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Segele scoping study

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Report Details:

Issuing Organisation

Company Name	Akobo Minerals AB (publ)
Company Registered Address	Sodra Allégatan 13 41301 Gothenburg Sweden
Company Organization Number	559148-1253
Project Name	Segele
Chief Executive Officer	Jørgen Evjen
Chief Operating Officer	Matt Jackson
Chief Exploration Manager	Johan Sjöberg
General Manager	Tesfaye Medhane

Report Details

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Author Details

Coordinating Author Competent Person (Exploration Results)	Dr Matthew Jackson BSc PhD MAusIMM(CP)	Akobo Minerals AB
Contributing Author and Competent Person (Mineral Resources)	Michael Lowry BSc Hons (Geology), GCert (Geostatistics), MAusIMM	SRK Consulting (Australasia) Pty Ltd
Contributing Author and Competent Person (Mining Engineering)	Prof Steven Rupprecht PhD (Mech Eng), (BSc Mining Eng.), Honorary Life Fellow SAIMM	Borrego Sun Pty Ltd
Contributing Author and Competent Person (Chemical Engineering)	John Derbyshire BSc Eng (Chem), Pr Eng, FSAIMM	Goshawk Network Technologies CC
Contributing Author and Competent Person Environment, Social and Governance)	Dr Cathryn MacCallum MSc(econ) CEnv, CSci FIMMM	Sazani Research and Development Ltd
Peer Reviewer	Robert Urie BE (Hons) Mining, GCert (Applied Finance), FAusIMM	SRK Consulting (Australasia) Pty Ltd

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The Scoping Study referred to in this report is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised. An "Inferred Mineral Resource" has a great amount of uncertainty as to its existence and as to its economic and legal feasibility. It cannot be assumed that all or any part of an "Inferred Mineral Resource" necessarily be upgraded to a higher category.

1 Executive Summary

Akobo Minerals AB (publ) ("Akobo Minerals"), is a Norway-based gold exploration company, currently with ongoing exploration in southwest Ethiopia. Akobo Minerals holds an exploration license over key targets in the area. Mineralisation was discovered in several locations and the company is engaged in mining studies to advance the project to production, alongside exploration core drilling. At the highest priority targets, Segele and Joru, the company has so far released high-grade gold results including the Segele deposit with an Inferred Mineral Resource of 78ktonnes at a grade of 20.9g/t. Core-drilling and trenching at Joru have intersected both high-grade gold zones and large wide zones near surface.

The Akobo gold project is located in the Gambela region, Dima Woreda and south of the Akobo River, roughly 720 km SW from the Ethiopian capital Addis Ababa. The project area currently covers 182 km^2 of highly prospective geology within the Arabian-Nubian Shield. The area is considered as lowland by Ethiopian standards, the elevation varies between 600 and 800 meters above sea level and is made up of a gently rolling savanna landscape.

The Akobo Project is hosted by the Western Ethiopian Shield (WES) which is an ancient mining region that has been largely ignored by modern exploration. The WES shield has hosted small-scale and artisanal mining for many hundreds of years in places such as Yubdo and Nejo further to the North. Since the 1990's the only successful exploration project in the WES has been the Tulu Kapi project (approximately 300km to the North). Tulu Kapi has inferred and indicated resources of 1.7 million ounces (grade of 2.65g/t) within the same orogenic belt as the Akobo project.

With a local team of over 38 staff in Ethiopia and only 3 located in Scandinavia, Akobo Minerals is entirely focused on Ethiopian operations and has over 10 years' experience of work in the field area. Akobo Minerals geologists were responsible for the Segele discovery and the project and license area is surrounded by several high-priority exploration targets.

The engineering work contained in this Scoping Study covers only mineralization which has been subject to the Mineral Resource Estimate (SRK, April 2021). The Segele mineralisation is open at depth and likely to be extended. For information about the other exploration targets under investigation, the reader is referred to the Competent Persons Report (Jackson et al, 2019) and press releases on www.akobominerals.com.

The April 2021 Segele Mineral Resource estimate has been prepared and classified in accordance with the guidelines of the *Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves* (the JORC Code, 2012 edition) by Mr Michael Lowry who is a member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of SRK Consulting (Australasia) Pty Ltd. Mr Lowry has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC Code (2012).

A summary of the Segele Mineral Resources as at 6 April 2021 is presented in Table .

Table 1: Segele Gold Deposit Mineral Resource Estimate as at 6 April 2021.

Classification	Cut-off (Au g/t)	Ktonnes	Au (g/t)	Au ounces
Measured	≥0.5	0	0	0
Indicated	≥0.5	0	0	0
Inferred	≥0.5	78	20.9	52,410
Total	≥0.5	78	20.9	52,410

It is considered that an incline shaft is the most appropriate method to access the Segele orebody. After 11 months of incline development, mining will begin with either shrinkage stoping, post room and pillar, narrow vein stull mining, or cut and fill depending on the dip and orientation of the orebody. For the purposes of this study shrinkage is assumed to be the mining method of choice. Tonnages are expected to ramp up from 998 tpm to a production peak of 5,681 tpm. The current

Segele mineralisation demonstrates a life of the mine which is completed in approximately 27 months.

Run-of-mine mineralised material will be delivered to a comminution system and then to a gravity recovery circuit to target the coarse gold mineralogy followed by a CIL circuit for the full gravity tails to recover the finer grained gold. The plant will have a capacity of 20tph when operated continuously but for this study it is planned to operate at 50% capacity, thereby allowing considerable time for maintenance in addition to potential to increase production later. A modular design will allow for bolt-on processes (for example flotation) to allow for more complex gold deportment.

Akobo Minerals plans to actively contribute to the United Nations Sustainable Development Goals (SDGs). ESG consultant, Sazani Research and Development (Sazani) has carried out a preliminary stakeholder analysis and have developed an early-stage stakeholder engagement plan to facilitate effective engagement with stakeholders from the outset Akobo Minerals. Operations at Segele will require an Environmental and Social Impact Assessment (ESIA) and additionally, Sazani are planning a Sustainable Natural Resource Management Plan (SNRMP). Both the ESIA and SNRMP will be aligned with good international industry practice (GIIP). The SNRMP has an additional benefit in that through the development and implementation of a payment for ecosystem services process, environmental rehabilitation and stewardship will be monitored and used to generate carbon credits that will be traded to generate sustainable income and potentially offset the carbon cost of the Segele Project.

This scoping study estimates the capital expenditure to be USD $8.04m which includes a total contingency of USD $1.3m. Akobo Minerals considers capital expenditure to be all costs incurred up to the first production of ore from underground and the completion of commissioning of the plant.

After the completion of the ramp up period, monthly operating cost is estimated to be USD $312,072 with a unit cost of USD $87 per tonne mined. At a run-of mine (ROM) head grade of 20g/t, the unit cost is considered to be USD $137 per ounce produced and USD $242 per ounce including 7% royalties (at a sales price of USD $1500 per ounce).

Table 2: Segele scoping study key metrics.

Metric	Figure	Notes
Inferred Mineral Resource	78ktonnes@ 20.9g/t 52,410oz	SRK MRE 6th April 2021.
CAPEX	USD $8.042m	Factored. Including USD 1.2m contingencies.
Total LOM OPEX	USD $87 / tonne	
Total LOM OPEX (without royalties)	USD $137 / ounce	
Total LOM OPEX (including royalties). All in Sustaining Costs (AISC)	USD $243 / ounce	Factored. 7% royalties at 20g/t and 1500 USD $/oz
Plant Head Grade	20g/t	Factored from dilution
Underground Development Time	12 months	Stoping commences in month 11.
Production Rate	5,800 tonnes per month	At peak production
Metallurgical Recovery	90%	Assumption
Extraction Rate	81%	
Dilution	5%	
Ore Loss	8%	
Plant Throughput	10-20tph	

Acknowledgements

Akobo Minerals and Etno Mining Plc consider our success is shared by the people of Ethiopia and our local communities. With that in mind we would like to recognize the valuable ongoing support which we receive from the following:

Ministry of Mines and Petroleum (MoMP)	His Excellency Eng. Takele Ouma
	Her Excellency Mrs. Simegn Wube
Mines and Petroleum License Contract Administration Directorate, Ministry of Mines and Petroleum	Mr. Abebe Bedasa
Mineral Operations Licensing Directorate, Ministry of Mines and Petroleum	Ms. Yewubdar Mulatu
Gambella People National Regional State	Mr. Omod Ojulu
	Mr. Thangkwey Jock
Gambella Regional Mineral and Energy Resources Agency	Mrs. Akwata Cham
	Mr. Koang Reit
Gambella People National Regional State Peace and Security Bureou	Mr. Thomas Tut Puk
Gambella People National Regional State Labor and Social Affairs Bureaou	Mr. Ojulu Ojulu
Anywaa Nation Zone Administrative Council	Mr. Ojulu Odol
Anywaa Nation Zone Water, Mines and Energy Department	Mr. Joro Omod
Anywaa Nation Zone Peace and Security Department	Mr. Omod Obang
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Dima Woreda Water, Mines and Energy Development Office	Mr. Odolla Oboya
Dima Woreda Peace and Security Office	Mr. Cham Ojulu
Chamo Kebele Administrative Council	Mr. Ojulu Okogo
	Mr. Arega Mekuria
Chamo Kebele Peace and Security Office	Mr. Paacbeer Tepery
Joru Kebele Administrative Council	Mr. Opiew Didumu
Joru kebele Peace and Security Office	Mr. Gnigwo Ojwato

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3 Introduction

3.1 The project

After more than 10 years of mineral exploration, the Segele deposit was discovered by geologists from Akobo Minerals' subsidiary Etno Mining Plc (ETNO), a combined Norwegian, Ethiopian enterprise with a long history of activities in the Akobo region. Near surface mineralisation at Segele was exploited by artisanal miners at Segele between 2017 and 2019, core drilling began in early 2020 with widely reported bonanza intercepts. A maiden Mineral Resource Estimate by SRK (Australasia) Pty Ltd was published in April 2021, upon which this scoping study is based.

Akobo Minerals owns 99.97% of the Akobo project through its Norwegian and Ethiopian subsidiaries. The Segele project lies within an exploration license covering 182 km^2, situated in the far southwest of Ethiopia. In Ethiopian terms it is a lowland area, about 600-800 meters above sea level, of gently rolling savannah landscape, semi-arid with a gentle rainy season June-November, and temperatures reaching 40 °C during the hottest, dry periods. The distance from Addis Ababa to the Akobo camp is about 710 km by road, the last 30 km by dirt track.

The southwestern Ethiopian Precambrian basement hosts sub horizontal auriferous quartz veins within the NNW-SSE trending low grade volcano sedimentary and high grade gneissic rocks. NNW-SSE trending lineaments and rock foliations are the major structures which control the southwestern low-grade metamorphic belt and it is part of the major "Surma shear zone".

Exploration and artisanal mining has been underway in Western Ethiopia (e.g. Yubdo and Tulu Kapi) for many years during the last century, however most of the activity has been focused on projects more than 300km further north from Akobo. And although Akobo lies in the same geological province as Yubdo and Tulu Kapi, systematic exploration work only started at the very end of last century (1999). Akobo Minerals subsidiary ETNO Mining first undertook alluvial mining in 2007 and hard-rock exploration started in the subsequent years.

During the past exploration years' major exploration activities, including regional and detailed mapping, rock chip sampling, regional and detailed soil sampling, trenching, ground magnetic geophysical survey and over 32 Reverse-Circulation drill holes at four prospective target areas (Segele, Wolleta, Gindibab, and Joru) were implemented by ETNO Mining. Prior to 2018, drilling of 32 RC drilling boreholes was accomplished. The first core drilling program began in early 2020 and is ongoing at the time of writing.

During the period of ETNO's exploration work, artisanal miners have become established in the Akobo area and have developed both hard-rock and alluvial activities. In particular one large pit was established and subsequently abandoned at the Segele target where the associated mineralisation has been targeted by the diamond drilling reported here.

With a local team of over 38 staff in Ethiopia and only 3 located in Scandinavia, Akobo Minerals is highly focused on Ethiopian operations with key Scandinavian features. The local organisation has over 10 years' experience of work in the field area and a good relationship with local and regional administration and suppliers. With a small office in Addis Ababa, the field camp is being expanded and upgraded in order to support a higher intensity of operations.

Akobo Minerals has a large team of experienced gold exploration geologists in Ethiopia. The 8 geologists are supported by 5 drillers and a technical and support team of 15. The Group has access to its own fleet of Earthmoving equipment and a large database of partner suppliers.

All of the recent exploration on the Akobo Minerals project has been conducted by a local team of geologists and support staff. Currently more than 95% of Akobo Minerals' employees are Ethiopian nationals.

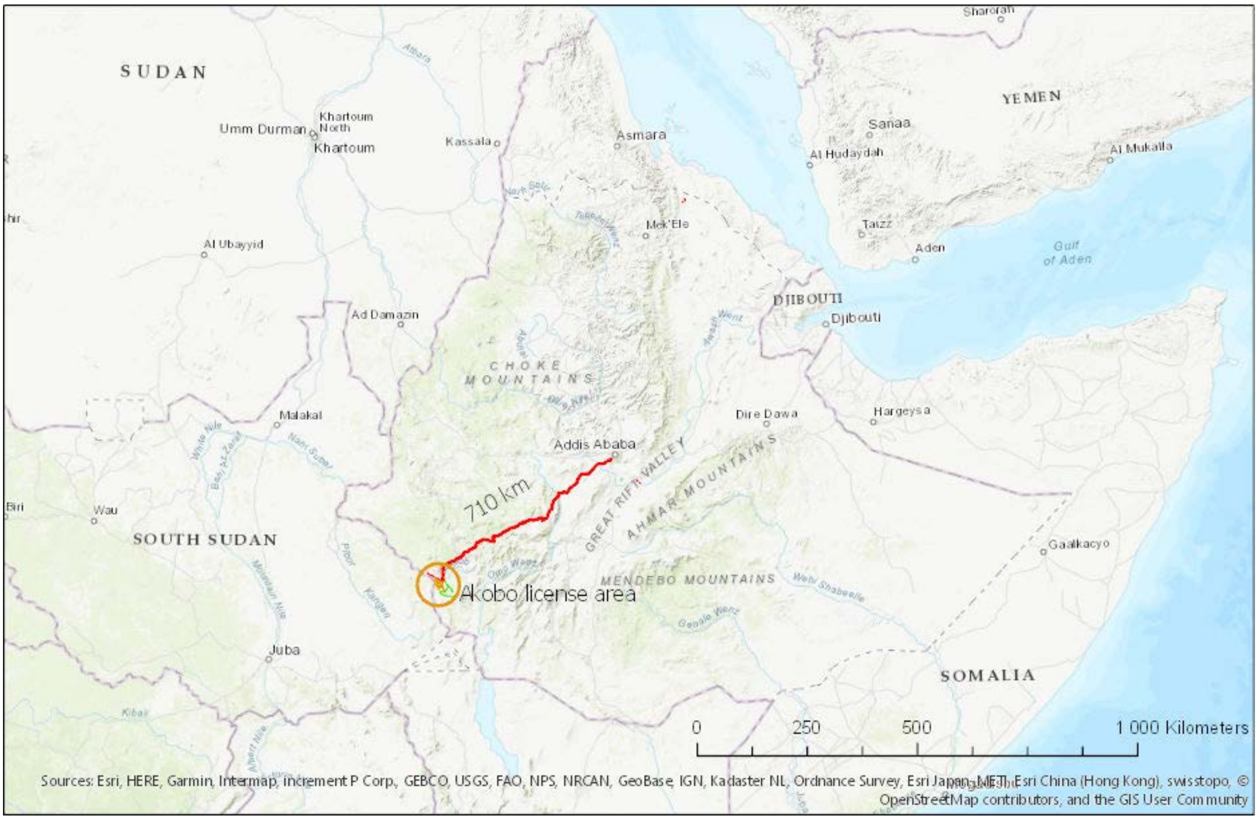


Figure 1: The Akobo Minerals' license area is situated in the southwest of Ethiopia, close to the South Sudan border. Driving distance to camp is about 710 km and takes nearly 2 days. Roads are tarred except for the last 30 km of dirt tracks.

3.2 Authors

This Scoping Study has been compiled by Akobo Minerals, but all specialist sections have been written by independent consultants. As outlined here:

3.2.1 Competent Person Mineral Resources. Michael Lowry – SRK Consulting (Australasia) Ltd. BSc Hons (Geology), GradCert (Geostatistics), MAusIMM.

Michael Lowry is a geologist with over 25 years mining industry experience in roles that have varied from mine operations, brownfields exploration, Mineral Resource estimation and technical auditing. He has worked on projects throughout Australia, Africa and South America and has experience with a number of commodities across varied geological environments including various gold systems, nickel, iron ore, polymetallic VMS and IOCG deposits. Michael has sound technical experience in and grade control and reconciliation systems for both open cut and underground mines and Mineral Resource estimation as well as conducting technical assurance reviews of proposed or operating mining operations.

Michael is a Member of the AusIMM and has the appropriate relevant qualifications, experience, competence and independence to be considered a 'Specialist' and 'Competent Person' under the VALMIN (2015) and JORC (2012) Codes, respectively.

3.2.2 Competent Person Mining Engineering: Professor Steven Rupprecht – Borrego Sun Pty Ltd. PhD (mech), BSc (Mining), Honorary Life Fellow SAIMM

Professor Steven Rupprecht, Owner and Principal Consultant Mining Engineering of Borrego Sun, conducted the mining site assessments during April 2021. Professor Rupprecht has 35 years' experience in the mining engineering field having worked in both the underground and opencast mining environment. For the past 18 years, Professor Rupprecht has been providing consulting services in a wide range of mining methods, minerals and mining countries, including advice to the artisanal and small-scale mining sectors since 2011. Professor Rupprecht has written over 70 technical papers in the field of mining engineering including artisanal and small-scale mining, mine design, mine access, mine logistics, material handling and Mineral Reserve estimation and reporting.

3.2.3 John Derbyshire. Competent Person Metallurgy – Goshawk Network Technologies cc, B.Sc. Eng. (Chem.), Pr Eng, Fellow SAIMM

John is a registered Professional Engineer and a Fellow of the South African Institute of Mining and Metallurgy. He and 45 years plant operational and project experience in senior positions in the zinc, gold, coal and platinum (including copper and nickel), Rare Earth and graphite industries. Operational companies included Zinc Corporation, Vlakfontein and Leeudoorn Gold Mines, Greenside Colliery, Northam Platinum, SouthernEra's Messina Platinum, Boynton Platinum   He currently consults privately as owner of his own company Goshawk Network Technologies.

Over the last twelve years he has consulted independently and jointly) for a number of ongoing minerals processing, hydrometallurgical and pyrometallurgical projects in the Platinum, Gold, Niobium, Graphite, Lithium, Vanadium, Zinc, Zircon and Rare Earth sectors, most notably Frontier Rare Earths Zandkopsdrift project which includes the program coordination, monitoring and interpretation and incorporation of metallurgical output from laboratories in Australia, Germany, Canada, USA, China and South Africa.

3.2.4 Competent Person Environment, Social and Governance: Dr Cathryn MacCallum-Sazani Research and Development, MSc(econ) FIMMM CEnv, CSci

Cathryn is is a natural resource governance specialist, with more than 25 years international experience in social performance and rural development across Africa and Europe. As both author and reviewer of technical reports, with demonstrable abilities in critical application of international standards, she regularly undertakes third party ESG Risk reviews of projects and their supply chains.

3.3 Scope of Report and Study Accuracies

As a listed company on the Euronext Growth stock exchange in Oslo Norway, Akobo Minerals is obliged to adhere to the reporting standards set down in one of the international reporting codes. Akobo Minerals has elected to use the Joint Ore Reserves Committee Code (2012 Edition). This document applies Good International Industry Practice wherever practicable, additionally, the mining engineering studies reported here have been conducted using the SME Mining Engineering Handbook, 3rd Edition, 2011. This series of codes and standards are internationally accepted as suitable basis for conducting studies and reporting of results.

This report is based on inferred mineral resources and scoping study level engineering studies and as such should not be considered to be a definitive assessment of revenue to be generated, or operating and capital costs.

An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes (JORC, 2012).

Mining engineering and metallurgy studies have been conducted at an accuracy level of 30 - 50% for both operating cost and capital expenditure.

Akobo Minerals has conducted successful mineral exploration in several targets within the licence area in addition to the Segele Project. This report covers only mineralisation which has been subject to the Mineral Resource Estimate (SRK , April 2021). For information about the other exploration targets under investigation, the reader is referred to the Competent Persons Report (Jackson et al, 2019) and press releases on www.akobominerals.com.

Table 3: Study Accuracies – Capital Cost Estimation

Capital Cost Category	Scoping Study	Prefeasibility Study	Feasibility Study
Basis of Estimate to include the following areas: • Civil/structural, architectural; • piping/HVAC; • electrical, instrumentation; • construction labour; • construction labour productivity; • material volumes/amounts; • material/equipment; • pricing; and • infrastructure	Order-of-magnitude, based on historic data or factoring. Engineering < 5 % complete.	Estimated from historic factors or percentages and vendor quotes based on material volumes. Engineering at 5 % -15 % complete.	Detailed from engineering at 15 % to 25 % complete, estimated material take-off quantities, and multiple vendor quotations
Contractors	Included in unit cost or as a percentage of total cost	Percentage of direct cost by area for contractors; historic for subcontractors	Written quotes from contractor and subcontractors
Engineering, procurement, and construction management (EPCM)	Percentage of estimated construction cost	Percentage of detailed construction cost	Calculated estimate from EPCM
Pricing	Free on Board (FOB) mine site, including taxes and duties	FOB mine site, including taxes and duties	FOB mine site, including taxes and duties
Owner’s costs	Historic estimate	Estimate from experience, factored from similar project	Estimate prepared from detailed zero-based budget
Environmental compliance	Factored from historic estimate	Estimate from experience, factored from similar project	Estimate prepared from detailed zero-based budget for design engineering and specific permit requirements
Escalation	Not considered	Based on entity’s current budget percentage	Based on cost area with risk
Accuracy Range	± 50 %	± 30 %	± 15 %

Source: *Modified from SME Mining Engineering Handbook, 3rd Edition, 2011, pages 300 and 301, Tables 5.1-1, 5.1-2 and 5.1-3.*

Table 4: Study Accuracies – Operating Cost Estimation

Operating Cost Category	Scoping Study	Prefeasibility Study	Feasibility Study
Contingency Range (Allowance for items not specified in scope that will be needed)	± 25 %	± 15 %	± 10 % (actual to be determined based on risk analysis)
Basis	Order-of- magnitude estimate	Quantified estimates with some factoring	Describes the basis of the estimate; detailed from zero-based budget; minimal factoring
Operating quantities	General	Specific estimates with some factoring	Detailed estimates
Unit costs	Based on historic data for factoring	Estimates for labour, power, and consumables, some factoring	Letter quotes from vendors; minimal factoring
Accuracy Range	± 35% to 50%	± 25%	± 15 %
Contingency Range (Allowance for items not specified in scope that will be needed)	± 25%	± 15%	± 10 % (actual to be determined based on risk analysis)

Source: *Modified from SME Mining Engineering Handbook, 3rd Edition, 2011, pages 300 and 301, Tables 5.1-1, 5.1-2 and 5.1-3.*

4 Reliance on Other Experts

From the start of the exploration program all activity was planned and executed under the supervision of geologists from ETNO Mining Plc, including Bezabh Tamene BSc and Alem Hailegebriel. From 2016 to early 2021 Morten Often was engaged to oversee and direct the exploration activities.

No in-person site visit has been undertaken by Michael Lowry (CP Mineral Resources) or John Derbyshire (CP Metallurgy). Michael Lowry performed a virtual site visit using video calling methods. Although a field visit by the competent person is justified at the current level of development, this report was written during the world-wide COVID-19 pandemic and hence international travel to Ethiopia was not possible. The health risks associated with a CP visit are being continually assessed and liaison with the Ethiopian government is ongoing. A CP site visit will be conducted as soon as possible. It was not considered necessary for the CP Metallurgy to perform a site visit at this Inferred Resources, Scoping Study stage.

5 Property Description and Location

The Akobo Gold Project is located in the South-Western part of Ethiopia approximately 710km by road from the capital Addis Ababa and within 20km of the border with South Sudan.

The Exploration Licence (MOM/EL/262/2002) covering the Akobo Gold Project is held by ETNO Mining Plc (ETNO) which is 99.97% owned by Akobo Minerals. The licence is renewed yearly, for up to three years duration after which time a mining licence is required for continued operation. The licence was renewed on 30 October 2020. The project is not subject to additional royalties or joint venture conditions other than those mandated by Ethiopian legislation.

The Exploration licence can be converted to a mining licence upon submission of an environmental and social impact assessment and a feasibility study to the relevant ministries. Akobo Minerals is undergoing discussions with the Ministry of Mines and Petroleum regarding the establishment of a Mining Licence.

The Akobo Gold Project has been divided into several prospects:

- Segele, previously referred to as the Shama Area, is the first of the two principle areas covered by exploration activities including soil sampling, trenching, and both reverse circulation and core drilling.
- Joru*is the second of the two principle areas covered by exploration activities including soil sampling, trenching, reverse circulation drilling and diamond drilling
- Wolleta*: Also includes Gindibab and has been explored by soil sampling and reverse circulation drilling.
- Nechdingay*: Has been explored by soil sampling and reverse circulation drilling.

*: Not covered in this report (See Jackson, 2019 and Press Releases on www.akobominerals.com)

Table 5 shows latitude/longitude coordinates of the Akobo Minerals' Exploration Licence for 2020/2021 and **Error! Reference source not found.** shows location map of the license area.

Table 5: Geographic coordinates of the present Akobo Gold Project License Area

Corner points	Easting			Northing		
	DEG.	MIN.	SEC.	DEG.	MIN.	SEC.
1	35	0	3.96	6	29	15.15
2	35	5	56.00	6	29	15.00
3	35	5	56.00	6	28	0.00
4	35	10	42.00	6	28	0.00
5	35	10	42.00	6	26	0.00
6	35	9	22.00	6	26	0.00
7	35	9	22.00	6	27	15.00
8	35	6	57.60	6	27	15.00
9	35	6	57.60	6	17	42.07
10	35	5	7.14	6	17	42.05

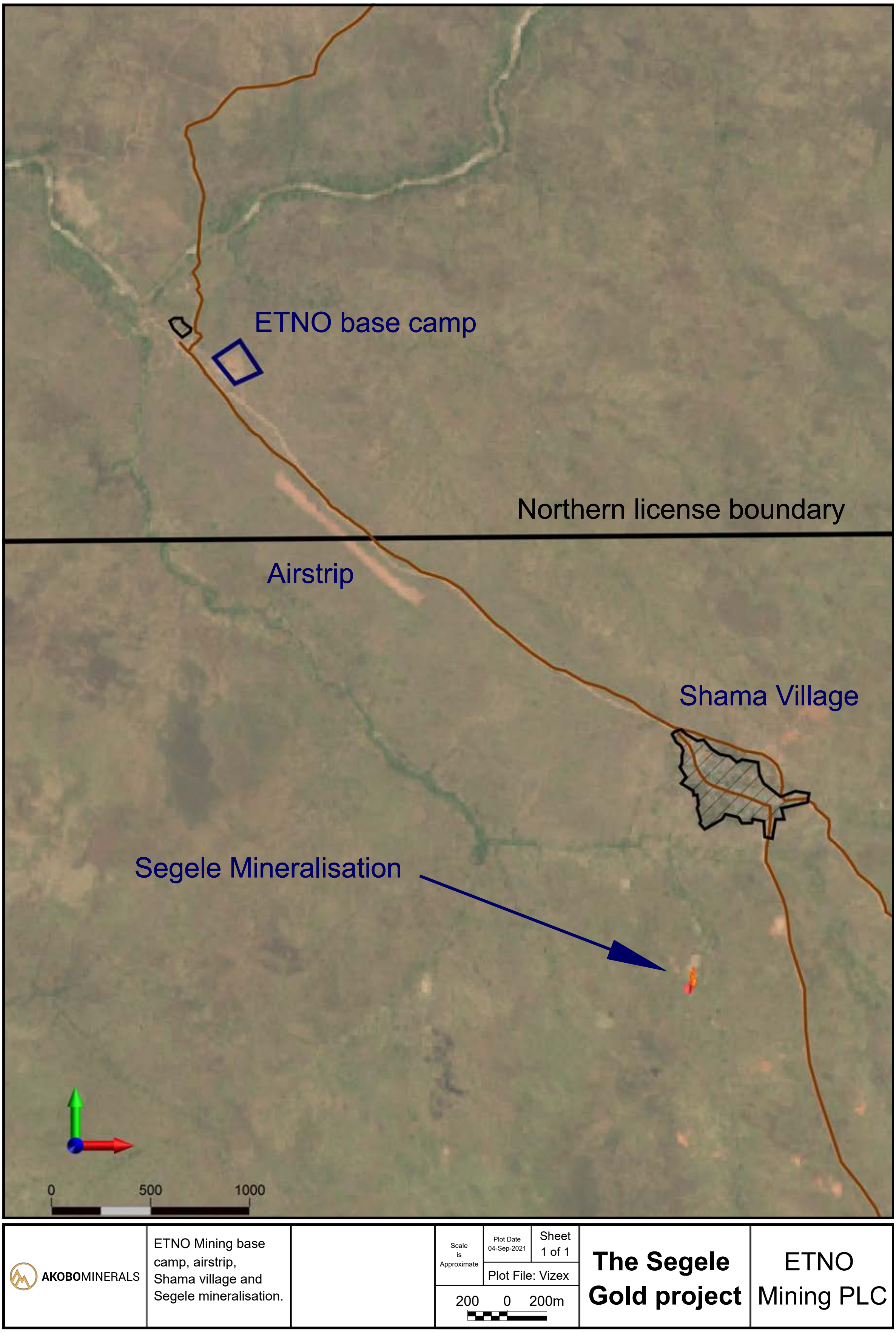


Figure 2: Segele mineralization, camp airstrip, Shama Village. True Colour basemap.

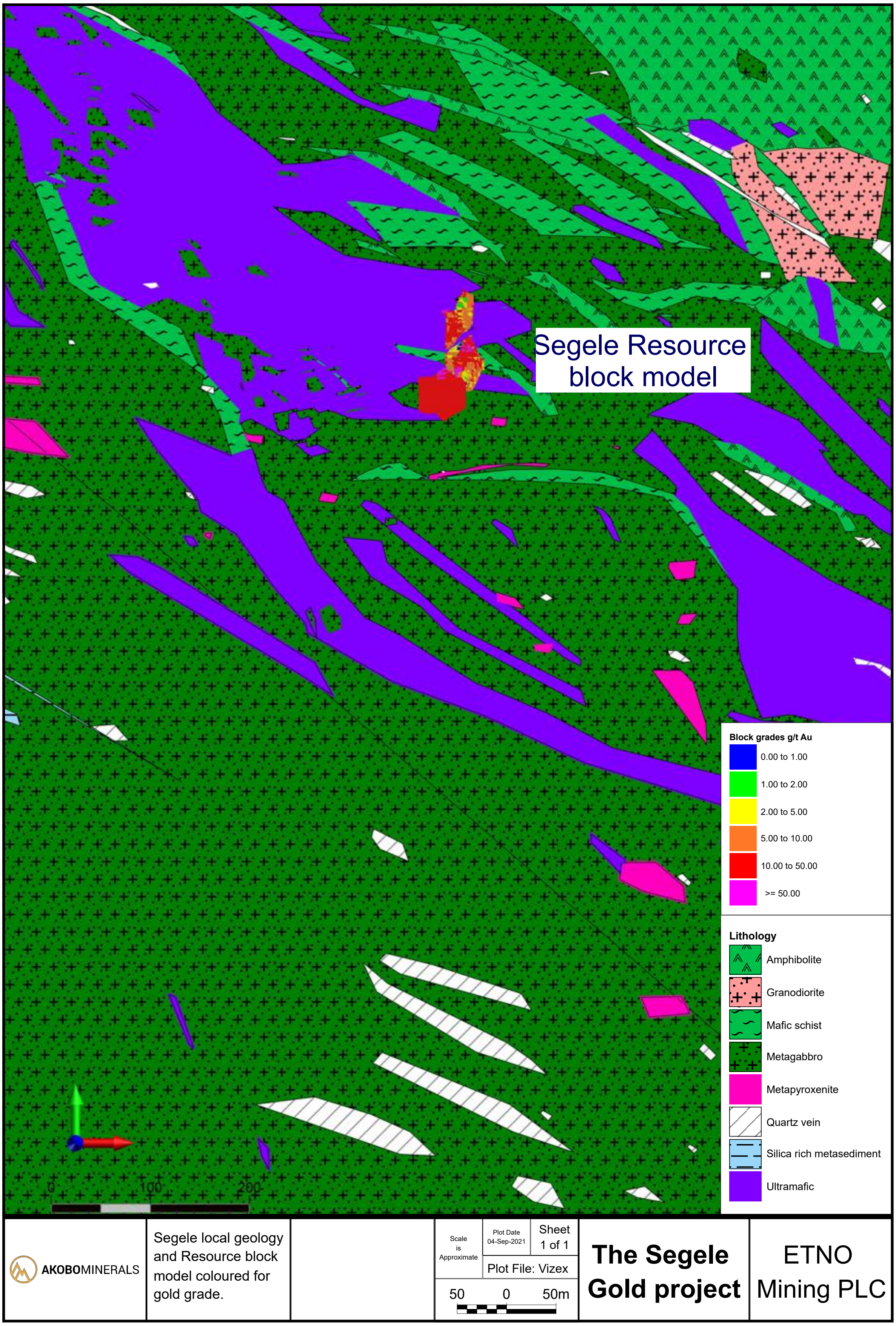


Figure 3: Segele mineralization and geology.

6 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The project can be accessed from the Ethiopian capital Addis Ababa by a drive of 1 ½ - 2 days. The regional administrative centre of the Dima Woreda is reachable in one days drive, situated at the end of the tarred main road from Addis Ababa to the border of South Sudan. Most of the 710km distance to site is covered by good quality tarred roads and the remaining distance is only accessible by 4x4 vehicle. The Akobo Minerals license area is accessible all year by 4x4 vehicle, although during the rainy season the tracks on the south side of Akobo river become more challenging to use. Since 2020, significant improvements to roads have been made, with many well maintained gravel roads available. The camp is accessible for most heavy goods vehicles. The main road north of the Akobo river is the main road from South Sudan to Ethiopia. The crossing near the camp is usable only possible in dry season.

The nearest serviceable airstrips are at Mizan and Tum, 83km in the NE and 80km in the SE, respectively.

Prior to 2007, the Akobo area was very thinly populated with people of the Surma and Anouak people. Shortly after ETNO Mining began work at Akobo, the artisanal mining activities escalated rapidly and now there are about a dozen mining villages with an estimated population of 20-30 000 inhabitants, coming from all over Ethiopia. These villages are reasonably well organized with local administration and trade. A small amount of farming is present on the licence area to serve the needs of the mining villages.

Ethiopia is well served by electricity generation capacity. Three hydroelectric power plants are located within 300km with a total capacity of 2200MW, with many more power plants in the vicinity of the capital. The Grand Ethiopian Renaissance Dam is expected to be operational within 5 to 15 years, with a planned capacity of 6000MW (The Economist, 2020) . Electric power lines are in process of being installed, and some of the villages in the license area are connected. Shama, the village nearest to the Segele Project is not yet connected, while Joru in the south is already connected. It is anticipated that the ETNO Mining camp will be connected to the main power grid within a short period, although the precise timing is impossible to predict.

High quality mobile telephone connection is available in the area and the ETNO camp is served by Satellite Internet (VSAT).

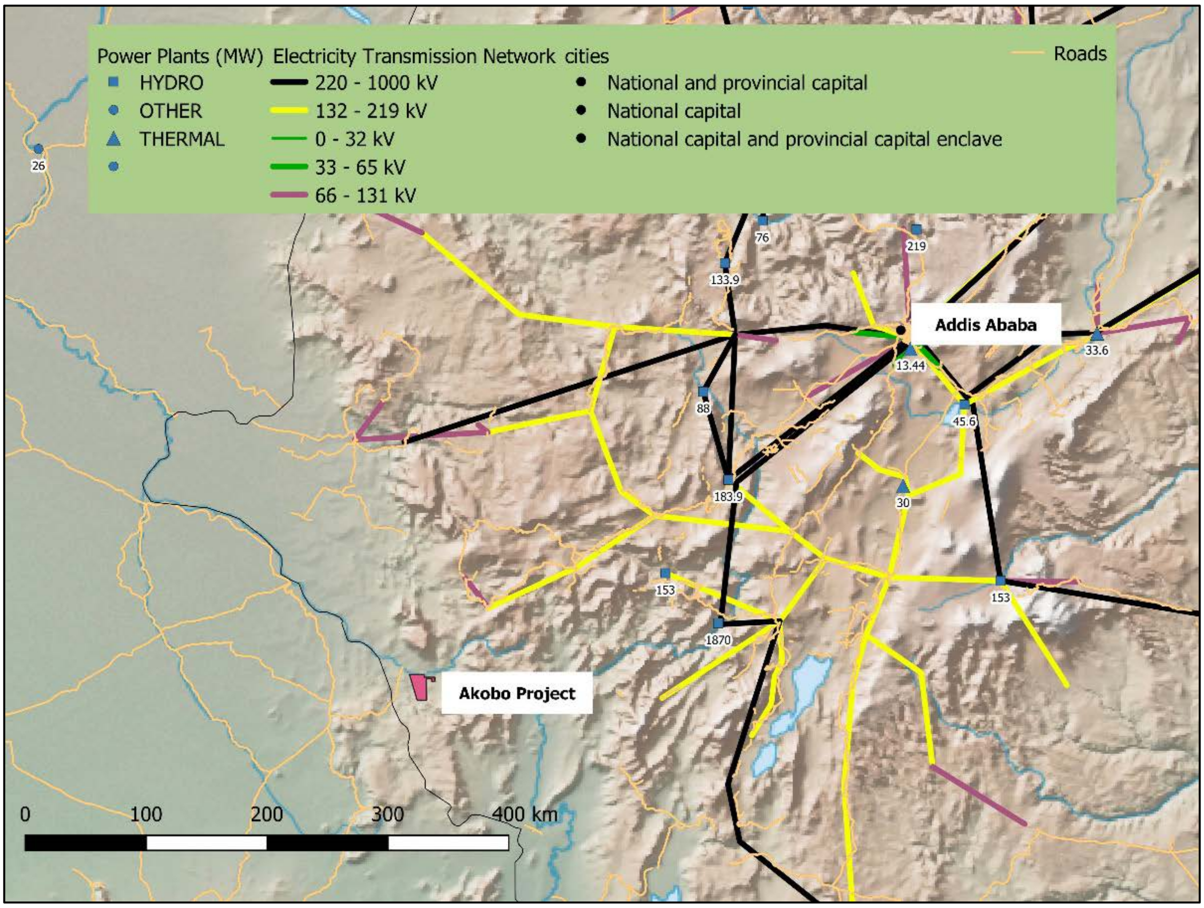


Figure 4: Map of South Western Ethiopia Including High Voltage Power Lines and Major Roads

7 History

The first documented information regarding placer gold potential of the Akobo River basin was completed by Companies Mineralia Ethiopia (Comina) – an Italian company – during prospecting investigations in 1939. Further exploration work was not conducted in the area until 1973–74 when a reconnaissance survey was undertaken by the Ethio-Canadian Omo River Project. The survey – mostly air-photo interpretation based – established the predominant structures and general geology of the Akobo Basin area that could be further pursued to test the potential of the area. This work led to later studies of the Akobo gold mineralisation (1980s) and the 'Akobo Precious and Base metal Exploration Project' (1992–1995) by the Ethiopian Institute of Geological Surveys (EIGS, later renamed Geological Survey of Ethiopia – GSE). The 1992–95 exploration project aimed to assess the mineral potential of the 1,500 km^2 area and estimate the previously reported placer potential of the Akobo River basin.

The earliest available documentation is a report of a regional geological-geochemical survey conducted in 1998–99 by Geodev Mineral and Water Resources PLC (a founder of ETNO). The survey included geological mapping at 1:50,000 scale and the collection of heavy mineral concentrates, stream sediment samples and rock chip samples.

ETNO Mining acquired an exploration and placer mining licence in the late 2000s and conducted a limited mapping and sampling campaign in 2010 before conducting more extensive exploration programs between 2011 and 2021.

8 Geological Setting and Mineralization

8.1 Regional geology and mineralisation occurrences

The Akobo region is characterised by a Precambrian belt of metamorphic rocks. These rocks constitute the southernmost part of the West Ethiopian Precambrian Greenstone Belt, a southern extension of the Arabian-Nubian Shield, and is known for many placer and volcanogenic gold deposits.

The Akobo Gold Project occurs within the Surma Shear Zone of the Akobo Greenstone Belt which is a north-northwest trending structural domain characterised by folded and sheared Neoproterozoic mafic schists, gneisses, ultramafic bodies, metasedimentary schists, marble and gneisses which have been intruded by late stage gabbro's and granitoids. Gold occurrences are broadly associated with areas of higher concentration of ultramafic bodies. Four prospect areas have been identified within the Akobo Gold Project; Segele, Joru, Wolleta and Nechdingay.

8.2 Segele deposit geology and mineralisation

The Segele deposit is dominated by metagabbro, serpentinite, a chloritic unit with coarse magnetite crystals, a strongly sheared talc-chlorite-tremolite-carbonate unit, and fine-grained magnetite bearing carbonate-talc unit with minor mafic and felsic dykes (Figure 5:). The Segele area has undergone a multistage ductile-brittle deformation resulting in pinch as swell structures. All the units are strongly sheared and boudinaged which has resulted in complex, irregular and discontinuous geological units and mineralised zones. Gold mineralisation is usually associated with carbonate-talc-magnetite alteration zones either within, or along the margins of the ultramafic units. The mineralisation is controlled by northwest–southeast shear movement which has created local dilatational zones oriented in an east–west direction which favoured precipitation of gold in narrow zones and pockets of intense shearing within the ultramafic and overlying mafic units.

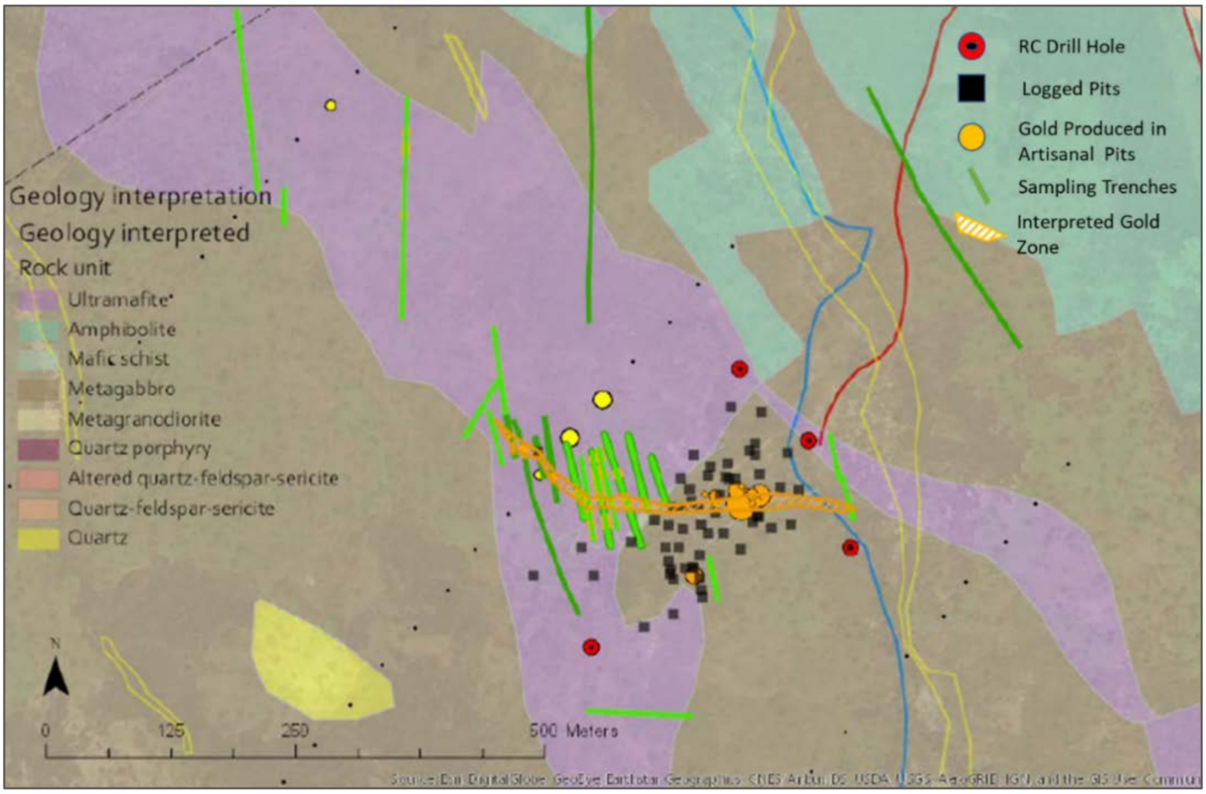


Figure 5: Segele deposit local geology

Artisanal mining activities escalated in the Akobo area shortly after ETNO Mining began working in the area in 2007, and there are now about a dozen semi-permanent mining villages with an estimated population of 20–30,000 inhabitants, coming from all over Ethiopia. The Segele deposit has undergone extensive artisanal mining activity, both from open pits and underground shafts, some as deep as 40 m. Government records suggest that approximately 1,000 kg of gold have been extracted from the site within less than 1.5 years in 2015/16 – this is supported qualitatively by the size of the mining-dedicated settlement nearby and the large extent of the workings.

9 Deposit Types

At the current stage of exploration and study, it is impossible to confidently assign deposit types to these mineral occurrences. The mineralisation at Segele is highly likely to be assigned as orogenic gold deposits, any further classification is elusive at present.

Ultramafic hosted gold (+/- Platinum-group element) deposits are widely known in industry and academia but not commonly mined or reported. One notably analogue for the mineralisation at Segele is the Pahtavaara deposit in Arctic Finland. Pahtavaara and Segele share the fact that free-gold mineralisation is hosted by ultramafics altered to carbonate/talc. Furthermore both deposits appear likely to be Neoproterozoic in age and contain both coarse grained and fine grained gold mineralisation. The hydrothermal alteration and the Au-bearing structures and veins associated are a result of a prolonged period of ductile deformation and later brittle-ductile deformation related to a belt scale thrusting event, a feature which seems likely to be present at Segele. One key difference between Pahtavaara and Segele is that although both are hosted by high-magnesian ultramafics, the Segele host is principally intrusive and Pahtavaara is extrusive (komatiites). Nevertheless, it is conceivable that the same ore deposit model may apply to both occurrences. The Pahtavaara deposit has been mined intermittently and production peaked during 1997 at almost 37,000oz. The current inferred mineral resource (after mining depletion) is 605,000oz at 2.4g/t (using a cut-off of 1g/t).

Figure 6: Mineralisation and structure from of the Pahtavaara Deposit. A: Free gold in drill core. B/C: Polyphase structures and veining.

10 Exploration

This chapter is a verbatim copy of parts of chapter 5.1 from Lowry 2021 (SRK, Segele Gold Deposit, Mineral Resource Estimate, April 2021). For additional information regarding exploration results not included in the Mineral Resource Estimate or this Scoping Study, see Jackson (2019) or public releases from Akobo Minerals AB after 6th April 2021.

Table 6: Segele deposit diamond drill hole locations. Correct as of initiation of Mineral Resource Estimate (February 2021).

Prospect	Field Season Start Year	Geological Mapping Scale	Soil Samples	Geophysics		Trenches		Pits		RC Drilling		Diamond Drilling	
				Type	Quantity	Line km	Number Samples	Number	Samples	Number Holes	Metres	Number Holes	Metres
Segele	2011	1: 10,000	1,032			1.47	147						
	2012			Ground Magnetic	15.6 km^2	0.50	120						
	2014	1: 25,000											
	2015		412							4	595		
	2016	1: 2,000						37					
	2017					2.28		30	123				
	2020											37	3,886
	2021											3	461

Soil sampling was conducted by teams consisting of a geologist and day labourers. Two to three-kilogram samples were collected at 100 m intervals along northeast–southwest sample lines oriented at 050°. Sample locations were surveyed using handheld GPS units. Areas covered by alluvial deposits and subjected to intensive artisanal mining were excluded from soil sampling.

Trenches were created along various trends using a Caterpillar M318 excavator. The trenches were geologically logged and sampled at 1 m intervals, with samples weighing between 2–3 kg, and the samples were then sent to the laboratory for gold analysis. An additional – approximately 10 kg – sample of material was taken from the trench floor at every metre interval and was then panned in the Akobo River.

More than 30 artisanal pits were logged and sampled at 1 m intervals using an iron-framed escalator/pulley system, moving down to the bottom of each pit. Each pit was logged in vertical sections, which showed petrology, alteration, and mineralisation contrast down the depth of each pit. A total of 664 samples were collected from the pits weighing approximately 2 kg each and prepared for geochemical analysis, however only 123 of these were sent for analysis.

11 Drilling

This chapter is a verbatim copy of parts of chapter 5.1 from Lowry 2021 (SRK, Segele Gold Deposit, Mineral Resource Estimate, April 2021). For additional information regarding exploration results not included in the Mineral Resource Estimate or this Scoping Study, see Jackson (2019) or public releases from Akobo Minerals AB after 6th April 2021.

Exploration work carried out by Akobo Minerals over the Segele prospect includes reconnaissance level soil sampling, detailed geological mapping, trench and pit sampling and the drilling of 4 reverse circulation (RC) and 40 diamond drill holes completed on a nominal drill spacing of approximately 10–15 mE × 10–15 mN (Figure 5.1 and Table 5.1).

RC drilling was conducted using a face sampling hammer with a hole diameter of 140 mm. Samples were collected at 1 m intervals via a rig mounted cyclone and Jones-type three-tiered riffle splitter. Samples weighed between 2–3 kg.

Diamond drilling was conducted using standard tube, NQ (47.6 mm diameter core) drilling equipment. Core was oriented using a Devicore BBT system. Core loss was encountered frequently at depths less than 30 m, however, all the mineralised intersections occurred below this depth. Core recovery below 30 m depth was consistently above 97% with only three drill runs with recoveries <90%. Diamond drill samples were taken over intervals ranging from 0.1 to 1.9 m although most samples were taken over 1 m intervals. Sampling was not undertaken for 2,128 waste intervals with lengths ranging from 0.3 m to 180.1 m.

12 Sample Preparation, Analyses and Security

This chapter is a verbatim copy of chapters 5.2 to 5.5 from Lowry 2021 (SRK, Segele Gold Deposit, Mineral Resource Estimate, April 2021). For additional information regarding exploration results not included in the Mineral Resource Estimate or this Scoping Study, see Jackson (2019) or public releases from Akobo Minerals AB after 6th April 2021.

12.1 Surveying control

Akobo Minerals engaged a third-party surveyor to collect drill hole collar locations and ground topography readings. The surveyor used a Leica Total Station and measured 856 survey points which included 16 of the diamond drill hole collars and 840 topographic survey points. Surveying had to be stopped due to safety concerns with thick grass growing over the deposit area and obscuring the artisanal pits. The remaining drill hole collars were picked up using a handheld GPS unit.

Downhole surveys were conducted for the diamond holes using a DeviCore BBT tool which oriented the core and recorded changes in the drill hole dip at irregular intervals. The DeviCore tool does not record changes in azimuth and the drill holes are assumed to be straight.

12.2 Laboratory sample preparation, assaying

In the 2011 sampling program, soil samples were sieved and quartered to produce a 50 g sub-sample using a -80 mesh at the exploration field camp and then sent to ALS Chemex Gauteng (South Africa) where they were analysed using Aqua Regia extraction with ICP-MS and ICP-AES finish analytical techniques for gold and all other elements (ALS code ME-MS41). In the 2015 sampling program, soil samples were sent to Ezana laboratory (Mekele, Ethiopia) and analysed using fire assay with an ASS finish.

Trench and pit samples were sent to ALS (Gauteng) where they were weighed upon receipt and crushed with a jaw crusher to 70% passing 2 mm. The crushed material was split using a Jones-type riffle splitter to split off a 1,000 g sub-sample. The crushed sample was then pulverised to 85% passing 75 microns. Following riffle splitting, a 50 g fire assay was performed using an ICP-AES finish. A 50 g fire assay with gravimetric finish was used where the initial fire assay was greater than 10 g/t Au.

RC samples were sent to ALS (Addis Ababa) where they were weighed upon receipt and crushed with a jaw crusher to 70% passing 2 mm. The crushed material was split using a Jones-type riffle splitter to split off a 1,000 g sub-sample. The crushed sample was then pulverised to 85% passing 75 microns. Following riffle splitting the pulp was packaged and sent to ALS (Romania) and analysed using a 50 g fire assay with an ICP-AES finish. A 50 g fire assay with gravimetric finish was used where the initial fire assay was greater than 10 g/t Au.

Diamond drill core was split using a diamond saw, and the half core was sampled and sent to ALS for sample preparation in Addis Ababa (Ethiopia) and fire assay in Lochrea (Ireland). The average sample mass was 2.1 kg (standard deviation 1 kg). After crushing, either 1,000 g or the entire sample of the crushed material was pulverised. Samples submitted prior to September 2020 were analysed using a 30 g fire assay with an AAS finish (method PGM-ICP27) for samples not containing visible gold or a screen fire assay for samples that did contain visible gold (method Au-SCR24). Some of the 30 g fire assays were subsequently re-assayed using a 50g fire assay with a gravimetric finish (method Au_GRA22). From September 2020 onwards samples not containing visible gold were analysed using a 50 g fire assay with an AAS finish (Method Au_AA26).

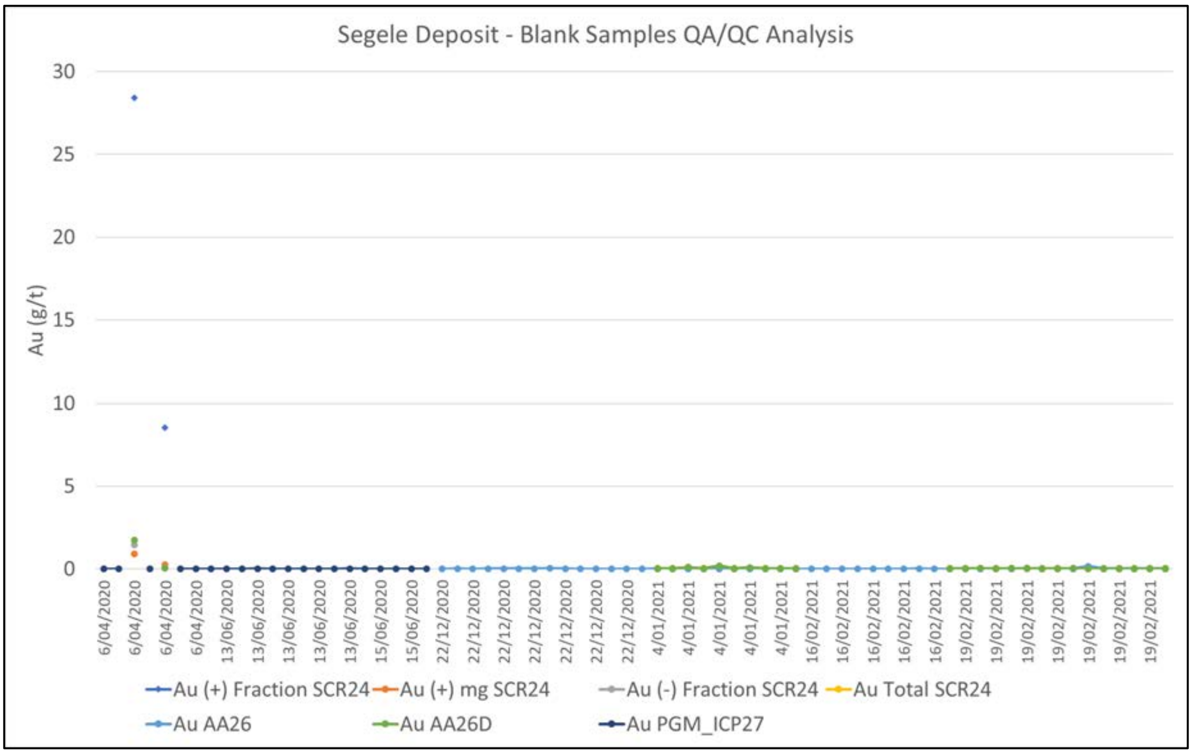
12.3 Quality assurance, quality control (QA/QC)

Quality Assurance/Quality Control (QA/QC) sampling differed between exploration programs:

- There were no QA/QC samples inserted during soil and pit sampling programs.
- For the trenching and RC drilling programs:
  - Certified reference material (CRM) standards were inserted at a rate of 1:30 samples
  - Pulp duplicates were taken at rate of 1:20 samples.
- For the Segele diamond drilling program:
  - Blank samples were inserted at a rate of 2:25 samples
  - CRM's were inserted at a rate of 1:10 samples
  - Field duplicates were inserted at a rate of 1:30 samples
  - Crush duplicates were taken at a rate of 1:20 samples
  - Pulp duplicates were taken at a rate 1:15 samples.

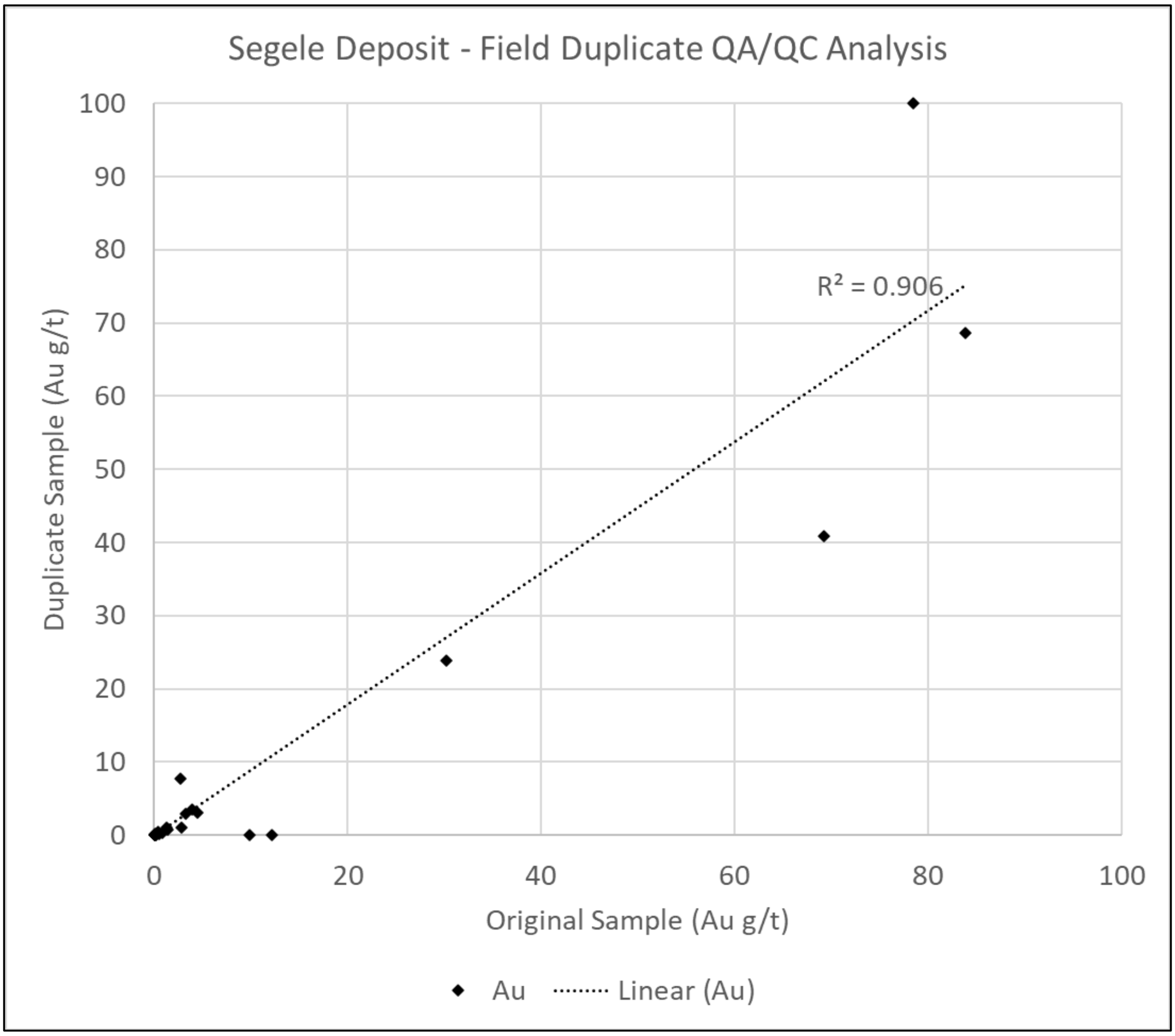
QA/QC were reviewed as each batch of assay results was returned from the laboratory. Only one batch showed a failed QA/QC result whereby two blank samples contained high levels of gold following a high-grade intersection (Figure 7). Upon investigation it was noted that the laboratory was only cleaning the preparation equipment with a quartz flush between sample batches, not regularly between samples. Akobo Minerals worked with the laboratory and found that at least two 1 kg quartz flushes are required after high grade gold samples have been processed in order to control cross contamination between samples. All the sample intervals affected by the original contamination issues were re-assayed using remnant half core duplicate samples from each interval.

Figure 7: Segele diamond drilling blank sample analysis



Field duplicate results show good correlation below 5 g/t Au and then more variability at higher gold grades (Figure) which could reflect the variability of higher gold grades and/or the small sample size of the NQ sized diamond drill holes. Akobo Minerals plans to conduct a bulk sampling campaign to test grade variability versus sample sizing.

Figure 8: Segele diamond drilling field duplicates



Akobo Minerals currently use three CRM samples supplied by Geostats Pty Ltd as part of their QA/QC analysis:

- G307-6 which has a grade of 1.07 g/t Au and standard deviation of 0.05 g/t Au
- G901-8 which has a grade of 47.25 g/t Au and standard deviation of 1.55 g/t Au
- G906-8 which has a grade of 7.24 g/t Au and standard deviation of 0.27 g/t Au.

Results of the CRM analysis show a general negative bias for each of the CRMs which is most pronounced in CRM G901-8 (Figure and Figure).

Figure 9: Segele CRM G307-6, 1.07 g/t Au

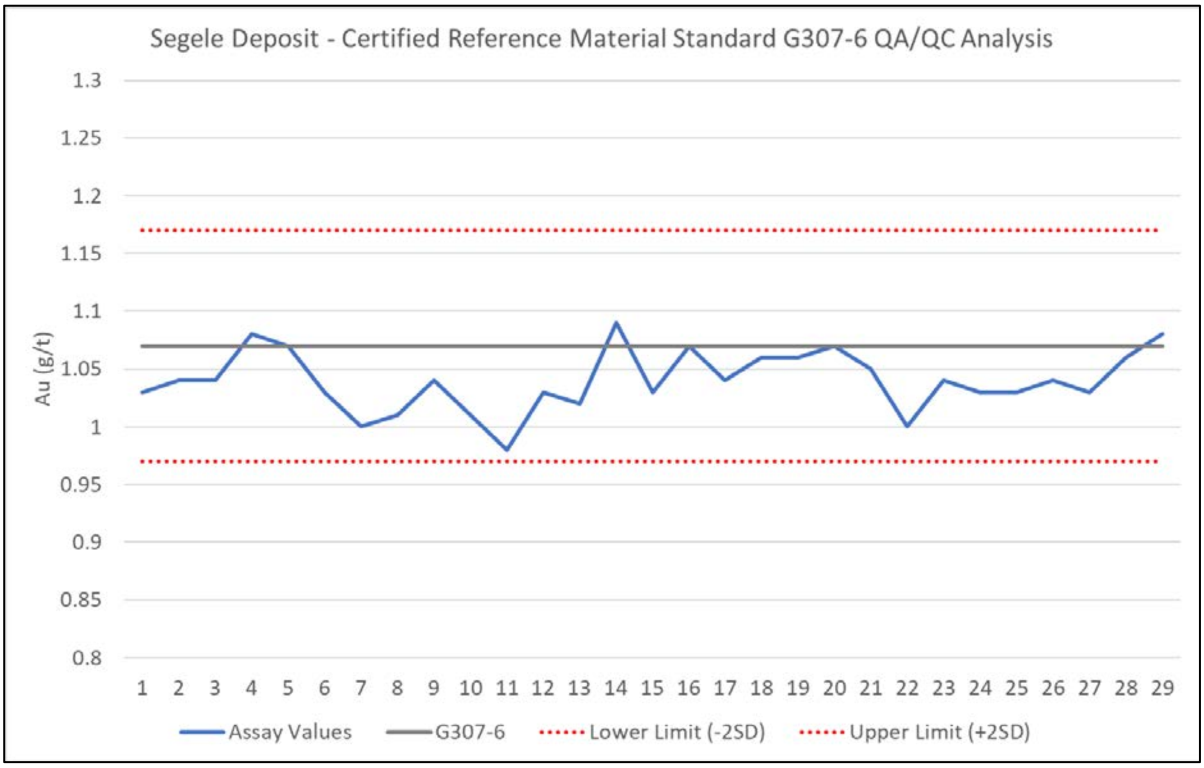


Figure 10: Segele CRM G901-8, 47.25 g/t Au

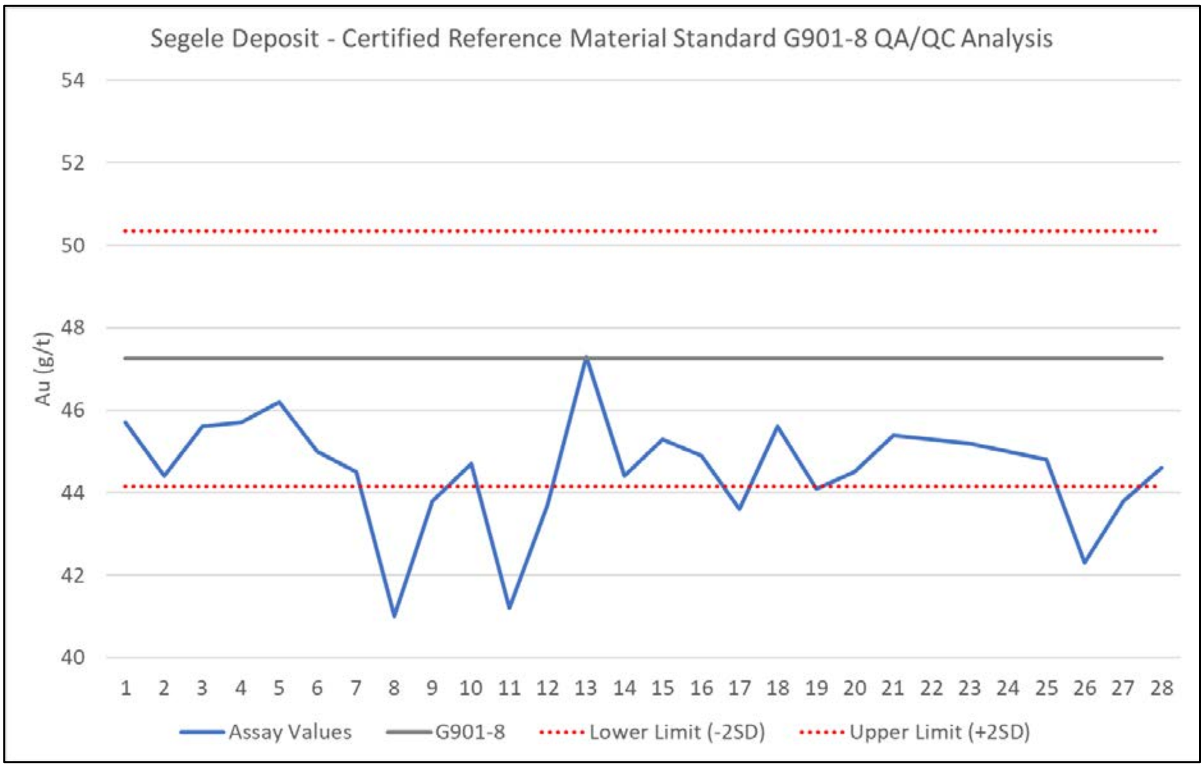
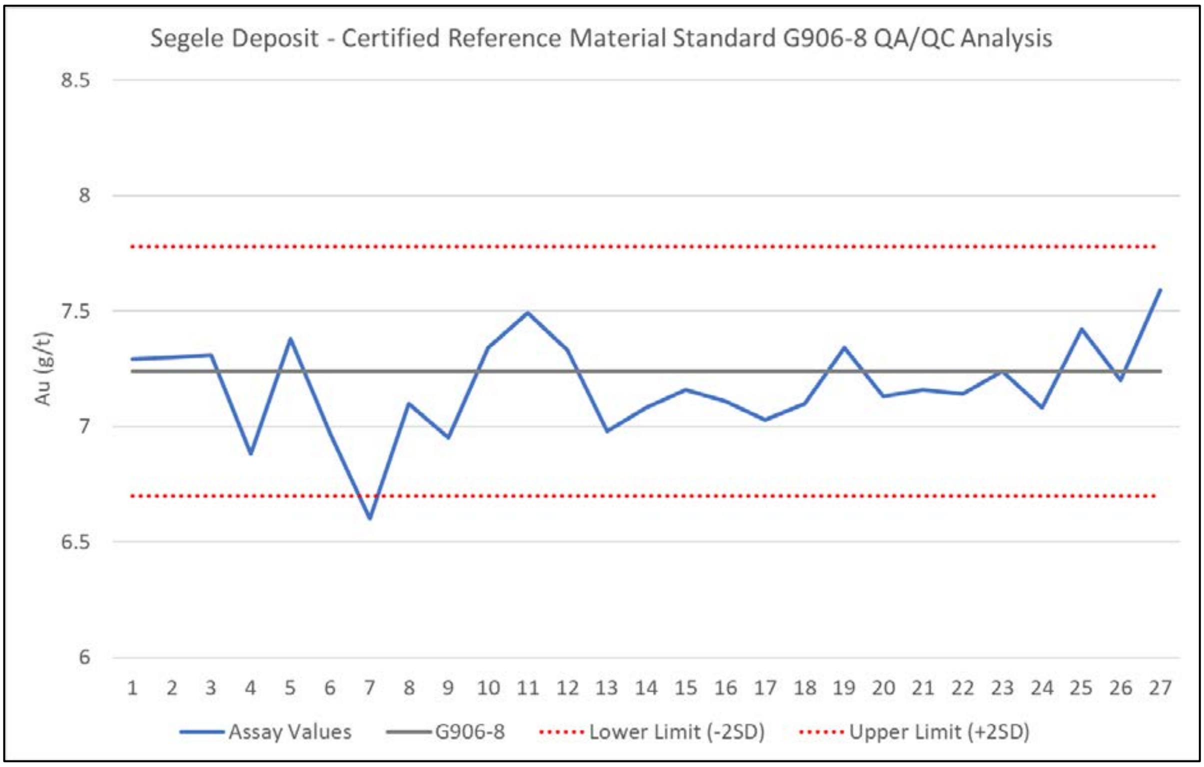


Figure 11: Segele CRM G906-8, 7.24 g/t Au



Results for laboratory crush and pulp duplicates are within tolerances and appear to be acceptable.

SRK is of the opinion that Akobo Minerals has a robust QA/QC system in place that can identify and rectify sample preparation and assaying contamination and accuracy issues in a timely manner. SRK endorses Akobo Minerals' planned bulk sampling program, however would recommend reviewing the CRM standards currently used to make sure they have a similar chemistry and gold grain sizing to Segele, and to include a low grade CRM that matches the cut-off grade (0.10 g/t Au) used for modelling the mineralised lenses.

In situ bulk density

A total of 127 diamond drill samples were selected from a range of stratigraphic units and grade ranges, and were analysed for specific gravity at ALS (Loughrea) using a multipyncometer analytical method which uses an automated gas displacement pycnometer to determine density by measuring the pressure change of helium within a calibrated volume. SRK notes that its preferred method for refined bulk density data collection is the Archimedes method on whole core samples [as this method accounts for voids and as such is a true bulk density measurement] rather than a specific gravity as is collected by a pycnometer.

13 Data Verification

This chapter is a verbatim copy of chapters 5.6 to 5.7 from Lowry 2021 (SRK, Segele Gold Deposit, Mineral Resource Estimate, April 2021)

13.1 Drill hole logging

Qualitative lithology logging has been completed for all trenches and RC and diamond drill holes, typically matching the sampling intervals. Alteration, structural geology and mineralisation logging has also been completed for the diamond drill holes.

Geological logging and sampling information is initially recorded on paper logs which are subsequently entered into the geological database and then validated.

13.2 Geological database

Akobo Minerals uses the cloud based geological database MX Deposit® to store and manage the Akobo Gold Project geological data. The database is managed by one of the ENTO Senior Geologists. SRK has reviewed a selection of laboratory certificates against the Akobo Minerals database and found no transcription errors or missing data.

A database extract of all the drilling data for the Segele deposit was provided to SRK on the 25 February 2021 which included comma separated files for collar locations, down hole surveys, sampling intervals and assay results, lithological logging, alteration logging, structural logging, mineralisation logging and geotechnical logging.

SRK loaded the drilling information into a Maptek Vulcan® Isis drill hole database segele_20210311.seg.isis and checked for any errors such as:

- large differences between drill hole collars vs the topographic surfaces
- excessive kinks in the downhole traces
- overlapping intervals, or intervals extended past the end of each drill hole in the geological logging or sampling.

After discussions with Akobo Minerals, SRK decided to only use the diamond drill holes for geological modelling and Mineral Resource estimation. Information from trenches and RC drilling would still be used to help guide the geological interpretations however it would not be used for the Mineral Resource estimation. A final validated drill hole database including the 40 diamond drill holes completed at Segele was generated in Vulcan on 17 March 2021: segele_20210317.seg.isis.

14 Mineral Processing and Metallurgical Testing

No mineral processing or metallurgical testing has been performed to date.

At the time of writing, 248.13kg of mineralized rock had been dispatched to Peacocke and Simpson (PvT) Ltd in Harare, Zimbabwe. Peacocke and Simpson is accredited to ISO9001 (2015) and are specialists in gravity recovery with Carbon in Leach cyanidation processes.

15 Mineral Resource Estimates

This chapter is a verbatim copy of chapters 6 to 12 from Lowry 2021 (SRK, Segele Gold Deposit, Mineral Resource Estimate, April 2021)

15.1 Geological modelling

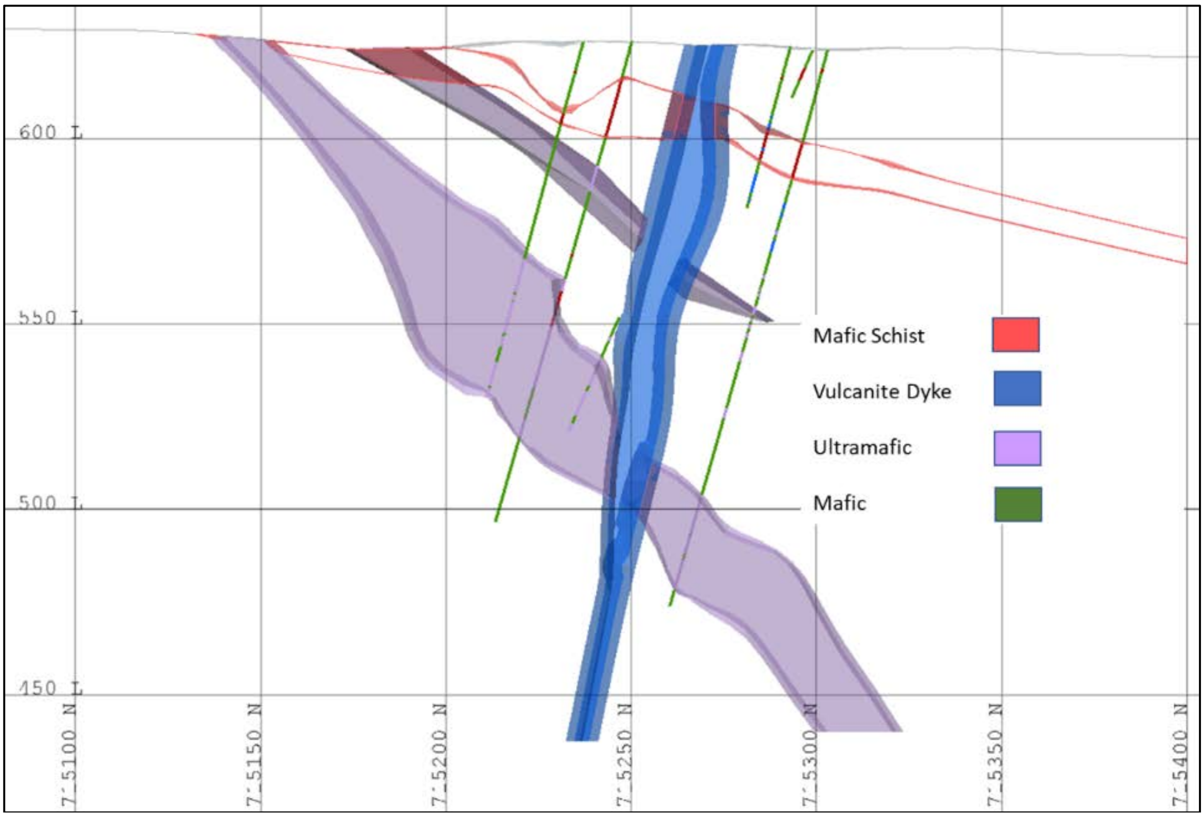
The 2021 Segele geological model has been constructed as a series of wireframe solids in Maptek Vulcan® software using information from sample trenching, artisanal pit mapping and RC and diamond drill holes. Lithological and mineralisation models were snapped to logging and sampling intervals in the diamond drill holes whereas the information from the sampling trenches, artisanal pits and RC holes was only used to guide the modelling.

After reviewing the lithological logging in the diamond drill holes, four broad lithological units were modelled; mafic (which represented the base lithology), ultramafic, mafic schist and a younger cross cutting vulcanite dyke (Figure 12). The lithology groupings for the Segele deposit are shown in Table 7.

Table 7: Segele deposit modelled lithology

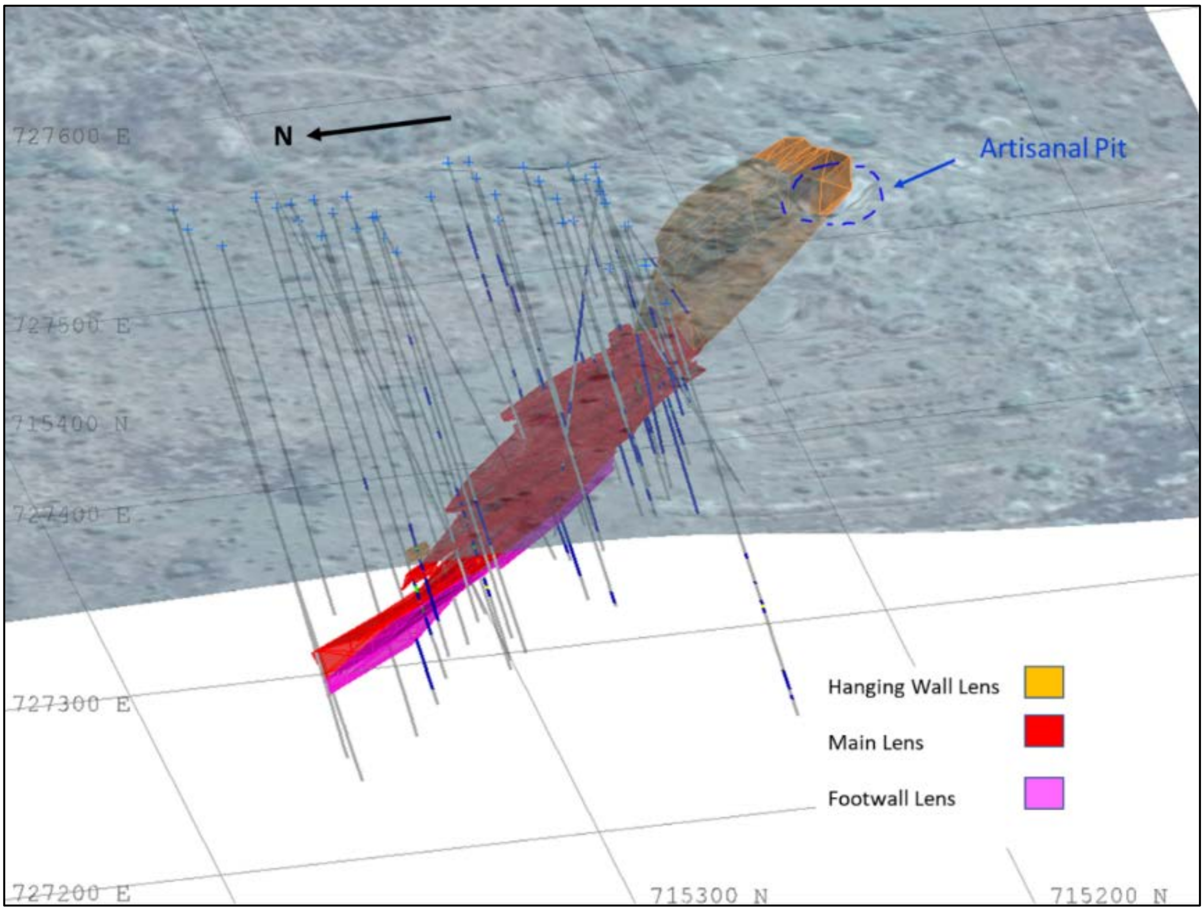
Akobo Minerals Lithology Codes	**Segele Geological Model Lithology Groupings**
Amphibolite Metapyroxenite Serpentinite Ultramafic	Ultramafic
Chlorite schist Gabbro Gabbro, altered Mafic rock Mafic rock, altered Mafic rock porphyritic Mafic-ultramafic unit Quartz chlorite schist Talc carbonate	Mafic
Mafic schist Talc chlorite schist	Mafic Schist
Quartz vein Quartzite	Quartz Veining
Vulcanite	Vulcanite Dyke
Core loss/no core	Core loss/No core

Figure 12: North–south cross section 727, 542.5 mE of the Segele lithological model, looking west



Gold mineralisation was modelled as a series of compact thin and sometimes bifurcating lenses using a notional cut-off 0.10–0.15 g/t Au. The lenses occurred mostly within the ultramafic units although do also extend upwards into the overlying mafic units. Six mineralised lenses were modelled, a main lens, a hanging wall lens, a footwall lens occurring more at depth and three minor, more isolated lenses (Figure 13). The lenses strike east–west, dip between 35–40° to the north and plunge approximately 8° to the north-northeast. The mineralised lenses occur down to a depth of 140 m and appear to be closed off along strike and down plunge, however the main lens and the footwall lens are still open up-dip. The mineralised lenses were extended approximately half the drill spacing past the last drill hole intercept except for the hanging wall lens which was extended upwards to the artisanal workings.

Figure 13: Oblique view of the Segele mineralisation model, looking east-southeast



15.2 Exploratory data analysis

Exploratory data analysis was conducted using Datamine Supervisor® geostatistical software.

15.2.1 Data flagging

Sample intervals were flagged with lithological (strat) and mineralisation (min) domain codes in the drill hole database segele_20210317.seg.isis (Table 8 and Table). The flagging routine coded samples where the interval centroid fell within each lithology or mineralisation wireframe solid. The drill hole flagging was validated visually against the wireframe models prior to exploratory data analysis and Mineral Resource estimation.

Table 8: Segele lithology domain coding

strat	Description	Wireframe Model
MA	Mafic	base lithology
QV	Quartz Vein	from lithology logging
SCH	Mafic Schist	01_Segele_Mafic_Schist.00t
UM	Ultramafic	02_Segele_Ultramafic.00t and 02a_Segele_Ultramafic_splay.00t
VOL	Volcanite	03_Segele_Volcanite.00t

Table 9: Segele mineralisation domain coding

min	Description	Wireframe Model
0	waste	base mineralisation and inside 12_Segele_internal_waste.00t
10	hanging wall lens 1	04_Segele_lens_hw1_10.00t
20	hanging wall lens 2	05_Segele_lens_hw2_20.00t
30	main lens	06_Segele_main_lens_30.00t
40	footwall lens 1	07_Segele_lens_fw1_40.00t
50	footwall lens 2	08_Segele_lens_fw2_50.00t
60	footwall lens 3	09_Segele_lens_fw3_60.00t

15.2.2 Global statistics and domaining

Descriptive statistics for gold broken down by lithology and mineralised domains are presented in Table 10 and Table 11. Gold mineralisation is associated mostly within the ultramafic unit although there are number of mineralised samples in the overlying mafic and mafic schist units. The limited assaying in the vulcanite and quartz vein/quartzite units suggests they are barren.

The mineralised domains show much better stationarity to the unmineralised domains. There are limited samples in domains 10, 20, 50 and 60 however samples in domains 30 and 40 show positively skewed populations with high coefficients of variation indicating highly variable, ‘nuggety’ gold grade populations (

Figure).

Table 10: Descriptive statistics for gold broken down by lithology domains

Domain	Number of samples	Gold (Au g/t)				Standard deviation	CV	Skewness
		Minimum	Maximum	Mean	Median			
All samples	885	0.005	16,850	11.4	0.01	372.6	32.7	28.3
MA	335	0.005	30.2	0.3	0.01	2.3	6.9	9.4
QV	2	0.005	0.01	0.01	0.01	0.0	0.5	0.0
SCH	32	0.005	12.3	0.6	0.01	2.2	3.9	5.3
UM	513	0.005	16,850	45.3	0.01	760.4	16.8	21.4
VOL	3	0.005	0.005	0.005	0.005	0.0	0.0	0.0

Figure 14: Gold box and whisker plot – lithology domains

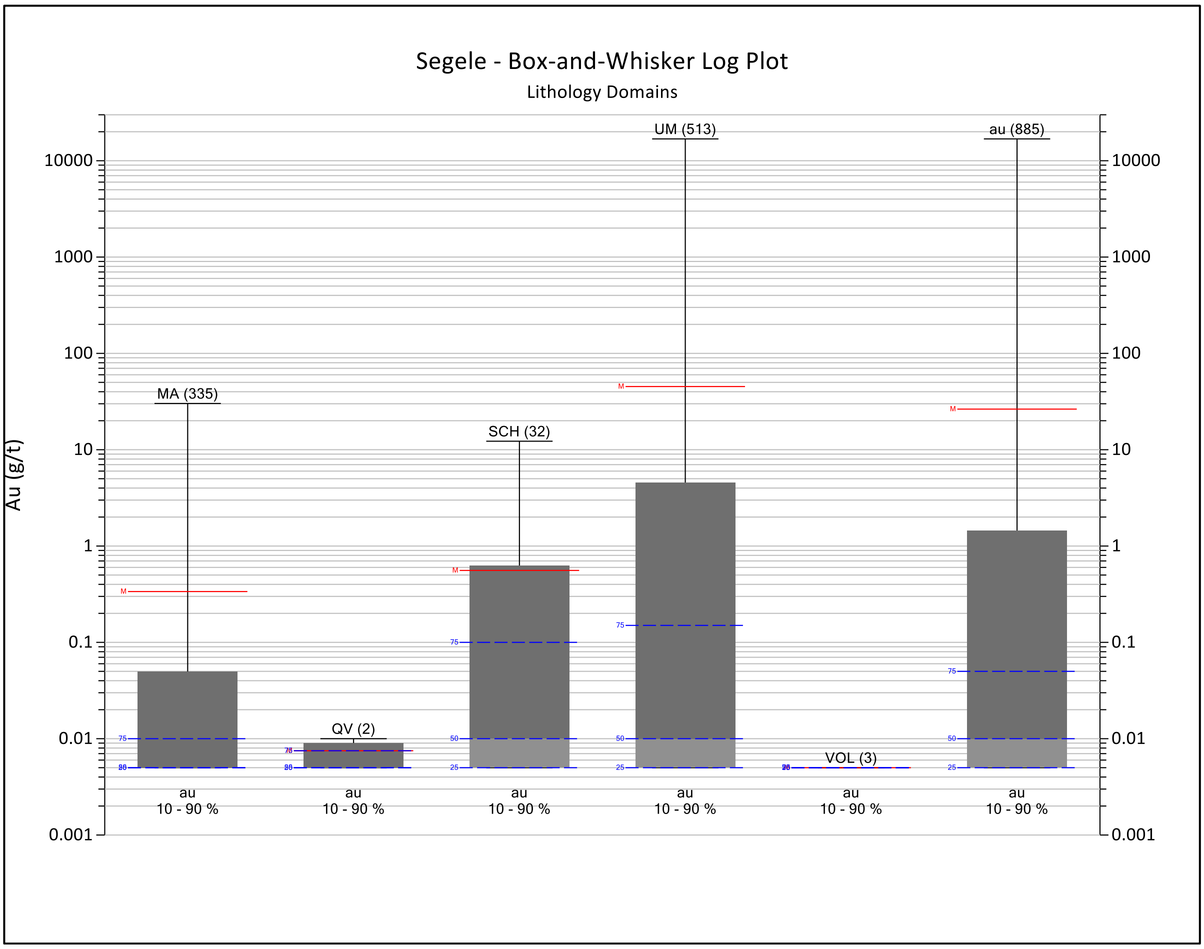
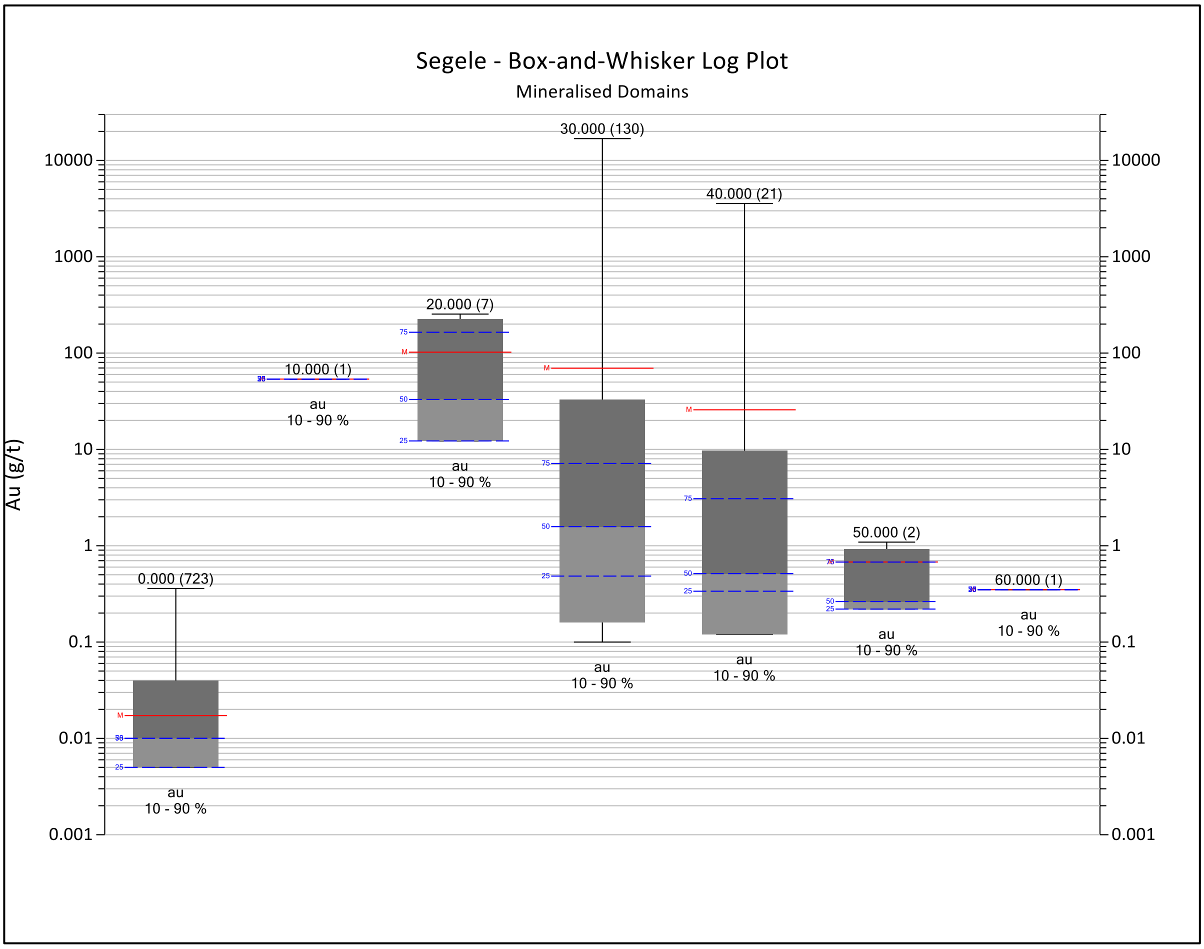


Table 11: Descriptive statistics for gold broken down by mineralisation domains

Domain	Number of samples	Gold (Au g/t)				Standard deviation	CV	Skewness
		Minimum	Maximum	Mean	Median			
All samples	885	0.005	16,850	11.4	0.01	372.6	32.7	28.3
0	723	0.005	0.4	0.02	0.01	0.03	1.7	5.1
10	1	53.7	53.7	53.7	-	0.0	0.0	0.0
20	7	12.3	254.0	102.2	33.0	104.1	1.0	0.5
30	130	0.1	16,850	69.6	1.6	975.8	14.0	11.0
40	21	0.1	3,570	25.8	0.5	280.1	10.9	4.5
50	2	0.2	1.1	0.7	0.3	0.6	0.9	0.0
60	1	0.4	0.4	0.4	-	0.0	0.0	0.0

Figure 15: Gold box and whisker plot – mineralisation domains



15.2.3 Sample compositing

Several different samples lengths were used to sample the Segele diamond drill holes. Mineralised samples ranged from 0.1 to 1.7 m with 89% of the samples ≤1.0 m in length. Waste samples ranged from 0.1 to 2.7 m with 89% of the samples ≤1.0 m in length.

Raw drill hole samples were composited into 1 m sample lengths into the composite database segele_2021_1m.cm1.isis for further exploratory data analysis and Mineral Resource estimation. Residual samples ≤0.4 m were appended to the previous composite sample. The 1m composite samples compare favourably with the raw sampling data as shown in Table 12.

Compositing resulted in 24 fewer samples overall with 11 fewer samples in the mineralised domains.

- The mean gold grade remains constant except for a slight increase in the mean gold grade of the main mineralised lens (min=30).
- The median gold grade increases slightly in mineralised domains 30 and 40 and by a larger margin for mineralised domain 20 which has limited number of samples.
- There is no overall change to the length weighted calculated metal.

Figure 16: Segele mineralised sample length analysis

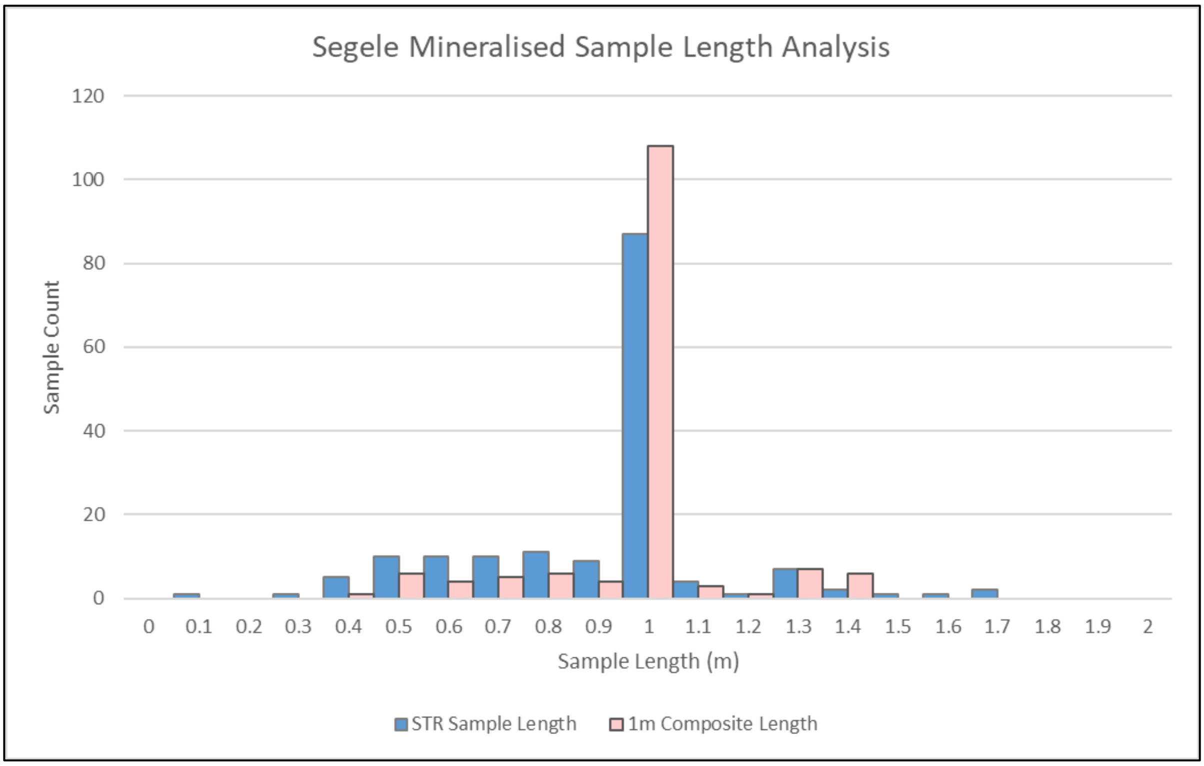


Table 12: Segele composite length analysis statistics

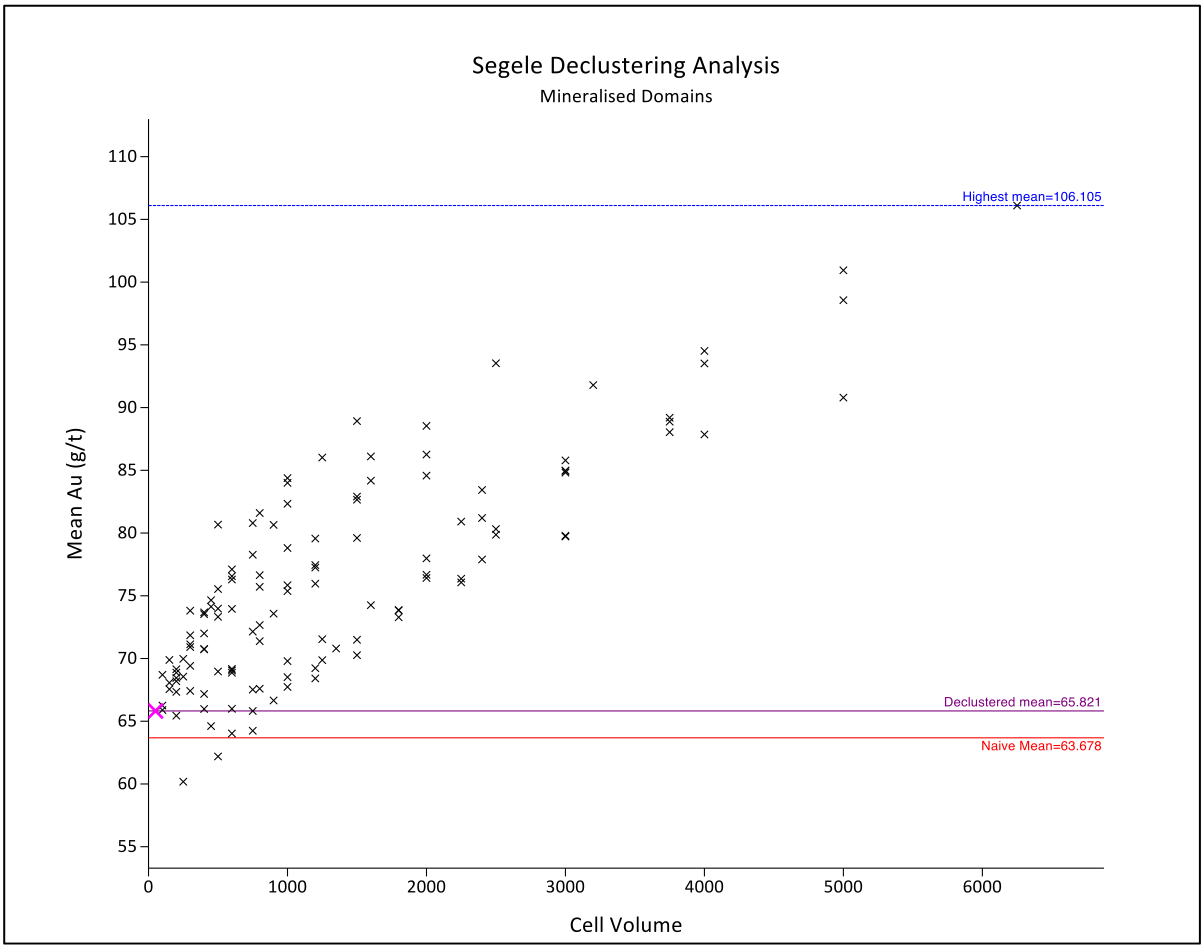
Domain		0	10	20	30	40	50	60
Raw Samples	Number of samples	723	1	7	130	21	2	1
	Minimum	0.005	53.7	12.3	0.1	0.1	0.2	0.4
	Maximum	0.36	53.7	254	16,850	3,570	1.09	0.4
	Mean	0.02	53.7	102.2	69.6	25.8	0.7	0.4
	Median	0.01	53.7	33	1.6	0.5	0.3	0.4
	CV	1.7	0.0	1.0	14.0	10.9	0.9	0.0
	Metal	-	0.9	20.2	268.4	14.2	0.04	0.01
1 m Composites	Number of samples	710	1	6	124	17	2	1
	Minimum	0.005	53.7	12.3	0.1	0.1	0.2	0.4
	Maximum	0.24	53.7	225.7	6,746	360.6	1.09	0.4
	Mean	0.02	53.7	102.2	72.5	25.8	0.7	0.4
	Median	0.01	53.7	84.0	2.1	1.0	0.2	0.4
	CV	1.5	0.0	0.8	8.8	3.4	0.9	0.0
	Metal	-	0.9	20.2	268.4	14.2	0.04	0.01
Difference	Number of samples	-13	0	-1	-6	-4	0	0
	Minimum	0	0	0.0	0.0	0.0	0.0	0.0
	Maximum	-0.12	0	-28.3	-10,104	-3,209	0	0.0
	Mean	0.00	0.0	0.0	2.9	0.0	0.0	0.0
	Median	0.00	0	51.0	0.5	0.5	-0.1	0
	CV	-0.2	0.0	-0.2	-5.2	-7.5	0.0	0.0
	Metal	-	0.0	0.0	0.0	0.0	0.00	0.00

Note: Calculated metal = sumproduct (sample length x Au value) / 31.10348

15.2.4 Declustering analysis

The diamond drilling at Segele has been completed on a semi-regular grid approximately 10–15 mE × 10–15 mN. Declustering analysis using a cell size of 5 mX × 5 mY × 2 mX up to 25 mX × 25 mY × 10 mX showed little difference between the naïve and declustered mean gold grades for cell sizes up to 10 mX × 10 mY × 4 mX indicating that the drill hole data is not inherently clustered at cell sizes that approximate the drill hole spacing.

Figure 17: Segele mineralised domains declustering analysis



15.2.5 Outlier analysis

Outlier analysis was conducted on the 1 m composite database. Mineralised domains 20, 30 and 40 all contain positively skewed gold populations with moderate to high coefficient of variation values indicating that high-grade values may contribute significantly to the mean grade of each domain and cause high-grade smearing during Mineral Resource estimation (Figure to Figure). Histograms and probability plots were used to identify high-grade outliers within each of the mineralised domains and formulate high-grade thresholds for distance restrictions (mineralised domains 20 and 40) and top-cuts (mineralised domain 30).

Domains 20 and 40 contain high-grade outliers >150 g/t Au, however due to the low number of samples in each domain it was decided to use to high-grade restrictions during estimation rather than applying a top-cut as this more closely represents the mineralisation style. Domain 30 has one very large outlier of 6,746 g/t Au, almost 21 times higher than the next highest gold value of 322 g/t Au. The 6,746 g/t Au composite was top-cut to 400 g/t Au resulting in a drop of the domain mean from 72.5 g/t Au to 16.6 g/t Au although not changing the median value.

Figure 18: Mineralised Domain 20 – gold histogram

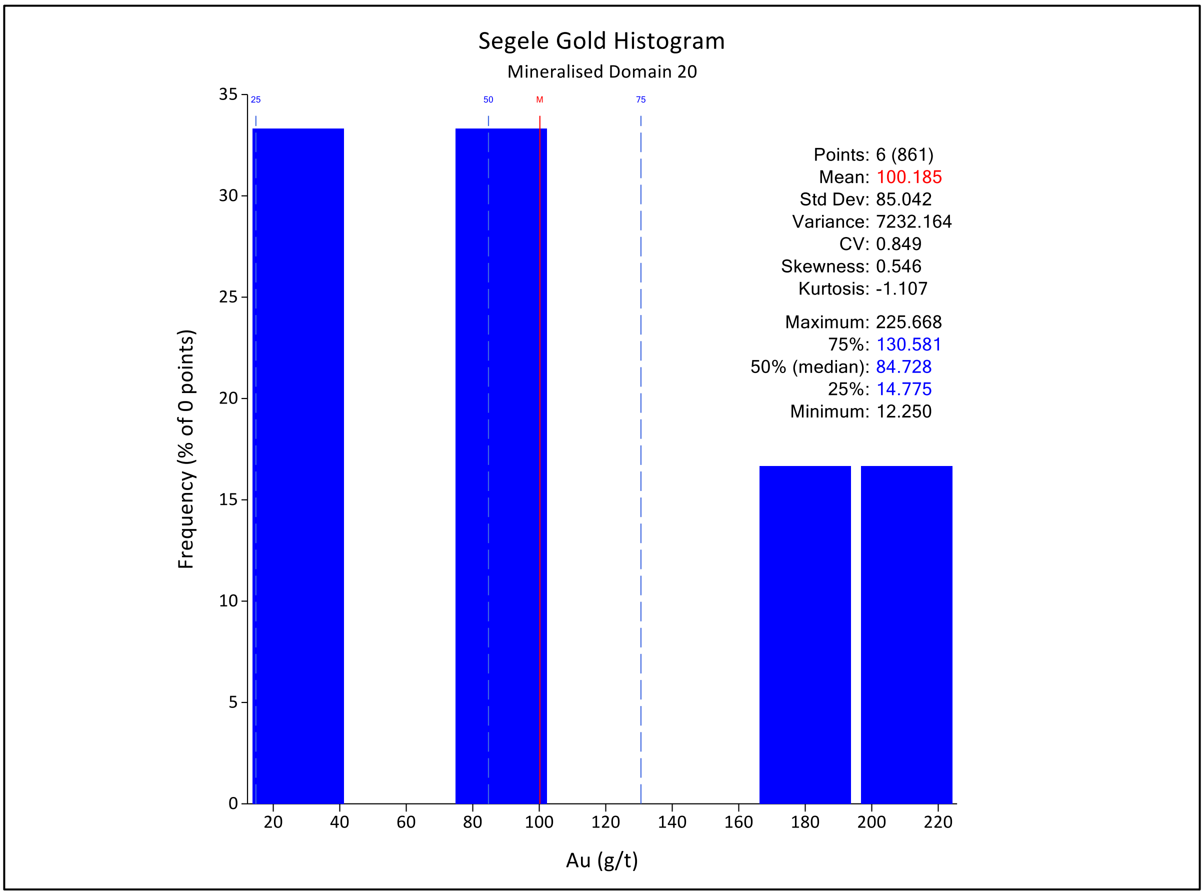


Figure 19: Mineralised Domain 20 – gold probability plot

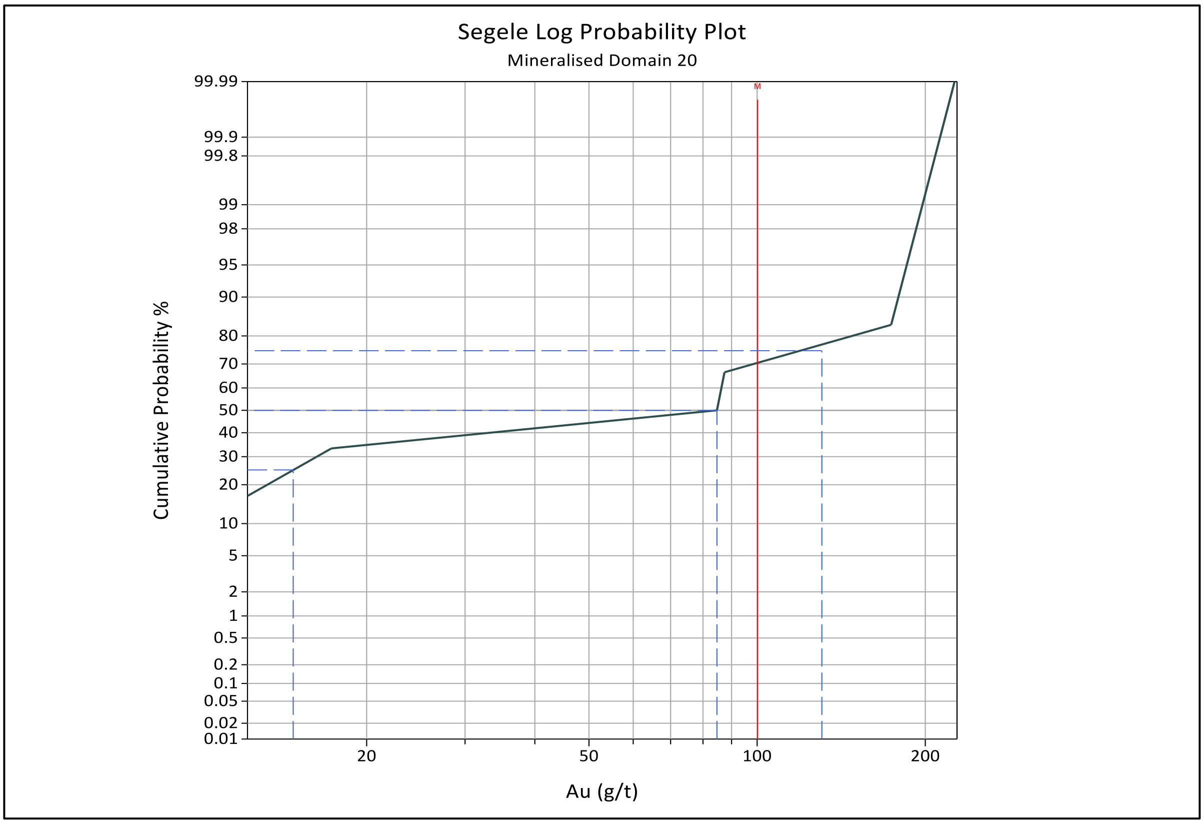


Figure 20: Mineralised Domain 30 – gold histogram

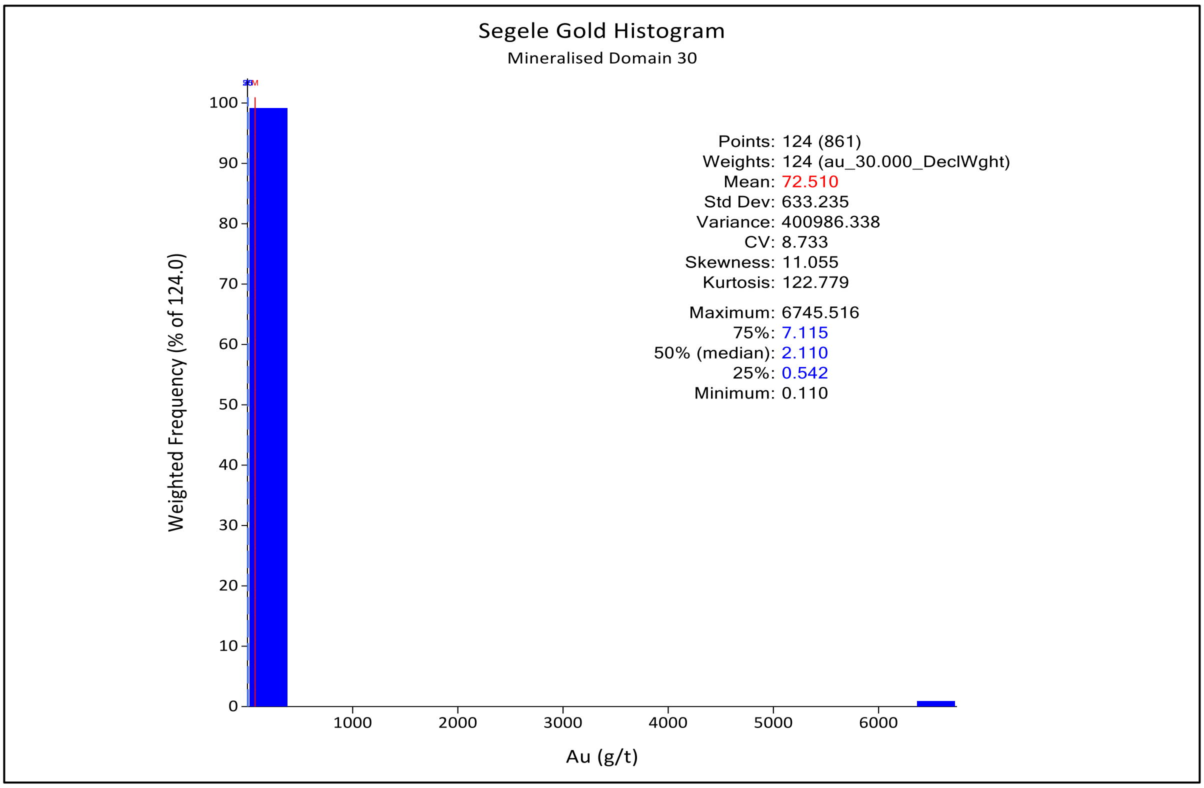


Figure 21: Mineralised Domain 30 – gold probability plot

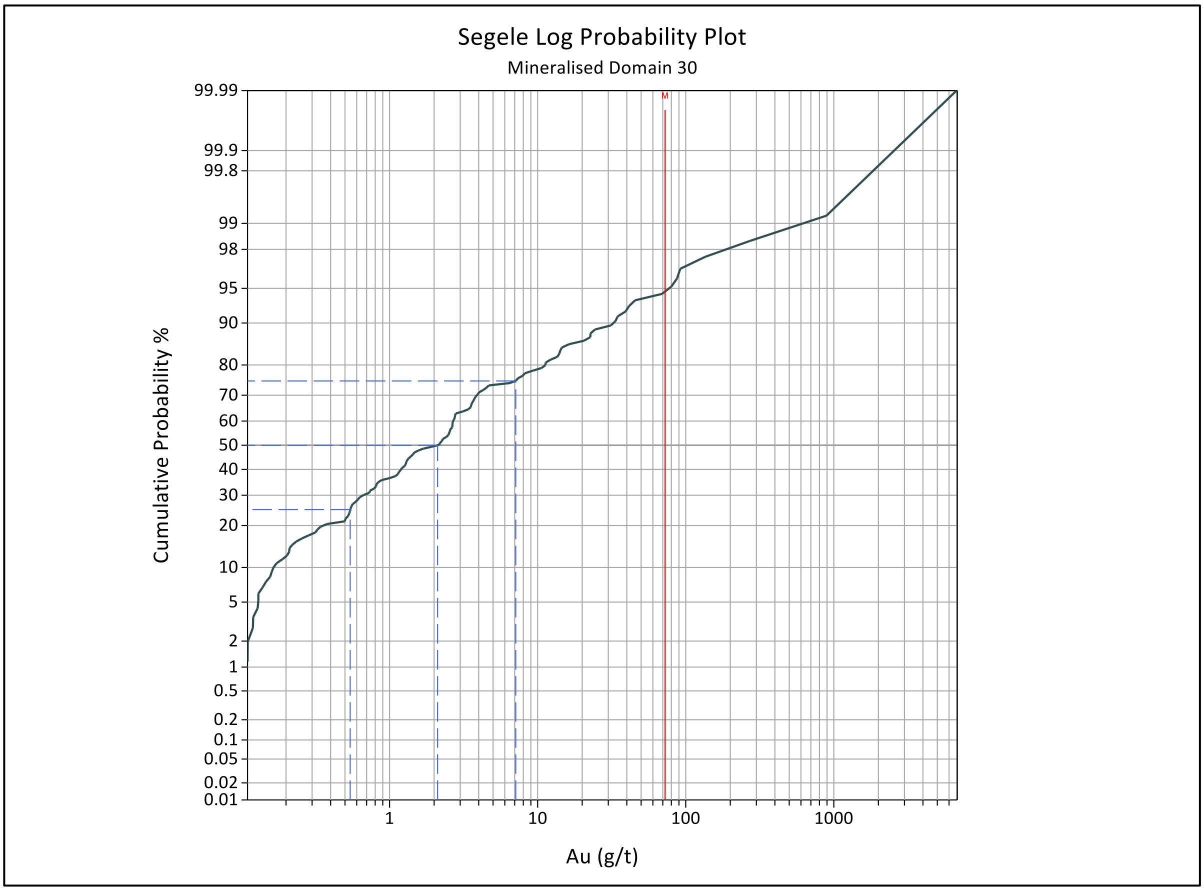


Figure 22: Mineralised Domain 40 – gold histogram

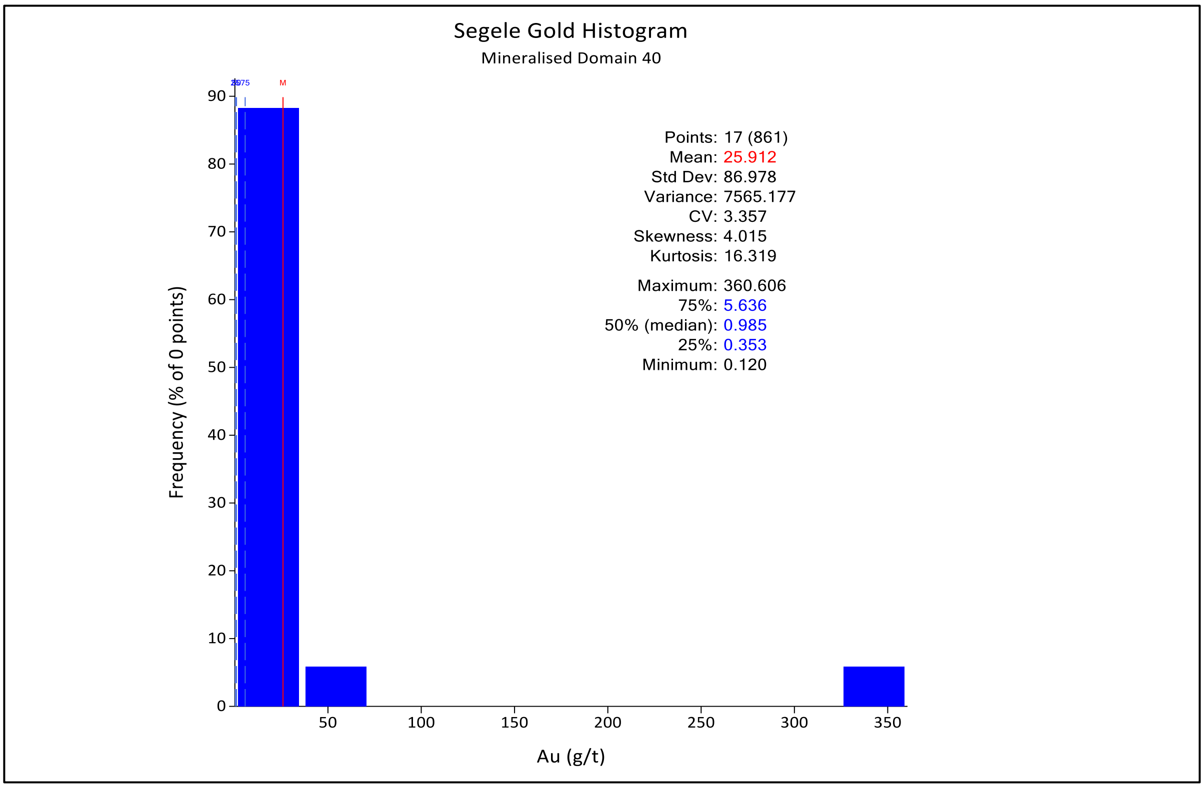


Figure 23: Mineralised Domain 40 – gold probability plot

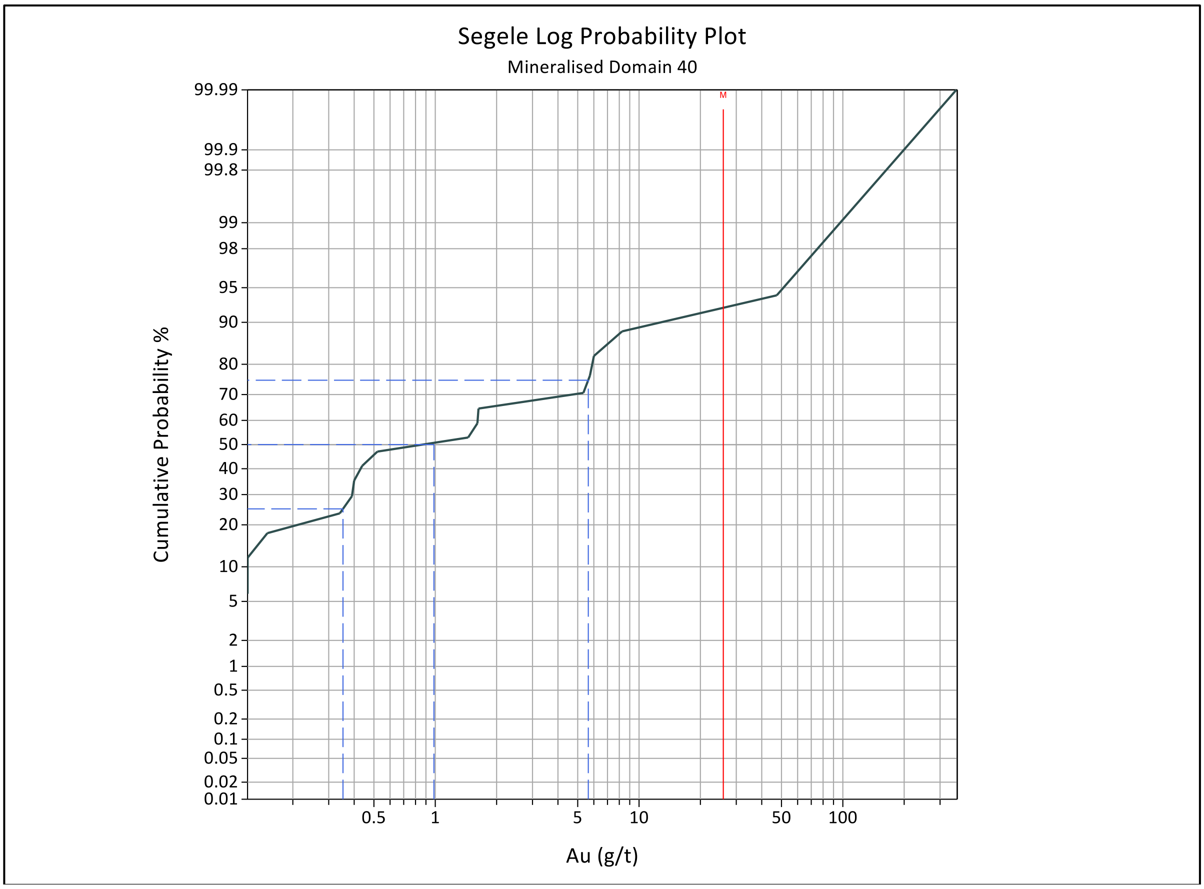
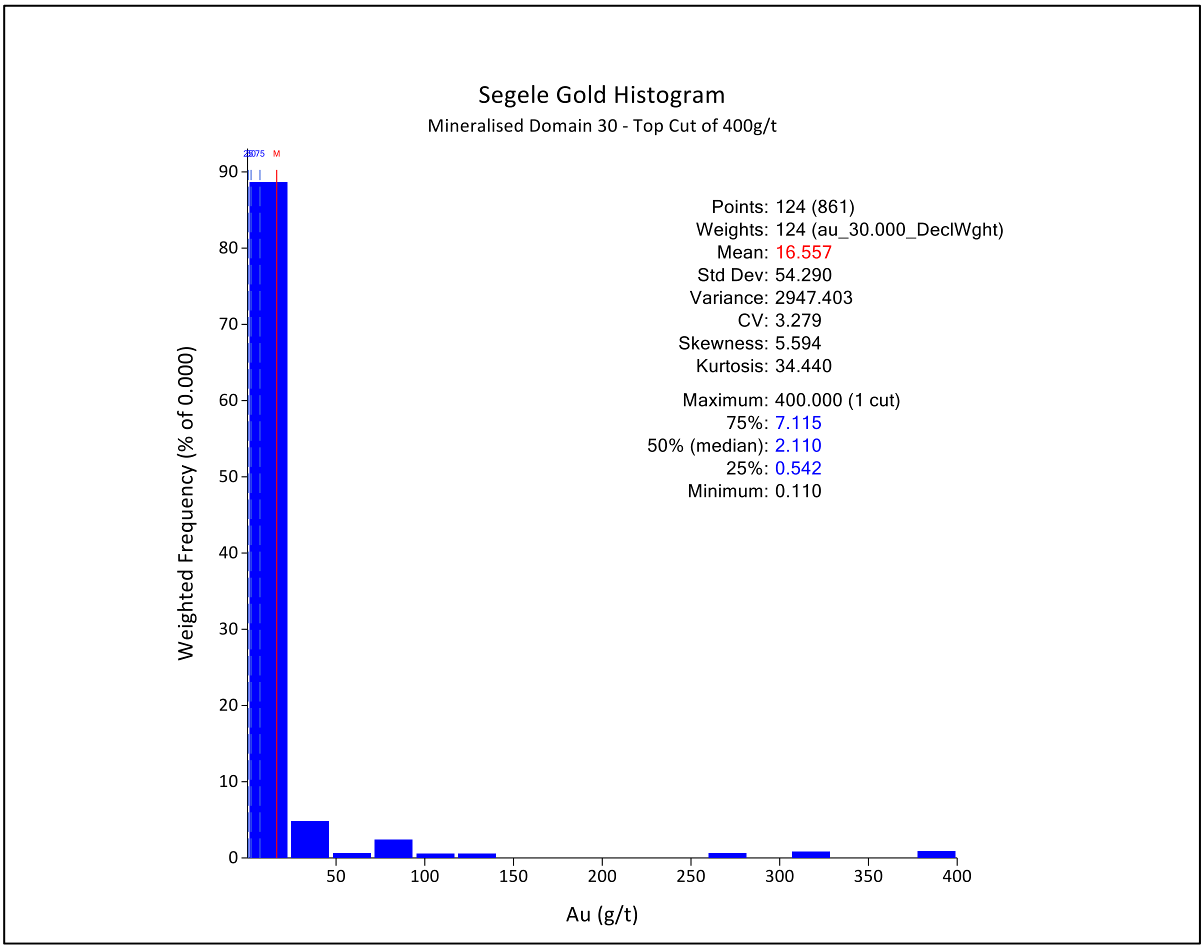


Figure 24: Mineralised Domain 30 – gold histogram after top-cutting to 400 g/t Au



15.2.6 Variography

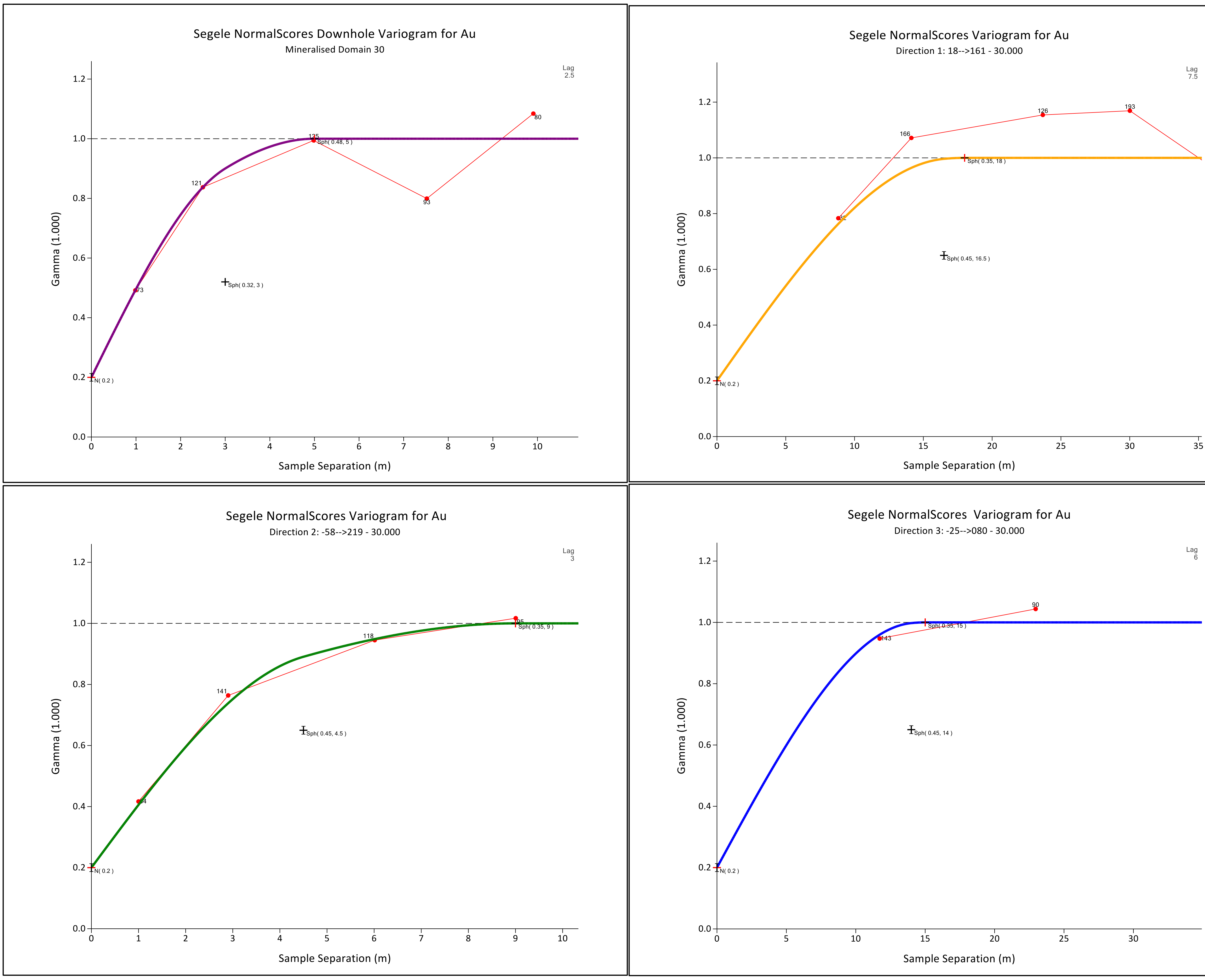
Variography modelling was conducted for gold in mineralised domain 30 (main lens) which was the only domain with enough composite samples for representative variography. Composite data was transformed into normal scores prior to variogram modelling and back transformed into Vulcan ZXY rotations prior to Mineral Resource estimation.

Gold shows moderate anisotropy with the direction of major continuity occurring along up and down dip (north–south), the semi major direction occurring along strike (east–west) and the minor direction occurring across strike. The variogram was modelled with two spherical structures which show limited continuity in all directions (Table 13 and Figure).

Table 13: Mineralised domain 30 variogram model

Variogram Model		**Major**	**Semi-major**	**Minor**
Direction		18°→161	58°→039	25°→080
Nugget		0.38		
Structure	**Sill**	**Major**	**Semi-major**	**Minor**
1	0.508	16.5	4.5	14
2	0.112	18	9	15

Figure 25: Gold semi-variogram models for mineralised domain 30



15.2.7 Kriging neighbourhood analysis

Kriging neighbourhood analysis (KNA) was conducted using composite and variogram model data from mineralised domain 30 with the resulting search parameters applied to all the other waste and mineralised domains. The KNA analysis indicated:

- An optimised estimation block size of 5 mX × 10 mY × 2 mRL (Figure).
- A minimum of 6 samples and a maximum of 24–26 samples per block estimate.
- An optimised initial search range of 50 mX × 25 mY × 10 mRL.
- An optimised discretisation of 5 X × 5 Y × 2 mRL.

Figure 26: Segele mineralised domain 30, KNA block size analysis

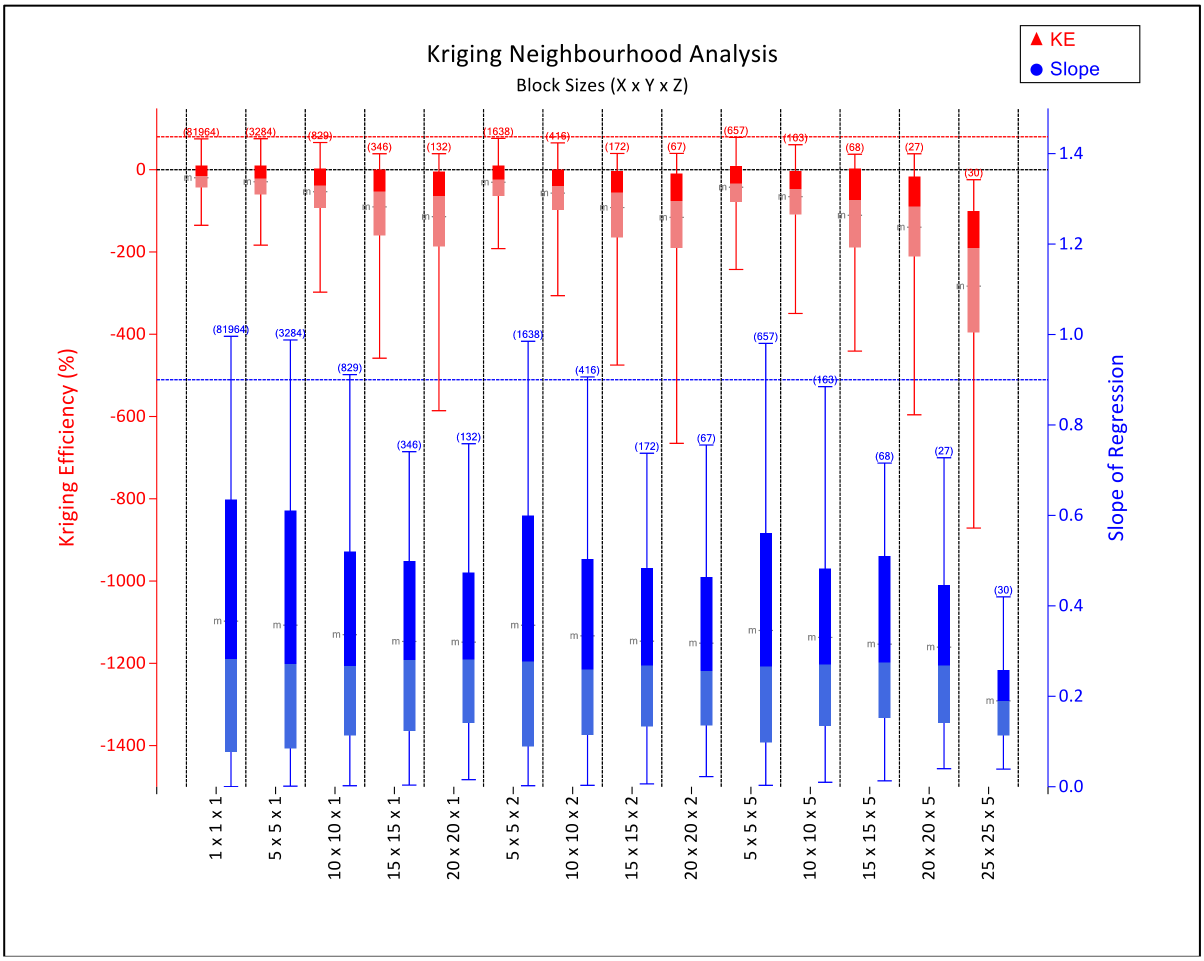


Figure 27: Segele mineralised domain 30, KNA sample range analysis

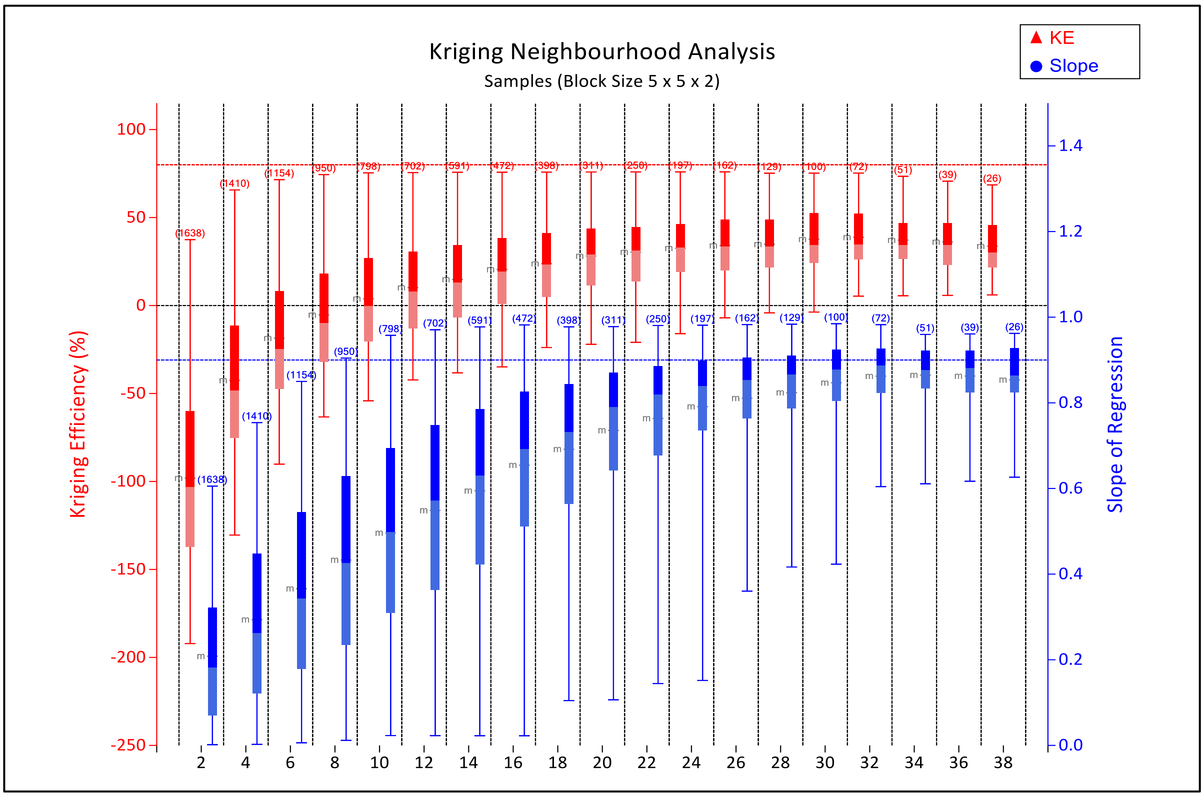


Figure 28: Segele mineralised domain 30, KNA search range analysis

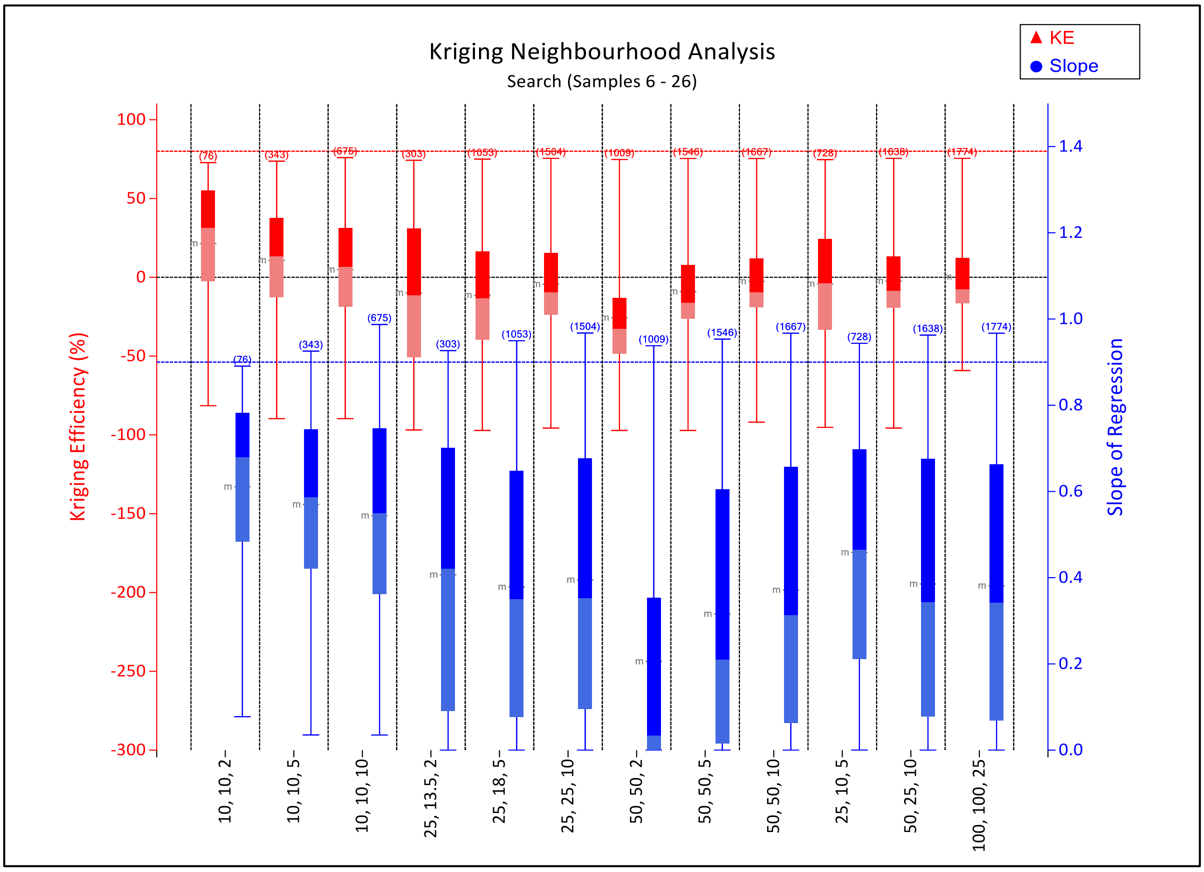
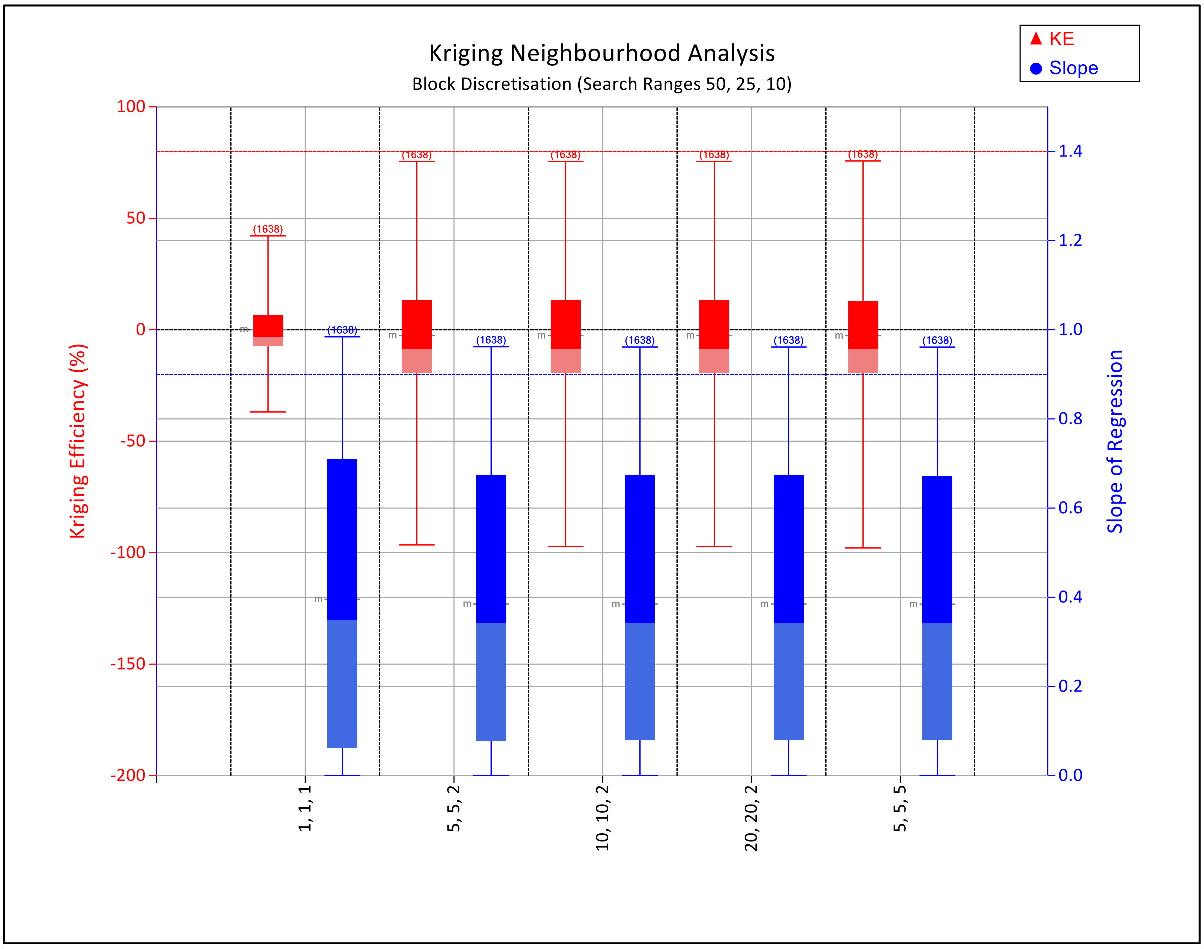


Figure 29: Segele mineralised domain 30, KNA discretisation analysis



15.3 Mineral Resource estimation

15.3.1 Block model construction

The April 2021 Segele block model dimensions were selected to match the size and extents of the modelled mineralised lenses. The parent block size used was 5 mE × 5 mN × 2 mRL with minimum sub-cells sized 0.5 mX × 0.5 mY × 0.5 mRL to match the optimised estimation cell dimensions identified during KNA while also accommodating the narrow and variable nature of the lithological contacts and mineralised lenses (

Table 14). Blocks were limited to the topographic surface, i.e. no blocks were constructed above the topography.

A range of grade, domain, estimation and other coding variables were added the block model during initial block construction (Table 15). The domain variables ‘strat’ and ‘min’ were flagged during the block model construction using the Segele lithological and mineralisation wireframe models and the same coding that was applied to the Segele drill hole database (Table 8 and Table). The block model was validated in plan and cross section to ensure correct block model extents and coding.

Table 14: Segele 2021 block model dimensions

Block model – segele_OK_20210317.bmf			
	X	**Y**	**Z**
Origin (m)	0	0	0
Rotation (degrees)	90	0	0
Start offset (m)	727,350	715,100	450
End offset (m)	727,700	715,400	650
Dimensions	350	300	200
Parent cell size (m)	5	5	2
Number parent cells	70	60	100
Sub-cell size (m)	0.5	0.5	0.5

Table 15: Segele 2021 block model variables

Variable	Default value	Variable type	Description
deposit	unkn	name	deposit name
tenement	unkn	name	tenement
strat	unkn	name	stratigraphy
geozon	-99	integer	domain code
au_ok	-99	double	Au (g/t) estimate - ordinary kriging
au_ok_uc	-99	double	Au (g/t) uncut estimate - ordinary kriging
au_id	-99	double	Au (g/t) estimate - Inverse distance
density	-99	double	density
numsam	-99	float	number of samples used in estimate
numholes	-99	float	number of drill holes used in estimate
au_slope	-99	double	Au estimate - slope of regression
au_kv	-99	double	Au estimate - kriging variance
au_nw	-99	double	Au estimate - negative weights
pass	-99	integer	estimation pass
res_class	-99	short	Mineral Resource Classification
da_strike	-99	double	dynamic anisotropy strike
da_plunge	-99	double	dynamic anisotropy plunge
da_dip	-99	double	dynamic anisotropy dip
minor	-99	double	dynamic anisotropy minor
dist_sam_car	-99	double	cartesian distance to samples
dist_sam_aniso	-99	double	anisotropic distance to samples
pass_uc	-99	short	estimation pass uncut

15.3.2 Estimation parameters

The April 2021 Segele Mineral Resource estimate only used samples from the diamond drill holes. Estimates for gold in the mineralised domains was completed using Ordinary Kriging interpolation with each of the mineralised domains treated as hard boundaries and estimated separately (Table). Waste material was estimated as one domain using Inverse Distance interpolation to the power of two.

A top-cut of 400 g/t Au was applied to the main lens (mineralised domain 30) to remove one high-grade outlier. Distance restrictions of 10 mX × 10 mY × 2 mY were applied to composite samples >100 g/t within hanging wall lens 2 (mineralised domain 20) and footwall lens 1 (mineralised domain 40) to control high-grade smearing in the estimate.

The estimation block size used was 5 mX × 5 mY × 2 mRL or approximately half the drill hole spacing. The estimation was completed over three passes with searches ranging from 25 mX × 10 mY × 5 mRL to 100 mX × 100 mY × 25 mRL, and minimum sample ranges requiring a minimum sample count of between 4 and 6 samples and a maximum sample count of 20 samples, including a maximum of 3 to 4 samples per drill hole (Table and Table). Dynamic anisotropy was used to align the search ellipse for each estimation cell based on the orientation of the mineralisation contacts.

No estimates were completed in mineralised domains 10, 50 and 60 due to the low number of composite samples available – the average composite gold grades were assigned to these domains which represent <1% of the Mineral Resources.

Table 16: 2021 Segele resource estimation methodology

Domain	Number of composites	Volume of blocks (m^3)	% of mineralised blocks	Estimation method	Dynamic anisotropy
0	710	18,641,057	-	Inverse Distance Squared	No
10	1	10	0.04%	None – default grades	No
20	7	5,996	22.9%	Ordinary Kriging	Yes
30	130	17,929	68.6%	Ordinary Kriging	Yes
40	21	2,181	8.3%	Ordinary Kriging	Yes
50	2	21	0.08%	None – default grades	No
60	1	9	0.03%	None – default grades	No

Table 17: Segele resource estimation search parameters

Domain	Estimation method	Search orientation			Pass 1 search dimensions (m)			Pass 2 search dimensions (m)			Pass 3 search dimensions (m)		
0	ID^2	0	0	-35	100	50	25						
10	OK	Dynamic Anisotropy			25	10	5	50	25	10	100	100	25
20	OK												
30	OK												
40	OK												
50	OK												
60	OK												

Table 18: Segele resource estimation sample selection

Domain	Estimation method	Pass 1 and 2 Sample Selection			Pass 3 Sample Selection		
		Minimum	Maximum	Max per drill hole	Minimum	Maximum	Max per drill hole
0	ID^2	4	20	4			
10	OK	6	20	3	4	20	3
20	OK						
30	OK						
40	OK						
50	OK						
60	OK						

15.3.3 Model validation

The Segele Mineral Resource estimate has undergone several validation checks including:

- Visual validation of the block estimates against the diamond drill hole sampling.
- Global statistical comparisons between the composite samples and the estimated blocks.
- Swath plot validations comparing averaged panel composite and estimated blocks grades along strike, along the dip direction and vertically.
- Comparison of the main Ordinary Kriging interpolation against an Inverse Distance squared interpolation.
- Internal SRK peer review.

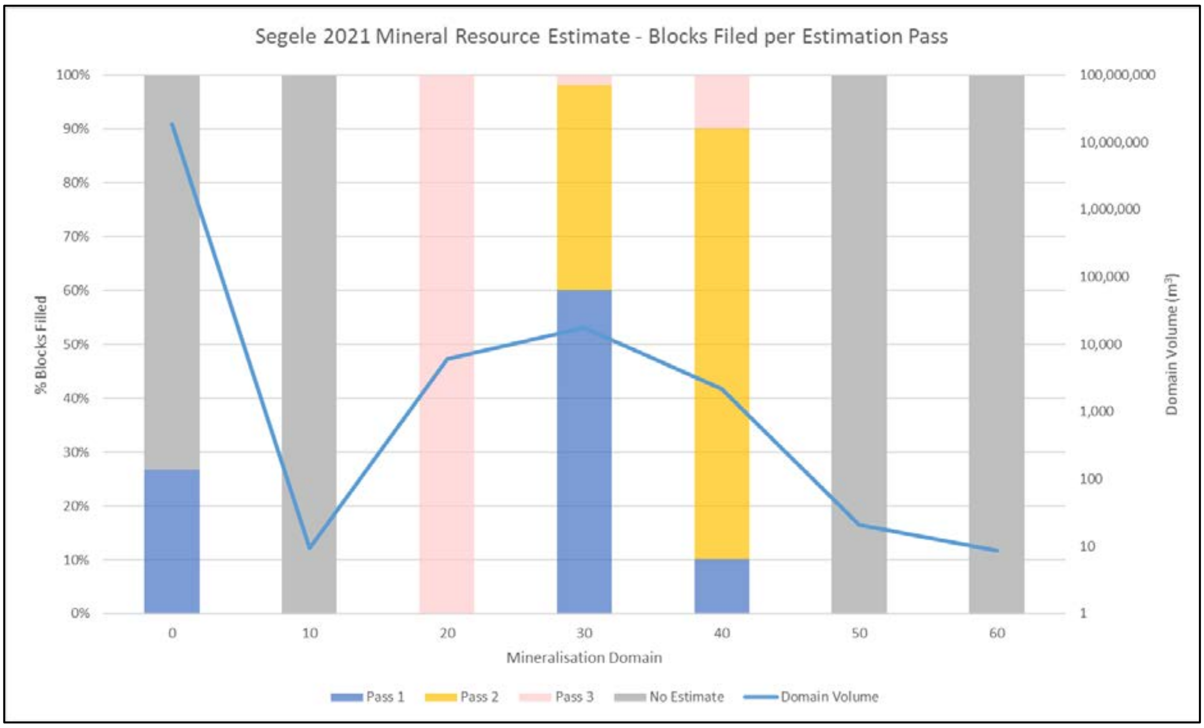
15.3.4 Blocks filled

Blocks within the main lens (mineralised domain 30) and the footwall lens 1 (mineralised domain 40) were mostly filled in the first and second estimation passes (Table and Figure). Hanging wall lens 2 (mineralised domian 20) was estimated solely in the third estimation pass. Hanging wall lens 1 and footwall lenses 2 and 3 (mineralised domains 10, 50 and 60) did not have enough sample composites to complete gold estimates and were assigned defualt gold grades. Twenty-seven per cent percent of the blocks within the waste domain were estimated in one Inverse Distance estimation run, the remaining blocks were assigned a default gold grade.

Table 19: Percentage of blocks filed and average gold grade per estimation pass

Domain	Volume (m³)	Blocks filled				Average grade (Au g/t)		
		Pass 1	Pass 2	Pass 3	Not Estimated	Pass 1	Pass 2	Pass 3
0	18,641,057	27%	-	-	73%	0.01	-	-
10	10	0%	0%	0%	100%	-	-	-
20	5,996	0%	0%	100%	0%	-	-	49.3
30	17,929	60%	38%	2%	0%	12.2	12.0	7.7
40	2,181	10%	80%	10%	0%	2.6	15.5	17.8
50	21	0%	0%	0%	100%	-	-	-
60	9	0%	0%	0%	100%	-	-	-

Figure 30: Blocks filled during each estimation pass.



15.3.4.1 Visual validation

Visual validations between drill hole composite data and the estimated blocks were carried out using north–south cross sections (Figure to Figure) and plan sections along each mineralisation lens.

The gold grade estimates have reproduced the overall grade trends seen in the main lens and footwall lens 1 (mineralised domains 30 and 40) however due to the narrow width of the mineralised lenses and the high grade variability, there are some localised grade mismatches between the blocks and the composite samples. The gold estimates for hanging wall lens 2 are much more smoothed due to the limited number of composite samples supporting the domain.

Figure 31: North–south cross section 727,545 mE looking west – main lens (mineralised domain 30)

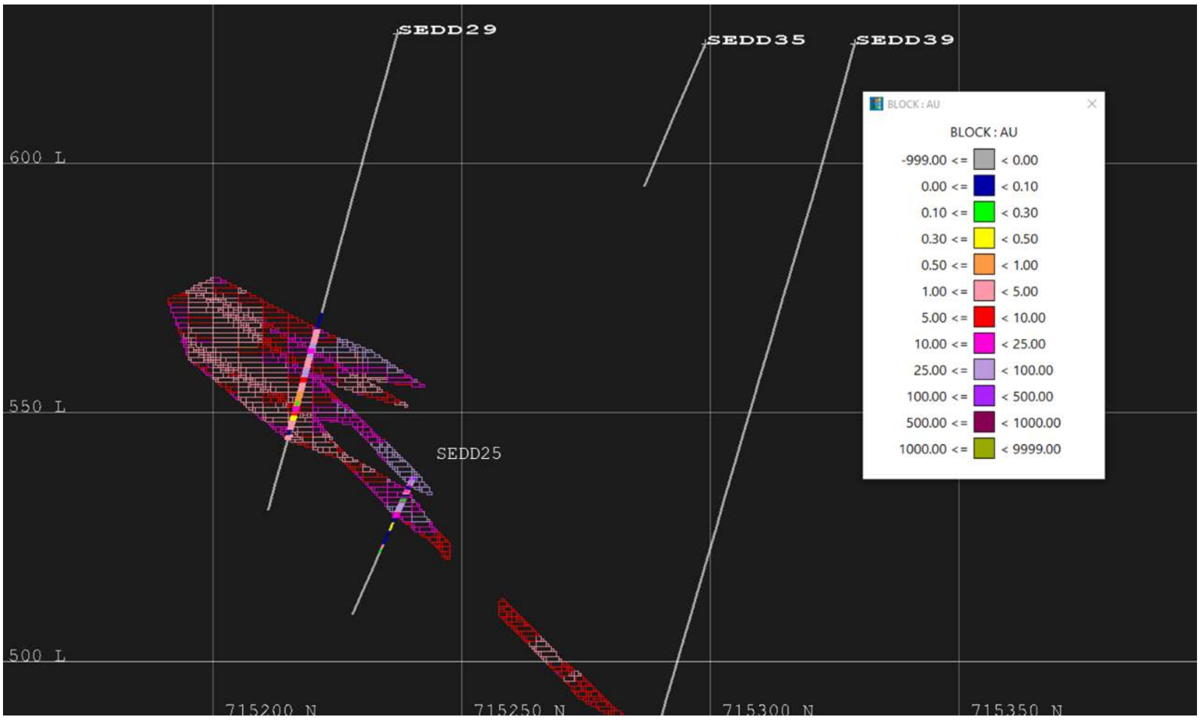


Figure 32: North–south cross section 727,541 mE looking west – main lens (mineralised domain 30) and footwall lens 1 (mineralised domain 40)

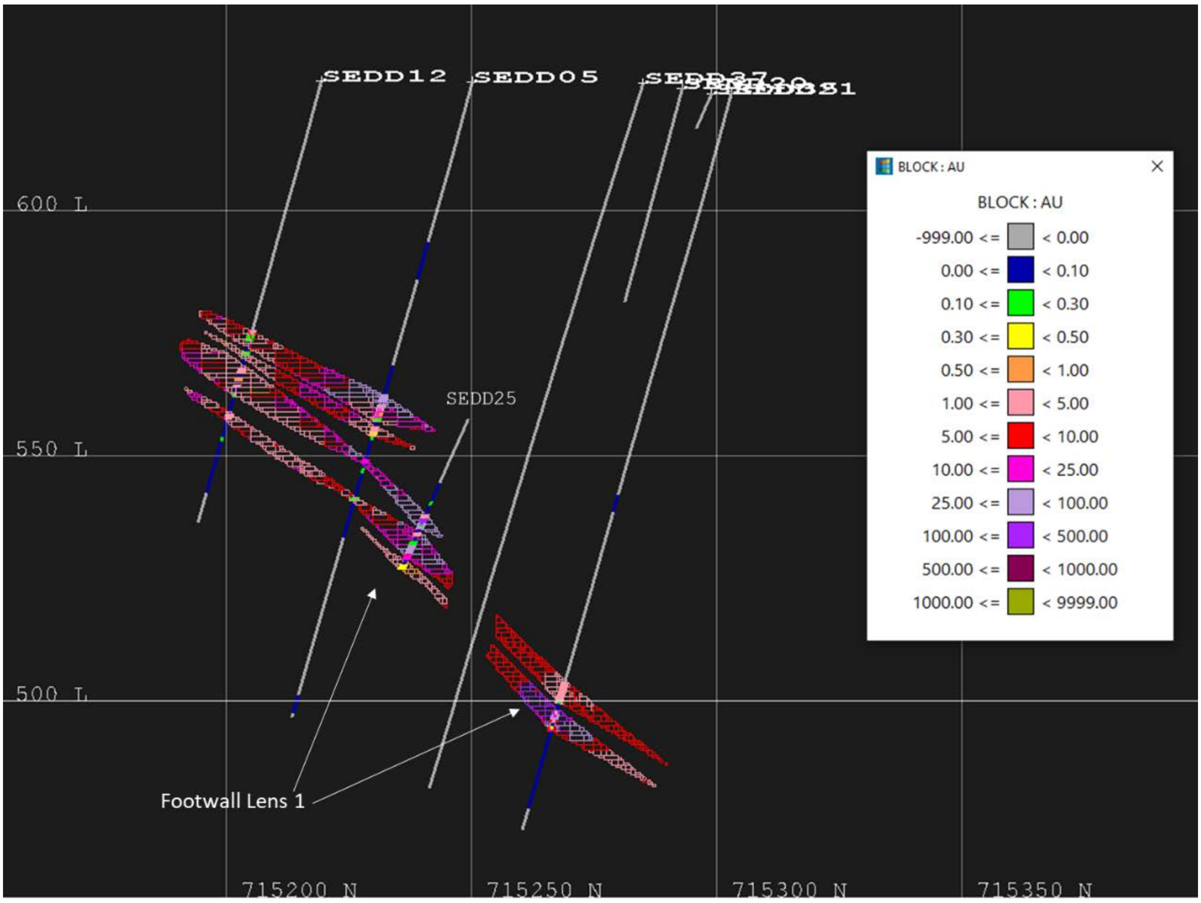
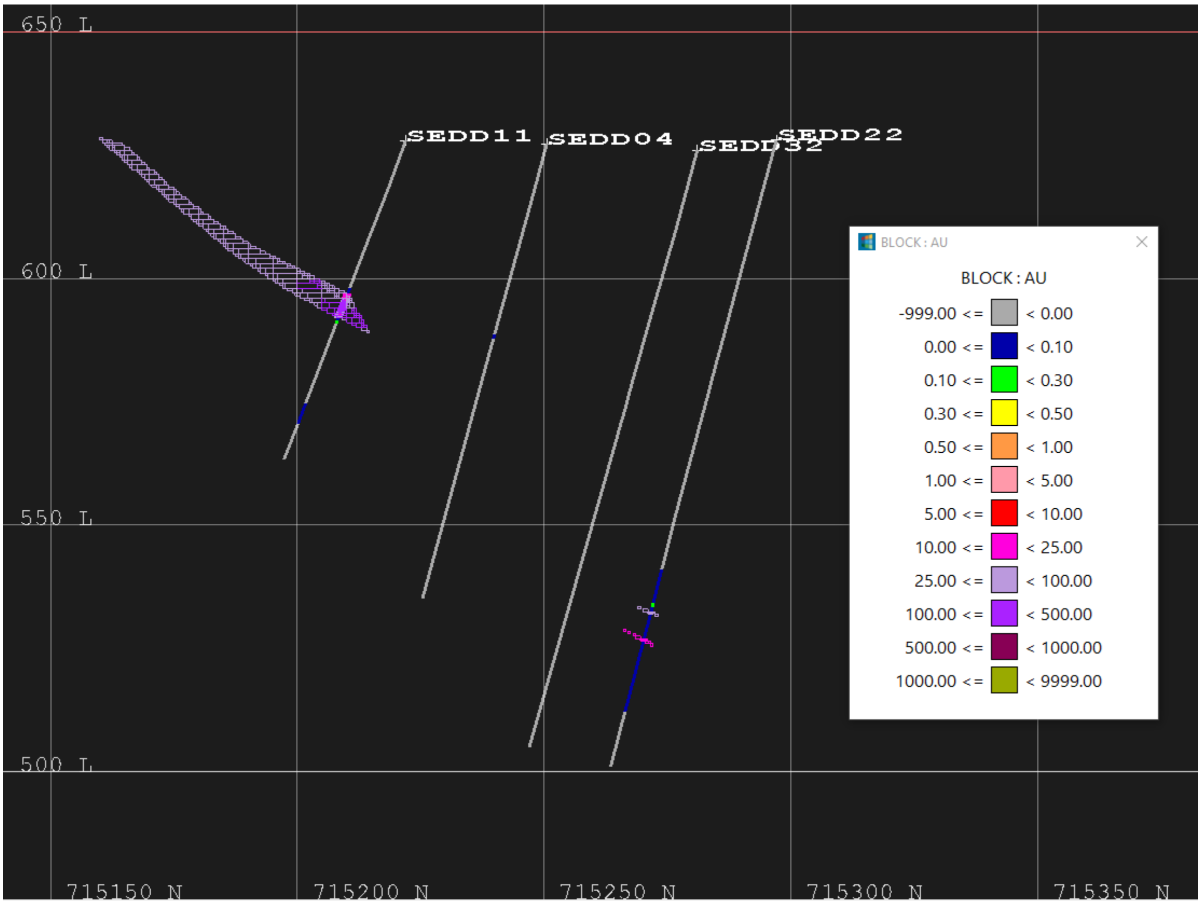


Figure 33: North–south cross section 727,518mE looking west – hanging wall lens 2 (mineralised domain 20)



15.3.4.2 Global statistics validation

Comparisons between gold grades for the length weighted composite samples and volume weighted blocks broken down by mineralised domain is shown in Table . The block estimates in mineralised domains 20, 30 and 40 have lower mean grades but higher median grades overall compared with the composite samples. While top-cutting and spatially limiting the high-grade outliers has successfully limited the impact of very high-grades smearing throughout the block estimates, the low number of composite samples available has resulted in an increase in the median grade (Table and Figure to Figure).

Table 20: Composite versus block global statistics

Domain		0	10	20	30*	40	50	60
Composite samples	Number of composite samples	710	1	7	130	21	2	1
	Minimum Au (g/t)	0.005	53.7	12.3	0.11	0.12	0.22	0.35
	Maximum Au (g/t)	0.236	53.7	225.7	400 (6,746)	360.6	1.1	0.35
	Mean Au (g/t)	0.017	53.7	100.2	16.6 (68.7)	25.9	0.66	0.35
	Median Au (g/t)	0.009	53.7	14.8	2.1 (2.3)	0.99	0.22	0.35
Estimated blocks	Block Volume (m³)	18,641,057	10	5,996	17,929	2,181	21	9
	Minimum Au (g/t)	0.005	53.7	31.5	0.28	0.64	0.68	0.35
	Maximum Au (g/t)	0.048	53.7	148.7	164.1	187.1	0.68	0.35
	Mean Au (g/t)	0.010	53.7	48.9	12.7	12.2	0.68	0.35
	Median Au (g/t)	-	53.7	45.9	7.9	4.8	0.68	0.35

Note*: Uncut composite sample statistics for mineralised domain 30 are show in red in brackets

Figure 34: Composite versus block gold populations – mineralised domain 20

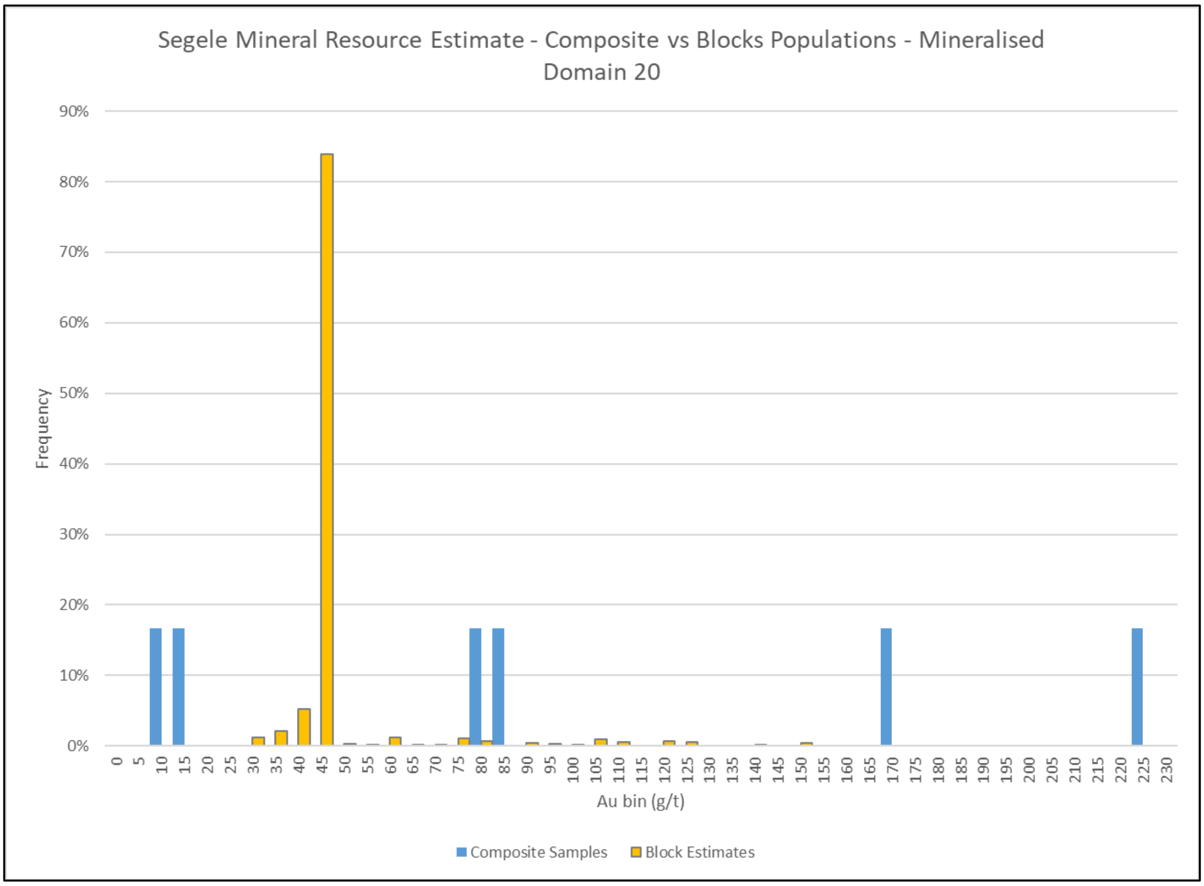


Figure 35: Composite versus block gold populations – mineralised domain 30

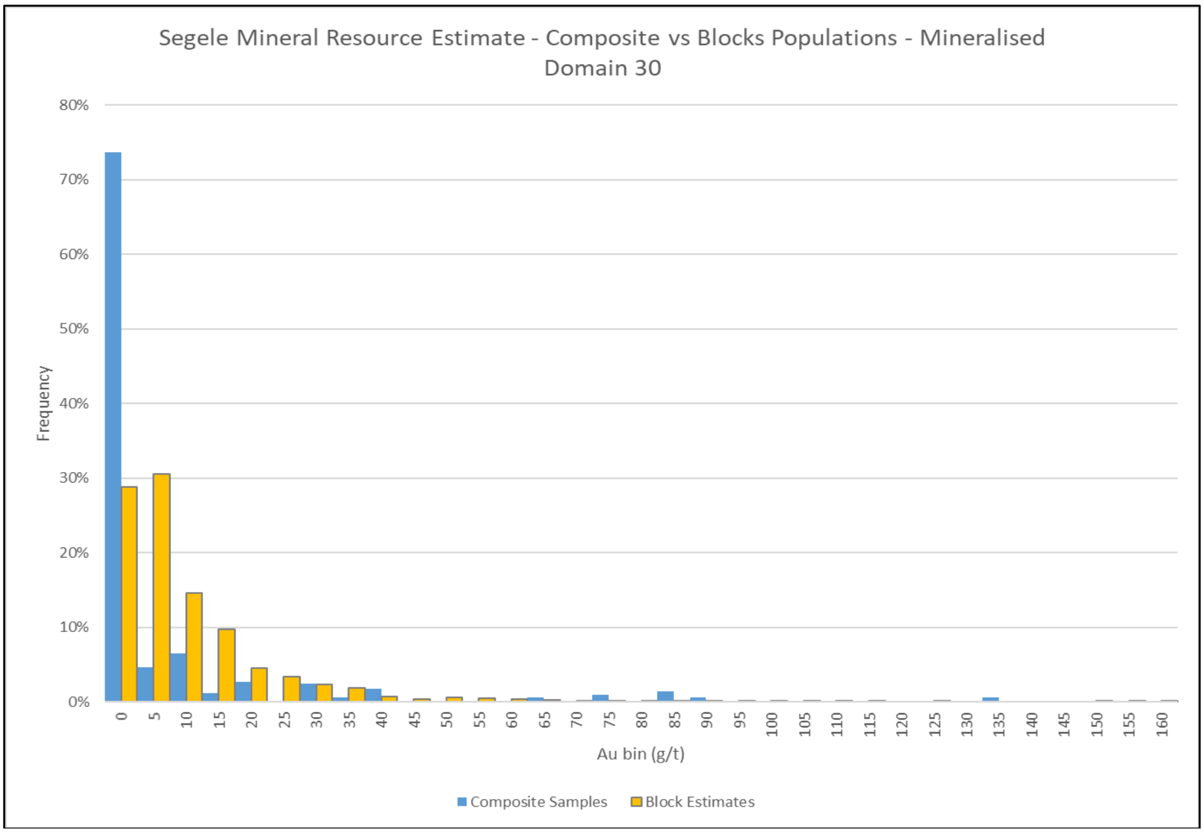
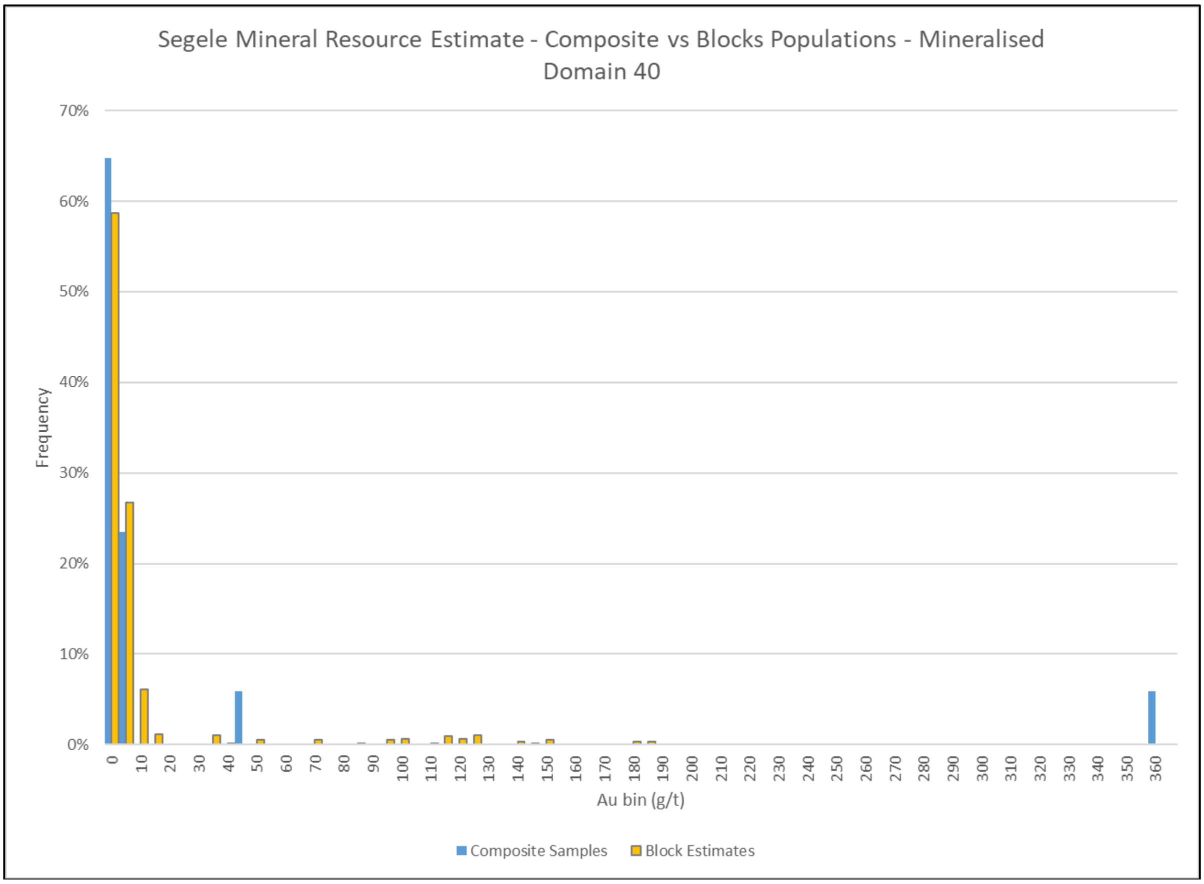


Figure 36: Composite versus block gold populations – mineralised domain 40



15.3.4.3 Swath plot validation

Swath validation plots comparing drill hole composite samples and estimated blocks from the Ordinary Kriging and Inverse Distance estimates were generated along east–west, north–south and depth section lines for mineralised domains 20, 30 and 40 (swath plot examples from mineralised domain 30 shown in Figure to Figure).

The swath plots show that the gold estimates are smoothed, however they do not appear to be overly biased and they reproduce the overall grade trends of the drill hole composite to an acceptable level given the current drill spacing and inherent grade variability.

Figure 37: Segele mineralised domain 30 – east–west swath plot

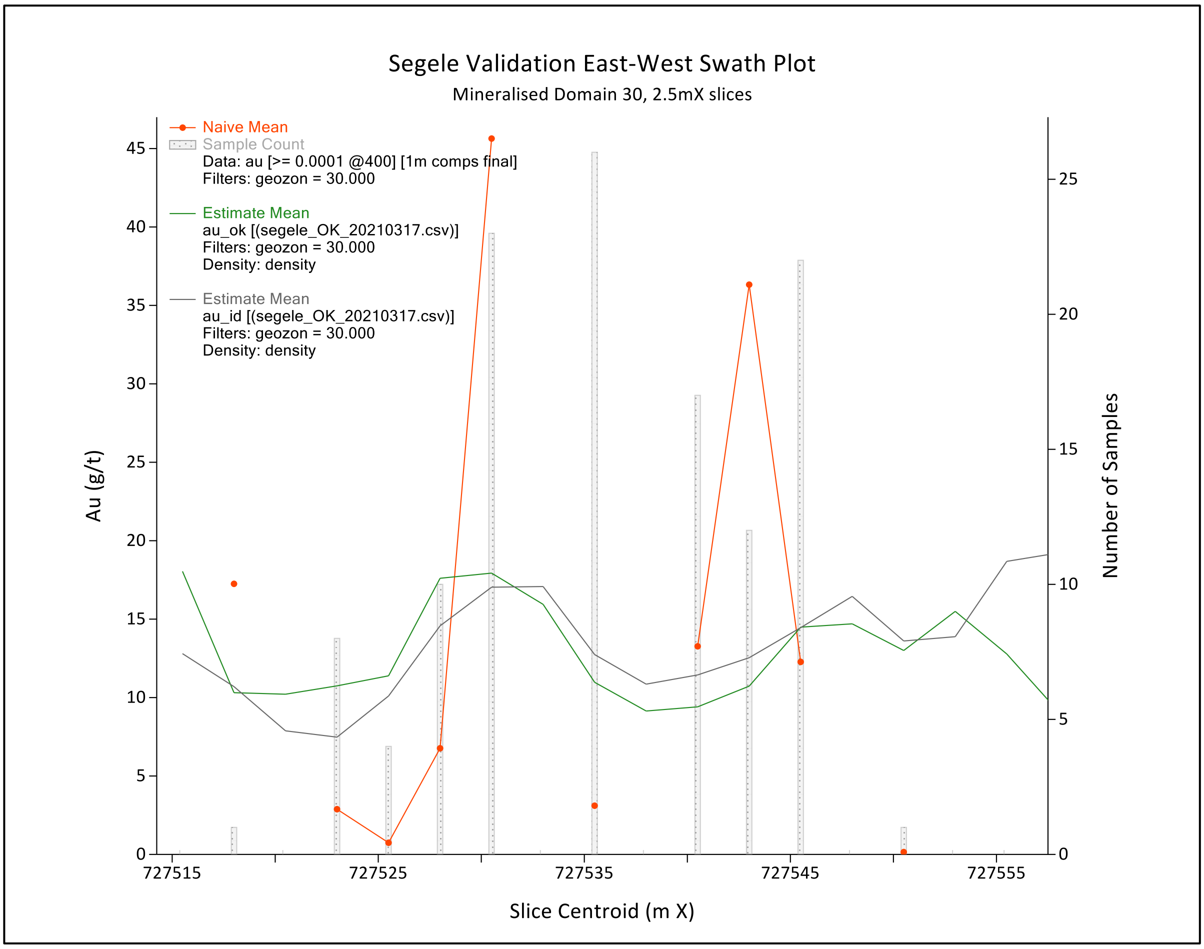


Figure 38: Segele mineralised domain 30 – north–south swath plot

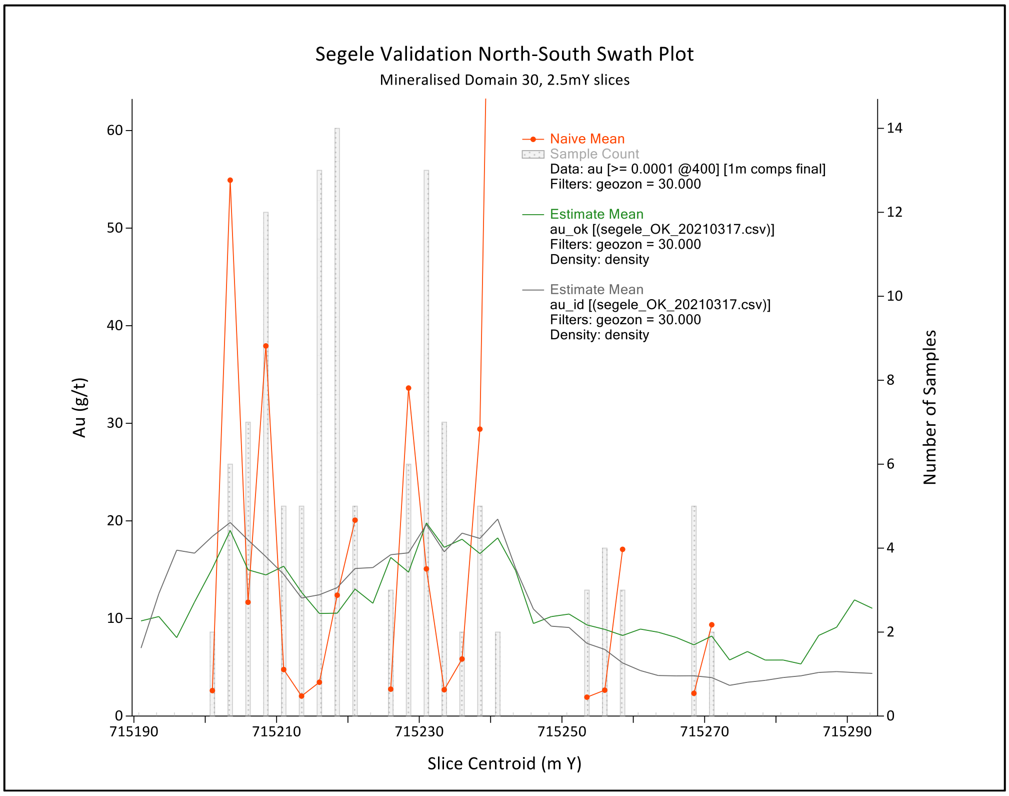
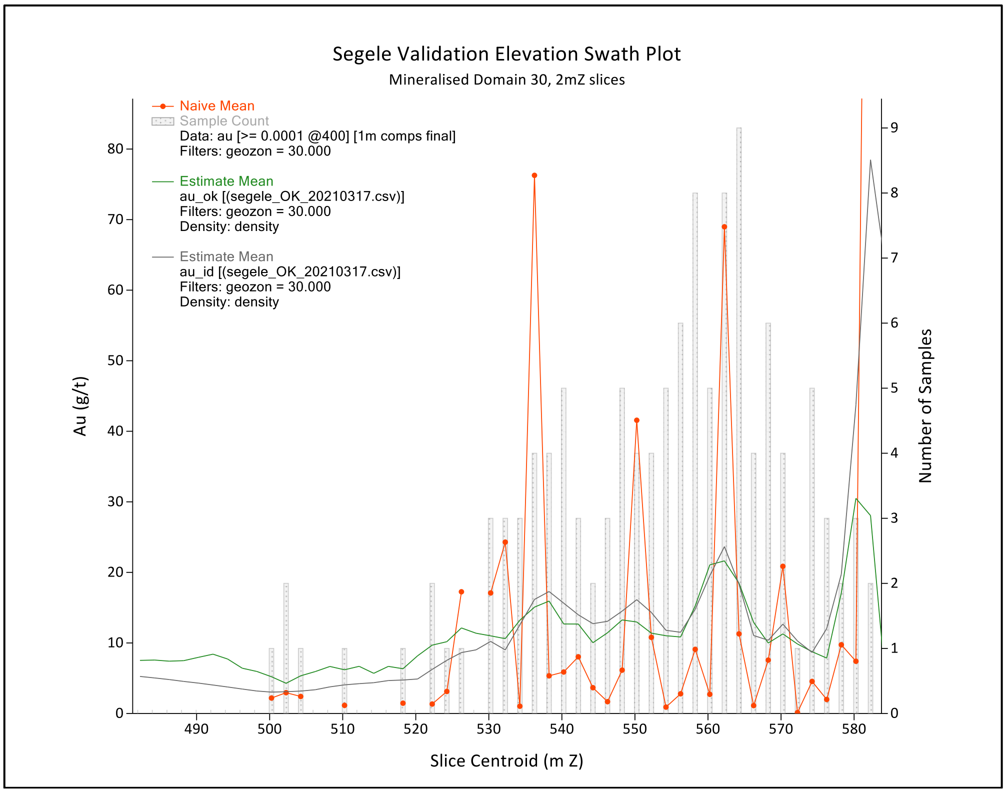


Figure 39: Segele mineralised domain 30 – elevation swath plot

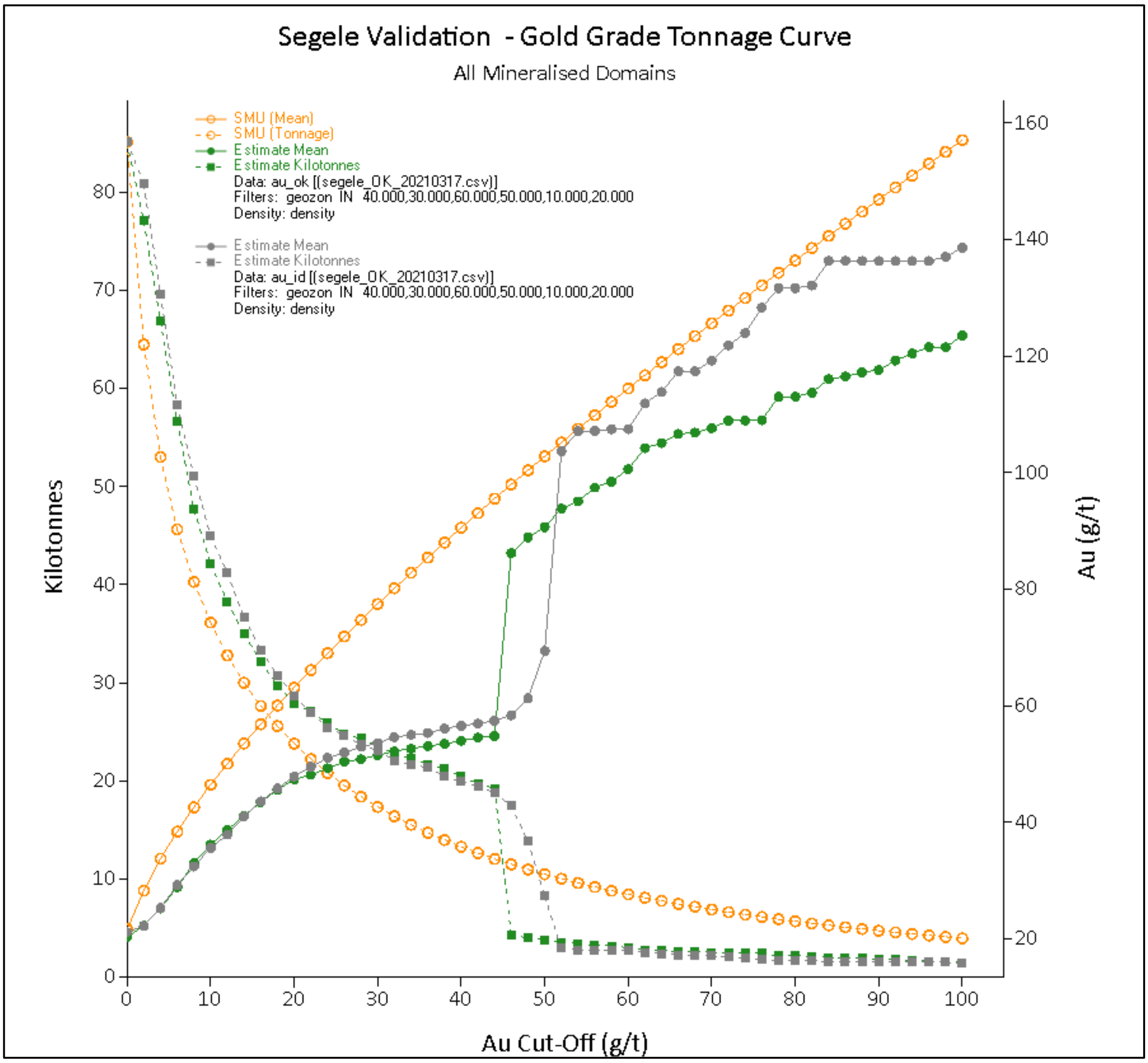


15.3.4.4 Theoretical grade tonnage validation

Theoretical grade tonnage curves were calculated for the drill hole composite data using a change of support model based upon a smallest mining unit (SMU) size of 5 mX × 5 mY × 2 mZ. The theoretical curves were then were compared to grade tonnage curves of Ordinary Kriging and Inverse Distance estimates at the same block support (Figure).

Both estimates show a larger tonnage and lower gold grade with respect to the theoretical grade tonnage curve up to 45 g/t Au after which the estimates show a lower tonnage at a lower grade. The estimates are quite similar however the Inverse Distance estimate shows slightly more grade smoothing than the Ordinary Kriged estimate. Given the current drill spacing and inherent grade variability, the estimates reasonably reproduce the theoretical grade tonnage distribution.

Figure 40: Segele mineralised domain 30 – grade tonnage graph

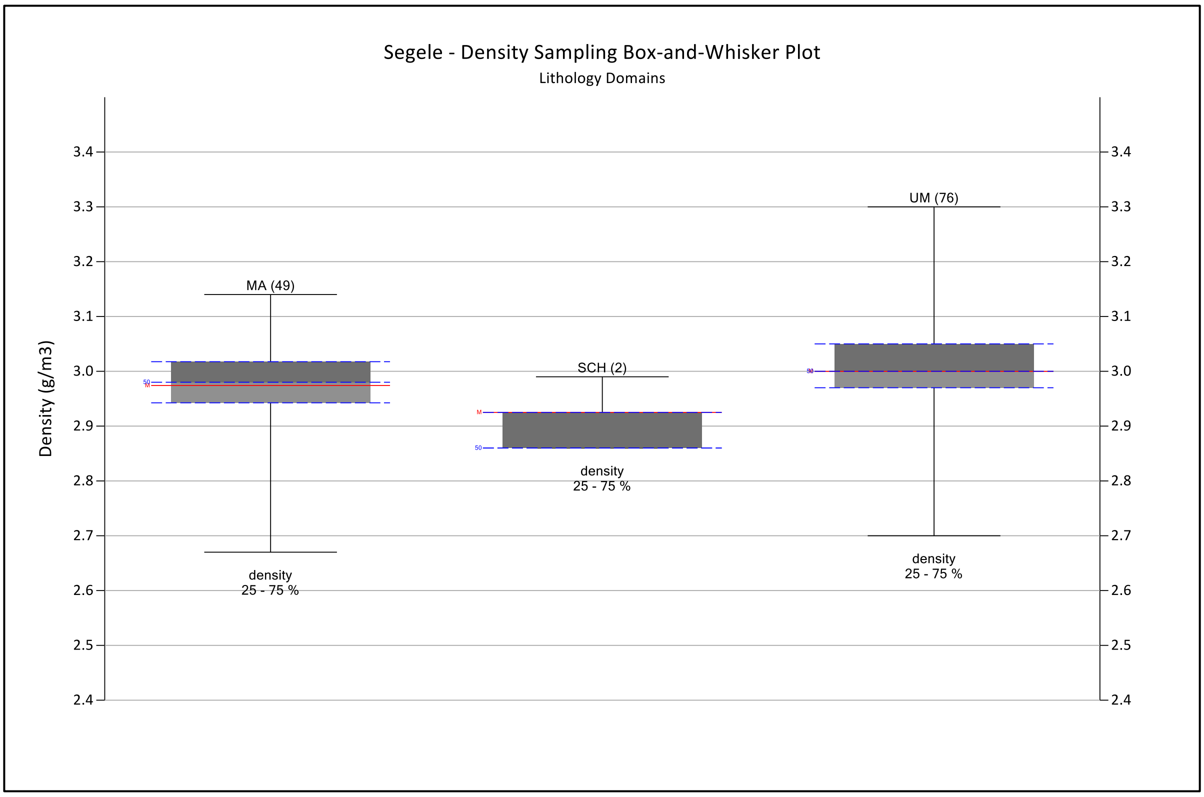


15.3.5 In situ bulk density

The 127 density samples did not provide enough samples in any of the lithology or mineralisation domains to complete a density estimate. Most of density data was collected in waste material (98 samples) with only 29 samples taken in mineralisation. Reviewing the densities broken down by lithology domains showed clear differences between the mafic, ultramafic, and mafic schist domains (Figure) however no density samples have been taken within the vulcanite unit. It was decided to assign the length weighted mean density values to each of the lithology domains in the block model with the vulcanite unit being assigned a similar density to the mafic schist:

- mafic (49 samples) = 2.98 t/m^3
- ultramafic (76 samples) = 3.00 t/m^3
- mafic schist (2 samples) = 2.92 t/m^3
- vulcanite (no samples) = 2.90 t/m^3

Figure 41: Segele deposit – density sampling box and whisker plot broken down by lithology domain



15.3.6 Default grades

Mineralised domains 10 (hanging wall lens 1), 50 (footwall lens 2) and 60 (footwall lens 3) did not have enough sample intervals to complete gold estimates. These domains represent less than 1% of the total mineralised volume. The length weighted average sample grade was assigned to the un-estimated blocks in each domain:

- Mineralised domain 10 (1 sample) – 53.7 g/t Au
- Mineralised domain 50 (2 samples) – 0.68 g/t Au
- Mineralised domain 60 (1 sample) – 0.35 g/t Au.

Seventy-three percent of the waste blocks were not estimated and were assigned a gold value of 0.01g/t Au based on the volume weighted mean of the waste blocks that were estimated.

15.4 Discussion of relative accuracy and confidence

The April 2021 Segele Mineral Resource estimate has been completed using information from RC and diamond drill holes, trenching and artisanal pit and surface mapping completed between 2011 and 2021. The information from the RC drilling, trenching and artisanal pit and surface mapping has only been used to help guide the geological modelling. The estimation of gold and density values has only used information from the diamond drill holes.

Sixteen of the diamond drill hole collars were picked up using a Leica Total Station survey tool but the 24 remaining diamond drill hole collars and the RC collars were picked up using a handheld GPS unit with less accuracy. Downhole surveys for the diamond drill holes were completed using a DeviCore BBT tool which oriented the core and recorded changes in the drill hole dip at irregular intervals although it does not record changes in azimuth. All the drill holes are therefore assumed to be straight. The surveying methods have introduced some uncertainty into the exact location of each drill hole trace however this is mitigated to some extent by the close drill hole spacing.

Six gold mineralisation domains have been modelled however three of the domains are only supported by one to two samples intervals and have been populated with default gold values (mineralised domains 10, 50 and 60). Two of the remaining three mineralised domains also have limited supporting samples however they have been able to be estimated (mineralised domains 20 and 40). These five domains should be viewed as being lower confidence.

The gold mineralisation domains are all highly variable with positively skewed populations and – in some cases – high-grade outliers. While top-cutting and spatially limiting high-grade outliers has successfully limited the impact of very high-grades smearing throughout the block estimates, the low number of composite samples available has resulted in some grade smoothing.

There has been extensive surface and underground shaft artisanal mining in and around the Segele deposit. The current topographic surface includes two of the larger artisanal pits however it does not include any surveys of the smaller pits or the artisanal shafts. The largest artisanal pit and associated shaft mining lines up with where mineralised domain 20 (hanging lens 2) is interpreted to insect the surface. While the artisanal pit volume has been removed from the Mineral Resource estimate, the depth of artisanal shaft mining is unknown and has not been removed. The remaining mineralised domains are not thought to be currently impacted by the artisanal mining.

Akobo Minerals has not completed any detailed Environmental, Social and Governance (ESG) studies for the Akobo Gold Project although initial studies are planned to commence later in 2021. SRK has identified the following ESG issues that currently provide uncertainty to the Mineral Resource estimate.

- There is limited assaying information for deleterious elements such as arsenic and sulphur which may be important inputs for future mine waste studies.
- The Segele Creek runs north to south just east of the Segele deposit and could be impacted by future mining. The creek is not currently used by local communities except for gold panning by the artisanal miners.

SRK is of the opinion that the Segele Mineral Resource estimate represents an appropriate global estimate that reproduces the overall grade trends and tenor seen in the diamond drill hole samples, and that the deposit has reasonable prospects of economic extraction using conventional open pit mining methods. However, the Mineral Resource should not be considered a precise local estimate.

15.5 Mineral Resource classification

SRK considered several factors impacting the confidence in the geological modelling and grade estimation when determining the Mineral Resource classification scheme for the Segele deposit. These factors include:

- artisanal mining
- survey data accuracy
- sampling and assaying methodology and quality
- confidence in the geological model
- estimation performance
- ESG factors.

SRK is of the opinion that the unknown depth of artisanal shaft mining, drill hole collar and downhole surveying methodologies, low sample counts in some domains, confidence in the geological modelling, and limited ESG and mine planning assessments present the largest impacts on the confidence in the Mineral Resource estimate.

All the Segele deposit mineralisation was therefore classified as Inferred Mineral Resources. Mineral Resource classification was coded into the 'rescat' (resource category) variable in the Segele block model. Mineralised blocks were flagged as rescat = 3 (Inferred) whereas all the waste blocks were flagged as rescat = 0 (waste).

The Mineral Resources have been reported above a cut-off grade of 0.5 g/t Au. The Segele deposit has not yet undergone any mine planning assessment however it is assumed that the deposit will be mined using conventional open pit mining methods. The cut-off used is consistent with similar mineralisation style Mineral Resource estimates reported elsewhere in Africa. SRK is of the opinion that all the classified Mineral Resources above a 0.5 g/t Au cut-off would have prospects of eventual economic extraction.

15.6 Mineral Resource statement

The April 2021 Segele Mineral Resource estimate has been prepared and classified in accordance with the guidelines of the *Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves* (the JORC Code, 2012 edition) by Mr Michael Lowry who is a member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of SRK Consulting (Australasia) Pty Ltd. Mr Lowry has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC Code (2012).

A summary of the Segele Mineral Resources as at 6 April 2021 is presented in Table .

Table 21: Segele Gold Deposit Mineral Resources as at 6 April 2021

Classification	Cut-off (Au g/t)	Ktonnes	Au (g/t)	Au ounces
Measured	≥0.5	0	0	0
Indicated	≥0.5	0	0	0
Inferred	≥0.5	78	20.9	52,410
Total	≥0.5	78	20.9	52,410

16 Mineral Reserve Estimates

No Mineral Reserve have been estimated as part of this study.

17 Mining Methods

17.1 Introduction

From a mining perspective, this study will provide recommendations for the site infrastructure, mine access, development, and mining method, equipment selection, mining related labour requirements, operating costs, and capital expenditure.

The Scoping Study is meant to inform on the following:

- Surface infrastructure requirements to support underground mining operations,
- Mine access by means of incline shaft located in the footwall of the deposit,
- the scale of mining operations and related equipment selection, and
- indicative capital expenditure and operating costs.

This Study is not intended to represent a definitive development proposal for the Segele Gold Project. The aim of the Study is to evaluate the potential viability of small-scale underground mining of the Segele Inferred Mineral Resource. The results of the Study will assist Akobo Minerals in further developing the Segele Gold Project to Prefeasibility and Feasibility level studies.

As the Study has been conducted at a conceptual level, all conclusions are considered to provide a ±30 % to 50 % opinion only. The reader is referred to Table 1 for further clarity in accuracies associated with Scoping, Prefeasibility and Feasibility studies.

The author conducted a site visit in April 2021.

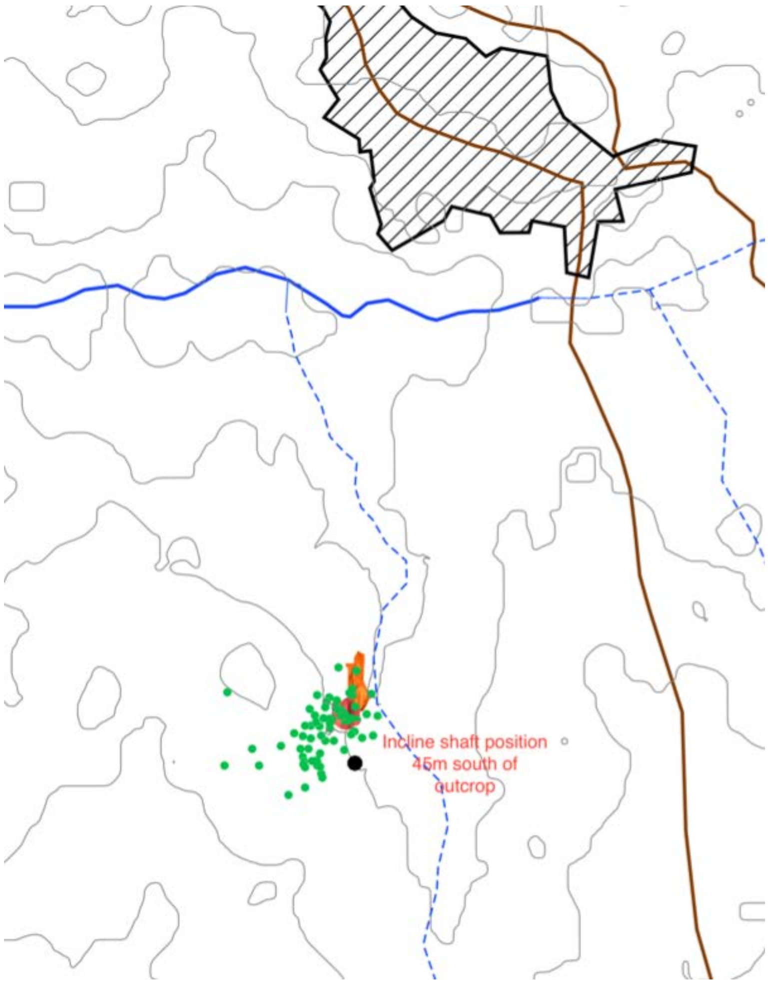
The reader is cautioned that the RoM head grade tonnage schedule reported does not constitute a Mineral Reserve nor does it provide assurance of an economic development case at this stage. There is currently an Inferred Mineral Resource, however there is insufficient confidence in the geological model to estimate a Mineral Reserve or to allow the application of modifying factors in sufficient detail to support mine planning to the extent to declare a Mineral Reserve. The work presented is a techno-economic assessment of the potential viability of underground mining at the Segele Gold Project.

The Segele Scoping Study Mining Methods are based on the maiden Mineral Resource Estimate dated 6 April 2021 by SRK Consulting (Australasia) Pty Ltd (SRK) also summarised in this report.

Chapter **Mineral Resource Estimates**, covers the key details of the mineral resource estimates and geological model. Key geological characteristic is the dip of the mineralisation being ±40 degrees and the artisanal working pits as depicted by yellow circle in **Error! Reference source not found.**. The steepness of the deposit will influence the access approach as a trackbound incline shaft is proposed. The design consideration will be based on mine access on true dip of 35 degrees.

The position of the old artisanal workings (pits) also influences the positioning of the mine access, as it will be advantageous not to intersect any old underground artisanal workings. Borrego Sun envisages the access to the Segele deposit to be 45m east of the artisanal pits shown in Figure 42, thereby missing any historical surface and underground mining activities. It is anticipated that historical artisanal mining didn't advance further than 40m below surface (mbs), as this normally the practical limit based on ventilation and underground water management.

Figure 42: Incline Shaft Position



The current drilled area is no larger than 30m wide by 120m long, and much of the mineralisation is located near to the surface. The deposit has excellent exploration potential because it is open at depth (**Error! Reference source not found.**), and there are additional targets to the East and West of the deposit.

Table 22 Segele Gold Deposit Mineral Resource Estimate as at 6 April 2021

Classification	**Tonnes (t)**	**Grade g/t**	**Mineral Content (oz)**
Inferred	78 000	20,9	52 410
Indicated	0	0	0
Measured	0	0	0
Total	**78 000**	**20,9**	**52 410**

Cut-off >0.5 g/t

17.2 Mine Design Criteria

Mine Design Criteria for the exploitation of the Segele Gold Project are summarised in Table 23 to Table 31.

The design philosophy (Table 23) for mine access is to develop an incline shaft at 35º on true dip at an advance rate of 30m per month utilising pneumatic rock drills, emulsion based explosives, and shock tube initiation, with the blasted rock hand lashed into 2-tonne small wagons (side tippers). A total decline length of some 290m will be required to be developed, as well as five (5) station crosscuts. It is planned to develop the decline and station excavations utilising a dedicated two-shift development crew with dayshift drilling and blasting, and nightshift cleaning.

Table 23: Design Criteria - Underground Access and Decline Development Segele Scoping Study

Description	Planned
Mine Throughput	5,800tpm per Incline shaft
Portal Protection	Portal Protection Bench Above Opening
Portal Drainage	Profiling And Run Off Trench, Sump & Pump
Declines	Single Incline– 35 degrees True Dip
Decline 1	Track and Single Drum Winder
Operations	2 shifts, operating 6-day work week, 8 hr shifts
Drilling	Pnuematic Rock Drill
Blasting	Emulsion & Shock Tube
Blasting Cycle	Single Shift Blast
Cleaning	hand lashing and/or Scraper winch
Incline Size	2,5m x 2,2m
Support Drilling	Handheld pneumatic drill - Roof Bolting
Ventilation	Force-Exhaust
Advance Rate	30m per month per end
Ground Water Control	Horizontal Drain and Pump
Emergency Conditions	Fixed Refuge Chamber (compressed supply)

Conventional footwall development will be conducted utilising handheld pneumatic rockdrills, emulsion and shocktube blasting, with trackbound wagons loaded by a team of hand lashers. Development advance rates of 30m per month will be based on dayshift drilling and blasting with nightshift cleaning and track installation every 9m of advance. The development rate for raises, travelling ways, and boxholes will be 20 to 30m per month. The design criteria for conventional waste development are shown in Table 24.

Table 24: Design Criteria - Mining Development Segele Scoping Study

Description	Planned
Operation	6-day work week - 8 hr per shift
Shifts	2 Shifts- D/S drill and Blast; N/S Cleaning
Flat end and Crosscut Sizes	2.5m x 2,2m
Raise Size	2.4m x 1.8m
Boxhole Size	1.8m x 1.5m
Travelling ways	2,0m x 2.4m
Drilling	Handheld Pneumatic rockdrills
Blasting	Emulsion with Shocktube
Cleaning	Hand loading into 2-t wagons (side tippers)
Transport Method	Hand tramming or pulled by winch
Rate of Advance	30m per month flat end & inclined ends
Flat end (footwall and X/cut development)	30m per month
Inclined ends (Raises and Travelling ways)	20m per month
Boxholes	20m per month
Blasting	Time Blast
Support (Rock Mechanics Report to Validate)	(1.8m 16mm Grouted Bolts 1.5m x1.5m Pattern)

The anticipated geological conditions are depicted in Table 25. It is anticipated that an average stoping width of 7,5m will be mined per lift. A geological loss of 15% is anticipated for future mining. Ore Loss is assumed to be 8% with an additional 5% for unplanned dilution. Rock density is based on current information provided by SRK. The dip of the mineralised material is expected to dip at 35º to 45º and may dip steeper in other areas of the deposit. Thus, the actual mining methods employed will depend on the dip and orientation of the actual sections. For the purpose of this study, Shrinkage stoping has been used for the techno-economic evaluation.

Table 25: Design Criteria - Geological Parameters Segele Scoping Study

Description	Planned
Mineralised gold thickness (average	6.0 to 7.5m
Minimum thickness for mining	1.0m
Dip of mineralised material	$\pm$ 40°
Rock Density (In-Situ) Mineralise Au (Mafic)	2.98 t/m^3
Rock Density (In-Situ) ultramafic	3.0 t/m^3
Rock Density (In-Situ) mafic schist	2.92 t/m^3
Rock Density (In-Situ) volcanite	2.90 t/m^3
Geological Losses	15%
Dilution	5%
Ore Loss	8%

The design criteria for conventional drill and blast operations are depicted in Table 26. Based on the design criteria in the order of 5,800 tonnes of ROM mineralised material will be produced per month.

Table 26 Design Criteria – Conventional Drill and Blast Segele Scoping Study

Description	Planned
Panel Length	30m
Stope height (back length)	30m
Drilling	Pneumatic Rock Drills
Blasting	Emulsion and Shock Tube
Cleaning	Gravity cleaning
Stoping Advance Rates	1.5m per blast
In Stope Support	Packs to barricade raise
Mining Method	Shrinkage Stoping Cut and Fill Narrow vein Breast
Mining Direction	On-Strike both directions max length 30m
Material Handling	Material cars and mono winches
U/G Grizzly	+250mm Square Grizzly
Mining Losses (excluding pillars)	8%
Dilution	5% (Over Break)
Extraction	81%

Underground transport will be supported by trackbound equipment. From the Incline stations rock and material will be transported by hand pushing or using small electric winches (Table 27). For rock handling purposes, 2-tonne hopper will be used to either draw mineralised material from the stope orepasses or to handle rock hand loaded via shovels from flat end development. For hoisting, three (3) 2t-hoppers will be transported up the incline shaft for hoisting.

Table 27 Design Criteria – Underground Mobile Equipment Segele Scoping Study

Description	Planned
Rock Transport – Levels	2-tonne wagons
Rock Transport – Incline/Decline Shaft	3 x 2-tonne wagons
Personnel Transport	Walking down incline shaft and access drives
Winder Hoist	8000 SLBW/250517 Winches SA
Winder speed	14m/min (4.29m/s)
Winder drum capacity	22mm (rope) x 250m
Winder Payload	8 000 kg
Development	Hand Shovel
Emergency Equipment	Trackbound Car on Surface

The ventilation design criteria are shown in

Table 28. The incline will be developed based on a time blast at the end of the day shift utilising a force – exhaust system.

Table 28 Design Criteria - Ventilation, Safety & Health Segele Scoping Study

Description	Planned
Velocities	
Intake Airways	6m/s to 8m/s
Return airways – Footwall	6m/s to 8m/s
Return airways – reef plane	6m/s to 8m/s
Inclined Shaft	6m/s to 8m/s
Air quantities	3 to 3.5 $m^3/s/ktpm$
Force Delivery Quantity	0.2 $m^3/s/ktpm$
Exhaust Intake Quantity	0.3 $m^3/s/ktpm$
Refuge Bays	1 for underground
Re Entry Period	4 hours

Table 29 represents the design criteria for the underground infrastructure requirements. Each level will have a station crosscut, rock pass which will fed directly onto the incline rock hoppers via chutes.

Table 29 Design Criteria - Underground Infrastructure Segele Scoping Study

Description	Planned
Power	
Underground HT Reticulation	
Underground Rated KVA	
Water Supply to Mining Areas	Surface Dam
Water Demand – Mining	$1.0m^3/tonne$
Make-Up Water Demand – Mining	$0.5m^3/tonne$
Emergency Power	None
Compressed Air	Surface Compressor (Centralised)
Mini-Sub	Surface
Ventilation	Axial Flow Fans / Localised Vent
Communications	Telephone line surface to level
U/G Lighting	Incline Shaft – Low Power Luminares
Workshops	Surface
Personnel Transport	Walking on incline & Levels
Incline Track	22kg rail
Water Pumping	U/G Sump
Toilets	Chemical Non-flush
Water & Air Reticulation	150mm-Air; 100mm-Water
Mud Handling	Hand lash out from Sump
Personnel Control	Time Management System

General infrastructure and services design criteria are shown in Table 30.

Table 30 Design Criteria – Infrastructure and Services Segele Scoping Study

Description	Planned
Dressing Station / Ambulance	Positioned at Shaft Bank
Emergency Power	Diesel Generator – (Main Vent Fan Only)
Compressed Air	Surface Compressor (0.2m³/s)
Emergency Power for IT and Telecommunication	UPS Supply
Water Treatment	On-Mine
Sewage	On-Mine
Potable And Domestic Consumption	150 Litres/Person/Day –
Process Water U/G (make-up)	0.5m³/tonne – 1/Day
Security	Physical Barriers, Alarms and Fencing
Telecommunications and IT	Voice And Data
Transportation	None
General Cleaning	On Mine

Offices and other building for each shaft area will be standard brick and mortar building and will be serviced via a dirt road.

Table 31 Design Criteria – Surface Infrastructure Segele Scoping Study

Description	Planned
Offices – Line Supervision	Constructed Buildings
Lamp room	Constructed Buildings
Change Houses	Constructed Buildings
Dressing Station	Constructed Buildings
Banksman Cabin	Constructed Buildings
Physical Barriers	Total Area Fenced – 6ft
Surface Storage	Bunker system
Power Supply	Diesel Generator
Mine Low Voltage	525/380/220V
Water Supply	Ground Wells
Roads	Gravel Roads With Dust Control
Dams/Reservoirs	Required
Servitudes	N/A
Water Treatment	On-Mine
Sewage Treatment	On-Mine
Domestic Waste	Self Disposal

17.3 Mine Design

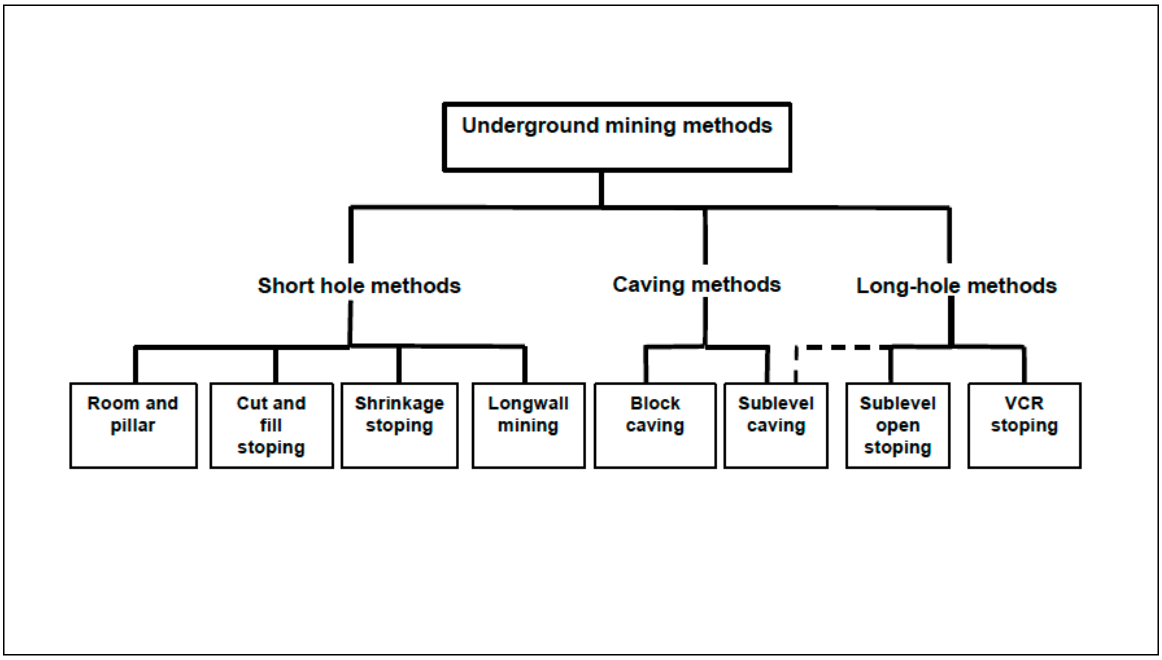
17.3.1 Mining Method Selection

17.3.2 Introduction to mining methods

The selection of an optimal underground mining method (Figure 43) will be one that maximises economic returns while keeping the working environment impacts to an acceptable level, maintain acceptable working conditions for employees, satisfies statutory obligations and satisfies the strategic plan of the company. The key influences in selecting a mining process are based on the following:

- The style of mineralisation
  - Size (height, thickness, and overall dimensions)
  - Shape (tabular, lenticular, massive or irregular)
  - Attitude (inclination or dip),
  - Depth
  - Regularity of the ore boundaries
  - And the type of deposit
- Strength and the character of a rock mass is the behaviour of the host rock under certain stress and the limitation of the rock mass classification
- Other attributes
  - Engineering properties of the mineral deposit and the host rock.
  - Required rate of mineral production from the mine.
  - Availability, cost, and skills labour needed to operate the mine.
  - Prevailing regulatory environment.
  - Environmental impacts together with the costs of mitigation and mine closure costs.

Figure 43: Underground Mining Methods



17.3.2.1 Shrinkage Stoping

Shrinkage stoping (Figure 44) is generally applied to steep orebodies that do not lend themselves to a high degree of mechanisation. This mining method has been applied successfully in high-grade precious metal mining because of its low dilution and low ore loss.

Shrinkage stoping is a vertical overhand stoping method in which most of the broken ore remains in the stope to provide a working floor for the miners. The broken ore also provides wall support until a stope is completed and ready for drawdown of the remaining ore. Shrink refers to the process of shrinkage stoping where the amount of broken ore out of the stope is decreased; most of it is left temporarily as a working platform and ground support.

In general, the method is used in steeply dipping (>50° dip) narrow (up to 15m) ore bodies with regular boundaries. Ore and waste (both the hanging wall and the footwall) should be strong, and the ore should not be affected by storage in the stope. The method can be easily applied to ore zones as narrow as 1m, but it can also be successfully used for extraction of much wider stopes.

Shrinkage stopes are mined upward in horizontal or inclined slices. Usually about 40% of the ore derived from the stope cuts (the swell) can be drawn off (shrunk) as mining progresses. As a consequence, no revenues can be obtained from the ore remaining in a stope until it is finally extracted and processed for its mineral values. Rock quality should have a rating of at least 70 rock mass rating (RMR). Ore must not be affected by storage i.e. certain sulfide ore oxidise and decompose when exposed to air.

Figure 44: Shrinkage Stoping

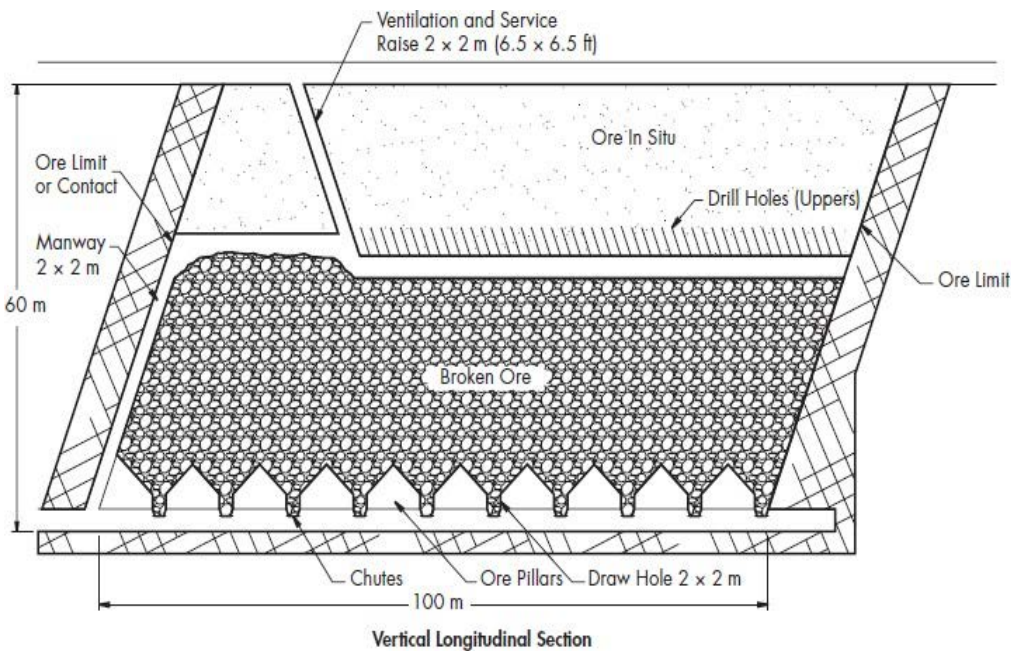
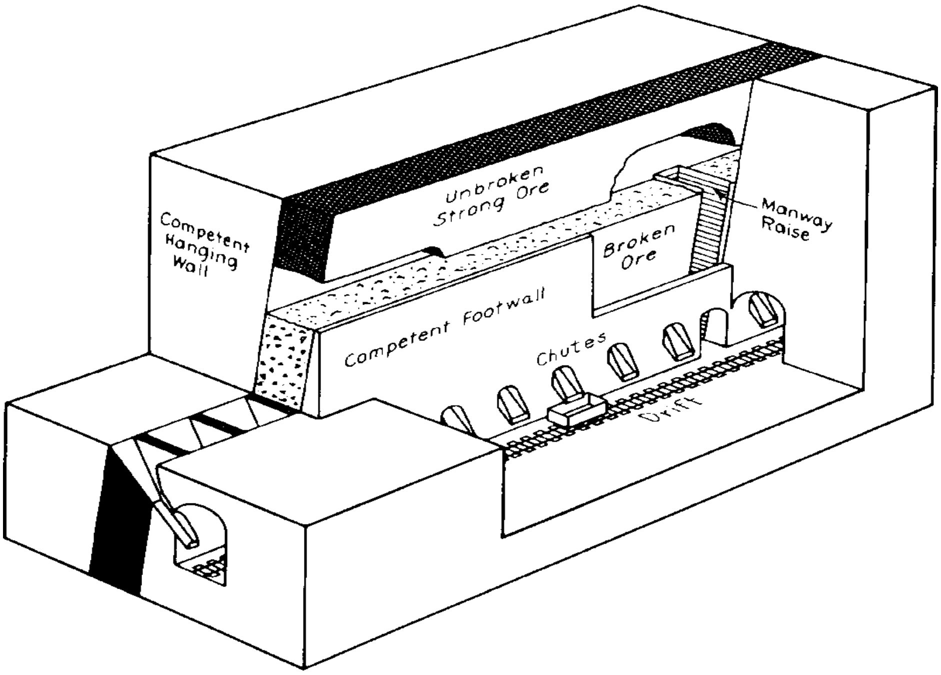


Figure 45: Shrinkage Stoping Development



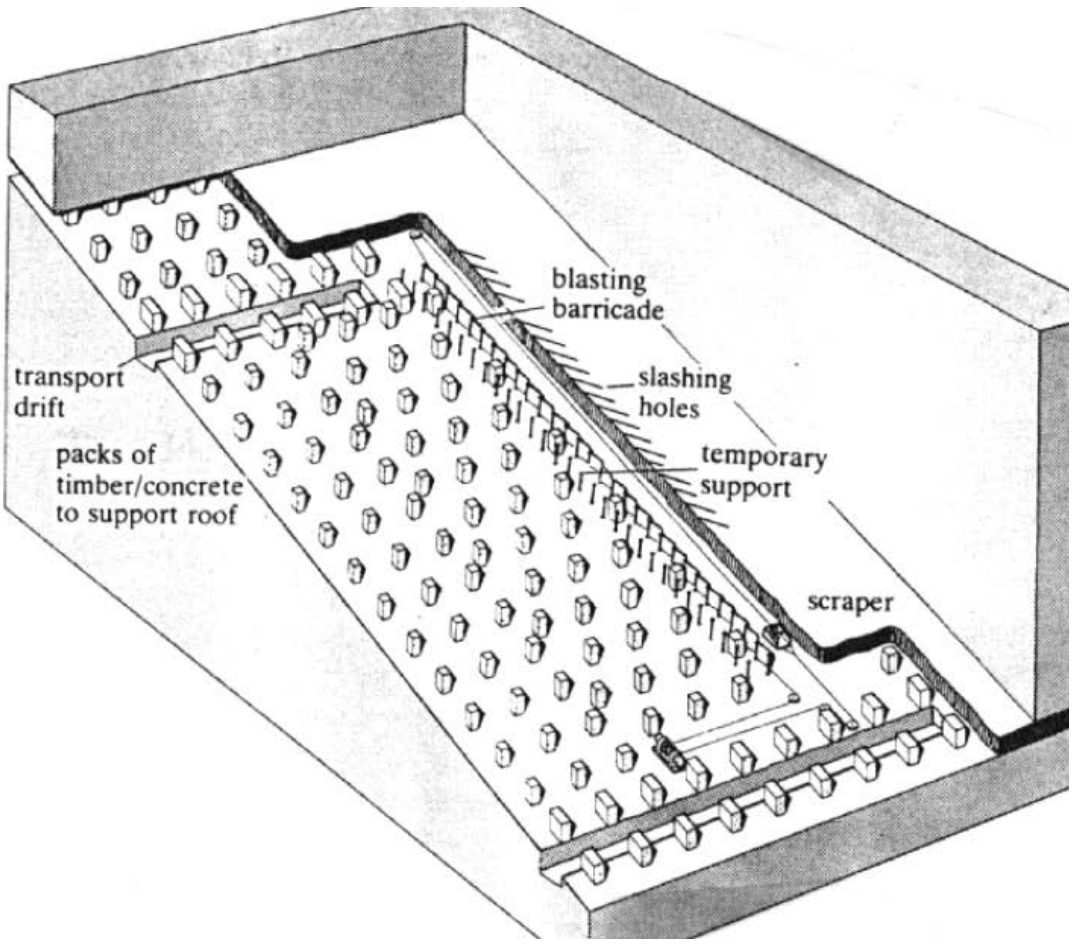
17.3.2.2 Post Pillar Cut and Fill

Cut-and-fill mining involves the successive mining of horizontal or inclined slices upward through a relatively narrow and sub-vertical tabular ore body. This is followed by the placement of uncemented waste rock or hydraulically placed sand fill to create a new, higher working level to gain access to ore above and to support the ground below. Raises maintained up through the fill (and occasionally down from upper levels) provide for access, ventilation, ore removal, and the drainage of water from the fill material.

17.3.2.3 Narrow Vein Breast Stoping

Breast stoping (Figure 46) is suitable for deposits with ore thicknesses up to 3.0m high. The advantage of this mining method is that allows for selective mining, low capital, and low skill requirements. However, this mining method is labour intensive with one of the higher operating costs of all the mining methods.

Figure 46: Breast Stoping



17.3.2.4 Room and Pillar

Figure 47 depicts room and pillar over a medium thick inclined orebody with the steep slope precluding the use of mechanised mobile equipment. Stoping proceeds upwards along the dip direction. The inclined room and pillar method can be used in orebodies that angle up to 45° with fairly uniform thicknesses. The strength of both the back and the ore are important. Roof strength must be sufficient to stand open for the width of the room when the room is opened. Similarly, ore strength determines the size of the pillar required to support the open span of the back. Additional support, in the form of roof bolts, long anchors etc., may be installed in the rooms to support the hangingwall.

Cut and fill stoping is described by

a. Drilling and blasting, in which a slice of rock, typically about 3m thick, is removed from the crown of the stope
b. Scaling and support, consisting of the removal of loose rock from the stope crown (back) and walls, and the emplacement of lightweight support
c. Ore loading and transport, with ore moved mechanically in the stope to an ore pass to the transport level
d. backfilling, when a layer of granular material, of depth equal to the thickness of the ore slice removed from the stope crown, is placed on the stope floor.

An important aspect of cut-and-fill stoping is that miners work continuously in the stope and execute all production activities under the stope crown which is advanced by mining. The success of the method therefore involves achieving reliable control of the performance of rock in the immediate periphery of the work area. This is realised by controlled blasting in the stope crown, application of local rock support and reinforcement techniques, and more general ground control around the stope derived from the use of backfill or rock fill.

Cut-and-fill stoping is applied in veins, inclined tabular orebodies, and massive deposits. In the last case, the orebody is divided into a set of stope blocks, separated by vertical pillars, geometrically suitable for application of the method. It is suitable for orebodies or stope geometries with dips in the range 35°–90°, and applicable to both shallow and deep orebodies. Orebody or stope spans may range from 4m to 40m, although 10–12m is regarded as a reasonable upper limit. The use of backfill renders cut-and-fill stoping suitable for low rock mass strength conditions in the country rock, but better geomechanical conditions are required in the orebody.

Cut-and-fill stoping is a relatively labour-intensive method, requiring that the in-situ value of the orebody be high. The ore grade must be sufficiently high to accommodate some dilution, which can occur when backfill is included with ore during loading in the stope. On the other hand, the method provides both flexibility and selectivity in mining. This permits close control of production grades, since barren lenses may be left unmined, or fragmented but not extracted from the stope. It is also possible to follow irregular orebody boundaries during mining, due to the high degree of selectivity associated with drilling and blasting operations.

Significant environmental benefits of cut-and-fill stoping are related to the use of backfill. In the mine internal environment, close control of rock mass displacements provides a ventilation circuit not subject to losses in fractured near-field rock. Similarly, maintenance of rock mass integrity means that the permeability and hydrogeology of the mine far field may be relatively unaffected by mining. The advantages of the method, for the mine external environment, include limited possibility of mining-induced surface subsidence. Reduction in surface storage of mined wastes follows from possible replacement of a high proportion of these materials in the stoping excavations. De-slimed mill tailings are particularly suitable for backfilling since the material may be readily transported hydraulically to working areas. This eliminates the need for extra mine development for transfer of backfill underground.

The amount of stope development for cut-and-fill stoping is small, compared with other mining methods such as open stoping. Cut-and-fill stoping can commence only after developing a transport level, ore passes, sill drift, service and access raises or inclines, and return air raises.

Figure 47: Room and Pillar Mining

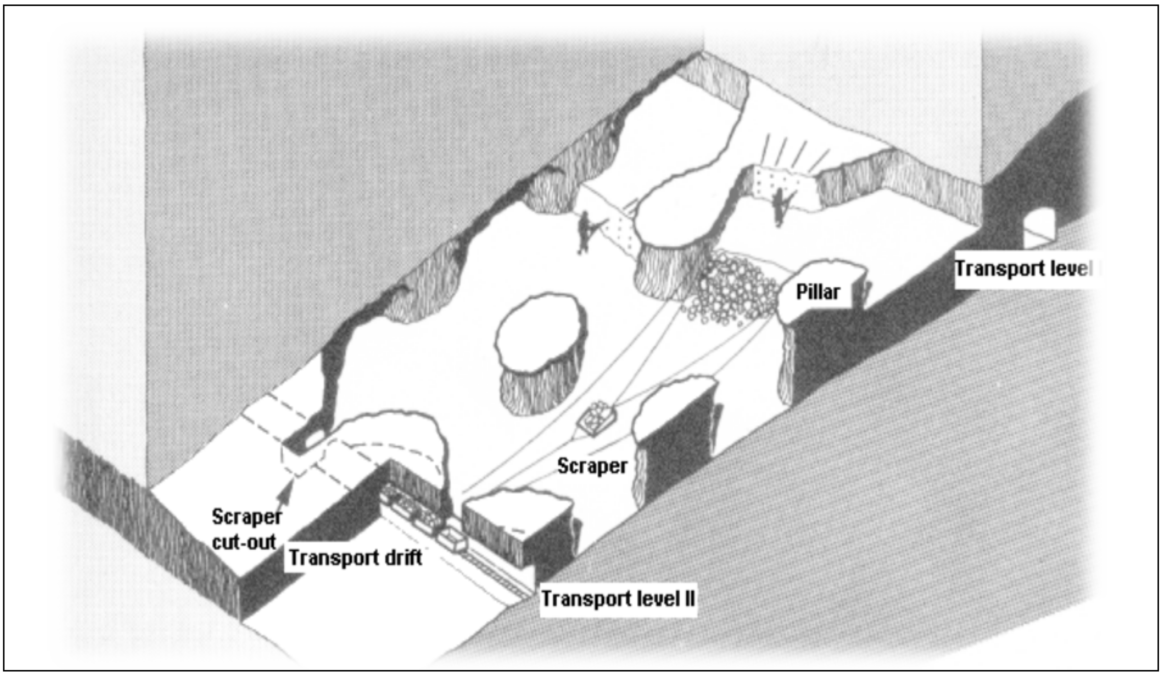
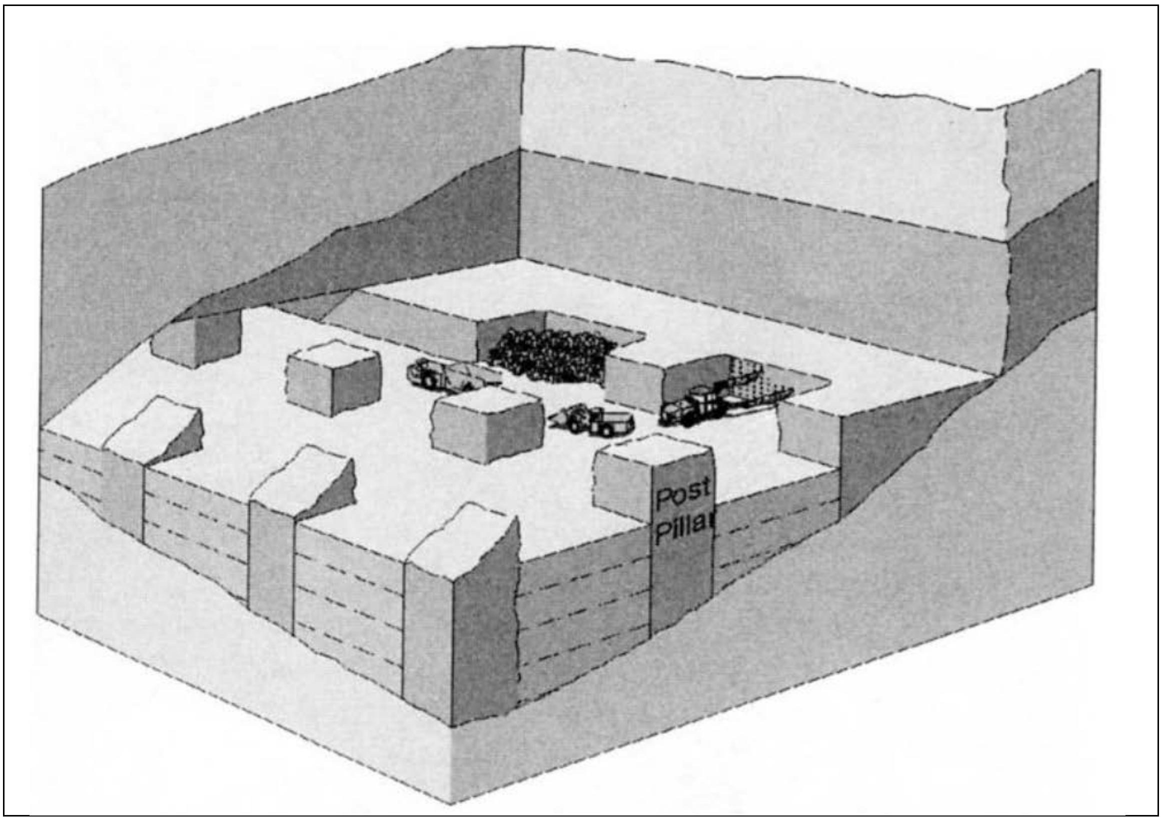


Figure 48: Post Room and Pillar Mining



17.3.3 Mining Shift and Annual Production Hours

The work roster used for the Segele Scoping Study is based on a double 8-hour shift, 11 shift per fortnight schedule (work every other Saturday). Table 32 indicates the mining shifts and annual production hours. An effective working shift of seven (7) hours has been assumed.

Table 32: Mining Shift and Annual Production Hours

Description	Units	Amount
Shift	**#**	**#**
Shifts Working	Shifts/month	23
Shifts per day	Shifts/day	2
Total Time 52 weeks 11shift-fortnight	days/yr	286
Shifts lost for weather, holidays	days/yr	14
Net Days Worked	**days/yr**	**272**
Effective hours per day		
Shift		
Total hours	hr/shift	8.00
Less:		
Travel & Start-up checks	hr/shift	0.50
End of shift demobilise and travel	hr/shift	0.50
Net hours	**hr/shift**	**7.00**
Effective Daily Working Hours	**hr/day**	**14.00**
Available Production Hours	**hr/year**	**3 808**

For this Study the effective available operating hours was set at 3 808 hours per annum. For cost estimations a 23-day work month is assumed.

17.3.4 Evaluation Mine Access

17.3.4.1 Introduction to mine access

This section focuses on the issues pertaining to methods that can be considered for primary access to a deposit or orebody. Vertical and inclined shafts are known to have existed in the 15th century and these are viewed as the most obvious way of following a steeply dipping gold deposits, such as the Segele Gold Project. Massive orebodies have generally been mined by adit, vertical shaft, and since the mid to late 20th century by trackless mobile equipment.

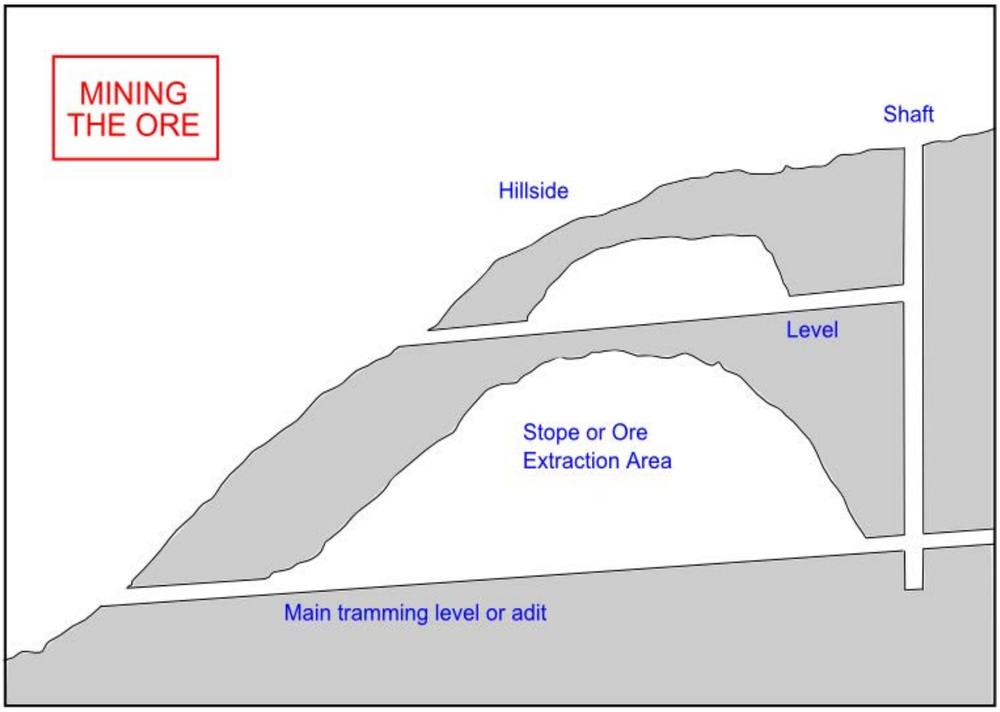
There are several access methods as listed below.

- Adit,
- Decline shaft utilising mechanised mobile equipment,
- Vertical shaft with cage hoisting, and
- Incline shaft utilising a winch and rail mounted cars.

17.3.4.2 Adits

As adits are near horizontal tunnels developed on the side of hills or mountains (Figure 49), it will not be applicable to the Segele Gold Project, which is sited on flat terrain.

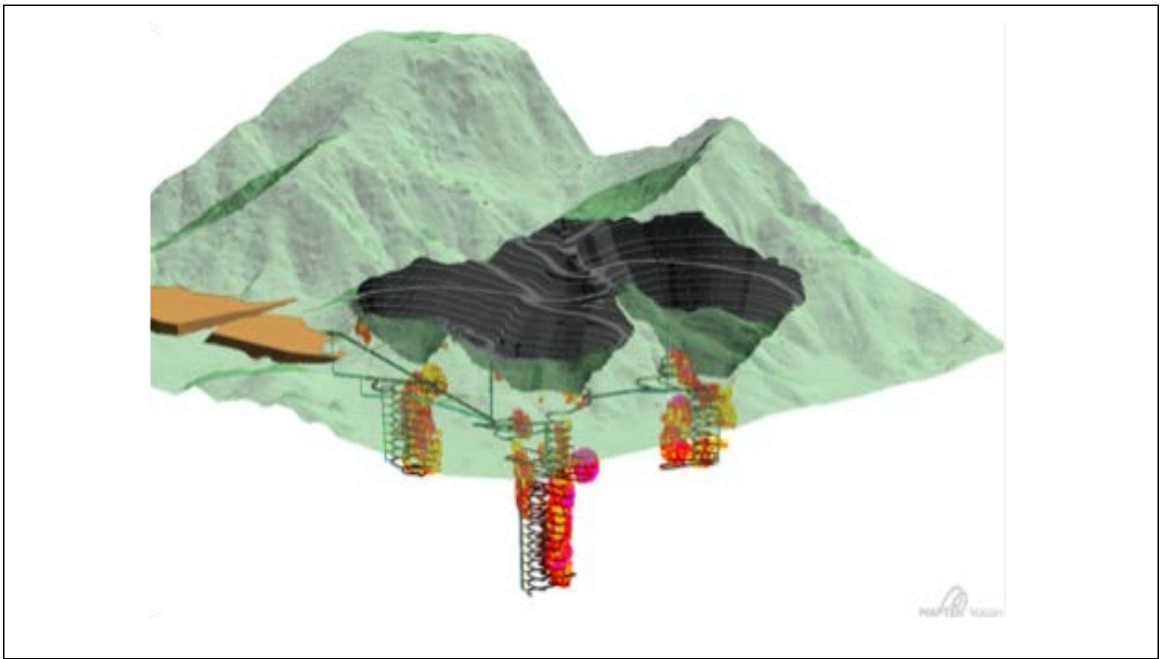
Figure 49: Example of Adit



17.3.4.3 Decline Shaft or Ramps

Decline ramps are typically developed with gradients between 10% and 15% (7 to 9 degrees) with the ramp or decline being straight or spiral in plan view (Figure 50). Decline/Ramp systems are not commonly used in small scale mining, as there are more commonly applied in medium or large-scale mechanised mines. Declines allow the movement of mobile trackless machinery from one level to another. The advantages of declines are their high rates of advance, ease of access for equipment, and short period to commence mining operations. However, this method of access requires large run-of-mine (RoM) tonnages to justify the use of large mechanised mobile machinery, requires good ventilation to dilute the pollutants associated with diesel equipment, and requires skilled mining and engineering personnel to support and maintain mobile machinery. In the small-scale mining environment, most deposits contain insufficient mineral resources to support mechanised mining (decline/ramp development and mining).

Figure 50: Example of spiral access to underground resources



Based on the above commentary, i.e., due to the size of the current Mineral Resources, capital cost requirements, the operating costs, and skill requirements for this access method. Borrego Sun is of the opinion that the use of a decline shaft is an unsuitable access method for mining the Segele Gold Project.

17.3.4.4 Vertical Shafts

Vertical shafts have been used widely in the past to gain access to mineralised deposits. Vertical shafts are the most efficient and cost-effective systems to operate at depths greater than 300m A small fit for purpose vertical shaft (**Figure 51**) equipped with rope guides and a cage running on the rope guides can be developed down to 40 or 50m below surface. These shafts are served with a small cage that can hoist a small 1 or 2-tonne mine car up the shaft in the cage. This is commonly referred as “cage hoisting”. If employed, it would provide access to a deposit to a shallow depth of 40 to 50m below surface. However, a secondary shaft or Incline would be required to access the deeper sections of the deposit.

The major disadvantage of vertical shafts is the time required to establish them, as well as the specialised skills required to conduct shaft sinking operations and to operate and maintain a vertical shaft system. This method of access for the Segele deposit was rejected due to the high costs to develop and equip a shaft, the special skills to conduct shaft sinking operations and to operate and maintain the shaft, and the small Mineral Resource available for exploitation.

Figure 51: Example of a Small Vertical Shaft

17.3.4.5 Incline Shaft

Inclined shafts have been used significantly in the past, especially where the deposit dips regularly. This is because inclined shaft can be configured to be developed at the same inclination of the deposit, and if located in the footwall will result in reduced development to the deposit. It must be noted that one disadvantage with all inclined development is that one requires confidence in the structural geology of the deposit to be accessed. Once committed, the inclines must be developed straight and on the designed inclination.

On the positive side, inclined shafts enable one to quickly establish mine access and thus gain a relatively easy access to the deposit. Incline shafts can also be motivated by the "pay-as-you-go"[1] approach with incline shafts where the mining rate required is low. Incline shafts are commonly developed in Central and East Africa and are often developed by small scale miners utilising pneumatic rock drills and hand lashing into small wagons (side tippers).

Figure 52 (a) shows an incline shaft looking towards surface and **Figure 52** (b) showing an incline shaft looking down the travelling way. **Figure 53** shows a typical 2-tonne waggon or side tipper that is often used in small scale mining operations in Central and East Africa.

[1] a significant advantage of the "pay-as-you-go" is that they development can be stopped at any time with a minimal of outstanding liabilities and redundant plant

Figure 52: Example of an Incline Shaft

(a) Incline shaft looking up (b) Looking down the travelling way

Figure 53: Example of a Small Inclined Shaft equipped with Side Tipper (Wagon)

17.3.4.6 Method Access Comparison

Borrego Sun is of the opinion that an Incline shaft is best suited for the Segele Gold deposit, as it provides development in proximity of the mineralised zone of the deposit, has been used in Central and East Africa by small scale miners for many years, can be developed by unsophisticated equipment i.e., pneumatic rock drills with hand loading of small 2-tonne wagons. The timing of the development is reasonable at just over 20m per month, with capital and operating costs relatively low.

Table 33: Comparison of Access Methods

Access Method	Depth	Timing	Capital Expenditure	Operating Cost	Volume	Skill requirements
Adit	Flat	Short	Low	Low to Moderate	Low to Moderate	Low
Decline	<300m	Fastest	High	low	High Volume	High
Vertical Shaft	>300m	Long 30m/month plus infrastructure development	Highest	Cheapest	Highest Volume	Extremely High
Winze w/Scraper Winch	~100m pull length	Short - 30m/month	Very Inexpensive	Very Low	Very low (10tph)	Low
Incline Shaft	upto 300m or more on incline	Short - 30m/month	Low	Low to Moderate	Low to Moderate	Low to Moderate

17.3.5 Evaluation of the Incline Shaft option

The main access development will consist of a single incline sunk at an angle of 35º on true dip. The incline shafts will traverse 70m on a 35º apparent dip to 40mbs. Borrego Sun has selected this dip to keep the incline as lose to the dip of the orebody while allowing the winding applications (hoisting rail cars) to operate with an open guidance system

The incline will be developed to a width of 3.0m and a height of 3.0m and is planned to be developed approximately 40m in the footwall of the mineralised area.

A single incline is planned with a secondary outlet planned for emergency purposes by utilise a steep inclined travelling way from 40mbs to surface. The stope travelling ways on either side of the Shrinkage Stopes will also be used to provide a secondary access way for areas below 40mbs.

The mine schedule projects 30m per month advance for the incline shaft end estimates 12 months to develop 280m of incline development to reach 160m below surface, which represents the lowest portion of the Inferred Mineral Resource.

17.3.5.1 Mine Access

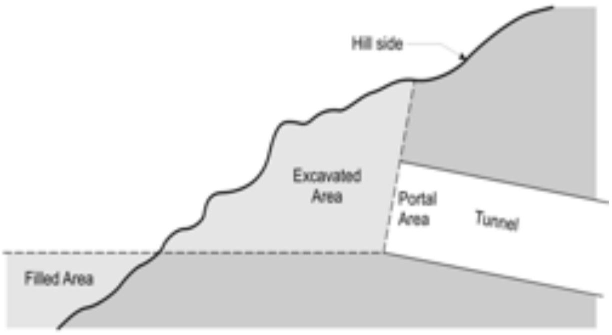
The initial 5m of development for the incline shaft will establish the highwall position and is considered as the portal which represents the interface between surface and underground. The site visit confirmed that the surface ground conditions to be competent, therefore a small highwall of approximately five (5) metres will be excavated to provide a competent portal area. The support of this section must be designed to undercut and provide stability to the brow between the portal hangingwall, sidewalls and the slope face of the highwall (

Figure 54). As no surface mining will be undertaken, the area for the portals will have to be excavated over a width of about 10m for the portal until a solid rock face of 5m high is achieved and sloping back at 70°. The actual height of the highwall will depend on the actual ground conditions.

Approximately 10m of the incline shaft should be supported by timber sets spaced 1.0m apart to protect the mine access (portal) area. Between the timber sets the immediate hanging is installed with cribbing to prevent loose rock from falling from the hangingwall (

Figure 54 and Figure 59).

Figure 54: Example of Portal Area



17.3.5.2 Development of Incline Shafts

Development of the incline shaft will be done 40m down dip of the mineralised vein. The development plan for the incline shaft comprises of the development of an inclined shaft excavated at 35 degrees, the true dip of the deposit being ~40 degrees. An incline shaft length of 70m will provide access to the initial depth of 40mbs and 280m of incline shaft development to reach the 160m below surface. This incline distance is ideal for a small single drum winch. The incline shafts are designed at 3.0m wide by 3.0m high (Figure 55) and scheduled for a daily advance of 1.0m is proposed producing 9m^3 of broken rock per blast.

Figure 55 View of a 3m x 3m Incline Shaft

The width of 2,5m provides sufficient space to accommodate 150mm timber poles either side of the incline and a personnel walkway, as well as a wide enough area for a track bound wagon (60cm) to travel up the shaft and personnel to travel along side the tracks. The host rock at the Segele Gold deposit is competent, however where poor ground conditions are encountered the tunnels will be supported by timber sets. Between the timber set legs the immediate hangingwall is installed with cribbing (wood poles) to prevent loose rock from falling from the hangingwall. In certain cases, side lagging (timber) can be used to support areas of side wall spalling (Figure 59).

17.3.5.3 Drill and Blast

Inclined development is proposed to drilled utilising approximately 20 blast holes inclusive of a 5-hole burn cut, which creates a free breaking point. The blast holes will be charged with eight x 25mm cartridge of emulsion and initiated using a shock tube system which also controls the timing of the round by determining which blast hole is ignited first i.e., the five-hole cut is ignited first followed by the easer holes and then side holes.

The incline development will be achieved using pneumatic rock drills. The development end utilising a 1.8m drill steel length to provide a 1.5m advance. The use of pneumatic rock drills for small-scale mining is commonly applied and requires a low level of skill to operate and maintain the rock drills and equipment. It is recommended that suppliers of the rock drills should be contracted to come to site to assist with training both in the operation of rock drills and their maintenance. This was successfully done in Rwanda in 2016 and should be able to be duplicated by Akobo Minerals on their Segele Gold project.

Figure 56: Example of A Pnuematic Rockdrill Drilling the Development Face

17.3.5.4 Load and Haul

Approximately 27 blast holes will be required per 1.8m round with an incline advance rate of 1,5m per blast. For planning purposes, an advance of 30m per month per inclined end is scheduled. This is based on an 87% blast rate, i.e., Three (3) blasts are lost per month due to unscheduled problems, such as Inclined end not cleaned, no water, or no compressed air.

Typically, three tonnes of rock can be loaded per hour utilising a six-man loading team (0.3,2m^3 per man/hr). Approximately 5.5m^3 will be required to be hand loaded per day from the incline shaft, which equates to seven (7) hours to clean a 2,5 x 2,2m development end advancing 1,5m per blast, utilising four workers. A labour complement of six has been allocated to the nightshift for cleaning to ensure the decline and development ends can be cleaned within an effective 7-hour shift.

Cleaning will be conducted by a five-man crew with workers rotating loading duties to ensure a loading rate of 0.85m^3 per hour. Hand loading of broken rock is often done by a crew of loaders, both men and women, of the order of three to five workers per loading crew. This requires a low level of skill with hand loading with shovesl common practice in small inclined development ends. Once the 2-tonne (1.1m^3) wagons (Figure 55) are filled and transported to surface the loading crew will assist with the off loading the wagons to a designated tipping spot located near the portal area (Figure 57).

Driving and managing the incline winch is an important task, which will require specialised skills to ensure that the winch and inclined hoisting system is operating correctly and safely. A worker with a mechanical or electrical background would be advantegous for the incline winch operator position. Maintence of the winch will require a technical specialist to ensure the winch and hoist rope are maintained to safe operating conditions.

Figure 57: Off Loading of Wagons (Side Tippers) on Surface

17.3.5.5 Support

Except for the immediate portal area, timber sets will only be installed where ground conditions warrant the additional support. Supporting of excavations is generally accomplished by three pieces of timber. The pieces are known as the post or leg and the cap or top piece (Figure 58). The top wood pole or cap will rest on the two (2) posts (legs). The ground between the set is held in place by pole laggings or sawed planks, which rests at either end upon the timber sets. Being of comparatively small strength the wooden support will yield to unusual pressure and thus give evidence of early crushing that would soon destroy the timbers if not attended to.

Figure 58 Schematic of timber support in tunnel

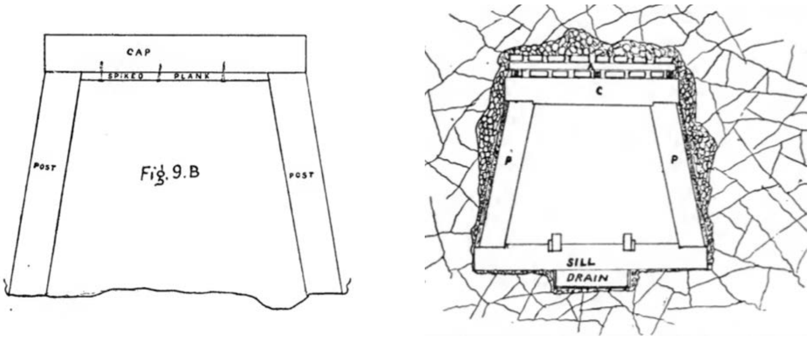


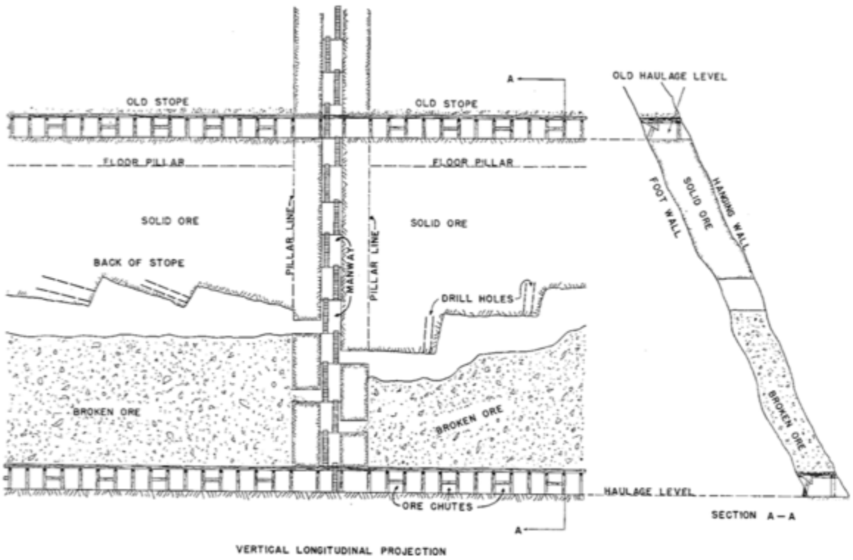
Figure 59: Examples of Tunnel Support

17.4 Mining Method

To reach the production target tonnage of 10 to 20tph (~38,000 to ~76,000tpa), mining will need to take place from several stopes and will be largely reliant on the payability, thickness and continuity of the vein along strike and dip. Once a mining block has been established by the development of the top and bottom tunnels, shrinkage stoping can commence from the bottom of the stope, with mining of the vein based on the width of mineralised material. This methodology is referred to as "stoping" and represents the bulk of production mining. Once a mining block has been established by development of the top, bottom tunnels, and side raises; a stope will be established for mining (**Figure 60**).

Stability of the Shrinkage Stope will be provided by the broken rock that is left in the stope between the footwall and hangingwall of ther stope. Only enough blasted mineralised material is drawn from the stope to enable the broken rock to act as a working platform for the miners.

Figure 60: Schematic of shrinkage stoping mining. Segele Scoping Study



17.5 Development and Production Schedule

Table 34 provides the proposed inclined development schedule for a single incline shaft for the Segele Gold Project. The development schedule indicates the time frame to develop an incline shaft system down to 160mbs through an incline shaft; Figure 61 indicate the monthly incline development metres, level stub development and the progressive Incline development advance.

For the complete incline shaft system down to 160mbs will require 290m of incline development, 50m of developing the level breakaways of 10m per level. The development representing a total of 4 345m^3 at a total project operating cost of US$145,798 (excludes capital expenditure).

The top of the deposit, 40 level is reached in the 3rd month of development with the first stoping level (70 Level) reached in Month 5, Level 100 reached in the seventh month, Level 130 is accessed in Month 10, Level 160 and the shaft bottom reached in month 12.

Total development metres equate to 340m for decline development (2,5 x 2,2m) including level breakaway stub, and 450m level development. The corresponding waste tonnage is 5 573t and 7 375t respectively; or 12 948t of total waste development.

Figure 61: Incline Development - Monthly Advance and Progressive Advance

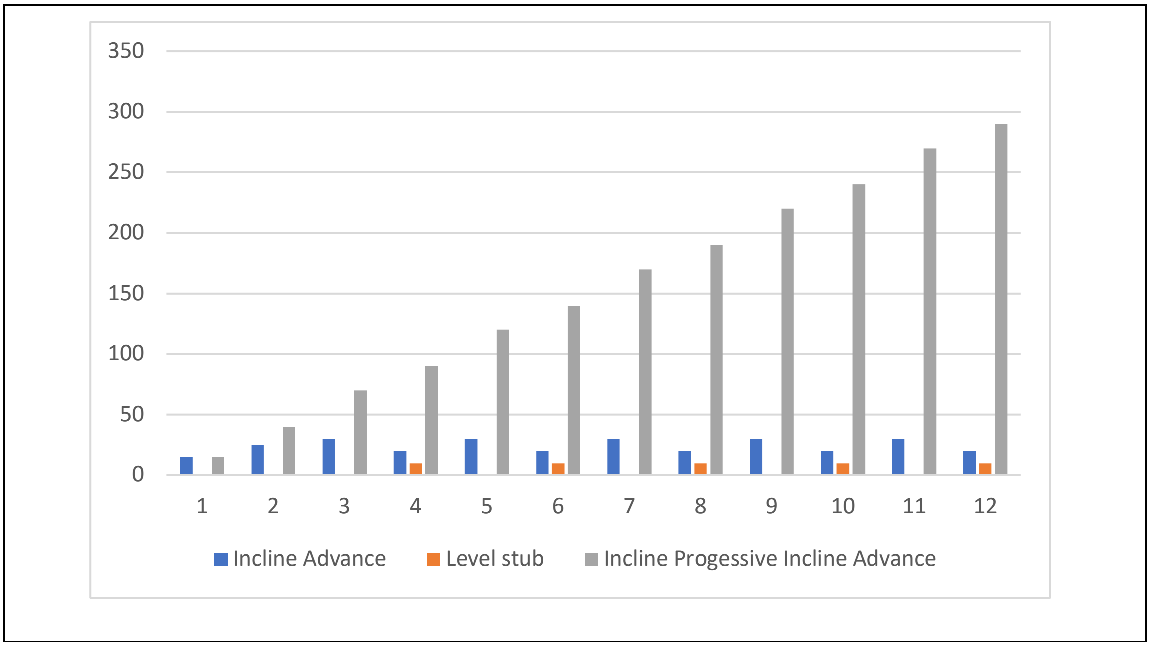


Table 34 Segele Incline Development Schedule (Single Incline Development End)

Month	1	2	3	4	5	6	7	8	9	10	11	12	Total
Incline Dev (m)	15	25	30	20	30	20	30	20	30	20	30	20	**290**
Level Breakaway stub (m)				10		10		10		10		10	**50**
Prog Advance on Incline (m)	15	40	70	90	120	140	170	190	220	240	270	290	**-**
Incline Dev tonnes (t)	245,85	409,75	491,7	491,7	491,7	491,7	491,7	491,7	491,7	491,7	491,7	491,7	5 573
Progressive Incline tonnes (t)	246	656	1 147	1 639	2 131	2 622	3 114	3 606	4 098	4 589	5 081	5 573	-

Table 35 Segele Level Development Schedule

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Level 40					30	30	30										**90**
Level 70								30	30	30							**90**
Level 100											30	30	30				**90**
Level 130													30	30	30		**90**
Level 160														30	30	30	**90**
Dev tonnes					491,7	491,7	491,7	491,7	491,7	491,7	491,7	491,7	983,4	983,4	983,4	491,7	**7375**
Progressive Dev tonnes					491,7	983,4	1475,1	1966,8	2458,5	2950,2	3441,9	3933,6	4917	5900,4	6883,8	7375,5	

17.6 Mining Methodology – Shrinkage Stopage

17.6.1 Introduction

Shrinkage stoping is a form of open stoping and is a mining method generally suitable to narrow deposits not suitable for mechanised mining. It has been successfully applied to high-grade precious metal deposits because of its low dilution and low ore loss.

Shrinkage stoping (**Figure 62**) is a vertical overhand stoping method in which most of the broken ore remains in the stope, approximately 60% of the broken rock remains in the stope and provides a working floor for the miners. The broken ore also provides wall support until the stope is completed and ready for drawdown of the remaining ore.

In general, Shrinkage Stoping is used in steeply dipping (>45° dip) narrow ore bodies with regular boundaries. Ore and waste (both the hangingwall and the footwall) should be strong and competent, and the ore should not be affected by being stored in the stope (for example, certain sulfide ore oxidise and decompose when exposed to air). The method can be easily applied to ore zones as narrow as 1m, but it can also be successfully used for extraction of much wider stopes. Shrinkage Stoping is most efficient when drilling of the ceiling or back is done with uppers (Figure 63) instead of horizontally blast holes (**Figure 64**).

Figure 62: Shrinkage Stoping (Atlas Copco, 2007)

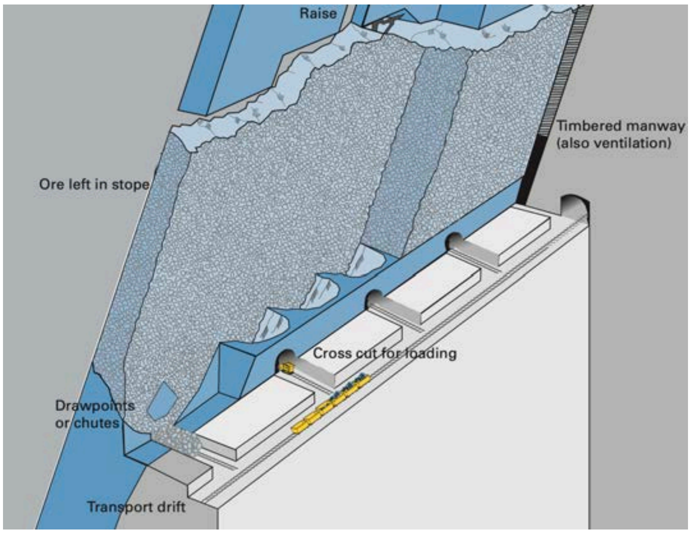


Figure 63: Shrinkage Stoping utilising uppers (up dip drilling)

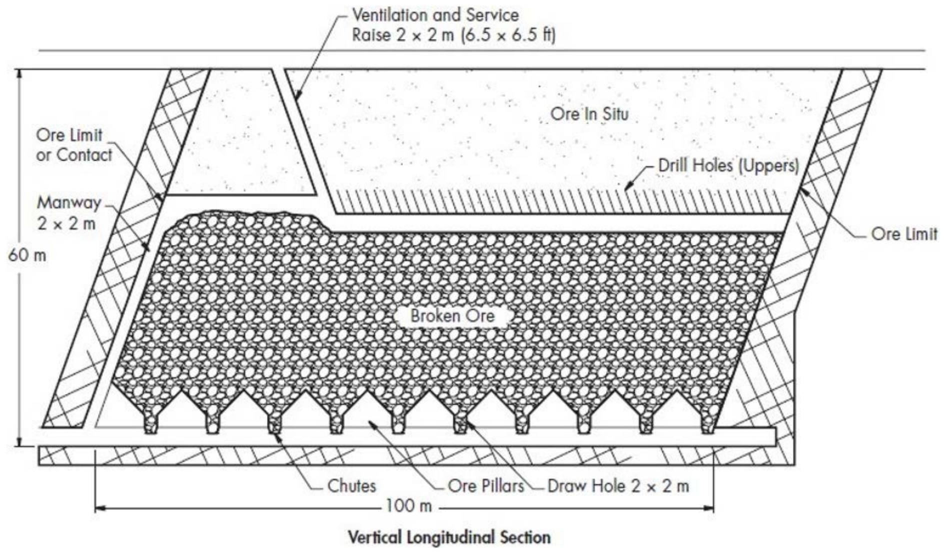
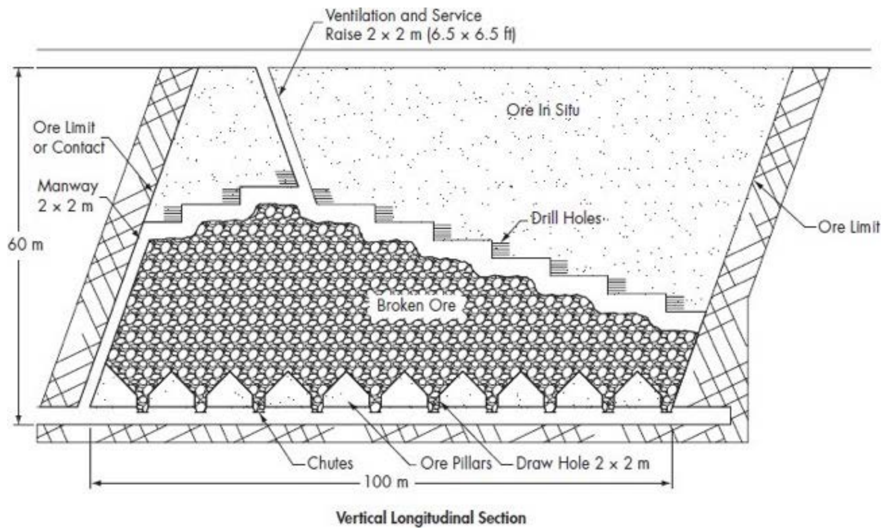


Figure 64: Shrinkage Stoping – Horizontal mining approach



17.6.1.1 Development

Development of the Shrinkage Stope commences with a haulage drive developed in the footwall and/or hangingwall of the orebody. From the haulage drives either an ore drive can be developed as shown in **Figure 62** or draw holes equipped with loading chutes can be developed in the haulage drive as depicted in **Figure 63** and **Figure 64**. Ore drives and draw holes are generally developed every 10m.

From the lower haulage drive, a service raise is driven to the haulage drive of the level above. This service raise is equipped with a ladderway, and service pipes connecting to the level above, which also provides the exit point for the ventilation system. Service/personnel raise from the bottom of the stope is timbered as the stope advances upward, thus completing the ventilation circuit and always maintaining two access ways to the stope.

The Shrinkage Stope is laid out longitudinally due to the narrow nature of the ore body. A haulage drive is in the footwall/hangingwall with loading crosscuts or ore drives positioned at regular intervals. Raises are driven at each end of the Shrinkage Stope block connecting to the above-lying level (Figure 65). To create the first mining cut an initial horizontal extraction drive or slice (2m x 2m) is driven across the block from raise to raise. In conjunction with the horizontal extraction drive, draw points are developed every 10m. These draw points are created by drilling and blasting the rock between haulage drive and the horizontal extraction drive.

17.6.1.2 Stoping

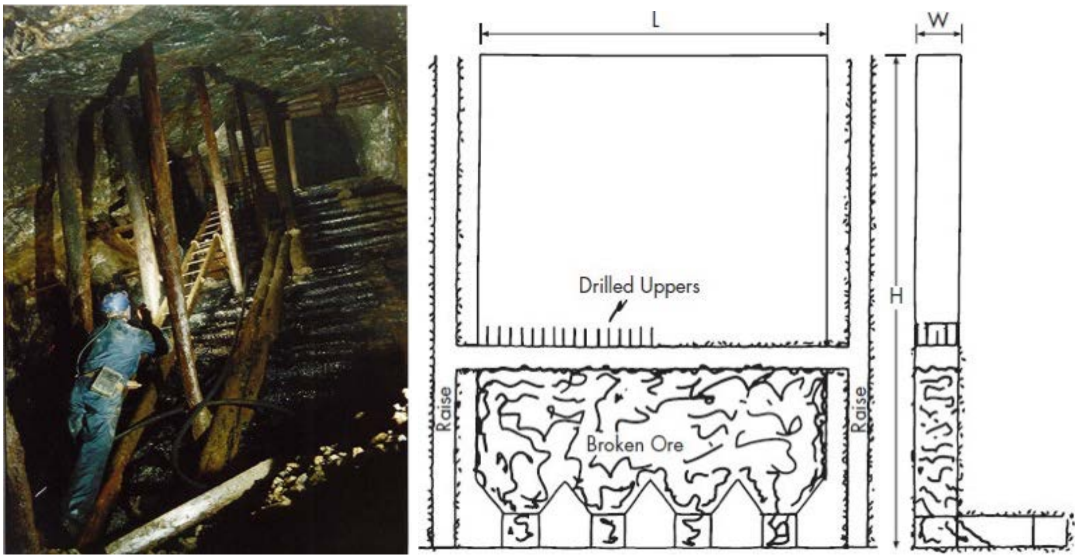
Mining takes place by drilling vertical or horizontal blast holes are drilled in the first extraction slice using the raise access. The miners stand on the broken ore that forms the working floor. Pneumatic rock drills with air legs are used to drill small-diameter (<41 to 45mm) holes.

The blast holes are charged with explosives (emulsion) and blasted utilising a shocktube initiation system. A portion of the ore is extracted (approximately 40% from the stope to provide sufficient room for subsequent drilling and blasting operations. Once the appropriate volume of ore has been removed, the miners re-enter the newly created void to bar down loose material and make safe the mining panel before drilling out for the next panel.

The process continues, working upward one cut (1.5m advance) at a time (five 1,5m cuts per lift).

When the upper end of the extraction block is reached, the remaining ore (60%) is drawn out from the draw points. Until that time, the stope is filled with broken ore.

Figure 65: Shrinkage Stoping – Service Raise (Manway)



17.6.1.3 Strength and Weakness of the Shrinkage Mining Method

The strength and weaknesses of Shrinkage Stoping are as follows:

- Strengths
  - Low operating costs
  - Self supporting
  - Productive rate low to moderate 10-40 t/manshift
  - Moderate extraction 81%
- Weaknesses
  - Safety Concerns - among the most hazardous of all mining methods, however good supervision and training can mitigate many of these mining risks
  - Requires good hangingwall and footwall conditions
  - Risk of over-drawing of ore or the creation of air pockets within the broken ore which could collapse
  - The miner is exposed to freshly blasted unsupported ore while working on rough broken ore.
  - The method is labour intensive and cannot easily be mechanised

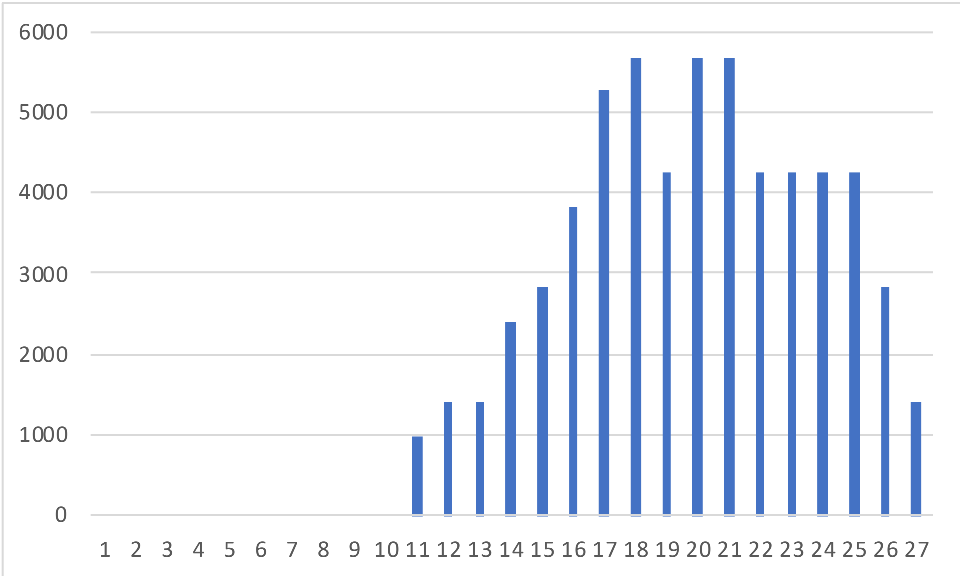
17.6.2 Shrinkage Stoping

For the purpose of this Study the shrinkage stope is assumed to have a height of 30m, a width of 30m, and a thickness of 7.5m with a in-situ density of 2.98t/m^3. An extraction rate of 81% has been estimated on 60% of the ore remaining behind in the initial 5m zone above the draw points as well as a

2m sill pillar. A mining loss of 8% and a dilution of 5% has been used as modifying factors. Each stope contains 15735t of extractable ore with a Run of Mine grade of 19,90g/t accounting for the ore loss and mining dilution.

Based on a 120m depth of ore, four (4) Shrinkage Stopes have been schedules to be mined. Figure 66 and Table 36 provide the tonnage schedule for the four stopes. The tonnage schedule is dependent upon the time to develop both top and bottom level access, establish raises, drives and boxholes for shrinkage stoping as well as the time to complete stoping and pulling the stope empty of the ore stored (60%) in the shrinkage stope.

Figure 66: Shrinkge Stoping tonnage schedule



Based on an 81% extraction rate some 60 799t will be extracted over a 26-month period at RoM grade of 19,9g/t. Table 36 depicts the LoM schedule noting that the Stope 70 is only available for mining operations in Month 11 and continues to Month 27 producing 60 799t at a grade 19,90g/t.

Mining of the shrinkage stope is based on five (5) 1,5m wide cuts per 1,5m lift with 16 lifts required per stope. An extraction rate of 81% which accounts for a 2,5m sill pillar combined with the initial 5m of the stope which some 20% of the area is associated with orepass development leaving the remaining 80% (4m) for regional support. It has been assumed that no backfilling of the stopes will occur, however this aspect of mining will be investigated in the next stage of project development.

Table 36: Segele Shrinkage Stoping Tonnage Schedule

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Tonnage	0	0	0	0	0	0	0	0	0	0	998	1420	1420	2 418	2 840	3 838	5 258	5 681	4 261	5 681
Month	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**Total**
Tonnage	5 681	4 261	4 261	4 261	4 261	2 840	1 420	0	0	0	0	0	0	0	0	0	0	0	0	**60 799**

17.7 Summary and Conclusion

Borrego Sun has selected an inclines shaft as the preferred method to access the Segele Gold deposit. The incline shafts will traverse 290m on a 35º true dip to 166mbs.

The mine schedule projecting an advance of 30m per month for incline and flat development end and estimates 12 months for the incline shaft to reach shaft bottom with stoping commencing in month 11 commencing with the 70-level stope. Some 998 tpm to a production peak of 5681 tpm is achieved over the life of the mine which is completed in approximately 27 months.

It should be noted that although Shrinkage Stoping has been chosen as the basis for this study, several mining methods will be assessed in ongoing studies. For the purposes of this study, an average stoping width of 7.5m has been assumed but in future studies the actual dip, orientation and mineralisation thickness will be used for detailed mine planning and mining method selection.

Development costs are estimated at US$713 per meter and mining capital expenditure including development, mining equipment and surface mining infrastructure equates to US$2.386 million. Stoping costs utilising the shrinkage mining method are estimated at US$36.42/t per RoM tonne of mineralised material. See Chapter **Capital and Operating Costs** for a breakdown of capital and operating costs.

18 Recovery Methods

18.1 Mineralogy

This text is taken from Jackson (2019). The Segele Prospect is mostly dominated by metagabbro, serpentinite (carbonate and silica-rich), a chloritic unit with coarse magnetite crystals, a strongly sheared talc-chlorite-tremolite-carbonate unit; and fine grained, magnetite bearing carbonate-talc-unit with minor mafic and felsic dykes. Segele includes High-grade gold mineralization in pervasively altered and partially sheared ultramafic rock and metagabbro.

At the current stage of exploration and study, it is impossible to confidently assign a deposit type to the Segele mineral occurrence. The mineralisation is highly likely to be assigned as orogenic gold any further classification is elusive at present.

The Segele pit area is located to the south of Shama village. Mineralogical investigation suggests that the Segele pits are very rich in gold that is coarse to fine grained and highly unevenly distributed . The gold is unusually pure, with no silver or other metals. Platinum group minerals (PGM) are present in very small amounts and not directly associated with the gold. The mineralization is present in hydrothermally altered, ultramafic rock. There are very few sulphides in the mineralization, but where found it is generally cubanite ($CuFe_2S_3$) and pyrrhotite.

Gold is easily seen in hand specimen and preliminary analysis of grain distribution shows that 2/3 of the gold content occur as macro grains (>0,1mm). Only about 10 out of 257 grains (within a measured area) are larger than 0,1mm. This mineralogical investigation suggest that there is a large number of very small grains, which are probably not exploited by artisanal miners, but they constitute only a minor fraction of the total gold content.

18.2 Metallurgical Testwork

No Metallurgical testwork has been conducted on the Segele mineralisation as yet and for the purpose of the scoping study all metallurgical parameters are currently estimated on the basis of similar mineralogy and similar gold plant operations in Southern Africa

On the basis of the presented mineralogy, indicating a relatively coarse free gold fraction and in the absence of a sulphide associated gold fraction, the scoping study flow sheet is currently conceived as a gravity circuit for the recovery of a coarser gold fraction followed by a CIL leach recovery of the fine gold fraction from the gravity circuit tails.

Drilling at Segele for the purpose of generating a metallurgical sample is complete, and Peacocke and Simpson (PvT) Ltd in Harare, Zimbabwe (ISO9001, 2015) have been contracted to provide metallurgical testwork including .

- Crushing and grinding indices
- Gravity recoverable gold testwork at multiple grinds
- CIL Leach testwork
- Leach kinetics testwork

In the absence of testwork results and solely for the purpose of advancing the scoping study an overall gold recovery of **90**% is assumed.

18.3 Plant Mineral Processing

Given the relatively limited current resource tonnage of 78000t currently identified at Segele and the highly prospective nature of the surrounding exploration projects including Joru, there is a requirement for a robust plant configuration to cater for the mineralogical variation likely to be experienced due to ongoing resource expansion projects.

To reflect the current mineralogical understanding and incorporate the required degree of flexibility the scoping gold recovery flow sheet is configured as a gravity recovery circuit to target the coarse gold mineralogy followed by a CIL circuit for the full gravity tails to recover the finer gold mineralisation.

Should significant sulphide mineralogy be encountered in any of the subsequent exploration projects, it envisaged that a flotation stage could be interposed between the gravity and CIL circuits. This possibility is excluded for the purpose of the current scoping study.

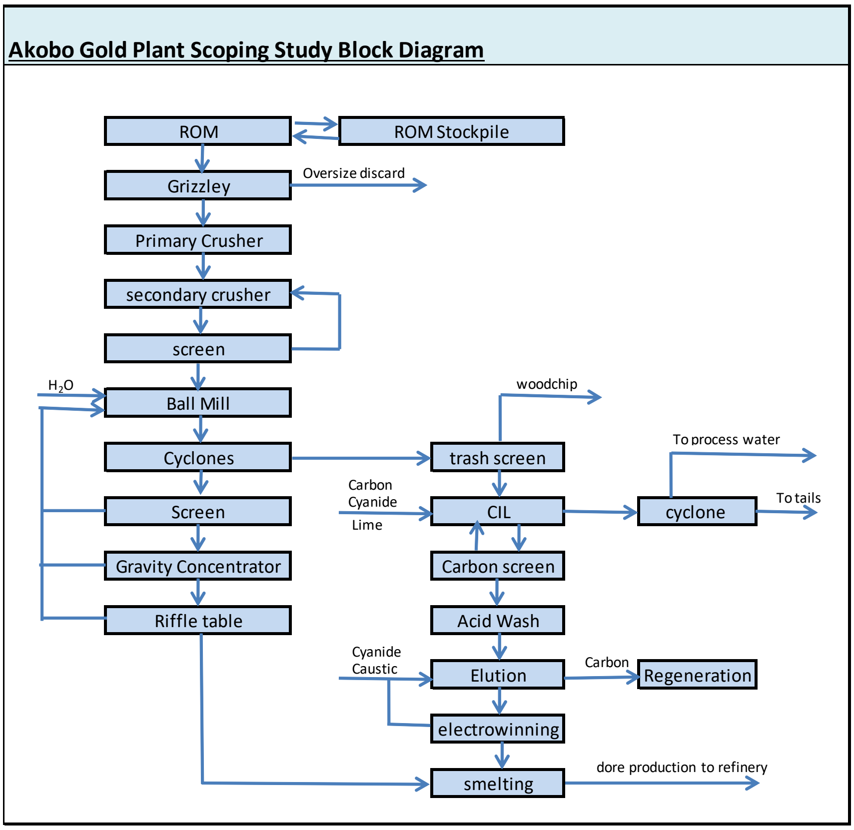
The process plant flow sheet unit operations are likely to include

- primary and secondary crushing,
- ball milling,
- gravity and gravity concentrate cleaning ,
- carbon-in-leach,
- carbon elution and regeneration,
- gold electrowinning and
- smelting.

These unit operations are all well proven and conventionally used in the industry on a scale of hourly throughputs. This circuit configuration would provide some flexibility for the treatment of the variation in major ore types that are currently likely to be processed.

The plant block flow diagram is depicted in Figure 67 below

Figure 67: Scoping Study Block Diagram



Based on the projected mine output the following assumptions have been made

- Nominal plant throughput of 10-20tph
- Plant to be operated on a single shift only, six days per week. This would allow for a 250% expansion in throughput if resources allowed, by adopting a 3 shift 7 day week. In the interim the crusher could be operated on a second shift on the mining waste stream to produce aggregate for local consumption.
- Plant availability of 90% overall
- Plant Au head grade 20g/t
- Plant Au recovery of 90%
- 2-stage crushing and ball milling
- Cyclone classification to produce a leach feed with an expected grind size of 80% passing 75µm
- Gravity concentration and riffle cleaning of the classification cyclone underflow
- CIL leaching of the cyclone overflow
- Cyanide destruction on the tailings stream before disposal
- Elution and regeneration of the carbon
- Electrowinning and gold smelting
- CIL Tailing's be sent to a Tailings Storage Facility with a 45% water return from the dam.

These assumptions were used to generate a preliminary mass balance, basic equipment list, capital cost and operating expenditure estimates.

18.4 Site Location and Infrastructure

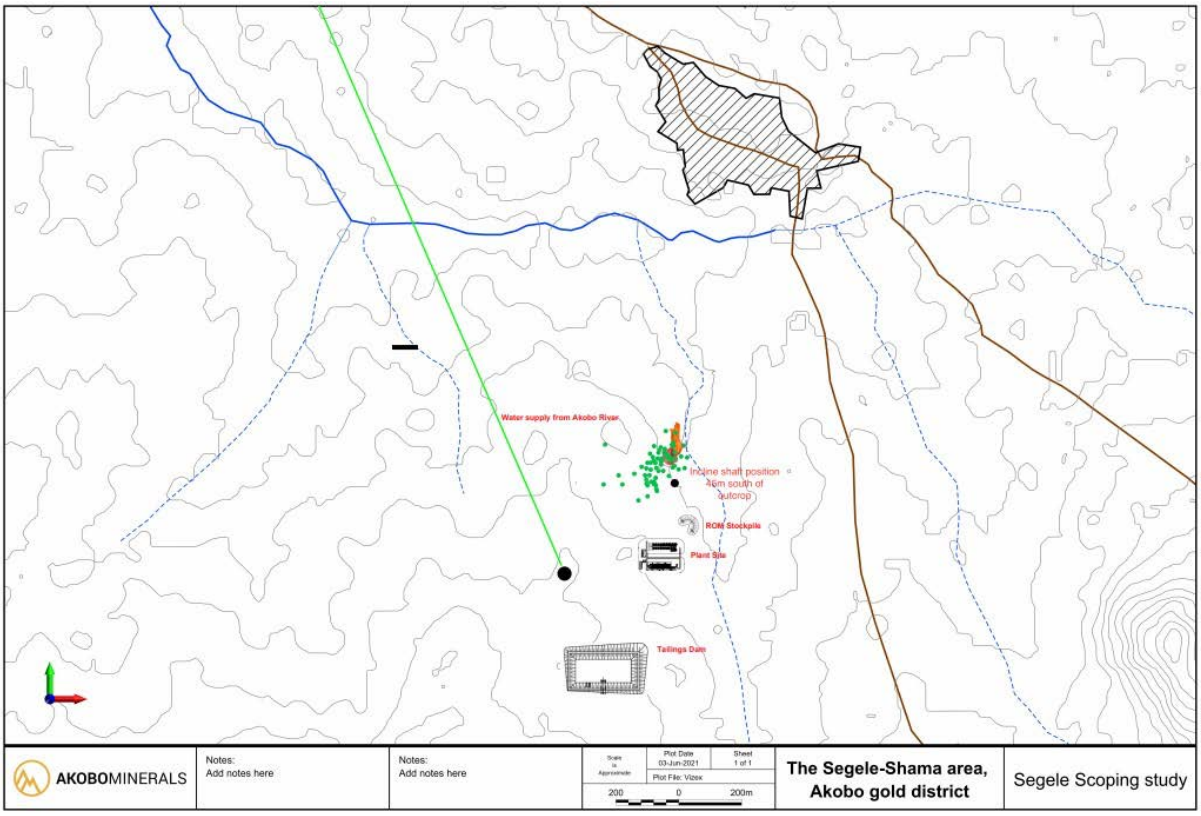
18.4.1 Topography and Layout

The conceptualised overall plant and associated infrastructure site layout is adjacent to the proposed inclined shaft to satisfy the requirement to avoid infrastructure placement over the current understanding of the ore body location to the north. It also avoids prospective ground to the south.

This layout is very preliminary and would be subject to determination of suitability of ground and other local conditions. It is to be expected the site will change during ongoing studies, but the various component outlines are shown approximately to relative scale and are adequate for the purpose of the scoping study.

Refer to Figure 68 below for the preliminary scoping site layout concept..

Figure 68: Site topography and infrastructure layout



18.4.2 Water Supply

Average annual rainfall in the general area is **2600** mm, with around 700 mm per month occurring during July and August reducing to 300mm per month in September. Evaporation rates are between 1300 and 2000 mm per annum.

Plant water requirement is estimated on the basis of 1m^3/t of ore processed, with water losses being predominantly associated with evaporation and seepage losses from the tailings storage facility ("TSF"). Provision will be made to recycle water from a collection facility on the TSF, and from a storm water containment and process water catchment dam located downstream of the plant site.

There are seasonal watercourses to the east and west of the proposed site, but these are considered to be too intermittent o provide a reliable water supply. It is envisaged that any additional water required will be extracted from the Akobo River located some 5 km to the north of the proposed site and delivered via a pipeline to a mine process water tank to be situated in the vicinity of the processing plant. A secondary take off line could deliver water to a raw water tank to be situated at the Shama village site.

18.4.3 Power:

Three hydroelectric power plants are located within 300km of the proposed site with a total capacity of 2200MW. Further power plants are located in the vicinity of the capital. The national grid is currently being expanded with electric power lines in process of being installed. Some of the villages in the project area are already connected to the national power supplier including the village of Joru in the south, whilst the Shama village next to the ETNO camp is not yet connected.

In the longer term it is envisaged that that the mine will be connected to mains power although the precise timing is impossible to predict.

For the purpose of the scoping study it is assumed that the operation would start up under generator power, which generator unit will revert to being a backup power source once grid power has been connected.

The power demand for the plant infrastructure has been estimated at 500kW, based on the indicated installed power of the individual plant elements.

18.4.4 Cyanide Destruction

While the cyanide ion is thermodynamically unstable in water and is photo unstable breaking down into harmless cyanite ions, Akobo Minerals have committed to treating the tailings to remove/ recover cyanide from the solution before it reaches the Tailings Discard facility in line with the International Cyanide Code recommended practice.

18.4.5 Tailings storage

For the purpose of the scoping study the tailings storage area is estimated on the requirement of a maximum annual tailings rise rate of 1 m/a. It is assumed that the initial tailings will be retained behind an earth retainer wall and the dam will become self raising thereafter with manual packing of the outer walls to elevate the dam. Provision will be made for a deposition delivery around the dam with process water recovery from the collection pond.

18.4.6 Stockpile

Provision will be made for a stockpile facility to provide a stockpile facility between the mine and the plant

19 Project Infrastructure

20 Market Studies and Contracts

When gold is produced from a mining operation under a mining license, the market for its product is the international commodity market for gold. A company producing gold can either sell its gold directly to the National Bank in Ethiopia, or on the open international market. There are several different buyers of gold, and many alternative ways to sell gold, either through banks, royalty companies, bullion traders or over the counter.

The price of gold is determined by supply and demand and there are different markets for gold. The gold price is either in spot, which is the current market price at which gold is bought, or sold for immediate payment and delivery, or in future which is the price where the participants in a futures contract agree to transact on the date of settlement.

Since the early 1970s, the volume of gold produced each year has tripled, the amount of gold bought annually has quadrupled and gold markets have flourished across the globe. Gold is now bought by a far more diverse set of consumers and investors than at any previous time in history. The main markets for gold is today;

- Jewellery
- Investments/asset allocation
- Central banks
- Technology

21 Environmental Studies, Permitting and Social or Community Impact

21.1 Environmental Social and Governance Context

The project is situated in the southeast of the Gambela region in Ethiopia. A land locked country, Ethiopia has one of the most rugged terrains in Africa, with a varied topography of highlands and lowlands. It is ethnically diverse with more than 100 languages spoken and is predominantly Orthodox Christian. Ethiopia is a federation of regions, governed by regional governments and a federal government and head of state based in Addis. Mining legislation is governed at a national level and regulated at a regional level.

Gambela is situated in west Ethiopia, it has three administrative zones and 13 woredas (districts). The region's population exceeds 400,000, made up from predominantly Annuak, Nuer and Mezengir ethnic groups. The population is predominantly rural dependent on subsistence livelihoods farmers fishers and pastoralists. The region has been the recipient of an internal migration programme, with 'highlanders' from Amhara, Tigray and SNNP regions resettling in the lowlands of Gambela region. Migrants' refugees fleeing the ongoing civil conflict in neighbouring South Sudan have doubled the region's population. Mostly Nuer by ethnicity, more than 300,000 refugees are settled in camps across the region, managed by a range of international NGOs. Designated as a development zone, commercial agriculture has resulted in large scale land acquisition in the region has been met with controversy and international scrutiny, related to forced displacement from more than 200,000Ha land that has been leased to international firms to grow a range of export crops, since 2008. The combined or cumulative effect of the migration to and displacement within the region has put additional pressure on access to available services and natural resources and has fuelled ethnic rivalries and conflict.

The Dimma Woreda, that hosts the Akobo Gold Project, and fully owned subsidiary ETNO Mining, is divided into kabeles or wards as the lowest administrative unit. Dima Woreda also hosts a refugee camp with more than10,000 residents and a large and disparate artisanal gold mining sector that is unregulated and is contributing to considerable environmental damage in the area.

Available information suggests the Dima Woreda has seven kabeles, however it is understood that the Tabuha Kabele which comprises more than two thirds of the Akobo Minerals exploration licence area has recently been subdivided into more kabeles as the artisanal gold mining increased. The boundaries are yet to be finalised but to the best of the authors understanding, the Etno Mining licence area now covers three kabeles with the proposed Segele mining concession being situated in the Shama Kabele.

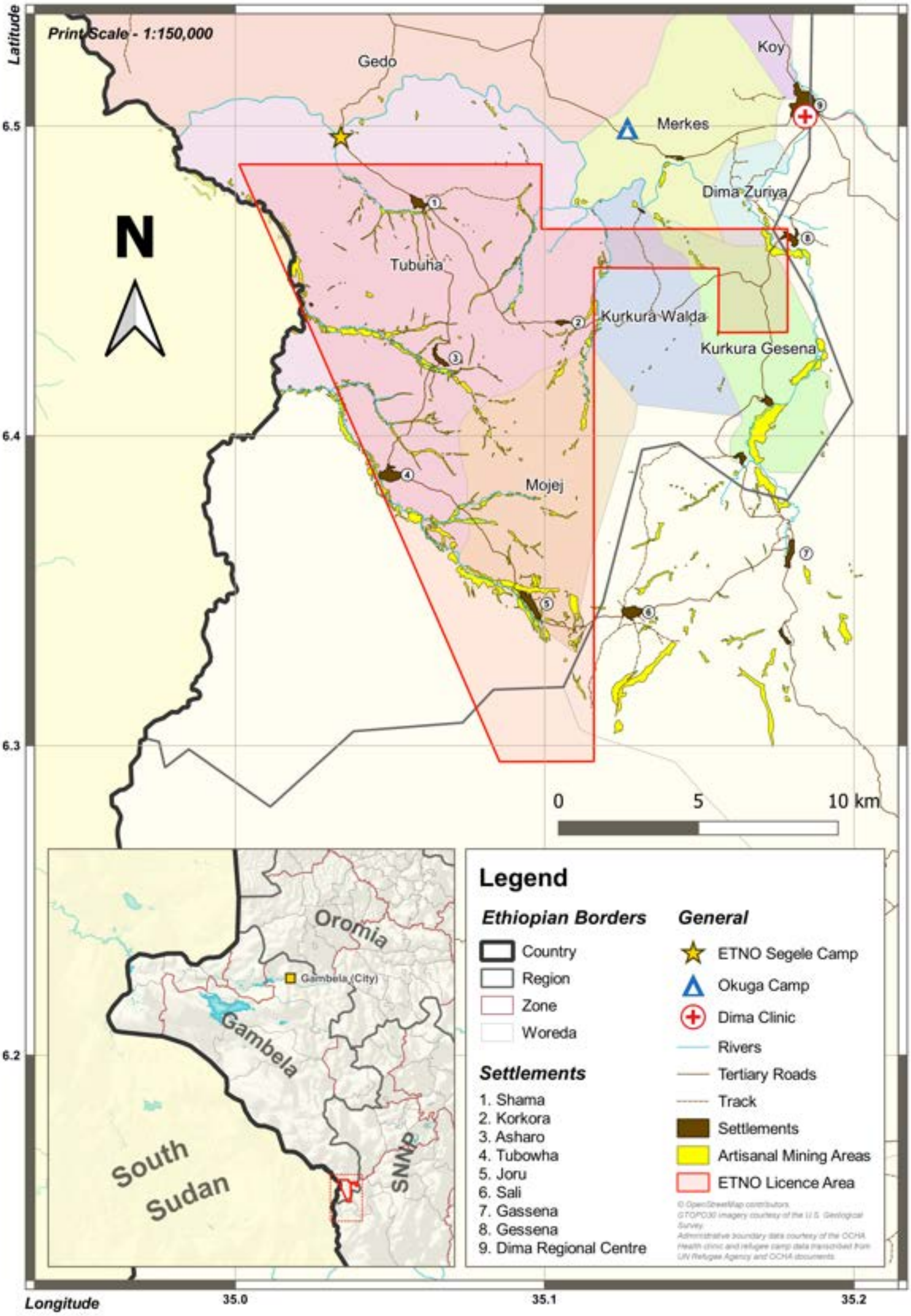


Figure 69: ETNO Mineral Exploration Licence Area

21.2 Artisanal and Small-scale Gold Mining in the ETNO Exploration Licence Area

The majority of the artisanal and small-scale gold mining (ASGM) in the area, appears to be informal and unregulated resulting in a large degree of environment damage. As illustrated in Figure 69, the artisanal activity is widespread across the licence area. It is increasingly accepted that while mostly informal and unregulated, artisanal mining is a legitimate livelihood activity and a potentially significant contributor to the national economy. All gold mined is supposed to be sold to government licenced gold buyers. Issues of gold smuggling, limited access to markets and financial services, inadequate mineral value-addition and lack of livelihoods diversification hinder this potential. Also, as numerous other international gold projects have realised, labelling artisanal gold miners as illegal and forcibly removing them from concession areas rarely results in a positive outcome.

21.3 Managing the Environmental Social and Governance Context

Akobo Minerals awareness of the potential complexities of Gambela's regional context, as summarised, combined with a corporate ethos to adopt responsible mining principles has resulted in the company seeking to adopt a proactive approach to ESG management.

The first step was to contract Sazani, a UK based non-profit organisation, specialising in environmental social and governance (ESG) risk assessment and social performance, as ESG Advisors to the project.

To date they have carried out an ESG risk review of the exploration licence area, undertaken remote sensing of the natural resources in the area, their use and change over the last five years to assess the viability for a payment for ecosystem services (PES) scheme, supported the training and recruitment of a community liaison team and are in the process of finalising the preparation of a Sustainable Natural Resources Management Plan (SNRMP) which will incorporate a PES scheme for the Shama Kabele.

The ESG review identified key risks for priority action. These are summarised in Figure 70

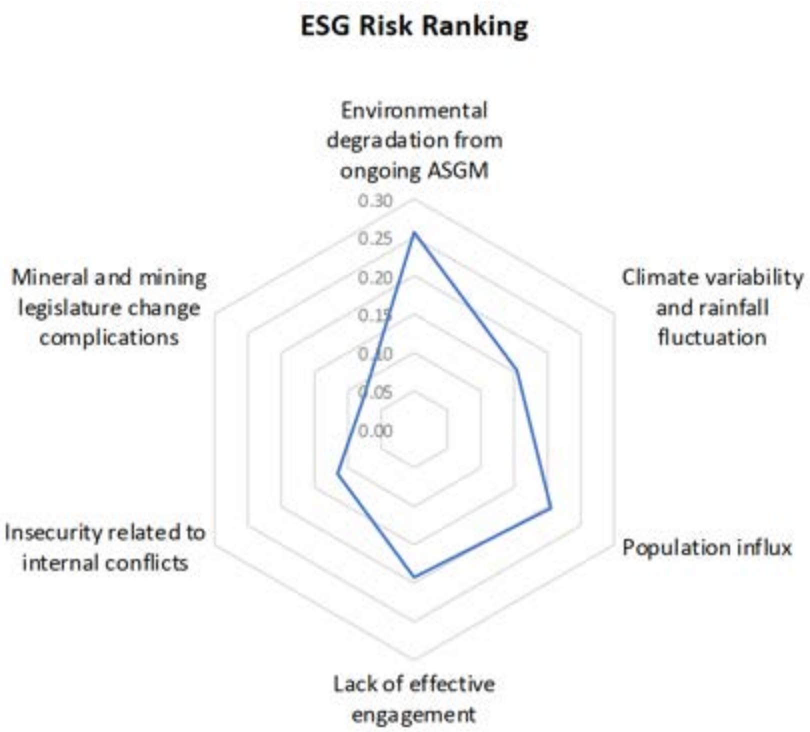


Figure 70: ESG Risk profile

Further to the review, Sazani is working closely with Akobo Minerals to support development and implementation of a series of mitigation actions. It is anticipated that the development of the SNRMP will be at the centre of this and will support both sustainable livelihood diversification as well as community based environmental management practice in the concession area. Initiating such a plan prior at exploration stage, will also initiate a development process with the community with Akobo Minerals adopting the role of a good neighbour and regional development partner instead of a service provider with communities increasingly dependent on the proposed mining project.

It is anticipated that the SNRMP will be prepared ready for implementation in Q1 2022.

21.4 ESG considerations for the Segele Project

It is the intent of Akobo Minerals to develop a small-scale mining project that in addition to being profitable venture, actively contributes to the United Nations Sustainable Development Goals (SDGs).

Akobo Minerals, as detailed in this study has begun the process of planning a small-scale mining operation and this will require an Environmental Impact Assessment (EIA). While being developed initially to comply with Ethiopian standards it is anticipated that, in conjunction with the SNRMP being developed by Sazani, that the resultant study and report will be aligned with good international industry practice (GIIP) and will complement and contribute to an ESIA in line with GIIP as the project develops. The SNRMP has an additional benefit in that through the development and implementation of a payment for ecosystem services process, environmental rehabilitation and stewardship will be monitored and used to generate carbon credits that will be traded to generate sustainable income and potentially offset the carbon cost of the Segele Project.

Sazani have carried out a preliminary stakeholder analysis and have developed an early-stage stakeholder engagement plan to facilitate effective engagement with stakeholders from the outset. Further to this, a multistakeholder approach is being used to develop the SNRMP with the intent for it to be owned and managed by the Shama Kabele and other community stakeholders.

The mine and mineral processing plan scope and layout illustrated in Figure 71 combines layout and illustrates the potential environmental and social considerations. In addition to the social issues described, the map details the extent of ASGM within the concession area. Akobo Minerals is currently in the process of rehabilitating the trenches and drill holes illustrated, to minimise the environmental impact of exploration activity. Consequently, considerations of note include potential displacement of the artisanal gold mining activity, proposed use of cyanide and water supply for mineral processing.

From informal engagements with the ASGM community in and around the Segele Project, the majority of the artisanal miners are engaged in seasonal activity and would be interested in diversifying their livelihoods. The proposed mine development will potentially be labour intensive and building on Akobo Minerals track record in maximising use of local skills, there will potentially be alternative livelihood and employment opportunities generated by the mine during both construction and operation. Furthermore, through the SNRMP and its multistakeholder approach, it is anticipated that a series of sustainable alternative livelihood initiatives will be established, aimed at the ASGM and community across the Shama Kabele.

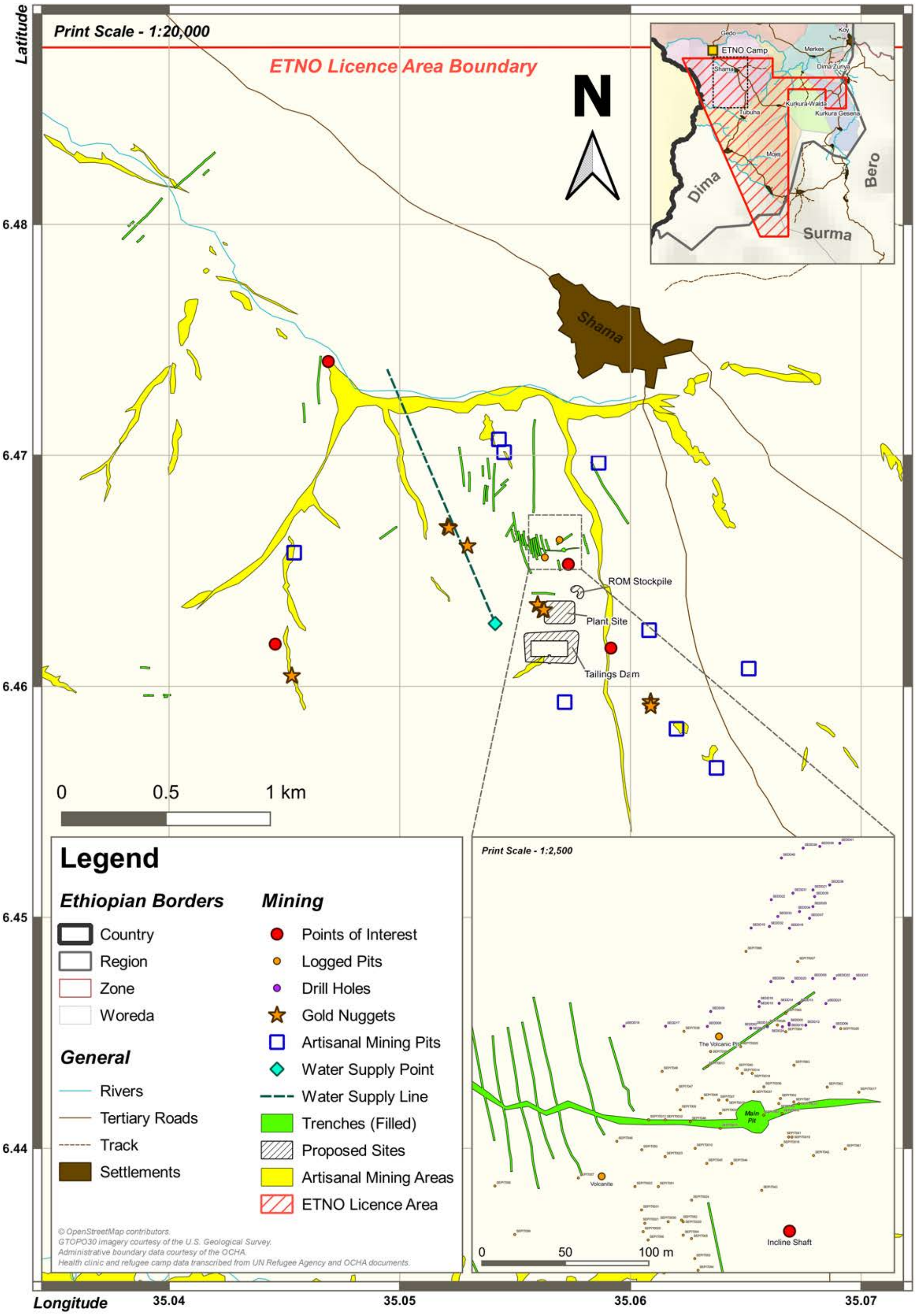


Figure 71: Segele Concession Area

The other major consideration that will be addressed in the EIA is water use and discharge. Sazani's preliminary remote sensing of natural resource use in the exploration licence area suggested a highly variable rainfall. The proposed mineral processing will use in excess of 140 Cubic meters in a 7 hour shift. This equates to 420CM^3=4200000 litres/ day, based on a planned 3 shift day. Detailed hydrological and hydrogeological studies will be required to determine if the flow of the seasonal water courses and the Akobo river are sufficient to meet this requirement. If so, water transportation will need to be considered from both practicability as well as from a security perspective.

These three considerations will be addressed in the imminent ESIA, currently in the process of being contracted.

22 Capital and Operating Costs

22.1 Mining Capital Expenditure Requirements

22.1.1 Introduction

Capital expenditure used in estimating the Incline development costs has been sourced from Borrego Sun's in house data base. Capital costs are seen to be conceptual in nature providing order of magnitude pricing. The capital estimates are considered accurate to +30-50 %.

22.1.2 Proposed underground development

Development of the Incline Shafts system and 5 levels equates to 790m of development (Table 34) at an estimated cost of US$326/m. which equates to US$4.2 million. Total Additional capital expenditure requirements in terms of supporting the development of the incline shaft are presented in Table 37 and equates to US$1 060 000, Table 38 depicts the drilling equipment costs estimated at US$35 000.

Table 37: Mining Related Capital Expenditure Requirements

Equipment	Quantity	Price US$	TOTAL Price
Mining tools	N/A		**10 000**
100mm PVC pipe Air	800	30,25/m	**24 200**
100mm PVC pipe water	800	30,25/m	**24 200**
100mm PVC pipe pump	800	30,25/m	**21 175**
Rail and accessories	800	65/m	**52 000**
Vent tubing	400	22/m	**8 800**
Miner lamp	40	220 each	**8 800**
Compressor	10	41,800 each	**418 400**
Wagon	20	5000 each	**45 000**
Incline winch	1	23 000	**23 000**
Auxiliary fan	6	17,600 each	**70 400**
Power generator	4	27,500 each	**110 000**
Sub Total			**815 975**
Transport provision		10%	**81 600**
Contingency		20%	**163 000**
TOTAL			**1 060 575**

The Segele Gold operation will require the following rock drilling equipment (Table 38) to support the mining operations.

Table 38: Details of Drilling Equipment Quotation

Description	Quantity	Unit Price US$	Price US$
SecorocYT29A Rock Drill	10	1 000	**10 000**
Lubricator	10	100	**1 000**
Pusher/Air Leg	10	250	**2 500**
Taper Rod 800mm	0	62	**0**
Taper Rod 1220mm	50	71	**3 560**
Taper Rod 1830mm	50	90	**4 500**
Taper Button Bits 41mm	200	26	**5 139**
Estimated Air Freight			**8 250**
Total			**34 949**

Figure 72: Example Winches Used in Incline Shafts

22.1.2.1 Building

Building requirements will consist of offices (460m^2,) change house (557m^2), a 180m^2 warehouse, and 340m^2 shop. A factored provision for these items is included in the Infrastructure Capital Cost section.

22.1.2.2 Explosive storage

Provision must be made for a safe and secure location for the storage of explosives and explosive accessories. An explosive magazine can be created on site either as part of an explosive contract or can be created by Akobo Minerals utilising contains and bunding walls. No Capital provision has been made for an explosive magazine at this time.

22.1.2.3 Return Water Dam

A return water dam may be required to support future mining operations at Segele. A small return water dam can be constructed after the bulk sampling programme is complete. Hence, no allowance has been made for a return water dam. A factored provision for this is included in the Infrastructure Capital Cost section.

22.1.3 Summary of Capital Expenditure

The Segele Gold project will require approximately US$2.386 million for mining related capital (Table 39)

Table 39: Summary of Mining Related Capital Expenditure

Description	Price (US$)
Mining Related Equipment (incl winder)	1 060 575
Rock Drills and Drill Steel	35 000
Surface mining related infrastructure	250 000
Development. (m)	563 270
Sub total	1 908 845
Contingency at 25%	477 211
TOTAL	2 386 056

22.2 Mining Incline Development Capital and Stoping Operational Costs

22.2.1 Drill and Blast

For the basis of this study a three (3) hour period has been assumed to drill a 20-hole round utilising two pneumatic rock drills. A single compressor is sufficient to support two pneumatic rock drills at a time while consuming two (2) litres of fuel per operating hour. This equates to one litre per hour per rock drill. The life of the 41mm drill bit has been assumed to be six (6) days. Lubrication is based on a quarter litre of grease per day.

22.2.2 Load and haul

The load and haul accounts for the loading of the blasted rock up in the incline end as well as the haulage up the incline shaft and the unloading of the rock on surface. Loading and hauling activities are conducted on nightshift and includes a winch (winder) driver with three wagon handlers on the top and bottom of the incline. Due to the importance of the cleaning operation a Shift supervisor and miner are allocated to the nightshift operations. Any maintenance issues would be based on a call out basis.

A winder operating at 0.23m per second is required for the incline shaft. Track work will need to be installed to standard to allow wagons to operate at the proposed speeds. Well functioning rail switches are required at top and bottom of the incline shaft and the surface tipping area requires design to enable proper tipping of waste and ore into separate areas/compartments. On a regular basis the ore and waste will be loaded by a tractor loader bucket (TLB) into trucks to transport ROM ore and waste to their designated areas i.e. ore to the metallurgical plant and waste to selected rehabilitation areas or if required to the backfill plant to create fill material.

22.2.3 Labour rates, Organisational Requirements, and Operating Costs

Table 40 provides the daily and annual personnel costs in Ethopian Birra (ETB) and US dollars. The wages were provided by Akobo Minerals and based Borrego Sun's experience of operating in Central and Eastern Africa. Borrego Sun has included a 40% loading for unskilled labour to account for accommodation, food, training, and other human relation related costs.

Table 40: Load and Haul Personnel Costs

Job Function	Daily Wage ETF	[1]Daily Wage US$	[2]Daily Wage US$	Annual Cost ETF	Annual Cost US$
Shift Supervisor[3]	1000	25.00	35.00	386 400	**9 600**
Miner	600	15.00	21.00	231 840	**5 796**
Rock Drill Operator	400	3.90	14.00	154,560	**3 864**
Loaders/Shovelers	200	3.00	7.11	78,516	**1 962**
Construction	200	3.00	7.11	78,516	**1 962**
Decline /Winch Driver	400	4.99	14.00	154,560	**3 864**
Maintenance	400	4.99	14.00	154,560	**3 864**

[1]exchange rate based on on an Ethiopian Birr (ETB) 40:1US$
[2]Loading of wage at 40%
[3]No loading applied

22.2.3.1 Development

Table 41: Personnel Requirements For Single Incline and Development Ends

Job Description	Requirements	Monthly Cost [1 2] US$
Dayshift		
Shift Supervisor Development	1	805
Miner Development	1	483
Rock Drill Operator	4	1 288
Construction	3	818
Maintenance	3	966
Winch Driver	1	322
Dayshift Total	**13**	**4 682**
Nightshift		
Shift Supervisor Development	1	805
Miner Development	1	483
Loaders/Shovelers	9	1 472
Winch Driver	1	322
Nightshift Total	**12**	**4 064**
TOTAL	**25**	**8 746**
[1]Assume 23 shifts per month		
[2]Exchange rate based on ETB 40 to 1US$		

Based on Table 41, Table 42, Table 42, and a monthly advance of 30m per month for the Incline development ends an associated labour rate on a US$ per metre basis equates to US$713 per metre. Table 42 provides a summary of the proposed development cost for inclines, which equates to a capital expenditure of US$563,270.

Supervisional and administrative, equipment operations and sundries are based InfoMine operating cost data base.

Table 42: Development Operating Cost Summary

Description	US$ per month	Total Operating Cost per metre
Labour	8 746	
Consumables/supplies	3 384	
Equipment operations[1]	1 180	
Supervisional and Administration[1]	3 180	
Sundries[1]	640	
Contingency (25%)	4 282	
Total	21 412	**713**
[1] Factored from InfoMine cost data base		

22.2.3.2 Stoping

Error! Reference source not found. and Table 44 indicate the personnel requirements for Shrinkage Stoping and the associated stoping costs.

Table 43: Personnel Requirements for Stoping Operations

Job Description	Requirements	Monthly Cost [1 2] US$
Dayshift		
Shift Supervisor Development	1	805
Miner Development	1	483
Rock Drill Operator	8	2 576
Loading	12	1 963
Support	4	654
Construction	5	818
Backfill	2	644
Maintenance	5	1610
Winch Drivers	2	644
Dayshift Total	**40**	**10 197**
Nightshift		
Shiftboss Development	1	805
Miner Development	1	483
Loaders/Shovelers/Haulage	16	2 617
Winch Driver	1	322
Nightshift Total	**19**	**4 227**
TOTAL	**59**	**14 242**
[1]Assume 23 shifts per month		
[2]Exchange rate based on ETB 40 to 1US$		

Table 44: Stoping Cost Summary

Description	**US$ per month**	**US$ per tonne mined**
Supervision and Administration[1]	15 901	
Labour	14 424	
Consumables	20 285	
Equipment Operations[1]	3 371	
Sundries[1]	49 455	
Contingency (25%)	25 860	
Total	**129 298**	**36.42**
[1] Factored from InfoMine cost data base		

The above proposed labour complement consists of skills that should be easy to find in Ethiopia and common in small scale mining with Central and Eastern Africa. The equipment proposed is suitable for small scale mining with the maintenance of the winder and winder rope the most sensitive to the development plan as it is critical that winch and accessories are well maintained. Some supervision in mining is required hence a shift supervisor and miner are proposed (local) and are renumerated to reflect the required skills base.

22.3 Plant Capital Cost

The Plant capital costs are estimated on the basis of quotations received on a recent similarly sized project also situated in Eastern Africa. Provision has additionally been made for the water supply, storage and distribution system as well as a 500VA generator for plant power. A basic unlined TSF and process water return system have also been estimated. A containerised laboratory cost is estimated.

It is assumed that the plant will be shipped to site in 11 containers from South Africa and estimated shipping costs are included. An initial provision for installation and commissioning is also shown.

The estimated plant capital cost summary is indicated in **Error! Reference source not found.** below.

The costs are quoted in US$

Table 45: Plant Capital Cost Estimate

Scope of supply	**$**
Design and project management:	481860
Crushing Module	155418
Milling Module	257400
Gravity Module	223506
CIL Module	507548
Cyanide destruction	140000
Elution / Electrowin / Smelting Module	204600
Reagent Dosing System	67600
Generator	82251
Water supply	164500
Total Cost, Packed, Ex Works	**2284683**
Transport Installation and commissioning	752171
Laboratory	28166
Tailings Storage facility	171000
Sub Total	**3236020**
Contingency at 25%	809005
Plant Capital cost Estimate	**4045025**

A number of expected costs are excluded from the above capital estimate including inter alia

- Taxes or duties
- Lights, power and cabling other than internal to plant
- Offices, stores, workshops, change houses, smelt house and vault
- Medical Station
- Training facility
- Access roads
- Security fencing
- Fire fighting equipment;
- Security equipment
- Initial Spare parts
- Toilet facilities and sewage disposal
- Other discard and rubbish disposal
- Radios/ communications

Depending on the expected duration of the overall project it may be expedient to provide converted containers for the Offices, medical station, training centre, workshops, change houses, smelt house and vault.

22.4 Plant Operational Cost

The plant operational cost has been estimated on the basis of the installed power, water, labour reagent and consumables and the laboratory costs.

The power cost is assumed to be the diesel cost of operating the 500VA generator at 75% load for 700 hr/ month.

The water cost, being extracted from the river, is currently unknown but will eventually be associated with the diesel cost to run the pumps supplying the water to site plus any fee for the water extraction.

The labour cost is estimated based on the requirement a single shift operation for 6 days per week with the pay scale being extrapolated from figures provided by ETNO. The total plant complement is estimated at 32 persons. The Plant labour compliment breakdown and relevant costs are indicated in **Error! Reference source not found.** below.

Table 46: Plant labour complement. Plant Single shift Operations

Role Description Plant	Expat number	Local number	Monthly Unit Cost	$ Monthly Total	$ Annual Total
Plant Production Superintendent	1		2 000	2 000	24 000
Metallurgical Foreman	1		1 500	1 500	18 000
Shift Foreman		1	1 000	1 000	12 000
loader driver		1	500	500	6 000
Plant Attendants crusher / mill		2	500	1 000	12 000
Plant Attendant Leach CIL		2	500	1 000	12 000
Plant Operator Elution Electrowin		2	500	1 000	12 000
Smelting		2	600	1 200	14 400
Sampler /Laboratory		3	400	1 200	14 400
Tailings dam		2	250	500	6 000
Security		8	500	4 000	48 000
Total	2	23		14900	178800
Engineering					
Engineering foreman	1		1500	1 500	18 000
Boilermaker		1	500	500	6 000
Electricians		1	500	500	6 000
Fitters		2	500	1 000	12 000
Assistants		4	250	1 000	12 000
Total	1	8		4 500	54000
Plant Total	3	31		19400	232800

Maintenance spares costs are estimated as 3.5% of the installed capital equipment cost annually.

Reagent and consumable costs are estimated on the basis of their expected consumption per tonne milled. Commodity costs were priced in ZAR and converted to US$ at the rate of 14.50 R/$

Laboratory costs are estimated on the basis of a similar project.

The Plant operating costs are summarised in **Error! Reference source not found.** below.

Table 47: Plant Processing Cost Estimate

Plant Feed		**50000tpa**	**28936oz/a**
Cost Centre	$m/year	$/t	$/oz
Power	0,788	15,76	27,23
Operating Consumables	0,304	6,09	10,52
Maintenance	0,063	1,26	2,18
Laboratory	0,024	0,48	0,83
Process Plant Labour	0,233	4,66	8,05
Sub total	1,412	25,25	
Contingency (25%)	0,353	7,06	
Total Processing	**1,765**	**35,31**	**48,81**

Annual Plant Operating cost is estimated at $1.412m for 50000tpa, and indicating a cost of $28.24 per tonne milled and $48.81per oz produced at the scoping study head grade and recovery assumptions. It is notable that fixed monthly operating costs of USD $85,051 apply alongside variable costs of $7,83/t.

A number of possible operating costs have been excluded and some of these are listed below. A factored provision for these items is included below.

- Licensing & Levies
- License water
- Atmospheric Emissions License
- Rehabilitation Contribution
- Levies - Water & Sewerage
- Health and Safety Costs
- IT & Administration Costs
- Training and Development

22.5 Infrastructure Capital Cost

The mining and plant CAPEX estimates include various exclusions related to general infrastructure, including:

- Access roads
- Offices (460m^2)
- Change house (557m^2)
- Warehouse (180m^2)
- Shop 340m^2
- Medical station
- Training centre
- Explosives magazine.
- Smelt house and vault

- Small return water dam.
- Lights, power and cabling other than internal to plant
- Security fencing
- Fire fighting equipment;
- Security equipment
- Initial Spare parts
- Radios/ communications
- Toilet facilities and sewage disposal
- Other discard and rubbish disposal

To cover the total cost of the above items, Akobo Minerals has a budget of USD $1m. This figure is factored from the 2020 Infomine Cost Model.

22.6 Environment, Social and Governance Capital and Operating Costs

Based on the proposed design anticipated implementation costs for the SNRMP, to be implemented in the Shami Kabele, including alternative livelihood opportunities costs are as follows:

Table 48: Environment, Social and Governance Capital and Operating Costs

Activity	Year 1 (USD) CAPEX	Year 2 + (USD) OPEX	50,000tpa USD /t mined
Register Payment for Ecosystem Services Scheme	20,000	7500	0.15
Develop and establish governance structures	5000	2500	0.05
Implement alternative livelihood activities	100,000	100,000	2.00
Environmental rehabilitation	50,000	50,000	1.00
Evaluation and monitoring	50,000	25,000	0.50
Administration and indirect costs	25,000	15,000	0.30
Total	**250,000**	**200,000**	**4.00**

22.7 General and Administration Operating Cost

Based on ETNO experience, approximately 55 staff will required for back office, leadership and geology functions for the mine. This does not include any provision for exploration activities or security related to gold production (covered in Plant OPEX).

Table 49: Monthly Salaries and employee numbers to support 10tph mining operations

Position	Rate (USD)	Number	Cost
Manager	1750	2	3500
Project manager	1250	3	3750
Senior - geologist	800	0	0
Junior - geologist	650	3	1950
Nurse	860	1	860

Senior - driller	400		0
Junior - driller	250		0
Operator	200	3	600
Senior - other	400	7	2800
Junior - other	250	3	750
Assistant Akobo	100	11	1100
Assistant Addis	150	3	450
Guards	250	6	1500
Temp hires Akobo	50	13	650
Total employees		**55**	**17910**
Per diem			5 910
Pension			2 620
Total Employee Cost			**26 441**

Table 50: General and Administration costs to support 10tph mining operations

Operations Costs	**USD**
Staff salaries and per diem	26 441
Admin, mobile, internet…	1 500
Software	
Insurance	1 000
Office rent	2 500
Professional fees	3 000
Land rent	
Travel and car rent	8 000
Security, safety and health	3 000
Other operating costs	3 000
General and Administration Costs per Month	**48 441**
General and Administration Costs per Tonne Mined (USD/t) based on 50,000tonnes per annum	**11.63**

22.8 Working Capital and First Fills Cost

Working capital salaries are calculated on the basis of a requirement for 3 months of salaries and administration operations cost.

Table 51: Working Capital and First Fills Estimates

Cost Centre	**Cost**
Mining Staff 3 months	50 000
Processing Staff 3 months	60 000
G/A 3 months	150 000
First Fills	100 000
Working Capital Total	360 000

22.9 Overall Capital and Operating Cost Summary

Estimates are provided on the basis of proprietary databases adjusted using factors appropriate for the scale of the Segele Project. All estimates were verified according to the direct experience of the competent persons and are in line with the SME Mining Engineering Handbook, 3rd Edition, 2011. Both operating and capital costs are estimated at an accuracy of 30-50%.

This scoping study estimates the capital expenditure to be USD $8.04m which includes a total contingency of USD $1.3m. Akobo Minerals considers capital expenditure to be all costs incurred up to the first production of ore from underground and the completion of commissioning of the plant.

After the completion of the ramp up period, monthly operating cost are estimated to be USD $312,072 with a unit cost of USD $87 per tonne mined. At a ROM head grade of 20g/t, the unit cost is considered to be USD $137 per ounce produced and USD $242 per ounce including 7% royalties (at a sales price of USD $1500 per ounce).

Given the short life of mine, no provision for sustaining capital has been included.

Table 52: Scoping Study Capital Expenditure Estimate

Cost Centre	Cost
Mining Engineering	2 386 056
Plant	4 045 025
General Infrastructure	1 000 000
Environment Society and Governance (Yr 1)	250 000
Working Capital and First Fills	360 000
CAPEX Total	**8 041 081**
including Contingency Total (25% of Plant and Mining)	*1 286 216*

Table 53: Scoping Study Operating Expenditure Estimate

Cost Centre	Per Month USD$	Per Tonne Mined	Per ounce (at ROM Head grade 20g/t)
Mining Stoping	129 298	36.42	56.92
Processing	117 667	35.31	55.19
Environment Society and Governance)	16 667	4.00	6.25
General and Administration	48 441	11.63	18.18
Operating Expenditure Total	**312 072**	**87.36**	**136.54**

Operating Expenditure Unit Cost (USD $/oz)	**242.54**
Calculated to include 7% royalties at 20g/t and 1500 USD $/oz	

23 Economic Analysis

24 Adjacent Properties

25 Other Relevant Data and Information

26 Interpretation and Conclusions

The authors are of the opinion that on the basis of the geological and engineering studies presented here, the Segele Project is likely to be viable as a low CAPEX, low OPEX, high revenue operation. The project is envisaged as a small scale operation (10-20 tonnes per hour) as opposed to much larger operations which are typically the concern of the international mining community.

In this scoping study no cash flow model is provided as the mineral resources are at inferred confidence. As such, no consideration has been made for variation in key economic parameters which are likely to affect the profitability of the project including gold price. Additionally, the accuracy of estimates provided here are accurate to 30-50%. When considering the results of this study the reader is advised to take into account such variation in costs and revenue production. The establishment of indicated or measures resources and a prefeasibility study is the clear next step in order to provide a cash flow model and sensitivity analysis.

The April 2021 Segele Mineral Resource estimate has been prepared and classified in accordance with the guidelines of the *Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves* (the JORC Code, 2012 edition) by Mr Michael Lowry who is a member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of SRK Consulting (Australasia) Pty Ltd. Mr Lowry has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC Code (2012).

A summary of the Segele Mineral Resources as at 6 April 2021 is presented in Table .

Table 54: Segele Gold Deposit Mineral Resource Estimate as at 6 April 2021

Classification	Cut-off (Au g/t)	Ktonnes	Au (g/t)	Au ounces
Measured	≥0.5	0	0	0
Indicated	≥0.5	0	0	0
Inferred	≥0.5	78	20.9	52,410
Total	≥0.5	78	20.9	52,410

27 Recommendations

Alongside drilling to extend the resource, infill drilling should be undertaken at the Segele project in order to upgrade Mineral Resources to Indicated and/or Measured. Efforts should be made to acquire additional sample points in domains 10, 20, 40, 50 and 60. Certain modifications to the drilling and logging procedures should be made to allow classification of resources at a confidence of indicated or greater.

It is recommended to advance mining studies at Segele to Prefeasibility stage in order to improve confidence in capital and operating expenditures. Alongside indicated or measured resources, such a Prefeasibility study will also allow for publication of a cash flow model and sensitivity analysis.

Such a prefeasibility study should include an improved understand of orebody geometry allowing for an accurate selection of mining methods. Ore blocks can also be scheduled for extracting allowing for a detailed cash flow model.

Metallurgical testwork should be undertaken in order to provide an estimate of % extraction and estimation of costs required for mineral processing.

Given the potentially high rainfall during the rainy season, an investigation into historic variation should be performed. Consideration should be made to how to manage all forms of runoff in times of high rainfall.

It is recommended for Akobo Minerals to investigate the potential to replace generator and grid power with alternative energy sources such as hydro/solar power where possible.

Detailed design and cost estimates covering infrastructure requirements should be undertaken in the next stage of project development.

At the time of writing it is understood that Akobo Minerals already has plans in place to address all these recommendations and in some cases progress is already being made.

28 References

InfoMine USA Inc., (2020). Costmine – Mining Cost Service Cost Models

Jackson, M., Often, M., Sjoberg, J., Tamene, B., Hailegebriel, A., (2019). The Akobo Gold Exploration Project, Western Ethopia. Competent Persons Report

Jackson, M., and Often, M., (2021) Personal Communication. Teams Meeting 22 January 2021.

Appendix 1: Competent Persons Consent Forms and Statements

Competent Person's Consent Form

Pursuant to the requirements of ASX Listing Rules 5.6, 5.22 and 5.24 and Clause 9 of the JORC Code 2012 Edition (Written Consent Statement)

Report name

Segele Scoping Study V1.0 ('Report')

Akobo Minerals AB

Segele Deposit

24th September 2021

Statement

I, Matthew Thomas Jackson

confirm that I am the Competent Person for the Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code 2012 Edition, having five years experience that is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Member or Fellow of The Australasian Institute of Mining and Metallurgy or the Australian Institute of Geoscientists or a 'Recognised Professional Organisation' (RPO) included in a list promulgated by ASX from time to time.
- I have reviewed the Report to which this Consent Statement applies.

I am a full time employee of Akobo Minerals AB

and have been engaged by *Akobo Minerals AB* to prepare the documentation for *The Segele Deposit* on which the Report is based, for the period ended 24th *September 2021*

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to, Exploration Results.

Consent

I consent to the release of the Report and this Consent Statement by the directors of:

Akobo Minerals AB

Signature of Competent Person	
Professional Membership:	Australasian Institute of Mining and Metallurgy
Signature of Witness:	
Date:	24th September 2021
Membership Number:	992281 MAusIMM(CP)
Print Witness Name and Residence:	

Competent Person (Mineral Resources): Michael Lowry BSc Hons (Geology), GCert (Geostatistics), MAusIMM

This report includes information from the Segele Mineral Resource Estimate released by Akobo Minerals AB on the 6th of April 2021 ("Announces encouraging Maiden Mineral Resource Estimate at Segele"). Akobo Minerals AB confirms that it is not aware of any new information or data which materially affects the information contained in the report regarding the Segele Mineral Resource (5/4/2021). All material assumptions and technical parameters underpinning the estimate are relevant and have not materially changed.

The information in this report that relates to Mineral Resources is based on information compiled by Mr Michael Lowry who is a member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of SRK Consulting (Australasia) Pty Ltd. Mr Lowry has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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'. Mr Lowry consents to the inclusion in the report of the matters based upon his information and context in which it appears.

Competent Person (Mining Engineering): Steven Rupprecht PhD (Mech Eng), (BSc Mining Eng.), Honorary Life Fellow SAIMM

Competent Person's Consent Form

Pursuant to the requirements of ASX Listing Rules 5.6, 5.22 and 5.24 and Clause 9 of the JORC Code 2012 Edition (Written Consent Statement)

Report name

Segele Scoping Study V1.0 ('Report')

Akobo Minerals AB

Segele Deposit

24th September 2021

Statement

I, Steven Rupprecht confirm that I am the Competent Person for the Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code 2012 Edition, having five years experience that is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Member or Fellow of The Australasian Institute of Mining and Metallurgy or the Australian Institute of Geoscientists or a 'Recognised Professional Organisation' (RPO) included in a list promulgated by ASX from time to time.
- I have reviewed the Report to which this Consent Statement applies.

I am a consultant working for *Akobo Minerals AB.*

And have been engaged by *Akobo Minerals AB* to prepare the documentation for *The Segele Deposit* on which the Report is based, for the period ended 24th *September 2021.*

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Mining Engineering

Consent: Steven Rupprecht PhD (Mech Eng), (BSc Mining Eng.), Honorary Life Fellow SAIMM

I consent to the release of the Report and this Consent Statement by the directors of: Akobo Minerals AB

Signature of Competent Person	
Professional Membership:	Honorary Life Fellow SAIMM
Membership Number:	FSAIMM Reg. No. 701013
Signature of Witness:	
Date:	
Print Witness Name and Residence:	

Competent Person (Chemical Engineering): John Derbyshire BSc Eng (Chem) Pr Eng, FSAIMM

Competent Person's Consent Form

Pursuant to the requirements of ASX Listing Rules 5.6, 5.22 and 5.24 and Clause 9 of the JORC Code 2012 Edition (Written Consent Statement)

Report name

Segele Scoping Study V1.0 ('Report')

Akobo Minerals AB

Segele Deposit

24th September 2021

Statement

I, John Derbyshire

confirm that I am the Competent Person for the Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code 2012 Edition, having five years experience that is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Member or Fellow of The Australasian Institute of Mining and Metallurgy or the Australian Institute of Geoscientists or a 'Recognised Professional Organisation' (RPO) included in a list promulgated by ASX from time to time.
- I have reviewed the Report to which this Consent Statement applies.

I am a full time employee of Goshawk Network Technologies CC and have been engaged by *Akobo Minerals AB* to prepare the documentation for *The Segele Deposit* on which the Report is based, for the period ended 24th *September 2021.*

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Chemical Engineering.

Consent: John Derbyshire BSc Eng (Chem) Pr Eng, FSAIMM

I consent to the release of the Report and this Consent Statement by the directors of: Akobo Minerals AB

Signature of Competent Person	
Professional Membership:	Pr Eng (Engineering Council of South Africa), Fellow SAIMM
Membership Number:	FSAIMM Reg. No, 703524 ECSA Reg. No. 910413
Signature of Witness:	
Date:	24th September 2012
Print Witness Name and Residence:	James Derbyshire BEng (Chem) 982 Waterpoort Str, Faerie Glen, Pretoria South Africa

Competent Person (Environmental, Social and Governance): Cathryn MacCallum PhD MSc(econ) CEnv, CSci, FIMMM

Competent Person's Consent Form

Pursuant to the requirements of ASX Listing Rules 5.6, 5.22 and 5.24 and Clause 9 of the JORC Code 2012 Edition (Written Consent Statement)

Report name

Segele Scoping Study V1.0 ('Report')

Akobo Minerals AB

Segele Deposit

24th September 2021

Statement

I, Cathryn MacCallum

confirm that I am the Competent Person for the Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code 2012 Edition, having five years experience that is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Member or Fellow of The Australasian Institute of Mining and Metallurgy or the Australian Institute of Geoscientists or a 'Recognised Professional Organisation' (RPO) included in a list promulgated by ASX from time to time.
- I have reviewed the Report to which this Consent Statement applies.

I am a director of Sazani Research and Development Ltd

and have been engaged by *Akobo Minerals AB* to prepare the documentation for *The Segele Deposit* on which the Report is based, for the period ended 24th *September 2021.*

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Environment Society and Governance.

Consent: Cathryn MacCallum PhD MSc(econ) CEnv, CSci, FIMMM

I consent to the release of the Report and this Consent Statement by the directors of: Akobo Minerals AB

Signature of Competent Person	Cathryn S MacCallum
Professional Membership:	Fellow of the Institute of Materials, Minerals and Mining
Membership Number:	0478276
Signature of Witness:	M R Proctor
Date:	24th September 2021
Print Witness Name and Residence:	Dr Mark Proctor, Wales, UK

Appendix 2: JORC Table 1

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *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 (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.*	• Diamond Drill holes were completed using NQ size (47.6 mm diameter core) standard tube drilling. Core loss was encountered frequently at depths less than 30 m, however all the mineralised intersections in the drill holes occurred below this depth. Core recovery from depths greater than 30 m was consistently above 97% with only three drill runs with recoveries <90%. Diamond drill samples were taken over intervals ranging from 0.41 to 1.7 m although most samples were taken over 1 m intervals. • Diamond core drilling has been used to extract NQ diameter core samples, in the relevant intersections the core was split length wise and one half was submitted to an accredited laboratory for gold and multi element assay. • A full QAQC program has been adhered to with Certified reference materials, blanks and duplicates used frequently. • For gold analysis a screen fire assay was used where visible gold has been observed, remaining samples were subjected to 50g fire assay.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).*	• Diamond drill core with NQ diameter (47.6mm diameter), core was oriented using a Devicore BBT system that marks the base of the hole for each core run.
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.*	• All data has been continuously recorded and entered into a managed, cloud-based database (MxDeposit). • Diamond drill recoveries were calculated by measuring the core recovered against the drillers recorded depth for each diamond core run. Core loss was encountered frequently at depths less than 30 m, however all the mineralised intersections in the drill holes occurred at depths greater than 30m. Core recovery from depths greater than 30 m was consistently above 97% with only three drill runs with recoveries <90%. • Core recovery was calculated by measuring the core recovered against the drillers recorded depth for each drill run. • There is no apparent correlation between grade and sample mass.

Criteria	JORC Code explanation	Commentary
Logging	• *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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• All drill core has been qualitatively logged by company geologists, recording lithology, alteration, structures, rock quality and mineralization according to company procedures.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Drill core is cut with a rock saw and half core samples were submitted to ALS in Addis Ababa for sample preparation and analysis. • Samples were weighed up on receipt in the prep lab and crushed with a jaw crusher to 70% passing 2mm. The crushed material was split with a Jones-type riffle splitter to split off a 1000g subsample. The subsample was then pulverized to to 85% passing 75 micrometers. • Analysis of half-core field duplicates has resulted in a coefficient of variation of 37% which is consistent with a highly variable, nuggety gold deposit. However, the size of samples taken from the diamond drilling at Segele may be too small given the coarse-gold nature of the mineralisation..
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.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• All gold assays are done by certified laboratories using proven techniques that are commonly used through out the gold exploration and mining business. • Diamond drill samples were prepared at ALS (Addis Ababa) and then sent to ALS (Loughrea) and analysed. Samples submitted prior to September 2020 were analysed using a 30 g fire assay for samples not containing visible gold or a screen fire assay for samples that did contain visible gold. Some of the 30 g fire assays were subsequently re-assayed using a 50 g fire assay. From September 2020 onwards samples not containing visible gold were analysed using a 50 g fire assay. • QA/QC sampling: - Diamond drilling – blanks at a rate of 2:25, CRM's at a rate of 1:10, field duplicates at a rate of 1:30, crush duplicates at a rate of 1:20 and pulp duplicates at a rate of 1:15. • The analysis of error and bias from the available QC data has resulted in acceptable results. All previous unacceptable QC results have been investigated and resolved (see Mineral Resource Report 6th April 2021).

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• There are no twin drill holes completed at Segele. • The company has implemented a cloud-based data management system (MX Deposit) which minimises transcription errors and allows transparent and accurate data collection. • No adjustments to assay data have been made • The competent person has verified the database against certificates of assay.
Location of data points	• *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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• All drill hole collars are surveyed with a Leica total station survey tool. • For the first 41 drillholes downhole surveys were conducted using a DeviCore BBT tool which oriented the core and recorded changes in the drill hole dip at irregular intervals. The DeviCore tool does not record changes in azimuth and the drill holes are assumed to be straight. • All work has been carried out using WGS 84 UTM Zone 36N coordinate system.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Diamond drilling at Segele was completed on a nominal drill spacing of between 10–15 mE by 10–15 mN. The diamond drilling spacing is sufficient to establish the geological and grade continuity of the Segele deposit for Mineral Resource estimation. • Assay intervals are nominally 1m but occasional shorter intervals occur.
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.* • *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.*	• Diamond drilling at the Segele deposit has been conducted approximately perpendicular to the trend of the mineralisation. It does not appear that the orientation of the drilling has resulted in a sampling bias.
Sample security	• *The measures taken to ensure sample security.*	• Diamond drill hole samples are sealed and labelled inside of individual plastic bags and then 10 samples are put in bulka bags and sealed. • All sampling intervals are recorded onto paper logs and then entered into the Akobo geological database. ALS laboratory electronic submission forms are then completed for each sample batch and re-checked against the geological database entries. • Samples are then transported by road to the ALS laboratory in Addis Ababa using a company truck. ALS perform a sample reconciliation when the samples are received.

Criteria	JORC Code explanation	Commentary
		• Sample pulps are then exported to Ireland for analysis at the ALS laboratory in Loughrea and a pulp split is sent back to Akobo for storage. • Assay results are returned digitally and by hard-copy forms, and are checked against the sampling interval recorded in the geological database.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Review of company procedures has taken place as a part of the resource estimation process.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership 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 security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Segele deposit lies within Mineral Exploration Licence (MOM/EL/262/2002) which was renewed on 30 October 2020. The licence is renewed yearly, for up to 3 years duration after which time a mining licence is required for continued operation. • There are no known issues relating to third parties, however standard Ethiopian gold sales royalties will apply.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• All exploration work has been carried out by ETNO Mining Plc (ETNO) which is 99.97% owned by Akobo Mineral AB.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Segele deposit is a high-grade orogenic gold deposit hosted within altered ultramafic and mafic rocks. The mineralisation is controlled by northwest–southeast shear movement which has created local dilatational zones oriented in an east–west direction which favoured precipitation of gold in narrow zones and pockets of intense shearing within the ultramafic and overlying mafic units. Gold appears to have been introduced during hydrothermal alteration of the mafic to ultramafic rocks, where the minerals were altered to amphibole by hydrous solutions carrying gold. The host rocks(s) acted as traps, fixing and concentrating gold. • The mineralisation has been modelled as a series of compact thin and sometimes bifurcating lenses using a cut-off 0.10–0.15 g/t Au. The lenses occurred mostly within the ultramafic units but do also extend upwards into the overlying mafic units.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.* • *If the exclusion of this information is justified on the basis that the*	See table below

Hole_ID	East_UTM36	North_UTM36	Rl	Hole_depth	Dip	Azimuth
SEDD01	727505.5585	715218.6241	627.308	32.8	-60	180
SEDD02	727505.4385	715219.3421	627.496	59	-75	180
SEDD03	727529.6525	715220.6851	626.74	101.1	-75	180
SEDD04	727515.8385	715250.4941	627.178	95.5	-75	180
SEDD05	727541.3385	715250.1451	626.353	134.8	-75	180
SEDD06	727554.6615	715222.5801	619.55	104.86	-75	180
SEDD07	727564.4255	715252.0891	618.87	137.5	-75	180

Criteria	JORC Code explanation	Commentary
	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.	

SEDD08	727478.6295	715220.4801	629.812	44.62	-75	180
SEDD09	727478.9205	715230.0011	629.832	95.9	-60	150
SEDD10	727530.7965	715220.6471	627.001	99	-80	330
SEDD11	727517.5645	715221.8371	627.967	69.3	-70	180
SEDD12	727539.4922	715219.3334	626.442	93.4	-75	180
SEDD13	727535.0815	715235.1861	626.808	105	-75	180
SEDD14	727523.9192	715233.1863	627.325	91	-75	180
SEDD15	727509.6425	715232.1281	628.051	24	-75	180
SEDD16	727509.7385	715234.9571	627.961	92.4	-75	180
SEDD17	727454.0565	715221.0411	631.865	129.3	-75	180
SEDD18	727527.1915	715281.0851	626.297	138.5	-75	180
SEDD19	727503.5205	715281.9391	627.555	126.2	-75	180
SEDD20	727541.687	715296.303	625.341	45.2	-75	180
SEDD21	727543.7555	715306.6601	624.96	156.3	-75	180
SEDD22	727516.1635	715298.2301	626.29	131.4	-75	180
SEDD23	727528.8915	715248.2191	626.426	111.3	-75	180
SEDD24	727523.7585	715221.4761	627.218	90.3	-80	180
SEDD25	727527.9395	715281.9961	626.159	129.15	-65	160
SEDD26	727532.9945	715263.3941	622.923	117.2	-72	180
SEDD27	727532.9855	715224.0561	626.79	33.5	-75	180
SEDD28	727533.0935	715227.1461	626.807	87.2	-75	180
SEDD29	727543.4915	715236.9101	626.005	99.2	-75	180
SEDD30	727549.7215	715250.8891	625.436	114.2	-75	180
SEDD31	727527.6885	715300.3541	625.677	144	-75	180
SEDD32	727516.4565	715281.6161	626.787	125.7	-75	180
SEDD33	727520.9515	715288.7581	626.456	123.2	-75	180
SEDD34	727532.8275	715291.4321	625.59	135.2	-75	180
SEDD35	727542.3485	715299.9861	625.104	150.2	-65	160
SEDD36	727551.7535	715307.1631	624.329	168	-75	180
SEDD37	727539.2665	715285.9441	625.475	150.2	-75	180
SEDD38	727536.3825	715330.0371	624.192	165.2	-75	180
SEDD39	727547.2175	715330.8941	623.881	180.1	-75	180

Criteria	JORC Code explanation	Commentary
		SEDD40 727522.5265 715320.8471 624.962 141.2 -75 180 SEDD41 727557.3875 715331.0751 623.395 183.2 -75 180
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Weighted averages are used for reporting of assay intersections with a 1 g/t cut-off and an internal maximum unmineralized width of 1m, i.e. no unmineralized sections longer than 1m are included in the interval. • No high-cut has been used this was considered appropriate as the general nature of the mineralisation is high-grade and it is expected that high grades will be recoverable by gravity methods.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• It is the opinion of the company that the length of the drill intersections represents somewhat longer sections than true width. True width is typically 80 to 100% of the assayed interval, depending on hole orientation. For reporting in press releases a factor of 95% has been used to represent true width.
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 drill hole collar locations and appropriate sectional views.*	• Please refer to the above report
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.*	• Both successful and unsuccessful holes have been reported in the press release. • This version of JORC Table 1 discloses only the diamond drilling from the Segele deposit. For full disclosure of other sampling methods (RC, soil samping, trenching etc), please see the 2019 Competant Persons report and the 2021 Mineral Resource Estimate report (6th April 2021).
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.*	• This version of JORC Table 1 discloses only the diamond drilling from the Segele deposit. For full disclosure of other sampling methods (RC, soil samping, trenching etc), please see the 2019 Competant Persons report and the 2021 Mineral Resource Estimate report (6th April 2021).
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out 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.*	• Step-out drilling of the depth extent of the Segele mineralization is planned.

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	▪ 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. ▪ Data validation procedures used.	▪ Akobo Minerals utilise a MX Deposit geological database which has built in validations for logging and sampling data entry. ▪ The database is managed by an Akobo Minerals employee who performs regular validations including sample interval checks, geological logging checks and assay value checks against returned laboratory certificates.
Site visits	▪ Comment on any site visits undertaken by the Competent Person and the outcome of those visits. ▪ If no site visits have been undertaken indicate why this is the case.	▪ The Competent Person has not been able to undertake a physical site visit due to COVID-19 travel restrictions. ▪ The Competent Person has completed a virtual site visit with the Akobo Minerals Chief Operating Officer and Geological staff using Microsoft Teams. During the virtual site visit the Competent Person inspected diamond drill core processing (depth mark-ups, geological logging, core sampling and sample bagging prior to dispatch) as well as a virtual field visit to the Segele deposit to inspect drill hole collars, artisanal pits and the general geomorphology.
Geological interpretation	▪ Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. ▪ Nature of the data used and of any assumptions made. ▪ The effect, if any, of alternative interpretations on Mineral Resource estimation. ▪ The use of geology in guiding and controlling Mineral Resource estimation. ▪ The factors affecting continuity both of grade and geology.	▪ Geological logging data from diamond drill holes, trenches, artisanal pits and surface mapping and structural logging from diamond drill holes was used to generate the Segele geological model. ▪ 18 different lithologies have been logged at Segele, these were condensed down to four main lithologies for the lithological model: mafic, ultramafic, mafic schist and a late stage vulcanite dyke which cross-cuts the other lithologies and the gold mineralisation. ▪ Gold mineralisation was modelled as a series of compact thin and sometimes bifurcating lenses using a cut-off 0.10–0.15 g/t Au. The lenses occurred mostly within the ultramafic units but do also extend upwards into the overlying mafic units. Six mineralised lenses were modelled, a main lens, a hanging wall lens, a footwall lens occurring more at depth and three minor, more isolated lenses. ▪ The Mineral Resource estimate used the mineralised lenses as hard boundaries. ▪ The geological model is a reasonable global model for the deposit. Uncertainly exists about the structural controls on the mineralisation.

Criteria	JORC Code explanation	Commentary
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 Segele mineralisation is approximately 40 m wide (east–west) and extends approximately 200 m down plunge to depths of up to 140 m below the topographic surface. The mineralised lenses are typically between 2–5 m thick but can vary from 1 m to 20 m thick.

Criteria	JORC Code explanation	Commentary
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 availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. ▪ The assumptions made regarding recovery of by-products. ▪ Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation). ▪ In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. ▪ Any assumptions behind modelling of selective mining units. ▪ Any assumptions about correlation between variables. ▪ Description of how the geological interpretation was used to control the resource estimates. ▪ Discussion of basis for using or not using grade cutting or capping. ▪ The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.	▪ Estimates for gold were completed using Ordinary Kriging interpolation using Maptek Vulcan mining software. Each of the mineralised lenses was treated as hard boundaries and estimated separately. No deleterious elements or additional grade variables of economic significance have been estimated. ▪ Drill hole samples were composited to 1 m lengths, broken by the mineralised domains, with residual composites <0.4 m added to the previous 1 m composite. ▪ A top-cut of 400 g/t Au was applied to the main lens domain to remove one high-grade outlier and distance restrictions were applied to composite samples >100 g/t within the hanging wall lens and the footwall lens domains to control high-grade smearing in the estimate. ▪ The estimation block size used was 5 mX x 5 mY x 2 mRL or approximately half the drill hole spacing. The estimation was completed over three passes with searches ranging from 25 mX x 10 mY x 5 mRL to 100 mX x 100 mY x 25 mRL and sample ranges of minimum samples required between 4 and 6 samples and a maximum sample allowed of 20 samples, including a maximum of 3 samples per drill hole. ▪ Dynamic anisotropy searches were used during the estimates to account for localised changes in the dip and plunge of the mineralised lenses. ▪ Due to low sample numbers, the average composite gold grades were assigned to the three minor lenses which represent <1% of the Mineral Resources. ▪ The 2021 Segele Mineral Resource estimate is a maiden estimate. Inverse distance squared and uncut Ordinary Kriging check estimates were completed. ▪ The Segele Mineral Resource estimate has undergone several validation checks including visual validation against the diamond drill hole sampling, a global statistical comparison between the composite samples and the estimated blocks and swath plot validations comparing averaged panel composite and estimated blocks grades along strike, along the dip direction and vertically.
Moisture	▪ Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	▪ Tonnages have been estimated on a dry basis. ▪ There has been no assessment of the moisture content.
Cut-off parameters	▪ The basis of the adopted cut-off grade(s) or quality parameters applied.	▪ A cut-off grade of 0.5 g/t Au has been used for Mineral Resource reporting. The Segele deposit has not yet undergone any mine planning assessment

Criteria	JORC Code explanation	Commentary
		however it is assumed that the deposit will be mined using conventional open pit mining methods. The cut-off used is consistent with similar Mineral Resource estimates reported elsewhere in Africa.
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.	▪ The Segele deposit has not yet undergone any mine planning assessment however it is assumed that the deposit will be mined using conventional open pit mining methods.
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.	▪ There has been no detailed metallurgical testwork conducted for the Segele deposit. ▪ Mineralogical investigations suggest that the mineralisation at the Segele deposit occurs as unevenly distributed, coarse to fine gold grains. The gold appears to be unusually pure with very little associated sulphide and no associated silver or metals.
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.	▪ There has been no detailed Environmental, Social and Governance (ESG) studies or mine waste studies, completed for the Segele deposit. ▪ There is limited assaying information for deleterious elements such as arsenic (As) – 259 samples, mean 29.5 ppm As, max 932 ppm As, and sulphur (S) – 259 samples, mean 0.09% S, max 6.24% S. ▪ The Segele Creek runs north to south just to east of the Segele deposit and could be impacted by future mining. ▪ The Segele deposit is covered by a large amount of recent artisanal mining which is controlled by the Ethiopian Government. The Akobo Gold Project Exploration Licence allows Akobo Minerals AB to have priority over artisanal mining when conducting exploration activities however the company actively engages with the local artisanal miners to build good relations, share knowledge and conduct operations safely.
Bulk density	▪ Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or	▪ 127 diamond drill samples were selected from a range of stratigraphies and grade ranges and were analysed for specific gravity at the ALS (Loughrea)

Criteria	JORC Code explanation	Commentary
	dry, the frequency of the measurements, the nature, size and representativeness of the samples. ■ 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. ■ Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	using a multipycnometer analytical method which uses an automated gas displacement pycnometer to determine density by measuring the pressure change of helium within a calibrated volume. ■ The gas pycnometer measures volume of solid particles using gas (helium) displacement which will penetrate the finest pores.
Classification	■ The basis for the classification of the Mineral Resources into varying confidence categories. ■ 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). ■ Whether the result appropriately reflects the Competent Person's view of the deposit.	■ All the mineralisation within the maiden Segele Mineral Resource estimate has been classified as Inferred Mineral Resources. ■ The Competent Person is of the opinion that the deposit has reasonable prospects for economic extraction using conventional open pit mining methods. ■ Artisanal mining, survey data, sampling and assaying methodology and quality, confidence in the geological model, estimation performance and Environmental, Social and Governance (ESG) factors were all taken into consideration when classifying the Segele deposit's Mineral Resources.
Audits or reviews	■ The results of any audits or reviews of Mineral Resource estimates.	■ There have not been any audits or reviews of the 2021 Segele Mineral Resource estimate other than internal peer review by SRK.
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 estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. ■ These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	■ The Competent Person considers that the unknown depth of artisanal shaft mining, surveying methodologies, low sample counts in some domains and confidence in the geological modelling, and limited ESG and mine planning assessments present the largest impacts on the confidence of the Mineral Resource estimate. ■ The Competent Person is of the opinion that the maiden Segele Mineral Resource estimate represents an appropriate global estimate that reproduces the overall grade trends and tenor seen in the diamond drill hole samples. The estimate should not be considered an accurate local estimate.

Section 4 Estimation and Reporting of Ore Reserves

No Ore reserves are reported in this study.