INDEPENDENT VALUATION REPORT OF THE BULELENG AND TORETE NICKEL PROJECT EARNOUT AREA, INDONESIA

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 EXECUTIVE SUMMARY

1.1 Introduction

In August 2018, **De**risk Geomining Consultants Pty Ltd (Derisk) was engaged by Far East Mining Pte Ltd (FEM or the Company) to prepare an independent valuation report (IVR2 or the Report) as part of a commitment made by FEM in May 2018 to prepare an independent qualified persons report (IQPR2) and IVR2 for a portion of the tenements held by PT Teknik Alum Services (PT TAS), defined as Concession Block 2 or the Earnout Area (as defined in the China Bearing (Singapore) Ltd Circular to Shareholders dated 31 May 2018). Concession Block 2 comprises an area of 807 ha within the overall tenement area of 1,301 ha.

PT Geo Artha Selaras (PT GAS) was engaged by FEM to prepare the report titled "Independent Qualified Persons Report Buleleng & Torete Nickel Project, Central Sulawesi Province, Indonesia" (the IQPR2) for the assets that are the subject of this IVR2.

This IVR2 will be used to support the Company's agreement with respect to the Earnout Area. This Report, prepared as a public report, provides a technical assessment and valuation of the nickel assets included in the Earnout Area.

SGX Catalist rules for major transactions require that valuations must be prepared in accordance with the VALMIN Code[4] and that exploration and mining information be reported in accordance with one of three allowable international public reporting standards. For this report, Derisk has adopted the VALMIN Code as required for the valuation, and the JORC Code[5] as the public reporting standard.

The effective date of the valuation presented in this IVR2 is 27 May 2019.

1.2 Report Details

This Report has been prepared by Mal Dorricott and Mark Berry and peer reviewed by Shaun Barry. The VALMIN Code requires that a public report on a technical assessment or a valuation report for mineral assets or securities must be prepared by a Practitioner, who is an Expert as defined in the Australian Corporations Act. Practitioners may be Specialists and Securities Experts.

Mal Dorricott is the Practitioner and Specialist for the IVR2 and was assisted by Mark Berry, who is also a Specialist. Shaun Barry peer reviewed the IVR2. Both Mal Dorricott and Mark Berry completed one site visit in September 2018 to the Company's mine sites at Torete and Buleleng (the Project) in Central Sulawesi, Indonesia.

The JORC Code requires that a public report describing a company's Exploration Results, Mineral Resources and Ore Reserves must be based on, and fairly reflect, the information and supporting documentation prepared by a Competent Person, as defined by the JORC Code. SGX Catalist rules use the term qualified person and provide a definition that is effectively equivalent to a Competent Person. All contributors to this Report meet the requirements of a Competent Person and a qualified person.

Derisk confirms that its Directors, staff, substantial shareholders and the contributors and reviewers of this Report are independent of FEM and its subsidiaries, directors, substantial shareholders, advisers and their associates. In addition, they have no interest, direct or indirect, in FEM, its subsidiaries, or associated companies and have no interest in the outcome of the work to be completed in this engagement. Fees paid to Derisk are on a fee-for-service basis plus reimbursement of project-related expenses. Our agreement with FEM excludes any provision for a success fee or related incentive.

1.3 Mineral Assets Location, Ownership and History

The mineral assets of PT TAS consist of the Torete and Buleleng open pit nickel mines, located in Central Sulawesi, Indonesia. The concession area covers a total area of 1,301 ha under an IUP Production operation concession for nickel commodity issued by Regent of Morowali Regency (IUP number 540.6/SK.001/DESDM/V/2009). The production operation permit is valid until 6 May 2029, although the permit can be extended.

[4] Australasian Code for Public Reporting of Technical Assessments and Valuations of Mineral Assets (The VALMIN Code), 2015
[5] Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code), 2012

Exploration on the concession commenced in 2010 and mining commenced in 2015. From 2015 to the end of May 2019 approximately 1.2 million wet metric tonnes (MWMT) has been mined and sold to domestic customers.

For contractual reasons, the concession is subdivided into two areas. The RTO Area is defined as the 494 ha area of the concession described by the IQPR1 and IVR1 attached to the China Bearing Circular to Shareholders in May 2018. The remaining 807 ha is defined as the Earnout Area which is the subject of the IQPR2 and this IVR2.

1.4 Mineral Resources and Ore Reserves

Several Mineral Resource estimates have been prepared previously for the Project. Of note, RungePincockMinarco (RPM) estimated and reported total Mineral Resources of 66.5 MWMT @ 1.1% Ni for the RTO Area of the Project at an effective date of 8 October 2017. Indicated Mineral Resources comprised 2.6% of the contained nickel with the remainder being Inferred Resources. There were no Ore Reserves.

In 2018, PT TAS completed a new exploration drilling program across the Project. PT GAS was engaged to prepare a new Mineral Resource estimate and a technical study to the level of a prefeasibility study (PFS) to determine if Ore Reserves can be estimated and reported for the Project.

PT GAS has estimated and reported new Mineral Resources for the Project in accordance with the JORC Code at an effective date of 27 May 2019. Resources total 146.6 MWMT, containing 100.5 Mt (dry) @ 0.99% Ni and 0.06% Co, comprising both Indicated Resources and Inferred Resources (Table 1-1). PT GAS has also split the Mineral Resources into the RTO Area and the Earnout Area in order to allow a valuation to be undertaken on the Earnout Area.

Table 1-1. Mineral Resources as at 27 May 2019.

Area and Category	Wet Tonnes (Mt)	Dry Tonnes (Mt)	Ni (%)	Co (%)	Fe (%)
RTO: Measured	-	-	-	-	-
RTO: Indicated	44.3	30.0	0.99	0.05	22.8
RTO: Inferred	42.7	29.8	1.02	0.07	28.7
RTO: Subtotal	**87.0**	**59.8**	**1.00**	**0.06**	**25.8**
EARNOUT: Measured	-	-	-	-	-
EARNOUT: Indicated	12.5	8.6	1.06	0.07	29.7
EARNOUT: Inferred	47.0	32.2	0.99	0.06	28.1
EARNOUT: Subtotal	**59.5**	**40.8**	**0.99**	**0.07**	**28.4**
CONCESSION: Measured	**-**	**-**	**-**	**-**	**-**
CONCESSION: Indicated	**56.8**	**38.6**	**1.00**	**0.06**	**24.6**
CONCESSION: Inferred	**89.7**	**62.0**	**1.00**	**0.06**	**28.4**
CONCESSION: Total	**146.6**	**100.5**	**0.99**	**0.06**	**26.9**

Source: PT GAS IQPR2, 2019.

Note: 1. Minimum cut-off criterion of 0.5% Ni.
2. Mineral Resources are inclusive of Ore Reserves.
3. Totals may not add due to rounding effects.

The work completed in 2018 has added substantially to the resource inventory – with additional resources defined in the RTO Area (20.5 MWMT) and 59.5 MWMT of new resources defined in the Earnout Area. PT GAS has also increased the confidence in the resources to allow the reporting of nearly 57 MWMT of Indicated Resources to support the technical study.

After completion of the technical study, PT GAS has estimated and reported Ore Reserves for the entire Project and also split into the RTO Area and the Earnout Area in accordance with the JORC Code at an effective date of 27 May 2019. Probable Ore Reserves total 44.5 MWMT, containing 30.3 Mt (dry) @ 1.08% Ni and 0.06% Co (Table 1-2). The Ore Reserves comprise 33.9 MWMT in the RTO Area and 10.7 MWMT in the Earnout Area. Reserves have been estimated for three sales products i.e. a cobalt-enriched low-grade nickel product, and cobalt-depleted medium-grade nickel and high-grade nickel products.

PT GAS also completed a reconciliation of the Mineral Resource model against reported production and sales of nickel ore from 2015 to May 2019. This work confirmed good agreement between the model and stated production figures.

Table 1-2. Ore Reserves as at 27 May 2019.

Area and Category	Wet Tonnes (Mt)	Dry Tonnes (Mt)	Ni (%)	Co (%)	Fe (%)
RTO: Proved	-	-	-	-	-
RTO: Probable	33.9	23.0	1.09	0.06	26.4
RTO: Subtotal	**33.9**	**23.0**	**1.09**	**0.06**	**26.4**
EARNOUT: Proved	-	-	-	-	-
EARNOUT: Probable	10.7	7.3	1.05	0.07	31.7
EARNOUT: Subtotal	**10.7**	**7.3**	**1.05**	**0.07**	**31.7**
CONCESSION: Proved	**-**	**-**	**-**	**-**	**-**
CONCESSION: Probable	**44.5**	**30.3**	**1.08**	**0.06**	**27.7**
CONCESSION: Total	**44.5**	**30.3**	**1.08**	**0.06**	**27.7**

Source: PT GAS IQPR2, 2019.
Note: Totals may not add due to rounding effects.

1.5 Operations and Product Sales

The mine currently produces high-grade nickel ore containing approximately 1.8% Ni by open pit mining using hydraulic excavators and trucks to mine the ore and waste. The ore and waste do not require blasting as it is soft material with small fragments of rock.

Ore from the Torete and Buleleng pits are transported to run-of-mine (ROM) ore stockpiles with haul distances between 1 km and 3 km depending on pit source. The ROM ore is covered with tarpaulins to maintain the moisture and is then blended before re-handling onto barges for shipment to domestic customers. No on-site processing is done and the mine is currently producing approximately 30-50 kilo tonnes (kt) per month from the Project.

PT TAS prepared a Life of Mine (LOM) planning report in July 2019 documenting a substantial increase in annual production rates and to produce three products. Based on the latest estimates of Mineral Resources and Ore Reserves, the LOM plan provides the following product mix from 2019 to 2033:

- High-grade nickel ore (>1.4% Ni) – 6.1 MWMT.
- Medium grade nickel ore (1.0%≤Ni≤1.4% Ni) – 21.2 MWMT.
- Low grade nickel/cobalt ore (<1.0% Ni & >0.06% Co) – 31.8 MWMT.

PT TAS is in the process of establishing a joint venture to build and operate a smelter in South Sulawesi for some of its production and plans to sell the remainder to the domestic market.

1.6 Economic Evaluation of the Project

PT GAS used the LOM schedule and the physicals from this as inputs to the economic analysis of the entire Project together with LOM operating costs (Opex), LOM capital costs (Capex) and estimates of revenue derived from the sale of each product. The results indicate that the Project is financially robust with the base-case net present value (NPV) at a nominal 13.5% discount rate of USD 284 million.

Derisk has independently reviewed the LOM schedule and the physicals from this, together with LOM Opex, Capex and revenue estimates provided by PT TAS and PT GAS. Contracts between PT TAS and its customers are commercial-in-confidence, but Derisk has reviewed a number of the sales contracts and proposed sales agreements to develop a pricing formula for the three products in reference to the forecast nickel price. To test the robustness of the operation, a sensitivity analysis was carried out assessing the sensitivity to the product pricing, Capex, Opex and discount rate. As expected, the most sensitive NPV trigger is the product pricing.

1.7 Valuation of the Earnout Area

Derisk has assessed the Market Value (as defined by the VALMIN Code) of the entire Project and the Earnout Area using market-based and income-based valuation approaches to determine a valuation for the Earnout Area. The Project is a reasonably mature open pit mining operation with a sound Mineral Resource and Ore Reserve inventory, supported by documented costs and sales contracts. Consequently, Derisk considers that the income valuation approach is the most appropriate valuation methodology. Derisk reviewed relevant transactions that could contribute to a market valuation approach and identified two relevant comparable transaction, which provide support for the income valuation.

At the conclusion of the LOM production schedule in 2033, there are 22 Mt (dry) @ 1.05% Ni of Inferred Resources remaining in the Earnout Area. Derisk has estimated a NPV for these resources. Taking all factors into account, Derisk's income-based valuation for the Earnout Area of the Project at the effective date of 27 May 2019 ranges from USD 55 million to USD 114 million with a preferred value of USD 84 million. Derisk considers that this fairly represents the current value of the Earnout Area as an operating mine at the date of the valuation.

1.8 Risks and Opportunities

Derisk considers that the key risks considered material to the Project valuation are:

- The scaling up of the operation from <1 Mtpa to >4 Mtpa. Although the operation is relatively simple and potentially scalable, this level of production will require much more formal management practices and technical support than the current operation.
- The sale of the low-grade nickel product based on its cobalt content. Although there appears to be a market for this product, it is a new product for PT TAS and there are no firm contracts for its sale.
- The reliance on the smelter joint venture for a significant proportion of future sales. Approximately half of the LOM production is expected to be sold to the proposed joint venture smelter, part of which is already constructed.

The main opportunities for PT TAS are:

- Higher than forecast prices for nickel and cobalt, resulting in higher sales prices for the products.
- Upgrading of Inferred Mineral Resources and conversion to Ore Reserves to extend the life of the project.
- Exploration upside in some of the concession where drilling has not yet been undertaken.

1.9 Conclusions

The Project is an existing mining operation that has been in production for five years. Current production rates are modest, but PT TAS plans to substantially increase annual production rates and to supply three product types to the domestic market.

PT TAS has experienced volatile commodity prices during the operation's history and changes to Indonesian Government regulations on the export of unprocessed nickel ores that have led to PT TAS assessing a range of options to develop the mine site and smelter operations.

Derisk considers that the Mineral Resource and Ore Reserve estimates for the Project, which includes the Earnout Area are technically sound and fit-for-purpose. Reconciliation of production from 2015 to 2019 demonstrates a very good correlation between the Mineral Resource model and production statistics.

Derisk considers that the income valuation approach is an appropriate valuation methodology for the Earnout Area, which in this case is supported by a market valuation approach derived from two relevant comparable transactions. Derisk concludes that a Market Value for the Earnout Area of the Project operated by PT TAS ranges from USD 55 million to USD 114 million with a preferred value of USD 84 million.

2 INTRODUCTION

2.1 Scope and Use of Report

In August 2018, Derisk was engaged by FEM to prepare an IVR2 as part of a commitment made in May 2018 to prepare an IQPR2 and IVR2 for a portion of the tenements held by PT TAS, defined as Concession Block 2 or the Earnout Area (as defined in the China Bearing (Singapore) Ltd Circular to Shareholders dated 31 May 2018). Concession Block 2 comprises an area of 807 ha within the overall tenement area of 1,301 ha.

This Report will be used to support the Company's agreement with respect to the Earnout Area. This Report, prepared as a public report, provides a technical assessment and valuation of the nickel assets included in the Earnout Area.

The effective date of the valuation presented in this IVR2 is 27 May 2019.

2.2 Valuation and Reporting Standard

SGX Catalist rules for major transactions require that valuations must be prepared in accordance with the VALMIN Code and that exploration and mining information be reported in accordance with one of three allowable international public reporting standards. For this report, Derisk has adopted the VALMIN Code as required for the valuation, and the JORC Code as the public reporting standard.

For the purposes of this Report, value is defined as Market Value being the estimated amount (or the cash equivalent of some other consideration) for which the mineral asset should exchange on the date of valuation between a willing buyer and a willing seller in an arm's length transaction after appropriate marketing where the parties had each acted knowledgeably, prudently and without compulsion.

All values in this report are in United States dollars (USD) unless otherwise stated.

2.3 Report Authors and Contributors

This Report has been prepared by Mal Dorricott and Mark Berry and peer reviewed by Shaun Barry. Table 2-1 presents details of the role and qualifications of each of the contributors.

Table 2-1. Report contributors.

Name	Title	Years of Experience	Professional Membership	Role and Responsibility
Mal Dorricott	Principal Mining Consultant	50	FAusIMM	Project manager, Practitioner and Specialist
Mark Berry	Director and Principal Geologist	40	MAIG, AAICD	Specialist
Shaun Barry	Associate Principal Mining Consultant	30	MAusIMM CP, MRICS, MIQA	Internal peer review

Refer to Section 22 Definitions and Glossary for explanation of professional memberships.

The VALMIN Code requires that a public report on a technical assessment or a valuation report for mineral assets or securities must be prepared by a Practitioner, who is an Expert as defined in the Australian Corporations Act. Practitioners may be Specialists and Securities Experts.

The JORC Code requires that a public report describing a company's Exploration Results, Mineral Resources and Ore Reserves must be based on, and fairly reflect, the information and supporting documentation prepared by a Competent Person, as defined by the JORC Code. SGX Catalist rules use the term qualified person and provide a definition that is effectively equivalent to a Competent Person. In this IVR, whenever reference is made to a Competent Person as per the JORC Code, it is equivalent to a qualified person as per the SGX Catalist rules. All contributors to this Report meet the requirements of a Competent Person and a qualified person.

Practitioner/Specialist/Competent Person statements for Mal Dorricott and Mark Berry are provided in Section 20 of this Report.

2.4 Site Visits

Mal Dorricott and Mark Berry visited the Project in September 2018.

2.5 Statement of Independence

Derisk confirms that its Directors, staff, substantial shareholders and the contributors and reviewers of this Report are independent of FEM and its subsidiaries, directors, substantial shareholders, advisers and their associates. In addition, they have no interest, direct or indirect, in FEM, its subsidiaries, or associated companies and have no interest in the outcome of the work to be completed in this engagement. Fees paid to Derisk are on a fee-for-service basis plus reimbursement of project-related expenses. The fee for preparation of this Report is AUD 60,000 and payment of this fees is in no way contingent on the results of this Report. Our agreement with FEM excludes any provision for a success fee or related incentive.

2.6 Methodology and Limitations

In 2017, PT TAS engaged RPM to prepare an IQPR1 and Jones Lang Lasalle Corporate Appraisal and Advisory Limited (JLL) to prepare an IVR1 for the RTO Area of the Project. In 2018, FEM engaged PT GAS to prepare an IQPR2 for the Project, including the Earnout Area and Derisk to prepare an IVR2 for the Earnout Area of the Project.

Derisk has reviewed all previous work undertaken by PT TAS and PT GAS, including all data and information supplied by PT TAS. We have exercised due care in reviewing the supplied information and believe that the inputs into and estimates of the valuations are reasonable.

This Report is based on information contained in the report titled “Independent Qualified Persons Report – Buleleng & Torete Nickel Project, Central Sulawesi Province, Indonesia” (the IQPR2) prepared by PT GAS for the assets that are the subject of this IVR. This Report should be read in conjunction with IQPR2, which provides additional detail of the technical and operational aspects of the assets. Key sources are outlined in the IQPR2 and all data included in the preparation of this Report has been detailed in Section 21 (References).

Whilst Derisk has independently analysed the data provided by PT TAS for both the RTO Area and Earnout Area, the accuracy of the conclusions of this IVR relies on the accuracy of the supplied data. Derisk Specialists have made reasonable enquiries and exercised our judgement on the reasonable use of such data and information, and have no reason to doubt the accuracy or reliability of the information provided, but we do not accept responsibility for any errors or omissions in the information supplied, and do not accept any consequential liability arising from investment or other financial decisions or actions by others.

Derisk has not independently verified the legal status of the tenements described in this Report but has relied on information provided by PT TAS regarding the legal status of the tenements. The due diligence review of the status of the tenements was undertaken by the independent legal firm, Hanafiah Ponggawa and Partners (HPRP) in May 2018 for the RTO Area transaction; and as such, HPRP assumes no responsibility for any part of this Report.

2.7 Reliance

All advice, reports and deliverables prepared by Derisk are for the exclusive benefit of FEM and may not be relied on by any party other than FEM. Derisk understands that this Report will be made publicly available. Derisk requires that all public reports containing references to Derisk and/or Derisk advice, and all information provided by Derisk for the public report will be reviewed and approved by Derisk prior to publication – in the form and context that it will appear in the public report.

2.8 Records and Indemnities

FEM and PT TAS have been provided with all digital data files produced by Derisk during this engagement. Derisk is entitled to retain a copy of all material information upon which this Report is based.

FEM has agreed to indemnify, defend, and hold Derisk harmless against any and all losses, claims, damages, costs, expenses, actions, demands, liabilities, or proceedings (including but not limited to third-party claims) howsoever arising, whether directly or indirectly out of this Agreement or the provision or non-provision of the services, other than losses, claims, damages, costs, expenses, actions, demands, liabilities, or proceedings that are determined by a final judgement of a court of competent jurisdiction to have resulted from actions taken or omitted to be taken by Derisk illegally or in bad faith or as a result of Derisk’s gross negligence.

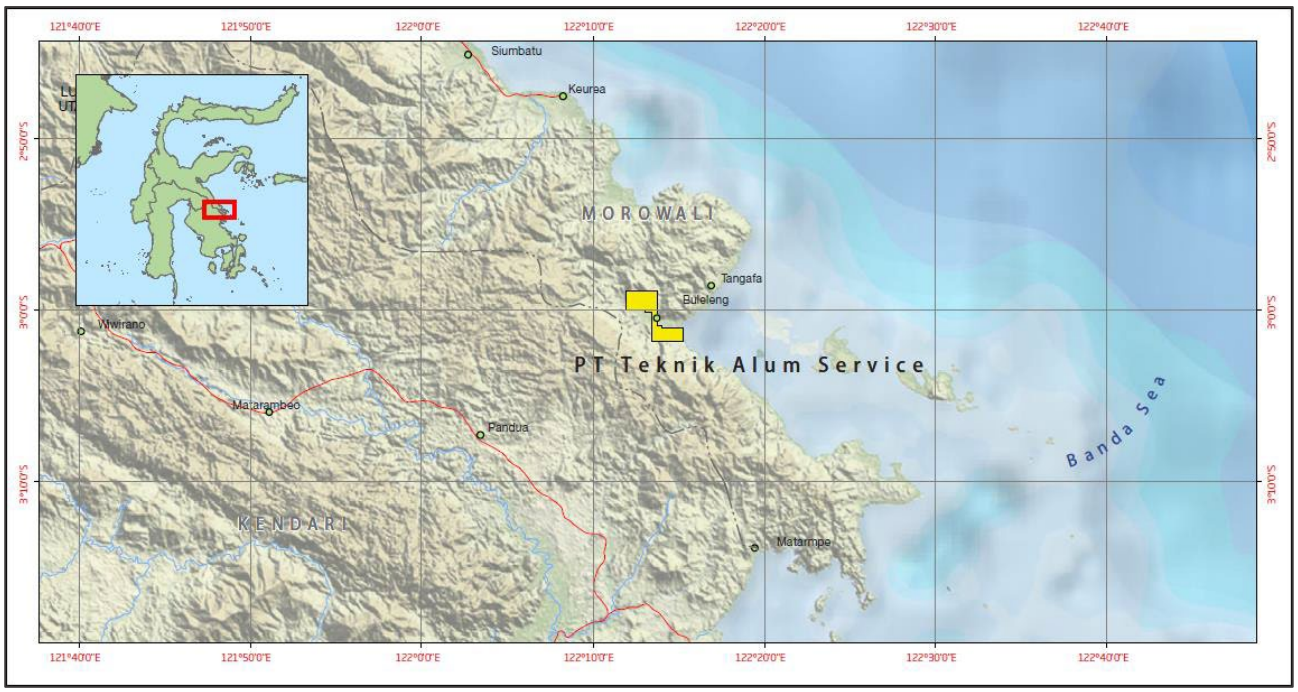
3 PROJECT DESCRIPTION

3.1 Assets

The nickel assets held by PT TAS consist of the Morowali open pit mine and related infrastructure, comprising two separate mining areas, Buleleng and Torete, on the one tenement.

The Project is located on Sulawesi Island, Indonesia, around 1,800 km northeast of Jakarta, and near the east coast of the Province of Central Sulawesi (Figure 3-1). The major towns in the area include Bungku, approximately 70 km northwest of the Project; Palu (capital of the Central Sulawesi province) about 380 km to the northwest of the Project; and Kendari, the capital of the Southeast Sulawesi province that lies about 180 km to the northeast of the Project.

Figure 3-1. Project location.



Source: PT GAS IQPR2, 2019.

3.2 Ownership

The Project is 100% owned and operated by PT TAS.

3.3 Access

Access to the Project is by commercial flights from Jakarta to Kendari (three and a half hours duration), then from Kendari via sealed provincial roads (six hours duration), or by sea (approximately four hours by speedboat from Kendari).

3.4 Climate

The Project area has a typical wet and humid tropical climate with abundant rainfall. The temperature generally ranges from 26°C to 30°C, with cooler temperatures at higher elevations. The wet season is typically from December to February and the dry season from June to November. Annual precipitation amounts to about 2,000 mm.

3.5 Geomorphology

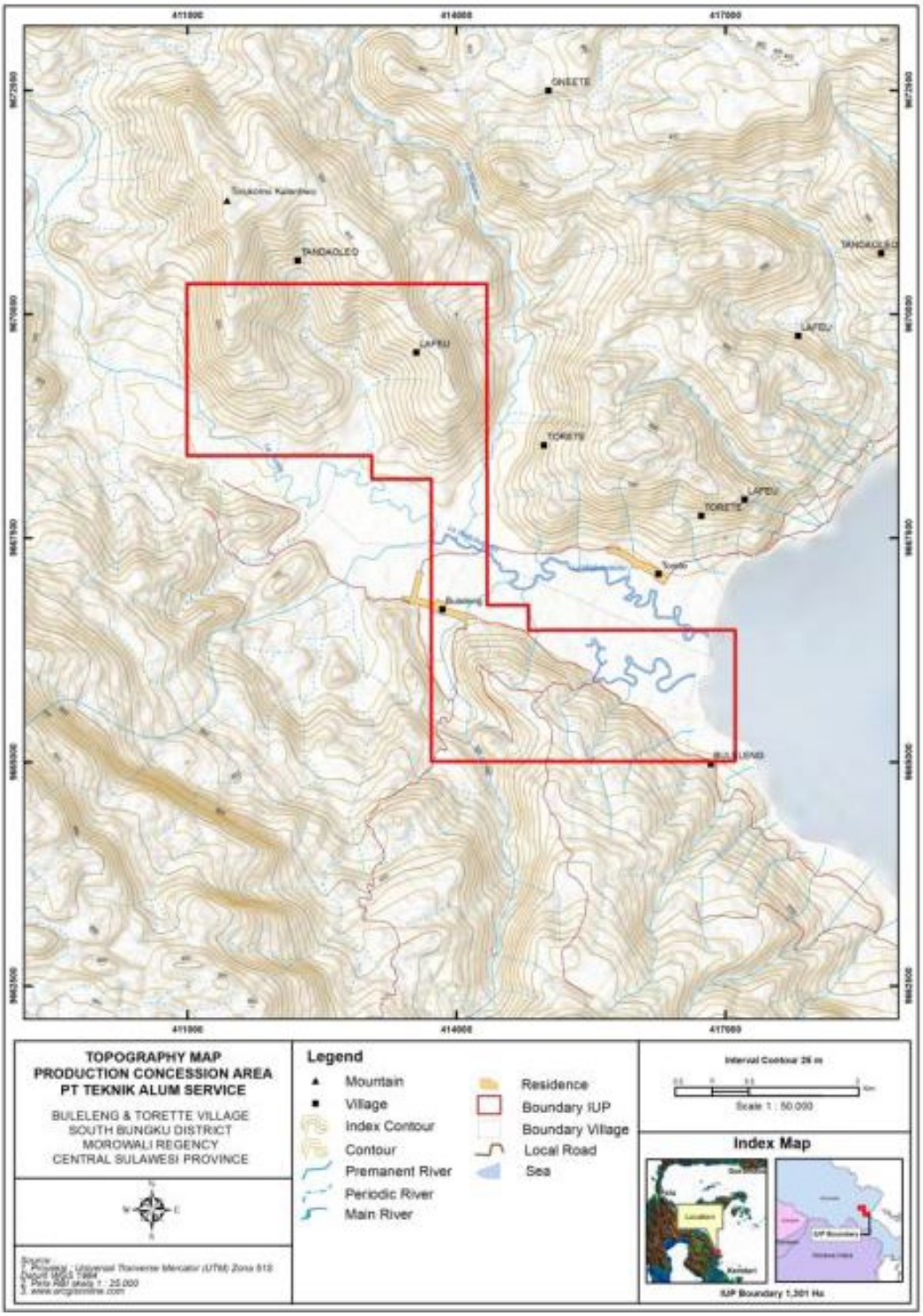
The topography of the Project area is in the form of hills and plains. The plains area is located in the northern part of the tenement, and the hilly area is generally located in the southern part of the tenement. The trending ridge line is predominately northeast to southwest and has an elevation in this area of 50 - 425 m above sea level (ASL). Drainage occurs through a series of near-parallel tributaries on either side of the ridge line.

4 TENEMENTS

4.1 Concession Permit

The Concession area covers a total area of 1,301 ha consisting of two areas: Torete and Buleleng, both located within the concession boundary (Figure 4-1). The IUP Production operation concession for nickel commodity was issued by Regent of Morowali Regency under the decree IUP number 540.6/SK.001/DESDM/V/2009 (Table 4-1). The production operation permit is valid until 6 May 2029, although the permit can be subsequently extended.

Figure 4-1. PT TAS concession area.



Source: PT GAS IQPR2, 2019.

Table 4-1. PT TAS production licence details.

Company Name	PT Teknik Alum Services
Certificate Type	**Production licence**
Certificate No.	540.6 / SK.001 / DESDM / V / 2009
Mine Right Holder	PT Teknik Alum Services
Share Holder	(1) The Agam Tirto Buwono (90%) Jl. Sumbawa No 20 Surabaya 60281 (2) PT Teknik Alum Services (10%) Jl. MT. Haryono Komp. Balikpapan Baru Blok AB-I No.11 RT.052 Kel. Damai Balikpapan-Kalimantan Timur
Commodities	Nickel and other associated commodities
Coverage Area	1,301 ha
Location	Buleleng and Torete Villages, South Bungku District, Morowali Regency, Central Sulawesi Province
Validity	May 6th, 2029
Issue Date	May 5th, 2009

Source: PT GAS IQPR2, 2019.

4.2 Clean and Clear Certificate

PT TAS holds Clean and Clear certificates, which ensure no overlap with other mining licenses. Certificate issued by Director General for Coal and Minerals under the decree 517/Min/12/2013 dated 20 February 2013 (Table 4-2).

Table 4-2. PT TAS Clear and Clean Certificate details.

Company Name	PT Teknik Alum Services
Certificate Type	**Clear and Clean**
Certificate No.	517 / Min / 12 / 2013
Mine Right Holder	PT Teknik Alum Services
Mining Licence	540.3 / SK.002 / DESDM / II / 2012
Location	Buleleng and Torete Villages, South Bungku District, Morowali Regency, Central Sulawesi Province
Validity	-
Issue Date	February 20th, 2013

Source: PT GAS IQPR2, 2019.

4.3 Special Terminal Mining License

In accordance with Indonesian transportation regulations, mining terminal permits are required before nickel ore products from the mine can be transported by sea to a customer. PT TAS has obtained a special terminal permit based on a Decree of the Minister of Transportation No. B.X- 507 / PP 008 dated 7 October 2015,

located in Buleleng and Torete Villages, South Bungku District, Morowali Regency (Table 4-3). The mining terminal or jetty has been connected via a gravel road to the mine site.

Table 4-3. PT TAS Special Terminal Mining permit.

Company Name	PT Teknik Alum Services
Certificate Type	**Special Terminal Mining**
Certificate No.	B.X- 507 / PP 008
Mine Right Holder	PT Teknik Alum Services
Coordinates	a. 03° - 01' - 31'' LS / 122° - 15' - 21'' BT b. 03° - 01' - 39'' LS / 122° - 15' - 03'' BT c. 03° - 01' - 15'' LS / 122° - 15' - 03'' BT d. 03° - 01' - 15'' LS / 122° - 15' - 28'' BT e. 03° - 01' - 39'' LS / 122° - 15' - 28'' BT
Location	Buleleng and Torete Villages, South Bungku District, Morowali Regency, Central Sulawesi Province
Validity	October 7th, 2025
Issue Date	October 7th, 2015

Source: PT GAS IQPR2, 2019.

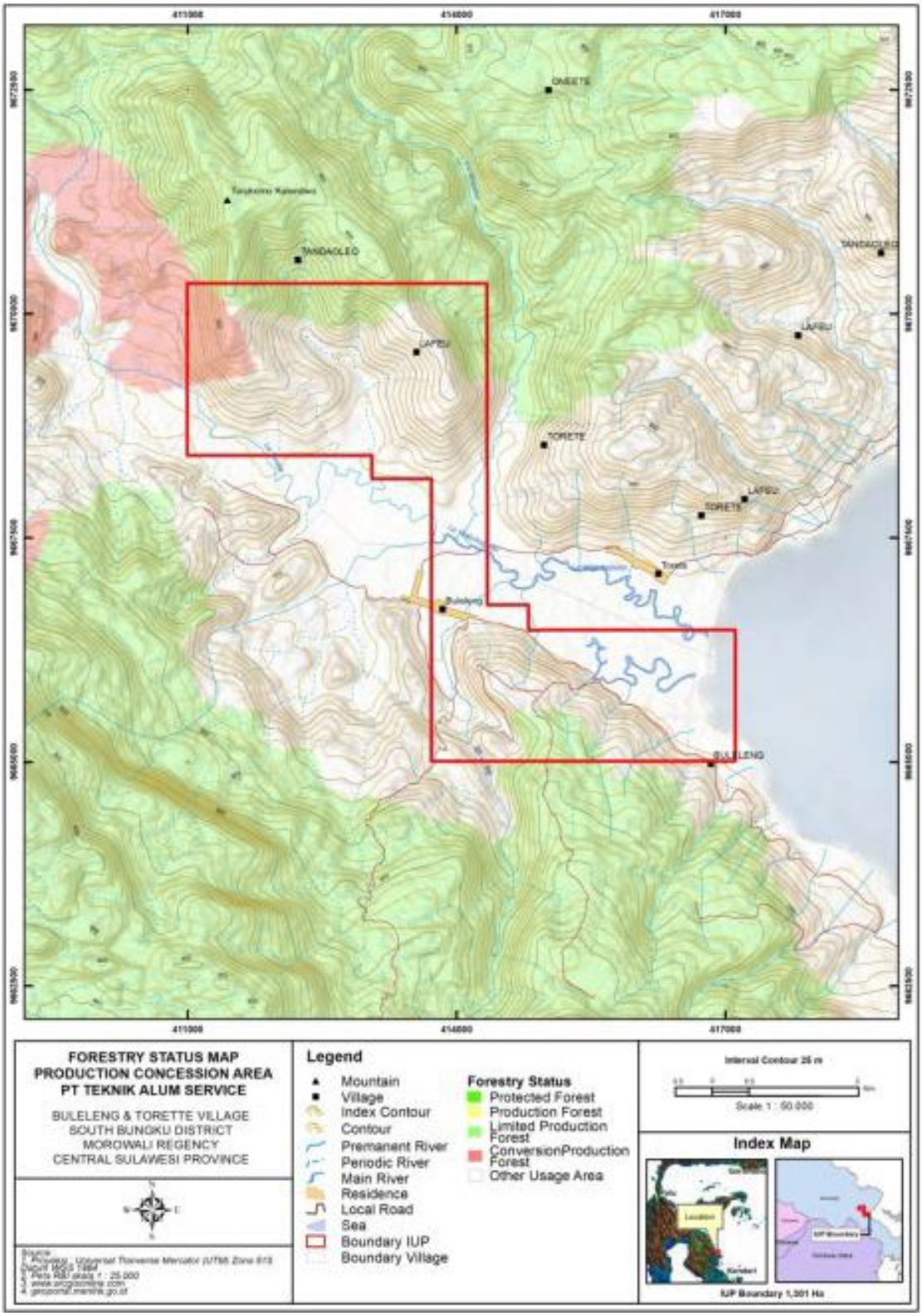
4.4 Forestry Status

The northwest part of the concession consists of Limited Production Forest, Conversion Production Forest in the northeast and APL (Other Usage Area) in the south (Figure 4-2). The APL area does not require forestry permits for exploration or production, but the remaining areas of the concession require Forestry Department permits (IPPKH) for the exploration and production activities. PT TAS has submitted the application for the Borrow-Use Permit Forestry (IPPKH; Ijin Pinjam Pakai Kawasan Hutan).

4.5 Export Permit

PT TAS was assessing options to sell direct shipping ore to export markets. In order to be able to export raw materials, PT TAS must apply and obtain an export quota permit from the Ministry of Energy and Mineral Resources of the Republic of Indonesia (ESDM). In July 2019, PT TAS submitted its final application for the export quota and was hoping to obtain the permit by Q3 2019, however in August 2019 the ESDM announced the reintroduction of an export ban, effective from January 2020.

Figure 4-2. PT TAS forestry status.



Source: PT GAS IQPR2, 2019.

5 HISTORY

5.1 Exploration

Modern exploration activities commenced in 2010 and have been conducted in four phases. The first phase consisted of a desktop study followed by geological mapping and outcrop sampling. In 2013, the second phase of exploration was carried out, comprising regional drilling to define zones of better potential and mineralisation continuity using a drilling spacing of 400 m by 400 m, down to 200 m by 200 m across the concession. In 2017, the third phase of exploration was undertaken using diamond drilling on 100 m, 50 m and 25 m drill spacings. The most recent phase of work has comprised drilling activities on the area adjacent to the area targeted in 2017 as well as some previously drilled areas in order to increase Mineral Resource confidence. A summary of the exploration drilling is shown in Table 5-1.

Table 5-1. Drill programs.

Year	Block	Spacing	Total Holes	Total Metres	Total Samples
2013	Torete	200m x 200m	75	765	826
		25m by 25m	404	4,969	5,374
	Buleleng	200m x 200m	42	1,175	1,220
2017	Torete	Twin holes/Additional	94	1,038	1,183
	Buleleng		22	649	821
2018	Torete	200m x 200m	79	683	789
		100m x 100m	38	352	397
		50m by 50m	106	931	1190
	Buleleng	200m x 200m	37	447	520
Total			**897**	**11,009**	**12,320**

Source: PT GAS IQPR2, 2019.

5.2 Mining

Mining operations have been undertaken from 2015. The total production from 2015 to the end of May 2019 was 1.2 MWMT of direct shipping ore (DSO). The average grade of the DSO was 1.8% Ni, which has been sent to a domestic smelter in Central Sulawesi, Indonesia. The production history for the Project is shown in Table 5-2.

Table 5-2. Annual mine production statistics.

Year	Wet Metric Tonnes	% Ni
2015	73,613	1.97
2016	371,920	1.90
2017	312,549	1.75
2018	274,439	1.74
To End May 2019	170,667	1.72
Total	**1,203,188**	**1.81**

Source: PT GAS IQPR2, 2019.

5.3 Studies in Progress

PT TAS is in the advanced stages of planning to recommission and operate a joint venture nickel smelter located in South Sulawesi that will process nickel ore from the Project. The Company expects this plant to be operational in 2020.

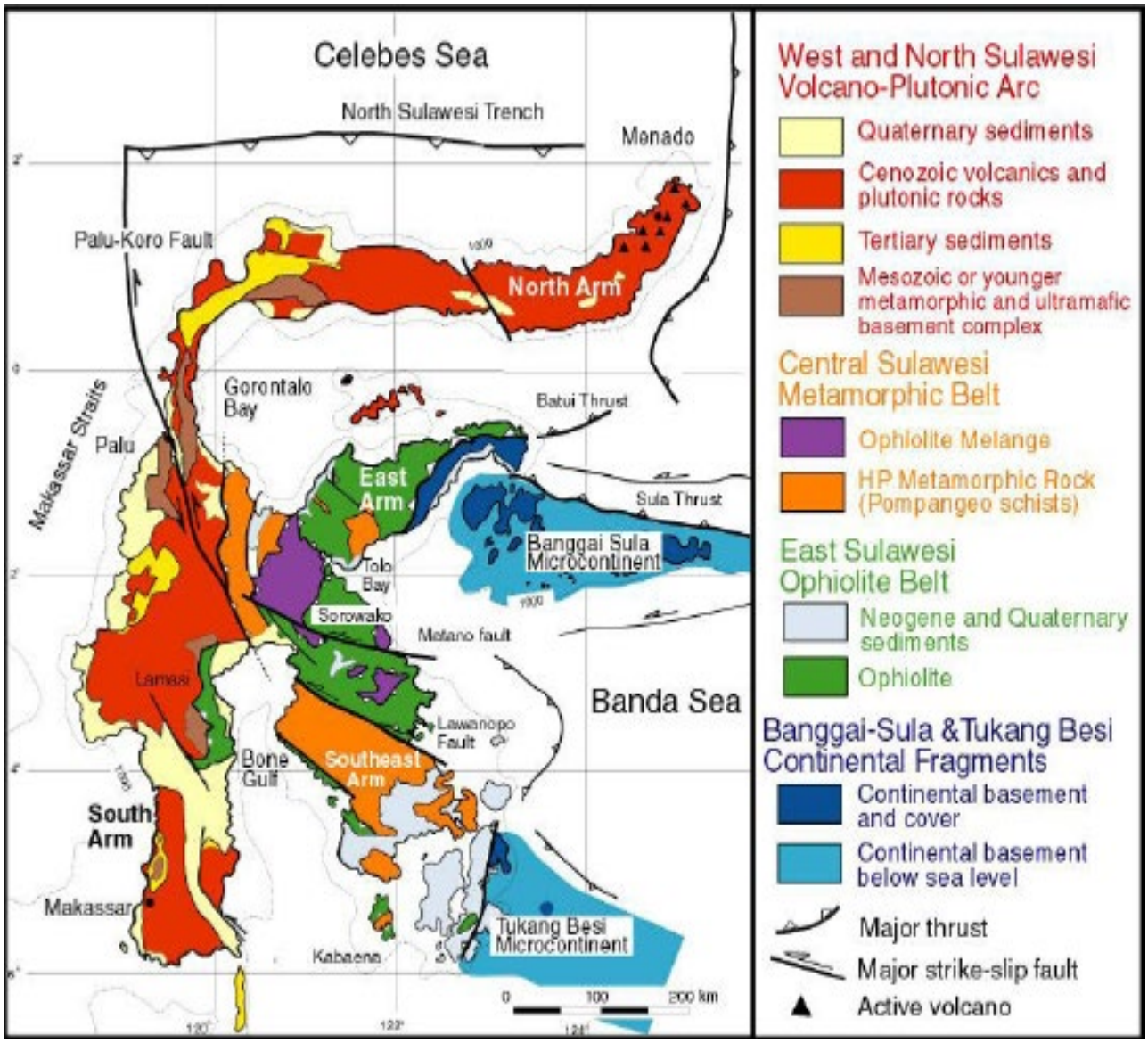
6 GEOLOGY AND MINERALISATION

6.1 Regional Geological Setting

The island of Sulawesi has been geologically grouped into four litho-tectonic units bounded by large-scale tectonic dislocations and thrust faults (Figure 6-1). These are:

- West Sulawesi volcano-plutonic arc.
- Central Sulawesi metamorphic belt.
- East Sulawesi ophiolite belt.
- The continental fragments of Banggai-Sula, Tukang Besi and Buton.

Figure 6-1. Regional geology of Sulawesi.



Source: PT GAS IQPR2, 2019.

The Project area is part of the East Sulawesi ophiolite belt. The ultramafic rocks of central Sulawesi consist of peridotites that have been serpentinised to varying degrees. Ultramafic outcrops in the east and southeast arm of Sulawesi occur in three forms:

- Large irregular masses of up to several hundred square kilometres. The largest is the Area Massif Lakes that covers several thousand square kilometres of continuous ultramafic terrain.
- Imbricated strips following the general structural grain of the subduction melange.
- Small irregular-shaped and isolated bodies of ultramafics.

6.2 Local Geology

There are three main lithology groups that make up the geology of the Project area (Figure 6-2):

- Ultramafic Complex. In the Project area, ultramafic units comprise peridotite, harzburgite, dunite, gabbro and serpentinite. These rocks cover about 65% of the concession area.
- Tokala Formation. This sequence is characterised by carbonate rocks including calcilutite, limestone, sandstone, shale, marl and slate. This Formation occupies the northeast of the concession and covers about 25% of the total area.
- Alluvial deposits. This material is comprised of Quaternary-age deposits of pebble, gravel, sand and clay. This formation occupies the low-lying central part of the concession and covers about 10% of the total area.

6.3 Nickel Mineralisation

Nickel laterite deposits form over ultramafic rocks through chemical leaching and supergene enrichment. Being residual soils, the deposits require appropriate conditions that protect the material from rapid erosion yet allow good water circulation and flushing of the dissolved components. A fluctuating water table considerably enhances the supergene concentration of nickel in the laterite profile.

Therefore, good exploration targets are confined to ultramafic terrain where appropriate geomorphic landforms are developed. These landforms consist of plateaus, terraces, rolling hills, gentle hill flanks, and gentle ridge spurs. Steep terrains generally don't retain the necessary laterite soil, whilst basins and depressions do not allow good water circulation.

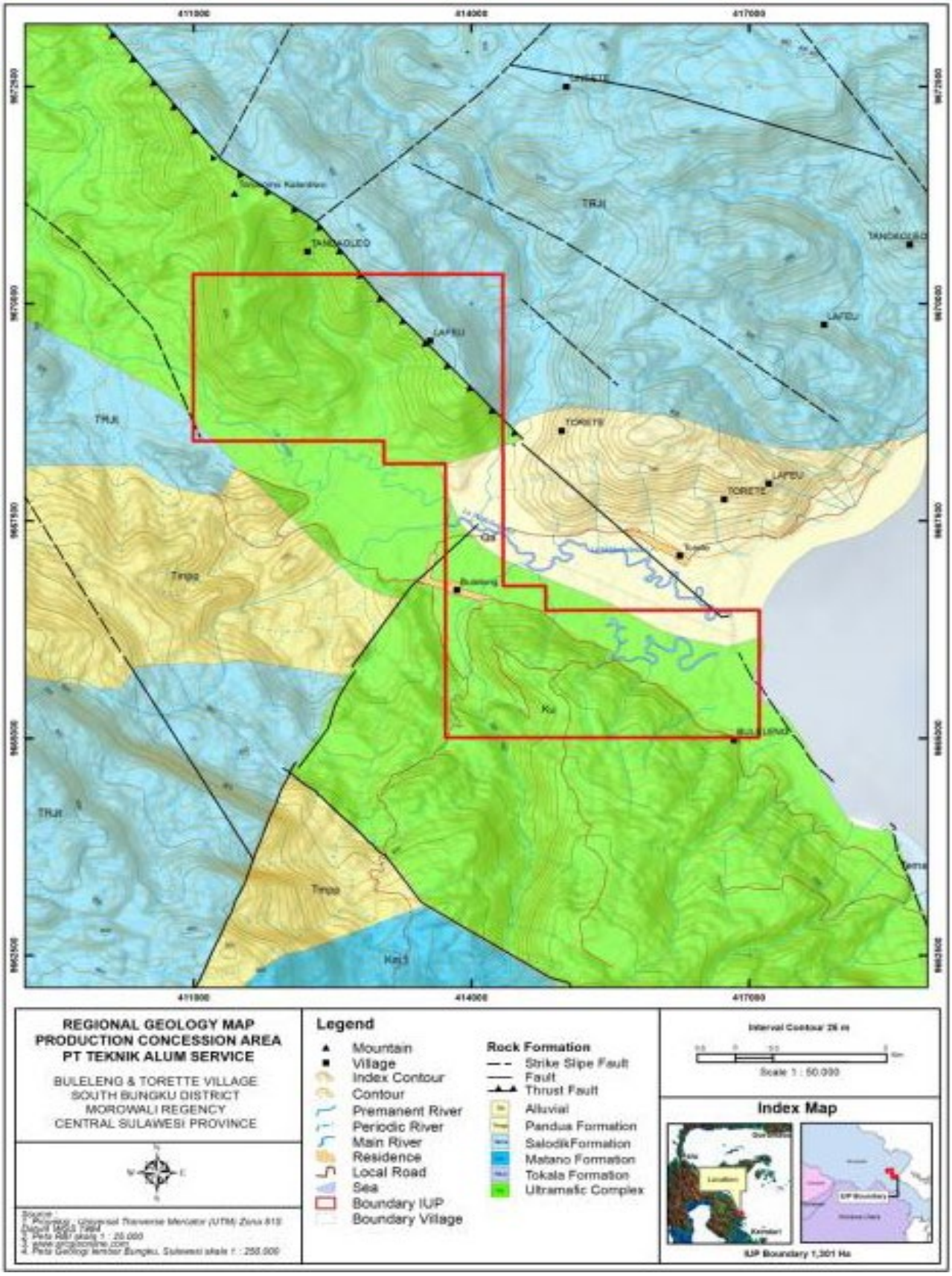
At surface, the nickel laterite profile consists of a red limonite-rich layer composed of hematite and less hydrated iron oxides (goethite) in which the rock porosity decreases with time and the bulk density increases with time. At the bottom of the red limonite zone there is a change to yellow limonite, which is rich in hydrated iron oxides.

Below the limonite zone, the saprolite zone forms. This zone comprises precipitated silica and garnierite where chemical weathering proceeds actively along joints and fractures. Rock porosity increases with time and bulk density decreases with time. The contact between yellow limonite and saprolite is marked with the presence of soft smectite clays and silica where rock porosity is at its maximum and bulk density at its lowest.

Below the saprolite zone is bedrock, with fresh ultramafic rocks with joints and fractures opening as hydrostatic pressure is removed. Figure 6-3 presents a typical nickel laterite profile.

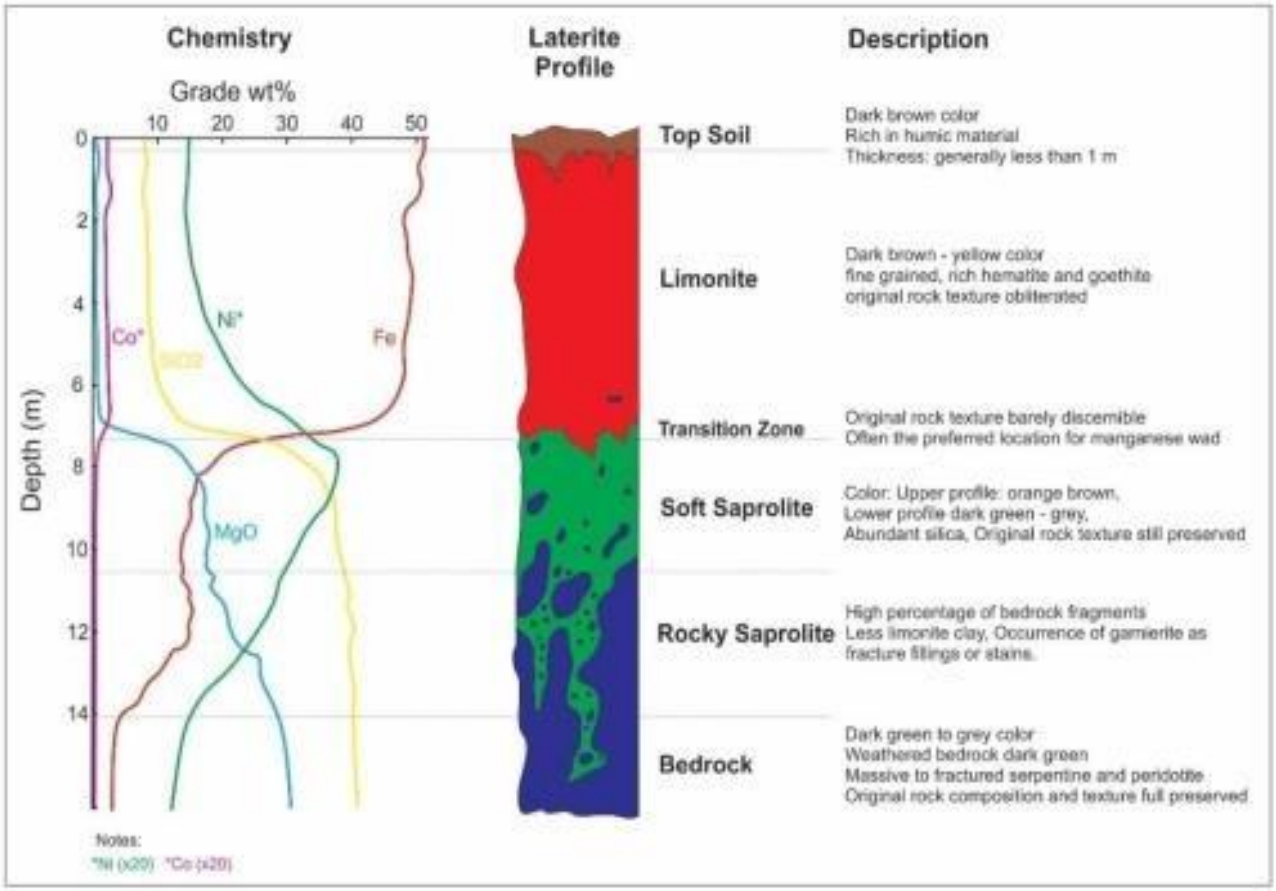
Formation of the laterites at the Project is interpreted to have occurred during the Pliocene or early Pleistocene. The largest of the laterite bodies overlies the central ultramafic body. The nickel mineralisation at the Project is typical of a lateritic nickel deposit, comprising iron oxides on the surface (limonite) and magnesium silicates beneath (saprolite). The lateritic profile is well developed and protected from erosion by the presence of an iron cap. In some areas the iron cap has been destroyed, exposing the laterite. Generally, the laterite profile is comprised of a mixture of limonite (topsoil and limonite) with low to high grade saprolite (soft saprolite and rocky saprolite) lying above ultramafic bedrock.

Figure 6-2. Project area geology.



Source: PT GAS IQPR2, 2019.

Figure 6-3. Schematic description and chemistry of a nickel laterite profile.



Source: PT GAS IQPR2, 2019.

7 EXPLORATION

7.1 Exploration Prior to 2018

A detailed description of the exploration undertaken at the Project prior to 2018 is presented by RPM in 2018 as part of an IQPR prepared to support the initial RTO agreement. Exploration consisted of a desktop study followed by geological mapping, outcrop sampling and two drilling campaigns (2013 and 2017). Based on this work, RPM estimated and reported a Mineral Resource of 66.5 MWMT covering an area of 494 ha within the concession i.e. the RTO Area (Table 7-1).

Table 7-1. RPM RTO Area Mineral Resources as at 8 October 2017.

Category	Wet Tonnes (Mt)	Dry Tonnes (Mt)	Dry Bulk Density (t/m^3)	Ni (%)	Fe (%)
Measured	-	-	-	-	-
Indicated	1.7	1.1	1.1	1.1	27.5
Inferred	64.9	41.6	1.0	1.1	27.8
Total	**66.5**	**42.8**	**1.0**	**1.1**	**27.8**

Source: RPM IQPR, 2018.
Note: 1. Estimated and reported in accordance with the JORC Code.
2. Totals may not add due to rounding effects.

7.2 2018 Exploration

PT TAS completed a drilling program in 2018 of 269 diamond drillholes across the concession, mostly focused on the area outside of the 484 ha RTO Area i.e. the Earnout Area. Details are presented in Table 7-2 and Figure 7-1. Drillhole spacing varied from 200 m x 200 m across most of the Earnout Area, but in some areas the spacing was reduced to 100 m x 100 m. Some 50 m x 50 m drilling was also undertaken in the RTO.

The two keys objectives for the 2018 drilling program were to estimate Mineral Resources for the Earnout Area, and to collect and measure a significant number of bulk density determinations on the core to assist in raising the confidence of some areas of the concession to Indicated Resource category, facilitating conversion to Ore Reserves.

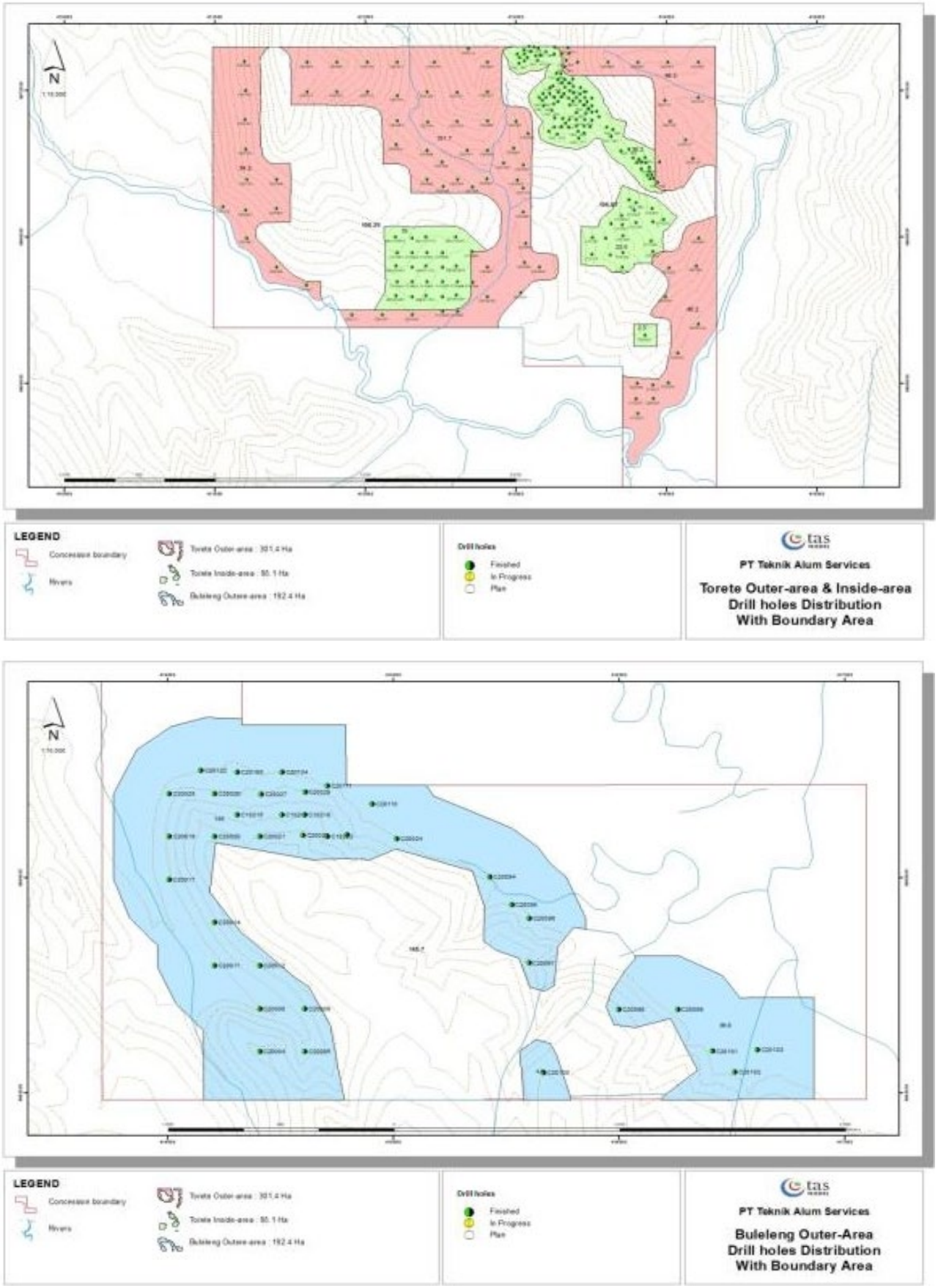
Table 7-2. 2018 drilling program summary.

Block	Total Holes Drilled	Total Depth (m)	Average Depth (m)	Min Depth (m)	Max Depth (m)
Buleleng	37	447	12.1	1.3	34.5
Torete	232	2,041	8.8	3.0	24.0
Total	**269**	**2,488**	**10.4**	**-**	**-**

Source: PT GAS IQPR2, 2019.

PT GAS has documented and described the results from the 2018 exploration program. Derisk has reviewed the PT GAS IQPR and considers that the drilling program and associated activities appear to be fit-for-purpose and identified no material concerns in the results of that work. PT GAS documented some non-material issues in the IQPR and Derisk concurs with the conclusions made by PT GAS.

Figure 7-1. 2018 drilling program location plan for Torete (top) and Buleleng (bottom).



Source: PT GAS IQPR2, 2019.

8 MINERAL RESOURCES

8.1 Methodology

The process used by PT GAS to prepare the 2019 Mineral Resource estimate for the Project comprised the following steps:

1. Digital files of drillhole data were extracted from a master database then imported into Surpac software and Microsoft Excel spreadsheets for checking and validation.
2. Digital topographic survey data of the pre-mining topography, plus the open pit mine surveys as at 27 May 2019 were reviewed and imported into Micromine.
3. Data validation checks were completed, focused on drillhole collar coordinates and sampling/analysis data. Once source data was checked, modifications were applied to the master data sets accordingly.
4. Three-dimensional interpretations of the base of the limonite zone and the base of the saprolite zone were created, based on the drillhole logs and assays.
5. Statistical analysis of drillhole data was completed, including sample weight and recovery, chemical analyses, and bulk density determinations.
6. Drillhole composite lengths were selected, followed by composite statistics and a variographic analysis of the drillhole data.
7. Two three-dimensional block models were created (Torete and Buleleng), with subcelling of parent blocks to allow reasonable boundary definition of the topography and laterite zones.
8. Estimation search parameters were developed for each area, and estimates were generated using the ordinary kriging (OK) method for the entire concession.
9. Grade estimates were checked visually against the input data. The block models and composite statistics were computed and checked, together with cross-validation and swath plot checks.
10. Assignment of the mineral resource classification was completed, considering the confidence in the geological interpretation of the mineralisation, drillhole spacing, sample density, assessments of the integrity and robustness of the sample database, and estimation quality.
11. The resultant block models were cut with the open pit mine survey data as at 27 May 2019, and all blocks inside the pit areas were assigned a mined-out code.
12. Grade-tonnes curves were produced for the estimate.
13. Mineral Resources for the entire concession were reported using a range of cut-off criteria relevant to potential product sales specifications.
14. Mineral Resources for each of the RTO Area and Earnout Area were reported using the same cut-off criteria.

Detailed documentation supporting the mineral resource estimate is reported by PT GAS. Derisk has reviewed the process used by PT GAS, the data inputs used to complete the geological interpretation, the grade estimation parameters and methodology, validation, and classification of the Mineral Resources. Derisk considers the estimate is fit-for-purpose and there are no material concerns.

8.2 2019 Mineral Resource Estimate

PT TAS has identified three main sales opportunities for its nickel laterite mineralisation and PT GAS developed cut-off criteria for reporting the Mineral Resources that incorporate these different products. The markets and criteria used are:

- Cobalt-rich nickel Mineral Resources, where the average cobalt content exceeds 0.06% Co.
- Cobalt-depleted medium-grade nickel Mineral Resources, where the average nickel content ranges from 1.0% -1.4% Ni.
- Cobalt-depleted high-grade nickel Mineral Resources, where the average nickel content exceeds 1.4% Ni.

The process used by PT GAS to estimate the 2018 Mineral Resources for the entire concession did not take into consideration the individual product cut-off criteria – the criteria were used only to report the resources for Torete and Buleleng, and for the RTO Area and the Earnout Area. Table 8-1 summarises the total resources for both the RTO Area and the Earnout Area, using a lower cut-off criterion of 0.5% Ni.

The 2019 Mineral Resources were estimated and reported in accordance with the JORC Code and Mr Wahyu Asmantowi from PT GAS accepted Competent Person responsibility for the estimate.

Table 8-1. Mineral Resources as at 27 May 2019.

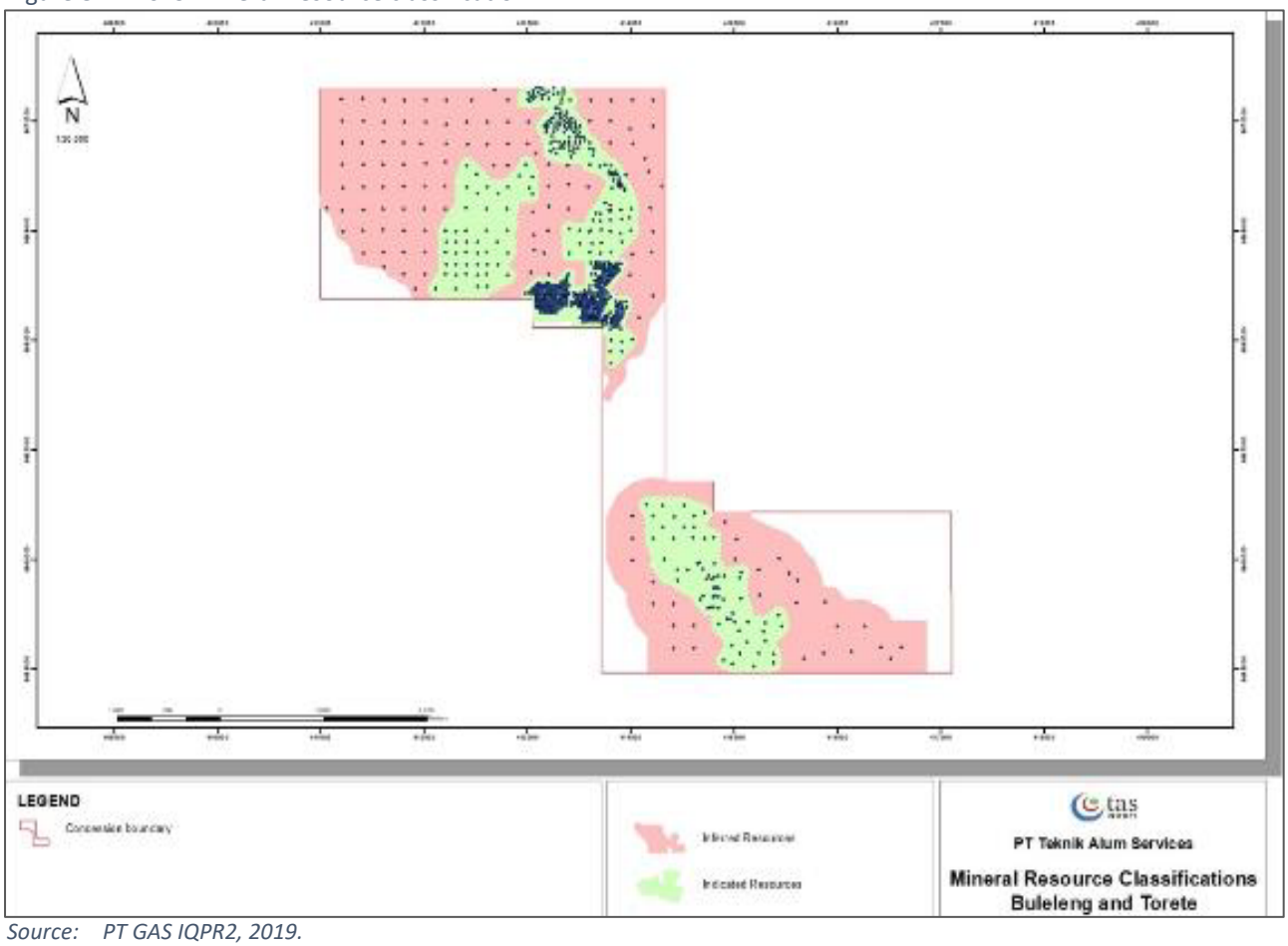
Area and Category	Wet Tonnes (Mt)	Dry Tonnes (Mt)	Ni (%)	Co (%)	Fe (%)
RTO: Measured	-	-	-	-	-
RTO: Indicated	44.3	30.0	0.99	0.05	22.8
RTO: Inferred	42.7	29.8	1.02	0.07	28.7
RTO: Subtotal	**87.0**	**59.8**	**1.00**	**0.06**	**25.8**
EARNOUT: Measured	-	-	-	-	-
EARNOUT: Indicated	12.5	8.6	1.06	0.07	29.7
EARNOUT: Inferred	47.0	32.2	0.99	0.06	28.1
EARNOUT: Subtotal	**59.5**	**40.8**	**0.99**	**0.07**	**28.4**
CONCESSION: Measured	**-**	**-**	**-**	**-**	**-**
CONCESSION: Indicated	**56.8**	**38.6**	**1.00**	**0.06**	**24.6**
CONCESSION: Inferred	**89.7**	**62.0**	**1.00**	**0.06**	**28.4**
CONCESSION: Total	**146.6**	**100.5**	**0.99**	**0.06**	**26.9**

Source: PT GAS IQPR2, 2019.

Note: 1. Minimum cut-off criterion of 0.5% Ni.
2. Grades are on a dry basis
3. Totals may not add due to rounding effects.

The 2019 estimate reports an increase of nearly 80 MWMT compared with the 2017 RPM estimate, of which nearly 75% is in the Earnout Area. Importantly, the 2019 estimate reports a total of nearly 57 MWMT of Indicated Resources, a rise of nearly 55 MWMT. This increase in Indicated Resources is in part due to a substantial number of bulk density measurements being added to the database that has allowed a substantial area of the concession, including areas drilled previously in the RTO Area, to be upgraded from Inferred Resources to Indicated Resources where the drill spacing is less than 100 m x 100 m (Figure 8-1).

Figure 8-1. 2019 Mineral Resource classification.



Source: PT GAS IQPR2, 2019.

8.3 Production Reconciliation

PT GAS completed a production reconciliation of the 2019 resource model against the historical annual production data for each deposit, which consisted of total shipped tonnes and grade and monthly trucked tonnes from each pit area for each deposit (Table 8-2). Reconciliation is on wet tonnes, but grades are reported on a dry basis.

Table 8-2. Reconciliation of 2019 Mineral Resource model against mine production records.

Deposit	Truck Production		Block Model		% Different	
	Wet Tonnes	Ni %	Wet Tonnes	Ni %	Wet Tonnes	Ni (t)
Torete	663,500	1.8	601,200	1.8	5%	0.3%
Buleleng	163,100	1.7	154,800	1.6	3%	2.3%
Total / Average	**826,600**	**1.8**	**756,000**	**1.8**	4%	0.7%

Source: PT GAS IQPR2, 2019.

The reconciliation shows excellent agreement between the resource model and production records for nickel grade, and a slight underestimation of tonnes by the resource model compared to records, though the discrepancy is minor. Derisk considers that this information indicates that to date, the resource model is a good predictor of mined tonnes and grade.

9 GEOTECHNICAL CONDITIONS

9.1 Rock Mass Properties and Conditions

The rocks in the Project area comprise two main types: an ultramafic unit of Cretaceous age comprising peridotite and serpentinite, and an alluvial unit of Quaternary age comprising clay, sand, pebble and cobble, which lies unconformably on top of the peridotite and serpentinite in the southern part of the tenement.

The deposit is a classic nickel laterite deposit and comprises iron oxides on the surface (limonite) and magnesium silicates beneath (saprolite). The nickel deposits formed over the ultramafic rocks by the process of lateritisation. The lateritic profile is well developed and protected from erosion by the presence of an iron cap. In some areas the iron cap has been destroyed, exposing the laterite. Generally, the laterite profile of the Project area comprises a mixture of limonite (topsoil and limonite) with low-grade to high-grade saprolite (soft saprolite and rocky saprolite) lying above ultramafic bedrock.

9.2 Slope Stability

Based on the existing stable pit slopes and their performance at Torete and Buleleng (Figure 9-1) a 45° overall slope angle for both high walls and low walls was selected by PT TAS. The pit parameters used by PT GAS in the optimisation for Torete and Buleleng pits are shown in Table 9-1.

Figure 9-1. Typical pit slopes at Torete (top) and Buleleng (bottom).

Source: PT GAS IQPR2, 2019.

Table 9-1. Pit design parameters used for Torete and Buleleng.

Parameter	Units	Value
Overall slope	Degree	45
Single slope	Degree	56
Bench height	m	5
Safety Berm Width	m	3
Ramp width	m	10
Ramp gradient	%	8

Source: PT GAS IQPR2, 2019.

9.3 Hydrogeology and Groundwater

The mining slopes are being stabilised in the following ways:

- Drainage of slopes is managed by installing horizontal pipes so that the slope does not become saturated. Grass or shrubs are planted on the surface of the slopes to minimise erosion by surface water, which can result in localised slope instabilities.
- Installation of retaining walls where required is done to create an abutment so that the slope stability is increased.

9.4 Seismic Conditions

The Project is in an area at risk from the effects of natural disasters such as earthquakes and tsunamis. There can be no assurance that natural disasters will not occur and result in major damage to the Project or the supporting infrastructure facilities, which could adversely affect the business. Prolonged disruption of nickel production as a result of natural disasters may also entitle customers to terminate their contracts.

PT TAS is exploring options for insuring equipment to salvage some value in the outcome of a natural disaster and implement evacuation plans and processes to keep employees safe in the event of a natural disaster.

9.5 Geotechnical Risks and Management

No formal geotechnical or hydrogeological investigations have been conducted at the Project. The operations to date are limited to shallow depths and stability of the slopes has been successfully managed on an operational basis. However, as the pits become deeper, a more technical approach will be required to ensure the slopes remain stable.

10 ORE RESERVES

10.1 Methodology

The process used by PT GAS to prepare the 2019 Ore Reserve estimate comprised the following steps:

1. The 3D Mineral Resource block model was validated.
2. The model was cut with the May 2019 topographic surface.
3. All reserve inputs provided by PT TAS were reviewed and updated where appropriate using current information.
4. A series of pit optimisations were undertaken and a cashflow analysis completed.
5. A mine design and production schedule were completed.
6. An Ore Reserve was estimated, classified and reported, as at 27 May 2019.

10.2 Pit Optimisation

PT GAS applied two stages in calculating the conversion of ore in the ground (in situ) to ore sold to market (product):

- In situ ore: The Mineral Resources reflect the mineralisation in its undisturbed state. Typically, most mineralisation is in the saprolite layer and has internal waste. In situ ore comprises all the ore within the pit shell.
- ROM ore: There are four factors that modify the in situ ore volume that is mined i.e. design criteria based on the block model, selective mining of ore in practice, mining losses and mining dilution. When allowances are made for all of these factors the in situ ore is converted to ROM ore that is mined and delivered to the barges.

The factors PT GAS used for modifying the in situ ore volume and quality to that which is mined as ROM ore are detailed below:

- Mining Loss: 3% ore loss was assumed for both deposits.
- Dilution: It is assumed that an average of 3% of waste material will be mined at an average grade of 0.7% Ni.
- An adjustment of 1% was applied to the ROM ore to allow for an increase in moisture.

10.3 LOM Plan and Production Schedule

Once a theoretical economic pit-shell (optimised pit) was selected for each mining area, it was converted into a practical pit design. This step incorporated practical considerations such as consistency of the pit floor level, access restrictions and the removal of areas that are impractical to mine. That portion of the ROM ore within the practical pit design comprising Indicated Resources was classified as Probable Ore Reserves. There are no Proved Ore Reserves at the Project.

PT TAS defined pit limits for each pit, then evaluated development strategies for both individual pits and the mine as a whole. This was followed by detailed LOM production and dump scheduling plus stage plans to illustrate pit development.

The LOM plan shows that mining activities will be conducted only at Torete during 2019 – 2023, then at both Torete and Buleleng for the next four years (2024 – 2027). From 2028 – 2033 mining activity will be solely carried out in Buleleng. The total LOM is approximately 15 years starting from 2019 to 2033, with the total production at approximately 59 MWMT.

The LOM plan is based on three production activities:

- Mining of cobalt-rich, low-grade nickel ore (Ni<1.0%, Co> 0.06%) starting from 2019 to 2027 (9 years) at Torete with total production of 14.2 MWMT with an average of 1.6 MWMT per year. Production at Buleleng will start from 2024 up to 2033 with a total production of 17.6 MWMT, an average of 1.8 MWMT per year.
- Mining of medium grade nickel ore (1.0%≤Ni≤1.40%) starting from 2019 up to 2027 (9 years) at Torete with total production of 11.4 MWMT with an average of 1.3 MWMT per year. Production at Buleleng will start from 2024 up to 2033 with a total of 9.8 MWMT, an average of 1.0 MWMT per year.
- Mining of high-grade nickel ore (Ni>1.40%) starting from 2019 up to 2027 (9 years) at Torete with total production of 2.4 MWMT of ore with an average of 0.3 MWMT per year. Production at Buleleng will start from 2024 up to 2033 with a total production of 3.8 MWMT, an average of 0.4 MWMT per year.

PT TAS's preferred development strategy involves a strip mining and haul-back mining method. There is no need for any blasting as overburden and ore are all soft materials containing only small fragments of rock. The selected mining method is a shallow open cut truck and excavator mining method, where dumping is initially ex-pit and then in-pit dumping where possible using a haul-back method. The mining factors applied to the resource models for deriving mining quantities were selected based on the use of excavators and trucks.

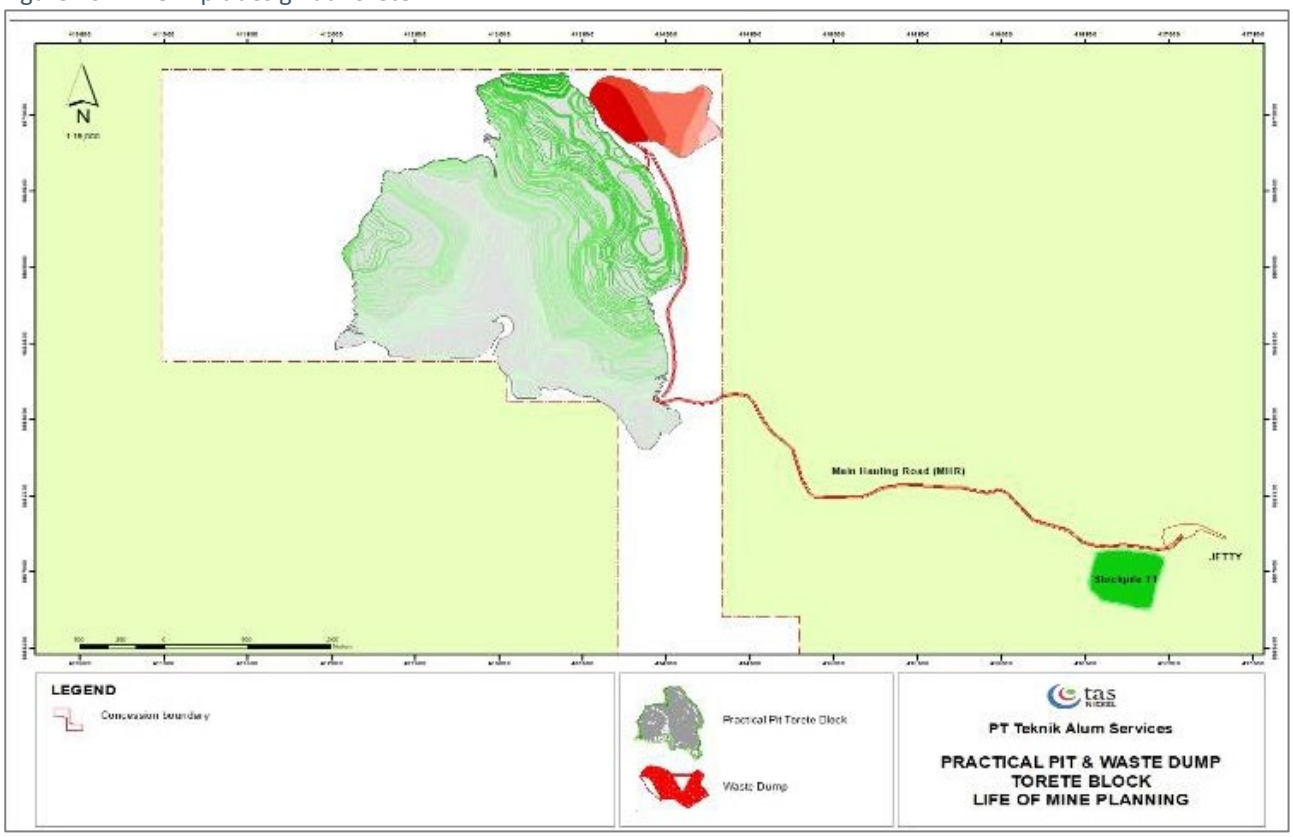
Three final components for the LOM production schedule were produced and analysed.

- The first schedule is to supply ore with target grades of 0.8% Ni and 0.07% Co. This schedule targeted peak ore production of 3.2 MWMT in 2023, while the average annual production is 2.1 MWMT. The total LOM production is 31.8 MWMT.
- The second schedule is to supply ore with a target grade of 1.2% Ni. This schedule targeted a peak ore production target of 2.1 MWMT in 2020, while the average annual production is 1.4 MWMT. The total LOM production is 21.2 MWMT.
- The third schedule is to supply ore with a target grade of 1.7% Ni. This schedule targeted a peak ore production target of 0.9 MWMT in 2027, while the average annual production is 0.4 MWMT. The total LOM production is 6.1 MWMT.

The deposit characteristics are suited to flexible, selective mining methods. The operation of the pits is to be undertaken by PowerChina (the mining contractor) using a mix of hydraulic excavators, dozers, loaders and haul trucks.

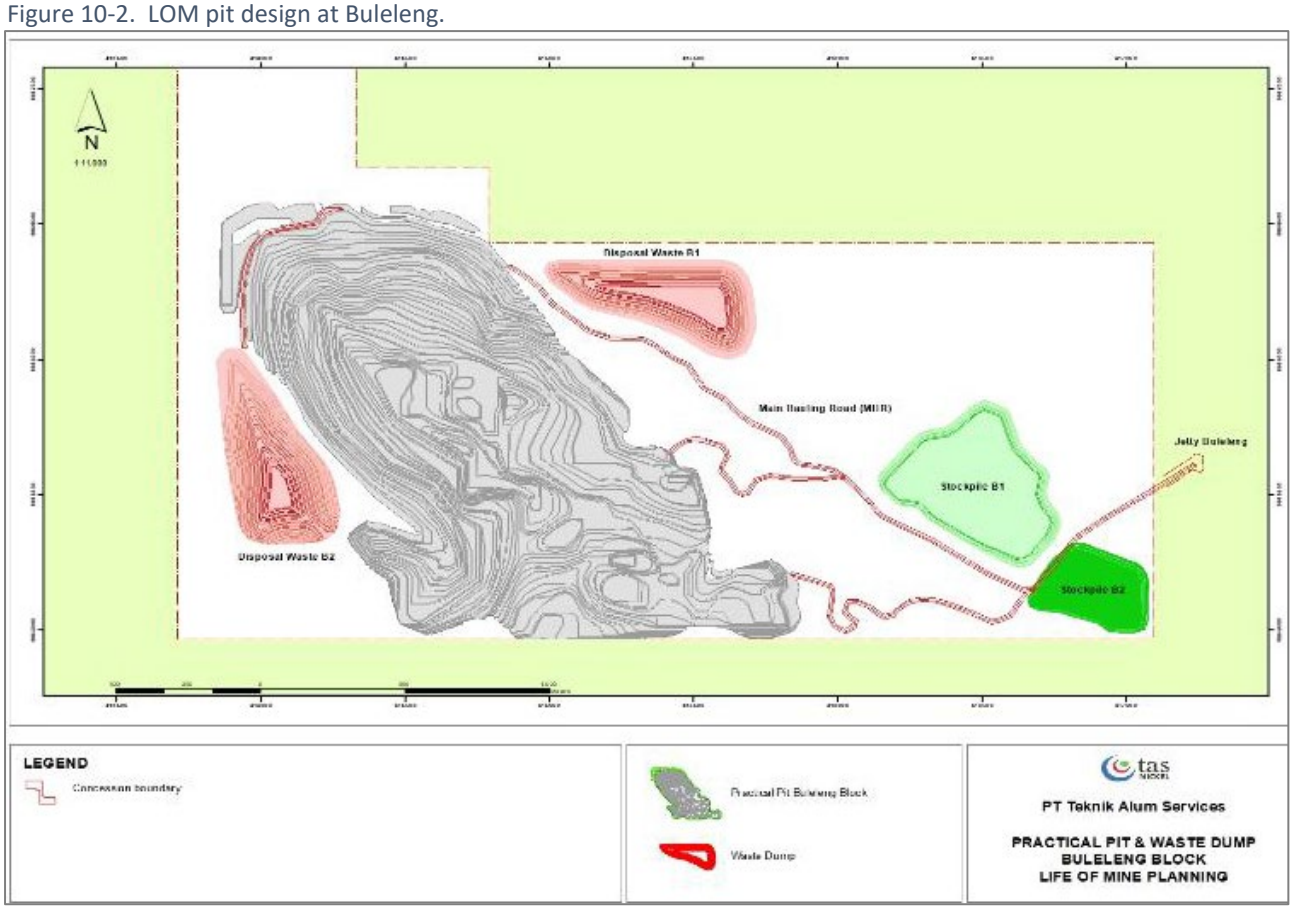
Based on the LOM results, there is 31.8 MWMT of mineable ore product with grades of 0.83% Ni and 0.07% Co, 21.2 MWMT of mineable ore product with a grade of 1.16% Ni, and 6.1 MWMT of mineable product with a grade of 1.65% Ni. The total ore scheduled is 59.1 MWMT. Table 10-1 presents the LOM schedule physicals, Figure 10-1 shows the LOM pit design for Torete and Figure 10-2 shows the LOM pit design for Buleleng.

Figure 10-1. LOM pit design at Torete.



Source: PT GAS IQPR2, 2019.

Figure 10-2. LOM pit design at Buleleng.



Source: PT GAS IQPR2, 2019.

10.4 Economic Analysis

PT TAS provided PT GAS with capital and operating cost estimates for the budget prepared for 2019. This 2019 budget was used to estimate the capital and operating costs associated with the LOM schedule supported by the resources and reserves.

The mine currently operates through a combination of owner mining and contractor mining. The pit areas and associated waste dumps were scheduled to achieve the targeted ROM production tonnages for each year of the mine plan. The resulting schedule of nickel tonnage and nickel qualities were tabulated and entered into the economic model.

The capital costs were added to the appropriate year of planned execution in the economic model from the 2019 budget. Typically, the largest costs will occur at or near the start of the schedule when the project is in the development stages. The capital was depreciated using a straight-line depreciation method for various time periods dependent on the type of investment.

The revenue was based on the nickel content of the product sold. The product grade from the schedule was compared to 1.65% Ni benchmark price of approximately USD 40/t (Source: Shanghai Metals Market - price.metal.com) to arrive at FOB Mother Vessel USD/t nickel product price. This resulting nickel price was then multiplied by the nickel product tonnes to determine the annual revenue.

For the operating costs the summation of each of the cost components was totalled for every year of the schedule. These total costs are expressed in dollars per product tonne. From these the gross cost per product tonne is calculated for each year.

PT GAS evaluated the Project using a DCF analysis (Table 10-1). Cash inflows consisted of annual revenue projections. Cash outflows consisted of capital expenditures, operating costs, taxes and royalties. These were subtracted from the inflows to arrive at the annual cash flow projections.

Table 10-1. Life of mine production schedule.

Deposit	Production & sales schedule	Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
TORETE	**OB**	Overburden (MWMT)	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0							**0.4**
		Ni OB (%)	0.9	0.9	0.8	0.9	0.9	0.7	0.7	0.7	0.0							**0.7**
		Co OB (%)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.00							**0.03**
		Fe OB (%)	13.6	13.5	13.6	14.8	15.7	15.0	36.7	20.9	0.0							**23.5**
		Moisture OB (%)	23.4	23.4	23.4	23.4	23.4	23.4	27.8	25.8	0.0							**25.3**
	Co ≥ 0.06 (Other Sales)	Ore (MWMT)	0.4	0.6	1.6	2.7	3.2	1.8	1.4	1.7	0.9							**14.2**
		Ni Ore (%)	1.0	0.9	0.9	0.9	0.9	0.8	0.9	0.8	0.9							**0.9**
		Co Ore (%)	**0.07**	**0.07**	**0.08**	**0.09**	**0.08**	**0.06**	**0.08**	**0.07**	**0.07**							**0.08**
		Fe Ore (%)	31.8	29.3	35.7	36.7	31.7	28.4	34.1	34.5	37.1							**33.5**
		Moisture Ore (%)	28.5	27.4	28.8	28.9	27.5	27.0	28.0	28.7	29.6							**28.2**
	Ni ≥ 1.0 - ≤ 1.4 (Smelter Sales)	Ore (MWMT)	0.8	2.1	1.6	1.0	0.9	1.5	1.6	1.3	0.5							**11.4**
		Ni Ore (%)	**1.1**	**1.1**	**1.2**	**1.2**	**1.1**	**1.1**	**1.1**	**1.1**	**1.2**							**1.1**
		Co Ore (%)	0.06	0.06	0.08	0.05	0.05	0.07	0.07	0.07	0.05							**0.07**
		Fe Ore (%)	27.2	26.6	25.7	23.4	24.3	28.0	30.4	32.1	25.3							**27.4**
		Moisture Ore (%)	27.7	26.9	26.2	25.4	25.8	26.8	27.3	27.5	25.7							**26.7**
	Ni ≥ 1.4 (Local)	Ore (MWMT)	0.1	0.3	0.4	0.0	0.0	0.2	0.5	0.6	0.2							**2.4**
		Ni Ore (%)	**1.6**	**1.6**	**1.6**	**1.4**	**1.5**	**1.6**	**1.6**	**1.8**	**1.8**							**1.7**
		Co Ore (%)	0.03	0.03	0.03	0.03	0.03	0.03	0.05	0.05	0.02							**0.04**
		Fe Ore (%)	12.0	12.6	12.9	14.9	14.9	15.2	22.1	19.6	14.4							**16.9**
		Moisture Ore (%)	23.4	23.4	23.4	23.4	23.4	23.4	25.0	24.7	23.4							**24.1**
	TOTAL ORE (M WMT)		**1.4**	**3.0**	**3.5**	**3.8**	**4.0**	**3.4**	**3.6**	**3.6**	**1.6**							**27.9**
	BOUNDARY AREA (HA)		**16.4**	**18.1**	**54.2**	**25.0**	**42.3**	**63.9**	**50.8**	**39.9**	**0.0**							**310.7**

Deposit	Production & sales schedule	Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
BULELENG	OB	Overburden (MWMT)						0.1	0.2	0.5	1.0	4.6	0.9	2.0	0.7	0.9	4.5	**15.3**
		Ni OB (%)						0.8	0.5	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.1	**0.2**
		Co OB (%)						0.02	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.00	0.00	**0.01**
		Fe OB (%)						13.1	7.9	7.1	10.0	9.9	12.0	4.3	6.1	2.3	2.2	**6.3**
		Moisture OB (%)						32.0	21.4	20.8	29.5	28.7	32.1	14.2	17.4	9.6	9.4	**19.5**
	Co ≥ 0.06 (Other Sales)	Ore (MWMT)						0.5	0.5	0.3	1.4	2.3	2.4	2.2	2.2	2.5	3.2	**17.6**
		Ni Ore (%)						0.7	0.7	0.7	0.8	0.8	0.7	0.8	0.8	0.8	0.9	**0.8**
		Co Ore (%)						**0.09**	**0.09**	**0.08**	**0.07**	**0.07**	**0.06**	**0.05**	**0.06**	**0.07**	**0.08**	**0.07**
		Fe Ore (%)						44.2	43.4	40.0	33.6	31.9	28.5	24.9	30.3	32.8	36.5	**32.3**
		Moisture Ore (%)						40.3	40.3	39.9	38.8	38.5	37.9	36.7	38.5	39.7	40.1	**38.8**
	Ni ≥ 1.0 - ≤ 1.4 (Smelter Sales)	Ore (MWMT)						0.0	0.1	0.2	0.6	1.9	1.5	1.8	1.7	1.4	0.7	**9.8**
		Ni Ore (%)						**1.3**	**1.3**	**1.2**	**1.2**	**1.2**	**1.1**	**1.2**	**1.2**	**1.2**	**1.1**	**1.2**
		Co Ore (%)						0.03	0.03	0.03	0.05	0.06	0.04	0.04	0.05	0.04	0.04	**0.04**
		Fe Ore (%)						16.6	16.3	14.3	25.0	28.2	20.5	19.3	19.6	16.6	17.5	**20.9**
		Moisture Ore (%)						32.6	32.6	32.6	35.4	36.2	34.3	33.7	34.1	33.3	34.0	**34.4**
	Ni ≥ 1.4 (Local)	Ore (MWMT)						0.0	0.1	0.2	0.7	0.4	0.6	0.5	0.6	0.7	0.1	**3.8**
		Ni Ore (%)						**1.5**	**1.5**	**1.6**	**1.8**	**1.6**	**1.6**	**1.6**	**1.6**	**1.6**	**1.5**	**1.6**
		Co Ore (%)						0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.04	0.04	0.03	**0.04**
		Fe Ore (%)						17.2	17.3	16.4	19.7	19.9	19.6	18.6	16.7	17.2	12.9	**18.3**
		Moisture Ore (%)						32.6	32.6	32.6	33.1	33.7	33.3	33.4	33.0	33.2	32.6	**33.2**
	TOTAL ORE (M WMT)							**0.6**	**0.7**	**0.7**	**2.7**	**4.5**	**4.5**	**4.5**	**4.5**	**4.6**	**4.0**	**31.2**
	BOUNDARY AREA (HA)							**3.5**	**2.6**	**2.6**	**27.8**	**31.2**	**16.5**	**23.5**	**21.6**	**25.0**	**55.3**	**209.5**
TORETE & BULELENG	**Total**	**Total Material (MWMT)**	**1.4**	**3.0**	**3.6**	**3.8**	**4.0**	**4.2**	**4.6**	**4.8**	**5.3**	**9.1**	**5.4**	**6.5**	**5.2**	**5.4**	**8.4**	**74.9**
		Overburden (MWMT)	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.2**	**0.3**	**0.6**	**1.0**	**4.6**	**0.9**	**2.0**	**0.7**	**0.9**	**4.5**	**15.8**
		Ore (MWMT)	**1.4**	**3.0**	**3.5**	**3.8**	**4.0**	**4.0**	**4.2**	**4.2**	**4.3**	**4.5**	**4.5**	**4.5**	**4.5**	**4.6**	**4.0**	**59.1**
		Strip Ratio (waste:ore)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.1**	**0.2**	**1.0**	**0.2**	**0.4**	**0.2**	**0.2**	**1.1**	**0.3**
		Area (Ha)	**16.4**	**18.1**	**54.2**	**25.0**	**42.3**	**67.4**	**53.4**	**42.4**	**27.8**	**31.2**	**16.5**	**23.5**	**21.6**	**25.0**	**55.3**	**520.2**

Source: PT GAS IQPR2, 2019.

Note: 1. Totals have been rounded to reflect the accuracy of the estimates.
2. All grades are reported on a dry basis
3. Tonnes are reported on a wet basis to reflect sales contracts

The DCF analysis for the Project prepared by PT GAS indicates that the Project has a Free Cash Flow to Firm (FCFF) NPV of approximately USD 284 million (Table 10-2). The NPV has been derived using a weighted average cost of capital (WACC) of 13.5% (nominal terms) based on the PT TAS management estimate. The operation is projected to have no negative cash flow periods. PT GAS used this analysis to demonstrate the viability of the Ore Reserves for the Project.

Table 10-2. Financial evaluation summary.

Economic Parameter	Units	Result	Remark
NPV @ 13.5% WACC	USD million	284	Economic
Internal Rate of Return (IRR)	%	NA	No negative cash flow
Pay Back Period (PBP)	Year	NA	No negative cash flow

10.5 Ore Reserve Estimation and Classification

PT GAS has estimated and reported a total of 44.5 MWMT of Ore Reserves for the Project, as Probable Reserves (Table 10-3). The Ore Reserves comprise 33.9 MWMT in the RTO Area and 10.7 MWMT in the Earnout Area. The 2019 Ore Reserves were estimated and reported in accordance with the JORC Code and Mr Widadi Akso Prabu from PT GAS accepted Competent Person responsibility for the estimate.

Table 10-3. Ore Reserves as at 27 May 2019.

Area and Category	Wet Tonnes (Mt)	Dry Tonnes (Mt)	Ni (%)	Co (%)	Fe (%)
RTO: Proved	-	-	-	-	-
RTO: Probable	33.9	23.0	1.09	0.06	26.4
RTO: Subtotal	**33.9**	**23.0**	**1.09**	**0.06**	**26.4**
EARNOUT: Proved	-	-	-	-	-
EARNOUT: Probable	10.7	7.3	1.05	0.07	31.7
EARNOUT: Subtotal	**10.7**	**7.3**	**1.05**	**0.07**	**31.7**
CONCESSION: Proved	**-**	**-**	**-**	**-**	**-**
CONCESSION: Probable	**44.5**	**30.3**	**1.08**	**0.06**	**27.7**
CONCESSION: Total	**44.5**	**30.3**	**1.08**	**0.06**	**27.7**

Source: PT GAS IQPR2, 2019.

Note: 1. All grades are reported on a dry basis.
2. Totals may not add due to rounding effects.

PT GAS also estimated and reported Ore Reserves for each deposit with three cut-off grade options to produce specific products to meet different local markets:

- Cut-off grades of Ni < 1.0% and Co ≥ 0.01% at Torete and Ni < 1.0% and Co ≥ 0.03% at Buleleng have been applied to achieve a blended target grade of Co ≥ 0.06% for a cobalt/low-grade nickel product.
- A cut-off grade of Ni ≥ 1.0% and Ni ≤ 1.4% to produce a medium-grade nickel product.
- A cut-off grade of Ni > 1.4% to produce a high-grade nickel product.

The estimates are summarised in Table 10-4, Table 10-5 and Table 10-6 below. Derisk has reviewed the work completed internally by PT TAS and the external estimates prepared by PT GAS and considers the work is reasonable and fit-for-purpose.

Table 10-4. Cobalt-rich nickel Ore Reserves.

Deposit	Class	Area	Wet Tonnes (Mt)	Dry Tonnes (Mt)	Ni %	Co %	Fe %	Wet Bulk Density (t/m³)	Dry Bulk Density (t/ m³)	Moisture Content %
Torete	Probable	RTO	4.2	3.0	0.89	0.07	33.2	1.66	1.20	27.9
		Earnout	4.1	2.9	0.89	0.09	36.8	1.69	1.20	29.1
Buleleng	Probable	RTO	8.5	5.2	0.76	0.06	29.8	1.68	1.03	38.3
		Earnout	2.4	1.4	0.89	0.09	40.4	1.71	1.02	40.3
Total			**19.3**	**12.6**	**0.83**	**0.07**	**33.4**	**1.68**	**1.10**	**34.3**

Source: PT GAS IQPR2, 2019.

Notes: 1. Totals has been rounded to reflect the accuracy of the estimate and may not add due to rounding effects.
2. All grades are reported on a dry basis.
3. Cut-off criteria of Ni < 1.0% and Co ≥ 0.001% at Torete and Ni < 1.0% and Co ≥ 0.03% at Buleleng

Table 10-5. Cobalt-depleted medium-grade nickel Ore Reserves.

Deposit	Class	Area	Wet Tonnes (Mt)	Dry Tonnes Mt)	Ni %	Co %	Fe %	Wet Bulk Density (t/ m³)	Dry Bulk Density (t/ m³)	Moisture Content %
Torete	Probable	RTO	8.6	6.3	1.13	0.07	29.1	1.65	1.20	27.2
		Earnout	1.9	1.4	1.15	0.05	23.8	1.61	1.21	25.7
Buleleng	Probable	RTO	8.0	5.2	1.18	0.05	21.6	1.63	1.06	34.5
		Earnout	1.2	0.8	1.17	0.04	19.7	1.63	1.06	34.4
Total			**19.6**	**13.7**	**1.16**	**0.06**	**25.0**	**1.63**	**1.14**	**30.5**

Source: PT GAS IQPR2, 2019.

Notes: 1. Totals has been rounded to reflect the accuracy of the estimate and may not add due to rounding effects.
2. All grades are reported on a dry basis.
3. Cut-off criteria of Ni ≥ 1.0% and Ni ≤ 1.40% for both Torete and Buleleng.

Table 10-6. Cobalt-depleted high-grade nickel Ore Reserves.

Deposit	Class	Area	Wet Tonnes (Mt)	Dry Tonnes Mt)	Ni %	Co %	Fe %	Wet Bulk Density (t/ m³)	Dry Bulk Density (t/ m³)	Moisture Content %
Torete	Probable	RTO	1.6	1.2	1.63	0.03	14.6	1.56	1.21	23.5
		Earnout	0.6	0.4	1.71	0.06	26.5	1.63	1.21	26.3
Buleleng	Probable	RTO	3.0	2.0	1.64	0.04	19.0	1.61	1.07	33.4
		Earnout	0.5	0.3	1.61	0.03	14.1	1.60	1.07	32.6
Total			**5.6**	**4.0**	**1.64**	**0.04**	**18.1**	**1.60**	**1.12**	**29.9**

Source: PT GAS IQPR2, 2019.

Notes: 1. Totals has been rounded to reflect the accuracy of the estimate and may not add due to rounding effects.
2. All grades are reported on a dry basis.
3. Cut-off criteria of Ni > 1.40% for both Torete and Buleleng.

11 OPERATIONS

11.1 Mining

The mine currently produces high grade saprolite containing up to 1.8% Ni. After an initial box cut to final pit depth, waste is hauled back into the mined-out areas when operational dump space is available, and the out-of-pit dump areas are then rehabilitated. The open cut operation uses appropriately sized hydraulic excavators and trucks to mine the ore and waste. The waste rock types include topsoil, clay, silica box work and peridotite or ultramafic rock as a basement. Topsoil, clay material, and silica box work can be classified as soft material and can be dug without blasting. The ore does not require blasting as it is also soft material with small fragments of rock.

Ores from the Torete and Buleleng pits are transported to ROM ore stockpiles with haul distances between 1 km and 3 km depending on pit source. The ROM ore is covered with tarpaulins to maintain the moisture and is then blended before re-handling onto barges for shipment. The mine is currently producing approximately 30-50 kt per month from all operating pits.

Mining occurs concurrently from multiple pits as part of a PT TAS strategy to maintain a consistent product grade. Pits are mined using conventional strip-mining methods with pushbacks. Strip mining involves mining the ore deposit initially focusing on easily accessible ore near the surface, and then gaining additional ore through successive pushbacks on the highwall and footwall. Waste rock is directed to adjacent surface dumps. Though this mining method provides for a lower strip ratio and lower mining costs early in the mine life, both increase substantially as the mine matures. Strip mining will progress until the length of waste haulage increases to the point where it becomes more economical to use haul-back mining.

Haul-back mining progresses from one end of the pit to the other. The terminology refers to overburden being 'hauled back' from the mining face to in-pit dumps. Initially, a box cut is established in an area where the strip mining has been completed. This method will reduce the overburden haulage cost at the deepest portion of the pit, reduce equipment noise to surrounding areas, and help restore original ground surface within the mining area in preparation for rehabilitation. Figure 11-1 shows aspects of the operations during Derisk's site visit in September 2018.

Figure 11-1. Example of mining operations, September 2018.

11.2 Waste Disposal

The operation has a low strip ratio and produces limited quantities of overburden, which are currently placed in out-of-pit dumps. In future, most of the overburden will be moved to in-pit dumps when space becomes available.

11.3 Contractors

PT TAS has been using local contractors in the past to perform mining. From 2019 PT TAS has engaged PowerChina as its primary mining contractor to:

- Reduce the operating risk.
- Reduce the number of PT TAS employees.
- Lower direct capital expenditure.

- Deliver a more known and controlled cost structure.
- Perform certain difficult non-routine tasks.

11.4 Equipment

Diesel hydraulic excavators are used at site and load directly into rear dump haul trucks for transport to either ROM ore stockpiles or to waste dumps. The key advantages of these machines include:

- Ability to dig a variety of materials in a range of conditions.
- Ability to quickly change locations with relative ease.
- Possess good breakout force.
- Can be configured either as a backhoe or as a face shovel.
- Diesel powered, which is a necessity where electricity supply is unavailable or unreliable.

Support equipment includes:

- Small excavators/trucks for topsoil removal.
- Production drills for blasting waste material if required.
- Dozers, front end loaders, and graders for clean up in the mine, road construction and maintenance.
- Water trucks for dust control.
- Mobile lighting plants for night-time operations.
- Buses and light vehicles for personnel transport.
- Diesel and electric pumps to remove ground and rainwater.
- Service vehicles to service the mining equipment in the pit.

11.5 Processing

There are no processing facilities on the site. All production is currently sold as DSO. Ore is stored in temporary stockpiles then rehandled onto barges for shipment to customers (Figure 11-2).

Figure 11-2. Rehandling DSO from stockpiles (LHS) and barge loading (RHS), September 2018.

12 INFRASTRUCTURE AND SERVICES

12.1 Site Infrastructure

The main operating infrastructure includes haul roads, waste dumps, ROM stockpiles and jetty facilities for loading the barges. Buleleng and Torete have separate stockpile and jetty facilities (Figure 12-1). At the stockpile area, ore is stockpiled and blended before being loading onto 5,000 to 8,000 t capacity barges. The ore is then barged to ships or to domestic smelters.

Figure 12-1. Jetty and stockpile infrastructure at Torete (top) and Buleleng (bottom).

Source: PT TAS LOM report, 2019.

Other site infrastructures in place includes offices, messing area and facilities, worker dormitories (Figure 12-2), workshops, laboratory and storage rooms.

Figure 12-2. Worker accommodation facilities.

12.2 Services and Communications

All mining operations are conducted by diesel powered mobile equipment and there are no processing facilities, therefore, demand for power and water is relatively low. Power is suppled from the local government grid. The site has basic telecommunications facilities and uses walkie-talkies and radios for its on-site communications. Water supply and diesel fuel are kept in storage tanks and sourced from the market suppliers.

13 PRODUCT SALES

13.1 Market Overview

During the last five years, the nickel price has displayed substantial volatility – ranging from approximately USD 8,000 – 20,000 per tonne (Figure 13-1). The current price is around USD 18,000 t, rebounding from a recent low of around USD 10,500/t. Such volatility significantly impacts the valuations derived from some valuation approaches, particularly income approaches.

Figure 13-1. Five-year spot nickel price: January 2014 to October 2019.

Source: http://www.infomine.com/investment/metal-prices/nickel/5-year/

13.2 Product Specifications and Contracts

The mine currently produces ore products with specifications of 1.7-1.9% Ni, 15-25% Fe, <2% SiO_2/MgO and <35% moisture content. The ore grade from the mining operations varies, hence blending of ore is necessary to achieve the product target. Derisk has sighted signed contract documents for sales by PT TAS of high-grade nickel ore as follows:

- PT Transon Bumindo Resources (Qingdao, China) dated 11 December 2018 for 15,000 WMT at a nominal 1.75% Ni (with rejection at 1.65% Ni), 32% moisture (maximum 35%).
- PT Ekasa Yad Resources (Indonesia) dated 28 August 2019 for 30,000 WMT (±10%) at a nominal 1.8% Ni (with rejection at 1.7% Ni), 15-25% Fe, 1.8% SiO2/MgO, 35% moisture (maximum) for delivery between 28 August 2019 and 30 September 2019.
- PT Artabumi Sentra Industi (Indonesia) dated 30 August 2019 for 3,600,000 WMT (±10%) at a nominal 1.8-1.9% Ni, 12-25% Fe, 1.8% SiO2/MgO, moisture 30-35% for delivery between 6 January 2020 and 6 January 2023.

In order to optimise the extraction of its resources, supported by current market conditions and government regulation, PT TAS is looking for opportunities in the domestic market to sell low-grade saprolite ore and limonite material for both its nickel content and its cobalt content.

13.3 Sales Mix and Price Forecast

In August 2019, the Indonesian Government re-imposed restrictions on the export of unprocessed nickel ores effective from January 2020. As a result, PT TAS modified its plans to export a portion of its future production and accelerate a proposed joint venture plan for the construction of a nickel smelter in South Sulawesi. The current LOM Plan relies entirely on domestic markets, including the proposed joint venture smelter, for its entire production.

Based on the latest estimates of Mineral Resources and Ore Reserves, the LOM Plan provides the following product mix from 2019 to 2033:

- High-grade nickel ore (>1.4% Ni) – 6.1 MWMT.
- Medium grade nickel ore (1.0%≤Ni≤1.4% Ni) – 21.2 MWNT.
- Low grade nickel/cobalt ore (<1.0% Ni & >0.06% Co) -31.8 MWMT.

Forecast prices for these product streams are based on the domestic market pricing, which broadly tracks the international nickel price:

- High-grade nickel ore (>1.4% Ni) – USD23/WMT.
- Medium grade nickel ore (1.0%≤Ni≤1.4% Ni) – USD23/WMT.
- Low grade nickel/cobalt ore (<1.0% Ni & >0.06% Co) – USD21/WMT.

It is likely that the high-grade nickel ore will attract a premium over the medium-grade nickel ore in the future, but since the sudden recent ban on exports of unprocessed ore by the Indonesian Government, it is a buyer's market and these prices reflect that situation. When the proposed PT TAS joint venture smelters are in operation, there will be a greater opportunity to obtain better pricing.

PT TAS has indexed the selling prices at the nominated inflation rate of 3.5% pa in its financial model. Derisk has taken the World Bank (WB) April 2019 nickel price forecast (in nominal USD/t) up to 2030 and compared it to prices based on the WB estimated price for 2019 indexed at 3.5% pa (Table 13-1). This shows a very good correlation between the two price forecasts, so Derisk considers that the price indexation of 3.5% pa adopted by PT TAS for its forecast selling prices is reasonable.

Table 13-1. Nickel price forecast comparison (USD).

	Year							
	2019	2020	2021	2022	2023	2024	2025	
WB + 3.5% pa	12,880	13,331	13,797	14,280	14,780	15,297	15,833	
WB forecast	12,880	13,700	14,079	14,469	14,869	15,281	15,704	
	Year							
	2026	2027	2028	2029	2030	2031	2032	2033
WB + 3.5% pa	16,387	16,961	17,554	18,169	18,804	19,463	20,144	20,849
WB forecast	16,163	16,622	17,082	17,541	18,000			

Source: World Bank Commodity Forecast Price Data, April 2019
Note: WB prices interpolated for 2026-2029

14 HUMAN RESOURCES AND OCCUPATIONAL HEALTH AND SAFETY

14.1 Human Resources

The PT TAS workforce is segmented into various divisions namely Operations, Marketing, Accounting & Finance and Business Development reporting to the Chief Operations Officer (COO), Chief Marketing Officer (CMO), Chief Financial Officer (CFO) and Business Development Manager respectively. All these division heads report directly to the Chief Executive Officer (CEO).

The mine site operational workforce is also divided by function such as Technical & Equipment, Finance, Operators, Production (Mining), Quality Control, Logistics, Drivers, Security, Cooks & Cleaning, Safety, and Environment. Figure 14-1 details the organisational chart for the mine site.

The total PT TAS workforce including management is approximately 90 people.

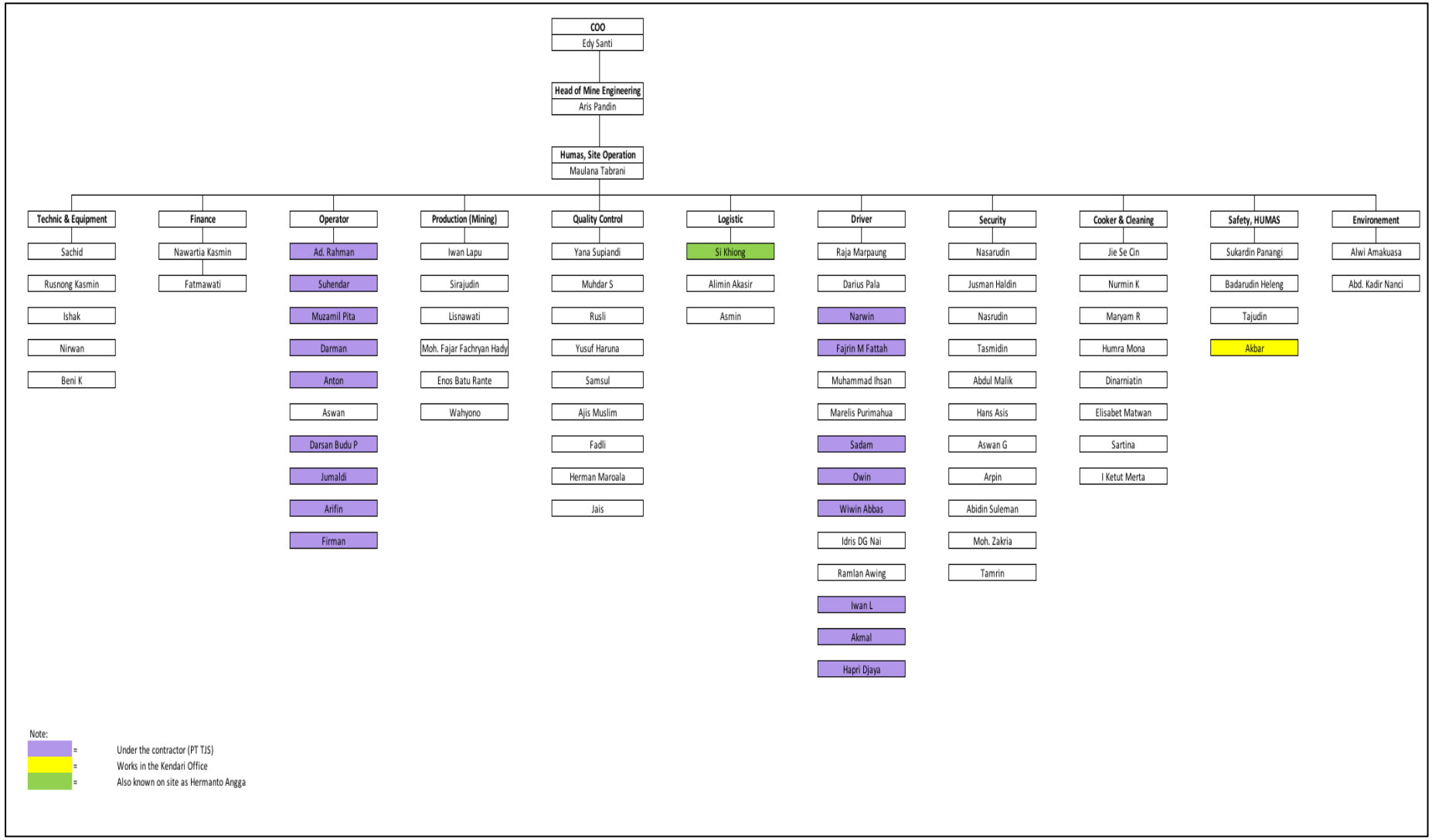
14.2 Mine Safety

PT TAS has instituted programs to support a safe workplace that include:

- Conduct safety induction for every new employee to be aware of the importance of mining work safety.
- Provide suitable personal protection equipment (PPE) to employees such as safety helmets and protective clothing to prevent injury and reduce employee exposure to hazards.
- Supervise employees and contractors.
- Undertake safety talks regularly so that employees are more aware of safe work habits and methods.
- Use of Standard Operational Procedures.
- Adoption of incident investigations in the event of an incident or accident, prepare a report and make recommendations for improvements if necessary.
- Initiation of an occupational health and safety program (K3 program) to educate and train employees.
- Meetings to identify hazards in a proactive way or find a source of danger before the danger causes adverse effects or impacts.
- Focus on preventative actions and continuous improvement.
- Installation of posters and banners.
- Installation of traffic signs, especially in hazard zones.
- Safety and health initiatives aimed at developing occupational safety and health programs such as better protection against waste treatment, medically transmitted and non-infectious diseases.

The company records incident and accident statistics. For 2018, there were eight near-miss incidents, zero accidents and zero fatalities.

Figure 14-1 PT TAS mine site organisational chart.



Source: PT GAS IQPR2, 2019.

15 ENVIRONMENTAL MANAGEMENT

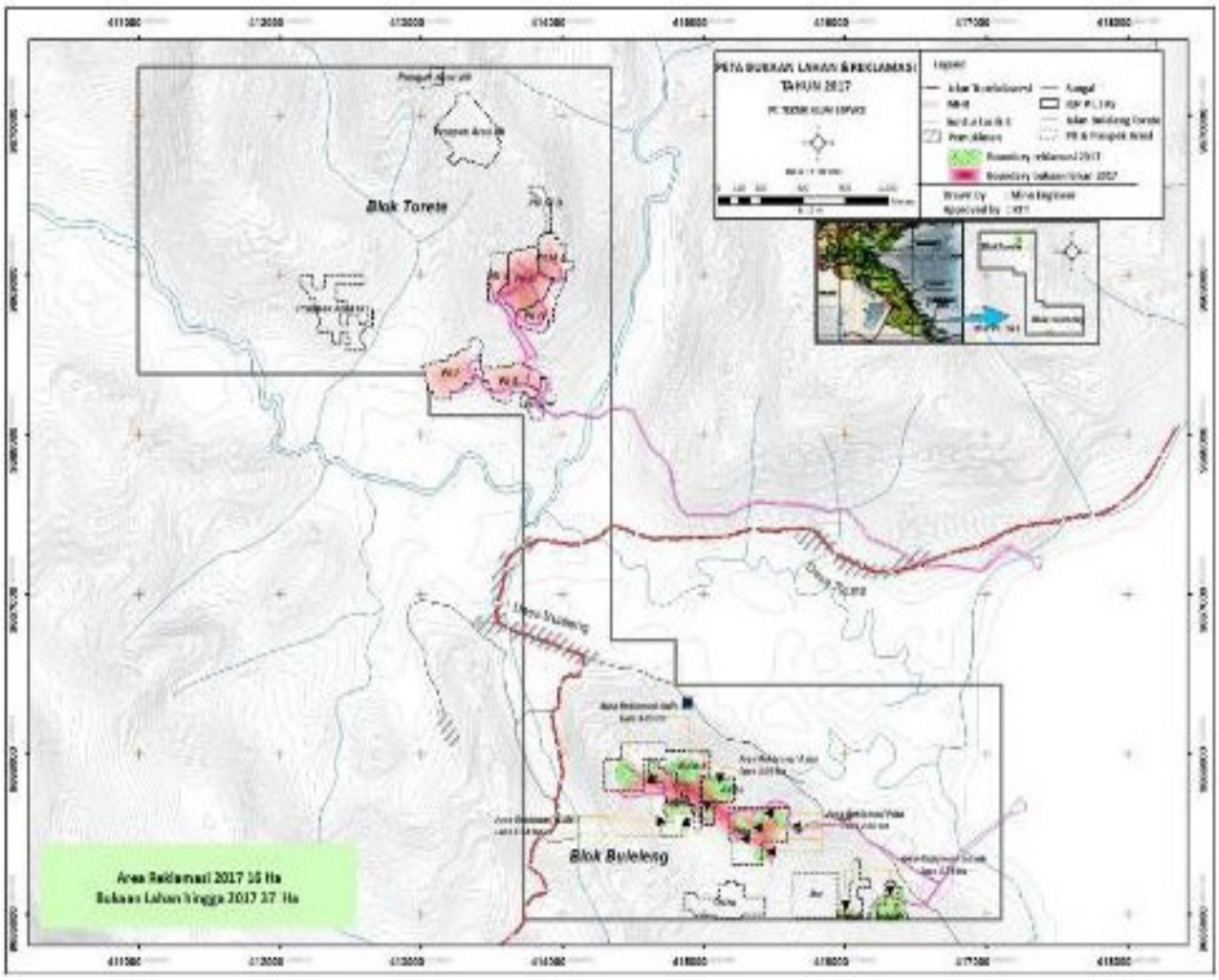
PT TAS conducts an overall evaluation of the disturbed environment due to company activities such as mining, road construction, stockpile making, jetty making. Indicator items that are routinely monitored are dust and noise, changes in landscape, water and spring quality, aquatic biota, flora and fauna, and community perceptions around the mine. Key considerations include:

- Number of people affected.
- Area of distribution of impact.
- The duration of the impact.
- Impact intensity.
- Cumulative nature of impacts.
- Reversibility of the impact.

15.1 Land Opening, Reclamation and Rehabilitation of Former Mining Sites.

Nickel mining activities, especially land clearing in the Production Operation IUP area, can cause changes to the land used for mining operations, both in active mining areas and on land for mining facilities (Figure 15-1). The changes in the area around the mine in general are changes in the shape of surface morphology, loss of topsoil due to stripping of overburden, loss of vegetation or planting on top of it due to the process of land clearing, changes in drainage system patterns and possible changes in groundwater quality.

Figure 15-1. Areas of land clearing and reclamation.



Source: PT TAS LOM report, 2019.

Reclamation and revegetation activities are an important part in the post-mining operation phase, because it will become the basis for subsequent space utilisation. In 2015, PT TAS prepared a budget for mine closure and reclamation of 45 ha in two sites at Buleleng and Torete. Two main cost centres were estimated i.e.

direct costs of the reclamation program (land structuring, re-vegetation, prevention, and civil works according to the needs of the reclamation site), and indirect costs (such as mobilisation and demobilisation). These are summarised in Table 15-1.

Table 15-1. Mine closure and reclamation budget.

No	Description	Cost (US$)
1	**Direct Cost**	
	a. Land Structuring	
	1. Grading	26,950
	2. Topsoil rehandling	24,823
	3. Erosion and water management	19,504
	b. Revegetation	
	1. Analysis soil quality	7,092
	2. Soil fertilisation	24,823
	3. Seedling	17,730
	4. Planting	19,504
	5. Plant maintenance	24,823
	c. Acid mine water management	8,511
	d. Civil works reclamation	10,638
	Subtotal	184,397
2	**Indirect Cost**	
	a. Mobilisation and Demobilisation (2.5% from direct cost)	5,319
	b. Reclamation Plan (2% from direct cost)	3,546
	c. Admin and Contractor profit (10% from direct cost)	18,440
	d. Supervision (2% from direct cost)	3,546
	Subtotal	**30,851**
TOTAL (USD)		**215,248**

Source: PT TAS Mine closure planning report, 2015.

The area of land that has been reclaimed or recontoured/revegetated to 2018 has covered an area of 16 ha (Figure 15-2). This reclaimed area is located at Buleleng, while revegetation at Torete has not been carried out because mining is still in progress. There will be an additional 15 ha of continuing reclamation activities between 2019 and 2022.

The areas that have been recontoured to the end of 2018 are Azizah (3.09 ha), Aulia I (1.54 ha), Aulia II (4.38 ha), Inayah (3.74 ha) and Prita (2.80 ha). For reclamation activities, many plant seeds are needed. PT TAS operates a nursery in the village of Buleleng (Figure 15-3). At present several types of seeds have been prepared for revegetation, including sengon, trembesi, mangoes, and several other potential species.

Topsoil contains a lot of organic material. Before mining commences, topsoil is carefully removed and stored. When reclamation occurs, the stored topsoil is placed on the recontoured land surface to facilitate revegetation.

Reclamation activities are carried out in conjunction with the progress of mining. Plans for land reclamation will be managed and carried out by considering land use planned in the Regional Spatial Plan (RTRW) of the local area, with the ultimate goal of 40emodelling mining areas into new landforms that will benefit the local population.

Figure 15-2. Areas of land re-contouring and reclamation.

Source: PT TAS LOM report, 2019.

Figure 15-3. Nursery.

Source: PT TAS LOM report, 2019.

15.2 Water Management

Rainfall and groundwater must be managed in order to minimise any adverse effects on the mine or the surrounding environment. As the pits and both out-of-pit and in-pit dumps progressively enlarge, the attention to water management issues will increase over time.

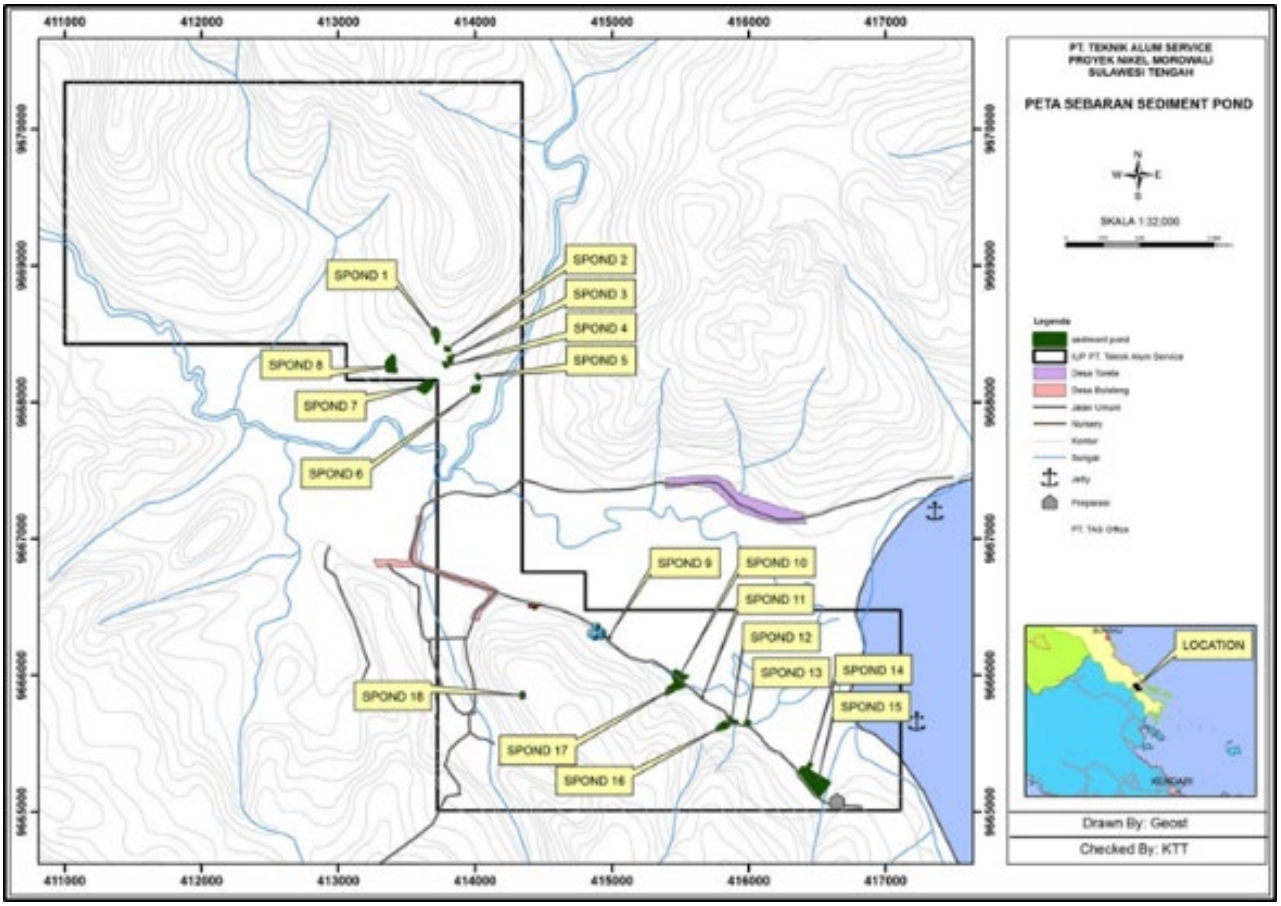
Water is classified either as clean or dirty, depending on the degree of exposure to disturbed areas and contaminants. Clean water can normally be discharged directly to existing watercourses and may be available for various Project water uses. Dirty water may be classified according to the nature of the contaminants and degree of treatment required, and almost always requires either retention on site or some level of treatment before discharge off site. Clean and dirty water may also be available for some on site project water uses such as dust control on waste dumps and haul roads. The clean runoff water from the original ground surface is directed to constructed open channel drainage and flows to the natural water courses.

All dirty water is directed from pit pumping activity and run off drains through the mine dirty water drainage system. Drop structures for erosion control are generally located at the toe of the waste dumps. Sediment control devices and water treatment with materials such as alum and lime are used to maintain the outlet water to within acceptable ranges defined by Baku Mutu Lingkungan, (BML) for Total Suspended Solids, (TSS) and Total Sulphur (TS), respectively.

Run-off material is one of the main concerns and PT TAS has addressed this by constructing sediment ponds, sumps, and check dams (Figure 15-4 and Figure 15-5).

PT TAS also carries out analyses of water quality for both river water quality analysis and sea water quality analysis, which are tested at Kendari Health Laboratory Center, Southeast Sulawesi Provincial Government Health Office.

Figure 15-4. Sediment pond locations.



Source: PT TAS LOM report, 2019.

Figure 15-5. Sediment pond examples.

Source: PT TAS LOM report, 2019.

15.3 Solid Waste Control

Solid waste generated from office waste, basecamp and workshop is collected and disposed of at the final disposal site. Wastes that are difficult to decompose properly will be burned.

Hazardous and toxic waste (B3 waste) produced includes used lubricating oil from the use of heavy equipment such as bulldozers, excavators, dump trucks, generators and other vehicles. This waste will be accumulated in drums placed in designated places and then sold to collecting companies who have an official government-issued disposal permit.

15.4 Dust Control

The impact of air pollution from dust is controlled and minimised by regular watering every day and regulating the speed of the mine vehicles. The dust suppression function installed at the screening station reduces the presence of nickel ore dust, thereby improving the air quality.

15.5 Control of Flora, Fauna, Wildlife and Aquatic Biota

Land reclamation activities together with revegetation at mined-out areas will have a positive influence on flora, fauna/wildlife and aquatic biota and are expected to increase the number of plants. Plants act as regulators of water to improve the quality and quantity of wildlife habitat, and reclamation and revegetation activities can improve water quality in river waters around the mining area.

16 COMMUNITY AND SOCIAL ISSUES

Mining activities have changed the traditional use of land in the communities surrounding the Buleleng and Torete villages, from agricultural, plantation and other business activities to nickel mining. PT TAS has developed social economic, and community-based jobs and new business opportunities related to mining activities both directly and indirectly.

PT TAS engages the community around the mine to work at the mine site. The number of workers is based on the requirements of production and PT TAS hopes that in the long term the local community contribution to mining will increase. Some of the current community development programs are summarised in Table 16-1.

Table 16-1. Community development initiatives.

Item	Activities	Plan 2019 (USD)
1	**Public Relations**	
	Religious	1,773
	Social & Culture	1,241
	Sports and Youth	674
2	**Community**	
	Education	1,277
	Health	1,241
	Economic	1,117
	Agriculture	621
	Animal & Fisheries	869
3	**Infrastructure Development**	
	Education	1,117
	Religious	1,117
	Health	869
	Animal & Fisheries	745
	Economic	745
	Public Facilities	1,064
4	**Natural Disasters and Operational Costs**	
	Natural Disasters and Operational Costs	993
Total (USD)		**15,461**

Source: PT GAS IQPR, 2019.

17 VALUATION

17.1 Valuation Definitions and Approach

The VALMIN Code classifies mineral assets into one of five categories:

- Early-stage exploration projects.
- Advanced exploration projects.
- Pre-development projects.
- Development projects.
- Production projects.

In accordance with these categories, PT TAS operates a Production project at Morowali. The VALMIN Code also provides guidance on appropriate valuation approaches for each category of mineral asset, as shown in Table 17-1.

Table 17-1. Recommended valuation approaches for different mineral assets.

Valuation Approach	Exploration Projects	Pre-development Projects	Development Projects	Production Projects
Market	Yes	Yes	Yes	Yes
Income	No	In some cases	Yes	Yes
Cost	Yes	In some cases	No	No

Source: VALMIN Code, 2015.

Derisk has assessed market and income valuation approaches to determine a valuation for the Project. A Public Report must disclose the basis of value. The VALMIN Code defines the terms Market Value and Technical Value, as follows:

- Technical Value is an assessment of a mineral asset's future net economic benefit at the valuation date under a set of assumptions deemed most appropriate by a Practitioner, excluding any premium or discount to account for market considerations.
- Market Value is the estimated amount (or the cash equivalent of some other consideration) for which the mineral asset should exchange on the date of valuation between a willing buyer and a willing seller in an arm's length transaction after appropriate marketing where the parties had each acted knowledgeably, prudently and without compulsion.

The valuations estimated for the nickel assets operated by PT TAS are all Market Values.

17.2 Income Valuation: Discounted Cashflow

The income valuation approach is based on the proposition that the value of a mineral project can be determined by calculating the present value of future cash benefits arising from that project. The value so defined is referred to as the NPV and is determined using the discounted cashflow (DCF) methodology, or some derivative of this methodology. This approach generates a Technical Value that is converted to a Market Value by application of a discount or premium to account for market conditions.

Derisk considers that the income valuation approach is the most appropriate method to value Morowali because it is an operating mine with Ore Reserves, Mineral Resources, forward sales contracts and good records documenting historical and current operating costs and revenues.

17.2.1 Earnout Area Valuation Methodology

The objective of this Report is to prepare a valuation specific to the Earnout Area.

To derive an income valuation for Morowali, Derisk has used the economic analysis from the LOM Plan as described in Section 10 to determine an NPV for the consolidated tenements. The estimated value of the saleable stockpiles as at 27 May 2019 was not material to the valuation. Derisk has then split the total value between the RTO Area and the Earnout Area based on an estimate of the proportion of the ROM production and revenue that would be contributed from each area over the LOM.

Probable Reserves from both areas were allocated first and the shortfalls in each product category were then filled using factored Inferred Resources. Probable Reserves account for 75% of the total LOM Plan production with the remaining 25% coming from factored Inferred Resources. The resulting tonnages were

then used to allocate the revenue from each product stream to the two areas. The results of this allocation are summarised in Table 17-2. Using this method, Derisk determined that 32.7% of the total project valuation would be allocated to the Earnout Area.

Table 17-2. Allocation of tonnage and revenue from LOM plan.

Product	RTO Area tonnage (%)	Earnout Area tonnage (%)
>1.4% Ni	70.3%	24.9%
1.0% ≤ Ni ≤ 1.4%	78.5%	21.5%
<1.0% Ni & >0.06% Co	57.8%	42.2%
Proportion of total tonnage	**67.0%**	**33.0%**
Proportion of total revenue	**67.3%**	**32.7%**

17.2.2 DCF Input Parameters

Derisk has assessed a project execution plan as summarised in Table 17-3. The key assumptions used were:

- The LOM Plan provided the following inputs to the financial model: mine life, annual ore and waste tonnes mined.
- The financial model applies ore pricing as set out in Table 17-3, which was estimated on the basis of discussions with PT TAS. It is understood that nickel ore prices can be volatile and that there is the potential for deviation from the LOM forecasts.
- All cost and sales estimates are in constant Q3 2019 USD with a 3.5% yearly inflation.
- All project related payments and disbursements incurred prior to the effective date of this report are considered as sunk costs.
- The model applies 5.0% royalties on all ore sales revenue across the LOM.
- Project revenue is derived from the sale of nickel ore into the local Indonesian marketplace. Although PT TAS has a Letter of Interest, there is no contractual arrangement for "other sales" at this time. Provisions for nickel ore transportation and payable charges have been included in the financial model.

Table 17-3. Allocation of tonnage and revenue from LOM plan.

Execution Plan	
Mine Life	15 years
LOM Ore Tonnes (MWMT)	59.1
Total Average LOM Nickel Grade (%)	1.03
Average Annual Production (MWMT)	3.94
Nickel Ore Pricing	
Local Sales – Ni > 1.40%	USD 23/t
Smelter Sales – 1.0% ≤ Ni ≤ 1.4%	USD 23/t
Other Sales – Ni < 1.0% & Co ≥ 0.06%	USD 21/t
Cost and Tax Criteria	
Estimate Basis	Q3 2019
Inflation	3.5% pa
Income Tax	Indonesia, Corporate
Royalties	
Royalty on Local Sales	5%
Payable Terms	
Nickel ore delivery	100%

Note: Nickel grade reported on a dry basis

17.2.3 Capital Costs

The Project is currently an operating open-pit mine and only requires sustaining capital to maintain the equipment and supporting infrastructure necessary to continue operations until the end of the projected production schedule. The estimate of capital is divided into the areas of infrastructure development, pit

closure costs, exploration and maintenance, assay laboratory, office expansion and mining equipment and vehicles.

The capital cost estimates developed for this study includes the costs associated with the overall maintenance and development of the mine site. PT TAS has projected a total of USD 3.3 million in capital costs over the projected 15 years in its economic model. PT TAS has provided a capital estimate for the Project on a yearly basis until the end of the project's life (Table 17-4).

Table 17-4. Capital cost budget: FY2019 to FY2033.

Capital Costs Estimate (USD)							
Description	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024-33	TOTAL
1. Infrastructure Development	150,000	-	-	-	-	500,000	650,000
2. Pit Closure Cost	-	-	-	-	-	500,000	500,000
3. Exploration and Maintenance	100,000	100,000	100,000	100,000	100,000	1,000,000	1,500,000
4. Assay Laboratory	250,000	-	-	-	-	-	250,000
5. Office Expansion	100,000	-	-	-	-	-	100,000
6. Mining Equipment and Vehicles	100,000	-	-	-	-	200,000	300,000
Total	**700,000**	**100,000**	**100,000**	**100,000**	**100,000**	**2,200,000**	**3,300,000**

Source: PT TAS LOM report, 2019.

17.2.4 Operating Costs

The operating cost estimate for the Project includes all expenses incurred to operate the mine from the start of FY2019 (Year 1) through FY2033 (Year 15) at a daily average production rate of about 10,800 WMT. The expected accuracy for the operating cost estimate is that of a PFS level (±20-25%).

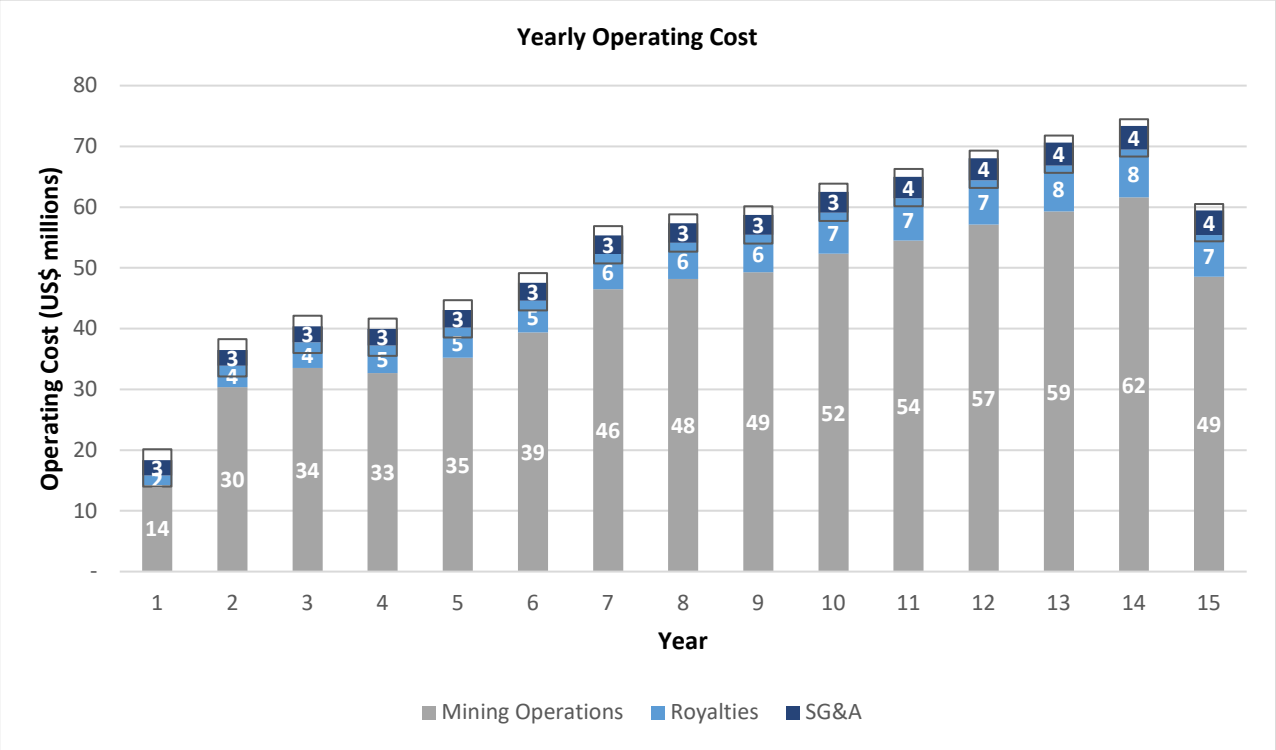
The three major operating cost areas are mining and shipping, site general and administration (SG&A) and royalties. Table 17-5 and Figure 17-1 provides the breakdown of the projected operating costs for the Project.

Table 17-5. Operating cost breakdown.

Cost Item / Area	Total (USD M)	Average (USD/t mined)	Opex (%)
Mine Operations	662.80	11.22	83.26%
SG&A	48.24	0.82	6.06%
Royalties	85.02	1.44	10.68%
Total	**796.07**	**13.47**	**100%**

Source: PT TAS LOM report, 2019.

Figure 17-1. Annual operating costs.



Source: PT TAS LOM report, 2019.

These assumptions are detailed below. Prices for consumables, labour, fuel, rent, transportation, etc. were derived from historical PT TAS costs to forecast capital and operating costs. Mining contractor costs were based on PowerChina contracts. These costs are summarized in Table 17-6, Table 17-7 and Table 17-8.

Table 17-6. FY2019 fixed operating cost breakdown.

Fixed Costs Estimate – FY2019	Cost (USD)
Site Salary (62 staffs)	350,000
Consumption (meals)	70,000
Rental (house for consultant/ surveyor)	30,000
Parking, Fuel and Toll	12,000
Laboratory and Analysis	200,000
Clearance (Documentation & Stevedoring)	100,000
CSR	250,000
Repair and Maintenance	150,000
Rehabilitation	100,000
Depreciation	700,000
Amortisation	100,000
Fixed Cost	2,062,000

Table 17-7. Variable costs – Sales.

Variable Costs	Cost (USD/t)
Local Sales – Ni > 1.40%	11.80
Smelter Sales – 1.0% ≤ Ni < 1.4%	9.30
Other Sales – Ni <1.0%, Co ≥ 0.06%	6.50

Table 17-8. Variable costs – Other.

Other Variable Costs	Cost (USD/t)
Fuel (Generator)	0.10
Incentives for staff (production)	0.20
Other Variable Costs	0.30

17.2.5 Tax, Royalties and Depreciation

The analysis of the Project includes an effective corporate income tax rate of 25% from FY2019 to FY2033. The Project includes the payment of a 5% governmental royalty on all nickel ore sales. Inflation is kept constant at 3.5% throughout the entire DCF model.

The capital was depreciated using a straight-line depreciation method for various time periods dependent on the type of investment.

17.2.6 Discount Rate

The discount rate is the WACC as calculated by PT TAS based on the traditional calculation of WACC using cost of equity and cost of debt.

Cost of equity is the risk-free rate and a market premium is used for the Indonesian market. Using comparable companies/sector leveraged betas (sourced from publicly available information) the unlevered beta for each of these companies was calculated using the debt/cash to equity ratio and tax rates. There are a wide range of betas as a result of tax rates and some companies having a net cash position. The unlevered betas were reconverted to levered betas using PT TAS tax rate and target Debt/Equity ratio.

All of PT TAS's current debt is in USD and is borrowed at 6% per annum from its parent company Silkroad Nickel Ltd. For PT TAS the equity and debt is as per the management reported balance sheet as at 30 June 2019. The Equity/Enterprise Value and Debt/Enterprise Value ratios are used to determine the weightage to be applied to the cost of equity and debt respectively.

Based on this, the following scenarios emerge:

- Based on the actual tax rates and debt/cash positions of these companies from publicly available information, an average WACC of 13.5% is calculated in nominal terms.
- The target ratios for tax and debt normally used by brokers to calculate WACC generates an average WACC of 12.2%.

PT TAS has used the higher average rate of 13.5% as the discount rate for their financial analysis. Derisk considers that this discount rate is appropriate for the Project.

17.2.7 Economic Analysis

As described in Section 10, production has been scheduled over a 15-year mine life and is summarised in Table 10-1. Based on this schedule, an estimated 59.1 MWMT of saleable nickel-cobalt products is produced. Table 17-9 presents the annual free cashflow derived from the Project.

Table 17-9. Annual free cashflow profile.

Year count		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Month Count		12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
FY		FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032	FY2033
SALE QUANTITY ASSUMPTIONS (in WMT '000)																
Sales Volume																
Local Sales		131	318	351	14	3	194	611	773	867	361	594	509	602	723	75
Smelter JV Sales		842	2,133	1,563	1,041	881	1,470	1,741	1,461	1,089	1,860	1,476	1,836	1,688	1,381	689
Other Sales		427	559	1,617	2,716	3,152	2,340	1,896	2,008	2,298	2,289	2,442	2,169	2,227	2,466	3,216
Total Quantity Sold		**1,400**	**3,009**	**3,531**	**3,771**	**4,037**	**4,004**	**4,248**	**4,242**	**4,254**	**4,510**	**4,512**	**4,514**	**4,517**	**4,570**	**3,980**
PROFIT & LOSS STATEMENT (in USD '000)																
Revenue																
Nickel Ore Sales																
Local Sales		3,005	7,566	8,655	354	90	5,292	17,267	22,611	26,264	11,321	19,267	17,077	20,920	26,012	2,800
Smelter Sales		19,367	50,775	38,498	26,535	23,245	40,159	49,223	42,758	32,982	58,298	47,890	61,657	58,667	49,666	25,645
Other Sales		8,973	12,140	36,387	63,241	75,967	58,373	48,956	53,650	63,539	65,522	72,344	66,503	70,669	80,985	109,335
Total Revenue		**31,345**	**70,481**	**83,540**	**90,130**	**99,302**	**103,824**	**115,446**	**119,019**	**122,786**	**135,142**	**139,502**	**145,237**	**150,257**	**156,663**	**137,781**
COGS - Cost of Goods Sold																
Mining Operations		(14,251)	(30,375)	(33,534)	(32,689)	(35,208)	(39,389)	(46,492)	(48,196)	(49,282)	(52,329)	(54,473)	(57,142)	(59,309)	(61,607)	(48,527)
Royalty	*5%*	(1,567)	(3,524)	(4,177)	(4,506)	(4,965)	(5,191)	(5,772)	(5,951)	(6,139)	(6,757)	(6,975)	(7,262)	(7,513)	(7,833)	(6,889)
Gross profit		**15,527**	**36,582**	**45,828**	**52,934**	**59,128**	**59,244**	**63,182**	**64,872**	**67,364**	**76,055**	**78,054**	**80,833**	**83,435**	**87,222**	**82,364**
SG&A Expense		(2,500)	(2,588)	(2,678)	(2,772)	(2,869)	(2,969)	(3,073)	(3,181)	(3,292)	(3,407)	(3,526)	(3,650)	(3,778)	(3,910)	(4,047)
EBITDA		**13,027**	**33,995**	**43,150**	**50,162**	**56,260**	**56,275**	**60,109**	**61,691**	**64,072**	**72,648**	**74,527**	**77,183**	**79,657**	**83,313**	**78,318**
Depreciation		(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)
EBIT		**12,977**	**33,945**	**43,100**	**50,112**	**56,210**	**56,225**	**60,059**	**61,641**	**64,022**	**72,598**	**74,477**	**77,133**	**79,607**	**83,263**	**78,268**
Interest Expense		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT		12,977	33,945	43,100	50,112	56,210	56,225	60,059	61,641	64,022	72,598	74,477	77,133	79,607	83,263	78,268
Tax cost	*25%*	3,244	(8,486)	(10,775)	(12,528)	(14,052)	(14,056)	(15,015)	(15,410)	(16,006)	(18,150)	(18,619)	(19,283)	(19,902)	(20,816)	(19,567)
Net Income		**16,221**	**25,459**	**32,325**	**37,584**	**42,157**	**42,168**	**45,044**	**46,231**	**48,017**	**54,449**	**55,858**	**57,850**	**59,706**	**62,447**	**58,701**
FREE CASHFLOW (in USD '000)																
FCFF																
EBIT		12,977	33,945	43,100	50,112	56,210	56,225	60,059	61,641	64,022	72,598	74,477	77,133	79,607	83,263	78,268
Tax		(3,244)	(8,486)	(10,775)	(12,528)	(14,052)	(14,056)	(15,015)	(15,410)	(16,006)	(18,150)	(18,619)	(19,283)	(19,902)	(20,816)	(19,567)
Depreciation		50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Drilling Capex		(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)
Maintenance Capex		(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)
Infrastructure, Office & Lab Capex		(500)	-	-	-	-	(250)	-	-	-	-	(250)	-	-	-	-
Pit Closure Cost		-	-	-	-	-	(250)	-	-	-	-	-	-	-	-	(250)
Vehicles Capex		(100)	-	-	-	-	(100)	-	-	-	-	(100)	-	-	-	-
Decrease / (increase) in working capital		(237)	(574)	(562)	(690)	(345)	320	215	(14)	(133)	(522)	(6)	(33)	(57)	(151)	(606)
FCFF		8,846	24,834	31,714	36,844	41,763	41,838	45,210	46,167	47,834	53,877	55,452	57,767	59,598	62,246	57,794
Discount Factor @ 13.5% WACC		1.00	0.94	0.83	0.73	0.64	0.57	0.50	0.44	0.39	0.34	0.30	0.26	0.23	0.21	0.18
PV of Discounted Cashflows		8,846	23,311	26,227	26,846	26,810	23,664	22,530	20,270	18,504	18,363	16,652	15,283	13,893	12,784	10,458

WACC	%	13.5%
NPV (Middle-Period) @ 13.5%	***US$***	**284,440,099**
IRR	%	N/A
Payback Period	*Year*	N/A

Source: PT TAS LOM report, 2019.

The key outputs from the economic analysis of the LOM Plan are summarised in Table 17-10. The results indicate that the project is financially robust. The base-case NPV for the Project at a 13.5% discount rate is USD 284.4 million. Derisk has applied a further discount of 15% to the calculated NPV to account for project and market risks as set out in Section 18.1. Once this discount is applied the NPV for the Project is estimated at USD 241.7 million, and the NPV of the Earnout Area is estimated at USD 79.0 million.

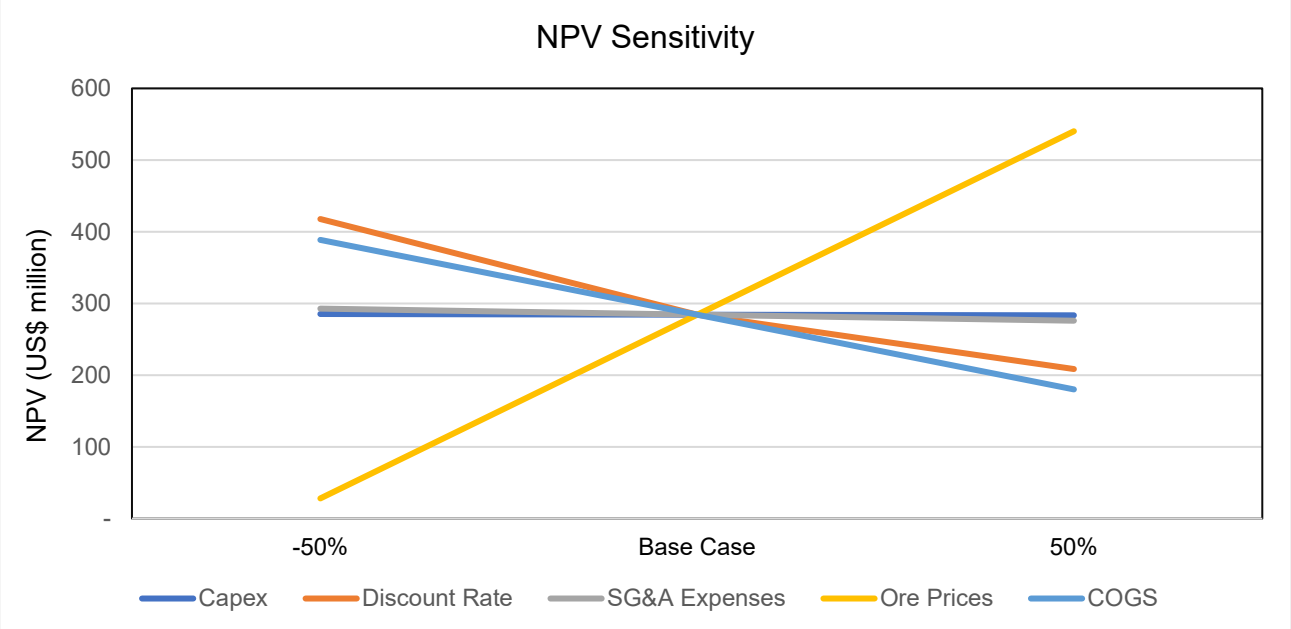
Table 17-10. Economic analysis.

Item	Value
Total ore (MWMT)	59.1
Mine life (years)	15
Maximum mining rate (MWMTpa)	4.6
Revenue (USD M)	1,700.5
Capex (USD M)	3.3
Opex (USD M)	662.8
Royalties (USD M)	85.0
Depreciation (USD M)	0.75
Tax (USD M)	225.9
Net Cashflow (USD M)	1,032
Discount Rate (%)	13.5
Consolidated NPV (USD M)	284.4
Risk Discounted NPV (USD M)	241.7
Earnout area NPV (USD M)	79.0
NPV Sensitivity (20% lower prices, USD M)	50.6
NPV Sensitivity (20% higher prices, USD M)	107.4

17.2.8 Sensitivity Analysis

Sensitivity analysis is conducted to investigate how sensitive the cash flow model is to the key input parameters. During the sensitivity analysis, the parameters are considered independent from each other as only one parameter is changed at a time, with all other values kept constant. The NPV sensitivity compares against capital expenditures, discount rate, SG&A expenses, ore prices, and cost of goods sold (COGS). Results show that the nickel ore price is the most sensitive factor, followed by COGS and discount rate (Figure 17-2).

Figure 17-2. NPV sensitivity plot.



Source: PT GAS IQPR2, 2019.

17.2.9 Income Valuation Summary

The NPV for the Project is most sensitive to the prevailing nickel ore price. By applying a ±20% variation to the allocated prices used in the revenue estimates for the Earnout Area, a range of USD 50.6 million to USD 107.4 is obtained. The stockpiles at site are deemed to be non-material to the valuation at the effective date of the valuation.

At the conclusion of the LOM production schedule in 2033, there are 22 Mt (dry) @ 1.05% Ni of Inferred Resources remaining in the Earnout Area. Derisk has estimated a NPV for these resources, based on the contained nickel metal using a range of values from USD 100 to USD 150 per tonne of contained nickel and applying a risk adjusted discount rate of 15%. This resulted in a range of USD 4.2 – USD 6.3 million, with a mid-point value of USD 5.3 million.

Taking all factors into account, Derisk's income-based valuation for the Earnout Area of the Project at the effective date of 27 May 2019 ranges from USD 55 million to USD 114 million with a preferred value of USD 84 million. Derisk considers that this fairly represents the current value of the asset as an operating mine.

17.3 Market Valuation: Comparable Transactions

To support the valuation of the Project using the income approach, a comparable transaction valuation method was used. This method is a market-based approach, adapted from the real estate approach to valuation. The transactions deemed to be analogous to the mineral asset being valued are used to determine a unit price (e.g. $ per km^2 or $ per tonne metal) for the asset being valued. This approach is widely used throughout the minerals industry, but the valuer must consider that this approach is retrospective and therefore does not consider current and future commodity or other market price movements. This approach usually generates a Market Value because it relates value to actual market-based transactions, although a discount or premium to account for current market conditions may be applied.

As noted above, two of the main comparable transaction approaches are to value the area of the tenement and value the contained metal (i.e. nickel) identified to date on the tenement. For the Project, the approach valuing the contained nickel is the most appropriate option because there are both Mineral Resources and Ore Reserves identified.

Derisk considers that the market valuation approach, whilst relevant to value the Project, should not be the primary valuation method because there is a lack of transactions that are comparable. Therefore, Derisk has used this method to provide a secondary check on the valuation derived from the DCF analysis.

17.3.1 Actual Transaction: China Bearing (Singapore) Ltd

In May 2018, China Bearing issued a Circular to shareholders in support of the RTO of the company by FE Resources Pte Ltd. The principal asset of FE Resources Pte Ltd was the Morowali mine, comprising the assets of Torete and Buleleng.

JLL was appointed to prepare an IVR for the RTO area and this report was included in the Circular. JLL concluded that the Market Value of the RTO Area ranged from USD 25.4 – 66.1 million, with a preferred value of USD 58.0 million. The effective date of the valuation was 31 December 2017 and JLL relied on technical information documented by RPM to develop valuations derived from a DCF approach and a comparable transaction approach.

The IQPR prepared by RPM was also included in the Circular. RPM reported a Mineral Resource totalling 42.8 Mt @ 1.1% Ni, containing approximately 470,000 t Ni metal. Of this, Indicated Mineral Resources comprised 2.6% of the contained nickel metal in resources with the remainder being Inferred Resources. There were no Ore Reserves. Based on the preferred valuation for the RTO Area of USD 58.0 million reported by JLL, this equates to USD 123/t of contained nickel in Mineral Resources.

PT GAS has reported a Mineral Resource for the Earnout Area of 40.8 Mt @ 0.99% Ni, containing approximately 405,000 t Ni metal at an effective date of 27 May 2019. Of this, Indicated Mineral Resources comprise 22.2% of the contained nickel metal in resources, with the remainder being Inferred Resources. In addition, PT GAS has estimated Probable Ore Reserves of 7.3 Mt within the Earnout Area.

Applying the unit value of USD 123/t Ni metal in Mineral Resources used by JLL results in a valuation of USD 50 million for the Earnout Area. Derisk considers this unit value is too low because:

- The Earnout Area Mineral Resource contains substantially more Indicated Resources than what was reported for the RTO Area when JLL completed the RTO valuation. This will increase the unit value per

tonne of contained metal in resources because of the higher confidence associated with Indicated Resources compared to Inferred Resources.

- Technical studies have been completed across the entire Project area in 2019 that have facilitated the conversion of a substantial amount of the Indicated Mineral Resources to Ore Reserves. There were no Ore Reserves for the JLL valuation and therefore the unit value for the Earnout Area should be higher than for the RTO area.

17.3.2 Comparable Transaction: Nickel Mines Limited

In August 2018, Nickel Mines Limited (Nickel Mines) lodged a prospectus with the Australian Securities and Investments Commission (ASIC) in support of its application to list on the Australian Securities Exchange (ASX).

Prior to lodging the prospectus Nickel Mines owned an 80% share in the Hengjaya nickel project (Hengjaya) and a 25% share in a two-line rotary kiln electric furnace (RKEF) plant at the Morowali Industrial Park. Hengjaya is located 10 km from Torete and Buleleng and therefore an excellent comparable asset.

Funds raised from the listing were designed to expand production at the mine, increase its ownership in the two-line RKEF plant to 60%, and provide working capital to fund further growth of the company. At the time of listing, Hengjaya comprised Mineral Resources (Table 17-11), no Ore Reserves, but the operating company was mining and selling direct shipping ore to an Indonesian smelter.

Table 17-11. E Hengjaya nickel project: Mineral Resources reported as at 30 January 2018.

Category	Block	Dry Tonnes	Ni (%)	Co (%)	Fe (%)
Measured	Block B	18,000	1.70	0.03	16.00
	Block C	690,000	1.80	0.05	16.00
Total Measured		**700,000**	**1.80**	**0.05**	**16.00**
Indicated	Bete Bete	5,500,000	1.90	0.04	15.00
	West Bete Bete	1,200,000	1.80	0.05	6.10
	Central	350,000	1.80	0.07	16.00
	Central 2	6,400,000	1.80	0.08	17.00
	Block A	890,000	1.90	0.09	40.00
	Block B	210,000	1.70	0.03	16.00
Total Indicated		**15,000,000**	**1.90**	**0.06**	**17.00**
Inferred	Bete Bete	300,000	2.00	0.04	17.00
	West Bete Bete	900,000	1.90	0.05	12.00
	Central	17,000,000	1.80	0.05	17.00
	Central 2	2,700,000	1.70	0.08	17.00
	Block A	200,000	1.90	0.09	41.00
	Block B	600,000	2.00	0.03	15.00
	Block C	100,000	1.70	0.04	16.00
Total Inferred		**22,000,000**	**1.80**	**0.05**	**17.00**
Grand Total		**38,000,000**	**1.80**	**0.06**	**17.00**

Source: Nickel Mines Prospectus, 2018.

The Nickel Mines prospectus contains no IVR, as this is not required for an ASX listing and therefore it is not possible to easily assign a valuation to each of the assets held by Nickel Mines. By making some assumptions about the company's market capitalisation and assets at, and immediately after the company was listed, it is possible to derive an approximate value for the mineral assets of the company, which range from AUD 174 – 230 million, which equates to USD 128 – 169 million at the prevailing exchange rate.

This valuation translates to a range from USD 234 – 309/t contained nickel metal in Nickel Mines' share of the Mineral Resources. These values are substantially higher than those calculated for the China Bearing transaction. Derisk considers that the main reason for this is the Mineral Resources for Hengjaya are reported using a significantly higher cut-off grade than the Mineral Resources reported for Torete and Buleleng, resulting in an average grade of 1.8% Ni for Hengjaya compared to 1.1% Ni for the China Bearing RTO Area.

If the Hengjaya resources were reported using a similar cut-off criterion to Morowali, there would be significantly more metal reported and consequently the value per tonne of contained nickel would be significantly lower.

17.3.3 Market Valuation Summary

The two most relevant actual/comparable transactions yield very different unit values per tonne of contained nickel i.e. USD 123/t for the China Bearing RTO and USD 234 – 309/t for the Nickel Mines prospectus. Derisk considers that neither values are appropriate for the Earnout Area valuation.

Taking all inputs into consideration, Derisk considers that an appropriate unit price for valuing the Earnout Area using the comparable transaction approach is USD 175 – 225/t of contained nickel in Mineral Resources, which is mid-way between the two transactions. This results in a Market Value of USD 71 – 91 million. This estimate is based on two relevant transaction, but it matches closely with the valuation determined using the income approach and Derisk considers that it provides good support for the DCF-based valuation.

17.4 Valuation Summary

The Project is a relatively mature mining operation although the production forecast prepared by PT TAS and reviewed by PT GAS show a strong growth in annual production rates from current levels.

The Project has a defined Mineral Resource and Ore Reserve inventory, supported by documented costs and sales contracts. Consequently, Derisk considers that the income valuation approach is an appropriate valuation methodology, which in this case is supported by a market valuation approach derived from two relevant comparable transactions.

The income valuation is a Market Value and Derisk is of the opinion that the market will pay in the range from USD 55 million to USD 114 million with a preferred value of USD 84 million for the mineral assets operated by PT TAS.

18 RISKS AND OPPORTUNITIES

The Project is an existing mining operation that has been in production for five years. Current production rates are modest, but the Company plans to substantially increase annual production rates.

18.1 Risk Assessment

Derisk considers that the key risks considered material to the Project valuation are:

- The scaling up of the operation from <1 Mtpa to >4 Mtpa. Although the operation is relatively simple and potentially scalable, this level of production will require much more formal management practices and technical support than the current operation.
- The sale of the low-grade nickel product based on its cobalt content. Although there appears to be a market for this product, it is a new product for PT TAS and there are no firm contracts for its sale.
- The reliance on the smelter joint venture for a significant proportion of future sales. Approximately half of the LOM production is expected to be sold to the proposed joint venture smelter, part of which is already constructed.

18.2 Opportunities

Derisk considers that the main opportunities for PT TAS are:

- Higher than forecast prices for nickel and cobalt, resulting in higher sales prices for the products.
- Upgrading of Inferred Mineral Resources and conversion to Ore Reserves to extend the life of the project.
- Exploration upside in some of the concession where drilling has not yet been undertaken.

19 CONCLUSIONS

The Project is an existing mining operation that has been in production for five years. Current production rates are modest, but the Company plans to substantially increase annual production rates and to supply three product types to the domestic market.

PT TAS has experienced volatile commodity prices during the operation's history and changes to Indonesian government regulations on the export of unprocessed nickel ores that have led to the Company assessing a range of options to develop the mine site.

Derisk considers that the Mineral Resource and Ore Reserve estimates are technically sound and fit-for-purpose. Reconciliation of production from 2015 to 2019 demonstrates a very good correlation between the Mineral Resource model and production statistics.

Derisk considers that the income valuation approach is an appropriate valuation methodology, which in this case is supported by a market valuation approach derived from two relevant comparable transactions. Derisk concludes that a Market Value for the Earnout Area of the Project operated by PT TAS ranges from USD 55 million to USD 114 million with a preferred value of USD 84 million.

20 PRACTITIONER/SPECIALIST/COMPETENT PERSON CONSENT AND SIGN-OFF

20.1 Director and Specialist

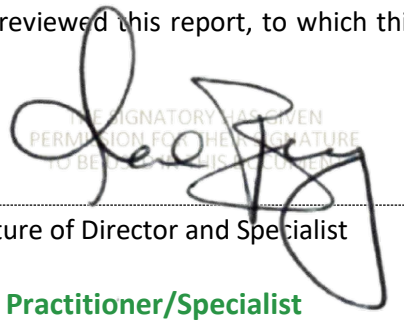
I, Mark Berry, confirm that I am a Principal Consultant and Director of Derisk and that I directly supervised the production of the report titled Independent Valuation Report of the Buleleng and Torete Nickel Project, Indonesia, with an effective date of 27 May 2019, in accordance with SGX Catalist Rule 442 (b).

I confirm that my firm's Directors, shareholders, employees, and I are independent of PT. Teknik Alum Services, its Directors, substantial shareholders, and their associates. In addition, my firm's Directors, substantial shareholders, employees, and I have no interest, direct or indirect, in PT. Teknik Alum Services, its subsidiaries, or associated companies, and will not receive benefits other than remuneration paid to Derisk in connection with the independent valuation report (IVR). Remuneration paid to Derisk is not dependent on the findings of this report.

I also confirm that I have contributed to the technical assessment and valuation reported in this report. I am a Member of The Australian Institute of Geologists and have 40 years of relevant experience. I have not been found in breach of any relevant rule or law of that institute, and I am not the subject of any disciplinary proceeding. I am not the subject of any investigation that might lead to a disciplinary proceeding by any regulatory authority or any professional association.

I have read and understood the requirements of the VALMIN Code and the JORC Code. I am a Competent Person as defined by the JORC Code and a Specialist as defined by the VALMIN Code, having more than the minimum experience relevant to the style of mineralisation and type of deposit described in this report, and to the activity for which I am accepting responsibility.

I have reviewed this report, to which this Consent Statement applies, and I consent to the release of this report.



1 November, 2019

Signature of Director and Specialist | Date

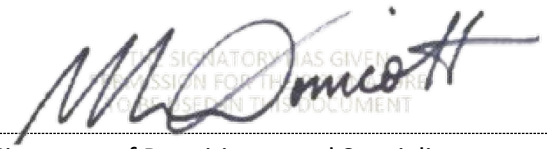
20.2 Practitioner/Specialist

I, Malcolm Dorricott, confirm that I am a Principal Mining Consultant with Derisk and that I am the Practitioner and Specialist taking overall responsibility for the technical assessment and valuation in the report titled Independent Valuation Report of the Buleleng and Torete Nickel Project, Indonesia, with an effective date of 27 May 2019, in accordance with SGX Catalist Rule 442 (b).

I am a Fellow of The Australasian Institute of Mining and Metallurgy and have more than 50 years of mining industry experience including more than 15 years of relevant experience. I have not been found in breach of any relevant rule or law of that institute, and I am not the subject of any disciplinary proceeding. I am not the subject of any investigation that might lead to a disciplinary proceeding by any regulatory authority or any professional association.

I have read and understood the requirements of the VALMIN Code and the JORC Code. I am a Practitioner and a Specialist as defined by the VALMIN Code, having more than the minimum experience relevant to the activity for which I am accepting responsibility.

I have reviewed this report, to which this Consent Statement applies, and I consent to the release of this report.



1 November, 2019

Signature of Practitioner and Specialist | Date

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22 DEFINITIONS AND GLOSSARY

Table 22-1 provides a list of the definitions used in this report together with a glossary of relevant terms and abbreviations.

Table 22-1. Definitions and glossary of terms.

Term	Description
AAICD	Affiliate of the Australian Institute of Company Directors
APL	Other Usage Area
ASIC	Australian Securities and Investments Commission
ASL	Above Sea Level
ASX	Australian Securities Exchange
B3 Waste	Hazardous and toxic waste
BML	Baku Mutu Lingkungan
Capex	Capital costs
CEO	Chief Executive Officer
CFO	Chief Financial Officer
China Bearing	China Bearing (Singapore) Ltd
CMO	Chief Marketing Officer
COGS	Cost of goods sold
Competent Person (as defined by the JORC Code)	A minerals industry professional who is a Member or Fellow of The Australasian Institute of Mining and Metallurgy, or of the Australian Institute of Geoscientists, or of a Recognised Professional Organisation, as included in a list available on the JORC and ASX websites. These organisations have enforceable disciplinary processes including the powers to suspend or expel a member. A Competent Person must have a minimum of five years relevant experience in the style of mineralisation or type of deposit under consideration and in the activity which that person is undertaking.
COO	Chief Operations Officer
DCF	Discounted cashflow
Derisk	Derisk Geomining Consultants Pty Ltd
DSO	Direct shipping ore
ESDM	Ministry of Energy and Mineral Resources of the Republic of Indonesia
Exploration Results (as defined by the JORC Code)	Data and information generated by mineral exploration programmes that might be of use to investors, but which do not form part of a declaration of Mineral Resources or Ore Reserves.
FAusIMM	Fellow of the Australasian Institute of Mining and Metallurgy
FCFF	Free Cash Flow to Firm
FEM	Far East Mining Pte Ltd
ha	hectare(s)
HPRP	Hanafiah Ponggawa and Partners
IRR	Internal Rate of Return
IPPKH	Ijin Pinjam Pakai Kawasan Hutan
IQPR	Independent qualified persons report
IQPR1	Independent qualified person's report, Buleleng and Torete nickel projects, Central Sulawesi Province, Indonesia, prepared by RungePincockMinarco, 2018.
IQPR2	Independent Qualified Persons Report Buleleng & Torete Nickel Project, Central Sulawesi Province, Indonesia, prepared by PT Geo Artha Selaras, September 2019
IVR	Independent Valuation Report
IVR1	Independent valuation of a portion of PT Teknik Alum Service Nickel Project, Morowali, Central Sulawesi, Indonesia, prepared by Jones Lang LaSalle Corporate Appraisal and Advisory Limited, 2018.

Term	Description
IVR2	Independent Valuation Report of the Buleleng and Torete Nickel Project Earnout Area, Indonesia, prepared by Derisk Geomining Consultants Pty Ltd, November 2019.
JLL	Jones Lang Lasalle Corporate Appraisal and Advisory Limited
JORC	Joint Ore Reserves Committee
JORC Code	Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 edition, effective December 2012
K3 program	Occupational Health and Safety program
km	kilometre(s)
km^2	kilometre squared
kt	kilotonne
LHS	left hand side
LOM	Life-of-mine
m	metre(s)
m^3	cubic metre(s)
M	million
MAIG	Member of the Australian Institute of Geoscientists
Market Value (as defined by the VALMIN Code)	Estimated amount of money (or the cash equivalent of some other consideration) for which the mineral asset should exchange on the date of valuation between a willing buyer and a willing seller in an arm's length transaction after appropriate marketing wherein the parties each acted knowledgeably, prudently and without compulsion.
MAusIMM CP	Member and Chartered Professional of the Australasian Institute of Mining and Metallurgy
Mineral Resource (as defined by the JORC Code)	A concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.
MIQA	Member of the Institute of Quarrying Australia
mm	millimetre(s)
Modifying Factors (as defined by the JORC Code)	Considerations used to convert Mineral Resources to Ore Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.
MRICS	Member and Chartered Valuation Surveyor, Royal Institution of Chartered Surveyors
Mt	million tonnes
Mt/yr	million tonnes per year
MWMT	Million wet metric tonnes
Nickel Mines	Nickel Mines Limited
NPV	net present value
OH&S	occupational health and safety
OK	ordinary kriging
Opex	Operating expenses
Ore Reserve (as defined by the JORC Code)	The economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at prefeasibility or feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. Ore Reserves are sub-divided in order of increasing confidence into Probable and Proved Ore Reserves.
pa	per annum
PBP	Payback period
PPE	Personal protective equipment

Term	Description
Practitioner (as defined by the VALMIN Code)	Expert as defined in the Corporations Act, who prepares a public report on a technical assessment or valuation report for mineral assets. This collective term includes Specialists and Securities Experts.
PT GAS	PT Geo Artha Selaras
PT TAS	PT Teknik Alum Services
Qualified person (as defined by SGX rules)	A person who has the appropriate experience in the type of activity undertaken or to be undertaken by a mineral, oil and gas company, meeting the following minimum requirements: i is professionally qualified and a member or licensee in good standing of a relevant Recognised Professional Association. ii has at least five years of relevant professional experience in the estimation, assessment and evaluation of (a) the mineral or minerals, oil or gas that is under consideration; and (b) the activity which the issuer is undertaking, and iii has not been found to be in breach of any relevant rule or law and is not (a) denied or disqualified from membership of; (b) subject to any sanction imposed by; (c) the subject of any disciplinary proceedings by; or (d) the subject of any investigation which might lead to disciplinary action by any relevant regulatory authority or professional association.
RHS	right hand side
RKEF	Rotary kiln electric furnace
ROM	Run-of-mine
RPM	RungePincockMinarco
RTO	Reverse takeover
RTRW	Regional Spatial Plan
SGX	Singapore Exchange
Specialist (as defined by the VALMIN Code)	Persons whose profession, reputation or relevant industry experience in a technical discipline (such as geology, mine engineering or metallurgy) provides them with the authority to assess or value mineral assets.
t	tonne(s)
Technical Value (as defined by the VALMIN Code)	An assessment of a mineral asset's future net economic benefit at the Valuation Date under a set of assumptions deemed most appropriate by a Practitioner, excluding any premium or discount to account for market considerations.
t/m^3	tonnes per cubic metre
TS	Total Sulphur
TSS	Total Suspended Solids
USD	United States Dollar
USD/t	United States Dollars per tonne
VALMIN Code	Australasian Code for Public Reporting of Technical Assessments and Valuations of Mineral Assets, 2015 edition, effective January 2016
WACC	Weighted average cost of capital
WB	World Bank
yr	year(s)
YTD	year-to-date
>	greater than
<	less than
%	percent

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