REVIEW OF RESOURCE, PIT OPTIMIZATION, PIT DESIGN & MINE DEVELOPMENT PLAN, MINEABLE RESERVES ESTIMATION AND MONTHLY PRODUCTION SCHEDULING

REPORT

FOR

PT. INDO MINERALITA PRIMA (IMP)

Lead-Zinc Project in Seruyan Tengah District, Seruyan Regency, Central Kalimantan, Republic of Indonesia

Prepared by

Melecio B. Asetre, Jr. AusIMM Member No. 325997

February 2019

TABLE OF CONTENTS

	Page #
Executive Summary	6
Introduction	8
Review of the Resource Estimates Block Modeling 	9 12
 Estimated Resource based on the Generated Block Model 	13
Pit Optimization	14
• Parameters	14
Block Models	14
Lerchs-Grossman Pit Optimization	15
Sensitivity Analysis	18
Pit Design and Final Mineable Reserve	20
• Parameters	20
Ore Reserve Inventory	22
Conceptual Mine Development Plan/Layout	23
Concentrator Facility	23
 Tailings Dam and Reservoir/Pond 	23
Waste Dump Site	24
Haul Roads	24
Mining Contractors Facility	25
Owner's Facility	25
Transition Ore Stockpile Areas	25
Monthly Mine Production Schedule	26
Input Data	26
Assumptions and Parameters	27
Waste Disposal	27
Life-of-Pit Production Schedule	27
Conclusions and Recommendations	50

LIST OF FIGURES

Figure 1A,	General Location Map	8
Figure 1B,	General Location Map	8
Figure 2,	Three-D View of Geological Solids	10
Figure 3,	Section Across Ore Zone 1	11
Figure 4,	Section Across Ore Zone 2	11
Figure 5,	Optimal Pit Plan (Rough Pit Shell No. 23)	17
Figure 6,	Section Through Optimal Rough Pit Shell No. 23	17
Figure 7,	Design of the Chosen Rough Pit	21
Figure 8,	Conceptual Mine Development Plan/Layout	26
Figure 9,	February 2019 Mining Slice	29
Figure 10,	March 2019 Mining Slice	30
Figure 11,	April 2019 Mining Slice	31

LIST OF TABLES

Table 1,	Drill Holes Mineralized Intercepts	9
Table 2,	Summary of Resource from Surface down to El. Zero	13
Table 3,	Pit Shells Generated	15
Table 4,	Mineable Reserve by Bench (Rough Pit Shell No. 23)	18
Table 5,	Sensitivity Analysis on Price of Concentrate	19
Table 6,	Sensitivity Analysis on Operating Costs	19

Table 7,	Sensitivity Analysis on Overall Pit Slope	19
Table 8,	Pit Design Assumptions and Parameters	20
Table 9,	Material Inventory Summary of the Chosen Pit	20
Table 10,	Ore Reserve Inventory per Bench	22
Table 11,	Assumptions and Parameters for the Production Schedule	27
Table 12,	Summary of Monthly Production Schedule	27
Table 13,	February 2019 Production Schedule	28
Table 14,	March 2019 Production Schedule	29
Table 15,	April 2019 Production Schedule	30
Table 16,	May 2019 Production Schedule	31
Table 17,	June 2019 Production Schedule	32
Table 18,	July 2019 Production Schedule	32
Table 19,	August 2019 Production Schedule	33
Table 20,	September 2019 Production Schedule	33
Table 21,	October 2019 Production Schedule	34
Table 22,	November 2019 Production Schedule	34
Table 23,	December 2019 Production Schedule	35
Table 24,	January 2020 Production Schedule	36
Table 25,	February 2020 Production Schedule	36
Table 26,	March 2020 Production Schedule	37
Table 27,	April 2020 Production Schedule	37
Table 28,	May 2020 Production Schedule	38

Table 29,	June 2020 Production Schedule	39
Table 30,	July 2020 Production Schedule	39
Table 31,	August 2020 Production Schedule	40
Table 32,	September 2020 Production Schedule	41
Table 33,	October 2020 Production Schedule	41
Table 34,	November 2020 Production Schedule	42
Table 35,	December 2020 Production Schedule	43
Table 36,	January 2021 Production Schedule	44
Table 37,	February 2021 Production Schedule	44
Table 38,	March 2021 Production Schedule	45
Table 39,	April 2021 Production Schedule	46
Table 40,	May 2021 Production Schedule	46
Table 41,	June 2021 Production Schedule	47
Table 42,	July 2021 Production Schedule	48
Table 43,	August 2021 Production Schedule	49
Table 44,	September 2021 Production Schedule	50

EXECUTIVE SUMMARY

Review of the resource estimation for PT Indo Mineralita Prima (IMP) Project confirms the galena mineralization occurring at depth with thickness ranging from 0.03 to 4.19 meters.

It is interesting to note that despite of only 5% of the total area of the tenement has been explored so far, the project has already got a resource of almost two (2) million tons. Expect the resource base for this project to increase significantly once all the exploration works are completed which is currently in full force.

The resource estimated is mostly categorized as inferred due to lack of drilling thereat. Additional drilling is recommended to elevate these resources to at least indicated category.

The size, shape and location of the optimal pits were determined based on the aforementioned initial resource estimate from borehole and topographic data, and using a given set of technical and economic parameters.

At the given technical and economic parameters, the break-even strip ratio is 25.72 from a given price of \$400.00/DMT of concentrate.

The optimum pit that will generate the highest undiscounted cash flow for the project has a total mineable reserve of 1.498 Million DMT of ore with accompanying 23.719 Million DMT of waste material resulting to a strip ratio of 15.83:1. Total net revenue for this optimal crude pit is \$80 Million.

The optimal pit shell is most sensitive to changes in concentrate price. A 10% increase in price increases the net revenue to \$110 Million (+38%) while a 10% reduction in price pulls down the net revenue to \$51 Million (-36%).

It is also highly sensitive to changes in operating costs. A 10% reduction in operating costs pushes the net revenue up to \$102 Million (+28%), while a 10% increase in operating costs pulls down the net revenue to \$59 Million (-26%).

It is highly sensitive likewise to changes in overall pit slopes. A 5 degree increase in pit slopes increases the net revenue to \$98 Million (+23%), while a 5 degree reduction in pit slopes pulls down the net revenue to \$55 Million (-31%).

This optimal crude pit shell selected is subjected to pit design works by incorporating the in-pit ramps, toes, crests and berms. The final mineable reserves

now for this project after pit designing is 1.387 Million DMT of ore. Strip ratio is 15.9.

Preliminary mine development plan/layout was also conceptualized for this project with the following major infra-structure to be constructed, but not limited to;

- Concentrator facility (ROM pad, grizzly, crushing plant, flotation tanks, etc.).
- Tailings dam and reservoir.
- Waste dumpsite
- Haul roads
- Contractors equipment lay down/camp/offices/accommodation facility
- Owners camp/offices/laboratory/accommodation facility

Lastly, generated the monthly production schedules for the known recoverable reserves of this project. The monthly rate for the initial six (6) months of mining is 10,000 tons then increasing to 20,000 tons for the succeeding six (6) months. Mining rate on the 13^{th} month will increase to 60,000 tons until full depletion of the mineable reserves as stated in this report.

INTRODUCTION

The author was commissioned by PT Indo Mineralita Prima (IMP) to undertake a review of the resource, pit optimization/reserve estimation, pit designing, conceptual mine development plan/layout and monthly production scheduling of its mineral property based on the latest resource estimate done in December 2018.

The IMP Lead-Zinc Project area consists of 1,470 hectares. It is located in Seruyan Tengah District, Seruyan Regency, Central Kalimantan (please see Figure 1A and Figure 1B, General Location Map).

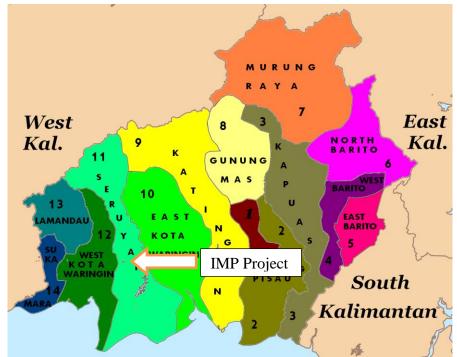


Figure 1A. General Location Map



Figure 1B. General Location Map

REVIEW OF THE RESOURCE ESTIMATES

A resource estimation review was carried out on the property by the undersigned, using boreholes and topographic data provided by PT Indo Mineralita Prima (IMP), the tenement holder.

The estimation was done from the surface down to elevation zero with a total strike length of about one (1) kilometer. This strike length could still be extended up to the tenement boundary along strike east and west but due to lack of topography data, the estimation is limited.

Review of the resource estimation confirms the galena mineralization occurring at depth with thickness ranging from 0.03 to 4.19 meters. The major contributory drill holes with above one (1) meter thick mineralized intercepts are DH2_11 with 2.4m, DH2_07 with 2.6m, DH2_07A with 3.0m, DH2_14 with 1.64m, DH2_17 with 1.7m and the thickest at DH2_18 with 4.2m.

NO		CO	ORDINATE		CODE	AZI	DIP	DEPTH		THICKNESS	
NO	HOLE_ID	Х	Y	Z	CODE	AZI	DIP	FROM	то	THICKNESS	REMARKS
1	DH2_10	9,782,552	621,708	60.00	SULPHIDE	0	-60	43.50	43.60	0.10	LEAD INDICATED
2	DH2_10	9,782,552	621,708	60.00	SULPHIDE	0	-60	44.20	44.40	0.20	LEAD INDICATED
3	DH2_10	9,782,552	621,708	60.00	SULPHIDE	0	-60	47.40	48.20	0.80	LEAD INDICATED
4	DH2_11	9,782,794	621,901	54.00	SULPHIDE	0	-60	12.40	14.80	2.40	LEAD INDICATED
5	DH2_11A	9,782,783	621,937	50.00	SULPHIDE	0	-60	20.00	20.50	0.50	LEAD INDICATED
6	DH2_11A	9,782,783	621,937	50.00	SULPHIDE	0	-60	30.60	31.60	1.00	LEAD INDICATED
7	DH2_11A	9,782,783	621,937	50.00	SULPHIDE	0	-60	34.60	35.10	0.50	LEAD INDICATED
8	DH2_11A	9,782,783	621,937	50.00	SULPHIDE	0	-60	44.90	45.00	0.10	LEAD INDICATED
9	DH2_11B	9,782,687	621,978	53.00	SULPHIDE	0	-60	38.00	38.50	0.50	LEAD INDICATED
10	DH2_11C	9,782,534	622,012	55.71	SULPHIDE	0	-60	20.20	20.30	0.10	LEAD INDICATED
11	DH2_06	9,782,612	621,494	81.84	SULPHIDE	0	-60	33.50	34.48	0.98	LEAD INDICATED
12	DH2_07	9,782,523	621,507	75.00	SULPHIDE	0	-60	49.90	52.50	2.60	LEAD INDICATED
13	DH2_07	9,782,523	621,507	75.00	SULPHIDE	0	-60	55.40	55.60	0.20	LEAD INDICATED
14	DH2_07A	9,782,529	621,611	51.00	SULPHIDE	0	-60	27.60	30.60	3.00	LEAD INDICATED
15	DH2_07A	9,782,529	621,611	51.00	SULPHIDE	0	-60	53.70	54.10	0.40	LEAD INDICATED
16	DH2_07A	9,782,529	621,611	51.00	SULPHIDE	0	-60	54.90	54.98	0.08	LEAD INDICATED
17	DH2_07A	9,782,529	621,611	51.00	SULPHIDE	0	-60	63.20	63.24	0.04	LEAD INDICATED
18	DH2_05	9,782,767	621,521	57.00	SULPHIDE	0	-60	6.40	6.60	0.20	LEAD INDICATED
19	DH2 05	9,782,767	621,521	57.00	LEAD	0	-60	8.70	8.73	0.03	LEAD
	200	3,78⊑,787	011)011	0,100		Ŭ		0.70	0170	0.00	DISSEMINATED
20	DH2_14	9,781,595	620,904	64.00	LEAD	0	-60	22.46	24.10	1.64	LEAD DISSEMINATED
21	DH2_14	9,781,595	620,904	64.00	LEAD	0	-60	47.68	47.78	0.10	LEAD DISSEMINATED
22	DH2_15	9,781,580	620,994	76.94	LEAD	0	-60	15.24	16.00	0.76	LEAD DISSEMINATED
23	DH2_15	9,781,580	620,994	76.94	LEAD	0	-60	17.53	17.56	0.03	LEAD

Please refer to Table 1 below for the complete list of the drill hole mineralized intercepts.

											DISSEMINATED
24	DH2_17	9,781,661	621,116	84.00	LEAD	0	-60	28.30	30.00	1.70	LEAD DISSEMINATED
25	DH2_17	9,781,661	621,116	84.00	SULPHIDE	0	-60	36.17	36.40	0.23	LEAD INDICATED
26	DH2_18	9,781,627	621,111	88.00	LEAD	0	-60	58.66	62.85	4.19	LEAD DISSEMINATED
27	DH2_21	9,781,593	620,797	70.00	LEAD	0	-60	42.75	42.85	0.10	LEAD DISSEMINATED

Table 1. Drill Holes Mineralized Intercepts

Solid modeling was carried out on these major mineralized intercepts and generated two (2) ore zones namely Ore1 and Ore2. Volume of Ore1 geological solid is 348,971 cubic meters or 1,570,370 metric tons of galena ore while Ore2 geological solid contributed another 73,267 cubic meters or 329,700 metric tons. This brought the total resource for this project to about 1.9 million tons of galena ore. Ore density used is 4.5 tons per cubic meter. Ore zone 1 is dipping 50 degrees towards an azimuth of 191 degrees and Ore zone 2 is steeper at 80 degrees with the same azimuth as ore zone 1. Strike length of both ore zones is one (1) kilometer with an azimuth of 101 degrees.

The resource estimated is mostly categorized as inferred due to lack of drilling thereat. Additional drilling is recommended to elevate these resources to at least indicated category.

It is interesting to note that despite of only 5% of the total area of the tenement has been explored so far, the project has already got a resource of almost two (2) million tons. Expect the resource base for this project to increase significantly once all the exploration works are completed which is currently in full force. Figure 2 below is a 3-D graphical presentation of the mineralized ore.

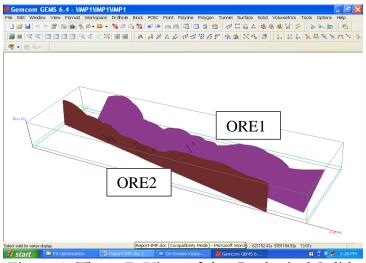


Figure 2. Three-D View of the Geological Solids

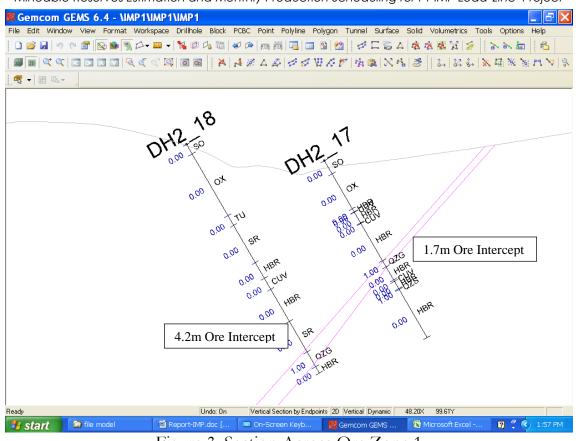


Figure 3. Section Across Ore Zone 1

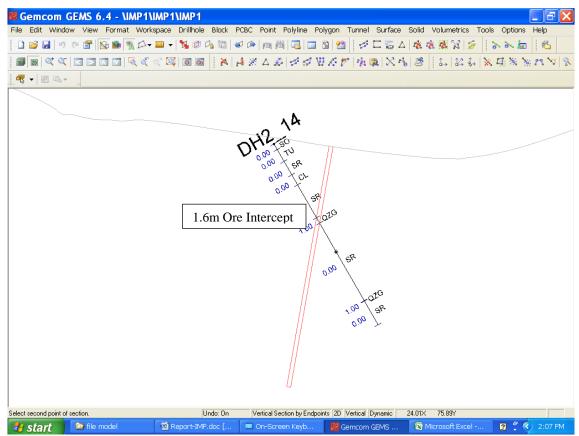


Figure 4. Section Across Ore Zone 2

Block Modeling

Block modeling of the deposit was done using these geological solids and the limiting surface topography as the basis for generating the needed block attributes. Shown below is the model framework limits.

Block Works	pace Properti	ies	
Geometry Levels			
Workspace name:	10m×5m×5m		
Number of blocks			
Columns:	130		
Rows:	160		
Levels:	34		
		[Change]	Reset
Origin and rotation X:	620400	· · · · · · · · · · · · · · · · · · ·	
	9781200		
Y:	9781200		
Z:	0		
Rotation:	U		
		Change	Reset
Block size			Nogot
Column size:	10		
Row size:	5		
Level size:	5		
		Change	Reset
		ОК	Cancel
	pace Properti	es	×
Block Works	pace Properti	ies	×
	pace Properti	ies	×
Geometry Levels		ies	×
Geometry Levels		ies	×
Geometry Levels Workspace name: Number of blocks	10m×5m×5m	ies	×
Geometry Levels Workspace name: Number of blocks Columns:	10m×5m×5m	ies	×
Geometry Levels Workspace name: Number of blocks Columns: Rows:	10mx5mx5m 130 160	ies	×
Geometry Levels Workspace name: Number of blocks Columns: Rows:	10mx5mx5m 130 160	Change	Reset
Geometry Levels Workspace name: Number of blocks Columns: Rows: Levels: Origin and rotation	10m×5m×5m 130 160 34		Reset
Geometry Levels Workspace name: Number of blocks Columns: Rows: Levels: Origin and rotation X:	10mx5mx5m 130 160 34 620400		Reset
Geometry Levels Workspace name: Number of blocks Columns: Rows: Levels: Origin and rotation	10mx5mx5m 130 160 34 620400 9781200		Reset
Geometry Levels Workspace name: Number of blocks Columns: Rows: Levels: Origin and rotation X:	10m×5m×5m 130 160 34 620400 9781200 170		Reset
Geometry Levels Workspace name: Number of blocks Columns: Rows: Levels: Origin and rotation X: Y:	10mx5mx5m 130 160 34 620400 9781200		Reset
Geometry Levels Workspace name: Number of blocks Columns: Rows: Levels: Origin and rotation X: Y: Z:	10m×5m×5m 130 160 34 620400 9781200 170	[Change]	
Geometry Levels Workspace name: Number of blocks Columns: Rows: Levels: Origin and rotation X: Y: Z: Rotation:	10m×5m×5m 130 160 34 620400 9781200 170		Reset
Geometry Levels Workspace name: Number of blocks Columns: Rows: Levels: Origin and rotation X: Y: Z: Rotation:	10m×5m×5m 130 160 34 620400 9781200 170 0	[Change]	
Geometry Levels Workspace name: Number of blocks Columns: Rows: Levels: Origin and rotation X: Y: Z: Rotation: Block size Column size:	10mx5mx5m 130 160 34 620400 9781200 170 0 10	[Change]	
Geometry Levels Workspace name: Number of blocks Columns: Rows: Levels: Origin and rotation X: Y: Z: Rotation: Block size Column size: Row size:	10m×5m×5m 130 160 34 620400 9781200 170 0 10 5	[Change]	
Geometry Levels Workspace name: Number of blocks Columns: Rows: Levels: Origin and rotation X: Y: Z: Rotation: Block size Column size:	10mx5mx5m 130 160 34 620400 9781200 170 0 10	[Change]	
Geometry Levels Workspace name: Number of blocks Columns: Rows: Levels: Origin and rotation X: Y: Z: Rotation: Block size Column size: Row size:	10m×5m×5m 130 160 34 620400 9781200 170 0 10 5	Change	Reset
Geometry Levels Workspace name: Number of blocks Columns: Rows: Levels: Origin and rotation X: Y: Z: Rotation: Block size Column size: Row size:	10m×5m×5m 130 160 34 620400 9781200 170 0 10 5	[Change]	
Geometry Levels Workspace name: Number of blocks Columns: Rows: Levels: Origin and rotation X: Y: Z: Rotation: Block size Column size: Row size:	10m×5m×5m 130 160 34 620400 9781200 170 0 10 5	Change	Reset

This block model will be the basis of the subsequent pit optimization and monthly production scheduling works and shall be updated regularly as the new information from the on-going drilling campaign comes in.

Resource Estimation based on the Block Model

From the surface down to elevation zero., the estimated resource base for this project initially is 1.9 Million DMT, classified mostly as inferred category due to insufficient drilling (please see Table 2. Summary of Resource Estimate, Surface Down to Elevation Zero.).

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP120	630				
BP115	4,690				
BP110	13,470				
BP105	22,220				
BP100	27,410				
BP095	31,770				
BP090	35,200				
BP085	40,860				
BP080	51,290				
BP075	54,710				
BP070	59,210				
BP065	61,050				
BP060	63,270				
BP055	68,050				
BP050	80,850				
BP045	95,180				
BP040	109,050				
BP035	123,550				
BP030	134,430				
BP025	135,270				
BP020	135,150				
BP015	135,190				
BP010	135,180				
BP005	135,210				
BP000	135,150				
Total/Ave	1,888,040	0.0%	0.0%	0	0.0

Table 2. Summary of Resource Estimate from Surface Down to El. Zero

PIT OPTIMIZATION

Parameters

The following technical and economic parameters were used in the pit optimization:

- A. Technical parameters
 - 1. Pit slope due North 45°
 - 2. Pit slope due East -45°
 - 3. Pit slope due South 45°
 - 4. Pit slope due West 45°

В.	Economic parameters, Mining	
	1. Waste load and haul	\$ 7.00/BCM
	2. Rehabilitation cost	\$ 2.00/BCM
	3. Dayworks cost	\$ 2.00/BCM
	4. Sustaining capital	\$ 2.00/BCM
	5. Drill and blast	\$ 5.00/BCM
	6. Ore load and haul	\$10.00/BCM
C.	Economic parameters, Processing	
	1. Milling	\$25.00/ton milled
	2. Administration, etc.	\$20.00/ton milled
	3. Difference in mining ore/wast	= 0.67/ton milled
D.	Price of concentrate	\$ 400/ton of concentrate
_		
E.	Ratio of concentration	50% of ore feed to mill

Block Models

The block models constructed for the optimization has a block dimension of $10m \ge 5m \ge 5m$ with origin along the vertical direction at elevation zero.

The model origin is at 620,400E and 9,781,200N. There were 130 blocks along the E-W direction, 160 blocks along the N-S direction, and 34 blocks along the vertical direction. Only model blocks above elevation zero were considered. Total number of model blocks is 707,200 with accompanying 8,032 ore parcels. The remaining 699,168 model blocks were entirely waste.

Lerchs-Grossmann Pit Optimization

The pit optimization program is an implementation of the Lerchs-Grossmann algorithm for determining the optimum pit in three dimensions. Based on the block model specifications and the pit slopes specified at different directions, the program determines the inter-dependencies of the mining blocks to maintain the specified pit slopes. For example, if block B lies above block A within the specified pit slopes, and if we want to mine block A, then we must mine block B to uncover it and meet the required pit slope. Then, using various mining and other operating costs, the program determines the optimum pit for each combination of mining and other costs, resulting in multiple nested pits.

If the area being evaluated is a stand alone deposit, that is, the product resulting from mining the deposit can be readily marketed without any need to modify its characteristics by blending it with product from another deposit, then these multiple pits can be directly interrogated using the actual costs and product price to generate annual and total cash flows for each pit.

From the generated cash flow figures, the optimum pit is selected based on the criterion applied. While most companies would prefer the pit that generates the highest total cash flow, some would rather select a smaller pit that ensures shorter payback period and higher return on investment.

There were forty one (41) major pit shells generated. The ore tonnages range from 20,594 DMT to 1,688,460 DMT, while strip ratios are spread from a low of 1.19:1 to a high of 17.75:1. Please see Table 3. Pit Shells Generated.

PARAMETERS:

Mining	\$6.00	/ MT Material
Processing and other costs	\$45.67	/ MT Milled
Price	\$400.00	/ MT of Concentrate

			Concentration	Undiscounted	Worst Case	Best Case	Average	
Pit	Waste	Ore	Ratio	CF	DCF	DCF	DCF	SR
Number	(MT)	(MT)	%	(\$)	(\$)	(\$)	(\$)	
			1	1	r	r	n	
1	24,482	20,594	50.0%	2,907,630	2,857,729	2,857,729	2,857,729	1.19
2	79,233	45,550	50.0%	6,282,698	6,044,218	6,044,218	6,044,218	1.74
3	184,289	76,018	50.0%	10,172,490	9,528,076	9,528,076	9,528,076	2.42
4	408,115	119,002	50.0%	15,203,080	13,695,411	13,695,411	13,695,411	3.43
5	795,787	171,850	50.0%	20,718,222	18,393,586	18,425,978	18,409,782	4.63
6	2,615,461	342,001	50.0%	35,036,998	28,659,215	28,867,308	28,763,262	7.65
7	10,330,221	842,340	50.0%	62,963,857	37,512,023	41,181,387	39,346,705	12.26

1	1 1	i I	Sh ana Moniniy		1	I	1	1 1
8	13,046,174	988,497	50.0%	68,347,171	35,770,113	43,441,740	39,605,927	13.20
9	13,235,207	998,249	50.0%	68,660,725	35,663,013	43,558,396	39,610,705	13.26
10	13,269,681	1,000,005	50.0%	68,714,352	35,636,195	43,577,990	39,607,093	13.27
11	13,958,645	1,034,496	50.0%	69,697,343	34,842,537	43,920,750	39,381,644	13.49
12	19,821,989	1,323,633	50.0%	77,411,559	25,794,182	45,281,091	35,537,637	14.98
13	20,239,312	1,343,932	50.0%	77,917,220	25,204,691	45,433,788	35,319,240	15.06
14	20,423,816	1,352,701	50.0%	78,111,544	24,939,891	45,490,729	35,215,310	15.10
15	20,998,924	1,379,822	50.0%	78,684,086	23,936,391	45,652,710	34,794,551	15.22
16	21,576,018	1,406,518	50.0%	79,182,215	22,817,096	45,785,165	34,301,131	15.34
17	21,862,207	1,419,453	50.0%	79,382,793	22,276,865	45,835,106	34,055,986	15.40
18	22,018,246	1,426,403	50.0%	79,477,113	21,968,037	45,857,532	33,912,785	15.44
19	22,731,108	1,457,748	50.0%	79,848,450	20,504,437	45,943,553	33,223,995	15.59
20	22,891,202	1,464,508	50.0%	79,891,026	20,197,702	45,951,668	33,074,685	15.63
21	22,906,452	1,465,139	50.0%	79,893,327	20,169,398	45,951,956	33,060,677	15.63
22	22,916,742	1,465,561	50.0%	79,894,175	20,148,308	45,951,957	33,050,133	15.64
23	23,719,328	1,498,078	50.0%	79,902,261	18,198,011	45,936,152	32,067,082	15.83
24	23,722,215	1,498,192	50.0%	79,901,826	18,192,177	45,935,971	32,064,074	15.83
25	23,724,049	1,498,264	50.0%	79,901,518	18,189,074	45,935,848	32,062,461	15.83
26	23,777,183	1,500,320	50.0%	79,887,655	18,041,672	45,930,989	31,986,331	15.85
27	24,840,876	1,540,246	50.0%	79,427,480	15,510,970	45,789,866	30,650,418	16.13
28	24,936,703	1,543,753	50.0%	79,372,546	15,272,795	45,774,138	30,523,467	16.15
29	25,225,301	1,554,016	50.0%	79,163,090	14,410,014	45,716,188	30,063,101	16.23
30	25,530,712	1,564,662	50.0%	78,908,992	13,610,330	45,648,689	29,629,510	16.32
31	25,806,385	1,574,205	50.0%	78,670,719	12,981,919	45,587,545	29,284,732	16.39
32	25,830,310	1,575,014	50.0%	78,646,984	12,924,223	45,581,519	29,252,871	16.40
33	25,846,878	1,575,568	50.0%	78,629,722	12,887,242	45,577,144	29,232,193	16.40
34	26,432,222	1,594,480	50.0%	77,924,563	11,125,852	45,401,606	28,263,729	16.58
						1	1	
35	26,454,646	1,595,200	50.0%	77,896,436	11,079,332	45,394,719	28,237,026	16.58
	26,454,646 26,528,874	1,595,200 1,597,536	50.0% 50.0%	77,896,436 77,796,388	11,079,332 10,900,555	45,394,719 45,370,268	28,237,026 28,135,412	16.58 16.61
35						· · ·		
35 36	26,528,874	1,597,536	50.0%	77,796,388	10,900,555	45,370,268	28,135,412	16.61
35 36 37	26,528,874 26,917,019	1,597,536 1,609,380	50.0% 50.0%	77,796,388 77,225,169	10,900,555 9,676,578	45,370,268 45,232,231	28,135,412 27,454,405	16.61 16.73
35 36 37 38	26,528,874 26,917,019 27,974,625	1,597,536 1,609,380 1,639,249	50.0% 50.0% 50.0%	77,796,388 77,225,169 75,307,932	10,900,555 9,676,578 6,508,379	45,370,268 45,232,231 44,783,682	28,135,412 27,454,405 25,646,031	16.61 16.73 17.07

Review of Resource, Pit Optimization, Pit Design & Mine Development Plan, Mineable Reserves Estimation and Monthly Production Scheduling for PT IMP Lead-Zinc Project

Notes: 1. Shaded with yellow is the pit shell with highest average discounted cash flow.

2. Shaded with green is the pit shell with highest undiscounted cash flow.

Table 3. Pit Shells Generated

Figure 5 below is a map showing the crude limit of pit shell no. 23 which will give the highest undiscounted net revenue for the project at a given base case economic and technical parameters.

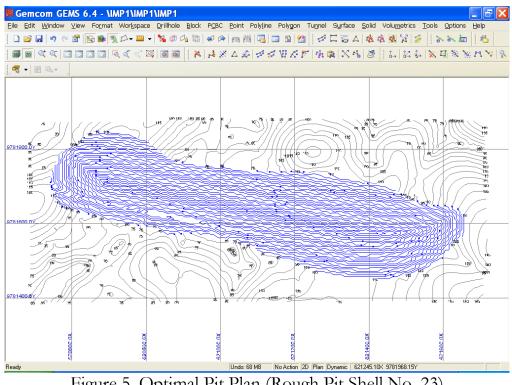


Figure 5. Optimal Pit Plan (Rough Pit Shell No. 23)

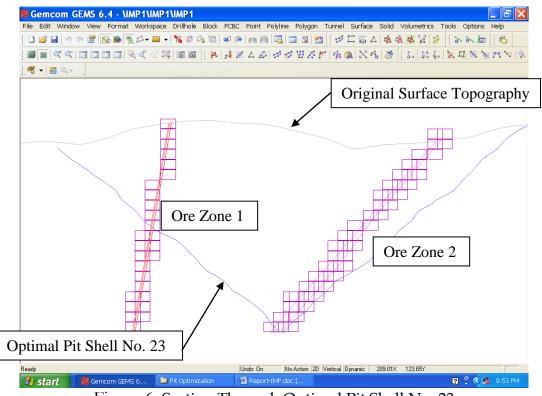


Figure 6. Section Through Optimal Pit Shell No. 23

Table 4 below shows the optimal rough pit shell no. 23 mineable reserves inventory per bench.

Bench	Ore	Concentration Ratio		Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP120	629			34,818	55.4
BP115	4,680			139,230	29.7
BP110	13,442			484,755	36.1
BP105	22,155			900,144	40.6
BP100	27,264			1,150,210	42.2
BP095	30,887			1,337,125	43.3
BP090	33,611			1,455,374	43.3
BP085	38,820			1,539,207	39.6
BP080	48,600			1,654,155	34.0
BP075	51,435			1,678,797	32.6
BP070	55,067			1,682,209	30.5
BP065	55,955			1,636,156	29.2
BP060	57,263			1,578,176	27.6
BP055	61,035			1,507,511	24.7
BP050	69,947			1,356,124	19.4
BP045	79,497			1,201,346	15.1
BP040	88,628			1,041,816	11.8
BP035	96,213			895,642	9.3
BP030	104,785			735,781	7.0
BP025	102,590			569,427	5.6
BP020	100,654			455,440	4.5
BP015	97,879			318,171	3.3
BP010	93,608			216,749	2.3
BP005	88,359			120,251	1.4
BP000	75,076			30,715	0.4
Total/Ave	1,498,078	0.0%	0.0%	23,719,328	15.8

Average haul distance:

Ore Waste Kilometers Kilometers

Sensitivity Analysis

Sensitivity analyses were also done on the pit shells to determine how sensitive the optimum pit shells are to changes in operating costs, pit slope and concentrate price.

A 10% increase in product price increases the optimum pit shells mineable reserve to 1.544 Million DMT ore (+3.0%), and pushes up the net revenue to \$110 Million (+38%). Please see Table 5. Sensitivity Analysis on Price.

On the other hand, a 10% drop in price reduces the optimum pit shells mineable reserve to 1.380 Million DMT ore (-7.9%), and pulls down the net revenue to \$51 Million (-36%). Please see Table 5. Sensitivity Analysis on Price.

Scenario	Total Reserves		Net	Difference	% Difference	
on Price	DMT('000)	SR	Revenue (\$x000)	in Net Revenue	in Net Revenue	
Plus 10%	1,544	16.15	110,248	30,346	38%	
Base Case	1,498	15.83	79,902	0%	0%	
Minus 10%	1,380	15.22	51,087	(28,815)	-36%	

Table 5.	Sensitivity	Analysis	on Price
----------	-------------	----------	----------

On operating costs, a 10% reduction increases the mineable reserves to 1.554 Million DMT ore (+3.7%), while the net revenue increases to \$102 Million (+28%). Please see Table 6. Sensitivity Analysis on Operating Costs.

Likewise, a 10% increase in operating costs decreases the mineable reserves to 1.407 Million DMT ore (-6.1%), and reducing the net revenue to \$59 Million (-26%). Please see Table 6. Sensitivity Analysis on Operating Costs.

Scenario	Total Res	erves	Net	Difference	% Difference	
on Costs	DMT('000)	SR	Revenue (\$x000)	in Net Revenue	in Net Revenue	
Plus 10%	1,407	15.34	58,969	(20,933)	-26%	
Base Case	1,498	15.83	79,902	0%	0%	
Minus 10%	1,554	16.23	102,328	22,426	28%	

Table 6. Sensitivity Analysis on Operating Costs

It is highly sensitive likewise to changes in overall pit slopes. A 5 degree increase in pit slopes increases the mineable reserves to 1.552 Million DMT ore (+3.6%) and the net revenue to \$98 Million (+23%), while a 5 degree reduction in pit slopes pulls down the mineable reserves to 1.334 Million DMT ore (-10.9%) and net revenue to \$55 Million (-31%). Please see Table 7. Sensitivity Analysis on Operating Costs.

Scenario	Total Reserves		Net	Difference	% Difference	
on Pit Slope	DMT('000)	SR	Revenue (\$x000)	in Net Revenue	in Net Revenue	
Plus 5 Deg	1,552	14.16	98,397	18,495	23%	
Base Case	1,498	15.83	79,902	0%	0%	
Minus 5 Deg	1,334	17.81	55,309	(24,593)	-31%	

Table 7. Sensitivity Analysis on Pit Slopes

PIT DESIGN & FINAL MINEABLE RESERVES

At this point, this estimated reserve of the chosen pit is yet based on the rough/crude pit output of the optimization run. The figures will slightly change after smoothing and inclusion of ramps and benches in the ultimate pit design.

Parameters

Below are the parameters/assumptions used in designing the ultimate pit:

Table 8 – Ultimate Pit Design Assumptions/Parameters

PARAMETER/ASSUMPTION	VALUE
Bench Height	10m
Berm Width	7m
Ramp Width	12m
Ramp Gradient	not more than 10%
Bench/Batter Slope	73 degrees
Overall Pit Slope	45 degrees
Minimum Working Width	12m

Below is a tabulated reserve summary of the chosen pit of this project.

Table 9 – Material	Inventory Summar	y of the Chosen Pit
--------------------	------------------	---------------------

PARTICULARS	QUANTITY based on Rough Pit	QUANTITY based on Smoothened Pit	UNITS	
DMT Ore	1.498	1.387	million tonne	
DMT Waste	23.719	22.056	million tonne	
Stripping Ratio	15.8	15.9	waste/ore	

The pit design for this reserve is as shown in Figure 7 below.

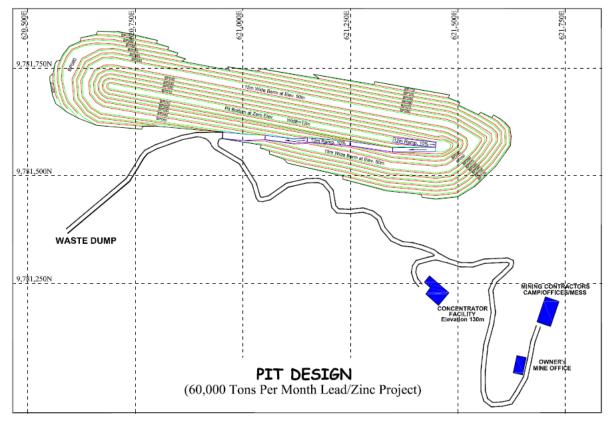


Figure 7 – Design of the Chosen Pit

Ore Reserves Inventory

The resulting reserves inventory per bench is shown in Table 10.

Bench	Ore	Concentrat	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP120	600			11,760	19.6
BP115	3,810			94,370	24.8
BP110	10,890			422,050	38.8
BP105	19,170			800,420	41.8
BP100	24,200			1,078,270	44.6
BP095	28,200			1,243,250	44.1
BP090	31,620			1,396,810	44.2
BP085	36,810			1,443,870	39.2
BP080	47,120			1,620,180	34.4
BP075	47,330			1,525,110	32.2
BP070	51,430			1,584,440	30.8
BP065	52,640			1,517,640	28.8
BP060	54,090			1,524,410	28.2
BP055	54,490			1,418,580	26.0
BP050	60,790			1,335,650	22.0
BP045	65,020			1,002,980	15.4
BP040	76,970			926,690	12.0
BP035	87,350			739,050	8.5
BP030	96,470			667,080	6.9
BP025	94,990			505,800	5.3
BP020	95,570			442,260	4.6
BP015	92,270			318,590	3.5
BP010	93,750			259,090	2.8
BP005	82,390			115,400	1.4
BP000	79,520			62,120	0.8
Total/Ave	1,387,490	0.0%	0.0%	22,055,870	15.9

Table 10 – Ore Reserves Inventory

CONCEPTUAL MINE DEVELOPMENT PLAN/LAYOUT

Preliminary mine development plan/layout was also conceptualized for this project with the following major infra-structure to be constructed, but not limited to the following:

- Concentrator facility (ROM pad, grizzly, crushing plant, flotation tanks, etc.).
- Tailings dam and reservoir.
- Waste dumpsite
- Haul roads
- Contractors equipment lay down/camp/offices/accommodation facility
- Owners camp/offices/accommodation facility
- Transition ore stockpile areas

Concentrator Facility

This structure is located south east of the pit with an area of 4,000 square meters just enough to accommodate all the needed plant machineries/equipment and other facilities including the Run-of-Mine (ROM) ore stockpile area that could accommodate around 10,000 tons of readily ore feed to the concentrator at any given time.

ROM pad, grizzly, crusher, ball mill, flotation tanks, laboratory and mill office are the main machineries/equipment/facility at the concentrator area.

The average haul distance from the pit to the concentrator over mine life is approximately one and a half (1.5) kilometers. Haul distance during initial mining is about a kilometer and will increase gradually to a maximum of two (2) kilometers.

Tailings Dam and Reservoir/Pond

This structure is also located south east of the pit covering an area of about 5.5 hectares. The dam to be constructed has a height of thirty (30) meters from the core trench up to the crest. Width of the crest is ten (10) meters with a total length of around one hundred seventy (170) meters. The upstream slope has horizontal to vertical ratio of 1.5:1 while the downstream slope is flatter at 2:1. A typical layout of an open channel spillway is also included with a width of 10m to serve as overflow channel during heavy rainfall to protect the dam structure from over tapping and structural failure. A free board of five (5) meters is provided.

Geotechnical and hydrological studies should be done for this structure in order to have a basis for the detailed design. What is presented here is only a typical/conceptual design of a tailings dam in the absence of the aforementioned studies.

The reservoir to be constructed could accommodate about one million tons of tails equivalent to seventy two (72) months or six (6) years of mining operation.

Waste Dump Site

The average haul distance from the pit to the waste dumping area over mine life is approximately 1.2 kilometers. The longest being 1.7 kilometers with the shortest haul distance of 0.7 kilometers. The location of this structure is south west of the open pit area.

Dumping of waste at designated area shall be done in 5 meters lift with 5 meters berm for each lift. Batter slope is 2:1 horizontal to vertical ratio. This will result to an overall slope of eighteen (18) degrees which is typically a safe angle for waste dump sites. Edge dumping should not be done since this is mostly the cause of slope erosion of the embankment.

This initial waste dump site could accommodate about one million tons of waste equivalent to only six (6) months of mining operation. An additional area should be made available before full exhaustion of this initial waste dump area. Possible location is the relief areas at the northern portion of the pit. Once the topography of the whole concession is available, sourcing of waste dump areas shall commence.

In-pit dumping will be implemented as soon as possible to minimize land disturbance and waste material haul distance.

Haul Roads

Permanent mine haul road from the pit exit to the concentrator and other facilities will be constructed all weather type and should be maintained regularly. The minimum width is ten (10) meters grading not more than ten (10) percent for both uphill and downhill direction. A safety bund wall and drainage network should be provided together with the safety signage strategically located along the haul roads.

Mining Contractors Facility

This facility is located south east of the mine pit area that will accommodate the mining equipment and its auxiliaries, offices, housing, motor pool, oil depot, domestic/industrial water supply system and other support facility. The distance from the pit exit is 1.6 kilometers.

Owners Facility

Also located south east of the pit will accommodate mine administration/technical offices, staff house and messing for owners key men personnel.

Transition Ore Stockpile Areas

There are two (2) possible areas for ore stockpiling both located just south of the open pit. One is at the right side of the main haul road and the other one at the left side.

Each stockpile area has a capacity of two hundred thousand (200,000) metric tons of ore equivalent to almost seven (7) months of milling operation.

Stockpiling will be done in 3-meter lifts with a maximum of three (3) lifts or a total height of nine (9) meters. Each lift will be provided with a 4-meter catch berm for slope stability. Batter slope will be maintained at 2:1 horizontal to vertical ratio resulting to a safe overall slope of seventeen (17) degrees.

Figure 8 is a map showing the relative location of these infra-structures to be constructed.

Review of Resource, Pit Optimization, Pit Design & Mine Development Plan, Mineable Reserves Estimation and Monthly Production Scheduling for PT IMP Lead-Zinc Project

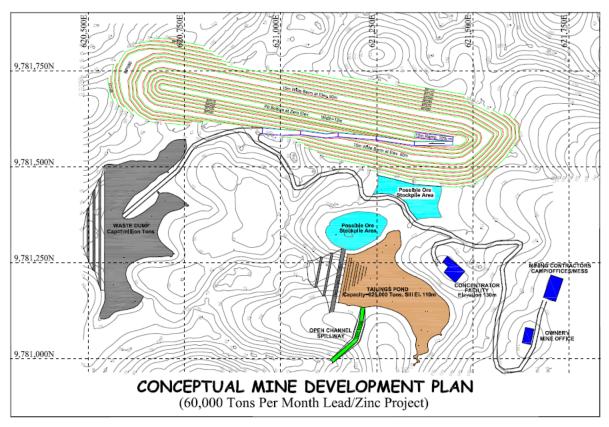


Figure 8 - Conceptual Mine Development Plan/Layout

MONTHLY MINE PRODUCTION SCHEDULING

Production scheduling is one of the vital phases in a mining operation to enhance its profitability. Mines use the schedule as a long-term strategic-planning tool to determine the sequence of mining a production area, for financial modeling and as long and short-term operational guides.

Particularly, a production schedule for this deposit must provide a mining sequence that takes into account the physical limitations of the mine. It must also, to the maximum extent possible, maintain the strip ratios evenly distributed, to ensure the sustainability of the mining operation, throughout the life of the mine.

The schedule for the first six months of mining is 10,000 MT's of ore per month, increasing to 20,000 tons per month for the next six months and finally 60,000 MT's per month of ore onwards until end of the mine life based on current reserves estimation.

Input Data

• Surface topography map in digital Autocad format to be used as a starting surface grid for this production schedule

- Pit design of whittle crude pit no. 23 with SR of 15.9:1
- Resource model done in December 2018

Assumptions and Parameters

PARAMETER/ASSUMPTION	VALUE
Bench Height	10m
Berm Width	7m
Ramp Width	12m
Ramp Gradient	not more than 10%
Bench/Batter Slope	73 degrees
Overall Pit Slope	45 degrees
Minimum Working Width	12m
Production Rate per Month	
Month 1 to 6	10,000t
Month 7 to 12	20,000t
Month 13 until end of pit's life	60,000t

Table 11 – Assumptions and Parameters

Waste Disposal

Possible waste dump sites proximate to this pit is estimated to be within 1.2 kilometers. In-pit dumping will be implemented as soon as possible to minimize land disturbance and waste material haul distance.

Life-of-Pit Production Schedule

The following is a summary of the material inventory for this schedule for the specified periods:

Month Ore		Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
Feb'2019	10,000			158,020	15.8
Mar'2019	10,000			165,890	16.6
Apr'2019	10,000			160,070	16.0
May'2019	10,000			157,200	15.7
Jun'2019	10,000			153,020	15.3
Jul'2019	10,000			162,780	16.3
Aug'2019	20,000			321,890	16.1
Sep'2019	20,000			321,200	16.1

Total/Ave	1,387,490	0.0%	0.0%	22,055,870	15.9
Sep'2021	67,490			982,670	14.2
Aug'2021	60,000			957,900	16.0
Jul'2021	60,000			960,660	16.0
Jun'2021	60,000			953,320	15.9
May'2021	60,000			940,850	15.7
Apr'2021	60,000			972,290	16.2
Mar'2021	60,000			925,470	15.4
Feb'2021	60,000			964,970	16.1
Jan'2021	60,000			969,150	16.2
Dec'2020	60,000			965,260	16.1
Nov'2020	60,000			966,930	16.1
Oct'2020	60,000			962,580	16.0
Sep'2020	60,000			962,210	16.0
Aug'2020	60,000			950,820	15.8
Jul'2020	60,000			951,800	15.9
Jun'2020	60,000			957,950	16.0
May'2020	60,000			963,720	16.1
Apr'2020	60,000			959,070	16.0
Mar'2020	60,000			958,230	16.0
Feb'2020	60,000			949,060	15.8
Jan'2020	20,000			321,380	16.1
Dec'2019	20,000			318,760	15.9
Nov'2019	20,000			320,380	16.0
Oct'2019	20,000			320,370	16.0

Table 12 – Summary	of Monthly Production Sched	ule
-		

February 2019 Production Schedule

Active mining benches for this period are from B+090 down to B+080, with most of the ore coming from B+080 and B+085. Waste average haul distance is about 0.7 kilometer. Ore hauling on the other hand is approximately 1.2 kilometers to the concentrator facility.

The strip ratio for the period is 15.8:1

Table 13 is a tabulated summary of the pertinent information for this mining period.

Bench Ore		n Ore Concentration Ratio		Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP090	79			0	0.0
BP085	2,887			55,140	19.1
BP080	7,034			102,880	14.6
Total/Ave	10,000	0.0%	0.0%	158,020	15.8

Table 13 – February 2019 Production Schedule

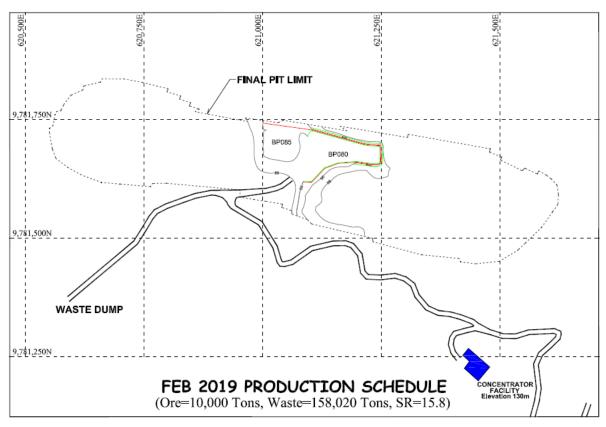


Figure 9 – February 2019 Mining Slice

March 2019 Production Schedule

Active mining benches for this period are from B+085 down to B+075, with most of the ore coming from B+080 and B+075. Waste average haul distance is about 1.0 kilometer. Ore hauling on the other hand is approximately 1.2 kilometers to the concentrator facility.

The strip ratio for the period is 16.6:1

Table 14 is a tabulated summary of the pertinent information for this mining period.

Bench Ore		ench Ore Concentration Ratio		Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP085	0			150	-
BP080	4,516			104,550	23.1
BP075	5,484			61,190	11.2
Total/Ave	10,000	0.0%	0.0%	165,890	16.6

Table 14 – March 2019 Production Schedule

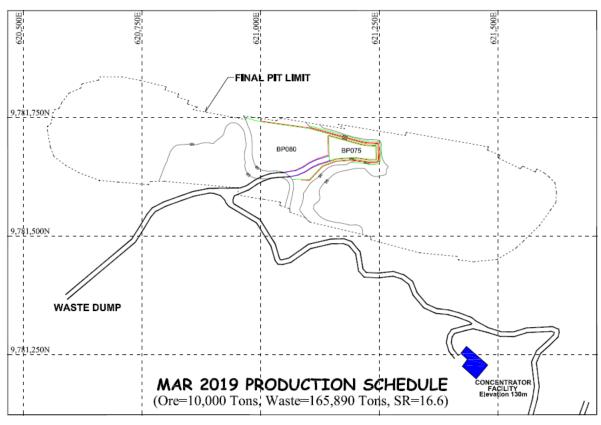


Figure 10 – March 2019 Mining Slice

April 2019 Production Schedule

Active mining benches for this period are from B+075 down to B+070, with most of the ore coming from these benches. Waste average haul distance is about 1.1 kilometer. Ore hauling on the other hand is approximately 1.3 kilometers to the concentrator facility.

The strip ratio for the period is 16.0:1

Table 15 is a tabulated summary of the pertinent information for this mining period.

Bench Ore		Concentration Ratio		Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP075	7,546			138,190	18.3
BP070	2,454			21,880	8.9
Total/Ave	10,000	0.0%	0.0%	160,070	16.0

Table 15 – April 2019 Production Schedule

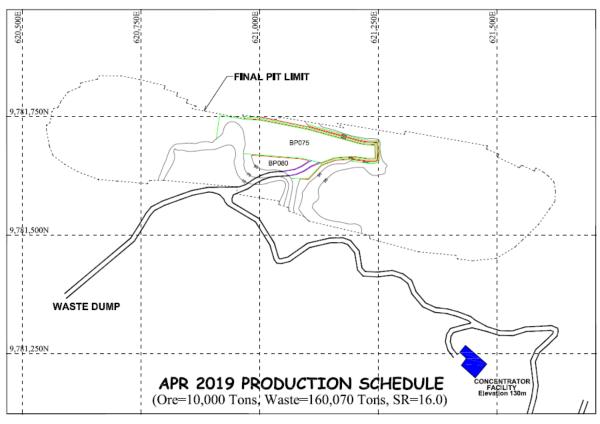


Figure 11 – April 2019 Mining Slice

May 2019 Production Schedule

Active mining benches for this period are from B+075 down to B+070, with most of the ore coming from B+070.

The strip ratio for the period is 15.7:1

Table 16 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP075	0			1,120	-
BP070	10,000			156,080	15.6
Total/Ave	10,000	0.0%	0.0%	157,200	15.7

Table 16 – May 2019 Production Schedule

June 2019 Production Schedule

Active mining benches for this period are from B+080 down to B+065, with most of the ore coming from B+070 and B+065.

The strip ratio for the period is 15.3:1

Table 17 is a tabulated summary of the pertinent information for this mining period.

Bench Ore		ench Ore Concentration Ratio		Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP080	40			0	0.0
BP075	955			19,060	20.0
BP070	5,771			106,440	18.4
BP065	3,234			27,520	8.5
Total/Ave	10,000	0.0%	0.0%	153,020	15.3

Table 17 – June 2019 Production Schedule

July 2019 Production Schedule

Active mining benches for this period are from B+070 down to B+065, with most of the ore coming from B+065.

The strip ratio for the period is 16.3:1

Table 18 is a tabulated summary of the pertinent information for this mining period.

Bench Ore		Concentra	Concentration Ratio		Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP070	0			170	-
BP065	10,000			162,610	16.3
Total/Ave	10,000	0.0%	0.0%	162,780	16.3

Table 18 – July 2019 Production Schedule

August 2019 Production Schedule

Active mining benches for this period are from B+105 down to B+095 and B+060 to B+065, with most of the ore coming from B+065/B+060.

The strip ratio for the period is 16.1:1

Table 19 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP105	10			0	0.0
BP100	403			33,910	84.2
BP095				69,170	-
BP090				0	-
BP085				0	-
BP080				0	-
BP075				0	-
BP070				0	-
BP065	6,405			63,390	9.9
BP060	13,182			155,420	11.8
Total/Ave	20,000	0.0%	0.0%	321,890	16.1

Table 19 – August 2019 Production Schedule

September 2019 Production Schedule

Active mining benches for this period are from B+100 down to B+095 and B+060 to B+065, with most of the ore coming from B+065/B+060.

The strip ratio for the period is 16.1:1

Table 20 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP100	20			760	37.4
BP095	1,422			52,950	37.2
BP090	0			0	-
BP085	0			0	-
BP080	0			0	-
BP075	0			0	-
BP070	0			120	-
BP065	0			45,620	-
BP060	6,034			134,950	22.4
BP055	12,524			86,800	6.9
Total/Ave	20,000	0.0%	0.0%	321,200	16.1

Table 20 – September 2019 Production Schedule

October 2019 Production Schedule

Active mining benches for this period are from B+060 down to B+050, with most of the ore coming from B+055/B+050.

The strip ratio for the period is 16.0:1

Table 21 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP060	0			46,880	-
BP055	5,111			160,720	31.4
BP050	14,889			112,770	7.6
Total/Ave	20,000	0.0%	0.0%	320,370	16.0

Table 21 – October 2019 Production Schedule

November 2019 Production Schedule

Active mining benches for this period are from B+090 down to B+085 and B+055 to B+045, with most of the ore coming from B+045/B+050.

The strip ratio for the period is 16.0:1

Table 22 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP090	0			108,250	-
BP085	0			32,920	-
BP080	0			0	-
BP075	0			0	-
BP070	0			0	-
BP065	0			0	-
BP060	0			0	-
BP055	102			1,070	10.5
BP050	6,561			120,510	18.4
BP045	13,337			57,630	4.3
Total/Ave	20,000	0.0%	0.0%	320,380	16.0

Table 22 - November 2019 Production Schedule

December 2019 Production Schedule

Active mining benches for this period are from B+090 down to B+065 and B+040 to B+045, with most of the ore coming from B+045/B+040.

The strip ratio for the period is 15.9:1

Table 23 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentration Ratio		Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP090	0			520	-
BP085	0			47,200	-
BP080	0			52,450	-
BP075	0			39,120	-
BP070	0			46,330	-
BP065	0			47,330	-
BP060	0			0	-
BP055	0			0	-
BP050	0			0	-
BP045	12,158			65,810	5.4
BP040	7,842			20,000	2.6
Total/Ave	20,000	0.0%	0.0%	318,760	15.9

Table 23 – December 2019 Production Schedule

January 2020 Production Schedule

Active mining benches for this period are from B+080 down to B+060 and B+040 to B+045, with most of the ore coming from B+040.

The strip ratio for the period is 16.1:1

Table 24 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentration Ratio		Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP080	0			430	-
BP075	0			18,080	-
BP070	0			39,600	-
BP065	0			63,750	-
BP060	0			115,620	-
BP055	0			0	-

Total/Ave	20,000	0.0%	0.0%	321,380	16.1
BP040	20,000			82,630	4.1
BP045	0			1,270	-
BP050	0			0	-

Table 24 – January	2020 Production Schedule
--------------------	--------------------------

February 2020 Production Schedule

Active mining benches for this period are from B+090 down to B+035, with most of the ore coming from B+045 to B+035.

The strip ratio for the period is 15.8:1

Table 25 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentration Ratio		Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP090	0			1,900	-
BP085	0			70,300	-
BP080	0			102,530	-
BP075	0			82,680	-
BP070	0			53,120	-
BP065	172			53,030	308.4
BP060	3,399			69,610	20.5
BP055	3,733			162,700	43.6
BP050	5,392			159,320	29.5
BP045	8,164			61,390	7.5
BP040	11,725			64,230	5.5
BP035	27,415			68,250	2.5
Total/Ave	60,000	0.0%	0.0%	949,060	15.8

Table 25 – February 2020 Production Schedule

March 2020 Production Schedule

Active mining benches for this period are from B+120 down to B+100 and B+035 to B+40, with most of the ore coming from B+035.

The strip ratio for the period is 16.0:1

Table 26 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP120	596			6,840	11.5
BP115	3,775			67,480	17.9
BP110	10,233			338,110	33.0
BP105	14,744			323,550	21.9
BP100	11,813			171,200	14.5
BP095	0			0	-
BP090	0			0	-
BP085	0			0	-
BP080	0			0	-
BP075	0			0	-
BP070	0			0	-
BP065	0			0	-
BP060	0			0	-
BP055	0			0	-
BP050	0			0	-
BP045	0			0	_
BP040	258			210	0.8
BP035	18,579			50,840	2.7
Total/Ave	60,000	0.0%	0.0%	958,230	16.0

Table 26 – March 2020 Production Schedule

April 2020 Production Schedule

Active mining benches for this period are from B+105 down to B+085, with most of the ore coming from B+100 to B+085.

The strip ratio for the period is 16.0:1

Table 27 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentration Ratio		Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP105	320			28,130	87.9
BP100	6,049			182,930	30.2
BP095	20,547			307,670	15.0
BP090	23,226			348,920	15.0
BP085	9,858			91,420	9.3
Total/Ave	60,000	0.0%	0.0%	959,070	16.0

Table 27 – April 2020 Production Schedule

May 2020 Production Schedule

Active mining benches for this period are from B+105 down to B+075 and B+030, with most of the ore coming from B+075 to B+085 and B+030.

The strip ratio for the period is 16.1:1

Table 28 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	Concentration Ratio		Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP105	0			181,050	-
BP100	0			149,000	-
BP095	0			41,550	-
BP090	0			42,530	-
BP085	14,114			181,590	12.9
BP080	24,030			251,310	10.5
BP075	9,483			88,820	9.4
BP070	0			0	-
BP065	0			0	-
BP060	0			0	-
BP055	0			0	-
BP050	0			0	-
BP045	0			0	-
BP040	0			0	-
BP035	0			0	-
BP030	12,372			27,870	2.3
Total/Ave	60,000	0.0%	0.0%	963,720	16.1

Table 28 – May 2020 Production Schedule

June 2020 Production Schedule

Active mining benches for this period are from B+105 down to B+050 and B+030, with most of the ore coming from B+065 to B+070 and B+030.

The strip ratio for the period is 16.0:1

Table 29 is a tabulated summary of the pertinent information for this mining period.

Bench Ore Co		Concentra	Concentration Ratio		Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP105	0			1,800	-

BP100	541			208,600	385.4
BP095	0			67,500	-
BP090	1,752			91,590	52.3
BP085	2,037			160,650	78.9
BP080	39			63,780	1,620.3
BP075	0			0	-
BP070	9,339			110,400	11.8
BP065	8,857			89,220	10.1
BP060	0			30,000	-
BP055	0			30,000	-
BP050	0			30,000	-
BP045	0			0	-
BP040	0			0	-
BP035	0			0	-
BP030	37,435			74,410	2.0
Total/Ave	60,000	0.0%	0.0%	957,950	16.0

Table 29 –	June 2020	Production	Schedule
------------	-----------	------------	----------

July 2020 Production Schedule

Active mining benches for this period are from B+100 down to B+095, B+080 to B+075 and B+025 to B+045, with most of the ore coming from B+025 and B+075.

The strip ratio for the period is 15.9:1

Table 30 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentration Ratio		Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP100	0			150	-
BP095	648			277,220	428.1
BP090	0			0	-
BP085	0			0	-
BP080	2,256			50,960	22.6
BP075	5,686			163,680	28.8
BP070	0			0	-
BP065	0			0	-
BP060	0			0	-
BP055	0			0	-
BP050	0			0	-
BP045	0			152,520	-
BP040	0			153,750	-
BP035	0			91,950	-
BP030	0			0	-
BP025	51,410			61,570	1.2

Total/Ave 60,000	0.0%	0.0%	951,800	15.9
------------------	------	------	---------	------

Table 30 – July 2020 Production Schedule

August 2020 Production Schedule

Active mining benches for this period are from B+090 down to B+060 and B+020, with most of the ore coming from B+075 to B+060.

The strip ratio for the period is 15.8:1

Table 31 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentrat	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP090	0			36,000	-
BP085	0			32,850	-
BP080	0			29,250	-
BP075	10,323			140,130	13.6
BP070	16,091			296,790	18.4
BP065	16,041			270,140	16.8
BP060	13,112			140,840	10.7
BP055	0			0	-
BP050	0			0	-
BP045	0			0	-
BP040	0			0	-
BP035	0			0	-
BP030	0			0	-
BP025	0			0	-
BP020	4,434			4,820	1.1
Total/Ave	60,000	0.0%	0.0%	950,820	15.8

Table 31 – August 2020 Production Schedule

September 2020 Production Schedule

Active mining benches for this period are from B+090 down to B+020, with most of the ore coming from B+060 and B+020.

The strip ratio for the period is 16.0:1

Table 32 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP090	0			94,600	-
BP085	0			46,380	-
BP080	0			46,970	-
BP075	0			41,880	-
BP070	0			41,620	-
BP065	220			40,680	184.6
BP060	11,467			182,560	15.9
BP055	2,534			57,190	22.6
BP050	0			32,170	-
BP045	0			30,000	-
BP040	0			27,350	-
BP035	0			3,200	-
BP030	0			91,880	-
BP025	0			91,500	-
BP020	45,779			134,230	2.9
Total/Ave	60,000	0.0%	0.0%	962,210	16.0

Table 32 – September 2020 Production Schedule

October 2020 Production Schedule

Active mining benches for this period are from B+090 down to B+075 and B+015, with most of the ore coming from B+015.

The strip ratio for the period is 16.0:1

Table 33 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP090	933			133,900	143.5
BP085	2,603			226,060	86.8
BP080	3,723			277,340	74.5
BP075	4,086			225,990	55.3
BP070	0			0	-
BP065	0			0	-
BP060	0			0	-
BP055	0			0	-
BP050	0			0	-
BP045	0			0	-
BP040	0			0	-
BP035	0			0	-
BP030	0			0	-

Total/Ave	60,000	0.0%	0.0%	962,580	16.0
BP015	48,654			99,290	2.0
BP020	0			0	-
BP025	0			0	-

Table 33 –	October 2020	Production	Schedule
------------	--------------	------------	----------

November 2020 Production Schedule

Active mining benches for this period are from B+100 down to B+090, B+075 to B+045 and B+005 to B+015, with most of the ore coming from B+005 and B+045 to B+050.

The strip ratio for the period is 16.1:1

Table 34 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP100	0			380	-
BP095	0			137,000	-
BP090	0			133,150	-
BP085	0			0	-
BP080	0			0	-
BP075	0			50,040	-
BP070	20			277,590	13,835.5
BP065	4,264			153,600	36.0
BP060	4,434			700	0.2
BP055	0			80,880	-
BP050	10,684			91,300	8.5
BP045	15,940			0	0.0
BP040	0			0	-
BP035	0			0	-
BP030	0			0	-
BP025	0			0	-
BP020	0			0	-
BP015	0			110	-
BP010	120			42,180	350.4
BP005	24,538			0	0.0
BP000	0			0	-
Total/Ave	60,000	0.0%	0.0%	966,930	16.1

Table 34 – November 2020 Production Schedule

December 2020 Production Schedule

Active mining benches for this period are from B+090 down to B+085, B+065 to B+050 and B+005 to B+010, with most of the ore coming from B+050 to B+055 and B+005 to B+010.

The strip ratio for the period is 16.1:1

Table 35 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP090	0			2,220	-
BP085	0			135,770	-
BP080	0			0	-
BP075	0			0	-
BP070	0			0	-
BP065	0			114,550	-
BP060	4,353			282,280	64.9
BP055	9,625			321,010	33.4
BP050	12,149			59,120	4.9
BP045	0			0	-
BP040	0			0	-
BP035	0			0	-
BP030	0			0	-
BP025	0			0	-
BP020	0			0	-
BP015	0			0	-
BP010	26,460			42,540	1.6
BP005	7,413			7,770	1.0
BP000	0			0	-
Total/Ave	60,000	0.0%	0.0%	965,260	16.1

Table 35 – December 2020 Production Schedule

January 2021 Production Schedule

Active mining benches for this period are from B+085 down to B+045 and B+005, with most of the ore coming from B+045, B+055 and B+005.

The strip ratio for the period is 16.2:1

Table 36 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP085	0			750	-
BP080	233			141,690	609.4
BP075	126			49,330	391.7
BP070	0			47,500	-
BP065	0			47,880	-
BP060	0			46,600	-
BP055	8,012			235,000	29.3
BP050	213			285,000	1,337.1
BP045	12,701			77,420	6.1
BP040	0			0	-
BP035	0			0	-
BP030	0			0	-
BP025	0			0	-
BP020	0			0	-
BP015	0			0	-
BP010	0			0	-
BP005	38,715			37,980	1.0
BP000	0			0	-
Total/Ave	60,000	0.0%	0.0%	969,150	16.2

Table 36 – January 2021 Production Schedule

February 2021 Production Schedule

Active mining benches for this period are from B+080 down to B+075 and B+050 to B+035, with most of the ore coming from B+045 to B+035.

The strip ratio for the period is 16.1:1

Table 37 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP080	0			170	-
BP075	0			91,720	-
BP070	0			0	-
BP060	0			0	-
BP055	0			0	-
BP050	4,449			159,300	35.8
BP045	16,004			334,040	20.9
BP040	31,223			367,140	11.8
BP035	8,324			12,600	1.5
Total/Ave	60,000	0.0%	0.0%	964,970	16.1

Table 37 - February 2021 Production Schedule

March 2021 Production Schedule

Active mining benches for this period are from B+110 down to B+095 and B+070 to B+065, B+050, B+035 and B+000 with most of the ore coming from B+000.

The strip ratio for the period is 15.4:1

Table 38 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP110	50			25,620	510.0
BP105	2,883			188,310	65.3
BP100	3,305			236,050	71.4
BP095	3,275			213,320	65.1
BP090	0			0	-
BP085	0			0	-
BP080	0			0	-
BP075	0			0	-
BP070	0			93,120	-
BP065	0			93,120	-
BP060	0			0	-
BP055	0			0	-
BP050	151			14,440	95.8
BP045	0			0	-
BP040	0			0	-
BP035	1,678			30,900	18.4
BP030	0			0	-
BP025	0			0	-
BP020	0			0	-
BP015	0			0	-
BP010	0			0	-
BP005	0			0	-
BP000	48,657			30,590	0.6
Total/Ave	60,000	0.0%	0.0%	925,470	15.4

Table 38 – March 2021 Production Schedule

April 2021 Production Schedule

Active mining benches for this period are from B+090 down to B+070 and B+045 to B+030 with most of the ore coming from B+030 to B+040.

The strip ratio for the period is 16.2:1

Table 39 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	Concentration Ratio		Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP090	0			155,850	-
BP085	0			153,500	-
BP080	0			154,250	-
BP075	0			153,480	-
BP070	0			150,270	-
BP065	0			0	-
BP060	0			0	-
BP055	0			0	-
BP050	0			0	-
BP045	2,638			10,270	3.9
BP040	5,587			8,180	1.5
BP035	28,813			151,940	5.3
BP030	22,961			34,550	1.5
Total/Ave	60,000	0.0%	0.0%	972,290	16.2

Table 39 – April 2021 Production Schedule

May 2021 Production Schedule

Active mining benches for this period are from B+060 down to B+020 with most of the ore coming from B+020 to B+035.

The strip ratio for the period is 16.2:1

Table 40 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentration Ratio		Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP060	0			92,380	-
BP055	0			90,000	-
BP050	0			89,120	-
BP045	0			83,320	-

Total/Ave	60,000	0.0%	0.0%	940,850	15.7
BP020	12,190			35,330	2.9
BP025	30,187			83,430	2.8
BP030	17,579			202,590	11.5
BP035	44			181,580	4,118.8
BP040	0			83,100	-

Table 40 – May 2021 Production Schedule

June 2021 Production Schedule

Active mining benches for this period are from B+120 down to B+100, B+070 and B+065 to B+020 with most of the ore coming from B+020 to B+030.

The strip ratio for the period is 15.9:1

Table 41 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentrat	tion Ratio	Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP120	0			4,930	-
BP115	20			26,890	1,342.3
BP110	531			58,320	109.9
BP105	1,132			77,580	68.5
BP100	2,003			93,140	46.5
BP095	0			0	-
BP090	0			0	-
BP085	0			0	-
BP080	0			0	-
BP075	0			0	-
BP070	0			0	-
BP065	0			58,470	-
BP060	0			0	-
BP055	0			0	-
BP050	0			0	-
BP045	0			0	-
BP040	10			250	25.0
BP035	0			55,500	-
BP030	5,048			152,720	30.3
BP025	16,818			206,650	12.3
BP020	34,437			218,870	6.4
Total/Ave	60,000	0.0%	0.0%	953,320	15.9

Table 41 – June 2021 Production Schedule

July 2021 Production Schedule

Active mining benches for this period are from B+095 down to B+060 and B+015 with most of the ore coming from B+090 to B+085 and B+015.

The strip ratio for the period is 16.0:1

Table 42 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentration Ratio		Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP095	2,434			76,870	31.6
BP090	5,769			247,380	42.9
BP085	5,479			209,180	38.2
BP080	2,040			49,680	24.3
BP075	124			8,160	65.7
BP070	0			5,850	-
BP065	0			90,180	-
BP060	0			87,620	-
BP055	0			0	-
BP050	0			0	-
BP045	0			0	-
BP040	0			0	-
BP035	0			0	-
BP030	0			0	-
BP025	0			0	-
BP020	0			0	-
BP015	44,153			185,740	4.2
Total/Ave	60,000	0.0%	0.0%	960,660	16.0

Table 42 – July 2021 Production Schedule

August 2021 Production Schedule

Active mining benches for this period are from B+080 down to B+055 and B+010 with most of the ore coming from B+010.

The strip ratio for the period is 16.0:1

Table 43 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentra	tion Ratio	Waste	Strip Ratio
Bollon	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP080	3,301			191,940	58.1
BP075	3,301			152,460	46.2
BP070	3,311			137,530	41.5
BP065	3,180			95,450	30.0
BP060	2,908			136,180	46.8
BP055	535			91,480	171.0
BP050	0			0	-
BP045	0			0	-
BP040	0			0	-
BP035	0			0	-
BP030	0			0	-
BP025	0			0	-
BP020	0			0	-
BP015	0			0	-
BP010	43,463			152,860	3.5
Total/Ave	60,000	0.0%	0.0%	957,900	16.0

Table 43 – August 2021 Production Schedule

September 2021 Production Schedule

Active mining benches for this period are from B+100 and B+065 down to B+000 with most of the ore coming from B+000 to B+005.

The strip ratio for the period is 14.6:1

Table 44 is a tabulated summary of the pertinent information for this mining period.

Bench	Ore	Concentration Ratio		Waste	Strip Ratio
	MT's	Lead, Pb	Zinc, Zn	MT's	t:t
BP100	0			2,150	-
BP095	0			0	-
BP090	0			0	-
BP085	0			0	-
BP080	0			0	-
BP075	0			0	-
BP070	0			0	-
BP065	0			1,100	-
BP060	0			2,780	-
BP055	1,621			101,730	62.8
BP050	1,221			182,600	149.6
BP045				129,300	-
BP040				119,850	-
BP035				92,300	-

BP030				83,050	-
BP025				62,650	-
BP020				49,000	-
BP015				33,450	-
BP010	29			21,510	734.3
BP005	34,263			69,650	2.0
BP000	30,357			31,550	1.0
Total/Ave	67,490	0.0%	0.0%	982,670	14.6

Table 44 – September 2021 Production Schedule

CONCLUSIONS & RECOMMENDATIONS

- Confirmatory drilling within the limit of the initial pit is recommended prior to mining to confirm the depth and to elevate the inferred resources to at least indicated category.
- The project is quite promising considering that large portion of the tenement is still unexplored. To date, only about 5% of the tenement is drilled and explored.
- Continue the exploration and drilling within the tenement to further increase the resource and reserve base of this project.
- Additional metallurgical tests is recommended to include in the assaying of ore samples for silver grade since galena is also a source of silver metal aside from lead.
- Geo-technical and hydrological studies should also be done for reference in the detailed strategic mine planning/design, mine development and operations.

Prepared by:

milamount -

Melecio B. Asetre, Jr. Member No. 325997 Australasian Institute of Mining and Metallurgy (AusIMM)