under the Cuffley and Augusta deposits and recovered quartz veining with multiple visible gold intercepts within horizons not previously encountered. The discovery of additional gold-bearing veins down-dip of the Augusta Mine builds on previously reported high-grade intercepts of the Sub-King Cobra deep drilling program and lends weight to the Company's expectation of a sizeable system of significantly mineralized gold-bearing veins at depth below the current development.

#### **New Drilling Highlights:**

#### **Eastern Vein Group**

- 399.0 g/t gold over true width of 0.11 m in KD773;
- 61.8 g/t gold over true width of 1.66 m in BC214;
- 24.6 g/t gold and 2.3% antimony over true width of 1.19 m in BC218A;
- 10.0 g/t gold and 2.3% antimony composited over true width 8.2 m in BC239 including:
  - 98.6 g/t gold and 18.5% antimony over true width of 0.31 m;
  - 2.4 g/t gold and 1.7% antimony over true width of 0.74 m;
  - 19.8 g/t gold and 8.3% antimony over true width of 0.26 m;
  - 156.0 g/t gold and 19.1% antimony over true width of 0.17 m; and
- 14.8 g/t gold and 11.6% antimony over true width of 1.76 m in BC241

#### Western Vein Group

- 155.0 g/t gold and 10.5 % antimony over true width of 0.11 m in BC234; and
- 66.6 g/t gold over true width of 0.25 m in BC220

*Note: Further intercept details including significant intercepts within composite intervals can be found in Table 1 in the Appendix to this document.* 

Dominic Duffy, President and CEO of Mandalay, commented: "Despite a redirection of resources to other near-mine targets while appropriate drilling platforms were established, the drilling and interpretive work on Shepherd yielded excellent results. Mandalay is very encouraged by the 150 m extension of veining, which also includes one of the largest intercepts within the system discovered to-date. As the resolution of data increased, our understanding evolved around what was previously understood as two veining horizons, which are now interpreted to be five distinct veins."

Mr. Duffy continued, "Further to the increased veining and strike extension, the southern extension veins show increased amounts of antimony alongside the gold bearing quartz veins. Antimony is currently produced as a co-product with gold and is considered a critical mineral by the Australia government. This southern zone is rich in antimony and is still open to the south and at depth with the upper vertical constraint (interaction with Youle) rising as the vein progresses to the south."

Mr. Duffy continued, "In conjunction with the Shepherd drilling campaign, the ongoing Costerfield Deeps project progressed further with two deep holes underneath the multi-millionounce Costerfield corridor. Excitingly, CD002 – drilled underneath the Cuffley deposit – intercepted two instances of visible gold within quartz veining at 998 m and 1,169 m downhole. This result taken along-side the initial high-grade intercepts drilled in 2016, indicated that the system at depth (900 m below surface) is 500 m wide."

Mr Duffy concluded, "Both the incremental steps taken with the discovery of Shepherd and the step-out drilling conducted within the Costerfield Deeps program is providing a strong foundation for future growth at Costerfield, which is currently one of the world's highest grade gold mines and Australia's highest-grade antimony mine.

"A video has been prepared by Mr. Chris Davis, Vice President of Operational Geology and Exploration, to further explain the information in this release. The video can be found on Mandalay's website or by clicking **here**."

## The Shepherd Zone Extension and Infill

Since Mandalay's last press release on the Shepherd zone drilling (June 8, 2021), an additional 27 holes have been drilled into Shepherd. From this drilling, 62 significant intercepts have been sampled.

This latest round of drilling focussed on building confidence in the northern and central portions of Shepherd and extending the veining to the south. As continued drilling and interpretation has refined the Shepherd model; the previously interpreted Eastern and Western Shepherd veins have been further defined into an array of two veins (named Shepherd and Merino) grouped as the "Eastern Veining" and three veins (named Suffolk, Dorper and Southdown) grouped as the "Western Veining" (Figure 1).

The lateral and vertical extents of the Shepherd zone veining is still not fully understood, as the southernmost drilling shows the system is still within high grade. The new interpretation of three veins continuing northward has demonstrated that the northernmost drilling has not adequately tested the veining. Mineralization at depth has been intercepted, however the drill angles offered by existing infrastructure becomes acute at depth. As such drilling to-date has been focused on lateral extension with depth extension scheduled from drill horizons not yet developed.



Figure 1. Inclined plan section of the Shepherd vein system as currently interpreted, showing the positions of the intercepts highlighted in this release.

#### **Eastern Veining**

Approximately 150 m of strike has been added to the south of the Shepherd vein, through intercepts obtained in drillholes BC234, BC239, BC240 and BC241. Excitingly, alongside the gold in quartz, veining is ubiquitous to the northern and central portions of Shepherd, and the drilling shows strong and rich stibnite (antimony ore) veining. This mineralization is demonstrated in BC239 which intercepted 10.0 g/t gold and 2.3% antimony over a true width of 8.2 m including 98.6 g/t gold and 18.6% antimony over 0.31 m and 156.0 g/t gold and 19.1% antimony over 0.17 m. The southernmost intercept (BC240: 40.1 g/t Au and 13.5% Sb over true width of 0.30 m) still shows strong gold and antimony present. Approximately 50 m above the southernmost BC240 is the intercept of BC241, which again shows high grade veining with a composite of 14.8 g/t gold and 11.6% antimony over a true width of 1.76 m (Figures 2 and 3).



Figure 2. Picture of the drill core recovered in BC241 of the Shepherd intercept. Down hole lengths and grades are shown in red. The light grey or metallic mineral is stibnite.

The two newly defined veins of the "Eastern Array" have differing orientations with the Shepherd shallow dipping (75°) to the west in contrast to the sub vertical (85°) Merino vein. This variance in orientation causes a convergence of the structures and a localized upgrading along the north plunging interaction. A key finding from the most recent iteration of modelling is that the Shepherd vein is likely the structural and mineralized continuation of the Youle orebody only in a steeper orientation (Figure 1).



Figure 3. Longitudinal section of the Shepherd Zone Eastern Vein Group (600, 605 veins)

#### Western Veining

Since the last update, the "Western Vein" has been resolved into three distinct veins (Suffolk, Dorper and Southdown). Drilling since the June release intercepted the Suffolk and Southdown veins only. Many of the holes targeting the Western veining in this reporting period were designed to infill large gaps identified as interpretation progressed, and to extend these veins

down-dip. The Western veins to the North (Suffolk, Dorper) continue to be dominated by goldonly mineralization, with stibnite often undetected in these intercepts, such as BC220 (66.6 g/t gold over a true width of 0.25 m) on Suffolk vein. The southern Southdown vein shows both antimony and gold mineralization as intercepted in drillhole BC234 (155 g/t Au and 10.5% Sb over a true width of 0.11 m). Current interpretation shows a change in strike between the Suffolk and Southdown veins, and further infill drilling (between 6990 and 7040m) is planned to understand the strike change along with the mineralization style from gold in quartz in the Suffolk vein to the more stibnite and quartz with visible gold seen in the Southdown vein.



Figure 4. Longitudinal section of the Shepherd Zone Western Vein Group

Infill drilling, as well as extensional drilling of Shepherd zone is ongoing with current programs due to see out the remainder of this year. Additionally, drilling at depth will again become a focus when further drilling horizons become available as the decline progresses towards Shepherd.

#### **Costerfield Deep Drilling**

The Costerfield Deeps drilling program has been designed to follow on from the exciting deep drilling program started in 2015, which has resulted in many previously reported high-grade intercepts (described below). With the continued success at Cuffley, Brunswick and now Youle, Costerfield Deeps became a lower priority until further litho-stratigraphic analysis (sparked by the success of the neighbouring Fosterville mine) gave context to the high gold grade results and the prospect of a significantly larger target. Generally, the favourable setting sits at a depth of 0.8 to 1.2 km, so the current program to date has involved long drill holes with wedges from those holes. Drillhole CD001 underneath Southern Youle was reported in 2020. Below is a

summary of the second hole in the series CD002 and wedge targeting at depth to the south of the field.

Completed on July 30, 2021, drillhole CD002 was drilled to a depth of 1,497 m and designed to test at depth below the Cuffley and Augusta ore systems, down-dip of an area where high-grade gold mineralization has been encountered in 2016's Sub King Cobra drilling campaign. The deepest significant results from this program are:

- CSK007 47.5 g/t gold over a true width of 2.37 m (reported January 19, 2016). Including 1,361 g/t gold over a true width of 0.08 m; and
- CSK012 344.7 g/t gold over a true width of 0.19 m (reported July 25, 2016)

Geological modelling of this area, which involved the integration of litho-stratigraphic and structural information obtained from the 2019's CD001 drillhole, inferred the existence of a broad anticline dissected by the down-dip extension of the west-dipping thrust faults that bound the currently mined orebodies, hosting the same package of carbonaceous sandstones targeted and encountered in CD001. The geochemical and rheological contrast of these sandstones with the siltstone-dominated lithologies of the Costerfield area were suggested as a favourable environment for mineralization.



Figure 5. Cross section of Costerfield Deeps hole CD002, showing the position of the mineralised veins encountered in relation to the Brunswick and Cuffley / Augusta mines.

CD002 found the interpreted anticline to be present (Figure 5), and encountered two significantly mineralized veins, both displaying visible gold:

- From 998.7 m 0.7 g/t gold over a true width of 0.12 m; and
- From 1,169 m 7.9 g/t gold over a true width of 0.07 m.

The lower grade assay result of the first vein (at 999 m downhole) was a subvertical east dipping vein, that is atypical of veins containing visible gold at Costerfield and highlights the significant "nugget effect" active during assay of coarse gold material. This effect is mitigated in the Shepherd zone by assaying the whole diamond drill core. The Costerfield Deeps drill core is sawn in half before sampling, the other half retained for archiving. Wedging was conducted to twin the mineralized intercepts and increase the confidence of geological interpretation around these zones. The assay results of these wedges are reported in this release's Appendix.



Figure 6. Photomicrograph of gold within veining at 998.7 m of CD002.

These mineralized intercepts continue the at-depth prospectivity first identified with Sub-King Cobra drillholes CSK007 and CSK012, hinting at the potential for economic panels of mineralization to exist between the Adder and Blue-Ringed Faults down-dip of the existing mine. With the new information obtained from CD002, this mineralized corridor is now at least 500 m wide and of unknown strike extent. This area will continue to be targeted for further drilling in 2022.

## **Drilling and Assaying**

All underground drilling reported in this document was completed using 2 x LM90 and 1 x LM30 Boart Longyear diamond drill rigs operated by drill contractor Starwest Pty Ltd. Surface drilling was completed using a Boart Longyear LM90 diamond rig. All diamond drill core was logged and sampled by Costerfield geologists. All samples were sent to On Site Laboratory Services (OSLS) in Bendigo, Victoria, Australia, for sample preparation and analysis by fire assay for gold, and Atomic Absorption Spectroscopy (AAS) for antimony. Samples featuring coarse grained visible gold were assayed using a variant of fire assay known as screen fire assay. This method is routinely used to mitigate potential problems associated with heterogeneity in the distribution of coarse gold within drill samples. The procedure collects all heterogenous coarse gold by screening at 75µm after crushing and pulverisation, and subsequently fire assays the full resultant +75µm mass to extinction. A mass weighted average of gold grade of the sample is subsequently calculated from the +75µm fraction and 3 x splits of the -75µm fraction of the sample. Site geological and metallurgical personnel have implemented a QA/QC procedure that includes systematic submission of standard reference materials and blanks within batches of drill and face samples submitted for assay. Costerfield specific reference materials produced from Costerfield ore have been prepared and certified by Geostats Pty Ltd., a specialist laboratory quality control consultancy. See Technical Report entitled "Mandalay Resources -Costerfield Operation NI 43-101 Report" dated March 30, 2021, available on SEDAR (<u>www.sedar.com</u>) for a complete description of drilling, sampling, and assaying procedures.

## **Qualified Person:**

Chris Davis, Vice President of Operational Geology and Exploration at Mandalay Resources, is a Chartered Professional of the Australasian Institute of Mining and Metallurgy (MAusIMM CP(Geo)), and a Qualified Person as defined by NI 43-101. He has reviewed and approved the technical and scientific information provided in this release.

### For Further Information

Dominic Duffy President and Chief Executive Officer

Edison Nguyen Manager, Analytics and Investor Relations

Contact: 647.260.1566

### About Mandalay Resources Corporation

Mandalay Resources is a Canadian-based natural resource company with producing assets in Australia (Costerfield gold-antimony mine) and Sweden (Björkdal gold mine), with projects in Chile and Canada under care and maintenance, closure or development status. The Company is focused on growing its production profile and reducing costs to generate significant positive cashflow.

Mandalay's mission is to create shareholder value through the profitable operation of both its Costerfield and Björkdal mines. Currently, the Company's main objective is to continue mining the high-grade Youle vein at Costerfield, which continues to supply high-grade ore, and also focus on extending Youle's Mineral Reserves at depth. At Björkdal, the Company will aim to increase production from the Aurora zone in the coming years, in order to maximize profit margins from the mine.

#### Forward-Looking Statements:

This news release contains "forward-looking statements" within the meaning of applicable securities laws, including statements regarding the exploration and development potential of the Youle deposit (Costerfield). Readers are cautioned not to place undue reliance on forwardlooking statements. Actual results and developments may differ materially from those contemplated by these statements depending on, among other things, changes in commodity prices and general market and economic conditions. The factors identified above are not intended to represent a complete list of the factors that could affect Mandalay. A description of additional risks that could result in actual results and developments differing from those contemplated by forward-looking statements in this news release can be found under the heading "Risk Factors" in Mandalay's annual information form dated March 31, 2021, a copy of which is available under Mandalay's profile at www.sedar.com. In addition, there can be no assurance that any inferred resources that are discovered as a result of additional drilling will ever be upgraded to proven or probable reserves. Although Mandalay has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forwardlooking statements.

## <u>Appendix</u>

DRILL HOLE ID	FROM (M)	то (М)	DRILL WIDTH (M)	TRUE WIDTH (M)	AU GRADE (G/T)	SB GRADE (%)	AU (G/T) OVER MIN. 1.8M MINING WIDTH	VEIN NAME
BC214	58.38	60.96	2.58	1.66	61.8	0.1	57.1	Merino
BC216	156.09	156.68	0.59	0.20	3.0	LLD	0.3	Merino
BC217	151.00	152.32	1.44	0.65	20.1	LLD	7.3	Merino
INCLUDING	151.98	152.32	0.34	0.12	84.2	LLD	5.6	Merino
BC220	129.44	129.79	0.35	0.29	4.0	0.1	0.7	Merino
BC221	121.61	121.96	0.35	0.15	95.5	16.9	11.2	Merino
BC222	121.85	122.36	0.51	0.12	65.7	6.6	5.4	Merino
BC225	163.85	166.37	2.52	1.34	0.1	LLD	0.1	Merino
BC227	102.68	105.90	3.22	2.07	1.6	LLD	1.6	Merino
BC228A	99.95	100.31	0.36	0.17	74.4	0.0	7.0	Merino
BC231	90.02	90.94	0.92	0.74	22.0	LLD	9.0	Merino
BC232	105.84	106.68	0.84	0.45	16.4	0.0	4.1	Merino
KD774	134.00	134.24	0.24	0.13	0.4	0.0	0.0	Merino
BC214	56.00	58.38	2.38	0.66	14.8	0.5	5.9	Shepherd
BC215	119.15	119.35	0.20	0.05	0.5	0.0	0.0	Shepherd
BC218A	173.00	174.93	1.93	1.19	24.6	2.3	19.8	Shepherd
INCLUDING	174.24	174.93	0.69	0.47	66.7	6.5	21.3	Shepherd
BC225	172.17	172.77	0.60	0.39	7.6	LLD	1.7	Shepherd
BC227	114.96	115.55	0.59	0.30	14.9	LLD	2.5	Shepherd
BC228A	125.96	126.60	0.64	0.25	0.9	0.0	0.1	Shepherd
BC230	103.70	104.04	0.34	0.26	0.4	LLD	0.1	Shepherd
BC232	114.66	115.16	0.50	0.23	114.0	0.0	14.6	Shepherd
BC233	141.50	142.10	0.60	0.27	2.1	LLD	0.3	Shepherd
BC234	265.45	268.44	2.99	1.02	12.3	6.5	15.5	Shepherd
BC237	142.93	143.56	0.63	0.22	91.2	0.0	11.2	Shepherd
BC239	270.66	286.15	15.49	8.23	10.0	2.3	15.4	Shepherd
INCLUDING	270.66	271.40	0.74	0.31	98.6	18.5	24.4	Shepherd
INCLUDING	276.16	277.15	0.99	0.26	19.8	8.3	5.6	Shepherd
INCLUDING	285.83	286.15	0.32	0.17	156.0	19.1	18.9	Shepherd
INCLUDING	271.40	276.16	4.76	0.74	2.4	1.7	2.6	Shepherd
BC240	328.10	328.55	0.45	0.30	40.1	13.5	11.9	Shepherd
BC241	127.70	130.84	3.14	1.76	14.8	11.6	40.7	Shepherd
KD773	93.06	93.18	0.12	0.11	399.0	0.1	24.4	Shepherd
KD774	136.25	137.47	1.22	0.73	31.9	0.0	13.0	Shepherd
BC218A	267.73	268.27	0.35	0.22	23.2	6.1	4.6	Southdown
BC234	349.98	350.13	0.15	0.11	155.0	10.5	11.0	Southdown
BC214	103.08	103.23	0.15	0.10	0.3	LLD	0.0	Suffolk
BC215	146.68	149.05	2.37	1.46	0.2	LLD	0.2	Suffolk
BC220	102.96	103.24	0.28	0.25	66.6	0.0	9.3	Suffolk
BC221	213.79	213.95	0.16	0.10	0.1	0.0	0.0	Suffolk
BC222	218.84	219.00	0.16	0.10	58.4	0.0	3.2	Suffolk
BC228	117.70	118.70	1.00	0.31	21.5	LLD	3.7	Suffolk
BC229	124.70	124.91	0.21	0.11	0.0	LLD	0.0	Suffolk

# Table 1. Shepherd Drilling Composites

BC232	161.87	162.24	0.37	0.14	3.6	LLD	0.3	Suffolk
BC235	129.60	130.13	0.53	0.37	0.4	LLD	0.1	Suffolk
BC215	128.47	129.90	1.43	1.01	1.8	LLD	1.0	Unnamed
BC222	110.41	110.70	0.29	0.19	19.8	LLD	2.1	Unnamed

Notes

1. The AuEq (gold equivalent) grade is calculated using the following formula:  $AuEq g per t = Au g per t + Sb\% \times \frac{Sb \text{ price per } 10\text{kg} \times Sb \text{ processing recovery}}{Au \text{ price per } g \times Au \text{ processing recovery}}$ Prices and recoveries used: Au \$/oz = 1,760; Sb \$/t = 12,800; Au Recovery = 93% and; Sb Recovery = 95% 95%

- 2. LLD signifies an undetectable amount of antimony. Detection limit for the analysis used is 0.01%
- 3. Composites that are not interpreted to be connected to a named vein and are below 1 g/t AuEq when diluted to 1.8m are not considered significant and are not recorded here.

DRILL HOLE ID	FROM (M)	то (М)	DRILL WIDTH (M)	TRUE WIDTH (M)	AU GRADE (G/T)	VEIN NAME
CD002	988.67	989.13	0.46	0.08	0.8	
CD002	998.67	999.13	0.46	0.12	0.7	Upper vein
CD002	1169.24	1169.5	0.26	0.07	7.9	Lower vein
CD002W1	1034.83	1035.09	0.26	0.06	1.0	
CD002W1	1046.95	1047.65	0.70	0.16	0.7	Lower vein
CD002W1	1211.33	1212.33	1.00	0.42	0.5	
CD002W2	997.6	998.13	0.53	0.13	2.4	Upper vein

#### Table 2. Costerfield Deep Drilling Composites