# Discovery Reports Preliminary Economic Assessment on Cordero with After-Tax NPV of US\$1.2 B, IRR of 38% and Payback of 2.0 Years

**November 30, 2021, Toronto, Ontario - Discovery Silver Corp.** (TSX-V: DSV, OTCQX: DSVSF) ("Discovery" or the "Company") is pleased to announce results from its Preliminary Economic Assessment ("PEA" or "the Study") on its 100%-owned Cordero silver project ("Cordero" or "the Project") located in Chihuahua State, Mexico.

Study highlights include (all figures are in USD unless otherwise noted):

- Excellent project economics: Base Case after-tax NPV5% of \$1.2 B (C\$1.5 B) and IRR of 38% (Ag \$22.00/oz, Au \$1,600/oz, Pb \$1.00/lb and Zn \$1.20/lb).
- Exceptional silver price leverage: Upside Case after-tax NPV5% of \$1.9 B (C\$2.4 B) and IRR of 55% (Ag \$27.50/oz, Au \$1,880/oz, Pb \$1.10/lb and Zn \$1.45/lb based on one-year trailing 90<sup>th</sup> percentile prices).
- Large-scale, high-margin, long mine life asset: 16-year mine life with average annual production of 26 Moz AgEq at an AISC of \$12.35/oz AgEq.
- Low capital intensity: initial development capex of \$368 M; attractive NPV-to-capex ratio of 3.2x.
- **Rapid payback:** post-tax payback of 2.0 years for Base Case and 1.4 years for Upside Case.
- **Technically robust study:** 99% of tonnes processed in the PEA mine plan are in the Measured & Indicated category; process design and metallurgical recovery estimates are based on the Company's comprehensive 2021 metallurgical testwork program.
- Silver-dominant revenues: silver represents +60% of the net smelter return in the first five years of the mine life and +50% of the net smelter return over the life of mine, in-line with the senior/mid-tier silver producer group.

Taj Singh, President and CEO, states: "With annual AgEq production averaging more than 26 Moz over a +15-year mine life we believe this PEA clearly positions Cordero as a Tier 1 silver asset. This impressive scale of production is achieved through modest development capex of \$368 M and returns excellent margins with AISC averaging less than \$12.50/AgEq oz over the life of the mine. These costs highlight the benefits of existing local infrastructure, excellent metallurgy, and a straight-forward open pit mine with excellent grades and a low strip ratio.

"Importantly, the outstanding metrics demonstrated in the PEA are supported by a mine plan with more than 99% of tonnes in the Measured and Indicated category, and a simple and conventional process design based on our detailed metallurgical testwork program completed earlier this year. This provides us with a huge head start as we look ahead to the delivery of a Prefeasibility Study on Cordero in 2022."

### PEA SUMMARY:

### Study support:

- The Study is based on the updated Mineral Resource Estimate ("Resource") press released on October 20, 2021 (see Appendices for Resource details), and the Company's comprehensive metallurgical testwork program described in our press release dated September 7, 2021.
- The PEA project team was led by Ausenco Engineering Canada Inc. ("Ausenco"), an industry leader in cost-effective design and construction. Ausenco was supported by AGP Mining Consultants Inc. ("AGP") and Knight Piésold and Co. (USA) ("Knight Piésold").

# **Project Economics:**

Sensitivity of the Project's expected after-tax NPV, IRR and payback at different commodity price assumptions is outlined in the table below:

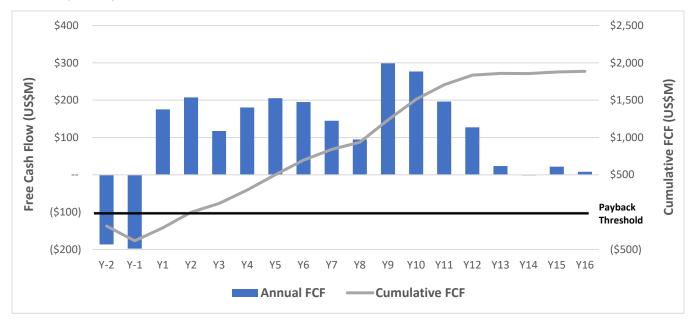
	Units	Base Case	Upside Case	Base Case +15%	Base Case -15%
After-Tax NPV (5% discount rate)	(US\$ M)	\$1,160	\$1,889	\$1,692	\$622
Internal Rate of Return	(%)	38.2%	54.6%	49.9%	25.2%
Payback	(yrs)	2.0	1.4	1.6	3.5

• Base Case price assumptions: Ag = \$22.00/oz, Au = \$1,600/oz, Pb = \$1.00/lb, Zn = \$1.20/lb

Upside Case price assumptions: Ag = \$27.50/oz, Au = \$1,880/oz, Pb = \$1.10/lb, Zn = \$1.45/lb based on one-year trailing 90<sup>th</sup> percentile prices

# After-Tax Free Cash Flow:

A chart summarizing the expected annual and cumulative after-tax free cash flow ("FCF") over the lifeof-mine ("LOM") is provided below:

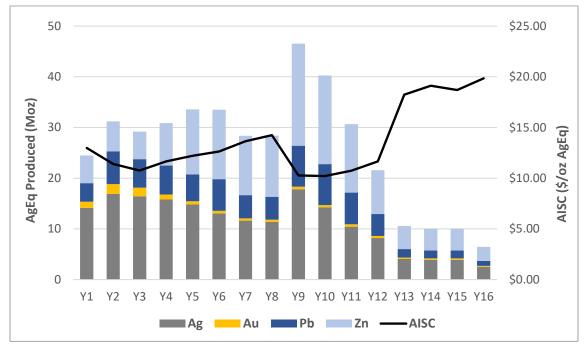


#### **Production & Costs:**

Annual production over the LOM is expected to average 26 Moz AgEq with production averaging over 33 Moz AgEq when fully ramped up (Years 5 - 12); this positions Cordero as one of the largest silver mines globally.

	Units	Year 1 – 4	Year 5 - 12	Year 13 -16	LOM
AgEq Produced - Average	(Moz)	29	33	9	26
AgEq Payable - Average	(Moz)	26	29	8	23
AgEq Produced - Total	(Moz)	117	265	37	426
AgEq Payable - Total	(Moz)	104	230	32	372
All-In Sustaining Cost (AISC)	(US\$/AgEq oz)	\$11.64	\$11.77	\$18.88	\$12.35

Note – LOM production/payable totals include production from Year -1. AgEq Produced is metal recovered in doré/concentrate. AgEq Payable is metal payable from doré/concentrate and incorporates metal payment terms outlined in the Concentrate Terms section below. See Technical Disclosure section for AgEq and AISC calculation methodology.



# LOM Production & AISC:

Note – Au/Pb/Zn production is shown on an AgEq basis based on: Ag = \$22/oz, Au = \$1,600/oz, Pb = \$1.00/lb and Zn = \$1.20/lb

# **OPERATIONS:**

### Mining:

The mine plan incorporates accelerated stripping as well as stockpiling of low-grade material in order to optimize the grade profile over the LOM.

- The mine plan was completed by AGP and is based on a detailed mine design that incorporates mining dilution, safety berms and haul roads.
- Mining rates over the life of the mine are relatively steady at 60 to 70 Mtpa.
- The ultimate pit contains 719 Mt in total consisting of 228 Mt of mill feed and 491 Mt of waste for an average strip ratio of 2.2:1. The strip ratio is relatively even over the LOM.
- Pit slope designs were based on an assessment by Knight Piésold that was supported by two geotechnical coreholes in the North Corridor and logging of core from two exploration coreholes in the South Corridor.

# Processing:

Processing was broken into two phases to optimize the capital efficiency of the project.

- Phase 1 throughput (Year -1 to Year 4)
  - Oxides: mined during the preproduction period and are crushed through the Phase 1 crushing plant and stacked on the heap leach from Year -1 to Year 3 at a throughput rate of 5 Mtpa. After Year 3 the Phase 1 crushing plant is dedicated to processing higher-value sulphide material with remaining oxide material processed as uncrushed 'run-of-mine' ("ROM") material via heap leaching.
  - Sulphides: crushing, grinding and flotation circuit is constructed in Year -1 and processing occurs at a nameplate rate of 7.2 Mtpa from Year 1 to Year 4. During this period the mine plan focuses on high-grade material from the Pozo de Plata zone.
- Phase 2 throughput (Year 5+)
  - Sulphides: two identical crushing, grinding and flotation circuits from Y5 onwards with total throughput of 14.4 Mtpa

Annual Throughout (Mth/a)		PHASE 1							
Annual Throughput (Mt/a)	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5+			
Oxides / Heap Leach (Crushed)	5.0	5.0	5.0	5.0	-	-			
Sulphides / Milling	-	5.8	7.2	7.2	10.8	14.4			
Total Tonnes	5.0	10.8	12.2	12.2	10.8	14.4			

- Process design
  - Oxides: three-stage crushing (targeted crush size of 8 mm), agglomeration, heap leaching and refining in Year -1 to Year 3 and ROM dump leaching and refining in Year 4 to Year 6 to produce Ag-Au doré bars

 Sulphides: three-stage crushing, grinding (targeted grind size of 200 micron) and flotation to produce Pb and Zn concentrates

# Head grades:

The mine plan focuses on feeding higher grades to the mill earlier in the mine life:

- **Year 1 4:** processing of higher-grade oxide material from the South Corridor and sulphide material predominantly from the Pozo de Plata zone
- Year 5 12: processing of higher-grade sulphides from the NE Extension and the South Corridor
- Year 13 16: processing of lower-grade material stockpiled during Year 1 to Year 12

HEAD GRADES	UNIT	PHASE 1	PHA	SE 2	LOM
HEAD GRADES	UNIT	Year 1 – 4	Year 5 – 12	Year 13 – 16	LOIVI
Oxides					
Tonnes processed	(Mt)	25	4	-	29
Ag	(g/t)	37	29	-	36
Au	(g/t)	0.08	0.05	-	0.08
AgEq	(g/t)	43	33	-	42
Sulphides					
Tonnes processed	(Mt)	31	115	52	199
Ag	(g/t)	57	32	13	31
Au	(g/t)	0.26	0.07	0.04	0.09
Pb	(%)	0.80	0.50	0.17	0.46
Zn	(%)	0.80	0.92	0.34	0.75
AgEq	(g/t)	118	88	34	80

Note - Phase 1 and LOM Oxide tonnes/grades include tonnes processed on the heap leach in Year -1

### **Recoveries:**

- **Oxides:** recoveries were based on coarse bottle roll tests and preliminary results from column leach tests completed in 2021. Recoveries average 56% for Ag and 63% for Au for crushed feed and 36% for Ag and 35% for Au for uncrushed ROM feed.
- **Sulphides:** recoveries were based on the 2021 metallurgical test program which included lock-cycle tests and examined metal recoveries to the silver-lead concentrate and the silver-zinc concentrate at varying head grades for each of the major geological rock types at Cordero. Metal recoveries to the two concentrates are summarized below:

	PHASE 1	РНА	LOM	
SULPHIDE RECOVERIES (weighted average)	Year 1 – 4	Year 5 – 12	Year 13 – 16	LOIVI
Ag	92%	83%	67%	84%
Au	19%	19%	19%	19%
Pb	90%	86%	69%	86%
Zn	85%	86%	74%	85%

# Tailings Management Facility (TMF):

- The TMF design was completed by Knight Piésold and is based on a conventional thickened tailings dam facility of downstream construction type.
- The TMF is located directly west of the open pit. The design incorporates five dam lifts over the LOM.
- Total capacity of the TMF is 179M m<sup>3</sup> (252 Mt); this is significantly greater than the estimated volume requirement of 142M m<sup>3</sup> based on the PEA mine plan.
- An evaluation of using a dry-stacked tailings facility will be completed as part of pre-feasibility work.

# **CONCENTRATE TERMS:**

# Metal Payable:

- Cordero is expected to produce clean, highly saleable concentrates with minimal penalty elements as established in the 2021 metallurgical test program.
- Industry standard payables and deductions were applied to the Pb and Zn concentrates as per the table below. A metallurgical balance summary is included in the Appendices.

	Ag	Au	Pb	Zn
Pb Concentrate				
Average concentrate grade LOM	2,900 g/t	1.6 g/t	52%	-
Payable metal	95%	95%	95%	-
Minimum deduction	50 g/t	1 g/t	3 units	-
Zn Concentrate				
Average concentrate grade LOM	300 g/t	0.5 g/t	-	51%
Payable metal	70%	70%	-	85%
Deduction	3 oz/t	1 g/t	-	-

• Approximately 85% of the Ag reports to the Pb concentrate where higher payabilities are received.

# Treatment/Refining Charges:

• Treatment and refining charges were based on a review of spot and recent benchmark pricing and are summarized as follows:

PARAMETER	UNITS	PEA COST	SPOT	2021 BENCHMARK
TREATMENT/REFINING CHARGES				
Treatment charge – Pb con	\$/dmt	\$100	~\$60	\$140
Treatment charge – Zn con	\$/dmt	\$200	~\$80	\$160
Ag refining charge – Pb con	\$/oz	\$1.00	~\$0.75	\$1.50

# **Concentrate Transportation:**

- Transportation costs assume trucking of the concentrate via containers to the international port at Guaymas, Sonora, and then shipping via ocean freight to Asia.
- Estimated transportation costs (trucking, port handling and ocean freight) are \$128/wmt for Pb concentrate and \$116/wmt for Zn concentrate.

# CAPITAL EXPENDITURES:

### **Initial Capital** (for parallel processing of crushed oxides and sulphides)

- Year -2: construction of on-site infrastructure, power line and the heap leach circuit with capacity of 5 Mtpa to process oxide/transition material (includes a three-stage oxide crushing circuit, heap leach pad/ponds and Merrill Crowe plant).
- **Year -1:** first sulphide circuit with a capacity of 7.2 Mtpa (includes sulphide crushing circuit, ball mill and flotation plant) and construction of the TMF including the initial dam lift.

### Expansion Capital (to expand plant to 14.4 Mtpa sulphides only)

- Year 3: addition of second sulphide circuit to expand processing rate to 14.4 Mtpa by the addition of a ball mill and flotation circuit creating two parallel sulphide circuits. The crushing circuit previously used for oxides will be dedicated to sulphides from Year 4 onwards and will not require repurposing.
- Year 8: expand flotation circuit with additional flotation cells, cyclones, filters and thickeners to accommodate the higher zinc grades from Year 9 to Year 11.

# **Sustaining Capital**

- **TMF:** the tailings dam will be completed in five lifts over the LOM at a total capital cost of \$110 M (\$15 M initial capex plus \$95 M of sustaining capex).
- **Other:** additional sustaining capex totals \$113 M over the LOM and includes sustaining capital for the process plant and mobile equipment and replacements/refurbishments of infrastructure assets.

DESCRIPTION (all in US\$ millions)	INITIAL	CAPITAL		NSION ITAL	SUSTAINING	TOTAL
	Year -2	Year -1	Year 3	Year 8	LOM CAPEX	LOM CAPEX
CAPITAL EXPENDITURES						
Mining	\$26	\$1			\$7	\$33
Infrastructure	\$34	\$9	\$10		\$16	\$69
Heap Leach + Oxide Plant	\$71	\$1			\$4	\$76
Sulphide Processing Plant		\$95	\$51	\$23	\$30	\$199
Tailings Facility (TMF)		\$15			\$95	\$110
Indirects	\$22	\$30	\$17	\$6	\$4	\$78
Owners Costs	\$6					\$6
Closure (net of Salvage Value)					\$22	\$22
Contingency	\$28	\$30	\$16	\$6	\$29	\$110
	\$187	\$181	40.4	495	6200	<u> </u>
Capital Expenditures - Subtotals	\$3	68	\$94	\$35	\$208	\$704
PRE-SULPHIDE OPERATIONS						
Revenue		\$121				
Mining Costs		(\$110)				
Process + G&A Costs		(\$27)				
Operating Cash Flow for Year -1		(\$16)				
NET FUNDING REQUIREMENT	\$3	84				

# **OPERATING COST ASSUMPTIONS:**

### Mining:

• Mining is assumed to be completed by contract mining; estimated mining costs were based on contractor quotes for Cordero received by AGP

# Processing and G&A Costs:

- Processing costs for the heap leach and mill/flotation, and G&A costs were developed by Ausenco from first principles.
- Sulphide processing costs benefit from a conventional flotation process design and low power costs. The targeted coarse grind size of 200 micron alleviates the need for a SAG mill.
- G&A costs estimates are based on a small camp and administration office at site. The majority of the work force will be Mexican nationals commuting daily from the local town of Parral. Parral is 25 km south of Cordero and has a population of approximately 100,000. It is the regional government centre in the southern part of Chihuahua State and has a well-established service industry that supports numerous local mining operations.

PARAMETER	UNITS	PEA COST
OPERATING COSTS		
Mining – Mill Feed	\$/t mined	\$2.16
Mining – Waste	\$/t mined	\$2.04
Processing – Heap leach crushed	\$/t stacked	\$3.84
Processing – Heap leach ROM	\$/t stacked	\$1.39
Processing – Milling (7.2 Mtpa)	\$/t milled	\$7.01
Processing – Milling (14.4 Mtpa)	\$/t milled	\$6.57
Site G&A (14.4 Mtpa)	\$/t milled	\$0.86

# **OPPORTUNITIES:**

Work completed during the preparation of the PEA outlined a number of opportunities that have the potential to improve the economic and ESG performance of the project:

• **Mine life extension:** there are over 300 Mt of Sulphide Resource that sit outside the PEA design pit but within the Resource pit shell. These resources as summarized below have the potential to extend the mine life and/or increase production levels at higher commodity prices.

	Tannaa			Grade			Contained Metal					
Class	Tonnes	Ag	Au	Pb	Zn	AgEq	Ag	Au	Pb	Zn	AgEq	
	(Mt)	(g/t)	(g/t)	(%)	(%)	(g/t)	(Moz)	(koz)	(Mlb)	(Mlb)	(Moz)	
Measured	33	15	0.06	0.21	0.42	38	16	63	151	306	40	
Indicated	187	16	0.04	0.23	0.45	40	94	221	952	1,869	238	
M&I	220	16	0.04	0.23	0.45	39	110	284	1,103	2,175	278	
Inferred	106	14	0.03	0.19	0.38	34	48	97	445	897	117	

Note – the full Resource is provided in the Appendix; further details can be found in the Company's October 21, 2021, press release.

- Coarser grind size: metallurgical test work suggests higher recoveries may be achieved at coarse grind sizes (greater than the 200 micron used in the PEA). An evaluation of coarse particle flotation will be completed as part of the 2022 Prefeasibility Study ("PFS"). Coarse particle flotation has the potential to further reduce operating costs and water consumption.
- **Dry stack tailings:** an evaluation of using dry stacked tailings to improve ESG performance will be completed as part of the PFS.

# **TECHNICAL DISCLOSURE:**

- Inferred material, representing 0.9% of the mill feed, is included in the total mill feed. Inferred resources are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as reserves.
- Mineral resources that are not mineral reserves do not have demonstrated economic viability.
- Readers are cautioned that the PEA is preliminary in nature and that there is no certainty the estimates utilized in the PEA will be realized.
- A full technical report will be prepared in accordance with NI 43-101 and will be filed on SEDAR within 45 days of this press release.
- AgEq is calculated based on the following commodity prices: Ag \$22.00/oz, Au \$1,600/oz, Pb \$1.00/lb and Zn \$1.20/lb.
- All-in Sustaining cost (AISC) is calculated as: [Operating costs (mining, processing and G&A) + Royalties + Concentrate Transportation + Treatment & Refining Charges + Concentrate Penalties + Sustaining Capital (includes capital for TMF dams lifts with capacity for less than five years) + Closure Costs] / Payable AgEq ounces

# APPENDIX:

An appendix with the following supporting information can be found at the end of the release or the following link: <u>Appendices</u>

- Appendix A Mineral Resource Estimate
- Appendix B After-Tax NPV/IRR/Payback Sensitivities
- Appendix C Pit Optimisation Parameters
- Appendix D LOM Mine Plan Summary
- Appendix E LOM Process Throughput Summary
- Appendix F Simplified Process Flowsheets
- Appendix G Metallurgical Balance Summary
- Appendix H Long Sections / Cross Sections
- Appendix I Site Layout
- Appendix J LOM Production & Cash Flow Schedule

### About Discovery:

Discovery's flagship project is its 100%-owned Cordero project, one of the world's largest silver deposits. The PEA completed in November 2021 demonstrates that Cordero has the potential to be developed into a highly capital efficient mine that offers the combination of margin, size and scaleability. Cordero is located close to infrastructure in a prolific mining belt in Chihuahua State, Mexico. Continued exploration and project development at Cordero is supported by an industry leading balance sheet with cash of over C\$75 million. Discovery was a recipient of the 2020 TSX Venture 50 award and the 2021 OTCQX Best 50 award.

On Behalf of the Board of Directors, **Taj Singh, M.Eng, P.Eng, CPA,** President, Chief Executive Officer and Director

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#### **Qualified Person**

The PEA for the Company's Cordero project as summarized in this release was completed by Ausenco with support from by AGP and Knight Piésold. A full technical report supporting the PEA will be prepared in accordance with NI 43-101 and will be filed on SEDAR within 45 days of this press release. The scientific and technical content of this press release was reviewed and approved by Taj Singh, P Eng., President & CEO, who is a "Qualified Person" as defined by *National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101").* 

#### FORWARD-LOOKING STATEMENTS:

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This news release may include forward-looking statements that are subject to inherent risks and uncertainties. All statements within this news release, other than statements of historical fact, are to be considered forward looking. Although Discovery believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results or developments may differ materially from those described in forward-looking statements. Factors that could cause actual results to differ materially from those described in forward-looking statements. Factors that could cause actual results to availability of capital and financing, and general economic, market or business conditions. There can be no assurances that such statements will prove accurate and, therefore, readers are advised to rely on their own evaluation of such uncertainties. Discovery does not assume any obligation to update any forward-looking statements except as required under applicable laws.

# APPENDIX A – MINERAL RESOURCE ESTIMATE

	Tannaa	Grade				Contained Metal						
NSR \$/t cut-off	Class	Class Tonnes	Ag	Au	Pb	Zn	AgEq	Ag	Au	Pb	Zn	AgEq
cuton		(Mt)	(g/t)	(g/t)	(%)	(%)	(g/t)	(Moz)	(koz)	(Mlb)	(Mlb)	(Moz)
	Measured	128	22	0.08	0.31	0.52	52	89	328	881	1,470	212
ć7.05 /4	Indicated	413	19	0.05	0.28	0.51	47	255	707	2,543	4,663	625
\$7.25/t	M&I	541	20	0.06	0.29	0.51	48	344	1,035	3,424	6,132	837
	Inferred	108	14	0.03	0.19	0.38	34	49	99	451	909	119

#### **SULPHIDE RESOURCE** (assumed to be processed via mill/flotation)

# **OXIDE/TRANSITION RESOURCE** (assumed to be processed by heap leaching)

		<b>T</b>	Grade			Con	tained M	letal	_
NSR \$/t cut- off	Class	Tonnes	Ag	Au	AgEq	Ag	Au	AgEq	% Oxide / % Trans
01		(Mt)	(g/t)	(g/t)	(g/t)	(Moz)	(koz)	(Moz)	Trans
	Measured	23	20	0.06	25	15	43	19	92% / 8%
¢4.70/h	Indicated	75	19	0.05	23	45	125	56	87% / 13%
\$4.78/t	M&I	98	19	0.05	23	60	168	74	88% / 12%
	Inferred	35	16	0.04	20	18	44	22	63% / 37%

### SUPPORTING TECHNICAL DISCLOSURE FOR RESOURCE:

- Mineral resources that are not mineral reserves do not have demonstrated economic viability.
- AgEq for the Sulphide Resource is calculated as Ag + (Au x 16.07) + (Pb x 32.55) + (Zn x 35.10); these factors are based on commodity prices of Ag \$24.00/oz, Au \$1,800/oz, Pb \$1.10/lb, Zn \$1.20/lb and assumed recoveries of Ag 84%, Au 18%, Pb 87% and Zn 88%.
- AgEq for the Oxide/Transition Resource is calculated as Ag + (Au x 87.5); this factor is based on commodity prices of Ag \$24.00/oz and Au \$1,800/oz and assumed recoveries of Ag 60% and Au 70%.
- The Resource is constrained by a pit optimisation based on the following commodity prices: Ag \$24.00/oz, Au \$1,800/oz, Pb \$1.10/lb, Zn \$1.20/lb. Additional parameters for the pit constraint are provided in the Company's October 20, 2021, press release.
- Individual metals are reported at 100% of in-situ grade.
- The effective date of the Resource is October 20, 2021, and is based on drilling through July 2021.
- There are no known legal, political, environmental or other risks that could materially affect the potential development of the Resource.
- A full technical report supporting the Resource will be prepared in accordance with NI 43-101 and will be filed on SEDAR within 45 days of the October 20, 2021, Resource press release.

# APPENDIX B: AFTER-TAX NPV / IRR / PAYBACK SENSITIVITIES

Sensitivity of the Project's NPV, IRR and payback at different Ag and Zn price assumptions is outlined in the table below. For these sensitivities the Au and Pb prices have been fixed at \$1,600/oz and \$1.00/lb respectively. The Base Case scenario for the PEA is highlighted in grey below and assumes Ag - \$22.00/oz, Au - \$1,600/oz, Pb - \$1.00/lb and Zn - \$1.20/lb.

									Ag (\$/oz	)						
			\$18.00			\$20.00			\$22.00			\$25.00			\$30.00	
		NPV (5%)	IRR	Payback	NPV (5%)	IRR	Payback	NPV (5%)	IRR	Payback	NPV (5%)	IRR	Payback	NPV (5%)	IRR	Payback
		(US\$M)	(%)	(yrs)	(US\$M)	(%)	(yrs)	(US\$M)	(%)	(yrs)	(US\$M)	(%)	(yrs)	(US\$M)	(%)	(yrs)
	\$1.05	\$715	27.2%	3.3	\$866	31.5%	2.7	\$1,016	35.8%	2.2	\$1,238	42.0%	1.8	\$1,607	52.5%	1.4
	\$1.10	\$765	28.2%	3.2	\$915	32.4%	2.6	\$1,064	36.6%	2.1	\$1,286	42.8%	1.8	\$1,655	53.2%	1.4
Zn (\$/lb)	\$1.20	\$863	30.0%	3.1	\$1,013	34.1%	2.5	\$1,160	38.2%	2.0	\$1,382	44.3%	1.7	\$1,751	54.5%	1.4
(\$716)	\$1.30	\$961	31.7%	2.9	\$1,109	35.8%	2.3	\$1,257	39.7%	2.0	\$1,478	45.7%	1.7	\$1,848	55.8%	1.4
	\$1.45	\$1,105	34.2%	2.7	\$1,253	38.1%	2.2	\$1,401	42.0%	1.9	\$1,622	47.8%	1.6	\$1,992	57.8%	1.3

# **APPENDIX C - PIT OPTIMISATION PARAMETERS:**

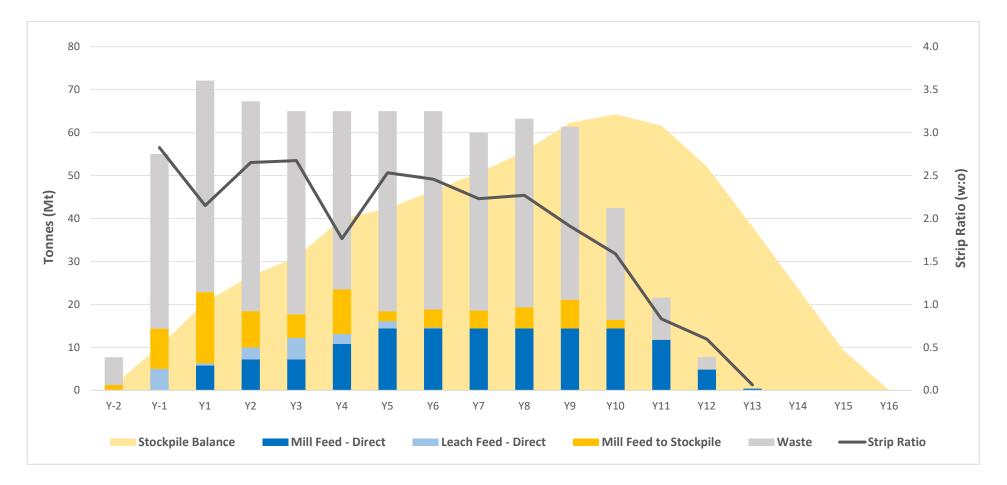
The PEA mine plan was based on a pit optimization that utilised the following parameters:

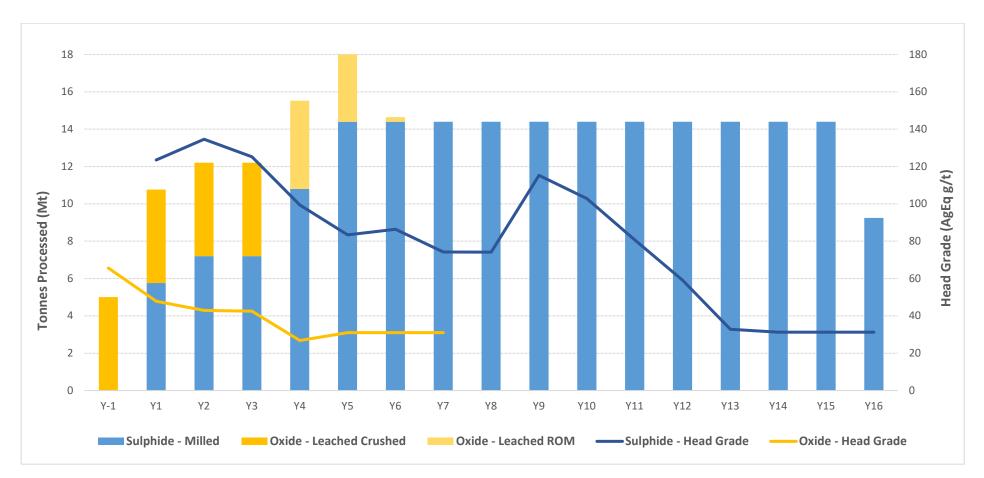
PARAMETER	UNITS	Ag	Au	Pb	Zn
COMMODITY PRICES	\$/oz or \$/lb	\$20.00	\$1,600	\$0.95	\$1.05
ROYALTY	%	0.5%	0.5%	-	-
PIT SLOPE ASSUMPTIONS			based on core lomp angles rang		
PROCESS RECOVERIES					
Heap Leach (Oxide/Transition)	%	60%	70%	-	-
Flotation (Sulphide)					
Breccia – Volcanic					
Recovery to Pb concentrate	%	79%	13%	91%	-
Recovery to Zn concentrate	%	11%	7%	-	88%
Breccia – Sedimentary					
Recovery to Pb concentrate	%	75%	12%	89%	-
Recovery to Zn concentrate	%	9%	4%	-	86%
Volcanic					
Recovery to Pb concentrate	%	70%	13%	85%	-
Recovery to Zn concentrate	%	13%	6%	-	81%
Sedimentary					
Recovery to Pb concentrate	%	70%	13%	83%	-
Recovery to Zn concentrate	%	10%	5%	-	89%
METAL PAYABLE					
Dore (Heap Leach)		98%	99.9%	-	-
Concentrate (Flotation)					
Pb concentrate		95%	95%	95%	-
Zn concentrate		70%	70%	-	85%

OPERATING COSTS		Base	Per 10m below 1550m
Mining cost – Mill Feed	\$/t mined	\$1.54	+\$0.024
Mining cost - Waste	\$/t mined	\$1.64	+\$0.024
Processing cost – Heap leach (14,000 tpd)	\$/t stacked	\$3.92	
Processing cost – Flotation (40,000 tpd)	\$/t milled	\$6.39	
G&A (40,000 tpd)	\$/t milled	\$0.86	

TREATMENT/REFINING CHARGES		
Treatment charge – Pb con	\$/dmt	\$100
Treatment charge – Zn con	\$/dmt	\$200
Ag refining charge – Pb con	\$/oz	\$1.00

# APPENDIX D - LOM MINE PLAN SUMMARY

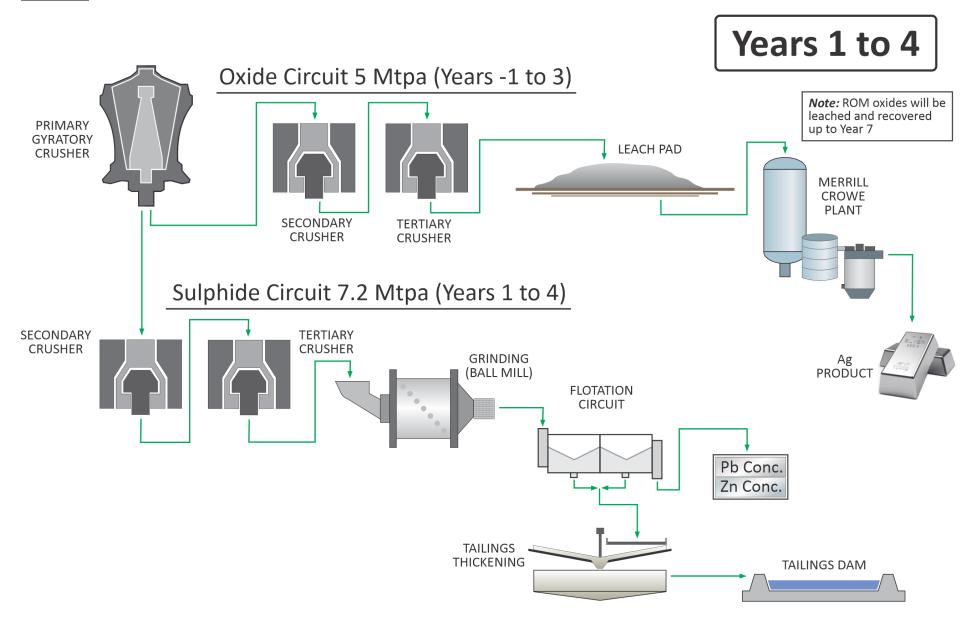




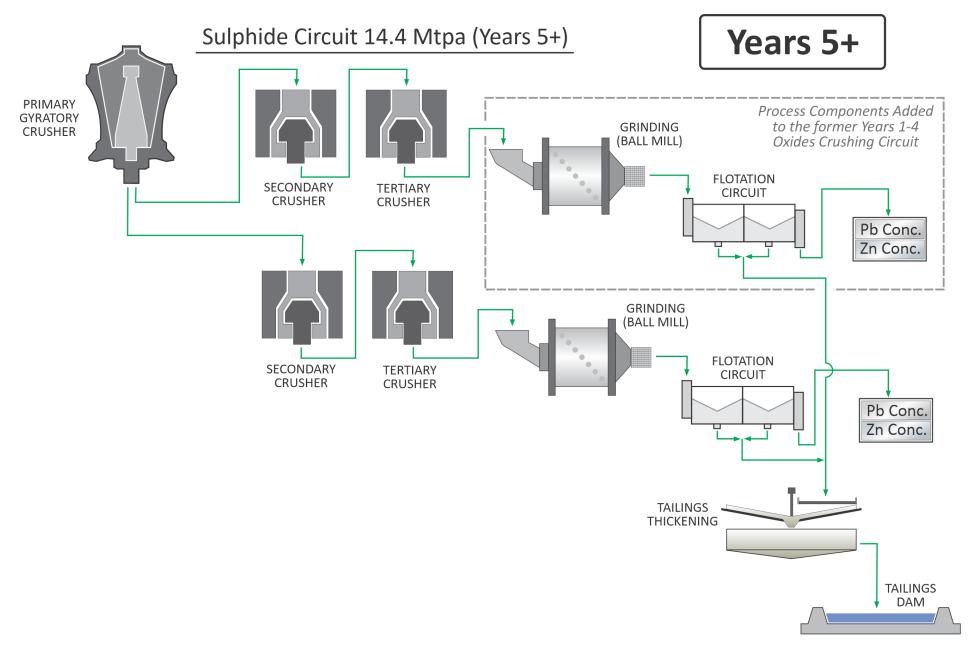
# **APPENDIX E - LOM PROCESS THROUGHPUT SUMMARY**

# **APPENDIX F - SIMPLIFIED PROCESS FLOWSHEETS**

# PHASE 1:



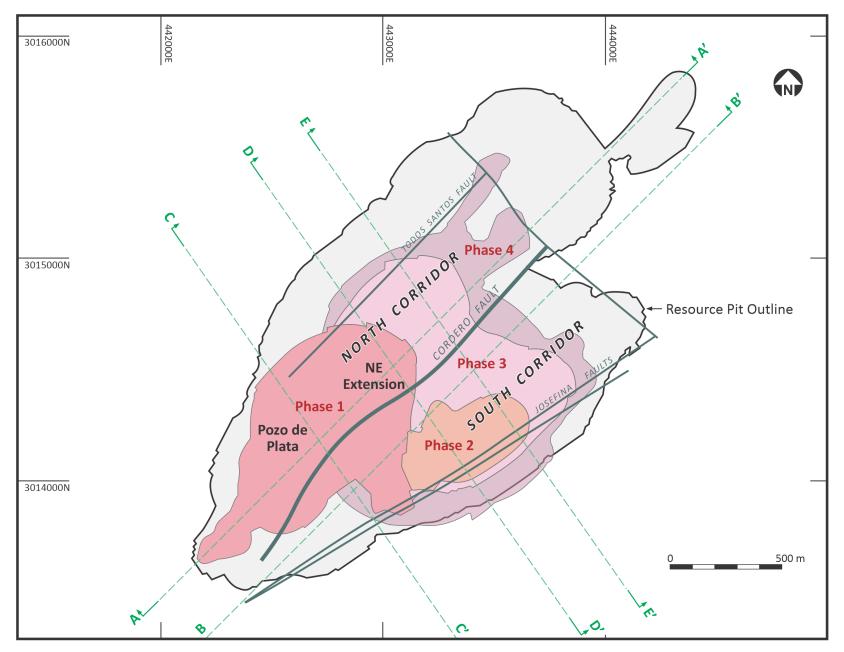
### PHASE 2:



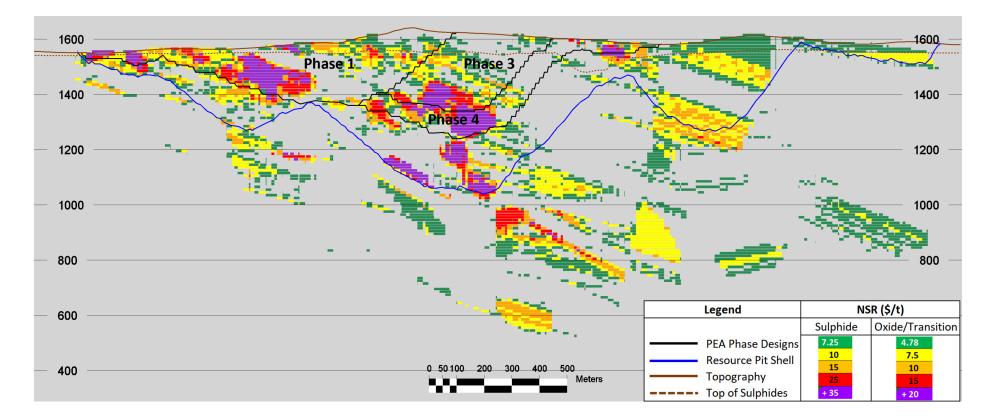
# APPENDIX G – METALLURGICAL BALANCE SUMMARY

									PHA	SE 2						N. 4	
	UNITS		Years	51-4			Years	5 - 12			Years	13 - 16			LU	M	
		Ag	Au	Pb	Zn	Ag	Au	Pb	Zn	Ag	Au	Pb	Zn	Ag	Au	Pb	Zn
MET BALANCE																	
Average head grade	g/t or %	57	0.26	0.80	0.80	32	0.07	0.50	0.92	13	0.04	0.17	0.34	31	0.09	0.46	0.75
Recovered to Pb Con	%	81%	13%	90%	6%	71%	13%	86%	6%	56%	13%	69%	3%	73%	13%	86%	5%
Recovered to Zn Con	%	12%	6%	3%	85%	12%	6%	3%	86%	11%	6%	3%	74%	12%	6%	3%	85%
Tailings	%	7%	81%	7%	9%	17%	81%	11%	8%	33%	81%	28%	22%	16%	81%	11%	10%
Total	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
CONCENTRATE GRADES																	
Pb Concentrate	g/t or %	3,490	2.5	54%	-	2,802	1.1	52%	-	2,657	2.1	43%	-	2,939	1.6	52%	-
Zn Concentrate	g/t or %	524	1.3	-	52%	254	0.3	-	51%	285	0.5	-	50%	298	0.5	-	51%

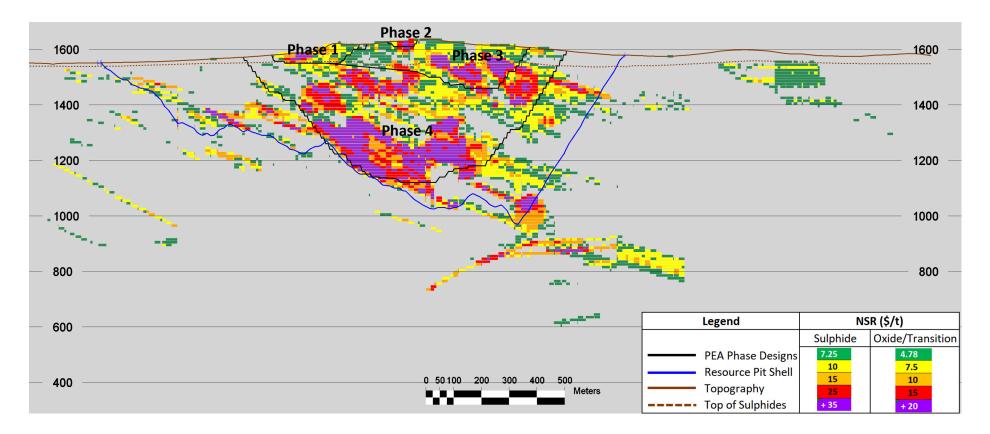
# **APPENDIX H - LONG SECTIONS / CROSS SECTIONS:**



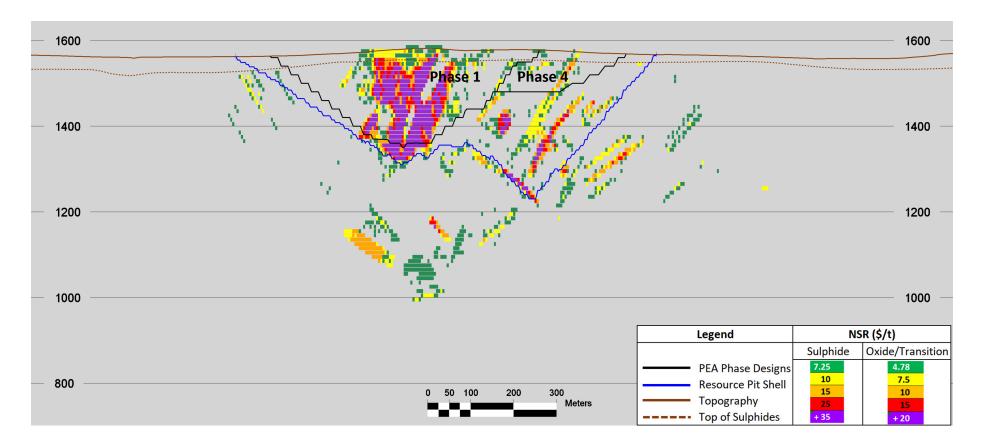
#### LONG SECTION A-A' (looking NW)



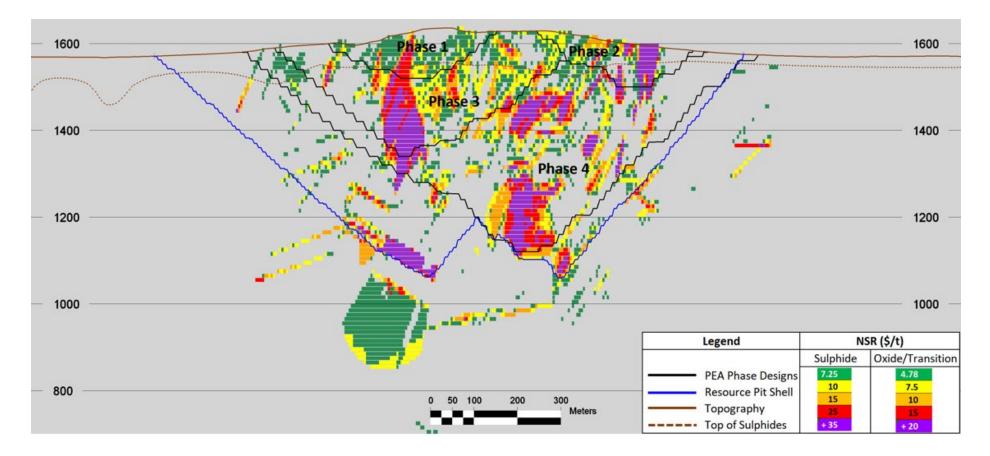
#### LONG SECTION B-B' (looking NW)



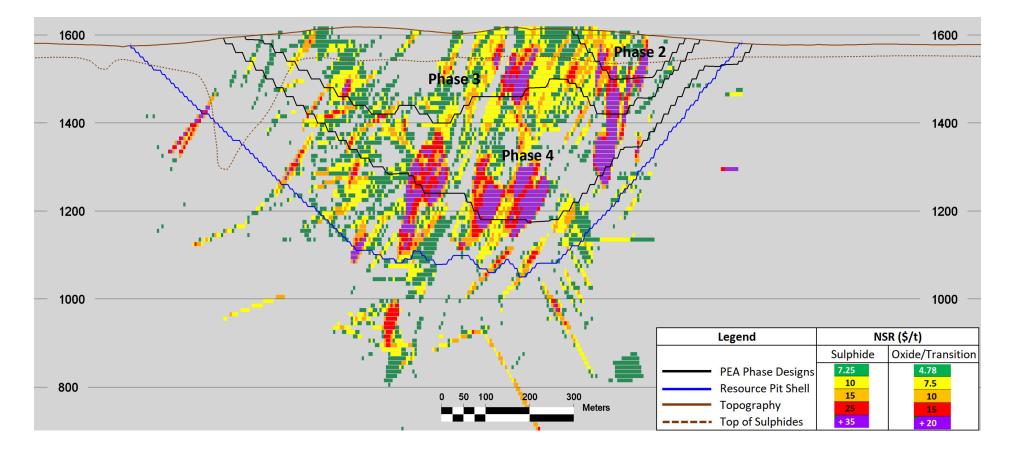
## CROSS SECTION C-C' (looking NE)



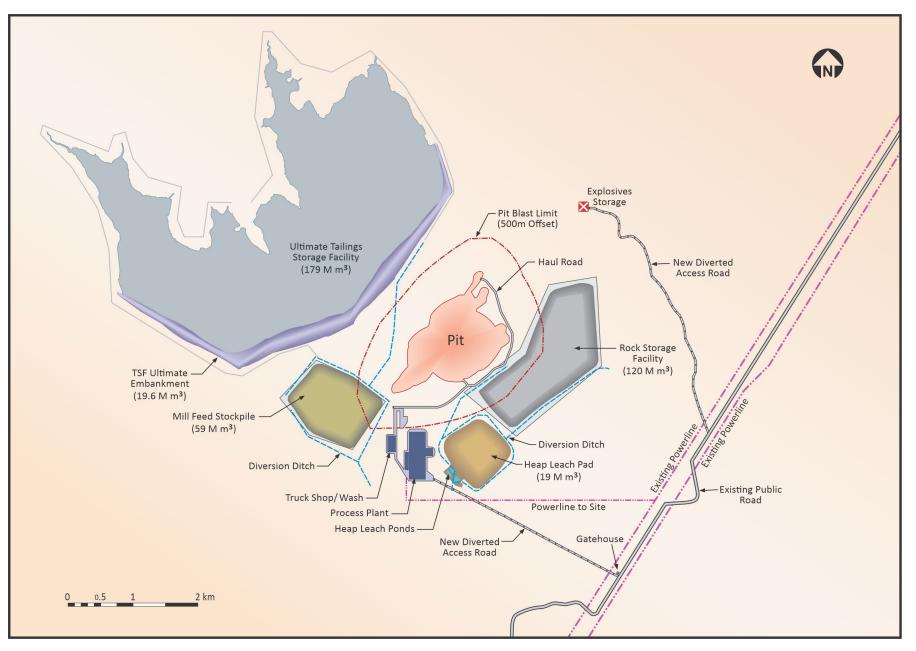
## CROSS SECTION D-D' (looking NE)



### CROSS SECTION E-E' (looking NE)



# **APPENDIX I - SITE LAYOUT:**



# APPENDIX J – PRODUCTION & CASH FLOW SCHEDULE:

	Units	Total/Avg	Y-2	Y-1	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17+
MINING	•																				
Mineralized Material Mined	mt	228	1	14	23	18	18	24	18	19	19	19	21	16	12	5	0				
Waste Mined	mt	491	6	41	49	49	47	41	47	46	41	44	40	26	10	3	0				
Total Material Mined	mt	719	8	55	72	67	65	65	65	65	60	63	61	42	22	8	0				
Mining Rate	ktpd	137	22	157	206	192	186	186	186	186	171	181	175	121	62	22	1				
Strip Ratio	w:o	2.2	5.2	2.8	2.2	2.7	2.7	1.8	2.5	2.5	2.2	2.3	1.9	1.6	0.8	0.6	0.1				
PROCESSING																					
CRUSHED OXIDES / HEAP LEACH:																					
Heap Leach Crushed Tonnes	mt	20		5	5	5	5														
Stacked Grades:																					
Ag	g/t	42		58	38	35	35														
Au	g/t	0.09		0.08	0.10	0.09	0.08														
AgEq	g/t	48		64	46	41	41														
ROM OXIDES / HEAP LEACH:																					
Heap Leach ROM Tonnes	mt	9						5	4	0											
Stacked Grades:																					
Ag	g/t	24						18	28	44											
Au	g/t	0.06						0.07	0.05	0.08											
AgEq	g/t	28						23	32	50											
SULPHIDES / FLOTATION:																					
Milling Rate	ktpd	36			16	21	21	31	41	41	41	41	41	41	41	41	41	41	41	26	
Sulphide Tonnes Processed	mt	199			6	7	7	11	14	14	14	14	14	14	14	14	14	14	14	9	
Mill Head Grade:																					
Ag	g/t	31			62	63	61	48	35	34	31	30	43	37	29	23	13	13	13	12.6	
Au	g/t	0.09			0.19	0.41	0.36	0.15	0.07	0.08	0.07	0.07	0.08	0.07	0.07	0.06	0.04	0.04	0.04	0.04	
Pb	%	0.46%			0.74%	1.04%	0.91%	0.62%	0.46%	0.52%	0.39%	0.39%	0.66%	0.67%	0.53%	0.37%	0.17%	0.16%	0.16%	0.16%	
Zn	%	0.75%			0.92%	0.79%	0.74%	0.77%	0.86%	0.92%	0.79%	0.81%	1.33%	1.15%	0.90%	0.62%	0.36%	0.34%	0.34%	0.34%	
AgEq	g/t	80			132	155	143	107	87	90	78	78	119	106	84	62	35	33	33	33	
Lead Concentrate – Recovery:																					
Ag	%	73%			81%	82%	82%	77%	71%	71%	70%	70%	79%	72%	67%	66%	56%	56%	56%	56%	
Au	%	13%			13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	
Pb	%	86%			90%	91%	90%	90%	85%	87%	85%	85%	89%	88%	87%	84%	69%	69%	69%	69%	
Zinc Concentrate – Recovery:																					
Ag	%	12%			12%	11%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	11%	11%	11%	11%	
Au	%	6%			6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	
Zn	%	85%			86%	86%	85%	84%	86%	86%	86%	86%	88%	88%	87%	81%	74%	74%	74%	74%	

	Units	Total/Avg	Y-2	Y-1	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17+
PRODUCTION PROFILE																					
METAL PRODUCED:																					
Ag – Oxides	moz	17		5	3	3	3	1	1	0											
Au – Oxides	koz	42		8	10	9	8	3	2	0											
AgEq – Oxides Metal Produced	moz	20		6	4	4	4	1	2	0											
Ag – Sulphides	moz	167			11	14	13	15	13	13	12	11	18	14	10	8	4	4	4	2.5	
Au – Sulphides	koz	113			6	18	15	10	6	7	6	6	7	6	6	6	4	4	4	2	
Pb – Sulphides	mlbs	1,727			84	149	130	132	123	145	106	105	187	187	145	100	38	36	36	23	
Zn – Sulphides	mlbs	2,773			100	108	100	154	235	251	215	221	369	320	248	159	84	79	79	51	
AgEq – Sulphides Metal Produced	moz	405			20	28	26	30	32	34	29	29	47	41	31	22	11	10	10	6.5	
Ag – Total	moz	185		5	14	17	16	16	15	13	12	11	18	14	10	8	4	4	4	2.5	
Au – Total	koz	155		8	17	26	23	13	9	7	6	6	7	6	6	6	4	4	4	2	
Pb – Total	mlbs	1,727			84	149	130	132	123	145	106	105	187	187	145	100	38	36	36	23	
Zn – Total	mlbs	2,773			100	108	100	154	235	251	215	221	369	320	248	159	84	79	79	51	
AgEq – Total Metal Produced	moz	426		6	25	32	29	31	34	34	29	29	47	41	31	22	11	10	10	6.5	
METAL PAYABLE:																					
Ag – Oxides	moz	17		5	3	3	3	1	1	0											
Au – Oxides	koz	42		8	10	9	8	3	2	0											
AgEq – Oxides Metal Payable	moz	20		6	4	4	4	1	2	0											
Ag – Sulphides	moz	148			10	12	12	13	12	11	10	10	16	12	9	7	4	3	3	2	
Au – Sulphides	koz	41			2	10	9	3	1	0	1	1	5	4	0	1	1	1	1	1	
Pb – Sulphides	mlbs	1,626			80	141	123	124	116	136	100	99	176	177	136	94	36	33	33	21	
Zn – Sulphides	mlbs	2,340			84	91	84	130	198	212	181	186	312	271	209	134	70	67	67	43	
AgEq – Sulphides Metal Payable	moz	352			18	25	23	26	28	29	25	25	41	36	27	19	9	9	9	6	
Ag – Total	moz	165		5	13	16	15	14	13	11	10	10	16	12	9	7	4	3	3	2	
Au – Total	koz	83		8	12	19	16	6	3	1	1	1	5	4	0	1	1	1	1	1	
Pb – Total	mlbs	1,626			80	141	123	124	116	136	100	99	176	177	136	94	36	33	33	21	
Zn – Total	mlbs	2,340			84	91	84	130	198	212	181	186	312	271	209	134	70	67	67	43	
AgEq – Total Metal Payable	moz	372		6	22	28	27	27	30	29	25	25	41	36	27	19	9	9	9	6	

	Units	Total/Avg	Y-2	Y-1	Y1	Y2	Y3	Y4	Y5	Y6	¥7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17+
REVENUE																					
OXIDE REVENUES:																					
Ag Revenue	US\$mm	\$376		\$112	\$74	\$67	\$68	\$22	\$29	\$3											
Au Revenue	US\$mm	\$67		\$13	\$17	\$14	\$13	\$6	\$4	\$0											
Gross Revenue – Oxides	US\$mm	\$443		\$126	\$91	\$82	\$81	\$27	\$33	\$3											
Treatment & Refining Charges	US\$mm	\$18		\$5	\$3	\$3	\$3	\$1	\$1	\$0											
Net Revenue - Oxides	US\$mm	\$425		\$121	\$87	\$78	\$78	\$26	\$32	\$3											
SULPHIDE REVENUES:																					
Ag Revenue	US\$mm	\$3,250			\$212	\$275	\$264	\$292	\$261	\$249	\$225	\$220	\$345	\$274	\$200	\$158	\$78	\$75	\$75	\$48	
Au Revenue	US\$mm	\$66			\$3	\$16	\$14	\$5	\$1	\$1	\$2	\$2	\$7	\$6	\$0	\$1	\$2	\$2	\$2	\$1	
Pb Revenue	US\$mm	\$1,626			\$80	\$141	\$123	\$124	\$116	\$136	\$100	\$99	\$176	\$177	\$136	\$94	\$36	\$33	\$33	\$21	
Zn Revenue	US\$mm	\$2,808			\$101	\$110	\$101	\$156	\$238	\$255	\$217	\$224	\$375	\$325	\$251	\$160	\$84	\$80	\$80	\$51	
Gross Revenue – Sulphides	US\$mm	\$7,751			\$396	\$541	\$502	\$577	\$616	\$641	\$544	\$544	\$903	\$782	\$588	\$414	\$200	\$191	\$191	\$122	
Treatment & Refining Charges	US\$mm	\$780			\$33	\$43	\$39	\$51	\$64	\$68	\$57	\$58	\$96	\$84	\$65	\$44	\$22	\$21	\$21	\$14	
Total Penalties	US\$mm	\$33			\$1	\$1	\$1	\$2	\$3	\$3	\$2	\$2	\$4	\$4	\$3	\$2	\$1	\$1	\$1	\$1	
Net Revenue - Sulphides	US\$mm	\$6,938			\$362	\$497	\$461	\$524	\$550	\$570	\$485	\$484	\$803	\$695	\$520	\$368	\$177	\$168	\$168	\$108	
Net Revenue - Total	US\$mm	\$7,364		\$121	\$449	\$575	\$539	\$550	\$581	\$573	\$485	\$484	\$803	\$695	\$520	\$368	\$177	\$168	\$168	\$108	
OPERATING COSTS																					
UNIT COSTS:																					
Mine (Includes Rehandling Costs)	US\$/t Moved	\$2.23		\$2.00	\$1.92	\$1.91	\$1.88	\$1.90	\$1.97	\$2.03	\$2.06	\$2.16	\$2.35	\$2.45	\$2.35	\$1.86	\$1.16	\$1.03	\$1.03	\$1.23	
Processing – Crushed Oxide Heap Leach	US\$/t Stacked	\$3.84		\$3.84	\$3.84	\$3.84	\$3.84														
Processing – ROM Oxide Heap Leach	US\$/t Stacked	\$1.34						\$1.29	\$1.39	\$1.44											
Processing – Sulphide	US\$/t Milled	\$6.59			\$7.13	\$7.01	\$7.01	\$6.58	\$6.47	\$6.47	\$6.47	\$6.47	\$6.57	\$6.57	\$6.57	\$6.57	\$6.57	\$6.57	\$6.57	\$6.57	
Site G&A Costs	US\$/t Processed	\$0.85		\$1.45	\$0.94	\$0.83	\$0.83	\$1.14	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	
OPERATING COSTS INCURED:																					
Mine (Includes Rehandling Costs)	US\$mm	\$1,602		\$110	\$147	\$133	\$128	\$136	\$135	\$136	\$131	\$143	\$144	\$107	\$62	\$32	\$17	\$15	\$15	\$11	
Processing – Crushed Oxide Heap Leach	US\$mm	\$77		\$19	\$19	\$19	\$19														
Processing – ROM Oxide Heap Leach	US\$mm	\$12						\$6	\$6	\$0											
Processing – Sulphides	US\$mm	\$1,309			\$41	\$50	\$50	\$71	\$93	\$93	\$93	\$93	\$95	\$95	\$95	\$95	\$95	\$95	\$95	\$61	
Site G&A Costs	US\$mm	\$194		\$7	\$10	\$10	\$10	\$12	\$12	\$12	\$12	\$12	\$12	\$12	\$12	\$12	\$12	\$12	\$12	\$8	
Total Operating Costs	US\$mm	\$3,193		\$136	\$218	\$213	\$208	\$226	\$246	\$242	\$236	\$248	\$251	\$214	\$169	\$139	\$124	\$122	\$122	\$80	
NSR - Government	US\$mm	\$18		\$1	\$1	\$2	\$2	\$2	\$1	\$1	\$1	\$1	\$2	\$1	\$1	\$1	\$0	\$0	\$0	\$0	
Concentrate Transportation	US\$mm	\$527			\$21	\$29	\$26	\$34	\$42	\$46	\$38	\$38	\$64	\$58	\$46	\$31	\$15	\$14	\$14	\$9	
Total Costs	US\$mm	\$3,738		\$137	\$240	\$244	\$236	\$261	\$289	\$290	\$275	\$287	\$317	\$273	\$216	\$171	\$139	\$137	\$137	\$90	
CASH COSTS:																					
Co-Product																					
Operating Cash Costs	US\$/oz AgEq	\$8.34			\$9.82	\$7.52	\$7.84	\$8.22	\$8.34	\$8.27	\$9.56	\$10.04	\$6.12	\$6.01	\$6.34	\$7.39	\$13.61	\$14.07	\$14.07	\$14.40	
Total Cash Costs	US\$/oz AgEq	\$12.07			\$12.57	\$10.29	\$10.55	\$11.47	\$12.10	\$12.31	\$13.52	\$14.06	\$10.17	\$10.13	\$10.63	\$11.50	\$17.91	\$18.34	\$18.34	\$18.67	
All-in Sustaining Costs	US\$/oz AgEq	\$12.35			\$12.98	\$11.40	\$10.76	\$11.65	\$12.20	\$12.64	\$13.65	\$14.24	\$10.27	\$10.21	\$10.74	\$11.66	\$18.24	\$19.12	\$18.69	\$19.85	

	Units	Total/Avg	Y-2	Y-1	Y1	Y2	Y3	Y4	Y5	Y6	¥7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17+
CAPITAL EXPENDITURES																					
Initial/Expansion Capex	US\$mm	\$497	\$187	\$181			\$94					\$35									
Sustaining Capex (incl. Closure net of Salvage)	US\$mm	\$208			\$9	\$31	\$6	\$36	\$3	\$10	\$3	\$4	\$31	\$3	\$3	\$3	\$3	\$31	\$3	\$7	\$22
Total Capital Expenditures	US\$mm	\$704	\$187	\$181	\$9	\$31	\$99	\$36	\$3	\$10	\$3	\$39	\$31	\$3	\$3	\$3	\$3	\$31	\$3	\$7	\$22
FREE CASH FLOW VALUATION																					<u> </u>
Net Revenue	US\$mm	\$7,364		\$121	\$449	\$575	\$539	\$550	\$581	\$573	\$485	\$484	\$803	\$695	\$520	\$368	\$177	\$168	\$168	\$108	
Operating Expenses	US\$mm	(\$3,193)		(\$136)	(\$218)	(\$213)	(\$208)	(\$226)	(\$246)	(\$242)	(\$236)	(\$248)	(\$251)	(\$214)	(\$169)	(\$139)	(\$124)	(\$122)	(\$122)	(\$80)	
Royalties + Concentrate Transportation	US\$mm	(\$545)		(\$1)	(\$23)	(\$31)	(\$28)	(\$35)	(\$43)	(\$48)	(\$39)	(\$39)	(\$66)	(\$59)	(\$47)	(\$31)	(\$16)	(\$15)	(\$15)	(\$10)	
EBITDA	US\$mm	\$3,625		(\$16)	\$209	\$331	\$303	\$289	\$292	\$284	\$210	\$196	\$485	\$422	\$304	\$198	\$37	\$32	\$32	\$19	
Capital Expenditures	US\$mm	(\$704)	(\$187)	(\$181)	(\$9)	(\$31)	(\$99)	(\$36)	(\$3)	(\$10)	(\$3)	(\$39)	(\$31)	(\$3)	(\$3)	(\$3)	(\$3)	(\$31)	(\$3)	(\$7)	(\$22)
Pre-Tax Free Cash Flow	US\$mm	\$2,921	(\$187)	(\$198)	\$200	\$300	\$204	\$253	\$289	\$274	\$207	\$157	\$455	\$419	\$301	\$195	\$34	\$1	\$29	\$12	(\$22)
Mining Tax	US\$mm	(273)			(\$16)	(\$25)	(\$23)	(\$22)	(\$22)	(\$21)	(\$16)	(\$15)	(\$36)	(\$32)	(\$23)	(\$15)	(\$3)	(\$2)	(\$2)	(\$1)	
Income Tax Payable	US\$mm	(784)			(\$9)	(\$68)	(\$64)	(\$51)	(\$62)	(\$58)	(\$46)	(\$47)	(\$120)	(\$110)	(\$82)	(\$52)	(\$8)		(\$4)	(\$2)	
Post-Tax Free Cash Flow	US\$mm	\$1,864	(\$187)	(\$198)	\$175	\$207	\$117	\$180	\$205	\$195	\$145	\$95	\$299	\$277	\$196	\$127	\$23	(\$2)	\$22	\$8	(\$22)
																					<u> </u>
		Pre-Tax	Post	-Tax																	
NPV (5%)	US\$mm	\$1,858	\$1,2	160																	
IRR	%	50.3%	38.	2%																	
Payback	Yrs	1.6	2.	0																	