ELEMENTOS
TOMORROW'S TIN

Elementos Limited
ABN 49 138 468 756
ASX: ELT
elementos.com.au

Level 7, 167 Eagle St
Brisbane Queensland 4000
Phone +61 (0)7 2111 1110
admin@elementos.com.au

For personal use only

4 April 2025

ASX RELEASE

Oropesa Tin Project: Definitive Feasibility Study (DFS) Results and Maiden Ore Reserve Statement

Highlights:

- Definitive Feasibility Study (DFS) demonstrates the technical and economic viability of the Oropesa Tin Project in Spain. The project now has a clear pathway to develop the highly defined, responsibly planned, strategically located and vertically integrated mine-to-metal smelting solution located within the EU.
- Maiden Ore Reserve Estimate of 15.9Mt at 0.36%Sn announced, based upon the previously published Mineral Resource Estimate of 19.6Mt at 0.39%Sn[1].
- DFS based on a 1.4Mtpa open-cut mining project, producing an average 3,405 tonnes (t) of contained tin per year, as tin ingot, for the European tin market over an operating base-case mine life of 12 years.
- The project has an average Life of Mine (LoM) All-In-Sustaining-Cost (AISC) of US$15,000/t tin metal.
- DFS is aligned with the recently lodged Environmental and Mining Licence permit applications[2].
- DFS capital costs are now estimated at €149m (A$260m*|US$156m*) including 10.4% contingency.
- Based on a LME referenced tin price of US$30,000/t over the life-of-mine, the DFS confirms pre-tax ungeared $NPV_{8\%}$ of A$270m, pre-tax IRR of 26%, payback period of 2.7 years.
- Based on spot LME tin price of US$38,575# per tonne over the life-of-mine, the DFS confirms pre-tax ungeared $NPV_{8\%}$ of A$587m, pre-tax IRR of 42%, payback period of 1.7 years

DFS Summary Data^

Annual Production **1.36Mt**	C1-Cash Costs (Tin Metal) **US$14,440/t**	Life of Mine EBITDA **A$996M**
Annual Production (Contained Tin) **3,405t**	AISC Costs **US$15,000/t**	Internal Rate of Return (US$30k/t Pre-Tax) **26%**
Life of Mine **12 years**	NPV_8 (US$30k/t Pre-Tax, Un-geared) **A$270m**	Capital payback **2.7 years**

* Project costed and modelled in EURO, NPV converted to USD & AUD using flat spot EUR:USD FX 1:1.05, EUR:AUD FX 1:1.74
^ Please note that this table has been rounded for compliance, which may lead to differences in reporting
# London Metals Exchange (LME) Tin Official Prices, Cash, Offer - 02 April 2025 lme.com/tin

For personal use only

Elementos' Non-Executive Chairman Andy Greig Statement:

I would like to congratulate the Elementos/Wave International team, the specialist consultants and the Spanish contractor community on the production of this top-class DFS. My fellow Directors and I have undertaken a deep-dive review of this work product, and I am pleased to report that we have found the DFS to be of great substance; prudently conservative; comprehensive and robust.

I acknowledge to my fellow shareholders that this DFS has taken longer than planned; but your Board made a conscious decision that the quality and completion of the work product – and its alignment with the permitting activities - was far more important than hitting an arbitrary date.

As we undertook the review, we as a Board concluded that this DFS well defines the project; encompasses the current flow sheet; embraces the physical changes we made to the Project to reflect the in-principle agreements with regulators regarding environmental permitting; updates the cost base from the Scoping Study in 2022 to current pricing; and forms an excellent basis on which to progress the Project to offtake, financing and a much-anticipated Final Investment Decision.

The work on this DFS has been done to plus 30% of engineering completion and definition and exceeds AACE Class 3 levels. As well as an excellent team of engineers and consultants, we have engaged a group of experienced Spanish construction contractors to provide input. As a result of these efforts, I can report to you that 90% of this Project is now market-priced to 2025 pricing, while still having appropriate allowances for escalation and contingency.

You will note that the $NPV_{8\%}$ of the project has increased by 23% from the Scoping Study. At a conservative tin price of $US30,000/tonne and a discount rate of 8%, the pre-tax $NPV_{8\%}$ is now over $A270M compared to the Scoping Study $NPV_{8\%}$ of $A220M. The payback period is now 32 months. All of these numbers are appropriately conservative. (If you factor in the current metal price of around $US38,575/ tonne the $NPV_{8\%}$ exceeds $A587M, the IRR is around 42%, and the payback is 20 months).

Shareholders will notice that, within the above numbers, the capital cost of the project has increased materially. I view this as entirely appropriate and prudent – the project has had its cost base updated by 3 years (in a time of high-cost growth); the project is much better defined; and has been priced to the current market. Embracing this increase in capital cost, and still delivering improved NPV and payback, causes us to conclude we have a robust, economically excellent project.

After submitting our Primary Licence applications to the Andalucian regulators yesterday, we look forward to working closely with them to secure these licences in a timely manner.

I look forward to updating you regularly on our progress to Final Investment Decision on what will be Europe's first mine to metal vertically integrated tin project.

Andrew C Greig

Chairman

For personal use only

Elementos Limited (Elementos or Company) (ASX: ELT) has confirmed the robust technical, environmental and economic validity of its flagship Oropesa Tin Project, Cordoba Province, Andalucia, Spain, following the completion of a Definitive Feasibility Study (DFS).

The DFS also confirms the project's compliance with regulations, responsible approach to planning, minimisation of environmental disturbance and low impact to the surrounding communities; whist also highlighting the strategic benefits of being the only mine-to-metal vertically integrated tin project in development within the European Union. A Maiden Ore Reserve estimate of 15.9Mt at 0.36%Sn for Oropesa has been defined, based upon the previously published Mineral Resource Estimate of 19.6Mt at 0.39%Sn[1].

***Table 1** - DFS Base-Case (US$30,000/t) Summary**

DFS Parameter	Variable	Units			
Annual Avg. Production	Ore	t/yr			1,359,000
	Concentrate	t/yr			5,400
	Metal	t/yr			3,404
Life of Mine	LOM	Yrs			11.75
Total LoM Production	Ore	t			15,964,000
	Concentrate	t			63,000
	Metal	t			40,000
Total LoM Grades	Ore	%Sn			0.36%
	Concentrate	%Sn			63.2%
	Metal	%Sn			99.0%
DFS Parameter	**Variable**	**Units**	**USD$**	**EUR€**	**AUD$**
Reference Sales Price	LME	$/t$_{(metal)}$	30,000	28,700	49,900
European Tin Premium	Market	$/t$_{(metal)}$	975.0	900.0	1,600
Project Revenue	Average	$M/yr	104.5	100.0	170.0
	LOM	$M	1,190	1,140	1,980
C1-Cash Cost Per Tonne	Ore	$/t	37.00	35.00	61.00
	Concentrate	$/t	9,120	8,730	15,180
	Metal	$/t	14,400	13,800	24,000
AISC Cost Per Tonne	Ore	$/t	38.00	36.00	63.00
	Concentrate	$/t	9,470	9,060	15,750
	Metal	$/t	15,000	14,400	25,000
TC/RC Cost	Market	$/t$_{(con)}$	890.0	850.0	1,480
Capital Cost inc. Pre-Strip	Post-FID	$M	156.0	149.0	259.0
Sustaining Capital	LOM	$M	7.0	7.0	12.0
Corporate Income Tax	Flat	%		25.0%	
	Effective	%		19.6%	
	Low Tax Period (<1% payable) ~	Yrs		4.0	
NPV_8 Pre-Tax	Real, Ungeared	$M	162.5	155.5	270.4
NPV_8 Post-Tax		$M	129.8	124.2	215.9
IRR Pre-Tax	Real, Ungeared	%		25.65%	
IRR Post-Tax		%		23.75%	
EBITDA	Average	$M	51.00	49.00	85.00
	LOM	$M	599.0	573.0	996
Payback Period	Months	Months		32.4	

~ Low Tax Period, whereby (Cumulative income tax expense) / (Cumulative earnings before tax) = <1% tax payable

For personal use only

The Oropesa Tin Project's economic returns (NPV, IRR, payback) are robust at a variety of tin price assumptions and discount rates as evidenced in Tables 2 and 3. The DFS base case reference tin price of US$30,000/t, the current LME spot price# of US$38,575/t and the consensus long term price of US$35,400/t are highlighted.

***Table 2** - A$M Project NPV - 100% basis, real, ungeared, pre-tax*

		DFS Base Price			LT Av. Consensus		LME Spot#		
	US$27.5k/t	US$30.0k/t	US$32.5k/t	US$35.0k/t	US$35.4k/t	US$37.5k/t	US$38.6k/t	US$40.0k/t	US$42.5k/t
6%	230.7	336.0	441.2	546.5	563.5	651.8	697.0	757.0	862.3
8%	178.0	270.4	362.7	455.1	470.0	547.5	587.2	639.8	732.2
10%	134.3	215.9	297.5	379.0	392.2	460.6	495.7	542.2	623.7
12%	97.9	170.4	242.9	315.3	327.0	387.8	419.0	460.3	532.7

***Table 3** - Project Payback Period & Internal Rate of Return (IRR) -100% basis, real, ungeared, pre-tax*

		DFS Base Price			LT Av. Consensus		LME Spot#		
	US$27.5k/t	US$30.0k/t	US$32.5k/t	US$35.0k/t	US$35.4k/t	US$37.5k/t	US$38.6k/t	US$40.0k/t	US$42.5k/t
Pre-tax IRR	20.2%	25.6%	30.7%	35.5%	36.2%	40.0%	41.9%	44.4%	48.6%
Payback Period	37.9	32.4	29.3	24.1	23.2	20.8	20.3	19.5	18.3

Oropesa's tin production costs are based on a DFS level of design and market pricing providing a high-level of confidence in the reported production cost buildup. Table-4 displays Oropesa's ability to produce tin at a competitive cost, significantly below the referenced DFS base case, and therefore able to withstand periods of lower-than-forecast tin prices.

***Table 4** - Tin Production Costs*

Cost Area	US$ million	US$/tonne ROM Ore	US$/tonne Sn Conc.	US$/tonne Sn Metal
Clearing, Topsoil & Mining Preparation	$595,500	$0.04	$10	$10
Mining	$250,715,700	$15.71	$3,960	$6,270
Processing	$245,210,700	$15.36	$3,870	$6,130
Rehabilitation, Closure & Decommissioning	$33,037,400	$2.07	$520.0	$830
Other Costs	$48,158,500	$3.02	$760.0	$1,200
Total C1 Cash Operating Costs	**$577,717,800**	**$36.19**	**$9,120**	**$14,440**
Depreciation (excl. funding costs)	$120,088,800	$7.52	$1,900	$3,000
Total C2 Cash Operating Costs	**$697,806,600**	**$43.71**	**$11,020**	**$17,440**
Royalties	$15,274,000	$0.96	$240.0	$380
Total C3 Cash Operating Costs	**$713,080,600**	**$44.67**	**$11,260**	**$17,820**
Sustaining Capital	$7,063,600	$0.44	$110	$180
All In Sustaining Cost (AISC)	**$600,055,400**	**$37.59**	**$9,470**	**$15,000**

For personal use only

The DFS capital cost estimate of €$149m (A$260m*| US$156m*) includes 10.4% contingency. The level of design has been significantly matured from the 2022 Optimisation Study[4], meeting the required design and pricing levels for a AACE Class-3 DFS estimate with all major packages designed, market tendered (including contractual terms), cost-assessed, as follows:

- 30% engineering design level exceeded (Aligned with AACE Class-3 design maturity)
- 90% of packages have been tendered and market priced by experienced Spanish contractors
- 60% of the total capital cost has been priced from a single Engineering, Procurement, and Construction (EPC) lump-sum-turn-key (LSTK) price, which was developed with Duro Felguera under an Early Contractor Involvement (ECI).

This ASX release is supported by a detailed DFS Summary Report (Appendix-1 DFS Summary Report) which should be read in conjunction with this release to better understand the detailed levels of design, packaging and market pricing that have contributed to the completion of the DFS, the mature level of inputs, the regulatory compliance and way forward planning of the Oropesa Tin Project.

Maiden Ore Reserve Estimate

The release of the maiden Ore Reserve Estimate for the Oropesa Tin Project is the culmination of a substantial volume of work, which confirms the technical and economic viability of the project, based on the stated assumptions and modifying factors. The Ore Reserve Estimate in Table-5 utilised the project's previously published Mineral Resource Estimate[1].

***Table 5** - Maiden Ore Reserve Estimate*

Reserve Category[1]	Sn (%)[2]	Tonnes [3] (M tonnes)	Contained Sn Metal (tonnes)	Reserve Contribution (%)
Proved	0.34%	6.1	21,028	38%
Probable	0.37%	9.8	36,866	62%
Total	**0.36%**	**15.9**	**57,894**	**100%**

Notes:

1. *All figures are rounded to reflect appropriate levels of confidence, apparent differences in totals may occur due to rounding.*
2. *A cut -off grade of 0.15% Sn has been applied.*
3. *Tonnages are expressed on a ROM basis, incorporating the effects of mining losses and dilution.*
4. *The reference point at which these ore reserves are defined is as the ore is delivered to the ROM Pad.*

The following summary statements are made in relation to the Ore Reserve:

- This is a maiden declaration of the Ore Reserves for the Oropesa Tin Project with no previous estimate having been made.
- The JORC Ore Reserve Estimate for the Oropesa Tin Project has been prepared in accordance with the guidelines of the JORC Code (2012), providing a detailed assessment of the project's economically mineable material. The estimate is based on a DFS, incorporating geological modelling, resource classification, mine design and scheduling, metallurgical test work, environmental impact studies and financial evaluations.
- Oropesa Tin Project is a significant tin deposit with reserves classified as Proved and Probable, demonstrating technical and economic viability for open-cut mining over a 12-year operating mine life.

- The estimation process considers modifying factors such as mining recovery, dilution, processing recoveries, and commodity pricing to ensure a high level of confidence in the reported Ore Reserves.
- The Ore Reserves estimated tonnage of 15.9Mt is 81% of the MRE (19.6Mt).
- No Inferred resources are included in the Ore Reserves.

This announcement summarises the major material assumptions, classification criteria, mining and processing methods, basis of cut-off grade, estimate methodology and material modifying factors. In further support of the Maiden Ore Reserve Statement please refer to the following attached documents for full disclosure of key assumptions and inputs used in the DFS to establish the Ore Reserves for the project: **Appendix-2: Ore Reserves Report**, including section-4 of Table-1 of the JORC Code (2012).

For personal use only

For personal use only

Summary of Oropesa Tin Project DFS

The DFS for the Oropesa Tin Project, delivered by Elementos' Spanish subsidiary Minas de Estaño de España S.L.U. (MESPA), is summarised in substantially more detail in **Appendix-1: DFS Summary Report**. The DFS is based on the responsible development, operation and rehabilitation of an open-cut tin mine, processing plant, tailings storage facility, waste dumps and supporting infrastructure to support a base-case mine life of approximately 12 years. The operation is designed to produce a high-grade, low impurity tin concentrate (~63% Sn), which will then be toll treated in a local Spanish smelter before being sold by the company onto customers as tin ingots (metal).

The DFS report is the culmination of many phases of work to investigate, interrogate, understand, identify, measure, study, engineer, plan and define the responsible and compliant construction and delivery, operation and rehabilitation of the future Oropesa Tin Mine. All the assumptions used in the DFS align with the submitted project approvals with the Junta de Andalucia (Andalucian Government) and its major departments. The project has undergone extensive data acquisition, lab work, metallurgical assessment and pilot testing, engineering development works, reporting, scheduling, market tendering, assessment and definition to arrive at this point of publishing the DFS summary report.

***Figure 1** - Project Location, referenced to the major cities of Cordoba and Seville*

For personal use only

The DFS has been completed to an AACE Class-3 level of accuracy, +/- 10% and has achieved the following goals:

1. Confirmed the economic viability of the project, based on highly defined techno-economic inputs supported by robust and defendable data sets.
2. Delivered a Maiden Ore Reserve estimate.
3. Established strong position for financing discussions with banks, debt funds and their Independent Technical Experts (ITE).
4. Provided our shareholders and potential future equity sources, including the global investors and industry players, a compelling valuation basis to support the company in its next phase of development.
5. Confirmed the viability and operational readiness plan for the project development, delivery, operations and rehabilitation.
6. Confirmed the design scope aligns with the submitted project approvals documentation and applicable regulations and legislation.
7. Demonstrated the company's commitment to responsible construction, mining and rehabilitation practises in a highly regulated jurisdiction.
8. Assisted way-forward planning and resourcing the development pathway.

The DFS confirms the Oropesa Tin Project is technically feasible and economically viable to produce tin concentrate and supply metal into the European and global tin markets. Elementos has developed the Oropesa Tin Project as a viable, low-cost, responsible and strategically located tin producer in a mature and secure jurisdiction with low geopolitical risks.

Mining Overview

The Mine has been designed to minimise disturbance and optimise the efficient movement of ore and waste, aligned with global best practises. Additionally, the mine's design (from construction and operations) has been driven by its rectification and rehabilitation commitments, with the final landforms guiding the design of waste facilities and all stages of pit development and design.

Oropesa will be mined as an open-cut, truck and shovel operations. The main mining processes included in the mine design and scheduling processes include:

1. Topsoil removal and stockpiling,
2. Drilling waste and ore,
3. Blasting waste and ore,
4. Waste loading and haulage to waste dumps,
5. Ore loading and haulage to the ROM stockpile or direct crusher feed,
6. Ore sorter rejects loading and haulage to waste dumps,
7. Post-mining rehandle of waste dumps to partially fill mining void or cap tailings dam,
8. Dozer reshaping of waste dump slopes for rehabilitation, and
9. Topsoil coverage of rehabilitation areas.

For personal use only

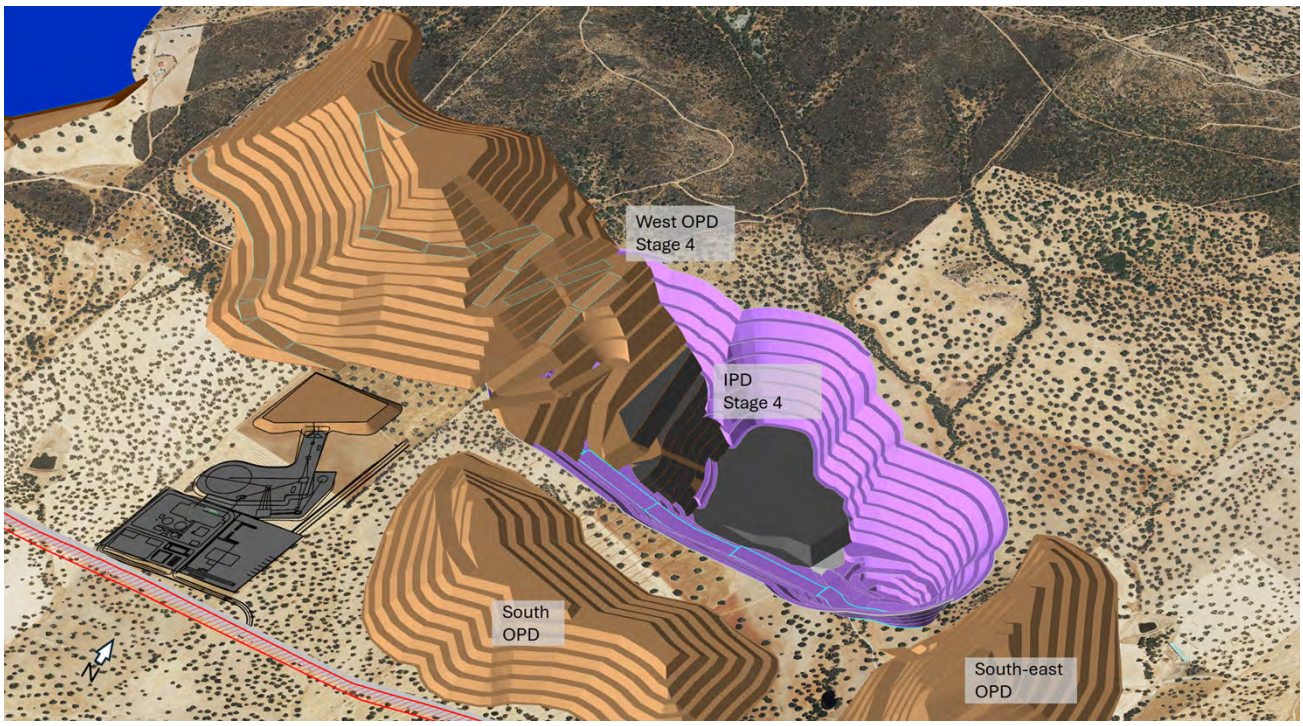

***Figure 2** - Open Pit Mine, waste dumps and key infrastructure highlighted*

The pit and waste dumps have been designed to minimise their environmental disturbance footprint whilst optimising several key aspects of the mine operations, including:

- Utilising pre-stripping waste for tailings dam and infrastructure construction fill,
- Haulage of waste from the pit to the out-of-pit waste dumps,
- Haulage of ore from the pit to the ROM stockpile and crusher,
- Maximizing dumping of waste to in-pit dump, and
- Rehandling of the out-of-pit waste dumps back into the pit void or to cover the tailings dam.

To maximise the amount of waste being hauled to the in-pit waste dumps (and minimise out-of-pit disturbance), the pit was divided into cut-back stages so it can be excavated and backfilled starting from the shallow north-western end and progressing along strike to the south-eastern economic limits, see Figure-3.

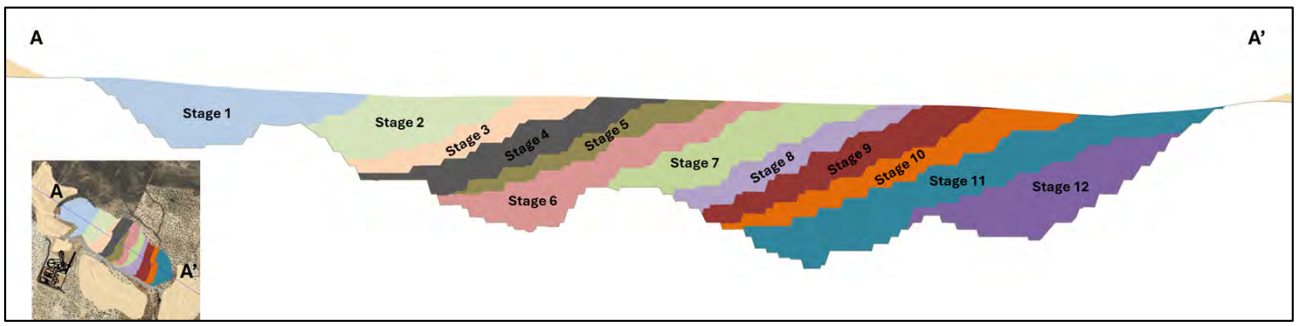

***Figure 3** - DFS Pit Long Section Showing Mining Stages*

For personal use only

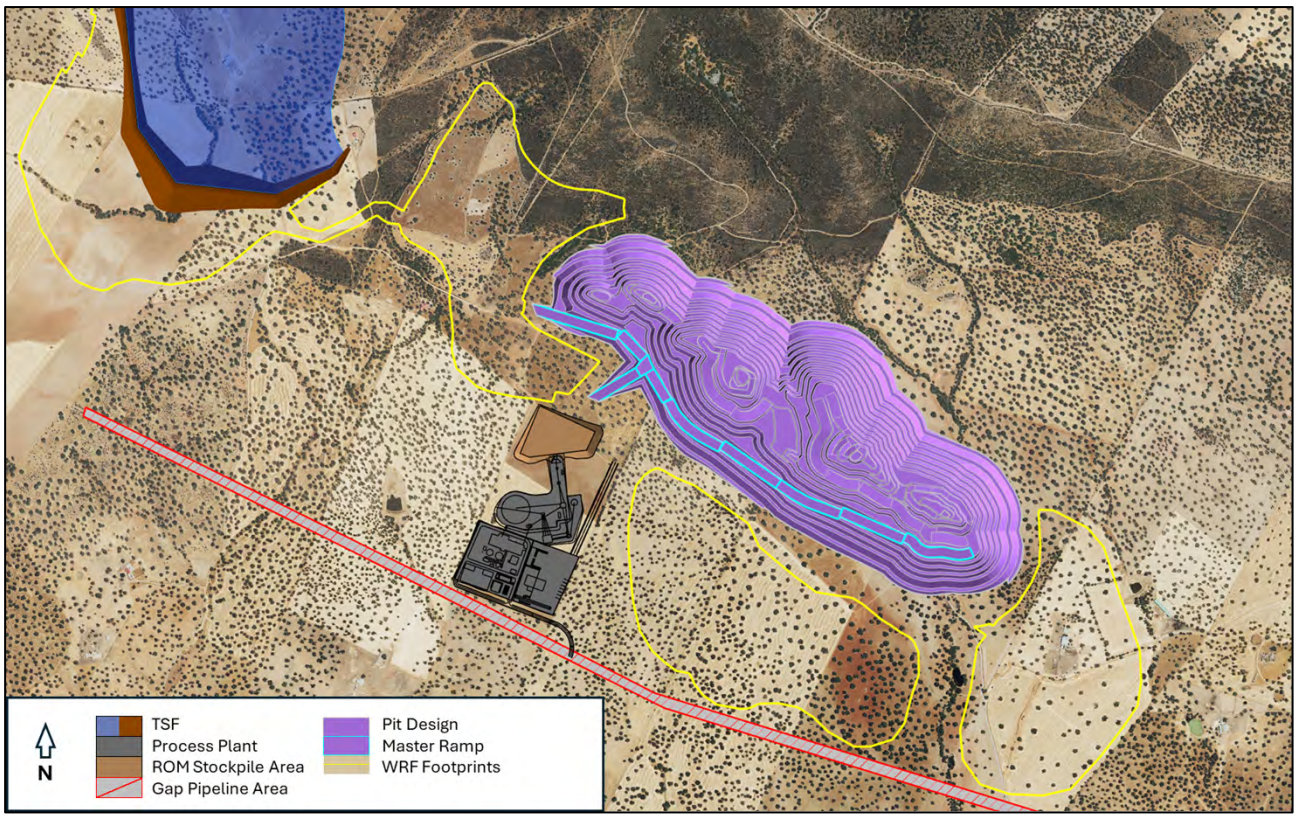

***Figure 4** - Layout of Mine and Infrastructure*

The pit design incorporates a master ramp which runs along the southern wall of the pit, as shown in Figure-4. The master ramp has been designed to exit the pit at the point closest to the main out-of-pit waste dump and ROM. It allows for efficient backfilling of the mined-out stages by providing a link between each of the stages access ramps and the in-pit waste dump. The master ramp is active for almost the entire life-of-mine schedule, providing a permanent high quality haul road plus access to the lower levels of the mine. The master ramp also provides efficient truck movements, allowing trucks to drive a constant grade and select a single gear. This is designed to ensure engine efficiency, lower fuel burn and lower CO_2 emissions.

Up to three mining fleets are scheduled, using a combination of 190t and 120t excavators. All waste and ore is assumed to require drilling and blasting. A front-end loader was scheduled to maintain crusher feed from the ROM stockpile as well as load ore sorter rejects.

Drilling and load and haul operations have been limited to 16 hours a day (6am to 10pm) and clearing, topsoil and blasting operations have been limited to 12 hours a day (6am to 6pm).

The production rates for the mining equipment is summarised in Table-6.

Table 6 - Average Equipment Productivities

Equipment	Process	Rate
Drill	Drilling	40m/hr
120t Excavator	Ore & Waste Mining	800t/hr
190t Excavator	Ore & Waste Mining	1,580 t/hr
Dozer	Rehabilitation	200bcm/hr

For personal use only

Practical dependencies and constraints were applied to ensure the correct progression of the equipment and the optimal development of the mine.

The strategy of the schedule was to develop the open pit in a logical manner to ensure continuity of ore feed to the mineral process plant. Early pre-strip waste extraction was targeted to find suitable material for building the tailings dam wall and site infrastructure pads, as well as exposing sufficient ore to meet the ore delivery rates. A concentrator feed rate of 1Mtpa/yr was targeted. Based on the ROM Ore feed grade and the ore sorter yield equations this resulted in a crusher feed of approximately 1.4Mtpa with the ROM stockpile used to manage surplus or deficits.

Destination scheduling and haulage was completed as part of the detailed schedule, with a swell factor of 25% applied to all prime material to ensure there is adequate dump room for all material mined.

The results of the mine planning and scheduling exercise are summarised in Table-7. A more detailed version of this schedule has been used as the basis of the DFS and all financial modelling.

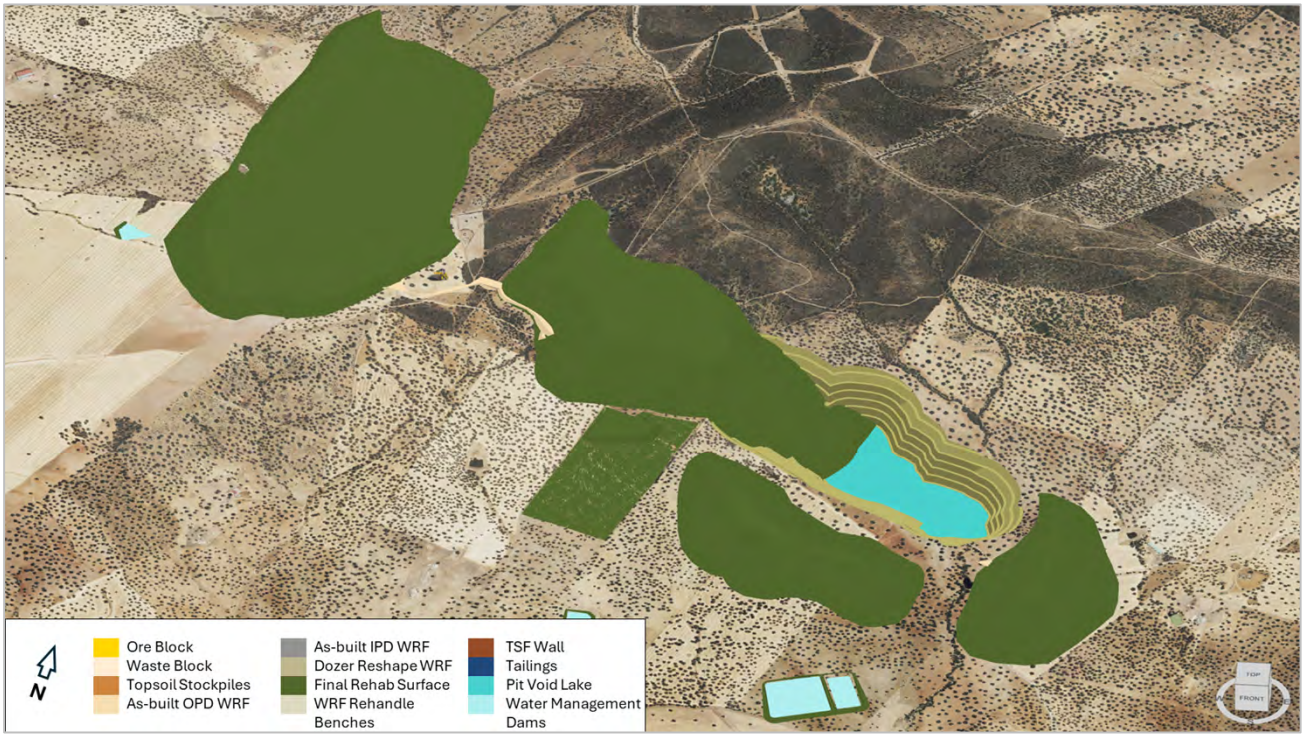

Figure 5 *- Final surfaces at the end of rectification and rehabilitation works*

For personal use only

Table 7 - Annual Quantities and Qualities

Item	Units	Year -1	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
Disturbance Area	ha	141.7	56.5	36.1	20.9	5.9	10.8	0.0	34.9	3.6	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	316
Rehab Area	ha	0.0	4.7	0.0	8.0	3.4	7.2	0.0	27.7	8.3	0.0	7.9	13.4	0.0	0.0	6.8	77.5	90.8	256
Topsoil Removal	m3	188,800	69,323	43,757	28,917	5,947	11,582	0	50,696	4,567	6,418	0	0	0	0	0			410,006
Topsoil Replaced	m3	0	7,492	0	12,785	5,421	11,582	0	44,375	13,342	0	12,596	21,362	0	1	10,862	123,955	145,208	408,980
Drilling	m	35,658	344,204	328,323	349,758	340,189	350,151	342,565	323,182	336,477	357,783	255,130	294,983	101,278	84,788				3,844,470
Blasting	bcm	522,151	5,040,241	4,807,696	5,121,577	4,981,447	5,127,329	5,016,242	4,732,409	4,927,087	5,239,080	3,735,922	4,319,489	1,483,031	1,241,573				56,295,274
Waste Mining	t	939,316	12,634,366	12,406,915	12,727,083	12,735,567	12,975,152	12,342,460	11,461,209	12,755,330	11,940,724	10,662,774	10,760,144	2,621,100	3,615,167				140,577,304
Ore Mining	t	970	203,747	1,021,429	1,230,176	1,488,295	1,341,986	1,471,524	1,468,171	1,405,327	1,367,793	1,331,143	1,360,121	1,494,792	778,302				15,963,775
Ore Sn Grade	%	0.16%	0.34%	0.36%	0.51%	0.43%	0.30%	0.32%	0.32%	0.34%	0.31%	0.34%	0.35%	0.34%	0.53%				0.36%
Ore Contained Sn Metal	t	2	702	3,711	6,273	6,340	4,054	4,750	4,687	4,822	4,298	4,494	4,768	5,040	4,110				58,048
Strip Ratio	t:t	968	62	12	10	8.6	10	8.4	7.8	9.1	8.7	8.0	7.9	1.8	4.6				8.8
Ore Crushing	t			1,042,427	1,373,545	1,340,204	1,414,383	1,402,382	1,401,664	1,395,925	1,414,243	1,404,031	1,399,317	1,397,904	977,751				15,963,775
Ore Sorting Feed	t			852,384	1,123,084	1,095,848	1,156,551	1,146,731	1,146,146	1,141,443	1,156,434	1,148,074	1,144,215	1,143,066	799,458				13,053,434
Ore Sorting Product	t			557,902	749,539	729,009	744,907	744,349	744,482	745,519	744,931	744,044	744,898	745,162	545,156				8,539,897
Ore Sorting Rejects	t			294,482	373,545	366,839	411,643	402,382	401,664	395,925	411,504	404,031	399,317	397,904	254,302				4,513,537
Concentrator Feed	t			747,945	1,000,000	973,365	1,002,740	1,000,000	1,000,000	1,000,000	1,002,740	1,000,000	1,000,000	1,000,000	723,449				11,450,238
Concentrator Feed Sn Grade	%			0.45%	0.62%	0.53%	0.39%	0.40%	0.40%	0.43%	0.39%	0.42%	0.44%	0.41%	0.62%				0.46%
Concentrator Feed Contained Sn Metal	t			3,388	6,210	5,205	3,880	4,038	3,957	4,272	3,951	4,224	4,381	4,141	4,510				52,158
Product Concentrate	t			4,114	7,514	6,352	4,699	4,895	4,792	5,187	4,784	5,130	5,324	5,023	5,525				63,339
Product Concentrate Sn Grade	%			63.03%	68.66%	65.36%	60.51%	60.81%	60.29%	61.69%	61.06%	62.19%	62.68%	61.06%	66.58%				63.2%
Concentrate Contained Sn Metal	t			2,593	5,159	4,152	2,844	2,976	2,889	3,200	2,921	3,190	3,337	3,067	3,679				40,007
Rehabilitation Rehandle	t			40,451	187,759	69,563	83,372	139,469	208,521	37,500	28,421	123,318	349,523	0	733,824	109,691	0	206,874	2,318,287
Rehabilitatio Dozer Reshape	t														1,504,555	5,541,253	5,541,253	4,889,496	17,476,557

For personal use only

Mineral Processing

The DFS process flow sheet was designed following several metallurgical testwork campaigns, with the final DFS metallurgical testwork program (pilot-scale and variability testwork) establishing the Process Design Criteria. The Block Flow Diagram representing the process is shown in Figure-6 below.

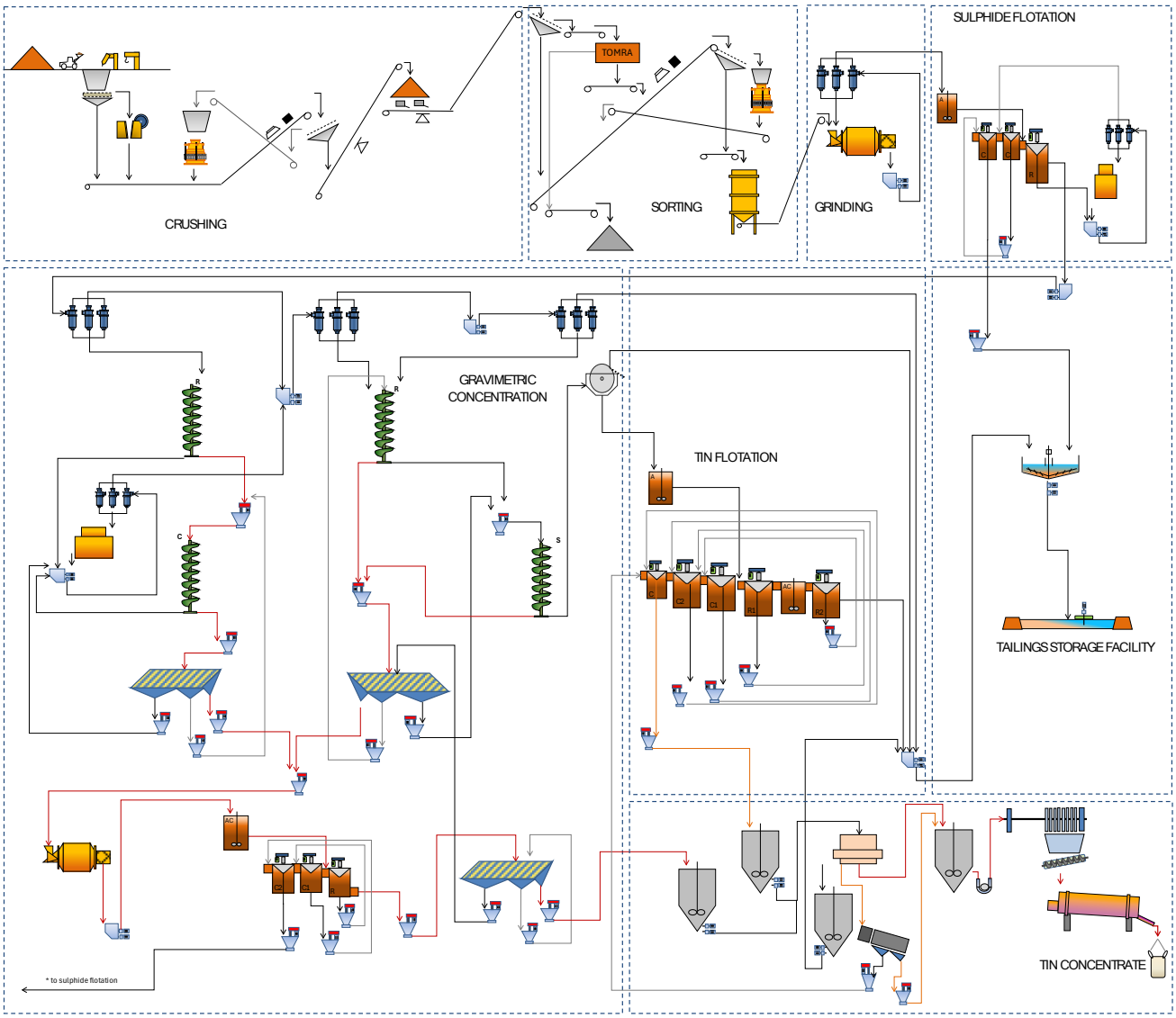

***Figure 6** - Diagrammatic Process Flow Diagram*

The previously announced Oropesa Pilot Scale Metallurgical Results[5] confirmed the DFS flow sheet encompasses crushing and grinding, sulphide flotation, a gravity tin recovery circuit, tin flotation recovery circuits and magnetic separation (see Figure 2). The pilot plant test work program has confirmed robust average metallurgical upgrade factors, summarised in Table 1 below.

The process is divided into seven key unit operations:

1. **Crushing (3100)** – Run of Mine (ROM) ore is screened at 160 mm with the oversize material crushed. The two streams are then recombined and screened a second time, where ore reporting to the plus 25 mm fraction is crushed again, then recycled. The undersize material progresses through to the next stage.

For personal use only

2. **Ore Sorting (3200)** – Initial screening at 10 mm feeds the coarse material to the ore sorters — whose product is recombined with the fines and screened again at 7 mm. Coarse material is crushed and returned to the screen while fines are fed to the grinding area.
3. **Grinding (3300)** – A ball mill reduces particle size from a D_{100} of 7 mm to a D_{80} of 125 µm in a closed circuit, with a battery of hydrocyclones.
4. **Sulphide Flotation (3510)** – The ore is passed through a rougher and two cleaner stages with an integrated regrind circuit on the rougher concentrate. Rougher concentrate is passed through a cyclone stage cutting at a D_{80} of 53 µm; underflow is sent to a vertical mill while overflow is fed to the first cleaner. Concentrate from the first cleaner is fed to the second whose tailings return to the first and subsequently return to the rougher.
5. **Gravimetric Concentration (3400)** – The feed to this section is passed through a cyclone stage cutting at a D_{80-} of 53 µm with coarse and fine particles subjected to separate gravity separation circuits. Both circuits use a rougher and cleaner/scavenger spiral in conjunction with a cleaning shaking table battery. The coarse circuit also includes a regrinding circuit (vertical mill and cyclone cluster), and the fines circuit includes a magnetic separation unit that is fed by the tailings of the scavenger spiral. Reground concentrates will feed a final sulphide flotation stage. Concentrate will be recirculated to the bulk sulphide flotation circuit while tailings will be sent to concentrate dewatering.
6. **Tin Flotation (3520)** – Conditioned non-magnetics from gravimetric concentration are fed to a bank of rougher and subsequently cleaner cells where tin is floated off from remaining gangue. Two rougher cells and three cleaner cells operate with recirculating loads to provide a tin concentrate that is then fed to concentrate dewatering.
7. **Concentrate Dewatering (3600)** – Concentrate streams from gravimetric concentration and tin flotation are separately fed to one magnetic separator. Tin flotation product non-magnetics will be delivered to an additional gravity stage in a multi-gravity separator before being subjected to pressure filtration. Gravity product non-magnetics will directly feed the pressure filtration stage. The filter cake is then dried to obtain the final product.

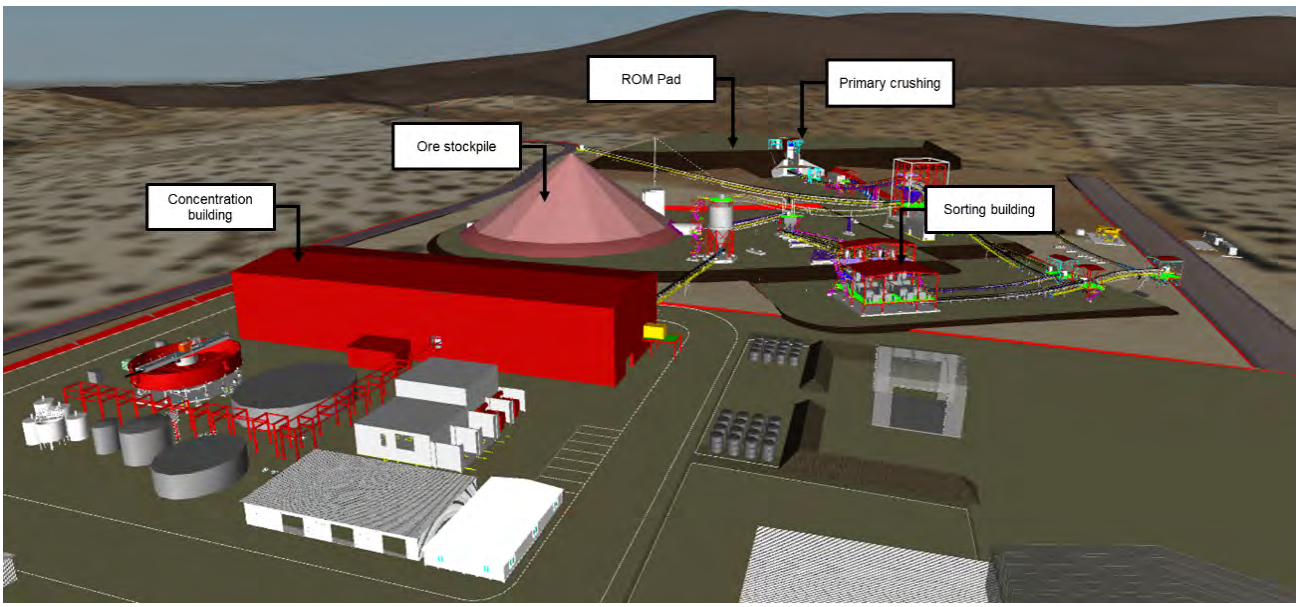

***Figure 7** - General Mineral Processing Plant & NPI Arrangement.*

For personal use only

Overall Project Layout

Mine site infrastructure has been developed within an approved boundary, aligned with the Exploitation Licence submission. They include proposed locations for the mining area, waste rock dump, processing plant, tailings storage facility (TSF), fresh water and process water supply dam, site access roads and power infrastructure routes. Key site infrastructure areas are listed in Table-8 while Figure-8 illustrates the overall mine site layout.

***Table 8** – Key Site Infrastructure*

Infrastructure Item	Description
Site access road	Road to Process Plant including upgrade of existing intersection and public access road between Road C0-8404 and Process Plant.
Public track diversion	Realignment of existing public access between the new Site access road and local farmers' properties to the west.
Facilities	Admin, offices, ablutions, bathhouse, training, laboratory warehouse
Process plant	Plant feed stockpiles, process plant, switch rooms
Process plant facilities	Process plant operational offices, amenities, workshop and stores
Mining contractor's facilities	Mining operations offices, ablutions and workshop
Mine pit	Open cut pit and haul roads
Waste rock dumps	Waste rock dumps
Tailings storage facility	Tailings storage facility
Bore field	Bore pumps and piping for pit dewatering and water supply for the operations
Power supply	Power supply from public utility provider

For personal use only

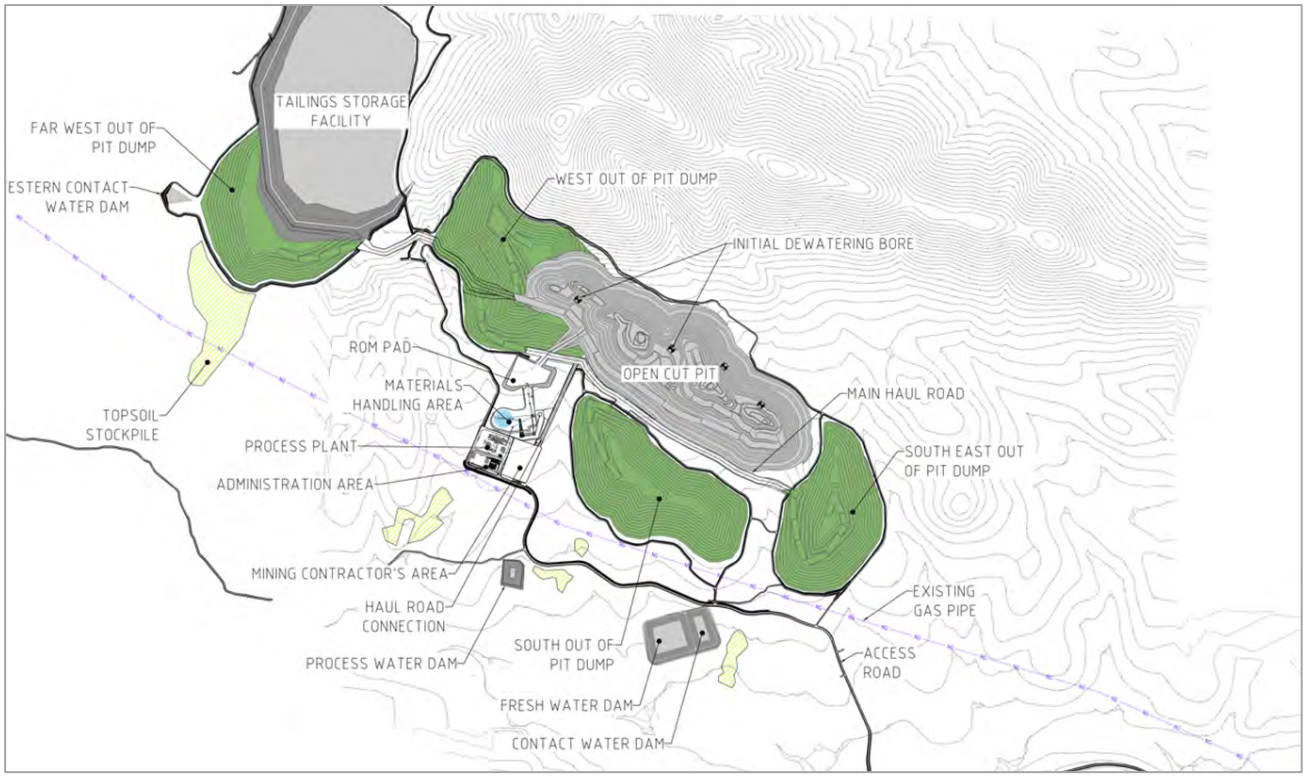

***Figure 8** - Overall Mine Site Layout*

Project Delivery, Operations & Contracting Strategy

The Oropesa Project's operations will be managed by an owner's management team, in addition to an owner operated mineral processing plant, tailings dam, non-process-infrastructure, rectification and small-works teams. The mining and waste dump operations will be contracted to a specialist contract miner via a mining services contract.

In addition, Elementos is proposing that the site development infrastructure components of the project would be delivered via a limited number of major contracts as follows:

1. Process Plant and related Non-Process Infrastructure (NPI) including the following as separable portions:
   a) Mineral Process Plant.
   b) NPI Buildings and Services.
   c) On-site Main Substation and distribution.

2. Enabling Civil Works including the following as separable portions:
   a) Site Clearing and Grubbing
   b) On-site Plant and Infrastructure Civil Works
   c) Water Dams
   d) Initial Dewatering Bores

For personal use only

3. Preproduction Mining, including the following:
   a) Mining Pre-strip
   b) Tailings Storage Facilities (TSF) main embankment wall earthworks.
   c) ROM Pad bulk earthworks.

4. Civil Works including the following separable portions:
   a) Tailings Storage Facility (excluding the main embankment wall).
   b) Access Road.
   c) Public Track Diversion.
   d) Onsite Maintenance Tracks.
   e) Water Management Infrastructure.

5. Off-site Power Transmission Supply including the following:
   a) Switching Station (at Utility Company's 66kV Transmission Line).
   b) Off-site Substation (adjacent to Switching Station).
   c) 20kV Transmission line to Project Site.

An Integrated Owners Team (IOT) approach to managing the execution of the project is proposed. Figure-9 presents a summary of the Project Delivery Structure based on this strategy.

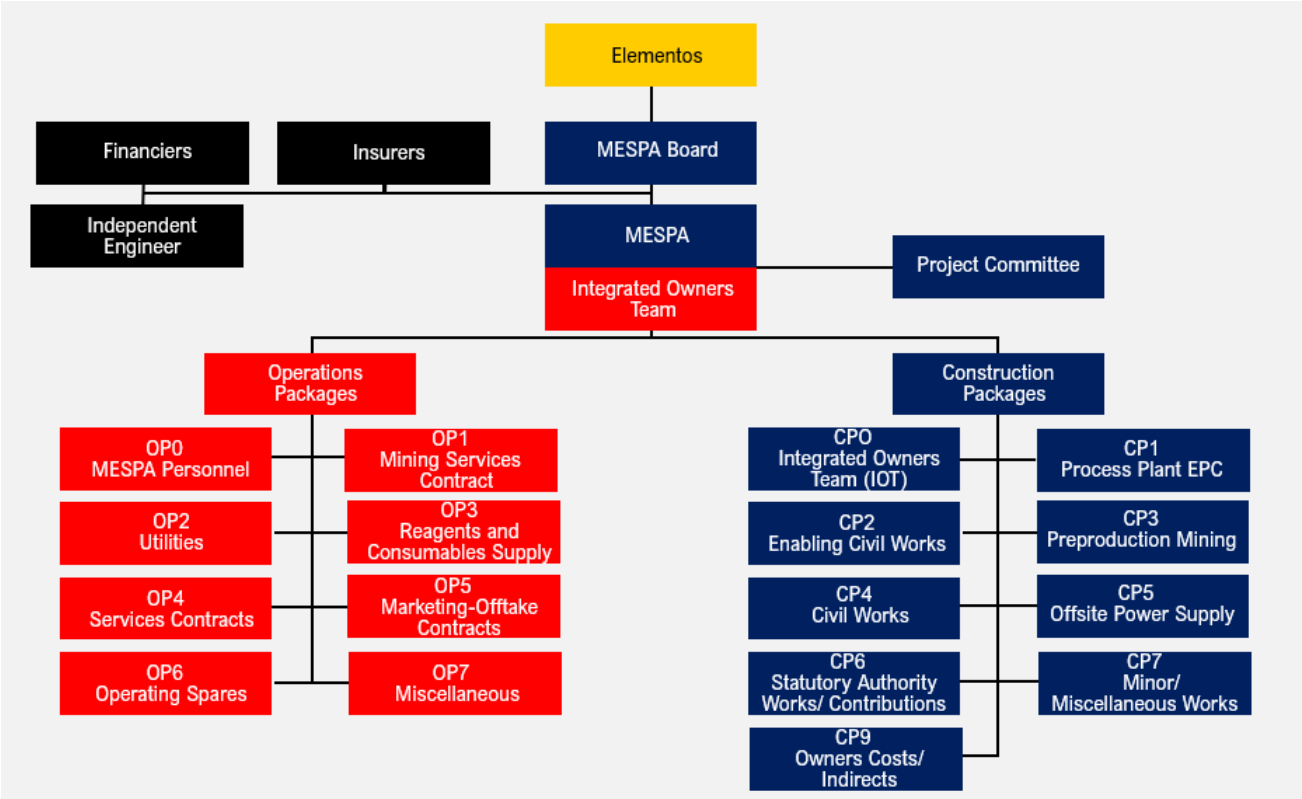

***Figure 9** - Project Delivery Structure*

For personal use only

Environmental, Social, and Governance (ESG)

Elementos (and MESPA) are committed to developing and operating their mining assets in alignment with evolving industry ESG and sustainability practices. The companies target full compliance with all local, provincial, regional, national and international laws and regulatory requirements, while upholding high internal standards of safety, business integrity, and values.

The companies are committed to local economic development, environmental protection, and social progress by delivering responsibly sourced tin into the global market, including the clean technology supply chain. The Companies aim to enhance their corporate governance policies to achieve ESG commitments, leveraging existing performance standards and compliance in the highly regulated jurisdictions of Australia, Spain, and the EU.

Elementos (and MESPA) are committed to the health and safety of all on-site personnel and the communities in which we operate. Our development philosophy and decision-making will be driven by:

1. Maximizing extraction of the contained mineral resource.
2. Final rehabilitation and rectification commitments influencing all phases of investigation, development, construction and operations.
3. Minimising ecological footprint and disturbance
4. Reducing GHG emissions through alternative energy sources and electrification of plant and equipment.
5. Minimizing the impact of tailings storage facilities and waste dumps.
6. Reducing noise and air quality impacts.
7. Maximizing water recycling and reducing impacts on local waterways
8. Implementing leading practices in diversity and inclusion.
9. Assessing potential impacts of climate change on operations.
10. Continuous Improvement and Reporting

Estimate Summary

<u>Capital Cost Estimate</u>

The Capital Cost Estimate (Capex) has been developed through mature designs, clear scopes, distinct packaging and market pricing. The Capex meets the requirements of a Class-3 estimate as defined by the American Association of Cost Engineers' (AACE) Cost Estimation and Classification System (as applied for mining and minerals processing industries) and represents a nominal accuracy range of +/-10%. The Capex Base Date is February 2025, and all cost data presented is in the project country currency of Euros (EUR), aligned with the base 'modelling currency' of the financial model.

For personal use only

A summary is presented in Table-9 and Table-10, in accordance with the Project Work Breakdown Structure (WBS).

***Table 9** - Capital Cost Estimate Summary by Area^*

WBS No.	WBS Description	Total EUR	% of ex.	% of inc.
2000	Mining	18,216,000	13%	12%
3000	Process Plant	45,181,000	33%	30%
4000	Tailings Storage Facility	15,027,000	11%	10%
5000	Common Services / Facilities	7,979,000	6%	5%
6000	On-Site Infrastructure	14,038,000	10%	9%
7000	Off-Site Infrastructure	3,039,000	2%	2%
8000	Pre-Production Costs	5,871,000	4%	4%
9000	Owners / Indirect Costs	25,898,000	19%	17%
Total CAPEX excluding Contingency		**135,251,000**	**100%**	**90.6%**
CONTINGENCY		**14,095,000**	**10.42%**	**9.4%**
Total CAPEX		**149,347,000**		

***Table 10** - Capital Cost Estimate Summary by Major Package^*

Package	WBS Description	Total EUR	% of ex. Cont.	% of inc. Cont.
CP0	Integrated Owner's Team (IOT)	4,805,000	3.6%	3.2%
CP1	Process Plant EPC	79,882,000	59.1%	53.5%
CP2	Enabling & Initial Civil Works	5,010,000	3.7%	3.4%
CP3	Pre-production Mining	28,516,000	21.1%	19.1%
CP4	Civil Works	9,474,000	7.0%	6.3%
CP6	Statutory Authority Works / Contributions	996,000	0.7%	0.7%
CP7	Minor / Miscellaneous Works	1,126,000	0.8%	0.8%
CP9	Owner's Indirects	5,441,000	4.0%	3.6%
	Total CAPEX excluding Contingency	**135,251,000**	**100%**	**90.7%**
	CONTINGENCY	**14,095,000**	**10.4%**	**9.4%**
	Total Capex Including Contingency	**149,347,000**	-	**100%**

^ Please note that this table has been rounded for compliance, which may lead to differences in totals

For personal use only

Operating Cost Estimate

The DFS operating cost estimate was developed as a "bottom-up" estimate. All significant and measurable items have been estimated and covered; however, smaller items are factored as per industry standards. The level of effort for each of the line items meets the Class-3 estimate as defined by AusIMM with an accuracy of +/-10%.

The Operating Costs (OPEX) has been estimated with a base date of Feb-2025. The summary of the steady state annual operating costs for the projects is presented in Table-11 below.

***Table 11** - Operating Cost Summary^*

Cost Centre	Contribution	EURm/yr	EUR/t Sn	USDm/yr	USD/t Sn	AUDm/yr	AUD/t Sn
Mining Contract	46.1%	21.91	6,673	23.00	7,007	38.12	11,611
Labour	9.0%	4.28	1,305	4.50	1,370	7.45	2,271
Power	10.0%	4.76	1,450	5.00	1,523	8.28	2,523
Diesel	0.6%	0.29	90	0.31	94	0.51	156
Natural Gas	0.5%	0.26	79	0.27	83	0.45	137
Maintenance	4.1%	1.97	599	2.06	629	3.42	1,042
Reagents and Consumables	18.7%	8.87	2,702	9.32	2,837	15.44	4,702
Equipment Hire	0.8%	0.38	115	0.39	120	0.65	199
Product Transport	0.2%	0.12	33	0.12	34	0.20	57
Contract/General Expenses	8.0%	3.81	1,159	4.00	1,217	6.62	2,017
Equipment Financing	1.8%	0.86	261	0.90	274	1.49	454
Total	**100%**	**47.5**	**14,465**	**49.87**	**15,188**	**82.6**	**25,169**

^ Please note that this table has been rounded for compliance, which may lead to differences in totals

For personal use only

Additional Ore Reserves Disclosure

In addition to the detailed Ore Reserves Report in Appendix-2, the Company provides the following summary information in accordance with Listing Rule 5.9.1.

The Process to Establish the Ore Reserves was as follows:

Estimation Methodology:

The estimation methodology adopted for completing the 2025 Oropesa Tin Project Ore Reserve Estimate is described below:

- A geological model has been prepared by Measured Group, with an MRE updated and declared in January 2023[1].
- A pit optimisation was undertaken as a guide to the economic mining limits.
- Detailed practical pit, waste rock facilities and stockpile designs were completed taking into consideration geotechnical parameters, environmental constraints and infrastructure locations.
- The design stage outputs were 3-dimensional insitu solids in Deswik mine planning software. The mine designs included pit wall batters, berm offsets, access ramps and subdivisions into mining stages, blocks and benches.
- The insitu solids were interrogated against the geological model, including the modelled qualities for all ore solids.
- Modifying factors were determined from technical studies and applied to the solids to calculate ROM and product values.
- The quantities and qualities for each solid were imported into Spry mine scheduling software for scheduling.
- Outputs of the mine schedule have been exported into a financial model for subsequent financial evaluation using cost and revenue assumptions to give an understanding of the economic viability of the project.
- Mineral Resource geological confidence limits have been applied to ore solids with no Inferred Mineral Resource tonnes being included in the Ore Reserve estimate.
- Ore Reserves have been classified as Proved or Probable based upon Mineral Resource confidence categories, mine planning, financial analysis and any relevant modifying factors.

For personal use only

Classification Criteria:

The Ore Reserves are based on the Mineral Resource Estimate (MRE) prepared by Mr Chris Grove of Measured Group in compliance with the 2012 JORC Code reporting standards. The Mineral Resources are inclusive of the Ore Reserves.

***Table 12** - MRE[1] as reported on 14th February 2023.*

Resource Classification	Sn (%)	Tonnes (tonnes)	Contained Sn Metal (tonnes)
Measured	0.36	7,418,212	26,801
Indicated	0.41	11,113,471	45,012
Subtotal: Measured & Indicated	0.39	18,531,683	71,813
Inferred	0.38	1,070,700	4,021
Total	**0.39**	**19,602,383**	**75,834**

Table Notes:

- All figures are rounded to reflect appropriate levels of confidence.
- Apparent differences in totals may occur due to rounding.
- A cut -off grade of 0.15% Sn has been applied

Material Assumptions and Modifying Factors:

The material assumptions from the DFS are based on the following:

1. Geotechnical parameters,
2. Mining method and equipment size, and
3. Processing parameters

The overall pit wall slope angles used for the pit optimisation are based on the design parameters specified from the report Geotechnical Study of Slope Stability for Oropesa Project (Terratec, 2022) and summarised in Table-13. The Terratec report specified different wall angles based on depth (<20m, 20-100m or >100m) and rock type (conglomerate or sandstone). In general, the conglomerate is in the south-western wall and the sandstone is in the north-eastern wall. The overall slope angles on the southern and south-western walls were made shallower than the geotechnical recommendation to allow for an access ramp. The table below lists the overall slope angles used for the pit optimisation inputs.

***Table 13** - Overall Slope Angles Used for Pit Optimisation*

Depth from Topography	Wall	Overall Slope Angle
20m	All	20^0
20-100m	North & North-eastern	48^0
	South & South-western	35^0
>100m	North & North-eastern	55^0
	South & South-western	40^0

For personal use only

The resource model was re-blocked to 5m (length) x 5m (width) x 5m (depth) based on the DFS equipment sizing. Based on the re-blocking, the calculated mining recovery is 92% and mining dilution is 4% when compared to the original 2m x 2m x 2m resource block model.

A simplified process flow chart was developed to simulate the multiple processes that the ore progresses through to get to the final saleable product which is a tin concentrate. Figure-10 provides an illustration of the simplified process flow.

All waste blocks mined will be dumped either in-pit or out-of-pit mine waste rock facility. Ore will be mined out of the pit and either placed on the ROM stockpile or sent directly to the crusher. The +10mm cut from the crushed ore will be sent to the ore sorter, whilst the -10mm cut will be sent directly to the concentrator.

The ore sorter enriches the +10mm ore via dry processing, with the product stream directed to the concentrator and the reject stream sent to the waste disposal areas. The ore sorter reject is coarse and is expected to be diggable by traditional front-end loaders and hauled into the out-of-pit waste dump by mining trucks.

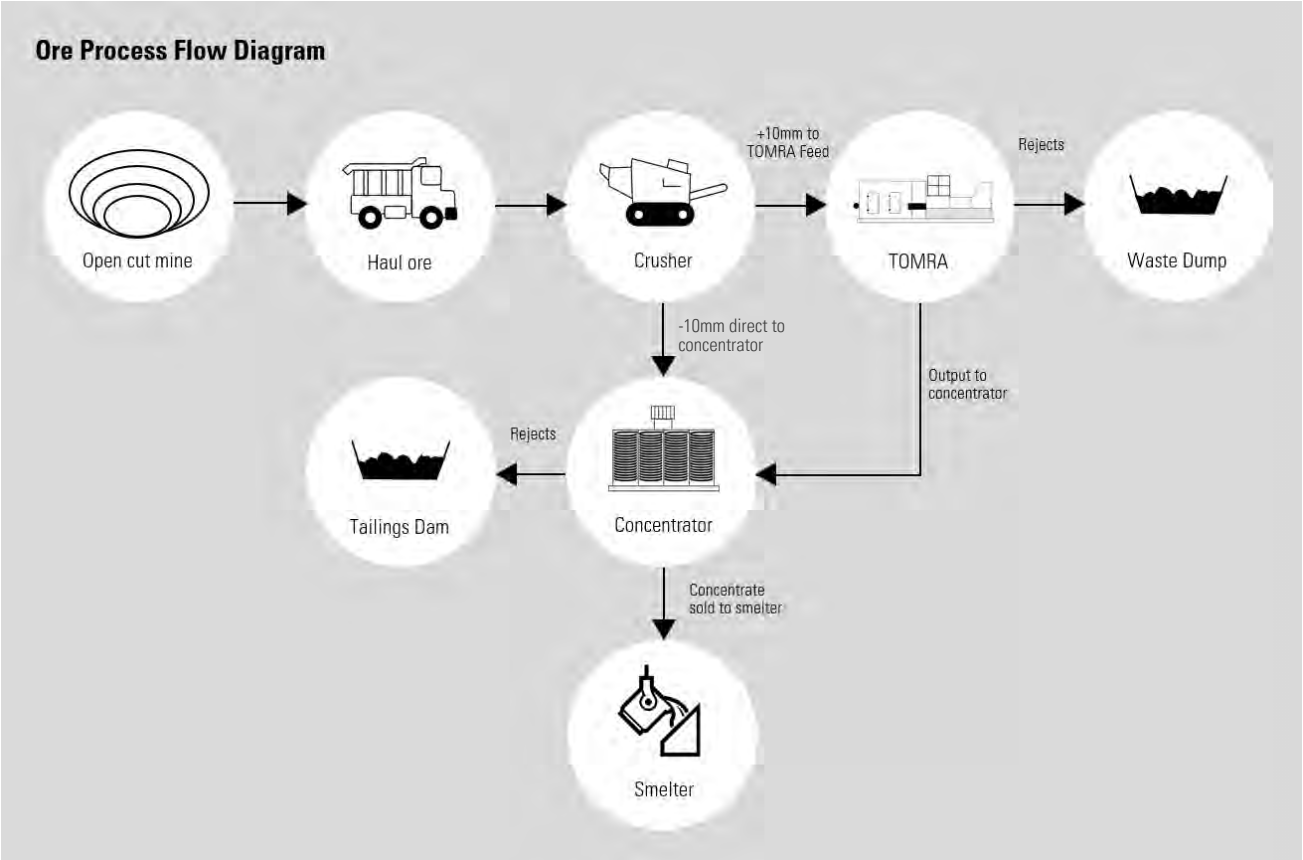

***Figure 10** - Schematic of Ore Process Flow for Pit Optimisation Calculations*

For personal use only

Mining Method and Mining Assumptions:

Previous mining studies have demonstrated that the most practical and economical mining method for the Oropesa Deposit is by open cut truck and shovel operations. The DFS progressed with this method and the Ore Reserves generated for this report are also based on this approach.

The main mining processes at Oropesa are as follows:

- Vegetation clearing and topsoil recovery
- Grade control drilling
- Drilling and blasting
- Waste excavation and haulage to either infrastructure fill requirements, out-of-pit or in-pit waste rock facilities (WRF)
- Ore excavation and haulage to either ROM stockpile or direct crusher feed
- Ore Sorter rejects loading and haulage to WRF
- Progressive rehabilitation of out-of-pit WRF by dozer reshaping and topsoil spreading for vegetation establishment
- Post-mining rehandling of WRF back into the pit void where required
- Post-mining rehandling of WRF to cover the tailings dam
- Post-mining landform reshaping and topsoil spreading of any remaining WRF, stockpiles or other disturbance areas for vegetation establishment

To calculate the final concentrate tonnes and grade recovered, several regression equations are applied to represent each stage of the process flow. The equations have been developed from metallurgical test work undertaken by Elementos to support the development of the flowsheet and process design criteria adopted for the DFS. Table-14 below lists the equations used.

***Table 14** - Crushing, Sorting & Mineral Processing Regression Equations*

Input	Value
Crusher Split <10mm Mass Yield (Bypass Ore Sorter – Direct Concentrator Feed)	0.03 x ROM Sn Grade + 0.1822
Ore Sorter Mass Recovery	0.934 x ln(Sn Feed Grade) + 0.7623
Ore Sorter Tin Recovery	0.1039 x ln(Sn Feed Grade) + 0.9664 (maximum limit 98%)
Concentrator Metal Recovery	0.16209 x ln(Sn Feed Grade) + 0.8686 (max 96.6%)
Concentrate Tin Grade	0.11864 x ln(Sn Feed Grade) + 0.7037

For personal use only

The input cost assumptions used for the pit optimisation inputs are listed in Table-15. All values are in US dollars (USD). The costs were sourced from a combination of quotes provided by a local contractor, estimations by environmental and processing consultants and benchmarks from similar operations adjusted for local conditions.

Table 15 - *Pit Optimisation Input Cost Assumptions (USD)*

Input	Units	Value
Topsoil Stripping and Management	$/bcm	$3.24
Waste Mining (incl D&B) < 1km Haul	$/Waste t	$1.60
Ore Mining (incl D&B) < 1km Haul	$/Ore t	$1.83
Waste Additional Cost for Haulage > 1km	$/t/100m	$0.016
Ore Additional Cost for Haulage > 1km	$/t/100m	$0.018
Waste Depth Penalty	$/t/10m	$0.012
Ore Depth Penalty	$/t/10m	$0.013
Pit Dewatering	$/Total Mined t	$0.001
Grade Control Drilling	$/Ore t	$0.165
Crushing/Screening/Ore Sorting Cost	$/Feed t	$0.75
Ore Sorter Rejects Disposal	$/Rejects t	$0.99
Concentrator Costs	$/Feed t	$19.00
Pit, Dump & Infrastructure Rehabilitation	$/Total Mined t	$0.094
Process Plant Rehabilitation	$/Ore t	$0.03
General and Administration Costs	% of OPEX	7.5%
Freight	$/conc. t	$60
Smelting	$/conc. t	$650
Sustaining Capital	$/Total Mined t	$0.15
Contingency	% of Opex	5%

Tin Price & Revenue Assumptions

An initial revenue scenario was run based on a benchmark price of US$30,000/tin tonne. The following reductions in the revenue price were applied to the product concentrate at Oropesa:

- Concentrate impurities - US$250/tin tonne
- Tin Payable Percentage - 98%

A revenue sensitivity assessment was undertaken to highlight the influence of the tin sales price on the ore tonnes, strip ratio and geometry of the resultant pit shells. Eleven pit shells were generated for tin sales prices between US$20,000/t and US$45,000/t in US$2,500/t increments, shown in Figure-11. Higher assumed pit shell revenue factors do capture more tin ore (and have the possibility to extend mine life) but in most cases do also increase the amount of waste stripped, increasing the overall cost base.

For personal use only

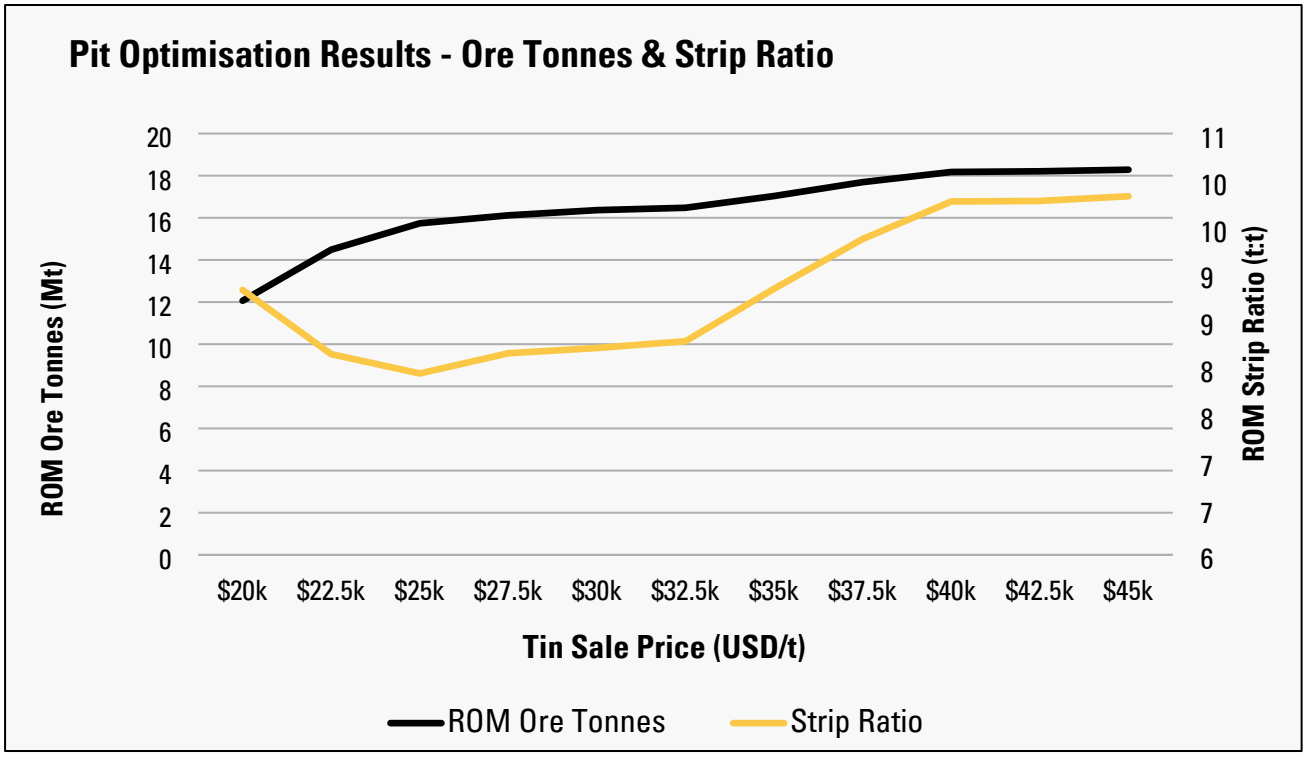

Figure 11 *- Ore tonnes and Strip Ratio by Incremental Revenue Shell*

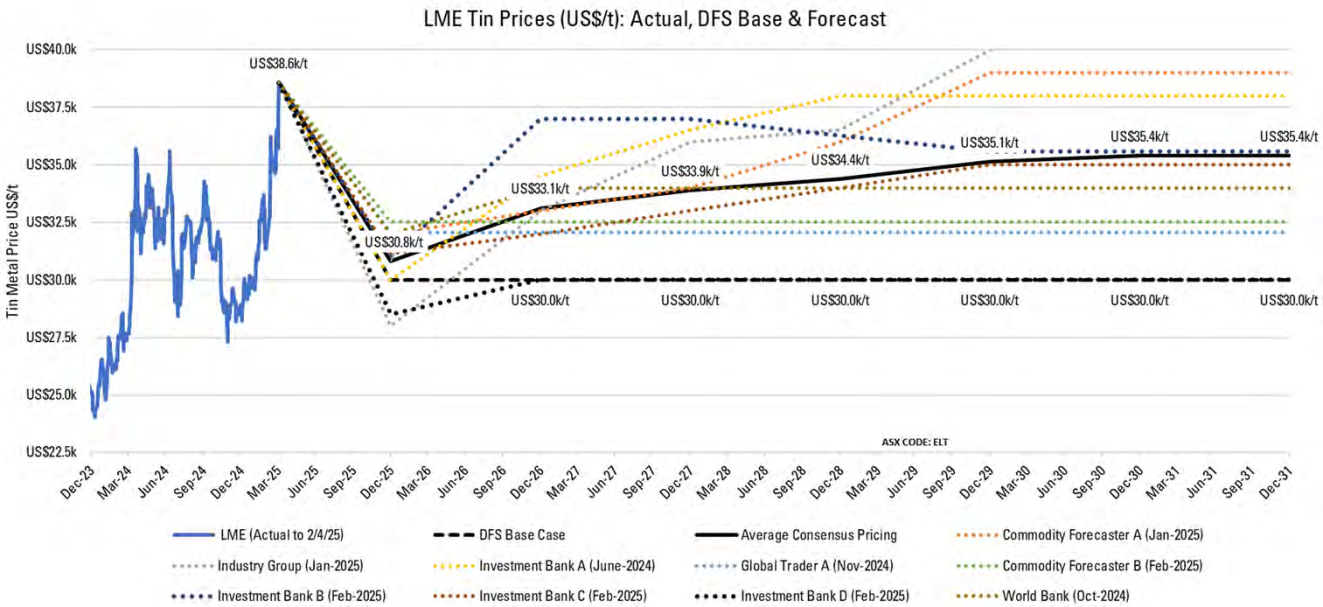

Figure 12 *- Actual LME Tin Prices, Tin Price Forecasts, DFS Reference Price & Consensus Forecast Pricing*

For personal use only

Basis of Cut-Off Grade

Based on a tin sales price of US$30,000 per tonne and the pit optimisation input processing operating costs, the mill COG was calculated to be 0.11% Sn. However, due to metallurgical recovery, a metallurgical COG of 0.15% Sn has been applied to designate what is ore and waste in the model.

Processing Method

The process flowsheet was developed in conjunction with the DFS test work program which ultimately provided the criteria for equipment selection and design. Investigations into gravity characterisation, sulphide and tin flotation, ore sorting, pilot plant development, and plant variability provided information around the ore's response to processing techniques, which in turn informed decisions relating to overall plant design. The summarised Block Flow Diagram of the Oropesa flowsheet, developed from the metallurgical test work.

The process can be divided into seven key unit operations:

1. **Crushing** – Run of Mine (ROM) ore is screened at 160mm with the oversize material crushed. The two streams are then recombined and screened a second time, where ore reporting to the plus 25mm fraction is crushed again, then recycled. The undersize material progresses through to the next stage.
2. **Ore Sorting** – Initial screening at 10mm feeds the coarse material to the ore sorters — whose product is recombined with the fines and screened again at 7mm. Coarse material is crushed and returned to the screen while fines are fed to the grinding area.
3. **Grinding** – A ball mill reduces particle size from a D100 of 7mm to a D80 of 125µm in a closed circuit, with a battery of hydrocyclones.
4. **Sulphide Flotation** – The ore is passed through a rougher and two cleaner stages with an integrated regrind circuit on the rougher concentrate. Rougher concentrate is passed through a cyclone stage cutting at a D80 of 53µm; underflow is sent to a vertical mill while overflow is fed to the first cleaner. Concentrate from the first cleaner is fed to the second whose tailings return to the first and subsequently return to the rougher.
5. **Gravimetric Concentration** – The feed to this section is passed through a cyclone stage cutting at a D80 of 53µm with coarse and fine particles subjected to separate gravity separation circuits. Both circuits use a rougher and cleaner/scavenger spiral in conjunction with a cleaning shaking table battery. The coarse circuit also includes a regrinding circuit (vertical mill and cyclone cluster), and the fines circuit includes a magnetic separation unit that is fed by the tailings of the scavenger spiral. Reground concentrates will feed a final sulphide flotation stage. Concentrate will be recirculated to the bulk sulphide flotation circuit while tailings will be sent to concentrate dewatering.
6. **Tin Flotation** – Conditioned non-magnetics from gravimetric concentration are fed to a bank of rougher and subsequently cleaner cells where tin is floated off from remaining gangue. Two rougher cells and three cleaner cells operate with recirculating loads to provide a tin concentrate that is then fed to concentrate dewatering.
7. **Concentrate Dewatering** – Concentrate streams from gravimetric concentration and tin flotation are separately fed to one magnetic separator. Tin flotation product non-magnetics will be delivered to an additional gravity stage in a multi-gravity separator before being subjected to pressure filtration. Gravity product non-magnetics will directly feed the pressure filtration stage. The filter cake is then dried to obtain the final product.

For personal use only

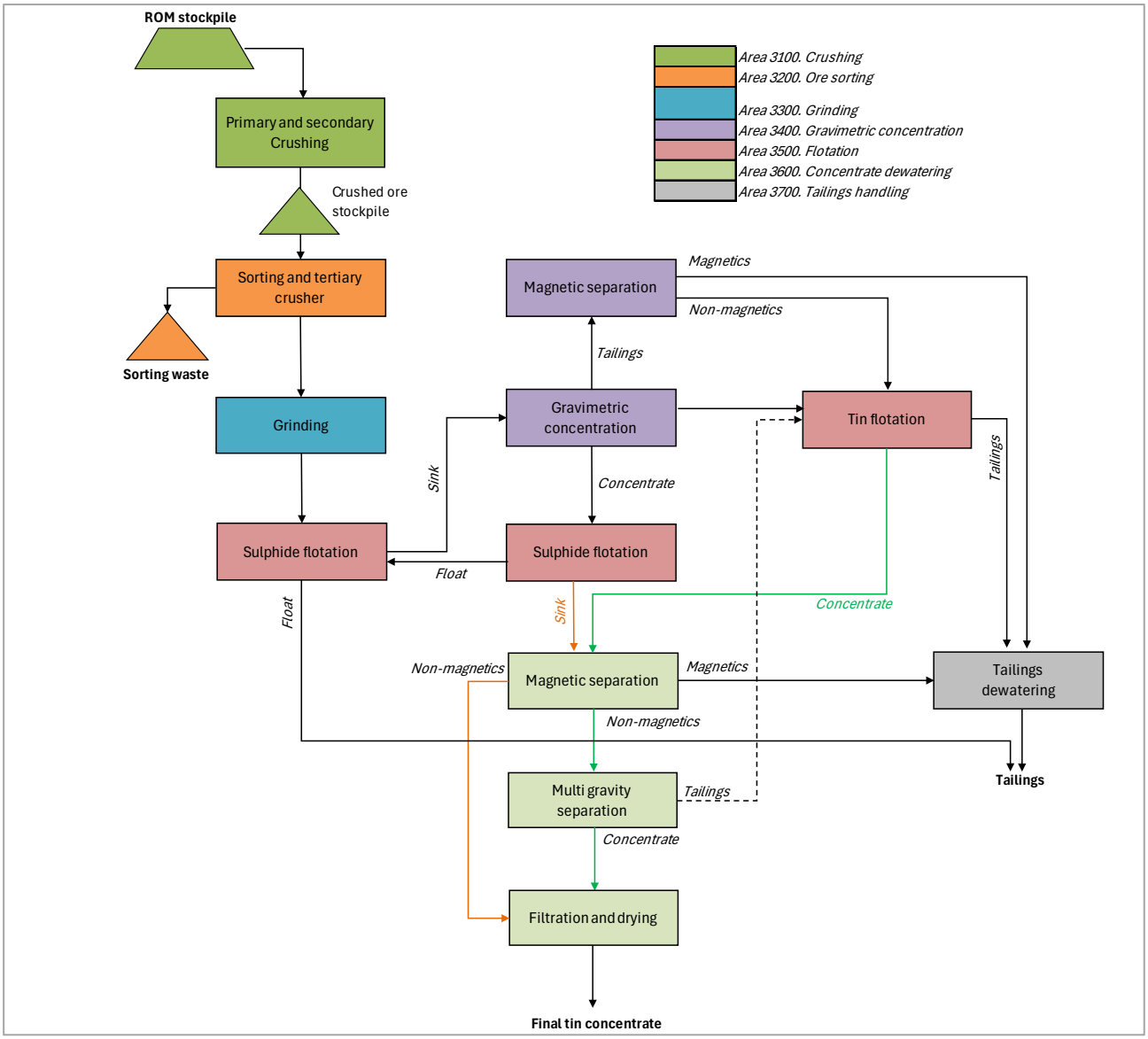

***Figure 13** - Oropesa Block Flow Diagram*

Licencing, Permits and Tenure:

At the date of this release the Company holds tenure (Investigation Permit) over the Oropesa Tin Project. Following the recent renewal of the Company's Investigation Permit, the Company also resubmitted the specific documentation set required to obtain the Unified Environmental Authorization (AAU) and the Mining Exploitation Concession required for the Oropesa Tin Project[2]. The requirements for each of the three submissions are governed by the applicable regulations:

1. **The Unified Environmental Authorization (AAU Solicitude)** is regulated by section 3, Chapter 2, Title III of the Law 7/2007, of 9th July, of Environmental Quality Management of Andalusia and includes the assessment of the Environmental Impact Study (EIS).
2. **The Application for the Exploitation Project (Mining) Concession** is governed by Section 3, Chapter IV, Title V of the Law 22/1973, of 21st July, of Mines.

3. **The Restoration Plan** is governed by the Royal Decree 975/2009, of June 12, on the management of waste from extractive industries and the protection and rehabilitation of areas affected by mining activities.

The DFS and Ore Reserves have used the same basis of design, layouts, disturbance areas, costings and schedules as these Primary Licenses submissions, which are now being assessed by the Andalucian Administration.

Funding

To achieve the range of outcomes indicated in the DFS that supports the Ore Reserve Estimate, the DFS estimates that the capital cost of the Oropesa Project at Final Investment Decision (FID) to be in the order of approximately €$149m (A$260m*|US$156m*).

The Company believes there are reasonable grounds for concluding that the required funding will be available when required for the reasons set out in the DFS Summary Report, which include:

1. The DFS shows strong project economics, including a robust return on capital and robust cash-flows.
2. Engagement to date with potential equity, debt (and alternative) financiers and investors/lenders has been positive and gives the Company confidence that adequate funding sources will be available, with plans in place to increase engagement now that the DFS is completed.
3. The Oropesa Project, is a state significant project in the Autonomous Region of Andalucia (a member of the Project Accelerator Unit) which gives it high visibility in the Spanish industry and within the European Union.
4. The Andalucian Government, National Spanish Government and the European Union have all recently announced legislation and/or grants to further financially support the mining sector in Andalucia, Spain and the EU. The Project's status in the Andalucian 'Project Accelerator Unit' puts it in a strong position to receive some of this financial support:
    a. Andalucia Government Support Focuses on sustainable mining with incentives for new productive investments (up to €40 million), industrial capacity expansion, diversification and the transformation of industries in the value chain. Furthermore, it seeks to strengthen mining companies distinguished by their environmental performance with support for mining processes and facilities, the use of renewable energy, and the implementation of sustainable technologies.
    b. The Spanish National Government recently unveiled significant initiatives to bolster its mining sector, aligning with broader European Union goals to reduce dependency on external suppliers, particularly China. In mid-March 2025 the Government presented a draft strategy which aims to modernize Spain's 50-year-old mining regulatory framework and situate its attractiveness to investors.
    c. European Union Support: The European Union has announced many funding sources for Critical Raw Materials Sector within the EU, including through EIT Raw Materials, The Just Transition Fund which specifically covers the re-industrialisation and economic stimulus of the project area of the Guadiato Valley in Regional Spain
5. Tin is listed as a Critical/Strategic Mineral in many global economies due to its low abundance and high geopolitical risks (>80% relying on China and South-Eastern Asia) which opens the possibility of

For personal use only

government backed funding from foreign governments and/or major national groups. Currently tin is listed as Critical/Strategic in the following countries: Australia, USA, UK, Canada, Japan, South Korea, India and Indonesia.

6. The Oropesa Tin Project is one of a few global tin projects that are forecast to reach FID before 2030 and therefore will be one of only a handful of projects available for investors seeking exposure to investing in the tin industry.
7. The Company is in discussion with parties who have the financial capacity to provide a significant proportion of the required equity and debt to find the development of the project.
8. The Company's un-complicated corporate and capital structure, together with a project that is free from any government royalties and/or binding offtake agreements offers the Company significant flexibility when negotiating development funding.

However, shareholders and investors should be aware that there is no certainty that the Company will be able to raise the required funding when required. The ability of the Company to fund its future requirements will depend on, amongst other things, debt and equity market conditions at the time and there is no certainty that the required capital will be available to develop the Project or that, even if available, will be available on acceptable terms. Funding via additional equity issues or strategic partnerships, including joint venture partners, may be dilutive to the Company's existing shareholders and, if available, debt financing will be subject to the Company agreeing to certain debt covenants and other terms and conditions. Similarly, any arrangements with third party joint venture partners, royalty companies, streaming finance funders or offtake partners may involve the Company agreeing to less than optimal terms and conditions, which may dilute or otherwise adversely affect the Company shareholders' exposure to the Project economics.

For full and complete information related to the ASX Announcement please read the supporting appendices:

1. Appendix-1: DFS Summary Report
2. Appendix-2: Ore Reserves Report, including section-4 of table-1 of the JORC Code (2012)

For personal use only

Elementos' Board has authorised the release of this announcement to the market.

For more information, please contact:

Mr Duncan Cornish
Company Secretary
Phone: +61 7 3221 7770
admin@elementos.com.au

Mr Joe David
Managing Director
Phone +61 7 2111 1110
jd@elementos.com.au

ABOUT ELEMENTOS

Elementos is committed to the safe and environmentally conscious exploration, development, and production of its global tin projects. The Company owns two world class tin projects with large resource bases and significant exploration potential in mining-friendly jurisdictions. Led by an experienced-heavy management team and Board, Elementos is positioned as a pure tin platform, with an ability to develop projects in multiple countries. The Company is well-positioned to help bridge the forecast significant tin supply shortfall in coming years. This shortfall is being partly driven by reduced productivity of major tin miners in addition to increasing global demand due to electrification, green energy, automation, electric vehicles and the conversion to lead-free solders as electrical contacts.

Cautionary Statement

This announcement and information, opinions or conclusions expressed in the course of this announcement contain forward looking statements and forecast financial information. The Company has concluded that it has a reasonable basis for those forward-looking statements and forecast financial information, including the use of a flat US30,000/t tin price, the production target set out in this announcement and the financial information on which it is based. The basis for that conclusion is contained throughout this announcement and the DFS announcement released immediately following this announcement and all material assumptions, including the JORC modifying factors, upon which the forward-looking statements and forecast financial information are based, are disclosed in this announcement and/ or the DFS announcement released immediately following this announcement. However, such forecasts, projections and information are not a guarantee of future performance and involve unknown risks and uncertainties. Actual results and developments will almost certainly differ materially from those expressed or implied. There are a number of risks, both specific to the Company, and of a general nature, which may affect the future operating and financial performance of the Company, and the value of an investment in the Company including and not limited to title risk, renewal risk, economic conditions, stock market fluctuations, commodity demand and price movements, timing of access to infrastructure, timing of environmental approvals, regulatory risks, operational risks, reliance on key personnel, Reserve estimations, cultural resources risks, foreign currency fluctuations, and mining development, construction and commissioning risks.

To achieve the range of outcomes indicated in the DFS, the PFS estimates that funding in the order of €149m (A$260m*|US$156m*) in capital costs will be required. Shareholders and investors should be aware that there is no certainty that the Company will be able to raise the required funding when needed and it is possible that such funding may only be available on terms that may be highly dilutive or otherwise adversely affect the Company shareholders' exposure to the Oropesa Project's economics. Specifically, as outlined in this DFS, the Company intends to pursue potential third-party partnerships (with parties who have the potential to be joint venture partners in the Oropesa Project) to advance the Project and may pursue other value realisation strategies such as a sale or partial sale of the Oropesa Project or underlying future commodity streams. If it does so, such arrangements may materially reduce the Company's proportionate ownership of the Project and/ or adversely affect the Company shareholders' exposure to the Project economics.

For personal use only

For personal use only

Competent Persons Statement:

The information in this announcement that relates to Ore Reserves is based on, and fairly represents, the information and supporting documentation compiled and prepared by Mr Michael Hooper a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Hooper is an employee of Optimal Mining Solutions Pty Ltd (Optimal Mining), an independent consultant to Elementos Ltd. Mr Hooper has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code 2012). Mr Hooper consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

The Ore Reserves underpinning the production target set out in this announcement have been prepared by a Competent Person as defined in the JORC Code 2012.

References to Previous Releases

1 - The information in this announcement that relates to Mineral Resources for the Oropesa Project has been extracted from the Company's ASX Announcement on 14th February 2023 "Oropesa Tin Project 2023 Mineral Resource Update", 14th February 2023. The Company confirms that it is not aware of any new information or data that materially affects the information included in the market announcement referred to above and further confirms that all material assumptions and technical parameters underpinning the Mineral Resource estimate in that announcement continues to apply and have not materially changed.

2 – "Primary License Submissions Lodged Oropesa Tin Project", 03 April 2025

3 – "Update on Regulatory Approvals and DFS", 20 June 2023

4 – "Optimisation Study Oropesa Tin Project", 29 March 2022

5 – "Oropesa Pilot Scale Metallurgical Results", 29 September 2022

Appendix-1: DFS Summary Report

For personal use only

ELEMENTOS

TOMORROW'S TIN

Oropesa Tin Project

Definitive Feasibility Study

Summary Report

WAVE International

For personal use only

PROJECT BRIEF

Project Number	5747
Project Title	Oropesa Tin Project | Definitive Feasibility Study
Client	Elementos Limited
Document Title	DFS Summary Report
Document No	5747-20-RPT-GE-10001

DOCUMENT STATUS

Rev	Date	Description	By	Reviewed	Approved
A	28/03/2025	Final draft for review.	G Mantell	R Hanrahan J David	R Hanrahan J David
B	3/04/2025	Issued for use	G Mantell	R Hanrahan J David	R Hanrahan J David

DISCLAIMER

This document has been produced on behalf of, and for the exclusive use of the nominated recipient, and is issued for the purpose stated within the document only. Wave International accepts no responsibility or liability whatsoever in respect to use of this document by any third party.

All disclaimers made by ASX:ELT in relation to the Australia Securities Exchange public release apply to this report.

The information contained within the document is subject to copyright.

For personal use only

TABLE OF CONTENTS

1 PURPOSE OF DFS SUMMARY REPORT 1

2 DISCLAIMER 2

3 INTRODUCTION AND KEY STUDY FINDINGS 4

3.1 Definitive Feasibility Study Contributors 7

4 DEVELOPMENT STRATEGY 8

5 MARKET ANALYSIS (SALES AND MARKETING) 10

5.1 Current Tin Market Drivers 10

5.1.1 Market Overview 10

5.1.2 Tin Supply 10

5.1.3 Production Trends 12

5.2 Tin Market Prices 12

5.2.1 Recent Tin Prices 12

5.2.2 Recent Tin Inventory Movements 13

5.2.3 Medium and Long-Term Tin Market Dynamics 14

5.2.4 Reference Tin Price Forecasts 15

5.2.5 European Tin Premiums 17

6 PERMITS, APPROVALS & REGULATORY FRAMEWORK 18

6.1 Introduction 18

6.2 Background of 2024 Layout Modifications 18

6.3 Primary Licence Documentation Submission 20

6.4 Unified Environmental Authorization (AAU) Application 21

6.5 Mining Exploitation Concession Application 22

6.6 Restoration Plan Document 23

6.7 Way Forward Permitting Process 23

6.8 Regulatory Framework 24

6.8.1 Mining Regulatory Framework 24

6.8.2 Occupational Health and Safety Regulations 25

6.8.3 Applicable Environmental Regulations 26

7 MINING AND ORE RESERVE 27

7.1 Introduction 27

7.2 Mine Planning & Ore Reserves Estimate Process 28

7.3 Oropesa Exploration Summary 29

7.4 Mine Planning 29

For personal use only

7.4.1 Pit Optimisation 29
7.5 Optimised Pit Shell Results 30
7.6 Mining Method 32
7.7 Geotechnical Parameters 33
7.8 Mining Layout 33
7.8.1 Mining Strategy 33
7.9 Environmental and Social Considerations 35
7.9.1 Waste Rock Characterisation 35
7.9.2 Habitats of Community Interest 35
7.9.3 Noise, Dust, Vibration and Visual Amenity 36
7.9.4 Hydrology 37
7.9.5 Final Landform and Restoration Plan 37
7.10 Mine Design 38
7.10.1 Detailed Pit Design 38
7.11 Stage Designs 40
7.11.1 Waste Rock Facility Designs 42
7.12 Modifying Factors 45
7.12.1 Loss and Dilution 45
7.12.2 Metallurgical Factors 45
7.12.3 Investigations and Test Work 45
7.13 Mine Schedule 46
7.13.1 Schedule Output Physicals 47
7.13.2 Schedule Output Progress Plans 53

8 GEOLOGY AND MINERAL RESOURCES 59
8.1 Geology 59
8.2 Mineralisation 60
8.3 Historical Exploration 62
8.4 Tin Mineral Resource Estimate Statement 63
8.5 Zinc Mineral Resource Estimate Statement 64
8.6 Zinc Mineralisation 66
8.7 Additional Exploration Potential 66
8.7.1 Oropesa Tenement Extensions 66

9 METALLURGICAL TESTWORK 69
9.1 Overview 69
9.2 Bulk Sample / Pilot Testwork 69
9.2.1 General 69
9.2.2 Bulk Sample 70
9.2.3 Pilot Testwork Conclusions 71

For personal use only

9.3 Variability Testwork 72
9.3.1 General 72
9.3.2 Variability Samples 72
9.3.3 Variability Testwork Conclusions 75
9.3.4 Metallurgical Regression Curves 76
9.4 TOMRA Testwork 76

10 PROCESS DESIGN AND ENGINEERING 78

10.1 Design Development / Early Contractor Involvement 78
10.2 Process Overview 79
10.3 Ore Characteristics 81
10.4 Capacity and Utilisation of Plant 81
10.5 Process Plant and Related Facilities 83
10.5.1 Process Plant EPC Scope 83
10.5.2 Process Block Diagram 84
10.5.3 Crushing (3100) 85
10.5.4 Ore Sorting (3200) 86
10.5.5 Grinding (3300) 87
10.5.6 Sulphide Flotation (3510) 88
10.5.7 Gravimetric Concentration (3400) 89
10.5.8 Tin Flotation (3520) 90
10.5.9 Concentrate Dewatering (3600) 91
10.5.10 Tailings Facilities (3700) 92
10.5.11 Reagents (3800) 93
10.5.12 Compressed Air Services 94
10.5.13 Plant Area Water Services 94
10.5.14 Water Treatment Plant 95
10.5.15 On-Site Electrical Services 95
10.5.16 Control System 96

11 NON-PROCESS INFRASTRUCTURE 97

11.1 Site Layout Development 97
11.1.1 Overall Layout 97
11.1.2 Geotechnical Investigations 99
11.1.3 Hydrological Investigations 100
11.1.4 Hydrogeological Investigations 101
11.2 Site Access 102
11.2.1 Regional Roads 102
11.2.2 Main Access Network 103
11.2.3 Upgrade of CO-8404 Road 103
11.2.4 N-432 / CO-8404 Intersection 104

For personal use only

11.2.5 Diversion of Public Tracks Affected by Project 104
11.2.6 Maintenance Tracks 104
11.3 On-Site Infrastructure 105
11.3.1 On-Site Civil Works 105
11.3.2 Mining Contractor's Infrastructure Area 105
11.3.3 Ancillary Buildings and Facilities 108
11.3.4 Site Services 109
11.4 On-Site Water Management 110
11.4.1 Overview 110
11.4.2 Water Supply (Mine Dewatering Bores) 111
11.4.3 Water Dams 112
11.4.4 Diversion / Collection Drain System 112
11.5 Off-Site Power Supply 113
11.6 Information and Communications Technology 114
11.6.1 Project Connectivity 114
11.6.2 Telecommunications 114

12 MINE WASTE AND TAILINGS MANAGEMENT 116

12.1 Introduction 116
12.2 Site Characteristics 116
12.3 Site Investigations 116
12.4 Waste Streams Characterisation 117
12.5 Integrated Waste Landform 117
12.5.1 Approach 117
12.5.2 Structural stability 118
12.5.3 Consequence Assessment 118
12.5.4 Location of the infrastructures 119
12.5.5 Materials balance 119
12.6 TSF Construction 120
12.7 Integrated Waste Landform Operation 121
12.8 Operations, Maintenance and Surveillance (OMS) 121
12.9 Closure and Rehabilitation 121

13 OPERATIONS MANAGEMENT 123

13.1 Introduction 123
13.2 Operating Philosophy 124
13.3 MESPA Personnel Strategy 124
13.3.1 Introduction 124
13.3.2 Legal Framework for Employment in the Spanish Mining Sector 125
13.3.3 Personnel Hiring and Training Strategy 125

For personal use only

13.4 Organisation and Staffing 126

14 PROJECT IMPLEMENTATION 129

14.1 Project Delivery Contracting Strategy 129
14.2 Project Execution Schedule 137
14.3 Pre-FID Activities 139
14.4 Forward Work Plan 139

15 HEALTH, SAFETY AND ENVIRONMENT 141

15.1 ESG 141
15.2 Environmental Design Considerations & Mitigation Measures 142
15.3 Environmental Mitigation and Compensation 143
15.4 Health and Safety 145

16 COMMUNITY AND STAKEHOLDER RELATIONS 146

16.1 Local Stakeholder Relations 146
16.2 Recent Communication Strategy 146
16.3 Way-Forward Engagement Strategy 146
16.4 Other Prominent Organisations 147
16.4.1 Group Valle del Alto Guadiato (GDR) 147
16.4.2 Just Transition Fund 148

17 CAPITAL COST ESTIMATE 149

17.1 Estimate Summary 149
17.2 Estimate Basis 150
17.2.1 General 150
17.2.2 CAPEX Sources and Methodologies 150
17.2.3 Estimate Structure 152
17.2.4 CAPEX Exclusions 153
17.3 Estimate Details 154
17.3.1 Execution Package Breakdown 154
17.3.2 Discipline Breakdown 154
17.3.3 Life of Mine and Sustaining Capital 155

18 OPERATING COST ESTIMATE 157

18.1 Basis of Estimate 157
18.1.1 Accuracy of Estimate 157
18.1.2 Base Date and Exchange Rates 157
18.1.3 Escalation 157
18.1.4 Estimate Development and Sources 157
18.2 Estimate Breakdown and Summary 158

For personal use only

18.2.1 Summary 158
18.2.2 Mining and Rehabilitation 159
18.2.3 Labour 160
18.2.4 Electrical power 161
18.2.5 Fuel 161
18.2.6 Maintenance 161
18.2.7 Reagents and Consumables 162
18.2.8 Equipment Hire 162
18.2.9 Transport and Logistics 162
18.2.10 Off-balance Sheet Financing 163
18.2.11 General and Administrative EPO 163
18.2.12 Fixed and Variable Costs 164

19 FINANCIAL EVALUATION 165

19.1 Financial Analysis 165
19.1.1 Methodology 165
19.1.2 Summary Results 165
19.1.3 Base Case Assumptions 166
19.1.4 Cash Flow Forecast 167
19.1.5 Revenue 167
19.1.6 Capital Costs 168
19.1.7 Operating Costs 168
19.1.8 Rehabilitation 168
19.1.9 Taxation 168
19.1.10 Freedom of Depreciation 169
19.1.11 Depletion Factor 169
19.1.12 Royalties 170
19.2 Financial Evaluation Results 170
19.2.1 Sensitivity Analysis 172
19.3 Funding 173
19.3.1 Equity Funding Sources 173
19.3.2 Debt Funding Sources 174
19.3.3 Funding Basis 175

20 RISKS AND OPPORTUNITUES 177

20.1 Opportunities 177
20.1.1 Addition of Zinc Circuit 177
20.1.2 Production of Two Separate Concentrates, Low-Sn and High-Sn Concentrates 178
20.1.3 Replace Tin Flotation Circuit with Multi-Gravity Separators 178
20.1.4 Tin Price Potential to Further Increase Ore & Mine Life 179
20.1.5 Further Mineral Exploration potential – Oropesa Tenement 180

For personal use only

20.2 RISKS 180
20.2.1 External Commodity & Macroeconomic Fluctuations 180
20.2.2 Licencing & Permitting Approval and Modifications 180
20.2.3 Securing Skilled Staff & Operators 180
20.2.4 Residual Geotechnical Risks 181
20.2.5 Major Package Contracting and Finalisation 181

TABLES

Table 3.1 – DFS Summary Table 6
Table 3.2 – DFS Contributors 7
Table 5.1 – 2024 Top 10 Refined Tin Producers (ITA Website 13 March 2025, Global Tin Falls in 2024 on Supply Disruptions) (Refined Tin Production, Tonnes) 11
Table 5.2 – Reference Tin Price Forecasts (Redacted Sources for public distribution) Tin price consensus forecasts, USD per tonne. Real (2025) 16
Table 7.1 – Oropesa Maiden Ore Reserve as of March 2025 27
Table 7.2 – Oropesa MRE as of February 2023 28
Table 7.3 – Pit Optimisation Input Cost Assumptions (USD) 29
Table 7.4 – Pit Wall Design Parameters 38
Table 7.5 – Haul Road Design Parameters 38
Table 7.6 – WRF Design Parameters 42
Table 7.7 – Average Equipment Productivities 46
Table 7.8 – Annual Quantities and Qualities 52
Table 8.1 – Total exploration drill holes completed within the Oropesa Project area 62
Table 8.2 – Total exploration drill holes employed in the 2023 Oropesa Mineral Resource Estimate 62
Table 8.3 – Summary of Tin Mineral Resources for Oropesa as of January 2023 63
Table 8.4 – Summary of Oropesa 2023 Zinc Mineral Resource Estimate 65
Table 9.1 – Pilot Plant Metallurgical Upgrade Results 69
Table 9.2 - Summary of Samples Submitted by Elementos and used for Bulk Sample 70
Table 9.3 – Summary of Variability Samples utilised by WAI 72
Table 9.4 – Summary of Test Results Achieved From 2019 and 2022 77
Table 10.1 – Ore Characteristics 81
Table 10.2 – Process Plant Capacity and Availability 82
Table 10.3 – PDC Summary 82
Table 11.1 – Key Site Infrastructure 97
Table 12.1 – Materials balance 120
Table 13.1 – MESPA Workforce 128
Table 14.1 – Construction Packaging Plan Summary 131
Table 14.2 – Operations Packaging Plan Summary 133
Table 17.1 – Capital Cost Estimate Summary 149
Table 17.2 – CAPEX Basis Summary 150

For personal use only

Table 17.3 – Capital Cost Estimate by Package 154
Table 17.4 – Capital Cost Estimate – Discipline Breakdown 154
Table 17.5 – Life of Mine Capital Costs 156
Table 18.1 – Foreign Exchange Rates 157
Table 18.2 – Operating Cost Summary 158
Table 18.3 – Mining Operating Costs 159
Table 18.4 – Labour Operating Cost Breakdown 160
Table 18.5 – Electrical Power Operating Cost 161
Table 18.6 – Fuel Operating Cost 161
Table 18.7 – Maintenance Operating Cost 162
Table 18.8 – Reagents and Consumables Operating Cost 162
Table 18.9 – Equipment Hire Operating Cost 162
Table 18.10 – Transport and Logistics Operating Cost 162
Table 18.11 – Equipment Financing Operating Cost 163
Table 18.12 – General and Administrative Costs 163
Table 18.13 – Fixed and Variable Cost Breakdown 164
Table 19.1 – Revenue Assumptions 167
Table 19.2 – Capital Phasing 168
Table 19.3 – Financial model cost items 170
Table 19.4 – Key financial and operational metrics 171
Table 19.5 – NPV: Tin price per tonne vs Discount rate (EUR M) 172
Table 19.6 – NPV: Tin price per tonne vs Discount rate (AUD M) 172
Table 19.7 - IRR & Payback Sensitivity 172
Table 20.1 – Analysis of Zinc in DFS Pit Shell 178
Table 20.2 – Pit Optimiser Output for Incremental Revenue Shell 179

FIGURES

Figure 3-1 – Project Location, referenced to the major cities of Cordoba and Seville 4
Figure 4-1 – The Oropesa Project is located: ~220km from the Robledallano Tin Smelter in Extremadura and ~245km from Atlantic Copper's Metallurgical Complex in the Port of Huelva 8
Figure 5-1 – Tin Use by Application 2023 (ITA Investing in Tin Seminar, 2024) 10
Figure 5-2 – Mine Production Losses in 2023-2024 (ITA, Investing in Tin Conference, 2024) 10
Figure 5-3 – London Metal Exchange (LME) and Shanghai Futures Exchange (SHFE) Tin prices over preceding 15-months 13
Figure 5-4 – London Metal Exchange (LME) Tin Warehouse Inventory Levels 13
Figure 5-5 – Shanghai Futures Exchange (SHFE) Tin Warehouse Inventory Levels 14
Figure 5-6 – Tin Deficits continue to build to 40,000t, excluding new mines 15
Figure 5-7 – Tin Deficits continue to build to 40,000t, including assumed new mines 15
Figure 5-8 – European Tin Premium last ~3years, with average price 17
Figure 6-1 – External Waste Dump & Tailings Dam Modifications 19

For personal use only

Figure 6-2 – Crushing, Sorting, Mineral Processing Plant & NPI Modifications 19
Figure 6-3 – Access Road Modification to Avoid Cattle Stock Route 20
Figure 6-4 – Primary Approvals Summary Flowchart 24
Figure 7-1 – Distribution of Drill Holes in Relation to the DFS Pit Shell 29
Figure 7-2 – Ore tonnes and Strip Ratio by Incremental Revenue Shell 31
Figure 7-3 – Comparison of Key Pit Shells within DFS Pit Design 32
Figure 7-4 – DFS Pit Long Section Showing Mining Stages 34
Figure 7-5 – Layout of Mine and Infrastructure 34
Figure 7-6 – Photograph of Project Area Landscape and Vegetation 36
Figure 7-7 – Vegetation, Landscape Units and Nearby Towns 36
Figure 7-8 – River Basins and Stream Catchments 37
Figure 7-9 – Plan View of the Ultimate Pit Design 39
Figure 7-10 – Isometric View of the Ultimate Pit Design 39
Figure 7-11 – Stage 1 40
Figure 7-12 – Stage 3 40
Figure 7-13 – Stage 8 41
Figure 7-14 – Stage 11 41
Figure 7-15 – Stage 12 – Ultimate Pit 42
Figure 7-16 – Cross Section of the As-built WRF and Rehabilitation Surface 43
Figure 7-17 – Location of the Four OPDs 43
Figure 7-18 – Final Landform of Rehabilitated WRF and TSF 44
Figure 7-19 – IPD Stage 1 44
Figure 7-20 – IPD Stage 4 with West OPD Stage 4 45
Figure 7-21 – ROM Ore Mining Quantities and Grade 47
Figure 7-22 – Waste Movements 48
Figure 7-23 – Strip Ratio 48
Figure 7-24 – Concentrate Production 49
Figure 7-25 – Number of Excavators Required 49
Figure 7-26 – Number of Trucks Required 50
Figure 7-27 – Net Disturbance Area 50
Figure 7-28 – Dozer Rehabilitation Tonnes 51
Figure 7-29 – Starting Topography 53
Figure 7-30 – End of Year -1 53
Figure 7-31 – End of Year 0 - Start of Processing Operations 54
Figure 7-32 – End of Year 2 54
Figure 7-33 – End of Year 4 55
Figure 7-34 – End of Year 6 55
Figure 7-35 – End of Year 7 56
Figure 7-36 – End of Year 9 56
Figure 7-37 – End of Year 11 57

For personal use only

Figure 7-38 – End of Year 13 57
Figure 7-39 – Start of TSF Capping 58
Figure 7-40 – Final Landform 58
Figure 8-1 – Simplified Geology of the Iberian Massif (Spain) 59
Figure 8-2 – Geology of the Ossa Morena Zone 60
Figure 8-3 – Sinistral strike-slip restraining stepover geometrics as modelled by McCLay and Bonora (2001), superimposed on the Oropesa deposit 61
Figure 8-4 – Lithological and structural interpretation including drill hole traces displaying Sn intercepts through Section A-A 61
Figure 8-5 – Grade Tonnage curve Sn % at Oropesa 63
Figure 8-6 – Oropesa Resource Model plan coloured by Resource Classification 64
Figure 8-7 – Grade Tonnage curve Zn % at Oropesa 65
Figure 8-8 – Modelled resource domains at Oropesa (oblique view looking NNE) 67
Figure 8-9 – Zinc block model depicting high grade zones and high priority targets in the northwest and southeast 68
Figure 8-10 ASTER remote sensing anomalies and structural controls (blue) for the Oropesa Mineral Resource: Oropesa structural model superimposed (white) on a similar ASTER anomaly to the east of Oropesa 68
Figure 9-1 – Oropesa Long Section Showing Block Model, Optimisation Study Pit Shell and Sample Locations 71
Figure 9-2 – Long Section Showing Mineralisation Wireframes, Pit Shell and Variability Samples 73
Figure 9-3 – Long Section Showing Block Model, Pit Shell and Variability Samples 73
Figure 9-4 – Location of Samples used in VAR-1 Composite 74
Figure 10-1 – Overview Process Flow Diagram 79
Figure 10-2 – General Arrangement 81
Figure 10-3 – Model Snapshot - Process Plant and Infrastructure 83
Figure 10-4 – Summary Block Flow Diagram 84
Figure 10-5 – Crushing layout 85
Figure 10-6 – Ore Sorting layout 86
Figure 10-7 – Grinding layout 87
Figure 10-8 – Sulphide flotation layout 88
Figure 10-9 – Gravimetric concentration layout 89
Figure 10-10 – Tin flotation layout 90
Figure 10-11 – Concentrate dewatering layout 91
Figure 10-12 – Tailings Facilities 92
Figure 10-13 – Reagents building layout 93
Figure 11-1 – Mine Site Layout 98
Figure 11-2 – Geotechnical investigation works 99
Figure 11-3 – Sub-basins considered in the hydrological study 101
Figure 11-4 – Connection of N-432 with A-66 and A-4 motorways 102
Figure 11-5 – Site Access Network 103
Figure 11-6 – Public Tracks Diversions 104
Figure 11-7 – On-Site Civil works 106
Figure 11-8 – Ancillary Buildings and Facilities 107

For personal use only

Figure 11-9 – Integrated Water Management Within the Project Complex 111
Figure 11-10 – Iberian Electrical System 113
Figure 11-11 – Oropesa Off-site Substation and Underground Transmission Line 114
Figure 13-1 - Organisation Structure 127
Figure 14-1 – Project Delivery Structure 130
Figure 14-2 – Summary Project Schedule 138
Figure 15-1 – Final rehabilitated landforms and rehabilitation for waste management infrastructure 142
Figure 18-1 – Operating Cost Breakdown 159
Figure 19-1 – Cash Flow forecast 167
Figure 19-2 - Sensitivity Tornado 173
Figure 20-1 – Zinc 2023 MRE Classifications and Zn Grades (%) with DFS Pit 177
Figure 20-2 – Comparison of US$45k Pit Shell to DFS Pit Design (US$30k) 179

For personal use only

1 PURPOSE OF DFS SUMMARY REPORT

This Definitive Feasibility Study (DFS) Summary Report released by Elementos Limited (ASX:ELT) to the Australian Stock Exchange (ASX) serves to provide a comprehensive summary of the full DFS Report for the Oropesa Tin Project. The summary report accurately summarises the project's key assumptions, methodologies, strategy in developing the underlying works and reporting the key physical, technical, and economic outputs, in addition to identifying way forward work streams. This report is crucial for informing investors and stakeholders about the project's potential profitability, opportunities & risks, and overall feasibility. It includes detailed assessments of the project's major drivers, including but not limited to, mineral resources, ore reserves, mining methods, processing designs, environmental impacts, and financial projections. By releasing the DFS summary, the company aims to demonstrate the project's maturity, readiness for investment and development, assisting the securitisation of project funding, offtake discussions and display the compliance with regulatory requirements.

The DFS Summary Report is only intended to summarise the full form DFS Report, it is not intended to replicate to full form DFS. Whilst it is designed to be comprehendible on a stand-alone basis there may be sections within the DFS summary report which reference further details which may not be available in the summary report. The full form DFS will be made available to selected parties under Non-Disclosure Agreements (NDAs) where a commercial justification exists.

For personal use only

For personal use only

2 DISCLAIMER

The information is this DFS Summary Report does not purport to be complete nor does it contain all the information which would be required in a disclosure document prepared in accordance with the requirements of the Corporations Act 2001 (Cth) ("Corporations Act"). It should be read in conjunction with the Company's past announcements released to ASX Limited ("ASX") and available through the Company's website at www.elementos.com.au.

This Report is not (and nothing in it should be construed as) an offer, invitation, solicitation or recommendation with respect to the subscription for, purchase or sale of any security in any jurisdiction, and neither this document nor anything in it shall form the basis of any contract or commitment. This Report is not a prospectus, disclosure statement or other offering document under Australian law or under any other law and will not be lodged with the Australian Securities and Investments Commission. None of the information in this Report constitutes an offer to sell, or the solicitation of an offer to buy, any securities in the United States. This Report may not be released, published or distributed directly or indirectly, to persons in the United States. The release, publication or distribution of this Report (including an electronic copy) in other jurisdictions outside Australia may also be restricted by law. If you come into possession of this Report, you should observe these restrictions as non-compliance with these restrictions may contravene applicable securities laws.

This Report and information, opinions or conclusions expressed in the course of this Report contain forward looking statements and forecast financial information. The Company has concluded that it has a reasonable basis for those forward-looking statements and forecast financial information, including the use of a flat US30,000/t tin price, the production target set out in this announcement and the financial information on which it is based. The basis for that conclusion is contained throughout this announcement and the DFS announcement released immediately following this announcement and all material assumptions, including the JORC modifying factors, upon which the forward-looking statements and forecast financial information are based, are disclosed in this announcement and/ or the DFS announcement released immediately following this announcement. However, such forecasts, projections and information are not a guarantee of future performance and involve unknown risks and uncertainties. Actual results and developments will almost certainly differ materially from those expressed or implied. There are a number of risks, both specific to the Company, and of a general nature, which may affect the future operating and financial performance of the Company, and the value of an investment in the Company including and not limited to title risk, renewal risk, economic conditions, stock market fluctuations, commodity demand and price movements, timing of access to infrastructure, timing of environmental approvals, regulatory risks, operational risks, reliance on key personnel, Reserve estimations, cultural resources risks, foreign currency fluctuations, and mining development, construction and commissioning risks.

Definitive Feasibility Study ("DFS") referred to in this announcement has been undertaken for the purpose of assessing the technical and economic viability of developing the Oropesa Tin Project. The Study has been completed to an overall DFS level of accuracy of +/- 10%. It should be noted that some the work streams and elements in the Study have been undertaken to a more detailed standard of evaluation and definition and supported by executable contracts for their delivery, and some to a lesser extent.

While the declaration of JORC Ore Reserves & Mineral Resource Estimates may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues, the Company is not currently aware of any such issues which would affect the publication or validity of these at the time of completion.

The Study outcomes, Ore Reserve and forecast financial information are based on information that are designated by our Owners Engineer, Wave International, to meet the requirements of a Definitive Feasibility Study level, and meeting AACE Class-3 Estimate level. The information applied in the Study is sufficient to support the estimation of Ore Reserves. While each of the modifying factors was considered and applied, there is no certainty of eventual conversion to Ore Reserves or that the Production Target will be realised.

Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Study.

To achieve the range of outcomes indicated in this Report, the DFS estimates that the capital cost of the Oropesa Project at Final Investment Decision (FID) to be in the order of approximately €149m. Shareholders and investors should be aware that there is no certainty that the Company will be able to raise the required funding when needed and it is possible that such funding may only be available on terms that may be highly dilutive or otherwise adversely affect the Company shareholders' exposure to the Oropesa Project's economics. Specifically, as outlined in this DFS, the Company intends to pursue potential third-party partnerships (with parties who have the potential to be joint venture partners in the Oropesa Project) to advance the Project and may pursue other value realisation strategies such as a sale or partial sale of the Oropesa Project or underlying future commodity streams. If it does so, such arrangements may materially reduce the Company's proportionate ownership of the Project and/ or adversely affect the Company shareholders' exposure to the Project economics.

The Study is based on the Ore Reserve estimate, released concurrently with this report, as at 03 April 2025 for the Oropesa and the Mineral Resource estimate Announced to the ASX on the 14th February 2023.

The information in this Study that relates to Ore Reserves is based on, and fairly represents, the information and supporting documentation compiled and prepared by Mr Michael Hooper a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Hooper is an employee of Optimal Mining Solutions Pty Ltd (Optimal Mining), an independent consultant to Elementos Ltd. Mr Hooper has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the JORC Code 2012. Mr Hooper consents to the inclusion in Study of the matters based on his information in the form and context in which it appears. The Ore Reserves underpinning the production target set out in this Study have been prepared by a Competent Person as defined in the JORC Code 2012. Neither Mr Hooper, nor Optimal Mining, has any material interest or entitlement, direct or indirect, in the securities of Elementos, or any associated companies. Fees for the preparation of the Mineral Reserve estimate referred herein were on a time and materials basis only.

The information in this announcement that relates to Mineral Resources for the Oropesa Project has been extracted from the Company's ASX Announcement on 14th February 2023 "Oropesa Tin Project 2023 Mineral Resource Update", 14th February 2023. Elementos confirms that it is not aware of any new information or data that materially affects the information included in that release and further confirms that all material assumptions and technical parameters underpinning the Mineral Resource estimates in that ASX release continue to apply and have not materially changed.

ASX Limited has not reviewed and does not accept responsibility for the accuracy or adequacy of this release.

For personal use only

3 INTRODUCTION AND KEY STUDY FINDINGS

This report is the output summary report of the Oropesa Tin Project Definitive Feasibility Study (DFS) located in Andalucia, Spain. The DFS is based on the responsible development, operation and rehabilitation of a greenfield open-cut tin mine, processing plant, tailings storage facility, waste dumps and supporting infrastructure to support a ~1,360,000 tonne per annum (tpa) ore mining operation, and a 1,000,000 tpa mineral processing plant producing ~5,400 tonnes of tin concentrate, containing an average of ~3,400 tpa of tin in concentrate over a mine life of approximately 12 years. The base case of the DFS is for the operation to produce a high-grade, low impurity tin concentrate (~63% Sn) for toll treatment via a Spanish based smelter and then being sold by the company onto customers who will utilise tin ingots (metal) for downstream manufacturing purposes – many of which relate to electrical solder (~51% in 2024) which is currently not substitutional for critical electronic, green infrastructure and energy transition purposes.

Figure 3-1 – Project Location, referenced to the major cities of Cordoba and Seville

The DFS report is the culmination of many phases of work to investigate, interrogate, understand, identify, measure, study, engineer, plan and define the responsible and compliant construction and delivery, operation and rehabilitation of the future Oropesa Tin Mine. The assumptions used in this report align with the submitted project approvals with the Junta de Andalucia (Andalucian Government) and its major departments. The project has undergone extensive data acquisition, interpretative lab work, engineering development works, reporting, scheduling, market tendering, assessment and definition to arrive at this point of publishing the DFS summary report.

For personal use only

For personal use only

The DFS has been completed to an overall Definitive Feasibility Study level of accuracy of +/- 10%. The Oropesa Tin Project DFS was completed and has achieved the following goals:

1. Confirming the economic viability of the project, based on highly defined techno-economic inputs supported by robust and defendable data sets.
2. Deliver the maiden JORC Ore Reserve statement for the Project.
3. Support the project in financing discussions with banks, debt funds and their Independent Technical Experts (ITE).
4. Provide our current shareholders and potential future equity sources, including the global investors and industry players, a compelling valuation basis to support the company in its next phase of development.
5. Confirm the forward work plan for the remaining project development, delivery, operations and rehabilitation.
6. Confirm that the project's design scope aligns with the submitted project approvals documentation and applicable regulations and legislation.
7. Describes the company's commitment to responsible construction, mining and rehabilitation practises in a highly regulated jurisdiction.
8. Placed Oropesa as a globally strategic tin project in the future supply chain, and a project of economic importance to the Region of Andalucia, the kingdom of Spain and the European Union.
9. Assist the company in way-forward planning and resourcing the project's development pathway.

The DFS has confirmed the Oropesa Tin Project is technically feasible and economically viable to produce tin concentrate and supply metal into the European and global tin markets. Elementos and MESPA have developed the Oropesa Project as a viable, low-cost, responsible and strategically located tin producer in a mature, and secure jurisdiction with low political risk.

The DFS materially supersedes the maturity of all previous project studies, is based on a referenced base tin metal sales price of US$30,000 per tonne (29% below the LME official cash offer price of US$38,575 on 02/04/2025), with a European delivery tin premium of US$975 per tonne also applied. The key project data and financial returns are summarised on DFS Summary Table 3.1. The key financial outcomes demonstrate a real, ungeared pre- and post-tax Net Present Value at an 8% discount rate of approximately €156 million (A$270M) and €124 million (A$216M), respectively. The pre- and post-tax Internal Rate of Return (IRR) is approximately 26% and 24%, respectively. The capital payback period is 2.7 years. Capital development costs have been estimated at approximately €149 million (A$259m) including a 10.4% contingency.

For personal use only

Table 3.1 – DFS Summary Table

DFS Parameter	Variable	Units			
Annual Avg. Production	Ore	t/yr			1,359,000
	Concentrate	t/yr			5,400
	Metal	t/yr			3,400
Life of Mine	LOM	Yrs			11.75
Total LoM Production	Ore	t			15,964,000
	Concentrate	t			63,000
	Metal	t			40,000
Total LoM Grades	Ore	%Sn			0.36%
	Concentrate	%Sn			63.2%
	Metal	%Sn			99.0%
DFS Parameter	**Variable**	**Units**	**US$**	**EUR €**	**AUS$**
Reference Sales Price	LME	$/t$_{(metal)}$	30,000	28,700	49,900
European Tin Premium	Market	$/t$_{(metal)}$	975.0	900.0	1,600
Project Revenue	Average	$M/yr	104.5	100.0	170.0
	LOM	$M	1,190	1,140	1,980
C1-Cash Cost Per Tonne	Ore	$/t	37.00	35.00	61.00
	Concentrate	$/t	9,120	8,730	15,180
	Metal	$/t	14,400	13,800	24,000
AISC Cost Per Tonne	Ore	$/t	38.00	36.00	63.00
	Concentrate	$/t	9,470	9,060	15,750
	Metal	$/t	15,000	14,400	25,000
TC/RC Cost	Market	$/t$_{(con)}$	890.0	850.0	1,480
Capital Cost inc. Pre-Strip	Post-FID	$M	156.0	149.0	259.0
Sustaining Capital	LOM	$M	7.00	7.00	12.00
Corporate Income Tax	Flat	%			25.0%
	Effective	%			19.6%
	Low Tax Period (<1% payable)~	Yrs			4.0
NPV_8 Pre-Tax	Real, Ungeared	$M	162.5	155.5	270.4
NPV_8 Post-Tax		$M	129.8	124.2	215.9
IRR Pre-Tax	Real, Ungeared	%			25.65%
IRR Post-Tax		%			23.75%
EBITDA	Average	$M	51.00	49.00	85.00
	LOM	$M	599.0	573.0	996.0
Payback Period	Months	Months			32.4

~ Low Tax Period, whereby (Cumulative income tax expense) / (Cumulative earnings before tax) = <1% tax payable

For personal use only

3.1 Definitive Feasibility Study Contributors

Contributors to the DFS and their role / contribution are summarised in Table 3.2.

Table 3.2 – DFS Contributors

Contributor	Area	Contribution
Elementos Limited	Parent Company	Funding, Management, Governance
Minas de Estaño de España S.L.U.	Project Owner	Funding, Management, Governance
Wave International Pty Ltd	Owners Engineer	DFS Delivery, Engineering Management
Minepro Solutions S.L.	Spanish Project Mangers	Project Management, Licencing, Process Design
Optimal Mining solutions Pty Ltd	Mining	Mining Engineering, JORC CP Ore Reserves
Measured Group Pty Ltd	Geology	Geology, JORC CP Mineral Resources
Wardell Armstrong International Ltd	Metallurgy	Metallurgical Laboratory, JORC CP Metallurgy
ERM Iberia SAU	Approvals / Environment	Environmental Impact Study, Permit Submissions
Norvento Enerxia, SLU	Power	Power Supply Studies
Geociencias y Exploraciones Marítimas, S.L (GEM)	Tailings & Waste Management	Geotechnical Investigations, Tailings Dam, Water Dams, Waste Dumps
Geolen Ingeniería S.L.	NPI	Civil Designs: Roads, Tracks, Drains and Power Infrastructure design
Terratec Geotechnia y Sonderos S.L.	Mining	Geotechnical Investigations and Slope Stability
Ayterra Estudios y Proyectos SL	Water	Hydrology and Hydrogeology Studies and Water Monitoring
Duro Felguera S.A.	Mineral Process Plant & NPI	EPC Contractor: Design & Estimate
AGQ Labs	Water & Tailings	Waste Geochemical Characterization, Water Analysis and Water Treatment
ALS Labs	Analytical Laboratory	Drill core samples Analysis
Universidad de Oviedo	Material Handling	Sample Preparation and Handling Testing
Universidad de Córdoba	Approvals / Environment / Mining Method	Rehabilitation Plan, Forestry Management and Mining Method Study
INERCO	Acoustic	Preoperational and Operational Acoustic Studies
VRIVM Legal	Approvals / Legal	Approvals Strategy and Legal Advisor
BPDT & Co.	Commodity Adviser	Offtake and Commodity Marking
Nórdika - Salgueiro	Stakeholders	Economic, Community, Stakeholder & Media

4 DEVELOPMENT STRATEGY

Elementos Limited (Elementos, ASX: ELT) and its subsidiary Minas de Estaño de España (MESPA) are dedicated to establishing a modern and responsible tin mining and metal company, of a material global scale, and the only vertically integrated “mine-to-metal" tin supplier within Europe.

Elementos is the holder of the Oropesa Tin Project, via its (current) 100% shareholding in MESPA.

Elementos, with its focus on becoming a mine-to-metal tin metal supplier within the European Union (EU) has signed an option term-sheet to acquire up to 50% interest in Iberian Smelting S.L, the company which owns the Robledallano Tin Smelter, which is licenced and currently operating 220km by road from the Oropesa Project. Toll treating the Oropesa tin concentrate through the Robledallano Tin Smelter, at arms-length commercial terms, is the basis of the smelting assumptions of the study.

The company has also signed an Industrial Testwork Partnership Agreement with Atlantic Copper, another major smelting group in the region owned by Freeport McMoRan. Whilst this potential offtake discussion is in the early stages it establishes the interest of a second major group in the region with the potential to smelt tin within the EU. It also established the concept of recovering extra tin from low-grade ores and process waste.

The strategy of establishing itself as the only integrated mine-to-metal tin producer within the EU is a key focus of Elementos. With trade-wars and geopolitical risks growing, and a majority of the tin supply chain being focussed in China and South East Asia, the political, strategic and economic benefits of being an independent, reliable and responsible supplier with the EU are very high.

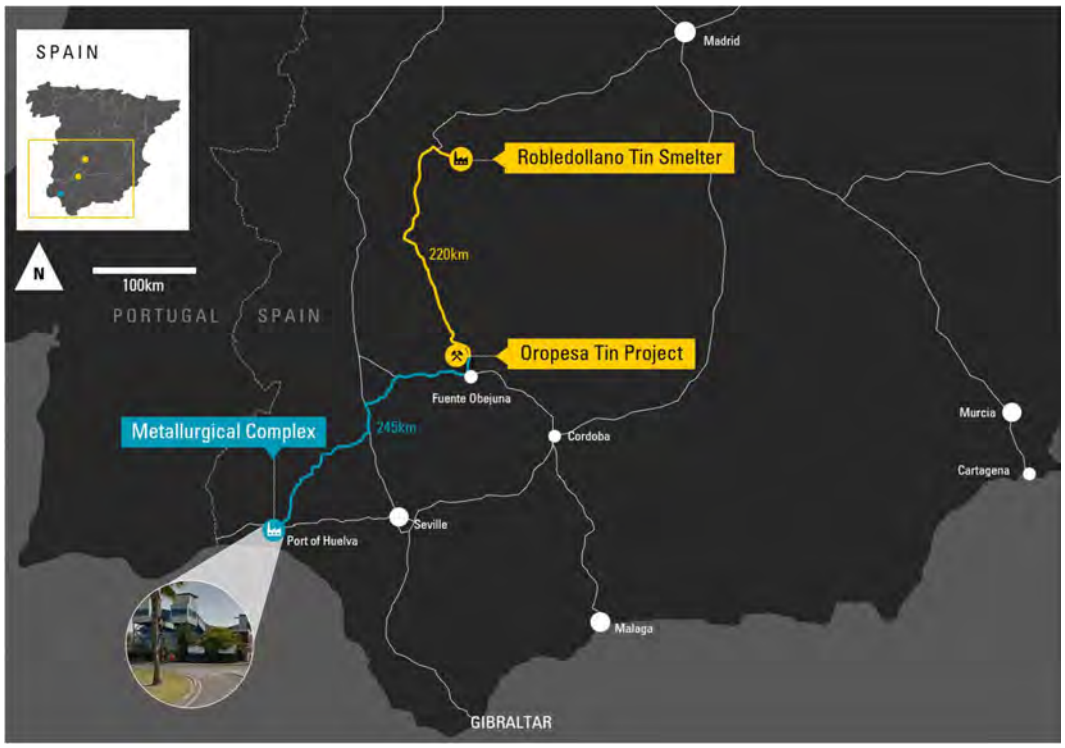

Figure 4-1 – The Oropesa Project is located: ~220km from the Robledallano Tin Smelter in Extremadura and ~245km from Atlantic Copper’s Metallurgical Complex in the Port of Huelva

Elementos is focussed on maintaining a corporate 'ELT team', whilst developing its two geographically separate tin projects. These projects are managed via two dedicated project company teams. These project teams are currently setup to operate as an Integrated Owners Teams (IOT) and made up of a small group of employees,

For personal use only

supported by both the ELT corporate team and a specialist set of consultants and contractors during the study phase. The project strategy is for these project teams to be built-up at critical development milestones into fully operating stand-alone employee led companies during the delivery (construction) phase of the project and by the time the project enters operations - be fully stand-alone subsidiary entities. Elementos, as major shareholder, will support the entities during the transition to full operating subsidiary, by providing key skills, management and director oversight as required.

As per the Elementos Strategy, the MESPA company is currently developing the Oropesa Tin Project via the use of an Integrated Owners Teams (IOT). The IOT is made up of a small group of onsite employees, ELT corporate team members, supported by specialist consultants and contractors during the study and approvals phases. The team build-up, detailed further in the DFS Report, involves MESPA being resourced into a stand-alone operating company during the delivery (construction) phase of the project and be slowly resourced into a fully stand-alone entity by the time it enters tin mining operations. MEPSA will be governed by its board, of which the plan is to have a majority of the board members in place from its major shareholder Elementos.

The clear goal of MESPA is to safely and responsibly develop and operate the Oropesa Tin project for at least 12 years and then responsibly rehabilitate the land so it can continue to be used for other productive purposes, with responsible minimisation to long-term impacts to the environment. The strategy is to also continue to explore within the Oropesa tenement, and other adjacent tenements that the company has rights over (and regionally) to further expand the Tin resource base and extend the life of operations, if possible. It should also be noted that the stated Ore Reserves have the possibility of being increased on the basis that tin prices exceed US$30,000/t.

The company takes a high degree of pride in supporting the local community and will look to further establish programs to employ and support local workers, local businesses and their families. The company is also driven by a strong goal of developing and operating the assets responsibly and minimise, where possible, impacts to the local communities and the environment.

Elementos is developing these assets on the basis that it will remain the major shareholder of the assets with majority control of the subsidiary boards. Elementos will however, as part of the project funding assessment, consider the sell-down of subsidiary/project-level equity to fund the development of its tin mines and vertical Integration strategy - but the goal remains to be the majority (or sole) owner during the cashflow generating years of the project.

Elementos is focussed on maximizing financial returns to its shareholders, whilst operating in a safe, ethical, and responsible manner. The form of this return may either be through dividends, capital appreciation, asset sell-down or company sale or merger. Elementos is ensuring that the way it is developing its assets will allow for any or all of these to be achieved.

For personal use only

5 MARKET ANALYSIS (SALES AND MARKETING)

5.1 Current Tin Market Drivers

In 2023, the solder sector represented 51% of global refined tin use. Lead-free solders contain around 96% tin, while leaded solders contain around 60%. The usage of lead-free solders continues to increase compared to leaded due to regulation in the industry. As of 2021, around 86% of electronics solders were lead-free. This increased demand is currently partially mitigated due to less total tin needing to be used in solders, due to technological advancements and the miniaturisation of electronics.

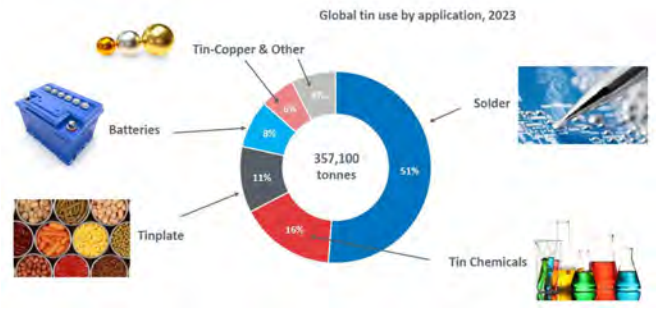

Figure 5-1 – Tin Use by Application 2023 (ITA Investing in Tin Seminar, 2024)

5.1.1 Market Overview

In 2024, the tin market experienced strong demand recovery, with an estimated 3.0% increase in tin usage, primarily driven by China and supported by technological advancements. This recovery is expected to continue into 2025, although emerging macroeconomic challenges could pose risks. Additionally, a potential recovery in supply from Indonesia and the possible, though uncertain, resumption of mining in Wa State in Myanmar could impact tin supply in 2025.

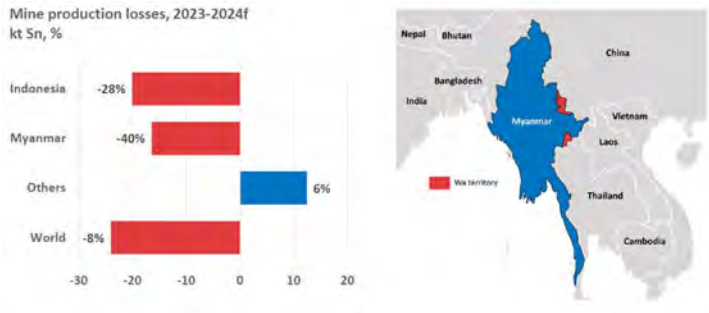

Figure 5-2 – Mine Production Losses in 2023-2024 (ITA, Investing in Tin Conference, 2024)

5.1.2 Tin Supply

5.1.2.1 Refined Tin Production

The International Tin Association has reported that in 2024, global refined tin production reached 371,200 tonnes, marking a 2.7% decline from the previous year. Notably, 63% of this production came from ten leading smelters, whose combined output increased by 14,300 tonnes (7% year-on-year).

For personal use only

For personal use only

The top three producers remained consistent, with Yunnan Tin (China) holding its position as the world's largest producer at 85,000 tonnes. Minsur (Peru) retained second place, experiencing significant growth of 14.3% to 36,300 tonnes. Yunnan Chengfeng (China) maintained third place with stable production levels compared to the previous year.

PT Timah (Indonesia) and Malaysia Smelting Corporation (MSC) switched positions again in 2024, with PT Timah's production recovering to 2022 levels, while MSC experienced the largest year-on-year decline among the top producers.

PT Timah's recovery occurred despite a challenging year for the Indonesian tin industry, where national refined tin production fell by 30.7%. This decline was exacerbated by an investigation into historical irregularities in the tin trade, leading to licensing and export delays.

EM Vinto (Bolivia) overcame significant challenges from 2023, increasing its production by 26.3% to a record 12,700 tonnes of refined tin.

Chinese producer Guangxi Huaxi (formerly Guangxi China Tin) exhibited the strongest growth within the cohort at 34.1%, while Jiangxi New Nanshan saw modest growth, with both companies retaining their positions from 2023.

Mainland China's total production grew by 4.6%, reaching 194,000 tonnes in 2024, despite the ongoing mining suspension in Wa State, Myanmar — a major concentrate source for Chinese smelters. This growth was driven by a 14.9% increase in secondary refined tin production and significant drawdowns of raw material stockpiles.

Global secondary supply rose by 6.8% in 2024 to a record high, following a 2.9% increase the previous year. However, secondary supply outside China declined by 3.4%. Production at tin recycler Aurubis Beerse (Belgium) fell by 16.9%, causing the company to switch places with Thaisarco (Thailand).

Table 5.1 – 2024 Top 10 Refined Tin Producers (ITA Website 13 March 2025, Global Tin Falls in 2024 on Supply Disruptions) (Refined Tin Production, Tonnes)

Company	2023	2024	YOY
1 Yunnan Tin[1] (China)	80,100	85,000	6.2%
2 Minsur [1] (Peru)	31,700	36,300	14.3%
3 Yunnan Chengfeng (China)	21,800	21,800	-0.1%
4 PT Timah (Indonesia)	15,300	18,900	23.3%
5 Malaysia Smelting Corp (Malaysia)	20,700	16,300	-21.4%
6 Guangxi Hauxi[2] (China)	12,000	16,100	34.1%
7 EM Vinto (Bolivia)	10,000	12,700	26.3%
8 Jiangxi New Nanshan (China)	9,500	9,700	2.1%
9 Thiasarco (Thailand)	9,200	9,500	3.2%
10 Aurubis Beerse (Belgium)	9,300	7,700	-16.9%

DATA: ITA. 1 – Including production subsidiaries; 2 – Formerly Guangxi China Tin.

For personal use only

5.1.2.2 Concentrate Supply

At the date of this report, early 2025, China's feedstock market (ore & concentrate) remains constrained due to the ongoing mining ban in Wa State, Myanmar. In November, imports from Myanmar remained low at 900 tons of contained tin. However, imports from other countries, including the DRC, Australia, and Nigeria, remained high, exceeding 900 tons for October-November, marking a 41% year-on-year increase, though a significant decline was experienced in December. Additionally, a decrease in China's domestic production is projected as smelters continue to face limited raw material availability. Treatment charges have dropped below the cost threshold for some smelters, leading to curtailed production before the end of the year.

The situation in Wa State and the unfolding events in the North Kivu region of the DRC are also contributing to concerns about tin supply. In Wa State, despite reports in early March 2025 suggesting that local authorities were preparing for a potential resumption of mining activities, no further progress has been made. Although large shipments from Myanmar to China have continued in recent months, supported by Wa State government stock sales totalling around 3,000 tonnes of concentrates, the volume of future shipments of tin concentrates are expected to fall.

In the DRC, escalating conflict between government forces and M23 rebels in North Kivu is jeopardizing key tin supply routes. North Kivu, a crucial region for the global supply of tin, tantalum, and tungsten (the 3Ts), is home to Alphamin Resources' Bisie mine, which accounted for 6% of global tin mine production in 2024 (17,300t tin-in-concentrate). The M23 non-state armed group has continued to expand its territory in North Kivu, leading to the closure of the customs crossing between the DRC and Uganda at Bunagana, a vital trade route to the Kenyan port of Mombasa. Unfortunately, on March 13th, 2025, Alphamin updated the Toronto Stock Exchange in a release titled 'Alphamin Temporarily Ceases Mining Operations', quoting the closure was due to 'insurgent militant groups have recently advanced westward in the direction of the mine's location in the DRC'. This recent update has created an even tighter tin market, and the tin price responded with +8-9% movements on the LME and SHFE exchanges.

5.1.3 Production Trends

China's refined tin production in January 2025 decreased by 4.62% month-on-month but achieved a slight year-on-year increase of 0.65%. The tightening supply of tin ore and scrap contributed to the downward trend in domestic tin ingot production in January. In Yunnan, the persistently low volume of tin ore imports from Myanmar, combined with declines in imports from other countries, posed severe challenges to raw material supply for local smelters. Most smelters opted to maintain current production levels or slightly reduce output. If Myanmar's tin mining suspension policy remains unchanged, smelter production in Yunnan is expected to continue declining. Additionally, the ongoing decline in tin concentrate treatment charges, which have fallen below the cost line for some smelters, has forced a few enterprises to halt production for maintenance, impacting future tin ingot output. In Jiangxi, smelter production has also generally declined in 2025.

There are no producing tin mines within the European Union, and currently smelting and refining within the EU is only conducted on secondary tin products.

5.2 Tin Market Prices

5.2.1 Recent Tin Prices

In 2024, tin outshone all base metals, achieving a ~14% gain. This performance was largely due to supply disruptions in Myanmar and Indonesia. Prices surged in the first half, peaking above $35,000 per ton in April and July. However, the latter half of the year saw some increased volatility and a slight decline in prices as macroeconomic uncertainties began to dominate base metal price trends, and speculative support for tin started to diminish.

For personal use only

Over the last-15 months tin has maintained a strong (and relatively stable) average pricing level of ~US30k/t on both the LME and SHFE Exchanges.

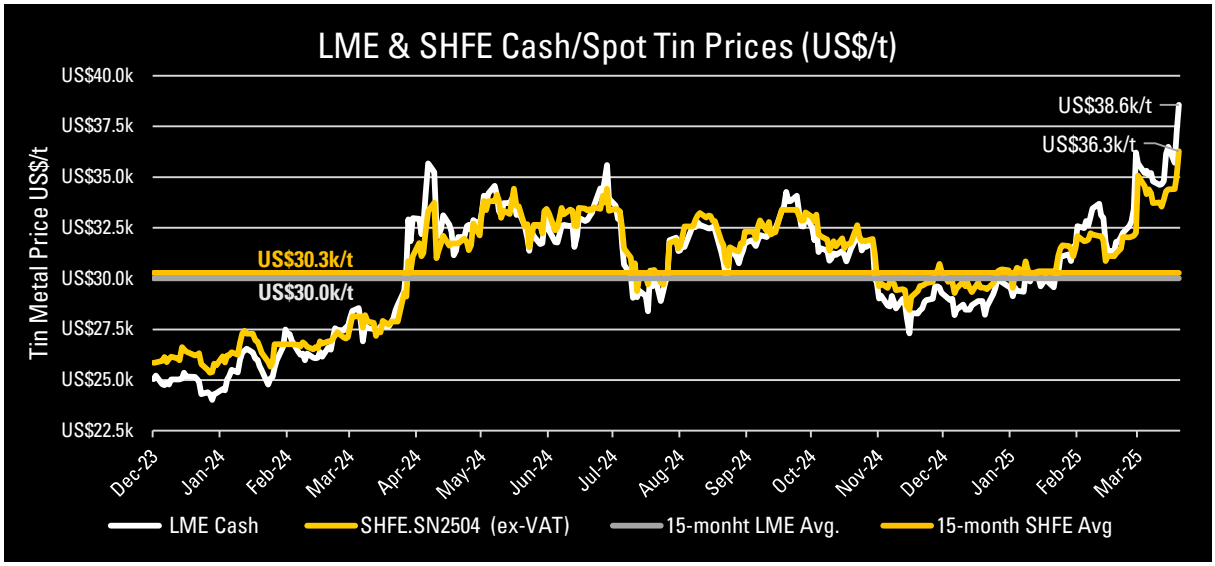

Figure 5-3 – London Metal Exchange (LME) and Shanghai Futures Exchange (SHFE) Tin prices over preceding 15-months

5.2.2 Recent Tin Inventory Movements

Supporting recent positive tin price movements is the reduction in visible global inventory levels. Both the LME and SHFE have had material drawdown over the past 12 to 15 months. The SHFE deliverable metal inventory has dropped -60% since May-2024 and the LME's tin stockpile has dropped –56% since December 2023.

These inventory reductions are the result of a market that was short metal in 2024 and supply remains highly constrained in the early stages of 2025.

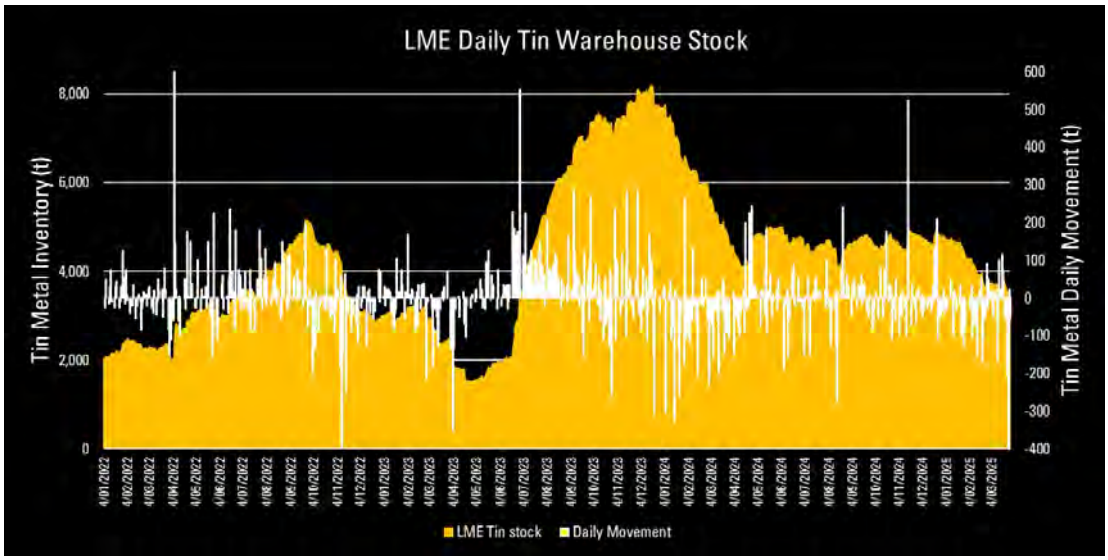

Figure 5-4 – London Metal Exchange (LME) Tin Warehouse Inventory Levels

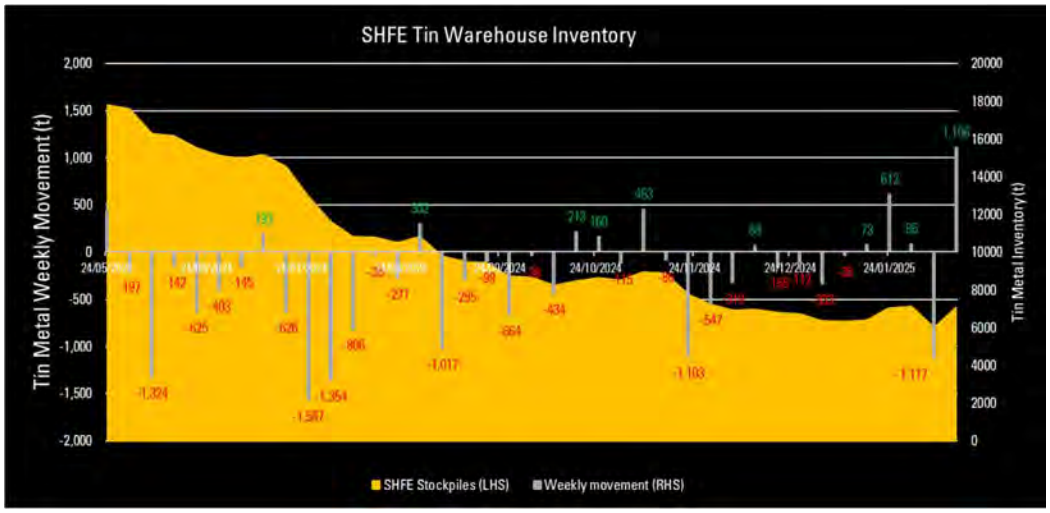

Figure 5-5 – Shanghai Futures Exchange (SHFE) Tin Warehouse Inventory Levels

5.2.3 Medium and Long-Term Tin Market Dynamics

The tin market is facing significant supply challenges amid growing demand driven by the global energy transition. Tin is a critical component in solders for electronics, coatings for solar panels, and other renewable energy applications. The International Tin Association projects a potential supply deficit of ~35,000 to 40,000 tonnes by 2030 if new mining projects are not developed or delivered. This deficit is underpinned by a conservative demand growth forecast of 2.6% annually through to 2030.

Key producing countries like Indonesia are looking to capture more downstream value by threatening to restrict export of metal ingots to promoting domestic processing. This proposed policy shift poses supply risks similar to Indonesia's nickel ore export ban in 2020. Additionally, ongoing conflicts in the DRC and the mining ban in Myanmar's Wa State add further uncertainty to the tin supply chain.

Increasing environmental protection regulation costs and declining resource grades are putting pressure on domestic smelters in China. The market is also influenced by macroeconomic factors such as US tariff policies and fluctuations in the US dollar index, which can affect risk appetite and price trends.

Figure 5-6 below shows the forecast tin metal deficits building to 2030 with the tin market relying on current producers only, not including new mines proposed by the ITA to be coming online. Figure 5-7 represents the International Tin Association's view on which new mines may potentially come online to reduce the deficit into 2030.

For personal use only

For personal use only

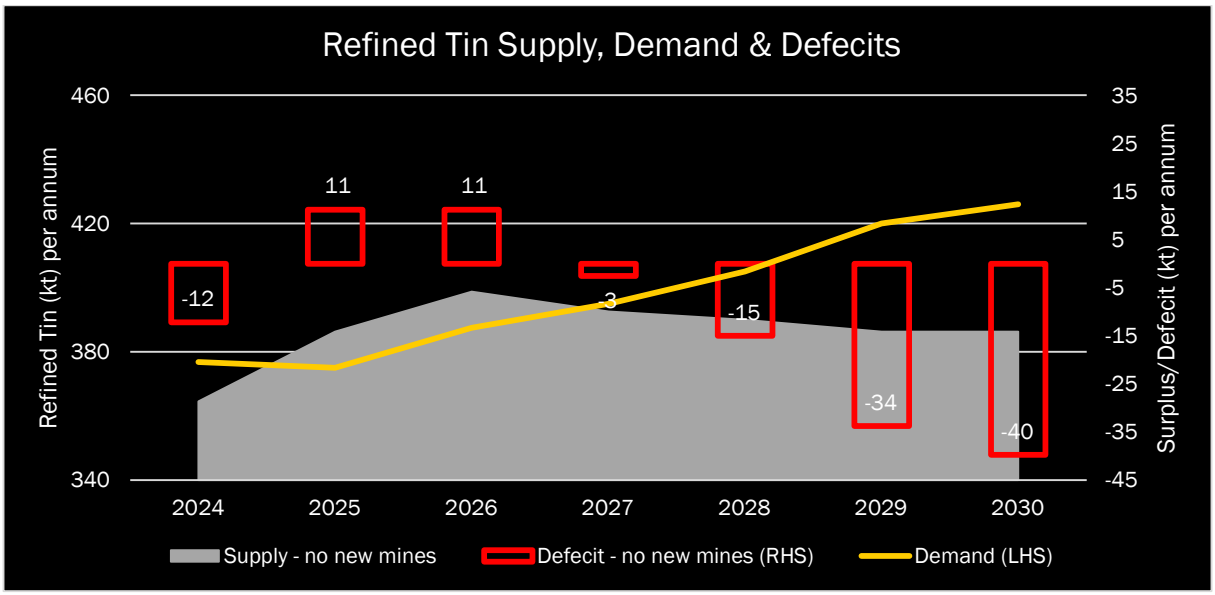

Figure 5-6 – Tin Deficits continue to build to 40,000t, excluding new mines (ELT integration of ITA data, 2024 Investing in Tin Conference)

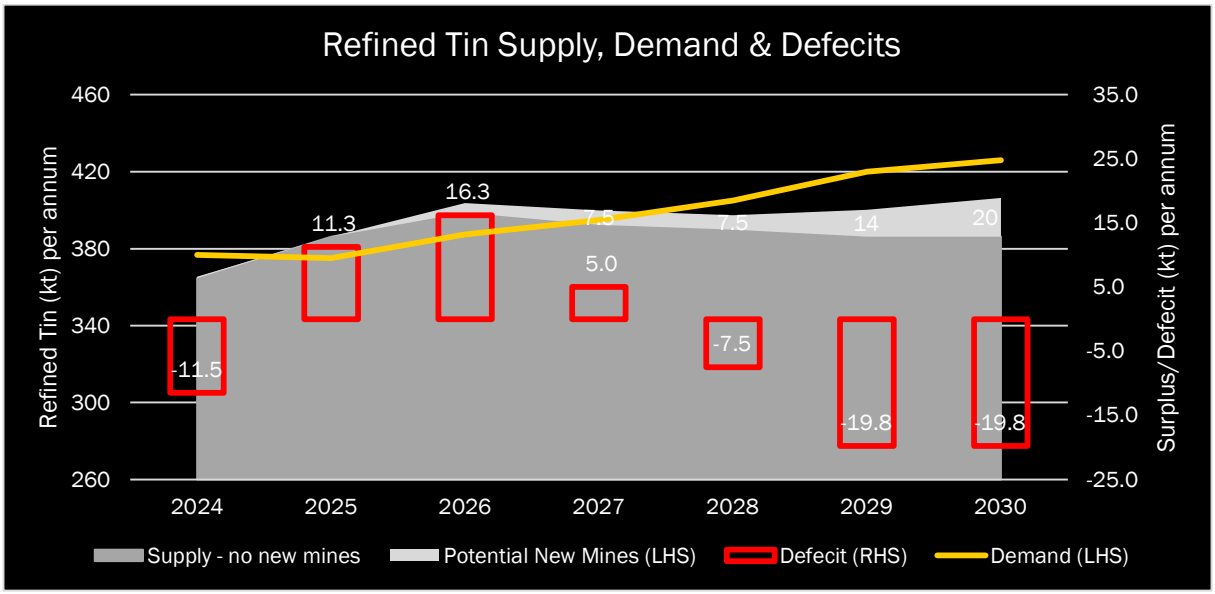

Figure 5-7 – Tin Deficits continue to build to 40,000t, including assumed new mines (ELT integration of ITA data, 2024 Investing in Tin Conference)

5.2.4 Reference Tin Price Forecasts

Tin prices have been historically volatile but on average increasing over the past five-ten year, with recent price growth driven by supply disruptions and favourable macroeconomic conditions, despite weak-ish demand. As of early 2025, tin futures are trading around $32,000-33,500/t per tonne. The market is expected to maintain short-term volatility in 2025, whilst supply and demand forces play out, but the long-term outlook remains incredibly bullish due to rising demand and constant supply risks, and no substitutes identified for most uses of tin.

According to Consensus Pricing Forecasts (LME Pricing, USD per tonne, Real 2025), tin prices are expected to continue rising strongly over the next five years.

Table 5.2 – Reference Tin Price Forecasts (Redacted Sources for public distribution) Tin price consensus forecasts, USD per tonne. Real (2025)

Group	Report Date	Dec-24	Dec-25	Dec-26	Dec-27	Dec-28	Dec-29	Dec-30	LT
Commodity Forecaster A (2025)	29-Jan-25		$ 32,000	$ 33,000	$ 34,000	$ 36,000	$ 39,000	$ 39,000	$ 39,000
Industry Group (2024)	1-Jan-25	$ 25,000	$ 28,000	$ 33,000	$ 36,000	$ 36,500	$ 40,000	$ 42,500	$ 42,500
Investment Bank A (2024)	20-Jun-24	$ 26,000	$ 30,000	$ 34,500	$ 36,500	$ 38,000	$ 38,000	$ 38,000	$ 38,000
Global Trader A (2024)	1-Nov-24		$ 32,072	$ 32,072	$ 32,072	$ 32,072	$ 32,072	$ 32,072	$ 32,072
Commodity Forecaster B (2025)	5-Feb-25		$ 32,500	$ 32,500	$ 32,500	$ 32,500	$ 32,500	$ 32,500	$ 32,500
Investment Bank B (2024)	19-Feb-25		$ 30,999	$ 37,000	$ 37,000	$ 36,283	$ 35,567	$ 35,567	$ 35,567
Investment Bank C (2024)	11-Feb-25		$ 31,125	$ 32,000	$ 33,000	$ 34,000	$ 35,000	$ 35,000	$ 35,000
Investment Bank D (2024)	28-Feb-25	$ 29,000	$ 28,500	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000
World Bank (Oct-2024)	1-Oct-24	$ 30,000	$ 32,000	$ 34,000	$ 34,000	$ 34,000	$ 34,000	$ 34,000	$ 34,000
Average Consensus Pricing		**$ 27,500**	**$ 30,800**	**$ 33,119**	**$ 33,897**	**$ 34,373**	**$ 35,127**	**$ 35,404**	**$ 35,404**

For personal use only

5.2.5 European Tin Premiums

A major benefit of having a European based mine, with a European based smelting solution, is the project will sell its tin metal to European based downstream buyers, which rely heavily on international imports, and hence the European Tin Premium. The European Premium, shown in Figure 5-8 which has averaged $972/mt since January 2022 and currently trades at US$950-1,100/mt above the LME spot price. The project and financial model assume a premium, on-top of the LME reference price, of US$950/mt applied to all metal sales.

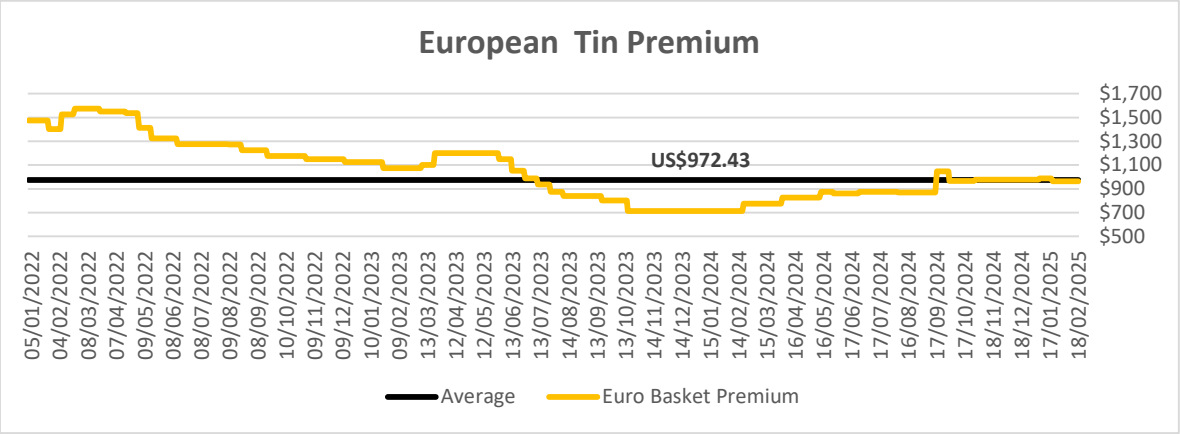

Figure 5-8 – European Tin Premium last ~3years, with average price

For personal use only

6 PERMITS, APPROVALS & REGULATORY FRAMEWORK

6.1 Introduction

The Oropesa Project has an advanced understanding of the regulatory framework of having a new mine permitted, constructed and operating in the Cordoba Province of the Andalucía autonomous region, Spain. The company has an experienced local management team, advised by the premiere and specialised mining legal firm in Spain. The project has previously undergone extensive administrative reviews and now holds a very clear way-forward path to achieving permits and authorizations for its mine.

6.2 Background of 2024 Layout Modifications

In June 2023, whilst assessing the company's previous permit submissions the Environmental Department (Territorial Delegation of Environment of Córdoba) notified the company that they considered elements of the proposed mining project and treatment plant (Project) to be not fully compatible with certain environmental regulations in the form submitted. Following this notification the company entered a highly iterative, regular but elongated review period with the Administration. In May 2024 the company secured the Administration support for a modified project layout which resolves their previously documented concerns and further improves community and environmental outcomes. Following this resolution the company re-commenced it's DFS and prepared it's permit resubmissions to align with modification layouts.

The key modifications to the project's layout to minimise impacts are summarised below:

1. **External Waste Dumps:** The main external waste dumps have been relocated from the northern edge of the open-pit to a series of smaller dumps around the southern and western edges of the open-pit. These areas have a significantly lower density of flora and will minimise impact on trees and associated wildlife. See Figure 6-1.
2. **Tailings Dam:** The tailings dam has moved from the eastern edge of the pit into the north-western corner of the tenure, bordered by natural topography and again has a reduced impact on trees. This new dam location requires significantly less borrow material in the engineered walls. See Figure 6-1.
3. **Access Road:** a 375 m long section of the 5km access road has been re-designed and relocated approximately ~20m north to avoid overlap with a stock cattle route. See Figure 6-3.

With the external waste dumps being modified to the southern edges of the open-pit, the movement of trucks dictates further modifications to key project infrastructure to maintain efficient operations, the following changes have been proposed:

1. **Process & Non-Process Infrastructure Locations:** The crushing, sorting, mineral process plant (and supporting facilities) have been moved to a cleared cropping area on the southern side of the pit. See Figure 6-2.
2. **Pit-Shell Modification:** The master haulage ramp for ore and waste will be re-designed from the northern edge of the pit to the southern edge.
3. **Open-Pit Rehabilitation:** The open-pit will now only be partially back-filled to ensure stabilisation of the final benches, the free movement of animals and birds around the pit with a focus on the convenient access to a proposed water reservoir at the bottom of the open pit. This provides an economic benefit to the project by reducing end-of-mine-life rehabilitation costs.

For personal use only

For personal use only

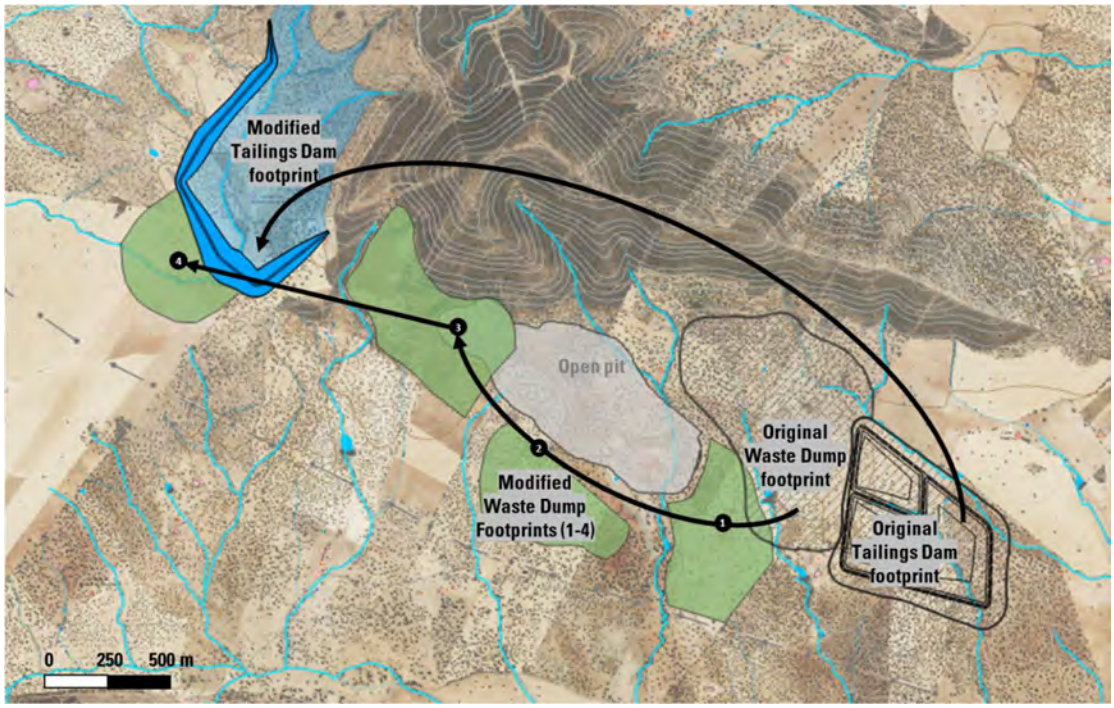

Figure 6-1 – External Waste Dump & Tailings Dam Modifications

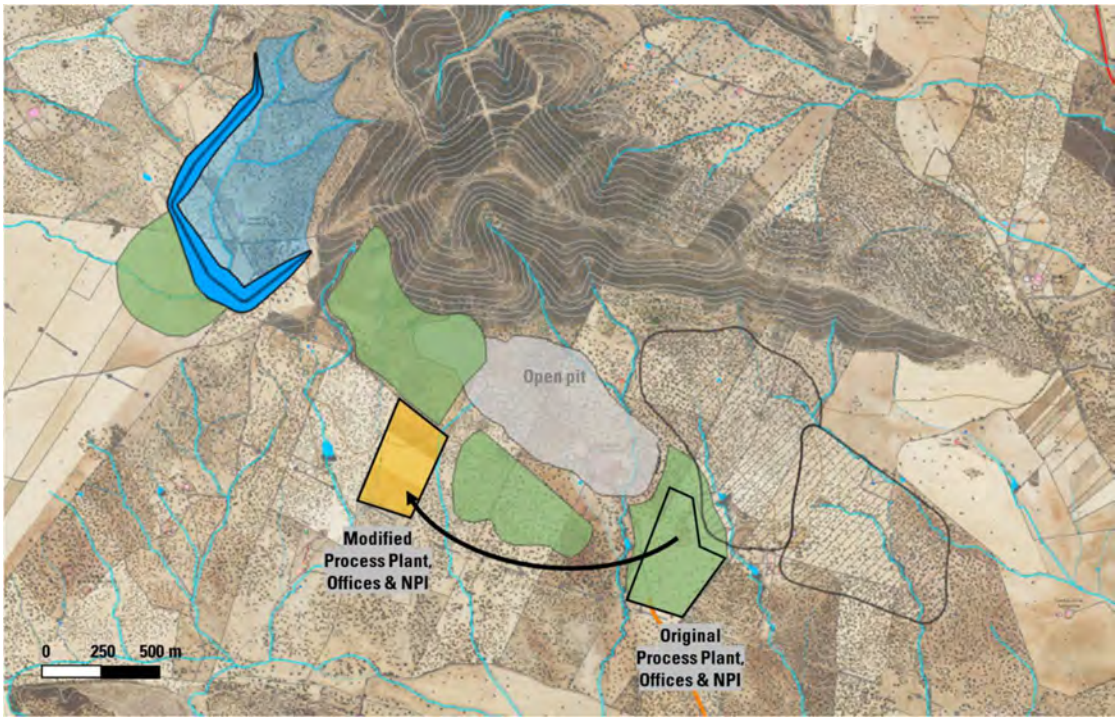

Figure 6-2 – Crushing, Sorting, Mineral Processing Plant & NPI Modifications

For personal use only

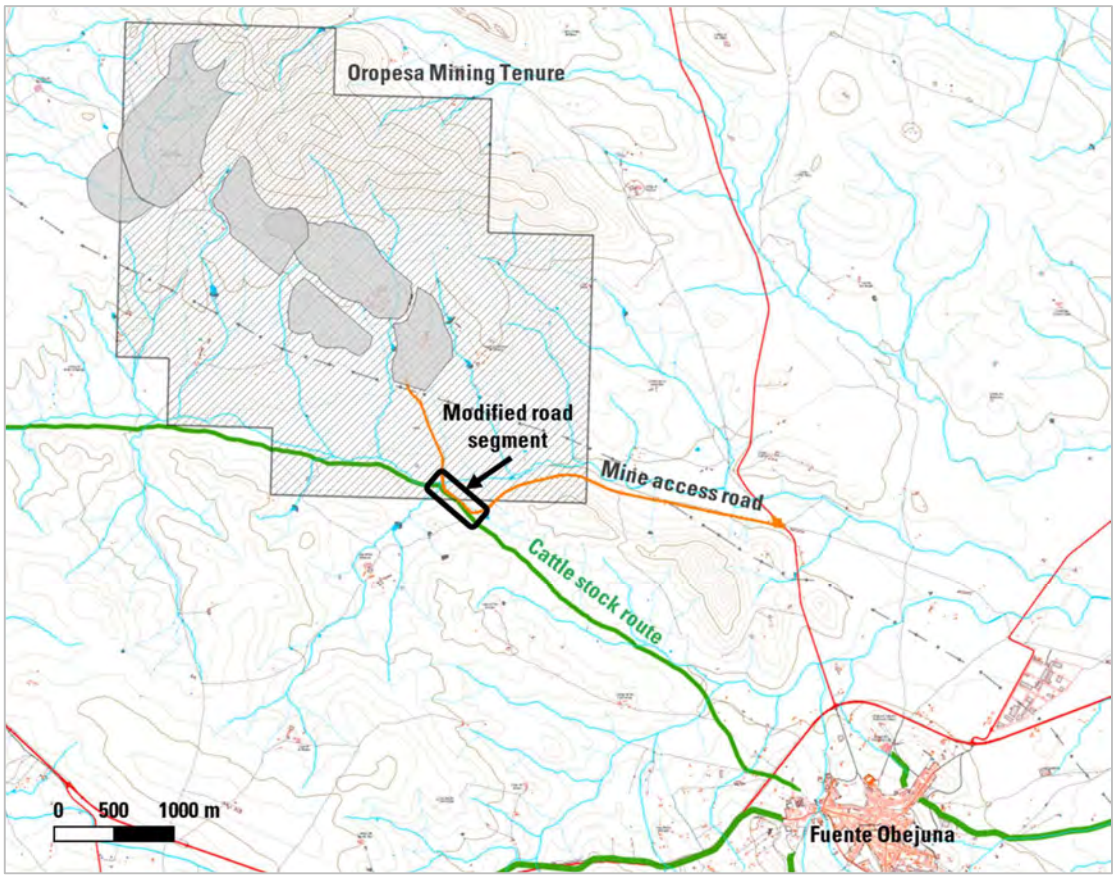

Figure 6-3 – Access Road Modification to Avoid Cattle Stock Route

6.3 Primary Licence Documentation Submission

The new application has been prepared in accordance with the understanding reached with the Territorial Delegation of Environment of Córdoba, incorporating modifications to the location of waste management facilities. Specifically, the tailings dam has been relocated from the Guadalquivir River basin to the Guadiana River Basin due to concerns about the potential contamination of the Sierra Boyera reservoir. Additionally, waste rock dumps have been repositioned in areas with lower tree density and non-critical habitats for birds and other species. These changes increased the distance between the waste facilities and the mining site, which means that the company also agreed with the Administration that full backfilling of the pit after mining operations will not be carried out, and rather the pit will just be rehabilitated to allow safe egress of animals and birds.

Following the renewal of the Investigation Permit, the Oropesa Project has submitted the specific documentation set required to obtain the Unified Environmental Authorization (AAU) and the mining Exploitation Concession. The requirements for each process are governed by the applicable regulations:

1. The **Unified Environmental Authorization (AAU)** is regulated by the Junta de Andalucía (Regulations and process).
2. The **application for the mining exploitation concession** is governed by Section 3 of the General Mining Law (BOE-A-1973-1018) and Article 88 of the General Mining Regulations (BOE-A-1978-29905).
3. The **Restoration Plan** is governed by Article 3 of the Royal Decree 975/2009, of June 12, on the management of waste from extractive industries and the protection and rehabilitation of areas affected by mining activities (BOE-A-2009-9841).

For personal use only

6.4 Unified Environmental Authorization (AAU) Application

In accordance with the regulations established by the Junta de Andalucía, the application for the AAU includes the following documentation set:

1. **Environmental Impact Assessment (EIA)**: A comprehensive study evaluating the potential environmental effects of the proposed mining activities and the measures to prevent, reduce, or offset adverse impacts.
2. **Project Description Document**: Detailed information about the project's characteristics, including location, design, size, and other relevant technical aspects.
3. **Non-Technical Summary**: A clear and concise summary of the project and its environmental implications, intended for the general public's understanding.
4. **Plans and Maps**: Visual representations outlining the project's geographical context, site layout, and any other pertinent spatial information.
5. **Specific Sectoral Authorizations**: Documentation of compliance with other applicable environmental regulations, such as waste management, water usage, and emissions.
6. **Public Participation Documentation**: Records of consultations and communications with stakeholders, including public notices and responses to public comments.

The Environmental Impact Assessment (EIA) and associated studies have been developed by the global environmental consultancy ERM, utilising experts from their Madrid offices. This document includes:

1. EIA Summary Report.
2. Urban Compatibility Document.
3. Thematic Maps.
4. Assessment of Impacts on Red Natura 2000 (EU protected Areas).
5. Studies on Habitats, Flora, and Vegetation.
6. Avifauna (Bird) Study.
7. Chiropteran (Bat) Study.
8. Invertebrate Study.
9. Characterization of Atmospheric Emissions.
10. Acoustic Study (prepared by INERCO).
11. Hydrological and Hydrogeological Study (prepared by AYTERRA).
12. Water and Soil Quality Study.
13. Cultural Heritage Report.
14. Restoration Plan (prepared by the University of Córdoba).
15. Basic Projects for Waste Management Facilities (prepared by GEM).

For personal use only

6.5 Mining Exploitation Concession Application

As established by Article 88 of the General Mining Regulations (Real Decreto 2857/1978), the application for a mining exploitation concession derived from an Investigation permit includes:

1. **Proof of Sufficient Investigation**: Reports demonstrating the presence of exploitable mineral resources in the designated area.
2. **Technical and Economic Feasibility Study**: A detailed analysis proving the project's technical viability and economic profitability.
3. **Mining Plan**: A structured plan outlining the extraction methods, production schedules, and resource management strategy.
4. **Restoration and Environmental Management Plan**: A plan for rehabilitating the affected land and implementing measures to minimize environmental impact.
5. **Financial Guarantees**: Documents ensuring that financial resources are available for environmental restoration and other regulatory obligations.

The documentation submitted for the mining exploitation concession application includes:

1. Exploitation Report (Mine Planning by OPTIMAL MINING).
2. Thematic Maps.
3. Health and Safety Documentation.
4. Geological Study (Mineral Resource Estimate prepared by MEASURED).
5. Geotechnical Study (prepared by TERRATEC).
6. Exploitation Method Justification (prepared Universidad de Córdoba).
7. Blasting Project.
8. Hydrological and Hydrogeological Studies (prepared by AYTERRA).
9. Mineral Treatment Plant Project.
10. Water Treatment Plant Project.
11. Tailings Dam Project (prepared by GEM).
12. Water Dams Project (prepared by GEM).
13. Waste Dumps Project (prepared by GEM).
14. Economic Model and Financial Guarantees.
15. Rehabilitation Plan (prepared Universidad de Córdoba).
16. Waste Management Plan.

The projects for waste management facilities (Tailings Dam, Rock Waste Dumps & Water Dams) have been prepared in accordance with the Royal Decree 975/2009 on waste management and mining site rehabilitation (BOE-A-2009-9841).

For personal use only

6.6 Restoration Plan Document

The Restoration Plan is a key component of any mining project, particularly for ensuring the proper rehabilitation of areas affected by extractive activities. According to the structure defined in Royal Decree 975/2009, which regulates the management of waste from extractive industries and the protection and rehabilitation of the environment affected by mining activities, the Restoration Plan consists of five main parts.

Part I: Detailed Description of the Site Affected by the Mining Project:

1.1. Detailed Information on the Location, Size, and Characteristics of the Deposit.

1.2. Description of the Exploitation Techniques and Methods to be Used.

Part II: Planned Measures for the Restoration of the Affected Natural Environment:

2.1. Planning of the Restoration Sequence and Phases.

2.2. Restoration Techniques to be Applied.

2.3. Schedule and Execution Timeline.

Part III: Measures for the Rehabilitation of Facilities and Associated Services:

3.1 Dismantling and Rehabilitation of Processing Plants.

3.2 Dismantling and Rehabilitation of Auxiliary Facilities.

Part IV: Waste Management Plan:

4.1. Characterization of Mining Waste.

4.2. Classification of Mining Waste Facilities.

4.3. Description of Waste Generation and Post-Treatment.

4.4. Potential Environmental and Health Impacts.

4.5. Monitoring and Control Procedures.

4.6. Design and Management of Waste Facilities.

4.7. Preliminary Closure and Decommissioning Plan.

4.8. Study of the Affected Terrain Conditions.

Part V: Schedule and Estimated Cost of Rehabilitation Work:

5.1. Estimated Cost of Restoration Plan Implementation.

5.2. Financial Justification and Funding Sources.

6.7 Way Forward Permitting Process

Following the submission of the Primary Approvals Documents, the company is now engaged with the Administration (Mining Department, Environmental Department and the Project Accelerator Unit) on working through the regulated approvals process. The approvals flowchart in Figure 6-4 shows a high-level summary of the major milestones and approval gates required.

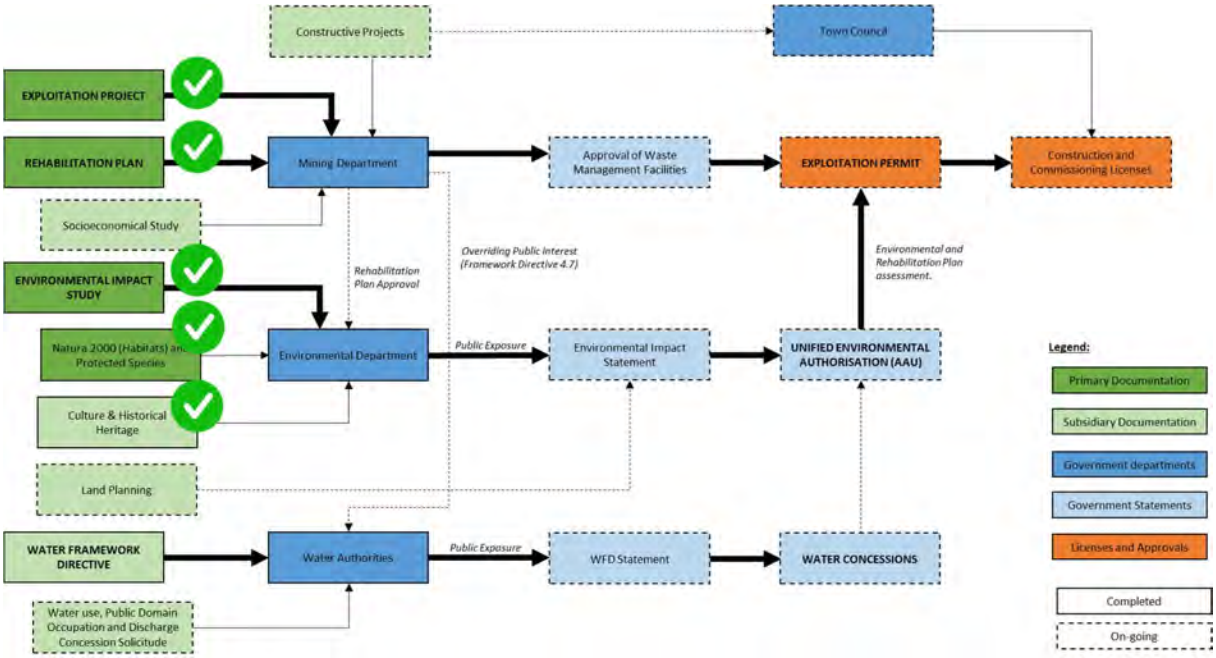

Figure 6-4 – Primary Approvals Summary Flowchart

6.8 Regulatory Framework

From a legal and regulatory standpoint, the Oropesa Project must comply with a broad regulatory framework covering key areas essential for its development, which have formed the basis of the company's submissions. The applicable regulations include mining, environmental, construction, and operational legislation, as well as provisions on safety and occupational risk prevention. This legal framework establishes the requirements for the exploration, exploitation, and management of the project, ensuring its technical, environmental, and administrative feasibility. Below is a detailed overview of the main laws, regulations, and technical instructions governing mining activities which have all been considered and attended to in the designing of the project and the completion of the project's permitting documents and DFS.

6.8.1 Mining Regulatory Framework

The present project is developed in accordance with the applicable regulations, in particular:

1. Mining Law 22/1973, of July 21.
2. Royal Decree 2857/1978, of August 25, approving the General Regulations for the Mining Regime.
3. General Regulations on Basic Mine Safety Standards (Royal Decree 863/1985, of April 2).

Additionally, compliance is ensured with the provisions of:

1. Explosives Regulations (Royal Decree 130/2017).
2. Royal Decree 1389/1997, of September 5, establishing the minimum requirements for protecting the health and safety of workers in mining activities.
3. Royal Decree 975/2009, of June 12, on waste management in extractive industries and the protection and rehabilitation of areas affected by mining activities, as amended by Royal Decree 777/2012.

For personal use only

For personal use only

For the drafting of the Exploitation Plan, the following Complementary Technical Instructions (ITCs) of the General Regulations on Basic Mine Safety Standards have been considered:

Chapter II: General Provisions

1. ITC 02.0.01. Mining Directors.
2. ITC 02.0.02. Worker protection against dust and silicosis in extractive industries.
3. ITC 02.1.01. Safety and Health Document.
4. ITC 02.1.02. Preventive training for job performance.
5. ITC 02.2.01. Commissioning, maintenance, repair, and inspection of work equipment.

Chapter III: Rescue Measures

1. ITC 03.1.01. Rescue measures.
2. ITC 03.2.01. Rescue stations.

Chapter VII: Open-Pit Mining Operations

1. ITC 07.1.01. Personnel safety.
2. ITC 07.1.02. Exploitation plan.
3. ITC 07.1.03. Work development.
4. ITC 07.1.04. Environmental conditions: dust and noise control.

Chapter IX: Electricity

1. ITC 09.0.01. Terminology.
2. ITC 09.0.12. Electrical installations in open-pit mines. General requirements.

Chapter X: Explosives

1. ITC 10.2.01. Utilization.

Chapter XII: Certifications and Approvals

1. ITC 12.0.01. Conformity assessment of products for mining use.
2. ITC 12.0.02. Mandatory technical standards.

6.8.2 Occupational Health and Safety Regulations

The project complies with the provisions of Occupational Risk Prevention Law 31/1995, of November 8, which establishes the necessary guarantees and responsibilities for protecting workers' health from occupational hazards.

In accordance with Article 6, regulatory standards define and specify the technical aspects of preventive measures through minimum provisions that ensure workplace safety. Among them, the following Royal Decrees stand out:

1. Royal Decree 665/1997, of May 12, on the protection of workers against risks related to exposure to carcinogenic agents.
2. Royal Decree 486/1997, of April 14, establishing minimum health and safety provisions in workplaces.

Additionally, the project adheres to applicable legislation at the regional, national, and European levels.

6.8.3 Applicable Environmental Regulations

Chapter 2 of the submitted Environmental Impact Study (EIS) details the mining and environmental regulations applicable to the planned activities, including European Union, national, and regional regulations.

The reviewed environmental aspects include:

1. Environmental impact assessment.
2. Air emissions and air quality.
3. Climate change.
4. Noise and vibrations.
5. Light pollution.
6. Water management.
7. Protected natural areas and Natura 2000 Network.
8. Soil protection and waste management.
9. Handling of hazardous substances.
10. Heritage protection.

For personal use only

For personal use only

7 MINING AND ORE RESERVE

7.1 Introduction

Highly experienced and well regarded, Optimal Mining Solutions Pty Ltd were appointed to provide detailed mine planning services to support the DFS, including the preparation of a report on the Ore Reserves of the Oropesa Tin Project as part of the 2025 Oropesa Definitive Feasibility Study. The Maiden Ore Reserves Statement has been declared with the completion and announcement of this DFS and is aligned with the information contained within the DFS. The following contains a summary of the Mining project which has resulted in the declaration of Ore Reserves but should not be misinterpreted for the full statement, which is available as a separate standalone report.

The JORC Ore Reserve Estimate for the Oropesa Open Cut Tin Project was prepared in accordance with the guidelines of the JORC Code (2012), providing a detailed assessment of the project's economically mineable material. The estimate is based on a Definitive Feasibility Study level of maturity, incorporating geological modelling, resource classification, mine design and scheduling, metallurgical test work, environmental impact studies and financial evaluations.

Oropesa is a significant tin deposit with Reserves classified as Proved and Probable, demonstrating technical and economic viability for open-cut mining over a 12-year mine life. The estimation process considers modifying factors such as mining recovery, dilution, processing recoveries, and commodity pricing to ensure a high level of confidence in the reported Reserves. The Ore Reserves estimated tonnage of 15.9Mt is ~81% of the MRE (19.6Mt). No Inferred resources are included in the Ore Reserves.

Following the DFS assessments and the application of applicable modifying factors the following Ore Reserve has been declared and summarised in Table 7.1.

Table 7.1 – Oropesa Maiden Ore Reserve as of March 2025

Reserve Category[1]	Sn (%)[2]	Tonnes [3] (M tonnes)	Contained Sn Metal (tonnes)	Reserves Contribution (%)
Proved	0.34%	6.1	21,028	38%
Probable	0.37%	9.8	36,866	62%
Total	0.36%	15.9	57,894	100%

Table Notes:

1. *All figures are rounded to reflect appropriate levels of confidence, apparent differences in totals may occur due to rounding.*
2. *A cut -off grade of 0.15 % Sn has been applied.*
3. *Tonnages are expressed on a ROM basis, incorporating the effects of mining losses and dilution.*
4. *The reference point at which these ore reserves are defined is as the ore is delivered to the ROM Pad.*

The Ore Reserves are based on the Mineral Resource Estimate (MRE) prepared by Mr Chris Grove of Measured Group in compliance with the 2012 JORC Code reporting standards. The Mineral Resources are inclusive of the Ore Reserves.

The Mineral Resource Estimate used to assess the Ore Reserves is displayed below in Table 7.2:

Table 7.2 – Oropesa MRE as of February 2023

Resource Classification	Sn (%)	Tonnes (tonnes)	Contained Sn Metal (tonnes)
Measured	0.36	7,418,212	26,801
Indicated	0.41	11,113,471	45,012
Subtotal: Measured & Indicated	**0.39**	**18,531,683**	**71,813**
Inferred	0.38	1,070,700	4,021
Total	**0.39**	**19,602,383**	**75,834**

Table Notes:

1. *All figures are rounded to reflect appropriate levels of confidence.*
2. *Apparent differences in totals may occur due to rounding.*
3. *A cut -off grade of 0.15 % Sn has been applied.*

7.2 Mine Planning & Ore Reserves Estimate Process

The process adopted for completing the 2025 Oropesa Tin Project Ore Reserve Estimate is described below:

1. A geological model has been prepared by Measured Group, with a MRE updated and declared in January 2023.
2. A pit optimisation was undertaken as a guide to the economic mining limits.
3. Detailed practical pit, waste rock facilities and stockpile designs were completed taking into consideration geotechnical parameters, environmental constraints and infrastructure locations.
4. The design stage outputs were 3-dimensional insitu solids in Deswik mine planning software. The mine designs included pit wall batters, berm offsets, access ramps and subdivisions into mining stages, blocks and benches.
5. The insitu solids were interrogated against the geological model, including the modelled qualities for all ore solids.
6. Modifying factors were determined from technical studies and applied to the solids to calculate ROM and product values.
7. The quantities and qualities for each solid were imported into Spry mine scheduling software for scheduling.
8. Outputs of the mine schedule have been exported into a financial model for subsequent financial evaluation using cost and revenue assumptions to give an understanding of the economic viability of the project.
9. Mineral Resource geological confidence limits have been applied to ore solids with no Inferred Ore tonnes being included in the Reserve estimate.
10. Ore Reserves have been classified as Proved or Probable based upon Mineral Resource confidence categories, mine planning, financial analysis and any relevant modifying factors.

For personal use only

For personal use only

7.3 Oropesa Exploration Summary

Since the acquisition of Oropesa by ELT, the Company has completed a review of all the IGME, SPIB & MESPA data including re-interpretation and development of an exploration model for tin emplacement.

The Oropesa Project has conducted eight drilling programs to date. By 2023, a total of 320 holes totalling some 66,640 m have been completed at the Oropesa Project. Figure 7-1 shows the location of the drill holes in relation to the DFS pit shell.

Other exploration programmes that have also been carried out include geochemical and geophysical surveys, trenching, and test pitting programmes.

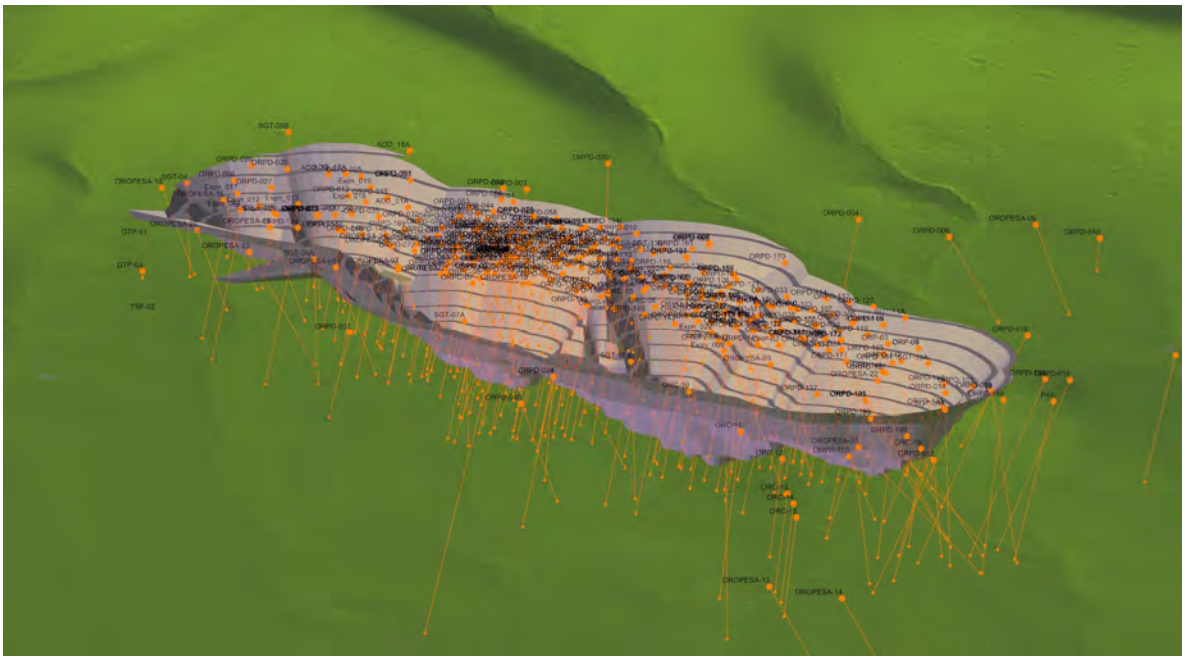

Figure 7-1 – Distribution of Drill Holes in Relation to the DFS Pit Shell

7.4 Mine Planning

7.4.1 Pit Optimisation

The pit optimisation utilises Deswik.Pseudoflow software to generate a series of nested pit shells using "Revenue Factors" based on financial and operational assumptions. The shells represent the incremental break-even (economic) limit at which point the total cost of production is the same as the revenue.

The chosen optimised pit shell is then used for guidance of the economic pit limits for the detailed pit designs which include benches, berms and access ramps. It also helps identify the preferred locations for key infrastructure to ensure future potential resource is not sterilised.

Table 7.3 – Pit Optimisation Input Cost Assumptions (USD)

Input	Units	Value
Topsoil Stripping and Management	$/bcm	$3.24
Waste Mining (incl D&B) < 1km Haul	$/Waste t	$1.60

For personal use only

Input	Units	Value
Ore Mining (incl D&B) < 1km Haul	$/Ore t	$1.83
Waste Additional Cost for Haulage > 1km	$/t/100m	$0.016
Ore Additional Cost for Haulage > 1km	$/t/100m	$0.018
Waste Depth Penalty	$/t/10m	$0.012
Ore Depth Penalty	$/t/10m	$0.013
Pit Dewatering	$/Total Mined t	$0.001
Grade Control Drilling	$/Ore t	$0.165
Crushing/Screening/Ore Sorting Cost	$/Feed t	$0.75
TOMRA Rejects Disposal	$/Rejects t	$0.99
Concentrator Costs	$/Feed t	$19.00
Pit, Dump & Infrastructure Rehabilitation	$/Total Mined t	$0.094
Process Plant Rehabilitation	$/Ore t	$0.03
General and Administration Costs	% of OPEX	7.5%
Freight	$/conc. t	$60
Smelting	$/conc. t	$650
Sustaining Capital	$/Total Mined t	$0.15
Contingency	% of Opex	5%

An initial revenue scenario was run based on a benchmark price of US$30,000/tin tonne. The following reductions in the revenue price were applied to the product concentrate at Oropesa:

1. Concentrate impurities - US$250/tin tonne.
2. Tin Payable Percentage – 98%.

A revenue sensitivity assessment was undertaken to highlight the influence of the tin sales price on the ore tonnes, strip ratio and geometry of the resultant pit shells. Eleven pit shells were generated for tin sales prices between US$20,000/t and US$45,000/t in US$2,500/t increments.

7.5 Optimised Pit Shell Results

The output quantities of each incremental revenue shell from the Pseudoflow sensitivity assessment is presented in Figure 6-2. charts the ore tonnes and strip ratio for each shell. The largest increase in ore tonnes is going from the $20k shell to the $22.5k shell with the next largest increase between the $22.5k and$25k shell. The ore tonnes do not increase significantly between the $25k and $32.5k shells, there is a notable increase between the $32.5k and $40k shells and then from $40k on there is very little increases.

This highlights that a smaller operation would still generate reasonable cashflows at the lower tin sale prices as well as the opportunity for expansion if the sales price increased.

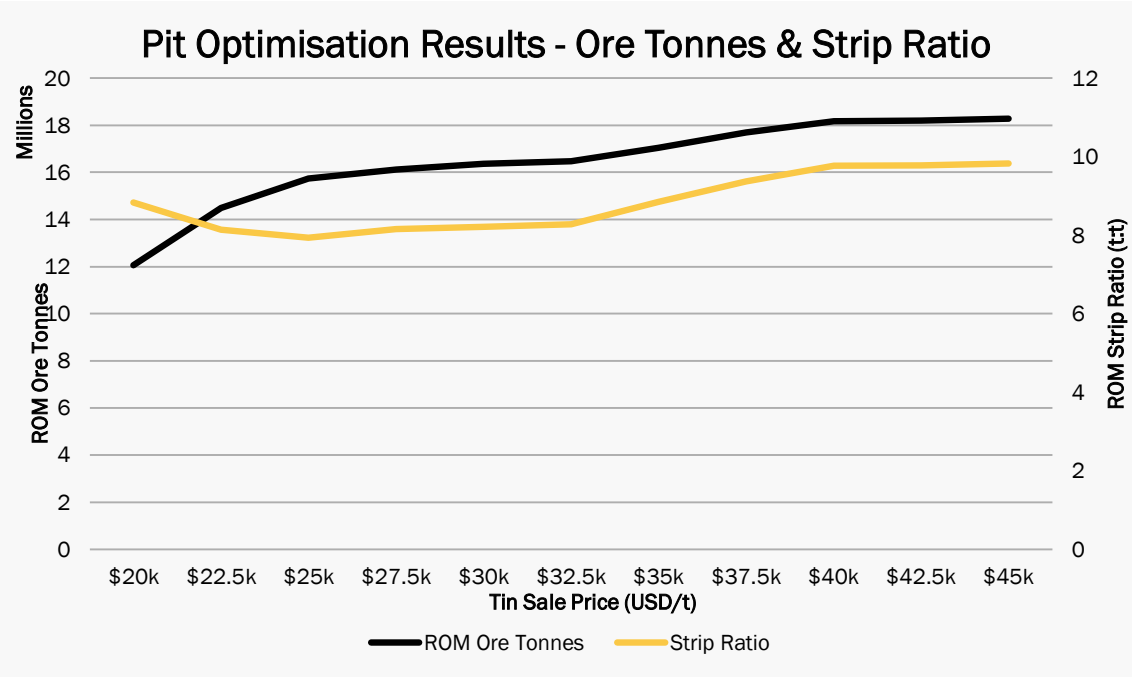

Figure 7-2 – Ore tonnes and Strip Ratio by Incremental Revenue Shell

Figure 7-3 provides a comparison of the $20k, $22.5k, $25k and $30k pit shells to the DFS pit shell cut into topography. These are four key examples of the shells that can be seen within the DFS pit with the remaining shells being mostly below the topography of the DFS pit.

The images highlight that as the sales price increases the north-eastern wall predominantly remains in the same location with the pit shells expanding to the south-west. There are some slight expansions at the ends of the pits (north-west and south-east) and well as increases in depth for the higher sales price pit shells.

For personal use only

For personal use only

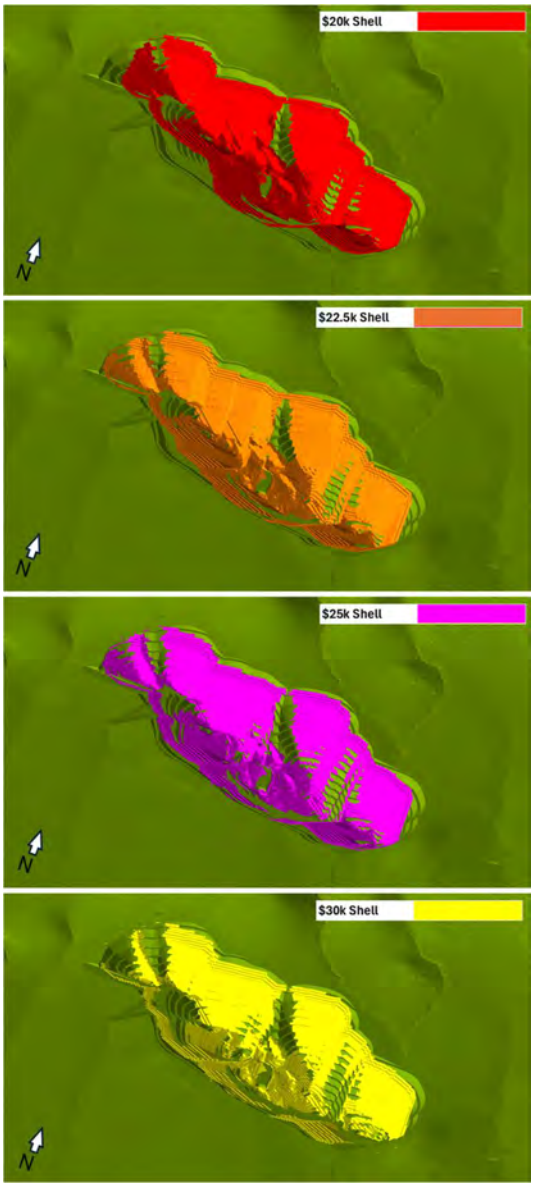

Figure 7-3 – Comparison of Key Pit Shells within DFS Pit Design

7.6 Mining Method

Previous mining studies have demonstrated that the most practical and economical mining method for the Oropesa Deposit is by open cut truck and shovel operations. The DFS has progressed with this method and the ore reserves generated for this report are also based on this approach.

The main mining processes at Oropesa are as follows:

1. Vegetation clearing and topsoil recovery.
2. Grade control drilling.
3. Drilling and blasting.

For personal use only

4. Waste excavation and haulage to either infrastructure fill requirements, out-of-pit or in-pit waste rock facilities (WRF).
5. Ore excavation and haulage to either ROM stockpile or direct crusher feed.
6. TOMRA rejects loading and haulage to WRF.
7. Progressive rehabilitation of out-of-pit WRF by dozer reshaping and topsoil spreading for vegetation establishment.
8. Post-mining rehandling of WRF back into the pit void where required.
9. Post-mining rehandling of WRF to cover the tailings dam.
10. Post-mining landform reshaping and topsoil spreading of any remaining WRF, stockpiles or other disturbance areas for vegetation establishment.

7.7 Geotechnical Parameters

Pit slope geotechnical design parameters were calculated by Terratec (2022). The 2022 geotechnical study assessed 12 geotechnical holes which were distributed throughout the foreseeable perimeter of the future open-pit areas in order to geotechnically characterize the lithologies that will constitute the final mining slopes.

Based on the predominant general lithologies and considering the geotechnical description of the surveys carried out in the previous campaigns, the following geotechnical groups have been established:

1. **Conglomerate** - Rock generally cemented, with centimetric clasts rounded to subranged and sandy matrix. It is predominantly present in the northeast and east of the future exploitation and in the lower part of the southeast zone.
2. **Shale** - Arranged in metric to decametric collations in a general way, being predominant in the future southwest slope.
3. **Greywacke (sandstone)** - Material detected in a smaller proportion than the rest of the lithologies, being predominant in the upper part of the central area of the southwest slope. It has a greater condition of meteoric alteration than other lithologies present in the site, which translates into a lower geotechnical quality.
4. **Quartzite** - Reduced almost exclusively to the northwest area of the project, with high compressive strength in the absence of meteoric alteration.

7.8 Mining Layout

7.8.1 Mining Strategy

The detailed DFS pit shell design has been based on the $30k tin sale price pit shell from the pseudoflow assessment with a focus placed on extracting the highest contained tin tonnes possible whilst establishing an optimised mining operation. The pit and waste rock facilities (WRF) have been designed to minimise their environmental disturbance footprint whilst optimising several key aspects of the mine operations, including:

1. Utilising pre-stripping waste for tailings dam and infrastructure construction fill.
2. Haulage of waste from the pit to the out-of-pit WRF.
3. Haulage of ore from the pit to the ROM stockpile and crusher.

4. Maximising dumping of waste to in-pit WRF.

5. Rehandling of the WRF back into the pit void or to cover the tailings dam.

To maximise the amount of waste being hauled to the in-pit WRF, the pit is divided into cut-back stages so it can be excavated and backfilled starting from the shallow north-western end and progressing along strike to the south-eastern economic limits (Figure 7-4). The stages also defer accessing the deeper and higher strip ratio ore to the later years of the project life.

Figure 7-4 – DFS Pit Long Section Showing Mining Stages

The pit design incorporates a master ramp which runs along the southern wall of the pit, as shown in Figure 7-5. The master ramp has been designed to exit the pit at the point closest to the main out-of-pit WRF and ROM. It allows for efficient backfilling of the mined-out stages by providing a link between each of the stages access ramps and the in-pit WRF. The master ramp is active for almost the entire life-of-mine schedule, providing a permanent high quality haul road plus access to the lower levels of the mine.

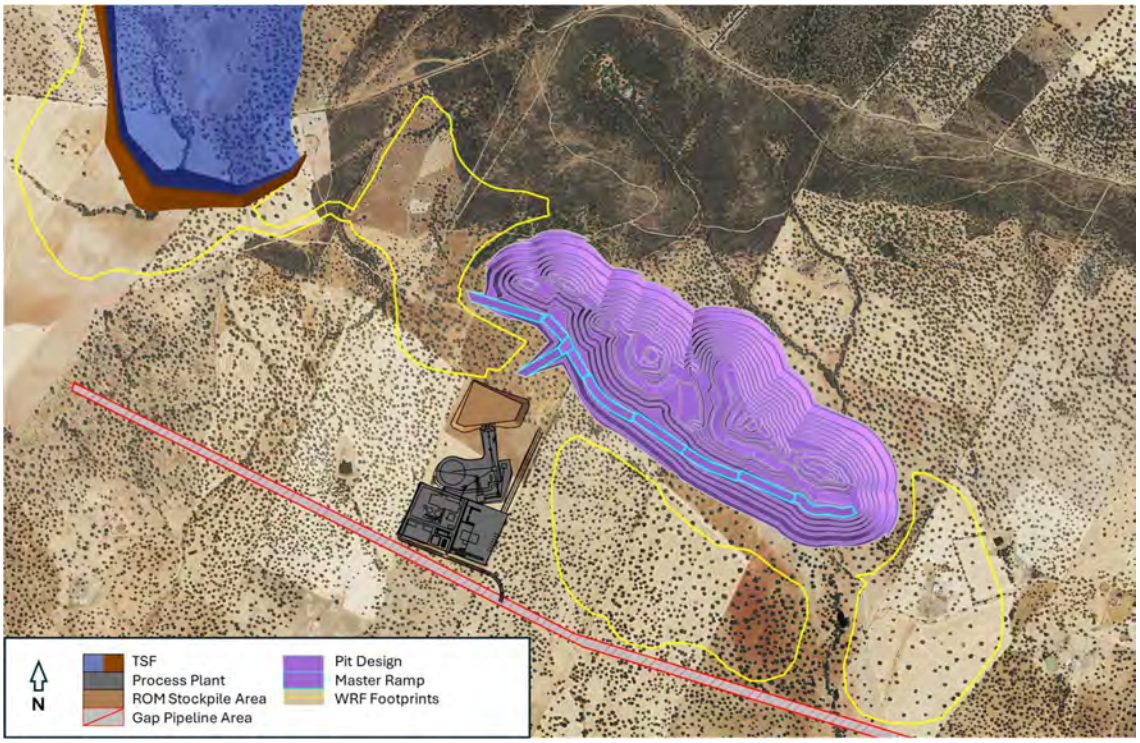

Figure 7-5 – Layout of Mine and Infrastructure

For personal use only

For personal use only

7.9 Environmental and Social Considerations

Whilst all environmental and social impacts have been assessed as part of the Environmental Impact Study (EIS) for the mining licence and environmental approvals. The key environmental and social considerations driving the layout and design of the mine are:

1. Waste Rock Characterisation.
2. Minimising clearing of Habitats of Community Interest (HIC).
3. Avoiding the impact of registered public waterways and creeks.
4. Minimising noise, dust, vibration and visual impacts on surrounding communities and sensitive receptors.
5. Location of tailings dam in Guadiana River basin water catchment.
6. Final landform restoration and rehabilitation of the project area.

7.9.1 Waste Rock Characterisation

Wardell Armstrong International Ltd (WAI) undertook a geochemical assessment of the waste rock material from Oropesa in the report titled *Geochemical Review of Acid Rock Drainage Test Work Oropesa Tin Project.*

Eighty-four samples representative of the waste and ore lithologies were submitted for a range of static geochemical tests in two test programmes beginning in 2017 with additional work in 2022. The tests show materials which pose the greatest likelihood of generating acidity and metals are located within the orebody. Acid generating and metalliferous material is largely held within the greywacke units, which subsequently will be processed to tailings. Most waste rock material has little evidence to indicate that substantial acid will be generated by the mine waste.

Subsequently in 2023, kinetic testing was undertaken on three composite samples representing different wastes and ore. The results indicated in the main that acid and metal concentrations leached from most waste rock will decline over time.

The waste rock characterisation and geochemical testing has classified the waste as non-hazardous inert and less than 0.1% sulphide content (non-acid forming). The recommendation from the assessment is to design the waste dumps to shed any rainfall, via cross-grades on benches, to perimeter drains to minimise the residence time of the water contact with the waste rock. Ore materials and tailings have a much higher contaminant loading than the waste material and therefore it is recommended that suitable lining and protection measures are applied to ROM platforms, ore stockpiles and tailings storage facilities.

7.9.2 Habitats of Community Interest

No threatened flora species have been found by either government mapping or field surveys within the Project area to limit the pit design. The predominant vegetation type within the project disturbance area is holm oak trees (*Quercus rotundifolia*) with underlying pastures or grassland for farming livestock. These are formed on the gentle slope areas whilst on the steeper rocky slopes the vegetation is more scrubland. Figure 7-6 shows the scrubland on the steeper slopes in the foreground with the oak trees and grassland on the lower gentler slopes. There are also some areas that have been cleared of trees for cropping farmland (Figure 7-7).

The holm oak trees have been classified as Habitats of Community Interest (HIC) and the regional government (Junta de Andalucia) require the clearing of the oak trees to be minimised. This has not impacted the pit design but has resulted in the footprint of the WRF to be minimised and located in areas of lower-density oak trees.

For personal use only

Figure 7-6 – Photograph of Project Area Landscape and Vegetation

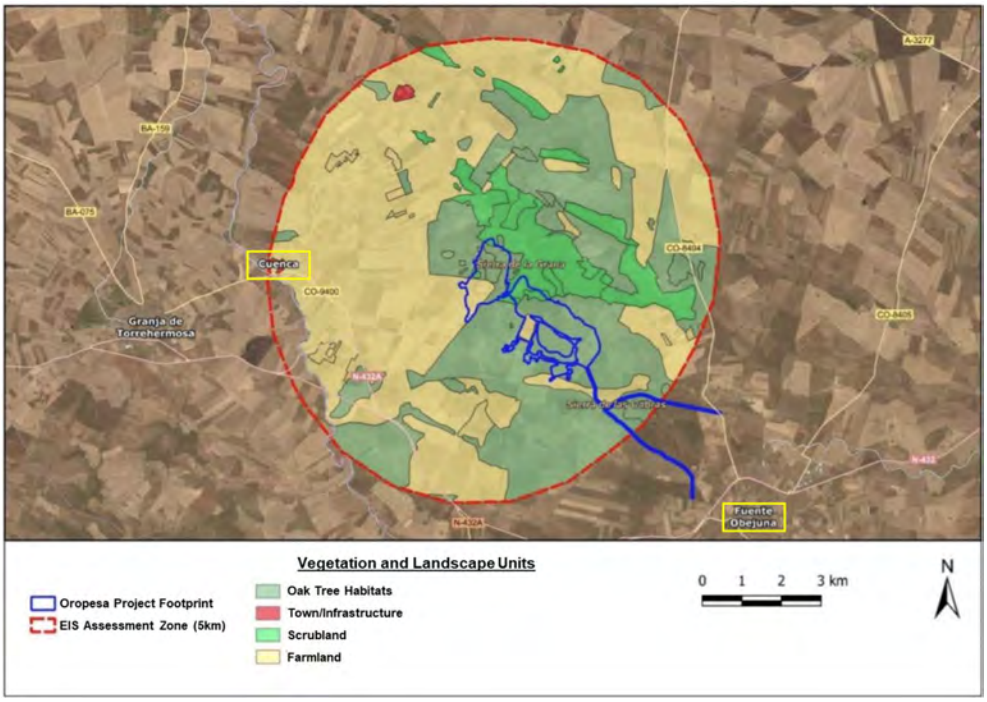

Figure 7-7 – Vegetation, Landscape Units and Nearby Towns

7.9.3 Noise, Dust, Vibration and Visual Amenity

The nearest built-up population centres are the towns of Cuenca and Fuente Obejuna both are located more than 4 km from the project's operational areas, where the largest amount of noise, dust and vibration emissions are expected to be generated. The towns are located at a sufficient distance to prevent them from

being affected by these emissions. Other nearby sensitive receptors will be farmhouses and associated agricultural workplaces as well as hiking/cycling trails, local and regional roads and livestock routes. Assessments of all sensitive receptors have determined that the emissions will be mostly contained to the operational areas and impacts outside of the project area will be of a low nature.

To limit noise impacts at night, mining operations will be limited to the hours of 6am to 10pm (16hrs / day).

The visual amenity of the project (open cut pit, WRF and infrastructure) has also been assessed to be of a low impact for the nearby towns, but a moderate impact for other sensitive receptors. The WRF will be progressively rehabilitated where possible during the mining operations and at the end of the mine life the entire site will be rehabilitated to minimise any legacy visual amenity impacts.

7.9.4 Hydrology

The Oropesa Project is located at the upper limits of two river basins, Guadiato and Guadiana Rivers, and will impact two smaller stream catchment areas that feed into these basins as shown in Figure 7-8. The streams in these catchment areas are ephemeral and only contain water after recent rain events. A water management system has been designed to divert clean water run-off around the disturbance areas back into these streams. Surface water that has come in contact with the disturbance areas will be contained for use in the process plant or dust suppression.

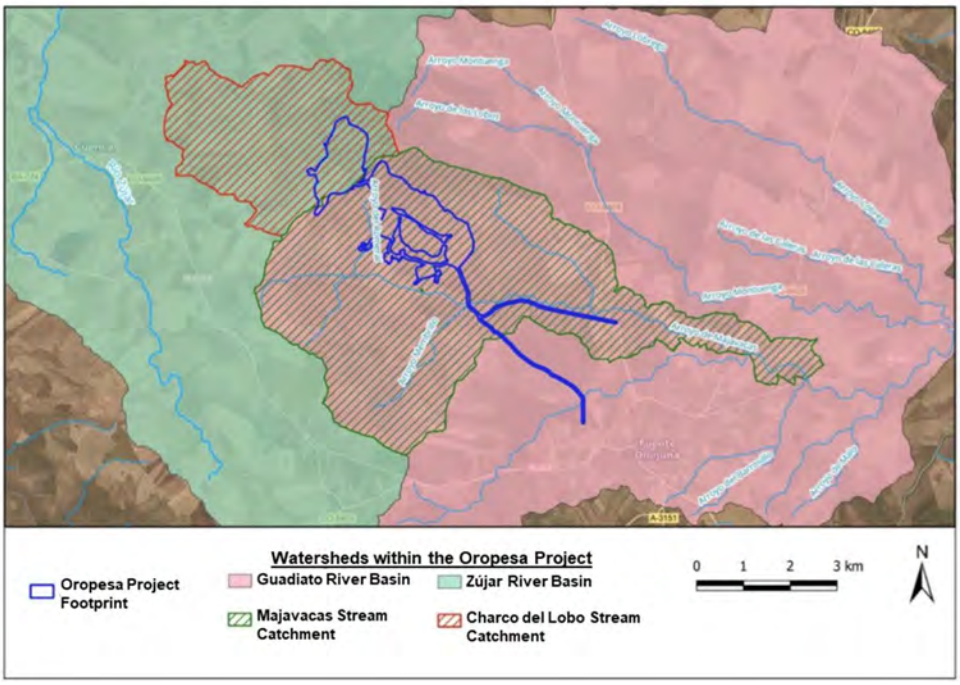

Figure 7-8 – River Basins and Stream Catchments

7.9.5 Final Landform and Restoration Plan

Regional legislation requires a Restoration Plan of the impacted surfaces to be submitted as part of the mining and environmental approval process.

The restoration actions planned by MESPA, are highly defined and within the framework of the legislation and pursue the achievement of the following priority objectives:

1. Minimize the environmental impact of infrastructure associated with the mining project.

For personal use only

2. Recover the ecological value of the affected areas, as well as their integration with the surrounding landscape.
3. Diversify the final uses for which restored land will be used, generating local and economic development once mining activity ceases.
4. Ensure long-term safety and stability conditions in the remaining structures and surfaces, so that they do not pose a danger to people or the environment.

The mine design and layout has been strongly guided by these objectives.

7.10 Mine Design

7.10.1 Detailed Pit Design

The detailed pit design was generated using the $30k pit shell as a guide. The pit design includes the practical geometry required in a mine, including pit access and haulage ramps to all pit benches, pit slope designs and benching configurations. The major design parameters used are described in Table 7.4 and Table 7.5.

Table 7.4 – Pit Wall Design Parameters

Zone	Lithology	Face Angle (º)	Bench Height (m)	Berm Width (m)
20m Below Topography	All Lithologies	45º	20	10
Meteoric Alteration at Depth (~20m to 100m)	Sandstone/Greywackes	59º	20	8
	Conglomerate, Quartzite and Slate	66º	20	8
No Alteration or Weathering (>100m)	All Lithologies	73º	20	8

Table 7.5 – Haul Road Design Parameters

Road Type	Minimum Width (m)	Maximum Grade (%)
Dual Lane	30m	10%
Single Lane (Bottom Benches)	15m	12%

For personal use only

The dimensions of the final design extents are 1,600m long (north-west to south-east) and 570m at its widest point (south-west to north-east) with a maximum depth of approximately 240m. The following Figure 7-9 and Figure 7-10 presents plan and isometric views of the ultimate pit design.

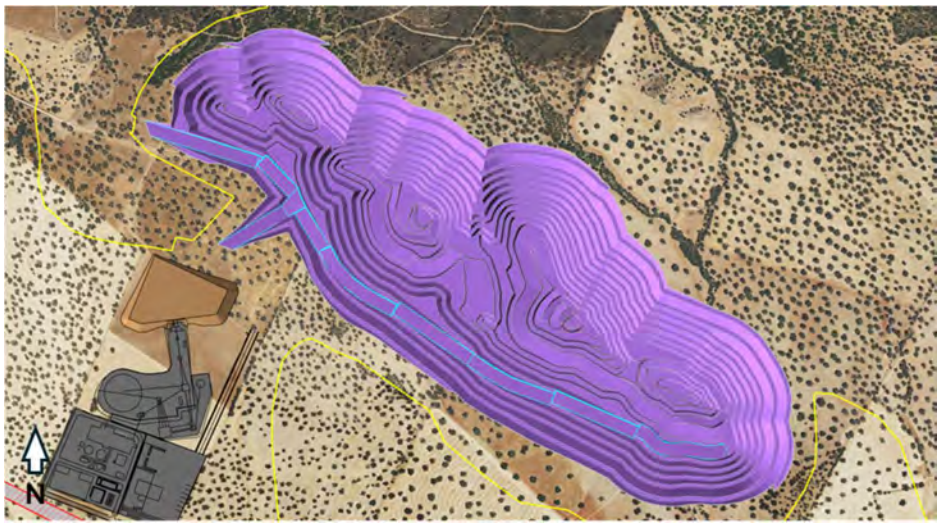

Figure 7-9 – Plan View of the Ultimate Pit Design

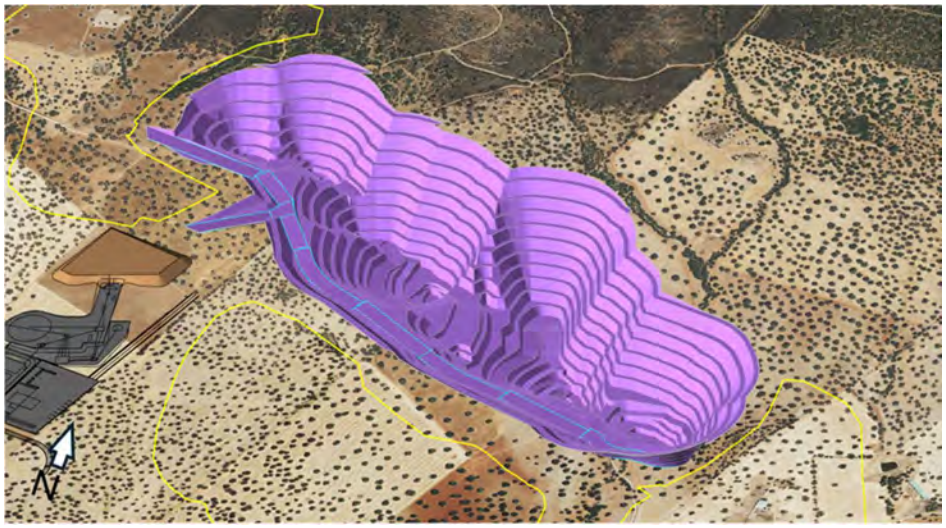

Figure 7-10 – Isometric View of the Ultimate Pit Design

For personal use only

7.11 Stage Designs

The stage designs applied the same design parameters with haulage ramps designed into the advancing stage wall to both connect with the master ramp for in-pit dumping (IPD) and also continuing up to topography to allow the upper waste to access the out-of-pit WRF (OPD). Figure 7-11 to Figure 7-15 present a selection of the stages plans in isometric view looking from the west.

Figure 7-11 – Stage 1

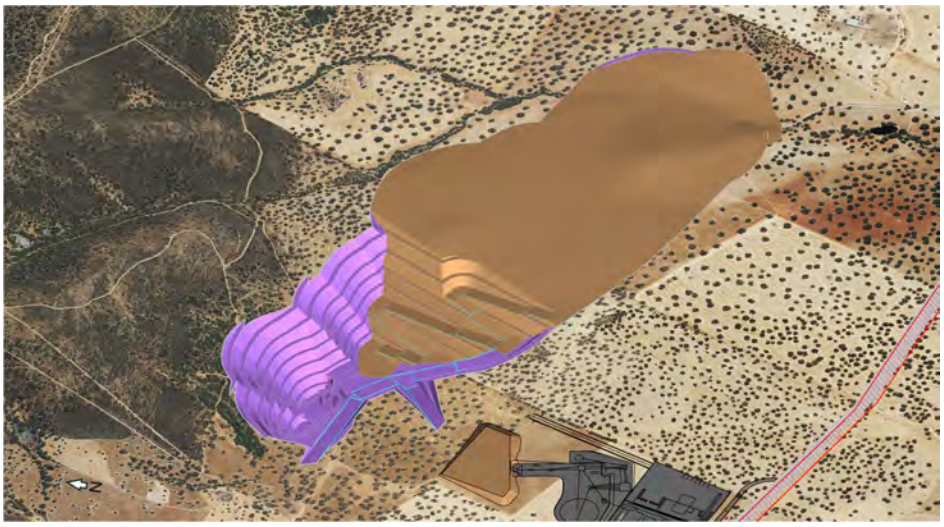

Figure 7-12 – Stage 3

For personal use only

For personal use only

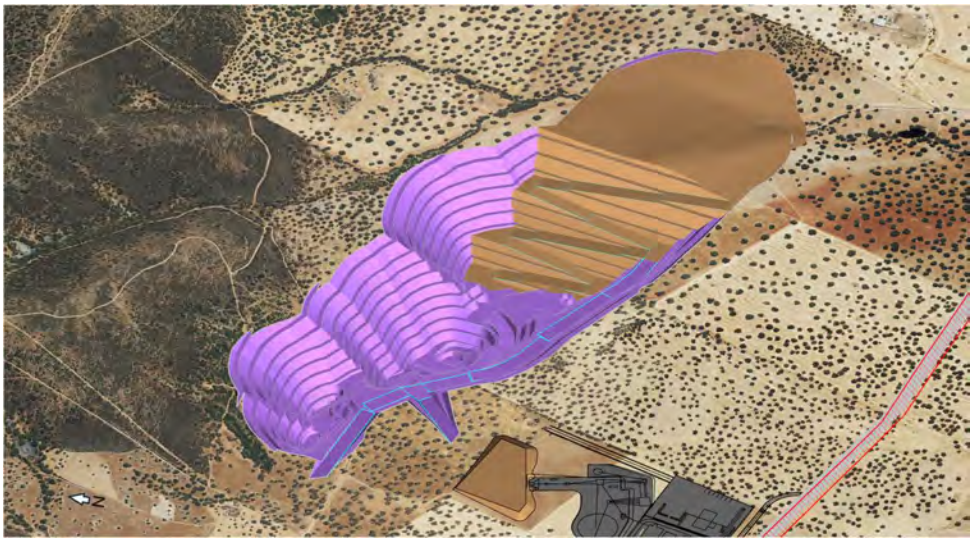

Figure 7-13 – Stage 8

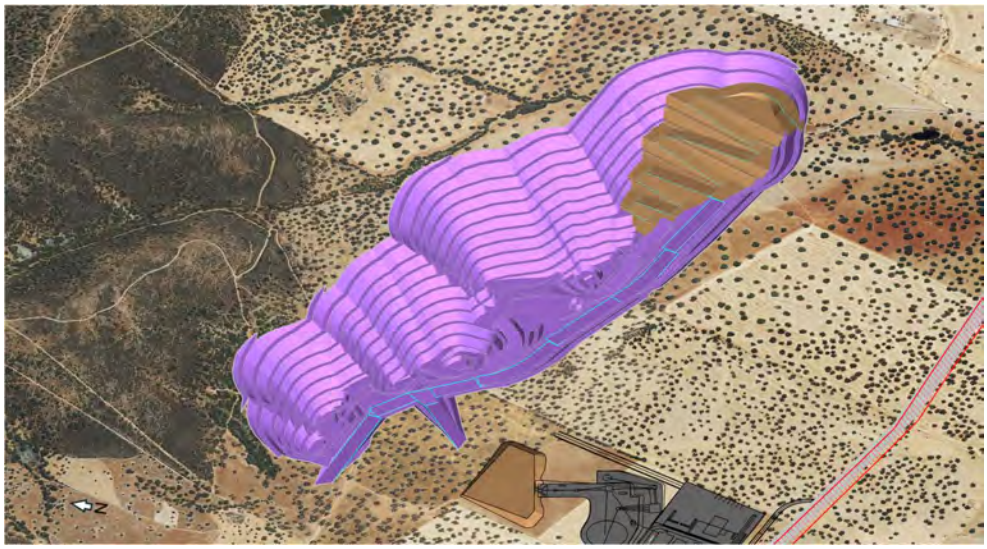

Figure 7-14 – Stage 11

For personal use only

Figure 7-15 – Stage 12 – Ultimate Pit

7.11.1 Waste Rock Facility Designs

The waste rock facilities (WRF) have been designed to allow for efficient reshaping by dozers for progressive rehabilitation during the mining operations as well as post-mining. The Restoration Plan submitted to the government designated that the overall maximum final rehabilitation slope angle to ensure a safe and stable final landform was 20°. The WRFs were conservatively designed for a final reshaped sloped of 19°. Table 7.6 provides the design parameters used for the WRF and Figure 7-16 gives a cross-sectional example of the as built WRF design and the final rehabilitation slope.

As per the waste geochemical assessment recommendations, the waste dump benches are to have up to 0.5% cross-grades to direct run-off water to the perimeter drains. The final rehabilitation surfaces also have no flat surfaces on top after reshaping to ensure no pooling of rainfall.

Haul roads designed in the WRF follow the same pit road design parameters shown in Table 7.5.

Table 7.6 – WRF Design Parameters

Item	Units	Value
Overall Rehabilitation Slope	degrees	19°
As-built Bench Lift	m	10
As-built Angle of Repose	degrees	35
As-built Berm Width	m	15

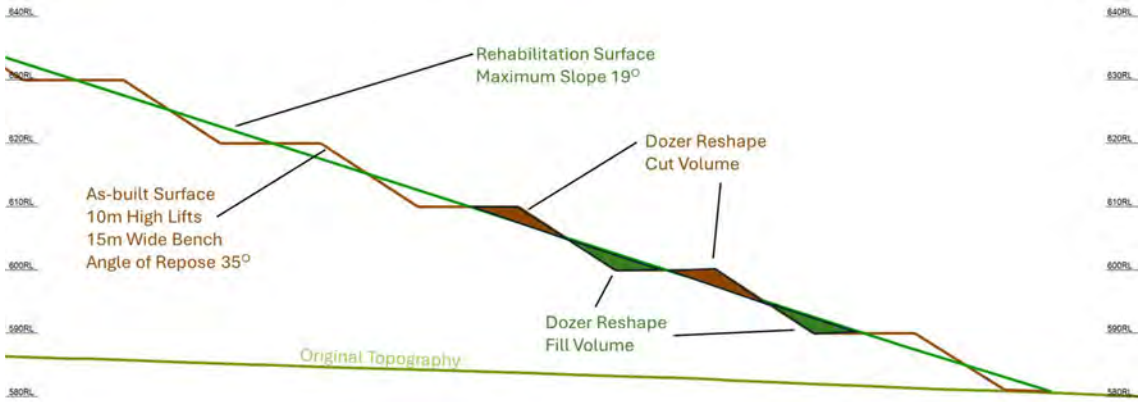

Figure 7-16 – Cross Section of the As-built WRF and Rehabilitation Surface

Four OPD areas were identified that minimised the number of trees that would be disturbed whilst in-pit dumping is to be prioritised in the schedule to minimise the amount of waste to be stored in the OPD. Pre-stripping waste will also be used for the construction of the tailings dam wall, ROM stockpile pad and surface haul roads. Sampling of the waste has indicated that the upper oxidised material will be suitable for these construction purposes. Figure 7-17 shows the location and as-built design of the WRF. Figure 7-18 shows the final rehabilitation landform of all the WRF and TSF.

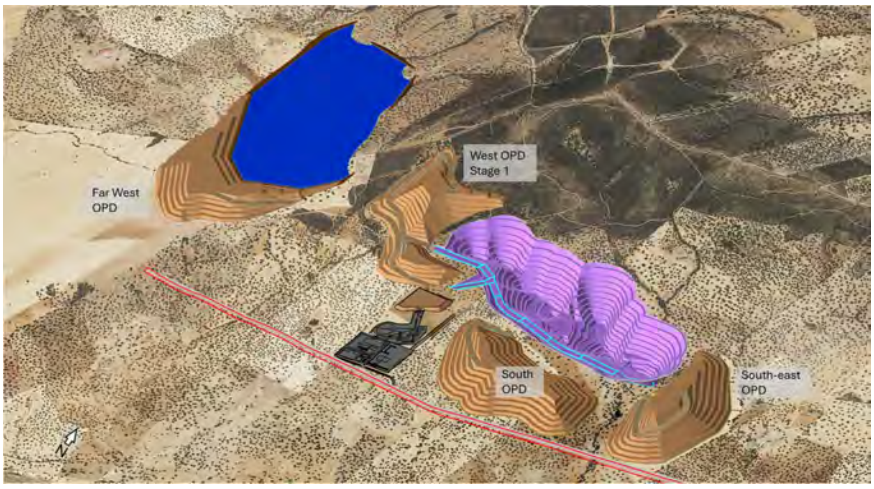

Figure 7-17 – Location of the Four OPDs

For personal use only

For personal use only

Figure 7-18 – Final Landform of Rehabilitated WRF and TSF

The Far West WRF was requested by the regional government as a buttress to the tailings dam wall and to utilise cleared land. Only oxidised inert waste can be deposited in this dump, with the top three benches to be rehandled at the end of mine life to cap the tailings dam.

The South and South-east WRF provides shorter hauls for the upper waste from the later mining stages but are also required when there is no dumping room available in the West or IPD WRF.

The combined West and In-Pit WRF is the largest of the WRF. The West dump progresses over the top of the IPD in four stages. All waste types can be deposited in this facility and this combined dump is the priority WRF as it minimises the disturbance of the oak tree habitats. The top four benches are rehandled into the pit void at the end of mine life to reduce the height of the final landform. The as-built stages of the combined WRF are shown in the following example figures, Figure 7-19 to Figure 7-20

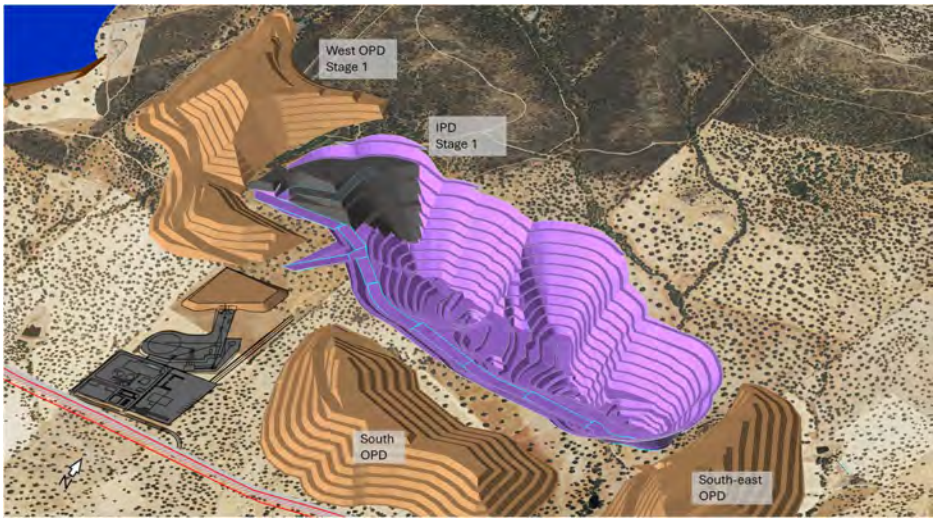

Figure 7-19 – IPD Stage 1

For personal use only

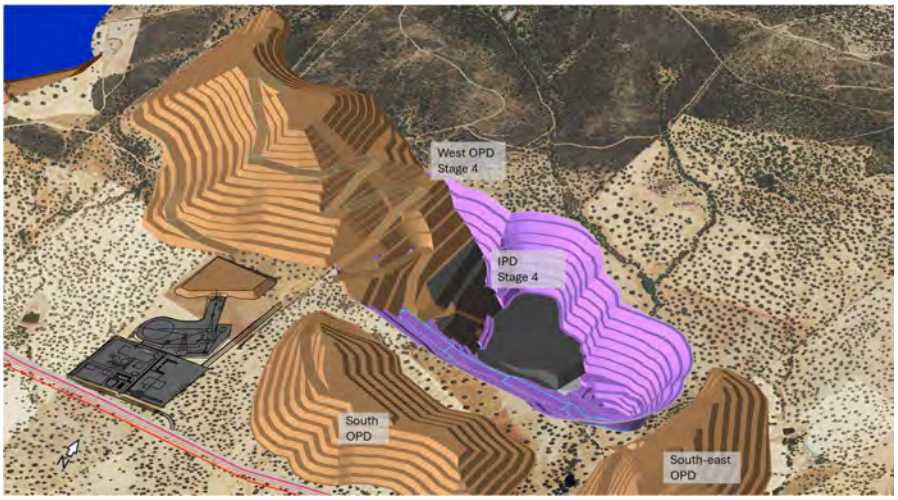

Figure 7-20 – IPD Stage 4 with West OPD Stage 4

7.12 Modifying Factors

Modifying factors were applied to the insitu quantities and qualities to convert from an in-situ basis to a ROM basis. Metallurgical modifying factors were then applied to calculate product information.

7.12.1 Loss and Dilution

The resource model was re-blocked to 5m (length) x 5m (width) x 5m (depth) based on the DFS equipment sizing. The re-blocking accounts for the loss and dilution and when compared to the original 2m x 2m x 2m resource block model, the calculated mining recovery is 92% and mining dilution is 4%.

7.12.2 Metallurgical Factors

Tin mineralisation in the form of cassiterite (SnO_2) is traditionally extracted by gravity separation due to its high specific gravity. The Oropesa flowsheet and process design recovers an economically viable product through a pre-concentrator ore sorter followed by a conventional sulphide flotation, gravimetric concentration, tin flotation, and magnetic separation.

Technical risks have been reduced in the design by using proven technologies as the fundamental components of the process flowsheets.

7.12.3 Investigations and Test Work

The Oropesa Project has been subject to several metallurgical test work and design programmes, further detailed in Section 9 METALLURGICAL TESTWORK.

The most recent pilot plant test programme targeted maximising the amount of tin that can be recovered from an ore sample that is more representative of the ore that is located throughout the proposed open pit operation at Oropesa. For the programme, approximately 2.8 tonnes of drill core from 147 drill holes across the resource was selected for processing. The bulk sample tin head grade was 0.46% Sn, with 5.02% S and 12.85% Fe.

A full metallurgical balance was generated using the mass pulls and recoveries from the pilot plant work, and the ancillary test work. From this a tin recovery of 74.1% at a combined concentrate of 61.4% Sn was achieved. 60.5% of the recovered tin came from gravity concentration at a grade of 58-64% Sn, and the remaining 39.5% came from tin flotation at a grade of 58% Sn. The tin flotation concentrates contained 5.8% Fe and 3.5% S, with the gravity concentrate containing 3.5% Fe and 2.9% S which met specification limits.

7.13 Mine Schedule

A detailed schedule has been developed in Spry based off the DFS pit shell. The mine schedule comprises of nine main processes:

1. Topsoil removal and stockpiling.
2. Drilling waste and ore.
3. Blasting waste and ore.
4. Waste loading and haulage to WRF.
5. Ore loading and haulage to the ROM stockpile or direct crusher feed.
6. Ore sorter rejects loading and haulage to WRF.
7. Post-mining rehandle of WRF to partially fill mining void or cap tailings dam.
8. Dozer reshaping of WRF slopes for rehabilitation.
9. Topsoil coverage of rehabilitation areas.

Up to three mining fleets were scheduled, using a combination of 190t and 120t excavators. All waste and ore is assumed to require drilling and blasting. A front-end loader was scheduled to maintain crusher feed from the ROM stockpile as well as load ore sorter rejects.

Drilling and load and haul operations have been limited to 16 hours a day (6am to 10pm) and clearing, topsoil and blasting operations have been limited to 12 hours a day (6am to 6pm).

The production rates for the mining equipment are summarised in Table 7.7.

Table 7.7 – Average Equipment Productivities

Equipment	Process	Rate
Drill	Drilling	40m/hr
120t Excavator	Ore & Waste Mining	800t/hr
190t Excavator	Ore & Waste Mining	1,580 t/hr
Dozer	Rehabilitation	200bcm/hr

Practical dependencies and constraints were applied to ensure the correct progression of the equipment and the optimal development of the mine.

The strategy of the schedule was to develop the open pit in a logical manner to ensure continuity of ore feed to the concentrator. A maximum concentrator feed rate of 1Mtpa was targeted. Based on the ROM Ore feed grade and the ore sorter yield equations this resulted in a crusher feed of approximately 1.4Mtpa with the ROM stockpile used to manage surplus or deficits.

For personal use only

Destination scheduling and haulage was completed as part of the detailed schedule, with a swell factor of 25% applied to all prime material to ensure there is adequate dump room for all material mined.

7.13.1 Schedule Output Physicals

A summary of the major physicals and qualities from the mine schedule results is provided in Table 7.8 along with summary charts in Figure 7-21 to Figure 7-28.

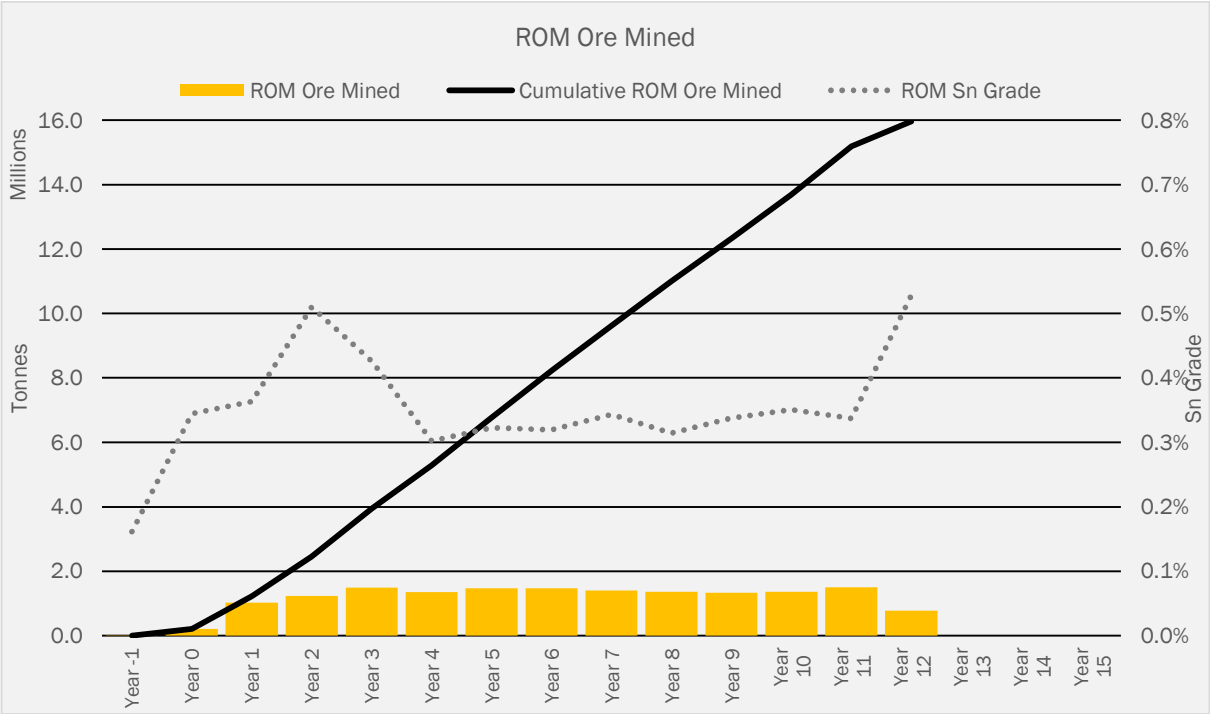

Figure 7-21 – ROM Ore Mining Quantities and Grade

Figure 7-21 shows in Year 0 approximately 200,000t of ore is mined and stockpiled as part of the pre-operations waste mining for the infrastructure construction. This ore will also be used for the commissioning of the process plant. Year 1 the process plant is operating at 50% capacity for the first six months then 100% for the next six months resulting in only 1Mt of ore only needing to be mined. From Years 2-11, ore mining ranges between 1.3 and 1.4Mtpa.

For personal use only

For personal use only

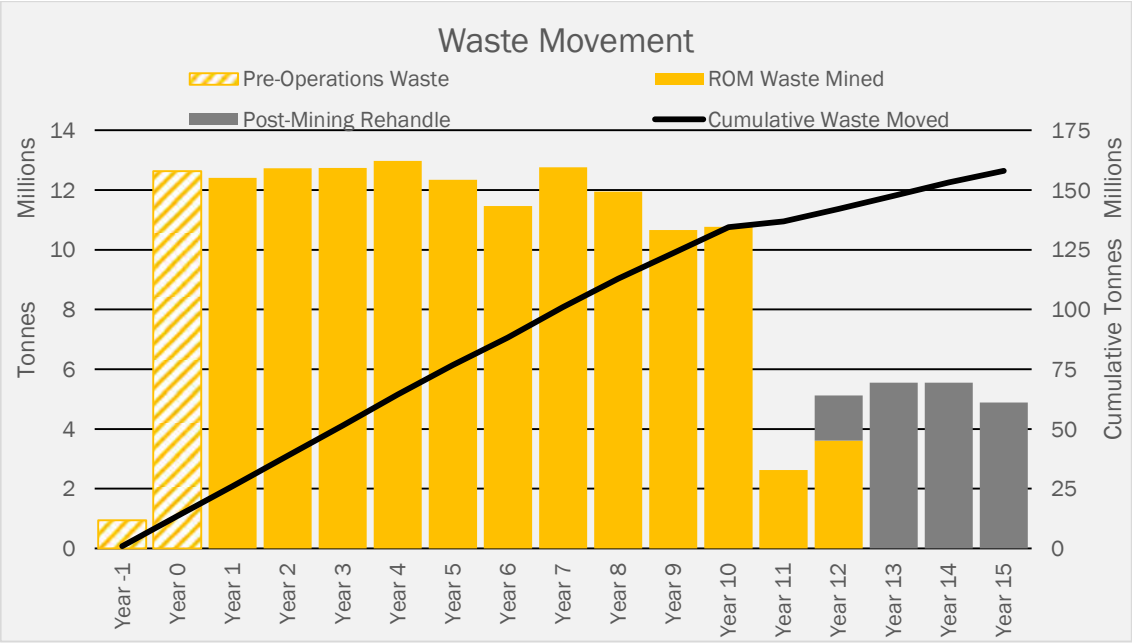

Figure 7-22 – Waste Movements

Figure 7-22 shows pre-operations waste movements occur in Years -1 and 0 and post-mining waste rehandle for rehabilitation occurs between Years 12 and 15.

From Years 0 to 10, three excavators are employed with the combined fleet targeting a total ore and waste movement of approximately 14Mtpa.

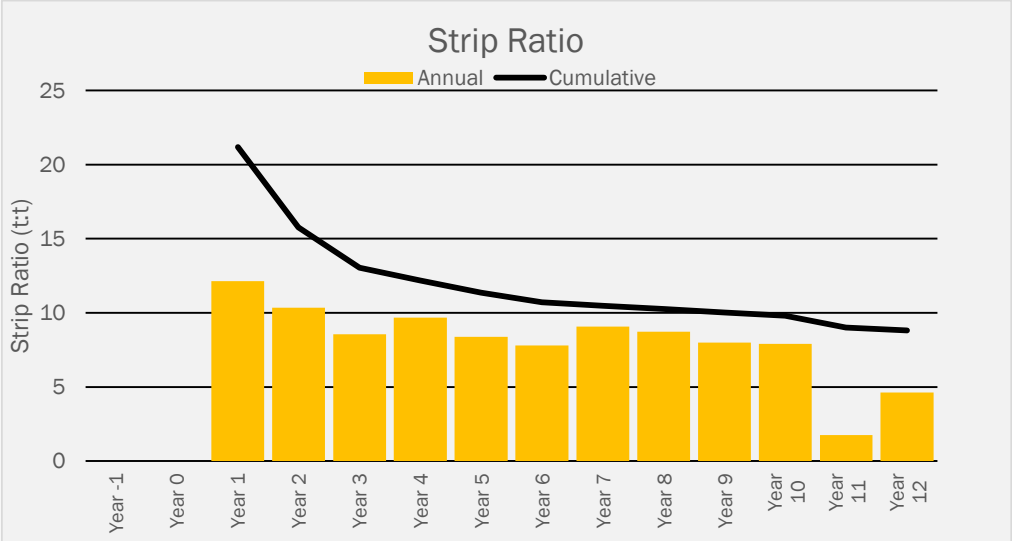

Figure 7-23 – Strip Ratio

Figure 7-23 shows the annual strip ratios with the average strip ratio over the life of the mining (excluding the post-mining rehandle) is 8.8 tonnes of waste per tonne of ore.

For personal use only

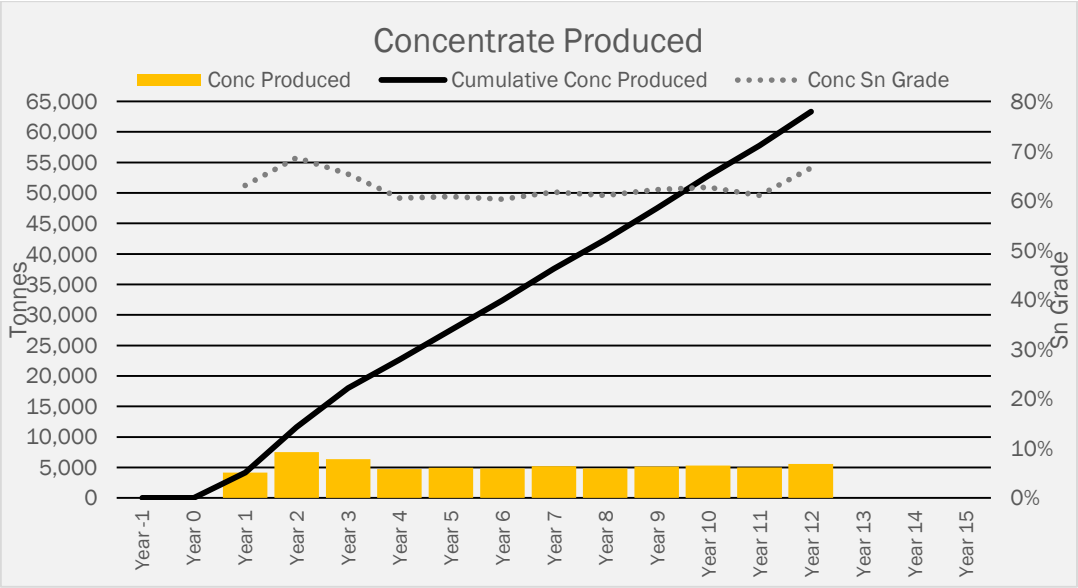

Figure 7-24 – Concentrate Production

Figure 7-24 shows Year 1's concentrate tonnes are lower; this is due to the first six months of the process plant operating at 50% capacity. Year 2 and 3's concentrate tonnes are slightly higher than average due to increased head grade from the mine.

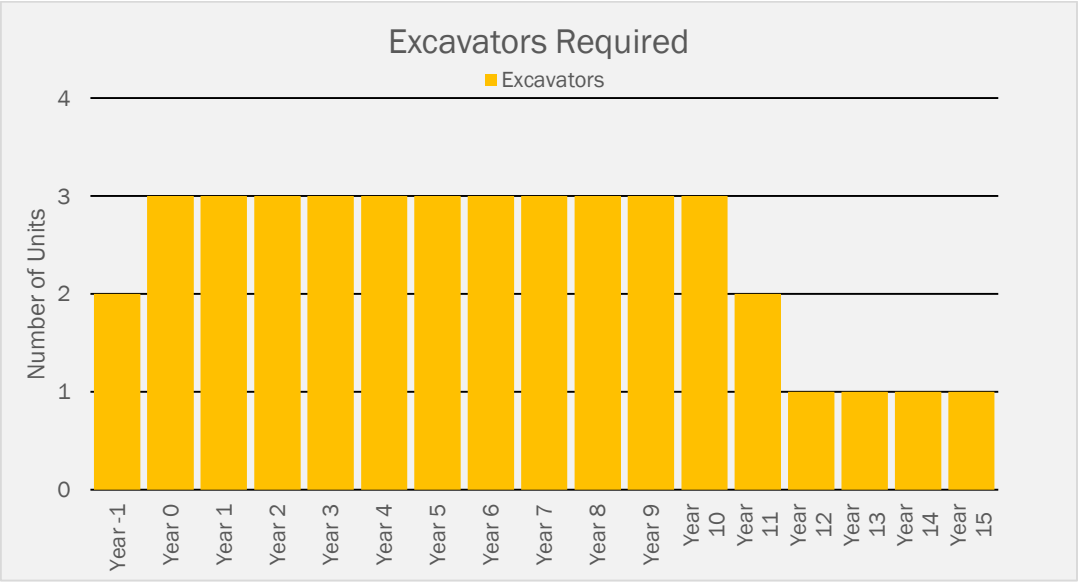

Figure 7-25 – Number of Excavators Required

Figure 7-25 shows three excavators are used for most of the mine life, with only one excavator required in the last year of operation and for post-mining rehandle.

For personal use only

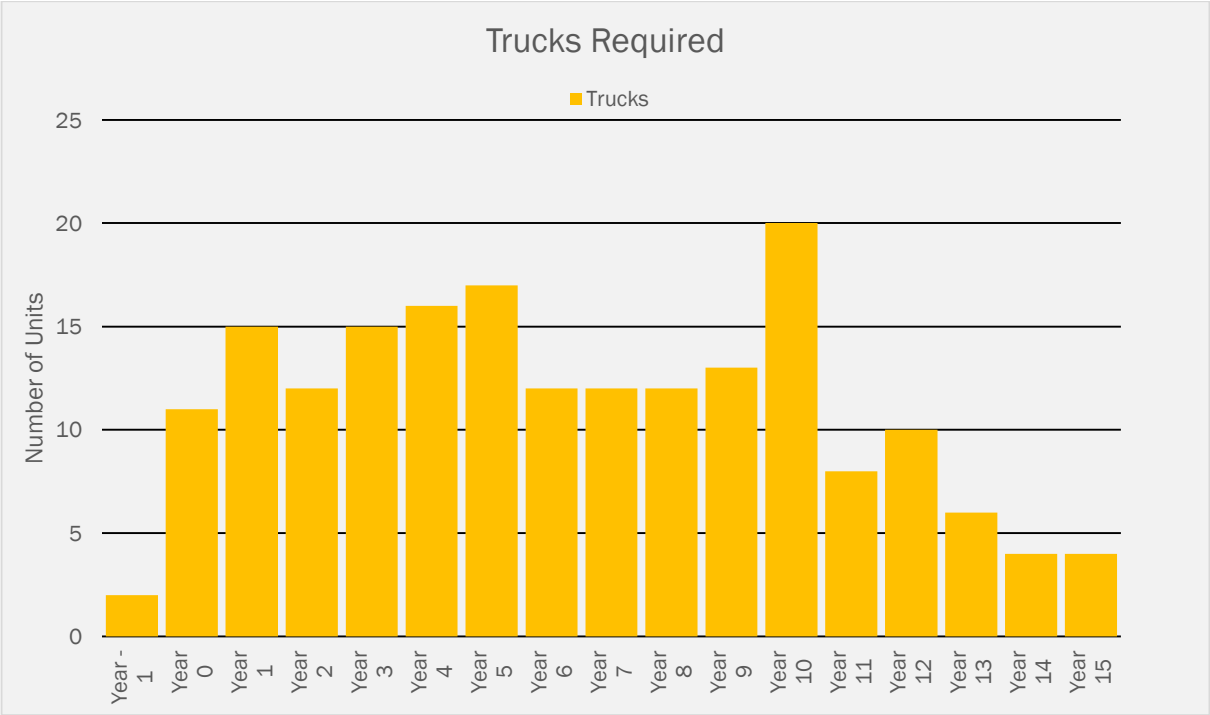

Figure 7-26 – Number of Trucks Required

Figure 7-26 shows the variation in trucks required due to the changes in haulage distance. In Year 10 all the waste is having to run to the top of the West WRF as there is no IPD available and the South and South-east WRF are full.

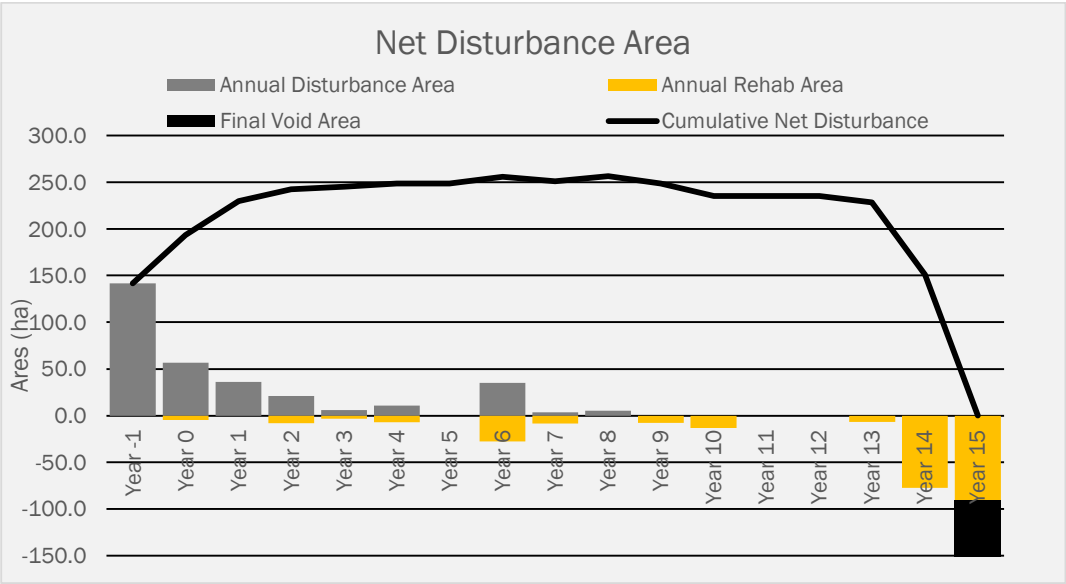

Figure 7-27 – Net Disturbance Area

Figure 7-27 shows the net disturbance area which is the difference between the area that has been cleared and the area that has been rehabilitated. In Year 15 the final pit void area including the lake is what remains.

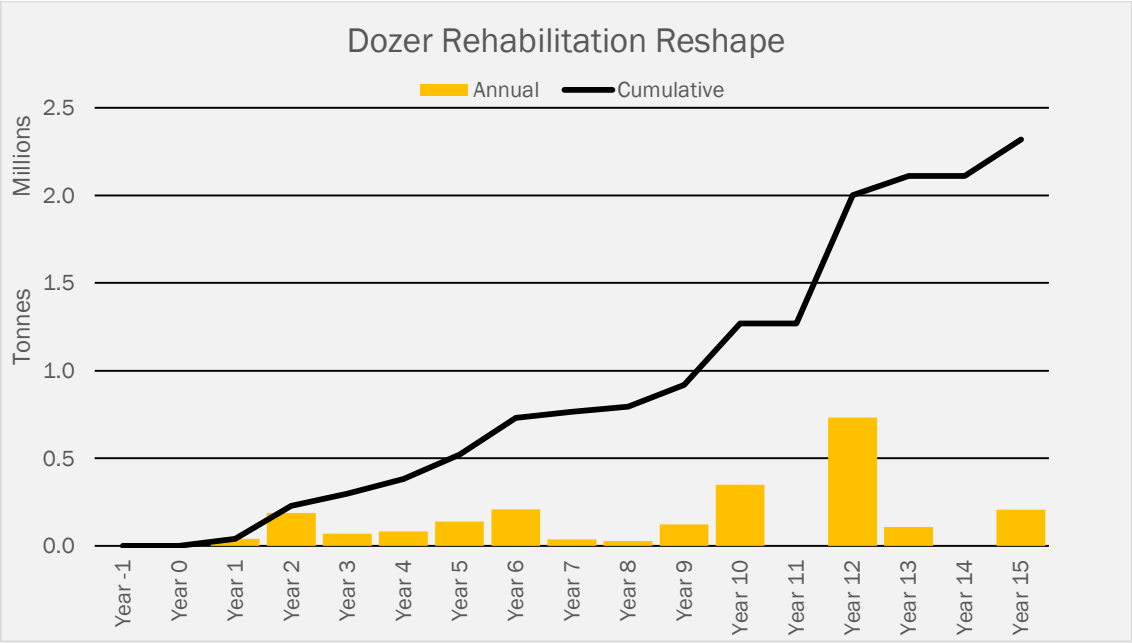

Figure 7-28 – Dozer Rehabilitation Tonnes

Figure 7-28 shows the dozer reshaping tonnes of the WRF for the progressive rehabilitation where available.

For personal use only

Table 7.8 – Annual Quantities and Qualities

Item	Units	Year -1	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
Disturbance Area	ha	141.7	56.5	36.1	20.9	5.9	10.8	0.0	34.9	3.6	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	316
Rehab Area	ha	0.0	4.7	0.0	8.0	3.4	7.2	0.0	27.7	8.3	0.0	7.9	13.4	0.0	0.0	6.8	77.5	90.8	256
Topsoil Removal	m3	188,800	69,323	43,757	28,917	5,947	11,582	0	50,696	4,567	6,418	0	0	0	0	0			410,006
Topsoil Replaced	m3	0	7,492	0	12,785	5,421	11,582	0	44,375	13,342	0	12,596	21,362	0	1	10,862	123,955	145,208	408,980
Drilling	m	35,658	344,204	328,323	349,758	340,189	350,151	342,565	323,182	336,477	357,783	255,130	294,983	101,278	84,788				3,844,470
Blasting	bcm	522,151	5,040,241	4,807,696	5,121,577	4,981,447	5,127,329	5,016,242	4,732,409	4,927,087	5,239,080	3,735,922	4,319,489	1,483,031	1,241,573				56,295,274
Waste Mining	t	939,316	12,634,366	12,406,915	12,727,083	12,735,567	12,975,152	12,342,460	11,461,209	12,755,330	11,940,724	10,662,774	10,760,144	2,621,100	3,615,167				140,577,304
Ore Mining	t	970	203,747	1,021,429	1,230,176	1,488,295	1,341,986	1,471,524	1,468,171	1,405,327	1,367,793	1,331,143	1,360,121	1,494,792	778,302				15,963,775
Ore Sn Grade	%	0.16%	0.34%	0.36%	0.51%	0.43%	0.30%	0.32%	0.32%	0.34%	0.31%	0.34%	0.35%	0.34%	0.53%				0.36%
Ore Contained Sn Metal	t	2	702	3,711	6,273	6,340	4,054	4,750	4,687	4,822	4,298	4,494	4,768	5,040	4,110				58,048
Strip Ratio	t:t	968	62	12	10	8.6	10	8.4	7.8	9.1	8.7	8.0	7.9	1.8	4.6				8.8
Ore Crushing	t			1,042,427	1,373,545	1,340,204	1,414,383	1,402,382	1,401,664	1,395,925	1,414,243	1,404,031	1,399,317	1,397,904	977,751				15,963,775
Ore Sorting Feed	t			852,384	1,123,084	1,095,848	1,156,551	1,146,731	1,146,146	1,141,443	1,156,434	1,148,074	1,144,215	1,143,066	799,458				13,053,434
Ore Sorting Product	t			557,902	749,539	729,009	744,907	744,349	744,482	745,519	744,931	744,044	744,898	745,162	545,156				8,539,897
Ore Sorting Rejects	t			294,482	373,545	366,839	411,643	402,382	401,664	395,925	411,504	404,031	399,317	397,904	254,302				4,513,537
Concentrator Feed	t			747,945	1,000,000	973,365	1,002,740	1,000,000	1,000,000	1,000,000	1,002,740	1,000,000	1,000,000	1,000,000	723,449				11,450,238
Concentrator Feed Sn Grade	%			0.45%	0.62%	0.53%	0.39%	0.40%	0.40%	0.43%	0.39%	0.42%	0.44%	0.41%	0.62%				0.46%
Concentrator Feed Contained Sn Metal	t			3,388	6,210	5,205	3,880	4,038	3,957	4,272	3,951	4,224	4,381	4,141	4,510				52,158
Product Concentrate	t			4,114	7,514	6,352	4,699	4,895	4,792	5,187	4,784	5,130	5,324	5,023	5,525				63,339
Product Concentrate Sn Grade	%			63.03%	68.66%	65.36%	60.51%	60.81%	60.29%	61.69%	61.06%	62.19%	62.68%	61.06%	66.58%				63.2%
Concentrate Contained Sn Metal	t			2,593	5,159	4,152	2,844	2,976	2,889	3,200	2,921	3,190	3,337	3,067	3,679				40,007
Rehabilitation Rehandle	t			40,451	187,759	69,563	83,372	139,469	208,521	37,500	28,421	123,318	349,523	0	733,824	109,691	0	206,874	2,318,287
Rehabilitatio Dozer Reshape	t														1,504,555	5,541,253	5,541,253	4,889,496	17,476,557

For personal use only

For personal use only

7.13.2 Schedule Output Progress Plans

A selection of Staged plans showing the progression of the mine at the end of each year or significant milestone of the mine life are provided from Figure 7-29 to Figure 7-40.

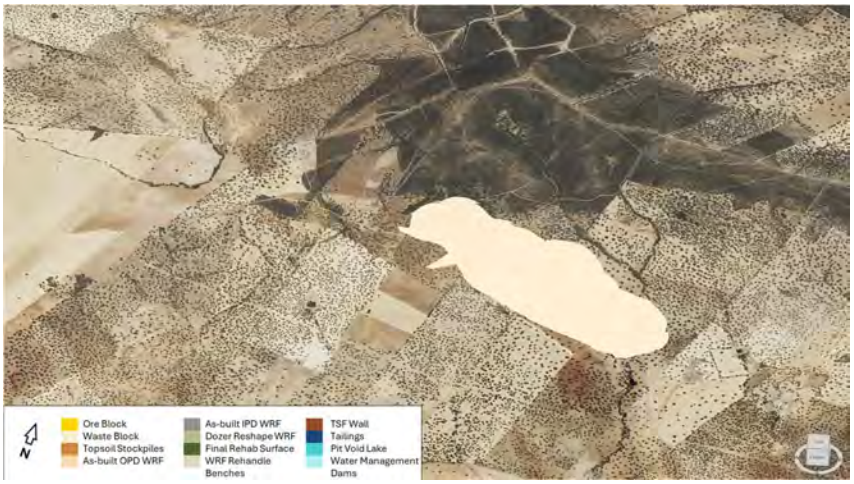

Figure 7-29 – Starting Topography

Figure 7-30 – End of Year -1

Figure 7-29 and Figure 7-30 show pre-production works have commenced with the construction of the water management dams and clearing and topsoil stockpiling of the TSF, process plant, West WRF and mining Stage 1 footprints. Pre-stripping waste has also begun to provide fill for the construction of the access road to the TSF, the TSF wall and ROM pad.

For personal use only

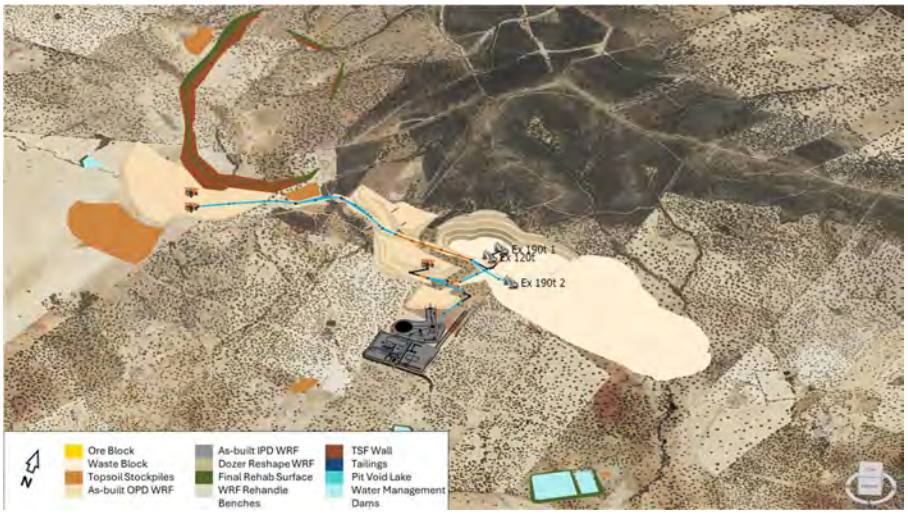

Figure 7-31 – End of Year 0 - Start of Processing Operations

Figure 7-31 shows the TSF and process plant have been fully constructed for the start of processing operations. Pre-stripping waste has uncovered the starting ore with the Far West and West WRFs starting to be filled.

Figure 7-32 – End of Year 2

Figure 7-32 shows Stage 1 has been mined out and backfilled by the IPD. Dumping has commenced to the South WRF. Progressive rehabilitation of the lower lifts of the Far West WRF has been undertaken, whilst topsoil from Stage 6 is being directly placed on the lower lift of the South WRFs rehabilitation.

Figure 7-33 – End of Year 4

Figure 7-33 shows the upper waste benches of the advancing stages are being dumped to the South WRF, whilst the lower waste from the earlier stages is being dumped to the West or Far West WRF.

Figure 7-34 – End of Year 6

Figure 7-34 shows IPD Stage 2 and the South-east WRF have commenced being filled. The South WRF has been fully rehabilitated.

For personal use only

Figure 7-35 – End of Year 7

Figure 7-35 shows the upper waste benches of the advancing stages are being dumped to the South-east WRF, whilst the lower waste from the earlier stages is being dumped to the IPD The lower lifts of the South-east WRF are being progressively rehabilitated.

Figure 7-36 – End of Year 9

Figure 7-36 shows the Sout-east WRF is complete and is being reshaped for rehabilitation. All waste is going to Stage 3 West WRF which is dumping over the completed Stage 3 of the IPD.

For personal use only

Figure 7-37 – End of Year 11

Figure 7-37 shows the final stage mined out and dumped in the lower IPD.

Figure 7-38 – End of Year 13

Figure 7-38 shows the continuation of the upper lifts of the West WRF being rehandled back into the pit void.

For personal use only

For personal use only

Figure 7-39 – Start of TSF Capping

Figure 7-39 shows the West WRF and IPD have been fully reshaped and rehabilitated. Rehandling of the upper benches of the Far West WRF have commenced for capping the TSF. The process plant has been decommissioned and rehabilitated.

Figure 7-40 – Final Landform

Figure 7-40 shows the TSF has been capped and rehabilitated. It is planned that a pit lake will be formed in the residual pit void.

8 GEOLOGY AND MINERAL RESOURCES

8.1 Geology

The Oropesa deposit is located within the Espiel Thrust Sheet, at the western margin of the Peñarroya basin, a Carboniferous, trans-tensional basin that formed during the Late Carboniferous Hercynian/Variscan orogeny. The Espiel Thrust Sheet is located between Ossa-Morena Zone and Central Iberian Zone within the Iberian Massif in southern Spain.

The Oropesa project area comprises intercalated sandstones and conglomerates with rare siltstones and shales. The sedimentary units have complex geometries, reflecting an active depositional environment and syn-sedimentary faulting. This geometry has been further complicated by a subsequent phase of deformation involving the re-activation of some basin-controlling faults as strike slip and reverse faults with associated folding of the stratigraphic package, producing upright to locally overturned bedding.

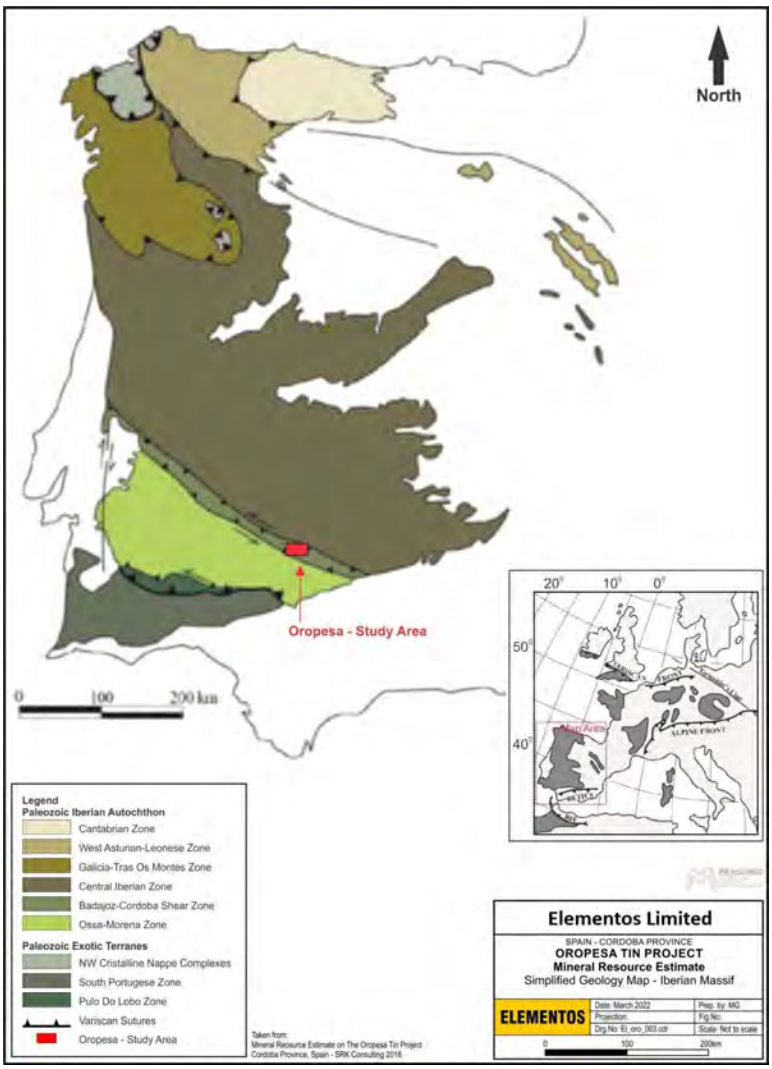

Figure 8-1 – Simplified Geology of the Iberian Massif (Spain)

For personal use only

The geometry of the Oropesa deposit is primarily the result of two major deformation phases, an initial strike-slip to extensional phase of deformation during basin formation followed by a strong contractional overprint. Overturned bedding suggests that the sedimentary sequence has undergone significant folding post-deposition. Modelling has identified closed to open recumbent folds that control the first order geometry of the deposit in Figure 8-3.

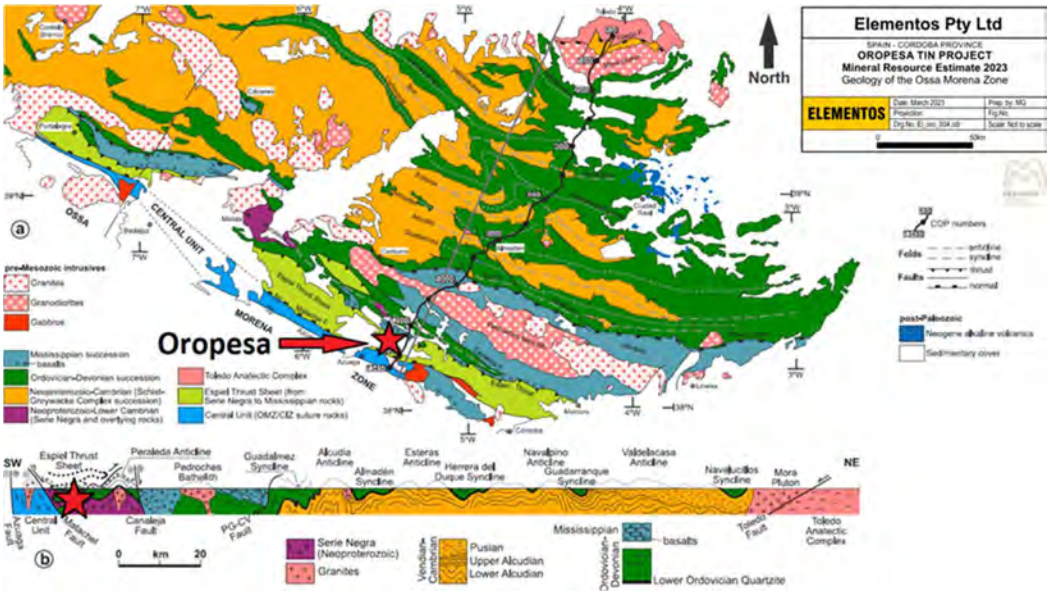

Figure 8-2 – Geology of the Ossa Morena Zone

8.2 Mineralisation

The majority of the tin mineralisation (cassiterite > 97-99% with minor stannite) is replacement style, primarily occurring in granular sandstones at the contacts between the sandstone and conglomerate units. The mineralisation is volumetrically more significant as replacement style within the sandstones, however less significant fault/structurally hosted mineralisation has been interpreted as occurring within reverse thrust fault zones that bound and occur within the deposit. The tin mineralisation is associated with pervasive leaching of the host rocks, silica alteration and several phases of para-genetically late disseminated to semi-massive sulphides.

The geometry of the Oropesa deposit is primarily the result of two major deformation phases, an initial strike-slip to extensional phase of deformation during which sediment deposition occurred within the basin as it developed, followed by a strong contractional overprint.

Significant post sediment deposition tectonic activity comprising contractual sinistral strike-slip deformation appears to have been a key mechanism in providing structural conduits for mineralising fluids contemporaneously providing more permeable locations along the sandstone/conglomerate contact zones for the development of the ore body.

For personal use only

For personal use only

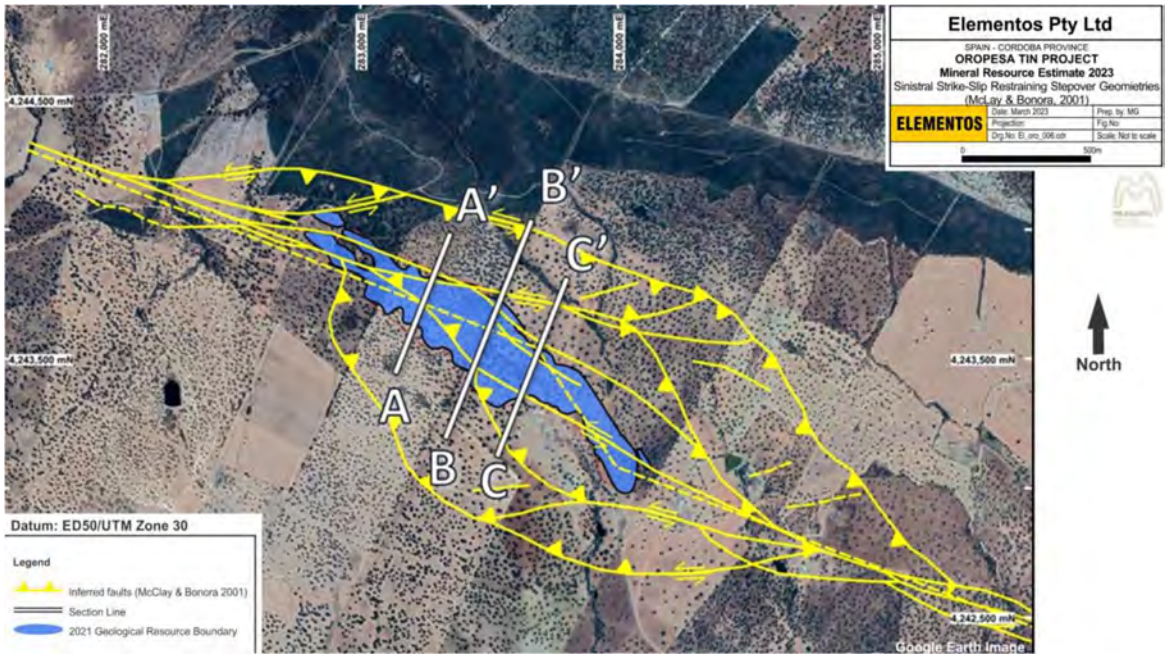

Figure 8-3 – Sinistral strike-slip restraining stepover geometrics as modelled by McCLay and Bonora (2001), superimposed on the Oropesa deposit

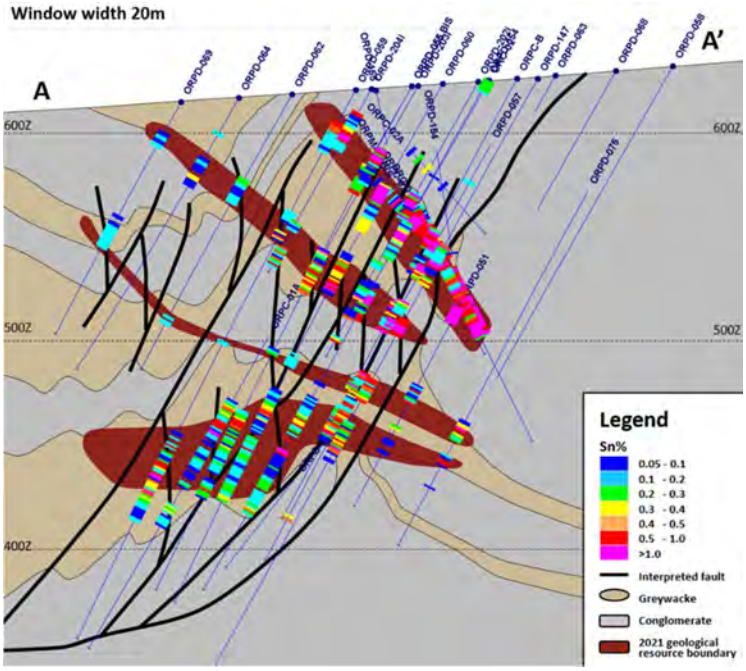

Figure 8-4 – Lithological and structural interpretation including drill hole traces displaying Sn intercepts through Section A-A

For personal use only

8.3 Historical Exploration

The Instituto Geológico y Minero de España (IGME) carried out exploration in the Oropesa region between 1969 and 1990. Exploration activities including geological mapping and stream sediment geochemical surveys discovered the presence of tin on the present Oropesa property in 1982.

Exploration programs including soil geochemical analysis, geophysics and drilling conducted by government, private and public companies since the initial discovery have resulted in the definition of the current geological resource.

Seven drilling programs have been completed to compile the data in this report. Six drilling programs from 2010 – 2016 were completed as predominantly HQ diameter diamond drill (DD) holes, using a double tube recovery barrel. A small number of reverse circulation (RC) drill holes (12) and RC-DD tail drill holes (4) were carried out during the early phases of exploration (2012). Further details of these drilling programmes are reported in Mineral Resource Estimates released in 2015 and 2018. One RC and diamond twin hole has been completed.

Additional data from the historical drilling programs were included in the database following a review carried out in 2020-21 of the mineralisation controls and alteration associated with the tin mineralisation at Oropesa. Zones of interest within the historical drill holes were examined initially by a portable NITON XRF analyser. Anomalous tin results were sampled and analysed by a commercial laboratory. All results were added to the existing database for inclusion in the current resource estimate.

A program consisting of 46 diamond drill holes was completed in 2020-21. Core drilling in the 2020/21 drilling programme consisted of PQ pre-collars (85.0 mm ID) and HQ tails (63.5 mm ID). Triple tube recovery barrels were employed on the HQ drilling. Standard diamond drill bits were used.

A program completed in 2022 consisted of 2,734.6 m of infill drilling in 11 targeted drill holes and 3 geotechnical holes improving the geological confidence in the resource/model and expanding the near-surface mineralisation along the centre of the Oropesa deposit.

Table 8.1 – Total exploration drill holes completed within the Oropesa Project area

Drilling Type	Count	Total Length (m)
Diamond Core	356	69,804
Reverse Circulation	12	1,928
Reverse Circulation with Diamond Core Tail	4	922

Table 8.2 – Total exploration drill holes employed in the 2023 Oropesa Mineral Resource Estimate

Drilling Type	Count	Total Length (m)
Diamond Core	276	55,347
Reverse Circulation	4	463
Reverse Circulation with Diamond Core Tail	4	922

For personal use only

8.4 Tin Mineral Resource Estimate Statement

A summary of the tin Mineral Resources Estimate for the Oropesa deposit is presented in Table 8.3. Figure 8-5 shows the grade tonnage curves at Oropesa.

Table 8.3 – Summary of Tin Mineral Resources for Oropesa as of January 2023

Resource Classification	Sn (%)	Tonnes (tonnes)	Contained Metal (tonnes)
Measured	0.36	7,418,212	26,800.5
Indicated	0.41	11,113,471	45,012.1
Subtotal: Measured & Indicated	**0.39**	**18,531,683**	**71,812.6**
Inferred	0.38	1,070,700	4,021
Total	**0.39**	**19,602,383**	**75,833.6**

Table Notes:

1. *All figures are rounded to reflect appropriate levels of confidence.*
2. *Apparent differences in totals may occur due to rounding.*
3. *A cut -off grade of 0.15 % Sn is applied.*

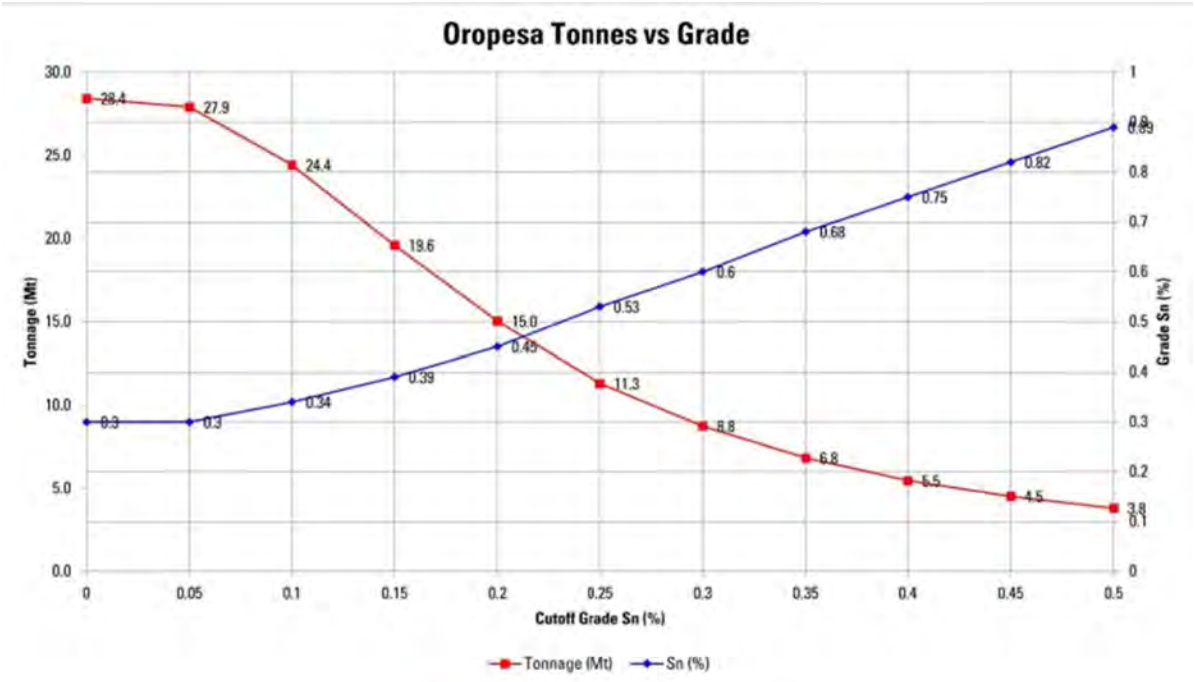

Figure 8-5 – Grade Tonnage curve Sn % at Oropesa

For personal use only

Figure 8-6 illustrates the block classification for the Oropesa deposit.

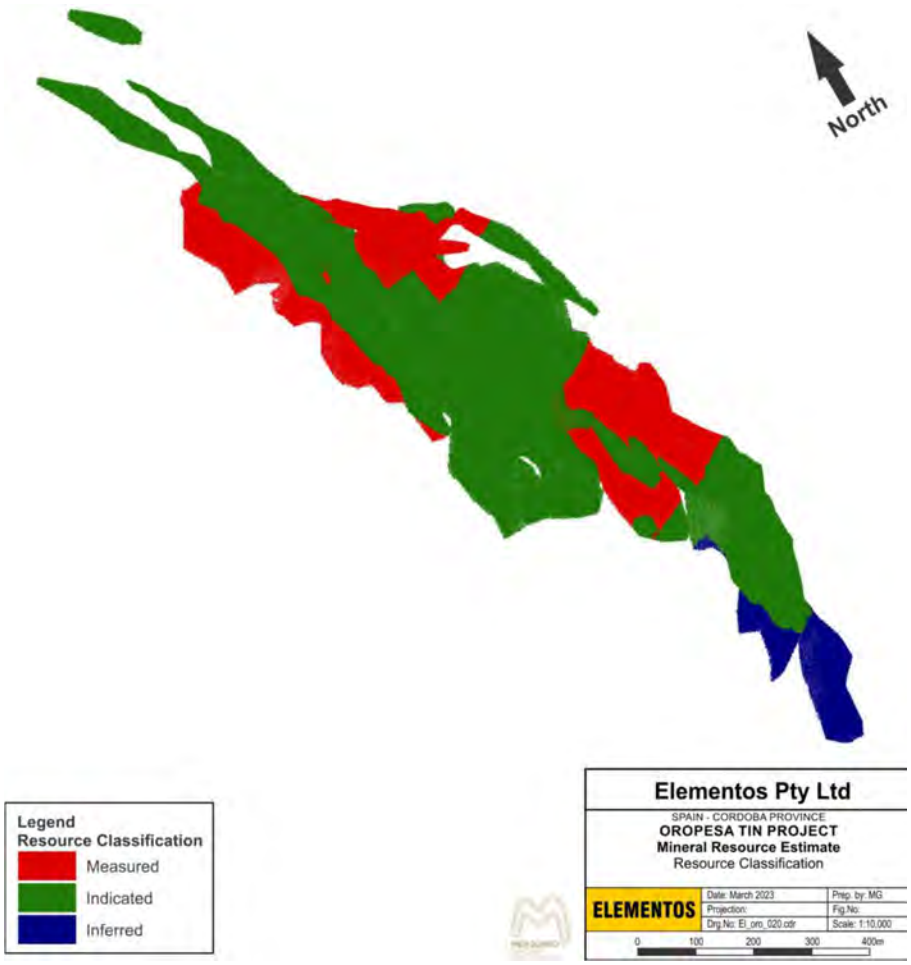

Figure 8-6 – Oropesa Resource Model plan coloured by Resource Classification

8.5 Zinc Mineral Resource Estimate Statement

In addition to the Oropesa Tin Mineral Resource Estimate, the company has also published a Zinc by-product Mineral Resource Estimate for the project, although it is not considered in the DFS, due to the company's view that it requires further laboratory studies and process engineering to meet the required confidence levels for inclusion.

The primary mineralisation found at Oropesa is tin in the form of cassiterite. The tin mineralisation is accompanied by zinc mineralisation in the form of sphalerite. Recent metallurgical test work has been successful in recovering the zinc into a saleable concentrate. This report has been carried out to reflect the inclusion of zinc as a mineral resource.

For personal use only

A summary of Mineral Resources for Zinc for the Oropesa deposit is presented in Table 8.4 – Summary of Oropesa 2023 Zinc Mineral Resource Estimate. Figure 7-9 shows the grade tonnage curves for zinc at Oropesa.

Table 8.4 – Summary of Oropesa 2023 Zinc Mineral Resource Estimate

Resource Classification	Zn (%)	Tonnes (tonnes)	Contained Zinc (tonnes)
Measured	0.37	8,664,418	31,670
Indicated	0.39	14,052,877	54,356
Subtotal: Measured & indicated	**0.38**	**22,717,295**	**86,026**
Inferred	1.32	1,028,073	13,545
Total	**0.42**	**23,745,368**	**99,571**

Table Notes:

1. *All figures are rounded to reflect appropriate levels of confidence.*
2. *Apparent differences in totals may occur due to rounding.*
3. *A cut -off grade of 0.05 % Zn is applied.*

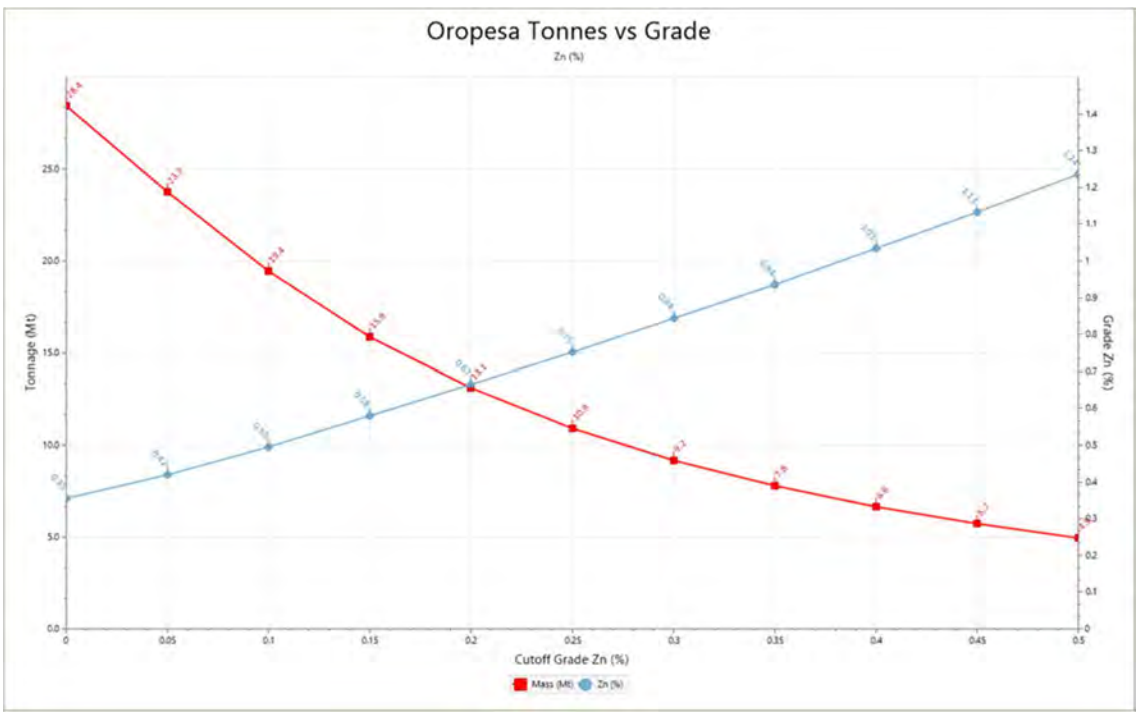

Figure 8-7 – Grade Tonnage curve Zn % at Oropesa

For this Mineral Resource estimate, Elementos has completed the following:

1. Modelled the tin mineralisation horizons as a series of domains in 3D using Micromine software and used these domains to estimate the zinc resource.

2. Based the Mineral Resource Estimate on 16 discrete mineralised domains modelled within the overall mineralised zone.

For personal use only

3. Created 2m composite samples for each drill hole per intersected domain and undertook the statistical analysis of these.
4. Reviewed the sample composite data for grade outliers - based on histogram analysis, a top cut of 16 % Zn was applied and bottom cut of 0.002% Zn was applied.
5. Undertaken geostatistical analyses to determine appropriate interpolation algorithms.
6. Undertaken a Quantitative Kriging Neighbourhood analysis to test the sensitivity of the interpolation parameters.
7. Interpolated zinc grades and density data into the block model using Micromine software.
8. Visually and statistically validated the estimated block grades relative to the original sample results.
9. Reported the Mineral Resource according to the terminology, definitions and guidelines given in the JORC Code.

The Zn Mineral Resource Estimate has been completed as a by-product estimate to the primary Sn Mineral Resource Estimate for Oropesa.

No deleterious elements have been estimated for the Mineral Resource estimate.

Block dimensions are 2x2x2m. These dimensions were chosen to be like the downhole sample spacing. This dimension was chosen to enable a more realistic mining schedule to be developed in the next phase of work.

Selective mining units have not been modelled as part of this Mineral Resource estimate.

No significant correlation relationships were found between modelled variables during raw statistical analysis (between Zn and density results). The density values used in this estimate were those applied to the Sn mineral estimate.

8.6 Zinc Mineralisation

Tin mineralisation (cassiterite with minor stannite) is the principle economic mineralisation at Oropesa. The tin mineralisation is replacement style, primarily occurring in granular sandstones at the contacts between the sandstone and conglomerate units, with up to three later phases of disseminated to semi-massive sulphide mineralisation. The zinc mineralisation is associated with the sulphide replacement mineralisation. The mineralisation is volumetrically more significant as replacement style within the sandstones, however fault/structurally hosted mineralisation has also been interpreted as occurring within reverse thrust fault zones that bound and occur within the deposit. The tin-zinc mineralisation is associated with pervasive leaching of the host rocks and silica ± carbonate ± chlorite alteration.

8.7 Additional Exploration Potential

8.7.1 Oropesa Tenement Extensions

There is a reasonable to high probability of discovering additional mineralisation adjacent to the Oropesa mineral resource, along strike to the northwest and southeast, and at depth. The Oropesa resource is located within the highly mineralised and prospective Iberian Pyrite Belt.

Mineralised drill holes occur outside the current Mineral Resource boundaries. These drill holes have been excluded from the Mineral Resource because there is currently insufficient information to confidently include

For personal use only

them within the resource boundaries. Cassiterite (tin) bearing sulphide mineralisation has been intersected in a single drill hole (P53) approximately 600m to the northwest of the Oropesa Mineral Resource Figure 8-9. Additional exploration drilling would be required to extend the current resource boundaries to include.

The Oropesa mineral resource has been recognised as a replacement type deposit with subordinate fault-controlled mineralisation. The principal tin mineralisation at Oropesa was formed in the early stages of the development of the deposit and is closely spatially associated with later stages of massive to semi-massive and disseminated sulphide mineralisation. Mineralisation within the Oropesa mineral resource is structurally and lithologically controlled, with the majority of mineralisation occurring in sandstone as a replacement of the intergranular matrix. The more intensive mineralisation tends to occur close to the lithological boundary between sandstones and less permeable conglomerates.

Two separate resources, tin and zinc, have been defined at Oropesa. The tin mineralisation defines the boundaries of the mineralised resource domains Figure 8-8.

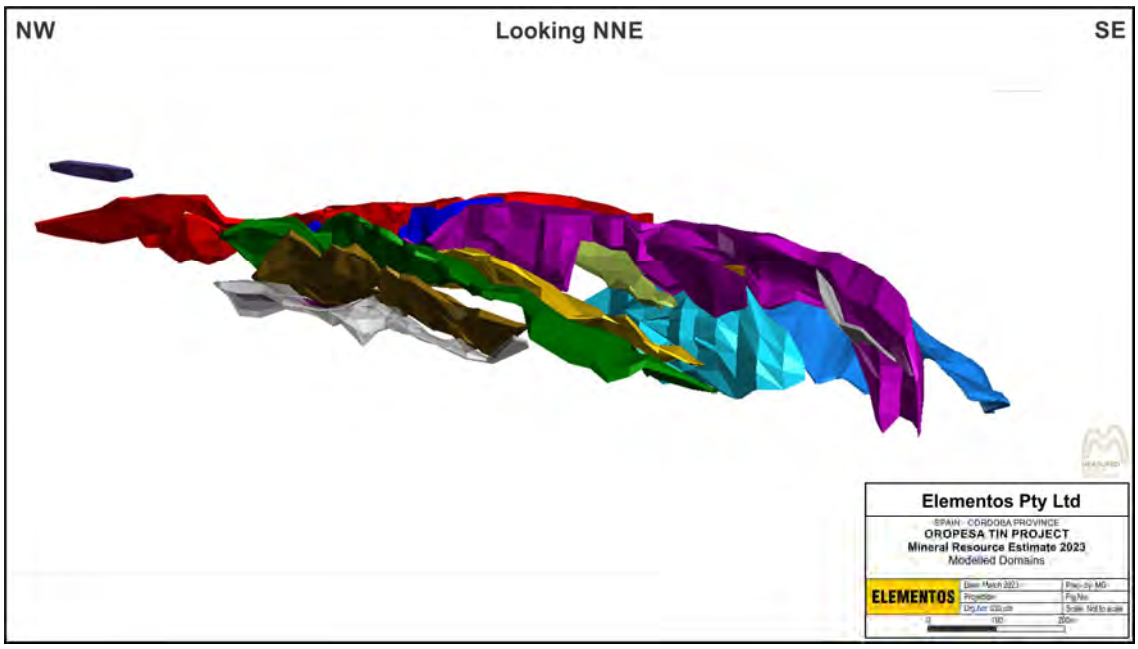

Figure 8-8 – Modelled resource domains at Oropesa (oblique view looking NNE)

The later stage sulphide mineralisation contains sufficient quantities of zinc (sphalerite) mineralisation to define a separate mineral resource. For practical mine development purposes the principal tin resource domains were employed to limit the zinc resource boundaries. The zinc resource becomes noticeably more significant in grade and thickness towards the northwest and southeast extremities of the resource Figure 8-9. These zones are high priority exploration targets to increase the current Oropesa Mineral Resource.

For personal use only

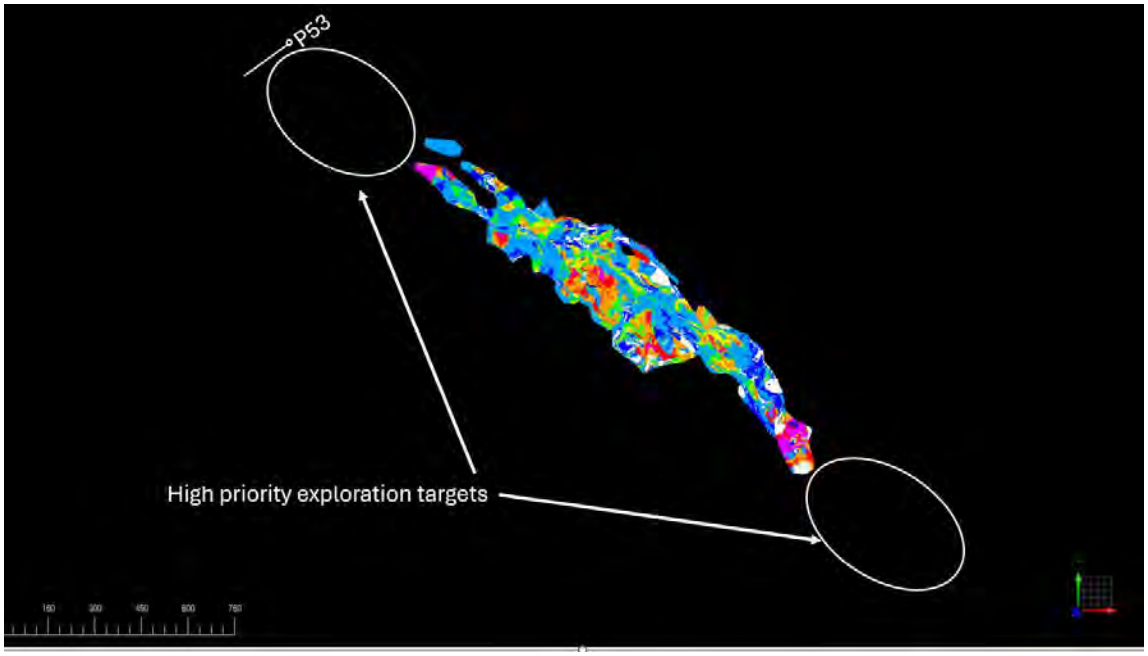

Figure 8-9 – Zinc block model depicting high grade zones and high priority targets in the northwest and southeast

Lead and copper are also present at Oropesa but not at levels that are considered economic. The mineralising fluid that formed the Oropesa resource is considered similar in nature to that which forms volcanogenic hosted massive sulphides found elsewhere within the Iberian Peninsula.

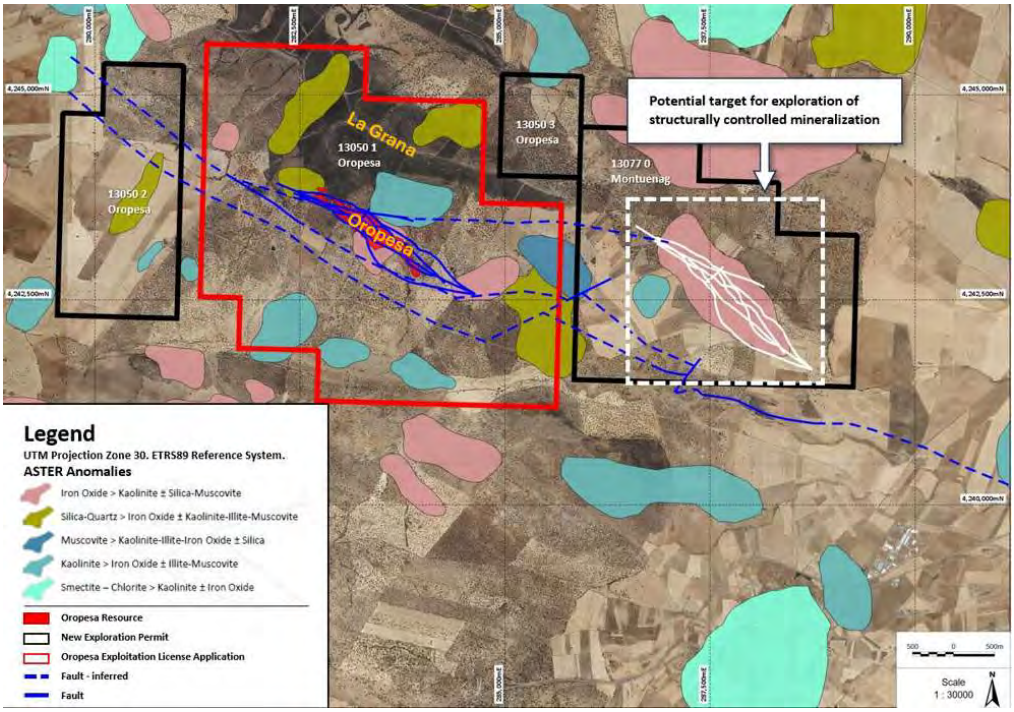

Figure 8-10 ASTER remote sensing anomalies and structural controls (blue) for the Oropesa Mineral Resource: Oropesa structural model superimposed (white) on a similar ASTER anomaly to the east of Oropesa

For personal use only

9 METALLURGICAL TESTWORK

9.1 Overview

The Oropesa Project has undertaken an advanced level of metallurgical testwork to develop the process flowsheet which produces a saleable cassiterite concentrate to meet the required maturity to be utilised within the DFS. The flowsheet which the metallurgical testwork developed and confirms recovers an economically viable product through a conventional sulphide flotation followed by a gravimetric concentration, tin flotation, and magnetic separation circuit. The metallurgical investigations were carried out based on historical tin mineral concentration experience, where principal processing techniques were applied. Oropesa's Research Permit has been studied since 2008 with several historical metallurgical test work programmes & a large scale pilot plant program informing the DFS design development and process design criteria. The following programmes have been completed in development of the flowsheet.

1. Inspection testwork by TOMRA Sorting Solutions in 2018.
2. Ore pre-concentration test work carried out by TOMRA Sorting Solutions in 2019.
3. Physical properties and crushing index test work by University of Oviedo in 2022.
4. Cascade sorting test work carried out by TOMRA Sorting Solutions in 2022.
5. Bulk sample testwork by Wardell Armstrong International (WAI) in 2022.
6. Pilot testing by Wardell Armstrong International in 2021 and 2022.
7. Variability testing by Wardell Armstrong International in 2022.

The DFS metallurgical data is the result of the multi-phased test work programs referenced above, resulting in the 2022 pilot plant programme and the 2022 Variability testwork programme.

9.2 Bulk Sample / Pilot Testwork

9.2.1 General

The pilot testwork was conducted from a representative bulk sample sourced from Oropesa Tin Project drill core which confirmed the majority of the flowsheet and process design criteria for the DFS. A tin recovery of 74.1% at a combined concentrate of 61.4% Sn was achieved. Additional Bench scale testwork was subsequently performed using the concentrate and tailings streams from the pilot plant to better understand the impacts of varying processing conditions and variability in the source material itself.

Table 9.1 – Pilot Plant Metallurgical Upgrade Results

	Plant Feed %	Concentrate Grade %	Tin Concentrate Plant Recovery %
Tin (Sn)	0.46	61.4	74.1
Iron (Fe)	12.85	4.9	
Total sulphide (Stot)	5.02	3.2	
Lead (Pb)	0.04	0.2	

Metallurgical upgrade factors were established using the representative bulk sample, with the results confirming the production of a commercially appealing >61% tin concentrate with low impurity specifications.

9.2.2 Bulk Sample

A single bulk sample consisting of 705 drill core samples of half core and quarter core (previously used for XRT sorter testwork) was submitted and utilised for pilot scale testwork at the WAI laboratories. A summary of the samples used for the bulk sample are shown in Table 9.2.

Table 9.2 - Summary of Samples Submitted by Elementos and used for Bulk Sample

Grade Ranges	Type	Number of Samples	Approx Sample Weight (kg) *	Sn (%)
0.001	Unmineralised	55	357	0.001
0.001 – 0.3	Low Grade	194	877	0.25
0.3 – 0.6	Medium Grade	218	889	0.51
>0.6	High Grade	238	900	0.76
Total		**705**	**3,022**	**0.45**

* Calculated weights for drillcore sample lengths using a density of 2.6t/m^3

The sample was confirmed by WAI as representative of the ore for the project on the following criteria: spatial distribution, ore domain, average-grade, weathering and geology. The conclusions of this assessment are summarised as follows:

1. Spatial locations of the individual samples used in the bulk sample provide sufficient coverage of the potential open pit.
2. Proportions of the weathering types used in the bulk sample are generally representative of the proportions of the total mineable resource.
3. Samples are considered representative of a range of mineralised domains with the greatest number of samples coming from the largest mineralised domains (by tonnage).
4. Average grade of the bulk sample (0.46% Sn) is consistent with the estimated average deposit grade being fed into the plant.

For personal use only

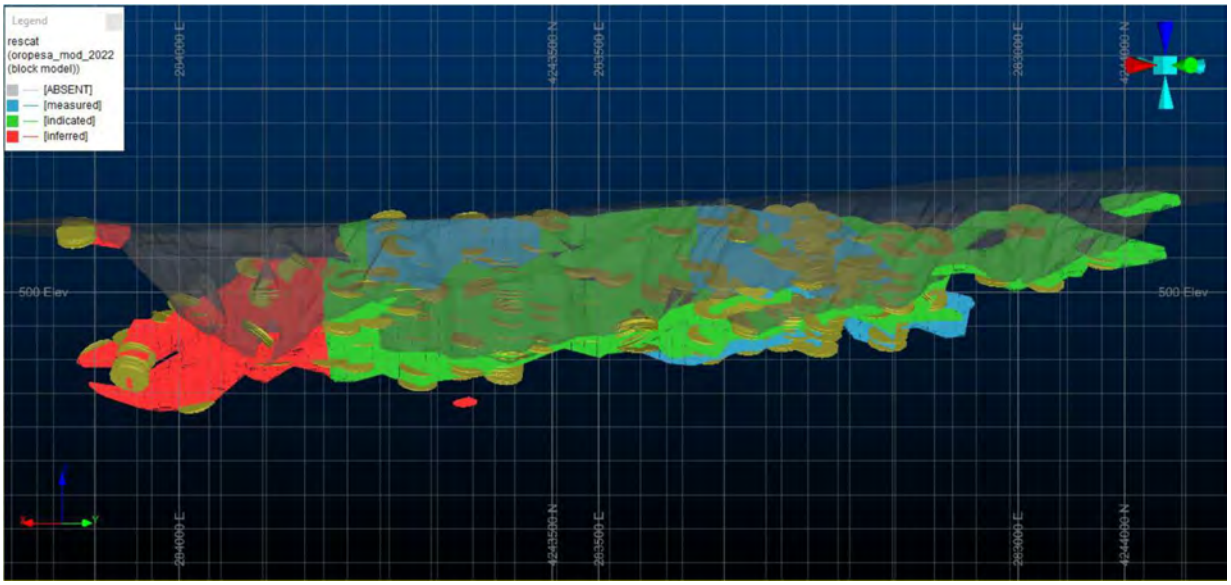

Figure 9-1 – Oropesa Long Section Showing Block Model, Optimisation Study Pit Shell and Sample Locations

9.2.3 Pilot Testwork Conclusions

The key conclusion from the pilot testwork are summarised below:

1. Head assay analysis returned values of 0.46% Sn, 12.9% Fe and 360ppm Pb.
2. Laboratory scale preliminary testwork was completed as planned, allowing pilot scale testing to be run.
3. 2,020kg of material was processed at pilot scale, which included sulphide flotation followed by four stages of gravity separation.
4. Tin losses at pilot plant scale were limited to 7.6% to the sulphide flotation concentrate and 2.6% to the hydrocyclone overflow.
5. The tin dressing of the pilot plant gravity concentrates included multiple gravity stages, sulphide flotation and magnetic separation. The final tin dressing concentrate graded 63.7% Sn at a recovery of 44.8%.
6. Tin flotation, using a sulphosuccinamate-based collector and a hydrosol as a dispersant, produced a tin concentrate grading 2.5% Sn. This went on to magnetic separation where removing 80% of the iron resulted in an upgrading of tin grade to 3.7% Sn. A final gravity cleaner on the non-magnetics produced a tin concentrate grading 44%.
7. Mineralogical studies demonstrated that grades of 57-65% Sn would be achievable to this concentrate.
8. Final concentrate grades and recoveries from the gravity circuit were 63.7% Sn grade at 44.8% recovery whereas the final concentrate from the flotation circuit graded 58% Sn at 29.3% recovery (these grades and recoveries are combined to overall plant recovery).

In addition to the summarised overall metallurgical upgrade and flowsheet information, test work has again confirmed, via mineralogy tests, that Oropesa tin ore is hosted in cassiterite (>99%) mineralisation, with only the minor quantities of tin (<1%) hosted in stannite. Cassiterite is the 'economic' form of tin mineralisation, with stannite being a difficult tin mineral to recover. This aligns with and confirms the findings from previous mineralogy information on the deposit.

For personal use only

For personal use only

9.3 Variability Testwork

9.3.1 General

The variability testwork program completed aimed to confirm the pilot plants metallurgical performance across variable composite samples from the deposit. The composite samples comprised of a total of 32 variability samples were selected by Elementos and each of these composite samples was made up of 4 or 5 individual drillhole samples as summarised in Table 9.3.

Table 9.3 – Summary of Variability Samples utilised by WAI

Table 4.1: Summary of Variability Samples Reviewed by WAI

Composite Sample	Oxide / Sulphide	Sn	Fe	Pb	Number of Individual Samples	Average Sn (%)	Average Fe (%)	Average Pb (ppm)	Average Pb (%)
VAR-1	Sulphide	High	High	High	4	1.23	18.59	832	0.083
VAR-2	Sulphide	High	High	Low	4	1.24	19.14	73	0.007
VAR-3	Sulphide	High	Low	High	4	0.52	6.85	4689	0.469
VAR-4	Sulphide	High	Low	Low	5	1.17	7.57	58	0.006
VAR-5	Sulphide	Low	High	High	4	0.22	19.09	1617	0.162
VAR-6	Sulphide	Low	High	Low	5	0.19	16.36	70	0.007
VAR-7	Sulphide	Low	Low	High	5	0.24	7.37	291	0.029
VAR-8	Sulphide	Low	Low	Low	5	0.23	5.64	46	0.005
VAR-9	Oxide	High	High	High	5	0.72	26.63	2818	0.282
VAR-10	Oxide	High	High	High	5	0.38	19.32	71	0.007
VAR-11	Oxide	High	Low	High	5	0.39	6.09	1247	0.125
VAR-12	Oxide	High	Low	Low	4	0.40	5.89	103	0.010
VAR-13	Oxide	Low	High	High	4	0.25	18.65	943	0.094
VAR-14	Oxide	Low	High	Low	5	0.20	18.85	45	0.005
VAR-15	Oxide	Low	Low	High	5	0.24	5.24	288	0.029
VAR-16	Oxide	Low	Low	Low	5	0.19	5.13	60	0.006
VAR-17	Sulphide	High	High	High	4	0.94	20.60	259	0.026
VAR-18	Sulphide	High	High	Low	4	0.83	16.54	65	0.007
VAR-19	Sulphide	High	Low	High	4	1.60	5.57	459	0.046
VAR-20	Sulphide	High	Low	Low	5	0.71	6.53	30	0.003
VAR-21	Sulphide	Low	High	High	5	0.17	18.85	244	0.024
VAR-22	Sulphide	Low	High	Low	4	0.21	12.19	52	0.005
VAR-23	Sulphide	Low	Low	High	3	0.19	6.10	336	0.034
VAR-24	Sulphide	Low	Low	Low	5	0.24	7.31	58	0.006
VAR-25	Oxide	High	High	High	4	0.73	17.00	768	0.077
VAR-26	Oxide	High	High	Low	5	0.70	19.27	71	0.007
VAR-27	Oxide	High	Low	High	4	0.60	7.36	369	0.037
VAR-28	Oxide	High	Low	Low	4	0.39	6.66	61	0.006
VAR-29	Oxide	Low	High	High	5	0.23	16.66	473	0.047
VAR-30	Oxide	Low	High	High	5	0.24	17.74	60	0.006
VAR-31	Oxide	Low	Low	High	5	0.23	6.24	329	0.033
VAR-32	Oxide	Low	Low	Low	4	0.20	7.53	95	0.009

9.3.2 Variability Samples

A review of the individual samples used to produce the composite samples was undertaken by WAI and included the following:

1. Review of spatial location of the samples.
2. Review of sample mineralised domains.
3. Review of sample weathering.
4. Review of sample grade ranges.

For personal use only

9.3.2.1 Spatial Location of Samples

The individual samples were imported as drillholes by WAI into Datamine software. The locations of the samples were reviewed by WAI based on long-sections which included the open pit mine design and the mineralisation wireframes as shown in Figure 9-2 and the block model as shown in Figure 9-3.

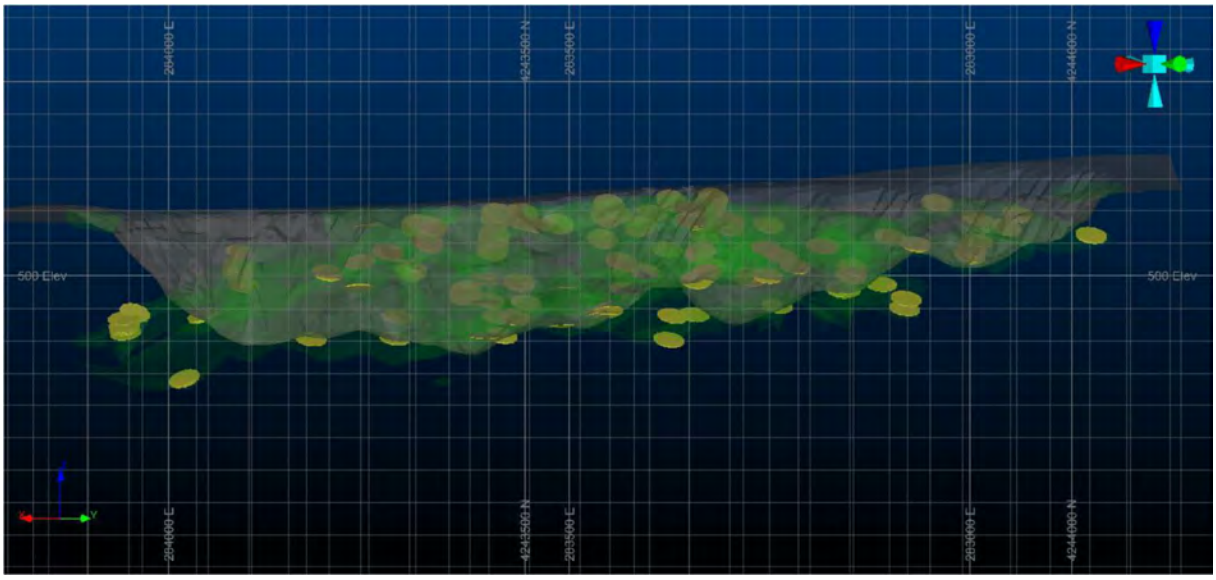

Figure 9-2 – Long Section Showing Mineralisation Wireframes, Pit Shell and Variability Samples

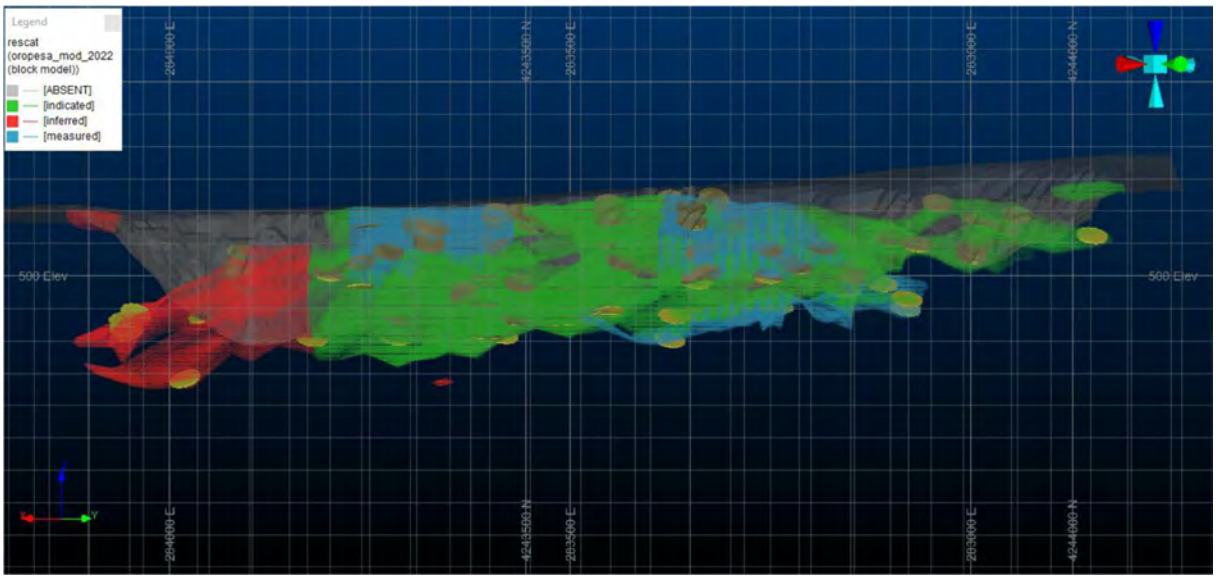

Figure 9-3 – Long Section Showing Block Model, Pit Shell and Variability Samples

An example long-section of the samples used in the VAR-1 composite is shown in Figure 9-4. Long-sections of all 32 composite samples are contained in the Metallurgical testwork reports.

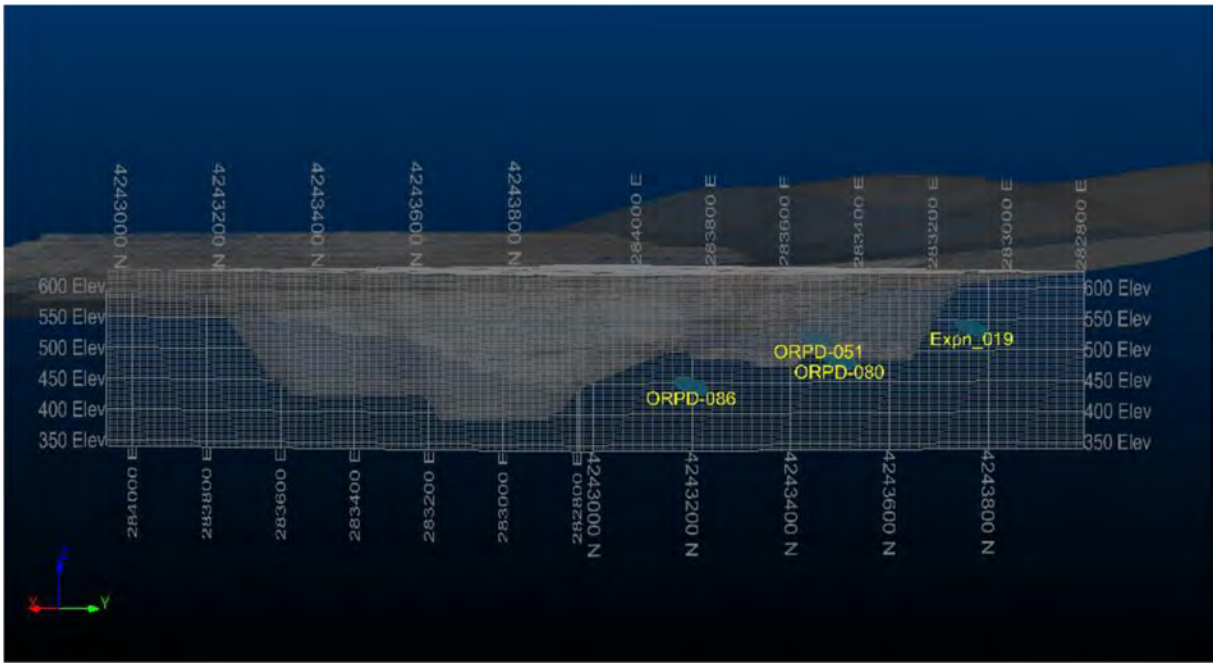

Figure 9-4 – Location of Samples used in VAR-1 Composite

Based on the review, WAI considers the spatial locations of the individual samples used in the composites to be generally sufficiently spatially related. In instances, where individual samples are spatially isolated from other samples of the same composite, WAI recommended these samples could be removed (if sufficient composite sample weights can still be generated).

9.3.2.2 Review of Weathering

Weathering codes were assigned to the samples by Elementos based on a re-logging programme undertaken by Elementos geologists during 2020/2021. The classification of weathering types included: oxide, transition and fresh.

For the variability samples, the classification was further simplified by Elementos (to limit the number of samples) into two principal categories of oxide and fresh. Any samples that were collected from the transitional zone were considered as fresh due to the presence of sulphides. Of the 32 variability samples, 16 comprised of oxide and 16 comprised of fresh (including transition). A summary of the weathering codes of the individual samples is included in the full metallurgical reports (FR: Fresh (including transitional material), OX: Oxide).

The total mineable resource for Oropesa comprises the following:

1. Oxide: 24% (3.8Mt).
2. Transition: 20% (3.2Mt).
3. Fresh: 56% (8.8Mt).

Although oxide comprises a smaller proportion of the total mineable resource, mining and processing of oxide material will occur early in the life of mine (LOM) schedule. Based on this, WAI considered the samples submitted by Elementos for variability testwork to be appropriate.

For personal use only

For personal use only

9.3.2.3 Review of Mineralised Domains

Mineralised domains reflect contiguous zones of mineralisation occurring in the granular sandstones at the contacts between the sandstones and the conglomerate units. WAI notes that the composites consist of samples from various mineralised domains. If a significant difference in lithology or mineralogy exists between these domains, then WAI would recommend removing these samples from the overall composite.

9.3.2.4 Review of Grade Ranges

Grade ranges of Sn, Fe and Pb are classified by Elementos as high or low based on the following criteria:

1. Sn – Low <0.3% Sn; High>0.3% Sn.
2. Fe – Low <9% Fe; High>9% Fe.
3. Pb – Low <125ppm Pb; High >125ppm Pb.

Statistical reviews of the drillhole data was undertaken by WAI for each of these elements and the representative low/high split of the composites assigned by Elementos for the variability testwork assessed.

9.3.2.5 Conclusions

Overall, WAI considered the samples used by Elementos for the variability testwork composites to be generally appropriate, noting the following:

1. Where individual samples are spatially isolated then these samples could be removed from the composites (if sufficient sample weights can still be attained).
2. Weathering codes were assigned to the samples by Elementos based on a re-logging programme undertaken by Elementos geologists during 2020/2021. For the variability samples, two principal categories of oxide and fresh were assigned. Any samples that were collected from the transitional zone were considered as fresh due to the presence of sulphides.
3. WAI notes that the composites consist of individual samples from various mineralised domains. If a significant difference in lithology or mineralogy exists between these domains, then WAI would recommend removing these samples from the composites.
4. Based on a statistical analysis of the drillholes and average deposit grades, the grade ranges used by Elementos for the variability samples are considered by WAI to be generally appropriate.

9.3.3 Variability Testwork Conclusions

The following conclusions were reached in the variability testwork program:

1. 32 variability samples were delivered for flowsheet confirmation.
2. Head assay analyses returned tin grades ranging from 0.17% Sn to 1.51% Sn, iron grades ranging from 4.7% to 30.2% Fe and lead grades ranging from 35 to 4480ppm Pb.
3. Bond Ball Work Indices ranged from 10.8 to 16.5kWhr/tonne, classifying samples as being ‘medium’ or ‘hard’.

For personal use only

4. Following the flowsheet developed during work on the bulk sample, final concentrates were produced from each variability sample with grades ranging from 44.5% to 75.2% Sn at recoveries ranging from 35.7% to 99.8%.

5. Considering the proportion each variability sample represented within the resource, a final resource tin concentrate grade of 61.9% Sn can be achieved at an overall recovery of 72.2%.

9.3.4 Metallurgical Regression Curves

Due to the available sample mass, all variability testwork was completed at laboratory scale. Using pilot scale and laboratory scale relationships developed from the processing of the bulk sample, interpretations were run on the variability sample results to predict scale-up grade and recovery values, a standard metallurgical approach.

In deriving regression curves for the 32 variability samples, certain samples were omitted from calculations. In total, 12 samples were omitted leaving 11 representing sulphide mineralisation and 9 representing oxide – this maintained the ratio (55:45) identified in the resource report which stated 56% of the deposit being made up of sulphide mineralisation. Samples omitted included any obvious outliers, as well as those making up less than 1% of the known resource.

Using the base conditions and results obtained during testwork on the bulk sample, regression curves were calculated. These have been redacted for public announcements.

1. Regression Curve, Gravity Concentrate Grade: y = [REDACTED].

2. Regression Curve, Gravity Concentrate Recovery: y = [REDACTED].

3. Regression Curve, Flotation Concentrate Grade: y = [REDACTED].

4. Regression Curve, Flotation Concentrate Recovery: y = [REDACTED].

Using the regression curve formulas, interpretations of the final concentrate grades and recoveries can be made for both the flotation and gravity circuits as well as an overall grade and recovery values for all variability samples.

9.4 TOMRA Testwork

TOMRA Sorting Solutions has been engaged since 2019 to complete sorting works on the Oropesa material. The first set of test work on tin ore samples from the Oropesa deposit in Spain was performed using TOMRA's XRT full-scale sorter and built on the Performance Test carried out in 2019. The objective of this Performance Test was to detect and separate tin ore from waste material with high priority on tin recovery.

The 2022 program completed cascade sorting tests in two main phases and confirmed the technology performance results achieved in 2019 program: Phase 1 conducted a sortability analysis using the cascade method at a low throughput to confirm the 2019 testwork results. The sorted rocks were subsequently used for testwork by Wardell Armstrong. Phase 2 was a performance test to determine if the Phase 1 results could be reproduced at a high throughput. The purpose of phase 2 was to focus on the tin recovery as much as possible without concern for the mass pull.

Phase 1 of the ore sorting testwork successfully reproduced the 2019 test results. Similarly, phase 2 was also able to confirm the results at a higher throughput. The operating setting was initially selected to achieve the highest possible tin recovery without concerns for the mass rejection. The Phase 2 performance test was

conducted using a two-step sorting set-up with a rougher and scavenger to find if this improved project economics and process performance. A two-step sorting process does not improve the sorting result.

Table 9.4 summarises the results achieved in both phases of the TOMRA testwork:

Table 9.4 – Summary of Test Results Achieved From 2019 and 2022

Comparison of Test Results		SN Feed (%)	Product Mass Pull (%)	Sn Recovery (%)	Sn Upgrade
2022 Phase 1 Set 3	High Grade	0.63	74.1	91.1	1.23
	Medium Grade	0.34	68.6	84.1	1.23
	Low Grade	0.15	55.1	69.2	1.26
2022 Phase 1 Set 4	High Grade	0.63	76.7	92.3	1.20
	Medium Grade	0.34	72.1	86.4	1.20
	Low Grade	0.15	59.7	73.7	1.23
2022 Phase 2 Set 5	High Grade	0.70	81.8	94.8	1.16
	Medium Grade	0.40	76.0	90.5	1.19
	Low Grade	0.17	65.3	74.9	1.15
2019 Test Set 3	High Grade	0.80	74.0	93.5	1.26
	Medium Grade	0.37	67.2	88.3	1.31
	Low Grade	0.23	62.1	79.8	1.29

The TOMRA testwork concluded that to achieve the higher recoveries, a higher sensitivity was recommended as settings with a higher sensitivity were the best performing configurations in terms of upgrade, recovery, and mass rejection.

For personal use only

10 PROCESS DESIGN AND ENGINEERING

10.1 Design Development / Early Contractor Involvement

The Elementos strategy for delivery of the Process Plant and related facilities for the DFS was designed as follows:

1. Engagement of a selected EPC Contractor under an Early Contractor Involvement (ECI) Contract to support development of this package for the DFS. The ECI Contract was competitively bid with an indicative scope and contract Term Sheet that would be applicable to an EPC Contract for execution of the package developed on an "open book" approach.
2. ECI Contractor to develop engineering deliverables to support the DFS and establish EPC contract pricing and commercial arrangements on a cooperative and open book basis.
3. Detailed scope of the package to be developed and agreed as part of the ECI activities.
4. The general scope of the EPC package covered engineering, procurement and construction (including commissioning support) of the following:
    a. Process plant facilities.
    b. NPI Buildings and associated services.
    c. Tailings and water reticulation pumps and piping.
    d. Main onsite substation and electrical distribution.

Duro Felguera S.A. (DF) was engaged as the ECI Contractor and has completed the design development of the Process Plant and related facilities in support of the DFS in line with this strategy.

A full suite of technical deliverables together with an EPC Price Estimate was delivered by Duro Felguera and forms the basis of the information included in this Section.

During the ECI engagement there were layout changes to the project to align with modifications to support permit discussions, detailed in Section 6.2, which included effects on some of the associated scope of works for DF. To minimise disruptions and changes to the ECI program the company allowed DF to complete the design, engineering and EPC costings based on the original locations. The company has then made the necessary adjustments to the DF based deliverables, these have been made subsequent to DF's completion and now fully reflect the necessary adjustments to the location of key project elements resulting from negotiations with approvals authorities. These are relatively limited in the overall package and reflect the following:

1. Limited modifications to the materials handling layout to reflect the positioning of the ROM Pad closer to the Process Plant area and adjusted concepts for the related civil works pads.
2. Additional conveyor for Ore Sorter waste transfer to its Waste Stockpile in a location more accessible for waste removal without limited access to the assigned Mining Contractor's Infrastructure Area.
3. Adjustments for single tailings stream from Tailings Thickener to the single TSF.
4. Adjusted concepts for the Fresh and Process Water Dams and the introduction of the Contact Water Dam.

For personal use only

For personal use only

At the conclusion of the ECI Duro Felguera and Elementos / MESPA signed a settlement agreement letter in which Duro Felguera relinquished EPC exclusivity and allows the company to re-tender the EPC contract to other parties, as long as Duro Felguera is also invited to re-tender.

10.2 Process Overview

The process flow sheet was designed in conjunction with the DFS testwork program to establish the Process Design Criteria. The Flow Diagram representing the process can be seen in Figure 10-1 below.

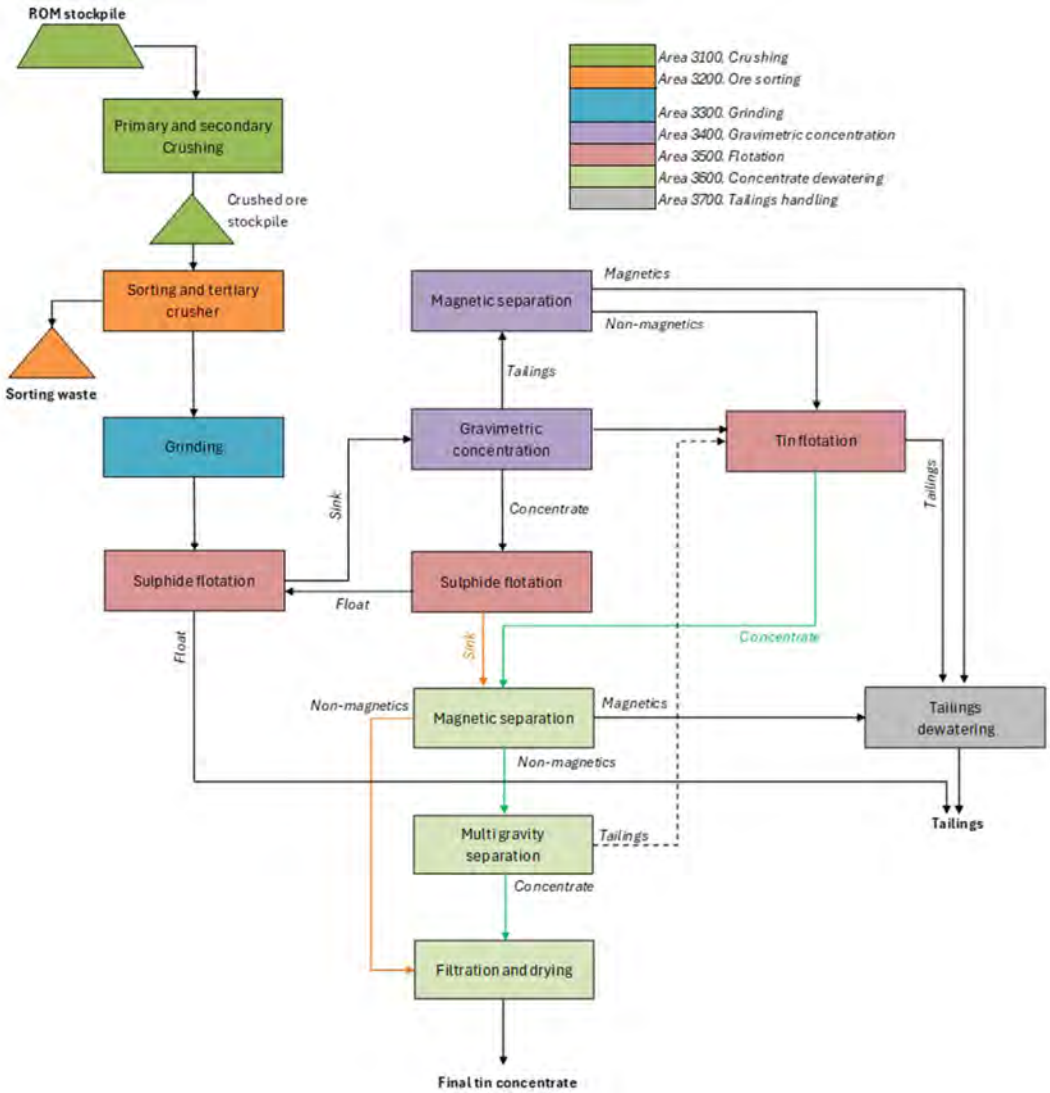

Figure 10-1 – Overview Process Flow Diagram

The process can be divided into seven key unit operations:

1. **Crushing (3100)** – Run of Mine (ROM) ore is screened at 160 mm with the oversize material crushed. The two streams are then recombined and screened a second time, where ore reporting to the plus

25 mm fraction is crushed again, then recycled. The undersize material progresses through to the next stage.

2. **Ore Sorting (3200)** – Initial screening at 10 mm feeds the coarse material to the ore sorters — whose product is recombined with the fines and screened again at 7 mm. Coarse material is crushed and returned to the screen while fines are fed to the grinding area.
3. **Grinding (3300)** – A ball mill reduces particle size from a D_{100} of 7 mm to a D_{80} of 125 µm in a closed circuit, with a battery of hydrocyclones.
4. **Sulphide Flotation (3510)** – The ore is passed through a rougher and two cleaner stages with an integrated regrind circuit on the rougher concentrate. Rougher concentrate is passed through a cyclone stage cutting at a D_{80} of 53 µm; underflow is sent to a vertimill while overflow is fed to the first cleaner. Concentrate from the first cleaner is fed to the second whose tailings return to the first and subsequently return to the rougher.
5. **Gravimetric Concentration (3400)** – The feed to this section is passed through a cyclone stage cutting at a D_{80-} of 53 µm with coarse and fine particles subjected to separate gravity separation circuits. Both circuits use a rougher and cleaner/scavenger spiral in conjunction with a cleaning shaking table battery. The coarse circuit also includes a regrinding circuit (vertimill and cyclone cluster), and the fines circuit includes a magnetic separation unit that is fed by the tailings of the scavenger spiral. Reground concentrates will feed a final sulphide flotation stage. Concentrate will be recirculated to the bulk sulphide flotation circuit while tailings will be sent to concentrate dewatering.
6. **Tin Flotation (3520)** – Conditioned non-magnetics from gravimetric concentration are fed to a bank of rougher and subsequently cleaner cells where tin is floated off from remaining gangue. Two rougher cells and three cleaner cells operate with recirculating loads to provide a tin concentrate that is then fed to concentrate dewatering.
7. **Concentrate Dewatering (3600)** – Concentrate streams from gravimetric concentration and tin flotation are separately fed to one magnetic separator. Tin flotation product non-magnetics will be delivered to an additional gravity stage in a multi-gravity separator before being subjected to pressure filtration. Gravity product non-magnetics will directly feed the pressure filtration stage. The filter cake is then dried to obtain the final product.

For personal use only

For personal use only

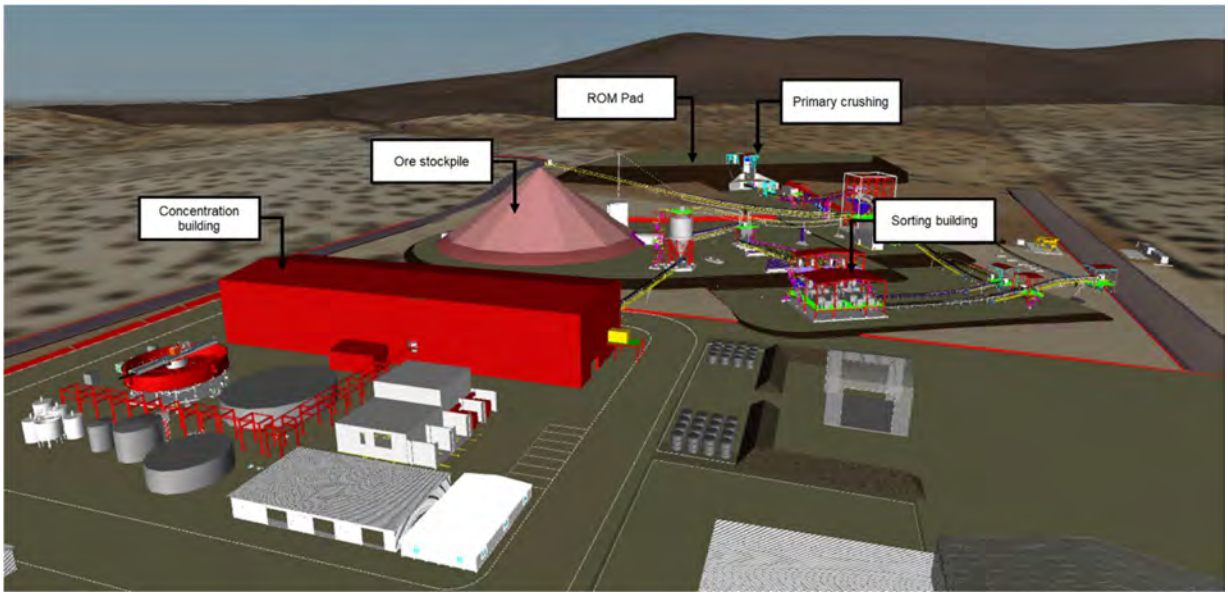

Figure 10-2 – General Arrangement

10.3 Ore Characteristics

Ore body mineralogy reveals a silicate dominated material that varies in grade across the designated mine area. Nominal values that have been determined from testwork have been reported in Section 8 and are shown in Table 10.1 along with additional relevant data.

Table 10.1 – Ore Characteristics

Ore Characteristic	Unit	Value
Ore Type		Oxide and Sulphide Ore
Ore Specific Gravity	t/m³	2.60 – 2.90
Ore Specific Gravity (Nominal)	t/m³	2.89
Ore Bulk Density	t/m³	1.40 – 1.90
Ore Bulk Density (Nominal)	t/m³	1.70

10.4 Capacity and Utilisation of Plant

The mineral processing plant has been designed to feed approximately 1,250,000 tonnes per year to the crushing and pre-concentration processes (dry process), of which around 1,000,000 tonnes will feed the rest of the process (wet process).

The estimated availability of each area, based on similar projects, is:

1. Crushing: 82%.

2. Concentration: 92%.

Due to this difference, an intermediate mineral stockpile has been designed between areas, which will allow the operation of to be independent. At the feed head for crushing, the stockpile will be divided into three qualities, which will also allow the homogenization of the feed to the plant.

To achieve the target annual productions, the average work rate would be as summarised in Table 10.2.

Table 10.2 – Process Plant Capacity and Availability

Mine Production		→	Crushing / Ore Sorting		→	Concentration	
1.250.000	t/year		1.250.000	t/year		950.000	t/year
256	days/year		250	working days		360	working days
80%	availability		80%	availability		90%	availability
16	h/day		16	h/day		24	h/day
3.276	h/year		3.276	h/year		7.776	h/year
370	t/h		370	t/h		120	t/h

The final product of the plant will be a tin concentrate of ~64% grade, so the average annual production of concentrate will be approximately 5,400 tons, which is equivalent to 3,300 tons per year of tin metal. The average plant recovery will be 74%. A summary of the key process design criteria (PDC) is presented in Table 10.3.

Table 10.3 – PDC Summary

PDC Item	Unit	Value
Mine Life	years	12
Production Case		
Annual Tonnes Mined	Mtpa	1.25
Annual SnO2 Concentrate Production	tpa	5,288
Grades		
Plant Feed Grade	% SnO_2	0.37
SnO2 Product Grade	% SnO_2	61.4
Recoveries		
Ore Sorting Recovery	% SnO_2	90%
Gravimetric Concentration Recovery	% SnO_2	44.8%
Tin Flotation Recovery	% SnO_2	29.3%
Overall Recovery	% SnO_2	74.1%

For personal use only

For personal use only

10.5 Process Plant and Related Facilities

10.5.1 Process Plant EPC Scope

The scope of work includes the design, engineering, procurement, manufacturing, transport to site, erection, construction, testing, commissioning support and handover to MESPA of the tin processing plant and associated facilities. The work includes design and construction covering the following:

1. Civil and concrete works.
2. Structural steelwork and platework supply and engineering.
3. Mechanical equipment supply and installation.
4. Pipework supply, assembly and installation including valves, in-line instruments, accumulators, special piping items, strainers, traps, drains and supports.
5. Supply and installation of electrical, instrumentation, communications and control equipment.
6. Supply and construction of NPI buildings, facilities and services.

Figure 10-3 shows a snapshot from the 3D model of the Process Plant and Infrastructure and further details of the facilities covered under this package are outlined in the following subsections.

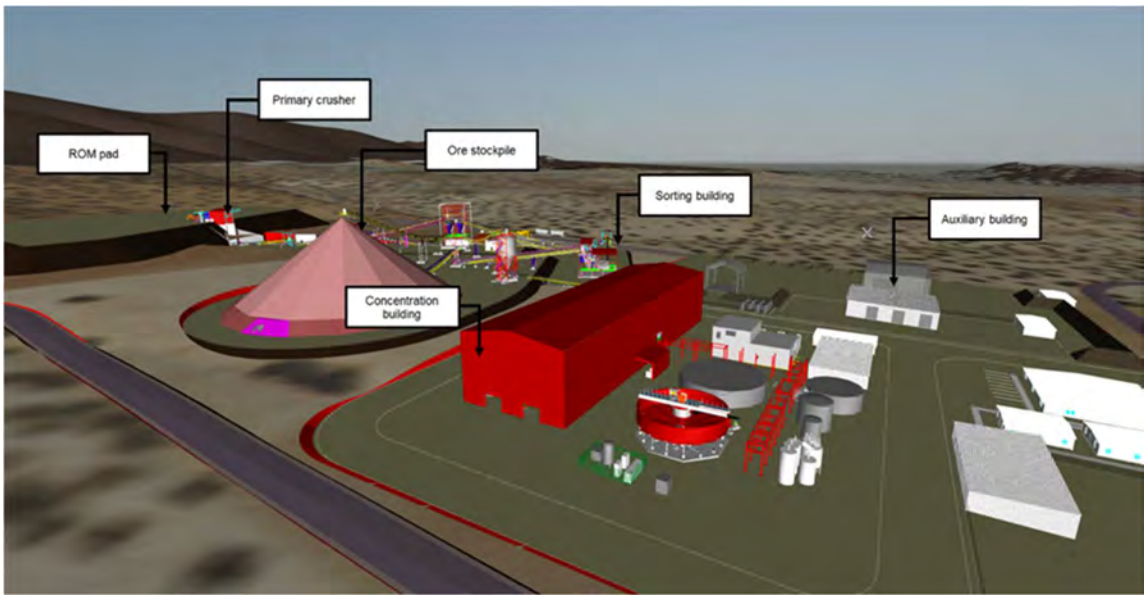

Figure 10-3 – Model Snapshot - Process Plant and Infrastructure

10.5.2 Process Block Diagram

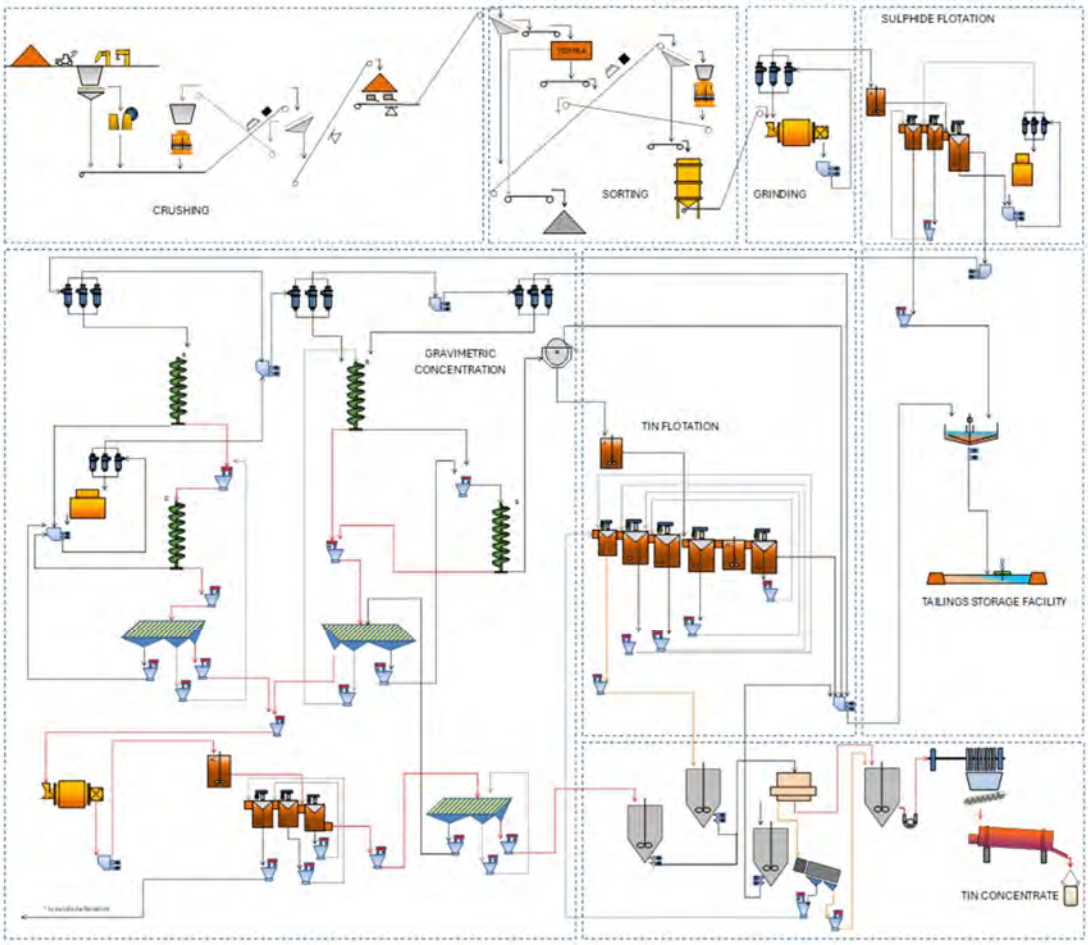

Figure 10-4 – Summary Block Flow Diagram

For personal use only

For personal use only

10.5.3 Crushing (3100)

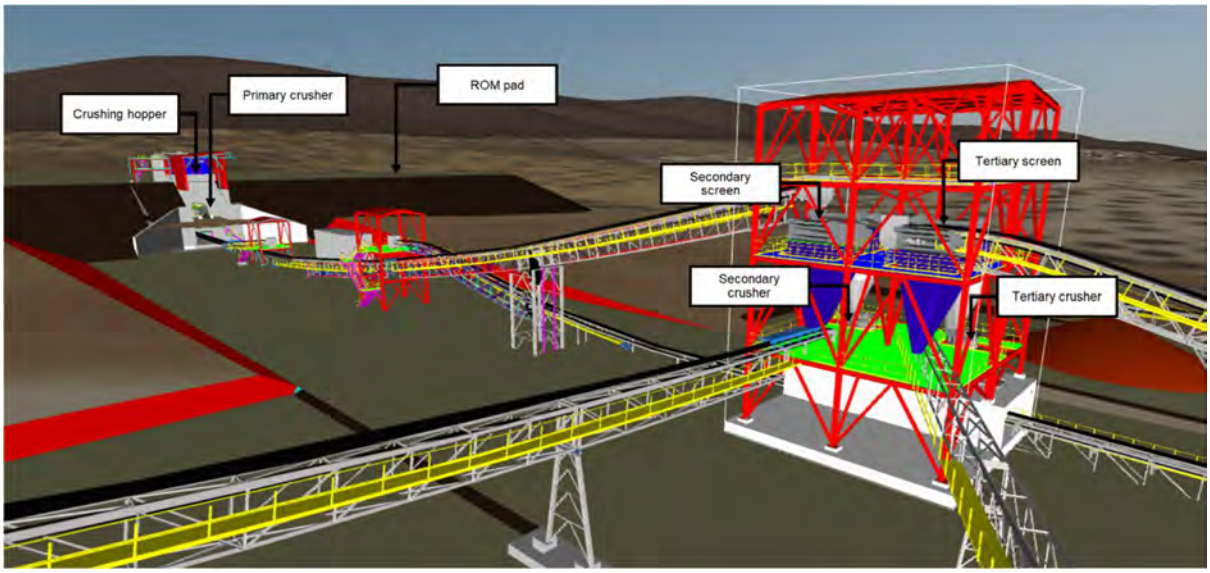

Figure 10-5 – Crushing layout

The crushing area is composed for the following features:

1. Primary crushing building.
2. Secondary screening and crushing building.
3. Crushed ore stockpile.

Trucked Run of mine (ROM) will present to the ROM pad where it will be direct dumped in the Dump Station / Primary Hopper or form stockpiles. When required, a front-end loader (FEL) reclaims and feeds the Primary Hopper which is protected by a Static Grizzly Screen. ROM ore is fed to the Grizzly Screen where material over 160 mm reports to the Primary Crusher. The Primary Crusher crushes the oversize ROM ore, where the crushed material is combined with the screen undersize on Primary Crusher Discharge Conveyor. The Secondary Screen Conveyor transfers ore to the Secondary Screen with the +25 mm fraction reporting to the Secondary Crusher. The crushed material is discharged from the crusher unit and returned to the Secondary Screen Feed Conveyor for reclassification.

For personal use only

10.5.4 Ore Sorting (3200)

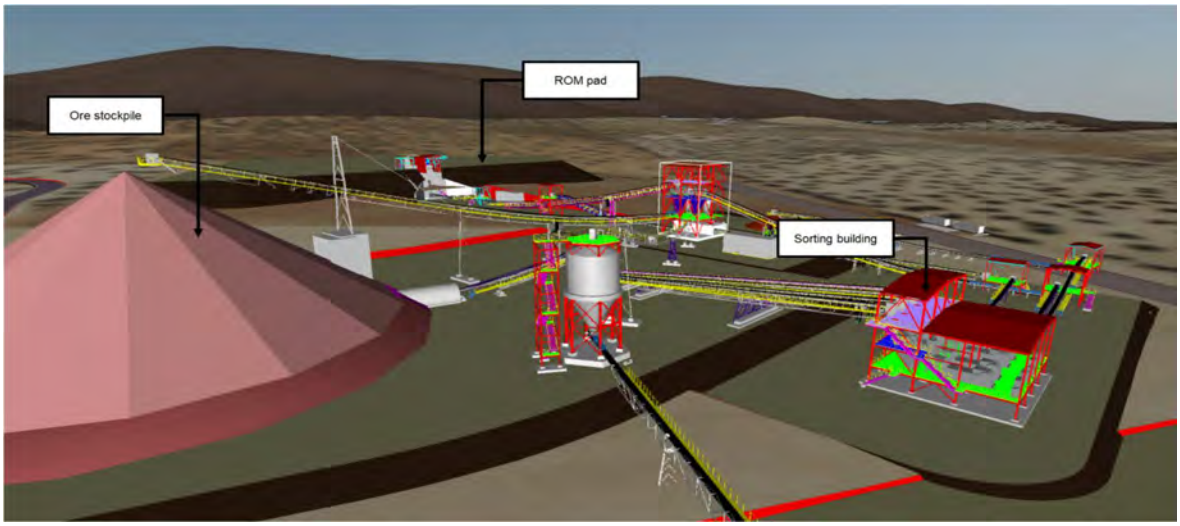

Figure 10-6 – Ore Sorting layout

The Sorting area is composed for the following features:

1. Ore sorting feed hopper.
2. Ore sorting building.
3. Waste stockpile.
4. Tertiary screening and crushing area.
5. Fine Ore Silo.

The crushed ore is reclaimed and fed to the ore sorting units arranged in parallel. The sorting units have their own dedicated screens which recover the +10 mm fraction and segregate the fine fraction. The +10mm material progresses to the Ore Sorters whilst the fines by-pass the sorting units. The ore sorting units produce two streams, a sorted product and a sorted waste. The sorted product is combined with the screened fines, which report to the Tertiary crushing stage for further processing, whereas the sorted waste fraction is transferred to a waste stockpile and rejected from the system.

Ore sorter product and screened fines are passed through the Tertiary Crushing Metal Detector and Tertiary Crushing Magnetic Separator where magnetics are removed from the system with the remaining material delivered to the Tertiary Screen. Material coarser than 7mm reports to the Tertiary Crusher. Crushed material is then recycled to the Tertiary Crushing Feed Conveyor to be rescreened. Undersize ore passes through the Tertiary Screen and reports to the Fines Ore Silo. The fine ore is then reclaimed and proceeds to the grinding circuit.

For personal use only

10.5.5 Grinding (3300)

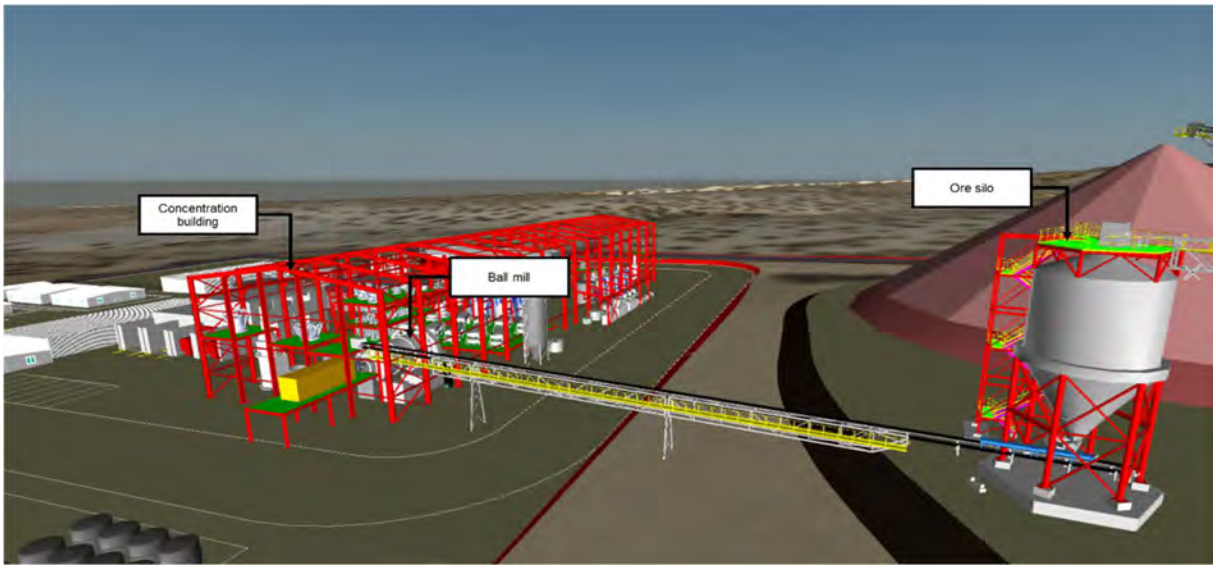

Figure 10-7 – Grinding layout

This area includes the following main equipment:

1. Primary grinding hydrocyclones.
2. Primary grinding ball mill.
3. Grinding horizontal pump pumpbox.

The grinding circuit is designed to take ore with a D100 of 7mm and produce a final grind size of D80 125 µm. This is achieved by a single-stage ball mill and a battery of hydrocyclones operating in a closed circuit. Ore is fed to the Primary Grinding Ball Mill with water added to form a slurry with 51.3% solids. The ground slurry passes over a trommel with the oversize discharged into the P.G.B.M Oversize Bin. The remaining slurry which passes through the trommel is pumped to the Primary Grinding Hydrocyclones which classifies the material at 125 µm. The Cyclone underflow returns back to the Primary Grinding Ball Mill, while cyclone overflow progresses to the sulphide flotation circuit.

For personal use only

10.5.6 Sulphide Flotation (3510)

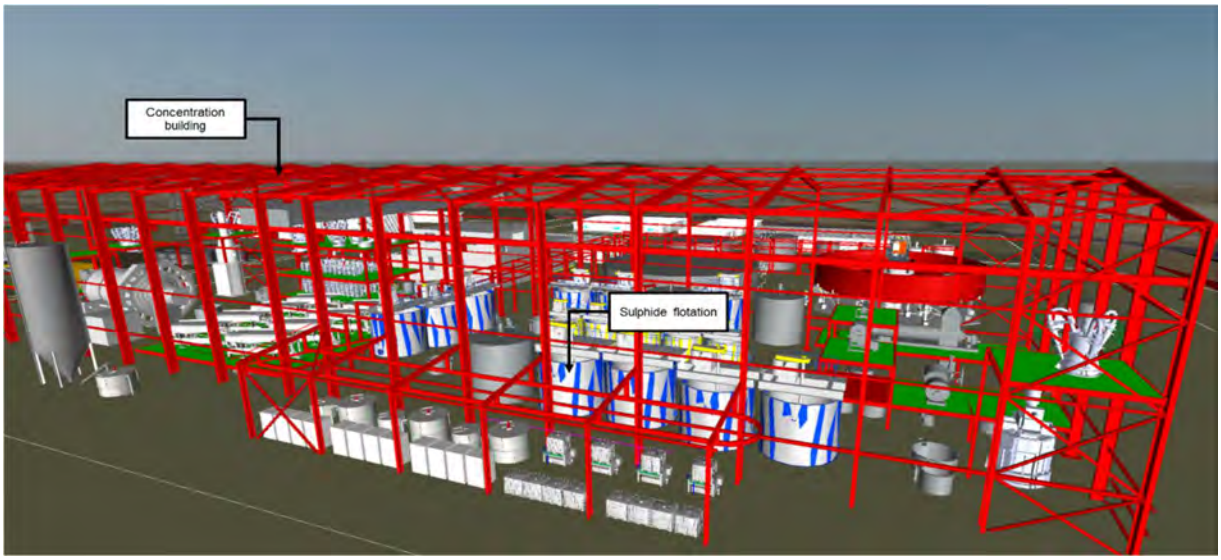

Figure 10-8 – Sulphide flotation layout

The area includes the following type of main equipment:

1. Conditioners.
2. Flotation cells.
3. Hydrocylone.
4. Vertical Mills.

The sulphide flotation circuit includes a single rougher stage, two stages of cleaning, and a regrinding circuit with a battery of hydrocyclones. Slurry entering the circuit flows to the agitated Head Sulphide Flotation Conditioner where pH is modified using lime. Copper sulphate, methyl isobutyl carbinol (MIBC), potassium amyl xanthate (PAX), and aerophine 3418A will also be added to promote selective recovery of sulphide bearing minerals. The conditioned flotation feed slurry flows via gravity to the Sulphide Flotation Rougher Cells where it is joined with the sulphide concentrate from the Concentrate Sulphide Cleaner 2 Flotation Cell. Rougher concentrate will be collected and pumped to the Sulphide Flotation Regrinding Hydrocyclones. Rougher tailings flows via gravity to the gravimetric concentration circuit where it is combined with water to achieve 32% solids.

Material exiting the cyclone overflow with a D80 of 53 µm is fed to the Sulphide Flotation Cleaner 1, while the cyclone underflow reports to the Sulphide Concentrate Regrinding Mill. The output from the mill is recycled back to the hydrocyclone for classification. The first cleaner concentrate is pumped to the Sulphide Flotation Cleaner 2 stage, while tailings are returned to the Sulphide Flotation Rougher Cell feed stream. The Sulphide Flotation Cleaner 2 concentrate is collected and pumped with sludge from the water treatment plant to the sulphide tailings pond, with the sulphide barren tailings being returned via gravity to the Sulphide Flotation Cleaner 1 stage.

For personal use only

10.5.7 Gravimetric Concentration (3400)

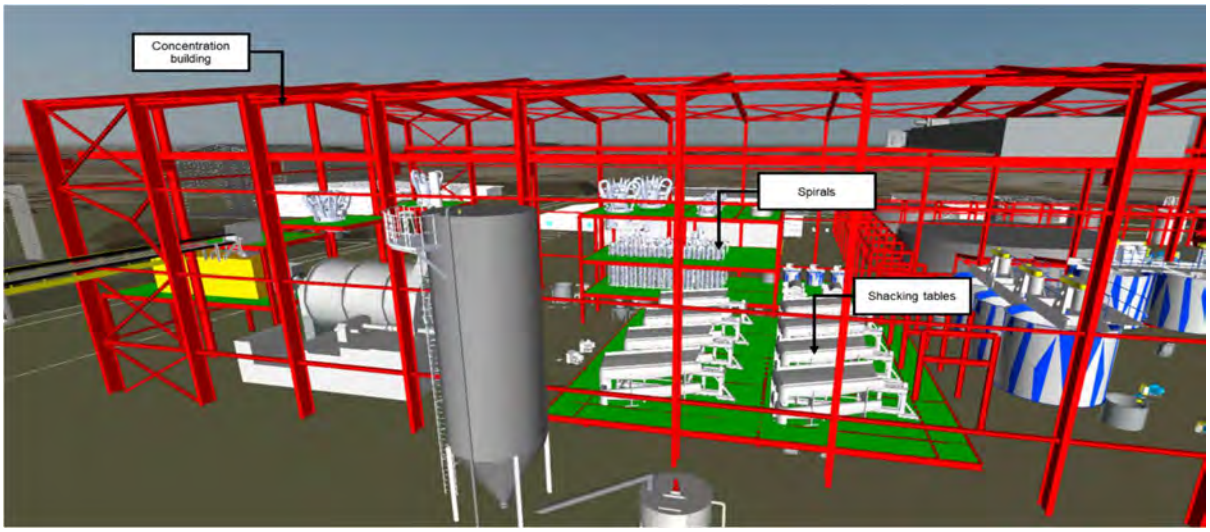

Figure 10-9 – Gravimetric concentration layout

The area includes the following type of main equipment:

1. Hydrocyclones.
2. Spirals.
3. Shaking tables.
4. Magnetic separators.
5. Vertical Mills.

The sulphide flotation rougher tailings are fed to the Primary Gravity Hydrocyclones with a cut point at 53 µm. The underflow will flow via gravity to the Coarse Rougher Triple Spirals of which the concentrate passes to further stages of gravimetric concentration. The tailings is sent to the Gravity Tailings Regrinding Hydrocyclones with a cut point 53 µm; with the underflow being sent to the Gravity Tailings Regrinding Mill whose output is recycled to the Gravity Tailings Regrinding Hydrocyclones for reclassification. The hydrocyclone overflow is combined with the Primary Gravity Hydrocyclone overflow and pumped to the Secondary Gravity Hydrocyclones which has a cut point of 10 µm.

Overflow is sent to the ultrafine, Tertiary Gravity Hydrocyclones that has a cut point of 5 microns. Underflows from both Secondary and Tertiary Gravity Hydrocyclones are combined and sent to the Fine Rougher Triple Spirals.

Concentrate from the Coarse Rougher Triple Spirals is pumped to the Coarse Cleaner Triple Spirals where tailings are to the regrinding circuit. Cleaner concentrate is pumped to the Coarse Cleaner Shaking Table A that produces three products:

1. Table tailings, sent to the regrinding circuit.
2. Table middlings, sent to the cleaner spirals.
3. Table concentrate, sent to the double shaking tables.

For personal use only

Concentrate from the Fine Rougher Triple Spirals is pumped to the Fine Cleaner Double Shaking Tables producing three products:

1. Table tailings, sent to the Fine Scavenger Triple Spirals.
2. Table middlings, sent to the Fine Rougher Triple Spirals.
3. Table concentrate, that will be combined with the coarse shaking table concentrate, and sent to the Gravity Concentrate Regrinding Mill.

Concentrate from the Fines Scavenger Triple Spirals is returned to the Fine Cleaner Double Shaking Tables whilst the tailings are transferred to the Magnetic Separation stage, where iron bearing minerals are removed. The magnetic fraction is pumped to the Tin Flotation Tailings Horizontal Pump Box along with overflow from the Tertiary Gravity Hydrocyclones, with the Non-magnetic fraction sent to tin flotation.

Reground shaking table concentrate is transferred to a final sulphide flotation stage. This final stage removes any residual sulphide reconcentrated in the gravimetric concentration circuit. The feed is first conditioned in the agitated Concentrate Sulphide Flotation Conditioner where pH is modified using lime, and copper sulphate; whilst MIBC, PAX, and aerophine 3418A are added to increase selectivity.

The flotation cells are configured such that rougher concentrate is pumped to the Concentrate Sulphide Cleaner 1 Flotation Cell, whose concentrate is pumped to the Concentrate Sulphide Cleaner 2 Flotation Cell. Tailings from the second cleaner cell is fed to the first cleaner cell and subsequently to the rougher cell, where tailings are transferred to the Recleaner Double Shaking Tables. The shaking table's middlings are recycled to its input, with the concentrate being transferred to the dewatering area. The tailings produced are sent to the Fine Cleaner Double Shaking Tables, with the flotation concentrate discharged to the Sulphide Flotation Rougher Cells.

10.5.8 Tin Flotation (3520)

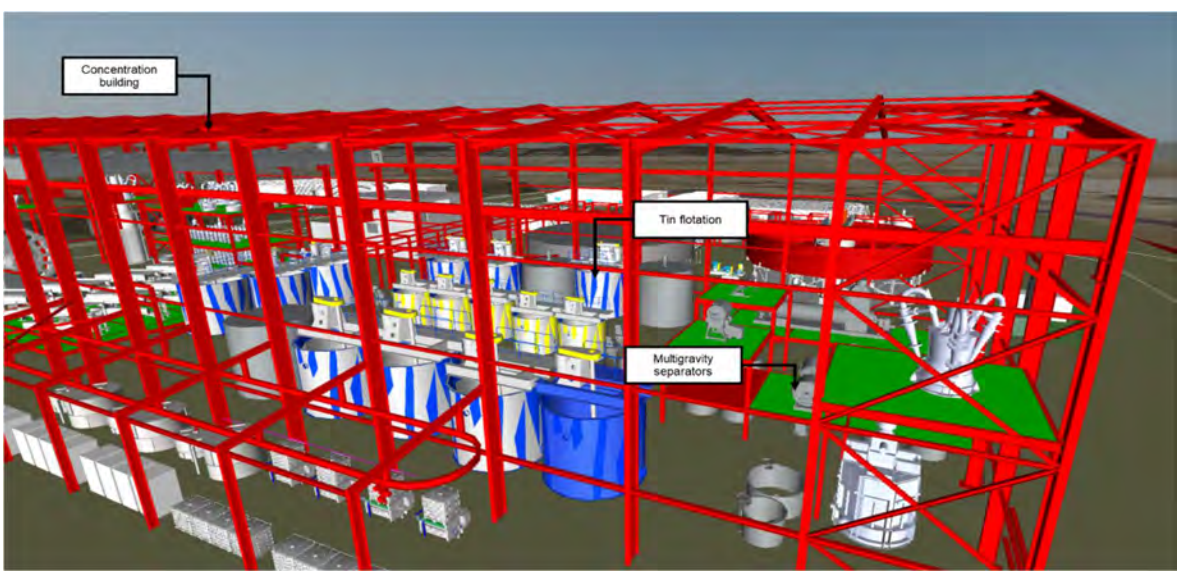

Figure 10-10 – Tin flotation layout

The tin flotation circuit includes two rougher stages and three cleaners. Non-magnetics from the gravimetric concentration section at approximately 28% solids (w/w) enter the Tin Flotation Conditioner where pH of the

slurry is adjusted. Copper sulphate, PAX, sodium silicate, MIBC, Aero 845, sulphuric acid, and aerophine 3418A are added before the slurry is gravity fed to the Tin Rougher 1 Cell. The rougher concentrate is pumped to the Tin Floatation Cleaner 1 Cells or alternatively, back to the Head Sulphide Flotation Conditioner of the sulphide flotation circuit. This occurs if it is decided that the Tin Flotation Rougher 1 Cells should act as an additional sulphide flotation unit.

The first rougher tailings are passed to the Tin Flotation Conditioner before entering the Tin Flotation Rougher 2 Cell. The second rougher's concentrate is pumped to the Tin Flotation Cleaner 1 Cells, while tailings are combined with magnetic tailings and ultrafine hydrocyclone overflow and discharged to the tails thickener.

The Tin Flotation Cleaner 1 Cells concentrate is pumped to the Tin Flotation Cleaner 2 Cells whose concentrate is pumped to the Tin Flotation Cleaner 3 Cell. Tails from the third cleaner feed the second, whose tails feed the first and subsequently pumped back to feed the first rougher. The third cleaner's concentrate is pumped to the Fine Concentrate Tank in the concentrate dewatering section.

10.5.9 Concentrate Dewatering (3600)

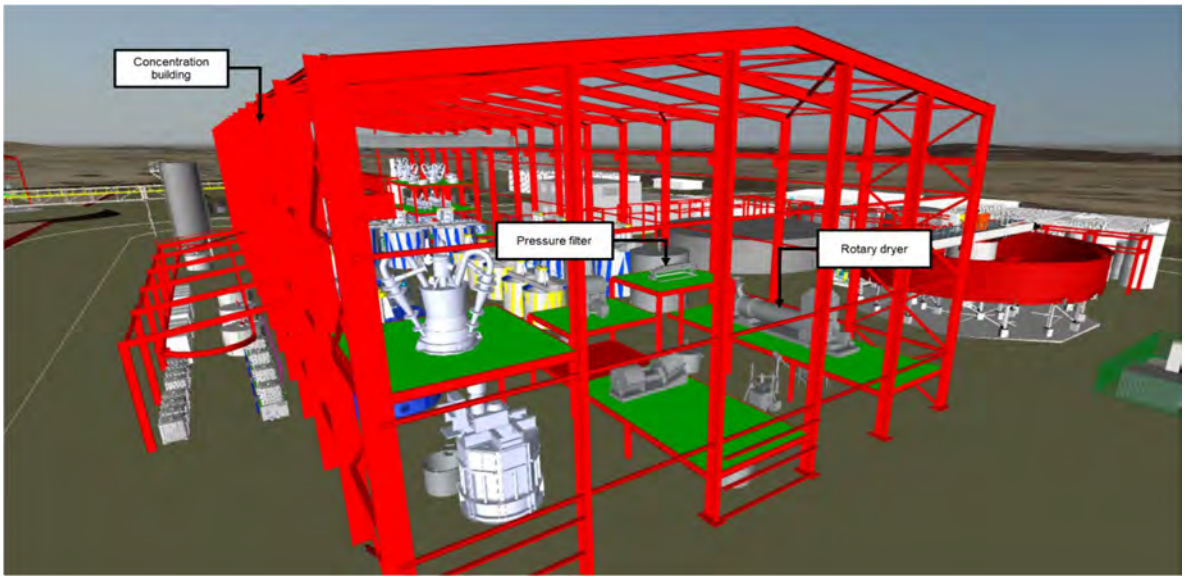

Figure 10-11 – Concentrate dewatering layout

The area includes the following type of main equipment:

1. Multigravity separator.
2. Magnetic separator.
3. Press filter.
4. Rotary dryer.
5. Big bag loader machine.

Concentrate streams from gravimetric separation and tin flotation sections feed the Coarse Concentrate Tank and the Fine Concentrate Tank respectively. These streams are pumped to the Wet High Intensity Magnetic Separator separately in batches, along with a process water stream. Magnetic separation is conducted

For personal use only

separately for gravimetric and flotation concentrates. Magnetics are fed into the Magnetics Tank and pumped first as a recycle stream to the inlet of the magnetic separator, then to be combined with magnetics from the gravimetric concentration section and sent to the Tin Flotation Tailings Horizontal Pump Box.

Non-magnetics from the flotation concentrate will be transferred to the Multigravity Separator whose tailings will be returned to the third cleaner in the tin flotation circuit. Concentrate is discharged to the non-magnetics tank where it is combined with the non-magnetics from gravimetric concentrate that is directly transferred to this tank from the magnetic separator. The tank effluent is transferred to the Concentrate Pressure Filter where filter cake is fed to the Concentrate Rotary Dryer.

Dried product is then transferred to the Big Bag Loader Bin and loaded into bags. The dryer and bag loading systems also include dust collection systems with the Dryer utilising the Rotary Drier Cyclone to assist with dust collection.

10.5.10 Tailings Facilities (3700)

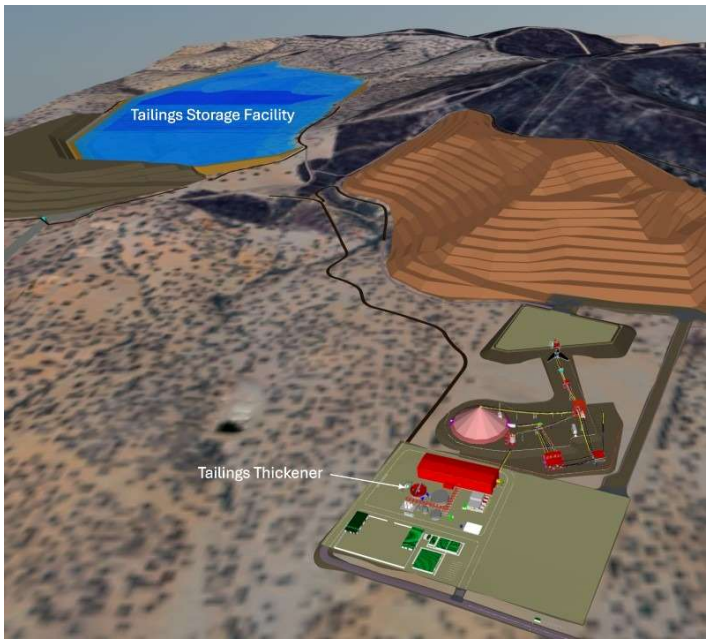

Figure 10-12 – Tailings Facilities

The mineral processing plant will generate a waste stream that will be thickened in a high-capacity thickener from which it will be pumped to the main tailings storage facility using three duplicated centrifugal pumps in series. Once discharged into the TSF, the solids will gradually settle at the bottom until reaching approximately 80% solids content approximately, while the supernatant water will be recovered and then reintroduced into the process plant.

The thickener is located at the south of process pant, with the piping lines will following the profile of the roads to optimise their lengths. They will be installed at the ground level supported over concrete slipper. The first section of the pipe, at the discharge of the slurry pumps, will be made of carbon steel rubber lined. Once the pressure inside the line is reduced, the material of pipe will change to HDPE.

For personal use only

For personal use only

At the tailings pond, a distribution ring will be installed to facilitate the distribution of the discharge. The decanted water recovered from the ponds will be returned to the plant via a piping line installed in parallel to the tailings line, using the same supports. These lines will be made of HDPE material.

10.5.11 Reagents (3800)

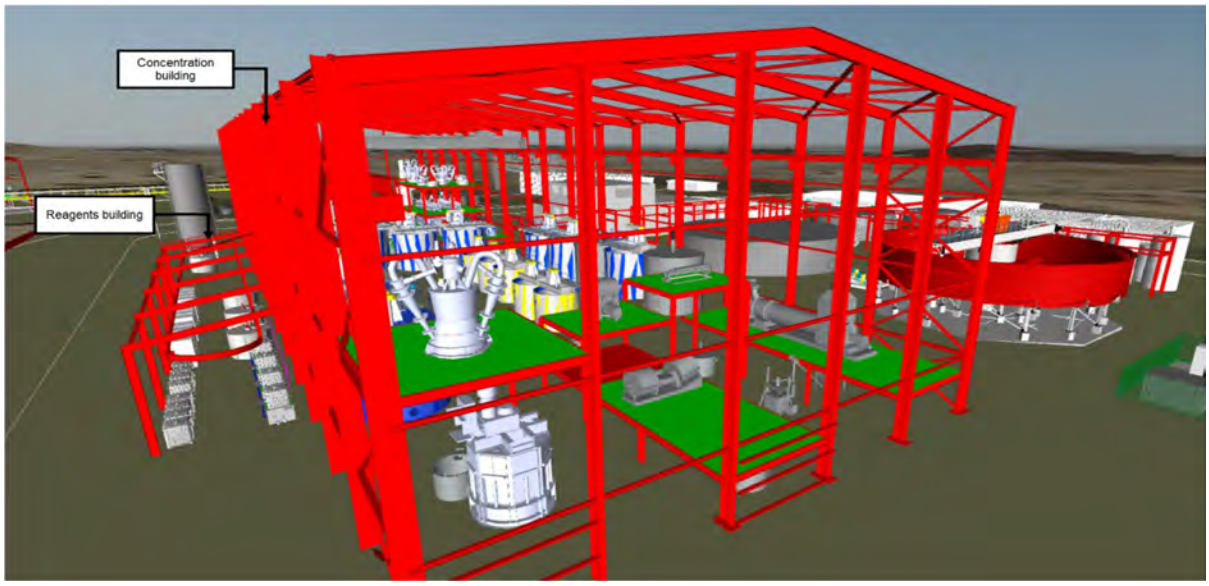

Figure 10-13 – Reagents building layout

The following reagents will be used in the process plant. Supply, preparation, and distribution systems are described below:

1. Copper sulphate (CuSO4): Acts as an activator in all sulphide flotations and will be supplied as a solid in 1t bulka bags. The reagent will be prepared in the CuSO4 Preparation Tank and transferred to the CuSO4 Distribution Tank. The solution is then dosed to consumption points using the CuSO4 Distribution Peristaltic Pumps.
2. Potassium amyl xanthate (PAX): Acts as a collector in the sulphide flotation process. It will be supplied in 1t bulka bags and prepared in the PAX Preparation Tank. It is then pumped to the PAX Distribution Tank and dosed to consumption points using the PAX Peristaltic Distribution Pumps.
3. Sodium silicate (NaSiO3): Acts as a silica depressant in tin flotation. It will be supplied in 1t bulka bags and prepared in the NaSiO3 Preparation Tank. Solution is then pumped to the NaSiO3 Distribution Tank and dosed to consumption points using the NaSiO3 Peristaltic Distribution Pumps.
4. Methyl isobutyl carbinol (MIBC): Acts as a frother in all flotation processes. It will be supplied in 1m^3 IBC's and transferred to the MIBC Distribution Tank. The MIBC Peristaltic Distribution Pumps will then supply the reagent to points of use.
5. Sulphuric acid (H2SO4): Acts as a pH regulator for flotation processes and water treatment plant. It will be supplied in 1m^3 IBC's and transferred to the H2SO4 Distribution Tank. The H2SO4 Peristaltic Distribution Pumps are then used to supply the reagent to points of use.

For personal use only

6. Aero 845: Acts as a tin collector in the tin flotation process. It will be supplied in 1m³ IBC's and transferred to the Aero 845 Distribution Tank. The solution is then transferred to points of use using the Aero 845 Peristaltic Distribution Pumps.

7. Calcium hydroxide (Ca(OH)2): Acts as a pH regulator for flotation processes and water treatment plant. It will be received as a solid in 25t trucks and stored in the Lime Silo. The silo will feed the Ca(OH)2 Distribution Tank, where it will be pulped in water. The Ca(OH)2 Distribution Pumps will supply the solution to points of use.

8. Flocculant: Increases particle settling velocity in the tailings thickener. The reagent will be supplied in 25kg bulka bags that will be loaded into the Flocculant Bin which in turn will feed the Flocculant Tank and be transferred to points of use using the Flocculant Peristaltic Distribution Pumps.

9. Aerophine 3418A: Acts as a sulphide minerals collector in sulphide flotation processes. It will be supplied in 1m³ IBC's and transferred to the 3418A Distribution Tank. The solution will then be supplied to points of use using the 3418A Peristaltic Distribution Pumps.

All reagents will be stored in a separate section to the main process. They will then be transferred to the different tanks for preparation and distribution as required.

10.5.12 Compressed Air Services

The compressed air services are composed for the following devices: blowers, compressor, dryer and air receivers. A dedicated compressor room; containing blower, compressors and dryer and principal air receivers; is located in the south façade of the process buildings. From that location, the air is distributed to the different areas.

10.5.13 Plant Area Water Services

The following water systems are included in the area:

1. Fresh water.
2. Gland water.
3. Process water.

Inside the plot plan, the tanks are located at the south of the process plant, close to the road to optimize piping lengths. Process water will be transferred from the process water dam to the process plant using submergible vertical water pumps (similar to the ones included in the tailings handling area).

10.5.13.1 Fresh Water

All water that has not come into contact with ore, affected surfaces, or mineral treatment processes will be considered fresh water. This will be pumped directly from the water dam and is used for:

1. Reagent preparation.
2. Firefighting.
3. Auxiliary services.
4. Dust prevention.

For personal use only

Fresh water will be pumped into the Fresh Water Tank with 500 m³ of capacity. A pipe ring for fresh water will be installed in the main process building to feed all services requiring fresh water. The Fresh Water Tank will supply the fire water with separate Electric & Diesel Pumps installed with a Fire Water Jockey Pump.

10.5.13.2 Process Water

Water in contact with mineral treatment processes will be considered process water. This water will be recovered and recirculated from the tailings thickener overflow and supernatant from the TSF. Process water will be used for:

1. Sealing water.
2. Reagent preparation (if possible).
3. Grinding.
4. Sulphide and tin flotation.
5. Gravity concentration.
6. Pump gland/priming water.

The process water circuit will consist of two tanks, the first being the Gland Water Tank which has a capacity of 250 m³ and will be used for gland water only, while the Process Water Tank, will have a capacity of 1,000 m³ and be used for all other applications. The Gland Water Tank Pumps will transfer gland water around the plant while the Process Water Tank Pumps will transfer process water.

A pipe ring will be installed in the main process building to supply process water to locations where it is required. Additional water will be recovered from the Process Water Dam using the Process Water Dam Pump while water lost throughout the process water circuit will be made up by an additional freshwater feed to the gland water tank.

10.5.14 Water Treatment Plant

A positive water balance is expected in the project. A water treatment plant has been included in the design to treat the excess water before discharging to the environment. Water coming from the open pit drainage will be accumulated in a water pond where it will be pumped by the Fresh Water Pond Pumps to the freshwater tank or to the water treatment plant to provide operational flexibility. This plant will use a conventional dense sludge process and consist of three Water Treatment Reactor Tanks and Agitators.

10.5.15 On-Site Electrical Services

Power will be supplied to the main substation via a 20 kV underground line connected to the existing 66 kV high voltage (HV) grid through a distribution centre that performs voltage step-down. The maximum power demand is estimated at 9 MVA. A 750 kVA emergency generator located adjacent to the main substation enables controlled shutdown of critical process equipment during power supply interruptions.

The main substation is equipped with dual 10 MVA 20/6.6kV transformers, providing N-1 redundancy. The substation also includes auxiliary 6.6/0.4 kV transformers for supply to nearby process plant areas, NPI infrastructure, and mining contractor facilities. The main control room is integrated within this substation.

The HV reticulation between the main substation and field substations will operate at 6.6 kV. All process equipment is powered at 0.4 kV, with the exception of the primary grinding ball mill which operates at 6.6 kV. Cable distribution will utilise existing aerial supporting structures (i.e. conveyors) where feasible; otherwise, it will be laid underground in conduits.

10.5.16 Control System

The plant control system will utilise PLCs (Programmable Logic Controller) for core equipment operation and SCADA (Supervisory Control and Data Acquisition) for supervision, operation, and control of the process.

The control system features two control stations at the:

1. Main Substation Control Room.
2. Primary Crushing Substation (dedicated to 3100 Crushing and 3200 Sorting areas).

Both control stations provide complete visibility of plant drives, instrumentation, and critical parameters through the SCADA based Operator Interface Terminals (OITs).

The Main Substation and field substation PLCs will be interconnected in a ring topology via fibre optic cable, providing network redundancy throughout the control system. Remote instruments and field equipment that cannot directly connect to a substation will communicate through intermediate remote I/O boxes, linking to their nearest substation PLC via dedicated fibre optic connections.

For personal use only

11 NON-PROCESS INFRASTRUCTURE

11.1 Site Layout Development

11.1.1 Overall Layout

Figure 11-1 illustrates the overall mine site layout. Mine site infrastructure and facilities for the Oropesa Tin Project have been developed within an approved boundary, aligned with the exploitation submission documentation. They include proposed locations for the mining area, waste rock dump, processing plant, tailings storage facility (TSF), fresh water and process water supply dam, site access roads and power infrastructure routes. Key site infrastructure areas are listed in Table 11.1.

Table 11.1 – Key Site Infrastructure

Infrastructure Item	Description
Site access road	Road to Process Plant including upgrade of existing intersection and public access road between Road C0-8404 and Process Plant.
Public track diversion	Realignment of existing public access between the new Site access road and local farmers' properties to the west.
Facilities	Admin, offices, ablutions, bathhouse, training, laboratory warehouse
Process plant	Plant feed stockpiles, process plant, switch rooms
Process plant facilities	Process plant operational offices, amenities, workshop and stores
Mining contractor's facilities	Mining operations offices, ablutions and workshop
Mine pit	Open cut pit and haul roads
Waste rock dumps	Waste rock dumps
Tailings storage facility	Tailings storage facility
Borefield	Bore pumps and piping for pit dewatering and water supply for the operations
Power supply	Power supply from public utility provider

For personal use only

For personal use only

Figure 11-1 – Mine Site Layout

For personal use only

11.1.2 Geotechnical Investigations

The geotechnical investigation for all infrastructure (excluding the mine pit investigations) areas was conducted by Geociencias y Exploraciones Marítimas, S.L. (GEM). The study focused on characterizing the geological and geotechnical conditions of the areas designated for the construction of the waste management structures, water ponds and process plant infrastructure areas.

The investigation involved a combination of geophysical and geotechnical techniques. Geophysical surveys were carried out using seismic refraction and electrical resistivity tomography to analyse subsurface conditions. Drilling campaigns included core extraction, standard penetration tests (SPT), and in-situ permeability tests such as Lugeon and Lefranc. Additionally, trial pits were excavated to collect soil and rock samples, which were later analysed in the laboratory to determine their physical, mechanical, and chemical properties. The study also incorporated detailed geological and geotechnical mapping to provide a comprehensive assessment of the site's characteristics.

Field investigations were conducted in three phases. The first phase took place in July 2022 and focused on geophysical surveys. The second phase, carried out between February and March 2023, combined geophysical and geotechnical investigations. Finally, a third phase was conducted in September 2024, further refining the geophysical data. GEM was responsible for acquiring, processing, and interpreting the data, ultimately providing an assessment of the site's materials to evaluate their suitability for supporting the planned mining infrastructure. Figure 11-2 illustrates the investigation areas covered in the geotechnical study, highlighting the locations of geophysical surveys, drilling sites, and trial pits within the project area.

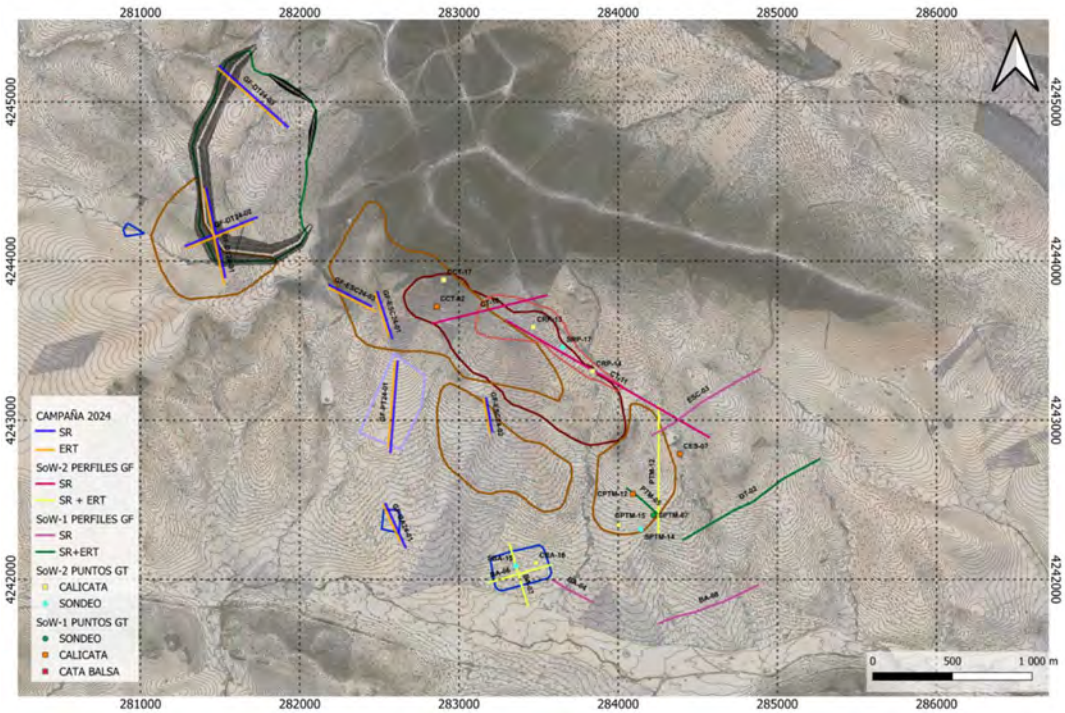

Figure 11-2 – Geotechnical investigation works

Drilling and trial pits were conducted to gather direct information on soil and rock properties. Boreholes were drilled with core extraction, allowing for geotechnical logging, in-situ standard penetration tests (SPT), and

For personal use only

permeability tests such as Lugeon and Lefranc within the first 10 meters of depth. Additionally, trial pits were excavated to collect disturbed and undisturbed samples for further laboratory analysis. The results indicated variations in the degree of weathering of rock formations, the presence of clay-rich layers in certain areas, and permeability differences across the site.

Geophysical surveys were performed using seismic refraction and electrical resistivity tomography (ERT) to determine subsurface layering, material properties, and potential geological discontinuities. Some tests included multi-channel analysis of surface waves (MASW) and induced polarization (IP); however, these techniques did not yield conclusive results and were not considered in the final interpretation. The geophysical profiles revealed variations in rock competency, the depth to bedrock, and the presence of faulted zones, which were particularly significant in areas planned for infrastructure development.

The laboratory testing program analysed the physical, mechanical, and chemical properties of the collected samples. Tests included soil and rock classification, moisture content, Atterberg limits, grain size distribution, compaction, strength assessments, permeability evaluations, and chemical composition analysis. The results highlighted the presence of highly weathered materials in some areas, moderate to high variability in soil strength parameters, and localized zones of low permeability. These findings were critical for defining geotechnical parameters and assessing the suitability of the ground for infrastructure construction, influencing design decisions for foundations and excavation methodologies.

11.1.3 Hydrological Investigations

The hydrological study for the area was conducted by Ayterra Estudios y Proyectos S.A. The study aimed to characterize the rainfall regime in the project area and estimate maximum precipitation values for different return periods, both ordinary and extraordinary. These estimations were used to determine flood flows in the streams associated with the mining project.

The analysis included defining the physical characteristics of the basins, determining time of concentration, and conducting statistical analyses of maximum daily precipitation using historical data from meteorological stations. The hydrological modelling incorporated runoff coefficients, permeability factors, and intensity-duration-frequency curves to estimate design storm events. The results showed significant variability in rainfall intensity across different return periods, with extreme precipitation values reaching up to 134.3 mm in 24 hours for a 500-year return period.

The hydrological context of the Oropesa region is influenced by its geological and morphological characteristics. The Sierra de la Grana presents steep, quartzitic formations with significant weathering and a dense vegetation cover, which enhances infiltration and limits surface runoff. The primary water flow mechanism in the area is subsurface and hypodermic flow, while surface runoff is minimal and only occurs during intense storm events. Evapotranspiration dominates the local water balance (58% of total rainfall), followed by infiltration (38%), while direct runoff remains low (4-8%).

Regarding hydrological risks and flood discharge estimations, the study focused on sub-basins where mining infrastructure is planned, particularly micro-basins such as M-A. Fuente Obejuna, M_A. Charco del Lobo, and M_A. 1 (see Figure 10-3). For return periods below T2 years, runoff is negligible, and even for T5 years, discharge remains low. However, for T100 years, peak flood discharges in upstream micro-basins range between 1.68 and 1.84 m^3/s, highlighting the need for proper drainage planning in these areas.

Figure 10-3 presents the planned facilities, and the sub-basins considered in the hydrological study, illustrating their spatial distribution and interaction with the project's infrastructure.

For personal use only

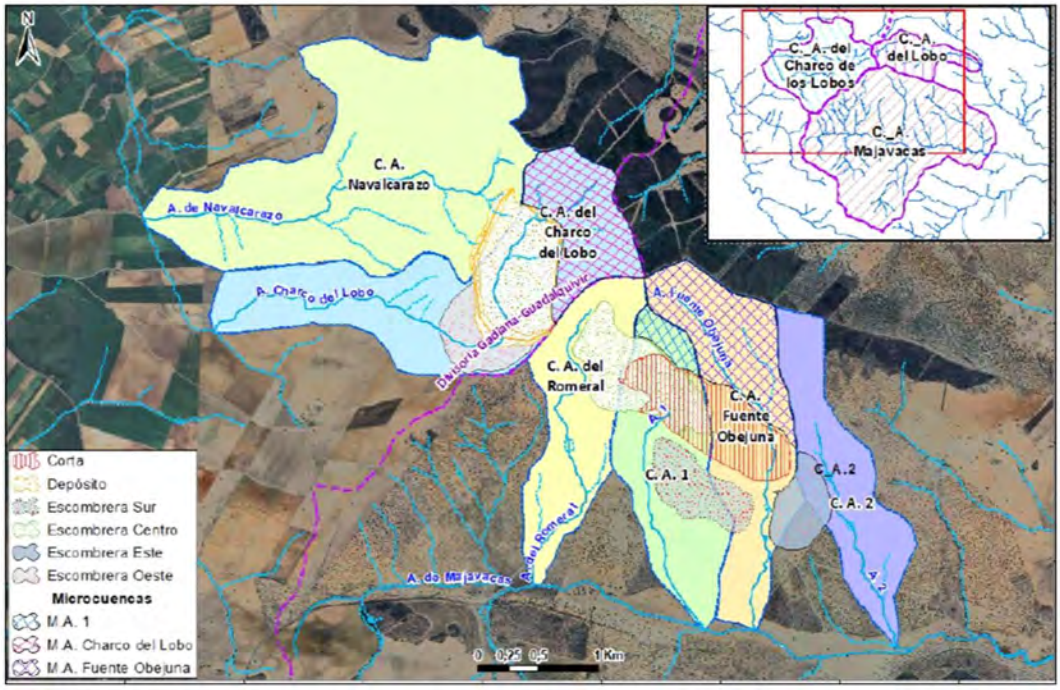

Figure 11-3 – Sub-basins considered in the hydrological study

11.1.4 Hydrogeological Investigations

The hydrogeological study for the Oropesa Project, conducted by Ayterra Estudios y Proyectos S.L., provides an assessment of the groundwater system and its interactions with the proposed mining activities and infrastructure. The conclusions highlight key findings regarding groundwater presence, aquifer properties, and drainage estimation.

The study confirms that there are no officially catalogued groundwater bodies in the area of the Oropesa mining project. The identified aquifer is bounded by impermeable formations and exhibits a heterogeneous, anisotropic, and fractured nature with high induced permeability. Due to the limited historical data available, the study acknowledges the need for further long-term monitoring to refine its understanding of groundwater dynamics.

To characterize the hydrogeological conditions, an extensive field investigation program was carried out, including geological mapping, borehole drilling, piezometric monitoring, and pumping tests. The pumping tests were conducted at key locations, such as the Hydro-SH3 and Hydro-SH2 wells, to evaluate transmissivity, storage coefficients, and hydraulic conductivity. These tests involved controlled water extraction over extended periods while monitoring drawdown and recovery rates in observation wells. Additionally, Lugeon tests were performed to assess permeability in different lithological units, and hadrochemical analyses provided insights into water quality and recharge processes. The study also employed numerical groundwater flow modelling to predict the effects of mine dewatering and validate the conceptual hydrogeological framework.

The groundwater recharge is primarily influenced by precipitation and infiltration through permeable layers and fracture zones. However, the study indicates that recharge rates are generally low due to the presence of impermeable or low-permeability rock units, which limit vertical water movement. The hydrochemical analyses

suggest that the water residence time within the aquifer is relatively long, with evidence of mineral-water interactions affecting water composition.

11.2 Site Access

11.2.1 Regional Roads

The Oropesa Project is in the north of the Province of Córdoba, Autonomous Community of Andalusia, about 110 km northeast of the city of Seville and about 75 km northwest of the city of Córdoba, in the municipality of Fuente Obejuna. The closest population centres are Fuente Obejuna, La Coronada, Los Blázquez, Valsequillo, La Granjuela and Peñarroya-Pueblonuevo, the latter being the most populated in the region.

The most important road close to the site is the N-432 national road that by-passes Fuenta Obejuna to the north and provides connection with the nearby motorway network, A-66 and A-4, and in turn, with the seaports.

Figure 11-4 – Connection of N-432 with A-66 and A-4 motorways

For personal use only

For personal use only

11.2.2 Main Access Network

The access road to the Oropesa Mining Project will allow access and connection from the provincial road CO-8404 to the mining complex.

As a result of the mining project, part of the existing network of public roads is affected. In this case, two types of roads are contemplated:

1. New tracks that will serve as a detour to provide continuity through the existing network.
2. Upgrade of public tracks that will improve their condition and allow continuity along other routes while maintaining a certain safety distance from the mining project.

Figure 11-5 shows the distribution of the main access network, where the main access to the project, internal circulation tracks, public roads and private roads adapted for public use are identified.

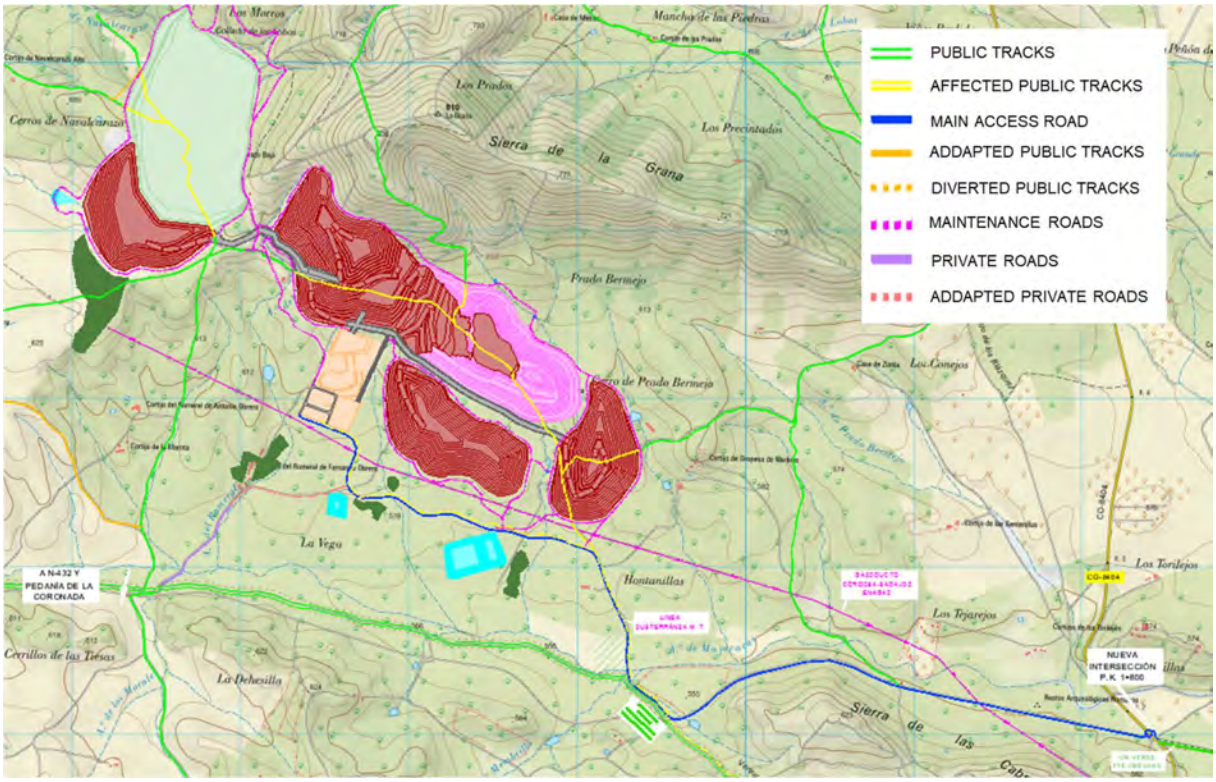

Figure 11-5 – Site Access Network

11.2.3 Upgrade of CO-8404 Road

While formal assessment of requirements for any upgrades will be triggered by the recent submission of the project's application documentation for the Unified Environmental Authorization (AAU) and the mining Exploitation Concession, preliminary indications from the Roads Service of the Córdoba Provincial Council are that upgrade and widening of the CO-8404 road over a length of 1.7 km (up to Mine Access Road roundabout intersection) to increase the carriageway width to 6–7 m will be the likely recommendation. In this circumstance, the design, the approval process with the relevant authorities, and the expropriations required

For personal use only

to widen the road would be handled by the Provincial Council through an agreement under which the mining project promoter would fund the road widening. The Capital Cost Estimate includes a provision for this funding.

11.2.4 N-432 / CO-8404 Intersection

The CO-8404 road connects with the N-432 national road at an existing intersection located at P.K. 175+700 of the N-432, to the north of Fuente Obejuna. Following consultations with the relevant authorities, including the Roads Service of the Córdoba Provincial Council and the National Service, it has been confirmed that no additional works or modifications will be required at this intersection.

11.2.5 Diversion of Public Tracks Affected by Project

As a result of the mining project development, part of the existing public road network will be affected. It is essential to maintain the continuity of public roads for agricultural use during the operational phase of the mining project. The development of the project will impact part of the existing network of public roads, particularly those used for agricultural and local traffic. Therefore, a series of measures have been planned to ensure that public access is maintained and to minimize disruptions caused by the mining activities.

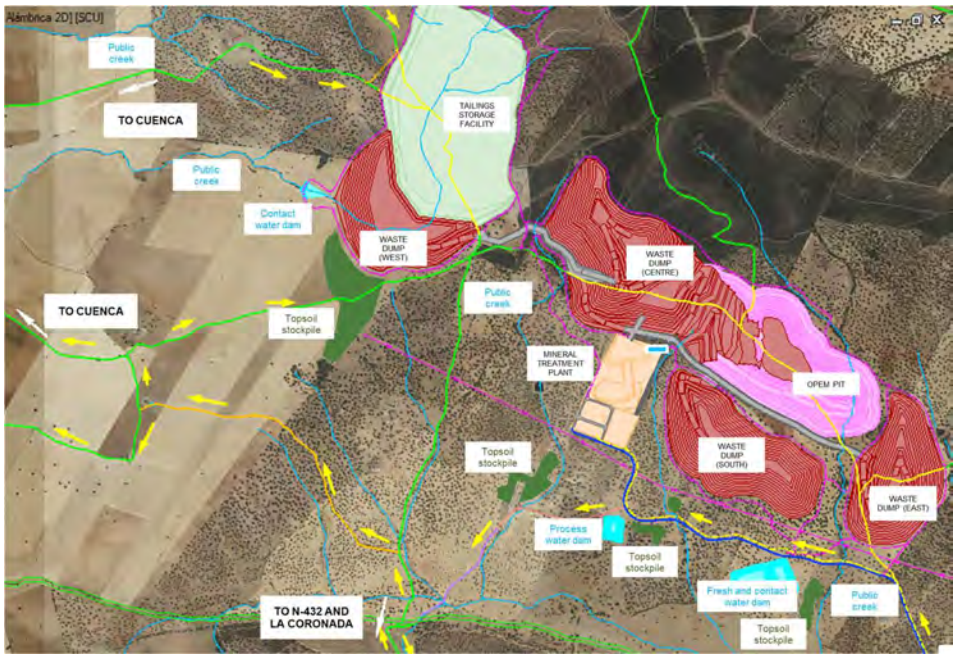

Figure 11-6 – Public Tracks Diversions

11.2.6 Maintenance Tracks

Secondary maintenance roads will be developed around the mine infrastructures. These roads will provide access to key operational areas, including contact water channels and drainage ditches, ensuring proper maintenance and operational efficiency during the mining phase.

For personal use only

The design of the secondary maintenance roads has been developed in coordination with the water management system to ensure that both infrastructure elements function effectively together. The location and alignment of the maintenance roads have been carefully designed to allow access for the inspection and maintenance of contact water channels and drainage systems.

11.3 On-Site Infrastructure

11.3.1 On-Site Civil Works

On-site civil works will be undertaken to cater for the following as shown on Figure 11-7:

1. ROM Pad.
2. Materials Handling Area Pads.
3. Process Plant Area Pad.
4. NPI Building and related facilities.
5. Area assigned for the Mining Contractor's Infrastructure Area (MIA).
6. Mine Haul Road connections.
7. Internal roads to service the Plant and NPI Facilities.

11.3.2 Mining Contractor's Infrastructure Area

As shown on Figure 11-7 an area has been assigned adjacent to the Process Plant and Ancillary Buildings for use by the Mining Services Contractor to develop and establish its infrastructure and support facilities. Recent responses from Mining Contractor's to the Mining Services RFQ have confirmed the adequacy of this area and provision of these facilities has been included in the mining costings. Facilities are anticipated to include:

1. Maintenance Workshop.
2. Fuel Farm.
3. Vehicle Washdown.
4. New and used Tyre Storage.
5. Stores for spares.
6. Reclamation facility for rubbish and waste materials.
7. Office, amenities and crib room facilities for the Contractor's personnel.
8. Explosive magazine (as required – location to be determined).

Current arrangements are based on only limited support services being provided for the MIA: potable water, power, sewerage.

For personal use only

Figure 11-7 – On-Site Civil works

For personal use only

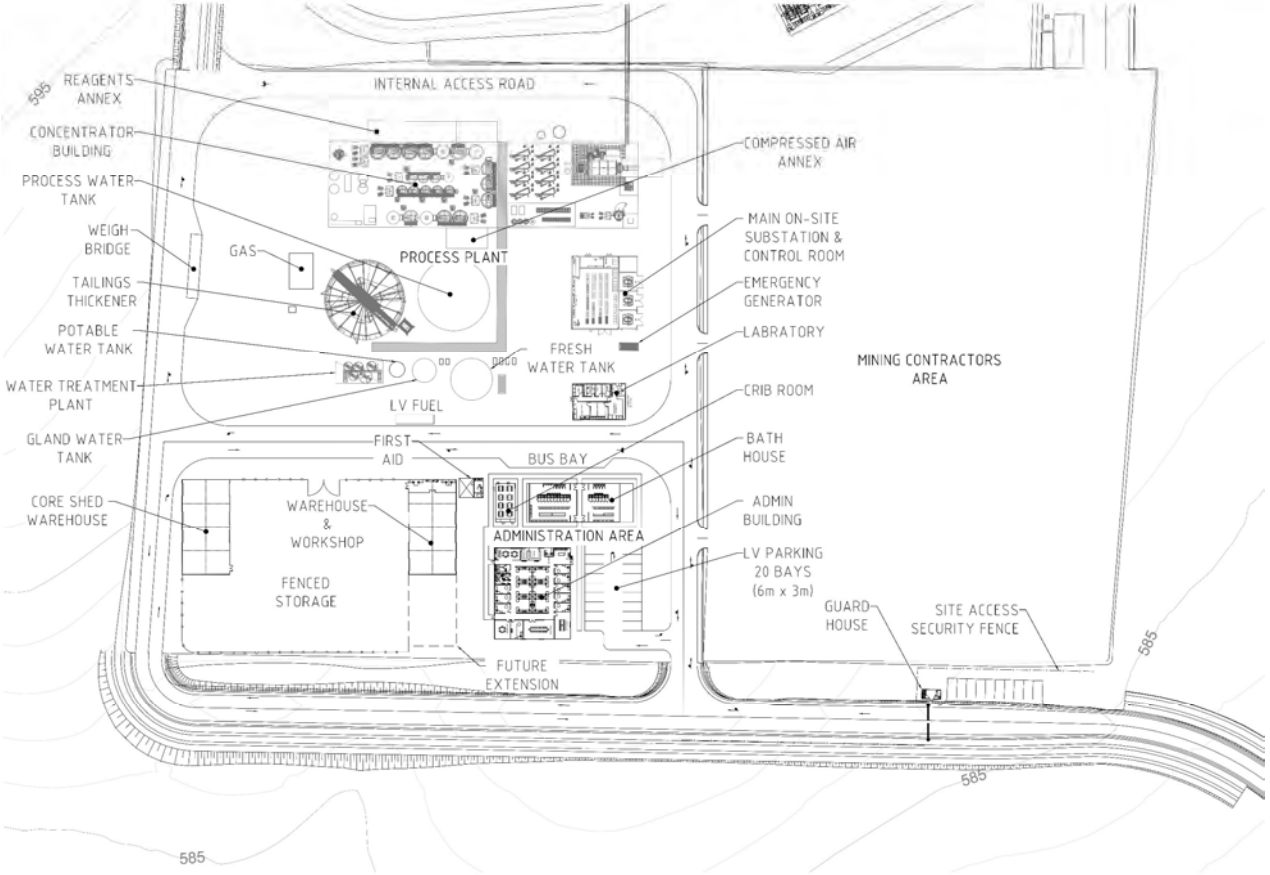

Figure 11-8 – Ancillary Buildings and Facilities

For personal use only

11.3.3 Ancillary Buildings and Facilities

Ancillary buildings and facilities are shown on Figure 11-7 and Figure 11-8 and are further described in the following subsections.

11.3.3.1 Administration Facilities

The Administration Building will be a prefabricated building approximately 24.0m x 28.8m in size. It will include:

1. 9 x single offices.
2. Open plan office area for 24 x workstations.
3. 1 x reception area with 2 x workstations.
4. 1 x comms room.
5. 1 x storage room.
6. 1 x kitchenette.
7. 3 x meeting/training rooms. (1 large plus 2 smaller).
8. Female toilets.
9. Male toilets.
10. 1 x disabled toilet.

11.3.3.2 Administration Carpark

A carpark comprising 20 parking spaces, inclusive of minimum of 1 accessible car park, will be provided adjacent to the administration building. The carpark will be unsealed. Parking spaces will be 3m wide by 6m long for 4WD oversize dimensions.

11.3.3.3 Site Security

A guard house building will be located at the mine entrance, on the Site Access Road, adjacent to the Administration building. Entrance to and exit from the mine will be controlled by security staff 24 hours a day, with no other point of entry to the mining complex.

Boom gates will be installed on the site access road at this location. Security controls will also include a 2.4 m high chain-wire security fence and 10 m wide double gate.

11.3.3.4 Change Room

The Change Room will be a prefabricated building approximately 12.2 m x 28.5 m in size. It will include 16 showers, 12 toilets and 96 lockers. The split of these facilities will be 67:33 between male and female. This is based on a peak shift workforce of 63 people with only 50% usage of showers. The total workforce is 101 people across all shifts. An allowance has been made for an additional 19 visitors also.

For personal use only

11.3.3.5 Lunchroom

The lunchroom will be a prefabricated building approximately 6.2 m x 12.2 m in size. It includes a kitchenette and 8 tables to accommodate up to 48 people. (The remaining 15 people in the peak shift will have lunch in the admin building kitchen).

11.3.3.6 Laboratory

The Laboratory will be a prefabricated building approximately 11 m x 15 m in size. The sizing and floor plan has been based on a submission by a potential Laboratory Services provider who would fit-out and operate the Laboratory under an operational services agreement.

11.3.3.7 Workshop and Warehouse

The Workshop & Warehouse will be a steel frame prefabricated building approximately 15 m x 30 m in size. It will be a concrete floor and 6 x roller doors and 1 x personnel door access. The Warehouse will include two separate offices for the purchasing department located on a mezzanine floor within the workshop.

11.3.3.8 Core Storage Shed

The Core Storage Shed will be a steel frame prefabricated building approximately 15m x 30m in size. It will be a concrete floor and 6 x roller doors and 1 x personnel door access.

11.3.4 Site Services

11.3.4.1 Raw Water

Raw (Fresh) water for operations will be supplied from the mine dewatering bores on site. Refer to Section 11.4 for discussion of water management and water supply considerations.

11.3.4.2 Potable Water

Potable water will trucked to site and stored in a potable water tank located adjacent to the Process Plant. Potable water will be reticulated from here to the administration, process plant and mining contractor's facilities. The average potable water demand for the site is as follows:

1. Administration & Process Plant – 18.5 kl/day (estimate based on 44 people x 250 l/person/day + 44 people x 170 l/person/day).
2. Mining Contractor's Area – 38.5 kl/day (estimate based on 154 people x 250 l/person/day).

Potable water will be stored in a 150-kL water storage tank with a minimum 3-day consumption storage capacity.

11.3.4.3 Sewerage

Sewage effluent will be treated at a modular Wastewater Treatment Plant (WWTP) located to the south of the of the Administration area. Gravity sewers will reticulate effluent from the Administration, Process Plant and Mining Contractors areas to the WWTP.

11.4 On-Site Water Management

11.4.1 Overview

Modern mining prioritizes sustainability, efficient resource use, and minimal environmental impact. Water management is a critical challenge, requiring significant investment in collection, storage, treatment, and reuse. The project is in an area with a negative water balance and irregular rainfall, making it essential to minimize consumption and maximize reuse. The primary water demand comes from the mineral processing plant, particularly in the grinding circuit. Water is recirculated in a zero-discharge system, ensuring it is continuously reused. However, some losses are inevitable, such as moisture retained in waste deposits.

Water in the mining area is classified into two categories:

1. **Non-contact water** – Rainwater and runoff that do not interact with disturbed land are diverted through perimeter channels back to natural watercourses.
2. **Contact water** – Water that has interacted with waste dumps, deposits, or production processes is collected separately and reused in the mineral processing plant.

To ensure proper water management, three key principles are followed:

1. **Minimizing environmental impact** – Perimeter channels prevent clean rainwater from mixing with disturbed land.
2. **Reducing water consumption** – Operating under a closed-loop system to recirculate process water.
3. **Managing contact water separately** – Collecting and reusing all water that interacts with disturbed land.

For personal use only

For personal use only

The water management within the mining complex is schematically represented in the Figure 11-9.

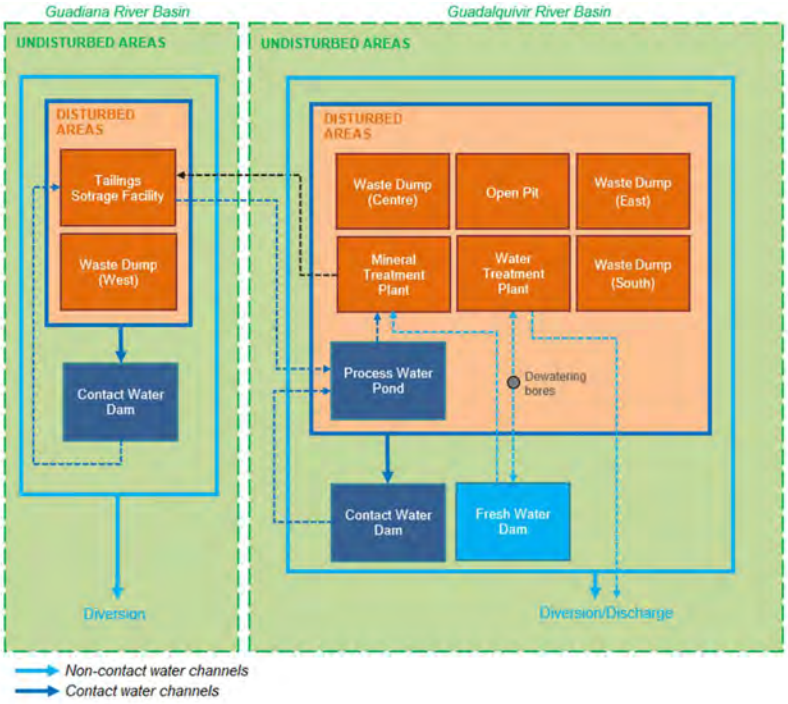

Figure 11-9 – Integrated Water Management Within the Project Complex

The mining complex will have four separate water circuits:

1. **Non-contact water** – Diverted rainwater and runoff, possibly stored in a freshwater reservoir.
2. **Contact water** – Rainwater and runoff from disturbed land, collected in ponds for reuse.
3. **Freshwater** – Sourced from mine drainage or water treatment, used for sanitation, dust suppression, and firefighting.
4. **Process water** – Recirculated water from the production process, stored separately for reuse in operations.

A comprehensive water balance has been developed, considering all water inputs and outputs, including rainfall, evaporation, and plant consumption. Hydrological data accessible in the full form DFS has been used to assess precipitation and runoff, ensuring an accurate and sustainable water management strategy.

The water balance calculations for the three simulated scenarios indicate a net positive balance in most project years, meaning external water supply is not required. In years with a deficit, stored water reserves (up to 600,000 m^3) will be sufficient to sustain operations for up to three consecutive extremely dry years.

11.4.2 Water Supply (Mine Dewatering Bores)

The hydrogeological model has been used to predict drainage scenarios according to the project's mining schedule, ensuring operations remain unaffected by water-related issues and that slope stability is maintained. For the perimeter well drainage, results indicate that optimizing the drainage system and project

water demand was achieved using two theoretical boreholes, starting with a pumping rate of 5 l/s in the first year for storage and infrastructure construction, increasing to 10 l/s in subsequent years, and reducing to 6 l/s in the final phase of mining.

The existing wells (SH2 and SH3) will be sufficient to handle drainage during the initial years of mining operations. However, they will need to be replaced by similar wells as excavation progresses. In year three, the construction of SH4 (150 m) is planned, followed by SH5 (150 m) in year four. Both installations will reuse part of the piping and conduits from SH2 and SH3. Over time, SH4 and SH5 will be decommissioned and replaced by shorter wells at the same locations once the final ramp is constructed. SH4 and SH5 will be located in the central and eastern sectors of the pit, respectively. They will be positioned inside the excavation area, near the access ramp, and on berms that allow easy access for drilling equipment and maintenance teams.

11.4.3 Water Dams

Water Dams required for the overall water management scheme are shown on Figure 11-1. All dams are fully lined in accordance with applicable legislation and summarised as follows:

1. Process Water Dam - stores the supernatant water returned from the tailings deposit and water transferred from the Contact Water Dam, before being reused in the mineral treatment plant. Its storage capacity is approximately 100ML, sufficient to supply the mineral treatment plant for one year of operation.
2. Combined Fresh Water and Contact Water Dam - The fresh water basin, with a capacity of 340ML will store the water from the mine drainage that will be used in the mineral treatment plant. The contact water basin will store the runoff water that comes into contact with the mining infrastructure located in the eastern half of the project. Its capacity will be 140ML to safely contain the runoff water from the basin.
3. Western Contact Water Dam - collects runoff water that comes into contact with the western waste dump and the outer wall of the tailings deposit. It has a small capacity (2.5ML) to temporarily store this runoff which will be pumped into the tailings deposit for reuse in the process.

11.4.4 Diversion / Collection Drain System

During the operation, a necessary requirement is to separate water from natural catchment areas (“clean water”) from water originating from the disturbed areas (“contact water”) to prevent any mixing that could affect water quality. Therefore, a separate drainage system has been designed to ensure that clean water and contact water are managed independently.

The system consists of three main components: guard channels, contact water channels, and diversion of watercourses. The guard channels are designed to intercept runoff from natural terrain (“clean water”) and direct it back to the natural terrain or natural watercourses, following their usual flow path. These channels will be located upstream of the Open Pit, Waste Dump (centre), the Tailings Storage Facility, and the Main Access Road. Contact water channels are designed to collect runoff from the slopes of the waste rock dumps, the tailings storage facility, and access roads (“contact water”). This water will be recirculated in a controlled manner for reuse in the mining project’s operations. The contact water channels will be located at the foot of the slopes of the waste rock dumps and tailings storage facility. They will flow by gravity into the water ponds proposed in the mining project for its use.

For personal use only

11.5 Off-Site Power Supply

The facility will be supplied with power from an existing 66 kV line that connects the Penarroya Substation with the Azuaga Substation. The use of this line will involve the construction of a switching station near Fuente Obejuna, a new 66/20kV substation (Oropesa Substation), and a 20 kV underground line to feed the Main On-site Substation.

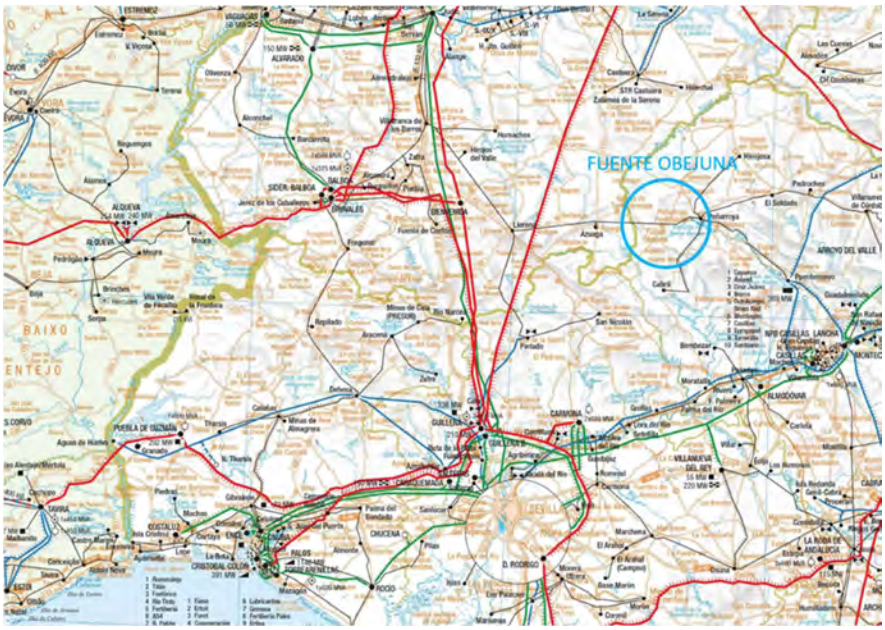

Figure 11-10 – Iberian Electrical System

The Switching Station will have three connections:

1. Entrance and exit of the 66kV line that connects the Penarroya Substation with the Azuaga Substation.
2. Offtake to the Oropesa substation (66/20kV), which will supply the project.

The requirement for this Switching Station arrangement and its location arose from the request for access and connection made to E-Distribución, owner of the 66 kV line. In its response, dated May 26, 2023, the utility company accepted the access and connection, provided that the conditions set out in its communication are met. Among these conditions, the obligation to make the connection through a Switching Station was established, which will become the property of the utility company. The proposal from E-Distribución also included details of the requirements for upgrades and adaption of their existing distribution network facilities to cater for the offtake and related demand for the project. This upgrade work would be carried out by the distribution company in its capacity as owner of the networks for reasons of security, reliability and quality of supply, at the applicant's expense. E-Distribución provided a budget for these works which is reflected in the Capex estimate.

The company has recently (February 2025) reviewed the arrangements with E-Distribución and been advised that no changes are expected in the conditions established in the E-Distribution proposal from May 2023.

The supply installation as shown on Figure 11-11 will consist of:

1. 66 kV line junction support.
2. 66 kV Switching Station.

For personal use only

3. Overhead line from the Switching Station to the Substation.
4. 66/20 kV electrical transformation substation. (Substation Oropesa)
5. 20 kV underground line to on-site main substation.

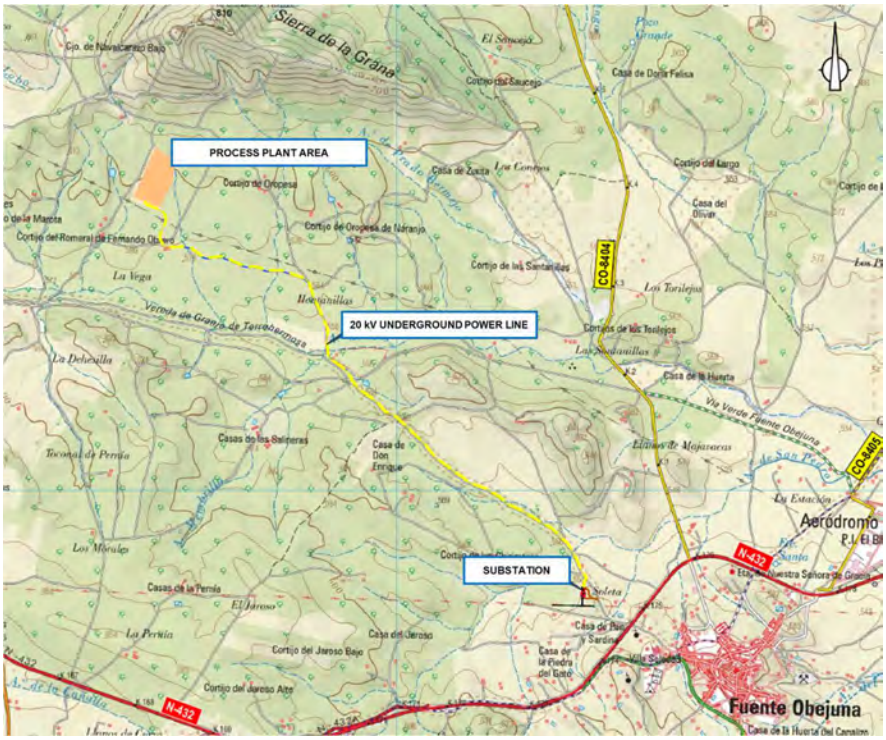

Figure 11-11 – Oropesa Off-site Substation and Underground Transmission Line

11.6 Information and Communications Technology

11.6.1 Project Connectivity

The ICT system for the Elementos (ELT) Oropesa Mine will interconnect three key locations:

1. Corporate office (onsite).
2. Mine site process plant.
3. Mining Area.

11.6.2 Telecommunications

The telecommunications infrastructure and services for the Project will comprise of the following:

1. Wide Area Network (WAN) connection provided by Starlink.
2. Local Area Networks (LANs) segmented in three distinct networks:
    a. Enterprise LAN for business services.

For personal use only

b. Process Control System (PCS) LAN for plant operations.

c. Fire LAN for critical fire detection systems.

3. Existing 4G+ mobile coverage sufficient for site-wide communication.
4. Digital Mobile Radio (DMR) Tier III UHF system for primary site communications.
5. CCTV for monitoring process plant and non-process infrastructure.
6. Access Control System (ACS) to manage site entry and exit.
7. Borefield Telemetry System.
8. Communications tower for WAN connection, UHF radio services, and telemetry services.

For personal use only

12 MINE WASTE AND TAILINGS MANAGEMENT

12.1 Introduction

The project will comprise of an open pit mine with associated waste dumps, processing plant, tailings storage facility (TSF) and associated infrastructure. This section considers the design development for the following:

1. Waste rock dumps (WRDs) and mine waste management.
2. Tailings Storage Facility (TSF) and tailings management.

Preliminary design development for the WRDs and TSF in the locations now adopted for the permitting process and the DFS has been undertaken by specialist consultant Geociencias y Exploraciones Marítimas, S.L. (GEM). The documentation developed for the Exploitation Concession submission forms the basis of these aspects for the DFS, as summarised in this Section. The design development for these "waste management facilities" (WRDs and TSF)) has been prepared in accordance with the Royal Decree 975/2009 on waste management and mining site rehabilitation (BOE-A-2009-9841).

12.2 Site Characteristics

Concerning hydrology, two water basins are affected, Guadiana and Guadalquivir with the TSF located in the Guadiana while the WRDs are located in the Guadalquiver Basis. As for the hydrogeology, the Project is not located on any body of water listed by the Water Authority, and it is not an area in which listed aquifers or hydrogeological units have previously been described. Hydrogeological information indicates that the system would be in equilibrium with a main recharge of the carboniferous materials through the Sierra de la Grana draining through two historical drillholes used for mineral exploration purposes into the hydrographic network.

12.3 Site Investigations

The open pit area has been thoroughly investigated since 1983. Detailed mapping, geochemical, geophysical, trenching, diamond drilling and metallurgical test work is available to support mining. During 2022 and 2023, additional site investigations were carried to evaluate alternatives for the sitting of the different mine waste, tailings and associated infrastructure facilities.

A Phase 1 was initiated with a wide geophysical investigation. Geophysical surveying will be followed by intrusive investigations aiming to define soil and subsurface characteristics. Investigations were followed by geological, geotechnical core logging, as per international standards, laboratory analysis on core samples and trial pitting to support bulk samples for further testing for better definition on selected parameters. Index, classification, chemical, mineralogical, geomechanical and geochemical tests. For the purposes of this Concept Design all references will be made to the historical information available, including the site investigation performed and the laboratory results made available at a registered laboratory facility in Spain during 2022, 2023 and 2024.

Within the first quarter of 2023 and mid 2024 a second phase of geophysical surveying was conducted to complete the investigation on the proposed tailings facility and integrated waste rock dump areas.

For personal use only

Based on interpretation of the investigation findings and testing data sufficient information has been collected for the definition and concept design of the structures. The sites are considered suitable for the construction of a TSF, placement of waste rock and construction of water impoundments.

The maximum excavation depth is expected to be limited to 0,5 m within the footprints and 1,5 m on the embankment footprint due to the presence of suitable rock.

12.4 Waste Streams Characterisation

A comprehensive suite of test work has been conducted on mine waste rock materials, classified as inert as per EU waste directive supporting its use as backfill material for pit rehabilitation purposes.

In terms of construction materials for the TSF, the site possesses sufficient waste rock from mining operations. Materials have been classified according to Spanish Standard PG-3 as rockfill, earth fill, and whole-waste rock.

The construction materials will primarily be sourced from the site materials with limited processing required. It is expected that structural fill, general fill and erosion protection rock will be sourced from mine waste. Low permeability fill material will be sourced from adequately placed and compacted weathered mine waste. No suitable source of clean sand and gravel for use as drainage material was identified and none is known to be available near to the site.

Concerning the geochemical characterisation, based on these results, acid generation and drainage from the waste dumps is unlikely to be a risk to the project. In summary, there is no perceived requirement for segregation of waste rock during mining or non-standard handling requirements such as encapsulation. The permeability across the footprint of the waste rock will be reduced to minimise any potential pathway risks; moreover, the in-situ permeability tests have determined low and very low permeability values for the substrate. Additional kinetic have also being undertaken to verify that the samples analysed to date are representative of the overall waste rock to be mined.

As for tailings, a full suite of physical laboratory testing has been conducted on tailings sample which included classification, thickening, permeability, and consolidations tests. A whole tailings' streams will be produced, classified as hazardous as per EU Waste Directives to be disposed in accordance with the specific requirements.

12.5 Integrated Waste Landform

12.5.1 Approach

Aiming to include sustainability aspects across the mining life cycle, the overall mine waste and tailings management plan have been implemented following sustainable principles.

The concept design has been thoroughly reviewed to secure the integration of socioeconomical, geoenvironmental and geometallurgical aspects aiming value added towards closure and circular economy. The facility sitting has followed government official indications as most suitable site from an environmental viewpoint. The wooded grasslands where the site is located plays an important role in rural life. It is not only of high importance for its biodiversity but for its soil and water resources management. Preserving the agricultural heritage is not necessarily the only mean to support the survival of this Habitat. As such, mine waste and tailings management facilities have been reassessed to:

1. Incorporate government demands concerning habitat and environmental siting.

For personal use only

For personal use only

2. Minimise the footprint by optimising mine waste rock backfilling during the Life of Mine and secure landscape integration.

3. Provide safe long-term storage of the tailing's streams within the mine waste facilities to secure groundwater protection and minimise the impact on water courses.

4. Active engagement for the reintroduction of habitat cultural values and biodiversity protection aiming to restore the habitat ecological functions and unique heritage value as part of closure.

As a consequence of the review, initial concepts have been refined into an integrated landform design using waste rock as borrow material for the Tailings Storage Facility and associated infrastructure as well as for backfill aiming pit restoration leaving on surface a landscape integrated facility.

12.5.2 Structural stability

Slope stability modelling has been carried out on the WRD and tailings embankments. The modelling assess stability under various conditions, as dry, in saturated conditions along the soil interface and in seismic conditions with a saturated soil interface. The calculated factors of safety for the short-term, long-term, and closure conditions based on the assumed geotechnical parameters exceed the minimum required factors of safety as per Spanish standards.

On the TSF, slope stability modelling has been carried out for the starter dam and its final downstream raise. The modelling assessed stability of the embankment under long-term drained, short-term undrained and post-seismic loading conditions, which also includes the presence of the waste rock dump on certain profiles. The factors of safety under each loading condition were assessed using the phreatic surface and pore water pressure based on the seepage analysis. The calculated factors of safety for the short-term, long-term, and pseudo-static conditions based on the assumed geotechnical parameters exceed the minimum required factors of safety as per ANCOLD and SPANCOLD guidelines.

The hypotheses of end-of-construction, pre-closure, and failure of the waterproofing element have been considered in the case of the TSF.

Under all drainage conditions the embankments were unsaturated and achieved satisfactory factors of safety. Based on this assessment the facility will be stable under the conditions considered.

12.5.3 Consequence Assessment

The classification of the waste management facilities is based on a risk assessment carried out considering factors such as (a) the size, location and environmental impact of the waste facility, a major accident could occur as a result of failure or (b) if it contains waste classified as hazardous in accordance with Directive 91/689/EEC above a certain threshold. For the project, the following classification is proposed:

1. Integrated Waste Rock Dump and Tailings Storage Facility. Category A.

2. Waste Rock Dump South. Category no-A.

3. Temporary Waste Rock Dump Centre. Category no-A.

4. Waste Rock Dump East. Category no-A.

As part of the design a hazard rating for the Integrated Waste Rock and TSF was completed by assuming scenarios in accordance with the requirements of the ANCOLD and GISTM. The hazard rating is derived by considering the potential impacts in terms of safety, environmental and economic factors. Based on the

maximum 'Severity of Damage and Loss' selected (Medium) and the Population at Risk assessment, the assessed consequence category for the facility is 'significant'. As such:

1. a "High C" consequence category (ANCOLD).
2. "High" Consequence Classification (GISTM) is proposed.

Mine waste rock dumps facilities design parameters for runoff and seepage have been based on the Life of Mine plan in accordance with the WSRHC system. The WSRHC system utilises a combination of an engineering geology index and a design and performance index to derive a waste dump and stockpile stability rating. From a preliminary overview of the classification criteria, it is understood the facility could be classified as:

1. Moderate (III) to low (II) hazard during operation.
2. Low (II) to very low hazard during closure.

12.5.4 Location of the infrastructures

Mine waste rock dump facilities are located around the multiple infrastructures (open pit mine, processing plant and tailings storage facility) and have been designed to suit the requirements for borrow material as structural fill in the later during its initial stage as well as footprint and transport distances during operation.

The Open Pit occupies some 79 Ha while Waste Rock Dumps occupy 169,5 Ha divided in 3 areas. 32 Ha as Centre Dump near the Open Pit towards the West, 38 Ha as South Dump, also near but south of the Pit and 29,5 Ha as East Dump, again near the pit towards the East. The remaining 70 Ha is the integrated waste dump downstream the tailings facility, occupying 70 Ha, identified as part of the integrated waste rock and tailings storage facility.

The structural embankment of the tailings facility, located West of the Pit and the Processing Plant, has a footprint of 33,2 Ha, including its access and distribution systems. The inundation area occupies a surface nearly 75,6 Ha all in an area of lower tree density while taking advantage of the topography.

Similarly to the waste rock dumps, topsoil stockpiles (estimated in 421.790 m3) have been located adjacent to the multiple infrastructure depending on its source in a 3 m high stockpile arrangement occupying 56 Ha. Location have been chosen maximising the use of areas of the tenement previously cleared of trees.

12.5.5 Materials balance

As an integrated mine waste and tailings project with integrated landforms and partial backfilling of the open pit the material balance can be summarised as follow. Table 12.1 provides a breakdown of the waste streams through the LoM.

1. 32.3 Ha disturbed generating some 463,969 m3 of organic and surface soils will be excavated and used 100% for restoration purposes.
2. 136,28 M dmt of ROM waste will be excavated of which:
    a. Nearly 15% will be used as borrow material for the infrastructure development, including the TSF.
    b. 25% will be used for backfilling the pit with a restoration purpose.
    c. the remaining 60% will be left on surface to further enhance the long-term structural stability of the TSF.

For personal use only

3. The TSF will store circa 11.38 M dmt of tailings, which will be discharged as high-density slurry for disposal (with a settled volume of 7.65 Mm3) in safe engineered storage facility.

Table 12.1 – Materials balance

Year	Waste Rock (Mdmt)	Tailings (Kdmt)
0	11,65	0,00
1	12,75	743,92
2	12,45	905,98
3	11,72	940,35
4	12,34	997,87
5	12,19	995,10
6	11,61	995,28
7	12,30	994,93
8	11,58	997,92
9	10,10	994,78
10	11,16	994,63
11	2,40	995,10
12	4,03	831,03
SUBTOTAL	136,28	11.386,90

Based on the balances, sufficient materials have been confirmed for infrastructure development, embankment construction and in-pit backfilling for restoration purposes. Excess of suitable materials, such as earth fill could not only be used for closure purposes but for easing TSF construction.

12.6 TSF Construction

The structural part of the integrated facility will confirm the embankment of the tailing's storage facility. It will be constructed from suitable mine waste in the early stages of the open pit excavation as a valley type storage facility with ROM waste as borrow material in two stages to accommodate the whole tailings.

An underdrainage collection system will be prepared by means of a French drainage along natural patterns. The basin will then be lined using a composite 1.5 mm HDPE geosynthetic-liner system and a 600 gr/m^2 geotextile protection layer with an underdrainage system installed above the liner. An underdrainage system will be installed over the entire area of the TSF basin and is designed to reduce the phreatic surface within the tailings mass and therefore the phreatic head acting on the liner.

The embankment will be constructed as a downstream 1V:2H multi zoned embankment, constructed out of ROM mine waste. It will comprise an earth fill (Zone A) and a structural rockfill zone (Zone B) and secure a minimum 8-10 m crest width.

For personal use only

For personal use only

The TSF have been designed to ensure it has sufficient capacity to completely contain six months of supernatant ponded waters as well as the design criteria maximum storm events. Therefore, under normal operating conditions no discharge is expected throughout the life of the facility. However, an emergency spillway will be constructed to protect the embankments in case conditions occur which differ from the normal operating conditions and rainfall events exceed the design events.

12.7 Integrated Waste Landform Operation

Geological and mining analysis will aid in determining the destination of the mined material as either borrow material for infrastructures, permanent waste rock dump placement, transfer, or temporary placement for its use as future backfill, ensuring the appropriate materials management

Areas will be designated with the waste dumps for the placement of materials with specific characteristics, either geochemical and/or geomechanical for its use as borrow material for the construction of the tailing's storage facility or related infrastructure. Special attention shall be given to ensure all waste rock has been appropriately classified.

On the tailing's disposal side, the tailings delivery pipeline will be routed from the process plant onto the crest of the TSF embankment following the access ramp on the South-East. Deposition of tailings into the storage facility will occur from offtakes inserted along the tailing's distribution pipeline.

Whole tailings deposition will be carried out using the sub-aerial technique to promote the maximum amount of water removal from the facility by formation of a large beach for drying. Together with keeping the pond size small, sub-aerial deposition will increase the settled density of the tailings and hence increase the storage potential and efficiency of the facility.

12.8 Operations, Maintenance and Surveillance (OMS)

Extensive monitoring of all aspects of the operation are an integral part of design. A comprehensive monitoring plan comprising short term operation, compliance and long-term performance has been drafted.

MESPA will keep a governance structure aligned with ICMM GISTM and ANCOLD "Guidelines on Tailings Dams - Planning, Design, Construction, Operation and Closure" (Ref.: 4). A full maintenance programme will be included in the facilities operating manuals with modifications and updated as a result of emergency situations or annual reviews should be made as required.

Alarm thresholds and emergency action plans will be provided in the Operating Manual and will be reviewed annually after performance reviews from actual events.

12.9 Closure and Rehabilitation

External slopes will be shaped to be stable under both normal and seismic loading conditions, with a stable drainage system, while allowing for revegetation. A cover system allowing the integrated landform to regain a natural look in the ecosystem is anticipated. The type of vegetation, their performance regarding water availability and rooting depth will be tested during operation. Other factors such as stability, erosion, and performance over time will also be considered in evaluating alternatives.

A closure spillway, in the same location of the operational spillway, will be reprofiled from the final supernatant pond location ensuring no ponding of rainfall on the facility surface post closure.

For personal use only

13 OPERATIONS MANAGEMENT

13.1 Introduction

Operation of the Oropesa Tin Project will be managed by MESPA from on-site facilities; supported through the local townships of Fuente Obejuna and Penarroya. MESPA's warehouse and office facilities in Fuente Obejuna will provide some specific technical and commercial support. The key components of the site operation include:

1. A mine with an annual production of up to 1.3 million tonnes of ore, delivered over a 12-year life.
2. Mine infrastructure includes processing facilities, stockpile, office, workshop, conveying and access roads.

Early engagement in operations will optimise the Project ramp-up and overall plant performance. Sustained production from the Project, after commissioning, requires a capable Operations Team to take over the facilities and improve and optimise production, maximising the return on investment. The Operations Team will need to be developed and prepared in parallel to facility design, construction and commissioning. The average operational workforce estimate is approximately 240 people, including management, mining and processing teams, maintenance, laboratory, logistics and administrative personnel.

MESPA will develop the Project with a blended style of operations, using specialist contractors for key activities and support services, while managing an in-house workforce for process plant operations and overall project management and supervision. The Project will operate within the guidelines of the Project design with operational areas being managed to capacity to maintain all aspects of plant operation.

A mining services contractor will undertake mining operations and related maintenance activities. To complement this, mine management, planning, technical and geological activities will be the responsibility of MESPA employees and consultants. Mining activities will be undertaken over two shifts, 16 hours/day, 7 days/week, every day of the year as required by the mine schedule (excluding planned and unplanned downtime allowances). Maintenance of mobile equipment will be scheduled to not impact operations.

The process plant operations will occur 24 hours per day, every day of the year. The DFS design operating times for the Process Plant are as follows:

1. Primary and secondary crushing circuit - effective working hours per year – 3,376 (82.4% availability).
2. Sorting and tertiary crushing circuits – effective working hours per year – 7,590 (87.8% availability).
3. Grinding, gravimetric concentration, flotation, concentrate dewatering, tailings, reagents and related plant services - effective working hours per year – 7,968 (92.2% availability).

The operating time and plant capacity have been optimised to minimise the cost of the core processing facilities and the initial supporting facilities.

MESPA will conduct the core maintenance functions supported by contractors for the specialised functions and the large shutdowns. The major process plant equipment vendors will be engaged to provide technical support on an as-required basis. The initial philosophy is to provide workshop support for emergency type repairs to continue operations. Major rebuild requirements will be undertaken on service exchange basis by arrangement with the OEMs.

For personal use only

For personal use only

13.2 Operating Philosophy

As Owner / operator, MESPA will develop the Project to process ore using specialist and trained Owner / operator team. The operation will conform to design criteria and the mining schedule will be predetermined to match financial modelling.

The operating philosophy as generally outlined for the DFS is:

1. MESPA assumes corporate risk and aligns corporate polices to operational systems.
2. As per Law 31/1995, of November 8, the Senior Site Executive (SSE) [Director de Operaciones or Director de Proyecto] is the site principal responsible person.
3. Mining fleet will be supplied, operated and maintained via a Mining Services Contractor who will also provide all supervision and tradesmen, along with required plant, equipment and associated maintenance. Any major rebuild services will also be covered via the Mining Services Contract.
4. MESPA General Manager and the team will plan, manage, verify the quantity and grade of the ore extracted from the mine working faces with the assistance of Geological personnel. Product reconciliations systems will be drafted during the DFS to demonstrate approaches to be implemented towards maintaining product qualities on stockpiles and through the transhipment process.
5. The mine and processing plant will be operational all year except for nominated public holidays.
6. Administrative and Day workers - 5 days per week for 52 weeks (less nominated public holidays).
7. The mine will operate on two 8-hour shifts per day, nominally from 6am-10pm.
8. The Mine Processing Facility maintenance and repairs for equipment, mobile plant, and vehicles will be performed onsite with major shutdown maintenance incorporating external contracting groups. Large equipment refurbishment will be performed offsite and small road registered light vehicles will be serviced by local community mechanics, where possible.
9. The process plant will be operated 24×7 with 3×8-hour shifts. Operational employees will be on a 7/7 roster.
10. Laboratory services are to be undertaken under a Laboratory Services Contract.
11. Supply of reagents, logistics and transport to and from location of dispatch will be ultimately determined in the Execution phase of the Project.
12. When in operation, the transport of product will be coordinated by the site-based logistics personnel.

The Project is intending to have specific targets and provisions aimed at maximising local employment and training.

13.3 MESPA Personnel Strategy

13.3.1 Introduction

Personnel management in the Spanish mining-industrial sector is subject to strict labour regulations that heavily favour workers in disputes with employers. This regulatory framework must be carefully considered when developing the personnel strategy for the Oropesa project, as it influences employment conditions, hiring practices, and negotiations with workers.

For personal use only

For a project of this scale, labour relations will be governed by a Collective Agreement (Convenio Colectivo - CC), a contract between the company and workers' representatives that defines essential employment conditions, including working hours, shift arrangements, holiday entitlements, wage structures, overtime compensation, and other key aspects. In Spain, these agreements are binding for both parties and typically have a duration of three to five years, with salary revisions linked to economic indicators such as inflation or EURIBOR. Larger companies often make their CC public, but for Oropesa, it will likely remain a private document unless voluntarily published in provincial or national labour bulletins.

At Oropesa, the workforce will consist of two main categories: daily-paid workers, who will be covered under the CC, and monthly-paid employees, who will have individual contracts not subject to the collective agreement. Typically, only workers below the level of shift boss or medium-level supervisor are included in the CC, while those on monthly salaries operate under separate agreements. The negotiation and implementation of the CC will be a crucial element of the personnel strategy, as it will shape long-term labour relations and determine the flexibility the company has in organizing its workforce.

13.3.2 Legal Framework for Employment in the Spanish Mining Sector

The employment of personnel in Spain's mining industry is governed by several key labour regulations. The Workers' Statute (Estatuto de los Trabajadores) serves as the foundation of Spanish labour law, defining employment contracts, working conditions, and employees' rights. In addition, the General Regulation on Basic Mining Safety Standards (Reglamento General de Normas Básicas de Seguridad Minera - RGNSBM) establishes specific safety requirements for mining operations, mandating strict compliance with occupational health and safety protocols. The Law on Occupational Risk Prevention (Ley de Prevención de Riesgos Laborales - LPRL) further reinforces these obligations by requiring companies to conduct risk assessments, implement preventive measures, and ensure workplace safety training for employees.

13.3.3 Personnel Hiring and Training Strategy

Hiring efforts will prioritize local recruitment while avoiding direct competition for employees with nearby mining operations. However, particular attention should be given to workers employed by construction contractors, as many of them will be dismissed once construction is completed. If carefully selected, these workers could become valuable additions to the permanent workforce, bringing site-specific knowledge and experience.

Training periods will vary depending on the position. Superintendents will require six months of training, while shift bosses and lead operators require around four months. Operators and non-skilled maintenance workers generally undergo two to three months of training before they can be considered fully prepared for operations. A key element of the personnel development strategy will be the introduction of a multi-skilled operator system, which allows employees to acquire competencies in multiple roles. This approach provides greater operational flexibility, improves employee motivation by offering variety in daily tasks, and enhances workforce efficiency.

Another important consideration is that key management and technical personnel will be hired first, as they should have a say in selecting their teams. This approach ensures that medium-level supervisors and managers can build their teams according to their working methods, fostering a sense of ownership and commitment among leadership personnel.

13.4 Organisation and Staffing

The Organisation Structure developed for the DFS is shown in Figure 13-1 and the MESPA workforce summarised in Table 13.1. It is noted that the workforce table includes anticipated Laboratory staffing for completeness although it is planned that the Laboratory Manager and supporting personnel will be provided under the Laboratory Services Contract. The workforce for the Mining Services Contract is not included in this information. Responses from Mining Contractors to the Mining Services RFQ indicate that the mining workforce will be in the order of 140.

For personal use only

For personal use only

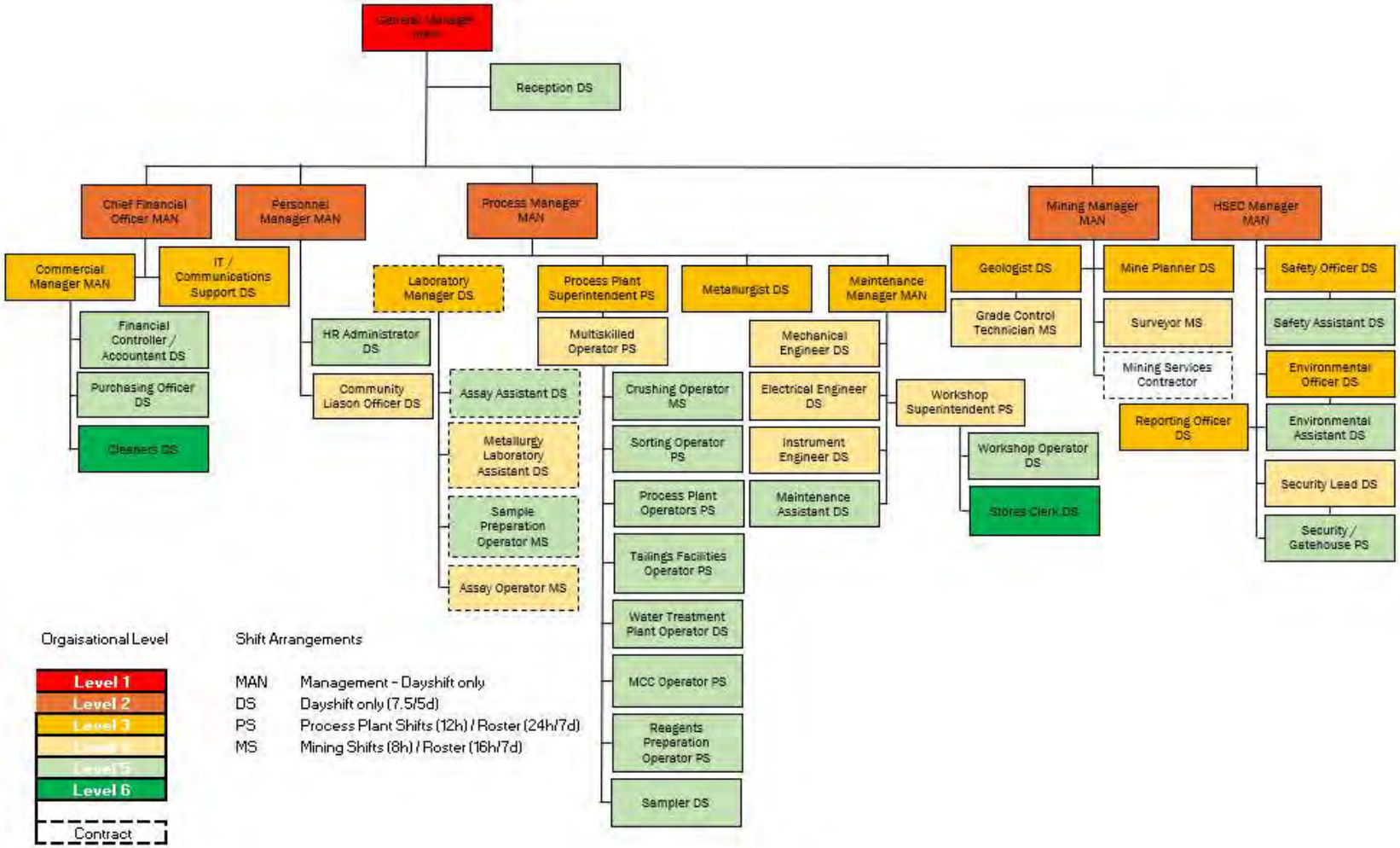

Figure 13-1 - Organisation Structure

Table 13.1 – MESPA Workforce

Level	Description	Positions	Shifts	People
1	General Manager	1	1	1
4	Reception	1	1	1
				2

Level	Description	Positions	Shifts	People
2	Chief Financial Officer	1	1	1
3	Commercial Manager	1	1	1
4	Financial Controller / Accountant	2	1	2
4	Purchasing Officer	1	1	1
3	IT Communication Support	1	1	1
6	Cleaners	2	1	2
				8

Level	Description	Positions	Shifts	People
2	Personnel Manager	1	1	1
3	HR Administrator	1	1	1
4	Community Liaison Officer	1	1	1
				3

Level	Description	Positions	Shifts	People
2	Process Plant Manager	1	1	1
3	Metallurgist	1	1	1
3	Process Plant Superintendent	1	4	4
4	Multiskilled operator	1	4	4
5	Crushing operator	1	4	4
5	Sorting operator	1	4	4
5	Process plant operator	2	4	8
5	Tailings facilities operator	1	4	4
5	Water treatment plant operator	1	2	2
5	MCC operator	1	4	4
5	Reagents preparation operator	1	1	1
5	Sampler operator	1	1	1
3	Laboratory Manager	1	1	1
4	Assay operator	2	2	4
5	Sample preparation operator	2	2	4
4	Metallurgy assistant	1	1	1
5	Assay assistant	2	2	4
3	Maintenance Manager	1	1	1
4	Mechanical Maintenance	2	1	2
4	Electrical Maintenance	3	1	3
4	Instrumentalist	1	1	1
5	Maintenance Assistant	2	1	2
4	Workshop superintendent	1	1	1
5	Workshop operator	1	3	3
6	Stores Clerk	2	1	2
				67

Level	Description	Positions	Shifts	People
2	Mining Manager	1	1	1
3	Geologist	1	1	1
4	Grade Control Technician	2	2	4
3	Mine Planner	1	1	1
4	Surveyor	1	1	1
4	Draftperson	1	1	1
				9

Level	Description	Positions	Shifts	People
2	HSEC Manager	1	1	1
3	Environmental Officer	1	1	1
5	Environmental Assistant	2	1	2
3	Safety Officer	1	1	1
5	Saffety Assistant	1	1	1
3	Reporting Officer	1	1	1
4	Security Lead	1	1	1
5	Security / gatehouse	1	4	4
				12

101

For personal use only

14 PROJECT IMPLEMENTATION

14.1 Project Delivery Contracting Strategy

It is proposed that the mining operation for the Oropesa Project will be undertaken via a Mining Services Contract in conjunction with Owner operation of the Processing Plant and related infrastructure.

In addition, Elementos is proposing that the site infrastructure components of the project would be delivered via a limited number of major contracts as follows:

1. Process Plant and related Non-Process Infrastructure (NPI) that includes the following as major separable portions:
    a. Process Plant.
    b. NPI Buildings and Services.
    c. On-site Main Substation and distribution.
2. Enabling Civil Works that includes the following as major separable portions:
    a. Site Clearing and Grubbing.
    b. On-site Plant and Infrastructure Civil Works.
    c. Water Dams.
    d. Initial Dewatering Bores.
3. Preproduction Mining, including the following:
    a. Mining Prestrip
    b. Tailings Storage Facilities (TSF) main embankment wall earthworks.
    c. ROM Pad bulk earthworks.
4. Civil Works that includes the following as major separate portions:
    a. Tailings Storage Facility (excluding the main embankment wall).
    b. Access Road.
    c. Public Track Diversion.
    d. Onsite Maintenance Tracks.
    e. Water Management Infrastructure.
5. Off-site Power Transmission Supply that includes the following:
    a. Switching Station (at Utility Company's 66kV Transmission Line).
    b. Off-site Substation (adjacent to Switching Station).
    c. 20 kV Transmission line to Project Site.

An Integrated Owners Team (IOT) approach to managing the execution of the project is also proposed.

Figure 14-1 presents a summary of the Project Delivery Structure based on this strategy.

Table 14.1 is a summary of the key packages for the construction phase, their scope, and key interfaces. Table 14.2 provides an equivalent summary for the operations phase.

For personal use only

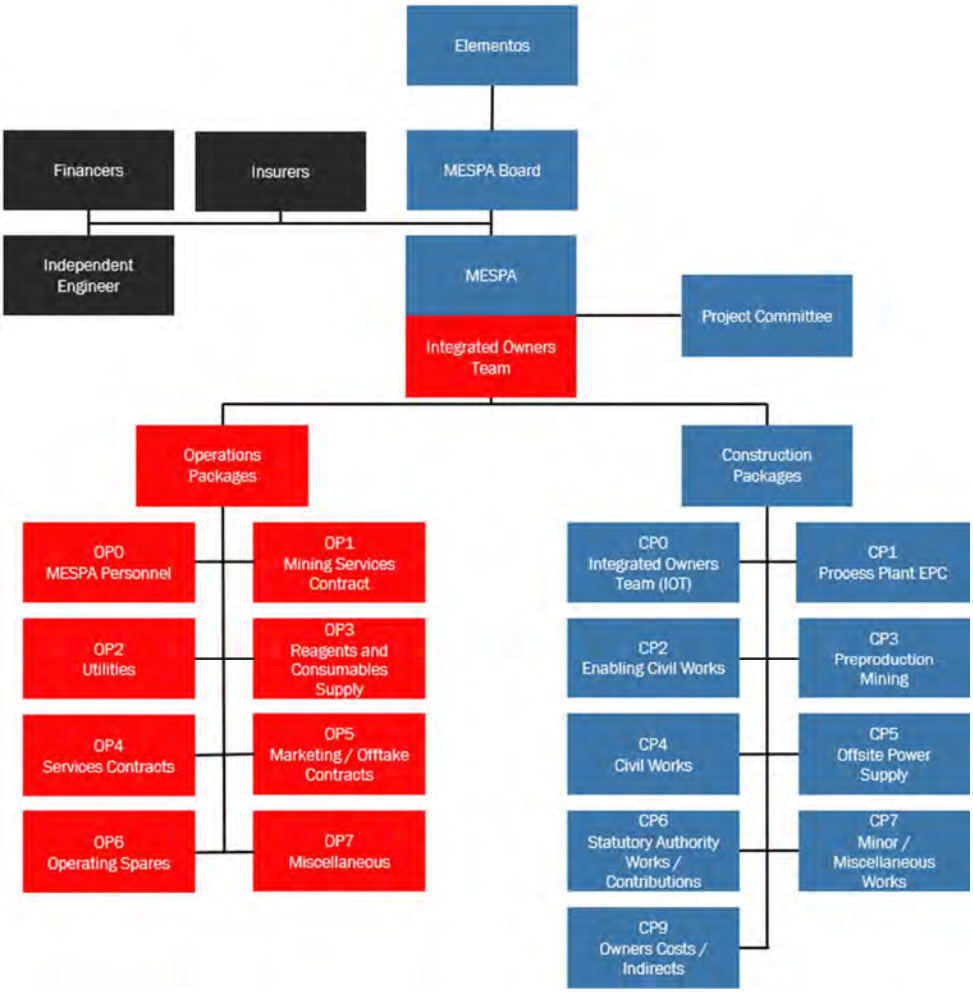

Figure 14-1 – Project Delivery Structure

For personal use only

Table 14.1 – Construction Packaging Plan Summary

No.	Contract Package	Scope Summary	Battery Limits / Key Interfaces Summary	Contract Type	Tender Process
CP0	Integrated Owners Team (IOT)	MESPA employees Consultants / Contractors IT & Internet Offices / temporary facilities Travel Overheads / other support services	IOT manages all contractor activities. Limited construction phase services provided for major contractors as outlined in the following packages. Early occupancy of NPI Buildings. Responsible for Plant Commissioning and initial operation, with support from CP1 Contractor.	Various.	Competitive tender by a limited number of preselected vendors where possible for specialist consultants, contractors and support services.
CP1	Process Plant EPC	Engineering, procurement and construction (including commissioning support) of the following: • Process plant facilities. • NPI Buildings and associated services. • Tailings and water reticulation pumps and piping. • Main onsite substation and electrical distribution.	Site preparation and pads construction by CP2 Contractor Water Dams construction by CP2 Contractor TSF construction by CP4 Contractor 22kV power supply to Main Substation by CP5 Contractor Potable water supply to site by IOT Gas storage and supply via Gas Supply Contract (OP2) Fit-out of NPI Buildings by IOT	EPC Contract (Terms Sheet established prior to ECI)	Competitive tender for Early Contractor Involvement (ECI) Contract. Re-tender for EPC Contract.
CP2	Enabling Civil Works	Clearing and Grubbing Construction of Onsite Civil Works (Plant and Infrastructure Pads, etc) Construction of Water Dams Construction of Dewatering Bores and associated pumps and pipelines	CP2 Contractor undertakes all preparatory tree removal.	Civil Works Contract (Terms Sheet established to support initial pricing)	Competitive tender by a limited number of preselected vendors where possible

For personal use only

For personal use only

No.	Contract Package	Scope Summary	Battery Limits / Key Interfaces Summary	Contract Type	Tender Process
CP3	Pre-production Mining	Waste and ore mining pre-production plus: • Tailings Storage Facility main embankment wall. • ROM Pad bulk earthworks.	TSF main embankment earthworks constructed to interface with remainder of construction of TSF by CP4 Contractor Pads and Roads constructed for Process Plant and Infrastructure facilities (constructed by CP1 Contractor) Initial delivery of ore to ROM Pad and feeding to Dump Station	Mining Services Contract (Terms Sheet and Responsibilities Matrix established to support initial pricing)	Competitive tender by a limited number of preselected contractors (also considering the on-going Mining Services Contract OP1)
CP4	Civil Works	Tailings Storage Facility (excluding main embankment earthworks) Access Road Public Track diversions On-site Maintenance Tracks Water management infrastructure	Access Road: Roundabout constructed for public road CO-8404 offtake / intersection. Water Management infrastructure required to support Mining activities (Packages CP3 and OP1)	Civil Works Contract (Terms Sheet established to support initial pricing)	Competitive tender by a limited number of preselected vendors where possible
CP5	Off-site Power Supply	Switching Station Off-site Substation HV transmission line to site	Offtake connection from E-Distribución's existing 66kV transmission line* 22kV supply to Main Substation on-site (constructed by CP1 Contractor) * Underground transmission line expected to follow access road route*	Construction Contract(s) based on existing terms sheet for Civil Contracts *Possibly a BOOT or Off-balance sheet financial arrangement	Competitive tender by a limited number of preselected vendors where possible
CP6	Statutory Authority Works / Contributions	Power infrastructure upgrade (E-Distribución) Upgrade of Public Road CO-8404 (Road Authority)	Power: Agreed offtake point from E-Distribución's 66kV Transmission Line to project switching station (constructed under CP5) Public Road: Interface at new roundabout to be constructed at access offtake intersection on CO-8404	Specific agreement with relevant authority for power supply and road upgrade	Not applicable.

No.	Contract Package	Scope Summary	Battery Limits / Key Interfaces Summary	Contract Type	Tender Process
CP7	Minor / Miscellaneous Works	NPI Buildings Fit-out Site wide Communications Mobile Equipment (if required) Fencing Labour Hire	NPI Buildings and related services constructed by CP1 Contractor. Fit-out managed by IOT.	Minor works orders	Competitive tender by a limited number of preselected vendors where possible

Table 14.2 – Operations Packaging Plan Summary

No.	Contract Package	Scope Summary	Battery Limits / Interfaces Summary	Contract Type	Tender Process
OP0	MESPA Personnel	Employment of MESPA operations personnel.	Interfaces with IOT arrangements prior to production commencing.	Employment Contracts	Not applicable
OP1	Mining Services Contract	Mining of mine waste and ore on a stand-alone basis, including supply, operation and maintenance of mining fleet and drill and blast of waste and ore.	Support services (electricity, dust suppression water, potable water) provided to offtake points by CP1 Contractor.	Mining Services Contract (Terms Sheet and Responsibilities Matrix established to support initial pricing)	Competitive tender by a limited number of preselected contractors (also considering the initial Mining Services Contract CP3)

For personal use only

No.	Contract Package	Scope Summary	Battery Limits / Interfaces Summary	Contract Type	Tender Process
OP2	Utilities	Electricity Supply Communications Potable water supply (trucked to site) Sewage sludge removal and treatment Gas Supply Contract Diesel Offtake Arrangement (on site)	Electricity: supply metered at Switching Station (arrangements to be finalised)* Communications: to be determined Potable water: supply to on-site Potable Water Tank Sewage Effluent: collected as sludge from on-site Sewage Treatment Plant Gas: On-site storage tank and associated reticulation to inlet flange of Rotary Dryer. Gas supplier to provide on-site gas storage infrastructure. Diesel: Supply to intake point at Emergency Generator diesel tank. Diesel: On-site supply to MESPA operated mobile equipment and light vehicles via offtake at Mining Contractors on-site diesel facilities.	Supply agreement with authority for power supply. Services agreement with gas supplier. Services agreement for potable water supply and sewage sludge removal Agreement with Mining Services Contractor (OP1) on offtake arrangements for on-site diesel. *Possibly a BOOT or Off-balance sheet financial arrangement	Negotiation of arrangements for electricity and gas supply with relevant authority. Competitive tender by limited number of preselected contractors for potable water supply and sewage sludge removal Diesel supply arrangements established as part of tender process for CP3 / OP1.

For personal use only

No.	Contract Package	Scope Summary	Battery Limits / Interfaces Summary	Contract Type	Tender Process
OP3	Reagents and Consumables Supply	Supply of the following reagents: • $CuSO_4$. • PAX. • $NaSiO_3$. • MIBC. • H_2SO_4. • AERO 845. • $Ca(OH)_2$. • Flocculant. • 3418A. Supply of the following consumables: • Primary grinding media. • Regrinding media.	Reagents: Inlet flange of preparation tank, distribution tanks, receiving bin, receiving silo (depending on system type). Consumables: Supply to on-site Warehouse (to be confirmed)	Specific purchase orders	Competitive tender by a limited number of preselected vendors where possible

For personal use only

For personal use only

No.	Contract Package	Scope Summary	Battery Limits / Interfaces Summary	Contract Type	Tender Process
OP4	Services Contracts	Laboratory Services Maintenance Services, including shutdown support and OEM support Transport / Logistics Services Offsite Engineering support Legal Services Waste Management Services IT Support Services Sewage sludge management Security Services (?) Cleaning Services (?) Blasting and Stemming Materials Supply	To be determined.	Services agreements / specific purchase orders	Competitive tender by a limited number of preselected providers / vendors where possible
OP5	Marketing / Offtake Contracts	Marketing Services Offtake Contract(s)	Concentrate supply arrangements to be determined based on negotiations.	Negotiated agreement based on industry standards.	Competitive expressions of interest.
OP6	Operating Spares	Purchase and storage of operating and capital spares	Supply to MESPA Warehouse, typically free on truck.	Services agreements / specific purchase orders as appropriate.	Negotiated with OEMs as part of initial supply arrangements where possible.
OP7	Miscellaneous	Insurance Laundry Catering	To be determined.	Services agreements / specific purchase orders	Competitive tender by a limited number of preselected providers / vendors where possible

For personal use only

14.2 Project Execution Schedule

The summary Project Execution Schedule is presented in Figure 14-2, reflecting the Project Delivery Contracting Strategy outlined in Section 14.1. It reflects an overall timeframe of 24 months from FID to initial production, then a ramp up, over a period of 6 months from initial production to full plant production. In order to minimise the project execution duration from FID, the approach also includes a number of key activities prior to FID.

The key consideration for the schedule is the overall timing for the Process Plant EPC Contract. The schedule for this work has been developed by the Process Plant ECI Contractor and has an overall duration of 30 months of which 16 months is associated with on-site construction followed by a 4-month duration for wet and ore commissioning. The initial 10 months relates to engineering and documentation and off-site procurement activities.

Pre-FID activities will be initiated based on the AAU Resolution (Environmental Approval) which is the primary prerequisite to obtaining the formal Exploitation Concession. The estimated time from AAU Resolution to obtaining the Exploitation Concession is 4 months. The schedule also recognises that obtaining the Exploitation Concession and other primary approvals will be a prerequisite to finalising negotiations for the FID and provides a duration of 3 months from the Exploitation Concession to FID for this activity.

A key predecessor for the on-site construction of the Process Plant and related facilities is the completion of the civil works for the pads under the Enabling Civil Works contract. The schedule is therefore based on initiation of the Enabling Civil Works prior to FID to minimise the risk of any delays with this key interface.

The rationale for the Enabling Civil Works scope is that the borrow material for the Plant and Infrastructure Pads is sourced from the excavation of the Dams. In addition, inclusion of the Dewatering Bores and early completion of the Fresh Water Dam provides the maximum time for water to be sourced and stored at the dewatering extraction rate ahead of it being required for plant commissioning and operation.

Other key assumptions and bases for the schedule include:

1. The EPC Contract is awarded in the pre-FID phase (limited notice to proceed) to allow engineering development and initial procurement processes to be progressed. This could reflect a further ECI approach, a separately awarded FEED contract or award of the complete EPC Contract with a limited notice to proceed. A key consideration will be the ability to sufficiently progress the procurement process for key equipment to enable certified vendor information to be provided to in turn allow detail design to be progressed.

2. months of mining pre-strip ahead of start of production to provide sufficient ore for initial commissioning and production and to support mining of ore at the rates required for on-going plant operation. The initial pre-strip is also utilised to construct the TSF main embankments and to provide fill for the ROM Pad.

3. Early completion and handover of the NPI Buildings by the Process Plant EPC Contractor to allow occupancy by the IOT and MESPA's operations personnel as the team is recruited.

For personal use only

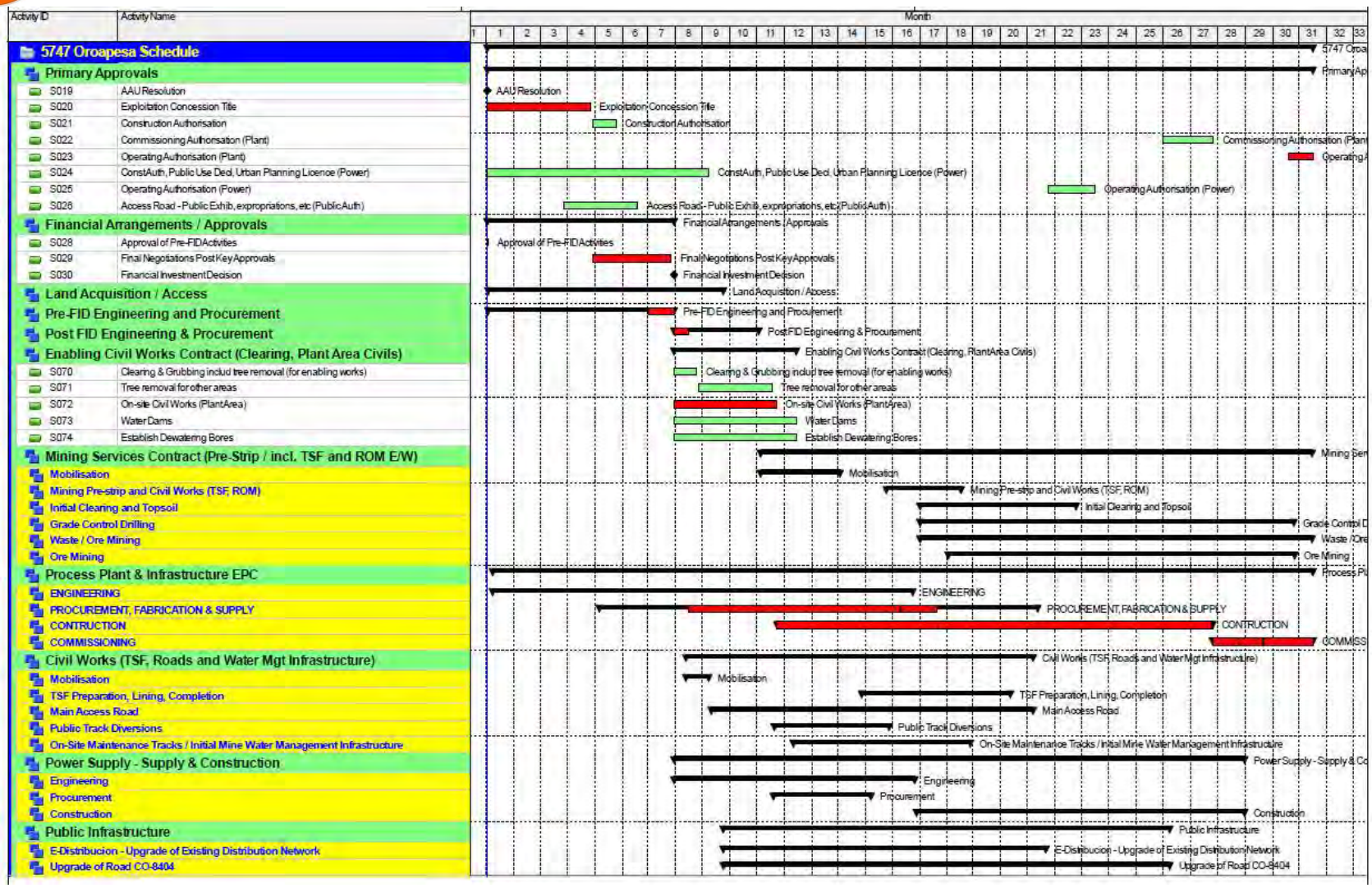

Figure 14-2 – Summary Project Schedule

For personal use only

14.3 Pre-FID Activities

Pre-FID activities will be initiated based on the AAU Resolution (Granting of Environmental Licence) which is the primary prerequisite to obtaining the formal Exploitation Concession. The estimated time from AAU Resolution to obtaining the Exploitation Concession (Mining licence) is approximately 4 months. The schedule also recognises that obtaining the Exploitation Concession and other primary approvals will be a prerequisite to finalising FID and provides a duration of 3 months from the Exploitation Concession to FID for this activity.

Pre-FID activities include:

1. Engineering & Procurement including Process Plant FEED.
2. Construction Authorisation processes once the Exploitation Concession approval has been obtained.
3. Required land acquisition (previously secured under option).
4. Commitment to E-Distribución for Off-Site Power supply.
5. Initiate Enabling civil works.
6. Financial Advisor and Independent Technical Expert support.

14.4 Forward Work Plan

The forward work plans, cover the period post-DFS all the way to FID, inclusive of the Pre-FID Activities listed in Section 14.3 above. These workstreams are designed to further project planning, ensure a tight construction period, increase definition, support permitting and de-risk the project before the project enters the executions phase, many of these activities address the residual risks highlighted in Section 20.2 RISKS.

1. Continued Monitoring and Baseline Studies:
    a. Water levels and instruments maintenance.
    b. Surface and groundwater monitoring and analysis.
    c. Dust and air quality.
    d. Soils and sediments.
    e. Met station with class A tanks.
    f. Habitats.
2. Permitting Activities Supporting Works:
    a. Water Sourcing Authorisations and Public Domain Occupation.
    b. EIS, Exploitation Project & Rehab Plan Follow Up and Public Exhibition Response Support.
3. Engineering Works:
    a. Power Line detailed engineering.
    b. Access Tracks and Water Channels detailed engineering.
    c. Water and Tailings dams detailed engineering.

d. Waste dumps stability and detailed engineering.

4. Other Workstreams:

a. EPC Re-tendering.

b. Contracting of Major Packages.

c. Freehold Land Acquisition.

d. Local Construction Authorisation Submissions.

e. Support services - legal, stakeholder liaison, tax, etc.

f. Financial adviser.

g. Independent Technical Expert.

5. Project Management.

The cost estimated costs to support this forward work plan, and maintain the current assumptions and delivery schedule towards FID is €10.3M.

For personal use only

15 HEALTH, SAFETY AND ENVIRONMENT

15.1 ESG

Elementos and MESPA are dedicated to developing and operating their mining assets in alignment with evolving industry ESG and sustainability practices. We target full compliance with all local, provincial, regional, national and international laws and regulatory requirements, while upholding high internal standards of safety, business integrity, and values.

We are committed to local economic development, environmental protection, and social progress by delivering responsibly sourced tin into the global market, including the clean technology supply chain.

We aim to enhance their corporate governance policies to achieve ESG commitments, leveraging existing performance standards and compliance in the highly regulated jurisdictions of Australia, Spain, and the EU.

Elementos has established an ESG sub-committee as part of its Board of Directors, which will continue to progress with a focus on the ensuring the Oropesa Tin Project is;

1. Compliant with European and OECD regulations governing responsibly sourced tin, including reporting against the Tin Code.
2. Demonstrating further commitments to the communities in which we operate, focusing on economic development and fostering long-term relationships.

As MESPA advances the Oropesa Tin Project into production, we are committed to the health and safety of all on-site personnel and the communities in which we operate. Our development philosophy and decision-making will be driven by:

1. Maximizing extraction of the contained mineral resource.
2. Final rehabilitation and rectification commitments influencing all phases of investigation, development, construction and operations.
3. Minimizing ecological footprint and disturbance.
4. Reducing GHG emissions through alternative energy sources and electrification of plant and equipment.
5. Minimizing the impact of tailings storage facilities and waste dumps.
6. Reducing noise and air quality impacts.
7. Maximizing water recycling and reducing impacts on local waterways
8. Implementing leading practices in diversity and inclusion.
9. Assessing potential impacts of climate change on operations.
10. Continuous Improvement and Reporting.

Elementos and MESPA will continue to monitor the evolving ESG landscape to ensure our commitments remain relevant and effective in a changing environment.

For personal use only

For personal use only

15.2 Environmental Design Considerations & Mitigation Measures

The environmental design of the project reflects a strong commitment to minimizing not only ecological disturbance but also visual and acoustic impact, while implementing effective mitigation measures to protect natural resources and wildlife. From the earliest stages of project planning, a comprehensive approach has been adopted to avoid or minimize potential environmental and social impacts through careful design and strategic site management.

The project layout has been developed to minimize damage to trees, creeks, and wildlife by strategically avoiding sensitive areas and optimizing the positioning of infrastructure. High-density oak tree areas and sensitive wildlife habitats have been specifically avoided, ensuring that the project's footprint is as limited as possible. Where disturbance is unavoidable, a structured replanting program is planned to restore vegetation and compensate for any loss of biodiversity. The project also addresses visual and acoustic impact by designing infrastructure and waste dumps to integrate with the natural topography, minimizing their visibility from key vantage points and reducing the overall impact on the landscape. Noise levels from machinery and processing activities will be controlled through soundproofing measures and the strategic positioning of equipment and waste dumps to shield noise from nearby residential areas and wildlife habitats. Creeks and water bodies have been protected by diverting non-contact water away from operational areas through a network of strategically placed channels and natural barriers, minimizing the potential for water contamination and preserving the integrity of local watercourses.

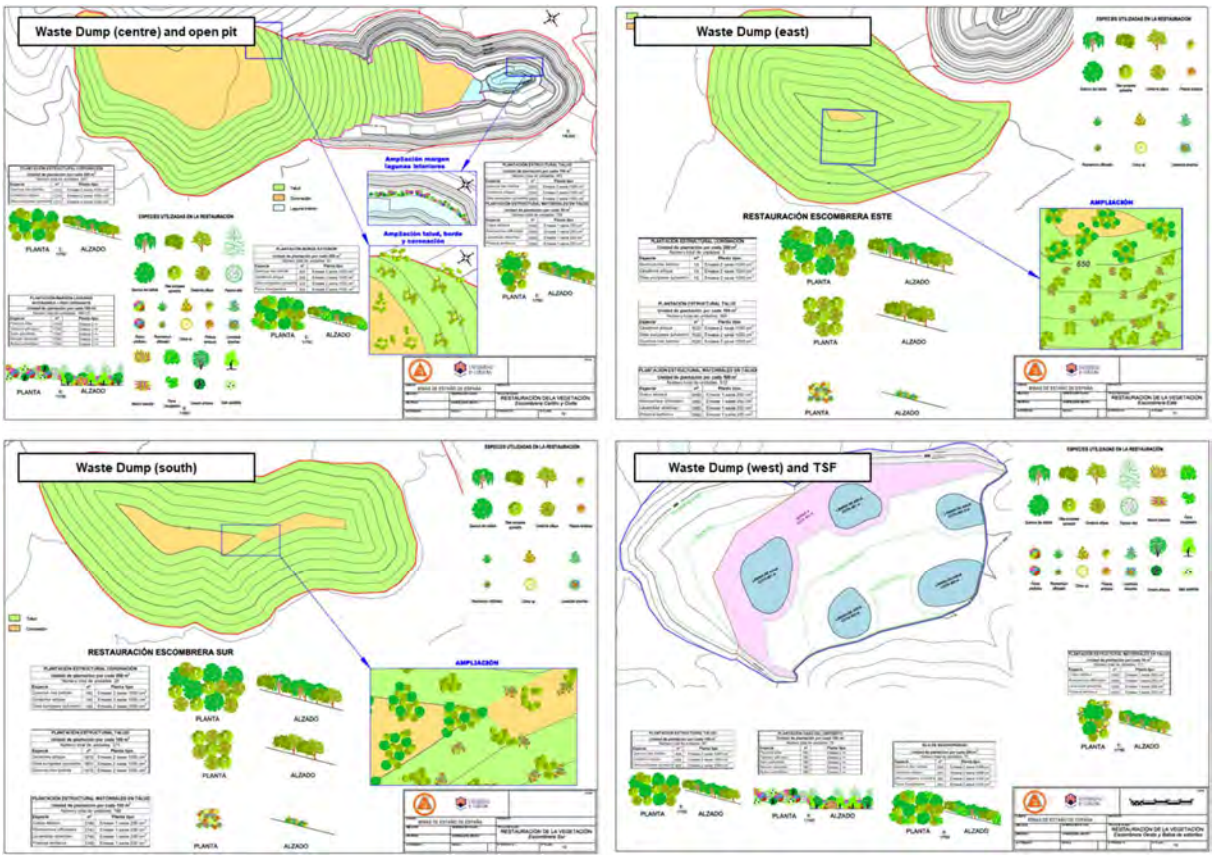

Figure 15-1 – Final rehabilitated landforms and rehabilitation for waste management infrastructure

The waste dump design represents a key element in minimizing both environmental and visual impact. The main reason for having separate waste dumps, following agreement with the administration, is to minimise

For personal use only

the disturbance on trees, allow better adaptation to the natural topography, ensuring that the final rehabilitated landform blends with the existing landscape. The plan view shapes of the waste dumps have been carefully designed to follow the natural contour lines, avoiding the occupation of the Public Water Domain and high oak tree density areas, as well as other sensitive ecological zones such as known wildlife habitats. This design approach ensures that the final landform will have a natural appearance, reducing long-term visual impact. Moreover, the strategic positioning of waste dumps also allows for efficient gravity collection of runoff water, minimizing the reliance on pumping systems or large accumulation ponds. Contact water will be directed by gravity to a dedicated contact water pond, where it will be reused within the process plant.

Another important aspect of the project's design is the strategic location of the tailings storage facility (TSF). The TSF has been positioned in the western part of the tenement, within the Guadiana River basin, to avoid any potential risk to an important Drinking Water Pond located downstream in the Guadalquivir River basin (the basin in which the main project is located). Although the risk of contamination from a breach in the TSF is extremely low due to the high degree of design and engineering controls in place, this decision reflects a precautionary approach, in agreement with the Administration, to eliminate even the theoretical possibility of water contamination. The TSF has been designed with state-of-the-art containment measures, including impermeable liners and seepage collection systems, to ensure that any contact water is fully captured.

The project's mitigation strategy also includes measures to restore and rehabilitate affected areas. Reforestation and habitat restoration programs will be implemented to accelerate the recovery of the local ecosystem and ensure that the post-mining landscape supports diverse plant and animal life. Captured contact water will be treated and reused to minimize discharge and preserve local water resources. To minimize acoustic impact, noise levels will be monitored and controlled to prevent disruption to nearby communities and sensitive wildlife areas, further mitigated by the decision for the mining operations to only run 16-hours per day. Visual impact will be further reduced by using natural colour schemes and textures in exposed infrastructure and ensuring that rehabilitation efforts create a landscape consistent with the surrounding environment.

15.3 Environmental Mitigation and Compensation

The mitigation hierarchy provides a structured framework for identifying and managing the physical, ecological, and sociocultural risks and impacts associated with anthropogenic activities during the project's planning and execution phases. This methodology establishes a sequence of steps to avoid, minimize, restore, and compensate for environmental and social impacts, with the stretch target of achieving a Net Zero Impact or, ideally, a Net Positive Impact — meaning that the affected environmental factors, resources, and ecosystem services are restored to a condition equal to or better than their original state.

The first step in the mitigation hierarchy is prevention, which aims to avoid impacts from the outset by carefully designing the project to reduce its footprint and protect sensitive areas. The project has been designed to avoid high-density oak tree areas, ecologically sensitive zones, and critical watercourses. Importantly, the tailings storage facility (TSF) has been deliberately positioned in the western part of the project within the Guadiana River basin to eliminate any potential risk to a strategically important Drinking Water Pond located in the Guadalquivir River basin. While the risk of contamination from the TSF is already extremely low due to the advanced engineering and containment systems in place, this measure reflects a proactive approach to safeguarding critical water resources and completely removing any potential risk. Similarly, non-contact water will be diverted away from operational areas through a network of strategically placed channels and barriers, minimizing the potential for water contamination and preserving the integrity of local watercourses. The layout of the waste dumps follows the natural topography to reduce landscape disturbance and avoid the Hydraulic Public Domain and sensitive ecological zones.

Minimization measures have been incorporated to reduce the impact of unavoidable disturbances. Waste dumps have been designed to follow contour lines and blend naturally with the existing topography, reducing

For personal use only

visual impact and facilitating future rehabilitation. The strategic positioning of infrastructure and waste dumps also allows for gravity-based runoff collection, reducing the need for pumping and minimizing infrastructure costs and energy consumption. Contact water will be collected by gravity and treated in a dedicated contact water pond before being reused within the process plant. Noise pollution will be minimized through soundproofing measures and the strategic placement of machinery and equipment to limit disruption to nearby communities and wildlife habitats. Furthermore, the project includes a structured replanting and reforestation program to restore native vegetation and accelerate ecosystem recovery.

Restoration measures are intended to repair the environmental damage that cannot be prevented or minimized. The project includes a comprehensive program for restoring affected habitats, which involves replanting native trees, shrubs, and grasses to recreate natural habitats and promote biodiversity recovery. Special attention will be given to restoring riparian zones and sensitive wildlife habitats to ensure that key ecosystem functions are maintained. Soil recovery techniques, such as nutrient enrichment and erosion control, will be applied to accelerate the recovery of affected areas. The restoration plan also includes wildlife protection measures, such as the installation of nest boxes and the creation of refuges for small mammals, amphibians, and reptiles.

Compensatory measures will be implemented to offset any residual impacts that cannot be avoided or fully restored. These measures aim to generate net environmental and social benefits, contributing to a net positive impact in the project area. The compensatory measures include:

1. Creation of livestock ponds to provide water sources for wildlife and livestock.
2. Reforestation and densification of oak woodlands to improve habitat quality.
3. Installation of nest boxes, nocturnal and diurnal raptors, and bats, along with the construction of bat and insect hotels.
4. Creation of temporary flood ponds and accumulation of logs and stones to provide shelter for invertebrates, amphibians, reptiles, and small mammals.
5. Establishment of shrub and herbaceous field borders to improve biodiversity and create wildlife corridors.
6. Partridge conservation program involving the installation of refuges and feeders and the planting of cereal crops to support food sources.
7. Capture and GPS/GSM tagging of threatened bird species to monitor population health and movements.
8. Construction of an artificial gallery at the mining front (10x30 m with a width of 2 m and a height of 3 m), ending in a 4x4 m square chamber to provide a controlled environment for species rehabilitation.
9. Creation of a new hiking trail and the promotion of recreational and tourism activities to generate social and economic benefits for the local community.

Additionally, a set of agro-environmental compensatory measures has been established to improve steppe bird habitats within the ZEPA Alto Guadiato (a Natura 2000 site), in accordance with the requirements of the Junta de Andalucía. These measures focus on improving the habitat for target species such as the great bustard (*Otis tarda*), the little bustard (*Tetrax tetrax*), the pin-tailed sandgrouse (*Pterocles alchata*), the Montagu's harrier (*Circus pygargus*), and the lesser kestrel (*Falco naumanni*). The key agro-environmental measures include:

1. Development and approval of a detailed agro-environmental compensation plan.
2. Crop and stubble production to provide food sources for steppe birds.
3. Diversification of crops to increase habitat complexity and support a wider range of species.

4. Direct seeding and the planting of legumes and long-cycle cereals to enhance soil quality and improve forage availability.
5. Creation of grazing areas and field margins to support wildlife movement and breeding.
6. Construction of watering points and livestock ponds to provide reliable water sources.
7. Conservation and maintenance of existing lesser kestrel colonies to ensure population stability.
8. Monitoring and adjustment of the agro-environmental compensation plan to ensure its long-term effectiveness.

15.4 Health and Safety

Elementos and MESPA are committed to the safe and responsible development and operation of the Oropesa Tin Project with a clear target of Zero Harm, aiming for industrial best practise and full compliance with applicable Andalucian and Spanish Occupational Health and Safety Regulations which are summarised in Section 6.8.2.

Safety has been the cornerstone of the project design process, with "safety in design" considered and driving design decisions. From site investigations, through initial planning and into engineering design, the company has integrated safety considerations to mitigate risks and protect stakeholders. This commitment ensures that design decisions align with robust safety standards, setting the project up as a safe operational environment while meeting regulatory requirements. By embedding safety into the fabric of the project's development, the company underscores its dedication to safeguarding both its workforce and the surrounding community.

Health and Safety Documents have been developed and submitted in support of the Mining Exploitation Concession Application addressing safety management planning for construction and operation. Preliminary construction risk assessments have also been documented for each of the major project elements (Process Plant, Water Treatment Plant, Tailings Storage Facility, Water Dams and Mine Waste Dumps)

Further development of a full suite of Health and Safety Management planning will be progressed as part of the Forward Work Plans ahead of project implementation.

For personal use only

16 COMMUNITY AND STAKEHOLDER RELATIONS

16.1 Local Stakeholder Relations

The project's communication policy has been based on direct and regular communication with key stakeholders and maintaining a physical presence at community events, within the Guadiato valley region and Cordoba Province focussing on the major towns close to the project; Fuente Obejuna, Peñarroya-Pueblonuevo, Cuenca & Belmez. The following summary related to stakeholders outside the Regional Administration who we maintain formal relationships such as Government Departments.

The strategy has two main objectives:

1. Ensure the project, acquires visibility in an absolutely natural way.
2. Ensure stakeholders with influence are well informed of the project and its progress.

This strategy is mostly community participation based, supported (where appropriate) by modest financial contributions to some local events and initiatives. An example, in 2024 MESPA organised the first edition of the 'Sexto Mario' award for the best final degree project in Mining Engineering at the local mining university (Polytechnic School of Belmez).

16.2 Recent Communication Strategy

Regarding media strategy, the current decision relates to not actively pursuing the publication of news about the Oropesa Project. However, the company maintains relationships with prominent journalists in the region and ensures that are well informed. To date, over the life of the project there has not been any material negative news published against the project, nor has any environmental organisation focused it's attention at the project.

We maintain personal updates to the following key local stakeholders:

1. Mayoress of local town Fuente Obejuna.
2. Chairman of the Businessmen's Association of the region (Asempe).
3. Chairman of the Confederation of Businessmen of Cordoba (CECO).
4. Vice-President of the Confederation of Businessmen of Andalusia (CEA).
5. Chairman of the Chamber of Commerce of Cordoba.
6. Dean of the Colegio Southern Association of Mining Engineers.
7. Dean of the Polytechnic School of Belmez.
8. The Chairman of the Provincial Council of Cordoba.

16.3 Way-Forward Engagement Strategy

Following the new submission of Primary Licences (Mining & Environmental), an extensive social participation process has been initiated. This is a not only good practise but a clear requirement in the processing of projects

For personal use only

For personal use only

within EU Legislation (Natura 2000 sites). These increasingly public presentations (including media publications) will prove very useful in educating the local populations, business owners and potential future staff. It also allows us to identify parties who may have concerns or doubts among the population of the area, and to re-educate them on the realities of the project to ensure that all stakeholders are well informed. This will be useful in obtaining further support from the community, to identify local business who can benefit from the project, promote employment opportunities, and also, of course, to identify possible opponents to the project.

In principle, the following strategy has been planned and will be increasingly applied in the coming months:

1. Interviews and feature articles with prominent Andalucian & national newspapers (relationships already established).
2. Re-present the updated project to all mayors, in a specific meeting.
3. Open information sessions in each of the local towns & municipalities, with the collaboration of their town councils.
4. Hold industry specific sessions with business groups: businessmen, trade unions, heads of training centres, etc.
5. Information Sessions held in all the secondary schools in the region.

Additionally, affected land holders have been identified, independent land valuations have been completed, legal acquisition/access assessments completed and a strategy for engagement developed. The company looks to come to appropriate commercial agreements with land holders before receiving its Exploitation (Mining) licence but is bolstered by the fact that Andalusian law does support compulsory acquisition if reasonable commercial outcomes cannot be reached.

16.4 Other Prominent Organisations

16.4.1 Group Valle del Alto Guadiato (GDR)

The Rural Development Groups (GDRs) in Andalusia are private associations at super-localised level made up of public (town councils, associations of municipalities, etc.) and private (business, agricultural, trade union, civic, cultural, etc.) agents in the territory with the aim of implementing rural development policies in collaboration with the Regional Ministry of Agriculture, Fisheries, Water and Rural Development of the Government of Andalusia.

This GDR Valle del Alto Guadiato was founded in 1995 and has around one hundred associated institutions, associations and companies. Its territorial scope is the six municipalities that make up the Alto Guadiato region, which has been analysed and confirmed an authentic local influencer, with which MESPA maintains a very close relationship.

The operation of the GDRs is co-financed by the EU, through the Leader programme, and Spanish administrations. Their mission is to encourage and support local economic activity initiatives by advising on projects and facilitating the obtaining of public aid.

The action of the GDRs is guided by the Local Development Strategy that each of them has defined. This Strategy has been updated in the second half of 2024 and has been based on extensive social participation and interviews with local economic agents, and with the help of expert advice.

Our local representatives of the Oropesa Project actively participated in the formulation of the new Strategy: meetings of economic agents, personal interviews, review of preliminary ideas (selection of opportunity sectors) and final revision.

They have also participated in several presentations in different municipalities of the region. The main objective of these representatives was threefold:

1. To demonstrate a willingness of the Project to collaborate with local institutions.
2. To demonstrate a high degree of knowledge of the social and economic reality of the county.
3. That mining in the region can continue following the end of coal mining activities.

The perception about the Oropesa Tin Project has improved over the last few years and brought local opinions into line with reality: Is a mature project that is promoted by a company capable of developing it and able to meet all the justified administrative requirements.

16.4.2 Just Transition Fund

To support the European Green Deal, the Just Transition Fund was established to provide financial support to regions, sectors and communities facing more severe socio-economic challenges from the transition to cleaner forms of energy and to re-stimulate regions where traditional coal power has been turned-off. The municipalities of the Alto Guadiato region (with which the Oropesa Tin Project is located) are among those affected by the closure of the Puente Nuevo coal-fired power station (Espiel) and are therefore a targeted region for EU and Regional Government stimulus.

Since the closure of the Puente Nuevo coal-fired power station, two major events have occurred:

1. Since July 2024, Just Transition aid for business projects has also been extended to the municipalities affected by the closure of these thermal power plants.

   Until then, the aid was only for the regions affected by the closure of coal mines. This is important because this aid will be very useful for the development of local suppliers for the Oropesa tin mine, as the investment they would have to make will be facilitated. The next call for aid will be presented publicly in April 2025. The calls and requirements for grants are different for small and large investment projects. The Andalusian delegation of the Institute for Just Transition (Central Government) is being consulted to see if the aid would be applicable to some of the investments to be made by the Oropesa Project, in order to apply for them in due course. On the other hand, there is aid for training that can be used in the personnel training activities organised by the Oropesa Project.

2. Tendering of 409 MW of grid access capacity for new renewable generation and storage facilities (known as the 'Lancha Tender').

   This tender is already at the resolution and awarding stage, which is not expected to be finalised for several months. At least 11 companies have participated (according to some informal comments). Among the criteria for the evaluation of bids is the support to other investment projects in the region. Several bidders requested the inclusion of the Oropesa Project in their bids (EDP, Prosolia and Magtel among the most notable) and their proposals were carefully studied and refined through successive meetings. The Oropesa Project evaluated the parties and their bids and eventually supported Magtel's proposal for several reasons: it is a leading company in Cordoba, it is highly valued by the Administration, it also has interests in the mining sector (Tharsis Mining), and because its proposal includes a study of the electrical self-sufficiency of the Oropesa mine, as well as the organisation and financing of training courses on demand for the Oropesa mine.

For personal use only

17 CAPITAL COST ESTIMATE

17.1 Estimate Summary

The Capital Cost Estimate (CAPEX) for the Project has been developed through mature designs, clear scopes, distinct packaging and market pricing. The CAPEX meets the requirements of a Class-3 estimate as defined by the American Association of Cost Engineers' (AACE) Cost Estimation and Classification System (as applied for mining and minerals processing industries) and represents a nominal accuracy range of +/-10%. The CAPEX Base Date is February 2025, and all cost data presented is in the project country currency of Euros (EUR), aligned with the base 'modelling currency' of the financial model.

The pre-production capital required to implement the Project has been estimated at EUR149.4M including contingency of EUR14.1M. A summary is presented in Table 17.1, in accordance with the Project Work Breakdown Structure (WBS).

Table 17.1 – Capital Cost Estimate Summary

WBS No.	WBS Description	Total EUR	% of ex.	% of inc.
2000	Mining	18,216,000	13%	12%
3000	Process Plant	45,181,000	33%	30%
4000	Tailings Storage Facility	15,027,000	11%	10%
5000	Common Services / Facilities	7,979,000	6%	5%
6000	On-Site Infrastructure	14,038,000	10%	9%
7000	Off-Site Infrastructure	3,039,000	2%	2%
8000	Pre-Production Costs	5,871,000	4%	4%
9000	Owners / Indirect Costs	25,898,000	19%	17%
Total CAPEX excluding Contingency		**135,251,000**	**100%**	**90.6%**
CONTINGENCY		**14,095,000**	**10.4%**	**9.4%**
Total CAPEX		**149,347,000**		

For personal use only

For personal use only

17.2 Estimate Basis

17.2.1 General

Table 17.2 provides a summary of the key CAPEX estimate basis considerations.

Table 17.2 – CAPEX Basis Summary

Item	Basis
Class	AACE Class-3
Accuracy	+/- 10%
Currency	Euro (EUR)
Base Date	February 2025
Escalation	Excluded, as model is Real
Forex	All costs tendered / provided / estimated in EUD. Conversions for summary presentation as set out in Table 18.1

The CAPEX has been structured in accordance with the Project's Work Breakdown Structure (WBS) which was developed and agreed at the commencement of the DFS and encapsulates the entire project scope. The overall estimate was developed and compiled by Wave International. The CAPEX was developed from a number of sources and using a combination of methodologies to cover the entire project scope as summarised in Section 17.2.2.

17.2.2 CAPEX Sources and Methodologies

The sources and methodologies to develop the CAPEX for the major packages are summarised in the following subsections. Together these packages account for over 90% of the total CAPEX.

17.2.2.1 Process Plant ECI

The Process Plant ECI contract was undertaken by Spanish EPC Contractor to develop engineering deliverables to support the DFS and establish EPC contract pricing and commercial arrangements on a cooperative and open book basis. The general scope of the Process Plant EPC package covers the engineering, procurement and construction (including commissioning support) of the following:

1. Process plant facilities.
2. NPI Buildings and associated services.
3. Tailings and water reticulation pumps and piping.
4. Main onsite substation and electrical distribution.

A full suite of technical deliverables supporting engineering development to the level required for the DFS estimate accuracy, together with a detailed EPC Price Estimate was delivered by Duro Felguera and forms the basis of the CAPEX for this package. Duro Felguera has confirmed the validity of their estimate as of February 2025.

For personal use only

17.2.2.2 Mining

A comprehensive RFQ process was undertaken for the mining services contract, initially in 2023 and updated in early 2025. The process was based on the mining plan, schedule and quantities that form the basis of the DFS and included a proposed Contract Terms Sheet and detailed Responsibilities Matrix. Responses were received from five qualified Spanish Mining Contractors. The pricing information received has been assessed and used to inform both the CAPEX (pre-production mining) and OPEX mining provisions. In terms of the CAPEX considerations the RFQ process addressed the construction of the TSF embankment wall and the ROM bulk earthworks as part of the mining scope utilising pre-strip waste materials.

17.2.2.3 Tailings Storage Facilities

The CAPEX provisions for the TSF have been developed on the following basis:

1. Design development and preparation of Bill of Quantities (BoQ) by specialist consultant Geociencias y Exploraciones Marítimas, S.L. (GEM).
2. Embankment construction costs sourced from Mining Services Contract RFQ (Section 17.2.2.2).
3. Quotations for supply and installation costs for waterproofing infrastructure, including liner sourced from specialist subcontractor.
4. Other earthworks and civil costs sourced from assessed responses to the Civil Works RFQ in 2023 (as described in Section 17.2.2.4).

17.2.2.4 Civil Works

A comprehensive RFQ process was undertaken with the design documentation and the associated BoQs for the civil works in 2023 covering the following as independent separable portions:

1. Tailings Storage Facility.
2. Water Dams.
3. Site Access Road and Public Track Diversions.
4. On-site Civil Works including ROM Pad, Plant and Infrastructure Pads, initial haul road and internal site roads.
5. Mine Water Management Infrastructure (Drainage).

Responses to this RFQ were received from 11 Contractors. These responses covered at least one of the separable portions identified above and included responses from the five Mining Contractors considering opportunities to combine the mining and civil works.

The designs of the separable portions outlined above have been revised and updated to reflect the overall layout changes resulting from the modified project layout developed in consultation with the Administration in 2024 (refer Section 6.2). The CAPEX provisions for the various civil works have been developed as follows:

1. Water Dams:
    a. Updated design development and preparation of Bill of Quantities (BoQ) by specialist consultant Geociencias y Exploraciones Marítimas, S.L. (GEM).

For personal use only

b. Quotations for supply and installation costs for waterproofing infrastructure, including liner sourced from specialist subcontractor.

c. Other earthworks and civil costs sourced from assessed responses to the Civil Works RFQ in 2023.

2. Site Access Road, Public Track Diversions / Upgrades, On Site Access Tracks:

a. Updated design development and preparation of Bill of Quantities (BoQ) by specialist consultant Geolen.

b. Rates sourced from equivalent construction contracts for which Geolen provided engineering in 2024 and also reviewed against responses to the Civil Works RFQ in 2023, noting that the majority of the length of the mine access road remains unchanged from the 2023 design.

3. On-site Civil Works (ROM Pad, Plant and Infrastructure Pads):

a. Updated design development and preparation of Bill of Quantities (BoQ) by Wave International.

b. ROM bulk earthworks costs sourced from Mining Services Contract RFQ (Section 17.2.1.2).

c. Other rates sourced from assessed responses to the Civil Works RFQ in 2023.

4. Water Management Drainage and associated Maintenance Tracks:

a. Updated design development and preparation of Bill of Quantities (BoQ) by specialist consultant Geolen.

b. Rates sourced from equivalent construction contracts for which Geolen provided engineering in 2024 and also reviewed against responses to the Civil Works RFQ in 2023.

17.2.3 Estimate Structure

The CAPEX can be divided into three major cost areas which make up the total capital estimate. These are:

1. Direct costs.
2. Indirect costs.
3. Project contingency.

The CAPEX presented covers total estimated Capex from FID (the likely point of Project Financing) to commencement of production and excludes costs estimated to be incurred Pre-FID. Refer Section 14.3 for further details of Per-FID costs and the related Forward Work Plan, designed to further increase project definition, reduce risks and speed up ultimate delivery timeframes.

Life of Mine and Sustaining Capital costs are covered separately – refer Section 17.3.3.

17.2.3.1 Direct Costs

All costs related to the Pre-production Mining Pre-strip, Process Plant and Non-Process Infrastructure are defined as direct costs and are directly attributable to the project scope items and include the supply of equipment and materials, freight to site and construction labour.

For personal use only

17.2.3.2 Indirect Costs

Indirect costs are typically costs that accrue on a time basis and not directly allocated to individual cost items. Non-construction personnel, vehicles, overheads, plant & equipment; are all based on the project schedule and bulk quantity development. Based on industry norms the indirect costs are then factored to arrive at an estimate.

The indirect costs include the following:

1. Temporary construction facilities – buildings, utilities, construction camp.
2. Owners' costs – the owner's implementation team during implementation, third party consultants, legal and insurance.
3. First fills – reagents and consumables required for sustained operations.
4. Equipment spares – initial, capital and insurance spares.
5. Design, procurement and construction management – including indirect labour costs associated with the design and procurement and construction management activities required to implement the project.
6. Commissioning – costs associated with commissioning the plant to a completed wet commissioning stage and first feed of ore. It does not include the plant ramp-up, which is the first operational stage after completion of the wet commissioning stage.

17.2.3.3 Project Contingency

The contingency is a provision for unforeseen items of work; or work that is not adequately defined and quantified due to the level of project definition. A number of these contingency items are detailed in Section 20.2 RISKS with Section 14.4 Forward Work Plan detailing works to mitigate these risks before FID.

17.2.4 CAPEX Exclusions

The following have been excluded from the CAPEX:

1. Life of Mine Capital costs as outlined in Section 17.3.3.
2. Mining Contractor's mobilisation and infrastructure establishment costs – these have been amortised over the initial 5 years of operation and are covered under the mining OPEX costs.
3. Costs for Off-Site Power Infrastructure. Despite the package being developed as an owner delivered and funded package, the basis of the DFS is based on this infrastructure being delivered under an off-balance sheet Build, Own, Operate and Transfer (BOOT) / off-balance sheet finance solution. The company made this decision after receiving a letter of Intent from a suitable qualified Spanish entity that specialises in these arrangements. Financing for this solution is therefore covered under OPEX for the purposed of the DFS.
4. Pre-FID Costs as outlined in Section 14.3.
5. Project Financing / Funding Costs.
6. Elementos and MESPA Corporate Overhead Costs.

For personal use only

17.3 Estimate Details

17.3.1 Execution Package Breakdown

Table 17.3 presents a summary breakdown of the CAPEX based on the major Execution Packages planned for the project.

Table 17.3 – Capital Cost Estimate by Package

Package	WBS Description	Total EUR	% of ex. Cont.	% of inc. Cont.
CP0	Integrated Owner's Team (IOT)	4,805,000	3.6%	3.2%
CP1	Process Plant EPC	79,882,000	59.1%	53.5%
CP2	Enabling & Initial Civil Works	5,010,000	3.7%	3.4%
CP3	Pre-production Mining	28,516,000	21.1%	19.1%
CP4	Civil Works	9,474,000	7.0%	6.3%
CP5	Off-site Power Supply (1)	-	0.0%	0.0%
CP6	Statutory Authority Works / Contributions	996,000	0.7%	0.7%
CP7	Minor / Miscellaneous Works	1,126,000	0.8%	0.8%
CP9	Owner's Indirects	5,441,000	4.0%	3.6%
	Total CAPEX excluding Contingency	**135,251,000**	**100%**	**90.7%**
	CONTINGENCY	**14,095,000**	**10.4%**	**9.4%**
	Total Capex Including Contingency	**149,347,000**	-	**100%**

Notes:

5. *This package has been included in this table for completeness. However, the CAPEX is based on this work being separately funded under a BOOT or equivalent arrangement with funding covered under OPEX.*

17.3.2 Discipline Breakdown

Table 17.4 presents a breakdown of the CAPEX by discipline for Direct and Indirect Costs.

Table 17.4 – Capital Cost Estimate – Discipline Breakdown

Cost Element	% of CAPEX (Excluding Contingency)	Cost (EUR)
DIRECT FIELD COSTS	76.5%	103,482,000
Mining	13.5%	18,216,000
Earthworks	18.4%	24,845,000
Concrete and civil works	3.9%	5,300,000
Structural steelwork	3.2%	4,330,000

For personal use only

Cost Element	% of CAPEX (Excluding Contingency)	Cost (EUR)
Buildings / Architectural	1.8%	2,385,000
Mechanical / Process equipment	22.1%	29,872,000
Mechanical platework / Tanks	1.4%	1,828,000
	0.0%	-
Piping and pipe fittings	4.3%	5,799,000
Electrical	6.7%	9,070,000
Control and instrumentation	1.4%	1,834,000
INDIRECT / OTHER FIELD COSTS	23.5%	**31,770,000**
First Fills	0.3%	379,000
Logistic	10.4%	14,126,000
Vendor representative	0.6%	749,000
Spares for Commissioning	0.3%	343,000
Spares operation	0.7%	936,000
Insurance Spares	0.2%	328,000
Engineering	1.9%	2,544,000
Management	3.7%	5,013,000
Other	5.4%	7,352,000
TOTAL CAPEX (EXCLUDING CONTINGENCY)	**100%**	**135,251,000**
Contingency	**10.4%**	**14,095,000**
TOTAL CAPEX		**149,347,000**

17.3.3 Life of Mine and Sustaining Capital

Allowance has been made for specific life of mine capital costs for specific works which give multiyear benefits to the project after the commencement of production, these are not included in the CAPEX but are included in the financial model. These include:

1. Land acquisition of unaffected properties that can be deferred until after operations are initiated.
2. Stage 2 lift and expansion of the Tailings Storage Facility.
3. Development of the Dewatering Bores and related piping infrastructure as the Mine Pit develops.
4. Development of contact water collection drainage and related maintenance tracks for the South and East Out of Pit Dump areas.

These costs are summarised in Table 17.5.

Annualised sustaining capital costs have been included in the financial model.

Table 17.5 – Life of Mine Capital Costs

WBS	WBS Description	Year of Expenditure	Total EUR	% of Exclusions
4420	TSF Area Preparation & Waterproofing - Stage 2	3	1,930,000	32.2%
6270	Mine Water Management Infrastructure (Post-production)	3,5,12	1,044,000	17.4%
6250	Pit Dewatering Infrastructure (Post-production)	3,4,9,13	302,000	5.0%
8130	Capital Spares	1	1,296,000	21.6%
9210	Land Purchase	2,6	1,417,000	23.7%
	Total Life of Mine Capital		**5,989,000**	**100.0%**

For personal use only

18 OPERATING COST ESTIMATE

18.1 Basis of Estimate

18.1.1 Accuracy of Estimate

The Definitive-Feasibility Study (DFS) operating cost estimate (OPEX) was developed as a "bottom-up" estimate. All significant and measurable items are listed; however, smaller items are factored as per industry standards. The level of effort for each of the line items meets the class 3 estimate as defined by AusIMM with an accuracy of +/-10%.

18.1.2 Base Date and Exchange Rates

The project operational costs were developed as at a base date of Q1 2025 with all pricing inputs being representative of this time. Foreign exchange rates applied in the operating cost model are listed in Table 18.1 below sourced from Elementos

Table 18.1 – Foreign Exchange Rates

FOREX	Rate
USD:AUD	1.59
EUR:USD	1.05
EUR:AUD	1.74

18.1.3 Escalation

Operating costs are in 2025 terms and have not been escalated.

18.1.4 Estimate Development and Sources

The estimate reflects steady state operations of the proposed Project, reliant on first principals, with data sourced from the process design criteria (PDC), Mechanical Equipment List (MEL) and Capital cost Estimate (CAPEX). Unit costs in the estimate have been sourced from third party vendor quotes, existing Wave internal Databases, client supplied information, information from relevant sections of this report as well as independent research conducted by Wave International.

For personal use only

For personal use only

18.2 Estimate Breakdown and Summary

18.2.1 Summary

The summary of the OPEX for the project is presented in table 18-1 below and can be summarized as:

1. Mining costs are the most significant contributor to the project OPEX representing 46.1% of the total OPEX.
2. The second largest contributor to the total project OPEX is Reagents at 18.7% followed by electrical power costs at 10.0% and Labour which represents 9.0% of the total project OPEX.
3. The remaining 16.7% of the total OPEX is attributed to G&A, Maintenance, equipment hires, off balance sheet financing, Gas and diesel. Flights and Accommodation costs have been excluded from the operating cost estimate due to the proximity population areas making flights and accommodation for employees negligible.
4. Please note the Opex costs have been calculated as at steady state production with a plant throughput of 1.25Mtpa producing a 5,347tpa Sn concentrate at a Grade of 61.4%. This may differ from the Financial Model due to the variability of the mine/production schedule and ramp-up resulting in an average throughput of 0.97Mtpa producing an average of 5,390tpa Sn concentrate at an average concentrate grade of 63.16%.

The OPEX breakdown by area can be seen in the below table and Figure 18-1.

Table 18.2 – Operating Cost Summary

Cost Centre	% Contribution	EURm/yr	EUR/t Sn	USDm/yr	USD/t Sn	AUDm/yr	AUD/t Sn
Mining Contract	46.1%	21.91	6,673	23.00	7,007	38.12	11,611
Labour	9.0%	4.28	1,305	4.50	1,370	7.45	2,271
Power	10.0%	4.76	1,450	5.00	1,523	8.28	2,523
Diesel	0.6%	0.29	90	0.31	94	0.51	156
Natural Gas	0.5%	0.26	79	0.27	83	0.45	137
Maintenance	4.1%	1.97	599	2.06	629	3.42	1,042
Reagents and Consumables	18.7%	8.87	2,702	9.32	2,837	15.44	4,702
Equipment Hire	0.8%	0.38	115	0.39	120	0.65	199
Product Transport	0.2%	0.12	33	0.12	34	0.20	57
Contract/General Expenses	8.0%	3.81	1,159	4.00	1,217	6.62	2,017
Equipment Financing	1.8%	0.86	261	0.90	274	1.49	454
Total	**100%**	**47.5**	**14,465**	**49.87**	**15,188**	**82.6**	**25,169**

For personal use only

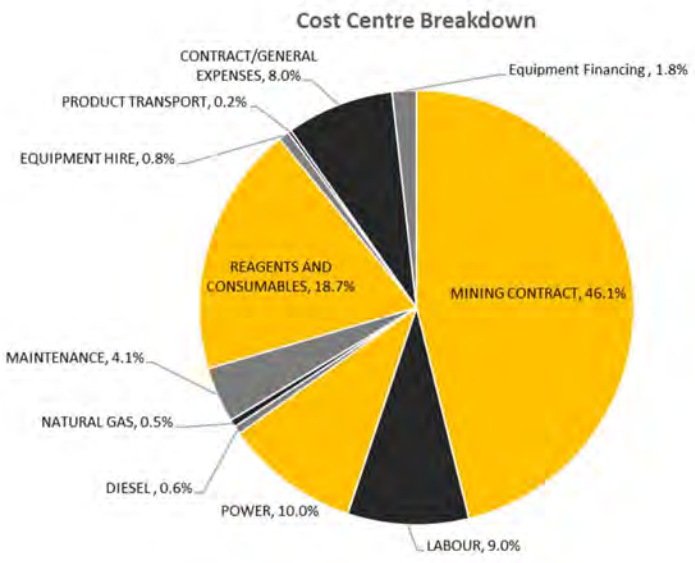

Figure 18-1 – Operating Cost Breakdown

18.2.2 Mining and Rehabilitation

The open-pit mining costs were supplied by a third-party mining contractor, with the key unit costs tabulated below. To obtain a "steady state" mining cost the total mining costs across the life of the mine (LOM) were divided by the total ore tonnes mined before being multiplies by the steady state process plant feed tonnes. Costs Classified under "Other rehabilitation costs" are representative of rehabilitation actions excluded from earth movement activities such as waste dump rehabilitation, tailings dam rehabilitation, oak tree transplantation, etc. Please note all average mining volumes and costs are the average over the life of mine with a mine life of 141 Months and a rehabilitation period of 191 Months.

Table 18.3 – Mining Operating Costs

Description	UOM	Unit Cost	Average Units/yr	Average Cost/yr	Cost EUR/t Sn
Mining					
Topsoil	EUR/bcm	3.75	12,926	48,497	14.77
Clearing	EUR/ha	860.78	10	8,615	2.62
Grade Control	EUR/ttm	0.15	12,150,015	1,818,370	553.86
Waste/LG Mining	EUR/t	1.69	8,679,268	14,629,746	4,456.13
Ore Mining	EUR/t	1.81	1,341,482	2,425,498	738.79
TOMRA Rejects Disposal	EUR/t	1.04	384,131	397,724	121.14
ROM Loader Crusher Feed	EUR/t ROM	0.78	108,683	85,173	25.94
Rehabilitation Earth Movement					

Description	UOM	Unit Cost	Average Units/yr	Average Cost/yr	Cost EUR/t Sn
Dozer Reshaping	EUR/t	0.53	193,858	103,147	31.42
Excavator Rehandle	EUR/t	1.08	1,487,367	1,612,139	491.05
Topsoil Stockpile Reclaim Base	EUR/lcm	3.75	28,557	107,140	32.63
Topsoil Stockpile >800m	EUR/lcm	0.02	118,079	1,798	0.55
Sub-Total				**21,237,847**	**6,468.92**
Other Rehabilitation Activity				670,455	204.22
Total				**21,908,302**	**6,673.14**

18.2.3 Labour

A Labour List for the project's Operations was jointly created by Elementos and Wave with staff classified into the following categories: Mining, Mineral Treatment Plant and General. The peaking Manning for the project totals 87 personnel excluding mining and laboratory services contractor personnel which can be seen in the table below. Mining Labour totals 9 employees represents Oropesa's in-house mining employees, with the majority of mining personnel accounted for within the mining contractor cost schedule. Laboratory personnel are accounted for under the laboratory contractor rate and therefor excluded from the labour build-up.

The labour rates for the various categories of personnel have been built up based on current Collective Agreement arrangements for other equivalent operations – refer Section 13.3 for further background on these arrangements. It should be noted that Collective Agreements vary between mining operations, as each operation has its own specific agreement. Additional employment costs, including income tax and other statutory obligations, have been incorporated following specific guidance on the total employment costs that would apply under Spanish labour law. Management positions are excluded from the Collective Agreement, and their salaries have been estimated based on information from other comparable mining operations in the region.

Table 18.4 – Labour Operating Cost Breakdown

Area	Personnel	Average Salary	Average Cost/yr	Cost EUR/t Sn
General	25	$59,447	1,486,164	452.68
Mineral Treatment Plant	53	$43,355	2,297,796	699.90
Mining	9	$55,602	500,415	152.42
Total	**87**		**4,284,375**	**1,305.00**

For personal use only

For personal use only

18.2.4 Electrical power

Electrical costs are derived from the consumed kWh of the processing plant, crusher & ore sorter, and other non-processing infrastructure. The price of electricity was provided by the client based off third-party reports averaging domestic/industrial energy cost from January 2023 to May 2023. The total power consumption of the Project was derived from the electrical loads derived from the Mechanical Equipment List.

Table 18.5 – Electrical Power Operating Cost

Installed kWh/t	kWh/yr	EUR/kWh	Average Cost/yr	Cost EUR/t Sn
36.1	45,081,113	0.1056	4,760,565	1,450.04
Total			**4,760,565**	**1,450.04**

18.2.5 Fuel

The diesel cost includes diesel consumed by the process plant's mobile equipment and light vehicles of the Project. The diesel costs for mining and power are included within their respective contractor rates. The diesel price of 1.20 EUR/L is a forward-looking estimate sourced by the project and is inclusive of government excise.

Natural Gas includes fuel consumed by the rotary dryer with the gas price of 1.115 €/Nm3/h being a quoted rate from MolGas (05/2023).

Table 18.6 – Fuel Operating Cost

Fuel	Unit Cost	EUR/Unit	Consumption/yr	Average Cost EUR/yr	Cost EUR/t Sn
Diesel	L	1.20	245,524	294,628	89.74
Natural Gas	Nm3	1.48	175,137	258,340	78.69
Total				**552,968**	**168.43**

18.2.6 Maintenance

The maintenance cost of the Project represents the day-to-day routine maintenance and spares allocation of equipment. Replacement of equipment is represented by the sustaining capital cost which has been excluded from the OPEX as it is classified as a capital item. The maintenance cost for the fixed plant is derived from the direct capital costs of the project sourced from the CAPEX and corresponding maintenance factors on estimate disciplines based off engineer's experience. An average maintenance rate of 2.78% has been applied to the total supply costs of mechanical equipment, piping valves, Electrical, Control Instrumentation, Buildings/Infrastructure and Earthworks (TSF wall, Roads).

Mobile plant equipment maintenance has been disregarded with the maintenance cost being captured within the equipment hire rates.

Table 18.7 – Maintenance Operating Cost

Maintenance	% of Supply	Supply EURm	Average Cost EUR/yr	Cost EUR/t Sn
Fixed Plant	2.78%	70.83	1,966,160	598.88
Total			**1,966,160**	**598.88**

18.2.7 Reagents and Consumables

Reagent pricing was received from vendors for all reagents. Reagent pricing includes the cost of delivery. All tonnage requirements were taken from the PDC. Consumables are primarily reflective of the process consumption of grinding and regrinding media.

Table 18.8 – Reagents and Consumables Operating Cost

Reagents and Consumables	Average Cost EUR/yr	Cost EUR/t Sn	Cost EUR/t Ore
Reagents	7,047,531	2,147.64	5.64
Consumables	1,824,308	555.67	1.46
Total	**8,871,839**	**2,702.31**	**7.10**

18.2.8 Equipment Hire

Process plant and mobile equipment will be acquired through rental agreements for the project. Equipment hire is based on Wave database information, current industry reports and the equipment hire rates of similar projects.

Table 18.9 – Equipment Hire Operating Cost

Equipment Hire	# Equipment	Average Cost EUR/yr	Cost EUR/t Sn
Light Vehicles	16	282,240	85.97
Process Plant Equipment	5	93,788	28.56
Total		**376,018**	**114.53**

18.2.9 Transport and Logistics

The logistics cost of the Project represents the costs associated with the loading and transportation of Tin Concentrate (Sn) product from the processing facility to the Robledallano Tin Smelter in Extremadura ~220km from site.

Table 18.10 – Transport and Logistics Operating Cost

Transport & Logistics	Rate EUR/t	t/annum	Average Cost EUR/yr	Cost EUR/t Sn
Containerised Product Load, transport and return to mine	21.6	5,347	115,495	32.57

For personal use only

Transport & Logistics	Rate EUR/t	t/annum	Average Cost EUR/yr	Cost EUR/t Sn
Total			115,495	32.57

18.2.10 Off-balance Sheet Financing

Off-balance sheet financing captures the proposed 3rd party financing of the 66kv substation & transmission line. This has a supply cost of €4.7m translating to a calculated monthly charge of €71,374 per month with repayment starting at first production and concluding at the end of operations.

Table 18.11 – Equipment Financing Operating Cost

Equipment Financing	Rate EUR/month	# Units	Average Cost EUR/yr	Cost EUR/t Sn
Substation/Transmission Line	71,374	1	856,488	260.88
Total			856,488	260.88

18.2.11 General and Administrative EPO

Other costs represent costs that are anticipated by Wave to be incurred in the Project but too general to define to one area of the process. General Consumables represents costs related to tools & equipment and maintenance materials like oils & grease. Contract expenses represent costs for laboratory services, consulting, cleaning services and daywork contracts. ICT (information & communications technology) relates to internet usage, computers, and software. General Expenses includes provisions for employee training, general supplies, and legal costs. HSEC (Health, Safety, Environment & Community) includes costs for compliance reporting, flora/fauna monitoring, pest control, and cultural training. An extensive list can be found within the OPEX.

Table 18.12 – General and Administrative Costs

General and Administrative Expenses	% of G&A	Average Cost EUR/yr	Cost EUR/t Sn
General Consumables	3%	117,600	35.82
Contract Expenses	43%	1,642,427	500.27
Information & Communications Technology	3%	112,520	34.27
General Expenses	32%	1,210,077	367.72
Health, Safety, Environment and Community	19%	725,500	220.98
Total	100%	3,808,124	1,159.07

For personal use only

18.2.12 Fixed and Variable Costs

A breakdown of the above operating costs into fixed and Variable costs can be seen in Table 18.13 with 76% of costs being directly linked to the level of production.

Table 18.13 – Fixed and Variable Cost Breakdown

Cost Area	Fixed Costs EUR	Variable Costs EUR
Mining Contract		21,908,302
Labour	4,284,375	
Power		4,760,565
Diesel		294,628
Natural Gas		258,340
Maintenance	1,966,160	
Reagents and Consumables		8,871,839
Equipment Hire	376,018	
Product Transport		115,495
Contract/General Expenses	3,805,291	0
Equipment Financing	856,488	
Total	**11,288,332**	**36,209,170**

For personal use only

19 FINANCIAL EVALUATION

19.1 Financial Analysis

19.1.1 Methodology

The financial evaluation of the Oropesa Tin Project has been undertaken on a 100% project ownership basis, using a discounted cash flow (DCF) analysis. The modelling currency is in Euros (€) the currency of the vast majority of costs, with commodity pricing being applied in US Dollars (US$). Any other currencies used or reported from the financial model or within this DFS have been converted for reporting purposes with clearly stated assumptions.

The evaluation includes only real cash flows from the Project, at the Spanish subsidiary company level (MESPA), on a 100% ownership basis, and excludes cash flows from other assets held by Elementos Limited, including the exclusion of any profits associated with the proposed Robledollano smelter acquisition. A net present value (NPV) and internal rate of return (IRR) for the Project have been calculated from Final Investment Decision (FID) and excludes project or corporate expenses incurred before that time.

The following key economic assumptions apply to the base case:

1. Discount rate of 8% applied to cashflows at the end of each period.
2. The NPV has been calculated and is based at the FID.
3. Real modelling.
4. 100% project ownership basis.
5. No government royalties payable.
6. Payment of private royalties (1.35% NSR) to original vendor.
7. Ungeared model, Project funding entirely through equity with no accounting for uplift that may result from any debt component of financing.

19.1.2 Summary Results

The summary of results is:

1. A pre-tax NPV of EUR 155.49 M at an 8% discount rate.
2. A pre-tax internal rate of return (IRR) of 25.65%
3. Earnings before interest, taxes, depreciation, and amortisation (EBITDA) of EUR 572.8 M over a 12-year period.
4. Average annual operating cash flow of EUR 43.32 M.
5. Payback period of 32.36 months from 1st production period.

For personal use only

19.1.3 Base Case Assumptions

Base case assumptions are as follows:

1. Discount rate of 8%.
2. Corporate Income Tax (CIT) rate of 25%.
3. Capital items depreciated on the following basis:
    a. For tax purposes, based on the freedom of depreciation (Section 19.1.10).
    b. For accounting purposes, based on % Reserves mined.
4. Private royalty of 1.35% on concentrate value paid.
5. FOREX:
    a. EUR:USD – 1.05.
    b. AUD:EUR – 0.58.
    c. AUD:USD – 0.63.
6. Revenue assumptions based off current market conditions.
7. Initial development capex of EUR 149.3 M with LOM capex (including future development and sustaining) of EUR 209.7 M.
8. Initial development duration of 24 months with 40% spent in the first year and 60% spent in the second.
9. Initial ramp up period of 6 months built into the mining schedule.
10. Rehabilitation exercises performed and costed during operations and for 50 months post operations. A rehab account is built during operations from the project's profits and taxes payable.

For personal use only

For personal use only

19.1.4 Cash Flow Forecast

Figure 19-1 presents the Cash Flow forecast.

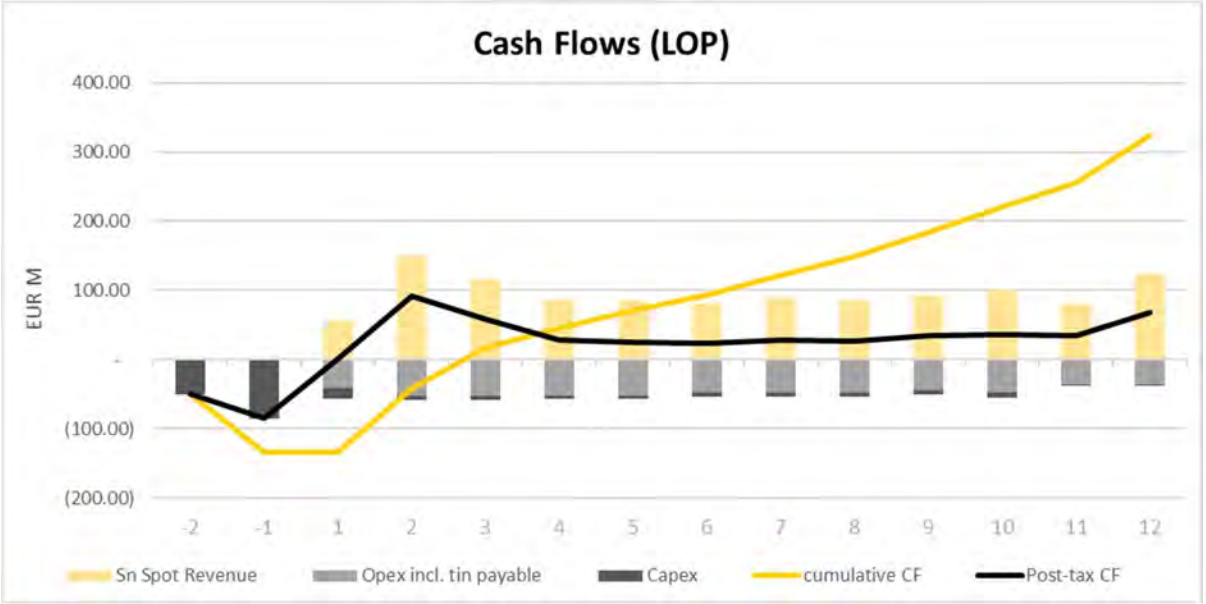

Figure 19-1 – Cash Flow forecast

19.1.5 Revenue

The long-term sales price is a calculation based off a benchmarked global spot price before making concessions for grade, quality, and location of sales. See Table 19.1 for the price breakdown.

Table 19.1 – Revenue Assumptions

Item	Metric	Value
Reference Tin Price	USD/t	30,000
European Price Premium	USD/t	975.0
Smelting Charge	USD/t	(850.0)
Tin Payable	%	99.0
Net Price	**USD/t**	**29,786**

For personal use only

19.1.6 Capital Costs

Table 19.2 describes the phasing of capital between initial development capital and post-production capital. For a detailed capex breakdown please refer to Section 17.

Table 19.2 – Capital Phasing

Item	Pre-Production	Post-Production	Comments
Initial	EUR 149.35 M	-	Initial development capital
Master Ramp Development	-	EUR 47.62 M	As per mining schedule
Other Life of Mine Capital	-	EUR 5.99 M	Water management, land costs, etc.
Sustaining Capital	-	EUR 6.76 M	1.5% of replaceable capital items per annum

19.1.7 Operating Costs

Operating costs are built from first principles utilising the mining schedule, rehabilitation schedule, and operating cost estimate. All items are in Real 2025 terms and split between mining, processing, and admin. For a detailed Opex breakdown please refer to Section 18.

19.1.8 Rehabilitation

An extensive rehabilitation schedule has been costed and applied within the financial model. Rehabilitation activities occur during operations and 50 months post final ore mined. A rehabilitation account is built during operations from the project's profits and taxes payable.

19.1.9 Taxation

The standard rate of taxation of the Corporate Income Tax (CIT) in Spain is 25%.

Regular tax is computed by subtracting all allowable operating expenses, overhead, depreciation, amortization, and depletion from current year revenues to arrive at taxable income. The tax rate is then determined from the published progressive tax schedule. An operating loss may be used to offset taxable income, thereby reducing taxes owed.

Specifically, the mining industry in Spain has certain Special Tax Regime for Mining which include but are not limited to the major elements 'freedom of depreciation' and 'the depletion factor' (for Priority Raw Minerals – of which Tin is named).

The effect pf these Special Mining Tax Regimes reduce the effective tax rate for the project from the CIT rate of 25% to an effective rate of 19.56%.

For personal use only

19.1.10 Freedom of Depreciation

In accordance with Spanish legislation, investments made in mining assets could be taken into account to apply the freedom of depreciation. The period of depreciation is for ten years as from the beginning of the first tax period in which the results of exploitation are included in the tax base.

Therefore, the freedom of depreciation implies that during ten years, the company would have freedom to determine the depreciation applicable (as from the date in which each on the investments made in mining assets is incorporated to the mining activity); which means that the company can depreciate its assets without taking into account the general limits established by the Spanish CIT, and without taking into consideration the amounts registered in the accountancy for these assets.

To apply the Freedom of Depreciation the following criteria must be met:

1. Being an entity that carries out mining activities:
    a. The freedom of depreciation is only to be applied by taxpayers that carry out exploration, research and exploitation activities or benefit from mineral deposits and other geological resources.
2. Assets must qualify as mining asset:
    a. Mining asset can be understood as any asset that is used in the carrying out of protected activities (Law 22/1973) provided that it is not used for the mere provision of services for mining activities; that is, any asset that is used directly in the exploitation or benefit of mineral deposits and other geological resources.
3. Amounts paid in concept of surface fee:
    a. The surface fee is created as a specific levy on the mining activity. Individuals and legal persons are required to be granted exploration permits; research permits and concessions for the exploitation of the mineral resources included in sections C and D as regulated by Law 22/1973.
4. Applicable for a certain period:
    a. This tax benefit can be applied by entities that carry out the covered activities during the 10 years following the date on which the first tax period begins in whose taxable base the operating result is considered, whether positive or negative.

The company holds advice from dually qualified Spanish based tax lawyers that confirms that the company and the project's planned activities meets these aforementioned criteria and can apply the Freedom of Depreciation to its tax modelling.

19.1.11 Depletion Factor

The depletion factor is a tax benefit for entities applying the special regimen of mining activity in Spain and it is defined in articles 91, 92, 93 and 94 of the Spanish Corporate Income Tax (CIT) Act. This tax incentive responds to the special nature of the mining activity, in which the exploited mineral is depleted, requiring the search for new resources. In accounting terms, it constitutes a successive endowment reserve to be invested in a specific way.

This incentive establishes a reduction in the taxable base by the amount of the profits that are allocated to this concept by certain taxpayers, provided that the incentive is applied to the purposes covered and that certain requirements are met.

The depletion factor is a tax figure established in Spain with the aim of promoting rehabilitation works, geological exploration, research and mining of non-renewable resources. By means of this tax, companies have the ability to deduct from their tax base an amount that contributes to a fund which subsequently is allocated to funding works in order to foster mining and rehabilitation activities. As a result, the effective tax rate for the Company becomes approximately 20% over the Life of Mine.

The depletion factor is only calculated from 'mining' activities, it does not include activities relating to mineral treatment, processing or transformation of mineral raw materials. The latter do not determine the right to deduct the taxable base as a depletion factor. In other words, the depletion factor is applicable in the extraction and preparing of the ore only. This is the basis of how the company has applied the depletion factor in the financial model.

For personal use only

19.1.12 Royalties

There are no payable Government royalties applied to this project.

As documented elsewhere, there is a private royalty payable to the previous owner of the project Sondeos Y Perforaciones Industriales Del Bierzo, S.A. This royalty is calculated for the purposes of the study as a 1.35% NSR (Net Smelter Royalty) against the value of the concentrate at the back of the mineral process plant ready for loading and transportation offsite.

19.2 Financial Evaluation Results

The financial returns and operating cost metrics found within Table 19.3 and Table 19.4 are taken directly from the outputs of the financial model and will slightly differ from the production costs within the Opex chapter due to the ramp-up stage and differing LOM throughput rates. The following tables detail the key financial and operational results of the project.

Table 19.3 – Financial model cost items

Cost Area	L.O.M USD Million	USD/t ROM	USD/t Sn Conc.	USD/t Sn Metal
Mining	251.31	15.74	3,968	6,282
Rehabilitation	33.03	2.07	521.6	825.8
Processing	245.21	15.36	3,871	6,129
Administration	48.16	3.02	760.3	1,204
C1 Cost	**577.7**	**36.19**	**9,121**	**14,440**
Depreciation and Amortisation	120.1	7.52	1,896	3,002
C2 Cost	**697.8**	**43.71**	**11,017**	**17,442**
Royalties	15.27	0.96	241.1	381.8
C3 Cost	**713.1**	**44.67**	**11,258**	**17,824**
All in Sustaining Capital Cost (AISC)	**600.0**	**37.59**	**9,474**	**14,999**

Table 19.4 – Key financial and operational metrics

DFS Parameter	Variable	Units			
Annual Avg. Production	Ore	t/yr		1,359,000	
	Concentrate	t/yr		5,400	
	Metal	t/yr		3,400	
Life of Mine	LOM	Yrs		11.75	
Total LoM Production	Ore	t		15,964,000	
	Concentrate	t		63,000	
	Metal	t		40,000	
Total LoM Grades	Ore	%Sn		0.36%	
	Concentrate	%Sn		63.2%	
	Metal	%Sn		99.0%	
DFS Parameter	Variable/Source	Units	USD$	EUR€	AUD$
Reference Sales Price	LME	$/t$_{(metal)}$	30,000	28,700	49,900
European Tin Premium	Market	$/t$_{(metal)}$	975.0	900.0	1,600
Project Revenue	Average	$M/yr	104.5	100.0	170.0
	LOM	$M	1,190	1,140	1,980
C1-Cash Cost Per Tonne	Ore	$/t	37.00	35.00	61.00
	Concentrate	$/t	9,120	8,730	15,180
	Metal	$/t	14,400	13,800	24,000
AISC Cost Per Tonne	Ore	$/t	38.00	36.00	63.00
	Concentrate	$/t	9,470	9,060	15,750
	Metal	$/t	15,000	14,400	25,000
TC/RC Cost	Market	$/t$_{(con)}$	890.0	850.0	1,480
Capital Cost inc. Pre-Strip	Post-FID	$M	156.0	149.0	259.0
Sustaining Capital	LOM	$M	7.00	7.00	12.00
Corporate Income Tax	Flat	%		25.0%	
	Effective	%		19.5%	
	Low Tax Period (<1% payable)~	Yrs		4.0	
NPV_8 Pre-Tax	Real, Ungeared	$M	162.5	155.5	270.4
NPV_8 Post-Tax		$M	129.8	124.2	215.9

For personal use only

DFS Parameter	Variable	Units			
IRR Pre-Tax	Real, Ungeared	%		25.65%	
IRR Post-Tax		%		23.75%	
EBITDA	Average	$M	51.00	49.00	85.00
	LOM	$M	599.0	573.0	996.0
Payback Period	Months	Months		32.4	

19.2.1 Sensitivity Analysis

Sensitivity of the project's pre-tax NPV to key variables was investigated. These key variables were found to be the tin base price and discount rate. Results are displayed in EUR and AUD terms.

Table 19.5 – NPV: Tin price per tonne vs Discount rate (EUR M)

	USD 27,500	USD 30,000	USD 32,500	USD 35,000	USD 37,500	USD 40,000	USD 42,500	USD 45,000
6%	132.7	193.2	253.8	314.3	374.8	435.4	495.9	556.4
8%	102.4	155.5	208.6	261.7	314.8	368.0	421.1	474.2
10%	77.2	124.2	171.1	218.0	264.9	311.8	358.7	405.6
12%	56.3	98.0	139.7	181.4	223.0	264.7	306.4	348.1

Table 19.6 – NPV: Tin price per tonne vs Discount rate (AUD M)

	USD 27,500	USD 30,000	USD 32,500	USD 35,000	USD 37,500	USD 40,000	USD 42,500	USD 45,000
6%	230.7	336.0	441.2	546.5	651.8	757.0	862.3	967.5
8%	178.0	270.4	362.7	455.1	547.5	639.8	732.2	824.6
10%	134.3	215.9	297.5	379.0	460.6	542.2	623.7	705.3
12%	97.9	170.4	242.9	315.3	387.8	460.3	532.7	605.2

Table 19.7 - IRR & Payback Sensitivity

	USD 27,500	USD 30,000	USD 32,500	USD 34,650	USD 35,000	USD 35,404	USD 37,500	USD 40,000	USD 42,500	USD 45,000
Pre-tax IRR	20.22%	25.65%	30.70%	34.83%	35.48%	36.23%	40.03%	44.39%	48.59%	52.64%
Payback Period (Months)	37.9	32.4	29.3	25.0	24.1	23.2	20.8	19.5	18.3	16.7

For personal use only

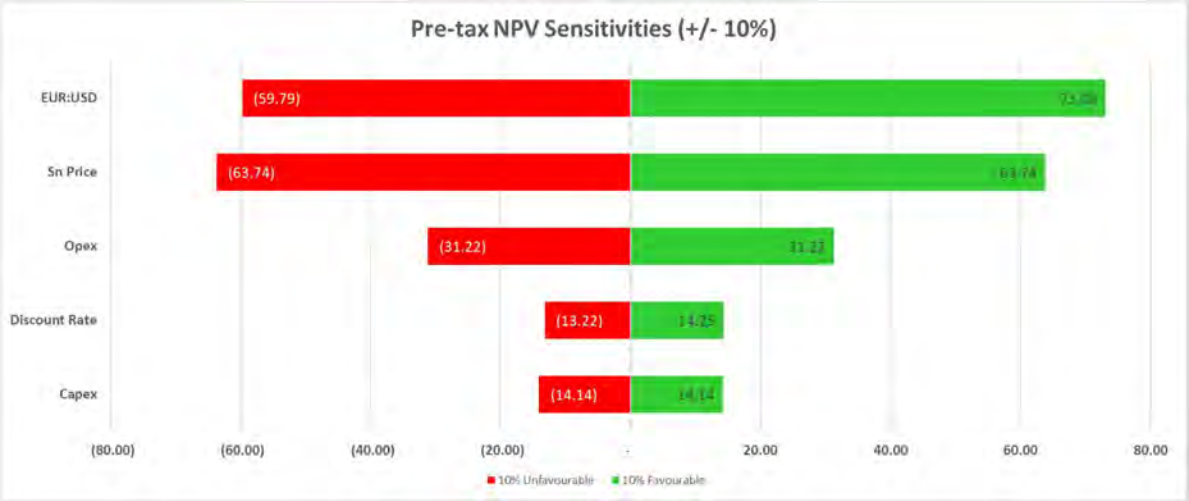

Figure 19-2 - Sensitivity Tornado

19.3 Funding

Mining projects, like the Oropesa Tin Project, require substantial amounts of capital investment, which traditionally can be sourced through a combination of equity and debt financing. This section highlights the various funding sources available for the Oropesa Tin Project, and the basis on which Elementos believes there are reasonable grounds that the requisite funding for the development of the Oropesa Tin Project will be available when required, which grounds include, which will be further refined as the project moves towards permit award and Final Investment Decision.

Combining equity and debt funding sources can help balance the financial structure of a mining project, ensuring both the necessary capital and manageable risk levels. Each funding source has its unique advantages and disadvantages, and the choice of funding will be tailored to the specific needs, cashflows and stage of the project. By strategically leveraging these funding options, mining projects can secure the capital required for successful development and operation, even when their current valuation may be significantly lower than their project's requirements.

Elementos is well advised with debt advisers engaged in London, strong relationship with Investment banks in Australia and parties with the ability to raise equity in the Australian markets (i.e. stockbrokers, natural resources equity funds).

The project's cashflows has been preliminary assessed by debt and equity advisers who have confirmed that it has the numbers which should support a significant level of debt gearing (60-70% Debt to Equity Ratio) based on industry-based assessments like Debt Service Cover Ratios (DSCR), Loan Life Cover Ratio (LLCR), Interest Cover Ration (ICR).

Further information on the possible future sources of Equity and Debt are summarised below:

19.3.1 Equity Funding Sources

19.3.1.1 Public / Corporate Equity

Public equity involves raising funds through the Elementos Limited's ASX listing and by issuing new shares via a dedicated capital raise.

For personal use only

Elementos is in contact with many Australian, London and Toronto based stockbrokers and investment bankers who have the willingness and ability raise significant amounts of equity finance for projects like the Oropesa Tin Project via Elementos and/or its Spanish subsidiary MESPA. In addition, the company is directly contact with 'strategic partners' who have shown interest in, and have the financial capacity, to potentially play a significant role in delivering the required equity to the project.

19.3.1.2 Joint Ventures / Project Equity

Joint ventures involve partnering with other mining companies or natural resources investors to share the costs and risks associated with the project. For the Oropesa Tin project this would most likely occur at the MESPA (Spanish Subsidiary) company level.

19.3.2 Debt Funding Sources

19.3.2.1 Project Finance

Debt facilities are specifically tailored for projects, where repayments are drawn from the cash flow generated by the project, rather than the company's balance sheet. This form of funding is widely utilized in the natural resources sector, with specialized firms offering these services. Typically, these facilities have limited recourse to the company's other assets, though they often involve substantial security arrangements.

Elementos and MESPA have engaged with a range of experienced finance partners to discuss funding opportunities for the project. These discussions include a diverse group of financial parties, all of whom possess significant expertise in financing mining projects. Notably, Spanish banks, with their deep history of funding infrastructure, industrial, and mining projects, are emerging as key players for Oropesa. Recent legislative shifts in EU and Spanish governments have fuelled growing interest from domestic banks to finance mining projects. Additionally, fruitful discussions have been held with prominent European banks that have specialized mining divisions, offering further promising funding pathways for the project.

19.3.2.2 Corporate Bonds

Issuing bonds to raise capital, which investors buy with the expectation of receiving interest payments and the return of principal at maturity. Often suited to larger mining companies, already in cashflow – however there have been some examples of these working for smaller companies.

19.3.2.3 Equipment Financing (including Export Credit)

Loans or leases specifically for purchasing mining equipment or specific equipment from Original Equipment Manufacturers (OEMs). This can be a cost-effective way to acquire necessary machinery or equipment without a large upfront investment. The export credit agencies usually provide competitive financing rates for the consideration of their country's equipment.

19.3.2.4 Working Capital Financing

Short-term loans to cover operational expenses and manage cash flow during the project's development phase.

For personal use only

For personal use only

19.3.2.5 Pre-Payments

Pre-payment financing involves receiving funds upfront in exchange for future delivery of the mined and/or smelted commodity. This method is particularly useful for projects nearing production. It provides immediate capital and reduces the need for traditional debt or equity financing. Pre-payment agreements can be structured to repay the financier in either a fixed amount of the commodity or a fixed value in currency. Whilst this type of financing is not common in the tin industry, the possibility remains to be explored as the ultimate product for this project (including toll treated smelting) is tin metal ingots.

19.3.2.6 Offtake Agreements

Offtake agreements are contracts between the mining company and a buyer who agrees to purchase a portion of the future production at predetermined terms. These agreements provide assurance to lenders and investors that there is a market for the mined and/or smelted product, making it easier to secure financing. Offtake agreements are typically negotiated after a feasibility study and before mine construction – which is the phase of the project we are now entering.

19.3.3 Funding Basis

In summary, the Company believes there are reasonable grounds for concluding that the required funding will be available when required for the reasons set out in the DFS Summary Report, which include:

1. The DFS shows strong project economics, including a robust return on capital and robust cash-flows.
2. Engagement to date with potential equity, debt (and alternative) financiers and investors/lenders has been positive and gives the Company confidence that adequate funding sources will be available, with plans in place to increase engagement now that the DFS is completed.
3. The Oropesa Project, is a state significant project in the Autonomous Region of Andalucia (a member of the Project Accelerator Unit) which gives it high visibility in the Spanish industry and within the European Union.
4. The Andalucian Government, National Spanish Government and the European Union have all recently announced legislation/grants to further financially support the mining sector in Andalucia, Spain and the EU. The Project's status in the Andalucian 'Project Accelerator Unit' puts it in a strong position to receive some of this financial support:
    a. Andalucia Government Support Focuses on sustainable mining with incentives for new productive investments (up to €40 million), industrial capacity expansion, diversification and the transformation of industries in the value chain. Furthermore, it seeks to strengthen mining companies distinguished by their environmental performance with support for mining processes and facilities, the use of renewable energy, and the implementation of sustainable technologies.
    b. The Spanish National Government recently unveiled significant initiatives to bolster its mining sector, aligning with broader European Union goals to reduce dependency on external suppliers, particularly China. In mid-March 2025 the Government presented a draft strategy which aims to modernize Spain's 50-year-old mining regulatory framework and situate it's attractiveness to investors.
    c. European Union Support: The European Union has announced many funding sources for Critical Raw Materials Sector within the EU, including through EIT Raw Materials, The Just Transition Fund (Covered further in Section 16.4.2) which specifically covers the re-

industrialisation and economic stimulus of the project area of the Guadiato Valley in Regional Spain.

5. Tin is listed as a Critical/Strategic Mineral in many global economies due to its low abundance and high geopolitical risks (>80% relying on China and South-Eastern Asia) which opens the possibility of government backed funding from foreign governments and/or major national groups. Currently tin is listed as Critical/Strategic in the following countries: Australia, USA, UK, Canada, Japan, South Korea, India and Indonesia.

6. The Oropesa Project is one of a few global tin projects that are forecast to reach FID before 2030 and therefore will be one of only a handful of projects available for investors seeking exposure to investing in the tin industry.

7. The Company is in discussion with parties who have the financial capacity to provide a significant proportion of the required equity and debt to find the development of the project.

8. The Company's un-complicated corporate and capital structure, together with a project that is free from any government royalties and/or binding offtake agreements offers the Company significant flexibility when negotiating development funding.

However, shareholders and investors should be aware that there is no certainty that the Company will be able to raise the required funding when required. The ability of the Company to fund its future requirements will depend on, amongst other things, debt and equity market conditions at the time and there is no certainty that the required capital will be available to develop the Project or that, even if available, will be available on acceptable terms. Funding via additional equity issues or strategic partnerships, including joint venture partners, may be dilutive to the Company's existing shareholders and, if available, debt financing will be subject to the Company agreeing to certain debt covenants and other terms and conditions. Similarly, any arrangements with third party joint venture partners, royalty companies, streaming finance funders or offtake partners may involve the Company agreeing to less than optimal terms and conditions, which may dilute or otherwise adversely affect the Company shareholders' exposure to the Project economics.

For personal use only

20 RISKS AND OPPORTUNITUES

20.1 Opportunities

20.1.1 Addition of Zinc Circuit

In November 2023, Elementos declared a Mineral Resource Estimate for Zinc at Oropesa. See section 8.5 Zinc Mineral Resource Estimate Statement. The Zinc MRE is based on the recovery of zinc as a by-product concentrate to the principal production of a tin concentrate. The zinc mineralisation (sphalerite) is associated with the sulphide replacement mineralisation phases.

Figure 20-1 presents the Oropesa Zinc MRE blocks with respect to the DFS pit shell as well as the zinc grades. There is a zone of higher zinc grades in the south-east outside of the DFS pit shell that is Inferred Resource.

Zinc flotation testing on a representative ore sample was undertaken by WAI in 2024 using a blended TOMRA ore sorter product with a head grade of 0.55% Zn. The test work resulted in a final concentrate grade 43.5% Zn with a recovery of 56.5%.

Analysis of the zinc associated within the tin Ore Reserve blocks calculated a cut-off grade of 0.18% Zn was required to achieve a comparable head grade to the flotation test work. Zinc is also contained in the waste blocks (tin grade is below its cut-off grade). Table 20.1 presents the results of the potential zinc ore blocks in the DFS pit shell using the 0.18% Zn cut-off grade as well as the resource Zn cut-off grade of 0.05%.

Based on the flotation test work results and the 0.18% Zn cut-off grade there is the potential to recover approximately 30,000t of zinc metal.

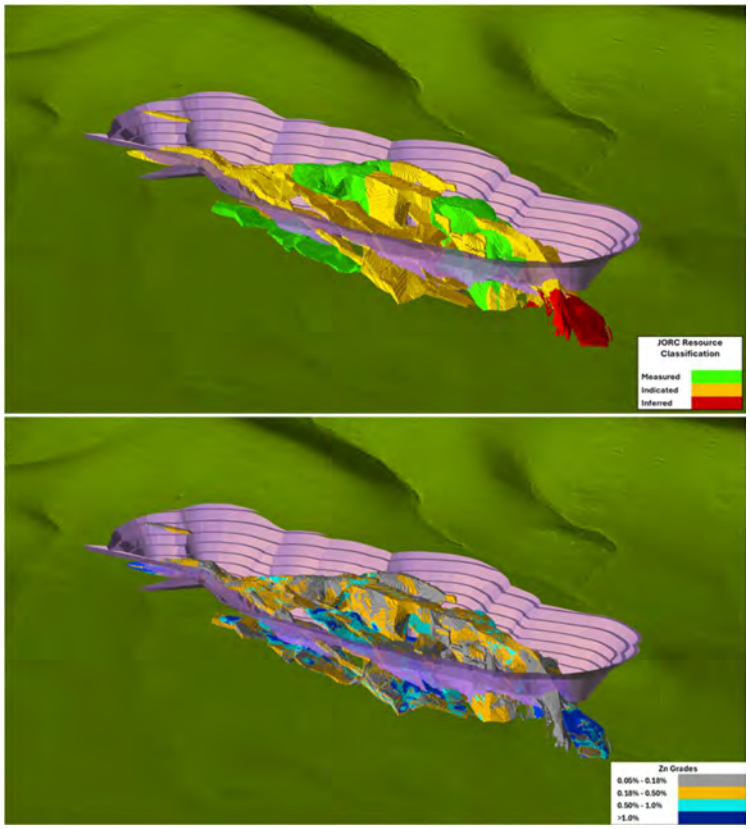

Figure 20-1 – Zinc 2023 MRE Classifications and Zn Grades (%) with DFS Pit

For personal use only

Table 20.1 – Analysis of Zinc in DFS Pit Shell

	Zn Grade (%)	Tonnes (M tonnes)	Contained Zinc Metal (tonnes)
Zn Cut-off Grade 0.18%			
Zinc in Tin Ore Reserves	0.50%	8.7	43,297
Zinc in Waste in DFS Pit	0.39%	2.8	10,829
Total	0.47%	11.4	54,126
Zn Cut-off Grade 0.05%			
Zinc in Tin Ore Reserves	0.35%	14.1	49,144
Zinc in Waste in DFS Pit	0.20%	8.0	16,026
Total	0.29%	22.1	65,170

20.1.2 Production of Two Separate Concentrates, Low-Sn and High-Sn Concentrates

The production of two tin concentrates with different Sn content (high and low grade) represents a significant opportunity to improve the overall metallurgical recovery of the plant. As with all metallurgical processes, there is an inherent trade-off between grade and recovery, where a reduction in the final concentrate grade typically results in an increase in recovery, following the grade/recovery curve. In the designed circuit, there are two main concentrate streams: one with a higher tin grade from the gravimetric concentration section and another from the tin flotation section of the process plant. Currently, both streams undergo additional upgrading processes, including high-intensity magnetic separation. However, the flotation concentrate requires further multi-gravity separation to meet the final saleable grade specifications. The ability to produce two separate concentrate qualities (high and low grade) would simplify the circuit, potentially reducing both capital expenditure and operating costs while improving the overall Sn recovery of the plant. This approach would allow greater flexibility in processing and selling strategies, maximizing economic returns and operational efficiency.

This work stream is an opportunity that exists due to the proximity of European and Spanish based smelters, reducing the transportation costs on the low-grade concentrate, and the potential for us to work closely with these smelters is testing their product tolerances.

The Industrial Testwork Partnership Agreement executed with Atlantic Copper in March-2025 is seeking to conduct the metallurgical testwork required to further evaluate the potential of producing these two separate concentrates and increasing the overall metallurgical recovery.

20.1.3 Replace Tin Flotation Circuit with Multi-Gravity Separators

Another significant opportunity lies in the potential replacement of the tin flotation circuit with multi-gravity separators (MGS). This change would simplify the overall process flow, eliminating the need for the flotation section and thereby reducing both capital and operating expenditures. The removal of the flotation circuit would lead to a more streamlined and easier-to-operate plant, reducing reagent consumption, water usage, and maintenance requirements associated with flotation cells and associated infrastructure. Moreover, multi-gravity separation has recently been displayed (in other global tin projects) to demonstrated high efficiency in

For personal use only

recovering fine tin particles, potentially improving overall recovery and concentrate quality. However, this approach does require further metallurgical investigation to confirm the separation performance under different operational conditions and to ensure that the final concentrate would still meets smelter feed specifications. If proven technically and economically viable, the implementation of multi-gravity separators in place of the flotation circuit could result in a more efficient, cost-effective, and environmentally sustainable processing operation.

The Industrial Testwork Partnership Agreement executed with Atlantic Copper in March-2025 will also seek to conduct the metallurgical testwork required to further evaluate the potential of removing the tin floatation circuit and replace with an MGS. This would be more likely to be possible on the plant basis of producing two separate grade concentrates.

20.1.4 Tin Price Potential to Further Increase Ore & Mine Life

As summarised in Section 7.5 Optimised Pit Shell Results, assuming all the other inputs remain the same, the Oropesa pit would likely be expanded and mine-life extended in higher in higher (>US$30k/t) revenue shell scenarios. Table 20.2 shows the additional ROM tonnes achieved at higher priced pit shells. Additionally, Figure 20-2 shows the affect on the pit shell development.

Table 20.2 – Pit Optimiser Output for Incremental Revenue Shell

Revenue Shell (Tin Sale Price USD)	ROM Ore Tonnes	Tin Grade (%)	ROM Contained Tin Tonnes	Waste Tonnes	Strip Ratio (t:t)
$30k	16,363,508	0.35%	57,715	134,328,933	8.2
$35k	17,033,512	0.35%	60,014	150,620,549	8.8
$40k	18,175,470	0.35%	63,341	177,649,525	9.8
$45k	18,283,161	0.35%	63,603	179,727,080	9.8

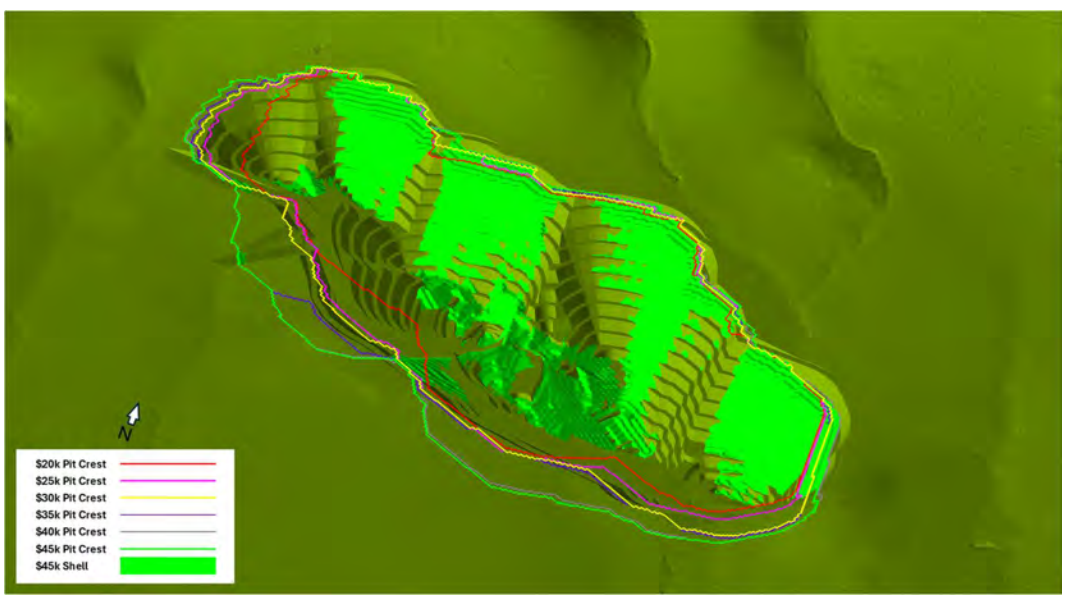

Figure 20-2 – Comparison of US$45k Pit Shell to DFS Pit Design (US$30k)

For personal use only

For personal use only

20.1.5 Further Mineral Exploration potential – Oropesa Tenement

The project has identified substantial mineralisation extensions and targets within the tenements and in the surrounding tenure. Section 8.7 Additional Exploration Potential highlights the zones in which the Oropesa Project has available to expand its resource base and potentially source further minerals to extend the mine life of the project.

20.2 RISKS

20.2.1 External Commodity & Macroeconomic Fluctuations

As per all mineral and commodity projects there are a number of external commodity and macroeconomic risks that must be acknowledged when progressing a major project towards FID and into construction and operations, these include:

1. Fluctuations in Tin Price - The tin market is subject to price volatility due to various factors, including supply-demand dynamics, geopolitical events, and changes in global economic conditions.
2. Foreign Exchange Risks – Funding, Building & Operating a tin mining project involves transactions in multiple currencies, with tin priced in USD and most project-based costs incurred in Euros. This exposes the project to foreign exchange risks.
3. Escalation Risks - Escalation risks refer to the potential increase in project costs over time due to inflation, changes in labour rates, and material price increases leading to higher overall project costs.
4. Geopolitical Risks - Political instability, trade restrictions, and regulatory changes in key markets can disrupt supply chains and affect project operations.
5. General Global Economic Conditions - Economic downturns or recessions can reduce demand for minerals and metals, impacting prices and project revenues.

20.2.2 Licencing & Permitting Approval and Modifications

Whilst the primary licences are still being assessed by the Administration their remains a risk that the licences may not be approved, may require material modifications or are approved with conditions which are not acceptable to the company.

As highlighted in Section 6 the company has a sophisticated and detailed understanding of the approvals process and regulatory framework, is well advised by a team who has had many mining projects approved in Andalucia and as covered in Section 6.2 the company has been given clear indications from the Administration that the current project will meet expectations.

20.2.3 Securing Skilled Staff & Operators

The mining industry is currently facing a significant global shortage of trained and skilled professionals and operators. This shortage presents several inherent risks for any new mining project, including:

1. Labor Market Competition: The high demand for skilled workers in the mining sector has intensified competition among companies. This makes it challenging to attract and retain the necessary talent, potentially leading to project delays and increased costs.

2. **Aging Workforce:** A significant portion of the current mining workforce is nearing retirement age. The lack of new entrants into the field exacerbates the skills gap, making it difficult to replace experienced workers.

3. **Declining Enrolment in Mining Programs:** There has been a notable decline in enrolment in mining engineering and related programs. This trend reduces the pipeline of new talent entering the industry, further contributing to the skills shortage.

The company acknowledges these risks and has identified a hiring and training strategy covered in Section 13.3.3 which covers recruitment, training, partnering with educational institutions and incentives.

20.2.4 Residual Geotechnical Risks

Whilst substantial geotechnical programs have been completed within the pit walls and key infrastructure locations (see Section 11.1.2 Geotechnical Investigations) it is expected that further investigations will be carried out pre-FID to increase geotechnical knowledge of key locations with the aim of reducing the risk contingency in major packages.

These risks, despite comprehensive initial assessments and mitigation efforts, persist due to the inherent uncertainties in geological conditions and the complex nature of large-scale engineering projects. To address and minimize these inherent geotechnical risks, a dedicated investigation program will be implemented prior to the Final Investment Decision (FID). This program will include the following key components:

1. **Comprehensive Geotechnical Investigations:** Detailed site investigations will be conducted to gather extensive data on soil and rock properties, groundwater conditions, and potential fault lines. Advanced geotechnical testing and modelling techniques will be employed to enhance the accuracy of risk assessments.

2. **Real-Time Monitoring Systems:** The installation of real-time monitoring systems, including slope stability radars, ground movement sensors, and seismic activity detectors, will enable continuous monitoring of critical infrastructure. These systems will provide early warning signs of potential geotechnical issues, allowing for timely intervention.

20.2.5 Major Package Contracting and Finalisation

Between the DFS and FID it is expected that the company will move towards finalising and contracting the major construction packages of the Project. The major packages which have been designed to be executable are covered in Section 14.1 Project Delivery Contracting Strategy involve several inherent risks due to the complex and capital-intensive nature of delivering major resources projects. Key risks include:

1. **Cost Uncertainty:** During the negotiation phase, there is often uncertainty regarding final costs. Factors such as fluctuating material prices, labour rates, and market conditions can lead to significant variations in final contract pricing.

2. **Contractual Ambiguities:** Ambiguities or gaps in contract terms versus term-sheets can lead to misunderstandings, disputes and cost variations.

3. **Negotiation Delays:** Prolonged negotiations can delay the overall project timeline. Differences in expectations, legal reviews, and approval processes can extend the time required to finalize contracts.

4. **Regulatory Compliance:** Ensuring that all contractual agreements comply with local, regional, and national regulations is essential. Non-compliance can result in legal challenges and delays in contract finalization.

For personal use only

5. **Scope Creep:** During negotiations, there is a risk of scope creep, where additional requirements or changes are introduced, leading to increased costs and complexity.

6. **Supplier and Contractor Reliability:** Assessing the reliability and financial stability of potential contractors and suppliers is critical.

7. **Market Volatility:** Market conditions can change rapidly, affecting the availability and pricing of materials and services. This volatility can impact the terms and conditions of contracts.

The company is well advised in these commercial matters but will continue to address these risks as the project moves forward.

For personal use only

ASX:ELT

Appendix-2: Ore Reserves Report, including section-4 of table-1 of the JORC Code (2012)

For personal use only

For personal use only

Oropesa Tin Project-
2025 JORC Ore Reserves

ELEMENTOS

March 2025

DOCUMENT ISSUE AND APPROVALS

Document Information

Project:	**Oropesa 2025 Ore Reserves**
Document Number:	
Title:	**Oropesa Tin Project 2025 Ore Reserves Estimate**
Client:	**Elementos Limited**
Date:	**4th April 2025**

Contributors

	Name	**Position**	**Signature**
Prepared by:	Michael Hooper	Principal Mining Consultant	
Reviewed by:	Tony O'Connell	Principal Mining Consultant	
Approved by:	**Tony O'Connell**	**Principal Mining Consultant**	

Distribution

Company	**Attention**	**Hard Copy**	**Electronic Copy**
Elementos Limited	**Joe David**	**No**	**Yes**

For personal use only

PURPOSE OF REPORT

Optimal Mining Solutions Pty Ltd have prepared a report on the Ore Reserves of the Oropesa Tin Project as part of the 2025 Oropesa Definitive Feasibility Study. The Ore Reserves are estimated as at 31st March 2025.

The purpose of the report is to provide for the company, an objective assessment and estimate of the Ore Reserves contained within the Oropesa Tin Project, that have been prepared in accordance with the requirements of the 2012 edition of the Australian Code for Reporting of Mineral Resources and Ore Reserves.

For personal use only

COMPETENT PERSON STATEMENT

The Ore Reserve estimate as at 31st March 2025 for the Oropesa Tin Project held by Elementos Limited (Elementos) has been prepared by Mr Michael Hooper.

This Ore Reserve estimate has been prepared in accordance with the requirements of the 2012 edition of the Australasian Code for Reporting of Mineral Resources and Ore Reserve (JORC Code).

Mr Hooper is an employee of Optimal Mining Solutions Pty Ltd (Optimal Mining) and has been engaged by Elementos as the JORC Competent Person for this Ore Reserve estimate. He has over 5 years of experience in mining that is relevant to the style of mineralisation and type of deposit described in the report, and the type of activity involved in the estimation of the Ore Reserve. Mr Hooper is a Member of the Australasian Institute of Mining and Metallurgy and qualifies as a Competent Person under the JORC Code.

Neither Mr Hooper, nor Optimal Mining, has any material interest or entitlement, direct or indirect, in the securities of Elementos, or any associated companies. Fees for the preparation of this report are on a time and materials basis only.

Mr Hooper consents to the release of the report, in the form and context in which it appears.

For personal use only

For personal use only

EXECUTIVE SUMMARY

The JORC Ore Reserve Estimate for the Oropesa Open Cut Tin Project has been prepared in accordance with the guidelines of the JORC Code (2012), providing a detailed assessment of the project's economically mineable material. The estimate is based on a definitive feasibility study, incorporating geological modelling, resource classification, mine design and scheduling, metallurgical test work, environmental impact studies and financial evaluations.

Oropesa is a significant tin deposit with reserves classified as Proved and Probable, demonstrating technical and economic viability for open-cut mining over a 13 year mine life. The estimation process considers modifying factors such as mining recovery, dilution, processing recoveries, and commodity pricing to ensure a high level of confidence in the reported reserves. The Ore Reserves estimated tonnage of 15.9Mt is 81% of the MRE (19.6Mt). No Inferred resources are included in the Ore Reserves.

This is a maiden declaration of the Ore Reserves for the Oropesa Tin Project with no previous estimate having been made.

The Ore Reserves are based on the Mineral Resource Estimate (MRE) prepared by Mr Chris Grove of Measured Group in compliance with the 2012 JORC Code reporting standards. The Mineral Resources are inclusive of the Ore Reserves. The following tables present the MRE as at January 2023 and the Ore Reserve Estimate as at 31st March 2025.

Table 1: Oropesa MRE as at January 2023

Resource Classification	Sn (%)	Tonnes (tonnes)	Contained Sn Metal (tonnes)
Measured	0.36	7,418,212	26,801
Indicated	0.41	11,113,471	45,012
Subtotal: Measured & Indicated	0.39	18,531,683	71,813
Inferred	0.38	1,070,700	4,021
Total	**0.39**	**19,602,383**	**75,834**

Table Notes:

- All figures are rounded to reflect appropriate levels of confidence.
- Apparent differences in totals may occur due to rounding.
- A cut -off grade of 0.15 % Sn has been applied

Table 2: Oropesa Ore Reserve Estimate 31st March 2025

Reserve Category[1,4]	Sn (%)[2]	Tonnes [3] (Mtonnes)	Contained Sn Metal (tonnes)	% Reserves Contribution
Proved	0.34%	6.1	21,028	38%
Probable	0.37%	9.8	36,866	62%
Total	**0.36%**	**15.9**	**57,894**	**100%**

Table Notes:

1. All figures are rounded to reflect appropriate levels of confidence, apparent differences in totals may occur due to rounding.
2. A cut -off grade of 0.15 % Sn has been applied.
3. Tonnages are expressed on a ROM basis, incorporating the effects of mining losses and dilution.
4. The reference point at which these ore reserves are defined is as the ore is delivered to the ROM pad.

For personal use only

CONTENTS

1. INTRODUCTION 10

1.1 PROCESS 10
1.2 LOCATION, TOPOGRAPHY, CLIMATE AND ACCESS 10
1.3 TENURE 11
1.4 PROJECT OWNERSHIP 12
1.5 HISTORY 13

2. GEOLOGY 14

2.1 REGIONAL GEOLOGY 14
2.2 LOCAL GEOLOGY 15
2.3 RECENT EXPLORATION PROGRAMS 16
2.3.1 IMGE Exploration 16
2.3.2 MESPA Exploration 16

3. MINERAL RESOURCE ESTIMATE 18

4. STUDY STATUS 19

5. MINE PLANNING 20

5.1 PIT OPTIMISATION 20
5.1.1 Optimisation Inputs 20
5.1.2 Optimised Pit Shell Results 24
5.2 MINING METHOD 29
5.3 GEOTECHNICAL PARAMETERS 30
5.3.1 Weathering 31
5.3.2 Hydrogeology 31
5.3.3 Blasting Practices 31
5.3.4 Geotechnical Mapping 32
5.4 MINING LAYOUT 32
5.4.1 Mining Strategy 32
5.4.2 Environmental and Social Considerations 33
5.4.3 Infrastructure 37
5.5 MINE DESIGN 38
5.5.1 Detailed Pit Design 38
5.5.2 Stage Designs 40
5.5.3 Waste Rock Facility Designs 46
5.6 MODIFYING FACTORS 50
5.6.1 Loss and Dilution 51
5.6.2 Metallurgical Factors 51
5.7 MINE SCHEDULE 54
5.7.1 Schedule Output Physicals 55
5.7.2 Schedule Output Progress Plans 61

6. MARKET ASSESSMENT 71

5.8 TIN USES AND APPLICATIONS 71
5.9 TIN MARKET DYNAMICS 71
5.10 TIN PRICE 72

7. FINANCIAL MODELLING 74

7.1 FINANCIAL ASSUMPTIONS 74
6.2 FINANCIAL RESULTS 75
6.3 SENSITIVITY ANALYSIS 77

8. RESERVE ESTIMATE 78

8.1 RESERVE-RESOURCE CLASSIFICATION 78
8.2 ORE RESERVES 79
8.3 ACCURACY OF ESTIMATE 79
8.4 COMPARISON WITH PREVIOUS ORE RESERVE ESTIMATE 79

For personal use only

9. OPPORTUNITIES 80
10. REFERENCES 82
APPENDIX A SECTION 4 OF TABLE 1 OF THE JORC CODE (2012) 83

LIST OF FIGURES

Figure 1-1: Oropesa Tin Project's Location 11
Figure 1-2: Investigation Permit No 13.050 Location 12
Figure 2-1: Oropesa Deposit location within the Iberian Massif 14
Figure 2-2: Conglomerate from drill hole ORPD57 15
Figure 2-3: Bedded sandstone from drill hole ORPD108 15
Figure 2-4: Cross-sectional example of structures and associated mineralisation 16
Figure 2-5: Distribution of drill holes in relation to the DFS Pit Shell 17
Figure 3-1: 2023 JORC Resource Classifications 18
Figure 5-1 Schematic of Ore Process Flow for Pit Optimisation Calculations 22
Figure 5-2: Ore tonnes and Strip Ratio by Incremental Revenue Shell 25
Figure 5-3: Comparison of Key Pit Shells within DFS Pit Design 26
Figure 5-4: Comparison of $45k Pit Shell to DFS Pit Design 27
Figure 5-5: Cross Section A-A' 27
Figure 5-6: Cross Section B-B' 28
Figure 5-7: Cross Section C-C' 28
Figure 5-8: Long Section D-D' 29
Figure 5-9: Lithology for Geotechnical Design Parameters 30
Figure 5-10: DFS Pit Long Section Showing Mining Stages 32
Figure 5-11: Layout of Mine and Infrastructure 33
Figure 5-12: Photograph of Project Area Landscape and Vegetation 35
Figure 5-13: Vegetation, Landscape Units and Nearby Towns 35
Figure 5-14: River Basins and Stream Catchments 37
Figure 5-15: Plan View of the Ultimate Pit Design 39
Figure 5-16: Isometric View of the Ultimate Pit Design 40
Figure 5-17: Stage 1 40
Figure 5-18: Stage 2 41
Figure 5-19: Stage 3 41
Figure 5-20: Stage 4 42
Figure 5-21: Stage 5 42
Figure 5-22: Stage 6 43
Figure 5-23: Stage 7 43
Figure 5-24: Stage 8 44
Figure 5-25: Stage 9 44
Figure 5-26: Stage 10 45
Figure 5-27: Stage 11 45
Figure 5-28: Stage 12 – Ultimate Pit 46
Figure 5-29: Cross Section of the As-built WRF and Rehabilitation Surface 47
Figure 5-30: Location of the Four OPDs 47
Figure 5-31: Final Landform of Rehabilitated WRF and TSF 48
Figure 5-32: IPD Stage 1 49
Figure 5-33: IPD Stage 2 with West OPD Stage 2 49
Figure 5-34: IPD Stage 3 with West IPD Stage 3 50
Figure 5-35: IPD Stage 4 with West OPD Stage 4 50
Figure 5-36: Oropesa Block Flow Diagram 53
Figure 5-37: ROM Ore Mining Quantities and Grade 55
Figure 5-38: Waste Movements 56
Figure 5-39: Strip Ratio 56
Figure 5-40: Concentrate Production 57

For personal use only

Figure 5-41: Number of Excavators Required 57
Figure 5-42: Number of Trucks Required 58
Figure 5-43: Net Disturbance Area 58
Figure 5-44: Dozer Rehabilitation Tonnes 59
Figure 5-45: Starting Topography 61
Figure 5-46: End of Year -1 62
Figure 5-47: End of Year 0 - Start of Processing Operations 62
Figure 5-48: End of Year 1 63
Figure 5-49: End of Year 2 63
Figure 5-50: End of Year 3 64
Figure 5-51: End of Year 4 64
Figure 5-52: End of Year 5 65
Figure 5-53: End of Year 6 65
Figure 5-54: End of Year 7 66
Figure 5-55: End of Year 8 66
Figure 5-56: End of Year 9 67
Figure 5-57: End of Year 10 67
Figure 5-58: End of Year 11 68
Figure 5-59: End of Operations/Start of WRF Rehandle 68
Figure 5-60: End of Year 12 69
Figure 5-61: End of Year 13 69
Figure 5-62: Start of TSF Capping 70
Figure 5-63: Final Landform 70
Figure 6-1: Tin Use by Application 2023 (ITA Investing in Tin Seminar, 2024) 71
Figure 6-2: Forecast Tin Supply Demand (ELT integration of ITA data, 2024 Investing in Tin Conference) 72
Figure 7-1: Forecast Cash Flow 75
Figure 7-2: Sensitivity Tornado Graph 77
Figure 8-1: Proved Ore Reserve Blocks 78
Figure 8-2: Probable Ore Reserve Blocks 78
Figure 9-1: Zinc 2023 MRE Classifications and Zn Grades (%) with DFS Pit 81

LIST OF TABLES

Table 3-1: Oropesa JORC Mineral Resource Estimate as at January 2023 18
Table 5-1 Overall Slope Angles Used for Pit Optimisation 21
Table 5-2: Processing Equations for Pit Optimisation 22
Table 5-3 Pit Optimisation Input Cost Assumptions (USD) 23
Table 5-4: Pit Optimiser Output for Incremental Revenue Shell 24
Table 5-5: Recommended Geotechnical Design Parameters 31
Table 5-6: Pit Wall Design Parameters 38
Table 5-7: Haul Road Design Parameters 39
Table 5-8: WRF Design Parameters 46
Table 5-9: Metallurgical Factors to Calculate Product Quantities and Qualities 54
Table 5-10 – Average Equipment Productivities 54
Table 5-11 – Annual Quantities and Qualities 60
Table 6-1: Tin Price Consensus Forecasts (Redacted Sources for public distribution), USD per tonne, real (2025) 73
Table 7-1: Key Financial Summary 76
Table 8-1 – Oropesa Project - Open Cut Reserves Estimate 79
Table 9-1: Oropesa Zinc MRE at November 2023 80
Table 9-2: Analysis of Zinc in DFS Pit Shell 81

For personal use only

1. INTRODUCTION

This JORC Reserve Estimate Report is reliant on the JORC Mineral Resource Estimate (MRE) by Measured Group Pty Ltd (Measured Group) - *Oropesa Tin Project – Mineral Resource Estimate (January 2023)*.

Elementos commissioned Optimal Mining to complete a JORC Reserve estimate of the Oropesa Tin Project, as part of an overall Definitive Feasibility Study (DFS).

Optimal Mining has undertaken previous mine planning studies on the Oropesa Tin Project since 2019 including a Scoping Study and currently the DFS.

Optimal Mining have completed this Ore Reserve estimate in accordance with the JORC 2012 code, based on available information from data supplied by the client, the client's technical consultants and generated by Optimal Mining's mine planning work.

For personal use only

1.1 Process

The process adopted for completing the 2025 Oropesa Tin Project Ore Reserve Estimate is described below:

- A geological model has been prepared by Measured Group, with a MRE updated and declared in January 2023.
- A pit optimisation was undertaken as a guide to the economic mining limits.
- Detailed practical pit, waste rock facilities and stockpile designs were completed taking into consideration geotechnical parameters, environmental constraints and infrastructure locations.
- The design stage outputs were 3-dimensional insitu solids in Deswik mine planning software. The mine designs included pit wall batters, berm offsets, access ramps and subdivisions into mining stages, blocks and benches.
- The insitu solids were interrogated against the geological model, including the modelled qualities for all ore solids.
- Modifying factors were determined from technical studies and applied to the solids to calculate ROM and product values.
- The quantities and qualities for each solid were imported into Spry mine scheduling software for scheduling.
- Outputs of the mine schedule have been exported into a financial model for subsequent financial evaluation using cost and revenue assumptions to give an understanding of the economic viability of the project.
- Mineral Resource geological confidence limits have been applied to ore solids with no Inferred Ore tonnes being included in the Reserve estimate.
- Ore Reserves have been classified as Proved or Probable based upon Mineral Resource confidence categories, mine planning, financial analysis and any relevant modifying factors.

1.2 Location, Topography, Climate and Access

The Oropesa Tin Project is 75m north-west of Córdoba and 180km north-east of Seville, in the Guadiato Valley, in the Province of Córdoba, within the Andalucía Autonomous Region, Spain (Figure 1-1).

Figure 1-1: Oropesa Tin Project's Location

The topography of the region is characterized by rugged mountains and rolling hills and valleys with some plains. The project is located on the southwestern slope of the Sierra de La Grana on gently sloping foothills (average gradient of 4%) from the top (810m above sea level) to approximately 650m above sea level (project area) and extending to the bottom of the Majavacas stream valley (550m above sea level).

The surrounding area is largely agricultural, with livestock farming and cropping. The region is also home to some nature reserves and protected areas.

The climate of the area is Mediterranean, with hot summers and mild winters. Average temperatures in the summer months of June to September range between 30°C and 35°C, while in the winter months of December to February, temperatures usually range between 5°C and 15°C. The average annual rainfall in the area is around 600mm, with most of the precipitation occurring between October and April.

The property is accessible from Seville or Córdoba, via sealed highways, to the town of Fuenta Obejuna. The property can be accessed from the town of Los Blazquez approximately 1.8 km north of Fuenta Obejuna on highway CO-9012. Paved roads are within 3 km of the property, which is directly accessed via a farm road that intersects the CO-9012 highway. Other farm tracks and trails provide convenient access to other parts of the property. A dedicated paved access road will be established before the project construction.

1.3 Tenure

The Oropesa tenement consists of an exploration concession package (Investigation Permit No. 13.050) covering an area of 13km^2 (Figure 1-2).

Elementos, via its MESPA subsidiary, has submitted all the documentations required to attain its two Primary License applications required for the project to be constructed and operate, which are:

For personal use only

- Exploitation Concession (Mining Licence) and,
- Unified Environmental Authorization (AAU) (Environmental Licence)

The project has significant support within the Junta de Andalucia (Regional Government of Andalucía) and remains a key mining project within the Government's Project Accelerator Unit (Unidad Aceleradora de Proyectos).

In addition to the submission of the Primary Licence applications, the company recently received an extension to its Investigation (exploration) Permit, which was required before the final submission of the Primary Approvals documents.

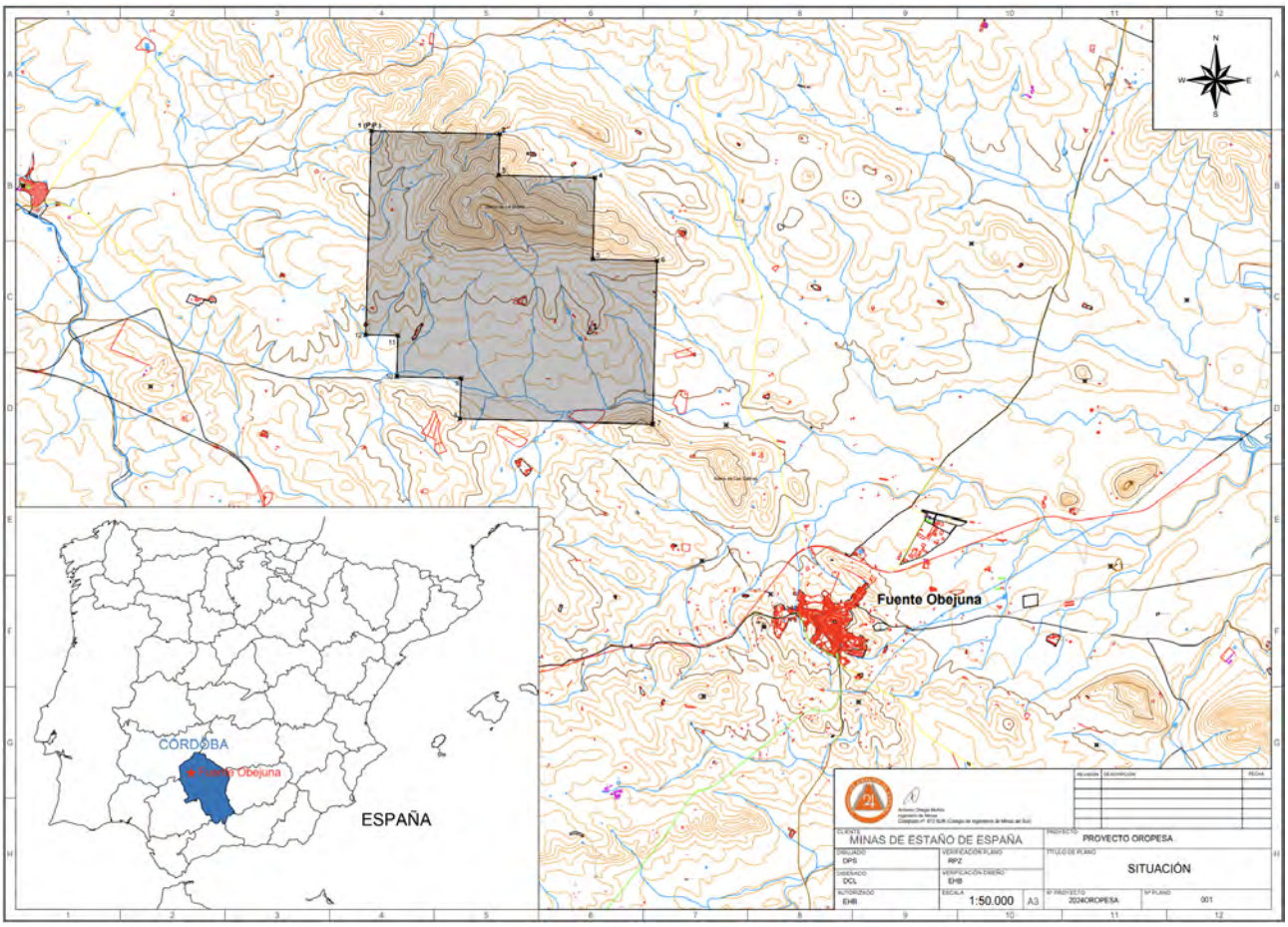

Figure 1-2: Investigation Permit No 13.050 Location

1.4 Project Ownership

The initial Investigation Permit was issued to Sondeos y Perforaciones Industrales del Bierzo, S.A. (SPIB) in January 2008. Pursuant to a Sale and Purchase Agreement (the SPA) dated 30 January 2013, SPIB agreed to transfer to Minas De Estano De Espana, SLU (MESPA), a 100 % interest in the permit. Also, as of 30 January 2013, MESPA and SPIB entered into a Shareholder Agreement (the Sale and Purchase Agreement and the Shareholder Agreement collectively referred to herein as the Agreements) relating to their respective continuing interests in the Oropesa property.

MESPA was originally granted the rights to acquire the Permit by SPIB in December 2007. It was agreed by the parties that MESPA would acquire an initial 50% interest by spending €1,500,000 on the exploration of the Oropesa property. MESPA earnt the remaining 50% interest in the project by agreement with SPIB to the following:

For personal use only

- A 1.35 % net smelter royalty (NSR), and
- Agreeing to issue SPIB a 4 % equity ownership in MESPA at the time of commercial production.

On the 24th December 2019, 100 % of the shares in MESPA were transferred from Eurotin Ltd to Elementos. The agreement with SPIB remains in place.

1.5 History

Córdoba province, within the Autonomous Region of Andalucía, in southern Spain has a rich history of mining dating back to pre-Roman times. There is evidence and records of gold, copper, silver, lead, zinc and coal mining up to present times. The Andalucian region is home to some of Spain's largest mines and mineral processing facilities, currently responsible for 90% of Spain's metallic mining revenue.

The Spanish Government's Instituto Geológico y Minero de España (IGME), carried out regional exploration between 1969 and late 1990, which included the current Oropesa property. In 1982 the presence of tin (Sn) at Oropesa was discovered.

From 1983 to 1990, IMGE undertook further exploration in the area, focusing on two areas of tin mineralisation, Oropesa and La Grana (situated approximately 1.5 km north of Oropesa).

Since 2008, SPIB and MESPA have undertaken further exploration, environmental surveys and monitoring, metallurgical and mineral processing, geotechnical, hydrological, geohydrological, engineering, marketing and mining studies.

For personal use only

2. GEOLOGY

2.1 Regional Geology

The Oropesa Deposit is located within the Iberian Massif, a complex orogenic belt that comprise Palaeozoic sedimentary sequences with lesser Precambrian basement. These rocks are cut by numerous intrusions of varying ages and deformed by one or more phases of folding and faulting. The Iberian Massif can be subdivided into six zones, based on differences in stratigraphy and structural history with the Oropesa Deposit occurring near the north-eastern edge of the Ossa Morena Zone.

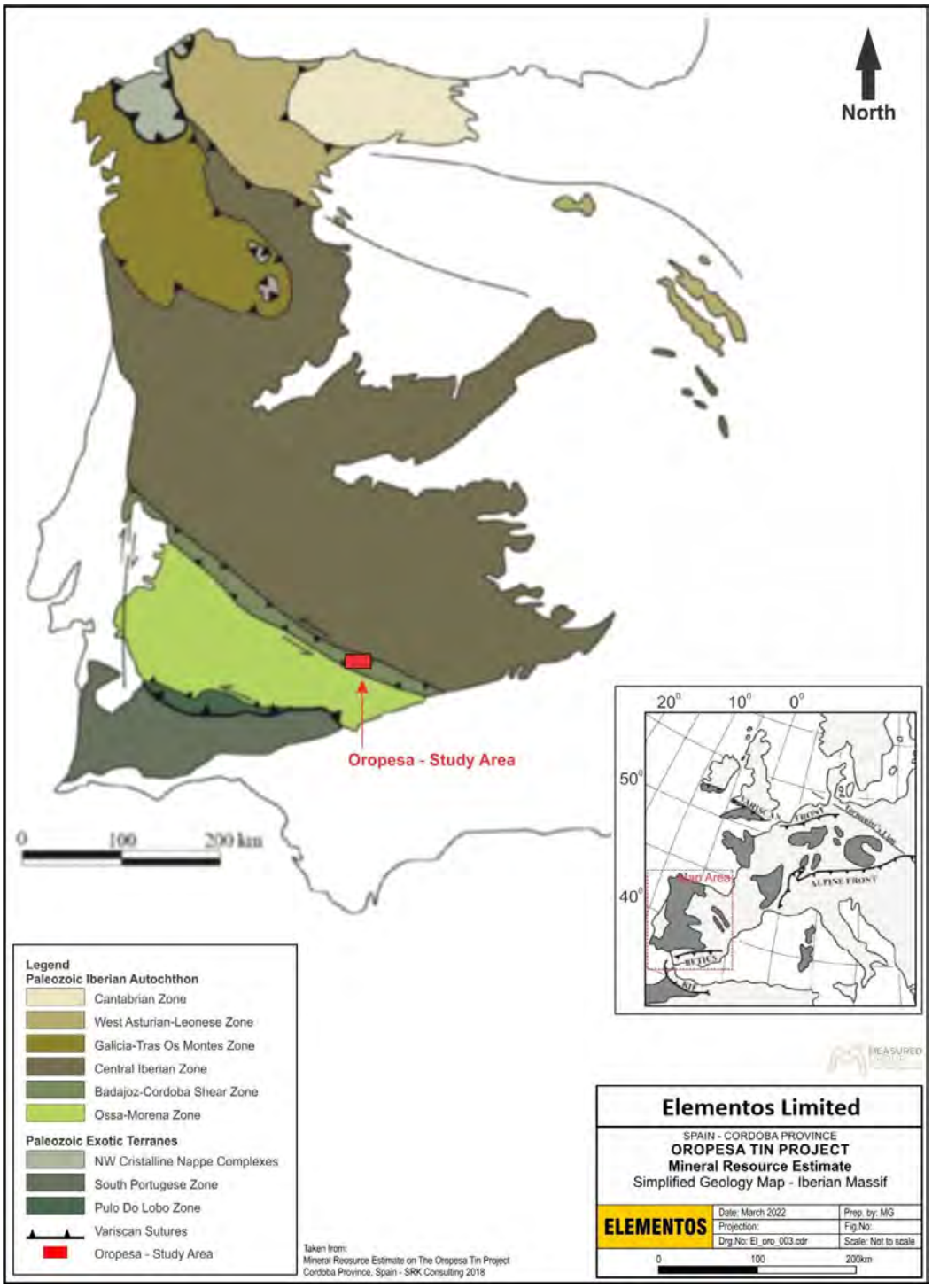

Figure 2-1: Oropesa Deposit location within the Iberian Massif

For personal use only

2.2 Local Geology

The Oropesa Deposit consists of two main lithological units: conglomerate and sandstone (greywacke). The conglomerate is poorly sorted and predominantly clast-supported (Figure 2-2). It consists primarily of cobble to pebble-sized, subrounded clasts with a gradational matrix. Most clasts are of sedimentary origin, although occasional igneous clasts can be observed.

Figure 2-2: Conglomerate from drill hole ORPD57

The sandstone unit is quite variable with considerable grain size variation, from a pebbly sandstone, down to a very fine sandstone, the majority of the sandstones fall between the fine and granule grain size classifications (Figure 2-3).

Figure 2-3: Bedded sandstone from drill hole ORPD108

The geometry of the Oropesa deposit is primarily the result of two major deformation phases, an initial strike-slip to extensional phase of deformation during basin formation followed by a strong contractional overprint.

For personal use only

The tin mineralisation (mainly cassiterite with minor stannite) occurs as a replacement style orebody associated with sulphides, predominantly pyrite and pyrrhotite within a sedimentary sequence at the contact between sandstone and conglomerate units. Widespread folding of the sedimentary sequence has resulted in the mineralised sequence being overturned and repeated in places. Figure 2-4 is a cross-section of the deposit illustrating the faulting and folding structures of the deposit and the associated mineralisation.

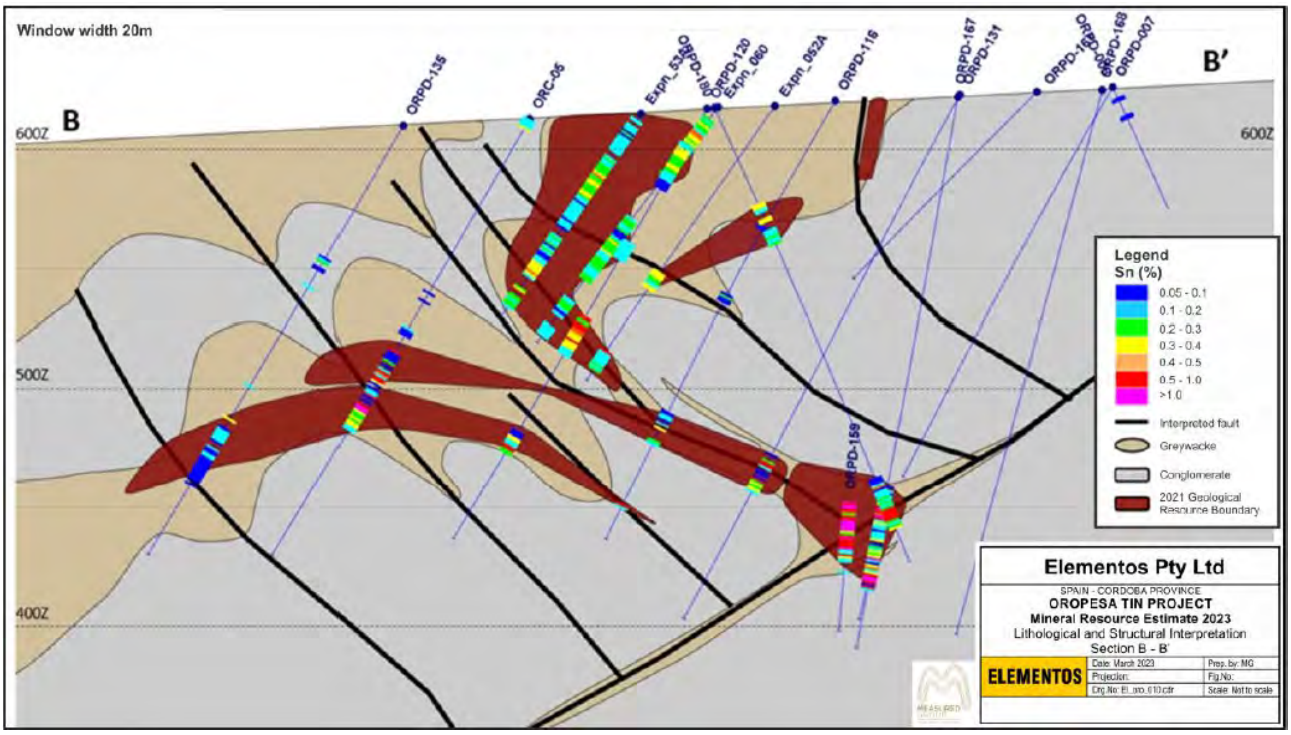

Figure 2-4: Cross-sectional example of structures and associated mineralisation

2.3 Recent Exploration Programs

2.3.1 IMGE Exploration

From 1983 to 1990, the exploration programmes included 49 cored drilled holes, detailed mapping, geochemical surveys (including stream sediment and soil), geophysical surveys (including ground Induced Polarization and Resistivity, ground and airborne magnetic and VLF electromagnetic surveys), trenching and metallurgical test work.

2.3.2 MESPA Exploration

Since the acquisition of Oropesa, the Company has completed a review of the IGME data including re-interpretation and development of an exploration model for tin emplacement.

SPIB and MESPA has also conducted eight drilling programs to date. By 2023, a total of 320 holes totalling some 66,640 m have been completed by the Company at the Oropesa Project. Figure 2-5 shows the location of the drill holes in relation to the DFS pit shell.

For personal use only

Other exploration programmes that have also been carried out include geochemical and geophysical surveys, trenching, and test pitting programmes.

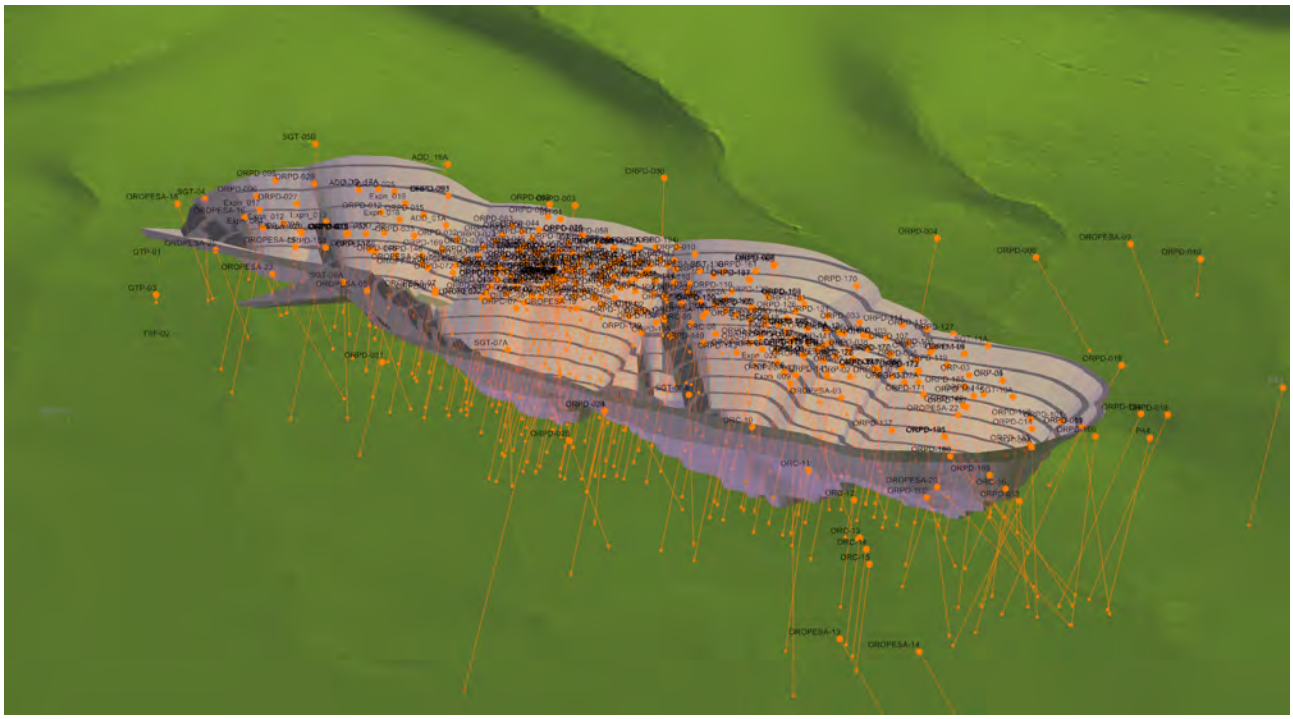

Figure 2-5: Distribution of drill holes in relation to the DFS Pit Shell

For personal use only

For personal use only

3. MINERAL RESOURCE ESTIMATE

The 2023 JORC Mineral Resource Estimate was prepared by Mr Chris Grove of Measured Group in compliance with the 2012 JORC Code reporting standards. Table 3-1 presents the 2023 MRE as of January 2023. Figure 3-1 illustrates the JORC resource classifications in the resource block model in relation to the DFS pit shell.

Table 3-1: Oropesa JORC Mineral Resource Estimate as at January 2023

Resource Classification	Sn (%)	Tonnes (tonnes)	Contained Sn Metal (tonnes)
Measured	0.36	7,418,212	26,801
Indicated	0.41	11,113,471	45,012
Subtotal: Measured & Indicated	0.39	18,531,683	71,813
Inferred	0.38	1,070,700	4,021
Total	**0.39**	**19,602,383**	**75,834**

Table Notes:

- All figures are rounded to reflect appropriate levels of confidence.
- Apparent differences in totals may occur due to rounding.
- A cut -off grade of 0.15 % Sn is applied

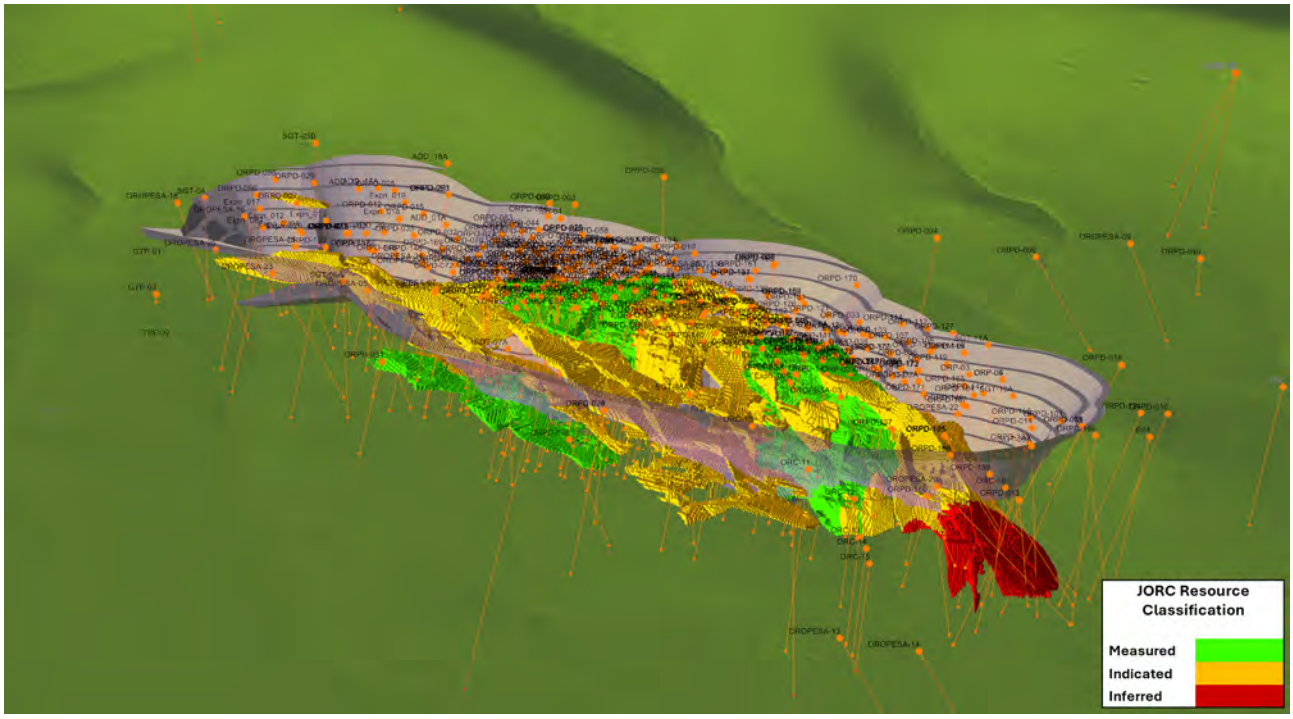

Figure 3-1: 2023 JORC Resource Classifications

4. STUDY STATUS

Optimal Mining in association with other Elementos and MESPA consultants have previously undertaken several studies to initially determine the potential economic viability of a tin project at Oropesa. Further optimisations were then applied to define the project scope for the environmental and mining licence applications as well as the DFS.

The DFS has been completed concurrently with this Ore Reserve Statement and announced to the ASX on 4th April 2025 and has undertaken the following investigations which have been utilised for the calculation of these Ore Reserves, including:

- Geological modelling,
- Mineral processing and metallurgical testing and modelling,
- Geotechnical Investigation, lab work, reporting,
- Geohydrological and hydrogeological investigations and modelling,
- Mine engineering,
- Tailings Dam Investigations & Designing,
- Process plant design,
- Non-Process Infrastructure Designs,
- Infrastructure requirements and designs,
- Packaging and Market Tendering / Pricing,
- Environmental surveys and impact assessments,
- Consultation with Government Departments regarding impact and approvals
- Consultation with local, provincial and Regional Governments
- Marketing assessments, and
- Financial modelling.

For personal use only

5. MINE PLANNING

5.1 Pit Optimisation

The pit optimisation utilises Deswik.Pseudoflow software to generate a series of nested pit shells using "Revenue Factors" based on financial and operational assumptions. The shells represent the incremental break-even (economic) limit at which point the total cost of production is the same as the revenue.

The chosen optimised pit shell is then used for guidance of the economic pit limits for the detailed pit designs which include benches, berms and access ramps. It also helps identify the preferred locations for key infrastructure to ensure future potential resource is not sterilised.

5.1.1 Optimisation Inputs

To calculate the economic pit shell limits, pseudoflow requires five key inputs:

- Geological model,
- Cut-off grade,
- Operational assumptions,
- Cost assumptions, and
- Revenue assumptions.

5.1.1.1 Geological Model

The geological model used in the pit optimisation assessment was based on the model used for the 2023 MRE, provided by Measured Group and titled Oropesa_BM_20230210.bmf. The parent cell dimensions for this model is 2m (length) x 2m (width) x 2m (depth) which is less than the smallest mining unit (SMU) for the selected mining equipment that will be operating.

The resource model cells were re-blocked to reflect the SMU for the size of the mining equipment which was estimated to be 5m (length) x 5m (width) x 5m (depth).

Only Measured and Indicated ore blocks with a cut-off grade greater than 0.15% Sn were used in the pit optimisation. Inferred ore blocks were treated as waste.

5.1.1.2 Cut-off Grade

Based on a tin sales price of US$30,000 per tonne and the pit optimisation input processing operating costs, the mill COG was calculated to be 0.11% Sn. However, due to metallurgical recovery, a metallurgical COG of 0.15% Sn has been applied to designate what is ore and waste in the model.

5.1.1.3 Operational Assumptions

The key operational assumptions are based on the following:

- Geotechnical parameters,
- Mining method and equipment size, and
- Processing parameters.

The overall pit wall slope angles used for the pit optimisation are based on the design parameters specified from the report *Geotechnical Study of Slope Stability for Oropesa*

For personal use only

Project (Terratec, 2022). The Terratec report specified different wall angles based on depth (<20m, 20-100m or >100m) and rock type (conglomerate or sandstone). In general, the conglomerate is in the south-western wall and the sandstone is in the north-eastern wall. The overall slope angles on the southern and south-western walls were made shallower than the geotechnical recommendation to allow for an access ramp. Table 5-1 lists the overall slope angles used for the pit optimisation inputs.

Section 5.3 provides more details on the geotechnical design parameters.

Table 5-1 Overall Slope Angles Used for Pit Optimisation

Depth from Topography	Wall	Overall Slope Angle
20m	All	20°
20-100m	North & North-eastern	48°
	South & South-western	35°
>100m	North & North-eastern	55°
	South & South-western	40°

As stated in Section 5.1.1.1, the resource model was re-blocked to 5m (length) x 5m (width) x 5m (depth) based on the DFS equipment sizing. Based on the re-blocking, the calculated mining recovery is 92% and mining dilution is 4% when compared to the original 2m x 2m x 2m resource block model.

A simplified process flow chart was developed to simulate the multiple processes that the ore progresses through to get to the final saleable product which is a tin concentrate. Figure 5-1 provides an illustration of the simplified process flow.

All waste blocks mined will be dumped either in-pit or in the out-of-pit mine waste rock facility. Ore will be mined out of the pit and either placed on the ROM stockpile or sent directly to the crusher. The +10mm cut from the crushed ore will be sent to the TOMRA ore sorter, whilst the -10mm cut will be sent directly to the concentrator.

The TOMRA ore sorter enriches the +10mm ore via dry processing, with the product stream directed to the concentrator and the reject stream sent to the waste disposal areas. The TOMRA ore sorter reject is coarse and is expected to be diggable by traditional front-end loaders and hauled to waste rock facilities by mining trucks.

The concentrator involves further grinding of the ore then applies flotation, gravimetric and magnetic separation processes to produce the final saleable concentrate with the residue being pumped to the tailings dam.

For personal use only

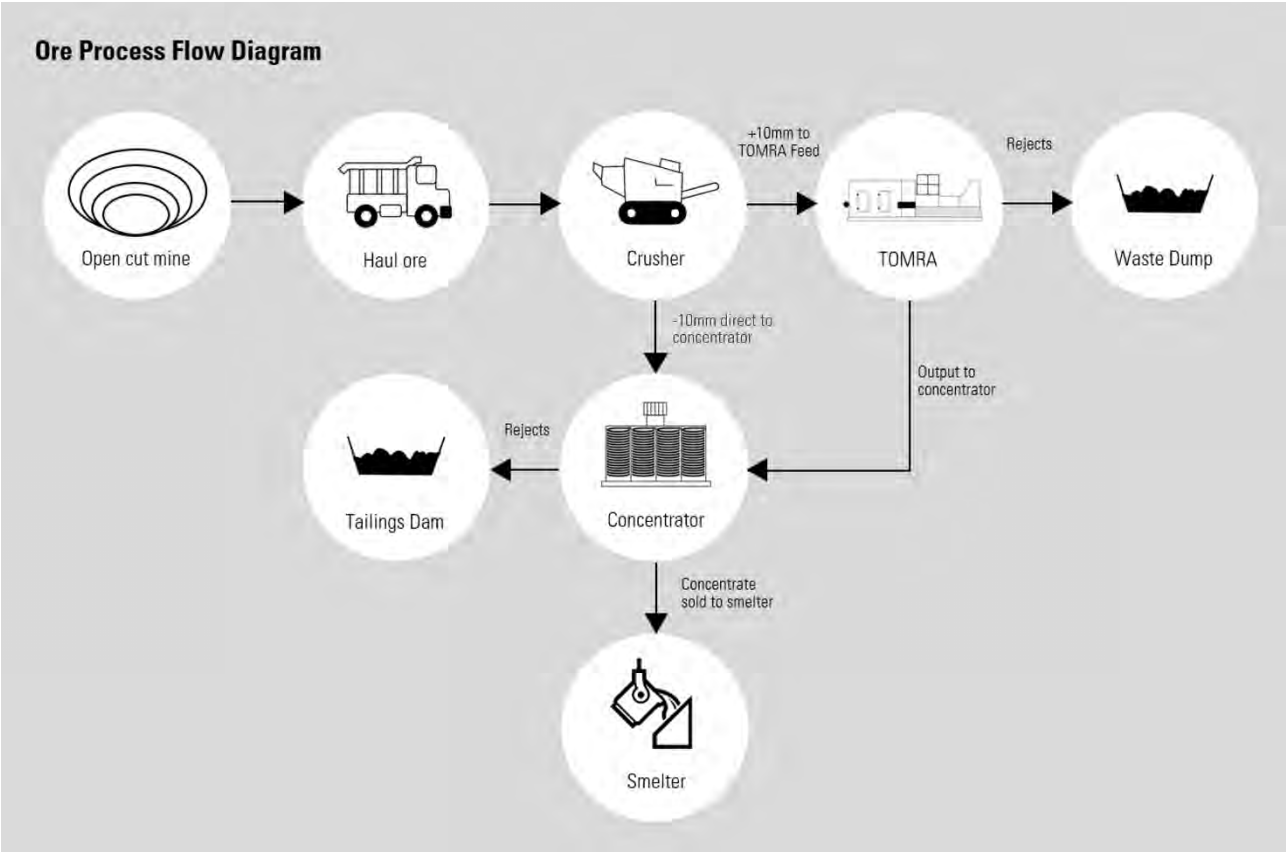

Figure 5-1 Schematic of Ore Process Flow for Pit Optimisation Calculations

To calculate the final concentrate tonnes and grade recovered, a number of regression equations are applied to represent each stage of the process flow. The equations have been developed from metallurgical test work undertaken by Elementos to support the development of the flowsheet and process design criteria adopted for the DFS. Table 5-2 lists the equations used.

Section 5.6.2 provides more details on the test work programmes that have been undertaken for the Oropesa Project.

Table 5-2: Processing Equations for Pit Optimisation

Input	Regression Equation
Crusher Split <10mm Mass Yield (Bypass TOMRA – Direct Concentrator Feed)	0.03 x ROM Sn Grade + 0.1822
TOMRA Mass Recovery	0.934 x ln(Sn Feed Grade) + 0.7623
TOMRA Tin Recovery	0.1039 x ln(Sn Feed Grade) + 0.9664 (maximum limit 98%)
Concentrator Metal Recovery	0.16209 x ln(Sn Feed Grade) + 0.8686 (maximum limit 96.6%)
Concentrate Tin Grade	0.11864 x ln(Sn Feed Grade) + 0.7037

5.1.1.4 Cost Assumptions

The input cost assumptions used for the pit optimisation inputs are listed in Table 5-3. All values are in US dollars (USD).

For personal use only

For personal use only

The costs are sourced from a combination of quotes provided by a local contractor, estimations by environmental and processing consultants and benchmarks from similar operations adjusted for local conditions.

Table 5-3 Pit Optimisation Input Cost Assumptions (USD)

Input	Units	Value
Topsoil Stripping and Management	$/bcm	$3.24
Waste Mining (incl D&B) < 1km Haul	$/Waste t	$1.60
Ore Mining (incl D&B) < 1km Haul	$/Ore t	$1.83
Waste Additional Cost for Haulage > 1km	$/t/100m	$0.016
Ore Additional Cost for Haulage > 1km	$/t/100m	$0.018
Waste Depth Penalty	$/t/10m	$0.012
Ore Depth Penalty	$/t/10m	$0.013
Pit Dewatering	$/Total Mined t	$0.001
Grade Control Drilling	$/Ore t	$0.165
Crushing/Screening/Ore Sorting Cost	$/Feed t	$0.75
TOMRA Rejects Disposal	$/Rejects t	$0.99
Concentrator Costs	$/Feed t	$19.00
Pit, Dump & Infrastructure Rehabilitation	$/Total Mined t	$0.094
Process Plant Rehabilitation	$/Ore t	$0.03
General and Administration Costs	% of OPEX	7.5%
Freight	$/conc. t	$60
Smelting	$/conc. t	$650
Sustaining Capital	$/Total Mined t	$0.15
Contingency	% of Opex	5%

5.1.1.5 Revenue Assumptions

An initial revenue scenario was run based on a benchmark price of US$30,000/tin tonne. The following reductions in the revenue price were applied to the product concentrate at Oropesa:

- Concentrate impurities - US$250/tin tonne
- Tin Payable Percentage – 98%

A revenue sensitivity assessment was undertaken to highlight the influence of the tin sales price on the ore tonnes, strip ratio and geometry of the resultant pit shells. Eleven

pit shells were generated for tin sales prices between US$20,000/t and US$45,000/t in US$2,500/t increments.

Section 6 provides a more detailed analysis of tin market forecasts, including demand projections and selling price estimates.

5.1.2 Optimised Pit Shell Results

The output quantities of each incremental revenue shell from the pseudoflow sensitivity assessment is presented in Table 5-4. Figure 5-2 charts the ore tonnes and strip ratio for each shell. The largest increase in ore tonnes is going from the $20k shell to the $22.5k shell with the next largest increase between the $22.5k and$25k shell. The ore tonnes do not increase significantly between the $25k and $32.5k shells, there is a notable increase between the $32.5k and $40k shells and then from $40k on there is very little increases.

This highlights that a smaller operation would still generate reasonable cashflows at the lower tin sale prices as well as the opportunity for expansion if the sales price increased.

Table 5-4: Pit Optimiser Output for Incremental Revenue Shell

Revenue Shell (Tin Sale Price USD)	ROM Ore Tonnes	Tin Grade (%)	ROM Contained Tin Tonnes	Waste Tonnes	Strip Ratio (t:t)
$20k	12,061,837	0.39%	47,015	106,496,678	8.8
$22.5k	14,486,122	0.37%	53,024	117,965,825	8.1
$25k	15,738,273	0.35%	55,833	124,921,611	7.9
$27.5k	16,117,145	0.35%	56,969	131,409,125	8.2
$30k	16,363,508	0.35%	57,715	134,328,933	8.2
$32.5k	16,475,734	0.35%	58,064	136,453,363	8.3
$35k	17,033,512	0.35%	60,014	150,620,549	8.8
$37.5k	17,693,302	0.35%	61,877	165,855,221	9.4
$40k	18,175,470	0.35%	63,341	177,649,525	9.8
$42.5k	18,207,871	0.35%	63,421	178,074,043	9.8
$45k	18,283,161	0.35%	63,603	179,727,080	9.8

For personal use only

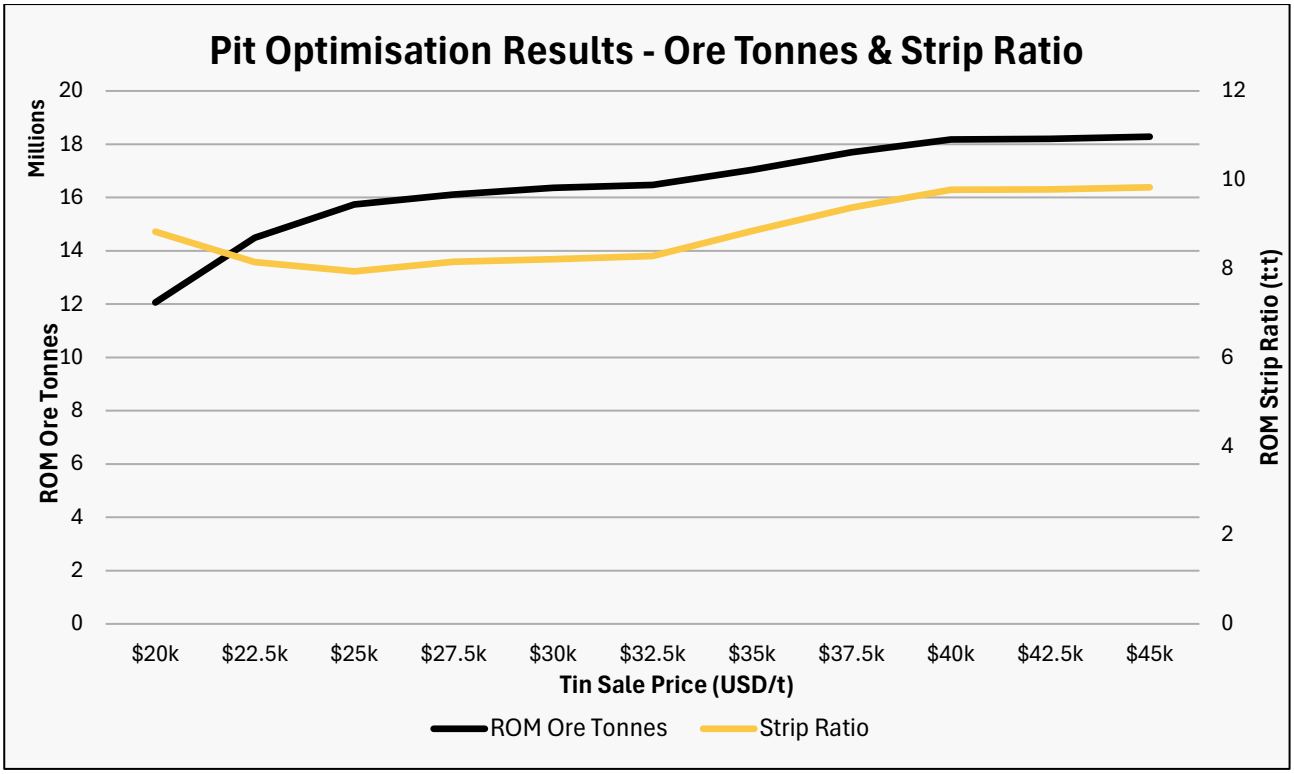

Figure 5-2: Ore tonnes and Strip Ratio by Incremental Revenue Shell

Figure 5-3 provides a comparison of the $20k, $22.5k, $25k and $30k pit shells to the DFS pit shell cut into topography. These are four key examples of the shells that can be seen within the DFS pit with the remaining shells being mostly below the topography of the DFS pit.

Figure 5-4 shows how the $45k pit shell is mostly beneath the DFS pit but also shows where the pit shell crests for the $20k, $25k, $30k, $35k, $40k and $45k intersect with the original topography.

The images highlight that as the sales price increases the north-eastern wall predominantly remains in the same location with the pit shells expanding to the south-west. There are some slight expansions at the ends of the pits (north-west and south-east) and well as increases in depth for the higher sales price pit shells.

Three cross sections, north (Figure 5-5), central (Figure 5-6) and south (Figure 5-7) and a long section along strike (Figure 5-8) have been cut through all the pseudoflow pit shells to show a physical comparison of how the pit shells expand in comparison to the DFS pit and the geological model.

For personal use only

For personal use only

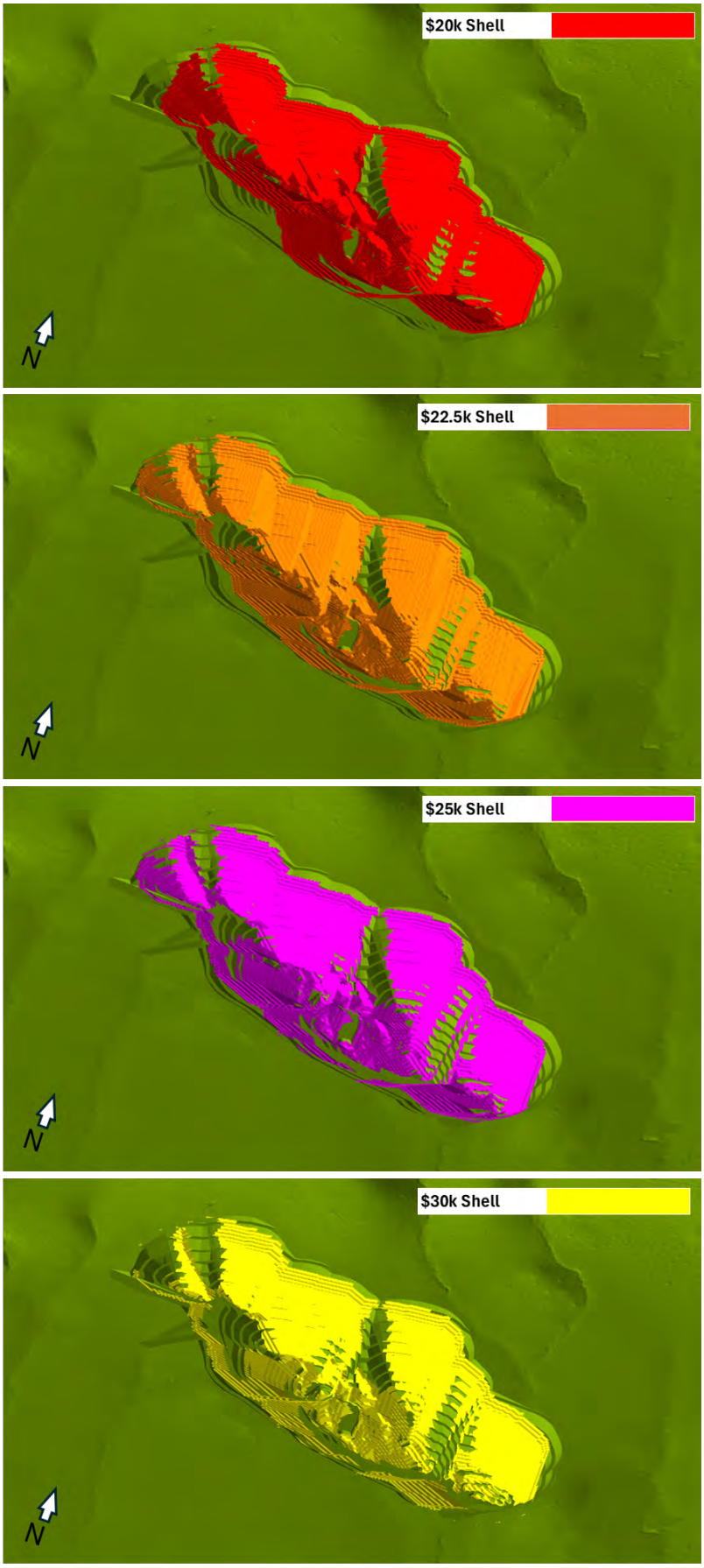

Figure 5-3: Comparison of Key Pit Shells within DFS Pit Design

For personal use only

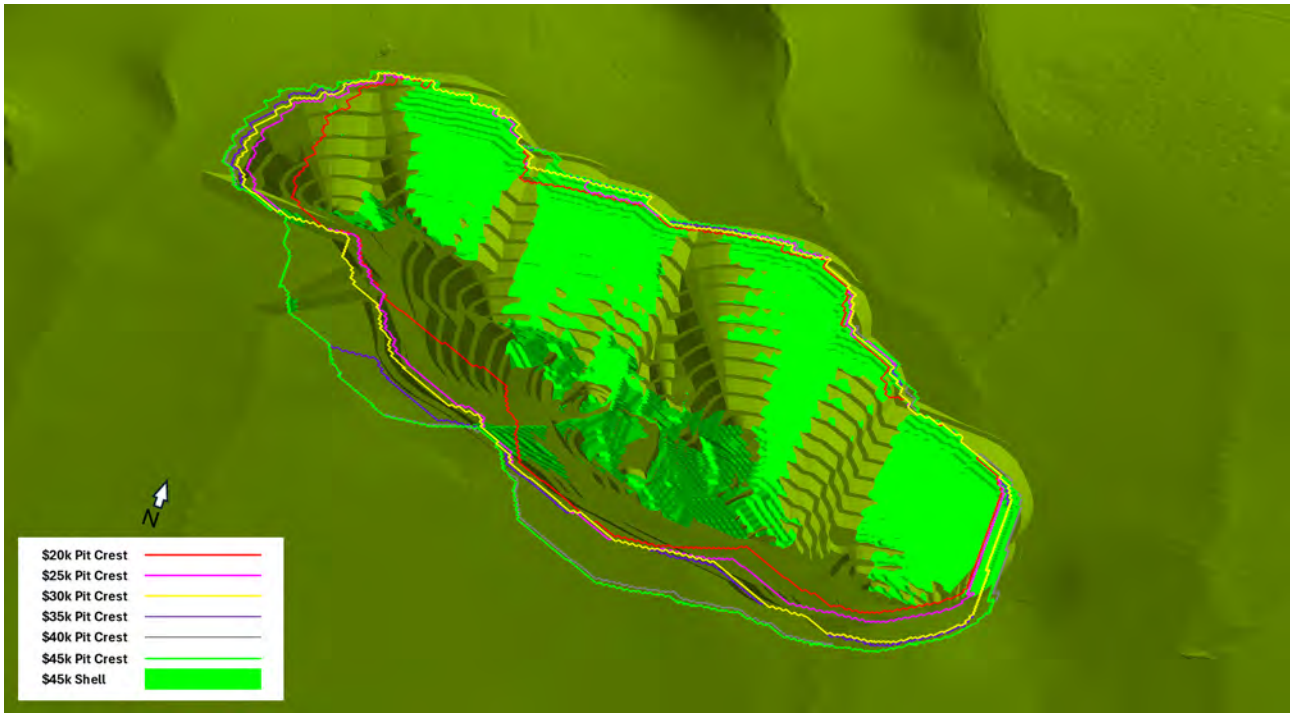

Figure 5-4: Comparison of $45k Pit Shell to DFS Pit Design

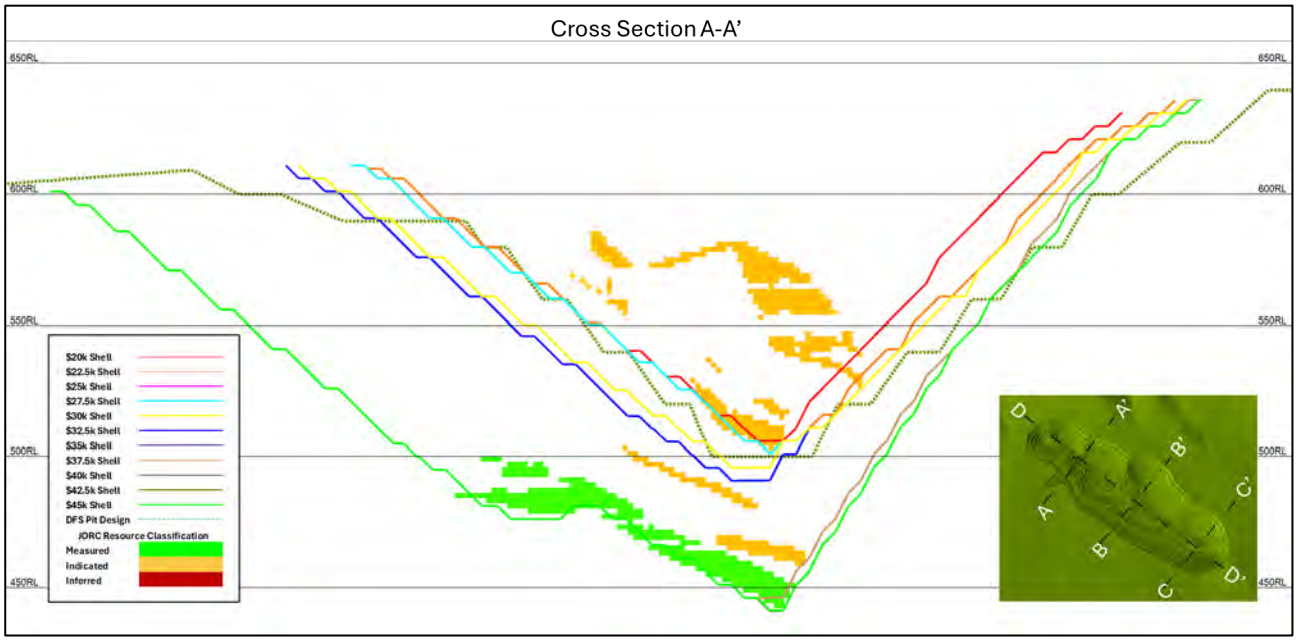

Figure 5-5: Cross Section A-A'

Cross section A-A' in the north of the deposit, backs up the previous figures that the north-eastern wall does not vary much with most of the expansion being in the south-western wall. The depth increases significantly after the $32.5k shell.

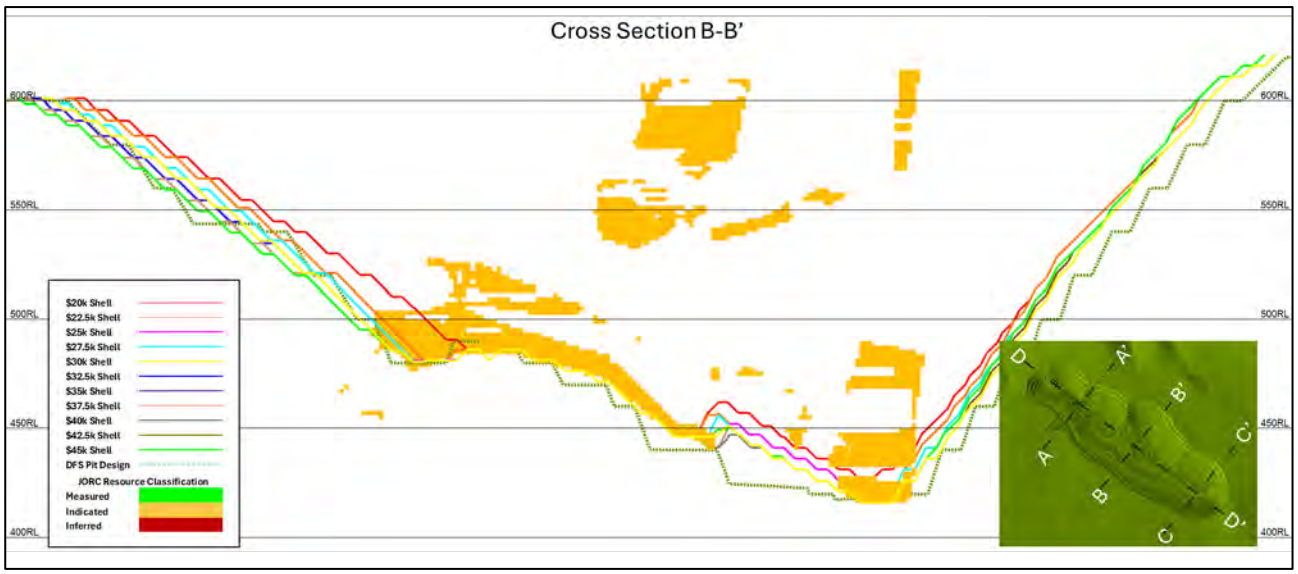

Figure 5-6: Cross Section B-B'

Cross section B-B' in the central part of the deposit, shows very little change in between all the pit shells, this highlights that even at lower tin sales prices this central part of the mine will still generate reasonable cashflows.

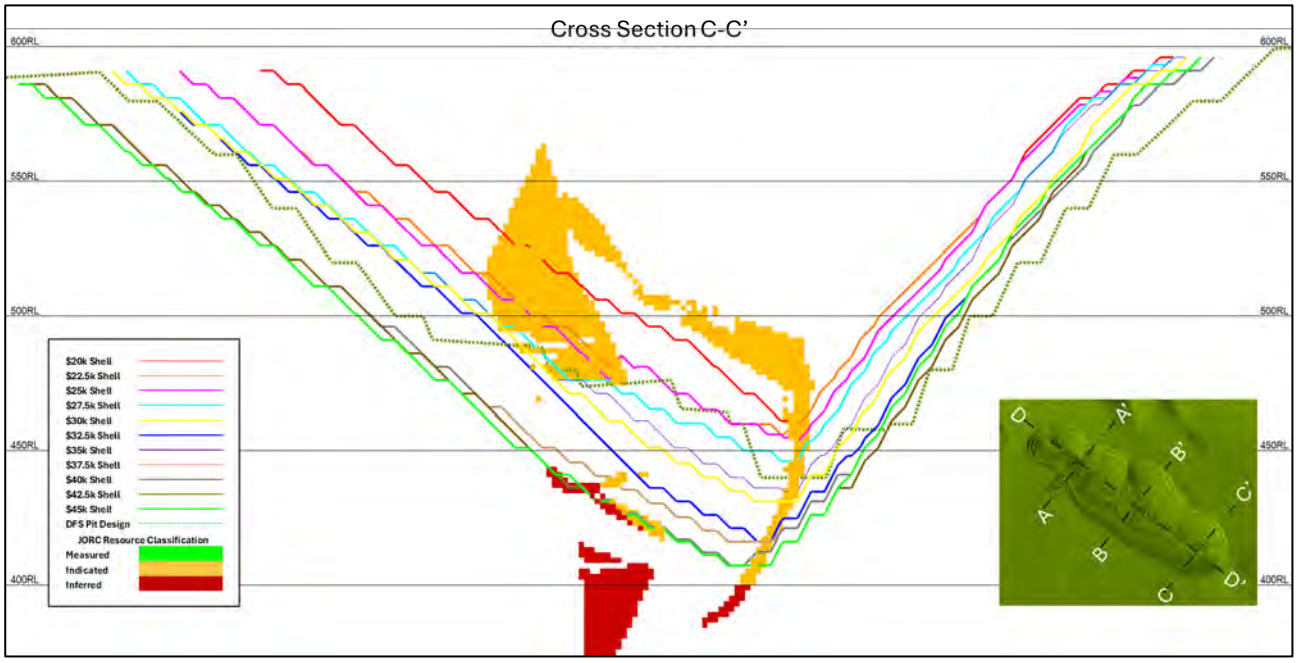

Figure 5-7: Cross Section C-C'

Cross section C-C' in the south of the deposit, again shows most of the expansion is to the south-west. The depth increases significantly after the $30k shell and starts expanding towards the inferred resource areas of the deposit in the south.

For personal use only

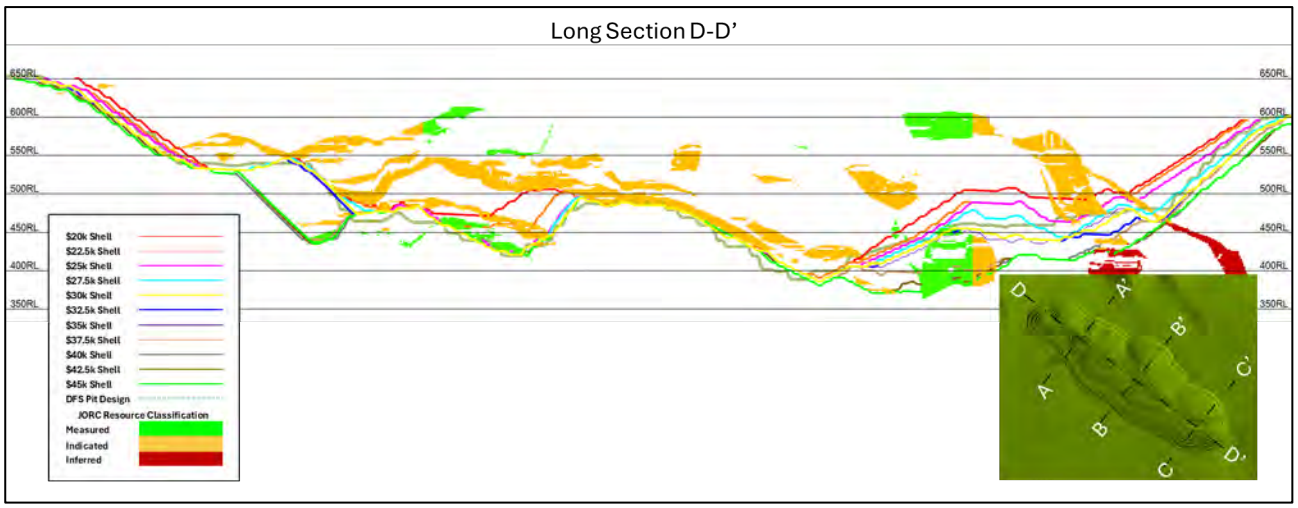

Figure 5-8: Long Section D-D'

Long section D-D', running from the north-west to the south-east highlights the main areas where the high tin sales price shells target the deeper parts of the deposit. It also shows the minimal changes in the north-western end of the pit in comparison to the extensions to the south-eastern end. This section also backs up the potential for a smaller pit (i.e. $25k) that could still generate reasonable cashflows at the lower tin sales price.

The principal outcome from the results of the pseudoflow sensitivity assessment is that the $30k pit shell is the appropriate shell to use for the economic pit limits for the DFS pit design.

5.2 Mining Method

Previous mining studies have demonstrated that the most practical and economical mining method for the Oropesa Deposit is by open cut truck and shovel operations. The DFS has progressed with this method and the ore reserves generated for this report are also based on this approach.

The main mining processes at Oropesa are as follows:

- Vegetation clearing and topsoil recovery,
- Grade control drilling,
- Drilling and blasting,
- Waste excavation and haulage to either infrastructure fill requirements, out-of-pit or in-pit waste rock facilities (WRFs),
- Ore excavation and haulage to either ROM stockpile or direct crusher feed,
- TOMRA rejects loading and haulage to WRFs,
- Progressive rehabilitation of out-of-pit WRFs by dozer reshaping and topsoil spreading for vegetation establishment,
- Post-mining rehandling of WRF back into the pit void where required,
- Post-mining rehandling of WRF to cover the tailings dam,
- Post-mining landform reshaping and topsoil spreading of any remaining WRFs, stockpiles or other disturbance areas for vegetation establishment.

For personal use only

5.3 Geotechnical Parameters

Pit slope geotechnical design parameters were calculated by Terratec (2022). The 2022 geotechnical study assessed 12 geotechnical holes which were distributed throughout the foreseeable perimeter of the future open-pit areas in order to geotechnically characterize the lithologies that will constitute the final mining slopes.

Based on the predominant general lithologies and considering the geotechnical description of the surveys carried out in the previous campaigns, the following geotechnical groups have been established:

- Conglomerate - Rock generally cemented, with centimetric clasts rounded to subranged and sandy matrix. It is predominantly present in the northeast and east of the future exploitation and in the lower part of the southeast zone.
- Shale - Arranged in metric to decametric collations in a general way, being predominant in the future southwest slope.
- Greywacke (sandstone) - Material detected in a smaller proportion than the rest of the lithologies, being predominant in the upper part of the central area of the southwest slope. It has a greater condition of meteoric alteration than other lithologies present in the site, which translates into a lower geotechnical quality.
- Quartzite - Reduced almost exclusively to the northwest area of the farm, with high compressive strength in the absence of meteoric alteration.

Figure 5-9 highlights the majority of the deposit consists of greywacke/sandstone and conglomerate with minor areas of shale and upper weathered overburden.

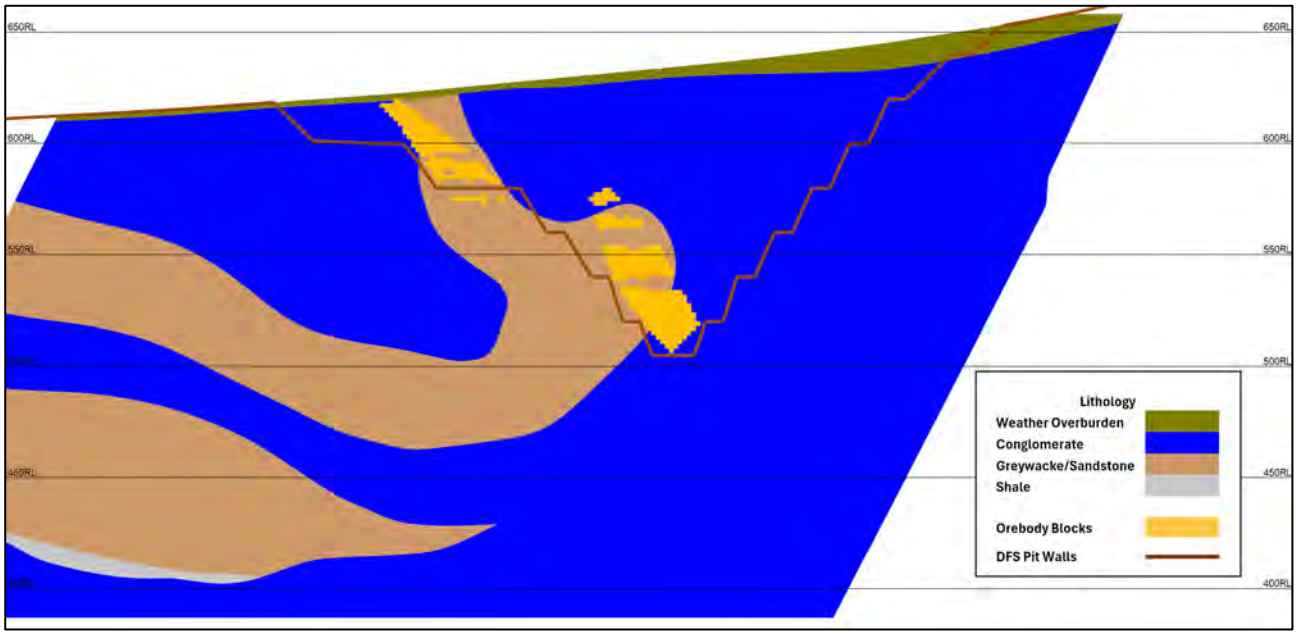

Figure 5-9: Lithology for Geotechnical Design Parameters

The recommended pit slope design criteria are shown in Table 5-5 and were used as part of the detailed pit design process.

For personal use only

Table 5-5: Recommended Geotechnical Design Parameters

Zone	Lithology	Overall Angle (º)	Face Angle (º)	Bench Height (m)	Berm Width (m)
20m Below Topography	All Lithologies	20º	45º	20	10
Meteoric Alteration at Depth (~20m to 100m)	Sandstone/Greywackes	45º	59º	20	8
	Conglomerate, Quartzite and Slate	50º	66º	20	8
No Alteration or Weathering (>100m)	All Lithologies	55º	73.3º	20	8

The Terratec Geotecnia Sondeos S.L study also highlighted several key geotechnical aspects of the deposit, as summarized below.

5.3.1 Weathering

The most intensely altered zone due to weathering is at an average depth of 20m below the current topographic surface, with slight variations depending on the penetration of fracture zones. The meteoric alteration continues down to depths of approximately 100m. The most intense alteration only occasionally reaches the 100m depth, however this has been used as a conservative reference point to perform safety factor calculations in the geotechnical models.

5.3.2 Hydrogeology

It is recommended to control the possible influx of groundwater that may appear in the excavation faces. Any local influx of groundwater must be drained, lowering the pore pressure on the rock and the affected joints, thus preventing the decrease in the stability conditions of the area in question. The stability calculations have been carried out considering the drained slopes, so this control must be applied.

Groundwater conditions and aquifers were modelled as part of Ayterra Studies and Projects SL's 2022 report titled *Hydrogeological Study of the Oropesa Project and its Environment*. A final dewatering system has been designed with perimeter wells pumping between 7-10 l/s which will lower the piezometric level to a satisfactory level and supply water to the processing plant. Pumps will also be placed in the bottom of the pit to dewater any accumulated rainfall and minor seepage as required, mostly after significant rainfall events.

5.3.3 Blasting Practices

Controlled blasting practices will be required at all times to ensure the safety of the operation. In the analyses carried out to obtain the safety factor for the final mining slopes, for heights of 200m, the importance of blasting control for global stability is observed. In most of the models analysed where there is intense alteration due to blasting, the safety factor obtained is less than 1.2 and very often less than 1, indicating

For personal use only

that the models are not stable against mass landslides that affect the rocky massif, and especially in the presence of a water table near the excavation front.

When the blasting is controlled, with little impact on the rocky massif behind the excavation front, the safety factor is greater than 1.2 in all designs, even with the presence of a water table near the slope, except when the upper part of the slope is constituted by greywackes and the inter-ramp angle is at 50º; in this case, in the presence of a water table close to the excavation front, the slope is not considered stable.

5.3.4 Geotechnical Mapping

Given the importance that the joints may have in the stability of some of the areas of the cut, it is highly recommended that, especially during the early stages of exploitation, the fracture data present in the successive mining faces be taken systematically, in order to confirm the data obtained previously and on the basis of which the present work has been carried out and detect any changes that allow modifying the planned design. The information taken in the outcrop on the lateral continuity and large-scale roughness of the different families of joints will be of great importance.

5.4 Mining Layout

5.4.1 Mining Strategy

The detailed DFS pit shell design has been based on the $30k tin sale price pit shell from the pseudoflow assessment with a focus placed on extracting the highest contained tin tonnes possible whilst establishing an optimised mining operation. The pit and WRFs have been designed to minimise their environmental disturbance footprint whilst optimising several key aspects of the mine operations, including:

- Utilising pre-stripping waste for tailings dam and infrastructure construction fill,
- Haulage of waste from the pit to the out-of-pit WRFs,
- Haulage of ore from the pit to the ROM stockpile and crusher,
- Maximising dumping of waste to in-pit WRF, and
- Rehandling of the WRFs back into the pit void or to cover the tailings dam.

To maximise the amount of waste being hauled to the in-pit WRF, the pit is divided into cut-back stages so it can be excavated and backfilled starting from the shallow north-western end and progressing along strike to the south-eastern economic limits (Figure 5-10). The stages also defer accessing the deeper and higher strip ratio ore to the later years of the project life.

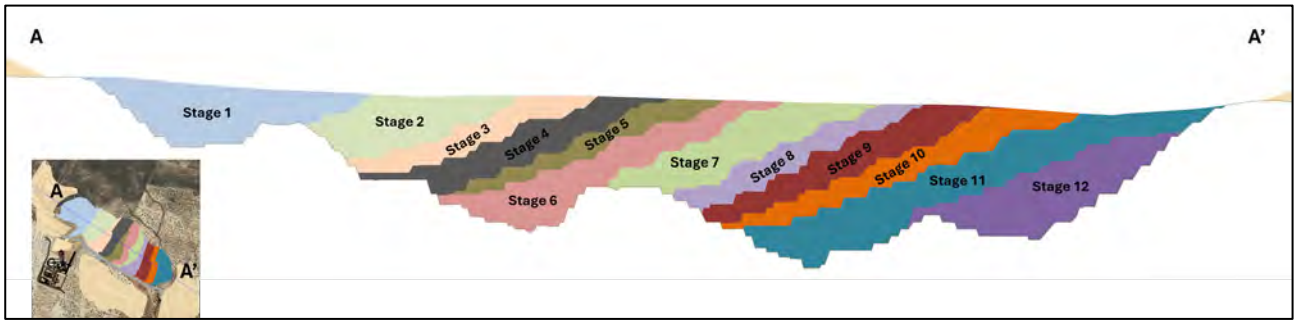

Figure 5-10: DFS Pit Long Section Showing Mining Stages

For personal use only

The pit design incorporates a master ramp which runs along the southern wall of the pit, as shown in Figure 5-11. The master ramp has been designed to exit the pit at the point closest to the main out-of-pit WRF and ROM. It allows for efficient backfilling of the mined-out stages by providing a link between each of the stages access ramps and the in-pit WRF. The master ramp is active for almost the entire life-of-mine schedule, providing a permanent high quality haul road plus access to the lower levels of the mine. The master ramp also provides efficient truck movements, allowing trucks to drive a constant grade and select a single gear. This is designed to ensure engine efficiency, lower fuel burn and lower CO_2 emissions.

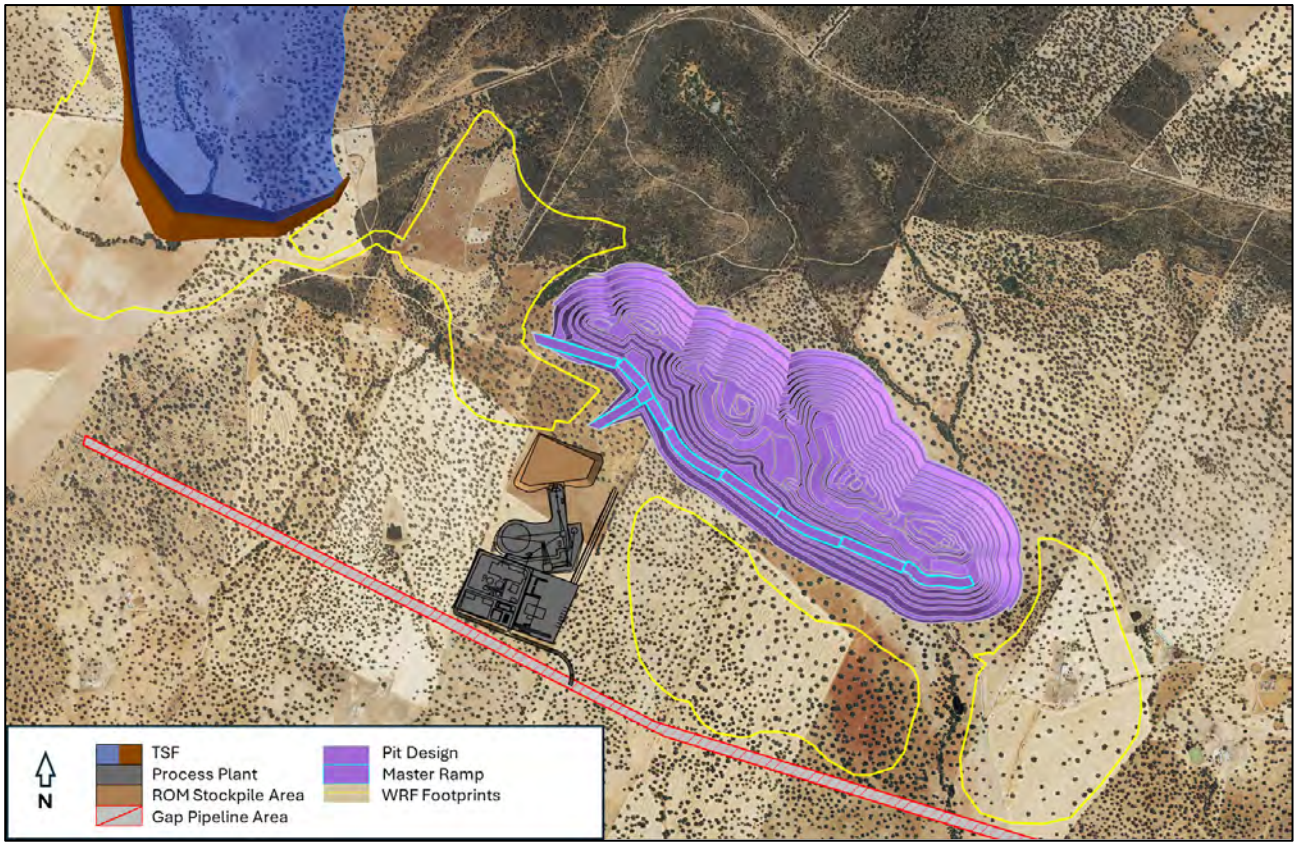

Figure 5-11: Layout of Mine and Infrastructure

5.4.2 Environmental and Social Considerations

Whilst all environmental and social impacts have been assessed as part of the Environmental Impact Study (EIS) for the exploitation licence and environmental approvals. The key environmental and social considerations for the layout of the mine are:

- Waste Rock Characterisation,
- Minimising clearing of oak tree habitat,
- Minimising impact on public waterways and creeks,
- Minimising noise, dust, vibration and visual impacts on surrounding communities and sensitive receptors,
- Minimising haulage routes, reducing fuel burn and CO2 emissions,
- Location of tailings dam in Guadiana River basin water catchment, and
- Final landform restoration and rehabilitation of the project area.

For personal use only

For personal use only

5.4.2.1 Waste Rock Characterisation

Wardell Armstrong International Ltd (WAI) undertook a geochemical assessment of the waste rock material from Oropesa in the report titled *Geochemical Review of Acid Rock Drainage Test Work Oropesa Tin Project.*

Eighty-four samples representative of the waste and ore lithologies were submitted for a range of static geochemical tests in two test programmes beginning in 2017 with additional work in 2022. The tests show materials which pose the greatest likelihood of generating acidity and metals are located within the orebody. Acid generating and metalliferous material is largely held within the greywacke units, which subsequently will be processed to tailings. Most waste rock material has little evidence to indicate that substantial acid will be generated by the mine waste.

Subsequently in 2023, kinetic testing was undertaken on three composite samples representing different wastes and ore. The results indicated in the main that acid and metal concentrations leached from most waste rock will decline over time.

The waste rock characterisation and geochemical testing has classified the waste as non-hazardous inert and less than 0.1% sulphide content (non-acid forming). The recommendation from the assessment is to design the waste dumps to shed any rainfall, via cross-grades on benches, to perimeter drains to minimise the residence time of the water contact with the waste rock. Ore materials and tailings have a much higher contaminant loading than the waste material and therefore it is recommended that suitable lining and protection measures are applied to ROM platforms, ore stockpiles and tailings storage facilities.

5.4.2.2 Oak Tree Habitat

No threatened flora species have been found by either government mapping or field surveys within the Project area to limit the pit design. The predominant vegetation type within the project disturbance area is holm oak trees (*Quercus rotundifolia*) with underlying pastures or grassland for farming livestock. These are formed on the gentle slope areas whilst on the steeper rocky slopes the vegetation more scrubland. Figure 5-12 shows the scrubland on the steeper slopes in the foreground with the oak trees and grassland on the lower gentler slopes. There are also some areas that have been cleared of trees for cropping farmland (Figure 5-13).

The holm oak trees have been classified as Habitats of Community Interest (HIC) and the regional government (Junta de Andalucia) require the clearing of the oak trees to be minimised. This has not impacted the pit design but has resulted in the footprint of the WRFs to be minimised and located in areas of low-density oak trees.

For personal use only

Figure 5-12: Photograph of Project Area Landscape and Vegetation

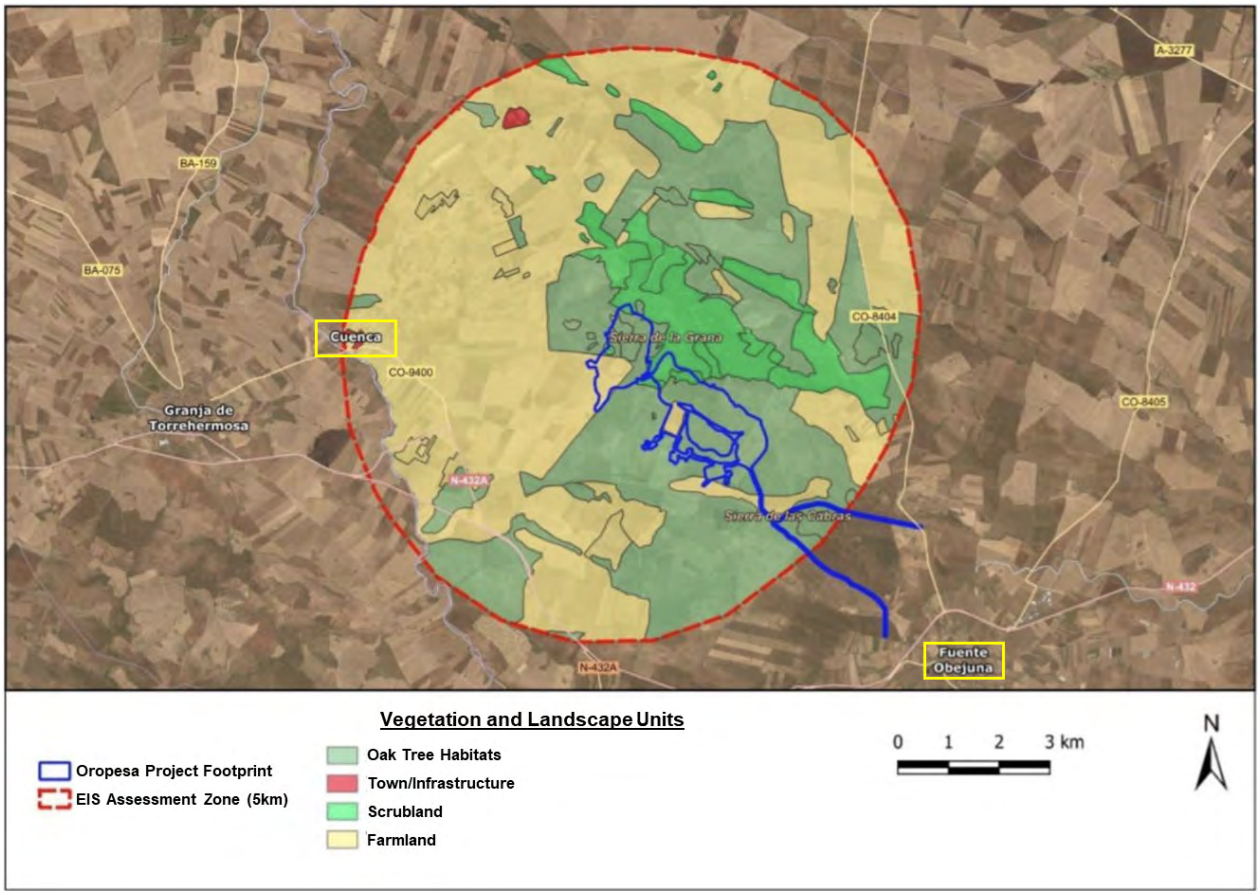

Figure 5-13: Vegetation, Landscape Units and Nearby Towns

5.4.2.3 Noise, Dust, Vibration and Visual Amenity

The nearest built-up population centres are the towns of Cuenca and Fuente Obejuna (Figure 5-13), both are located more than 4 km from the project's operational areas, where the largest amount of noise, dust and vibration emissions are expected to be generated. The towns are considered to be at a sufficient distance to prevent them from being directly affected by these emissions. Other nearby sensitive receptors will be farmhouses and associated agricultural workplaces as well as hiking/cycling trails, local and regional roads and livestock routes, most of which will be acquired before construction and mining activities commence. Assessments of all sensitive receptors have determined that the emissions will be mostly contained to the operational areas and impacts outside of the project area will be of a low nature.

To limit noise impacts at night, mining operations will be limited to the hours of 6am to 10pm.

The visual amenity of the project (open cut pit, WRF and infrastructure) has also been assessed to be of a low impact for the nearby towns, but a moderate impact for other sensitive receptors. The WRFs will be progressively rehabilitated where possible during the mining operations and at the end of the mine life the entire site will be rehabilitated to minimise any legacy visual amenity impacts.

5.4.2.4 Hydrology

The Oropesa Project is located at the upper reaches of two major river basins, the Guadiato and Guadiana Rivers, and will directly impact two smaller stream catchment areas that feed into these basins as shown in Figure 5-14. The streams in these catchment areas are ephemeral and only contain water after recent rain events. A water management system has been designed to divert clean water run-off around the disturbance areas back into these streams. Surface water that has come in contact with the disturbance areas will be contained for use in the process plant or dust suppression.

For personal use only

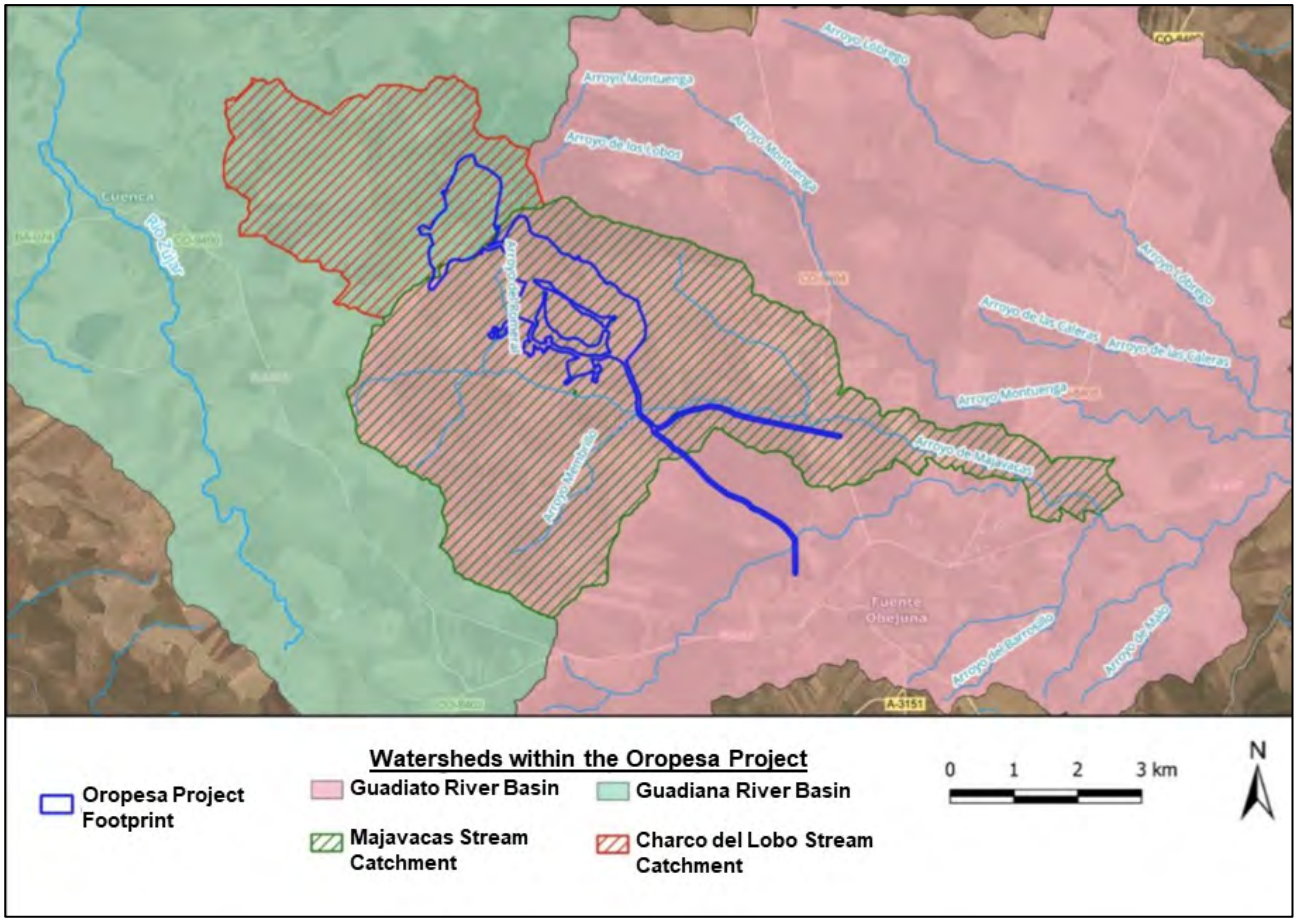

Figure 5-14: River Basins and Stream Catchments

5.4.2.5 Final Landform and Restoration Plan

Both national and regional legislation, require a Restoration Plan of the impacted surfaces to be submitted as part of the mining and environmental approval process.

The restoration actions planned by Elementos, within the framework of the legislation, pursue the achievement of the following priority objectives:

- Minimize the environmental impact of infrastructure associated with the mining project,
- Recover the ecological value of the affected areas, as well as their integration with the surrounding landscape,
- Diversify the final uses for which restored land will be used, generating local and economic development once mining activity ceases, and
- Ensure long-term safety and stability conditions in the remaining structures and surfaces, so that they do not pose a danger to people or the environment.

The mine design and layout has been guided by these objectives and direct communication with the Administration responsible for its approval.

5.4.3 Infrastructure

There are three key pieces of infrastructure that influenced the mine design:

- Tailings Dam,
- Process Plant, and
- Gas Pipeline.

For personal use only

The initial project scope had planned to locate the tailings storage facility (TSF) on the eastern side of the project area in the Guadiato River basin, after negotiations with the regional government, Elementos agreed to locate the TSF on the western side within the Guadiana River basin. It was also requested that as much waste as possible be used to buttress the downstream section of the tailings dam wall. This caused a large quantity of waste needing to be hauled out of the pit to the west, which resulted in the master ramp being designed to exit the pit to the west (Figure 5-11).

The process plant has been located on the relatively flat area that has been previously cleared of oak trees for cropping. This also influenced the location of the master ramp design to exit the pit to the west.

A major regional high pressure gas pipeline runs along the southern part of the project area which required an exclusion zone for the WRFs to be built on and to minimise the crossing of the pipeline by heavy mining equipment (Figure 5-11).

Other infrastructure that will be constructed on site to support the project are:

- Site access road,
- Ancillary buildings, offices and facilities,
- On-site water management,
- Electrical supply and connection to the regional power grid, and
- Communications.

5.5 Mine Design

5.5.1 Detailed Pit Design

The detailed pit design was generated using the $30k pit shell as a guide. The pit design includes the practical geometry required in a mine, including pit access and haulage ramps to all pit benches, pit slope designs and benching configurations. The major design parameters used are described in Table 5-6 and Table 5-7.

Table 5-6: Pit Wall Design Parameters

Zone	Lithology	Face Angle (º)	Bench Height (m)	Berm Width (m)
20m Below Topography	All Lithologies	45º	20	10
Meteoric Alteration at Depth (~20m to 100m)	Sandstone/Greywackes	59º	20	8
	Conglomerate, Quartzite and Slate	66º	20	8
No Alteration or Weathering (>100m)	All Lithologies	73º	20	8

For personal use only

Table 5-7: Haul Road Design Parameters

Road Type	Minimum Width (m)	Maximum Grade (%)
Dual Lane	30m	10%
Single Lane (Bottom Benches)	15m	12%

The dimensions of the final pit design extents are 1,600m long (north-west to south-east) and 570m at its widest point (south-west to north-east) with a maximum depth of approximately 240m. Figure 5-15 and Figure 5-16 presents plan and isometric views of the ultimate pit design.

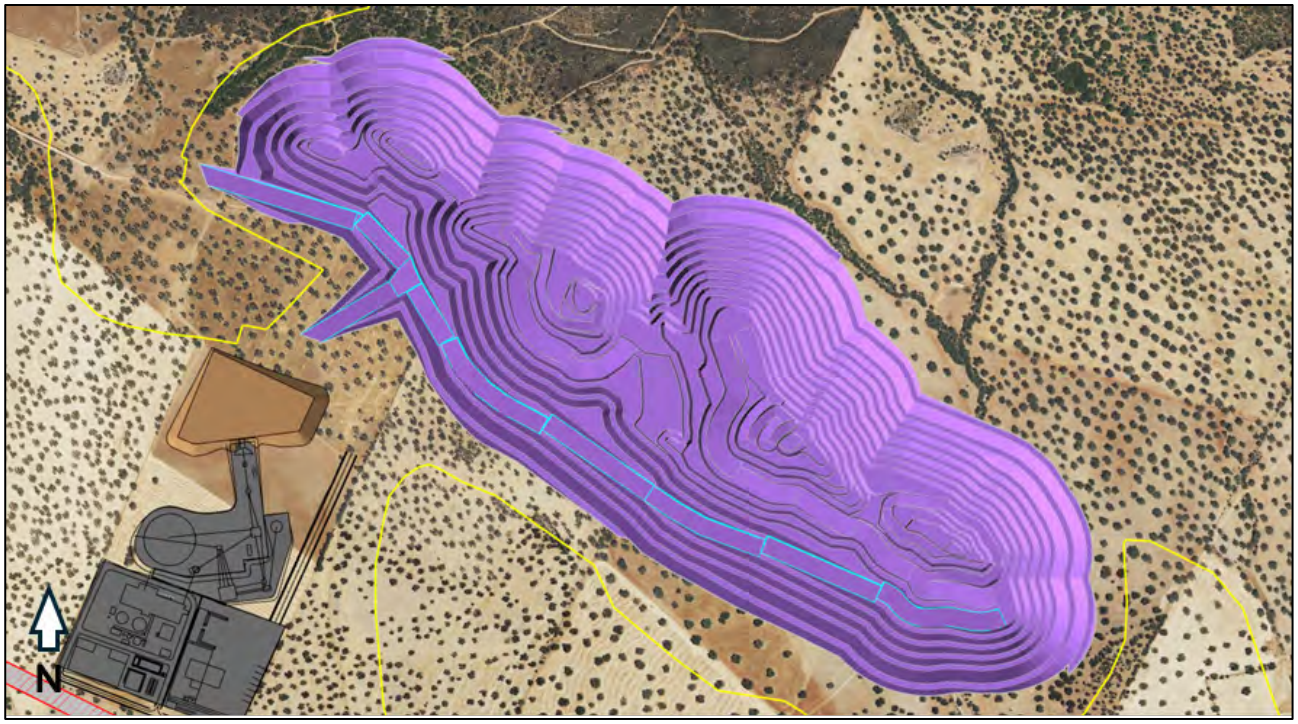

Figure 5-15: Plan View of the Ultimate Pit Design

For personal use only

For personal use only

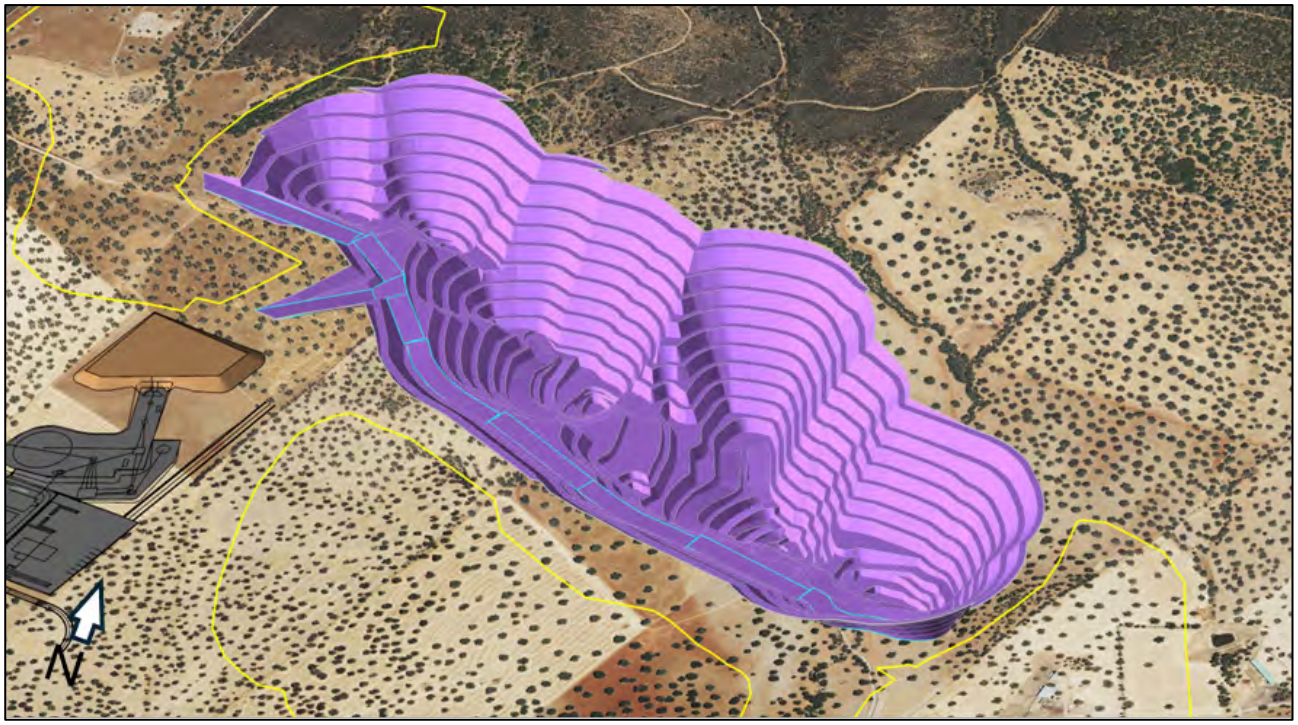

Figure 5-16: Isometric View of the Ultimate Pit Design

5.5.2 Stage Designs

The stage designs applied the same design parameters with haulage ramps designed into the advancing stage wall to both connect with the master ramp for in-pit dumping (IPD) and also continuing up to topography to allow the upper waste to access the out-of-pit WRFs (OPD). Figure 5-17 to Figure 5-28 present the stage plans in isometric view looking from the west.

Figure 5-17: Stage 1

Figure 5-18: Stage 2

Figure 5-19: Stage 3

For personal use only

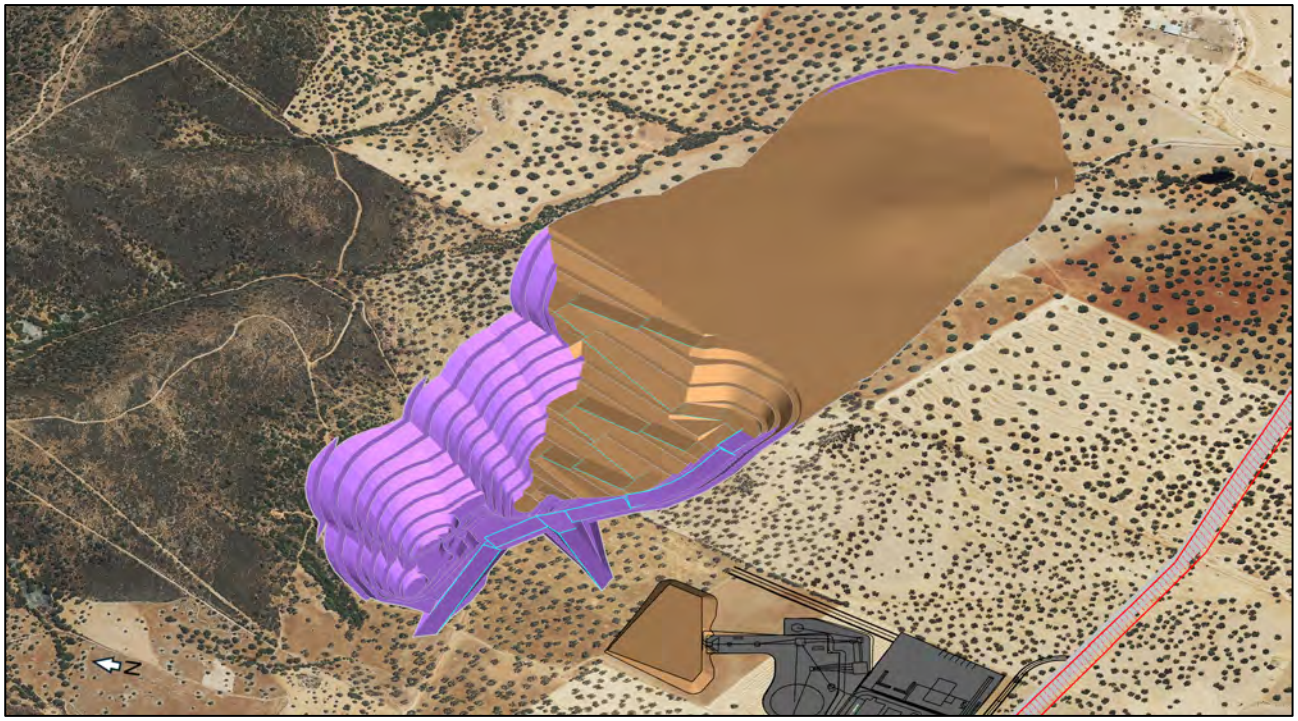

Figure 5-20: Stage 4

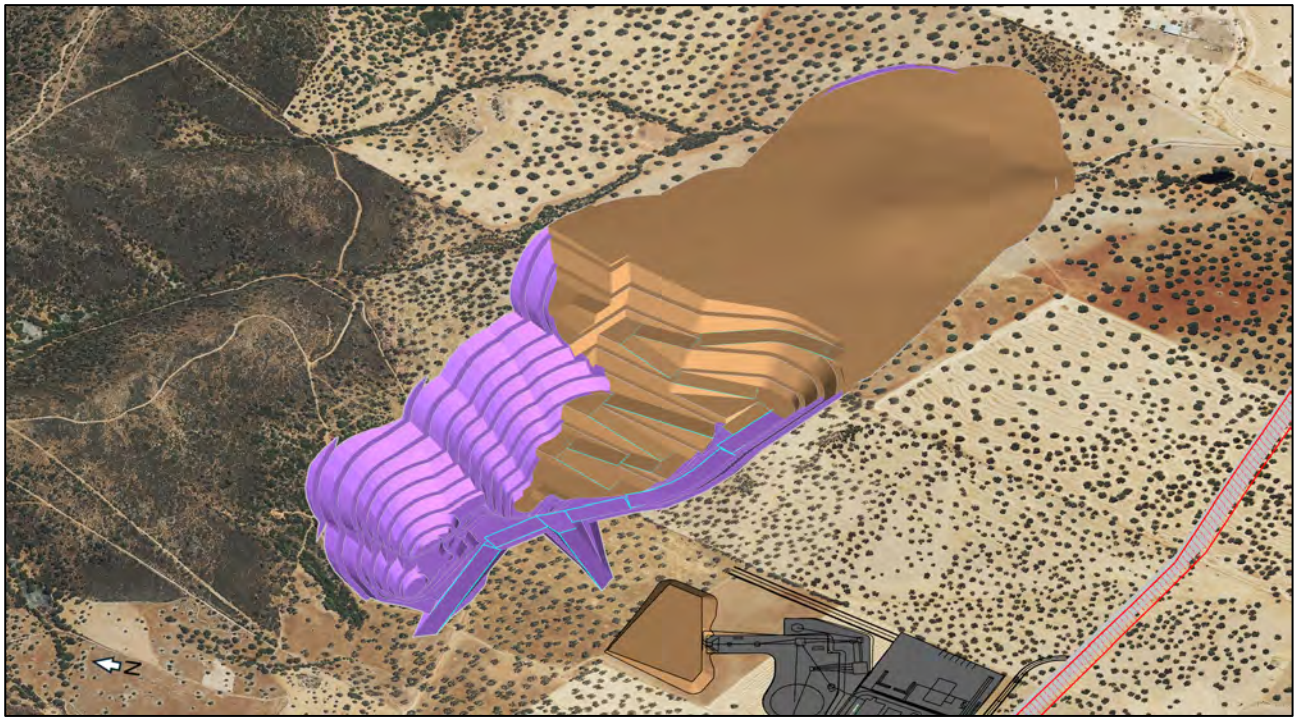

Figure 5-21: Stage 5

For personal use only

Figure 5-22: Stage 6

Figure 5-23: Stage 7

For personal use only

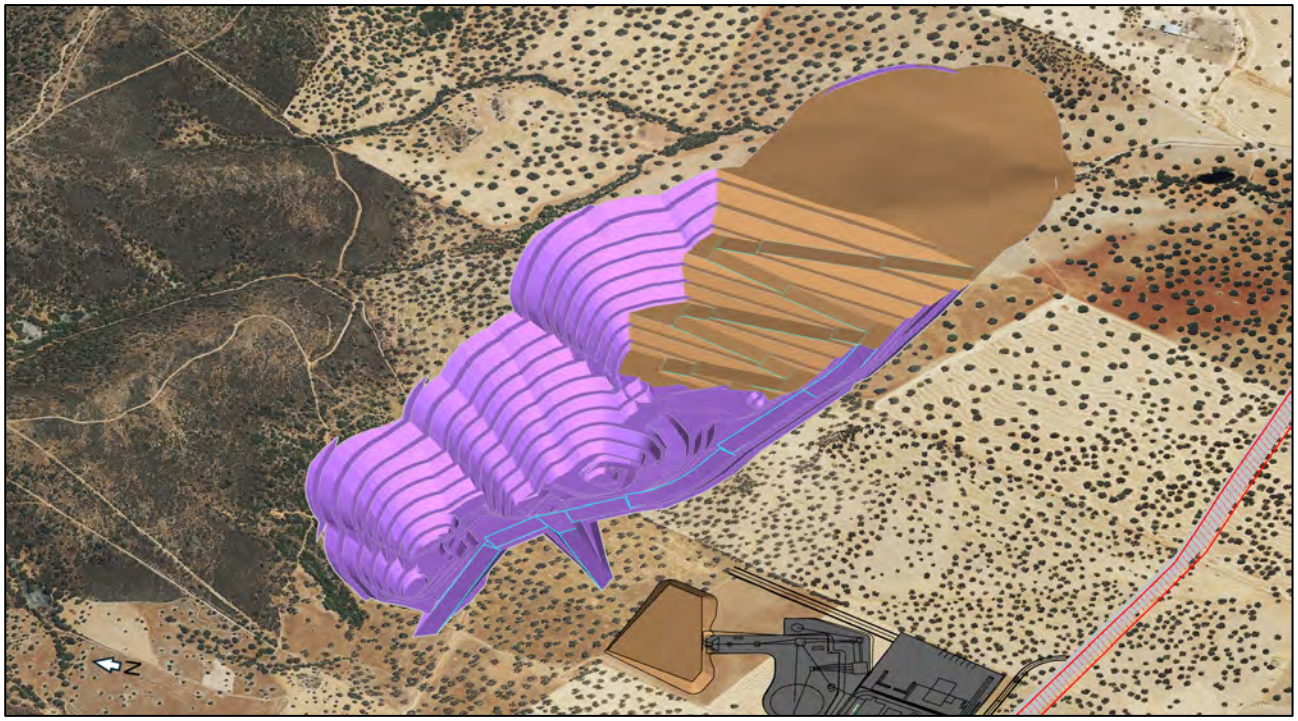

Figure 5-24: Stage 8

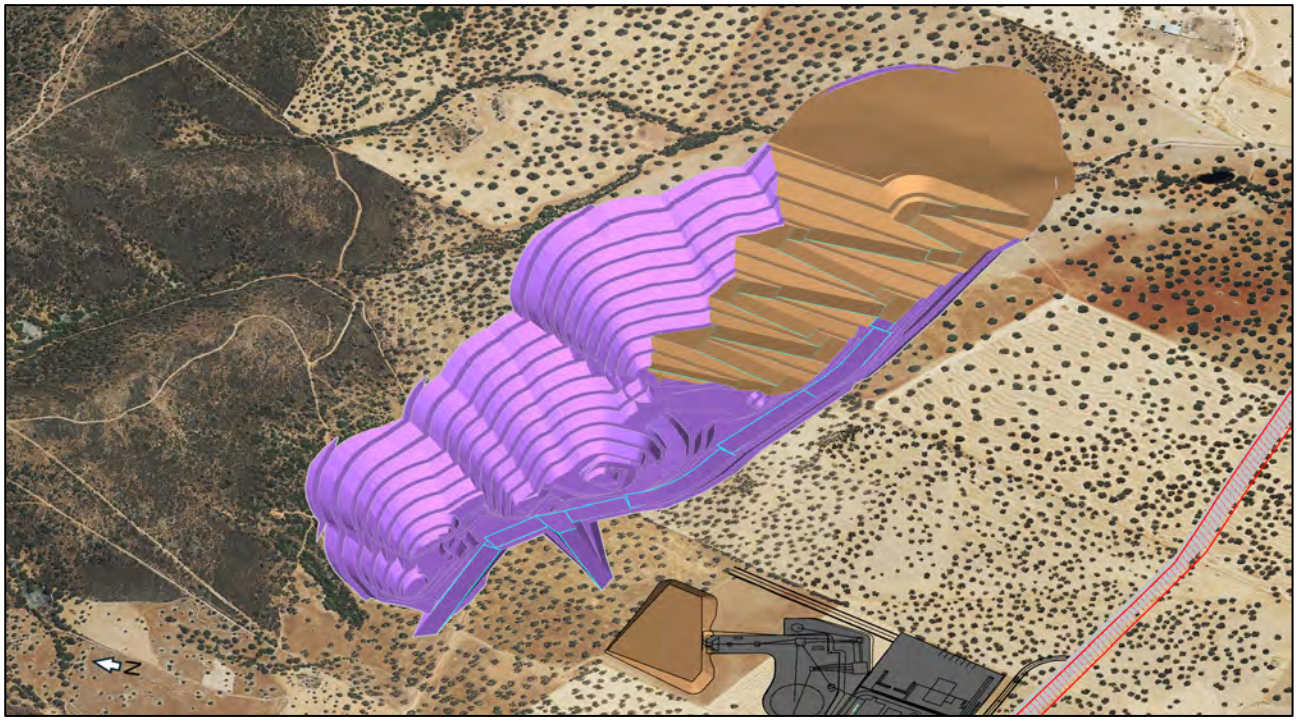

Figure 5-25: Stage 9

For personal use only

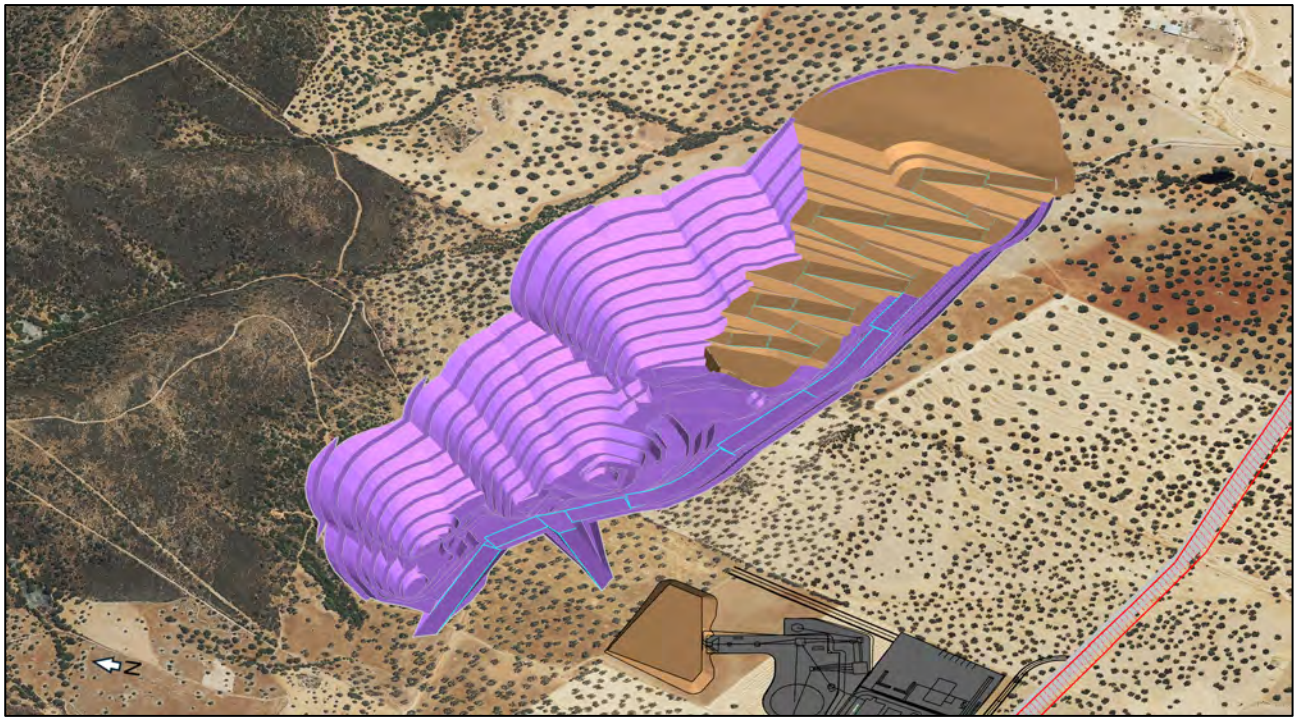

Figure 5-26: Stage 10

Figure 5-27: Stage 11

For personal use only

For personal use only

Figure 5-28: Stage 12 – Ultimate Pit

5.5.3 Waste Rock Facility Designs

The WRFs have been designed to allow for efficient reshaping by dozers for progressive rehabilitation during the mining operations as well as post-mining. The Restoration Plan submitted to the government designated that the overall maximum final rehabilitation slope angle to ensure a safe and stable final landform was 20°. The WRFs were conservatively designed for a final reshaped sloped of 19°. Table 5-8 provides the design parameters used for the WRFs and Figure 5-29 gives a cross-sectional example of the as built WRF design and the final rehabilitation slope.

As per the waste geochemical assessment recommendations, the waste dump benches are to have up to 0.5% cross-grades to direct run-off water to the perimeter drains. The final rehabilitation surfaces also have no flat surfaces on top after reshaping to ensure no pooling of rainfall.

Haul roads designed in the WRFs follow the same pit road design parameters shown in Table 5-7.

Table 5-8: WRF Design Parameters

Item	Units	Value
Overall Rehabilitation Slope	degrees	19°
As-built Bench Lift	m	10
As-built Angle of Repose	degrees	35 ^{o}
As-built Berm Width	m	15

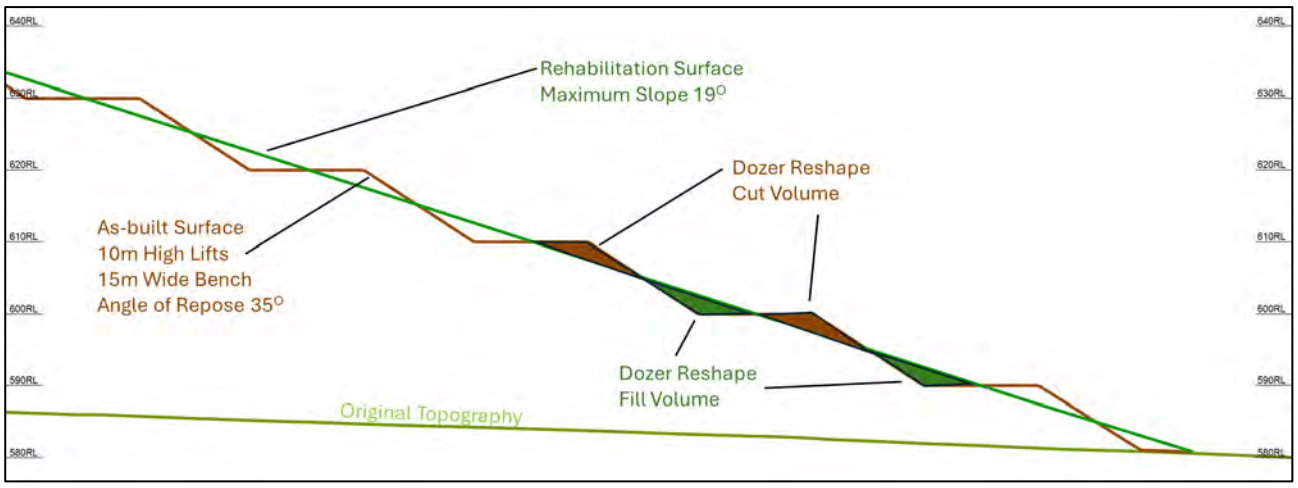

Figure 5-29: Cross Section of the As-built WRF and Rehabilitation Surface

Four OPD areas were identified that minimised the number of oak trees that would be disturbed. In-pit dumping is to be prioritised in the schedule to minimise the amount of waste to be stored in the OPD. Pre-stripping waste will also be used for the construction of the tailings dam wall, ROM stockpile pad and surface haul roads. Sampling of the waste has indicated that the upper oxidised material will be suitable for these construction purposes. Figure 5-30 shows the location and as-built design of the WRF. Figure 5-31 shows the final rehabilitation landform of all the WRFs and TSF.

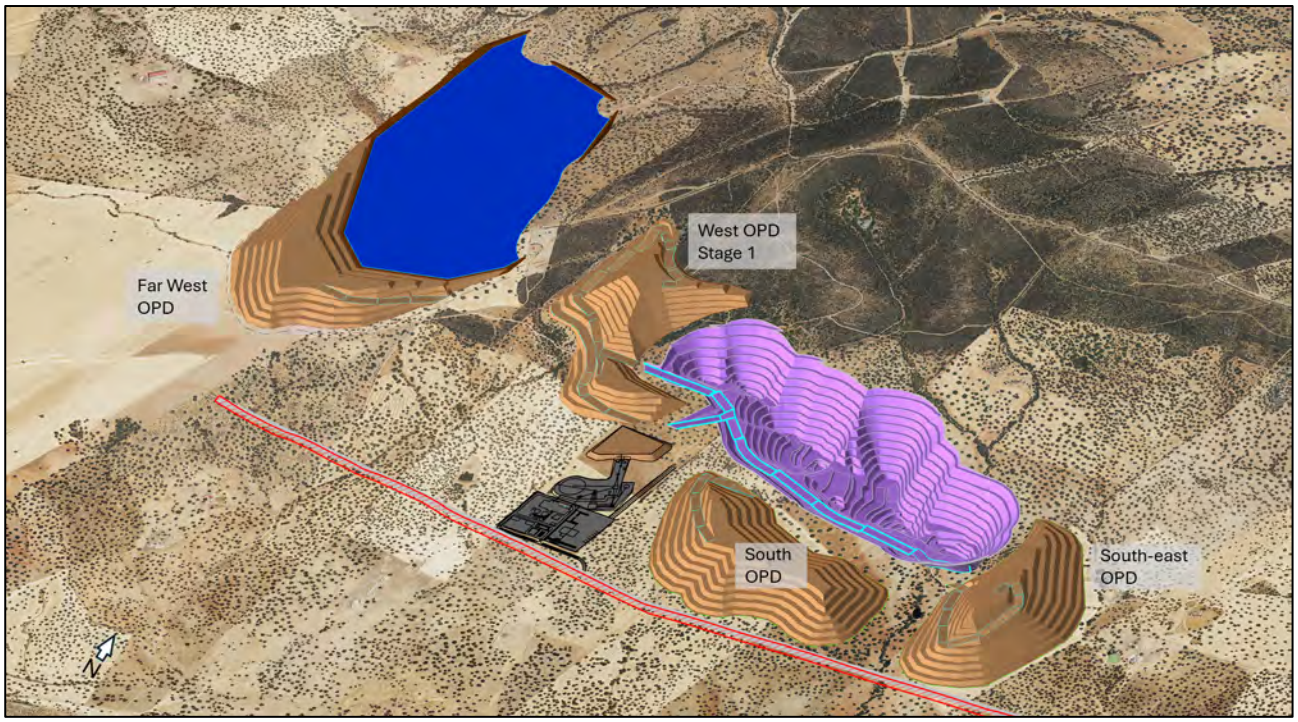

Figure 5-30: Location of the Four OPDs

For personal use only

Figure 5-31: Final Landform of Rehabilitated WRF and TSF

The Far West WRF was requested by the regional government to form an integrated waste facility and form a buttress to the tailings dam wall. Only oxidised inert waste can be deposited in this dump, with the top three benches to be rehandled at the end of mine life to cap the tailings dam.

The South and South-east WRF provides shorter hauls for the upper waste from the later mining stages but are also required when there is no dumping room available in the West or IPD WRF.

The combined West and In-Pit WRF is the largest of the WRF. The West dump progresses over the top of the IPD in four stages. All waste types can be deposited in this facility and this combined dump is the priority WRF as it minimises the disturbance of the oak tree habitats. The top four benches are rehandled into the pit void at the end of mine life to reduce the height of the final landform. The as-built stages of the combined WRF are shown in the following figures.

For personal use only

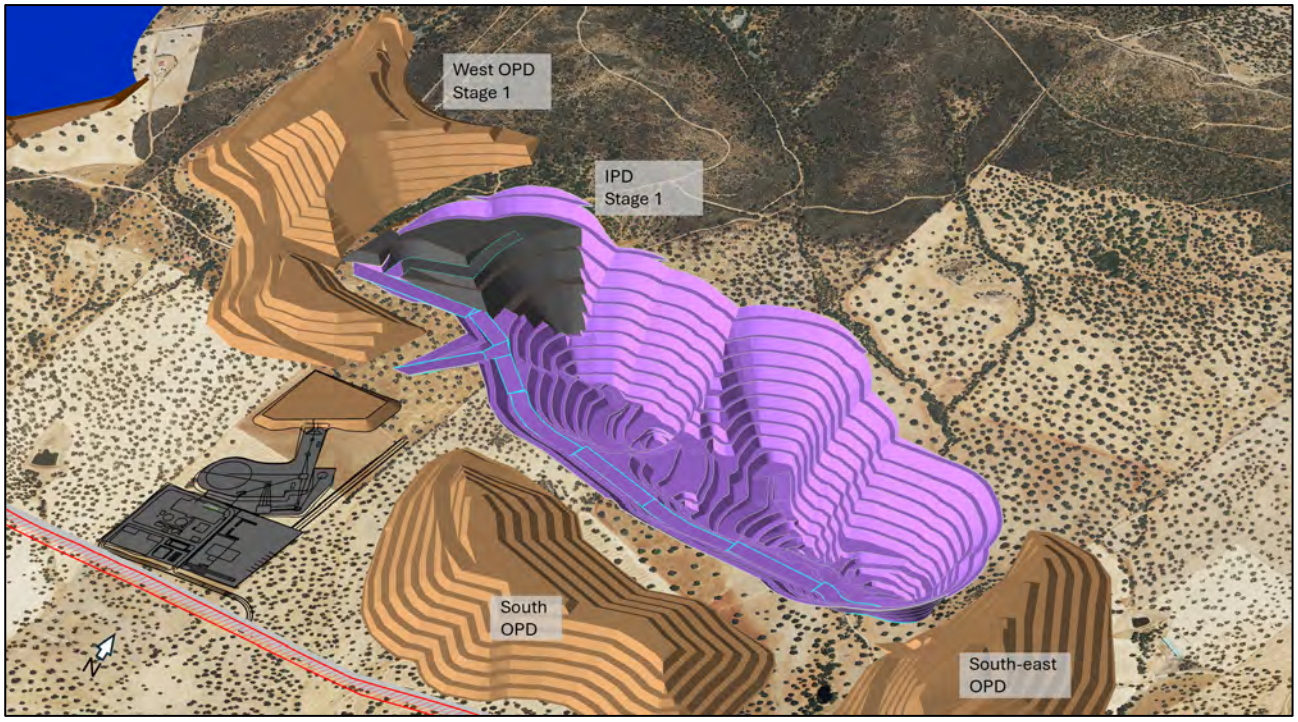

Figure 5-32: IPD Stage 1

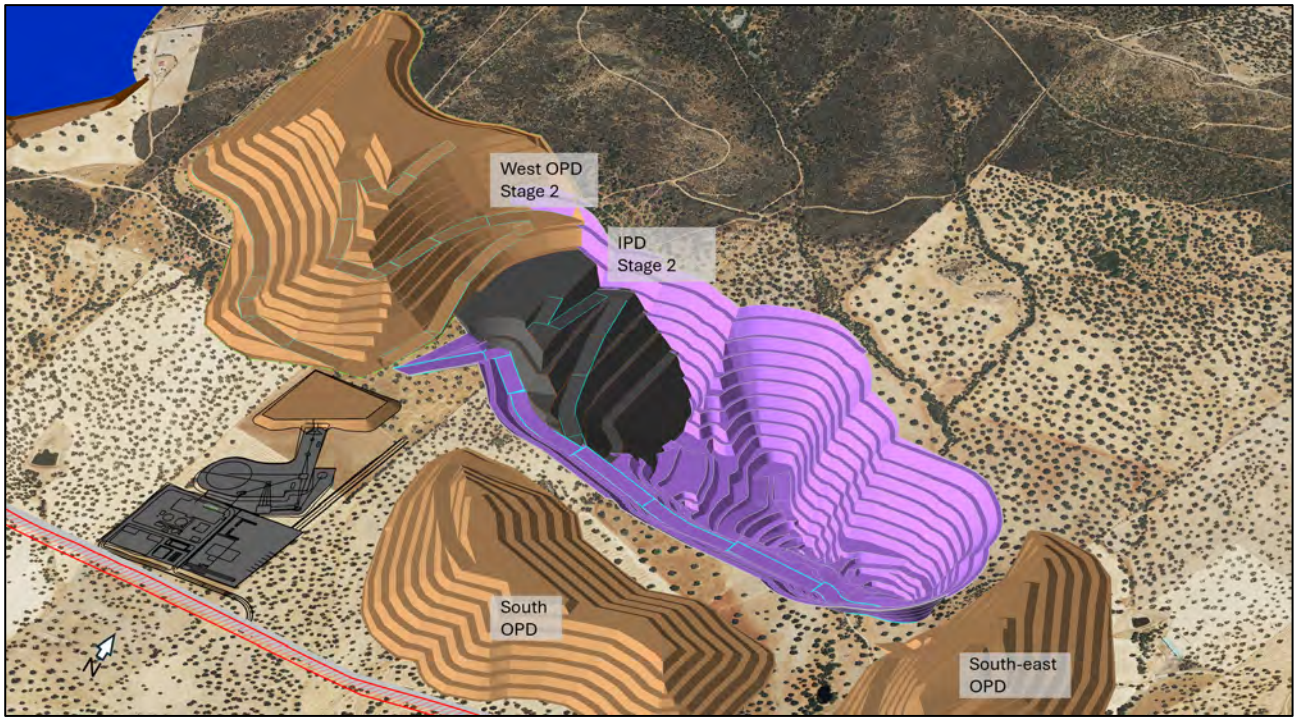

Figure 5-33: IPD Stage 2 with West OPD Stage 2

For personal use only

For personal use only

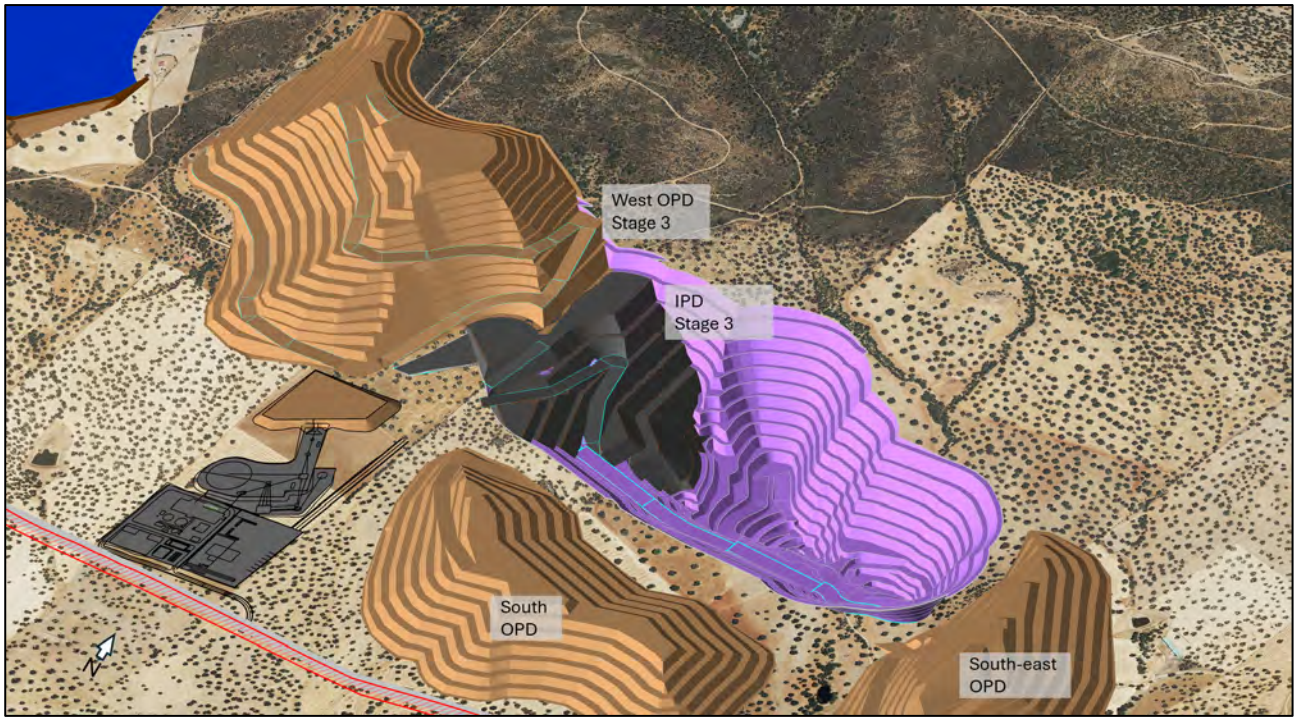

Figure 5-34: IPD Stage 3 with West IPD Stage 3

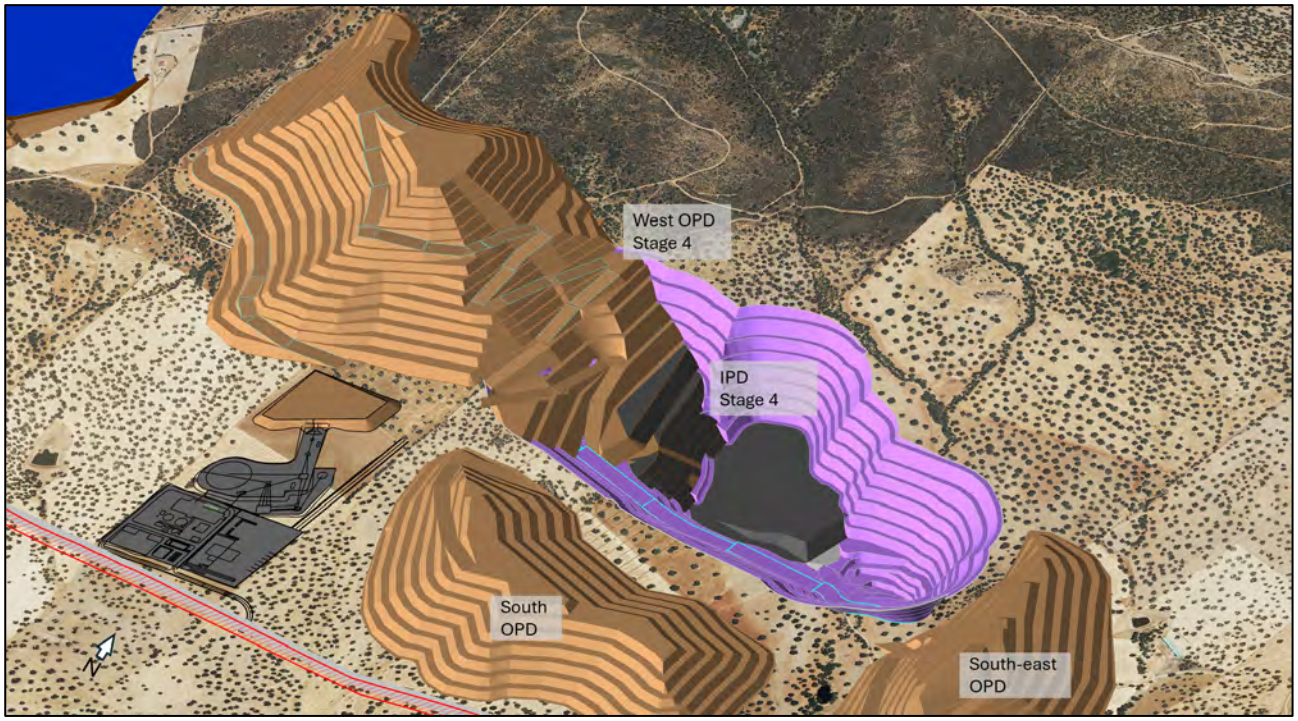

Figure 5-35: IPD Stage 4 with West OPD Stage 4

5.6 Modifying Factors

Modifying factors were applied to the insitu quantities and qualities to convert from an in-situ basis to a ROM basis. Metallurgical modifying factors were then applied to calculate product information.

For personal use only

5.6.1 Loss and Dilution

As stated in Section 5.1.1, the resource model was re-blocked to 5m (length) x 5m (width) x 5m (depth) based on the DFS equipment sizing. The re-blocking accounts for the loss and dilution and when compared to the original 2m x 2m x 2m resource block model, the calculated mining recovery is 92% and mining dilution is 4%.

5.6.2 Metallurgical Factors

Tin mineralisation in the form of cassiterite (SnO_2) is traditionally extracted by gravity separation due to its high specific gravity. The Oropesa flowsheet and process design recovers an economically viable product through a pre-concentrator ore sorter followed by a conventional sulphide flotation, gravimetric concentration, tin flotation, and magnetic separation.

Technical risks have been reduced in the design by using proven technologies as the fundamental components of the process flowsheets.

5.6.2.1 Investigations and Test Work

The Oropesa Project has been subject to several metallurgical test work and design programmes. The design development and test work programme undertaken to support the DFS has built on previous investigations and studies up to 2018.

The aim of the metallurgical test work completed on the Oropesa Project was to develop the process flowsheet to produce a saleable cassiterite concentrate.

The historical programmes prior to 2018 were:

- Gravity And Flotation Testwork (2009 - 2013) by SGS Mineral Services UK Ltd,
- Pilot Plant Testing Programme (2017, 2018) by Wardell Armstrong International Ltd, Truro, United Kingdom.

Specific test work programmes have been undertaken since 2018 to support the development of the flowsheet and process design criteria adopted for the DFS. These programmes were:

- A first inspection testwork program was caried out by TOMRA Sorting Solutions (Hamburg, Germany) in 2018 to determine the level of investigation required for the orebody,
- Ore pre-concentration test work carried out by TOMRA Sorting Solutions in 2019.
- Physical properties and crushing index test work by University of Oviedo in 2022.
- Cascade sorting test work carried out by TOMRA Sorting Solutions in 2022.
- Pilot testing by Wardell Armstrong International in 2021 and 2022.
- Variability testing by Wardell Armstrong International in 2022.

The most recent pilot plant test programme targeted maximising the amount of tin that can be recovered from an ore sample that is more representative of the ore that is located throughout the proposed open pit operation at Oropesa. For the programme, approximately 2.8 tonnes of drill core from 147 drill holes across the resource was selected for processing. The bulk sample tin head grade was 0.46% Sn, with 5.02% S and 12.85% Fe.

A full metallurgical balance was generated using the mass pulls and recoveries from the pilot plant work, and the ancillary test work. From this a tin recovery of 74.1% at a combined concentrate of 61.4% Sn was achieved. 60.5% of the recovered tin came

from gravity concentration at a grade of 58-64% Sn, and the remaining 39.5% came from tin flotation at a grade of 58% Sn. The tin flotation concentrates contained 5.8% Fe and 3.5% S, with the gravity concentrate containing 3.5% Fe and 2.9% S which met specification limits.

5.6.2.2 Process Design

The process flowsheet was developed in conjunction with the DFS test work program which ultimately provided the criteria for equipment selection and design. Investigations into gravity characterisation, sulphide and tin flotation, ore sorting, pilot plant development, and plant variability provided information around the ore's response to processing techniques, which in turn informed decisions relating to overall plant design. Figure 5-36 displays the summarised Block Flow Diagram of the Oropesa flowsheet, developed from the metallurgical test work.

The process can be divided into seven key unit operations:

- Crushing – Run of Mine (ROM) ore is screened at 160mm with the oversize material crushed. The two streams are then recombined and screened a second time, where ore reporting to the plus 25mm fraction is crushed again, then recycled. The undersize material progresses through to the next stage.
- Ore Sorting – Initial screening at 10mm feeds the coarse material to the ore sorters — whose product is recombined with the fines and screened again at 7mm. Coarse material is crushed and returned to the screen while fines are fed to the grinding area.
- Grinding – A ball mill reduces particle size from a D100 of 7mm to a D80 of 125µm in a closed circuit, with a battery of hydrocyclones.
- Sulphide Flotation – The ore is passed through a rougher and two cleaner stages with an integrated regrind circuit on the rougher concentrate. Rougher concentrate is passed through a cyclone stage cutting at a D80 of 53µm; underflow is sent to a vertimill while overflow is fed to the first cleaner. Concentrate from the first cleaner is fed to the second whose tailings return to the first and subsequently return to the rougher.
- Gravimetric Concentration – The feed to this section is passed through a cyclone stage cutting at a D80 of 53µm with coarse and fine particles subjected to separate gravity separation circuits. Both circuits use a rougher and cleaner/scavenger spiral in conjunction with a cleaning shaking table battery. The coarse circuit also includes a regrinding circuit (vertimill and cyclone cluster), and the fines circuit includes a magnetic separation unit that is fed by the tailings of the scavenger spiral. Reground concentrates will feed a final sulphide flotation stage. Concentrate will be recirculated to the bulk sulphide flotation circuit while tailings will be sent to concentrate dewatering.
- Tin Flotation – Conditioned non-magnetics from gravimetric concentration are fed to a bank of rougher and subsequently cleaner cells where tin is floated off from remaining gangue. Two rougher cells and three cleaner cells operate with recirculating loads to provide a tin concentrate that is then fed to concentrate dewatering.
- Concentrate Dewatering – Concentrate streams from gravimetric concentration and tin flotation are separately fed to one magnetic separator. Tin flotation product non-magnetics will be delivered to an additional gravity stage in a multi-gravity separator before being subjected to pressure filtration. Gravity product non-magnetics will directly feed the pressure filtration stage. The filter cake is then dried to obtain the final product.

For personal use only

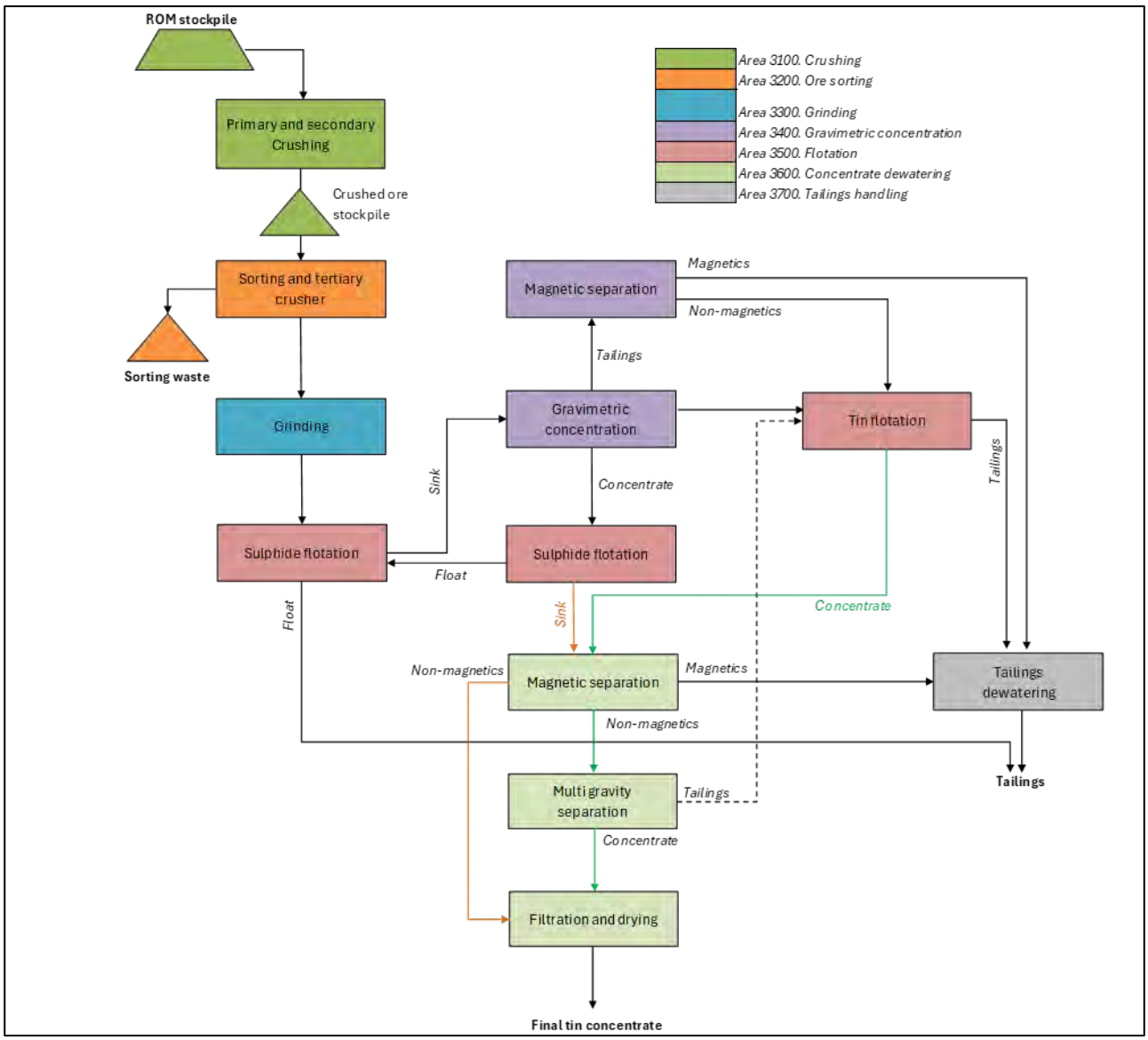

Figure 5-36: Oropesa Block Flow Diagram

5.6.2.3 Factors Applied

Table 5-9 provides the metallurgical factors used to calculate the concentrate output tonnes and grade from the ROM ore tonnes and grade mined. The factors are also used to calculate the tonnes of ore sorter rejects and tailings generated.

For personal use only

Table 5-9: Metallurgical Factors to Calculate Product Quantities and Qualities

Input	Value
Crusher Split <10mm Mass Yield (Bypass TOMRA – Direct Concentrator Feed)	0.03 x ROM Sn Grade + 0.1822
TOMRA Mass Recovery	0.934 x ln(Sn Feed Grade) + 0.7623
TOMRA Tin Recovery	0.1039 x ln(Sn Feed Grade) + 0.9664 (maximum limit 98%)
Concentrator Metal Recovery	0.16209 x ln(Sn Feed Grade) + 0.8686 (maximum limit 96.6%)
Concentrate Tin Grade	0.11864 x ln(Sn Feed Grade) + 0.7037

5.7 Mine Schedule

A detailed schedule has been developed in Micromine's Spry mine scheduling software based off the DFS pit shell as described in Section 5.5.

The mine schedule comprises of nine main processes:

- Topsoil removal and stockpiling,
- Drilling waste and ore,
- Blasting waste and ore,
- Waste loading and haulage to WRF,
- Ore loading and haulage to the ROM stockpile or direct crusher feed,
- Ore sorter rejects loading and haulage to WRF,
- Post-mining rehandle of WRF to partially fill mining void or cap tailings dam,
- Dozer reshaping of WRF slopes for rehabilitation, and
- Topsoil coverage of rehabilitation areas.

Up to three mining fleets were scheduled, using a combination of 190t and 120t excavators. All waste and ore are assumed to require drilling and blasting. A front-end loader was scheduled to maintain crusher feed from the ROM stockpile as well as load ore sorter rejects.

Drilling and load and haul operations have been limited to 16 hours a day (6am to 10pm) and clearing, topsoil and blasting operations have been limited to 12 hours a day (6am to 6pm).

The production rates for the mining equipment are summarised in Table 5-10.

Table 5-10 – Average Equipment Productivities

Equipment	Process	Rate
Drill	Drilling	40m/hr
120t Excavator	Ore & Waste Mining	800t/hr
190t Excavator	Ore & Waste Mining	1,580t/hr
Dozer	Rehabilitation	200bcm/hr

Practical dependencies and constraints were applied to ensure the correct progression of the equipment and the optimal development of the mine.

For personal use only

The strategy of the schedule was to develop the open pit in a logical manner to ensure continuity or ore feed to the concentrator. A maximum concentrator feed rate of 1Mtpa was targeted. Based on the ROM ore feed grade and the ore sorter yield equations this resulted in a crusher feed of approximately 1.4Mtpa with the ROM stockpile used to manage surplus or deficits.

Destination scheduling and haulage was completed as part of the detailed schedule, with a swell factor of 25% applied to all prime material to ensure there is adequate dump room for all material mined.

5.7.1 Schedule Output Physicals

A summary of the major physicals and qualities from the mine schedule results is provided in Table 5-11 along with summary charts in Figure 5-37 to Figure 5-44.

For personal use only

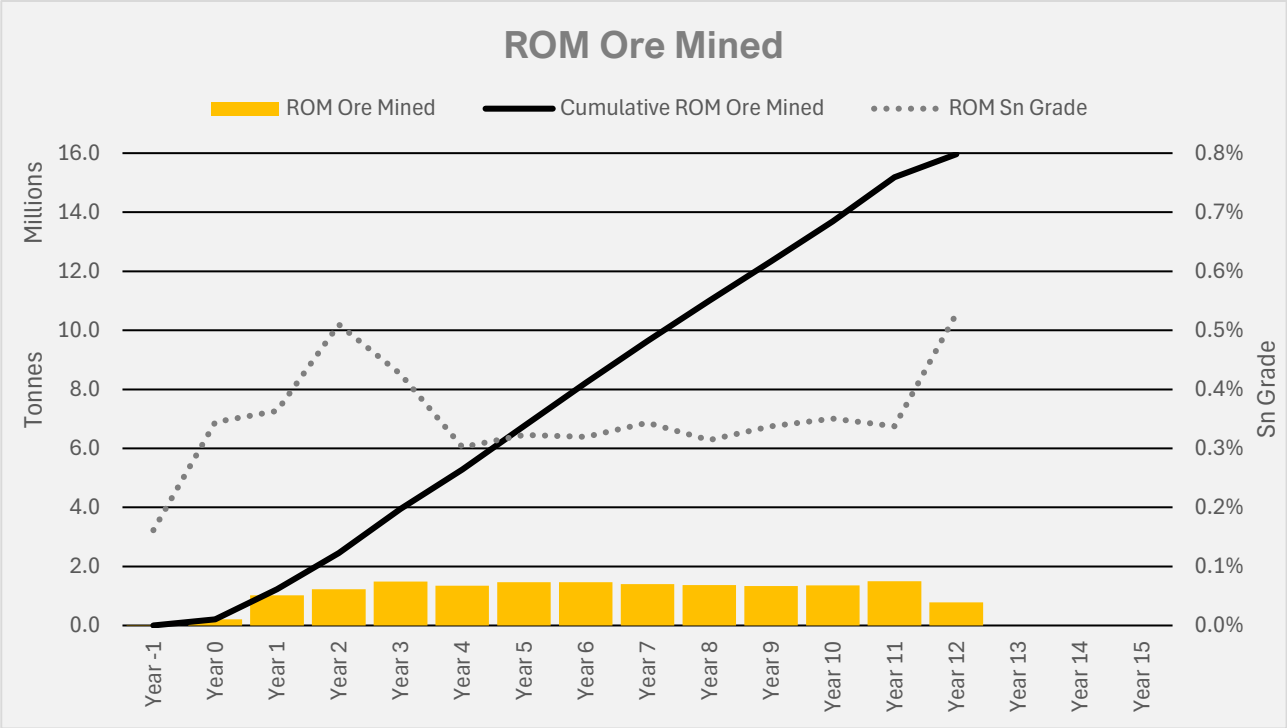

Figure 5-37: ROM Ore Mining Quantities and Grade

Figure 5-37 shows in Year 0 approximately 200,000t of ore is mined and stockpiled as part of the pre-operations waste mining for the infrastructure construction. This ore will also be used for the commissioning of the process plant. Year 1 the process plant is operating at 50% capacity for the first six months then 100% for the next six months resulting in only 1Mt of ore only needing to be mined. From Years 2-11, ore mining ranges between 1.3 and 1.4Mtpa.

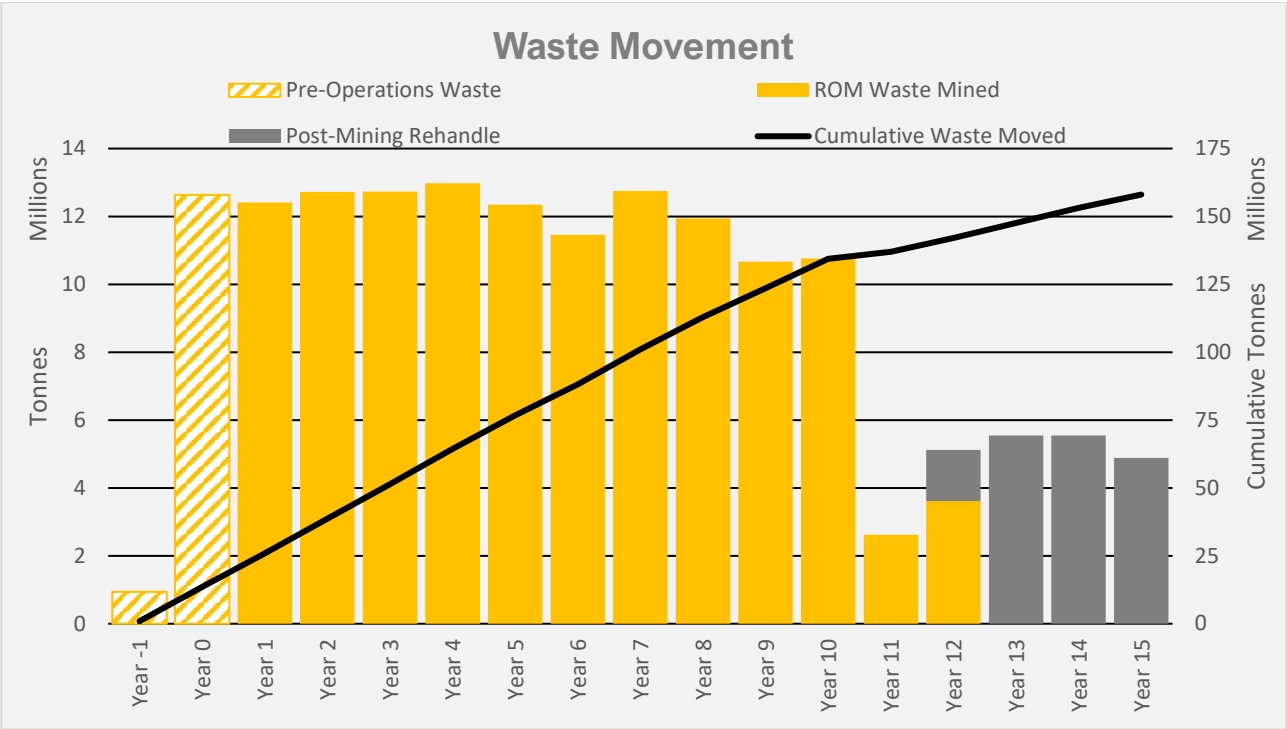

Figure 5-38: Waste Movements

Figure 5-38 shows pre-operations waste movements occur in Years -1 and 0 and post-mining waste rehandle for rehabilitation occurs between Years 12 and 15.

From Years 0 to 10, three excavators are employed with the combined fleet targeting a total ore and waste movement of approximately 14Mtpa.

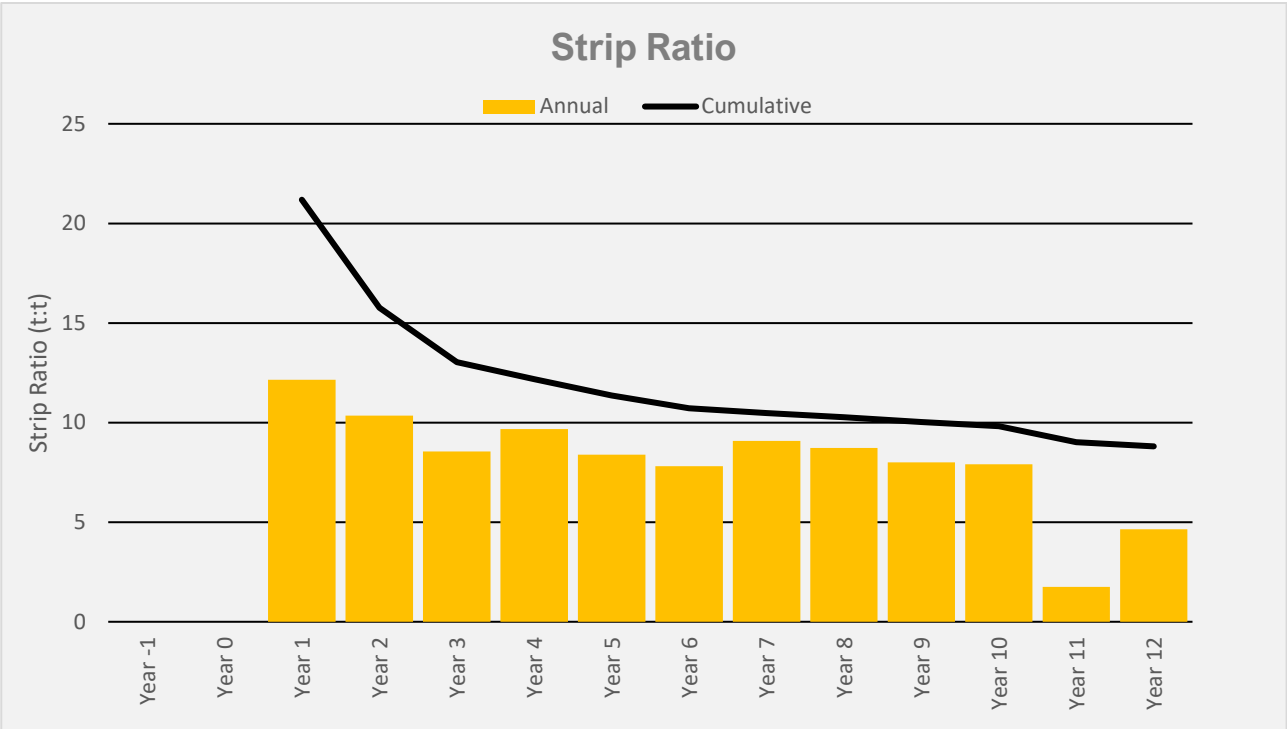

Figure 5-39: Strip Ratio

For personal use only

Figure 5-39 shows the annual strip ratios with the average strip ratio over the life of the mining (excluding the post-mining rehandle) is 8.8 tonnes of waste per tonne of ore.

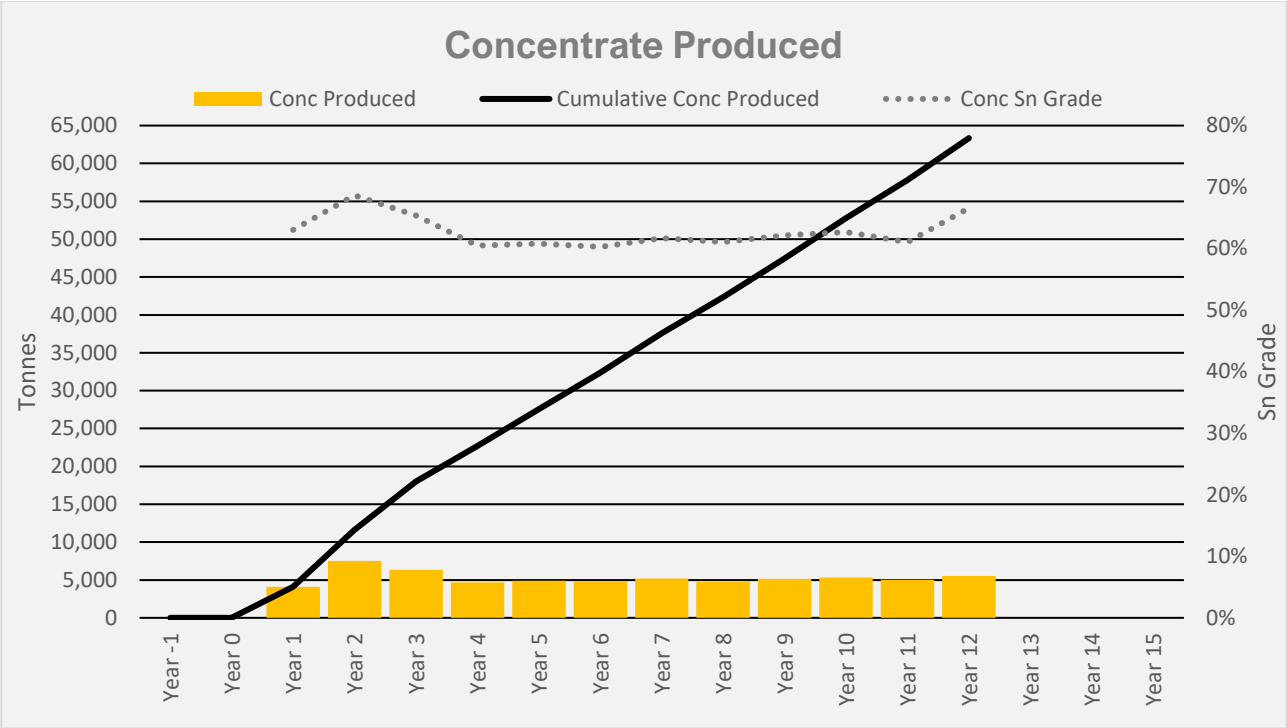

Figure 5-40: Concentrate Production

Figure 5-40 shows Year 1's concentrate tonnes are lower, this is due to the first six months of the process plant operating at 50% capacity. Year 2 and 3's concentrate tonnes are slightly higher than average due to increased head grade from the mine.

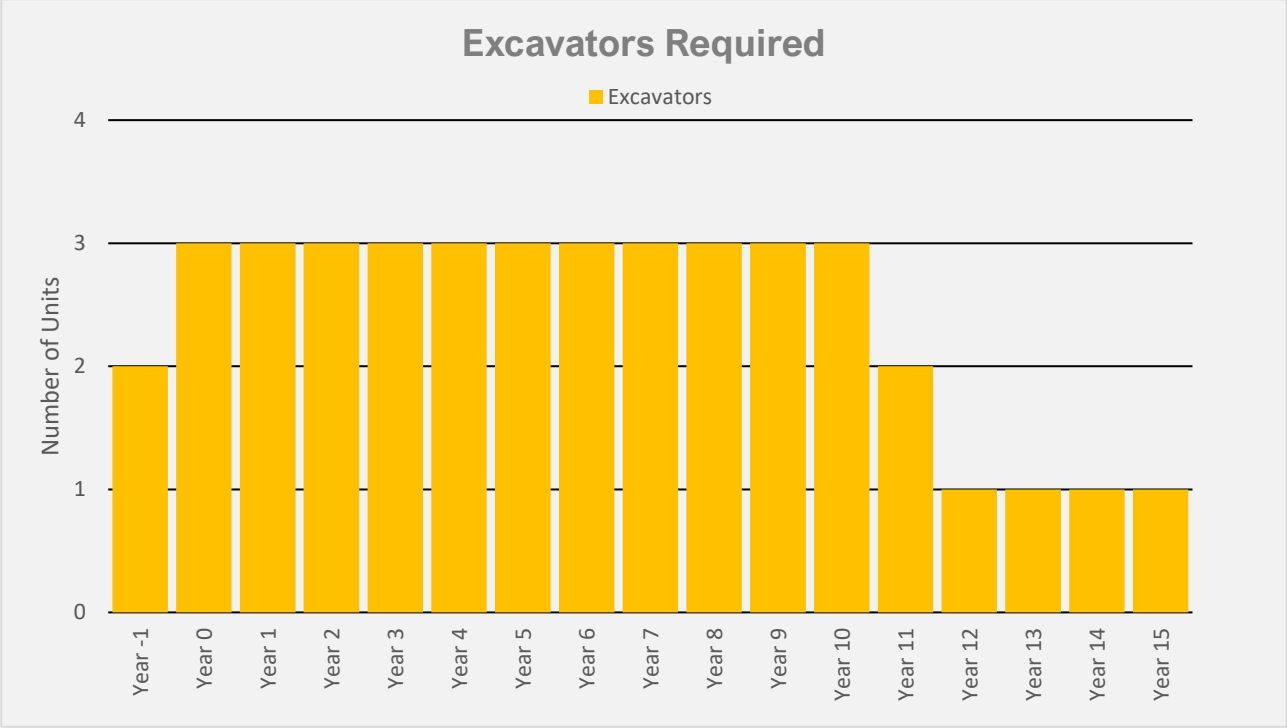

Figure 5-41: Number of Excavators Required

For personal use only

Figure 5-41 shows three excavators are used for most of the mine life, with only one excavator required in the last year of operation and for post-mining rehandle.

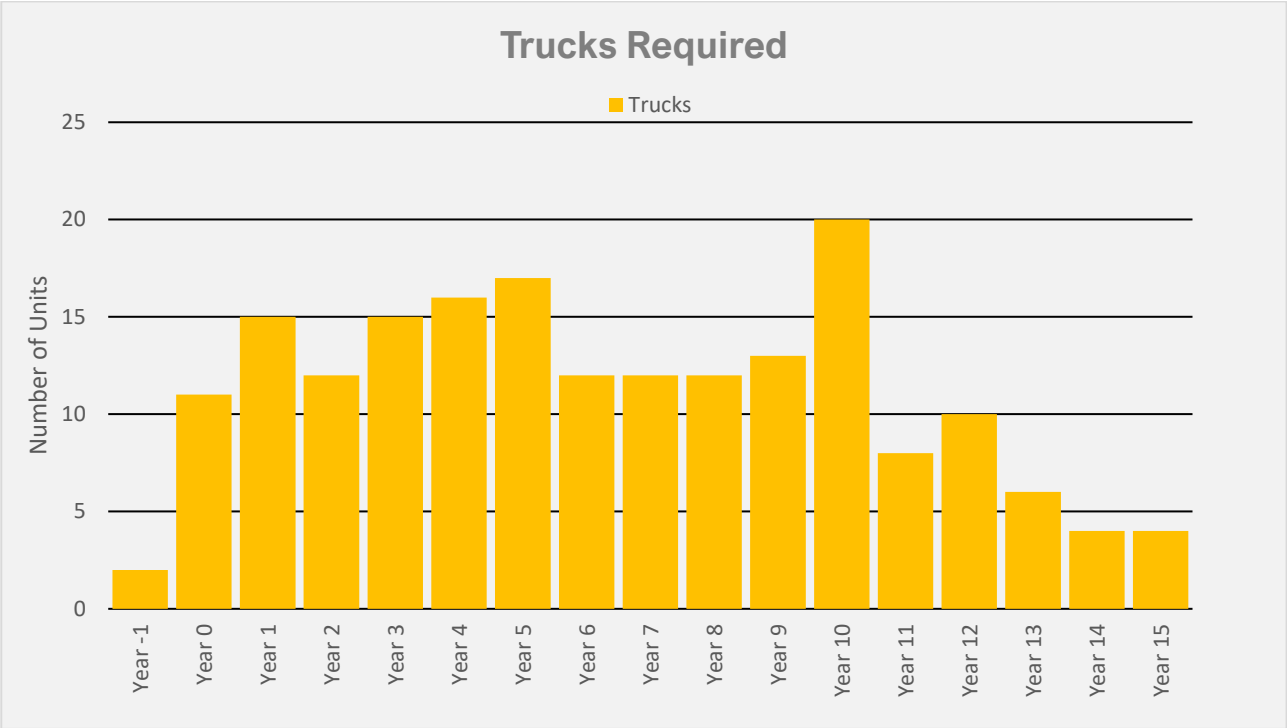

Figure 5-42: Number of Trucks Required

Figure 5-42 shows the variation in trucks required due to the changes in haulage distance. In Year 10 all the waste is having to run to the top of the West WRF as there is no IPD available and the South and South-east WRF are full.

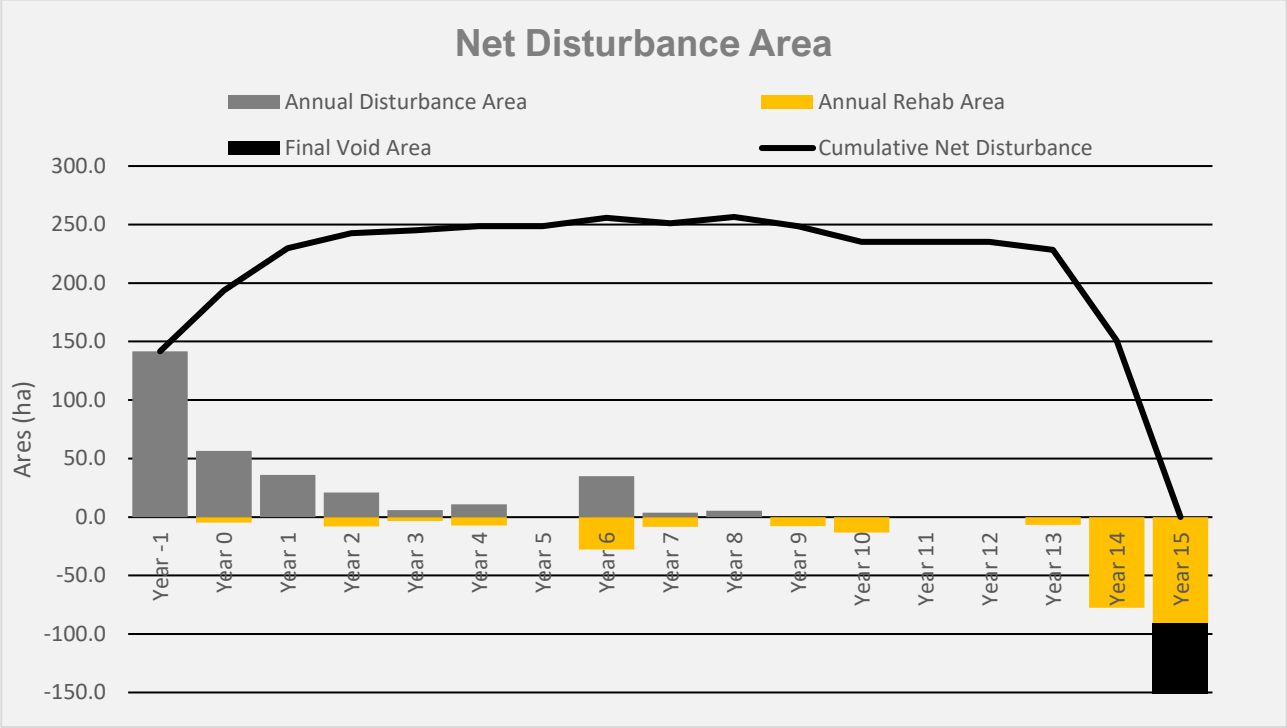

Figure 5-43: Net Disturbance Area

For personal use only

Figure 5-43 shows the net disturbance area which is the difference between the area that has been cleared and the area that has been rehabilitated. In Year 15 the final pit void area, including the lake, remains.

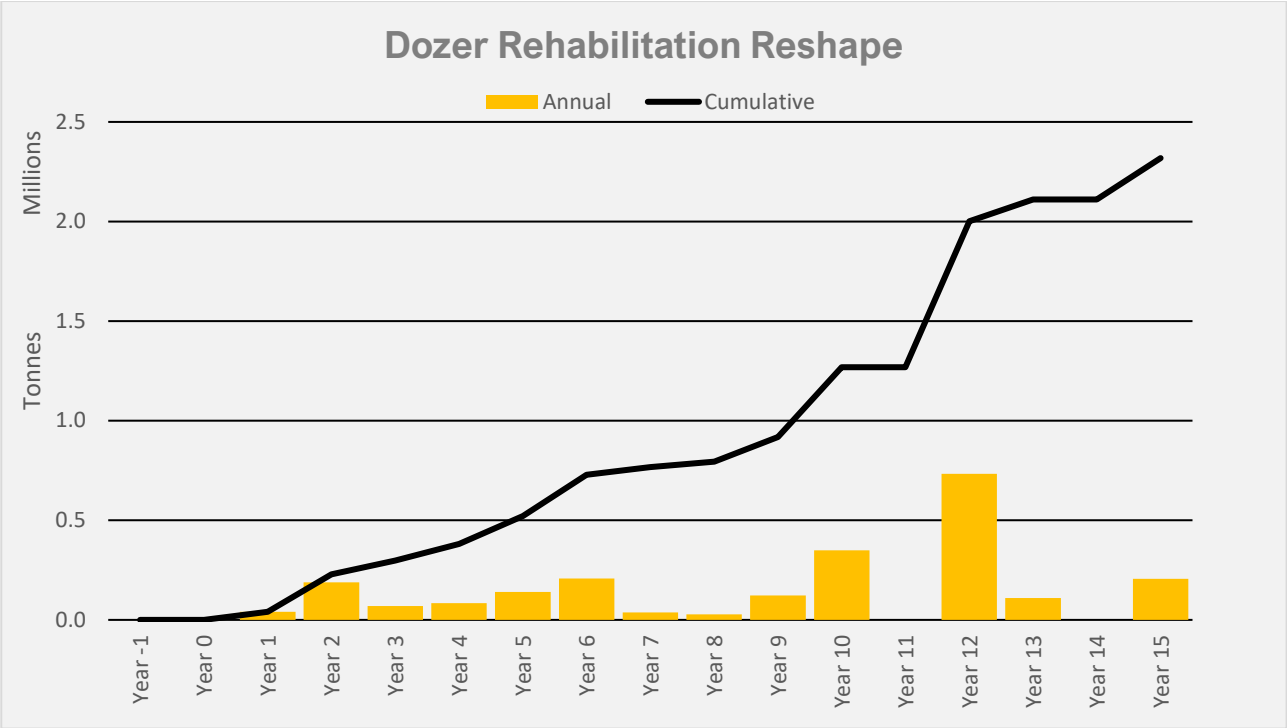

Figure 5-44: Dozer Rehabilitation Tonnes

Figure 5-44 shows the dozer reshaping tonnes of the WRF for the progressive rehabilitation where available.

For personal use only

For personal use only

Table 5-11 – Annual Quantities and Qualities

Item	Units	Year -1	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
Disturbance Area	ha	141.7	56.5	36.1	20.9	5.9	10.8	0.0	34.9	3.6	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	316
Rehab Area	ha	0.0	4.7	0.0	8.0	3.4	7.2	0.0	27.7	8.3	0.0	7.9	13.4	0.0	0.0	6.8	77.5	90.8	256
Topsoil Removal	m3	188,800	69,323	43,757	28,917	5,947	11,582	0	50,696	4,567	6,418	0	0	0	0	0			410,006
Topsoil Replaced	m3	0	7,492	0	12,785	5,421	11,582	0	44,375	13,342	0	12,596	21,362	0	1	10,862	123,955	145,208	408,980
Drilling	m	35,658	344,204	328,323	349,758	340,189	350,151	342,565	323,182	336,477	357,783	255,130	294,983	101,278	84,788				3,844,470
Blasting	bcm	522,151	5,040,241	4,807,696	5,121,577	4,981,447	5,127,329	5,016,242	4,732,409	4,927,087	5,239,080	3,735,922	4,319,489	1,483,031	1,241,573				56,295,274
Waste Mining	t	939,316	12,634,366	12,406,915	12,727,083	12,735,567	12,975,152	12,342,460	11,461,209	12,755,330	11,940,724	10,662,774	10,760,144	2,621,100	3,615,167				140,577,304
Ore Mining	t	970	203,747	1,021,429	1,230,176	1,488,295	1,341,986	1,471,524	1,468,171	1,405,327	1,367,793	1,331,143	1,360,121	1,494,792	778,302				15,963,775
Ore Sn Grade	%	0.16%	0.34%	0.36%	0.51%	0.43%	0.30%	0.32%	0.32%	0.34%	0.31%	0.34%	0.35%	0.34%	0.53%				0.36%
Ore Contained Sn Metal	t	2	702	3,711	6,273	6,340	4,054	4,750	4,687	4,822	4,298	4,494	4,768	5,040	4,110				58,048
Strip Ratio	t:t	968	62	12	10	8.6	10	8.4	7.8	9.1	8.7	8.0	7.9	1.8	4.6				8.8
Ore Crushing	t			1,042,427	1,373,545	1,340,204	1,414,383	1,402,382	1,401,664	1,395,925	1,414,243	1,404,031	1,399,317	1,397,904	977,751				15,963,775
Ore Sorting Feed	t			852,384	1,123,084	1,095,848	1,156,551	1,146,731	1,146,146	1,141,443	1,156,434	1,148,074	1,144,215	1,143,066	799,458				13,053,434
Ore Sorting Product	t			557,902	749,539	729,009	744,907	744,349	744,482	745,519	744,931	744,044	744,898	745,162	545,156				8,539,897
Ore Sorting Rejects	t			294,482	373,545	366,839	411,643	402,382	401,664	395,925	411,504	404,031	399,317	397,904	254,302				4,513,537
Concentrator Feed	t			747,945	1,000,000	973,365	1,002,740	1,000,000	1,000,000	1,000,000	1,002,740	1,000,000	1,000,000	1,000,000	723,449				11,450,238
Concentrator Feed Sn Grade	%			0.45%	0.62%	0.53%	0.39%	0.40%	0.40%	0.43%	0.39%	0.42%	0.44%	0.41%	0.62%				0.46%
Concentrator Feed Contained Sn Metal	t			3,388	6,210	5,205	3,880	4,038	3,957	4,272	3,951	4,224	4,381	4,141	4,510				52,158
Product Concentrate	t			4,114	7,514	6,352	4,699	4,895	4,792	5,187	4,784	5,130	5,324	5,023	5,525				63,339
Product Concentrate Sn Grade	%			63.03%	68.66%	65.36%	60.51%	60.81%	60.29%	61.69%	61.06%	62.19%	62.68%	61.06%	66.58%				63.2%
Concentrate Contained Sn Metal	t			2,593	5,159	4,152	2,844	2,976	2,889	3,200	2,921	3,190	3,337	3,067	3,679				40,007
Rehabilitation Rehandle	t			40,451	187,759	69,563	83,372	139,469	208,521	37,500	28,421	123,318	349,523	0	733,824	109,691	0	206,874	2,318,287
Rehabilitatio Dozer Reshape	t														1,504,555	5,541,253	5,541,253	4,889,496	17,476,557

5.7.2 Schedule Output Progress Plans

Stage plans showing the progression of the mine at the end of each year or significant milestone of the mine life are provided from Figure 5-45 to Figure 5-63.

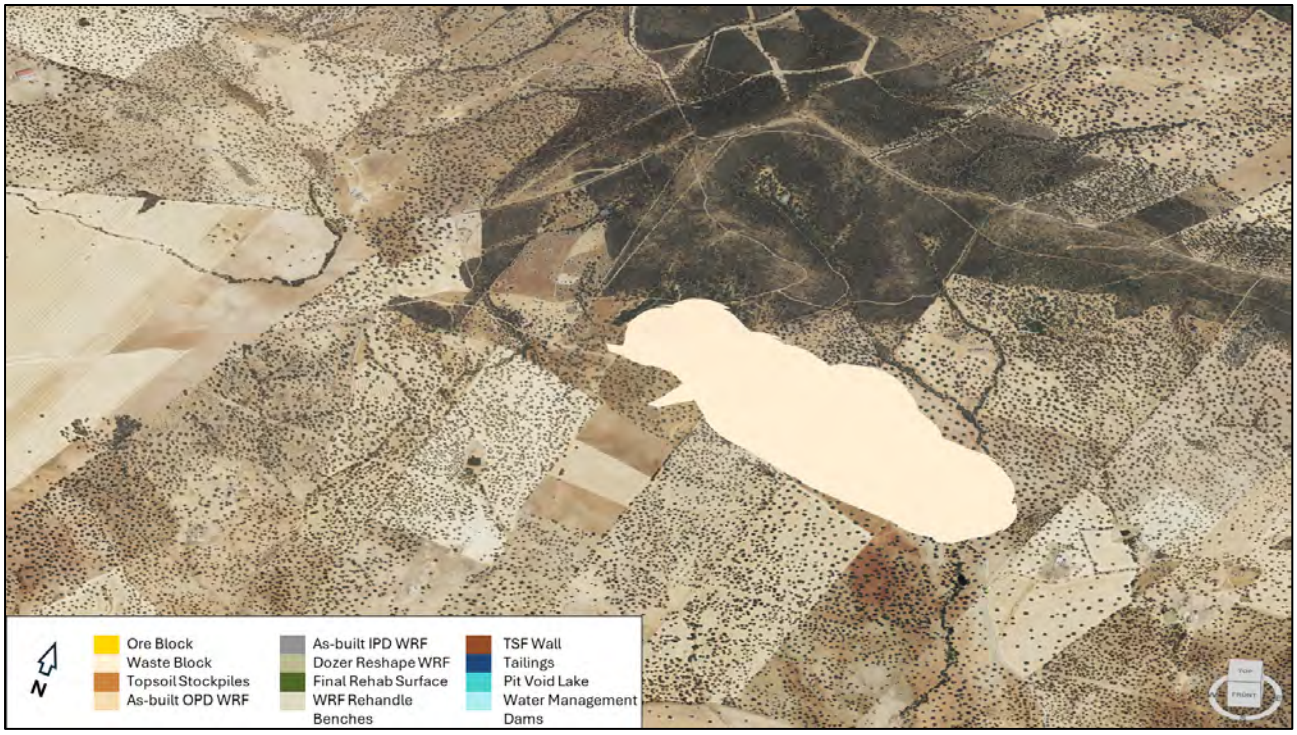

Figure 5-45: Starting Topography

Figure 5-46 shows pre-production works have commenced with the construction of the water management dams and clearing and topsoil stockpiling of the TSF, process plant, West WRF and mining Stage 1 footprints. Pre-stripping waste has also begun to provide fill for the construction of the access road to the TSF, the TSF wall and ROM pad.

For personal use only

For personal use only

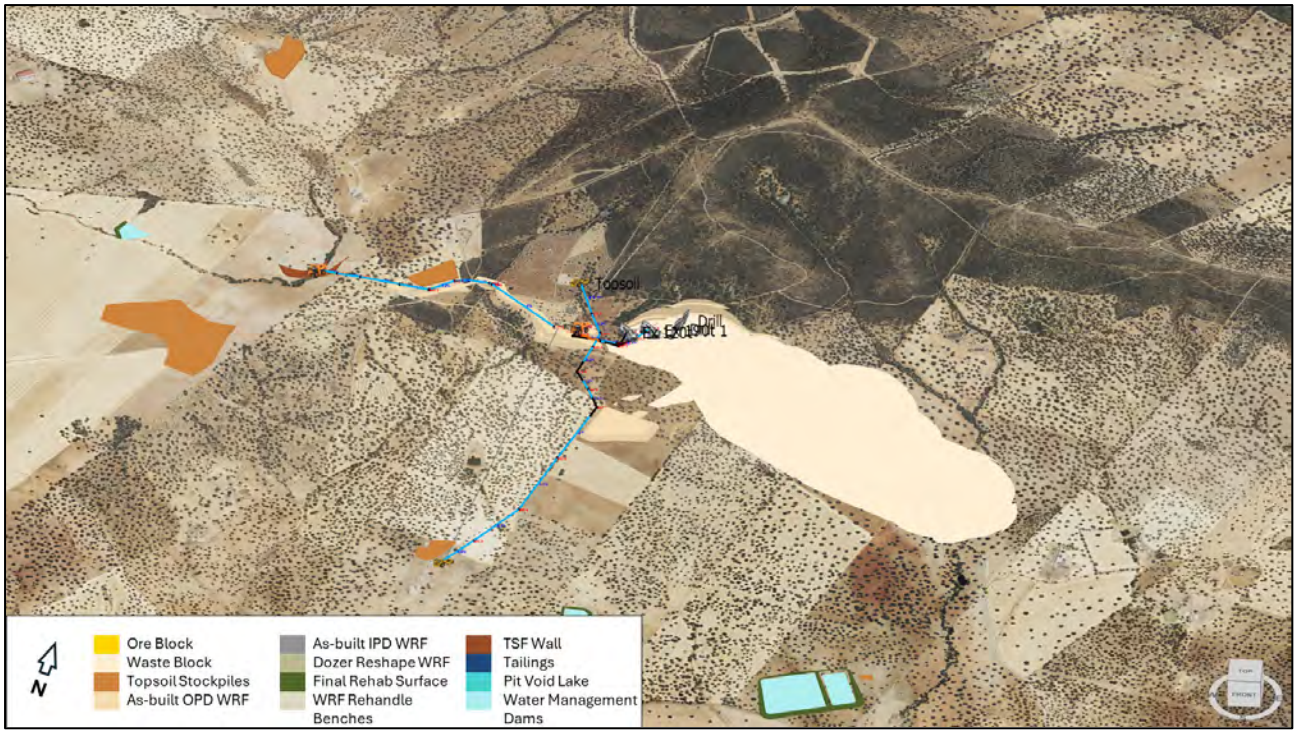

Figure 5-46: End of Year -1

Figure 5-47 shows the TSF and process plant have been fully constructed for the start of processing operations. Pre-stripping waste has uncovered the starting ore with the Far West and West WRFs starting to be filled.

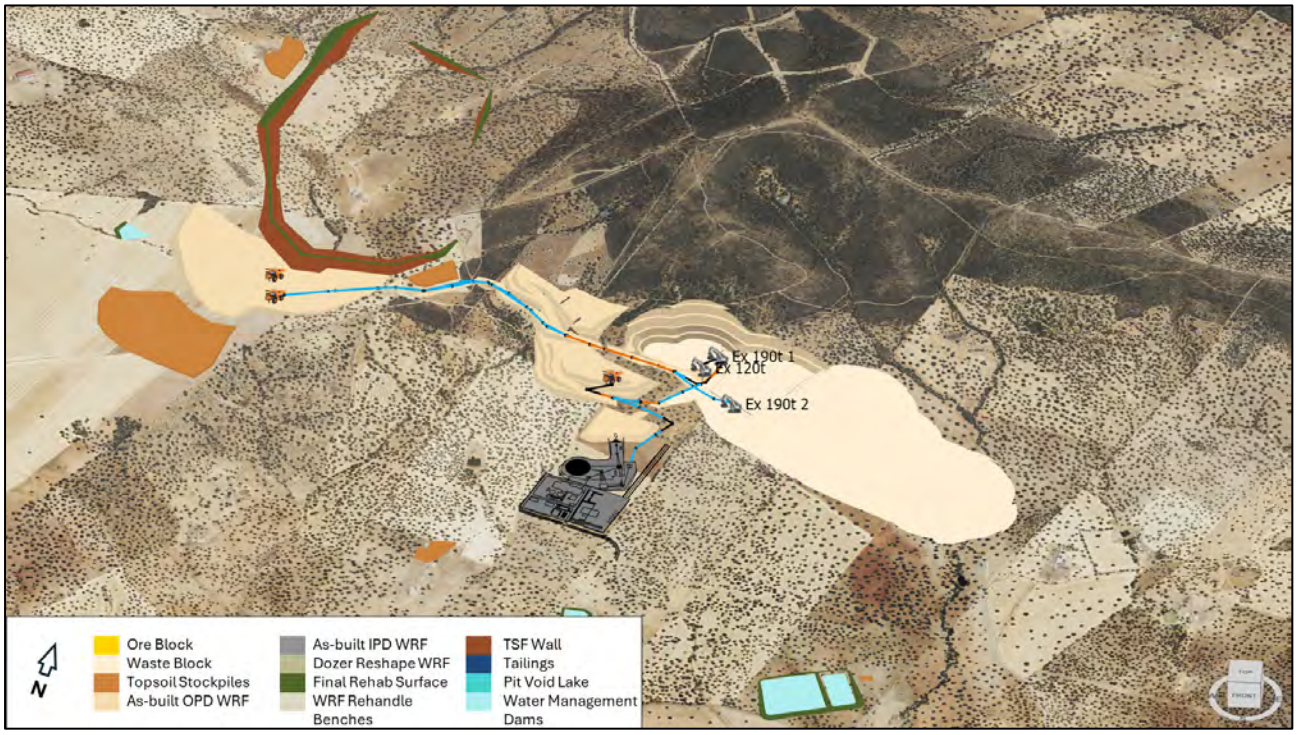

Figure 5-47: End of Year 0 - Start of Processing Operations

Figure 5-48 shows the mining stages are advancing to the south-east with Stage 1 close to being fully mined out. Stage 1 of the West WRF is also close to being fully filled.

For personal use only

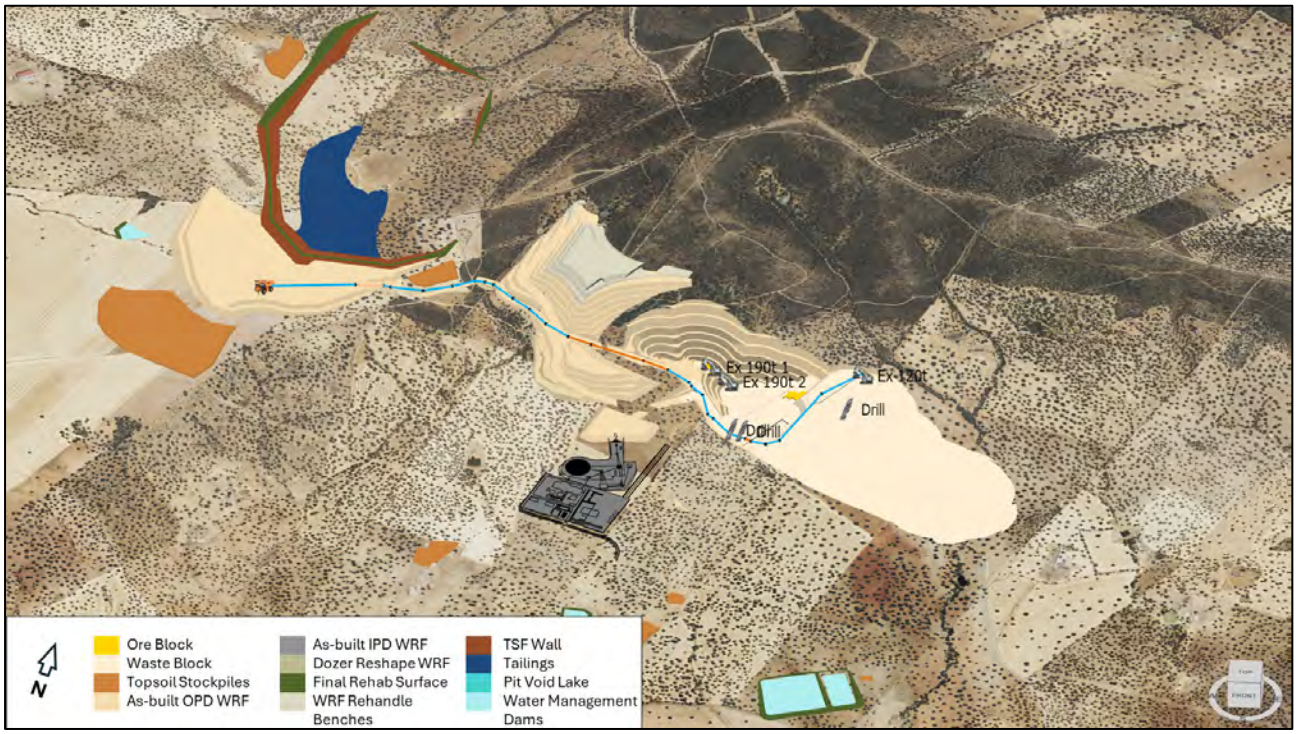

Figure 5-48: End of Year 1

Figure 5-49 shows Stage 1 has been mined out and backfilled by the IPD. Dumping has commenced to the South WRF. Progressive rehabilitation of the lower lifts of the Far West WRF has been undertaken, whilst topsoil from Stage 6 is being directly placed on the lower lift of the South WRFs rehabilitation.

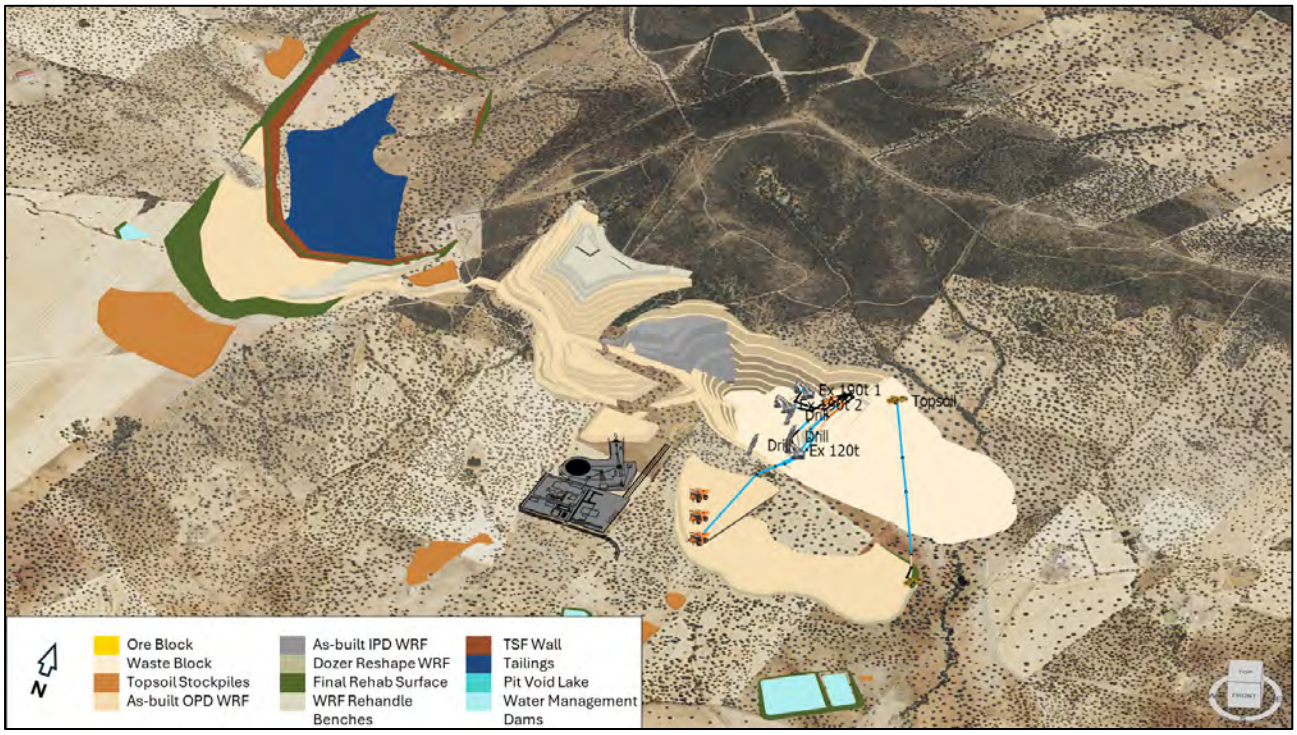

Figure 5-49: End of Year 2

Figure 5-50 shows Stage 2 of the West WRF is being dumped over the IPD and topsoil from the open cut footprint is being directly placed on the South WRF's rehabilitation areas.

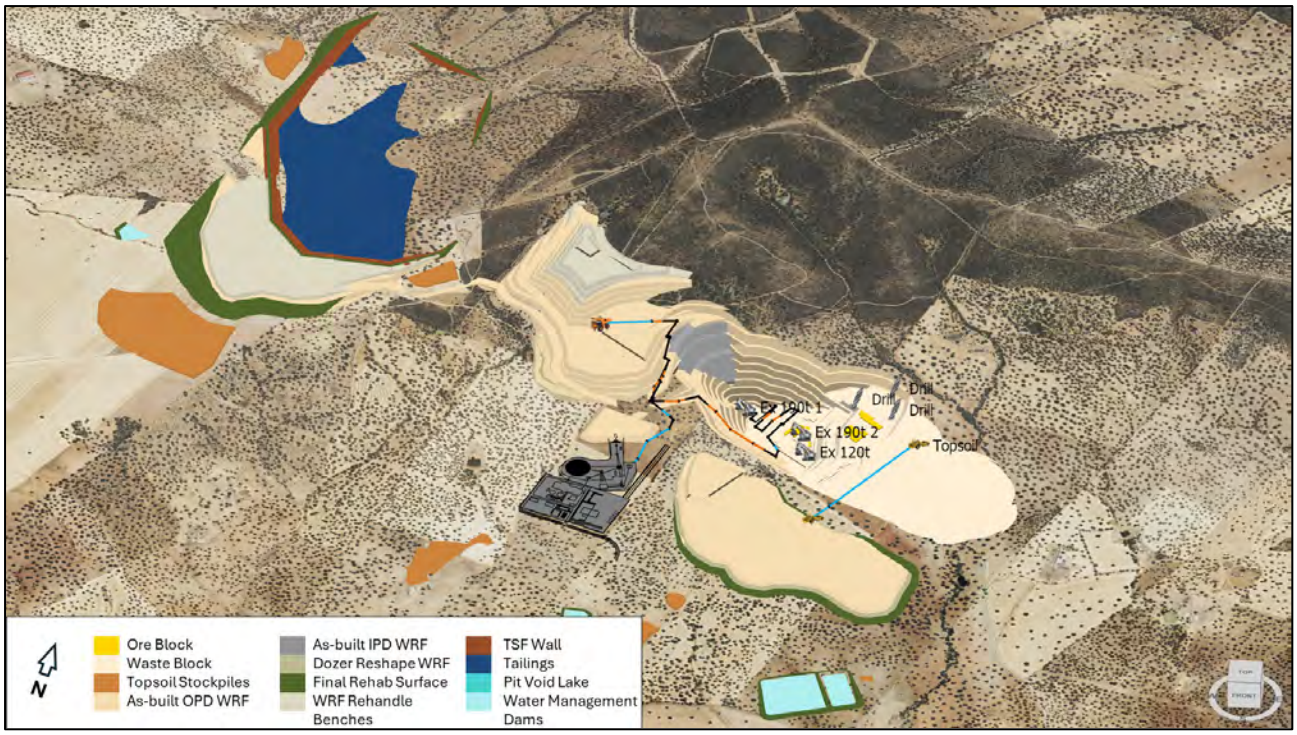

Figure 5-50: End of Year 3

Figure 5-51 shows the upper waste benches of the advancing stages are being dumped to the South WRF, whilst the lower waste from the earlier stages are being dumped to the West or Far West WRF.

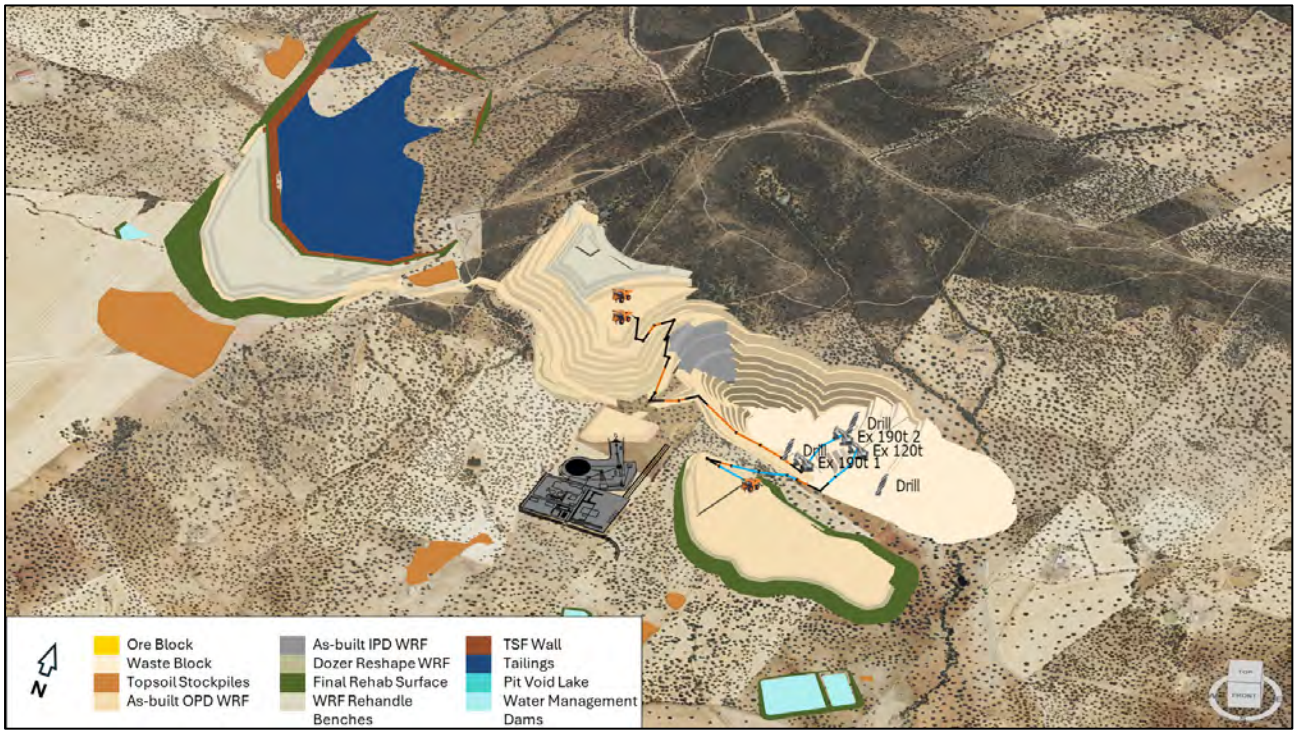

Figure 5-51: End of Year 4

For personal use only

For personal use only

Figure 5-52 shows the Far West and West Stage 2 WRFs have been fully filled. Stage 2 of the IPD is still waiting on the next mining stage to be mined out.

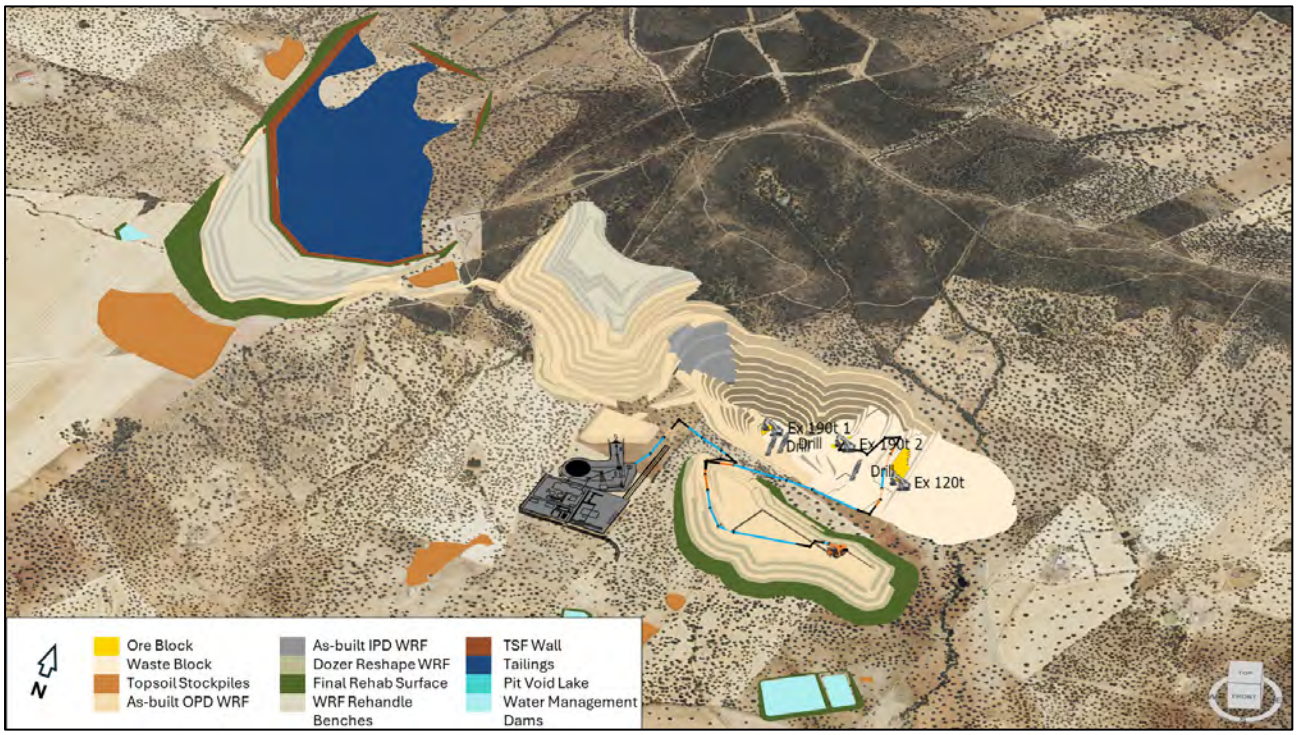

Figure 5-52: End of Year 5

Figure 5-53 shows IPD Stage 2 and the South-east WRF have commenced filling. The South WRF has been fully rehabilitated.

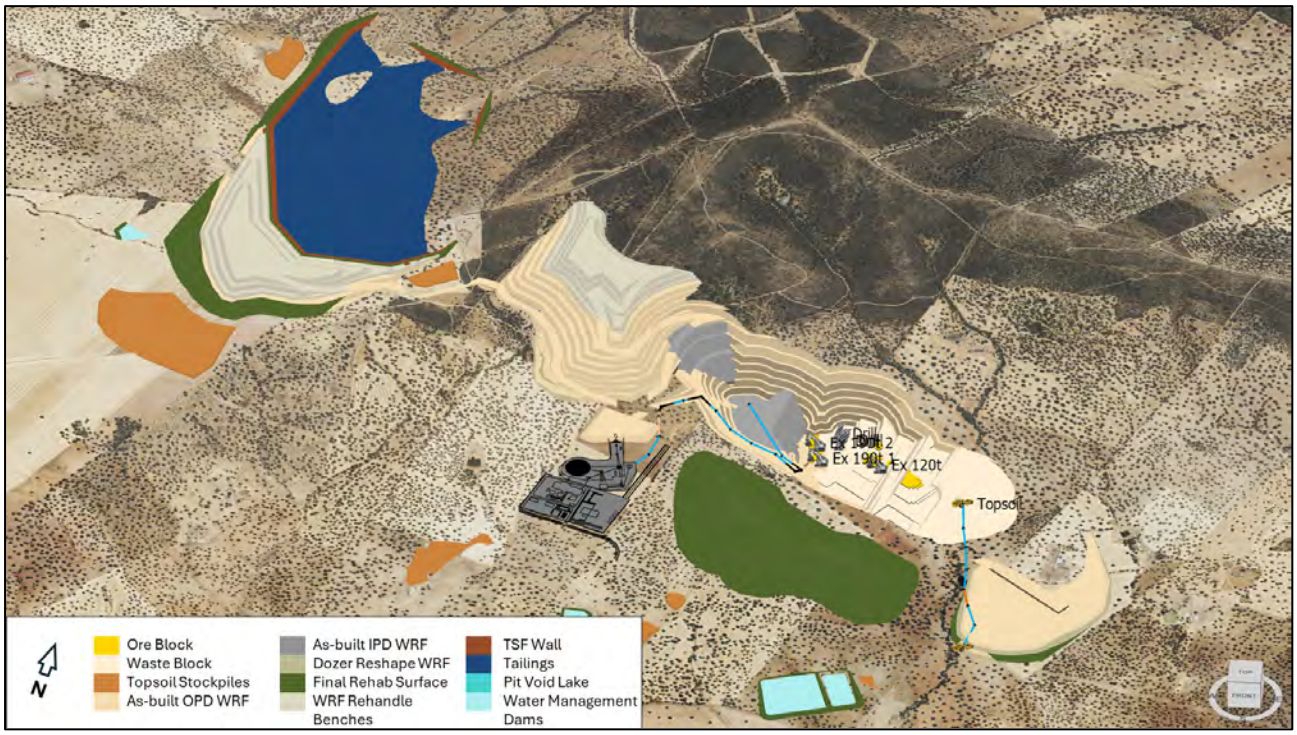

Figure 5-53: End of Year 6

Figure 5-54 shows the upper waste benches of the advancing stages are being dumped to the South-east WRF, whilst the lower waste from the earlier stages are

being dumped to the IPD The lower lifts of the South-east WRF are being progressively rehabilitated.

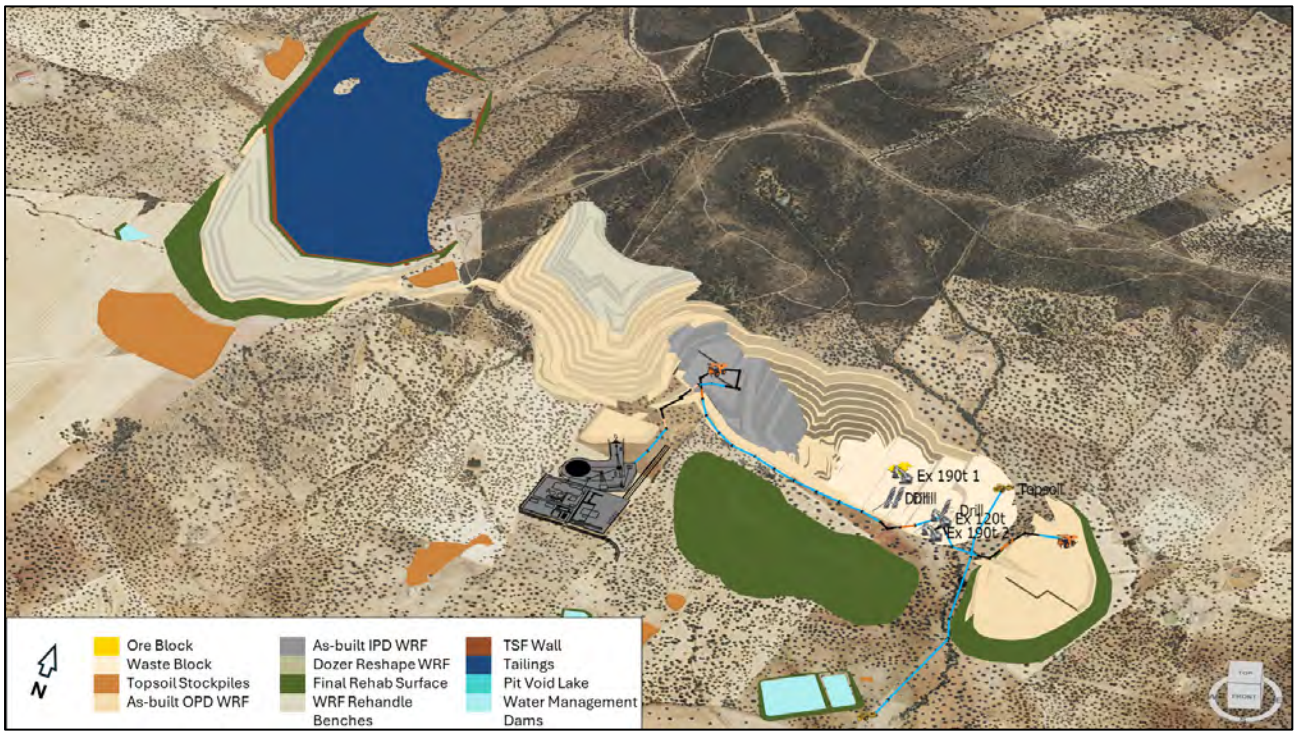

Figure 5-54: End of Year 7

Figure 5-55 shows the upper waste benches of the advancing stages are being dumped to the South-east WRF, whilst the lower waste from the earlier stages are being dumped to the IPD.

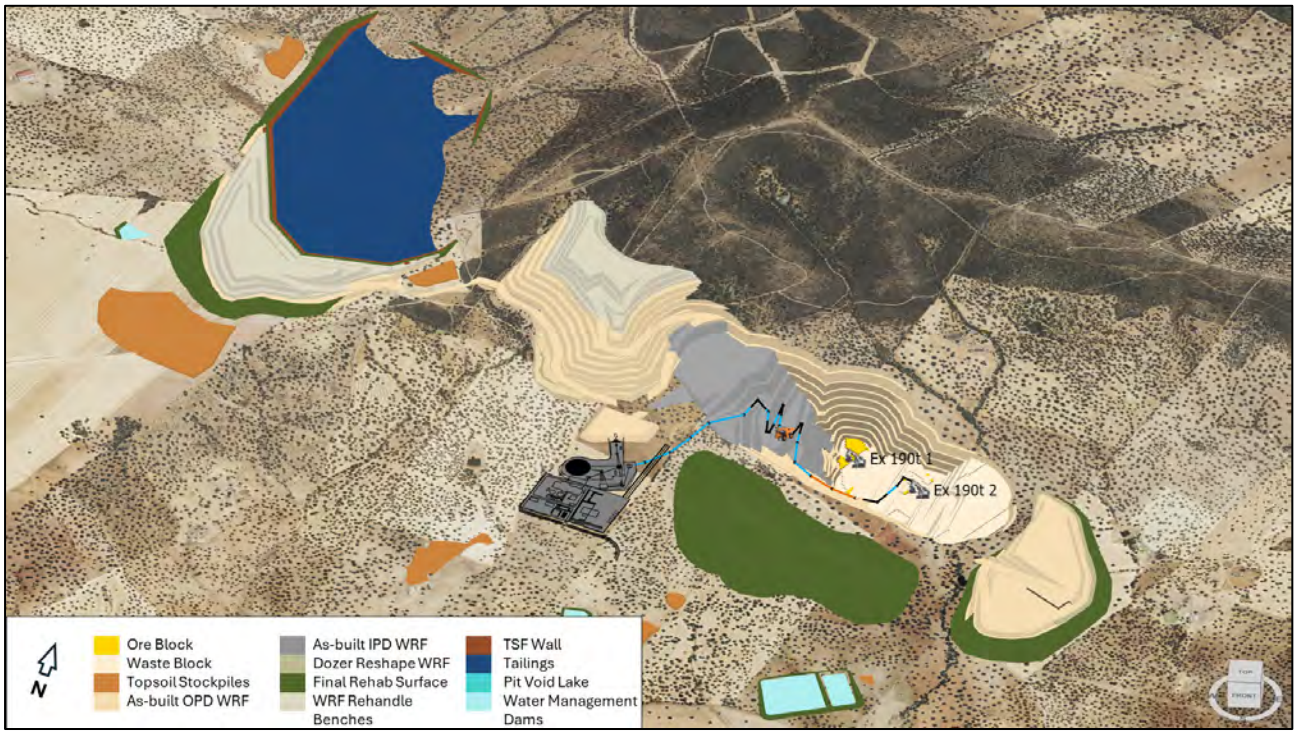

Figure 5-55: End of Year 8

For personal use only

Figure 5-56 shows the Sout-east WRF is complete and is being reshaped for rehabilitation. All waste is going to Stage 3 West WRF which is dumping over the completed Stage 3 of the IPD.

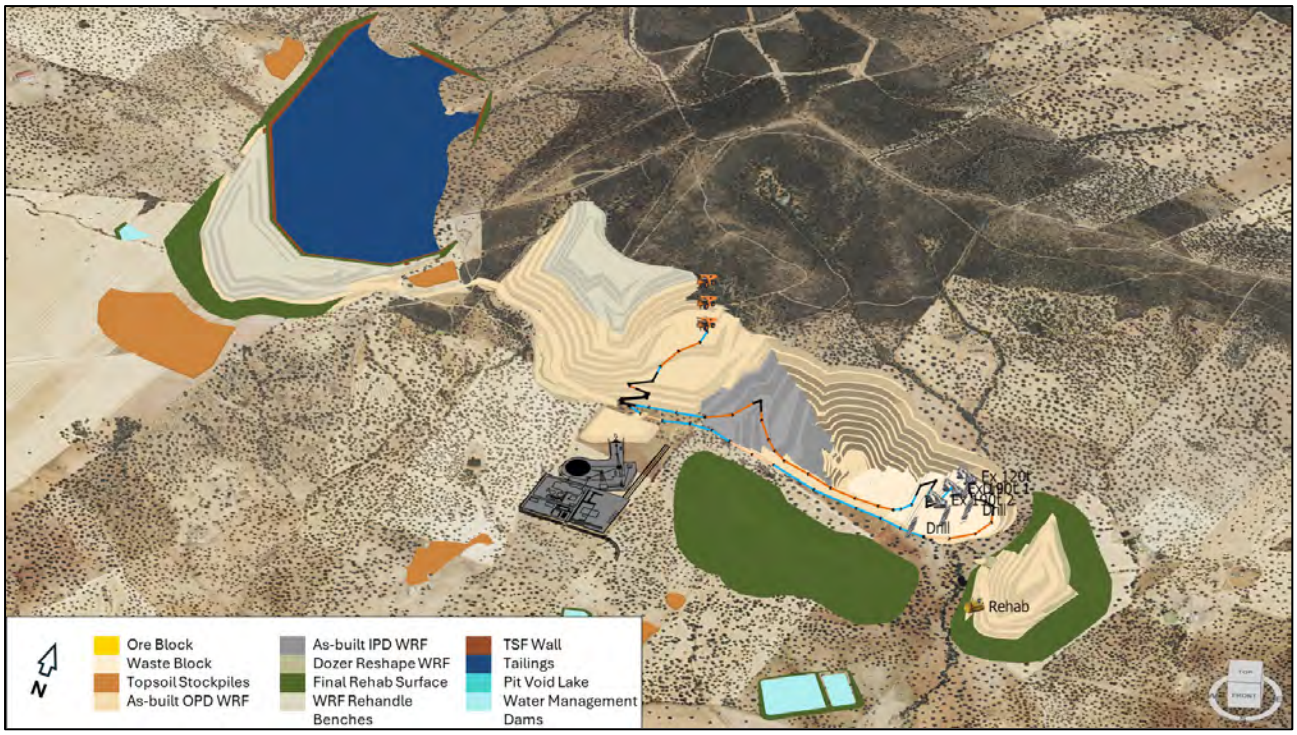

Figure 5-56: End of Year 9

Figure 5-57 shows Stage 4 of West WRF being dumped over the top of IPD. The South-east WRF is fully rehabilitated.

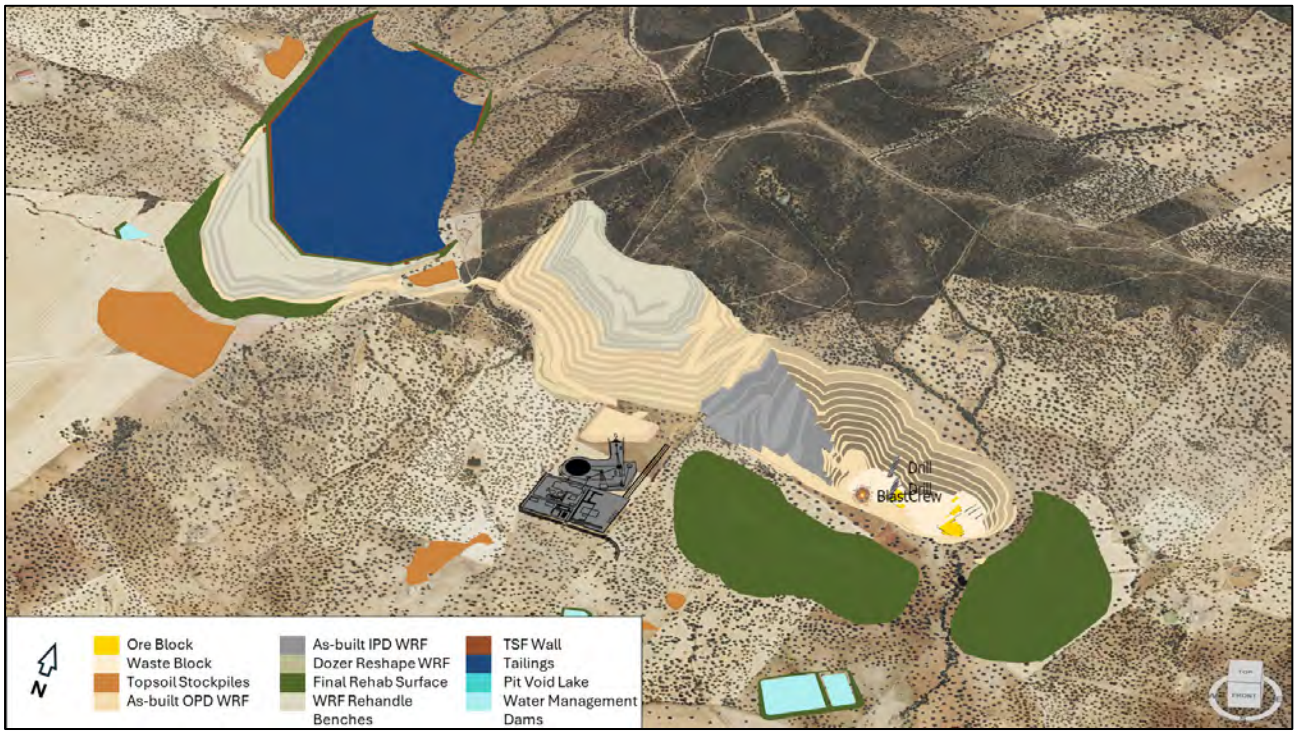

Figure 5-57: End of Year 10

For personal use only

Figure 5-58 shows the final stage mined out and dumped in the lower IPD.

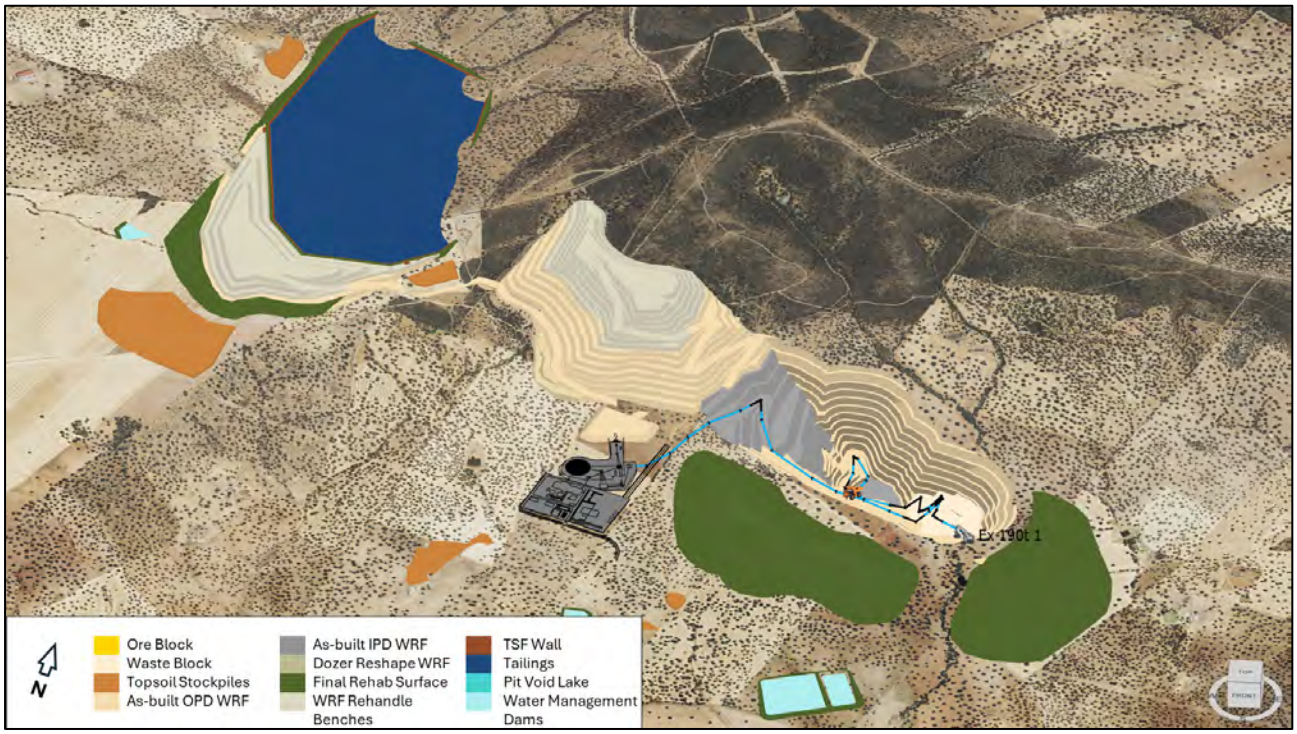

Figure 5-58: End of Year 11

Figure 5-59 shows the last of the ore and waste in the pit, with the rehandling of the upper lifts of the West WRF about to commence.

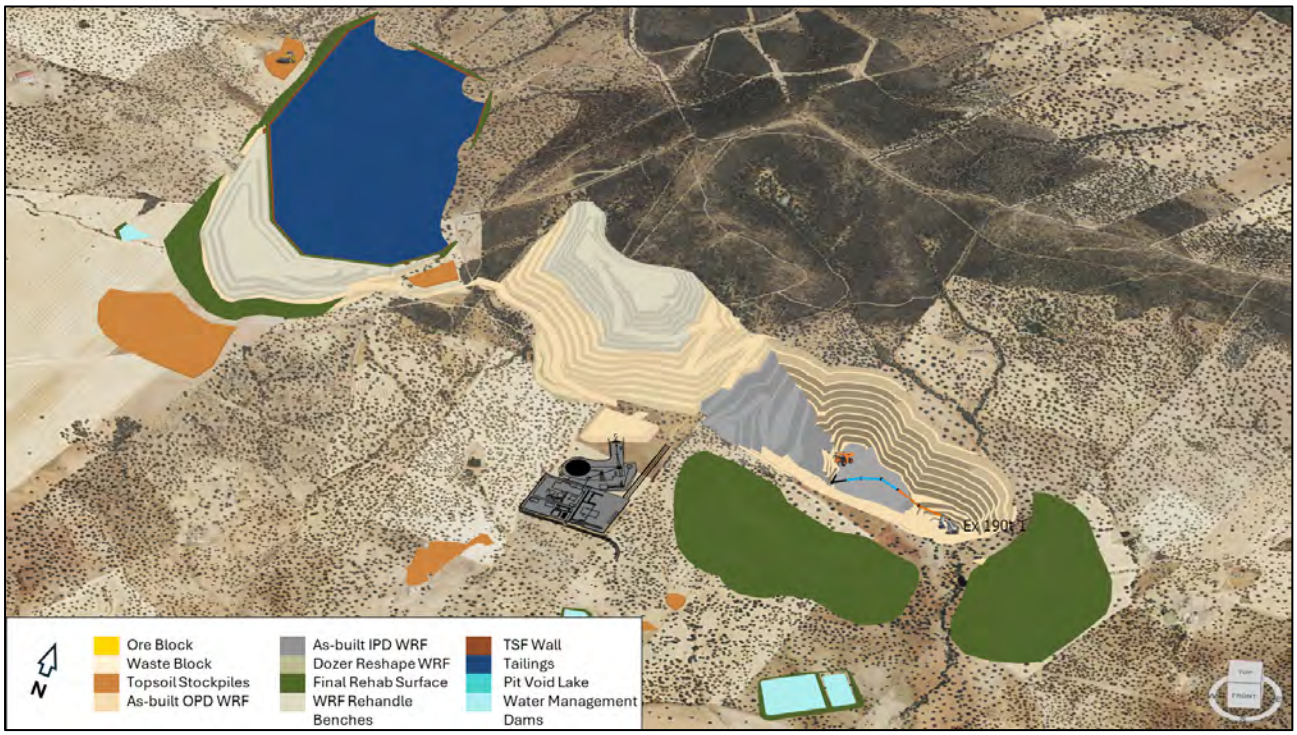

Figure 5-59: End of Operations / Start of WRF Rehandle

For personal use only

For personal use only

Figure 5-60 shows the rehandling of the upper lifts of the West WRF being hauled into the pit void and the south-west area being reshaped by dozers.

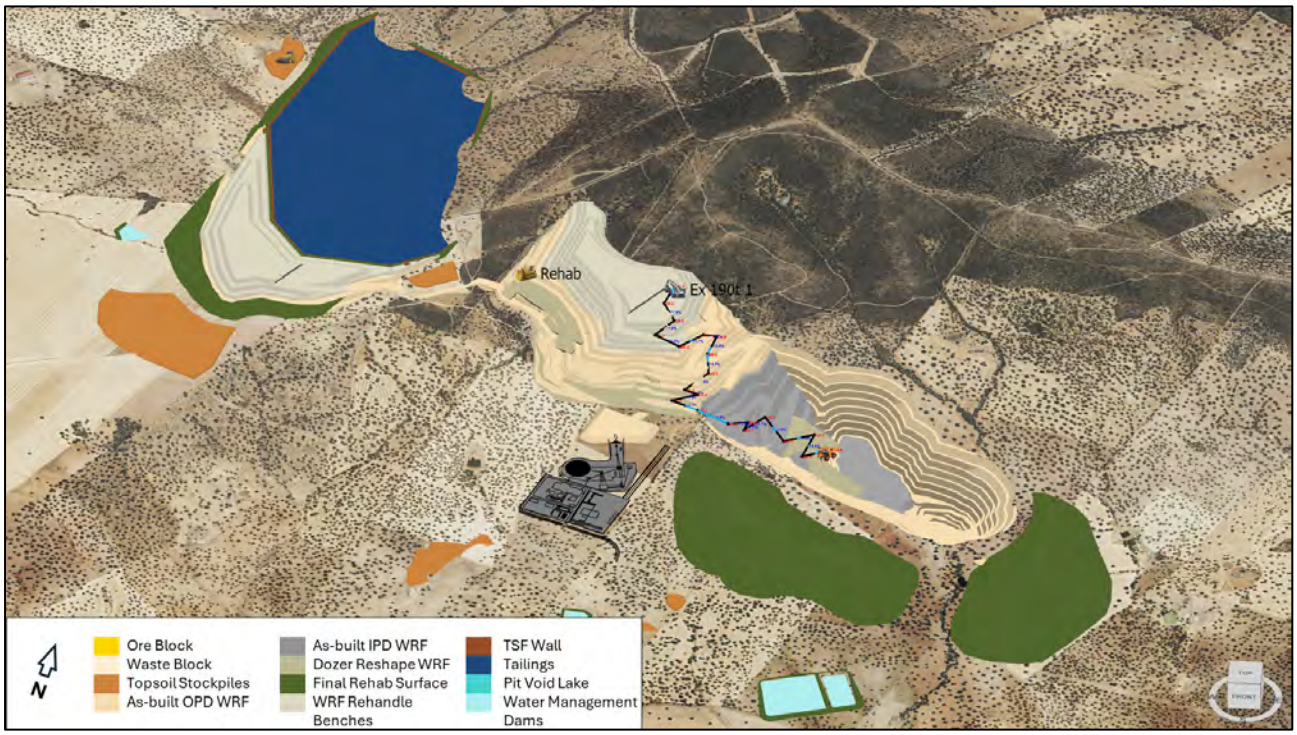

Figure 5-60: End of Year 12

Figure 5-61 shows the continuation of the upper lifts of the West WRF being rehandled back into the pit void.

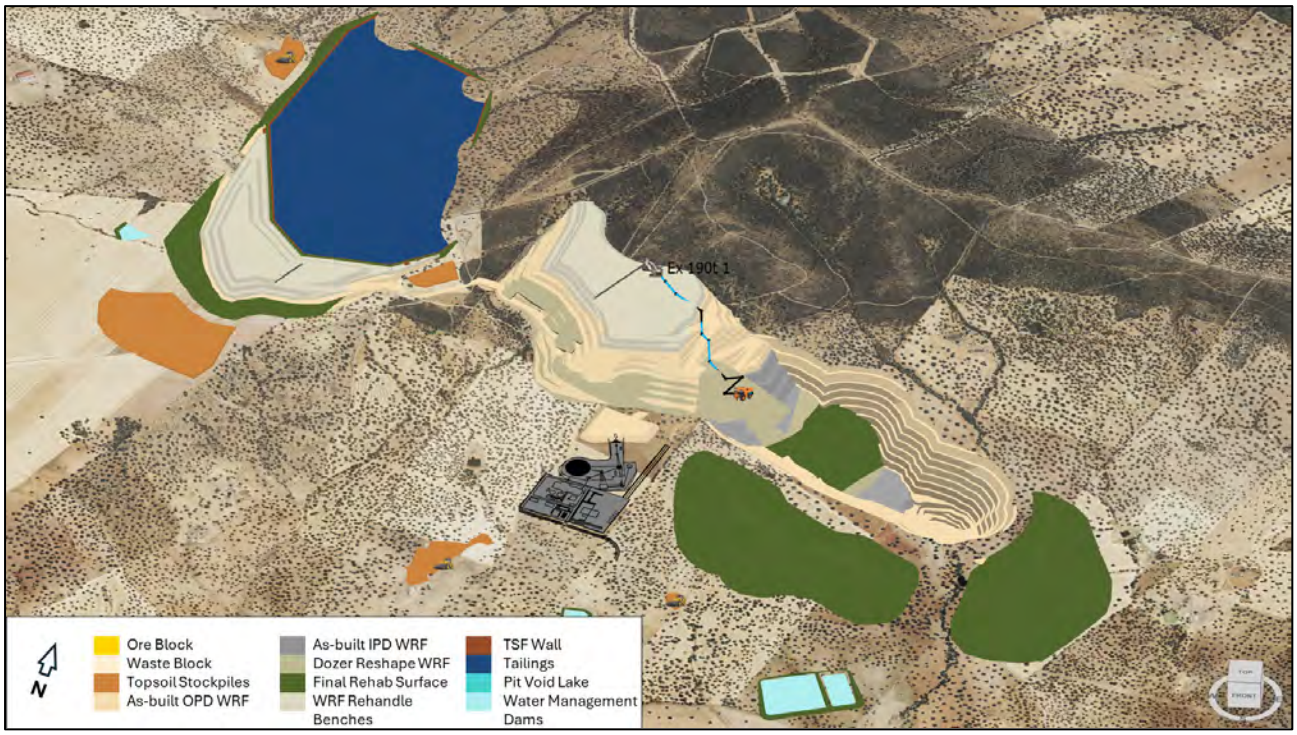

Figure 5-61: End of Year 13

Figure 5-62 shows the West WRF and IPD have been fully reshaped and rehabilitated. Rehandling of the upper benches of the Far West WRF have

commenced for capping the TSF. The process plant has been decommissioned and rehabilitated.

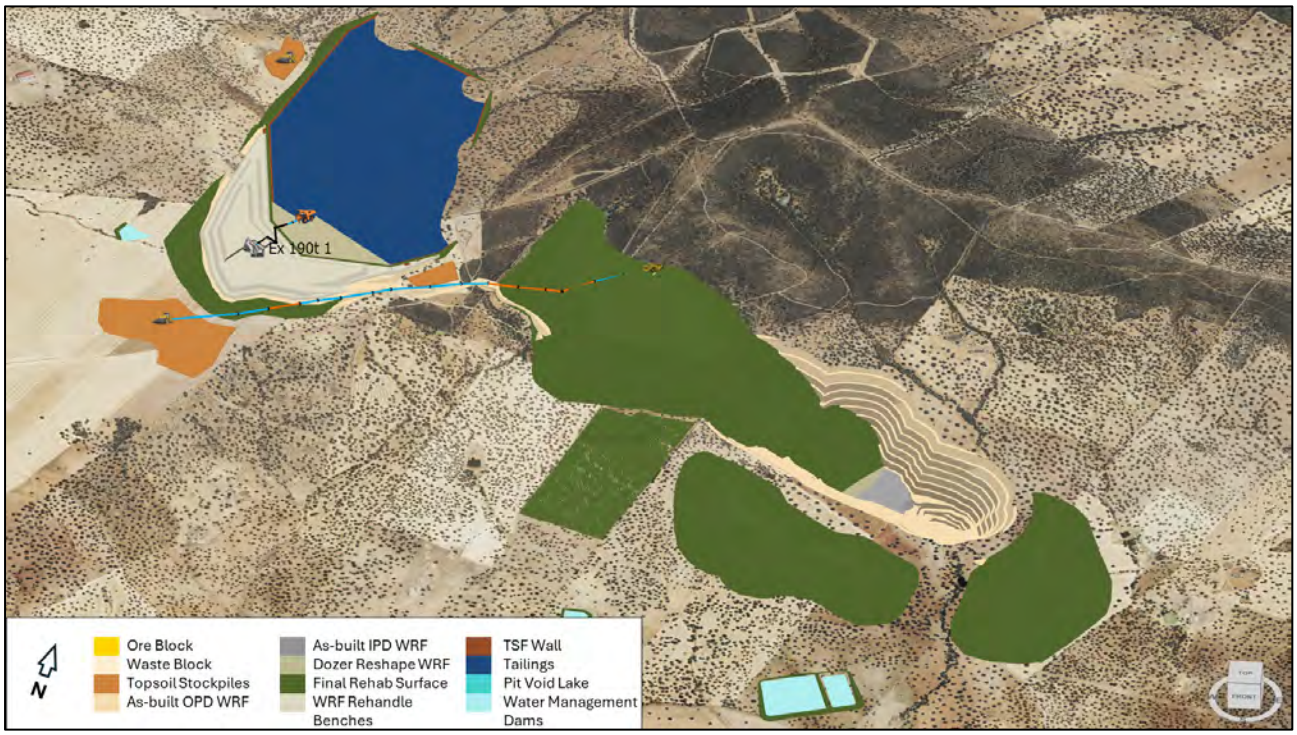

Figure 5-62: Start of TSF Capping

Figure 5-63 shows the TSF has been capped and rehabilitated. It is planned that a pit lake will be formed in the residual pit void.

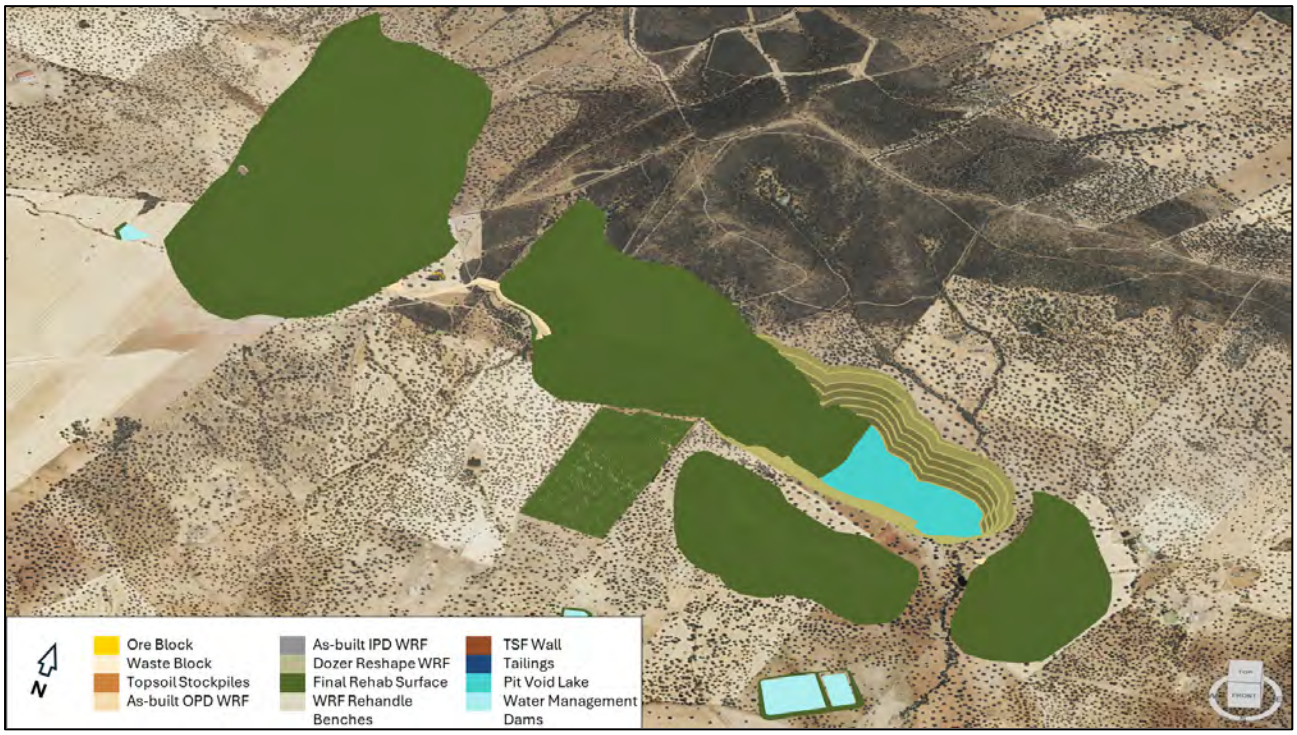

Figure 5-63: Final Landform

For personal use only

6. MARKET ASSESSMENT

5.8 Tin Uses and Applications

Tin is a versatile metal with a wide range of applications across various industries. In 2023, the solder sector represented 51% of global refined tin usage. Other applications include tin compound chemicals, tin plate, energy storage (both lithium-ion and lead-acid batteries) and tin alloys (Figure 6-1).

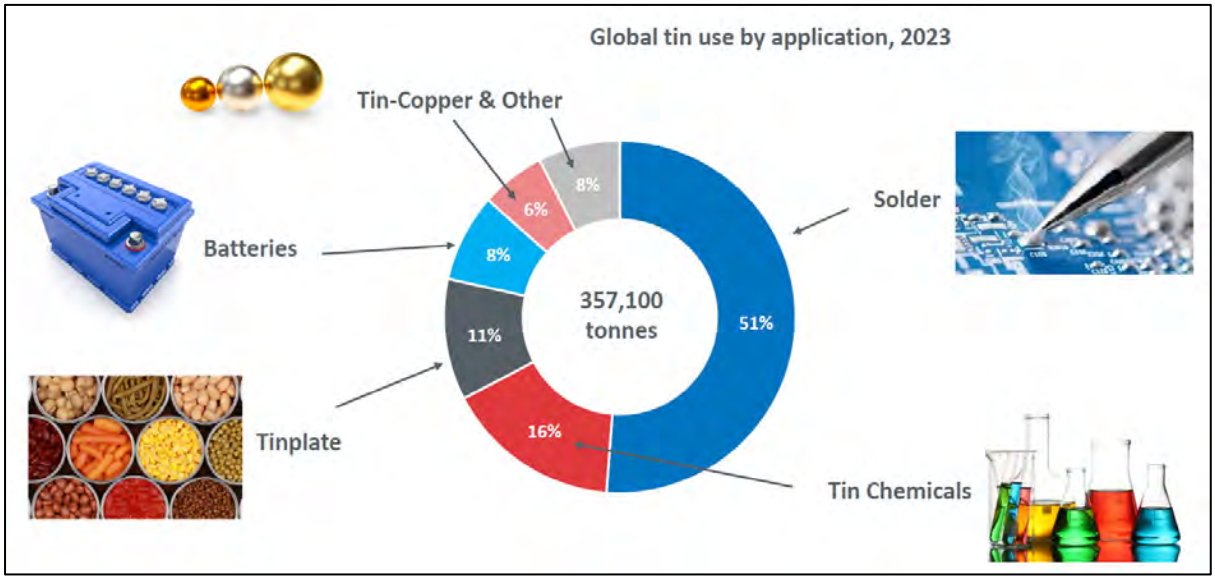

Figure 6-1: Tin Use by Application 2023 (ITA Investing in Tin Seminar, 2024)

5.9 Tin Market Dynamics

The tin market is facing significant supply challenges amid growing demand driven by the global energy transition. Tin is a critical component in solders for electronics, coatings for solar panels, and other renewable energy applications. The International Tin Association (ITA) projects a potential supply deficit of ~35,000 to 40,000 tonnes by 2030, if new mining projects are not developed or delivered (Figure 6-2). This deficit is underpinned by a conservative demand growth forecast of 2.6% annually through to 2030.

Key producing countries like Indonesia are looking to capture more downstream value by threatening to restrict export of metal ingots to promoting domestic processing. This proposed policy shift poses supply risks similar to Indonesia's nickel ore export ban in 2020. Additionally, ongoing conflicts in the DRC and the mining ban in Myanmar's Wa State add further uncertainty to the tin supply chain.

For personal use only

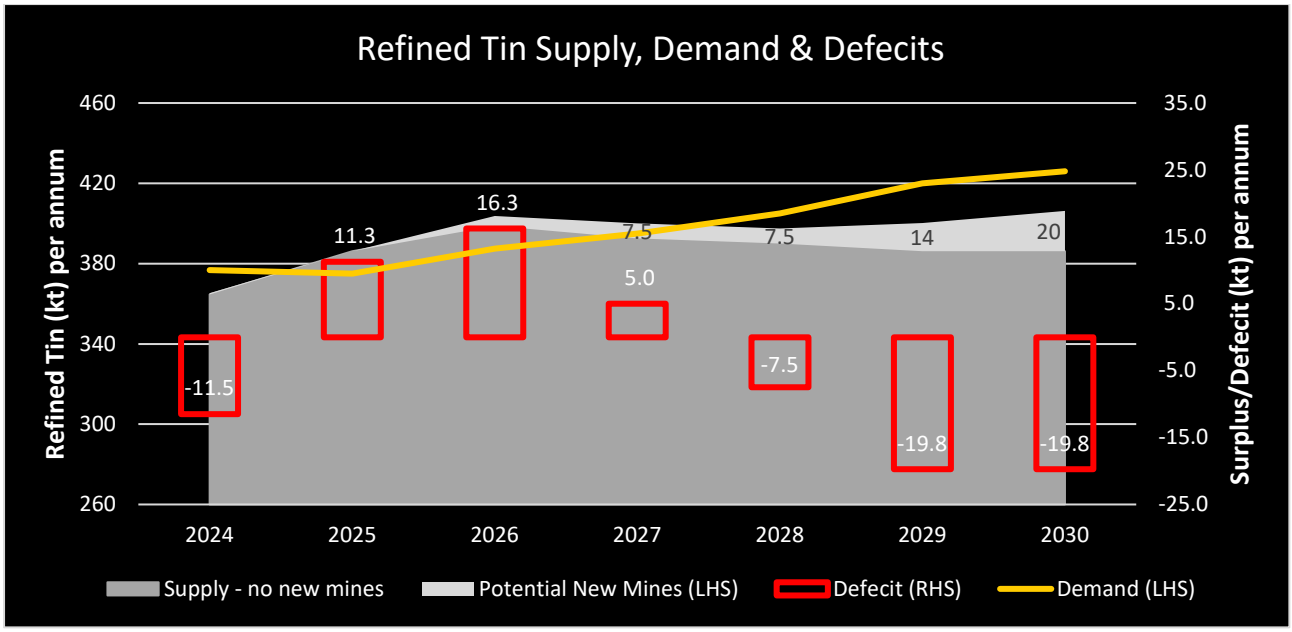

Figure 6-2: Forecast Tin Supply Demand (ELT integration of ITA data, 2024 Investing in Tin Conference)

5.10 Tin Price

Tin prices have been historically volatile, with recent price growth driven by supply disruptions and favourable macroeconomic conditions, despite weak-ish demand. As of early 2025, tin futures are trading around $32,000-33,500/t per tonne. The market is expected to maintain short-term volatility in 2025, whilst supply and demand forces play out, but the long-term outlook remains incredibly bullish due to rising demand and constant supply risks, and no substitutes identified for most uses of tin.

According to Consensus Pricing Forecasts (LME Pricing, USD per tonne, real 2025), tin prices are expected to continue rising strongly over the next five years (Table 6-1).

For personal use only

Table 6-1: Tin Price Consensus Forecasts (Redacted Sources for public distribution), USD per tonne, real (2025)

Group	Report Date	Dec-24	Dec-25	Dec-26	Dec-27	Dec-28	Dec-29	Dec-30	LT
Commodity Forecaster A (2025)	29-Jan-25		$32,000	$33,000	$34,000	$36,000	$39,000	$39,000	$39,000
Industry Group (2024)	1-Jan-25	$25,000	$28,000	$33,000	$36,000	$36,500	$40,000	$42,500	$42,500
Investment Bank A (2024)	20-Jun-24	$26,000	$30,000	$34,500	$36,500	$38,000	$38,000	$38,000	$38,000
Global Trader A (2024)	1-Nov-24		$32,072	$32,072	$32,072	$32,072	$32,072	$32,072	$32,072
Commodity Forecaster B (2025)	5-Feb-25		$32,500	$32,500	$32,500	$32,500	$32,500	$32,500	$32,500
Investment Bank B (2024)	19-Feb-25		$30,999	$37,000	$37,000	$36,283	$35,567	$35,567	$35,567
Investment Bank C (2024)	11-Feb-25		$31,125	$32,000	$33,000	$34,000	$35,000	$35,000	$35,000
Investment Bank D (2024)	28-Feb-25	$29,000	$28,500	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
World Bank (Oct-2024)	1-Oct-24	$30,000	$32,000	$34,000	$34,000	$34,000	$34,000	$34,000	$34,000
Average Consensus Pricing		**$27,500**	**$30,800**	**$33,119**	**$33,897**	**$34,373**	**$35,127**	**$35,404**	**$35,404**

For personal use only

7. FINANCIAL MODELLING

The financial evaluation of the Oropesa Tin Project has been undertaken on a 100% project ownership basis, using a discounted cash flow (DCF) analysis. The modelling currency is in Euros (€), which is the currency of the majority of costs, with commodity pricing being applied in US Dollars (US$).

The evaluation includes only real cash flows from the Project, at the Spanish subsidiary company level (MESPA), on a 100% ownership basis, and excludes cash flows from other assets held by Elementos Limited. A net present value (NPV) and internal rate of return (IRR) for the Project have been calculated from Final Investment Decision (FID) and excludes project or corporate expenses incurred before that time.

7.1 Financial Assumptions

The financial model was compiled based on the physicals generated from the detailed schedule. The financial modelling was based on a contract mining operation whilst Elementos/MESPA owning and operating the processing facilities as well as undertaking the management and administrative roles.

Allocations for initial operating and capital estimates were generated from a combination of sources including:

- Contractor quotes for mining activities and facilities as well as mobilisation and demobilisation,
- Feasibility level information for design and cost estimates of processing infrastructure,
- Feasibility level information for the construction of site infrastructure and utilities, and
- Feasibility estimates for decommissioning and mine closure costs.

The following key economic assumptions apply to the base case:

- Discount rate of 8% applied to cashflows at the end of each period.
- The NPV has been calculated and is based at the FID.
- Real modelling.
- 100% project ownership basis.
- No government royalties payable.
- Payment of private royalties (1.35% NSR) to original vendor.
- Ungeared model, Project funding entirely through equity with no accounting for uplift that may result from any debt component of financing.

For personal use only

6.2 Financial Results

The financial modelling of the DFS has determined that the Oropesa Tin Project is economically viable to produce tin concentrate and supply metal into the European and North American tin markets. Elementos and MESPA have developed the Oropesa Project as a viable, low-cost, responsible and strategically located tin producer in a mature, and secure jurisdiction with low political risk.

The model is based on a referenced base tin metal sales price of US$30,000 per tonne (approximately 20% below the LME spot price on 2nd April 2025), with a European delivery tin premium of US$950 per tonne also applied. The key project data and financial returns are summarised in Table 7-1. The key financial outcomes demonstrate a real, ungeared pre- and post-tax Net Present Value at an 8% discount rate of approximately US$163 million and US$130 million, respectively. The pre- and post-tax Internal Rate of Return (IRR) is approximately 26% and 24%, respectively. The capital payback period is approximately 2.7 years. Capital development costs have been estimated at approximately US$156 million. Figure 7-1 presents the forecast cash flow for the project.

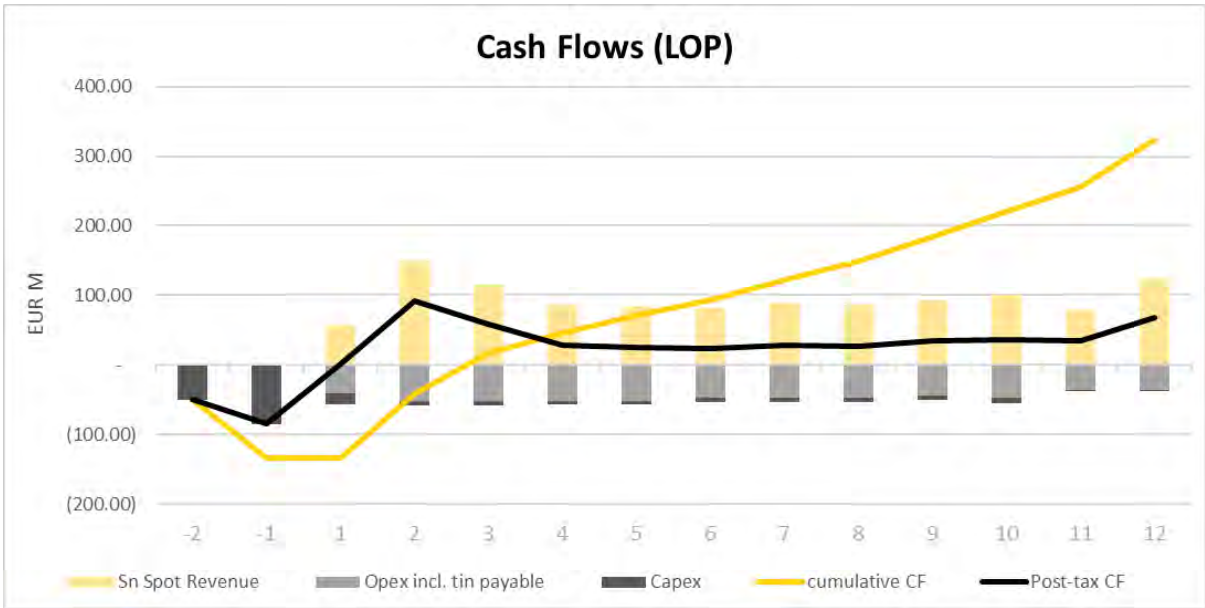

Figure 7-1: Forecast Cash Flow

For personal use only

For personal use only

Table 7-1: Key Financial Summary

Parameter	Variable	Units			
Annual Avg. Production	Ore	t/yr		1,359,000	
	Concentrate	t/yr		5,400	
	Metal	t/yr		3,400	
Life of Mine	LOM	Yrs		11.75	
Total LoM Production	Ore	t		15,964,000	
	Concentrate	t		63,000	
	Metal	t		40,000	
Total LoM Grades	Ore	%Sn		0.36%	
	Concentrate	%Sn		63.2%	
	Metal	%Sn		99.0%	
			USD$	EUR€	AUD$
Reference Sales Price	LME	$/t$_{(metal)}$	30,000	28,700	49,900
European Tin Premium	Market	$/t$_{(metal)}$	975.0	900.0	1,600
Project Revenue	Average	$M/yr	104.5	100.0	170.0
	LOM	$M	1,190	1,140	1,980
C1-Cash Cost Per Tonne	Ore	$/t	37.00	35.00	61.00
	Concentrate	$/t	9,120	8,730	15,180
	Metal	$/t	14,400	13,800	24,000
AISC Cost Per Tonne	Ore	$/t	38.00	36.00	63.00
	Concentrate	$/t	9,470	9,060	15,750
	Metal	$/t	15,000	14,400	25,000
TC/RC Cost	Market	$/t$_{(con)}$	890.0	850.0	1,480
Capital Cost inc. Pre-Strip	Post-FID	$M	156.0	149.0	259.0
Sustaining Capital	LOM	$M	7.00	7.00	12.00
Corporate Income Tax	Flat	%		25.0%	
	Effective	%		19.5%	
	Tax Free Period	Yrs		4.0	
NPV_8 Pre-Tax	Real, Ungeared	$M	162.5	155.5	270.4
NPV_8 Post-Tax		$M	129.8	124.2	215.9
IRR Pre-Tax	Real, Ungeared	%		25.65%	
IRR Post-Tax		%		23.75%	
EBITDA	Average	$M	51.00	49.00	85.00
	LOM	$M	599.0	573.0	996.0
Payback Period	Months	Months		32.4	

6.3 Sensitivity Analysis

Sensitivity of the project's pre-tax NPV to key variables was investigated. Figure 7-2 shows the variation in NPV if some of the key variables were to increase or decrease by 10%. It highlights that the tin price in USD and foreign exchange rate have the largest impacts to the NPV.

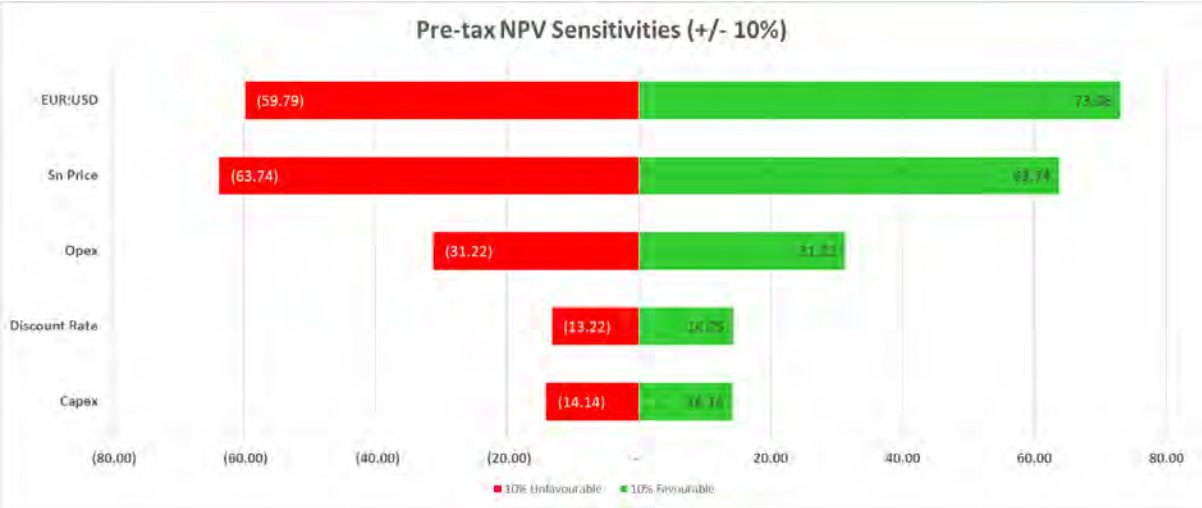

Figure 7-2: Sensitivity of NPV in Euros

For personal use only

8. RESERVE ESTIMATE

8.1 Reserve-Resource Classification

All Ore Reserves have been classified as Proven or Probable Reserves which are subsets of Measured and Indicated Resource category. It is the opinion of the Competent Person that all Measured and Indicated Resource within the economic limits of the pit can be classified as Proven and Probable Reserves respectively.

The physical limits of the classified Ore Reserves within the Oropesa pit are shown in Figure 8-1 and Figure 8-2.

Figure 8-1: Proved Ore Reserve Blocks

Figure 8-2: Probable Ore Reserve Blocks

For personal use only

8.2 Ore Reserves

The estimated Ore Reserves for the open pit are presented Table 8-1. 81% of the Mineral Resource Estimate (19.6Mt) has been classified as Ore Reserves (15.9Mt).

Table 8-1 – Oropesa Project - Open Cut Reserves Estimate

Reserve Category[1,4]	Sn (%)[2]	Tonnes [3] (Mtonnes)	Contained Sn Metal (tonnes)	% Reserves Contribution
Proved	0.34%	6.1	21,028	38%
Probable	0.37%	9.8	36,866	62%
Total	**0.36%**	**15.9**	**57,894**	**100%**

Table Notes:

1. All figures are rounded to reflect appropriate levels of confidence, apparent differences in totals may occur due to rounding.
2. A cut -off grade of 0.15 % Sn has been applied.
3. Tonnages are expressed on a ROM basis, incorporating the effects of mining losses and dilution.
4. The reference point at which these ore reserves are defined is as the ore is delivered to the ROM pad.

8.3 Accuracy of Estimate

The accuracy of this JORC Ore Reserve Estimate is based on DFS level work and is within an acceptable level of confidence for mine planning and financial decision-making. Feasibility level studies typically support the classification of Ore Reserves as either Proved or Probable, with a high degree of geological, engineering, and economic certainty. The estimate incorporates detailed geological modeling, resource classification, mine design, metallurgical recoveries, and cost estimates with a level of accuracy generally within ±10-15%.

While uncertainties remain due to factors such as market fluctuations, unforeseen geological variations, and operational challenges, the DFS provides a robust basis for project financing and development.

8.4 Comparison with Previous Ore Reserve Estimate

No previous Ore Reserve estimate has been made for the Oropesa Project

For personal use only

For personal use only

9. OPPORTUNITIES

In November 2023, Elementos declared a Mineral Resource Estimate for Zinc at Oropesa. The Zinc MRE was prepared by Mr Chris Creagh of Elementos in compliance with the 2012 JORC Code reporting standards. Table 9-1 presents the 2023 Zinc MRE as of November 2023. This MRE is based on the recovery of zinc as a by-product concentrate to the principal production of a tin concentrate.

Table 9-1: Oropesa Zinc MRE at November 2023

Resource Classification	Zn (%)	Tonnes (tonnes)	Contained Zn Metal (tonnes)
Measured	0.37%	8,664,418	31,670
Indicated	0.39%	14,052,877	54,356
Subtotal: Measured & Indicated	0.38%	22,717,295	86,026
Inferred	1.32%	1,028,073	13,545
Total	**0.42%**	**23,745,368**	**99,571**

Table Notes:

- All figures are rounded to reflect appropriate levels of confidence.
- Apparent differences in totals may occur due to rounding.
- A cut -off grade of 0.05 % Zn is applied

Tin mineralisation (cassiterite with minor stannite) is the principle economic mineralisation at Oropesa. The tin mineralisation is replacement style, primarily occurring in granular sandstones at the contacts between the sandstone and conglomerate units, with up to three later phases of disseminated to semi-massive sulphide mineralisation. The zinc mineralisation (sphalerite) is associated with the sulphide replacement mineralisation phases.

Figure 9-1 presents the Oropesa Zinc MRE blocks with respect to the DFS pit shell as well as the zinc grades. There is a pod of higher zinc grades in the south-east outside of the DFS pit shell that is Inferred Resource.

Zinc flotation testing on an ore sample was undertaken by WAI in 2024 using a blended TOMRA ore sorter product with a head grade of 0.55% Zn. The test work resulted in a final concentrate grade 43.5% Zn with a recovery of 56.5%.

Analysis of the zinc associated within the tin ore reserve blocks calculated a cut-off grade of 0.18% Zn was required to achieve a comparable head grade to the flotation test work. Zinc is also contained in the waste blocks (tin grade is below its cut-off grade). Table 9-2 presents the results of the potential zinc ore blocks in the DFS pit shell using the 0.18% Zn cut-off grade as well as the resource Zn cut-off grade of 0.05%.

Based on the flotation test work results and the 0.18% Zn cut-off grade there is the potential to recover approximately 30,000t of zinc metal.

For personal use only

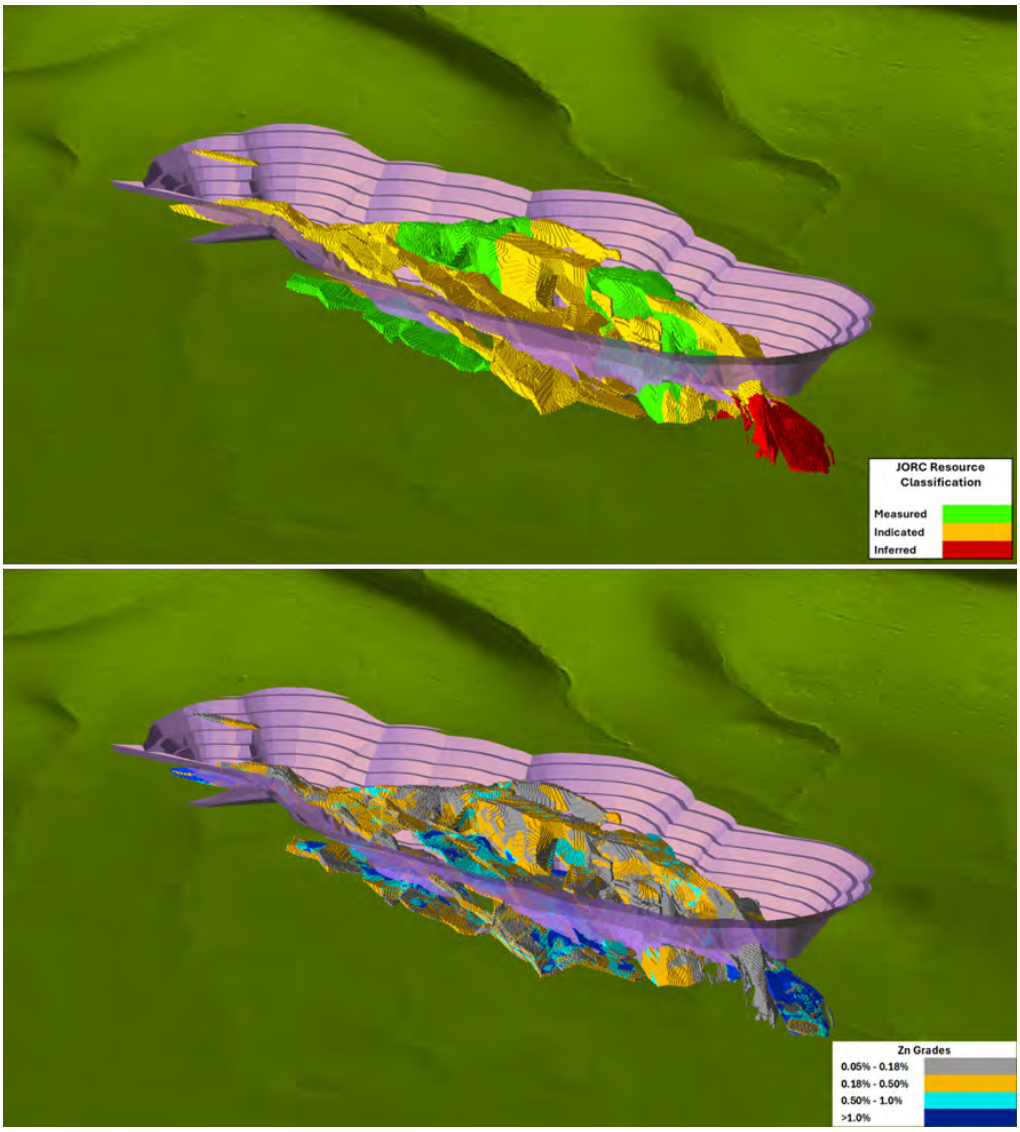

Figure 9-1: Zinc 2023 MRE Classifications and Zn Grades (%) with DFS Pit

Table 9-2: Analysis of Zinc in DFS Pit Shell

	Zn Grade (%)	Tonnes (Mtonnes)	Contained Zinc Metal (tonnes)
Zn Cut-off Grade 0.18%			
Zinc in Tin Ore Reserves	0.50%	8.7	43,297
Zinc in Waste in DFS Pit	0.39%	2.8	10,829
Total	**0.47%**	**11.4**	**54,126**
Zn Cut-off Grade 0.05%			
Zinc in Tin Ore Reserves	0.35%	14.1	49,144
Zinc in Waste in DFS Pit	0.20%	8.0	16,026
Total	**0.29%**	**22.1**	**65,170**

Further studies are required to determine the technical and economic viability of recovering the zinc resource.

10. REFERENCES

Ayterra Studies and Projects SL, 2024. *Hydrogeological Study of the Oropesa Project and its Environment*.

Ayterra Studies and Projects SL, 2024b. *Hydrological Study of the Oropesa Project and its Surrounds*.

Creagh, C, 2023. *Oropesa Zinc Mineral Resource Estimate 2023.*

Elementos Ltd, 2019. *ASX Announcement 29th March 2022 Oropesa Scoping Study*.

Elementos Ltd, 2025. *Oropesa Tin Project Definitive Feasibility Study*.

Environmental Resources Management Iberia SA, 2025. *Environmental Impact Study – Oropesa Mine Project*.

Grove, C, 2023. *Oropesa Mineral Resource Estimate 2023*.

Minas De Estano De Espana SLU, 2025. *Application for the Exploitation Concession Derived from the Oropesa Exploration Permit No 13.050, Fuente Obejuna (Cordoba)*.

Minas De Estano De Espana SLU, 2025b. *Restoration Plan for the Surfaces Affected by the Oropesa Project*.

Terratec Geotecnia y Sondeos SL, 2022. *Geotechnical Study of Slope Stability for Oropesa Project*.

TOMRA Sorting Solutions, 2022. *Performance Test Report - Sorting of Tin Ore*.

University of Oviedo, 2021. *Crushing Work Index Determination on Oropesa Project Samples*.

University of Oviedo, 2021b. *Determination of the Physical Properties of the Oropesa Project Samples.*

Wardell Armstrong International Ltd, 2023. *Geochemical Review of Acid Rock Drainage Test Work Oropesa Tin Project.*

Wardell Armstrong International Ltd, 2023b. *Test Work Report for Metallurgical Testing of Samples of Tin Mineralisation from Oropesa, Spain*.

Wardell Armstrong International Ltd, 2024. *Test Work Report for Zinc Flotation Testing on Samples from Oropesa Tin Deposit, Spain*.

For personal use only

For personal use only

APPENDIX A SECTION 4 OF TABLE 1 OF THE JORC CODE (2012)

Section 4 Estimation and Reporting of Ore Reserves

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td>Mineral Resource estimate for conversion to Ore Reserves</td><td>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.
Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</td><td>The Ore Reserves are based on the Mineral Resource Estimate (MRE) prepared by Mr Chris Grove of Measured Group in January 2023.
The Mineral Resources are inclusive of the Ore Reserves.
<table>
<tr><th>Resource Classification</th><th>Sn (%)</th><th>Tonnes (tonnes)</th><th>Contained Metal (tonnes)</th></tr>
<tr><td>Measured</td><td>0.36</td><td>7,418,212</td><td>26,801</td></tr>
<tr><td>Indicated</td><td>0.41</td><td>11,113,471</td><td>45,012</td></tr>
<tr><td>Inferred</td><td>0.38</td><td>1,070,700</td><td>4,021</td></tr>
<tr><td>Total</td><td>0.39</td><td>19,602,383</td><td>75,834</td></tr>
</table></td></tr>
<tr><td>Site visits</td><td>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.
If no site visits have been undertaken indicate why this is the case.</td><td>The competent person's supervisor visited the site on 5th-7th June 2023 and was provided access to the project area to see the recent exploration drilling program results as well as gain an appreciation for the terrain, current land use and local and regional infrastructure.</td></tr>
<tr><td>Study status</td><td>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.
The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</td><td>The Ore Reserves are based on a definitive feasibility study that incorporates geological modelling, resource classification, mine design and scheduling, metallurgical test work and process design, environmental impact studies and financial evaluations to establish the economic viability of the project.</td></tr>
<tr><td>Cut-off parameters</td><td>The basis of the cut-off grade(s) or quality parameters applied.</td><td>Based on a tin sales price of US$30,000 per tonne and the pit optimisation input processing operating costs, the mill COG was calculated to be 0.11% Sn. However, due to metallurgical recovery limitations, a metallurgical COG of 0.15% Sn has been applied.</td></tr>
</table>

For personal use only

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	• The Oropesa orebody is a near-surface folded sedimentary deposit. Scoping studies have determined the most optimal mining method is open cut mining utilising truck and shovel mining equipment. It is planned that contractors will be utilised for the mining operations, whilst the owner will operate and manage all other aspects of the project. • The open cut mine will be developed from the shallower mineralised zone in the north-west and mined in cut-back stages advancing to the deeper south-east limits. This will allow in-pit dumping of the previously mined out stages for more efficient haulage as well as minimising surface disturbance for out-of-pit dumping. • The equipment selected for mining are 120t and 190t size excavators loading 60t and 90t capacity rigid off-highway haul trucks, supported by ancillary equipment including graders, water carts and dozers. • All waste and ore will be drilled and blasted at a powder factor of approximately 0.54 kg/t of material. • Due to the folded nature of the orebody, grade control will be paramount. It is proposed to complete grade control via a combination of mapping, face sampling and grade control drilling. • Major dual lane haul roads have been designed at 10% maximum gradient at a width of 30m, whilst single lane accesses in the lower benches of the pit have been designed at a maximum gradient of 12% and minimum width of 15m. • The resource model was re-blocked from cells of 2m (long) x 2m (wide) x 2m (deep) to 5m x 5m x 5m to account for the SMU of selected mining equipment size. • The re-blocking of the model resulted in a mining recovery of 92% and mining dilution of 4%. • Inferred resource was excluded from the Pit Optimisation calculations. Within the detailed pit design 0.1% of the resource is Inferred. • A geotechnical drilling program and associated slope stability study recommended the following design parameters:

For personal use only

Criteria	JORC Code explanation	Commentary
		<table><tr><th>Zone</th><th>Lithology</th><th>Face Angle (º)</th><th>Bench Height (m)</th><th>Berm Width (m)</th></tr><tr><td>20m Below Topography</td><td>All Lithologies</td><td>45º</td><td>20</td><td>10</td></tr><tr><td rowspan="2">Meteoric Alteration at Depth (~20m to 100m)</td><td>Sandstone/Greywackes</td><td>59º</td><td>20</td><td>8</td></tr><tr><td>Conglomerate, Quartzite and Slate</td><td>66º</td><td>20</td><td>8</td></tr><tr><td>No Alteration or Weathering (>100m)</td><td>All Lithologies</td><td>73º</td><td>20</td><td>8</td></tr></table> • The contractor will provide key infrastructure for the mining equipment such as maintenance, park up bays and office facilities. • Groundwater pumping via surface boreholes will be installed to minimize groundwater ingress into the pit and enhance geotechnical stability. Additionally, the extracted water will be used in the process plant.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	• Tin mineralisation in the form of cassiterite (SnO_2) is traditionally extracted by gravity separation due to its high specific gravity. The Oropesa flowsheet and process design recovers an economically viable product through a pre-concentrator ore sorter followed by a conventional sulphide flotation, gravimetric concentration, tin flotation, and magnetic separation. • Technical risks have been reduced in the design by using proven technologies as the fundamental components of the process flowsheets. • The most recent pilot plant test programme targeted maximising the amount of tin that can be recovered from an ore sample that is more representative of the ore that is located throughout the proposed open pit operation at Oropesa. For the programme, approximately 2.8 tonnes of drill core from 147 drill holes across the resource was selected for processing. The bulk sample tin head grade was 0.46% Sn, with 5.02% S and 12.85% Fe. • A full metallurgical balance was generated using the mass pulls and recoveries from the pilot plant work, and the ancillary test work. From this a tin recovery of 74.1% at a

For personal use only

Criteria	JORC Code explanation	Commentary
		combined concentrate of 61.4% Sn was achieved. 60.5% of the recovered tin came from gravity concentration at a grade of 58-64% Sn, and the remaining 39.5% came from tin flotation at a grade of 58% Sn. The tin flotation concentrates contained 5.8% Fe and 3.5% S, with the gravity concentrate containing 3.5% Fe and 2.9% S which met specification limits.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	• The Oropesa Tin Project is currently in the process of obtaining environmental approvals. An EIS and Restoration Plan have been submitted as part of these approvals. • Waste rock characterisation and geochemical testing has classified the waste as non-hazardous inert and less than 0.1% sulphide content (non-acid forming). • A large proportion of the project area is populated by holm oak trees and is regarded as Habitat of Community Importance (HIC). The tailings dam, process plant and waste rock facilities have been located in areas of low oak tree density to minimise the number of trees that need to be cleared. • The regional government requested the tailings dam be located on the western side of the project area within the Guadiana River catchment which Elementos agreed to. • The tailings residue has been characterised as non-inert hazardous waste. It will be contained in a lined storage facility and treated to minimise environmental harm then capped with inert waste as per the restoration plan. • Noise, dust, vibration and visual amenity assessments have all determined minimal impacts on nearby towns.
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	• The location and designs of the process plant and TSF have been determined in the DFS. • Other infrastructure that will be constructed on site to support the project are: o Site access road, o Ancillary buildings, offices and facilities, o On-site water management, o Electrical supply and connection to the regional

For personal use only

Criteria	JORC Code explanation	Commentary
		power grid, and o Communications.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	• The capital and operating cost estimates for the project have been sourced from Spanish contractors and suppliers. Where local suppliers were not available European suppliers have provided estimates. • The operating costs are also based on the contractor quoted unit costs being applied to the DFS mining schedule's physicals output. • A foreign exchange rate of 1.05 was applied to convert Euros to US Dollars. • Elementos has an option term-sheet to acquire up to 50% interest in the Robledallano Tin Smelter. Transport, treatment charges and penalties are based on the concentrate being delivered to this smelter. • A 1.35% NSR is payable to SPIB.
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	• The revenue is based on a benchmark tin metal sales price of US$30,000/tonne. Reductions to this price to get the final revenue value are: o Concentrate impurities -US$250/tonne o Tin payable 98% o Freight costs of US$60/concentrate tonne o Treatment charges of US$650/concentrate tonne
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	• The tin market is facing significant supply challenges amid growing demand driven by the global energy transition. Tin is a critical component in solders for electronics, coatings for solar panels, and other renewable energy applications. The International Tin Association (ITA) projects a potential supply deficit of ~35,000 to 40,000 tonnes by 2030, if new mining projects are not developed or delivered. This deficit is underpinned by a conservative demand growth forecast of 2.6% annually through to 2030.
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation,*	• The Ore Reserves estimate is based on the DFS financial model with inputs for mining, processing, sustaining capital and contingencies scheduled and costed.

For personal use only

Criteria	JORC Code explanation	Commentary
	discount rate, etc. • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	• The Ore Reserves returns a positive NPV based on assumed commodity price and the Competent Person is satisfied that the project economics that make up the Ore Reserves retains a suitable profit margin against reasonable future commodity price movements. • Sensitivity analysis has been undertaken on all key revenue and cost inputs within ranges deemed reasonable for the project.
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	• Elementos, via its MESPA subsidiary, have established good relationships with the local landholders that their Investigation Permit covers. • There is a strategy in place to finalise commercial negotiations for land use agreements, leasing or acquisitions with the relevant landholders once the Primary Licence approvals have been received. Under Spanish mining legislation compulsory acquisitions can occur once the Primary Licence is approved, but Elementos prefers not to initiate this where possible.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	• Elementos, via MESPA, has submitted all the documentation required to attain its two Primary License applications required for the project to be constructed and operate. • The project has significant support within the Junta de Andalucia (Regional Government of Andalucía) and remains a key mining project within the Government's Project Accelerator Unit (Unidad Aceleradora de Proyectos). • In addition to the submission of the Primary Licence applications, the company recently received an extension to its Investigation (exploration) Permit, which was required before the final submission of the Primary Approvals documents.
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent*	• All Ore Reserves have been classified as Proven or Probable Reserves which are subsets of Measured and Indicated Resource category. It is the opinion of the Competent Person

For personal use only

Criteria	JORC Code explanation	Commentary
	Person's view of the deposit. • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	that all Measured and Indicated Resource within the economic limits of the pit can be classified as Proven and Probable Reserves respectively.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	• The Reserve assumptions, calculations and financial modelling has been internally reviewed by a team of experts. • No external audits of the estimate have been completed.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The accuracy of the Ore Reserves is based on DFS level work and is deemed within an acceptable level of confidence by the Competent Person. • The feasibility level estimate incorporates detailed geological modelling, resource classification, mine design, metallurgical recoveries, and cost estimates with a level of accuracy generally within ±10-15%. • The capital and operating cost estimates for the project have been sourced from Spanish contractors and suppliers. Where local suppliers are not available European suppliers have provided estimates. • While uncertainties remain due to factors such as market fluctuations, unforeseen geological variations, and operational challenges, the DFS provides a robust basis for an accurate estimate of the project.