ELIKHULU PROJECT
FEASIBILITY STUDY
SECTION 1 – EXECUTIVE SUMMARY

Configuration Management			
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This document is the first chapter of the following set of chapters for this study:

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REVISON CONTROL

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1 EXECUTIVE SUMMARY

1.1 Introduction

In July 2016, DRA Projects (Pty) Limited ("DRA") was appointed by Pan African Resources to conduct a feasibility study for a gold tailings retreatment project – the Elikhulu Project.

Pan African and its subsidiaries are a South African based precious metals mining group which produces in excess of 200,000oz of gold and 10,000oz of PGM's per annum. The Company's strategic focus is on the exploitation of high grade ore-bodies that yield high margins with a relatively low cost base. Pan African has successfully grown profitable precious metal production in recent years via organic and acquisitive growth.

The Elikhulu Project entails the setting up of facilities and infrastructure at Evander Gold Mine (EGM), owned and operated by Pan African Resources (PAR), to retreat Gold Plant Tailings at the rate of 1 million tons per month.

Three existing tailings storage facilities (TSFs) will be reclaimed, in the following sequential order:

- Kinross TSF;
- Bracken/Leslie TSF; and
- Winkelhaak TSF.

The project scope includes:

- The water supply to the project as a whole;
- The water supply to each of the reclamation sites;
- Hydraulic Mining infrastructure – capacity 1.2 million tons per month;

- A new Carbon in Leach (CIL) gold recovery process plant – capacity 1 million tons per month ;
- Pump and piping systems to transfer the hydraulically mined tailings slurry to the new CIL process plant;
- The residue disposal pumps and piping systems to deposit the tailings on a new Tailing Storage Facility (TSF); and
- The construction of the new TSF – capacity 1.25 million tons per month.

The major project milestone dates are listed below.

• Detail Engineering Starts	1 December 2016
• Procurement Starts	1 April 2017
• ESIA Approval	31 July 2017
• Issue of integrated water usage licence.	20 September 2017
• Construction Start	21 September 2017
• Construction Complete	28 September 2018
• Process Plant Cold Commissioning Complete	01 October 2018
• Process Plant Hot Commissioning Complete	19 October 2018
• Phase 1 Hydraulic Mining – Kinross TSF Begins	01 October 2018
• Commercial Production achieved	30 November 2018
• Phase 2 Hydraulic Mining – Leslie TSF Begins	Quarter 4 - 2021
• Phase 3 Hydraulic Mining – Winkelhaak TSF Begins	Quarter 3 - 2026

1.2 Project location

Evander Gold Mine is situated 120km east of Johannesburg near the towns of Evander, Kinross, and Leandra and is serviced by the N17, R547, R546, R50 and R29 road infrastructure.

Refer to Figure 1.1 below, indicating the general location of the Elikhulu Project.

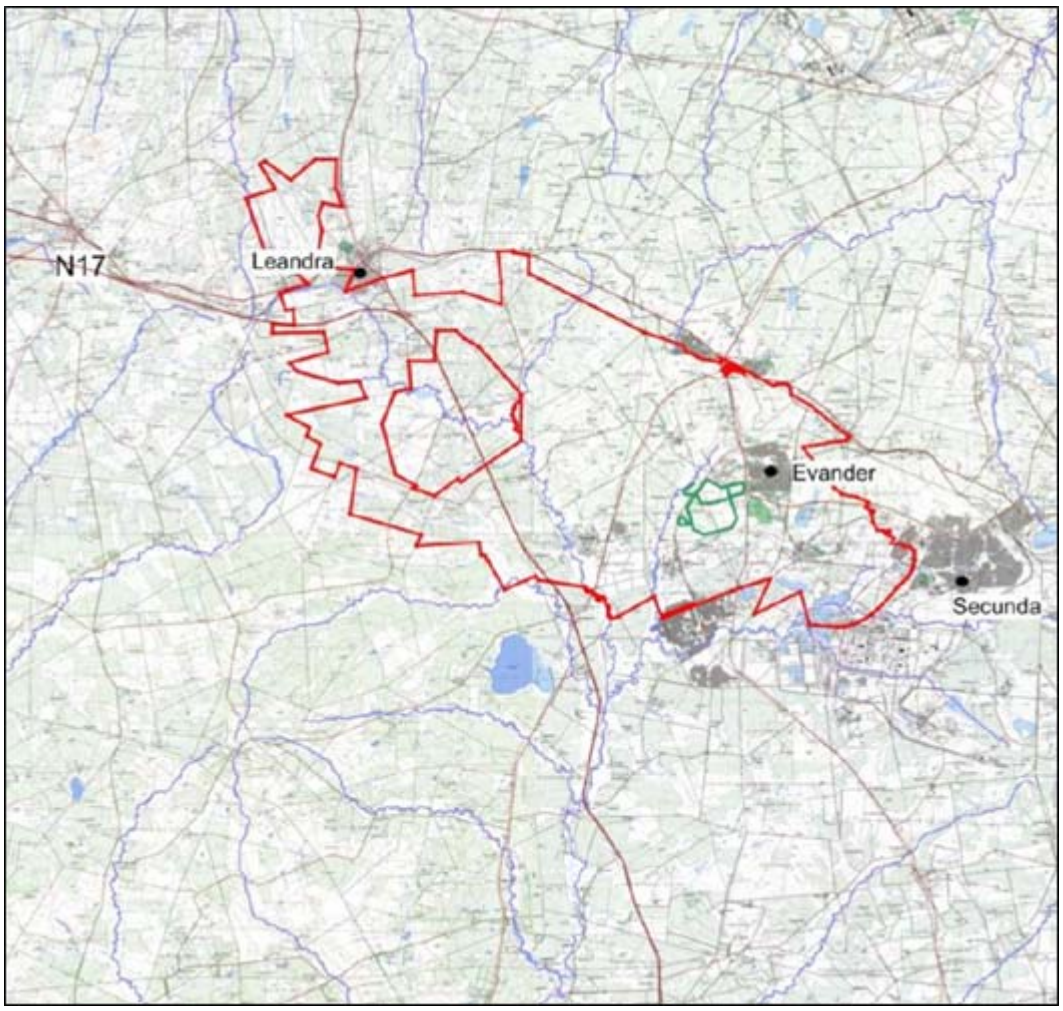

Figure 1.1: Location Map – New Kinross TSF outlined in green

The Kinross TSF is situated about 2.5Km from the Evander town centre. The Leslie TSF is situated approximately 5 km South West of Kinross TSF and the Winkelhaak TSF is situated approximately 4 km South East of Kinross TSF - See Figure 1.2 below.

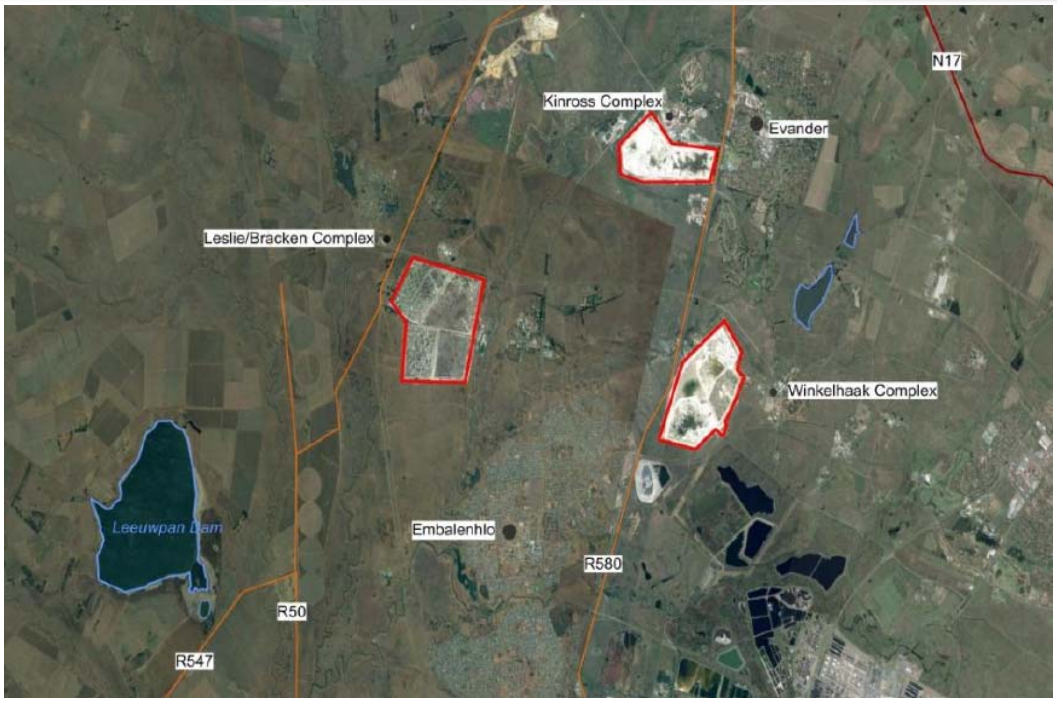

Figure 1.2: Kinross, Leslie and Winkelhaak TSF Location

1.3 Legal Tenure

The approved Evander Gold Mine (EGM) mining right area covers a number of portions on various farms totalling some 31,783.0738 hectares. The Kinross, Leslie and Winkelhaak TSFs are located within this mining right area.

Legal opinion has been obtained to determine PAR's right to process the existing Kinross, Leslie and Winkelhaak TSFs. The legal opinion has concluded that a Mining Right is not required for the reclamation of the Evander Gold Mine Historic dumps.

EGM is the registered property owner of all areas affected by the Elikhulu Project; with exception of the Winkelhaak property portion (RE 3) and the areas affected by water and slurry reticulation pipelines.

Representatives of the land owners have formally granted EGM permission to utilise the Winkelhaak property portion (RE 3).

The water and slurry reticulation pipelines will be routed in existing servitudes which EGM has permission to utilise.

1.4 Hydraulic Mining and Reserve Statement

1.4.1 Hydraulic Mining

Hydraulic mining is the selected mining method for the Elikhulu Tailings Retreatment Project. The project includes the hydraulic mining of the existing Kinross, Bracken/Leslie and Winkelhaak TSFs.

Hydraulic mining was selected as the mining method due to the proven technology, cost effectiveness and technical and operational ease thereof. The system consists of:

- Fixed pumps and piping equipment for high pressure pumping of clean process water to re-pulp the dry ROM tailings with mobile monitoring units;
- Fixed screening equipment to remove debris and oversize material on site; and
- Fixed slurry pumps and piping equipment to pump the slurry to the new process plant.

1.4.2 Resource and Reserve Statement

A Mineral Resource Statement in accordance with SAMREC guidelines of the EGM TSF's was reported by SRK in December 2015. The statement contained two elements, which was the material inside the TSF's and second element was the soil below the TSF's. All material inside the TSFs were reported as indicated and all material in the soil below the TSFs were reported as inferred. Table 1.1 shows the resources inside the TSF and Table 1.2 shows the resources inside the soil.

Table 1.1 Mineral Resource Statement for the TSF's

Mineral Resource Statement – TSF's (Indicated)				
TSF Name	**Tonnes (Mt)**	**Au (g/t)**	**Au (kg)**	**Au (oz)**
Kinross	52.67	0.31	16 568	532 661
Bracken/Leslie	70.07	0.32	22 178	713 024
Winkelhaak	69.94	0.24	16 994	546 360
Total	**192.69**	**0.29**	**55 739**	**1 792 045**

Table 1.2 Mineral Resource Statement for the soil material

Mineral Resource Statement - Soil Material (Inferred)				
TSF Name	**Tonnes (Mt)**	**Au (g/t)**	**Au (kg)**	**Au (oz)**
Kinross	9.23	0.33	3 045	97 914
Bracken/Leslie	8.02	0.27	2 148	69 064
Winkelhaak	4.57	0.53	2 408	77 420
Total	**21.83**	**0.33**	**7 601**	**244 398**

A Mineral Reserve Estimate in accordance with SAMREC guidelines of the EGM TSF's was reported by DRA in October 2016. DRA used the indicated resources in Table 1.1 as basis for the Mineral Reserves Estimate. The mining method is a non-selective mining method whereby the whole of the mineral deposit (therefore the TSF's) will be mined in a predetermined sequence. The mining method allows for a 100% extraction of the targeted mineral deposit.

The losses incorporated into the reserve estimate was the depleted tonnage mined from December 2015 to September 2016 and a retainer wall which will be left at the Kinross TSF (this will form part of the new TSF). The resultant mineral reserve estimate is shown in Table 1.3.

Table 1.3 Mineral Reserve Estimate

Mineral Reserve Estimation			
Tailings facility	**Probable Reserve Tonnes (M)**	**Probable Reserve Grade (g/t)**	**Probable Au Content (Moz)**
Kinross	47.0	0.31	0.47
Bracken/Leslie	70.1	0.32	0.71
Winkelhaak	70.0	0.24	0.55
Total	**187.1**	**0.29**	**1.73**

The 187.1 million tons will provide feed material to both the existing Evander Tailings Retreatment Plant (200 000 tons per month) and the new Elikhulu process plant (960 000 tons per month). The current arising tailings of 40,000 tons per month from the ROM, Kinross 8 Shaft will be fed directly into the Elikhulu plant bringing the total Elikhulu tonnage throughput to 1 000 000 tons per month.

1.5 Process Plant and Metallurgy

In early 2016 DRA conducted a desktop evaluation on the Elikhulu project that indicated the potential viability of the project. The outcome of the evaluation determined that the optimum plant size for the Elikhulu project is 12 million tons

per annum (based on CAPEX and OPEX trade off and a number of other considerations).

The process design criteria (PDC) states a CIL processing plant capable of treating 12Mtpa. The following points are of importance:

- The process plant allows for vibrating trash removal screens ahead of the CIL circuit with upstream screening at the hydraulic mining site to be at 4mm.
- No pre-leach thickener is included in the design, leading to a 10-20% surge factor applied across all mainstream slurry pumps.
- The current design includes 1 x pre-oxidation and 7 x CIL tanks resulting in a leach residence time of 9.5 hours.

The flow sheet selected in the Elikhulu plant design is as follows:

The test work data represented testing of samples with feed grade in the range 0.18g/t – 0.54g/t. Final CIL residue grade for these tests was found to increase with increasing feed grade to the CIL circuit in all three TSFs tests.

Using the modelled recoveries above and allowing for the pre-aeration benefit the gold dissolution values estimated for Winkehaak is 54.7%, Bracken/Leslie is 47.2% and Kinross is 51.7%. These dissolution rates are discounted to account for gold losses in the fine carbon (50g/t) and solution losses (0.08ppm).

The overall gold recovery over the life of the project is 47.8 %

The results listed are based on previous test work completed by SGS in 2009 and the existing Evander Tailings Retreatment Plant (ETRP) achieved recoveries (ETRP currently treating Kinross TSF material). The ETRP design was based on the 2009 SGS test work.

Confirmatory test was done at Mintek and Maelgwyn confirming:

- CIL process is the appropriate gold recovery process
- The ore is fast leaching and an 8 hour residence time was indicated to be sufficient (design has 9.5 hours retention time)

- Reagent consumptions
- Gold recovery ranges.

Reagent consumptions for the project are based on laboratory test work results and mass balances, refer to Table 1.4 below for a summary of the reagent consumptions.

Table1.1: Reagent Consumptions

Reagent	Unit	Consumption
Lime	g/ROM t	790
Sodium Cyanide (NaCN)	g/ROM t	250
Sodium Hydroxide (NaOH)		
Elution	kg/batch	3 650
Electrowinning	kg/batch	760
Activated Carbon	g/ROM t	10
Hydrochloric Acid (HCl)	kg/batch	4 360
Anti-scaling Agent	m^3/month	1.30
Borax	kg/month	400
Silica Sand	kg/month	200
Sodium Carbonate	kg/month	200

1.6 Tailings Storage Facility

DRA Projects appointed SLR Consulting to undertake the design of the new Tailings Storage Facility (TSF) required for the Elikhulu Gold Project.

The greatest challenge with the new TSF was finding a suitable location for the new TSF. Possible locations identified were evaluated in terms of CAPEX, capacity restraints and environmental impacts.

The most suitable location identified is to the south and contiguous with the existing Kinross TSF and will reutilise the existing Kinross TSF footprint.

The current TSF design can accommodate 168 million tons of tailings. Over the 13 year life of the project, including the ETRP and ROM tailings, approximately 181.2 million tons of tailings are expected to be produced.

There are a number of options available to ultimately increase the total deposition capacity:

- During detail engineering optimise the existing foot print to increase capacity to 200 million tons, to also allow for additional inferred soil resource.
- Once the Bracken/Leslie TSF is reclaimed this footprint can be reused for tailings depositions.

The overall TSF footprint consists of a new lined initial phase to the south of the existing Kinross TSF, and the reuse of the re-mined Kinross TSF footprint. The old TSF footprint area is not required to be lined. All return water dam compartments will incorporate a composite lining system, including the refurbishment of the existing Kinross return water dam. Tailings deposition will be carried out via cyclones to maximise the rate of rise. Cyclone deposition typically allows for rates of rise of up to 5 m/yr. A maximum allowable rate of rise of 4.5 m/yr has been used for the TSF design, which allows for an initial deposition rate of 1.0 Mtpm increasing to 1.25 Mtpm after 4 years. The ETRP tailings will continue to be deposited on the Winkelhaak TSF during this 4 year period.

The Department of Environmental Affairs (DEA) has revised the South African waste classification and assessment system under the National Environmental Management: Waste Act, 2008 (Act 59 of 2008) (NEMWA). The Waste Classification and Management Regulations (WCMR) (GN R. 634 of 2013) were published in August 2013. All mineral and mining residues, including gold tailings are, as of 2014, regarded as a waste as defined by NEMWA.

An assessment has therefore been undertaken to classify the tailings in terms of the WCMR (GN R.634) and associated National Norms and Standards (GN R.635 and GN R.636). GN R.635 describes the process to be followed in determining the waste type, whereas GN R.636 contains the standard barrier designs and landfill disposal requirements of the different types of waste.

1.7 General Surface Infrastructure

1.7.1 Water supply

The total water requirement for the project is15.2 ML/day

Water will be sourced from the underground workings and from the existing Leeuwpan evaporation dam which is owned and operated by Evander Gold Mine. Leeuwpan is situated approximately 10 km South West of Kinross TSF.

The water from underground (6.7Ml/day) will be pumped directly to the 15 000 m^3process water dam located close to the new Elikhulu process plant.

Make-up water will be pumped from Leeuwpan via the existing pipeline to the holding dam north of the Bracken/Leslie TSF. A new pump station will be installed at the holding dam to pump this make-up water to the 15 000m^3.

The required make-up required is 8.5ML/day.

As part of the feasibility study a detailed survey of Leeuwpan dam was completed in August 2016 which indicates the volume of water in Leeuwpan to be 36 786 117 m^3 or 36 786 ML.

An overall project (and Evander Mines) water balance indicates that there is sufficient water in Leeuwpan to support the Elikhulu Project for a period in excess of 15 years.

1.7.2 Power Supply

1.7.2.1 Overall power requirements.

Description	Installed Power	Running Power	
	MVA	MW	MVA
Total project Phase 1	22.1	9.9	16.6
Total project Phase 2	23.1	10.2	17.2
Total project Phase 3	23.1	10.2	17.3

1.7.2.2 Phase 1: New Tailings Process Plant and Kinross Slimes Dam:

The reticulation power required the new Elikhulu process plant and Kinross hydraulic mining will be supplied from the existing EGM No: 7 shaft MV substation via an overhead line (OHL). A new MV substation will be constructed on the south side of the new plant. This substation would only service the new process plant.

The current OHL (± 2 km) going to an old LaFarge crusher plant will be upgraded to accommodate the load of ± 16.05 MVA. This work is allowed for in the scope of work.

Total loading for phase 1 will be ± 13.1 MVA for the plant, ± 2.95 MVA for the Hydraulic Mining and an additional ± 0.55 MVA at the Header Dam and Leeuwpan for pumping of water.

1.7.2.3 Phase 2 Bracken/Leslie Hydraulic Mining and Header Dam Pumping:

The reticulation power to this area will come via a new OHL (± 5 km) fed from the No: 9 Shaft substation. This substation has a capacity of 10 MVA.

The OHL (± 3 km) will run via the servitude to the Header dam and then continue past for another (± 1.5 km) to the Hydraulic Mining Pump station on the eastern side of the slimes dam.

Total loading for phase 2 will be ± 13.1 MVA for the plant, ± 3.55 MVA for the Hydraulic Mining and an additional ± 0.55 MVA at the Header Dam and Leeuwpan for pumping of water

The first portion of this OHL to the Header dam would have to be constructed during the first phase so that the pump station can operate. The extension to the hydraulic mining would be done when the Leslie dam retreatment is to be started.

1.7.2.4 Phase 3: Winkelhaak Hydraulic Mining:

Power to this area will come via an OHL (± 5 km) fed from the No: 3 Shaft substation next to the Mpumalanga Guesthouse. This substation has a capacity of 10 MVA.

There is an existing OHL (± 4.0 km) the conductor size needs to be confirmed. This OHL is currently feeding a booster pump station that has 4 x 160 kW motors and 15 kW sump pump (total of ± 750 kVA).

1.7.2.5 Leeuwpan Dam Pump Station:

There is currently an 11 kV OHL (ESKOM) in this area and an ESKOM pole mounted transformer is connected to this OHL. Permission needs to be obtained for ESKOM for the use of this OHL.

If permission from ESKOM is not granted a new OHL (± 11 km) will have to be installed from the No: 9 Shaft substation. This substation has a capacity of 10 MVA.

The estimate has allowed for 1 km of OHL for the supply of the pump station, if the current location of the transformer is not adequate.

The current transformer size needs to be confirmed as we would need approximately 350 KVA for this pump station. The estimate capital budget has allowed for a 500 kVA transformer.

1.7.3 Road and Site Services

1.7.3.1 Access Road

Access to the process plant will be from the district road to the east of the property (R546). It will be a gravel road to cater for light and heavy vehicles. The 8 m wide road will consist of a sub base, base and a wearing course. The first part of the road is existing and will only be upgraded

1.7.3.2 Internal Roads

The internal roads in the process plant will be gravel and will be on the new terraces.

The reagent off-loading section and main entrance will be constructed out of interlocking paving bricks.

1.7.3.3 Storm water and Drainage

A storm water drainage system is required to drain all storm water run-offs from all areas of the process plant. The storm water run-off from the plant areas needs to be managed in a strategic manner in order to eliminate the possibilities of severe flooding or destructive consequences of storm water, during storm events.

The separation and control of the different storm water run-off types, classified as “dirty storm water” and “clean storm water”, according to Regulation 704 of the National Water Act, will be managed and maintained in the storm water drainage system.

Dirty storm water will go to the lined pollution control dam, and clean storm water will be diverted away by using berms.

1.7.4 Waste Management

1.7.4.1 Sewerage Treatment Plant

There will be a small sewerage treatment system installed to cater for the sewerage generated. These units are assembled in durable HDPE tanks with lightweight low profile access covers. This plant utilises a fixed bio-film technology with specific functions to supply an odour free effluent suitable for irrigation or re-use in grey water systems. Due to the high quality of the treated effluent produced, should it be desired, it can be discharged into sensitive water courses.

1.7.4.2 Solid Waste Management

The solid waste management practices that are recommended for the Project have been developed with the aim of providing both an appropriate level of comfort to the mining activities and efficiency in operational costs.

Waste is commonly defined as any substance that is surplus, unwanted, rejected, discarded, abandoned, or disposed of.

It is generally accepted that the most environmentally responsible and sustainable method of managing waste is accomplished by following the waste management hierarchy. The waste management hierarchy is ranked according to levels, the first being the most preferable method and the last being the least preferred method of waste management.

The recommendations for waste management that have been developed to ensure sustainable solid waste management practices are:

- At-Source Separation;
- On-Site Waste Sorting;
- Disposal and Recycling; and
- Waste Management Monitoring.

There will be skips placed in dedicated areas for the waste management.

Solid non-hazardous wastes will be disposed of at the nearest licensed public landfill site, while hazardous wastes will be disposed of at a licensed hazardous waste facility.

1.7.5 Buildings

1.7.5.1 Process Plant Buildings

The buildings for the process plant will be brick buildings and will consist of the following

- The gate house at the main entrance will consist of security offices and male and female change house facilities. This will be a brick building with wooden roof trusses and sheeting on. The internal walls will be plastered and painted. The walls and floors will be tiled where required.
- The plant office consists of 8 offices, boardroom, ablutions and a kitchen. This will be a brick building with wooden roof trusses and sheeted roof. The internal walls will be plastered and painted. The walls and floors will be tiled where required.
- Control room will be elevated and positioned on top of the MCC building. This will be a brick building with sheeted roof. Inside will be plastered and painted
- The parking area will be gravel with stones and carports for shade.

1.7.5.2 Hydraulic Mining Buildings

This will be containerised and supplied by the hydraulic mining contractor.

1.7.6 Services

Access to the tailings storage facility will be a service road coming of the existing district road to the west of the new tailings storage facility.

Access to the holding dam will be from the private mine owned road to the south of the existing holding dam.

Access to the various pump stations will be via the existing mine roads.

1.7.7 Fencing

There will be a perimeter fence around the process plant. This will be a double fence with a 10 meter clearing in between. The outside fence will be high security rated. The inner fence will be diamond mesh medium security. There will be a medium security fence between the process plant, reagent stores and the

cyanide storage areas. There will be 2 sliding gates at the entrance to the process plant and 2 double leaf gates to allow access to the reagent and cyanide storage areas.

The various pump stations on the property will be fenced off with high security fencing.

1.7.8 IT and Communications

Communications and information management systems form an integral part of any business small or large. In the mining industry it is critical in terms of operation as well as safety and security reasons. The communications and information management systems that will be implemented for the plant are:

- IT Backbone,
- Wired Telecom Network; and
- Two Way Radio Network.
- Radio link between the process plant and hydraulic mining pump stations and the water pumps stations at the holding dam and Leeuwpan.

1.8 Environmental and Social Impacts

Pan African resources have appointed Cabanga Environmental and EXM advisory services as Environmental Assessment Practitioner for the Elikhulu project.

In terms of NEMA and its EIA Regulations (GNR 983/GNR 984/GNR 985) the Elikhulu project is subject to a full Scoping and Environmental Impact Assessment report ("S&EIR") process:

In terms of NEM:WA's Waste Activities Regulation (GNR921) the project is also subject to a full S&EIR process:

The Department of Mineral Resources ("DMR") is the Competent Authority for mining related activities in terms of both NEMA and NEM:WA. As such the processes will be combined into one application.

In terms of Section 102 of the MPRDA an application must also be submitted to the Minister to amend the EMP/environmental authorisation.

An application will also be made to DWS for an integrated water use licence application ("IWULA"). This will be accompanied by an Integrated Water and Waste Management Plan ("IWWMP").

1.8.1 Environmental Impact Assessment Process

The Environmental Impact Assessment process has been kicked off and the DMR approval is forecast to be granted by 31 July 2017.

Activities that have been completed as of 1 December 2016:

- **Background Information Document (BID) - w**as issued to the DMR.
- **Pre-application meeting** – A meeting was held with the DMR on 29 August 2016.
- **NEMA application** – The NEMA application was submitted on 21 September 2016.
- **Scoping Report** – The scoping report has been issued to the DMR.
- **Public Participation Meeting** – The public participation meeting was held on 19 October 2016.
- **Specialist Studies** – Other than a dust base-line the required specialist studies have been completed.

1.8.2 Water Usage Licence Application

The Water Usage Licence Application process has been kicked off and the DWS approval is forecast to be granted by 20 September 2017.

Activities that have been completed as of 1 December 2016:

- **Pre-application meeting** – A meeting was held with the DWS on 6 October 2016.
- **Specialist Studies** – The required specialist studies have been completed

1.9 Project Capex Estimate

This Capital Cost Estimate was based on the following documents

Block Plan & Layout;

- Process Design Criteria;
- Engineering Design Criteria;
- Process Flow Diagrams;
- Mechanical Equipment List
- Control Diagrams;
- Provisional Electrical Motor lists;
- Electrical Cable Schedules;
- HT Single Line Diagram;
- Provisional Instrument List;
- Provisional I/O Schedule;
- Equipment Tendered Cost from Vendors;
- Fabrication and Erection Tendered rates from Vendor's and suppliers; and
- Preliminary Project Execution Programme

1.9.1 Capital Cost Summary

The base date for the capital cost estimate is 1 October 2016. The estimate has been presented in South African Rands (ZAR), in present day October 2016 Terms. Escalation has not been considered past the base date and is therefore excluded from the Capital cost estimate.

Table 1.6 below provides a high level summary of the Capex for the Elikhulu project.

Table 1.6 High level summary of Elikhulu Project CAPEX

R'million	Phase 1 - Kinross	Phase 2 - Leslie	Phase 3 - Winkelhaak	Total
Process Plant	683.18	-	-	683.18
TSF	707.78	138.38	-	846.17
Overland Piping	75.76	29.76	47.94	153.46
Hydraulic Mining	56.58	125.9	58.43	240.91
Design & development	91.21	18.99	6.63	116.83
Pre-production costs	24.51	-	-	24.51
PAR Contingency	100	-	-	100
Sub-total	**1,739.02**	**313.03**	**112.99**	**2,165.04**
Sustaining capital				831.6
Hydraulic mining				*18.93*
Process plant				*812.67*
Total				**2,977.71**

1.10 Project Opex Estimate

Refer to Table 1.7 for a summary of the operating costs for the Elikhulu Project over the life of the project.

Table 1.7 Elikhulu Gold Project LOM Operating Cost Summary

Description	R'million	R/t	R/oz	US$/oz
Remining	742.97	4.73	1,078.79	74.4
Tailings deposition	300.62	1.91	436.49	30.1
Processing	3,357.56	21.38	4,875.14	336.22
Refining	21.42	0.14	31.1	2.14
G&A	77.5	0.49	112.53	7.76
Sub-total	**4,500.06**	**28.66**	**6,534.05**	**450.62**
Cost recoveries	-106.02	-0.68	-153.93	-10.62
Sub-total	**4,394.05**	**27.98**	**6,380.11**	**440.01**
Sustaining capital	831.59	5.3	1,207.46	83.27
Royalties	35.23	0.22	51.15	3.53
Sub-total	**5,260.87**	**33.5**	**7,638.72**	**526.81**
Debt[(1)]	1,088.86	17.89	4,017.78	277.09
Total	**6,349.73**	**51.39**	**11,656.50**	**803.9**

1.11 Financial Analysis

The inputs to the finical model were provide by DRA

The preparation of the financial model and financial evaluation of the project was conducted by MS Golding and Associates.

The discounted cash flow (DCF) valuation technique was used and involves the modelling of critical input data and determination of the resultant free cash flow. The method is based on the principle that, for any initial investment, investors will look to future cash flows to provide a minimum return over an acceptable period of time.

1.11.1 Financial Model Results

For the Base case model the IRR = 23.1 % and the payback period is 3 years and 5 months.

1.12 Risk Assessment and Mitigation

During the different stages of the feasibility study there were risks identified by Pan African Resources and DRA that can have serious implications to the

success of the project. These risks needs to be investigated and mitigated to ensure the success of the project

1.12.1 Risk: Tailings tonnages and grade. Low risk.

As with all mining projects high confidence levels are a prerequisite for the tonnages and grade of the resources and the reserves that are to be mined. Not achieving the planned tonnages and grades will negatively affect the project returns and make the project unviable.

Mitigation:

- The numerous studies and reviews carried out "in-house" by Harmony in 2008, SGS in 2009, SRK in 2011
- PAR appointed SRK in 2015, to carry out a SAMREC compliant Resource Estimate.
- DRA as part of the DFS converted the resource to a SAMREC compliant Reserve Estimate
- As an additional check, SRK carried out a peer review on the DRA Reserve Estimate, which is reported as being in order.

1.12.2 Risk: Process plant recoveries. Low risk

Not achieving designed recoveries in the process plant will negatively affect the gold produced and the revenues. The planned Elikhulu plant recovery is 47.77 %.

Mitigation:

- SGS carried out a PFS in 2009 which included detailed metallurgical test work. Recovery 51.4% (excluding carbon and CIL losses)
- Independent confirmation of the SGS metallurgical test results was required to improve confidence levels in the process design and recoveries. PAR appointed two independent laboratories to carry out this additional test work.
- Maelgwyn Consultants: the test results have been received and confirm the SGS test work. Their combined tailings sample results indicate a recovery of 51.7% (excluding carbon and CIL losses)

- Mintek: The combined tailings Mintek sample results indicated a recovery of 55.2% (excluding carbon and CIL losses)

1.12.3 Risk: High capital cost of new process plant and TSF. Low Risk.

As with all new metallurgical process projects the capital costs need to be controlled in a manner so as to ensure that quality, processes efficiencies and cost over runs are well managed and understood.

New environmental legislation requires higher lining specifications for the new TSF extension footprint –potentially a HDPE liner will be required.

Mitigation:

- PAR will appoint an independent QA/QC consulting company to manage the construction work quality, safety and achievements versus plan and the verification of all payments and invoices from the EPC contractor.
- In addition to engaging with the Department of Water Affairs in order to make a case for a lower specification lining system; the team will investigate every opportunity of optimizing the TSF design, engineering and construction.
- The worst case scenario i.e. that a class C type liner is required has been allowed for in the capital estimate.

1.12.4 Risk: High cost of water supply. Low risk.

Initially the water required for the project was going to be sourced from multiple sources at other mines in the area and located some distance from the new hydraulic mining pump stations. The capital and operating costs associated with these options would be high - long pipeline routes and large water transfer pumps.

Mitigation:

- It was determined that the volume of water in the Leeuwpan dam would be sufficient and the sole source of water make-up for the Elikhulu project over its life. The Leeuwpan dam is owned by and located on EGM property.

1.12.5 Risk: Employment of locals. Medium Risk

Social discontent will be rife in the community and area if there is a lack of "new" jobs for the community as well as if local business are not allotting smaller contracts.

Mitigation:

- During construction all construction contractors will be contractually obliged to recruit at least 90 % of their labour from the local communities.
- The regulatory and approved recruitment policies and procedures of Evander Mine will be followed to ensure compliance to all legal requirements. All contractors are to have the correct BBBEE credentials.

1.12.6 Risk: Delay in obtaining the mandatory licences: EIA approval and WULA. Medium risk.

Construction may only start once the EIA and water use licences have been granted. The forecasted date for the EIA approval is 31 July 2017 and 20 September 2017 for the water use licence. The project planning indicates first gold scheduled for September 2018 (construction period is 12 months). Any delays in receiving these licences will cause costly delays.

Mitigation:

In mitigation, the project team has already commenced engaging both the DMR and DWA in an effort to maintain a good relationship.

1.12.7 Risk: Instability of new TSF. Low risk.

Due to the close to surface underground mining operations by SASOL there is risk associated with subsidence in the event of coal mining pillar failure.

Mitigation:

- A detailed independent rock engineering report was carried out by Middindi Consultants and together with SASOL rock engineering department and EGM it was concluded that this risk is negligible.
- In a worst case scenario if all coal mining pillars failed then the surface subsidence would be a maximum of 60 mm. This scenario was applied as a design criteria in the detailed engineering of the new TSF, by the

engineering consultants and no negative impact on the TSF was identified.

1.12.8 Cyanide spillage. Low risk.

Cyanide spilling into environment

Mitigation:

The project design and operational standards will be International Cyanide Code compliant.