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Gcwihaba XIF Project Valuation Report

Tsodilo Resources Ltd.

Compiled by: Martin Roodt

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EXECUTIVE SUMMARY

The Gcwihaba Xaudum Iron Formation (XIF) project is located in the Ngamiland District in the north-west corner of Botswana near the town of Shakawe and close to the Mohembo border crossing to Namibia. The Ngamiland District is one of the poorest and least developed regions of Botswana. Botswana currently has no other iron resources or reserves outside of this project resource despite significant exploration efforts by other companies such as Rio Tinto and BCL.

A non-public valuation report following the best practices as outlined in the 2019 edition of the Canadian Institute of Mining, Metallurgy and Petroleum on the Valuation of Mineral Properties (CIMVAL Code, 2019 Edition) is required for the XIF project valuation model. The contents of the Valuation of Mineral Properties Report reflect information compiled and conclusions derived by Mr. Roodt, who is a qualified Charted Accountant and a member of the South African Institute of Charted Accountants (SAICA). Mr. Roodt is a consultant of Tsodilo, working for Fraser McGill (Pty) Ltd (Fraser McGill). Mr. Roodt has extensive experience relevant to the valuation of the mineral properties under consideration and to the activity which he is undertaking to value the property as a Valuator as defined in the CIMVAL Code, 2019 Edition. Mr. Roodt consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Over the years various studies and reviews have been performed on the XIF project. SRK performed a Mineral Resource Estimate (MRE) in 2014, followed by reviews from various independent consultants. The latest review performed in April 2022 included a pit optimisation study. The Original Base Case – Excluding buffer zone (Scenario 1) and Original Base Case – Including buffer zone (Scenario 2) was based on the outputs of the SRK – MRE report, dated 2014. Revised Base Case (Scenario 4) was based on the pit optimisation study performed in April 2022. Refer to **Table ES-1** on the next page for more information regarding the various scenarios.

The assessment of the XIF property in Scenario 4 takes into consideration key technical and economic changes, mainly the exclusion of the buffer zone area adjacent to the UNESCO Okavango Delta World Heritage Property from the XIF resource (Refer to the Mining Report, dated 7 April 2022 for more detailed information in respect of updated pit optimisation and production schedules), as well as bringing the property' economic inputs up to date (from the original 2014 estimated base to a current 2022 base).

Historical cost estimates have been escalated with the appropriate inflation rates and benchmarked with other Iron ore projects/mines within the principal and/or most advantageous markets to ensure cost inputs are aligned with what is currently seen in the market.

As the XIF project will derive 100% of its revenue from the production and sale of Iron Ore products, an income approach which applies a Discounted Cashflow (DCF) is the most appropriate valuation method to value the XIF project in line with the considerations of a rational market participant. When the income approach is used, the fair value of the measurements reflects the current market expectations of those future amounts. The valuation model calculates the undiscounted cash flow on an unlevered real basis, to arrive at the real discounted cashflow on a post-tax, 100% attributable basis. The valuation model is performed by considering various scenarios over the life of mine of each scenario.

Table ES-1: Scenario Description

Scenario	Description
Original Base Case – Excluding Buffer Zone (Referred to as Scen 1) (Level 1)	269 Mt Resource. 7.2 Mtpa ROM mined (Life of Mine "LOM" 37 Yrs.) processed through a concentrator. The concentrated final product will be trucked to Grootfontein and then transported via train to Walvisbay for export.
Original Base Case (Referred to as Scen 2) (Level 2)	441 Mt Resource. 7.2 Mtpa ROM mined (Life of Mine "LOM" 59 Yrs.) processed through a concentrator. The concentrated final product will be trucked to Grootfontein and then transported via train to Walvisbay for export.
Incremental Valuation (Referred to as Scen 3) (Level 2 – Level 1)	An incremental valuation represents the returns of the expansion by indicating the value attributable to the buffer zone only, also referred to as a "2-1 Approach".
Revised Base Case (Referred to as Scen 4)	93 Mt Resource. 7.2 Mtpa ROM mined (Life of Mine "LOM" 14 Yrs.) processed through a concentrator. The concentrated final product will be trucked to Grootfontein and then transported via train to Walvisbay for export.
Ferrosilicon (FeSi) Scenarios	Each of the above-mentioned scenarios were further assessed through downstream beneficiation by feeding the concentrated product into a pellet plant and subsequent FeSi plant to produce a final saleable FeSi product. The final product will be trucked to Grootfontein and then transported via train to Walvisbay for export or exported throughout the region.

A site visit has not been performed.

The valuation results are based on the following assumptions:

- Valuation date: 1 January 2023
- Construction start date: 1 January 2024
- Unlevered 100% attributable basis
- 30:70 Debt: Equity funding structure
- Post-tax
- Real discounted cashflows
- Discount rate of 9.32%.

Refer to **Table ES-2 & Table ES-3** on the following page for the key valuation results stated in real terms.

Table ES-2: Key Valuation Outputs

Key Parameters	UoM	Scen 1	Scen 2	Incremental (Scen 3)	Scen 4
NPV (Post-tax)	US$ mil	298	315	17	69
IRR	%	25	25	-	15
Payback Period	Years	5	5	-	6
Peak Funding	US$ mil	273	273	-	281
Capital Efficiency	ratio	1.03	1.08	N/A	0.24
Fe Recovery	%	33.2	33.2	33.2	30.3
Operating Margin	%	36.72	35.73	35.73	19.52
Ore Tonnes Mined[1]	Mtpa	269	441	172	93
Strip Ratio	x:1	2.2	2.2	2.2	2.3
Production Tonnes	Mtpa	7.2	7.2	7.2	7.3

Scenario 2 provides higher returns than scenario 1. The main reason for this is, Scenario 2 includes the buffer zone, that extends the LoM and in return generates additional revenue. Scenario 4 uses a 30.3% recovery factor, obtained from the pit optimisation study, dated April 2022.

Scenario 3 (incremental valuation) indicates the value attributable to the buffer zone only (Scenario 2 – Scenario 1).

The valuation is most sensitive to a change in the discount rate, followed by Fe recovery %, FeSi sales price and FeSi Yield.

The XIF project provides a positive NPV by producing iron ore concentrate only, indicating that equity holders will generate a return on their investment.

[1] Includes mining loss factor

Table ES-3: FeSi Scenario Valuation Outputs

Key Parameters	UoM	Scen 1	Scen 2	Incremental (Scen 3)	Scen 4
NPV (Post-tax)	US$ mil	2,209	2,296	87	1,878
IRR	%	47	47	-	58
Payback Period	Years	4	4	-	3
Peak Funding	US$ mil	823	823	-	467
Capital Efficiency	ratio	2.33	2.43	0.10	3.31
Fe Recovery	%	33.2	33.2	33.2	30.3
Operating Margin	%	62.73	62.73	62.73	71.51
Ore Tonnes Mined[2]	Mtpa	269	441	172	93
Strip Ratio	x:1	2.2	2.2	2.2	2.3
Production Tonnes	Mtpa	7.2	7.2	7.2	1.8

It was noted that downstream beneficiation and producing a FeSi saleable product adds significant value. Producing a FeSi saleable product on any of the scenarios, returns a significant NPV. The incremental valuation between Scenario 1 and Scenario 2 indicates an increase of **US$ 87 million** in the NPV.

The scenario generating the highest NPV is Scenario 2 (Base case – including buffer zone) of **US$ 2,296 million**, and IRR of **47%** on a real, post-tax, and 100% attributable basis, with a **valuation date of 1 January 2023.**

[2] Includes mining loss factor

1. INTRODUCTION

1.1 Tsodilo Resources Ltd.

Tsodilo Resources Limited ("Tsodilo") is a publicly listed mining company registered in Toronto, Canada, focused on acquisitions, explorations, and development of mineral properties in the Republic of Botswana. The company has two projects located in Botswana. The projects are at various stages of development, ranging from the Gcwihaba Xaudum Iron Formation ("XIF") project, at desktop (scoping) stage, and the BK 16 project, at target outline stage.

1.2 XIF Project

XIF is located in the Ngamiland District in the north-west corner of Botswana near the town of Shakawe and close to the Mohembo border crossing to Namibia. The Ngamiland District is one of the poorest and least developed regions of Botswana. Botswana currently has no other iron resources or reserves outside of this project resource despite significant exploration efforts by other companies such as Rio Tinto and BCL.

The project is ~50km from the town of Divundu in Namibia, through which the Trans Caprivi Railway (TCR) line is planned to pass which will link Namibia and Zambia and provide access to Walvis Bay etc. It is also located within ~70 km of the proposed Angolan, Mucusso line to the Namibe Port.

The ore body consists of Magnetite Banded Iron Formation, which has the identified potential to be upgraded to premium grade magnetite exceeding 67% Fe.

Tsodilo requires a valuation and business case assessment on the XIF project and compilation of a non-public valuation report following best practices as outlined in the 219 edition of the Canadian Institute of Mining, Metallurgy and Petroleum on the Valuation of Mineral Properties (CIMVAL Code, 2019 Edition).

1.3 Fraser McGill (Pty) Ltd.

Fraser McGill (Pty) Ltd (FM) provides independent advisory services to junior and mid-tier companies in the mining and minerals sector. FM assists customers to make informed investment decisions concerning their mining assets and project portfolios.

FM offers strategic decision-making tools and provide business case solutions that are technically sound. This is done by translating complex ore body geometries, mining and processing techniques, and logistics and infrastructure considerations into 'executive friendly' decision models and dashboards.

With a combined experience of almost 100 years of technical, operational, and consulting experience in the industry, FM understands mining, and specifically mining in an African environment. This knowledge encompasses a broad range of business-case, strategic, technical, and operational areas in the sector.

1.4 Qualified Valuator

The information in the Valuation of Mineral Properties report reflects information compiled and conclusions derived by Mr. Roodt, who is a qualified Charted Accounted and a member of the South African Institute of Charted Accountants (SAICA) Mr. Roodt is a consultant of the Company, working

for Fraser McGill (Pty) Ltd (Fraser McGill). Fraser McGill is a mining & minerals advisory firm that offer strategic decision-making tools and provide business case solutions that are technically and financially sound. Fraser McGill do this by translating complex ore body geometries, mining and processing techniques, and logistics and infrastructure considerations into 'executive friendly' decision models and dashboards.

Mr. Roodt has extensive experience relevant to the Valuation of the Mineral Properties under consideration and to the activity which he is undertaking to qualify as a Valuator as defined in the 2019 edition of the Canadian Institute of Mining, Metallurgy and Petroleum on the Valuation of Mineral Properties (CIMVAL Code, 2019 Edition). Mr. Roodt consents to the inclusion of his information in the report in the form and context in which it appears.

2. METHODOLOGY

2.1 General

The XIF Project valuation model and associated procedures were developed in line with the Canadian Institute of Mining, Metallurgy and Petroleum on the Valuation of Mineral Code (The CIMVAL Code), 2019 Edition. The CIMVAL Code sets out the basis of value fundamental measurement assumptions of a valuation.

In preparing the valuation model, all assumptions and inputs were used to represent an orderly transaction that would take place in the principal market. In the absence of evidence of a principal market, the most advantageous market could be selected. In other words, the market in which the entity would normally enter a transaction to sell the property or transfer the liability is presumed to be the principal market.

An exhaustive search of all possible markets to identify the principal market was not undertaken, however, information that was readily available, was considered.

Finally, for the purposes of the model, inputs and assumptions are in line with those which rational economic investors would apply while are acting in their best economic interest. It is also based on the conditions which existed at the **measurement date; 1 January 2023**.

2.2 Valuation Approaches

An entity shall use appropriate valuation approaches in the circumstances and for which sufficient data is available to measure the Market – and technical value, 3maximizing use of relevant observable inputs and 3minimizing the use of unobservable inputs.

The CIMVAL Code does not contain a hierarchy of valuation approaches, nor does it prescribe the use of a specific valuation technique for meeting the objective of a property valuation. However, the code acknowledges that given specific circumstances, one valuation technique might be more appropriate than another.

The code explicitly requires an investor to use at least two valuation approaches. Where more than one valuation approach is used, the qualified valuator should comment on how the results compare and provide the reasons for selecting the approach adopted.

The CIMVAL Code describes three valuation approaches which are shown in the table below.

Table 2-1: Valuation Approaches

Valuation Approach	Valuation Technique Examples
Market Approach	The Market Approach can be used at any stage of development and is largely based on the relative comparisons of similar properties for which a transaction is available in the public domain. The method is also referred to as the Comparable Transaction Valuation method. The method relies on the principle of 'willing buyer, willing seller' and requires that the amount obtainable from the sale of the mineral property is determined as if in an 'arm's-length' transaction. E.g., Comparable company valuation multiples.
Income Approach	The most common methods included under the Income Approach are the Discounted cash flow (DCF), Monte Carlo Analysis, Dividend Discount Model and Option Pricing. The DCF is widely used and generally accepted to value development and production properties in the production phase. This method relies on the 'value-in-use' principle and requires determination of the present value of future cash flows over the useful life of the mineral property. Since DCF inputs require substantial subjective judgements, in the case where no studies of high-level confidence exist, the DCF valuation can strictly only be applied as guided by the CIMVAL code.
Cost Approach	The Cost Approach includes the Appraised Value method which is widely used and the Multiple of Exploration Expenditure which is used to value early-stage exploration properties. The valuation is dependent on the historical and future exploration expenditure, as this approach is based on the principle of contribution to value.

2.3 Appropriate Valuation Approach

Mineral properties can be classified as Exploration Properties, Mineral Resource Properties, Development Properties, and Production Properties. Each of these properties has various valuation approaches that are more generally used when valuing the property at the applicable stage of development. **Table 2-2**: Applicability of Valuation Approaches, below describes this relationship.

Table 2-2: Applicability of Valuation Approaches

Valuation Approach	Exploration Properties	Mineral Resource Properties	Development Properties	Production Properties
Market Approach	Yes	Yes	Yes	Yes
Income Approach	No	In some cases,	Yes	Yes
Cost Approach	Yes	In some cases,	No	No

As the XIF Project can currently be classified as a Mineral Resource Property due to a Mineral Resource Estimate (MRE) that was completed in 2014, the Market Approach and Income Approach were selected for the valuation. The Cost Approach was not selected and **Section 2.3.2** provides more detail as to why.

2.3.1 Market Approach

2.3.1.1 Basis of Estimate

An exercise was performed to identify recent purchase/sale transactions of an identical or similar Mineral Property in the principal market, or in the absence of a principal market, the most advantageous market. The Botswana region has been identified as the principal market and Africa as the most advantageous market, as transactions are performed across various countries in Africa.

2.3.1.2 Source of Information

S&P Global Market Intelligence (S&P) platform was used to perform a search on all recent Merger & Acquisition transactions which occurred in the principal as well as most advantageous markets.

2.3.1.3 Data Points and Search History

A market approach involves using either a comparable company's market multiple or the application of a market multiple based on a historic transaction involving a similar company. This approach is based on the premise that properties should be priced similarly; however, it relies on the availability and integrity of comparable information.

Such an exercise was performed by using S&P. The search was conducted over a 10-year period, starting in 2012 up to the current year of assessment.

The following factors, which were readily available, were considered to identify identical or similar property transactions:

- **Economically Mineable Resource as per Resource statement:** 296 Mt
- **Mine Type:** Open pit
- **Annual Run of Mine Ore Production:** 7.2 Mtpa
- **Development Stage:** Mineral Resource Estimate
- **Location (Principal Market):** Botswana, Africa

119 historical transactions were obtained from S&P relating to Iron Ore as the primary commodity. The list was narrowed down to 27 transactions by focussing on the principal and most advantageous markets. This list was further reduced to 6 transactions focusing on open-pit mines.

The headline transactions that were investigated for the comparable analysis is summarised in

Table 2-3.

Although certain identified market transactions occurred in the most advantageous market, based on the key factors listed above, no transactions of identical or closely comparable properties were identified in this analysis. The variability in the application of potential modifying factors for variations in iron ore qualities, transport distances, pricing environment, stage of development, mining method, etc. renders the comparison flawed. As such, no valuation estimate was derived from utilising the Market Approach.

Table 2-3: Transactions occurring in principle, most advantageous and other markets

Buyer	Target	Property Acquired	Country, Region	Date	Transaction Value (USDm)	Equity Acquired (%)	Development Stage	Resource Size (Mt)	Mine Type	Commodity Type
Arrow Minerals Ltd.	Investor Group	Simandou North Project	Guinea	2022/07/13	1.98	60,50	Pre-production	26,500	Open-pit	Iron Ore
High Power Expl. Inc,	Investor Group	Nimba Project	Guinea	2019/09/05	1,000.00	95,00	Feasibility	205	Open-pit	Iron Ore
ArcelorMittal SA Ltd.	Anglo American Plc.	Thabazimbi	South Africa	2017/02/09	0.30	100,00	Reserve Development	8	Open-pit	Iron Ore
Midus Global Ltd.	Equatorial Resouce Ltd.	Mayoko-Moussondji Project	Rep. of Congo	2015/08/14	3.68	100,00	Scoping Study	917	Open-pit	Iron Ore
Shadong Iron & Steel Ltd.	African Minerals Ltd.	Tonkolili Mine	Sierra Leone	2015/04/20	170.00	75,00	Operating	13,000	Open-pit	Iron Ore
Anvwar Asian Investment	Ferrum Crescent Ltd.	Turquoise Moon	South Africa	2013/09/24	13.50	35,00	Feasibility	108	Open-pit	Iron Ore

There is little comparative information which can be used to determine the fair value of the property at the desired level of confidence. Fraser McGill is also not aware of another property or another transaction in the principal market (Botswana) or most advantageous market (Africa) that could be used as a benchmark for the market valuation approach. It is difficult to clearly identify good comparable transactions to use in the valuation of a mining project. An 'arms-length' transaction is defined as a transaction where there is independence between the buyer and seller and both parties act in their own self-interest without any coercion from the other party. Finding true 'arms-length' comparable transactions for a commodity like Iron Ore proved to be very challenging. **Consequently, the Market Approach was considered but not selected for valuation purposes**.

2.3.2 Cost Approach

The Cost Approach is appropriate when determining the amount that would be required to replace the capacity of a property, or the cost that would be incurred to bring the property to its current state of operation or condition. For this reason, **the Cost Approach was not considered to be an appropriate valuation approach** which would be utilised by a rational economic investor acting in their best interest.

2.3.3 Income Approach

2.3.3.1 Basis of Estimate

The Discounted Cash Flow ("DCF") method is an Income-Based Approach to valuation, where the value of a project or business is equal to the present value of its projected future cashflows.

Tsodilo will derive 100% of its revenue from the production and sale of Iron Ore and/or downstream beneficiated products. Therefore, an income method which applies **a DCF Approach is considered to be the most appropriate valuation approach** to value the XIF project in line with the considerations of a rational market participant. When the Income Approach is used, the fair value of the measurements reflects the current market expectations of those future amounts.

The 8valuation method can be performed from two cash flow measures, namely:

- **Enterprise Value:** represents the unlevered cash flows available to all capital providers (equity and debt holders). In other words, cash flows from assets, before any debt payments, but after any reinvestments that are needed to either sustain or grow the operations.
- **Equity Value:** represents the levered cash flows available to all equity capital providers. In other words, cash flows from assets, after debt payments and after any reinvestments that are needed to either sustain or grow the operations.

In this report, an unlevered free cash flow model was prepared, with all future cash flows discounted at the weighted average cost of capital of the firm ("WACC") to determine the Enterprise Value.

3. MODEL INPUTS AND ASSUMPTIONS

3.1 Introduction

3.1.1 General

This section summarises the valuation model inputs and financial analysis assumptions of the XIF property valuation. The information available and preliminary work performed for the XIF valuation is at varying confidence levels. As such, the current confidence level of the reported outcomes is estimated to be at a MRE level of definition (+-50% level of confidence).

Over the years various studies and reviews have been performed on the XIF project. SRK performed a Mineral Resource Estimate (MRE) in 2014, followed by reviews from various independent consultants. The latest review performed in April 2022 included a pit optimisation study. The Original Base Case – Excluding buffer zone (Scenario 1) and Original Base Case – Including buffer zone (Scenario 2) was based on the outputs of the SRK – MRE report, dated 2014. Revised Base Case (Scenario 4) was based on the pit optimisation study performed in April 2022.

The revised base case assessment of the XIF property takes into consideration some key technical and economic changes, mainly the exclusion of the buffer zone area adjacent to the UNESCO Okavango Delta World Heritage Property from the XIF resource (Refer to the Mining Report, dated 7 April 2022 for more detailed information in respect of updated pit optimisation and production schedules), as well as bringing the property' economic inputs up to date (from the original 2014 estimated base to a current 2022 base).

Over the years various reports and reviews have been performed on the XIF project. The following reports were used to develop the valuation model.

- Mineral Resource Estimate (MRE), dated 2014.
- Technical Review of Project Management and Engineering of Xaudum Iron Formation dated 2020.
- Mining Report, dated 2022.

Historical cost estimates have been escalated with the appropriate inflation rates and benchmarked with other Iron ore projects/mines within the principal and/or most advantageous markets to ensure cost inputs are aligned with what is currently seen in the market.

3.1.2 Market Overview

3.1.2.1 Iron Ore & Steel Market

62% Fe Iron Ore prices rallied to a seven-month high of $ 162.75 per tonne during March 2022, with a current price of $ 95.35/t (13 October 2022), fuelled by volatility and sentiment from China's economic growth outlook, and the current ongoing events in Ukraine with its resultant geopolitical implications. The Russia-Ukraine conflict continues to spark fears of a significant supply shock across global commodity markets that may reshape these markets for many years.

62% Fe Iron Ore prices are expected to decline based on the assumption that the markets will return to the previous baseline, with a long-term price outlook estimated at $ 87.75/t (real) from 2027.

Another critical consideration is the material increase in steel prices, significantly impacting mining project development cost estimates. The SEIFSA (The Steel and Engineering Industries Federation of South Africa) mining and construction plant and equipment price index, which includes steel producer prices, increased by a massive 27% from 2020 to 2022. This will negatively impact any major mining development or expansion in the short to medium term but may be of benefit to the LOM in the long term after XIF is operational.

A key takeaway is that the uncertainty may create positive impacts for a project like XIF beyond the current estimates applied in this update assessment.

3.1.2.2 Power

Sharp increases in energy prices in Botswana have materialised over the last few years, which directly impacts the operating cost of mines and downstream beneficiation plants. In 2020 Botswana Power Corporation (BPC) increased electricity tariffs by 22%, an additional 3% increase in 2021, and a 5% increase on 1 April 2022.

3.1.2.3 Ferrosilicon

Part of the review solution is the further beneficiation of Iron Ore concentrate to a final Ferrosilicon (FeSi) product.

This resulted from the identification of crucial constraints for the prospects of the development of XIF around logistical and investment quantum that were not previously fully considered. The FeSi solution is based on the regional needs for FeSi paired with a plan to mitigate the impact of logistical issues caused by the remoteness of the property.

FeSi is used as a source of silicon to reduce metals from their oxides and to deoxidise steel and other ferrous alloys. This prevents the loss of carbon from the molten steel. Ferrosilicon is also used to produce silicon steel for electromotors and transformer cores; it can also be found in some electrode coatings.

In-country beneficiation of Iron Ore to produce FeSi is thus considered in this valuation of XIF.

3.2 Valuation Basis

3.2.1 General

A real (post-tax) discount rate of 9.32% (based on a risk profile for a Botswana-based target at a MRE stage for Iron Ore) was used to provide an NPV outcome for the various business case scenario options. The valuation is based on discounted cash flows utilising full-year discounting over the Life of Mine (LOM).

For the presented scenario options within this report (Refer to **Section 3.2.2**), commiserative long-term mining plans and production profiles, operating costs, capital schedules (investment, development, and stay-in-business (SIB) capital) were used based on information retrieved from the MRE report, dated 2014, as well as the mining report, dated 7 April 2022. These were supplemented with further review assumptions prepared based on technical and commercial reviews as well as benchmarks or sourced first principal input databases to assist with the augmentation of additional and alternative options. This was done to identify the potential latent value that may have been overlooked.

These inputs were prepared as the basis for the LOM schedules and cash flows. Cost data were aggregated to the fixed and variable costs level by main activity within the model per each option.

3.2.2 Scenario Option Layout

The techno-economic model contains various scenario options, which can be selected and deselected from the model's dashboard.

The key identified scenario options presented in this report are as follows:

Table 3-1: Scenario Option Layout

Scenario	Description
Original Base Case – Excluding Buffer Zone (Referred to as Scen 1) (Level 1)	269 Mt Resource. 7.2 Mtpa ROM mined (Life of Mine "LOM" 37 Yrs.) processed through a concentrator. The concentrated final product will be trucked to Grootfontein and then transported via train to Walvisbay for export.
Original Base Case (Referred to as Scen 2) (Level 2)	441 Mt Resource. 7.2 Mtpa ROM mined (Life of Mine "LOM" 59 Yrs.) processed through a concentrator. The concentrated final product will be trucked to Grootfontein and then transported via train to Walvisbay for export.
Incremental Valuation (Referred to as Scen 3) (Level 2 – Level 1)	An incremental valuation represents the returns of the expansion by indicating the value attributable to the buffer zone only, also referred to as a "2-1 Approach".
Revised Base Case (Referred to as Scen 4)	93 Mt Resource. 7.2 Mtpa ROM mined (Life of Mine "LOM" 14 Yrs.) processed through a concentrator. The concentrated final product will be trucked to Grootfontein and then transported via train to Walvisbay for export.
Ferrosilicon (FeSi) Scenarios	Each of the above-mentioned scenarios were further assessed through downstream beneficiation by feeding the concentrated product into a pellet plant and subsequent FeSi plant to produce a final saleable FeSi product. The final product will be trucked to Grootfontein and then transported via train to Walvisbay for export or exported throughout the region.

3.2.3 Income Approach

Table 3-2: Basis of Valuation Assumptions

Factor	Assumption
Method of Analysis	Discounted Cash Flow (DCF)
Cashflow Terms	Real Terms
Currency	United States Dollar (USD)
Base Date of Evaluation	1 January 2023
Discount Rate[3]	9.32% (Post-tax, Real)
Life of Mine	Life of Mine per scenario: • Scenario 1: 37 years • Scenario 2: 59 years • Scenario 3: 22 years • Scenario 4: 52 years
Gross Revenue	Three possible revenue streams: • 67% Iron Ore Concentrate • Iron Ore Pellet Product • FeSi product
Selling Expenses	Includes: • Marketing • Logistics • Royalties
Operating Costs	Includes: • Mining Cost • Processing Cost • General & Admin Cost
Capital Expenditure	Includes: • Mine Establishment & Development Capital • Concentrator Capital • EPC Capital • Mine Closure Capital • Sustaining Capital
Working Capital	No working capital considered
Income Tax	Botswana mining tax equation. No unredeemed capital or tax losses were considered

The following cash flows were not considered in the valuation:

- Residual values for fleet, infrastructure and equipment as the fleet is contracted and assumed life of the process plant is designed for LOM.
- Sunk costs.
- Finance charges or cash flows relating to potential debt.

[3] Refer to section 3.3.12 for more information.

3.2.4 Valuation Period

The valuation model is performed over the life of mine. Refer to **Section 3.3.2** for more information. The valuation excludes a terminal value, due to the valuation being performed over the life of mine.

3.2.5 Cash Flow Terms

The valuation model calculates the undiscounted cash flow on an unlevered real basis, post-tax, 100% attributable basis.

3.2.6 Mineral Resource Estimate

A Mineral Resource statement ("MRS") was generated in 2014 and was restricted to all material falling within an optimised pit shell representing a metal price of USD 1.5 / dmtu for magnetite concentrate along with above a cut-off grade of 12% Fe. Processing costs, mining costs slope angles, mining recoveries and revenue assumptions were also used to demonstrate economic viability. The material within the optimised pit shell represents the material which is considered having reasonable prospect for eventual economic extraction potential based on the optimisation analysis undertaken.

The quantity and grade of reported Inferred Mineral Resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred Mineral Resources as an Indicated or Measured Mineral Resource.

In total, the MRS has derived an Inferred Mineral Resource of 441 Mt grading 29.4% Fe, 41.0% SiO2, 6.1% Al2O3 and 0.3% P. By excluding the pit inside the buffer zone, the mineral resource is reduced to ~269 Mt.

Total exploration target is estimated between 5-7 Billion tonnes.

3.2.7 Pit Optimisation

During April 2022, an updated Pit Optimisation Project was undertaken to determine an open pit shape based on the latest input parameters. Analysis of the pit shells generated in the optimisation process leads to the selection of a final pit shell. The pit shell selected defines the extent of the mineable resource from which final LoM schedules are created. These schedules are used to develop associated cash flows.

The pit optimisation is based on certain criteria governing the results. The input parameters include all input parameters for the whole value chain. This includes parameters from in situ geology to the saleable product, including mining and selling costs. The physical inputs include the production rates and geotechnical parameters.

3.2.7.1 Input Parameters

The complete list of input parameters used for the optimisation runs are detailed in **Table 3-3**. The table also includes the previous input parameters for comparison. Those parameters were used to define the Mineral Resource (441Mt) at the time, which included the buffer zone. Excluding the pit inside the buffer zone reduces the mineral resource to ~269Mt.

Table 3-3: Pit Optimisation Parameters

Parameters	Units	2014	2022	Comment
Production				
Production Rate – Ore	(Mtpa)	35	7.2	
Geotechnical				
Overburden – Sand	(Deg)	26	26	No Change
Overburden – Calcrete	(Deg)	45	45	No Change
Weathered	(Deg)	45	45	No Change
Fresh	(Deg)	50	50	No Change
Mining Factors				
Dilution	(%)	5.0	5.0	No Change
Recovery	(%)	95.0	95.0	No Change
Processing				
Fe Recovery Fresh HG	(%)	1.3685xFE+25.442		Tsodilo Resources Limited
Fe Recovery Fresh LG	(%)	1.3685xFE+25.443		Tsodilo Resources Limited
Fe Recovery Fresh Garnet Rich	(%)	23.7	23.7	Tsodilo Resources Limited
Fe Recovery Weathered HG	(%)	1.3685xFE+25.442		Tsodilo Resources Limited
Fe Recovery Weathered LG	(%)	1.3685xFE+25.443		Tsodilo Resources Limited
Concentrate grade assumed	(%)	67.0	67.0	No Change
Operating Costs				
Mining Cost (Sands and Calcrete)	(US$/$t_{rock}$)	N/A	1.65	2014 did not have separate cost for free dig materials
Mining Cost	(US$/$t_{rock}$)	2.20	2.20	No Change
Incremental Mining Cost	(US$/bench)	0.05	0.05	No Change
Reference Level	(Z Elevation)	1010	1010	No Change
Replacement Capital	(US$/$t_{ore}$)	0	0	No Change
Rehabilitation Cost	(US$/$t_{ore}$)	0.00	0.00	No Change
Processing	(US$/$t_{ore}$)	5.00	6.50	Inflation
G&A	(US$/$t_{ore}$)	5.00	6.02	Inflation
Royalty	(%)	3.00	3.00	No Change
Marketing	(%)	N/A	2.50	Did not include in 2014
Transport Cost	(US$/$t_{conc}$)	5.00	12.20	Inflation and previously underestimated vs benchmarking
Metal Price				
Concentrate (67% Fe)	(US$/$t_{conc}$)	100.5	95.1	Long Term Price
	(Usc/dmtu)	150	142	Long Term Price
Other				
Discount Rate	(%)	10	14	Provided

3.2.7.2 Pit Optimisation Results

3.2.7.2.1 Phase 1

As a first phase of the optimisation process, the 2014 parameters were used with the updated model which excluded the buffer zone for comparison purposes.

Table 3-4 is a summary of the 2014 pit shell and reporting only the resources outside the buffer zone.

Table 3-4: Summary of 2014 Resource Excluding the Buffer Zone

Geodomain	Resource Category	Tonnes (Mt)	Fe%
MBA	Inferred	85	35.2%
DIM	Inferred	141	21.2%
MBW	Inferred	8	33.2%
DMW	Inferred	29	20.5%
MGS	Inferred	7	22.1%
Total	**Inferred**	**269**	**25.9%**

3.2.7.2.2 Phase 2

Phase 2 considered the updated input parameters. The results are detailed in **Table 3-5** below.

Table 3-5: Pit Results using the Updated Input Parameters

Geodomain	Resource Category	Tonnes (Mt)	Fe%
MBA	Inferred	54.7	36.1%
DIM	Inferred	22.6	24.8%
MBW	Inferred	7.2	33.1%
DMW	Inferred	8.5	25.6%
MGS	Inferred	-	0.0%
Total	**Inferred**	**93.0**	**32.2%**

The change in parameters from 2014 to 2022 has a significant impact on the pit. The changes in parameters where tested and the conclusion was that the increase due to inflation to the plant and G&A costs are the greatest drivers in the pit size change.

3.2.8 Value Range

A range of values (High/Most likely/Low) was determined using range analysis (**Refer to Section 5**). A Sensitivity analysis was performed on the most significant assumptions/inputs to indicate the effects these input parameters on the NPV of the operation (**Refer to Section 5**).

3.3 Global Inputs & Assumptions

3.3.1 General

The valuation was performed on an annual basis, using 2022 real inputs, to derive the real post-tax, 100% attributable cash flows.

3.3.2 Production Schedule

The production inputs per **Figure 3-1** were applied in the valuation model. The Revised Base Case (7.2mt ROM pa) scenario was obtained from the pit optimisation results documented in the Mining Report, dated 7 April 2022.

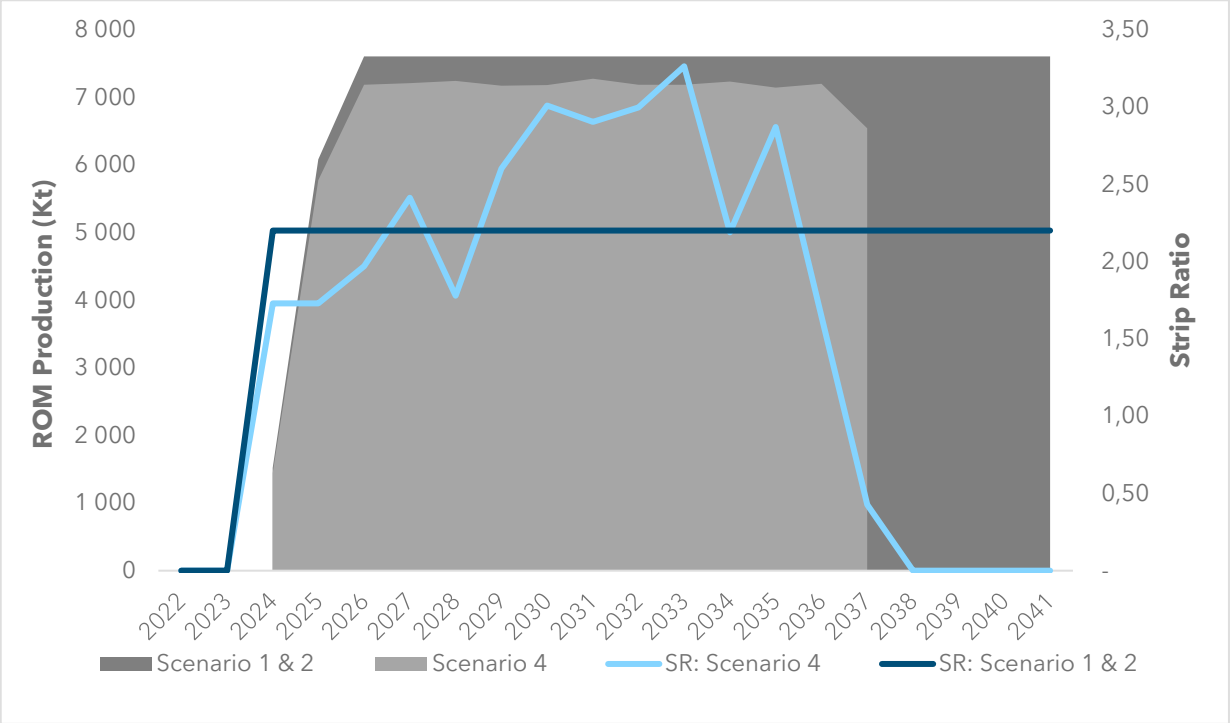

Figure 3-1: Mine Production Schedule

The updated average strip ratio over the LOM for all scenarios is c. 2.3, obtained from the pit optimisation results documented in the Mining Report, dated 7 April 2022.

Included in the ROM tonnes indicated above is a mining ore loss factor of 5% and a waste dilution factor of 5% used across the board for all options.

The LOM of each scenario differs as described under **section 3.2.2** however, for comparative purposes, the outputs of **Figure 3-1** are over 20 years.

An Iron "Fe" grade of 67% and an updated average LOM recovery of 30.3% were obtained from the pit optimisation and production schedule results documented in the Mining Report, dated 7 April 2022.

Beneficiation yield assumptions on the Pellet Plant and FeSi plant is set at 97% and 94%, respectively.

Regarding logistics, the utilisation of a slurry pipeline (as per the 2014 SRK report) for the transport of the final product has not been considered, as further studies are required. A slurry pipeline remains an alternative method of transportation that can be considered in the future.

XIF is ~50km from the town of Divundu in Namibia, through which the Trans Caprivi Railway (TCR) line is planned to pass which will link Zambia and Namibia and provide access to Walvis Bay. As a potential alternative, XIF is also located within ~70 km of the proposed Angolan, Mucusso line to the Namibe Port. This will allow for multiple future expansion options for the XIF Project.

3.3.3 Grades & Recoveries

Table 3-6 below indicates the grades and recoveries used in the financial valuation.

Table 3-6: Grades & Recoveries

Input & Assumptions	UoM	Value
Fe Grade – LoM	%	67.00
Pellet Plant Yield	%	97.00
FeSi Plant Yield	%	94.00

3.3.4 Macro-economic Assumptions

The macro-economic projected assumptions applied in the valuation model are indicated in real terms which means that no escalations in any economic inputs and costs have been applied.

All the valuation model inputs are stated in United States Dollar (USD). All outputs are expressed in USD.

3.3.5 Sales Pricing

Saleable product pricing was sourced from various 3rd parties. Sales prices are stated in real terms in **Table 3-7** below.

Table 3-7: Sales Prices

Input & Assumptions	UoM	Value
Iron Ore Price 67%	US$/t	110.79
Iron Ore Pellet Price 67%	US$/t	146.03
FeSi75 Price	US$/t	1,180

Prices are based on FOB incoterms.

3.3.6 Operating Cost

The estimated operating cost of the project refers to the cash cost of producing final saleable product, from open-pit mining and processing of ore through the mineral processing plant, as well as downstream beneficiation. This includes mining cost, mineral processing cost and management (general & administration) expenses, as well selling and transport costs.

The cost inputs (and calculation formulae) have been derived from the 2014 Mineral Resource Estimate (MRE) report obtained from SRK Consulting and other information from the 2020 Review and Due Diligence. As such, actual USA CPI, SEIFSA inflation rates and other inflation rates from 2014 to 2022 have been used to escalate the inputs and assumptions to arrive at updated values that are in line with what is currently seen in the market (refer to **Section 3.3.7** for benchmarking).

The final projected costs are in line with those expected in a typical Iron Ore open-pit mining operation. The proposed mining and plant equipment and infrastructure are considered to match the production requirements.

3.3.6.1 Selling Expenses

Selling expenses consist of Marketing & Logistics, indicated as a percentage of revenue. Logistical costs refer to transport costs incurred to get the final product to the Free-on-Board (FOB) point.

Table 3-8: Selling Expense Inputs

Input & Assumptions	UoM	Value
Marketing & Logistics	%	2.50

3.3.6.2 Mining Cost

Open-pit mining cost per scenario is indicated in **Table 3-9** below. Please note, costs are stated in real terms.

Table 3-9: Mining Cost

Input & Assumptions	UoM	Value (Real)
Original Base Case	US$/t mined	3.00
Original Base Case – Excluding Buffer Zone	US$/t mined	3.00
Revised Base Case	US$/t mined	3.00
FeSi Scenario	US$/t mined	3.00

The Economics of Scale method was used based on the available information regarding other similar types of mines.

3.3.6.3 Mineral Processing Cost

Mineral processing cost per scenario is indicated in **Table 3-10** below. Please note, costs are stated in real terms.

Table 3-10: Mineral Processing Cost

Input & Assumptions	UoM	Value
Concentrator processing cost	US$/t feed	6.50
Pellet plant cost	US$/t feed	15.08
FeSi Plant AiSC	US$/t feed	124,10
FeSi Plant reagent cost	US$/t conc	146.10

3.3.6.4 General & Admin Cost

General & Admin (G&A) Cost relates to all other direct and indirect costs that have not been considered under mining and mineral processing costs. G&A input cost is stated in real terms per tonne ore in **Table 3-11** below.

Table 3-11: G&A Cost

Input & Assumptions	UoM	Value
G&A Cost	US$/t ore	6.02
Transport cost	US$/t	6,50

3.3.7 Cost Benchmarking

3.3.7.1 General

Benchmark comparison calculations have been performed on the open-pit mining, processing, and total production cost. S&P was used to perform a search on all Iron Ore operating mines across the globe. Regression and logarithmic analysis were used to benchmark the XIF project cost to other operating iron ore mines.

3.3.7.2 Mining Cost

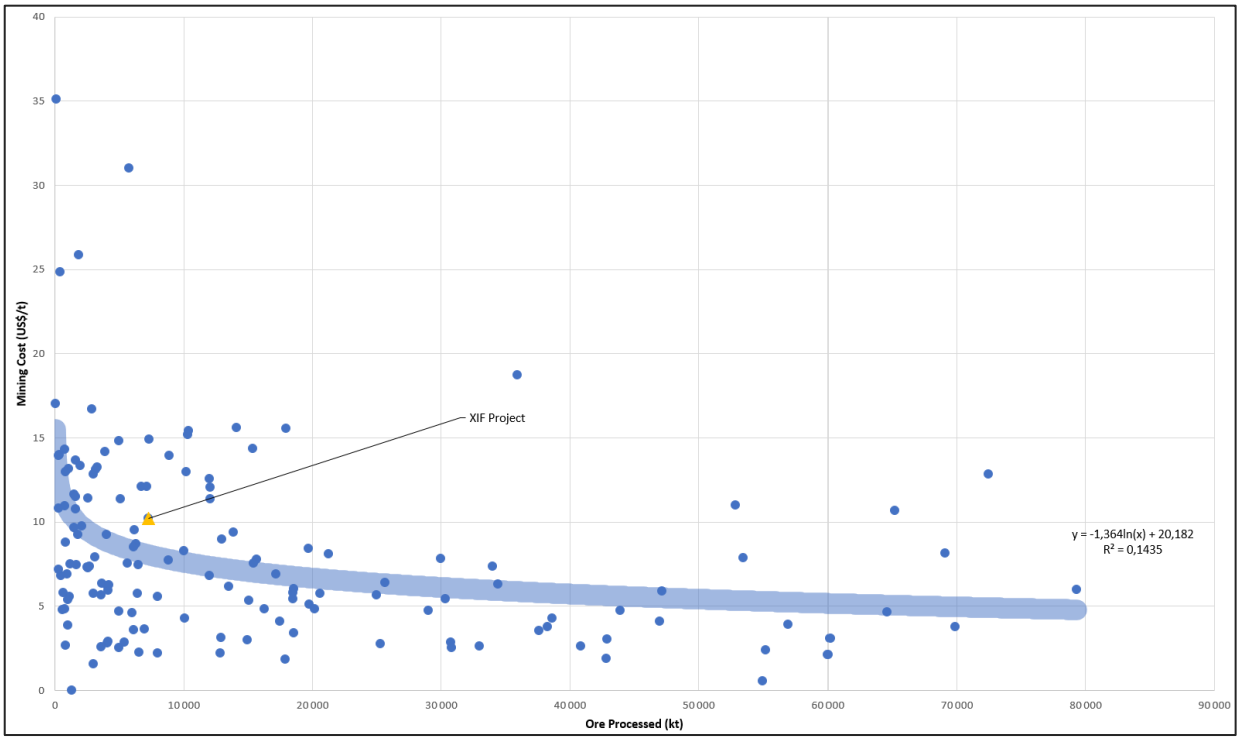

Figure 3-2: Mining Cost Benchmark

Mining cost benchmarking was performed on a US$/t processed basis. Based on the analysis, the XIF project mining cost is slightly above the trendline, indicating that the mining cost used in the pit optimisation study was conservative. As such no additional adjustments have been made.

3.3.7.3 Processing Cost

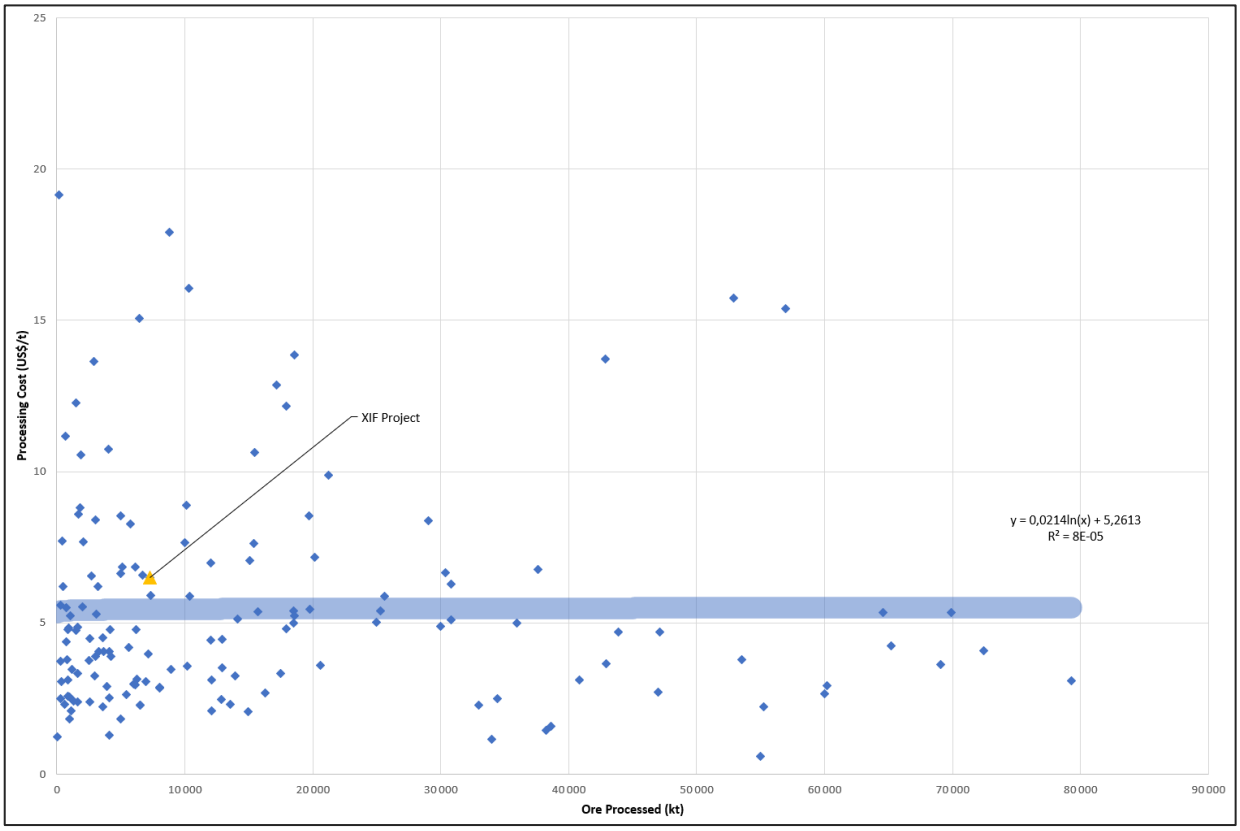

Figure 3-3: Processing Cost Benchmark

Processing cost benchmarking was performed on a US$/t processed basis. Based on the analysis, the XIF project processing (concentrate) cost is slightly above the trendline, indicating that the processing cost escalated from 2014 to 2022 is conservative. No further adjustments were made to the cost.

3.3.7.4 Total Production Cost

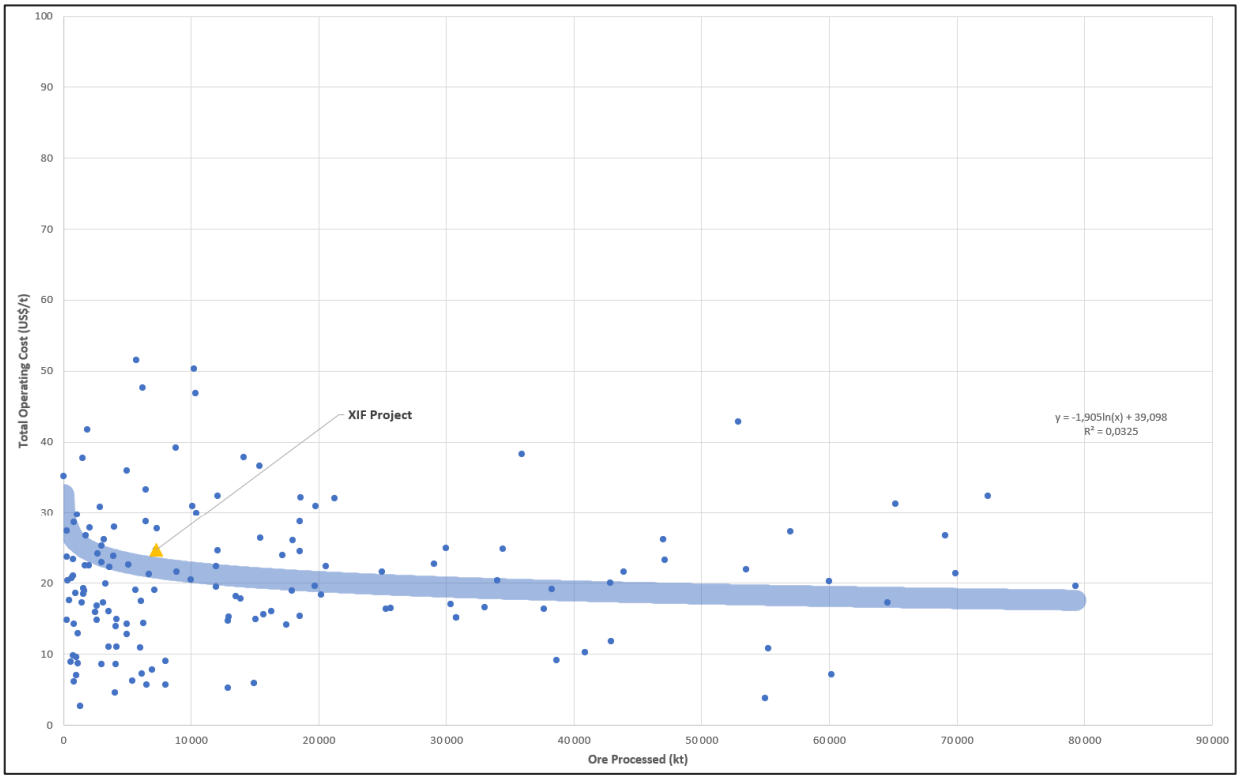

Figure 3-4: Total Production Cost Benchmark

Total production cost benchmarking was performed on a US$/t processed basis. Based on the analysis, the XIF project production cost is aligned with what is currently seen in the market. No further adjustments were made to the cost.

Truck and exiting railway facility costs were applied in the Base Case scenarios and FeSi scenario transport options due to the possibility of trucking and then making use of rail to move the total tonnes produced per annum.

3.3.8 Pellet Plant Costs

Projected operating and capital costs have been obtained from the Blu Sky Mining Solutions report dated 2020. These costs have been escalated appropriately.

Based on a database of historical information, a capital estimate was used based on a 1,500 kt pa sized production plant at USD 120m (estimate dated 2020). This cost was adjusted via a linear calculation approach to matching the required conceptual pellet production plant for the project at 2,326 kt pa. Contingencies of 30% were applied to CAPEX and 10% to OPEX.

3.3.9 FeSi Plant Costs

The projected upside FeSi facility CAPEX and OPEX cost were estimated based on a database of historical information, resulting in an estimated plant sized to produce 427 kt pa. This is aligned with the noted upside option requirements that are based on an average input feed of 454 kt pa and a yield of 94%.

From derived and applied estimations from 2020, two c. 46 MWh Furnaces will be required (running at a utilisation of 85%) as part of the FeSi facility. Historical actual data was obtained for a 6 MWh furnace, and this was applied to calculate the necessary All-In Sustaining Cost "AiSC"" (excluding reagents) for the two 46 MWh Furnaces.

To produce a FeSi75 final product, projected reagent costs and ratios were obtained from historical data.

Contingencies of 25% were applied to CAPEX and 20% to OPEX.

3.3.10 Capital Expenditure

The forecast project capital expenditure will commence in 2024 for the mine and processing plant.

A study cost has been included in the model as an incremental cost item and not as a sunk cost, as the cost will be incurred after the valuation date of this report (if the project advances). It is estimated to be spent over two years, from 2023 to 2024.

The projected capital estimates below are split out below per scenario.

Table 3-12: Initial Capital Breakdown

Input & Assumptions	UoM	Scen 1	Scen 2	Scen 4	FeSi Scenarios
Mine Establishment, Development & Study Cost	USD$'000	19,580	19,580	19,580	19,580
Concentrator Cost	USD$'000	158,272	158,272	158,272	158,272
Off-Site Cost	USD$'000	15,511	15,511	15,511	15,511
EPC Cost	%	15%	15%	15%	8%
Mine Closure Cost	USD$'000	5,390	5,390	5,390	5,390
Pellet Plant	USD$'000	-	-	-	228,600
FeSi Plant	USD$'000	-	-	-	358,282
Contingency	%	30%	30%	30%	50%
Total Capital Expenditure	**USD$'000**	**296,085**	**296,085**	**296,085**	**951,547**

Engineering, procurement, and construction (EPC) Cost is calculated as a percentage of total mine establishment, development, study, concentrator, and off-site cost.

Contingency capital is calculated as a percentage of total capital. Stay-in-Business (SIB) capital was calculated at 5% of total capital.

3.3.11 Taxes & Royalties

3.3.11.1 Corporate Tax

The corporate tax formula in accordance with the Botswana tax regulations has been applied and has been included in the model to calculate the tax expense as well as the associated discount rate. The first year in which tax is payable is 2030. This is largely due to the utilisation of capital expenditure deductions.

Table 3-13: Corporation Tax

Input & Assumptions	UoM	Value
Corporation Tax Rate (Average over LoM)	%	22

3.3.11.2 Royalties

Mineral royalties are set at a rate of 3%, calculated on revenue.

Table 3-14: Royalty Rate

Input & Assumptions	UoM	Value
Royalty Rate	%	3

3.3.12 Discount Rate

A real (post-tax) discount rate of 9.32% (Based on a risk profile for a Botswana-based target at a MRE stage for Iron Ore) was used to provide an NPV outcome for the various business case scenario options. The valuation is based on discounted cash flows utilising full-year discounting over the LOM.

The discount rate was calculated in the valuation model, determined from first principles and by considering each aspect that could influence the weighted average cost of capital. Using this method requires determining a risk-free rate as a base rate and increasing the discount rate based on specific risk factors to which the business is exposed.

The Botswana risk-free rate was selected, as Botswana is the jurisdiction in which the operation is located, managed, and from which it is administered. Given that all the products originate from Botswana, the equity-risk premium and country-risk premium included in the discount rate calculation relate to Botswana and reflect the operational risk the business faces. Refer to **Table 3-15** for the calculation.

Table 3-15: Discount Rate

Parameter	UoM	Input	Reference
Assumptions			
Corporate Income Tax Rate (T)	(%)	22%	Botswana Tax Rate
Inflation rate – Long Term	(%)	4.4%	S&P Global Market Intelligence
Debt as % of capital (D/V)	(%)	30%	Not Applicable
Common Equity as % of capital (E/V)	(%)	70%	
Total Capital (Market Value of Venture) (V)	(%)	100%	
Cost of Debt Calculation			
Pre-tax cost of debt – long term	(%)	7.0%	Bank Lending Rate
Less: tax shield	(%)	0%	Not Applicable
Cost of Debt (R_d)	**(%)**	**7.0%**	
Cost of Equity Calculation			
Risk-free Rate	(%)	6.68%	Denominated Government Bond
Country Risk	(%)	2.8%	Botswana
Equity market risk premium	(%)	5.4%	Stern NYU Website
Beta weighting (β)		1.55	Global Industry Comparison
Risk Premium	(%)	11.20%	
Cost of Equity (R_e)	**(%)**	**17.85%**	
Weighted Average Cost of Capital			
Weighted Cost of Debt [(D/V*R_d)*(1-T)]	(%)	1.65%	
Weighted Cost of Equity (E/V*R_e)	(%)	12.49%	
WACC (Nominal) – Post-tax	**(%)**	**14.13%**	
WACC (Nominal) - Pre-tax	(%)	14.59%	
WACC (Real) – Post-tax	**(%)**	**9.32%**	
WACC (Real) – Pre-tax	(%)	9.76%	

Refer to **Section 5** where the calculated post-tax discount rate (real) was used for the sensitivity analysis.

30:70 Debt: Equity structure was used in the WACC calculation. Refer to **Section 5** for a comparison to a 100% Equity funded structure.

4. VALUATION RESULTS

The valuation results are based on the following assumptions:

- Valuation date: 1 January 2023
- Construction start date: 1 January 2024
- Unlevered 100% attributable basis
- 30:70 Debt: Equity Funded
- Post-tax, real discounted cashflows
- Discount rate of 9.32%

The valuation results are shown below in **Table 4-1**, with additional key valuation metrics stated in real terms.

Table 4-1: Key Valuation Results

Key Parameters	UoM	Scen 1	Scen 2	Scen 3	Scen 4
NPV (Post-tax)	US$ mil	298	315	17	69
IRR	%	25	25	-	15
Payback Period	Years	5	5	-	6
Peak Funding	US$ mil	273	273	-	281
Capital Efficiency	ratio	1.03	1.08	N/A	0.24
Fe Recovery	%	33.2	33.2	33.2	30.3
Operating Margin	%	36.72	35.73	35.73	19.52
Ore Tonnes Mined[4]	Mt	269	441	172	93
Strip Ratio	x:1	2.2	2.2	2.2	2.3
Production Tonnes	Mtpa	7.2	7.2	7.2	7.3

Scenario 2 provides higher returns than scenario 1. The main reason for this is, Scenario 2 includes the buffer zone, that extends the LoM and in return generates additional revenue. Scenario 4 uses a 30.3% recovery factor, obtained from the pit optimisation study, dated April 2022.

Scenario 3 (incremental valuation) indicates the value attributable to the buffer zone only (Scenario 2 – Scenario 1).

The valuation is most sensitive to a change in the discount rate, followed by Fe recovery %, FeSi sales price and FeSi Yield.

The XIF project provides a positive NPV by producing iron ore concentrate only, indicating that equity holders will generate a return on their investment.

[4] Includes mining loss factor

Table 4-2: Key Fesi Scenario Valuation Results

Key Parameters	UoM	Scen 1	Scen 2	Incremental (Scen 3)	Scen 4
NPV (Post-tax)	US$ mil	2,209	2,296	87	1,878
IRR	%	47	47	-	58
Payback Period	Years	4	4	-	3
Peak Funding	US$ mil	823	823	-	467
Capital Efficiency	ratio	2.33	2.43	0.10	3.31
Fe Recovery	%	33.2	33.2	33.2	30.3
Operating Margin	%	62.73	62.73	62.73	71.51
Ore Tonnes Mined[5]	Mt	269	441	172	93
Strip Ratio	x:1	2.2	2.2	2.2	2.3
Production Tonnes	Mtpa	7.2	7.2	7.2	1.8

It was noted that downstream beneficiation and producing a FeSi saleable product adds significant value. Producing a FeSi saleable product on any of the scenarios, returns a significant NPV. The incremental valuation between Scenario 1 and Scenario 2 indicates an increase of **US$ 87 million** in the NPV.

The scenario generating the highest NPV is Scenario 2 (Base case – including buffer zone) of **US$ 2,296 million**, and IRR of **47%** on a real, post-tax, and 100% attributable basis, with a **valuation date of 1 January 2023**

Refer to **Section 5** for more information on scenario 3.

[5] Includes mining loss factor

Figure 4-1 below presents the annual nett and cumulative cash flow over the life of mine for the base case. A peak funding amount of US$ 281 million is required in 2025, whereafter a positive cash flow is expected.

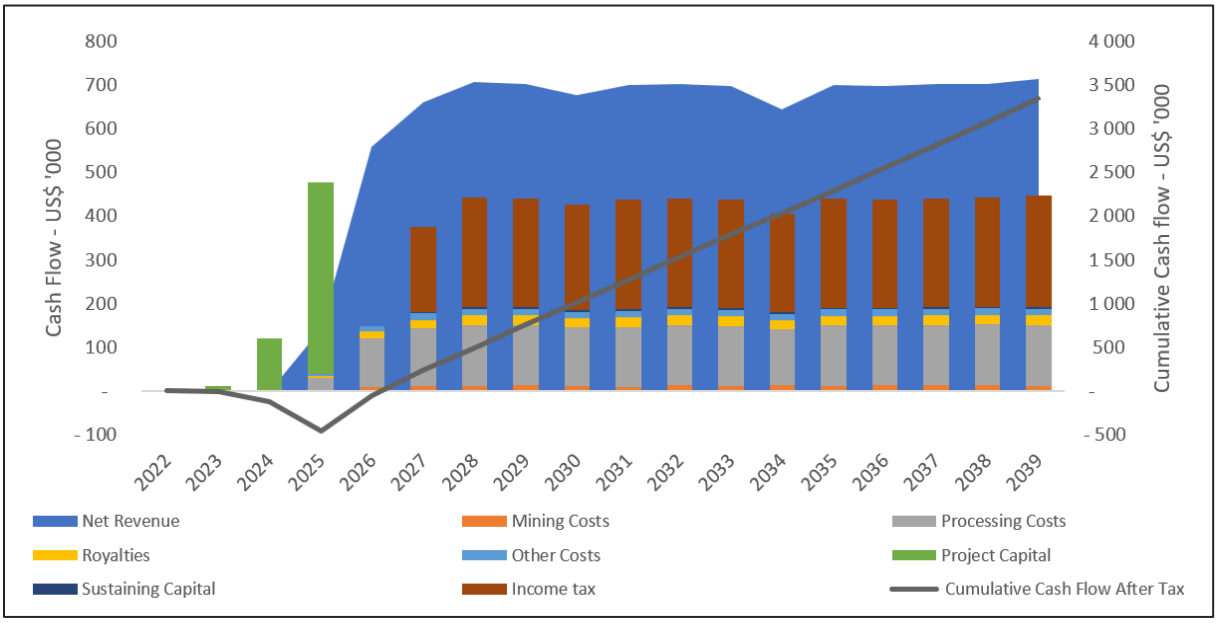

Figure 4-1: Annual Nett & Cumulative Cashflow

Figure 4-2 provides an overview of the operational costs. The FeSi processing cost is the most significant expense at 59% of total operation cost.

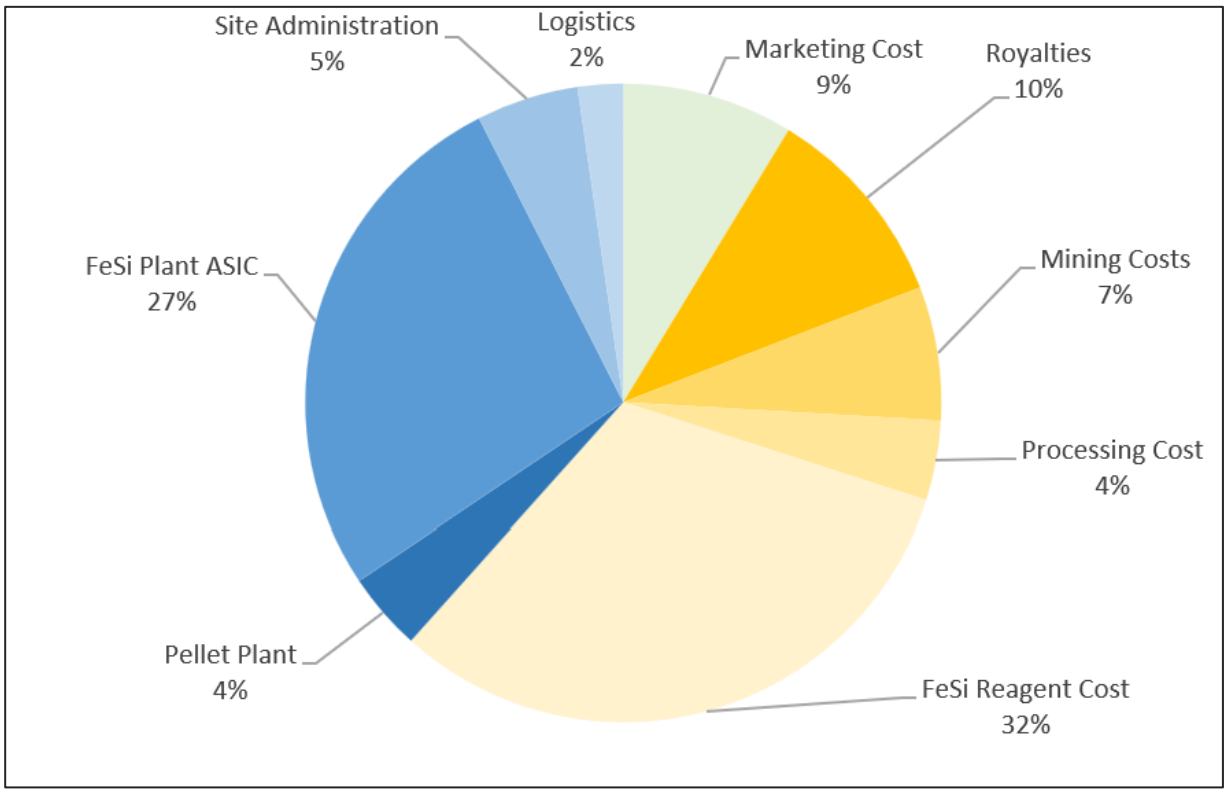

Figure 4-2: Opex Breakdown

Figure 4-3 provides an overview of the capital expenditure, with the most significant cost attributable to the FeSi plant, claiming 63% of the total cost.

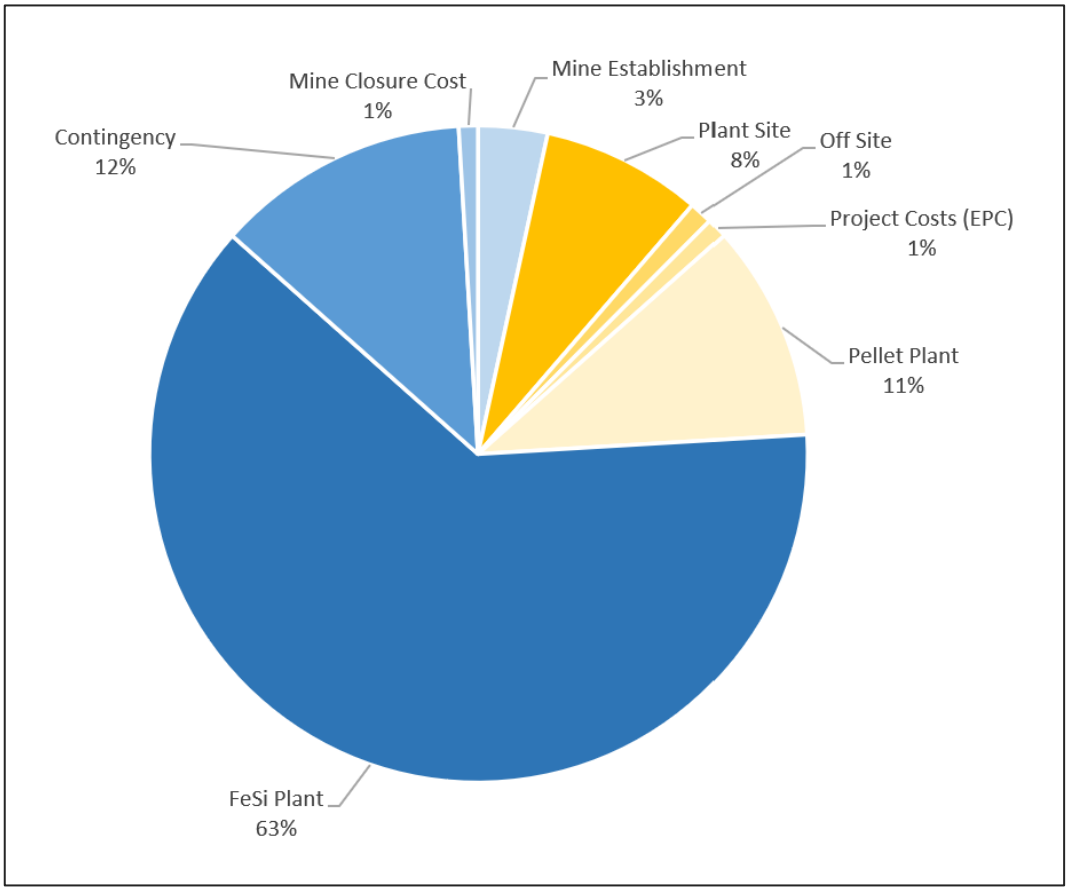

Figure 4-3: Capex Breakdown

5. INCREMENTAL VALUATION

An incremental valuation represents the returns of the mine expansion (i.e., buffer zone), also referred to as a "2-1 Approach".

A "2-1 Approach" is generally preferred for Greenfields mining projects as a standalone project evaluation. The determination of a project's value, by deducting the base case from the future-state mine (mine expansion, by including the buffer zone) has been proven to be a superior valuation approach.

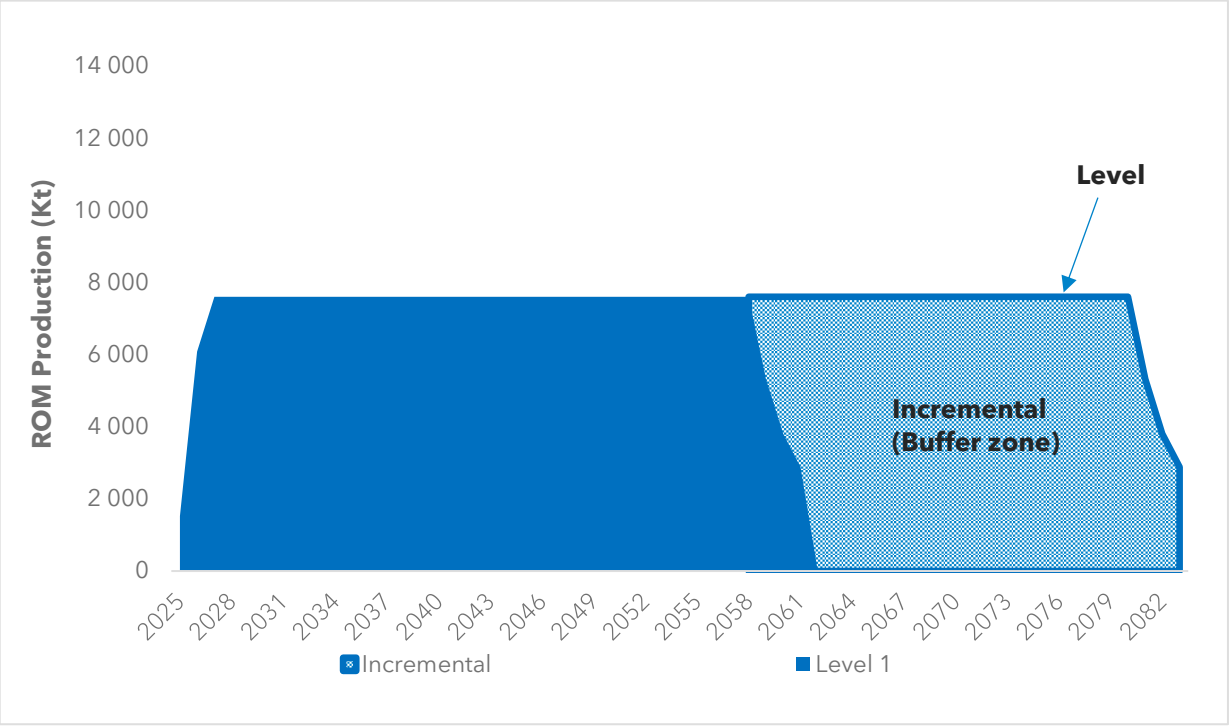

Figure 5-1: Incremental Valuation

The incremental section indicated in Figure 5-1 above illustrates the buffer zone. Level 1 represents the 269 Mt mine (Base Case- Excluding buffer zone), Level 1 and Incremental combined (known as Level 2) represents the 441 Mt mine (Base Case – Including buffer zone).

Challenges:

- Base case cost base and overhead structure is sufficient for the expansion (e.g., during ramp-up).
- The possible extension of Level 1 LOM is not considered.
- Additional overhead burden is not considered for the mine when Level 1 comes to an end.
- Un-economic tail for the expansion project is sometimes included in the production profile of Level 1.

Solution:

- Value the future mine as a whole (Level 2)
- Value Level 2 and Level 1 separately; the difference is attributable to the buffer zone.

Table 5-1: Incremental Valuation Results

Key Parameters	UoM	Incremental (Fe Product)	Incremental (FeSi Product)
NPV (Post-tax)	US$ mil	17	87
Additional Nett Cashflow - LoM	US$ mil	1,310	5,850
Fe Recovery	%	33.2	33.2
Operating Margin	%	35.73	62.73
Ore Tonnes Mined[6]	Mt	172	172
Strip Ratio	x:1	2.2	2.2
Production Tonnes	Mtpa	7.2	7.2

From the above incremental valuation, it can be noted that mining the buffer zone, which provides an additional 172 Mt over the life of mine, generates significant additional nett cashflow.

The NPV increases with US$ 17 million (producing only Fe concentrate) and US$ 87 million (producing FeSi product).

It can be concluded, that mining the buffer zone will add value to the operation and should be investigated further.

[6] Includes mining loss factor

6. RANGE AND DETERMINISTIC ANALYSIS

6.1 Deterministic Analysis

A sensitivity analysis was performed to determine the extent to which the valuation result will change if certain assumptions are adjusted. Each key driver of the model, except for the discount rate (WACC) was flexed by 2%, 5% and 7%, whilst keeping other inputs constant. The discount rate has been adjusted in increments of 0.5% (+.5%, 1% and 1.5% and -0.5%, -1% and -1.5%).

The analysis below indicates that a change in the discount rate and recovery percentage have the greatest effect on the Net Present Value (NPV) of the valuation, while a change in the assumptions relating to shipping cost and operating cost have the smallest effect on the final valuation value.

The valuation is the most sensitive to a change in the discount rate, followed by recovery %, sales price and capital expenditure.

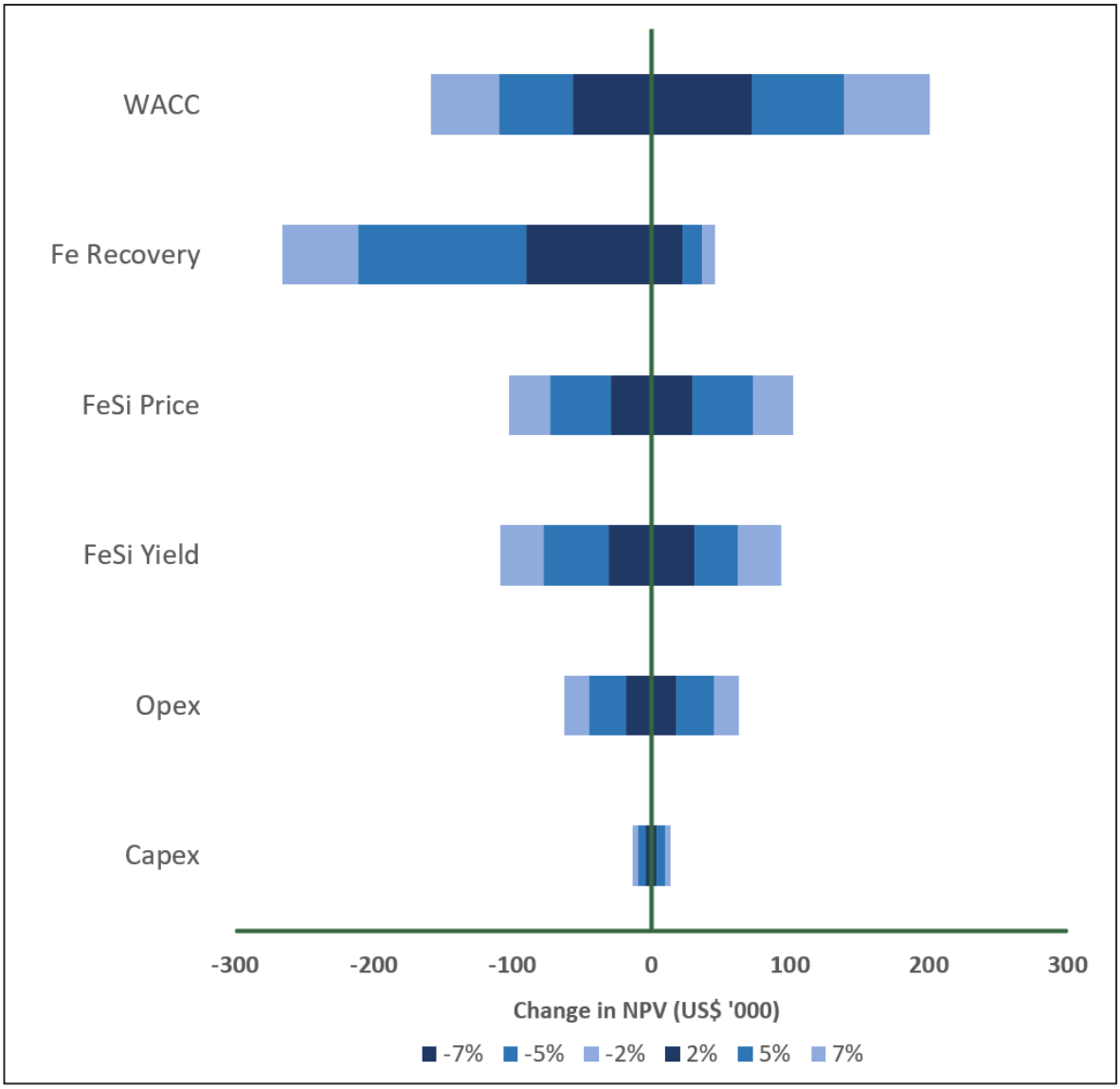

Figure 6-1: Sensitivity Analysis

6.2 WACC Comparison

Section 6.1 indicated that a change in the discount rate have the greatest effect on the NPV of the valuation. **Table 6-1** below indicates a comparison on scenario 4 between a 30:70 Debt: Equity ratio and a 100% equity ratio used in the WACC calculation.

Table 6-1: WACC Comparison

Key Parameters	UoM	30:70 Debt: Equity	100% Equity
WACC (Post-tax, real)	US$ mil	9.32	12.88
NPV (Post-tax)	US$ mil	2,296	1,410

Introducing debt into the WACC calculation returns a higher NPV. This is appropriate as cost of equity is higher than the cost of debt, due to debt holders are senior to equity holders. Hence equity holders seek a higher return.

6.3 Range Analysis

Based on the various scenarios incorporated into the financial model, a range of values (high/Mid-point/low) have been produced.

The valuation ranges are as follows:

- Low: US$ 69 million (Scen 4)
- Mid-point: US$ 315 million (Scen 2)
- High: US$ 2,296 million (Scen 2 – Downstream beneficiation, producing a saleable FeSi product)

7. CONCLUSION

Based on the analysis the following can be concluded for the Project:

The **valuation on 1 January 2023** indicated a range between **US$ 69 million** and **US$ 2,296 million,** on a real, post-tax, and 100% attributable equity basis.

The XIF project provides a positive NPV by producing iron ore concentrate only, indicating that equity holders will generate a return on their investment. It was also noted that downstream beneficiation and producing a FeSi saleable product adds significant value, resulting in a significant NPV of **US$ 2,296 million**, and IRR of **47%.**

APPENDIX A: COMPETENT PERSON CONSENT FORM

Statement:

I, Martin John Roodt, CA(SA), confirm that I am the Qualified Valuator for the Report and:

- I have read and understood the requirements of the Canadian Institute of Mining, Metallurgy and Petroleum on the Valuation of Mineral Code (The CIMVAL Code), 2019 Edition.
- I am a Qualified Valuator as defined by the CIMVAL Code 2019 Edition.
- I am a member of good standing of the South African Institute of Charted Accountants (SAICA), (Registration Number: 30674058).
- I am familiar with the relevant requirements of the CIMVAL Code (2019), the National Instrument 43-101 (2012) and the Form 43-101F1 that may be relevant to the Non-Public Report being prepared.
- I have reviewed the Report to which this Consent Statement applies.
- I am an Independent Consultant working as a subcontractor to Tsodilo Ltd. to prepare the model and documentation for the XIF Project, on which the Report is based.
- I have disclosed the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.
- I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears the information contained in the supporting documentation relating to Project Valuation.
- I verify that the Project Valuation assumptions and sources are clearly reflected in the Valuation Report and/or the Economic Model, comprising principally the following:

Consent:

I consent to the internal use of the information relating to the XIF project study outcomes and this Consent Statement by the directors of Tsodilo Ltd.

Martin Roodt

SAICA #: 30674058

Professional Membership #

2022/10/24