# **Bukit Besi Iron Project Mineral Resource Update – 29 February 2020**

**Report Prepared for** 

# Fortress Mining Sdn Bhd



# **Report Prepared by**



SRK Consulting (Australasia) Pty Ltd WEB007

February 2020

# **Bukit Besi Iron Project Mineral Resource Update – 29 February 2020**

# **Fortress Mining Sdn Bhd**

# SRK Consulting (Australasia) Pty Ltd

Level 1, 10 Richardson Street, West Perth WA 6005

e-mail: perth@srk.com.au

website: www.asia-pacific.srk.com

Tel: +61 08 9288 2000 Fax: +61 08 9288 2001

**SRK Project Number WEB007** 

February 2020

Compiled by

Leesa Collin Senior Consultant

Email: lollin@srk.com.au

**Author:** 

Leesa Collin

Peer Reviewed by

David Slater

**Principal Consultant** 

# **Executive Summary**

#### Introduction

SRK Consulting (Australasia) Pty Ltd (SRK) has prepared updated resource models and iron Mineral Resource estimates (MREs) for the West, Valley and East deposits at Fortress Mining's Bukit Besi magnetite processing operation (Bukit Besi or the Project). The Project is located in the district of Dungun in the Terengganu sultanate and constitutive state of Federal Malaysia

Fortress was granted the Mining Rights for the Project by the Terengganu State Authority pursuant to an agreement dated 10 April 2016 which expires in 2033.

Fortress re-established historical mining operations at the Project in 2017. The current operations consist of three open pit mining areas with conventional excavator and trucking of feed to a magnetite processing plant within mining lease ML7/2013. Processing of the feed is undertaken at the onsite processing facilities which include a 10-stage crushing, grinding and magnetitic separation process to produce a magnetite concentrate. In 2019, iron concentrate was produced at a rate of approximately 20,000 wet metric tonnes (wmt) every four weeks. Shipments were exported to China via the Port of Kemaman.

#### **Mineral Resource Statement**

SRK prepared the update of the MRE from datasets provided by Fortress with an overall reporting date of 29 February 2020 with a data cut-off date of 17 January 2020. The depleted MRE of 7.18 Mt grading 43.25% Fe is based on a mine survey undertaken on 30 November 2019.

The Mineral Resource was classified as Indicated and Inferred in accordance with the JORC Code on a qualitative basis, taking into consideration numerous factors including data quality, geological complexity, data coverage, recovery testwork and consideration of potential eventual economic extraction, as shown in Table ES-1.

Table ES-1: Bukit Besi Mineral Resource tabulation – 29 February 2020\*

	Category	Mineral type	0.000	tributable /2013	Net attrib			
Area			Tonnes (Mt)	Grade (Fe%)	Tonnes (Mt)	Grade (Fe%)	Change from previous update (%)	Remarks
West	Indicated	Iron	0.36	40.74	0.36	40.74	4.0	None
West	Inferred	Iron	2.25	38.99	2.25	38.99	-7.9	None
Valley	Inferred	Iron	3.61	46.67	3.61	46.67	62.5	None
East	Inferred	Iron	0.96	41.29	0.96	41.29	-18.0	None
Total Indicated + Inferred		Iron	7.18	43.25	7.18	43.25	18.6	None

Notes:

\*Based on a block cut-off grade of 10% Fe, and magnetic susceptibility greater than 100 and sulphur less than 10%.

As detailed in the Public Offer Document (POD), there are no Ore Reserves reported in accordance with JORC Code guidelines at the Project. Fortress has a mine schedule based on historical production performance records and production reconciliation of operating performance data from the current operation. The mine plan uses the MRE as the basis for available material to feed the processing facilities.

SRK notes that concentrations of elements other than iron are not considered to be deleterious to the concentrate production; Fortress and SRK consider such concentrations to be immaterial with respect to the MRE and observes the following:

- There are no contractual limits on any elements other than iron. The price paid for each shipment is based on its specification, with penalties and credits applied.
- No shipments have been rejected to date. While SRK is cognisant of dynamic global markets, SRK
  is also aware of the unique market positioning Fortress has successfully negotiated with its
  customer base, which allows substantial flexibility.

#### **Previous Mineral Resource estimates**

In July 2018, SRK prepared the maiden MRE for the Bukit Besi Iron Project. Mineral Resources of 5.41 Mt grading 41.7% Fe were reported in the Fortress's POD. The POD, dated 19 March 2019, was prepared in support of the Company's listing on the Catalist, the secondary board of the Singapore Stock Exchange (SGX).

SRK prepared the 2019 MRE update for Fortress which, after applying mining dilution, reported an increase in metal content of 16% from the maiden MRE. Fortress reported the update of 6.19 Mt grading 42.31% Fe in its 2019 Annual Report announced to the SGX on 10 June 2019.

#### **Geology and mineralisation**

The Project's mining areas straddle the contact between Palaeozoic sediments and granite, which is presumed to be of late Cretaceous age. Granite tongues have intruded the sediments up to 100 m beyond the main line of the irregular contact. Additionally, blocks of shale have been caught up and lie within the body of the granite.

Almost all the magnetite skarn mineralisation at Bukit Besi occurs as replacements in the sediments along or within 100 m of their contact with the granite. Magnetite and haematite replacement can also be seen within the granite. Here, fragments of altered sedimentary rock in this ore suggest that the ore has completely replaced bodies of shale engulfed by the granite. The orientation of the mineralisation is controlled by NE–SW, NW–SE and N–S controlling structures.

SRK defined the 3D magnetite estimation domains based on geochemical and magnetic susceptibility data, with boundaries being defined by step-changes in magnetic susceptibility, Fe%, S,  $SiO_2$ % and  $TiO_2$ %. The 3D geometry was observed to be relatively consistent and predictable over the extent of the drill coverage, with reasonable continuity between drill holes, although pinching and swelling of the veins was evident in both down dip and along strike directions. The mineralisation geometries are described below and presented in Figure ES-1.

**West**: At the West area, the six mineralised veins have an average strike length of 350 m, a combined width of 75 m and dip sub-vertically. The wireframes extend from the surface to 90 m depth.

Valley: The main mineralisation at the Valley area has an average strike length of 175 m. The veins are thinner (approximately 5 m) surface and in the north. Closer to the southern granite contact they are 25 m wide at surface, with the western vein bulging to 100 m wide at depth. The three new veins interpreted northeast of the main Valley mineralisation strike at N560E and dip steeply to the southeast. The veins vary in true thickness between 8 m and 15 m.

**East**: The eight mineralised veins at the East area have an average strike length of 200 m, width of 5 m and extend vertically from surface to 100 m.

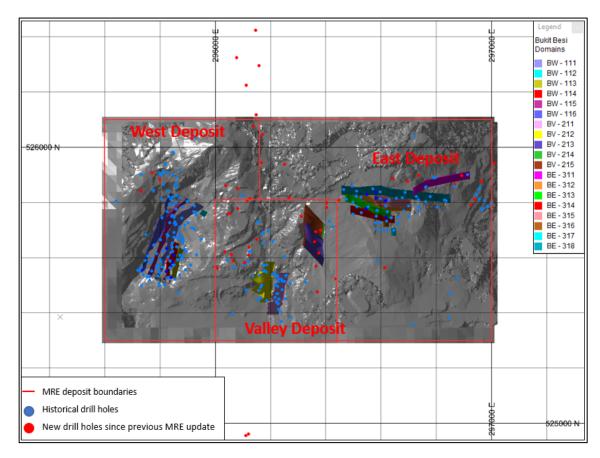


Figure ES-1: Bukit Besi mineralisation domain geometries and drillhole locations

#### Mineral Resource estimation overview

Since the 2019 MRE update, Fortress has drilled an additional 51 reverse circulation (RC) and 11 diamond core (DD) drillholes in the Project area. Most of the 2019 drilling programs were designed to test for new magnetite lodes distal to the existing three mining areas. Significant magnetite mineralisation was intersected between the Valley and East mining areas. This new discovery is included in the Valley Inferred Mineral Resources update.

In 2019, Fortress improved the accuracy (+/- 0.10 to 0.50 m horizontal, +/- 0.25 to 0.5 m vertical) of the digital terrain model (DTM) used to report mining depletion across the three mining areas. The use of a drone-based system greatly improves the efficiency of updating these models.

The overall estimation methodology has remained unchanged since SRK completed the first MRE for the Bukit Besi Project in August 2018.

Prior to estimation, the supplied data was composited to a 1 m length, as this is consistent with the original sample length and is considered appropriate for both the model cell dimensions and the interpreted mineralisation thicknesses. The composite interval was slightly increased or reduced at vein boundaries to prevent the creation of residuals or the composites spanning domain boundaries. Analytes that reported above detection ('>') or below detection ('<') values were converted to their positive equivalents. Minor unsampled (waste) intervals were included in the estimation domain wireframes so that continuity and form were maintained. These intervals were mostly located at depth or inside thicker mineralisation zones and were assigned a waste value of 1.9% Fe.

The dry bulk density dataset was derived from 300 water immersion tests performed on 15 cm core billets collected from 21 DD core holes. SRK evaluated the selection of the core samples using core photographs and deemed they were biased towards more-competent material. Based on the

statistical review and eliminating outliers, the following global densities were assigned to the mineralised domains based on a weathering surface wireframe developed using logging data:

- Weathered 3.4 g/cm<sup>3</sup>
- Fresh 3.7 g/cm<sup>3</sup>.

The MREs were prepared using conventional block modelling and geostatistical estimation techniques. A single model was prepared to represent the defined extents of the mineralisation. The resource modelling and estimation study was performed using Datamine Studio RM and Supervisor software.

Drill spacing and kriging neighbourhood analysis (KNA) were used to confirm a parent and sub-size of  $5 \times 5 \times 5$  m and  $1 \times 1 \times 2.5$  m (XYZ) respectively. The model cells were flagged using the lode and weathering wireframes. A digital elevation model of the post-mining topography was used to remove cells above the current surface.

Grade estimation was confined to the defined lodes. Ordinary Kriging (OK) was used to estimate the grades of the discretised parent cells. A multi-pass search strategy was applied, with KNA used to assist with the selection of estimation parameters. Typically, the first estimation pass used between 10 and 30 composites, search distances of up to 90 m, and octant search constraints. Subsequent passes used larger distances and less stringent sample criteria. The lode boundaries were treated as hard boundary constraints. The drill data did not show evidence of significant supergene enrichment or grade trending with depth, and for this reason the weathering surfaces were not used as estimation constraints.

Extrapolation was limited to approximately half of the drill spacing along strike. The down-dip resource boundaries were set to approximately 25–50 m beyond the approximate extent of regular drill coverage.

The Bukit Besi MRE was classified in accordance with the Australasian Code for the Reporting of Mineral Resources and Ore Reserves (JORC Code). The following factors were taken into consideration when assigning the classifications to the MRE:

- The mineralised domains show continuity between drill hole sections even though the drill hole spacing often does not allow for the intersection of all the steeply dipping veins on each section. This could result in the distance between drill hole intersections for individual veins being at the extent of the variographic ranges (up to 90 m).
- SRK considers that adequate quality assurance (QA) data are available to demonstrate that the
  Fortress dataset is sufficiently reliable for the assigned classifications; although minor biases were
  evident and minor errors apparent, SRK considers there are not material.
- Production data collected over the past 11-month period from the mined material in the West and
  East pits are consistent with previous reconciliation data used to validate iron grade and recovery
  in lieu of representative metallurgical testwork such as Davis tube recovery (DTR) tests.
- The model validation checks show a good match between the input data and estimated grades, indicating that the estimation procedures have performed as intended, and the confidence in the estimates is consistent with the classifications that have been applied.

Based on the findings summarised above, SRK concluded that the controlling factors for classification are sample coverage and production reconciliation data. A Mineral Resource classification boundary was defined on long section for each deposit area. The extents were nominally set at 10 m past the last mineralised intercept that was captured in the wireframes along strike and nominally 50 m down dip.

The down-dip extents were constrained to within the drill coverage, although the spacing between intercepts along strike at depth were occasionally at the extremes of demonstrated grade continuity.

All vein model cells within the defined extents were initially assigned a classification of Inferred Mineral Resource. Confidence in the Indicated Mineral Resource classification assigned at the West is supported by the production reconciliation data and the continuity of the mineralisation near surface as seen during mining. The boundary for the Indicated Mineral Resource classification was set to a maximum of 10 m below the 30 November 2019 pit surface. The final resource model contains the model cells for vein material that has been assigned a Mineral Resource classification.

Validation included a visual comparison of the model cell and composite grades, and statistical comparisons of the input and estimated grades on a global and regional basis, including easting, northing and elevation swath plots. Estimation performance data were also assessed, including the proportion of cells estimated in each search pass, and the average numbers of informing samples.

The JORC Code Table 1 is included as Appendix A to this Report.

# **Table of Contents**

	Exe	cutive Summary	i			
	Disc	claimer	)			
	List	of Abbreviations	x			
1	Intr	ntroduction and Scope of Report				
	1.1	Overview	1			
	1.2	Previous Mineral Resource estimates	3			
	1.3	Competent Person and responsibilities	3			
	1.4	Report preparation	3			
2	Pro	ogram Objective and Work Program	4			
	2.1	Program objective				
	2.2	Purpose of the Report	4			
	2.3	Reporting standard				
	2.4	Work program	4			
	2.5	Supplied data				
	2.6	Project team	5			
	2.7	Statement of SRK independence	5			
3	Ge	ology and Mineralisation	6			
	3.1	Pit and prospect mapping				
		3.1.1 West area				
		3.1.2 Valley area	7			
		3.1.3 East area				
4	Dat	ta Acquisition				
	4.1	Topographic and drillhole survey control				
	4.2	Sample preparation				
	4.3	Analytical methods				
	4.4	Sample security	16			
	4.5	Quality assurance and quality control	16			
5	Mir	neralisation and Topographical Modelling	25			
6		neral Resource Estimation				
•	6.1	Estimation performance and validation				
7		oduction Reconciliation				
8		neral Resource Classification				
9		neral Resource Statement				
10	Col	mpetent Person's Statement	41			

SRK Consulting Page viii

# **List of Tables**

Table 1-1:	Responsibilities - SRK / Fortress	2
Table 1-1. Table 4-1:	Drilling summary	
Table 4-1.	Variogram parameters	
Table 6-2:	Estimation search parameters	
Table 6-3:	Performance statistics	
Table 6-4:	Composite grade vs global model grade statistics	
Table 7-1:	Average crushing ore grade	
Table 9-2:	Bukit Besi Mineral Resource tabulation – 29 February 2020*	
List of	Figures	
Figure ES-1:	Bukit Besi mineralisation domain geometries and drillhole locations	iv
Figure 1-1:	Project location	1
Figure 1-2:	Project tenements	2
Figure 3-1:	West pit looking north (January 2020)	6
Figure 3-2:	Valley area (January 2020)	7
Figure 3-3:	East area (January 2020)	8
Figure 3-4:	Interpreted geology of the West area	10
Figure 3-5:	Interpreted geology of the Valley area	11
Figure 3-6:	Interpreted geology of the East area	12
Figure 3-7:	Interpreted geology of the Eastern East area	13
Figure 4-1:	Average RC sample recovery within SKM lodes by weathering intensity	17
Figure 4-2:	Average DD core recovery within SKM lodes by weathering intensity	17
Figure 4-3:	2019 Fortress check sample – Bureau Veritas – Fe <sub>2</sub> O <sub>3</sub> %	19
Figure 4-4:	2019 Fortress check sample – Bureau Veritas – SiO <sub>2</sub> %	20
Figure 4-5:	2019 Fortress check sample – Bureau Veritas – Al <sub>2</sub> O <sub>3</sub> %	21
Figure 4-6:	2019 Fortress check sample – Bureau Veritas –S%	22
Figure 4-7:	2019 Fortress Mining Laboratory Internal QA/QC – CRM – GIOP135	23
Figure 4-8:	2019 Fortress Mining Laboratory Internal QA/QC – CRM – GIOP103	24
Figure 6-1:	West area – visual comparison of block and sample Fe% grade	28
Figure 6-2:	Valley area – visual comparison of block and sample Fe% grade	29
Figure 6-3:	East area – visual comparison of block and sample Fe% grade	30
Figure 6-4:	Fe% swath plots all veins – West deposit	32
Figure 6-5:	Magnetic susceptibility swath plots all veins – West deposit	33
Figure 6-6:	Fe% swath plots all veins – Valley deposit	34
Figure 6-7:	Magnetic susceptibility swath plots all veins – Valley deposit	35
Figure 6-8:	Fe% swath plots all veins – East deposit	36
Figure 6-9:	Magnetic susceptibility swath plots all veins – East deposit	37

# **List of Appendices**

Appendix A: JORC Code - Table 1

# **Disclaimer**

The opinions expressed in this Report have been based on the information supplied to SRK Consulting (Australasia) Pty Ltd (SRK) by Fortress Mining Sdn Bdh (Fortress). The opinions in this Report are provided in response to a specific request from Fortress to do so. SRK has exercised all due care in reviewing the supplied information. While SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them. Opinions presented in this Report apply to the site conditions and features as they existed at the time of SRK's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this Report, about which SRK had no prior knowledge nor had the opportunity to evaluate.

# **List of Abbreviations**

CRM Certified Reference Material

CSH calc-silicate hornfels

DD diamond core

DEM digital elevation model

DTM digital terrain model

g/cm<sup>3</sup> grams per cubic centimetre

GBG biotite-granite

KNA Kriging Neighbourhood Analysis

MRE Mineral Resource estimate

POD Public Offer Document

RC reverse circulation

SKA actinolite-tremolite skarn

SKH haematite

SKM magnetite skarn

SKS sulphide skarn

SRK Consulting (Australasia) Pty Ltd

# 1 Introduction and Scope of Report

SRK Consulting (Australasia) Pty Ltd (SRK) was appointed by Fortress Mining Sdn Bhd (Fortress or the Company) to complete an update of the resource model and Mineral Resource estimate (MRE) for the Bukit Besi Iron Project (Bukit Besi or the Project) for annual reporting purposes.

#### 1.1 Overview

The Project is in the district of Dungun in the Terengganu sultanate and constitutive state of Federal Malaysia (Figure 1-1). Fortress is the holder of mining leases ML4/2013 and ML7/2013 and was granted the Mining Rights for the Project by the Terengganu State Authority pursuant to an agreement dated 10 April 2016 which expires in 2033 (Figure 1-2)

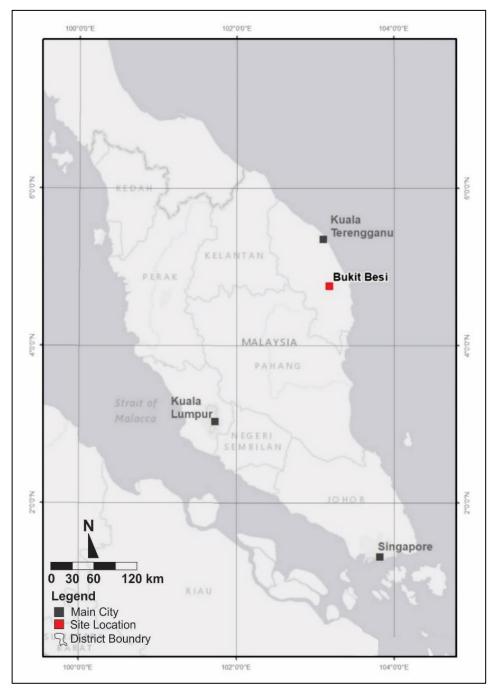


Figure 1-1: Project location

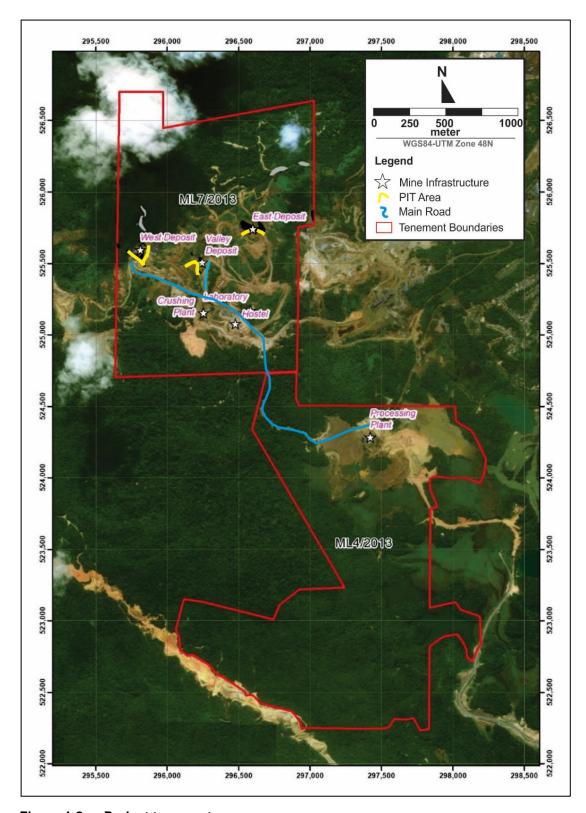


Figure 1-2: Project tenements

In 2017, Fortress re-established the historical magnetite mining operations at the Project. The current operations consist of mining of three open pits using a conventional excavator, and trucking of feed to a magnetite processing plant within mining lease ML7/2013. Processing of the feed is undertaken at the onsite processing facilities which include a 10-stage crushing, grinding and magnetitic separation process to produce a magnetite concentrate. Iron concentrate is produced and transported by road at a rate of approximately 40,000 wet metric tonnes (wmt) every four weeks. Shipments are exported to China via the Port of Kemaman.

#### 1.2 Previous Mineral Resource estimates

In July 2018, SRK prepared the maiden MRE for the Bukit Besi Iron Project. Mineral Resources of 5.41 Mt grading 41.7% Fe were reported in the Fortress's POD. The POD, dated 19 March 2019, was prepared in support of the Company's listing on the Catalist, the secondary board of the Singapore Stock Exchange (SGX).

SRK prepared the 2019 MRE update for Fortress which, after applying mining dilution, reported an increase in metal content of 16% from the maiden MRE. Fortress reported the update of 6.19 Mt grading 42.31% Fe in its 2019 Annual Report announced to the SGX on 10 June 2019.

# 1.3 Competent Person and responsibilities

Leesa Collin (SRK Consulting, Senior Consultant, Resource Estimation) has overall responsibility for the preparation of the MREs.

Leesa is a full-time employee of SRK, a Member of the Australasian Institute for Mining and Metallurgy (AusIMM) and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activities which she has undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Mineral Resources and Ore Reserves.

The MRE has been prepared using the guidelines and recommendations contained within the 2012 Edition of the Australasian Code for the Reporting of Mineral Resources and Ore Reserves (JORC Code).

# 1.4 Report preparation

This MRE report has been prepared jointly by Fortress and SRK, but with SRK retaining overall responsibility. Fortress has provided input and undertaken factual accuracy check on the sections detailed in Table 1-1. Fortress provided SRK with a letter (dated 21 March 2019) stating that full disclosure has been made of all material information relating to this Mineral Resource update and preparation of this report on the Bukit Besi Iron Project; and that, to the best of Fortress's knowledge and understanding, such information is complete, accurate and true.

Table 1-1: Responsibilities - SRK / Fortress

Report section	Description	Responsibility/ Input				
1	Introduction & Scope of Work	SRK				
2	Program Objective and Work Program	SRK				
3	Geology and Mineralisation	SRK with factual accuracy check by Fortress				
4	Data Acquisition	SRK with factual accuracy check by Fortress				
5	Mineralisation and Topographical Modelling	SRK				
6	Mineral Resource Estimation	SRK				
7	Production Reconciliation	SRK with factual accuracy check by Fortress				
8	Resource Modelling	SRK				
9	Mineral Resource Classification	SRK				
10	Mineral Resource Statement	SRK				
	JORC Code Table 1 Section 1	SRK with factual accuracy check by Fortress				
Appendix A	JORC Code Table 1 Section 2	SRK with factual accuracy check by Fortress				
	JORC Code Table 1 Section 3	SRK				

# 2 Program Objective and Work Program

# 2.1 Program objective

The primary objective of the study program is to update the resource models and MREs for the West, Valley and East iron deposits that support Fortress's Bukit Besi magnetite processing operation.

# 2.2 Purpose of the Report

The purpose of this Competent Person's Mineral Resource report is to describe the methodologies used, the assumptions made, and the results obtained by SRK when preparing the resource models and estimates for the Bukit Besi iron deposits.

# 2.3 Reporting standard

In this Report, identified Mineral Resources are reported in accordance with recommendations and guidelines of the JORC Code.

# 2.4 Work program

SRK's agreed work program to achieve these outputs includes:

- Drill hole data compilation and review
- Exploratory data analysis and variography
- Mineralisation interpretation review and the preparation of a mineralisation model
- · Preparation of volume models covering the data extents
- Local block grade estimation and model validation
- Compilation of an MRE in accordance with JORC Code
- Release of an MRE report, including a Mineral Resource Statement and JORC Code Table 1.

# 2.5 Supplied data

Data files and text supplied by Fortress are listed below (the date of supply is shown in brackets):

**Database:** QAQC DB BUKITBESI 20191130.xlsx (11/12/2019)

LAB CHECK BUKITBESI 20200117.xlsx (17/01/2020)

02\_Sampling and Data section for MRE report.docx (11/12/2019)

**Geology**: BB\_GeoMap\_East\_20191130.jpg (11/12/2019)

BB\_GeoMap\_Eastern\_East\_20191130.jpg (11/12/2019)

BB\_GeoMap\_Valley20191130.jpg (11/12/2019)

BB\_GeoMap\_West\_20191130.jpg (11/12/2019)

BB VAL OREBODY Rev20191210PT.DXF (16/01/2020)

03\_Geology section for MRE report.docx (11/12/2019)

**Topography:** BB\_DTM\_20200124.dxf (24/01/2020)

**Reconciliation:** Shipment Summary (per comms MunFey Ng 04/02/2020)

SRK conducted data validation and quality assurance checks to ensure that the supplied datasets are internally consistent and suitable for MRE purposes. As such, SRK has assumed overall responsibility

for the veracity and suitability of the data. SRK has slightly modified Fortress's updated descriptions of current data capture processes to be consistent with previous reporting. Fortress provided SRK updated; surface geology maps and descriptions and new 3D mineralisation wireframes in the Valley north area. SRK has modified these to be consistent with previous descriptions and to ensure the wireframes are suitable for the estimation method and Mineral Resource classification schema employed by SRK.

# 2.6 Project team

The information in this report that relates to Mineral Resources is based on work done by Leesa Collin of SRK Consulting (Australasia) Pty Ltd. Leesa takes overall responsibility for the MRE.

Data and factual accuracy checking were provided by MunFey Ng, Herry Susanto and David Hamonangan of Fortress Mining.

# 2.7 Statement of SRK independence

SRK, or the SRK staff who have contributed to this report, do not have any material present or contingent interest in the outcome of this Report, nor do they have any pecuniary or other interest that could be reasonably regarded as being capable of affecting their independence or that of SRK.

SRK has no beneficial interest in the outcome of the technical assessment being capable of affecting its independence.

SRK's fee for completing this Report is based on its normal professional daily rates plus reimbursement of incidental expenses. The payment of that professional fee is not contingent upon the outcome of the Report.

# 3 Geology and Mineralisation

The regional and local geology has been described in the POD and remains current. The Project is located in the easternmost of the three longitudinal belts that divide the Malay Peninsula. The Eastern Belt is largely underlain by Carboniferous and Permian clastics and volcanics. A phase of regional metamorphism, folding and uplift probably occurred in the late Palaeozoic, followed by deposition of an older series of continental deposits. The pan-peninsula late Triassic orogenic event uplifted the Eastern Belt. This was followed by deposition of a younger series of continental deposits which are only gently dipping and were probably uplifted in the late Cretaceous.

The Project's mining areas straddle the contact between Palaeozoic sediments and granite which is presumed to be of late Cretaceous age. Granite tongues have intruded the sediments up to 100 m beyond the main line of the irregular contact. Additionally, blocks of shale have been caught up and lie within the body of the granite.

Almost all the magnetite skarn mineralisation at Bukit Besi occurs as replacements in the sediments along or within 100 m of their contact with the granite. Magnetite and haematite replacement can also be seen within the granite. Here, fragments of altered sedimentary rock in this ore suggest that the ore has completely replaced bodies of shale engulfed by the granite. The orientation of the mineralisation is controlled by NE–SW, NW–SE and N–S controlling structures.

#### 3.1 Pit and prospect mapping

Pit and prospect surface maps are updated by Fortress geologists as drilling and surface exposure of geology adds information applicable to the construction of the mineralisation domains. The descriptions in the following sections have been updated since the previous MRE report (SRK, 2019) based on recent drilling, pit and surface mapping.

#### 3.1.1 West area

The main lithologies in the Project area are exposed in the northern half of the West pit (Figure 3-1). The primary unit in the pit is fine-grained calc-silicate hornfels (CSH).



Figure 3-1: West pit looking north (January 2020)

The northern wall of the pit exposes, from left to right, the bounding quartzite, Western magnetite skarn (SKM), actinolite-tremolite skarn (SKA), Middle SKM, SKA, Eastern SKM, SKA, sulphide skarn (SKS) and then a brecciated zone. The bounding quartzite dips between 65° and 80° towards the east.

It has a sharp contact with the CSH and is outcropping in the north of the pit. Biotite granite outcropping is visible to the south and east of the pit.

Herry Susanto of Fortress described the likely paragenetic sequence as follows:

- 1 Intrusion of granitic magma. The core drilling indicates this is a multi-phase intrusion with an older coarse-grained phase intruded by a finer-grained magma.
- 2 Metamorphic alteration of sandstone to quartzite and silty limestone or calcareous shale to CSH.
- 3 Deep-seated deformation resulting in NE–SW trending structural zone.
- 4 Prograde metasomatism forming SKA due to the intrusion of iron-rich magmatic fluids released from the magma along fracture planes. As the temperature dropped to ~500°C, deposition of magnetite occurred.
- 5 Retrograde metasomatism causing pervasive chlorite alteration; in the west, magnetite is replaced by phlogopite. Later pyrite metasomatism is seen in the eastern part of the pit as lenses of varying thicknesses up to 3 m wide.
- 6 Late-stage fracturing and hydrothermal alteration resulting in thin calcite, pyrite and haematite veins. These often occur at the margins of the skarn zone but are also found cross-cutting various lithologies.

In the pit, the CSH is identified as being fine grained, often silicified and light grey to green in colour. Due to its higher iron content, the SKA is a darker green to black and is coarser grained. Under hand lens, the fibrous radiating lathes of actinolite can be seen in the fresher rock.

The later brecciation is polymictic, and matrix supported with angular fragments composed of granite, CSH and SKS.

Surface mapping by Fortress has continued since September 2018 in conjunction with mine development, an updated geology fact map of the West mining area is presented in Figure 3-4.

#### 3.1.2 Valley area

The lithologies at the Valley area are exposed by earthworks removal at the northern part and pit development at the Valley prospect. Recent surface mapping by Fortress geologists at the north eastern part of the Valley prospect led to a new discovery. Images of the mineralisation in the two deformation zones are shown in Figure 3-2. The updated fact geology map is illustrated in Figure 3-5.





Figure 3-2: Valley area (January 2020)

Notes:

Photo L – Looking north, removal overburden and drill & blast on granite in Valley prospect (January 2020)

Photo R – Exposure of SKS (296,289E/525,748N) at new discovery east of existing Valley lodes (January 2020)

Drillhole logging indicates that the iron mineralisation is within two NNE trending deformation zones and is hosted primarily in SKA, with minor veins in CSH and in small intrusions of biotite-granite (GBG). The interpretation of the wider deformation zone being surrounded by GBG is supported by results of the ground magnetic and radiometric surveys conducted for Fortress in 2017, and recent drilling.

Most of the iron mineralisation logged in the drill core and chips is magnetite (SKM) with minor occurrences of haematite (SKH), pyrrhotite (SKS), and pyrite (SKS). The main SKM mineralisation follows the western edge of the southern deformation zone along its strike length. There are two veins 50 m apart, with an average thickness of 25 m, with the western vein bulging to approximately 100 m thickness at depth. Due to the lack of down-dip drilling intersections, this vein has been interpreted as being conformable to the deformation zone, thus trending NNE with a steep easterly dip.

In 2018, seven DD holes were drilled 50 m to the west of the two main veins and intersected magnetite mineralisation. These results were followed up in 2019 with eight drillholes, drilled to an average depth of 100 m. Only minor mineralisation was intersected; thus, development of a mineralisation model was not warranted at this location.

Approximately 150 m east of the existing Valley mineralisation, a line of drilling trending N-NE over a 900 m strike length was drilled in 2019. The 21 drillholes had an average depth of 95 m and were spaced 50 m to 100 m apart. Three drillholes northeast of the existing deformation zone intersected significant magnetite mineralisation. This mineralisation is interpreted as being continuous with an outcrop of SKS at the west side of drillhole BJ187. At this location, the vein is 5 m wide and hosted in GBG with argillic alteration. The three veins strike N560E and dip steeply to the southeast.

#### 3.1.3 East area

In the East mining area massive magnetite mineralisation that has a sub-vertical contact with a 14 m to 23 m wide pyrrhotite vein is exposed. Locally, primary and secondary haematite mineralisation is also prevalent. Late-stage cross-cutting soft pyrite veins occur on the north of the exposure (Figure 3-3 L). In 2018, mineralisation 250 m to the west of the main East area mineralisation was discovered – three massive magnetite veins exposed on surface with thicknesses between 1 m and 3 m (Figure 3-3 R).





Figure 3-3: East area (January 2020)

Notes:

Photo L – East area - looking east.

Photo R – Eastern East area

In 2019, Fortress geologists significantly updated the interpretation of the East and Eastern East geology as illustrated in Figure 3-6 and Figure 3-7. At the East area, the main magnetite vein strikes northwest and dips steeply to the southwest. The veins are offset and truncated by predominantly N–NW structures. The mineralisation in the Eastern East area is more discontinuous and structurally

complex. Fortress geologists mapped various outcrops of SKM, SKA, SKS and sandstone in the deposit area. The bedding plane orientation is N110-115E and dipping is between 45° and65°. Recent drilling of five RC holes to test the vertical and lateral continuity of the massive magnetite veins on the southern part of the West area and northern part of the East area intersected mineralisation. This will be followed up in 2020.

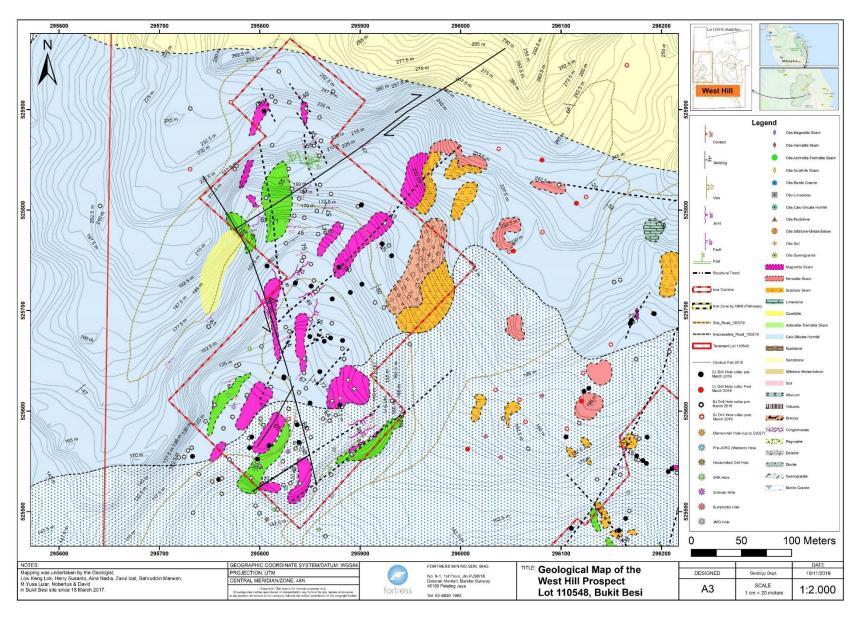


Figure 3-4: Interpreted geology of the West area

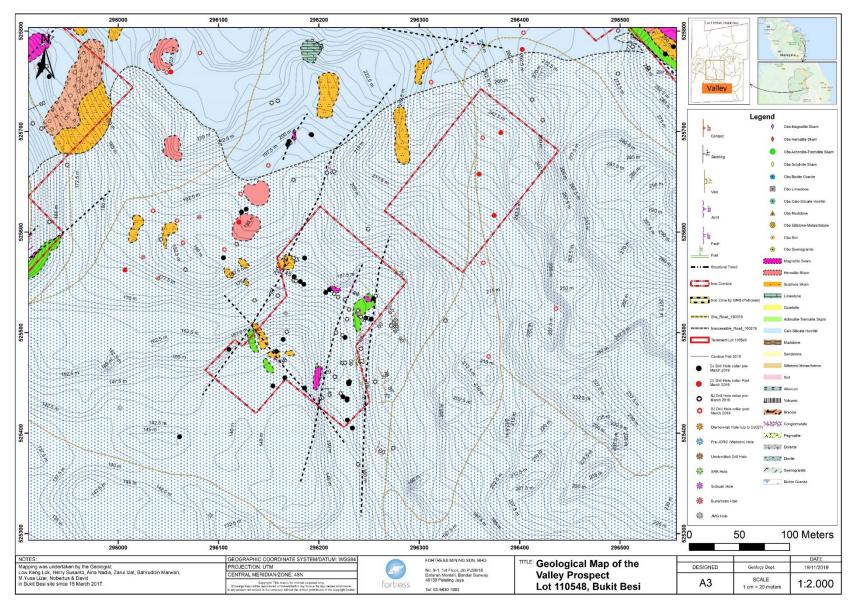


Figure 3-5: Interpreted geology of the Valley area

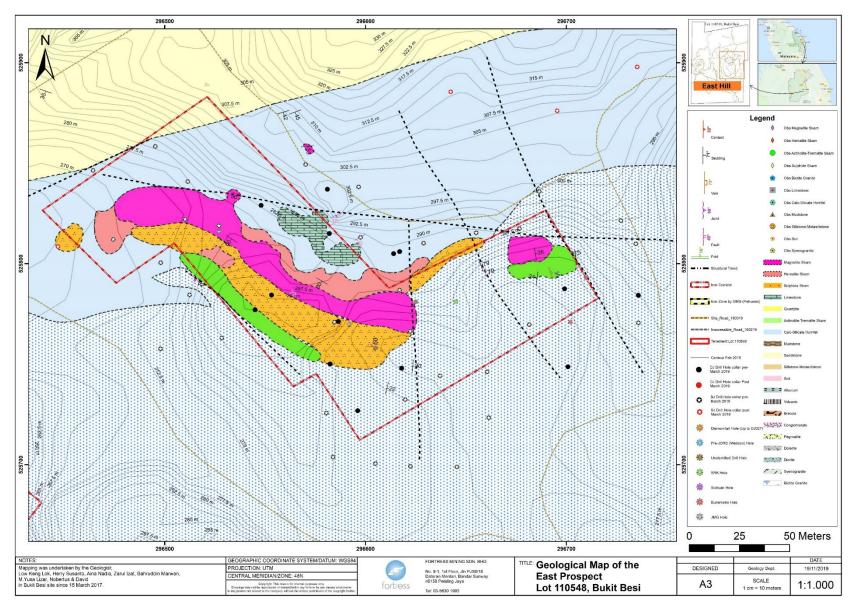


Figure 3-6: Interpreted geology of the East area

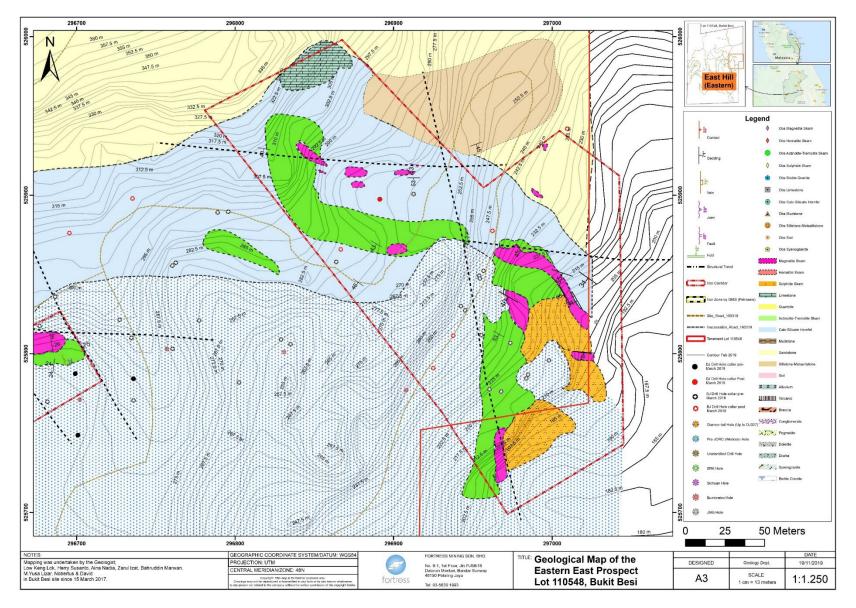


Figure 3-7: Interpreted geology of the Eastern East area

# 4 Data Acquisition

The RC and DD drilling undertaken at the Project since 2013 is summarised in Table 4-1. In mid-2017, SRK prepared a set of Standard Operating Procedures (SOPs) to guide Fortress's drilling programs. Of the 336 holes drilled in the Project area used to inform the Mineral Resource, 298 have followed these procedures.

Table 4-1: Drilling summary

	Company	Drilling method	East		Valley		West	
Year			Number of holes	Total metres	Number of holes	Total metres	Number of holes	Total metres
2013	Perwaja Group	DD	7	597.2			6	587.3
2016	Webcon	RC					7	355.0
	Fortross	DD					19	2,370.2
2017	Fortress	RC	12	751.0	12	455.0	75	4,860.0
	Webcon	RC			9	534.0	10	630.0
To August 2019	Cautuana	DD	8	688.0	19	1,843.0	2	288.1
To August 2018	Fortress	RC	31	2,026.0	12	550.0	19	1,443.0
To March 2019	Fortress	DD			13	1,491.1	1	152.8
TO March 2019	Fortress	RC	24	1,924.0				
To December 2019	Cortroso	RC	12	1,055.0	18	1,631.0	11	987.0
To December 2019	Fortress	DD	4	323.1	2	473.1	5	528.0
Total			98	7,364.3	85	6,977.1	155	12,201.4

In 2019, Fortress upgraded the capture of its digital logging data to use a Microsoft Access database with validation of the coding on data entry.

All drilling by Fortress has been geologically logged. The RC drilling chips were logged at the time of drilling while the drill core was logged later inside an onsite storage facility.

Both wet-sieved and dry RC samples were placed on a numbered grid sheet that identified the hole number and sample intervals before being logged, photographed and then stored in chip trays. The DD core trays were carefully transported to an onsite storage facility where they were photographed following industry standard procedures before being logged, sampled and stored. The DD core was not orientated.

Primary sampling of the RC and DD drill holes was completed on site by Fortress geologists and technical assistants. Sampling intervals were approximately 1 m in length from within the mineralised zone and 2–3 m into the interpreted waste for both the RC and DD drilling programs.

The whole 1 m RC sample was collected into large green plastic bags and taken to an onsite storage area. The intervals selected for sampling were then moved to the onsite laboratory preparation area for splitting using a 3-tier riffle splitter. Samples collected from the riffle splitter were retained in prenumbered plastic sample bags. The DD core was marked up by Fortress geologists with sample lengths varying from 0.5 m to 1.2 m, based on lithological contacts. Intervals selected for sampling were cut on site, with the half-core retained in the core tray.

Sub-sampling was conducted by Fortress and supervised by qualified onsite laboratory staff. Fortress adopted appropriate sub-sampling procedures for sample weighing, drying, crushing and pulverising.

On average, two Certified Reference Material (CRM) samples, a duplicate sample and a blank sample were inserted for analysis after every 25 primary samples that were collected from both the RC and DD drilling. Duplicate DD samples were cut from the remaining core, resulting in a quarter-core duplicate sample. Duplicate RC samples were taken from the sample pulp.

#### 4.1 Topographic and drillhole survey control

SRK and Fortress staff have verified the collar locations and downhole surveys for 24 of the pre-Fortress drill holes.

The procedure is that drill hole collars are located by a contract surveyor using by DGPS (differential global positioning system) in WGS84 Zone 48N UTM format. Downhole surveys are carried out by the drilling contractors using Reflex GyroSmart tool in the open hole. Where possible, downhole measurements are taken every 10 m. SRK considers that drill holes are appropriately located, show consistent deviations and are of sufficient confidence to be used in the MRE.

Within the drilling and current mining areas, topographic survey control is carried out on an as required basis by Fortress staff. In 2019, Fortress improved the accuracy and efficiency of topographic control by purchasing a DJI MATRICE 210 RTK drone with a DJI ZENMUSE X4S camera. The surveys are flown on 30 m spaced lines using a 70% side overlap ratio and 80% front overlap ratio. Fortress has used 12 Ground Control Points (GCPs) over the survey area to further improve accuracy. Fortress estimates the accuracy of the horizontal positioning is +/- 0.10 m to 0.50 m and the vertical positioning is +/- 0.25 m to 0.5 m. Agisoft Metashape Professional Version 1.5 software is used to process the data and create images, 3D digital elevation model (DEM) and contours. The DEM is collated in AutoCAD software with the processed data supplied to SRK as a triangulated 3D DTM in DXF format.

# 4.2 Sample preparation

The selected 1 m RC samples for analysis were transported from the storage area to the onsite laboratory preparation facility where they were split using a 3-tier riffle splitter into pre-numbered plastic sample bags. The split samples had an average weight of 3.8 kg; 90% of the samples weighed more than 2 kg.

The selected core was cut in half using an onsite diamond saw, broken into 10 cm lengths and collected in pre-numbered plastic sample bags. The average sample weight of the core samples was 2.9 kg.

The following sample preparation steps were undertaken at the onsite laboratory:

- Crushing using a jaw crusher to an average size of 6 mm
- Oven drying for 5 hours at a temperature of 105°C
- Further subsampling using a riffle splitter to an average weight of 200–250 g prior to pulverising
- Pulverising using a ring mill pulveriser to a size of <75 μm/ 200 mesh</li>
- Collection of all pulverised material from the bowl and storage in a sealed plastic jar
- For analysis undertaken locally, scooping of a charge weight of 10 g from the plastic jar when required.
- For pulps sent to an external laboratory, scooping of a weight of 20 g w from the plastic jar and
  placing it in a small sealable plastic bag. Samples were combined into larger plastic bags and put
  into sealed wooded boxes for transport.
- Insertion of a duplicate, two CRMs and a blank sample into the sample run for each drill hole.

A pulp check sample was taken by the local laboratory at a rate of 1 in 20 samples for submission to the Bureau Veritas laboratory for check analysis.

Sampling nomograms have not been prepared to assess the adequacy of the sample weight and grind size combinations; however, other quality assurance results completed did not indicate significant issues or global bias.

# 4.3 Analytical methods

Samples were analysed by the Fortress-owned onsite laboratory and the independent Bureau Veritas laboratory in Canning Vale, Perth, Western Australia. In the sampling database used for MRE purposes, slightly over two-thirds of the analyses were undertaken by Bureau Veritas. The Fortress laboratory is managed by a licensed chemist (L/1779/5800/0) who is registered with the Malaysian Institute of Chemistry and has over 10 years of relevant experience. Bureau Veritas maintains an ISO9001.2000 quality management system and the Canning Vale laboratory is registered with the National Association of Testing Authorities, Australia (NATA).

Pulp samples submitted to Bureau Veritas laboratory have been cast using a 66:34 flux with 4% lithium nitrate added to form a glass bead and analysed for Al<sub>2</sub>O<sub>3</sub>, As, CaO, Cl, Co, Cr, Cu, Fe<sub>2</sub>O<sub>3</sub>, K<sub>2</sub>O, MgO, MnO, Na<sub>2</sub>O, Ni, P, Pb, S, SiO<sub>2</sub>, Sn, Sr, TiO<sub>2</sub>, V, Zn and Zr determined by XRF. Loss on Ignition (LOI) results were determined using a robotic TGA (thermogravimetric analysis) system, with furnaces in the system set to 110°C and 1,000°C.

The Fortress laboratory analysed for Fe<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, TiO<sub>2</sub>, MnO, CaO, P, S, MgO, K<sub>2</sub>O, Zn, Pb, Cu, Ba, As, Ni and Na<sub>2</sub>O via XRF, and LOI. FeO was estimated by titration using hydrofluoric and sulphuric acids.

Fortress was given standard procedures for density determination using the Archimedes method with competent drill core. Over 300 determinations have been completed.

# 4.4 Sample security

Samples were transported from the drill rig to the laboratory by site geologists for logging and sample preparation. Samples sent to Bureau Veritas in Perth were sent via a registered international carrier. SRK is satisfied that the sample chain-of-custody does not pose a material risk to the integrity of the assay data.

# 4.5 Quality assurance and quality control

SRK completed standard data validation checks on the drilling dataset provided by Fortress before importing csv files in Datamine Studio RM for desurveying and visual validation. SRK reported minor omissions and errors that were corrected promptly by Fortress.

In 2019, Fortress completed a systematic RC sample recovery program where, for each interval, the Primary (Alpha weight), Secondary (Duplicate weight) and Reject splits (Reject weight) were weighed and recorded in the database. Weights were collected from over 5,000 intervals, with 243 of these intervals being from the veins of magnetite mineralisation (SKM). SRK calculated the theoretical weights for intervals within the SKM veins using the interval volume multiplied by a density of 3.7 g/cm<sup>3</sup> for fresh to weakly weathered material, or 3.4 g/cm<sup>3</sup> for moderately to very weathered material. The average sample recovery for the 2019 RC drilling in SKM is 63%, which by Australian industry standards is low. SRK notes that sample recovery increases with depth to nearly 80%. RC composite samples comprise 40% of the estimation dataset. Additionally, given the small size of the drilling rigs used by Fortress, SRK has assessed the sample recovery of fresh magnetite mineralisation at depth to be reasonable.

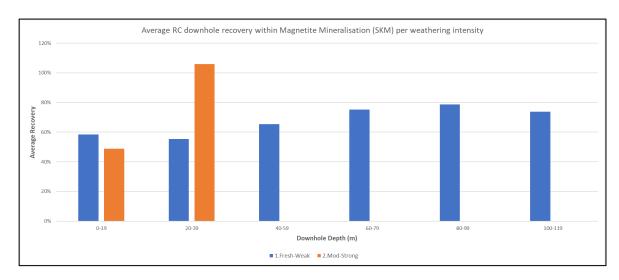


Figure 4-1: Average RC sample recovery within SKM lodes by weathering intensity

Fortress calculated the core recovery for all the DD drillholes at the Project. The average core recovery for the fresh to weakly weathered SKM is 97%, which is excellent. The average core recovery of the more weathered material dropped to 77% which is still acceptable. SRK had previously reviewed the DD core photos and found the estimation of core recovery to be accurate.

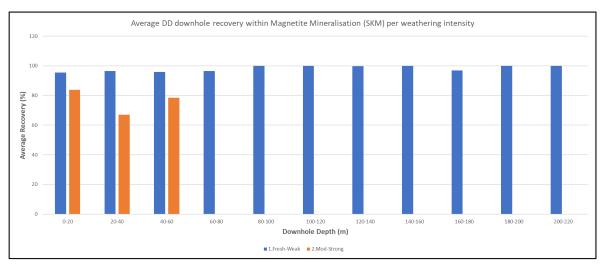


Figure 4-2: Average DD core recovery within SKM lodes by weathering intensity

SRK had previous assessed the representivity of the RC drilling by comparing it to the DD core drilling using Q-Q plots for the major elements and magnetic susceptibility. Analytical results from 12 drill holes where they intersected the largest mineralised zone from along its complete strike length from the west were selected. The results from this type of comparison can be sensitive to drill hole selection, but the analysis did not indicate major differences between the grade and magnetic susceptibility distributions of the RC and DD programs.

Previously, SRK reviewed the DD drill core photos and bulk density determinations made by Fortress. Due to the nature of the determination method and after a review of the DD core photos, SRK is concerned that the selected material was biased towards the more competent mineralisation zones. SRK has taken a conservative approach and, based on statistical analysis of the distribution, with the elimination of outliers, has assigned a density of 3.7 g/cm³ to the unweathered mineralised material and 3.4 g/cm³ to the weathered mineralised material. SRK generated a weathering surface from oxidation information captured in the lithology logging. Fortress submitted 11 core samples to an

external laboratory for check density determinations. The core samples were collected from the major lithologies in the Project area and on average showed acceptable correlation.

SRK conducted an audit of the Fortress laboratory in 2018. SRK observed that Fortress's laboratory manager had implemented checks to minimise the limitations of the onsite laboratory equipment. In 2019, Fortress submitted 39 check pulp samples to the Bureau Veritas laboratory in Perth to assess the onsite laboratory's performance against an international ISO-accredited commercial laboratory. The persistent bias of previous years where the Fortress laboratory underestimated  $Fe_2O_3$  was not present in the 2019 dataset. The results of the 2019 analysis for the iron, silica, alumina and sulphur laboratory check sample pairs are shown in Figure 4-3 to Figure 4-6.

Fortress use two CRMs (GIOP135 AND GIOP103) to monitor the analytical accuracy of its laboratory. Figure 4-7 and Figure 4-8 present the control charts for Fe<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub> and Al<sub>2</sub>O<sub>3</sub> for the CRMs. The graphs show evidence of analytical drift and a high failure rate compared to a commercial laboratory.

In 2019, Fortress changed the composition of its blank sample to a beach sand with, on average, less than 1% Fe<sub>2</sub>O<sub>3</sub>. SRK's assessment of the control for these samples did not indicate any cleanliness (contamination) issues with the onsite laboratory.

SRK has assessed the accuracy, precision and cleanliness of the Fortress laboratory to be acceptable in the context of the overall mining and processing operation at the Project.

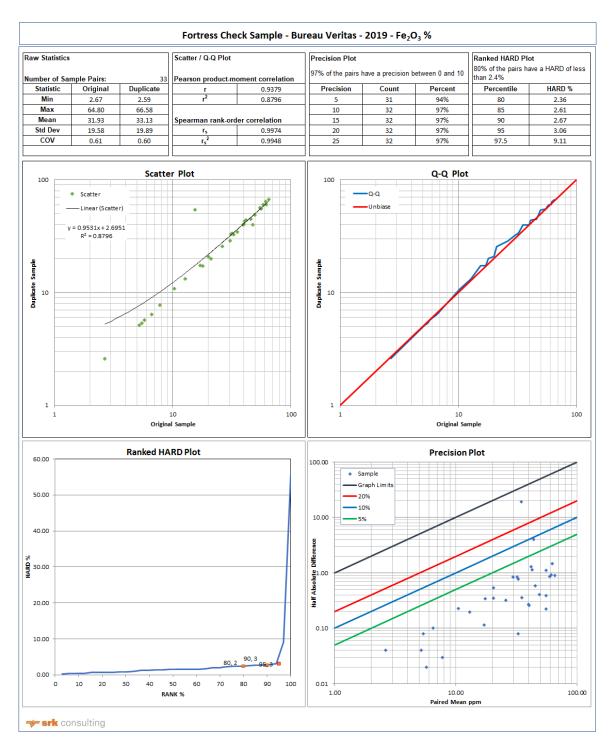


Figure 4-3: 2019 Fortress check sample – Bureau Veritas – Fe<sub>2</sub>O<sub>3</sub>%

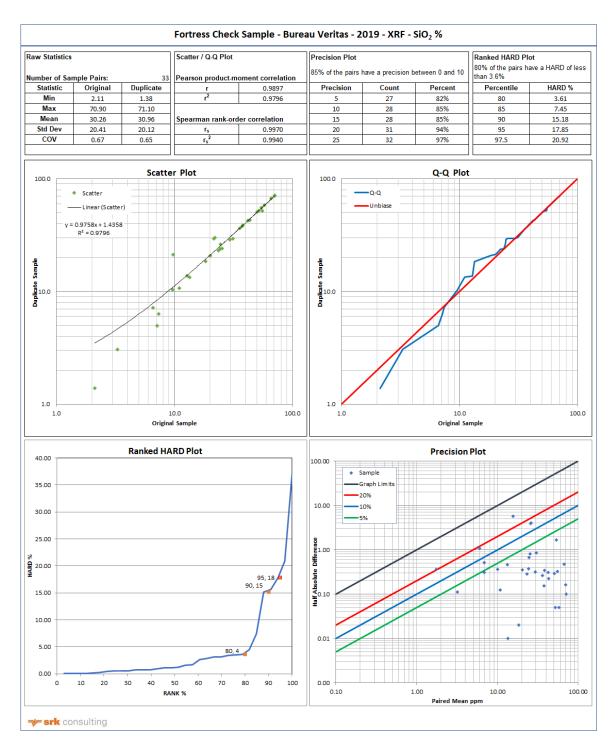


Figure 4-4: 2019 Fortress check sample – Bureau Veritas – SiO<sub>2</sub>%

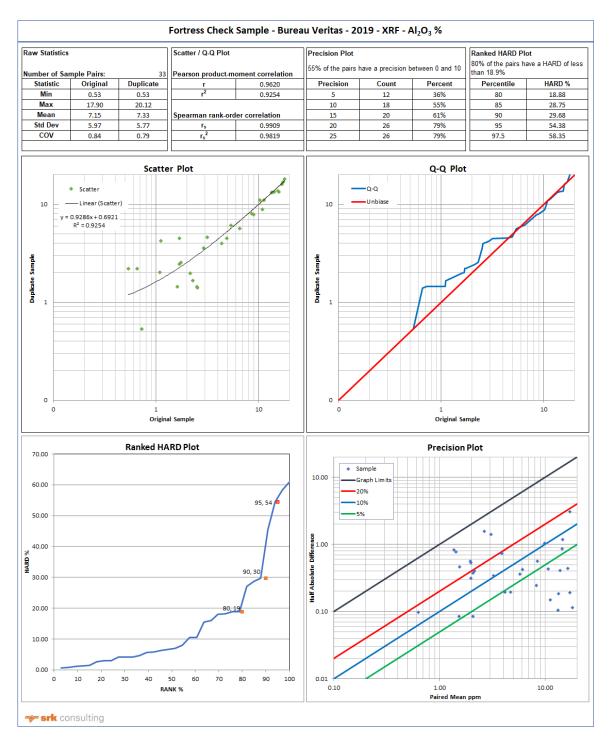


Figure 4-5: 2019 Fortress check sample – Bureau Veritas – Al<sub>2</sub>O<sub>3</sub>%

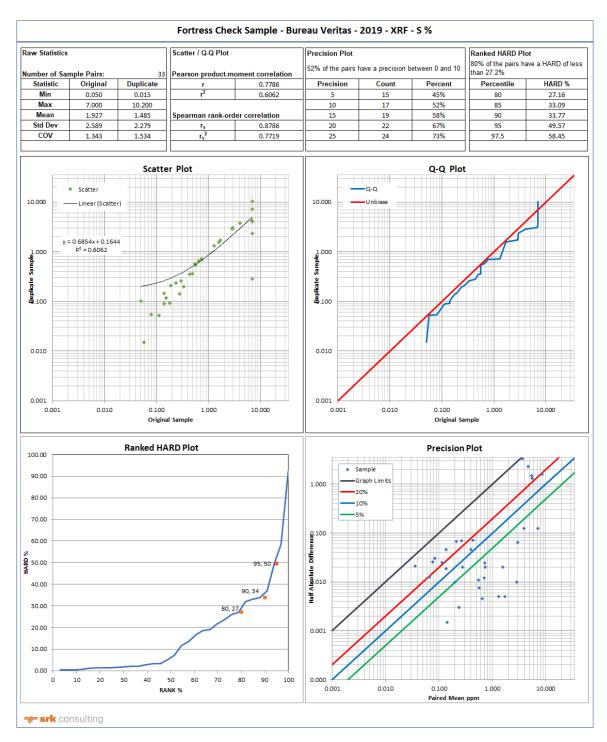
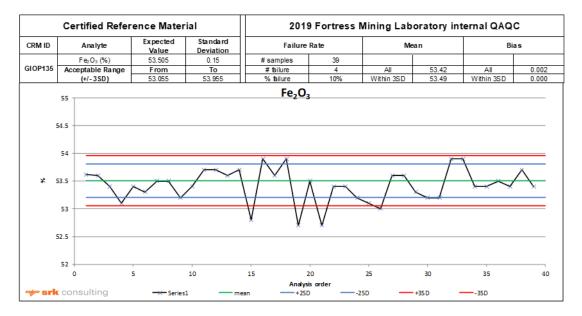
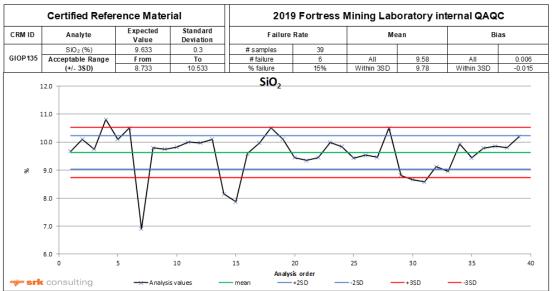


Figure 4-6: 2019 Fortress check sample – Bureau Veritas –S%





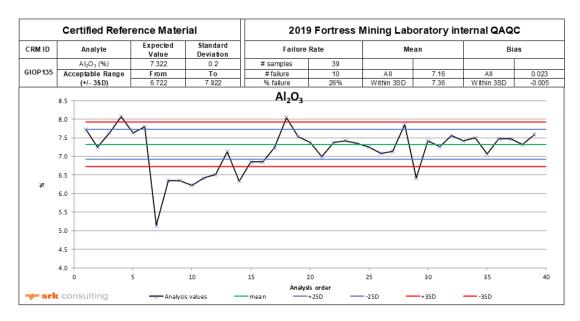
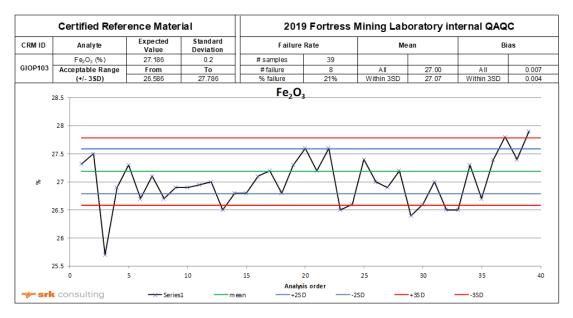
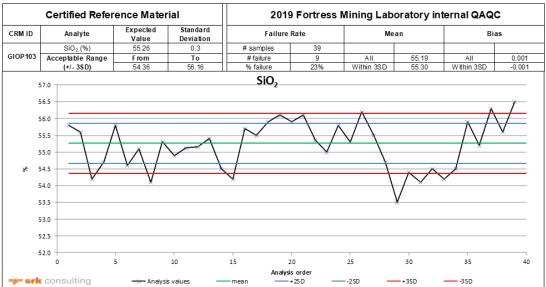


Figure 4-7: 2019 Fortress Mining Laboratory Internal QA/QC - CRM - GIOP135





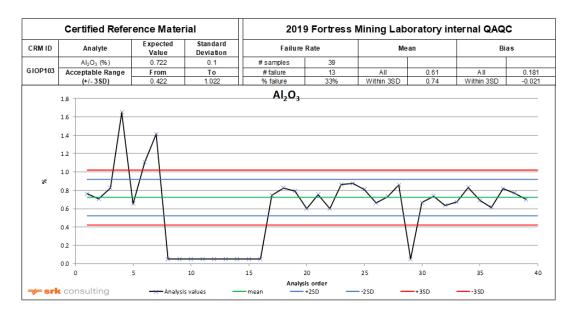


Figure 4-8: 2019 Fortress Mining Laboratory Internal QA/QC – CRM – GIOP103

# 5 Mineralisation and Topographical Modelling

There are no changes to previous 3D mineralisation wireframes at the West, Valley and East deposits as the 2019 drilling focused on testing new targets. The new mineralisation intersected northeast of the main Valley deposit has been wireframed and is described below:

<u>West:</u> At the West area, the six mineralised veins have an average strike length of 350 m, a combined width of 75 m and dip sub-vertically. The wireframes extend from the surface to 90 m depth.

<u>Valley:</u> The main mineralisation at the Valley area has an average strike length of 175 m. The veins are thinner (approximately 5 m) at surface and in the north. Closer to the southern granite contact they are 25 m wide at surface with the western vein bulging to 100 m wide at depth. The three new veins interpreted northeast of the main Valley mineralisation strike at N560E and dip steeply to the southeast. The veins vary in true thickness between 8 m and 15 m.

<u>East:</u> The eight mineralised veins at the East area have an average strike length of 200 m, width of 5 m and extend vertically from surface to 100 m.

The estimation domain definition was based on geochemical and magnetic susceptibility data, with boundaries being defined by step-changes in magnetic susceptibility, Fe%, S, SiO<sub>2</sub>% and TiO<sub>2</sub>%.

Domain geometry was observed to be relatively consistent and predictable over the extent of the drill coverage, with reasonable continuity between drill holes, although pinching and swelling of the veins was evident in both down dip and along strike directions. In places, continuity was extended between drill hole intersections to the maximum range of statistical continuity observed in the variograms. The geological interpretation is considered consistent with datasets, as well as with the broadly accepted understanding of the local geology.

The DTM supplied by Fortress covers the exploration and mining activities in the West, Valley and East areas.

### 6 Mineral Resource Estimation

The overall estimation methodology has remained unchanged since SRK completed the first MRE for the Bukit Besi Project in August 2018.

Prior to estimation, the supplied data was composited to a 1 m length, as this is consistent with the original sample length and is considered to be appropriate for both the model cell dimensions and the interpreted ore zone thicknesses. The composite interval was slightly increased or reduced at vein boundaries to prevent the creation of residuals or the composites spanning domain boundaries. Analytes that reported above detection ('>') or below detection ('<') values were converted to their positive equivalents. Minor unsampled (waste) intervals were included in the estimation domain wireframes so that continuity and form were maintained. These intervals were mostly located at depth or inside thicker mineralisation zones and were assigned a waste value of 1.9% Fe.

The dry bulk density dataset was derived from 300 water immersion tests performed on 15 cm core billets collected from 21 DD core holes. SRK evaluated the selection of the core samples using core photographs and deemed they were biased towards more competent material. Based on the statistical review and eliminating outliers, the following global densities were assigned to the mineralised domains based on a weathering surface wireframe developed using logging data:

- Weathered 3.4 g/cm<sup>3</sup>
- Fresh 3.7 g/cm<sup>3</sup>.

The MREs were prepared using conventional block modelling and geostatistical estimation techniques. A single model was prepared to represent the defined extents of the mineralisation. The resource modelling and estimation study was performed using Datamine Studio RM and Supervisor software.

Kriging neighbourhood analyses (KNA) studies were used to assess a range of parent cell dimensions, and a size of  $5 \times 5 \times 5$  m (XYZ) was considered appropriate given the drill spacing, grade continuity characteristics, and the mining method used. Sub-celling at  $1.0 \times 1.0 \times 2.5$  m (XYZ) was used so that interpreted domain volumes were accurately represented.

Probability plots were used to assess for outlier values, and grade cutting was not considered necessary.

Variographic studies were conducted on the iron grades to quantify grade continuity, and to assist with the selection of estimation parameters. Experimental variograms were relatively well defined for the major lode in each of the deposit areas, given the low sample numbers. The variogram directions aligned with the plane of the vein and there was no evidence of a plunge component. A single theoretical model was adopted for all the veins with the directions adjusted accordingly. The plunge component shown for Valley (NE) is most likely introduced due to the alignment of drill intersections and is not based on geology.

The variogram parameters for each deposit areas are presented in Table 6-1.

Table 6-1: Variogram parameters

Rota	ation (ZX	Z)	Norman		Struc	ture 1			Struct	ure 2	
R 1	R 2	R 3	Nugget C0	Major Axis	Mid Axis	Minor Axis	C1	Major Axis	Mid Axis	Minor Axis	C2
West	West										
-60	100	0	0.10	10	10	5	0.6	90	90	15	0.3
Valley	Valley										
-60	100	0	0.10	10	10	5	0.6	90	90	15	0.3
Valley (I	NE)										
140	50	120	0.10	10	10	5	0.6	90	90	15	0.3
East	East										
-160	80	0	0.10	10	10	5	0.6	90	90	15	0.3

The parent cell grades were estimated using Ordinary Kriging. The domain wireframes were used as hard boundary estimation constraints. Search orientations and weighting factors were derived from variographic studies and matched to vein geometry. A multiple-pass estimation strategy was invoked, with KNA used to assist with the selection of search distances and sample number constraints as described in Table 6-2.

Table 6-2: Estimation search parameters

Search pass	Search radius (m)	Primary dip / direction	Number of samples
1	25 × 20 × 5	Matched to vein geometry	10–24
2	Factor = 2	Matched to vein geometry	10–24
3	Factor = 3	Matched to vein geometry	4–24

#### 6.1 Estimation performance and validation

The estimation performance data were assessed to ensure that most of the model cells were estimated using adequate numbers of samples. A summary of the percentage of model cells estimated in each search pass, and the average number of samples used for estimation is presented in Table 6-3.

Table 6-3: Performance statistics

Deposit		Cells estir	mated in eacl	n pass (%)	Average number of samples			
		Pass 1	Pass 2	Pass 3	Pass 1	Pass 2	Pass 3	
West	Indicated	50	34	16	19	21	16	
vvest	Inferred	29	44	28	19	22	18	
Valley	Inferred	16	54	31	18	18	19	
East	Inferred	13	48	39	14	19	13	

Interpolated cell grades were visually compared to the drill hole sample composites to ensure that the cell grade estimates appear to be consistent with the drill hole data. There was generally good correlation between the estimated grades and the composite grades, with the regional grade trends observed in the composites also evident in the model cells. No significant issues were identified; the local grade characteristics in the composite data were adequately reproduced in the model. Typical sections displaying the resource model and composite grades for each deposit are presented in Figure 6-1 through to Figure 6-3.

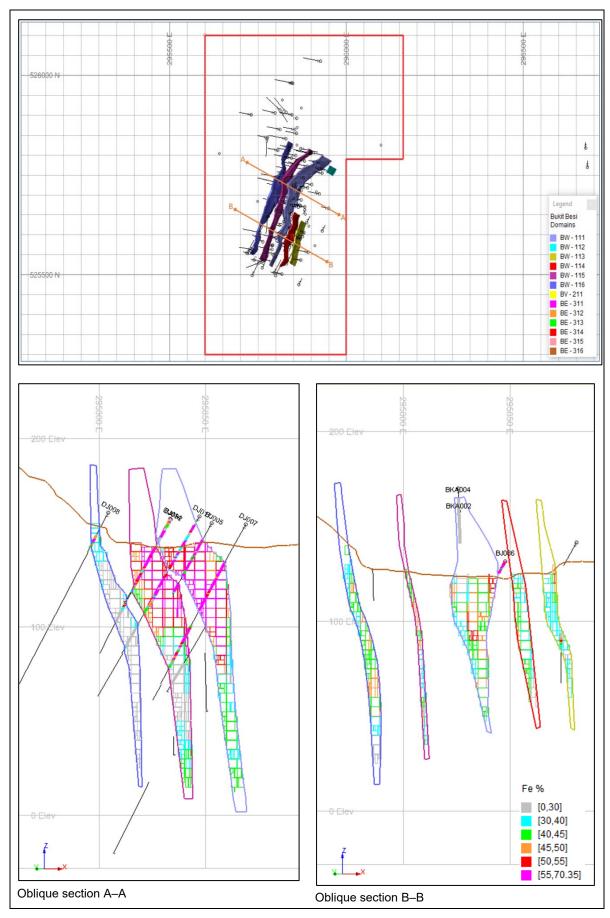


Figure 6-1: West area – visual comparison of block and sample Fe% grade

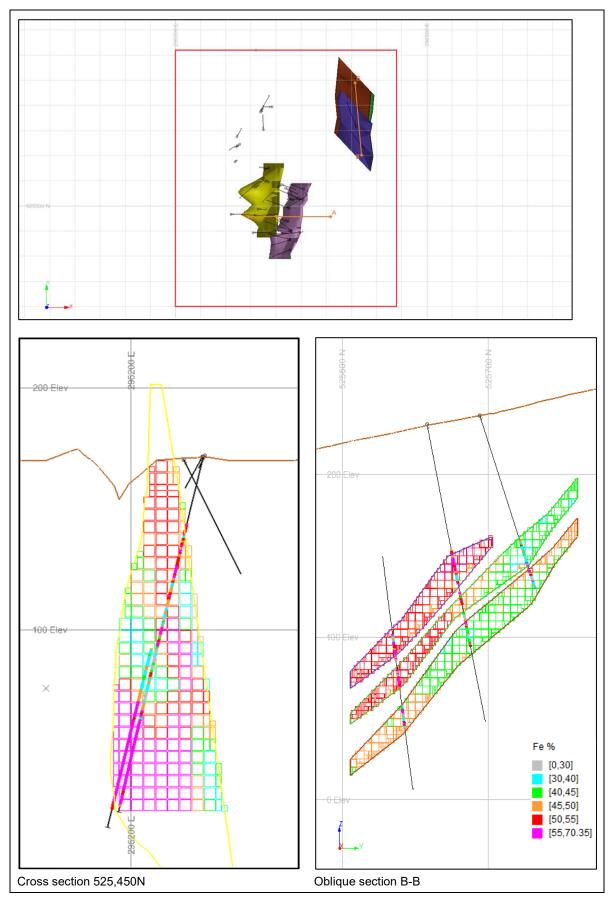


Figure 6-2: Valley area – visual comparison of block and sample Fe% grade

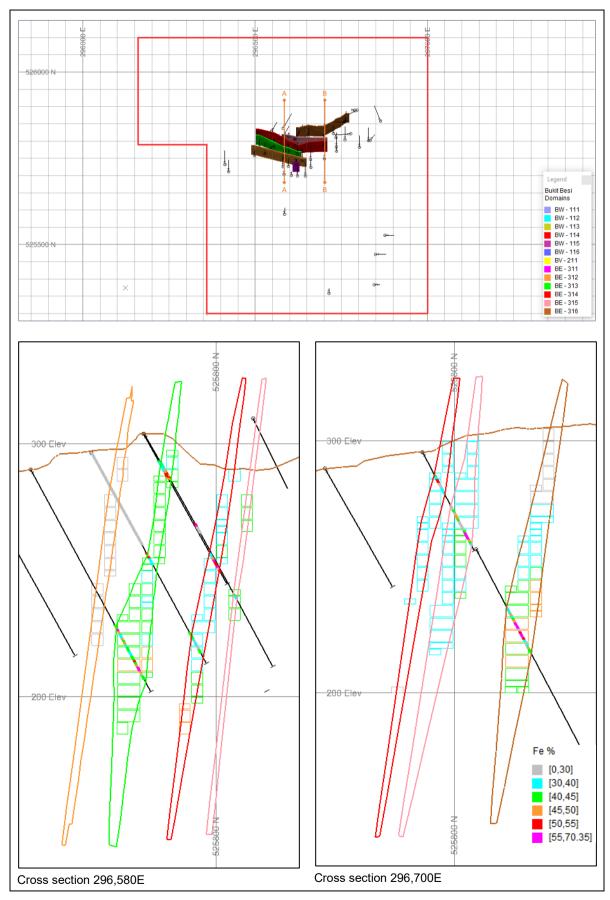


Figure 6-3: East area – visual comparison of block and sample Fe% grade

Statistical comparisons were conducted between the interpolated model cell grades and the sample composite grades. These tests are susceptible to data clustering and differences between the averages are expected because the data are not regularly gridded. However, the comparisons can provide some useful indications that the estimation process has performed as intended by ensuring that the mean grades are similar, the model cell grade ranges are bracketed by the composite grade ranges, and the model cell standard deviations are less than the composite standard deviations. To reduce the impact of differences in data coverage, the model statistics were derived only from cells that have been assigned a Mineral Resource classification. A summary of the statistical comparisons is presented in Table 6-4.

Table 6-4: Composite grade vs global model grade statistics

	Composite grades					Relative			
Area	Mean	Min.	Max.	Std Dev	Mean	Min.	Max.	Std Dev	difference (%)
West	40.28	0.15	69.62	20.54	38.86	1.90	67.60	11.67	-4
Valley	49.20	1.90	71.07	14.46	46.82	1.90	69.30	7.29	-5
East	39.88	1.90	64.83	17.04	37.19	1.90	60.61	12.65	-7

Easting, Northing, and Elevation swath plots were prepared for each deposit. For most deposits, these show good correlation, with little evidence of bias or excessive smoothing, and the trends evident in the composite data appear to be adequately reproduced. Swath plots for iron grade (Fe%) and magnetic susceptibility are presented in Figure 6-4 to Figure 6-9.

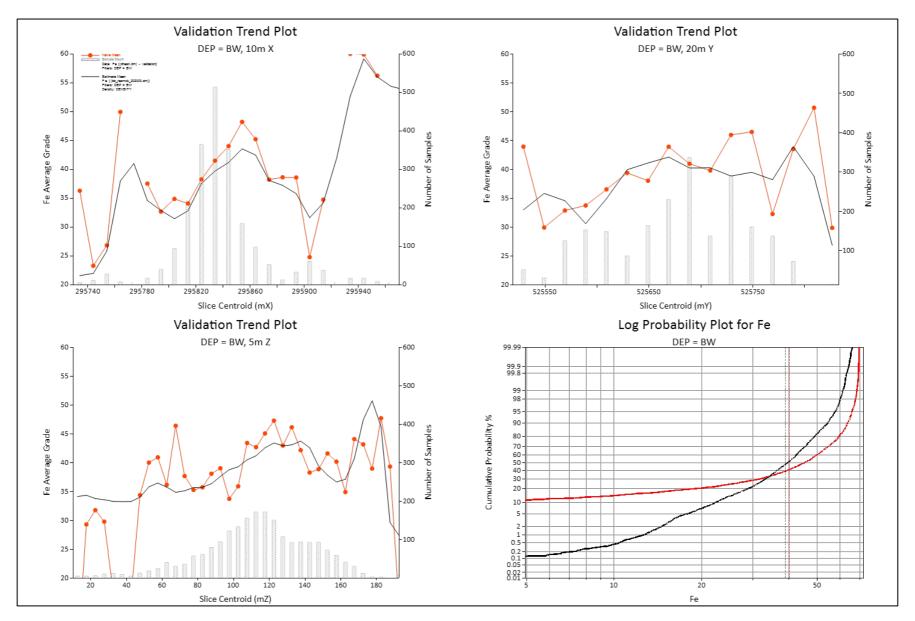


Figure 6-4: Fe% swath plots all veins – West deposit

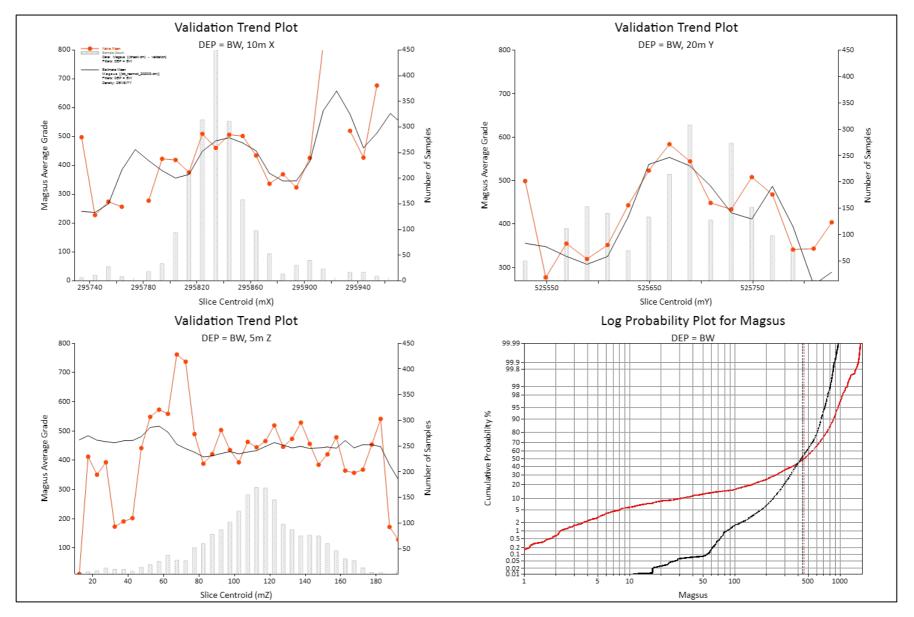


Figure 6-5: Magnetic susceptibility swath plots all veins - West deposit

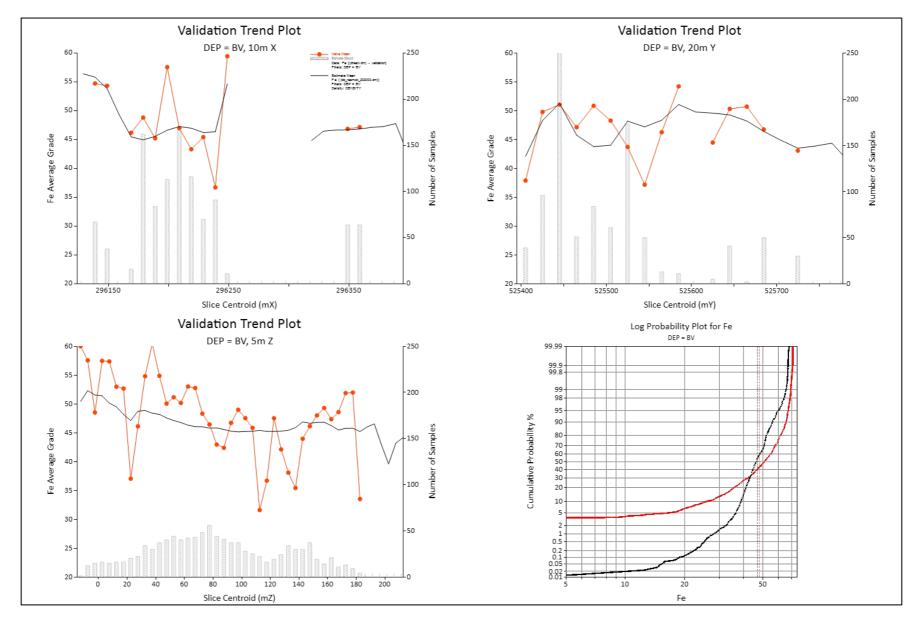


Figure 6-6: Fe% swath plots all veins – Valley deposit

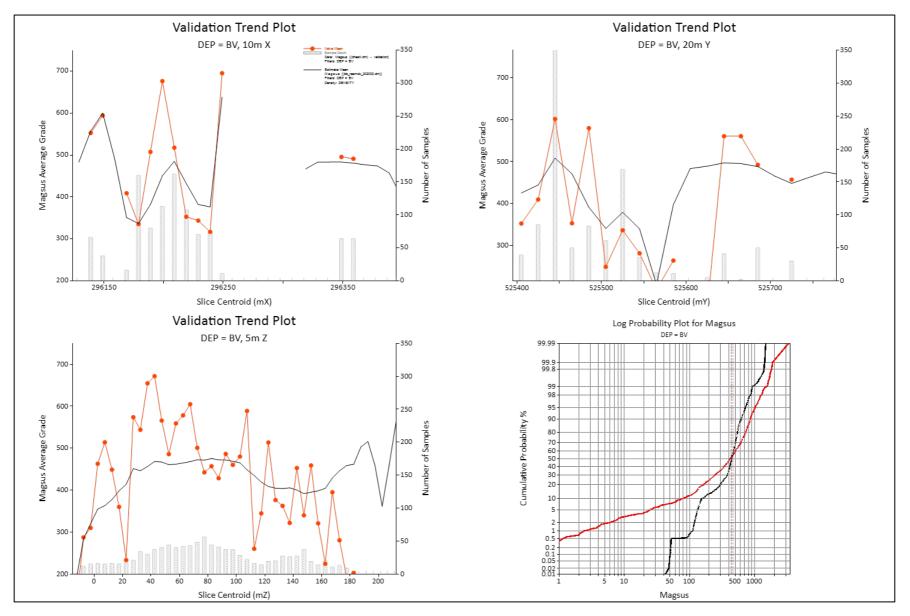


Figure 6-7: Magnetic susceptibility swath plots all veins – Valley deposit

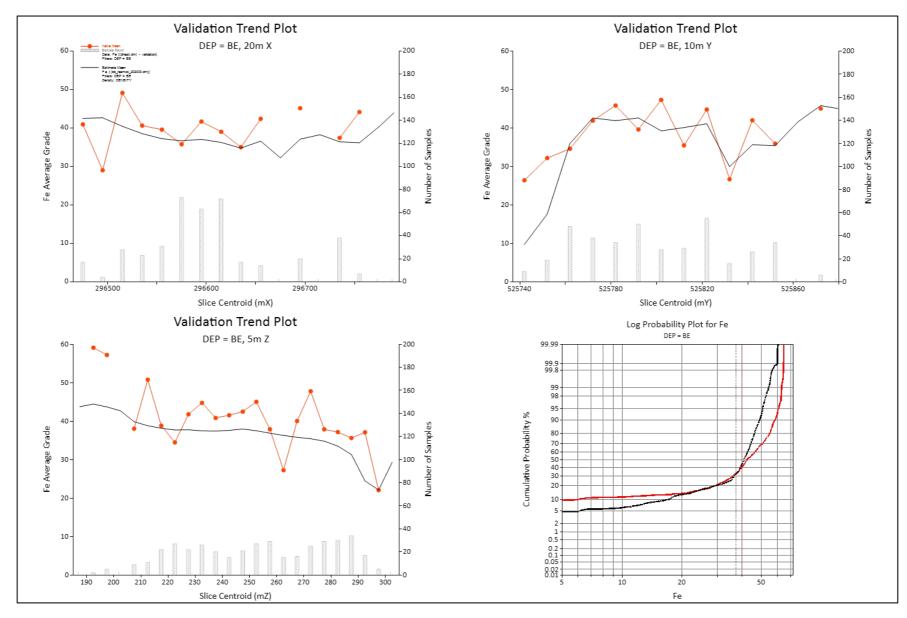


Figure 6-8: Fe% swath plots all veins – East deposit

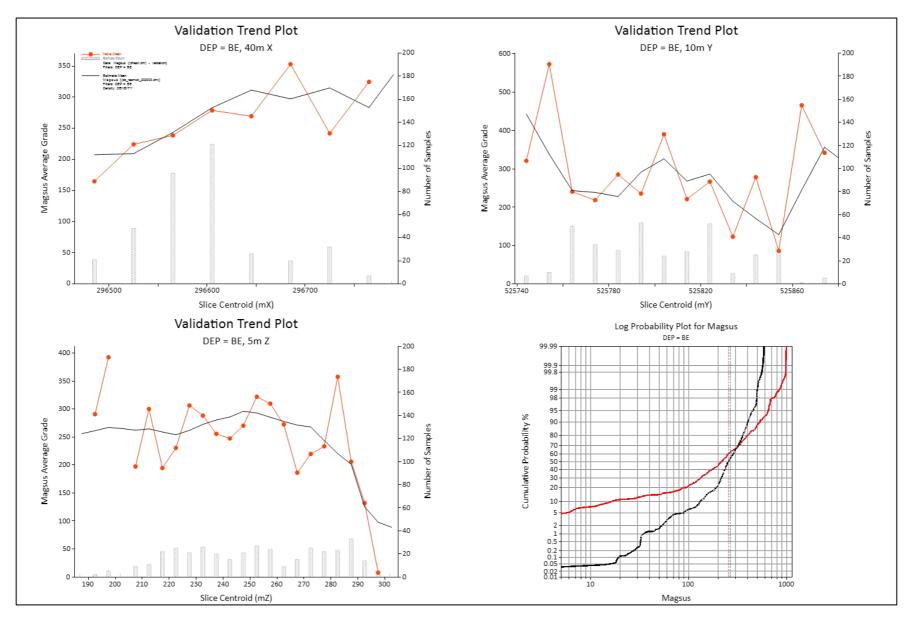


Figure 6-9: Magnetic susceptibility swath plots all veins - East deposit

### 7 Production Reconciliation

Fortress provided SRK with operating performance data over 25-day period in July 2018 to allow the derivation of a suitable iron mining cut-off grade and dilution and recovery estimates, which were back-calculated from the supplied data (Table 7-1). Operations during this period focused on the West pit.

An average ore loss factor of 5% and an average mining dilution factor of between 15% and 18% can be derived from the operating performance data, which SRK considers to be reasonable for the mining practices observed during the site visit. SRK notes that while iron grade recoveries were provided, tonnage estimates were not provided for the sampling period.

Table 7-1: Average crushing ore grade

	Sampling location	Average grade over 25 days (Fe%)		
Wes	st Pit			
1.	After near-pit jaw crushing but prior to coarse cobbling (considered analogous to pit production)	34.00		
2.	After coarse magnetic separation	40.11		
Mill				
1.	Input grade into mill	43.72		
2.	After 2-stage magnetic separation	65.45		
3.	After froth flotation	67.66		

Between 1 March 2019 and 30 November 2019 Fortress sold 185,000 tonnes of magnetite with an average grade of 65.56%Fe (Mun Fey Ng, pers. comm., 4 February 2020). In the absence of industry standard reconciliation data from Fortress Mining, SRK has applied the high-level modifying factors disclosed in 2019 POD to comment on the performance of the MRE for material mined between 1 March 2019 and 30 November 2019. Using an average ore loss factor or 5% and an average mining dilution factor of 15% SRK determined approximately 400,000 tonnes of ore grading 37%Fe was mined over this 10-month period. This would equate to an approximate metal recovery rate of 80% through the processing plant. Given the high-level of this assessment, the absence of an Ore Reserve, SRK finds the performance of the MRE in this time period to be acceptable.

# 8 Mineral Resource Classification

The Bukit Besi MRE was classified in accordance with the Australasian Code for the Reporting of Mineral Resources and Ore Reserves (JORC Code). The following factors were taken into consideration when assigning the classifications to the MRE:

- The mineralised domains show continuity between drill hole sections even though the drill hole spacing often does not allow for the intersection of all the steeply dipping veins on each section. This could result in the distance between drill hole intersections for individual veins being at the extent of the variographic ranges (up to 90 m).
- SRK considers that adequate quality assurance (QA) data are available to demonstrate that the
  Fortress dataset is sufficiently reliable for the assigned classifications; although minor biases were
  evident and minor errors apparent, SRK considers there are not material.
- Production data collected over the past 11-month period from the mined material in the West and
  East pits are consistent with previous reconciliation data used to validate iron grade and recovery
  in lieu of representative metallurgical testwork such as Davis tube recovery (DTR) tests.
- The model validation checks show a good match between the input data and estimated grades, indicating that the estimation procedures have performed as intended, and the confidence in the estimates is consistent with the classifications that have been applied.

Based on the findings summarised above, SRK concluded that the controlling factor for classification is sample coverage and production reconciliation data. A resource classification boundary was defined on long section for each deposit area. The extents were nominally set at 10 m past the last mineralised intercept that was captured in the wireframes along strike and nominally 50 m down dip. The down-dip extents were constrained to within the drill coverage, although the spacing between intercepts along strike at depth were occasionally at the extremes of demonstrated grade continuity.

All vein model cells within the defined extents were initially assigned a classification of Inferred Mineral Resource. Confidence in the Indicated Mineral Resource classification assigned at the West is supported by the production reconciliation data and the continuity of the mineralisation near surface as seen during mining. The boundary for the Indicated Mineral Resource classification was set to a maximum of 10 m below the 30 November 2019 pit surface. The final resource model contains the model cells for vein material that has been assigned a Mineral Resource classification.

### 9 Mineral Resource Statement

SRK prepared the update of the MRE from datasets provided by Fortress with an overall reporting date of 29 January 2020. The depleted MRE of 7.18 Mt at 43.25% Fe is based on a mine survey undertaken on 30 November 2019,

The Mineral Resource was classified as Indicated and Inferred in accordance with the JORC Code on a qualitative basis, taking into consideration numerous factors including data quality, geological complexity, data coverage, recovery testwork and potential eventual economic extraction, as shown in Table 9-2.

Table 9-1: Bukit Besi Mineral Resource tabulation – 29 February 2020\*

			Gross attributable ML7/2013		Net attrib			
Area	Category	Mineral type	Tonnes (Mt)	Grade (Fe%)	Tonnes (Mt)	Grade (Fe%)	Change from previous update (%)	Remarks
West	Indicated	Iron	0.36	40.74	0.36	40.74	4.0	None
West	Inferred	Iron	2.25	38.99	2.25	38.99	-7.9	None
Valley	Inferred	Iron	3.61	46.67	3.61	46.67	62.5	None
East	Inferred	Iron	0.96	41.29	0.96	41.29	-18.0	None
Total Indicate	Total Indicated + Inferred Iron		7.18	43.25	7.18	43.25	18.6	None

Notes:

\*Based on a block cut-off grade of 10% Fe, and magnetic susceptibility greater than 100 and sulphur less than 10%.

As detailed in the POD, there are no Ore Reserves reported in accordance with JORC Code guidelines at the Project. Fortress has a mine schedule based on historical production performance records and production reconciliation of operating performance data from the current operation. The mine plan uses the MRE as the basis for available material to feed the processing facilities.

SRK notes that concentrations of elements other than iron are not considered to be deleterious to the concentrate production; Fortress and SRK consider such concentrations to be immaterial with respect to the MRE and SRK observes the following:

- There are no contractual limits on any elements other than iron. The price paid for each shipment is based on its specification, with penalties and credits applied.
- No shipments have been rejected to date. While SRK is cognisant of dynamic global markets, SRK
  is also aware of the unique market positioning Fortress has successfully negotiated with its
  customer base, which allows substantial flexibility.

# 10 Competent Person's Statement

The information in this statement that relates to the MRE is based on work done by Leesa Collin of SRK Consulting (Australasia) Pty Ltd.

Competent Person sign-off for the Mineral Resource estimates is Leesa Collin who is a full-time employee of SRK. Leesa Collin has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Compiled by

Leesa Collin

Senior Consultant

Peer reviewed by

**David Slater** 

**Principal Consultant** 

SRK Consulting Appendices

# **Appendices**

Appendix A: JORC Code - Table 1

#### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done, this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>The datasets used for Mineral Resource estimation were derived from Perwaja Group drilling programs (13 drill holes) conducted in 2012 and 2013 and from drilling by Fortress (338 drill holes) after 2016. Approximately 95% of the data were sourced from the Fortress drilling programs. As limited information is available for the Perwaja Group programs, the commentary in Table 1 pertains mostly to the Fortress drilling program.</li> <li>Fortress drilling: <ul> <li>RC samples were collected on 1 m intervals into green plastic bags from a cyclone attached to the drill rig. Samples from each hole were transferred to the onsite storage area in bulka bags. Samples selected for analysis were separated and transferred to the laboratory preparation area.</li> <li>DD samples were taken from half cut HQ core, with sample lengths between 0.5 m and 1.2 m. Core samples intervals were selected so as not to cross geological boundaries.</li> </ul> </li> <li>Samples from within the interpreted mineralised zones and 3 m into waste were selected for sample preparation and analysis. Onsite sample preparation included air drying, crushing, splitting, oven drying and then pulverising.</li> </ul>
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	<ul> <li>Little information is available about the Perwaja Group drilling programs, but compiled Excel spreadsheets record drilling methods and sample size as:</li> <li>Reverse circulation (RC)</li> <li>Diamond drilling (DD), HQ &amp; NQ core</li> <li>The Fortress drilling programs were carried out by internal Fortress contractors (DRC), which has been involved with the Project since 2017. Five drill rigs were used, and the drill rig numbers were recorded against the drill collar information for the holes drilled. The following drilling and sampling equipment were used:</li> <li>RC drilling:</li> <li>Drill rigs – M1 &amp; M2 – Hitachi Zarxis 120, purchased by Fortress in 2016</li> <li>Compressors – LG950, purchased in 2015 and Sullair 1070XHH, purchased in 2018</li> <li>Sampling was undertaken through 3 m long × 3" diameter drill rods with 4.5" diameter bits. Depending on ground conditions, a tricone or face-sampling hammer bit was used.</li> </ul>

Criteria	JORC Code explanation	Commentary
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.     Measures taken to maximise sample recovery and ensure representative nature of the samples.     Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	DD drilling: Drill rigs D1 – Scanvik DE 710, purchased by Fortress in 2016 D2 – Desco SRC5500 D3 – Desco SRC7500  Sampling was done using 3 m long HQ diameter drill rods to produce a core with diameter of 63.5 mm; the core was recovered via double tube. The DD core drilling was predominantly carried out using the Sandvik rig.  DD core recovery was measured by Fortress geologists and entered into standard Excel spreadsheets for core run recovery and rock quality designation (RQD) calculation. Core recoveries were assessed downhole, with an average of 60% at surface to greater than 95% from 60 m onwards. These are considered very good recoveries for the style of mineralisation and weathering environment.  In 2019, Fortress completed a systematic RC sample recovery program where, for each interval the Primary (Alpha weight), Secondary (Duplicate weight) and Reject splits (Reject weight) were weighed and recorded in the database. Weights were collected from over 5,000 intervals, with 243 of the intervals from within the veins of magnetite mineralisation (SKM). SRK calculated the theoretical weights for intervals within the SKM veins using the interval volume multiplied by a density of 3.7 g/cm³ for fresh to weakly weather material, or 3.4 g/cm³ for moderately to very weathered material. The
		average sample recovery for the 2019 RC drilling in SKM is 63%, which by Australian industry standards is low. SRK notes that sample recovery increases with depth to nearly 80%. RC composite samples comprise 40% of the estimation dataset. Additionally, given the small size of the Fortress drilling rigs, SRK has assessed the sample recovery of fresh magnetite mineralisation at depth to be reasonable. Sample recovery for the other RC drill holes used in the Mineral Resource estimate was not directly measured. In lieu of this at the West Deposit, the representivity of the RC drilling was assessed by comparing it to the core drilling using Q-Q plots for the major elements and magnetic susceptibility. Analytical results from 12 drill holes where they intersected the largest mineralised zone from along its complete strike length in the West area were selected. The results indicated no major differences between the grade and magnetic susceptibility distributions of data from the RC and DD programs. No relationship was observed between sample recovery and grade.
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> </ul>	All relevant intersections used for Mineral Resource estimation were geologically logged to a level of detail deemed sufficient to enable the delineation of geological domains appropriate to support Mineral Resource estimation and classification. A geologist is present during RC drilling and sampling.  Core samples were geologically logged, photographed, and marked up for sampling.  Core is retained under cover and protected at Fortress's online sample preparation area.
	The total length and percentage of the relevant intersections logged.	

Criteria	JORC Code explanation	Commentary				
		Sieved rock chips from each metre of RC drilling were collected into chip trays, photographed, and retained for reference. Both dry and wet sieved subsamples were stored in chip trays for future reference.				
		All logging, except for the geotechnical core logging, is deemed to be qualitative.				
Sub-sampling techniques and	If core, whether cut or sawn and whether quarter, half or all core taken.	Fortress geologists recorded the sample condition as being 'dry' for 95% of the samples used in the Mineral Resource estimate.				
sample preparation	<ul> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness</li> </ul>	The 1 m RC samples selected for analysis were transported from the storage area to the onsite laboratory preparation facility where they were split using a three-tier riffle splitter into pre-numbered plastic sample bags. The split samples had an average weight of				
	of the sample preparation technique.	3.8 kg, with 90% of the samples having a weight above 2 kg.				
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	The selected core was cut in half using an onsite diamond saw, broken into 10 cm lengths and collected in pre-numbered plastic sample bags. The average core sample weight was 2.9 kg.				
	<ul> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results</li> </ul>	Subsequent sample preparation undertaken at the onsite laboratory was as follows:				
	for field duplicate/second-half sampling.	Crushing using a jaw crusher to an average size of 6 mm				
	Whether sample sizes are appropriate to the grain size of the	Oven drying for 5 hours at 105°C				
	material being sampled.	<ul> <li>Further subsampling using a riffle splitter to an average weight of 200–250 g prior pulverising</li> </ul>				
		<ul> <li>Pulverising using a ring mill pulveriser to a size of &lt;75 μm/ 200 mesh</li> </ul>				
		Taking all pulverised material from the bowl and storing it in a sealed plastic jar				
		<ul> <li>For analysis undertaken locally, scooping a charge weight of 10 g from the jar when required</li> </ul>				
		<ul> <li>For pulps sent to an external laboratory, scooping a weight of 20 g from the jar and placing it into a small sealed plastic bag. Samples were combined into larger plastic bags and put into a sealed wood box for transport.</li> </ul>				
		A field duplicate, two Certified Reference Materials (CRMs), and a blank sample were inserted into the sample run for each drill hole.				
		A pulp check sample was taken by the local laboratory at a rate of 1 in 20 for submission to the Bureau Veritas laboratory for check analysis.				
		Sampling nomograms have not been prepared to assess the adequacy of the sample weight and grind size combinations; however, although a slight bias is present, the quality assurance results do not indicate significant issues.				
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	Samples were analysed by the Fortress-owned onsite laboratory and the independent Bureau Veritas laboratory in Canning Vale, Perth, Western Australia. In the dataset used for estimation purposes, just over two-thirds of the analysis were undertaken by Bureau Veritas.				
	<ul> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the</li> </ul>	Sample pulps that were submitted to Bureau Veritas laboratory have been cast using a 66:34 flux with 4% lithium nitrate added to form a glass bead and analysed for Al <sub>2</sub> O <sub>3</sub> , As, Ba, CaO, Cl, Co, Cr, Cu, Fe, K <sub>2</sub> O, MgO, Mn, Na, Ni, P, Pb, S, SiO <sub>2</sub> , Sn, Sr, TiO <sub>2</sub> , V, Zn				

Criteria	JORC Code explanation	Commentary
	analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.  Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	and Zr determined by X-ray fluorescence (XRF). Loss on Ignition (LOI) results were determined using a robotic thermogravimetric analysis (TGA) system, with furnaces in the system set to 110°C and 1,000°C.  The Fortress laboratory analysed for Fe, SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , TiO <sub>2</sub> , MnO, CaO, P, S, MgO, K <sub>2</sub> O, Zn, Pb, Cu, Ba, As, Ni and Na <sub>2</sub> O via XRF, and LOI. FeO was estimated by titration using hydrofluoric, sulphuric and boric acids.  Magnetic susceptibility measurements were carried out using a Terraplus (Georadis) KT-10 v2 magnetic susceptibility meter. Measurements were recorded for all sample pulps by Fortress laboratory staff. The purpose of the measurements was for estimation domain delineation, and QAQC procedures were therefore not deemed necessary for the level of accuracy and precision required for this purpose.  Bureau Veritas Minerals maintains an ISO9001.2000 quality system and the Canning Vale laboratory is registered with the National Association of Testing Authorities, Australia (NATA). In lieu of certification of the Fortress laboratory duplicates or CRMs, samples were taken at a rate of 1 in 20 from the Fortress sampling sequence, with the check sample sent to Bureau Veritas.  CRMs GIOP-103 and GIOP-135, sourced from Geostats, were used. Overall QC results are within acceptable tolerances; however, there is a consistent indication that results for mineralised material, those samples with high Fe and low SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> and LOI are slightly biased to lower grades in the onsite laboratory. There is also a consistent indication that samples have been sporadically mislabelled when prepared for dispatch and analysis at Bureau Veritas, although it is possible this may only affect QC samples.
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	SRK examined the assay data in section carrying out visual checks of the grade continuity for the major elements. Spot checks of assay grades against log sheets and original laboratory reports were also completed.  SRK decided to maintain continuity and form of the mineralised domain wireframes and to include minor unsampled (waste) intervals in the estimation domain wireframes. These intervals were mostly located at depth or inside thicker mineralisation zones.  No direct twin holes have been completed.  The primary data are stored in Excel spreadsheets in a standardised format. Although logging used standardised codes, these are not controlled at the time of entry.  The Fortress dataset was provided to SRK in Excel format as a series of worksheets. SRK compiled the worksheets into a set of CSV files suitable for estimation purposes. Standard data validation routines were undertaken in Microsoft Access before importing the CSV files in Datamine Studio RM for desurveying and further validating.  All Lower Detection Limit (LDL) values in the assay data were converted to their positive equivalents. The Fortress laboratory reported an Upper Detection Limit (UDL) for some analytes; they were converted to their positive equivalents. The table below lists the detection limits and the percentage of samples within the mineralisation wireframes that were adjusted prior to compositing. These adjustments are immaterial to the reporting of

Criteria	JORC Code explanation	Commentary					
		the grade in the Mineral Resource estimate, but may affect future waste characterisation studies.					
			Upper Detection	on Limits (UDL)	Lower Detection Limits (LDL)		
		Analyte	Value	Percent within domain changed	Value	Percent within domain changed	
		Magsus	-	-	-	-	
		SiO <sub>2</sub>	-	-	-	-	
		Al <sub>2</sub> O <sub>3</sub>	25.46	0%	-	-	
		TiO <sub>2</sub>	-	-	0.1/ 0.01	11%	
		Mn	-	-	0.0387	0%	
		CaO	4.665	4%	0.05	3%	
		PXRF	1.15, 0.13	0%	0.03	16%	
		SXRF	7	2%	0.05	2%	
		MgO	5.57	6%	0.1	0%	
		K <sub>2</sub> O	2.91	1%	0.2	10%	
		Zn	0.122	0%	0.01	18%	
		Pb	0.585	0%	0.03	15%	
		Cu	-	-	0.05	16%	
		Ва	-	-	0.1	17%	
		As	0.15	2%	0.05/0.001	21%	
		Ni	-	-	0.001/0.01	26%	
		Na	2.597	1%	0.44514	9%	
		LOI1000	-	-	-	-	
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	The collar coordinates for the historical drill holes used in the Mineral Resource estimate were validated and located by a handheld GPS unit in WGS84 Zone 48N UTM format. Recent Fortress drill hole collars were located by DGPS in WGS84 Zone 48N UTM format. The accuracy of the survey data is +/- 150 mm. The survey was carried by Hisham Ab. Rahman who is supervised by Fong Ah Meng, Project Manager. Downhole surveys were completed by Fortress staff after drilling, using a Reflex GyroSmart in an open hole.					

Criteria	JORC Code explanation	Commentary
		Within the drilling and current mining areas, topographic survey control is carried out on an as-required basis by Fortress staff. In 2019, Fortress improved the accuracy and efficiency of topographic control by purchasing a DJI MATRICE 210 RTK drone fitted with a DJI ZENMUSE X4S camera. The surveys are flown on 30 m spaced lines using a 70% side overlap ratio and 80% front overlap ratio. Fortress used 12 Ground Control Points (GCPs) over the survey area to further improve accuracy. Fortress estimates the accuracy of the horizontal positioning is +/- 0.10 m to 0.50 m and the vertical positioning is +/- 0.25 m to 0.5 m. Agisoft Metashape Professional Version 1.5 software is used to process the data and create images, 3D digital elevation model (DEM) and contours. The DEM is collated in AutoCAD software with the processed data supplied to SRK as a triangulated 3D digital terrain model (DTM) in DXF format.
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to</li> </ul>	The drill coverage is variable both between and within individual deposit areas, but the nominal spacings for each area are as follows:
	establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	<ul> <li>West area: 20–40 m spaced holes on 15–20 m section lines. Most holes are angled as 60° to west. In the south of the West area, approximately 25% of the holes are drilled sub-parallel to the strike of the mineralisation.</li> </ul>
	Whether sample compositing has been applied.	Valley area: 2 to 4 holes on a drill pad with 7 drill pads spaced 25 m apart. Holes are drilled in an arc from WSW to WNW and angled between 60° and 70°.
		• East area: 10–40 m spaced holes on 20 m section lines. Most holes are angled as 60° to north.
		At the West area the intersection of the mineralisation in the top 15–20 m was adequate to define the vein continuity between each section and is considered appropriate for the Mineral Resource classification applied. In the other deposit areas and at depth in the West area, due to the steep dip of the mineralisation and capacity of the drill rig, the intersection of the mineralisation at depth was often at every second or third drill line, which is reflected in the Mineral Resource classification applied.
		A 1 m composite size was selected, as it is consistent with the original sample length for most of the data and considered to be appropriate for both the model cell dimensions and the interpreted mineralised zone thicknesses. The composite interval was slightly increased or reduced at vein boundaries to prevent the creation of residuals or the composites spanning domain boundaries.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The mineralisation in the three areas is interpreted as steeply dipping veins. The sampling, for most of the drilling, has been done across the mineralisation from footwall to hanging wall, and as such no bias was observed.
goologisa. oa astaro	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	25% of the drilling in the south of the West area has been drilled parallel to strike resulting in some drill holes starting and/ or ending in mineralisation.

Criteria	JORC Code explanation	Commentary
Sample security	The measures taken to ensure sample security.	Samples were transported from drill rig to laboratory by site geologists for logging and sample preparation. Samples sent to Bureau Veritas (Perth) were sent via registered international carrier.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	SRK has been associated with the drilling program since mid-2017 and has supplied Standard Operating Procedures; however, SRK is not aware of any further independent reviews or audits of the data collection procedures.

#### Section 2 Reporting of Exploration Results

Criteria		JORC Code explanation	Commentary
Mineral tenement and land tenure status	•	including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The Project comprises two granted mining leases (ML4/2013 and ML7/2013).  Fortress is the lessee of the mining leases and holds the Mining Rights to the leases under an agreement dated 10 April 2016, which expires in 2033.  There are no material issues, overriding royalties, native title or environmental constraints on the Project which may be deemed an impediment to the continuity of the Project.
Exploration done by other parties	•	Acknowledgment and appraisal of exploration by other parties.	Exploration and mining have been carried out in the area since iron ore mineralisation was first identified by the Japanese in 1916. At its peak in the 1930s, a local labour work force of 3,000 was engaged in the Nippon mining operations. Mining was undertaken on a series of benches connected by several inclined endless rope haulage ways. Over 100 miles of narrow-gauge rail lines were laid on the benches to facilitate transportation of the ore to the inclined haulage ways.
			Production progressed at a rate of 1 Mtpa at an unknown grade until 1941 when the Malaysian Government froze all Japanese credits in West Malaysia and placed an embargo on exports of iron ore. After the war, the Bukit Besi property rights, stockpiles, and equipment were acquired by Eastern Mining and Metals Company Limited (EMMCO) and by 1965 EMMCO had mined 36.5 Mt at 63% Fe from the Bukit Besi area.
			During the communist years, the mine and refinery were abandoned, and it was not until 2009 that the Terengganu Government announced that it had approved the appointment of a number of companies to revive mining at Bukit Besi.
			Modern exploration commenced in 2012 with Perwaja Steel Sdn Bhd commissioning the Geophysical Prospecting Brigade of Sichuan (2012) to carry out regional ground magnetic and radiometric geophysical surveys. Perwaja drilled 28 RC and 13 DD core holes targeting the areas of high magnetic intensity.
			Fortress (formerly known as Webcon Sdn Bhd) was awarded the Mining Rights in 2017 and began construction of an onsite processing plant incorporating in-pit coarse cobbing with magnetic separation, crushing milling and grinding circuit, three-stage magnetic separation, reverse flotation and a rotary drier to produce a magnetite concentrate at 80% passing 75 µm at a grade of approximately 65% Fe. Shipments from the Fortress operation in 2018 have typically been in the order of 30,000 tpm.
Geology	•	Deposit type, geological setting and style of mineralisation.	The Project is located in the easternmost of the three longitudinal belts that divide the Malay Peninsula. The Eastern Belt is largely underlain by Carboniferous and Permian clastics and volcanics. A phase of regional metamorphism, folding and uplift probably occurred in the late Palaeozoic, followed by deposition of an older series of continental deposits. The panpeninsula late Triassic orogenic event uplifted the Eastern Belt. This was followed by

Criteria	JORC Code explanation	Commentary
		deposition of a younger series of continental deposits which are only gently dipping and were probably uplifted in the late Cretaceous.  The mining area straddles the contact between Palaeozoic sediments and granite which is
		presumed to be of late Cretaceous age. Granite tongues have invaded the sediments for up to 100 m beyond the main line of the irregular contact. Additionally, blocks of shale have been caught up and lie within the body of the granite.
		Almost all the magnetite skarn mineralisation at Bukit Besi occurs as replacements in the sediments along or within 100 m of their contact with the granite. Magnetite and haematite replacement can also be seen within the granite. Here, fragments of altered sedimentary rock in this ore suggest that the ore has completely replaced bodies of shale engulfed by the granite. The orientation of the mineralisation is controlled by NESW, NWSE and NS controlling structures.
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:</li> </ul>	No exploration results are reported.
	easting and northing of the drillhole collar	
	<ul> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar</li> </ul>	
	dip and azimuth of the hole	
	downhole length and interception depth	
	hole length.	
	<ul> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> </ul>	No exploration results are reported.
	<ul> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> </ul>	
	<ul> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.</li> <li>If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	No exploration results are reported.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.	See body of the report for the relevant plan and sectional views.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Not applicable as no exploration results are reported.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	<ul> <li>In October 2017, Petroseis Sdn Bhd (Petroseis) undertook a ground magnetic and radiometric survey over the Project area. Petroseis identified four prospective magnetic targets using the following techniques:</li> <li>Comparing the Analytical Signal and Reduced to the Equator filtered magnetic data to determine areas of higher concentration of magnetic rocks</li> <li>Analysing the radiometric data distribution using bivariate plots of eThorium vs Potassium and eThorium vs eUranium to determine groupings of major rock types.</li> <li>SRK notes that deleterious elements are considered to lie within the bounds of the product specification. Concentrations of deleterious material in the concentrate are considered minimal and no shipments have been rejected on this basis. The presence of deleterious elements is therefore not considered material.</li> </ul>
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale stepout drilling).  Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Fortress is continuing Mineral Resource infill drilling in the Bukit Besi Mining Area to increase confidence and evaluate exploration drilling on known magnetite skarns in the district.

#### Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	Data logging was completed in MS Excel templates using standard logging codes on laptop computers.  Data was validated for internal database integrity as part of the standard database compilation process completed by SRK.
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	The Competent Person visited the site in August 2018 and has also relied on detailed descriptions of the field activities and geology provided by SRK consultant Bert De Waele, who visited the site late 2017.
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> </ul>	The geological interpretation is considered consistent with datasets, as well as with the broadly accepted understanding of the local geology. Estimation domain definition was primarily based on geochemical and magnetic susceptibility data, with boundaries generally defined by distinct changes in magnetic susceptibility, Fe%, SiO <sub>2</sub> % and TiO <sub>2</sub> %.
	<ul> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	Domain geometry was observed to be relatively consistent and predictable over the extents of the drill coverage, with reasonable continuity between drillholes, although pinching and swelling of the veins was evident in both down dip and along strike directions. In places, continuity was extended between drillhole intersections and the maximum range of statistical continuity that was observed in the variograms.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The Mineral Resource is contained within three deposit areas:  West area: Six mineralised veins with a strike length of 350 m, a combined width of 75 m and extending sub-vertically from surface for 90 m.  Valley area: The main mineralisation at valley has an average strike length of 175 m. The veins are thinner (approximately 5 m) at surface and in the north.  Closer to the southern granite contact they are 25 m wide at surface, with the western vein bulging to 100 m wide at depth. The three new veins interpreted northeast of the main Valley mineralisation strike at N560E and dip steeply to the southeast. The veins vary in true thickness between 8 m and 15 m.  East area: Eight mineralised veins with an average strike length of 200 m, average width of 5 m and extending vertically from surface for 100 m.
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen, include a description of computer software and parameters used.	The Mineral Resource estimates were prepared using conventional block modelling and geostatistical estimation techniques – Ordinary Kriging (OK).  A single model was prepared to represent the defined extents of the mineralisation. The resource modelling and estimation study was performed using Datamine Studio RM and Supervisor.  Kriging neighbourhood analyses (KNA) studies were used to assess a range of parent cell dimensions, and a size of 5 × 5 × 5 m (XYZ) was considered appropriate

Cuitorio	IOPC Code avalenation	Commontoni
Criteria	JORC Code explanation     The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	Gommentary  given the drill spacing, grade continuity characteristics, and the mining method.  Sub-celling at 1.0 m × 1.0 m × 2.5 m (XYZ) was used so that interpreted domain volumes were accurately represented.
	<ul> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.</li> </ul>	The original sample data were downhole composited to 1 m intervals. Probability plots were used to assess for outlier values, and grade cutting was not considered necessary.  The parent cell grades were estimated using ordinary block kriging. The domain wireframes were used as hard boundary estimation constraints. Search orientations and weighting factors were derived from variographic studies. A multiple-pass estimation strategy was invoked, with KNA used to assist with the selection of search distances and sample number constraints. Extrapolation was limited to approximately half the nominal drill spacing.  Although the formal Mineral Resource statement only declares estimates for iron, the model contains local estimates for an additional 18 constituents that may be of interest for other discipline studies (including mining, processing, environmental, and marketing studies).  Model validation included:  Visual comparisons between the input sample and estimated model grades  Global and local statistical comparisons between the sample and model data  An assessment of estimation performance measures including kriging efficiency, slope of regression, and percentage of cells estimated in each search pass.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The resource estimates are expressed on a dry tonnage basis, and in situ moisture content has not been estimated. A description of density data is presented below.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The Mineral Resource is reported at a combined cut-off of greater than 100 magnetic susceptibility and greater than 10% Fe and less than 10% S. The magnetic susceptibility value is coincident with the value used to define the mineralised domains. The Fe% and S% cut-off values result in average grades consistent with current production feed material.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	Mining is underway at the Project using a conventional open pit truck and shovel technique. The current 5-year mine plan allows for 5% ore loss and 15%–18% dilution as applied to the Mineral Resource estimate.

Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	In lieu of data support from recovery testwork, analytical results from sampling undertaken over a 7-month period from August 2018 from Fortress's crushing and milling facilities at the existing mining operation were used to derive a milling head grade of 39%.  The current mining operation typically produces between 15,000 and 25,000 wet metric tonnes (wmt) of iron ore concentrate, where material is being sourced from the resource area. This is considered to demonstrate reasonable prospects for eventual economic extraction.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	The current operation has all necessary environmental permits and licences and no significant environmental constraints are envisaged.
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	The dry bulk density dataset was derived from 300 water immersion tests performed on 15 cm core fragments collected from 21 diamond core holes. SRK evaluated the selection of the core samples using core photographs and deemed they were biased towards more competent material. Based on the statistical review and eliminating outliers, the following densities were assigned to the mineralised domains based on a weathering surface wireframe using logging data:  • Weathered – 3.4 g/cm³  • Fresh – 3.7 g/cm³.
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>The Mineral Resource classifications have been applied based on a consideration of the confidence in the geological interpretation, the quality and quantity of the input data, the confidence in the estimation technique, and the economic viability of the material. The following points are considered:</li> <li>The mineralised domains show continuity between drillhole sections even though the drillhole spacing often does not allow for the intersection of all the steeply dipping veins on each section. This could result in the distance between drillhole intersections for individual veins being at the extent of the variographic ranges of up to 90 m.</li> </ul>

Criteria	JORC Code explanation	Commentary
		It is considered that adequate QA data are available to demonstrate that the Fortress dataset is sufficiently reliable for the assigned classifications, although biases were evident and errors apparent.
		The lack of representative metallurgical testwork, such as Davis tube recovery (DTR) (so that the iron head grades can be converted to a recoverable concentrate), is of concern. However, production reconciliation data for the last 7 months have been used to validate grade and recovery contained within the West pit block model in proximity to the Indicated classified material.
		The model validation checks show a good match between the input data and estimated grades, indicating that the estimation procedures have performed as intended, and the confidence in the estimates is consistent with the classifications that have been applied.
		Based on the findings summarised above, it was concluded that the controlling factor for classification is sample coverage. A Mineral Resource classification boundary was defined on the long section for each area. The extents were nominally set at 10 m past the last mineralised intercept that was captured in the wireframes. The down-dip extents were constrained to within the drill coverage; although the spacing between intercepts along strike at depth were occasionally at the very extents of demonstrated grade continuity.
		All vein model cells within the defined extents were initially assigned a classification of Inferred Mineral Resource. Confidence in the Indicated Mineral Resource classification assigned at the West area is supported by the production grade data provided Fortress and the continuity of the mineralisation near surface as observed during mining. The boundary for the Indicated Mineral Resource classification was set to a maximum of 10 m below the 29 February 2019 pit surface.
		The final resource models contain the model cells for vein material that has been assigned a Mineral Resource classification.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	No independent audits or reviews have been conducted on the latest Mineral Resource estimates; however, SRK has internally completed a peer review on the Mineral Resource estimates.
Discussion of relative accuracy/ confidence	Where appropriate, a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.  The statement should specify whether it relates to global or local	The Mineral Resource estimates have been prepared and classified in accordance with the JORC Code guidelines, and no attempts have been made to further quantify the uncertainty in the estimates.  The largest sources of uncertainty are related to the confidence in the geological models (particularly at East area) and the lack of a robust reconciliation system.  The resource quantities should be considered as global estimates only.  The accompanying models are considered suitable to support global mine planning studies, but are not considered suitable for detailed production planning, or studies that place significant reliance on the local estimates.
	I he statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should	that place significant reliance on the local estimates.

Criteria	JORC Code explanation	Commentary
	be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	

SRK Consulting Distribution Record

## SRK Report Client Distribution Record

Project Number: WEB007

Report Title: Bukit Besi Iron Project Mineral Resource Update – 29 February 2020

Date Issued: 13 February 2020

Name/Title	Company
Mr Mun Fey Ng	Fortress Mining Sdn Bhd

Rev No.	Date	Revised By	Revision Details
0	03/02/2020	Leesa Collin	Draft Report
1	13/02/2020	Leesa Collin	Revised Draft Report

This Report is protected by copyright vested in SRK Consulting (Australasia) Pty Ltd. It may not be reproduced or transmitted in any form or by any means whatsoever to any person without the written permission of the copyright holder, SRK.