

AFPLATS (Pty) Ltd



Closure Costing Report for (Afplats)Leeuwkop Mine



April 2013

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ACTION	FUNCTION	NAME	DATE
Update of closure cost estimate for 2012FY (Scheduled and 1-10 Year forecast)			
Prepared Closure cost report	Estimator	L Koekemoer	April 2013
Prepared Closure costing	Estimator	L Koekemoer	
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LIST OF TERMS AND ABBREVIATIONS USED

TERMS & ABBREVIATIONS	DESCRIPTION
Care and maintenance	This involves the maintaining and corrective action as requires as well as conducting the required inspection and monitoring to demonstrate achievement of success of the implemented measures
Closure	This involves the application for closure certificate and initiation of transfer of on-going care and maintenance to third parties
Contingencies	This allows for making reasonable allowance for possible oversights/omissions and possible work not foreseen at the time of compilation of the closure costs. Allowance of between 10 percent and 20 percent would usually be made based on the accuracy of the estimations. The South African Department of Minerals and Energy Guideline (January 2005) requires an allowance of 10 percent
Decommissioning	This relates to the situation after cessation of operations involving the deconstruction/removal and/or transfer of surface infrastructure and the initiation of general site reclamation
DMR	Department of Mineral Resources
E-TEK	E-TEK Consulting
SLR	SLR Consulting (Africa) (Pty) Ltd
Impala	Impala Platinum Limited (Rustenburg Operations)
Post-closure	The period after mine closure
Preliminary and Generals (P&Gs)	This is a key cost item which is directly related to whether third party contractors have applied for site reclamation. This cost item comprises both fixed and time-related charges. The former makes allowance for establishment (and de-establishment) of contractors on site, as well as covering their operational requirements for their offices (electricity/water/communications), latrines, etc. Time-related items make allowance for the running costs of the fixed charged items for the contract period
Reclamation	The re-instatement of a disturbed area into a usable state (not necessarily its pre-mining state) as defined by broad land use and related performance objectives
Rehabilitation	The return of a disturbed area to its original state, or as close as possible to this state
Remediation	To assist in the reclamation process by enhancing the quality of an area through specific actions to improve especially bio-physical site conditions
Scheduled closure	Closure that happens at the planned date and/or time horizon
Un-scheduled closure	Immediate closure of a site, representing decommissioning and reclamation of the site in its present state

1 INTRODUCTION

E-TEK Consulting (E-TEK) was requested by SLR Consulting (SLR) to assist with the determination of the preliminary closure costing of the updated mining infrastructure at the (Afplats) Leeuwkop Mine as part of the EMP amendment process. The Leeuwkop Mine is located 10km west of Brits on the western limb of the Bushveld Complex in the North West Province. These closure costs form part of an authorization process with the Department of Mineral Resources (DMR) and are aligned to the DMR guideline document for new EIA/EMP applications.

This report provides the closure cost estimates for the Scheduled (Life of Mine) as well as a forecast for the unscheduled closure for the first ten years of operation

Closure costing is categorised according to the DMR guideline:

- Infrastructural areas;
- Mining areas;
- General surface reclamation;
- Water management;
- Post closure aspects; and
- Additional allowances.

Quantities were obtained from drawings and operational personnel. Rates used were obtained from E-TEK Consulting's (E-TEK) existing data base and in consultation with demolition and earthworks contractors.

The closure cost estimate for Leeuwkop Mine for scheduled closure is R80.45 million as indicated in the table below:

Closure Costing Summary		Scheduled Closure	
Tasks			
1	Closure Aspects		
1.1	Infrastructural aspects	R	45 225 596.43
1.2	Mining aspects	R	13 572 900.71
1.3	General surface reclamation	R	3 493 050.00
1.4	Water management	R	-
	SUB - TOTAL 1 (for infrastructural and related structures)	R	62 291 547.14
2	Post closure aspects	R	7 440 200.00
	SUB - TOTAL 2 (for post - closure aspects)	R	8 184 220.00
3	Additional allowances		
3.1	Preliminary and General	R	3 737 492.83
3.2	Contingencies	R	6 229 154.71
	SUB - TOTAL 3 (for additional allowances)	R	9 966 647.54
	Grand - Total (for sub - total 1+2+3)	R	80 442 414.68

2 APPROACH AND COST DETERMINATION

2.1 Approach

E-TEK recently updated the closure cost estimates for all of Implats South African mining operations (Implats). The closure criteria and unit rates used were assumed to be similar to that of the Implats group.

The Leeuwkop Mine consists of the following components:

- Admin buildings and offices;
- Change rooms and lamp house;
- Stores and workshops;
- Ventilation shafts;
- Main shaft and winder houses;
- Stormwater dams and settling ponds;
- Sewage and water treatment plant;
- Material handling plant;
- Topsoil stockpiles;
- Waste rock dump;
- Processing plant; and
- Tailings storage facility.

2.2 Cost determination

The costing exercise based of the following:

- Sourcing and review of project information from SLR to determine the nature and extent of the project;
- Agreement that no site visit was required. Furthermore, the project team has a good understanding of the general site conditions and nature of operations at Impala due to involvement in the closure costing for the whole of Impala's current Rustenburg Operations;
- Review of available information, identification of infrastructure and mining-related activities that would need to be decommissioned at closure;
- Determination of the various components of demolition or rehabilitation related to each structure and/or area;
- Compilation of a Bill of Quantities capturing the quantities and actions relating to closure of the complexes;
- Unit rates from E-TEK's data base were updated to be aligned with the current market related rates acquired from local civil- and demolition contractors;
- Application of the above unit rates and associated quantities in pre-determined spreadsheets to determine the latest closure cost estimates;
- Forecasting the first ten operational years of the increase in closure costs for the proposed shaft complexes; and
- Compilation of a closure cost report to reflect the assumptions made in the closure costing as well as the matters requiring attention to ensure that future closure costing is gradually improved

3 INFORMATION

Closure costing was based on the following information supplied by Impala and BGQS:

Description	Person	Date
GA Drawing	SLR (Natasha Daly)	20/06/2012
Extract from EIA	SLR (Natasha Daly)	16/04/2012
Detailed Execution Schedule	DRA (Bruno Vrugtman)	23/07/2012
2011 Closure Costing	Impala (Gerhard van Dyk)	11/06/2012
Project info	Impala (Karools van Wyk)	16/07/2012

4 CLOSURE CRITERIA

The following general and site specific assumptions and qualifications for each of the closure components listed in section 2.1 for Impala are described below:

4.1 General assumptions

- The closure cost estimate is aligned to the Guideline Document for the Evaluation of the Quantum of Closure Related Financial Provision Provided by a Mine, by the DMR (January, 2005);
- The closure costs for the site could comprise a number of cost components. This report only addresses the decommissioning and reclamation costs, equating to an outside (third party) contractor establishing on-site and conducting reclamation-related work. Other components such as staffing of the site after decommissioning, the infrastructure and support services (e.g. power supply, etc.) for this staff as well as workforce matters such as separation packages, re-training /re-skilling, etc. are outside the scope of this report;
- Based on the above, dedicated contractors would be commissioned to conduct the demolition and reclamation work on the site. This would inter alia require establishment costs for the contractors and hence, the allowance for preliminary and general (P&Gs) in the cost estimate;
- Allowance has also been made for third party contractors and consultants to conduct post-closure care and maintenance work as well as compliance monitoring;
- Closure costs have been determined for both the scheduled and un-scheduled closure situations. Specifically, scheduled closure takes place at a planned date and/or within a time horizon, in accordance with overall mine planning. Un-scheduled closure entails immediate closure of a site, representing decommissioning and reclamation of the site in its present state;
- In accordance with the DMR guideline, no cost off-sets due to possible salvage values were considered and gross reclamation costs are reported; and
- Fixed percentages for P&Gs and contingencies as per the DMR guideline have been applied.

4.2 Site specific assumptions

- Site development and disturbance has already taken place;

- The 1-10 year forecast was based on the project schedule supplied by operational personnel;
- Steel and related material from the plant demolition which has salvage value will be removed to an authorized facility within a 30km radius from the demolition site to be sold or auctioned off. However as per the DMR guideline, the salvage value of the steel and salvageable equipment has not been considered as part of the closure costing;
- Although a temporary headgear will be erected for sinking purposes no allowance were made for removal of the headgear as this will remain the responsibility of the appointed contractor;
- Allowance was made for the disposal of general waste (including building rubble) at a permitted waste disposal site within a 50 km radius;
- It has been assumed that all tarred roads, outside of plant and shaft areas, will remain post closure to be incorporated into the regional road network. Hence, no allowance was made to rehabilitate tarred roads as it would remain to serve the larger community; and
- Concurrent rehabilitation will be conducted operationally on the waste rock dump and tailings facilities.

5 CLOSURE COSTING

Detailed spreadsheets for the closure cost estimates for this report are included in Appendix A. The following sub-headings describe all criteria and assumptions used for closure costing. The various sub-sections that follow must be read in conjunction with the detailed spreadsheet. Closure costs were calculated for unscheduled closure for the first ten years and scheduled closure as per the project schedule provided.

5.1 Infrastructural areas

5.1.1 Processing plants, steel structures, reinforced concrete structures, offices, workshops, residential buildings and related structures.

- All infrastructures will be completely removed to 1m below natural ground level. No beneficial reuse has been allowed for any of the surface infrastructure;
- Allowance was made for the demolition cost of all steel type structures. This includes a removal fee for a 30km load and hauls to an authorised facility to be sold or auctioned off. However as per DMR requirement, the salvage value of steel was not used to offset demolitions costs;
- Provision was made to establish a crane to assist with the dismantling process;
- A nominal allowance was made for the dismantling of salvageable equipment;
- Allowance was made for the disposal of other non-demolition waste (general waste) at a permitted disposal site within a 50 km radius;
- Eskom sub-stations were excluded from these calculations;
- A 2.5 % allowance was made for the sorting and screening of waste; and
- General surface rehabilitation will be implemented on footprint areas.

5.1.2 Roads

- No allowance was made to rehabilitate tarred roads outside of the plant or shaft areas. It has been assumed that these will be transferred to the regional authorities to be incorporated into the regional road network.

5.1.3 Power lines, railways and pipelines

- All tailings and service delivery pipelines will be removed;
- Main water supply pipeline will be removed; and
- All power lines not forming part of Eskom's supply network will be removed.

5.2 Mining areas

5.2.1 Shaft

- Provision was made for the complete dismantling of all shafts, vent shaft and related infrastructure;
- Allowance was made to seal all vertical and incline shafts with a concrete cap as per the DMR guideline; and
- No allowance was made to backfill underground workings of shafts with waste material.

5.2.2 Tailings disposal facility

- Rehabilitation of the tailings facilities will entail the in-situ establishment of on the facilities side slopes, concurrently with development. A similar rehabilitation method to that of sister company Impala Platinum will be followed;
- Allowance was made to establish vegetation on the top surface at closure;
- The side slopes will be rehabilitated concurrently during the operational phase and was assumed that a 2m high strip will still require rehabilitation at scheduled closure; and
- Additional allowance was made to plug the penstocks and remove the spigot and delivery pipelines.

5.2.3 Topsoil stockpiles

- Allowance were made to rip the footprint of the topsoil stockpiles to alleviate compaction; and
- Additional allowance was made to establish vegetation on the footprint areas.

5.2.4 Waste rock dump

Allowance was made to re-shape the waste rock dump slopes to 1:3 (v:h) and place a 800 mm capping layer over the entire facility, as prescribed in the recommendations for waste rock dumps, prior to vegetation; our guideline refer:

Capping of a waste rock dump should be carried out with materials that exist naturally in the vicinity of the dump. Modelling on various WRD's around the world has determined that typically a total of 0.5 m of capping materials is considered sufficient to prevent the infiltration of rainfall into the final landforms. The final objective of the capping design is to prevent the infiltration of rainfall into the waste rock dump.

- It is stated that concurrent rehabilitation will take place but it was assumed that at any given time a strip of 20 m will be exposed; and
- Deposition of waste rock on proposed footprint will start in year 1 of operation.

5.2.5 Settling ponds

- Allowance was made to remove 250mm layer of material from the dam basin and dispose of onto the tailings dams before rehabilitation commences;
- Allowance was made to breach the dam walls and doze the excess material inwards to fill the void of the dam;
- Allowance was made to remove and dispose of the HDPE liner at 'n disposal site; and
- Additional allowance was made to establish vegetation on the disturbed footprint.

5.2.6 Emergency and Pollution control dam

- Allowance was made to remove 100mm layer of material from the dam basin and dispose of onto the tailings dams before rehabilitation commences;
- Allowance was made to breach the dams walls and doze the excess material inwards to fill the void of the dam;
- Allowance was made to remove and dispose of the HDPE liners; and
- Additional allowance was made to establish vegetation on the disturbed area.

5.2.7 Waste rock noise berm

- Allowance were made to reshape the berm;
- Allowance were made to import a 200mm layer of topsoil from the local topsoil stockpiles; and
- Additional allowance was made to establish vegetation on the reshaped area.

5.3 General surface reclamation

5.3.1 Shaping and levelling of footprint areas

- Allowance was made to stockpile demolition waste, shape and level the area filling all voids and making area free draining.

5.3.2 Topsoil growth medium

- Allowance was made to import 150mm of topsoil on the disturbed footprint areas after shaping and levelling; and
- Where topsoil is not imported, it was assumed that the in-situ soil can effectively be ameliorated to sustain vegetation.

5.3.3 Ripping

- Allowance was made to rip the disturbed footprint to a depth of 500mm to alleviate compaction.

5.3.4 Vegetation

- Allowance was made to establish vegetation on all rehabilitated areas, which includes soil amelioration, cultivation and seeding with an indigenous grass seed mixture.

5.4 Water management

- No allowance has been made as it was assumed correct mitigation measures will be implemented during the operational phase.

5.5 Post closure aspects

5.5.1 Surface water monitoring

- An overall allowance was made for the monitoring of 8 surface water monitoring positions, on a monthly basis, for a period of five years post closure.

5.5.2 Ground water monitoring

- An overall allowance was made for the monitoring of 15 groundwater monitoring positions on a quarterly basis, for a period of 5 years post closure.

5.5.3 Reclamation monitoring

- An allowance has been included for the reclamation monitoring of both reclaimed areas and dumps for a five year period.

5.5.4 Care and maintenance

- Care and maintenance of the reclaimed areas and dumps, over a five year period, has been assumed.

5.6 Additional allowances

5.6.1 Preliminary and general

- Additional allowance of six percent of the total for infrastructural and related aspects (sub-total 1 on summary costing table) has been made, which is aligned to the DMR guideline.

5.6.2 Contingencies

- Additional allowance of 10 percent of the total for infrastructure and related aspects (sub-total 1 on summary costing table), which is aligned to the DMR guidelines.

6 ASPECTS REQUIRING ATTENTION

- More detailed investigation or trials should be conducted to assess the cover/capping options for the WRDs in order to assess the suitability / sustainability of the on-site black clays as a capping material, especially at steep gradients;
- The current required capacity for the emergency control dams is 138500m³, the current assumption were that two dams will be constructed. The closure costing will need to be updated if the final decision regarding the dams differ from the current assumptions;
- Once the mine is operational a detailed concurrent rehabilitation plan is to be developed and implemented to eliminate certain assumptions made regarding concurrent rehabilitation; and
- Quantities were based on the general arrangement drawings and relevant experience with similar projects. Once detail drawings of all infrastructure is available the closure cost estimates should be revised to confirm key quantities.

7 CONCLUSION

The closure costs as reflected in this report have been based on information obtained from SLR and operational personnel. Where the required information was not available, estimates or assumptions were made based on experience and benchmarked against similar facilities.

Unit rates for the costing were obtained from E-TEK's existing data base and/or from rehabilitation and demolition practitioners. Where required, these were adapted to reflect site-specific conditions. Rates are comparable to those used for determination of the closure costing for Impala's entire Rustenburg Operations (Y2012).



PM Harris

E-TEK Consulting

Appendix A: Detailed costing spreadsheet.

Closure Costing - Y2012



Closure Costing Summary		Year 1 - 2012	Year 2 - 2013	Year 3 - 2014	Year 4 - 2015	Year 5 - 2016	Year 6 - 2017
Tasks							
1 Closure Aspects							
1.1	Infrastructural aspects	R 3 817 489.03	R 5 435 807.78	R 11 236 830.07	R 17 384 422.20	R 19 149 678.87	R 19 748 467.67
1.2	Mining aspects	R 3 762 277.46	R 3 762 277.46	R 6 871 137.17	R 9 521 800.56	R 9 717 042.96	R 9 717 042.96
1.3	General surface reclamation	R 2 409 000.00	R 2 409 000.00	R 2 409 000.00	R 2 409 000.00	R 2 409 000.00	R 2 409 000.00
1.4	Water management	R -	R -	R -	R -	R -	R -
	SUB - TOTAL 1 (for infrastructural and related structures)	R 9 988 766.49	R 11 607 085.24	R 20 516 967.23	R 29 315 222.75	R 31 275 721.83	R 31 874 510.63
2	Post closure aspects	R 1 640 000.00	R 1 640 000.00	R 1 640 000.00	R 1 728 200.00	R 1 764 200.00	R 1 800 200.00
	SUB - TOTAL 2 (for post - closure aspects)	R 1 804 000.00	R 1 804 000.00	R 1 804 000.00	R 1 901 020.00	R 1 940 620.00	R 1 980 220.00
3 Additional allowances							
3.1	Preliminary and General	R 599 325.99	R 696 425.11	R 1 231 018.03	R 1 758 913.37	R 1 876 543.31	R 1 912 470.64
3.2	Contingencies	R 998 876.65	R 1 160 708.52	R 2 051 696.72	R 2 931 522.28	R 3 127 572.18	R 3 187 451.06
	SUB - TOTAL 3 (for additional allowances)	R 1 598 202.64	R 1 857 133.64	R 3 282 714.76	R 4 690 435.64	R 5 004 115.49	R 5 099 921.70
	Grand - Total (for sub - total 1+2+3)	R 13 390 969.12	R 15 268 218.87	R 25 603 681.99	R 35 906 678.39	R 38 220 457.32	R 38 954 652.33

Closure Costing - Y2012



Closure Costing Summary		Year 7 - 2018	Year 8 - 2019	Year 9 - 2020	Year 10 - 2021	Scheduled Closure
Tasks						
1 Closure Aspects						
1.1	Infrastructural aspects	R 21 026 527.67	R 22 384 190.17	R 23 858 409.28	R 24 728 426.91	R 45 225 596.43
1.2	Mining aspects	R 9 717 042.96	R 9 717 042.96	R 9 717 042.96	R 9 717 042.96	R 13 572 900.71
1.3	General surface reclamation	R 2 409 000.00	R 2 409 000.00	R 2 409 000.00	R 2 409 000.00	R 3 493 050.00
1.4	Water management	R -	R -	R -	R -	R -
	SUB - TOTAL 1 (for infrastructural and related structures)	R 33 152 570.63	R 34 510 233.13	R 35 984 452.24	R 36 854 469.86	R 62 291 547.14
2 Post closure aspects						
	SUB - TOTAL 2 (for post - closure aspects)	R 2 019 820.00	R 2 059 420.00	R 2 099 020.00	R 2 138 620.00	R 8 184 220.00
3 Additional allowances						
3.1	Preliminary and General	R 1 989 154.24	R 2 070 613.99	R 2 159 067.13	R 2 211 268.19	R 3 737 492.83
3.2	Contingencies	R 3 315 257.06	R 3 451 023.31	R 3 598 445.22	R 3 685 446.99	R 6 229 154.71
	SUB - TOTAL 3 (for additional allowances)	R 5 304 411.30	R 5 521 637.30	R 5 757 512.36	R 5 896 715.18	R 9 966 647.54
	Grand - Total (for sub - total 1+2+3)	R 40 476 801.93	R 42 091 290.43	R 43 840 984.60	R 44 889 805.04	R 80 442 414.68

Closure Costing - Leeuwkop			Closure Costs - Year 1 - (2012)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
1		Infrastructural Aspects						
2		Nominal cost and time related items						
3		Mine						
4		Removal of salvageable equipment	1.2	sum	1.00	R 1 000 000.00	R 1 000 000.00	Nominal allowance
5		Crane	11.1	p/day	5.00	R 38 700.00	R 193 500.00	For assistance in the removal of equipment and demolition purposes
6		Plant						
7		Removal of salvageable equipment	1.2	sum	0.00	R 6 500 000.00	R -	Nominal allowance
8		Crane	11.1	p/day	0.00	R 38 700.00	R -	For assistance in the removal of equipment and demolition purposes
9		Sub-Total for cost and time related items					R 1 193 500.00	
10		Demolitioning of plant and related structures						
11	21	Compressor house	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
12	22	Condenser cooling towers	4.2	m³	0.00	R 640.00	R -	To be constructed according to program
13	23	Refrigeration plant	4.2	m³	0.00	R 640.00	R -	To be constructed according to program
14	27	Grout Plant	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
15	28	Ventilation Shaft	2.2	t	0.00	R 1 280.00	R -	To be constructed according to program
16	40	Water treatment plant	2.3.2	m²	0.00	R 590.00	R -	To be constructed according to program
17	43	Sewage Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
18	59	Booster pump station	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
19	87	Plant - Cleaners						To be constructed according to program
20		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
21		Structural concrete	4.3	m³	0.00	R 400.00	R -	
22	88	Plant - Cleaners						To be constructed according to program
23		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
24		Structural concrete	4.3	m³	0.00	R 400.00	R -	
25	89	Plant - Mill						To be constructed according to program
26		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
27		Structural concrete	4.3	m³	0.00	R 400.00	R -	
28	94	Plant - Storage area	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
29	98	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
30	99	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
31	100	Plant - Thickener						To be constructed according to program
32		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
33		Structural concrete	4.3	m³	0.00	R 400.00	R -	
34	101	Plant - Thickener						To be constructed according to program
35		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
36		Structural concrete	4.3	m³	0.00	R 400.00	R -	
37	102	Plant - Thickener						To be constructed according to program
38		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
39		Structural concrete	4.3	m³	0.00	R 400.00	R -	
40		Sub - Total for demolitioning of plant and related structures					R -	
41		Demolitioning of all structural structures						
42	16	Carpports	2.6.1	m²	0.00	R 90.00	R -	To be constructed according to program
43	17	Contractors Carpports	2.6.1	m²	424.00	R 90.00	R 38 160.00	IBR sheeting
44	15	Headgear	2.2	t	0.00	R 1 280.00	R -	To be constructed according to program
45		Structural concrete	4.1	m³	147.00	R 1 280.00	R 188 160.00	
46	38	Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
47	38	Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
48	41	Water tank	2.4.2	no	0.00	R 26 650.00	R -	To be constructed according to program
49	42	M/W Dam	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
50	42	M/W Dam	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
51	60	Sump	4.2	m³	0.00	R 640.00	R -	To be constructed according to program
52	61	Water Canal	8.4	m²	0.00	R 135.00	R -	To be constructed according to program
53	78	Plant - covered parking	2.6.1	m²	0.00	R 90.00	R -	To be constructed according to program
54	104	Plant - Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
55		Sub - Total for demolitioning of all structural structures					R 226 320.00	
56		Demolitioning of workshops and stores						
57	13	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
58	14	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
59	18	Winder rope store	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
60	24	Fan and electrical motor store	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
61	25	Workshop sink and perm	3.6	m²	819.90	R 320.00	R 262 368.00	Single volume building
62	31	Main Store	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
63	32	Explosives Store	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
64	33	Gas bottle store	3.1.1	m²	36.00	R 295.00	R 10 620.00	Single storey brick building
65	34	Chemical Store	3.1.1	m²	201.00	R 295.00	R 59 295.00	Single storey brick building
66	35	Paint Store	3.1.1	m²	41.00	R 295.00	R 12 095.00	Single storey brick building
67	36	Oil store	3.1.1	m²	36.00	R 295.00	R 10 620.00	Single storey brick building
68	44	Generator farm	3.2.1	m²	0.00	R 480.00	R -	To be constructed according to program
69	82	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
70	83	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
71	86	Plant - Workshop	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
72	93	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
73	95	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
74	96	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
75		Sub - Total for demolitioning of workshops and stores					R 354 998.00	
76		Demolitioning of permanent brick structures and temporary structures						
77	1	Offices	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
78	2	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
79	3	Laundry	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
80	4	Boiler House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
81	5	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
82	6	Lamp Room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
83	7	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
84	8	Induction Room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
85	9	Training Centre	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
86	10	Gate House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
87	11	Banksman Cabin & Proto Room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
88	12	Central Control room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
89	19	Sub-station	3.2.1	m²	0.00	R 480.00	R -	To be constructed according to program
90	19	Sub-station	3.2.1	m²	0.00	R 480.00	R -	To be constructed according to program
91	20	Transformer bays	3.2.1	m²	0.00	R 480.00	R -	To be constructed according to program

Closure Costing - Leeuwkop			Closure Costs - Year 1 - (2012)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
92	29	Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
93	30	MCC	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
94	45	Sumer Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
95	47	Geology building	3.1.1	m ²	183.00	R 295.00	R 53 985.00	Single storey brick building
96	48	Offices	3.1.1	m ²	149.60	R 295.00	R 44 132.00	Single storey brick building
97	49	Offices	3.1.1	m ²	149.60	R 295.00	R 44 132.00	Single storey brick building
98	50	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
99	51	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
100	52	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
101	53	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
102	54	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
103	55	Lamp Room	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
104	56	Steffanuti Stocks	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
105	57	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
106	58	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
107	76	Explosives bunker	3.1.1	m ²	150.00	R 295.00	R 44 250.00	Single storey brick building
108	77	Weighbridge	1.2	sum	0.00	R 50 000.00	R -	To be constructed according to program
109	79	Plant - Admin building	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
110	80	Plant - Induction room	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
111	81	Plant - Office	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
112	84	Plant - Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
113	85	Plant - Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
114	97	Plant - building	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
115		Sub - Total for demolitoning of permanent brick structures and temporary structures					R 267 139.00	
116		Removal of all surface related finishes						
117	26	Surface cable yard	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
118	46	PFC yard	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
119	47	Geology yard	4.5	m ²	473.00	R 590.00	R 279 070.00	Assume 250mm thick concrete
120	73	General surface bed	4.4	m ²	0.00	R 215.00	R -	To be constructed according to program
121	90	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
122	91	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
123	92	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
124	103	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
125		Sub - Total for removal of all surface related finishes					R 279 070.00	
126		Removal of all linear items						
127	32	Fencing to explosives store	5.5.3	m	85.00	R 27.00	R 2 295.00	
128	37	Reef and waste conveyor	5.1.5	m	0.00	R 640.00	R -	To be constructed according to program
129	39	Reef conveyor	5.1.5	m	0.00	R 640.00	R -	To be constructed according to program
130	62	Waste conveyor	5.1.2	m	0.00	R 265.00	R -	To be constructed according to program
131	63	Return water pipeline	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
132	64	Tailing delivery pipeline	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
133	65	Pipeline from sump to PCD	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
134	66	Emergency pipeline from concentrator to dam	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
135	67	Distribution pipelines	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
136	68	Water main pipeline	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
137	69	Fire main pipeline	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
138	74	Perimeter fencing	5.5.3	m	3600.00	R 27.00	R 97 200.00	
139	75	Perimeter fencing to tailings complex	5.5.3	m	0.00	R 27.00	R -	To be constructed according to program
140	76	Perimeter fence to explosives bunker	5.5.3	m	201.00	R 27.00	R 5 427.00	
141	105	Plant - Steel gantry's with delivery pipelines	2.3.1	m ²	0.00	R 107.00	R -	Assume 100kg of steel per m ²
142	106	Plant - Security fencing	5.5.3	m	0.00	R 27.00	R -	To be constructed according to program
143		Main water pipeline	5.2.3	m	4669.00	R 64.00	R 298 816.00	
144		Sub - Total for removal of all linear items					R 403 738.00	
145		Rehabilitation of roads						
146		Entrance road	1.1	na	0.00	R -	R -	Assume will remain
147		Minor gravel road to explosives bunker	8.3	m ²	5864.00	R 4.00	R 23 456.00	
148		Sub - Total for rehabilitation of roads					R 23 456.00	
149		Disposal of demolition waste						
150		Sorting and screening of waste	6.1	%	1554721.00	2.50%	R 38 868.03	2.50%
151		Disposal of demolition waste	6.2.1	m ³ /km	6440.00	R 160.00	R 1 030 400.00	Assume 50km distance
152		Sub - Total for disposal of demolition waste					R 1 069 268.03	
153		Sub - Total for infrastructural aspects					R 3 817 489.03	
154								
155		Mining Aspects						
156		Open pit reclamation including final voids and ramps						
157		Not applicable	1.1	na	0.00	R -	R -	
158		Sub - Total open pit reclamation including final voids and ramps					R -	
159		Sealing of shafts and inclines						
160	15	Service and Production Shaft	7.1.15	sum	1.00	R 2 573 324.00	R 2 573 324.00	10m Diameter
161	23	Refrigeration shaft	7.1.11	sum	0.00	R 1 838 850.00	R -	8m Diameter
162	28	Vent Shaft	7.1.11	sum	0.00	R 1 838 850.00	R -	8m Diameter
163		Sub - Total for sealing of shafts and inclines					R 2 573 324.00	
164		Rehabilitation of overburden and spoils						
165	110	Topsoil stockpiles						Only footprints will remain
166		Rip area to alleviate compaction	9.5.1	ha	1.18	R 9 400.00	R 11 099.52	
167		Establish vegetation	10.4.1	ha	1.18	R 13 800.00	R 16 295.04	
168		Sub - Total for rehabilitation of overburden and spoils					R 27 394.56	
169		Rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)						
170		Not applicable	1.1	na	0.00	R -	R -	
171		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)					R -	
172		Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)						
173	70	Settling dams						
174		Remove contaminated sediment and stockpile	9.2	m ³	0.00	R 20.00	R -	Assume 250mm contaminated sediment
175		Load and haul contaminated sediment	1.2	sum	0.00	R 90.40	R -	Haul sediment to tailings facility 8km
176		Remove HDPE liner	6.4	m ²	5280.00	R 6.50	R 34 320.00	
177		Breach dam wall	10.1.5	m	302.00	R 220.00	R 66 440.00	Doze material inward to fill void
178		Shape and level area	10.1.1	ha	0.53	R 55 250.00	R 29 172.00	Make area free draining
179		Establish vegetation	10.4.1	ha	0.53	R 13 800.00	R 7 286.40	
180	71A	Emergency storage dam						To be constructed according to program
181		Remove contaminated sediment and stockpile	9.2	m ³	0.00	R 20.00	R -	
182		Load and haul contaminated sediment	1.2	sum	0.00	R 90.40	R -	
183		Remove HDPE liner	6.4	m ²	0.00	R 6.50	R -	
184		Breach dam wall	10.1.5	m	0.00	R 220.00	R -	
185		Shape and level area	10.1.1	ha	0.00	R 55 250.00	R -	
186		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
187	71B	Emergency storage dam						To be constructed according to program
188		Remove contaminated sediment and stockpile	9.2	m ³	0.00	R 20.00	R -	
189		Load and haul contaminated sediment	1.2	sum	0.00	R 90.40	R -	
190		Remove HDPE liner	6.4	m ²	0.00	R 6.50	R -	
191		Breach dam wall	10.1.5	m	0.00	R 220.00	R -	
192		Shape and level area	10.1.1	ha	0.00	R 55 250.00	R -	
193		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
194	72	Pollution control dam						To be constructed according to program
195		Remove contaminated sediment and stockpile	9.2	m ³	0.00	R 20.00	R -	
196		Load and haul contaminated sediment	1.2	sum	0.00	R 90.40	R -	
197		Remove HDPE liner	6.4	m ²	0.00	R 6.50	R -	

Closure Costing - Leeuwkop			Closure Costs - Year 1 - (2012)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
198		Breach dam wall	10.1.5	m	0.00	R 220.00	R -	
199		Shape and level area	10.1.1	ha	0.00	R 55 250.00	R -	
200		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
201	107	Waste Rock Dump						Assumed 20m strip would not have been rehabilitated
202		Strip topsoil and stockpile for movement of toe	9.2	m³	1717.00	R 20.00	R 34 340.00	Assume 250mm thick
203		Reshape WRD	9.1.1	m³	29925.00	R 13.50	R 403 987.50	Cut to fill action assumed 20m high at 87.5m³/per meter
204		Import capping layers	9.6.1	m²	8160.00	R 28.00	R 228 480.00	Assumed 1km haul distance, 300mm thick capillary layer and 300mm thick black turf
205		Import topsoil layer	9.6.1	m²	2720.00	R 28.00	R 76 160.00	Assumed 1km haul distance, 200mm thick layer
206		Establish vegetation	10.4.1	ha	1.36	R 13 800.00	R 18 768.00	
207	108	Tailings Complex						To be constructed according to program
208		Seal Penstocks	7.3	sum	0.00	R 213 200.00	R -	
209		Breach wall & reshape	10.1.5	m	0.00	R 220.00	R -	
210		Rip to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
211		Establish vegetation disturbed footprint	10.4.1	ha	0.00	R 13 800.00	R -	
212		Establish vegetation on tailings dam slopes	10.4.2	ha	0.00	R 19 250.00	R -	
213		Establish vegetation on tailings dam top	10.4.2	ha	0.00	R 19 250.00	R -	
214	109	Waste Rock Noise Barrier						
215		Reshape berm	10.1.1	ha	2.10	R 55 250.00	R 116 025.00	
216		Import topsoil layer	9.6.1	m³	4200.00	R 28.00	R 117 600.00	Assumed 1km haul distance, 200mm thick layer
217		Establish vegetation	10.4.1	ha	2.10	R 13 800.00	R 28 980.00	
218		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (polluting potential)					R 1 161 558.90	
219		Reclamation of subsided areas						
220		Not applicable	1.1	na	0.00	R -	R -	
221		Sub - Total for reclamation of subsided areas					R -	
222		Sub - Total for Mining aspects					R 3 762 277.46	
223								
224		General Surface Reclamation						
225		Mine						
226		Shape and level disturbed area	10.1.1	ha	20.00	R 55 250.00	R 1 105 000.00	Includes stockpiling of material, backfilling of excavations in cut to fill operation and final profiling @ave 500mm over footprint
227		Rip area to alleviate compaction	9.5.1	ha	20.00	R 9 400.00	R 188 000.00	500mm deep ripping
228		Import topsoil	9.6.1	m³	30000.00	R 28.00	R 840 000.00	150mm from local stockpile, assume 1km load and haul
229		Establish vegetation	10.4.1	ha	20.00	R 13 800.00	R 276 000.00	
230		Plant						Footprint not disturbed
231		Shape and level disturbed area	10.1.1	ha	0.00	R 55 250.00	R -	
232		Rip area to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
233		Import topsoil	9.6.1	m³	0.00	R 28.00	R -	
234		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
235		Sub - Total for General Surface Reclamation					R 2 409 000.00	
236								
237		Water Management						
238		Not applicable	1.1	na	0.00	R -	R -	Assume none required, all mitigation measures will be implemented during the operational phase
239		Sub - Total for Water Management					R -	
240								
241		SUB - TOTAL 1 (for infrastructural and related structures)					R 9 988 766.49	
242		Post - closure aspects						
243		Surface water quality monitoring	12.1	yr	5.00	R 106 000.00	R 530 000.00	8 monitoring points on a monthly basis
244		Groundwater quality monitoring	12.2	yr	5.00	R 150 000.00	R 750 000.00	15 monitoring points on a quarterly basis
245		Reclamation monitoring on reclaimed areas	12.3	ha	20.00	R 2 500.00	R 50 000.00	5 years
246		Care and maintenance of reclaimed areas	12.4	ha	20.00	R 15 500.00	R 310 000.00	5 years
247		Sub - Total for Post closure aspects					R 1 640 000.00	
248		Contingencies for post closure aspects	1.2	sum	1.00	R 164 000.00	R 164 000.00	Assumed 10 percent for post closure aspects
249		Sub - Total for Contingencies for post closure aspects					R 164 000.00	
250		SUB - TOTAL 2 (for post - closure aspects)					R 1 804 000.00	
251		Additional allowances						
252		Preliminary and General	1.2	sum	1.00	R 599 325.99	R 599 325.99	Assume 6 percent of sub - total 1
253		Contingencies	1.2	sum	1.00	R 998 876.65	R 998 876.65	Assume 10 percent of sub - total 1
254		SUB - TOTAL 3 (for additional allowances)					R 1 598 202.64	
255		Grand - Total (for sub - total 1+2+3)					R 13 390 969.12	

Closure Costing - Leeuwkop			Closure Costs - Year 2 - (2013)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
1		Infrastructural Aspects						
2		Nominal cost and time related items						
3		Mine						
4		Removal of salvageable equipment	1.2	sum	1.00	R 1 000 000.00	R 1 000 000.00	Nominal allowance
5		Crane	11.1	p/day	7.00	R 38 700.00	R 270 900.00	For assistance in the removal of equipment and demolition purposes
6		Plant						
7		Removal of salvageable equipment	1.2	sum	0.00	R 6 500 000.00	R -	Nominal allowance
8		Crane	11.1	p/day	0.00	R 38 700.00	R -	For assistance in the removal of equipment and demolition purposes
9		Sub-Total for cost and time related items					R 1 270 900.00	
10		Demolitioning of plant and related structures						
11	21	Compressor house	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
12	22	Condenser cooling towers	4.2	m³	0.00	R 640.00	R -	To be constructed according to program
13	23	Refrigeration plant	4.2	m³	0.00	R 640.00	R -	To be constructed according to program
14	27	Grout Plant	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
15	28	Ventilation Shaft	2.2	t	0.00	R 1 280.00	R -	To be constructed according to program
16	40	Water treatment plant	2.3.2	m²	1225.00	R 590.00	R 722 750.00	Assume 450kg of steel per m²
17	43	Sewage Plant	3.6	m²	1732.50	R 320.00	R 554 400.00	Single volume building
18	59	Booster pump station	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
19	87	Plant - Cleaners						To be constructed according to program
20		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
21		Structural concrete	4.3	m³	0.00	R 400.00	R -	
22	88	Plant - Cleaners						To be constructed according to program
23		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
24		Structural concrete	4.3	m³	0.00	R 400.00	R -	
25	89	Plant - Mill						To be constructed according to program
26		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
27		Structural concrete	4.3	m³	0.00	R 400.00	R -	
28	94	Plant - Storage area	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
29	98	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
30	99	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
31	100	Plant - Thickener						To be constructed according to program
32		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
33		Structural concrete	4.3	m³	0.00	R 400.00	R -	
34	101	Plant - Thickener						To be constructed according to program
35		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
36		Structural concrete	4.3	m³	0.00	R 400.00	R -	
37	102	Plant - Thickener						To be constructed according to program
38		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
39		Structural concrete	4.3	m³	0.00	R 400.00	R -	
40		Sub - Total for demolitioning of plant and related structures					R 1 277 150.00	
41		Demolitioning of all structural structures						
42	16	Carpports	2.6.1	m²	0.00	R 90.00	R -	To be constructed according to program
43	17	Contractors Carpports	2.6.1	m²	424.00	R 90.00	R 38 160.00	IBR sheeting
44	15	Headgear	2.2	t	0.00	R 1 280.00	R -	To be constructed according to program
45		Structural concrete	4.1	m³	147.00	R 1 280.00	R 188 160.00	
46	38	Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
47	38	Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
48	41	Water tank	2.4.2	no	0.00	R 26 650.00	R -	To be constructed according to program
49	42	M/W Dam	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
50	42	M/W Dam	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
51	60	Sump	4.2	m³	0.00	R 640.00	R -	To be constructed according to program
52	61	Water Canal	8.4	m²	0.00	R 135.00	R -	To be constructed according to program
53	78	Plant - covered parking	2.6.1	m²	0.00	R 90.00	R -	To be constructed according to program
54	104	Plant - Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
55		Sub - Total for demolitioning of all structural structures					R 226 320.00	
56		Demolitioning of workshops and stores						
57	13	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
58	14	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
59	18	Winder rope store	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
60	24	Fan and electrical motor store	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
61	25	Workshop sink and perm	3.6	m²	819.90	R 320.00	R 262 368.00	Single volume building
62	31	Main Store	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
63	32	Explosives Store	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
64	33	Gas bottle store	3.1.1	m²	36.00	R 295.00	R 10 620.00	Single storey brick building
65	34	Chemical Store	3.1.1	m²	201.00	R 295.00	R 59 295.00	Single storey brick building
66	35	Paint Store	3.1.1	m²	41.00	R 295.00	R 12 095.00	Single storey brick building
67	36	Oil store	3.1.1	m²	36.00	R 295.00	R 10 620.00	Single storey brick building
68	44	Generator farm	3.2.1	m²	0.00	R 480.00	R -	To be constructed according to program
69	82	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
70	83	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
71	86	Plant - Workshop	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
72	93	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
73	95	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
74	96	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
75		Sub - Total for demolitioning of workshops and stores					R 354 998.00	
76		Demolitioning of permanent brick structures and temporary structures						
77	1	Offices	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
78	2	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
79	3	Laundry	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
80	4	Boiler House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
81	5	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
82	6	Lamp Room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
83	7	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
84	8	Induction Room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
85	9	Training Centre	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
86	10	Gate House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
87	11	Banksman Cabin & Proto Room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
88	12	Central Control room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
89	19	Sub-station	3.2.1	m²	0.00	R 480.00	R -	To be constructed according to program
90	19	Sub-station	3.2.1	m²	0.00	R 480.00	R -	To be constructed according to program
91	20	Transformer bays	3.2.1	m²	0.00	R 480.00	R -	To be constructed according to program

Closure Costing - Leeuwkop			Closure Costs - Year 2 - (2013)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
92	29	Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
93	30	MCC	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
94	45	Sumer Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
95	47	Geology building	3.1.1	m ²	183.00	R 295.00	R 53 985.00	Single storey brick building
96	48	Offices	3.1.1	m ²	149.60	R 295.00	R 44 132.00	Single storey brick building
97	49	Offices	3.1.1	m ²	149.60	R 295.00	R 44 132.00	Single storey brick building
98	50	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
99	51	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
100	52	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
101	53	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
102	54	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
103	55	Lamp Room	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
104	56	Steffanuti Stocks	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
105	57	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
106	58	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
107	76	Explosives bunker	3.1.1	m ²	150.00	R 295.00	R 44 250.00	Single storey brick building
108	77	Weighbridge	1.2	sum	0.00	R 50 000.00	R -	To be constructed according to program
109	79	Plant - Admin building	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
110	80	Plant - Induction room	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
111	81	Plant - Office	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
112	84	Plant - Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
113	85	Plant - Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
114	97	Plant - building	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
115		Sub - Total for demolitoning of permanent brick structures and temporary structures					R 267 139.00	
116		Removal of all surface related finishes						
117	26	Surface cable yard	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
118	46	PFC yard	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
119	47	Geology yard	4.5	m ²	473.00	R 590.00	R 279 070.00	Assume 250mm thick concrete
120	73	General surface bed	4.4	m ²	0.00	R 215.00	R -	To be constructed according to program
121	90	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
122	91	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
123	92	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
124	103	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
125		Sub - Total for removal of all surface related finishes					R 279 070.00	
126		Removal of all linear items						
127	32	Fencing to explosives store	5.5.3	m	85.00	R 27.00	R 2 295.00	
128	37	Reef and waste conveyor	5.1.5	m	0.00	R 640.00	R -	To be constructed according to program
129	39	Reef conveyor	5.1.5	m	0.00	R 640.00	R -	To be constructed according to program
130	62	Waste conveyor	5.1.2	m	0.00	R 265.00	R -	To be constructed according to program
131	63	Return water pipeline	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
132	64	Tailing delivery pipeline	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
133	65	Pipeline from sump to PCD	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
134	66	Emergency pipeline from concentrator to dam	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
135	67	Distribution pipelines	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
136	68	Water main pipeline	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
137	69	Fire main pipeline	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
138	74	Perimeter fencing	5.5.3	m	3600.00	R 27.00	R 97 200.00	
139	75	Perimeter fencing to tailings complex	5.5.3	m	0.00	R 27.00	R -	To be constructed according to program
140	76	Perimeter fence to explosives bunker	5.5.3	m	201.00	R 27.00	R 5 427.00	
141	105	Plant - Steel gantry's with delivery pipelines	2.3.1	m ²	0.00	R 107.00	R -	Assume 100kg of steel per m ²
142	106	Plant - Security fencing	5.5.3	m	0.00	R 27.00	R -	To be constructed according to program
143		Main water pipeline	5.2.3	m	4669.00	R 64.00	R 298 816.00	
144		Sub - Total for removal of all linear items					R 403 738.00	
145		Rehabilitation of roads						
146		Entrance road	1.1	na	0.00	R -	R -	Assume will remain
147		Minor gravel road to explosives bunker	8.3	m ²	5864.00	R 4.00	R 23 456.00	
148		Sub - Total for rehabilitation of roads					R 23 456.00	
149		Disposal of demolition waste						
150		Sorting and screening of waste	6.1	%	2831871.00	2.50%	R 70 796.78	2.50%
151		Disposal of demolition waste	6.2.1	m ³ /km	7889.00	R 160.00	R 1 262 240.00	Assume 50km distance
152		Sub - Total for disposal of demolition waste					R 1 333 036.78	
153		Sub - Total for infrastructural aspects					R 5 435 807.78	
154								
155		Mining Aspects						
156		Open pit reclamation including final voids and ramps						
157		Not applicable	1.1	na	0.00	R -	R -	
158		Sub - Total open pit reclamation including final voids and ramps					R -	
159		Sealing of shafts and inclines						
160	15	Service and Production Shaft	7.1.15	sum	1.00	R 2 573 324.00	R 2 573 324.00	10m Diameter
161	23	Refrigeration shaft	7.1.11	sum	0.00	R 1 838 850.00	R -	8m Diameter
162	28	Vent Shaft	7.1.11	sum	0.00	R 1 838 850.00	R -	8m Diameter
163		Sub - Total for sealing of shafts and inclines					R 2 573 324.00	
164		Rehabilitation of overburden and spoils						
165	110	Topsoil stockpiles						Only footprints will remain
166		Rip area to alleviate compaction	9.5.1	ha	1.18	R 9 400.00	R 11 099.52	
167		Establish vegetation	10.4.1	ha	1.18	R 13 800.00	R 16 295.04	
168		Sub - Total for rehabilitation of overburden and spoils					R 27 394.56	
169		Rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)						
170		Not applicable	1.1	na	0.00	R -	R -	
171		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)					R -	
172		Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)						
173	70	Settling dams						
174		Remove contaminated sediment and stockpile	9.2	m ³	0.00	R 20.00	R -	Assume 250mm contaminated sediment
175		Load and haul contaminated sediment	1.2	sum	0.00	R 90.40	R -	Haul sediment to tailings facility 8km
176		Remove HDPE liner	6.4	m ²	5280.00	R 6.50	R 34 320.00	
177		Breach dam wall	10.1.5	m	302.00	R 220.00	R 66 440.00	Doze material inward to fill void
178		Shape and level area	10.1.1	ha	0.53	R 55 250.00	R 29 172.00	Make area free draining
179		Establish vegetation	10.4.1	ha	0.53	R 13 800.00	R 7 286.40	
180	71A	Emergency storage dam						To be constructed according to program
181		Remove contaminated sediment and stockpile	9.2	m ³	0.00	R 20.00	R -	
182		Load and haul contaminated sediment	1.2	sum	0.00	R 90.40	R -	
183		Remove HDPE liner	6.4	m ²	0.00	R 6.50	R -	
184		Breach dam wall	10.1.5	m	0.00	R 220.00	R -	
185		Shape and level area	10.1.1	ha	0.00	R 55 250.00	R -	
186		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
187	71B	Emergency storage dam						To be constructed according to program
188		Remove contaminated sediment and stockpile	9.2	m ³	0.00	R 20.00	R -	
189		Load and haul contaminated sediment	1.2	sum	0.00	R 90.40	R -	
190		Remove HDPE liner	6.4	m ²	0.00	R 6.50	R -	
191		Breach dam wall	10.1.5	m	0.00	R 220.00	R -	
192		Shape and level area	10.1.1	ha	0.00	R 55 250.00	R -	
193		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
194	72	Pollution control dam						To be constructed according to program
195		Remove contaminated sediment and stockpile	9.2	m ³	0.00	R 20.00	R -	
196		Load and haul contaminated sediment	1.2	sum	0.00	R 90.40	R -	
197		Remove HDPE liner	6.4	m ²	0.00	R 6.50	R -	

Closure Costing - Leeuwkop			Closure Costs - Year 2 - (2013)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
198		Breach dam wall	10.1.5	m	0.00	R 220.00	R -	
199		Shape and level area	10.1.1	ha	0.00	R 55 250.00	R -	
200		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
201	107	Waste Rock Dump						Assumed 20m strip would not have been rehabilitated
202		Strip topsoil and stockpile for movement of toe	9.2	m³	1717.00	R 20.00	R 34 340.00	Assume 250mm thick
203		Reshape WRD	9.1.1	m³	29925.00	R 13.50	R 403 987.50	Cut to fill action assumed 20m high at 87.5m³/per meter
204		Import capping layers	9.6.1	m³	8160.00	R 28.00	R 228 480.00	Assumed 1km haul distance, 300mm thick capillary layer and 300mm thick black turf
205		Import topsoil layer	9.6.1	m³	2720.00	R 28.00	R 76 160.00	Assumed 1km haul distance, 200mm thick layer
206		Establish vegetation	10.4.1	ha	1.36	R 13 800.00	R 18 768.00	
207	108	Tailings Complex						To be constructed according to program
208		Seal Penstocks	7.3	sum	0.00	R 213 200.00	R -	
209		Breach wall & reshape	10.1.5	m	0.00	R 220.00	R -	
210		Rip to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
211		Establish vegetation disturbed footprint	10.4.1	ha	0.00	R 13 800.00	R -	
212		Establish vegetation on tailings dam slopes	10.4.2	ha	0.00	R 19 250.00	R -	
213		Establish vegetation on tailings dam top	10.4.2	ha	0.00	R 19 250.00	R -	
214	109	Waste Rock Noise Barrier						
215		Reshape berm	10.1.1	ha	2.10	R 55 250.00	R 116 025.00	
216		Import topsoil layer	9.6.1	m³	4200.00	R 28.00	R 117 600.00	Assumed 1km haul distance, 200mm thick layer
217		Establish vegetation	10.4.1	ha	2.10	R 13 800.00	R 28 980.00	
218		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (polluting potential)					R 1 161 558.90	
219		Reclamation of subsided areas						
220		Not applicable	1.1	na	0.00	R -	R -	
221		Sub - Total for reclamation of subsided areas					R -	
222		Sub - Total for Mining aspects					R 3 762 277.46	
223								
224		General Surface Reclamation						
225		Mine						
226		Shape and level disturbed area	10.1.1	ha	20.00	R 55 250.00	R 1 105 000.00	Includes stockpiling of material, backfilling of excavations in cut to fill operation and final profiling @ave 500mm over footprint
227		Rip area to alleviate compaction	9.5.1	ha	20.00	R 9 400.00	R 188 000.00	500mm deep ripping
228		Import topsoil	9.6.1	m³	30000.00	R 28.00	R 840 000.00	150mm from local stockpile, assume 1km load and haul
229		Establish vegetation	10.4.1	ha	20.00	R 13 800.00	R 276 000.00	
230		Plant						Footprint not disturbed
231		Shape and level disturbed area	10.1.1	ha	0.00	R 55 250.00	R -	
232		Rip area to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
233		Import topsoil	9.6.1	m³	0.00	R 28.00	R -	
234		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
235		Sub - Total for General Surface Reclamation					R 2 409 000.00	
236								
237		Water Management						
238		Not applicable	1.1	na	0.00	R -	R -	Assume none required, all mitigation measures will be implemented during the operational phase
239		Sub - Total for Water Management					R -	
240								
241		SUB - TOTAL 1 (for infrastructural and related structures)					R 11 607 085.24	
242		Post - closure aspects						
243		Surface water quality monitoring	12.1	yr	5.00	R 106 000.00	R 530 000.00	8 monitoring points on a monthly basis
244		Groundwater quality monitoring	12.2	yr	5.00	R 150 000.00	R 750 000.00	15 monitoring points on a quarterly basis
245		Reclamation monitoring on reclaimed areas	12.3	ha	20.00	R 2 500.00	R 50 000.00	5 years
246		Care and maintenance of reclaimed areas	12.4	ha	20.00	R 15 500.00	R 310 000.00	5 years
247		Sub - Total for Post closure aspects					R 1 640 000.00	
248		Contingencies for post closure aspects	1.2	sum	1.00	R 164 000.00	R 164 000.00	Assumed 10 percent for post closure aspects
249		Sub - Total for Contingencies for post closure aspects					R 164 000.00	
250		SUB - TOTAL 2 (for post - closure aspects)					R 1 804 000.00	
251		Additional allowances						
252		Preliminary and General	1.2	sum	1.00	R 696 425.11	R 696 425.11	Assume 6 percent of sub - total 1
253		Contingencies	1.2	sum	1.00	R 1 160 708.52	R 1 160 708.52	Assume 10 percent of sub - total 1
254		SUB - TOTAL 3 (for additional allowances)					R 1 857 133.64	
255		Grand - Total (for sub - total 1+2+3)					R 15 268 218.87	

Closure Costing - Leeuwkop			Closure Costs - Year 3 - (2014)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
1		Infrastructural Aspects						
2		Nominal cost and time related items						
3		Mine						
4		Removal of salvageable equipment	1.2	sum	1.00	R 1 500 000.00	R 1 500 000.00	Nominal allowance
5		Crane	11.1	p/day	10.00	R 38 700.00	R 387 000.00	For assistance in the removal of equipment and demolition purposes
6		Plant						
7		Removal of salvageable equipment	1.2	sum	0.00	R 6 500 000.00	R -	Nominal allowance
8		Crane	11.1	p/day	0.00	R 38 700.00	R -	For assistance in the removal of equipment and demolition purposes
9		Sub-Total for cost and time related items					R 1 887 000.00	
10		Demolitioning of plant and related structures						
11	21	Compressor house	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
12	22	Condenser cooling towers	4.2	m³	0.00	R 640.00	R -	To be constructed according to program
13	23	Refrigeration plant	4.2	m³	0.00	R 640.00	R -	To be constructed according to program
14	27	Grout Plant	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
15	28	Ventilation Shaft	2.2	t	480.00	R 1 280.00	R 614 400.00	Info received from Impala
16	40	Water treatment plant	2.3.2	m²	1225.00	R 590.00	R 722 750.00	Assume 450kg of steel per m²
17	43	Sewage Plant	3.6	m²	1732.50	R 320.00	R 554 400.00	Single volume building
18	59	Booster pump station	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
19	87	Plant - Cleaners						To be constructed according to program
20		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
21		Structural concrete	4.3	m³	0.00	R 400.00	R -	
22	88	Plant - Cleaners						To be constructed according to program
23		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
24		Structural concrete	4.3	m³	0.00	R 400.00	R -	
25	89	Plant - Mill						To be constructed according to program
26		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
27		Structural concrete	4.3	m³	0.00	R 400.00	R -	
28	94	Plant - Storage area	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
29	98	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
30	99	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
31	100	Plant - Thickener						To be constructed according to program
32		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
33		Structural concrete	4.3	m³	0.00	R 400.00	R -	
34	101	Plant - Thickener						To be constructed according to program
35		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
36		Structural concrete	4.3	m³	0.00	R 400.00	R -	
37	102	Plant - Thickener						To be constructed according to program
38		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
39		Structural concrete	4.3	m³	0.00	R 400.00	R -	
40		Sub - Total for demolitioning of plant and related structures					R 1 891 550.00	
41		Demolitioning of all structural structures						
42	16	Carpports	2.6.1	m²	5934.00	R 90.00	R 534 060.00	IBR sheeting
43	17	Contractors Carpports	2.6.1	m²	424.00	R 90.00	R 38 160.00	IBR sheeting
44	15	Headgear	2.2	t	0.00	R 1 280.00	R -	To be constructed according to program
45		Structural concrete	4.1	m³	147.00	R 1 280.00	R 188 160.00	
46	38	Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
47	38	Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
48	41	Water tank	2.4.2	no	1.00	R 26 650.00	R 26 650.00	
49	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
50	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
51	60	Sump	4.2	m³	6.24	R 640.00	R 3 993.60	Structural concrete, 300mm thick, 2m deep
52	61	Water Canal	8.4	m²	2892.00	R 135.00	R 363 420.00	Thin reinforced concrete
53	78	Plant - covered parking	2.6.1	m²	0.00	R 90.00	R -	To be constructed according to program
54	104	Plant - Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
55		Sub - Total for demolitioning of all structural structures					R 1 199 443.60	
56		Demolitioning of workshops and stores						
57	13	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
58	14	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
59	18	Winder rope store	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
60	24	Fan and electrical motor store	3.1.1	m²	198.00	R 295.00	R 58 410.00	Single storey brick building
61	25	Workshop sink and perm	3.6	m²	819.90	R 320.00	R 262 368.00	Single volume building
62	31	Main Store	3.7	m²	1380.80	R 380.00	R 524 704.00	Double volume building
63	32	Explosives Store	3.6	m²	285.00	R 320.00	R 91 200.00	Single volume building
64	33	Gas bottle store	3.1.1	m²	38.00	R 295.00	R 10 620.00	Single storey brick building
65	34	Chemical Store	3.1.1	m²	201.00	R 295.00	R 59 295.00	Single storey brick building
66	35	Paint Store	3.1.1	m²	41.00	R 295.00	R 12 095.00	Single storey brick building
67	36	Oil store	3.1.1	m²	36.00	R 295.00	R 10 620.00	Single storey brick building
68	44	Generator farm	3.2.1	m²	0.00	R 480.00	R -	To be constructed according to program
69	82	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
70	83	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
71	86	Plant - Workshop	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
72	93	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
73	95	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
74	96	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
75		Sub - Total for demolitioning of workshops and stores					R 1 029 312.00	
76		Demolitioning of permanent brick structures and temporary structures						
77	1	Offices	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
78	2	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
79	3	Laundry	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
80	4	Boiler House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
81	5	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
82	6	Lamp Room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
83	7	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
84	8	Induction Room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
85	9	Training Centre	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
86	10	Gate House	3.1.1	m²	184.00	R 295.00	R 54 280.00	Single storey brick building
87	11	Banksman Cabin & Proto Room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
88	12	Central Control room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
89	19	Sub-station	3.2.1	m²	0.00	R 480.00	R -	To be constructed according to program
90	19	Sub-station	3.2.1	m²	0.00	R 480.00	R -	To be constructed according to program
91	20	Transformer bays	3.2.1	m²	0.00	R 480.00	R -	To be constructed according to program

Closure Costing - Leeuwkop			Closure Costs - Year 3 - (2014)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
92	29	Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
93	30	MCC	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
94	45	Sumer Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
95	47	Geology building	3.1.1	m ²	183.00	R 295.00	R 53 985.00	Single storey brick building
96	48	Offices	3.1.1	m ²	149.60	R 295.00	R 44 132.00	Single storey brick building
97	49	Offices	3.1.1	m ²	149.60	R 295.00	R 44 132.00	Single storey brick building
98	50	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
99	51	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
100	52	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
101	53	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
102	54	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
103	55	Lamp Room	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
104	56	Steffanuti Stocks	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
105	57	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
106	58	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
107	76	Explosives bunker	3.1.1	m ²	150.00	R 295.00	R 44 250.00	Single storey brick building
108	77	Weighbridge	1.2	sum	0.00	R 50 000.00	R -	To be constructed according to program
109	79	Plant - Admin building	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
110	80	Plant - Induction room	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
111	81	Plant - Office	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
112	84	Plant - Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
113	85	Plant - Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
114	97	Plant - building	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
115		Sub - Total for demolitoning of permanent brick structures and temporary structures					R 321 419.00	
116		Removal of all surface related finishes						
117	26	Surface cable yard	4.5	m ²	30.00	R 590.00	R 17 700.00	Assume 250mm thick concrete
118	46	PFC yard	4.5	m ²	1199.00	R 590.00	R 707 410.00	Assume 250mm thick concrete
119	47	Geology yard	4.5	m ²	473.00	R 590.00	R 279 070.00	Assume 250mm thick concrete
120	73	General surface bed	4.4	m ²	0.00	R 215.00	R -	To be constructed according to program
121	90	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
122	91	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
123	92	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
124	103	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
125		Sub - Total for removal of all surface related finishes					R 1 004 180.00	
126		Removal of all linear items						
127	32	Fencing to explosives store	5.5.3	m	85.00	R 27.00	R 2 295.00	
128	37	Reef and waste conveyor	5.1.5	m	0.00	R 640.00	R -	To be constructed according to program
129	39	Reef conveyor	5.1.5	m	0.00	R 640.00	R -	To be constructed according to program
130	62	Waste conveyor	5.1.2	m	0.00	R 265.00	R -	To be constructed according to program
131	63	Return water pipeline	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
132	64	Tailing delivery pipeline	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
133	65	Pipeline from sump to PCD	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
134	66	Emergency pipeline from concentrator to dam	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
135	67	Distribution pipelines	5.2.2	m	4780.00	R 48.00	R 229 440.00	200-350mm steel pipelines
136	68	Water main pipeline	5.2.2	m	1870.00	R 48.00	R 89 760.00	200-350mm steel pipelines
137	69	Fire main pipeline	5.2.2	m	1870.00	R 48.00	R 89 760.00	200-350mm steel pipelines
138	74	Perimeter fencing	5.5.3	m	3600.00	R 27.00	R 97 200.00	
139	75	Perimeter fencing to tailings complex	5.5.3	m	0.00	R 27.00	R -	To be constructed according to program
140	76	Perimeter fence to explosives bunker	5.5.3	m	201.00	R 27.00	R 5 427.00	
141	105	Plant - Steel gantry's with delivery pipelines	2.3.1	m ²	0.00	R 107.00	R -	To be constructed according to program
142	106	Plant - Security fencing	5.5.3	m	0.00	R 27.00	R -	To be constructed according to program
143		Main water pipeline	5.2.3	m	4669.00	R 64.00	R 298 816.00	
144		Sub - Total for removal of all linear items					R 812 698.00	
145		Rehabilitation of roads						
146		Entrance road	1.1	na	0.00	R -	R -	Assume will remain
147		Minor gravel road to explosives bunker	8.3	m ²	5864.00	R 4.00	R 23 456.00	
148		Sub - Total for rehabilitation of roads					R 23 456.00	
149		Disposal of demolition waste						
150		Sorting and screening of waste	6.1	%	6282058.60	2.50%	R 157 051.47	2.50%
151		Disposal of demolition waste	6.2.1	m ³ /km	18192.00	R 160.00	R 2 910 720.00	Assume 50km distance
152		Sub - Total for disposal of demolition waste					R 3 067 771.47	
153		Sub - Total for infrastructural aspects					R 11 236 830.07	
154								
155		Mining Aspects						
156		Open pit reclamation including final voids and ramps						
157		Not applicable	1.1	na	0.00	R -	R -	
158		Sub - Total open pit reclamation including final voids and ramps					R -	
159		Sealing of shafts and inclines						
160	15	Service and Production Shaft	7.1.15	sum	1.00	R 2 573 324.00	R 2 573 324.00	10m Diameter
161	23	Refrigeration shaft	7.1.11	sum	0.00	R 1 838 850.00	R -	8m Diameter
162	28	Vent Shaft	7.1.11	sum	1.00	R 1 838 850.00	R 1 838 850.00	8m Diameter
163		Sub - Total for sealing of shafts and inclines					R 4 412 174.00	
164		Rehabilitation of overburden and spoils						
165	110	Topsoil stockpiles						Only footprints will remain
166		Rip area to alleviate compaction	9.5.1	ha	1.18	R 9 400.00	R 11 099.52	
167		Establish vegetation	10.4.1	ha	1.18	R 13 800.00	R 16 295.04	
168		Sub - Total for rehabilitation of overburden and spoils					R 27 394.56	
169		Rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)						
170		Not applicable	1.1	na	0.00	R -	R -	
171		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)					R -	
172		Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)						
173	70	Settling dams						
174		Remove contaminated sediment and stockpile	9.2	m ³	1320.00	R 20.00	R 26 400.00	Assume 250mm contaminated sediment
175		Load and haul contaminated sediment	1.2	sum	1320.00	R 90.40	R 119 328.00	Haul sediment to tailings facility 8km
176		Remove HDPE liner	6.4	m ²	5280.00	R 6.50	R 34 320.00	
177		Breach dam wall	10.1.5	m	302.00	R 220.00	R 66 440.00	Doze material inward to fill void
178		Shape and level area	10.1.1	ha	0.53	R 55 250.00	R 29 172.00	Make area free draining
179		Establish vegetation	10.4.1	ha	0.53	R 13 800.00	R 7 286.40	
180	71A	Emergency storage dam						
181		Remove contaminated sediment and stockpile	9.2	m ³	0.00	R 20.00	R -	Assume 100mm contaminated sediment
182		Load and haul contaminated sediment	1.2	sum	0.00	R 90.40	R -	Haul sediment to tailings facility 8km
183		Remove HDPE liner	6.4	m ²	31861.00	R 6.50	R 207 096.50	
184		Breach dam wall	10.1.5	m	714.00	R 220.00	R 157 080.00	Doze material inward to fill void
185		Shape and level area	10.1.1	ha	3.19	R 55 250.00	R 176 032.03	Make area free draining
186		Establish vegetation	10.4.1	ha	3.19	R 13 800.00	R 43 968.18	
187	71B	Emergency storage dam						
188		Remove contaminated sediment and stockpile	9.2	m ³	0.00	R 20.00	R -	Assume 100mm contaminated sediment
189		Load and haul contaminated sediment	1.2	sum	0.00	R 90.40	R -	Haul sediment to tailings facility 8km
190		Remove HDPE liner	6.4	m ²	29000.00	R 6.50	R 188 500.00	
191		Breach dam wall	10.1.5	m	688.00	R 220.00	R 151 360.00	Doze material inward to fill void
192		Shape and level area	10.1.1	ha	2.90	R 55 250.00	R 160 225.00	Make area free draining
193		Establish vegetation	10.4.1	ha	2.90	R 13 800.00	R 40 020.00	
194	72	Pollution control dam						
195		Remove contaminated sediment and stockpile	9.2	m ³	0.00	R 20.00	R -	To be constructed according to program
196		Load and haul contaminated sediment	1.2	sum	0.00	R 90.40	R -	
197		Remove HDPE liner	6.4	m ²	0.00	R 6.50	R -	

Closure Costing - Leeuwkop			Closure Costs - Year 3 - (2014)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
198		Breach dam wall	10.1.5	m	0.00	R 220.00	R -	
199		Shape and level area	10.1.1	ha	0.00	R 55 250.00	R -	
200		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
201	107	Waste Rock Dump						Assumed 20m strip would not have been rehabilitated
202		Strip topsoil and stockpile for movement of toe	9.2	m³	1717.00	R 20.00	R 34 340.00	Assume 250mm thick
203		Reshape WRD	9.1.1	m³	29925.00	R 13.50	R 403 987.50	Cut to fill action assumed 20m high at 87.5m³/per meter
204		Import capping layers	9.6.1	m³	8160.00	R 28.00	R 228 480.00	Assumed 1km haul distance, 300mm thick capillary layer and 300mm thick black turf
205		Import topsoil layer	9.6.1	m³	2720.00	R 28.00	R 76 160.00	Assumed 1km haul distance, 200mm thick layer
206		Establish vegetation	10.4.1	ha	1.36	R 13 800.00	R 18 768.00	
207	108	Tailings Complex						To be constructed according to program
208		Seal Penstocks	7.3	sum	0.00	R 213 200.00	R -	
209		Breach wall & reshape	10.1.5	m	0.00	R 220.00	R -	
210		Rip to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
211		Establish vegetation disturbed footprint	10.4.1	ha	0.00	R 13 800.00	R -	
212		Establish vegetation on tailings dam slopes	10.4.2	ha	0.00	R 19 250.00	R -	
213		Establish vegetation on tailings dam top	10.4.2	ha	0.00	R 19 250.00	R -	
214	109	Waste Rock Noise Barrier						
215		Reshape berm	10.1.1	ha	2.10	R 55 250.00	R 116 025.00	
216		Import topsoil layer	9.6.1	m³	4200.00	R 28.00	R 117 600.00	Assumed 1km haul distance, 200mm thick layer
217		Establish vegetation	10.4.1	ha	2.10	R 13 800.00	R 28 980.00	
218		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (polluting potential)					R 2 431 568.61	
219		Reclamation of subsided areas						
220		Not applicable	1.1	na	0.00	R -	R -	
221		Sub - Total for reclamation of subsided areas					R -	
222		Sub - Total for Mining aspects					R 6 871 137.17	
223								
224		General Surface Reclamation						
225		Mine						
226		Shape and level disturbed area	10.1.1	ha	20.00	R 55 250.00	R 1 105 000.00	Includes stockpiling of material, backfilling of excavations in cut to fill operation and final profiling @ave 500mm over footprint
227		Rip area to alleviate compaction	9.5.1	ha	20.00	R 9 400.00	R 188 000.00	500mm deep ripping
228		Import topsoil	9.6.1	m³	30000.00	R 28.00	R 840 000.00	150mm from local stockpile, assume 1km load and haul
229		Establish vegetation	10.4.1	ha	20.00	R 13 800.00	R 276 000.00	
230		Plant						Footprint not disturbed
231		Shape and level disturbed area	10.1.1	ha	0.00	R 55 250.00	R -	
232		Rip area to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
233		Import topsoil	9.6.1	m³	0.00	R 28.00	R -	
234		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
235		Sub - Total for General Surface Reclamation					R 2 409 000.00	
236								
237		Water Management						
238		Not applicable	1.1	na	0.00	R -	R -	Assume none required, all mitigation measures will be implemented during the operational phase
239		Sub - Total for Water Management					R -	
240								
241		SUB - TOTAL 1 (for infrastructural and related structures)					R 20 516 967.23	
242		Post - closure aspects						
243		Surface water quality monitoring	12.1	yr	5.00	R 106 000.00	R 530 000.00	8 monitoring points on a monthly basis
244		Groundwater quality monitoring	12.2	yr	5.00	R 150 000.00	R 750 000.00	15 monitoring points on a quarterly basis
245		Reclamation monitoring on reclaimed areas	12.3	ha	20.00	R 2 500.00	R 50 000.00	5 years
246		Care and maintenance of reclaimed areas	12.4	ha	20.00	R 15 500.00	R 310 000.00	5 years
247		Sub - Total for Post closure aspects					R 1 640 000.00	
248		Contingencies for post closure aspects	1.2	sum	1.00	R 164 000.00	R 164 000.00	Assumed 10 percent for post closure aspects
249		Sub - Total for Contingencies for post closure aspects					R 164 000.00	
250		SUB - TOTAL 2 (for post - closure aspects)					R 1 804 000.00	
251		Additional allowances						
252		Preliminary and General	1.2	sum	1.00	R 1 231 018.03	R 1 231 018.03	Assume 6 percent of sub - total 1
253		Contingencies	1.2	sum	1.00	R 2 051 696.72	R 2 051 696.72	Assume 10 percent of sub - total 1
254		SUB - TOTAL 3 (for additional allowances)					R 3 282 714.76	
255		Grand - Total (for sub - total 1+2+3)					R 25 603 681.99	

Closure Costing - Leeuwkop			Closure Costs - Year 4 - (2015)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
1		Infrastructural Aspects						
2		Nominal cost and time related items						
3		Mine						
4		Removal of salvageable equipment	1.2	sum	1.00	R 1 500 000.00	R 1 500 000.00	Nominal allowance
5		Crane	11.1	p/day	12.00	R 38 700.00	R 464 400.00	For assistance in the removal of equipment and demolition purposes
6		Plant						
7		Removal of salvageable equipment	1.2	sum	0.00	R 6 500 000.00	R -	Nominal allowance
8		Crane	11.1	p/day	0.00	R 38 700.00	R -	For assistance in the removal of equipment and demolition purposes
9		Sub-Total for cost and time related items					R 1 964 400.00	
10		Demolitioning of plant and related structures						
11	21	Compressor house	3.7	m²	1318.45	R 380.00	R 501 011.00	Double volume building
12	22	Condenser cooling towers	4.2	m³	0.00	R 640.00	R -	To be constructed according to program
13	23	Refrigeration plant	4.2	m³	1128.75	R 640.00	R 722 400.00	Structural Concrete, assume 5m high, 250mm thick
14	27	Grout Plant	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
15	28	Ventilation Shaft	2.2	t	480.00	R 1 280.00	R 614 400.00	Info received from Impala
16	40	Water treatment plant	2.3.2	m²	1225.00	R 590.00	R 722 750.00	Assume 450kg of steel per m²
17	43	Sewage Plant	3.6	m²	1732.50	R 320.00	R 554 400.00	Single volume building
18	59	Booster pump station	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
19	87	Plant - Cleaners						To be constructed according to program
20		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
21		Structural concrete	4.3	m³	0.00	R 400.00	R -	
22	88	Plant - Cleaners						To be constructed according to program
23		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
24		Structural concrete	4.3	m³	0.00	R 400.00	R -	
25	89	Plant - Mill						To be constructed according to program
26		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
27		Structural concrete	4.3	m³	0.00	R 400.00	R -	
28	94	Plant - Storage area	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
29	98	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
30	99	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
31	100	Plant - Thickener						To be constructed according to program
32		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
33		Structural concrete	4.3	m³	0.00	R 400.00	R -	
34	101	Plant - Thickener						To be constructed according to program
35		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
36		Structural concrete	4.3	m³	0.00	R 400.00	R -	
37	102	Plant - Thickener						To be constructed according to program
38		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
39		Structural concrete	4.3	m³	0.00	R 400.00	R -	
40		Sub - Total for demolitioning of plant and related structures					R 3 114 961.00	
41		Demolitioning of all structural structures						
42	16	Carpports	2.6.1	m²	5934.00	R 90.00	R 534 060.00	IBR sheeting
43	17	Contractors Carpports	2.6.1	m²	424.00	R 90.00	R 38 160.00	IBR sheeting
44	15	Headgear	2.2	t	0.00	R 1 280.00	R -	To be constructed according to program
45		Structural concrete	4.1	m³	147.00	R 1 280.00	R 188 160.00	
46	38	Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
47	38	Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
48	41	Water tank	2.4.2	no	1.00	R 26 650.00	R 26 650.00	
49	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
50	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
51	60	Sump	4.2	m³	6.24	R 640.00	R 3 993.60	Structural concrete, 300mm thick, 2m deep
52	61	Water Canal	8.4	m²	2892.00	R 135.00	R 363 420.00	Thin reinforced concrete
53	78	Plant - covered parking	2.6.1	m²	0.00	R 90.00	R -	To be constructed according to program
54	104	Plant - Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
55		Sub - Total for demolitioning of all structural structures					R 1 199 443.60	
56		Demolitioning of workshops and stores						
57	13	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
58	14	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
59	18	Winder rope store	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
60	24	Fan and electrical motor store	3.1.1	m²	198.00	R 295.00	R 58 410.00	Single storey brick building
61	25	Workshop sink and perm	3.6	m²	819.90	R 320.00	R 262 368.00	Single volume building
62	31	Main Store	3.7	m²	1380.80	R 380.00	R 524 704.00	Double volume building
63	32	Explosives Store	3.6	m²	285.00	R 320.00	R 91 200.00	Single volume building
64	33	Gas bottle store	3.1.1	m²	38.00	R 295.00	R 10 620.00	Single storey brick building
65	34	Chemical Store	3.1.1	m²	201.00	R 295.00	R 59 295.00	Single storey brick building
66	35	Paint Store	3.1.1	m²	41.00	R 295.00	R 12 095.00	Single storey brick building
67	36	Oil store	3.1.1	m²	36.00	R 295.00	R 10 620.00	Single storey brick building
68	44	Generator farm	3.2.1	m²	412.00	R 480.00	R 197 760.00	Single storey brick building
69	82	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
70	83	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
71	86	Plant - Workshop	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
72	93	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
73	95	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
74	96	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
75		Sub - Total for demolitioning of workshops and stores					R 1 227 072.00	
76		Demolitioning of permanent brick structures and temporary structures						
77	1	Offices	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
78	2	Change House	3.1.1	m²	1066.00	R 295.00	R 314 470.00	Single storey brick building
79	3	Laundry	3.1.1	m²	179.00	R 295.00	R 52 805.00	Single storey brick building
80	4	Boiler House	3.1.1	m²	232.00	R 295.00	R 68 440.00	Single storey brick building
81	5	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
82	6	Lamp Room	3.1.1	m²	909.50	R 295.00	R 268 302.50	Single storey brick building
83	7	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
84	8	Induction Room	3.1.1	m²	144.00	R 295.00	R 42 480.00	Single storey brick building
85	9	Training Centre	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
86	10	Gate House	3.1.1	m²	184.00	R 295.00	R 54 280.00	Single storey brick building
87	11	Banksman Cabin & Proto Room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
88	12	Central Control room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
89	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
90	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
91	20	Transformer bays	3.2.1	m²	156.00	R 480.00	R 74 880.00	Single storey brick building

Closure Costing - Leeuwkop			Closure Costs - Year 4 - (2015)						
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes	
92	29	Sub-station	3.2.1	m ²	120.00	R	480.00	R 57 600.00	Single storey brick building
93	30	MCC	3.2.1	m ²	0.00	R	480.00	R -	To be constructed according to program
94	45	Sumer Sub-station	3.2.1	m ²	0.00	R	480.00	R -	To be constructed according to program
95	47	Geology building	3.1.1	m ²	183.00	R	295.00	R 53 985.00	Single storey brick building
96	48	Offices	3.1.1	m ²	149.60	R	295.00	R 44 132.00	Single storey brick building
97	49	Offices	3.1.1	m ²	149.60	R	295.00	R 44 132.00	Single storey brick building
98	50	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
99	51	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
100	52	Change House	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
101	53	Change House	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
102	54	Change House	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
103	55	Lamp Room	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
104	56	Steffanuti Stocks	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
105	57	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
106	58	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
107	76	Explosives bunker	3.1.1	m ²	150.00	R	295.00	R 44 250.00	Single storey brick building
108	77	Weighbridge	1.2	sum	0.00	R	50 000.00	R -	To be constructed according to program
109	79	Plant - Admin building	3.1.1	m ²	0.00	R	295.00	R -	To be constructed according to program
110	80	Plant - Induction room	3.1.1	m ²	0.00	R	295.00	R -	To be constructed according to program
111	81	Plant - Office	3.1.1	m ²	0.00	R	295.00	R -	To be constructed according to program
112	84	Plant - Sub-station	3.2.1	m ²	0.00	R	480.00	R -	To be constructed according to program
113	85	Plant - Sub-station	3.2.1	m ²	0.00	R	480.00	R -	To be constructed according to program
114	97	Plant - building	3.1.1	m ²	0.00	R	295.00	R -	To be constructed according to program
115		Sub - Total for demolitoning of permanent brick structures and temporary structures						R 1 214 796.50	
116		Removal of all surface related finishes							
117	26	Surface cable yard	4.5	m ²	30.00	R	590.00	R 17 700.00	Assume 250mm thick concrete
118	46	PFC yard	4.5	m ²	1199.00	R	590.00	R 707 410.00	Assume 250mm thick concrete
119	47	Geology yard	4.5	m ²	473.00	R	590.00	R 279 070.00	Assume 250mm thick concrete
120	73	General surface bed	4.4	m ²	10610.85	R	215.00	R 2 281 332.75	Assume 150mm thick concrete
121	90	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
122	91	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
123	92	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
124	103	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
125		Sub - Total for removal of all surface related finishes			0.00			R 3 285 512.75	
126		Removal of all linear items							
127	32	Fencing to explosives store	5.5.3	m	85.00	R	27.00	R 2 295.00	
128	37	Reef and waste conveyor	5.1.5	m	0.00	R	640.00	R -	To be constructed according to program
129	39	Reef conveyor	5.1.5	m	0.00	R	640.00	R -	To be constructed according to program
130	62	Waste conveyor	5.1.2	m	1226.00	R	265.00	R 324 890.00	Overland conveyor
131	63	Return water pipeline	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
132	64	Tailing delivery pipeline	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
133	65	Pipeline from sump to PCD	5.2.2	m	348.00	R	48.00	R 16 704.00	200-350mm steel pipelines
134	66	Emergency pipeline from concentrator to dam	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
135	67	Distribution pipelines	5.2.2	m	4780.00	R	48.00	R 229 440.00	200-350mm steel pipelines
136	68	Water main pipeline	5.2.2	m	1870.00	R	48.00	R 89 760.00	200-350mm steel pipelines
137	69	Fire main pipeline	5.2.2	m	1870.00	R	48.00	R 89 760.00	200-350mm steel pipelines
138	74	Perimeter fencing	5.5.3	m	3600.00	R	27.00	R 97 200.00	
139	75	Perimeter fencing to tailings complex	5.5.3	m	0.00	R	27.00	R -	To be constructed according to program
140	76	Perimeter fence to explosives bunker	5.5.3	m	201.00	R	27.00	R 5 427.00	
141	105	Plant - Steel gantry's with delivery pipelines	2.3.1	m ²	0.00	R	107.00	R -	To be constructed according to program
142	106	Plant - Security fencing	5.5.3	m	0.00	R	27.00	R -	To be constructed according to program
143		Main water pipeline	5.2.3	m	4669.00	R	64.00	R 298 816.00	
144		Sub - Total for removal of all linear items						R 1 154 292.00	
145		Rehabilitation of roads							
146		Entrance road	1.1	na	0.00	R	-	R -	Assume will remain
147		Minor gravel road to explosives bunker	8.3	m ²	5864.00	R	4.00	R 23 456.00	
148		Sub - Total for rehabilitation of roads						R 23 456.00	
149		Disposal of demolition waste							
150		Sorting and screening of waste	6.1	%	11219533.85		2.50%	R 280 488.35	2.50%
151		Disposal of demolition waste	6.2.1	m ³ /km	24500.00	R	160.00	R 3 920 000.00	Assume 50km distance
152		Sub - Total for disposal of demolition waste						R 4 200 488.35	
153		Sub - Total for infrastructural aspects						R 17 384 422.20	
154									
155		Mining Aspects							
156		Open pit reclamation including final voids and ramps							
157		Not applicable	1.1	na	0.00	R	-	R -	
158		Sub - Total open pit reclamation including final voids and ramps						R -	
159		Sealing of shafts and inclines							
160	15	Service and Production Shaft	7.1.15	sum	1.00	R	2 573 324.00	R 2 573 324.00	10m Diameter
161	23	Refrigeration shaft	7.1.11	sum	1.00	R	1 838 850.00	R 1 838 850.00	8m Diameter
162	28	Vent Shaft	7.1.11	sum	1.00	R	1 838 850.00	R 1 838 850.00	8m Diameter
163		Sub - Total for sealing of shafts and inclines						R 6 251 024.00	
164		Rehabilitation of overburden and spoils							
165	110	Topsoil stockpiles							Only footprints will remain
166		Rip area to alleviate compaction	9.5.1	ha	1.18	R	9 400.00	R 11 099.52	
167		Establish vegetation	10.4.1	ha	1.18	R	13 800.00	R 16 295.04	
168		Sub - Total for rehabilitation of overburden and spoils						R 27 394.56	
169		Rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)							
170		Not applicable	1.1	na	0.00	R	-	R -	
171		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)						R -	
172		Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)							
173	70	Settling dams							
174		Remove contaminated sediment and stockpile	9.2	m ³	1320.00	R	20.00	R 26 400.00	Assume 250mm contaminated sediment
175		Load and haul contaminated sediment	1.2	sum	1320.00	R	90.40	R 119 328.00	Haul sediment to tailings facility 8km
176		Remove HDPE liner	6.4	m ²	5280.00	R	6.50	R 34 320.00	
177		Breach dam wall	10.1.5	m	302.00	R	220.00	R 66 440.00	Doze material inward to fill void
178		Shape and level area	10.1.1	ha	0.53	R	55 250.00	R 29 172.00	Make area free draining
179		Establish vegetation	10.4.1	ha	0.53	R	13 800.00	R 7 286.40	
180	71A	Emergency storage dam							
181		Remove contaminated sediment and stockpile	9.2	m ³	2986.50	R	20.00	R 59 730.00	Assume 100mm contaminated sediment
182		Load and haul contaminated sediment	1.2	sum	2986.50	R	90.40	R 269 979.60	Haul sediment to tailings facility 8km
183		Remove HDPE liner	6.4	m ²	31861.00	R	6.50	R 207 096.50	
184		Breach dam wall	10.1.5	m	714.00	R	220.00	R 157 080.00	Doze material inward to fill void
185		Shape and level area	10.1.1	ha	3.19	R	55 250.00	R 176 032.03	Make area free draining
186		Establish vegetation	10.4.1	ha	3.19	R	13 800.00	R 43 968.18	
187	71B	Emergency storage dam							
188		Remove contaminated sediment and stockpile	9.2	m ³	2160.80	R	20.00	R 43 216.00	Assume 100mm contaminated sediment
189		Load and haul contaminated sediment	1.2	sum	2160.80	R	90.40	R 195 336.32	Haul sediment to tailings facility 8km
190		Remove HDPE liner	6.4	m ²	29000.00	R	6.50	R 188 500.00	
191		Breach dam wall	10.1.5	m	688.00	R	220.00	R 151 360.00	Doze material inward to fill void
192		Shape and level area	10.1.1	ha	2.90	R	55 250.00	R 160 225.00	Make area free draining
193		Establish vegetation	10.4.1	ha	2.90	R	13 800.00	R 40 020.00	
194	72	Pollution control dam							
195		Remove contaminated sediment and stockpile	9.2	m ³	0.00	R	20.00	R -	Assume 100mm contaminated sediment
196		Load and haul contaminated sediment	1.2	sum	0.00	R	90.40	R -	Haul sediment to tailings facility 8km
197		Remove HDPE liner	6.4	m ²	17685.00	R	6.50	R 114 952.50	

Closure Costing - Leeuwkop			Closure Costs - Year 4 - (2015)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
198		Breach dam wall	10.1.5	m	532.00	R 220.00	R 117 040.00	Doze material inward to fill void
199		Shape and level area	10.1.1	ha	0.17	R 55 250.00	R 9 248.85	Make area free draining
200		Establish vegetation	10.4.1	ha	0.17	R 13 800.00	R 2 310.12	
201	107	Waste Rock Dump						Assumed 20m strip would not have been rehabilitated
202		Strip topsoil and stockpile for movement of toe	9.2	m³	1717.00	R 20.00	R 34 340.00	Assume 250mm thick
203		Reshape WRD	9.1.1	m³	29925.00	R 13.50	R 403 987.50	Cut to fill action assumed 20m high at 87.5m³/per meter
204		Import capping layers	9.6.1	m³	8160.00	R 28.00	R 228 480.00	Assumed 1km haul distance, 300mm thick capillary layer and 300mm thick black turf
205		Import topsoil layer	9.6.1	m³	2720.00	R 28.00	R 76 160.00	Assumed 1km haul distance, 200mm thick layer
206		Establish vegetation	10.4.1	ha	1.36	R 13 800.00	R 18 768.00	
207	108	Tailings Complex						To be constructed according to program
208		Seal Penstocks	7.3	sum	0.00	R 213 200.00	R -	
209		Breach wall & reshape	10.1.5	m	0.00	R 220.00	R -	
210		Rip to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
211		Establish vegetation disturbed footprint	10.4.1	ha	0.00	R 13 800.00	R -	
212		Establish vegetation on tailings dam slopes	10.4.2	ha	0.00	R 19 250.00	R -	
213		Establish vegetation on tailings dam top	10.4.2	ha	0.00	R 19 250.00	R -	
214	109	Waste Rock Noise Barrier						
215		Reshape berm	10.1.1	ha	2.10	R 55 250.00	R 116 025.00	
216		Import topsoil layer	9.6.1	m³	4200.00	R 28.00	R 117 600.00	Assumed 1km haul distance, 200mm thick layer
217		Establish vegetation	10.4.1	ha	2.10	R 13 800.00	R 28 980.00	
218		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (polluting potential)					R 3 243 382.00	
219		Reclamation of subsided areas						
220		Not applicable	1.1	na	0.00	R -	R -	
221		Sub - Total for reclamation of subsided areas					R -	
222		Sub - Total for Mining aspects					R 9 521 800.56	
223								
224		General Surface Reclamation						
225		Mine						
226		Shape and level disturbed area	10.1.1	ha	20.00	R 55 250.00	R 1 105 000.00	Includes stockpiling of material, backfilling of excavations in cut to fill operation and final profiling @ave 500mm over footprint
227		Rip area to alleviate compaction	9.5.1	ha	20.00	R 9 400.00	R 188 000.00	500mm deep ripping
228		Import topsoil	9.6.1	m³	30000.00	R 28.00	R 840 000.00	150mm from local stockpile, assume 1km load and haul
229		Establish vegetation	10.4.1	ha	20.00	R 13 800.00	R 276 000.00	
230		Plant						Footprint not disturbed
231		Shape and level disturbed area	10.1.1	ha	0.00	R 55 250.00	R -	
232		Rip area to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
233		Import topsoil	9.6.1	m³	0.00	R 28.00	R -	
234		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
235		Sub - Total for General Surface Reclamation					R 2 409 000.00	
236								
237		Water Management						
238		Not applicable	1.1	na	0.00	R -	R -	Assume none required, all mitigation measures will be implemented during the operational phase
239		Sub - Total for Water Management					R -	
240								
241		SUB - TOTAL 1 (for infrastructural and related structures)					R 29 315 222.75	
242		Post - closure aspects						
243		Surface water quality monitoring	12.1	yr	5.00	R 106 000.00	R 530 000.00	8 monitoring points on a monthly basis
244		Groundwater quality monitoring	12.2	yr	5.00	R 150 000.00	R 750 000.00	15 monitoring points on a quarterly basis
245		Reclamation monitoring on reclaimed areas	12.3	ha	24.90	R 2 500.00	R 62 250.00	5 years
246		Care and maintenance of reclaimed areas	12.4	ha	24.90	R 15 500.00	R 385 950.00	5 years
247		Sub - Total for Post closure aspects					R 1 728 200.00	
248		Contingencies for post closure aspects	1.2	sum	1.00	R 172 820.00	R 172 820.00	Assumed 10 percent for post closure aspects
249		Sub - Total for Contingencies for post closure aspects					R 172 820.00	
250		SUB - TOTAL 2 (for post - closure aspects)					R 1 901 020.00	
251		Additional allowances						
252		Preliminary and General	1.2	sum	1.00	R 1 758 913.37	R 1 758 913.37	Assume 6 percent of sub - total 1
253		Contingencies	1.2	sum	1.00	R 2 931 522.28	R 2 931 522.28	Assume 10 percent of sub - total 1
254		SUB - TOTAL 3 (for additional allowances)					R 4 690 435.64	
255		Grand - Total (for sub - total 1+2+3)					R 35 906 678.39	

Closure Costing - Leeuwkop			Closure Costs - Year 5 - (2016)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
1		Infrastructural Aspects						
2		Nominal cost and time related items						
3		Mine						
4		Removal of salvageable equipment	1.2	sum	1.00	R 2 000 000.00	R 2 000 000.00	Nominal allowance
5		Crane	11.1	p/day	15.00	R 38 700.00	R 580 500.00	For assistance in the removal of equipment and demolition purposes
6		Plant						
7		Removal of salvageable equipment	1.2	sum	0.00	R 6 500 000.00	R -	Nominal allowance
8		Crane	11.1	p/day	0.00	R 38 700.00	R -	For assistance in the removal of equipment and demolition purposes
9		Sub-Total for cost and time related items					R 2 580 500.00	
10		Demolitioning of plant and related structures						
11	21	Compressor house	3.7	m²	1318.45	R 380.00	R 501 011.00	Double volume building
12	22	Condenser cooling towers	4.2	m³	527.80	R 640.00	R 337 792.00	Structural Concrete, assume 5m high, 250mm thick
13	23	Refrigeration plant	4.2	m³	1128.75	R 640.00	R 722 400.00	Structural Concrete, assume 5m high, 250mm thick
14	27	Grout Plant	3.7	m²	1734.00	R 380.00	R 658 920.00	Double volume building
15	28	Ventilation Shaft	2.2	t	480.00	R 1 280.00	R 614 400.00	Info received from Impala
16	40	Water treatment plant	2.3.2	m²	1225.00	R 590.00	R 722 750.00	Assume 450kg of steel per m²
17	43	Sewage Plant	3.6	m²	1732.50	R 320.00	R 554 400.00	Single volume building
18	59	Booster pump station	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
19	87	Plant - Cleaners						To be constructed according to program
20		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
21		Structural concrete	4.3	m³	0.00	R 400.00	R -	
22	88	Plant - Cleaners						To be constructed according to program
23		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
24		Structural concrete	4.3	m³	0.00	R 400.00	R -	
25	89	Plant - Mill						To be constructed according to program
26		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
27		Structural concrete	4.3	m³	0.00	R 400.00	R -	
28	94	Plant - Storage area	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
29	98	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
30	99	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
31	100	Plant - Thickener						To be constructed according to program
32		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
33		Structural concrete	4.3	m³	0.00	R 400.00	R -	
34	101	Plant - Thickener						To be constructed according to program
35		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
36		Structural concrete	4.3	m³	0.00	R 400.00	R -	
37	102	Plant - Thickener						To be constructed according to program
38		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
39		Structural concrete	4.3	m³	0.00	R 400.00	R -	
40		Sub - Total for demolitioning of plant and related structures					R 4 111 673.00	
41		Demolitioning of all structural structures						
42	16	Carpports	2.6.1	m²	5934.00	R 90.00	R 534 060.00	IBR sheeting
43	17	Contractors Carpports	2.6.1	m²	424.00	R 90.00	R 38 160.00	IBR sheeting
44	15	Headgear	2.2	t	0.00	R 1 280.00	R -	To be constructed according to program
45		Structural concrete	4.1	m³	147.00	R 1 280.00	R 188 160.00	
46	38	Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
47	38	Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
48	41	Water tank	2.4.2	no	1.00	R 26 650.00	R 26 650.00	
49	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
50	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
51	60	Sump	4.2	m³	6.24	R 640.00	R 3 993.60	Structural concrete, 300mm thick, 2m deep
52	61	Water Canal	8.4	m²	2892.00	R 135.00	R 363 420.00	Thin reinforced concrete
53	78	Plant - covered parking	2.6.1	m²	0.00	R 90.00	R -	To be constructed according to program
54	104	Plant - Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
55		Sub - Total for demolitioning of all structural structures					R 1 199 443.60	
56		Demolitioning of workshops and stores						
57	13	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
58	14	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
59	18	Winder rope store	3.1.1	m²	45.00	R 295.00	R 13 275.00	Single storey brick building
60	24	Fan and electrical motor store	3.1.1	m²	198.00	R 295.00	R 58 410.00	Single storey brick building
61	25	Workshop sink and perm	3.6	m²	819.90	R 320.00	R 262 368.00	Single volume building
62	31	Main Store	3.7	m²	1380.80	R 380.00	R 524 704.00	Double volume building
63	32	Explosives Store	3.6	m²	285.00	R 320.00	R 91 200.00	Single volume building
64	33	Gas bottle store	3.1.1	m²	38.00	R 295.00	R 10 620.00	Single storey brick building
65	34	Chemical Store	3.1.1	m²	201.00	R 295.00	R 59 295.00	Single storey brick building
66	35	Paint Store	3.1.1	m²	41.00	R 295.00	R 12 095.00	Single storey brick building
67	36	Oil store	3.1.1	m²	36.00	R 295.00	R 10 620.00	Single storey brick building
68	44	Generator farm	3.2.1	m²	412.00	R 480.00	R 197 760.00	Single storey brick building
69	82	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
70	83	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
71	86	Plant - Workshop	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
72	93	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
73	95	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
74	96	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
75		Sub - Total for demolitioning of workshops and stores					R 1 240 347.00	
76		Demolitioning of permanent brick structures and temporary structures						
77	1	Offices	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
78	2	Change House	3.1.1	m²	1066.00	R 295.00	R 314 470.00	Single storey brick building
79	3	Laundry	3.1.1	m²	179.00	R 295.00	R 52 805.00	Single storey brick building
80	4	Boiler House	3.1.1	m²	232.00	R 295.00	R 68 440.00	Single storey brick building
81	5	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
82	6	Lamp Room	3.1.1	m²	909.50	R 295.00	R 268 302.50	Single storey brick building
83	7	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
84	8	Induction Room	3.1.1	m²	144.00	R 295.00	R 42 480.00	Single storey brick building
85	9	Training Centre	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
86	10	Gate House	3.1.1	m²	184.00	R 295.00	R 54 280.00	Single storey brick building
87	11	Banksman Cabin & Proto Room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
88	12	Central Control room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
89	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
90	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
91	20	Transformer bays	3.2.1	m²	156.00	R 480.00	R 74 880.00	Single storey brick building

Closure Costing - Leeuwkop			Closure Costs - Year 5 - (2016)						
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes	
92	29	Sub-station	3.2.1	m²	120.00	R	480.00	R 57 600.00	Single storey brick building
93	30	MCC	3.2.1	m²	0.00	R	480.00	R -	To be constructed according to program
94	45	Sumner Sub-station	3.2.1	m²	0.00	R	480.00	R -	To be constructed according to program
95	47	Geology building	3.1.1	m²	183.00	R	295.00	R 53 985.00	Single storey brick building
96	48	Offices	3.1.1	m²	149.60	R	295.00	R 44 132.00	Single storey brick building
97	49	Offices	3.1.1	m²	149.60	R	295.00	R 44 132.00	Single storey brick building
98	50	Shaft Sinker Offices	3.3	m²	124.00	R	140.00	R 17 360.00	Portable offices
99	51	Shaft Sinker Offices	3.3	m²	124.00	R	140.00	R 17 360.00	Portable offices
100	52	Change House	3.3	m²	16.00	R	140.00	R 2 240.00	Portable offices
101	53	Change House	3.3	m²	16.00	R	140.00	R 2 240.00	Portable offices
102	54	Change House	3.3	m²	16.00	R	140.00	R 2 240.00	Portable offices
103	55	Lamp Room	3.3	m²	16.00	R	140.00	R 2 240.00	Portable offices
104	56	Steffanuti Stocks	3.3	m²	16.00	R	140.00	R 2 240.00	Portable offices
105	57	Shaft Sinker Offices	3.3	m²	124.00	R	140.00	R 17 360.00	Portable offices
106	58	Shaft Sinker Offices	3.3	m²	124.00	R	140.00	R 17 360.00	Portable offices
107	76	Explosives bunker	3.1.1	m²	150.00	R	295.00	R 44 250.00	Single storey brick building
108	77	Weighbridge	1.2	sum	0.00	R	50 000.00	R -	To be constructed according to program
109	79	Plant - Admin building	3.1.1	m²	0.00	R	295.00	R -	To be constructed according to program
110	80	Plant - Induction room	3.1.1	m²	0.00	R	295.00	R -	To be constructed according to program
111	81	Plant - Office	3.1.1	m²	0.00	R	295.00	R -	To be constructed according to program
112	84	Plant - Sub-station	3.2.1	m²	0.00	R	480.00	R -	To be constructed according to program
113	85	Plant - Sub-station	3.2.1	m²	0.00	R	480.00	R -	To be constructed according to program
114	97	Plant - building	3.1.1	m²	0.00	R	295.00	R -	To be constructed according to program
115		Sub - Total for demolitoning of permanent brick structures and temporary structures						R 1 214 796.50	
116		Removal of all surface related finishes							
117	26	Surface cable yard	4.5	m²	30.00	R	590.00	R 17 700.00	Assume 250mm thick concrete
118	46	PFC yard	4.5	m²	1199.00	R	590.00	R 707 410.00	Assume 250mm thick concrete
119	47	Geology yard	4.5	m²	473.00	R	590.00	R 279 070.00	Assume 250mm thick concrete
120	73	General surface bed	4.4	m²	10610.85	R	215.00	R 2 281 332.75	Assume 150mm thick concrete
121	90	Plant - Laydown areas	4.5	m²	0.00	R	590.00	R -	To be constructed according to program
122	91	Plant - Laydown areas	4.5	m²	0.00	R	590.00	R -	To be constructed according to program
123	92	Plant - Laydown areas	4.5	m²	0.00	R	590.00	R -	To be constructed according to program
124	103	Plant - Laydown areas	4.5	m²	0.00	R	590.00	R -	To be constructed according to program
125		Sub - Total for removal of all surface related finishes						R 3 285 512.75	
126		Removal of all linear items							
127	32	Fencing to explosives store	5.5.3	m	85.00	R	27.00	R 2 295.00	
128	37	Reef and waste conveyor	5.1.5	m	0.00	R	640.00	R -	To be constructed according to program
129	39	Reef conveyor	5.1.5	m	0.00	R	640.00	R -	To be constructed according to program
130	62	Waste conveyor	5.1.2	m	1226.00	R	265.00	R 324 890.00	Overland conveyor
131	63	Return water pipeline	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
132	64	Tailing delivery pipeline	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
133	65	Pipeline from sump to PCD	5.2.2	m	348.00	R	48.00	R 16 704.00	200-350mm steel pipelines
134	66	Emergency pipeline from concentrator to dam	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
135	67	Distribution pipelines	5.2.2	m	4780.00	R	48.00	R 229 440.00	200-350mm steel pipelines
136	68	Water main pipeline	5.2.2	m	1870.00	R	48.00	R 89 760.00	200-350mm steel pipelines
137	69	Fire main pipeline	5.2.2	m	1870.00	R	48.00	R 89 760.00	200-350mm steel pipelines
138	74	Perimeter fencing	5.5.3	m	3600.00	R	27.00	R 97 200.00	
139	75	Perimeter fencing to tailings complex	5.5.3	m	0.00	R	27.00	R -	To be constructed according to program
140	76	Perimeter fence to explosives bunker	5.5.3	m	201.00	R	27.00	R 5 427.00	
141	105	Plant - Steel gantry's with delivery pipelines	2.3.1	m²	0.00	R	107.00	R -	To be constructed according to program
142	106	Plant - Security fencing	5.5.3	m	0.00	R	27.00	R -	To be constructed according to program
143		Main water pipeline	5.2.3	m	4669.00	R	64.00	R 298 816.00	
144		Sub - Total for removal of all linear items						R 1 154 292.00	
145		Rehabilitation of roads							
146		Entrance road	1.1	na	0.00	R	-	R -	Assume will remain
147		Minor gravel road to explosives bunker	8.3	m²	5864.00	R	4.00	R 23 456.00	
148		Sub - Total for rehabilitation of roads						R 23 456.00	
149		Disposal of demolition waste							
150		Sorting and screening of waste	6.1	%	12229520.85		2.50%	R 305 738.02	2.50%
151		Disposal of demolition waste	6.2.1	m³/km	25212.00	R	160.00	R 4 033 920.00	Assume 50km distance
152		Sub - Total for disposal of demolition waste						R 4 339 658.02	
153		Sub - Total for infrastructural aspects						R 19 149 678.87	
154									
155		Mining Aspects							
156		Open pit reclamation including final voids and ramps							
157		Not applicable	1.1	na	0.00	R	-	R -	
158		Sub - Total open pit reclamation including final voids and ramps						R -	
159		Sealing of shafts and inclines							
160	15	Service and Production Shaft	7.1.15	sum	1.00	R	2 573 324.00	R 2 573 324.00	10m Diameter
161	23	Refrigeration shaft	7.1.11	sum	1.00	R	1 838 850.00	R 1 838 850.00	8m Diameter
162	28	Vent Shaft	7.1.11	sum	1.00	R	1 838 850.00	R 1 838 850.00	8m Diameter
163		Sub - Total for sealing of shafts and inclines						R 6 251 024.00	
164		Rehabilitation of overburden and spoils							
165	110	Topsoil stockpiles							Only footprints will remain
166		Rip area to alleviate compaction	9.5.1	ha	1.18	R	9 400.00	R 11 099.52	
167		Establish vegetation	10.4.1	ha	1.18	R	13 800.00	R 16 295.04	
168		Sub - Total for rehabilitation of overburden and spoils						R 27 394.56	
169		Rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)							
170		Not applicable	1.1	na	0.00	R	-	R -	
171		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)						R -	
172		Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)							
173	70	Settling dams							
174		Remove contaminated sediment and stockpile	9.2	m³	1320.00	R	20.00	R 26 400.00	Assume 250mm contaminated sediment
175		Load and haul contaminated sediment	1.2	sum	1320.00	R	90.40	R 119 328.00	Haul sediment to tailings facility 8km
176		Remove HDPE liner	6.4	m²	5280.00	R	6.50	R 34 320.00	
177		Breach dam wall	10.1.5	m	302.00	R	220.00	R 66 440.00	Doze material inward to fill void
178		Shape and level area	10.1.1	ha	0.53	R	55 250.00	R 29 172.00	Make area free draining
179		Establish vegetation	10.4.1	ha	0.53	R	13 800.00	R 7 286.40	
180	71A	Emergency storage dam							
181		Remove contaminated sediment and stockpile	9.2	m³	2986.50	R	20.00	R 59 730.00	Assume 100mm contaminated sediment
182		Load and haul contaminated sediment	1.2	sum	2986.50	R	90.40	R 269 979.60	Haul sediment to tailings facility 8km
183		Remove HDPE liner	6.4	m²	31861.00	R	6.50	R 207 096.50	
184		Breach dam wall	10.1.5	m	714.00	R	220.00	R 157 080.00	Doze material inward to fill void
185		Shape and level area	10.1.1	ha	3.19	R	55 250.00	R 176 032.03	Make area free draining
186		Establish vegetation	10.4.1	ha	3.19	R	13 800.00	R 43 968.18	
187	71B	Emergency storage dam							
188		Remove contaminated sediment and stockpile	9.2	m³	2160.80	R	20.00	R 43 216.00	Assume 100mm contaminated sediment
189		Load and haul contaminated sediment	1.2	sum	2160.80	R	90.40	R 195 336.32	Haul sediment to tailings facility 8km
190		Remove HDPE liner	6.4	m²	29000.00	R	6.50	R 188 500.00	
191		Breach dam wall	10.1.5	m	688.00	R	220.00	R 151 360.00	Doze material inward to fill void
192		Shape and level area	10.1.1	ha	2.90	R	55 250.00	R 160 225.00	Make area free draining
193		Establish vegetation	10.4.1	ha	2.90	R	13 800.00	R 40 020.00	
194	72	Pollution control dam							
195		Remove contaminated sediment and stockpile	9.2	m³	1768.50	R	20.00	R 35 370.00	Assume 100mm contaminated sediment
196		Load and haul contaminated sediment	1.2	sum	1768.50	R	90.40	R 159 872.40	Haul sediment to tailings facility 8km
197		Remove HDPE liner	6.4	m²	17685.00	R	6.50	R 114 952.50	

Closure Costing - Leeuwkop				Closure Costs - Year 5 - (2016)				
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
198		Breach dam wall	10.1.5	m	532.00	R 220.00	R 117 040.00	Doze material inward to fill void
199		Shape and level area	10.1.1	ha	0.17	R 55 250.00	R 9 248.85	Make area free draining
200		Establish vegetation	10.4.1	ha	0.17	R 13 800.00	R 2 310.12	
201	107	Waste Rock Dump						Assumed 20m strip would not have been rehabilitated
202		Strip topsoil and stockpile for movement of toe	9.2	m³	1717.00	R 20.00	R 34 340.00	Assume 250mm thick
203		Reshape WRD	9.1.1	m³	29925.00	R 13.50	R 403 987.50	Cut to fill action assumed 20m high at 87.5m³/per meter
204		Import capping layers	9.6.1	m³	8160.00	R 28.00	R 228 480.00	Assumed 1km haul distance, 300mm thick capillary layer and 300mm thick black turf
205		Import topsoil layer	9.6.1	m³	2720.00	R 28.00	R 76 160.00	Assumed 1km haul distance, 200mm thick layer
206		Establish vegetation	10.4.1	ha	1.36	R 13 800.00	R 18 768.00	
207	108	Tailings Complex						To be constructed according to program
208		Seal Penstocks	7.3	sum	0.00	R 213 200.00	R -	
209		Breach wall & reshape	10.1.5	m	0.00	R 220.00	R -	
210		Rip to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
211		Establish vegetation disturbed footprint	10.4.1	ha	0.00	R 13 800.00	R -	
212		Establish vegetation on tailings dam slopes	10.4.2	ha	0.00	R 19 250.00	R -	
213		Establish vegetation on tailings dam top	10.4.2	ha	0.00	R 19 250.00	R -	
214	109	Waste Rock Noise Barrier						
215		Reshape berm	10.1.1	ha	2.10	R 55 250.00	R 116 025.00	
216		Import topsoil layer	9.6.1	m³	4200.00	R 28.00	R 117 600.00	Assumed 1km haul distance, 200mm thick layer
217		Establish vegetation	10.4.1	ha	2.10	R 13 800.00	R 28 980.00	
218		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (polluting potential)					R 3 438 624.40	
219		Reclamation of subsided areas						
220		Not applicable	1.1	na	0.00	R -	R -	
221		Sub - Total for reclamation of subsided areas					R -	
222		Sub - Total for Mining aspects					R 9 717 042.96	
223								
224		General Surface Reclamation						
225		Mine						
226		Shape and level disturbed area	10.1.1	ha	20.00	R 55 250.00	R 1 105 000.00	Includes stockpiling of material, backfilling of excavations in cut to fill operation and final profiling @ave 500mm over footprint
227		Rip area to alleviate compaction	9.5.1	ha	20.00	R 9 400.00	R 188 000.00	500mm deep ripping
228		Import topsoil	9.6.1	m³	30000.00	R 28.00	R 840 000.00	150mm from local stockpile, assume 1km load and haul
229		Establish vegetation	10.4.1	ha	20.00	R 13 800.00	R 276 000.00	
230		Plant						Footprint not disturbed
231		Shape and level disturbed area	10.1.1	ha	0.00	R 55 250.00	R -	
232		Rip area to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
233		Import topsoil	9.6.1	m³	0.00	R 28.00	R -	
234		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
235		Sub - Total for General Surface Reclamation					R 2 409 000.00	
236								
237		Water Management						
238		Not applicable	1.1	na	0.00	R -	R -	Assume none required, all mitigation measures will be implemented during the operational phase
239		Sub - Total for Water Management					R -	
240								
241		SUB - TOTAL 1 (for infrastructural and related structures)					R 31 275 721.83	
242		Post - closure aspects						
243		Surface water quality monitoring	12.1	yr	5.00	R 106 000.00	R 530 000.00	8 monitoring points on a monthly basis
244		Groundwater quality monitoring	12.2	yr	5.00	R 150 000.00	R 750 000.00	15 monitoring points on a quarterly basis
245		Reclamation monitoring on reclaimed areas	12.3	ha	26.90	R 2 500.00	R 67 250.00	5 years
246		Care and maintenance of reclaimed areas	12.4	ha	26.90	R 15 500.00	R 416 950.00	5 years
247		Sub - Total for Post closure aspects					R 1 764 200.00	
248		Contingencies for post closure aspects	1.2	sum	1.00	R 176 420.00	R 176 420.00	Assumed 10 percent for post closure aspects
249		Sub - Total for Contingencies for post closure aspects					R 176 420.00	
250		SUB - TOTAL 2 (for post - closure aspects)					R 1 940 620.00	
251		Additional allowances						
252		Preliminary and General	1.2	sum	1.00	R 1 876 543.31	R 1 876 543.31	Assume 6 percent of sub - total 1
253		Contingencies	1.2	sum	1.00	R 3 127 572.18	R 3 127 572.18	Assume 10 percent of sub - total 1
254		SUB - TOTAL 3 (for additional allowances)					R 5 004 115.49	
255		Grand - Total (for sub - total 1+2+3)					R 38 220 457.32	

Closure Costing - Leeuwkop			Closure Costs - Year 6 - (2017)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
1		Infrastructural Aspects						
2		Nominal cost and time related items						
3		Mine						
4		Removal of salvageable equipment	1.2	sum	1.00	R 2 250 000.00	R 2 250 000.00	Nominal allowance
5		Crane	11.1	p/day	20.00	R 38 700.00	R 774 000.00	For assistance in the removal of equipment and demolition purposes
6		Plant						
7		Removal of salvageable equipment	1.2	sum	0.00	R 6 500 000.00	R -	Nominal allowance
8		Crane	11.1	p/day	0.00	R 38 700.00	R -	For assistance in the removal of equipment and demolition purposes
9		Sub-Total for cost and time related items					R 3 024 000.00	
10		Demolitioning of plant and related structures						
11	21	Compressor house	3.7	m²	1318.45	R 380.00	R 501 011.00	Double volume building
12	22	Condenser cooling towers	4.2	m³	527.80	R 640.00	R 337 792.00	Structural Concrete, assume 5m high, 250mm thick
13	23	Refrigeration plant	4.2	m³	1128.75	R 640.00	R 722 400.00	Structural Concrete, assume 5m high, 250mm thick
14	27	Grout Plant	3.7	m²	1734.00	R 380.00	R 658 920.00	Double volume building
15	28	Ventilation Shaft	2.2	t	480.00	R 1 280.00	R 614 400.00	Info received from Impala
16	40	Water treatment plant	2.3.2	m²	1225.00	R 590.00	R 722 750.00	Assume 450kg of steel per m²
17	43	Sewage Plant	3.6	m²	1732.50	R 320.00	R 554 400.00	Single volume building
18	59	Booster pump station	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
19	87	Plant - Cleaners						To be constructed according to program
20		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
21		Structural concrete	4.3	m³	0.00	R 400.00	R -	
22	88	Plant - Cleaners						To be constructed according to program
23		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
24		Structural concrete	4.3	m³	0.00	R 400.00	R -	
25	89	Plant - Mill						To be constructed according to program
26		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
27		Structural concrete	4.3	m³	0.00	R 400.00	R -	
28	94	Plant - Storage area	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
29	98	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
30	99	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
31	100	Plant - Thickener						To be constructed according to program
32		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
33		Structural concrete	4.3	m³	0.00	R 400.00	R -	
34	101	Plant - Thickener						To be constructed according to program
35		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
36		Structural concrete	4.3	m³	0.00	R 400.00	R -	
37	102	Plant - Thickener						To be constructed according to program
38		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
39		Structural concrete	4.3	m³	0.00	R 400.00	R -	
40		Sub - Total for demolitioning of plant and related structures					R 4 111 673.00	
41		Demolitioning of all structural structures						
42	16	Carpports	2.6.1	m²	5934.00	R 90.00	R 534 060.00	IBR sheeting
43	17	Contractors Carpports	2.6.1	m²	424.00	R 90.00	R 38 160.00	IBR sheeting
44	15	Headgear	2.2	t	0.00	R 1 280.00	R -	To be constructed according to program
45		Structural concrete	4.1	m³	147.00	R 1 280.00	R 188 160.00	
46	38	Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
47	38	Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
48	41	Water tank	2.4.2	no	1.00	R 26 650.00	R 26 650.00	
49	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
50	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
51	60	Sump	4.2	m³	6.24	R 640.00	R 3 993.60	Structural concrete, 300mm thick, 2m deep
52	61	Water Canal	8.4	m²	2892.00	R 135.00	R 363 420.00	Thin reinforced concrete
53	78	Plant - covered parking	2.6.1	m²	0.00	R 90.00	R -	To be constructed according to program
54	104	Plant - Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
55		Sub - Total for demolitioning of all structural structures					R 1 199 443.60	
56		Demolitioning of workshops and stores						
57	13	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
58	14	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
59	18	Winder rope store	3.1.1	m²	45.00	R 295.00	R 13 275.00	Single storey brick building
60	24	Fan and electrical motor store	3.1.1	m²	198.00	R 295.00	R 58 410.00	Single storey brick building
61	25	Workshop sink and perm	3.6	m²	819.90	R 320.00	R 262 368.00	Single volume building
62	31	Main Store	3.7	m²	1380.80	R 380.00	R 524 704.00	Double volume building
63	32	Explosives Store	3.6	m²	285.00	R 320.00	R 91 200.00	Single volume building
64	33	Gas bottle store	3.1.1	m²	38.00	R 295.00	R 10 620.00	Single storey brick building
65	34	Chemical Store	3.1.1	m²	201.00	R 295.00	R 59 295.00	Single storey brick building
66	35	Paint Store	3.1.1	m²	41.00	R 295.00	R 12 095.00	Single storey brick building
67	36	Oil store	3.1.1	m²	36.00	R 295.00	R 10 620.00	Single storey brick building
68	44	Generator farm	3.2.1	m²	412.00	R 480.00	R 197 760.00	Single storey brick building
69	82	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
70	83	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
71	86	Plant - Workshop	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
72	93	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
73	95	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
74	96	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
75		Sub - Total for demolitioning of workshops and stores					R 1 240 347.00	
76		Demolitioning of permanent brick structures and temporary structures						
77	1	Offices	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
78	2	Change House	3.1.1	m²	1066.00	R 295.00	R 314 470.00	Single storey brick building
79	3	Laundry	3.1.1	m²	179.00	R 295.00	R 52 805.00	Single storey brick building
80	4	Boiler House	3.1.1	m²	232.00	R 295.00	R 68 440.00	Single storey brick building
81	5	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
82	6	Lamp Room	3.1.1	m²	909.50	R 295.00	R 268 302.50	Single storey brick building
83	7	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
84	8	Induction Room	3.1.1	m²	144.00	R 295.00	R 42 480.00	Single storey brick building
85	9	Training Centre	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
86	10	Gate House	3.1.1	m²	184.00	R 295.00	R 54 280.00	Single storey brick building
87	11	Banksman Cabin & Proto Room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
88	12	Central Control room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
89	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
90	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
91	20	Transformer bays	3.2.1	m²	156.00	R 480.00	R 74 880.00	Single storey brick building

Closure Costing - Leeuwkop			Closure Costs - Year 6 - (2017)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
92	29	Sub-station	3.2.1	m ²	120.00	R 480.00	R 57 600.00	Single storey brick building
93	30	MCC	3.2.1	m ²	65.00	R 480.00	R 31 200.00	Single storey brick building
94	45	Sumer Sub-station	3.2.1	m ²	206.40	R 480.00	R 99 072.00	Single storey brick building
95	47	Geology building	3.1.1	m ²	183.00	R 295.00	R 53 985.00	Single storey brick building
96	48	Offices	3.1.1	m ²	149.60	R 295.00	R 44 132.00	Single storey brick building
97	49	Offices	3.1.1	m ²	149.60	R 295.00	R 44 132.00	Single storey brick building
98	50	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
99	51	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
100	52	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
101	53	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
102	54	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
103	55	Lamp Room	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
104	56	Steffanuti Stocks	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
105	57	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
106	58	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
107	76	Explosives bunker	3.1.1	m ²	150.00	R 295.00	R 44 250.00	Single storey brick building
108	77	Weighbridge	1.2	sum	0.00	R 50 000.00	R -	To be constructed according to program
109	79	Plant - Admin building	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
110	80	Plant - Induction room	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
111	81	Plant - Office	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
112	84	Plant - Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
113	85	Plant - Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
114	97	Plant - building	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
115		Sub - Total for demolitoning of permanent brick structures and temporary structures					R 1 345 068.50	
116		Removal of all surface related finishes						
117	26	Surface cable yard	4.5	m ²	30.00	R 590.00	R 17 700.00	Assume 250mm thick concrete
118	46	PFC yard	4.5	m ²	1199.00	R 590.00	R 707 410.00	Assume 250mm thick concrete
119	47	Geology yard	4.5	m ²	473.00	R 590.00	R 279 070.00	Assume 250mm thick concrete
120	73	General surface bed	4.4	m ²	10610.85	R 215.00	R 2 281 332.75	Assume 150mm thick concrete
121	90	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
122	91	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
123	92	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
124	103	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
125		Sub - Total for removal of all surface related finishes					R 3 285 512.75	
126		Removal of all linear items						
127	32	Fencing to explosives store	5.5.3	m	85.00	R 27.00	R 2 295.00	
128	37	Reef and waste conveyor	5.1.5	m	0.00	R 640.00	R -	To be constructed according to program
129	39	Reef conveyor	5.1.5	m	0.00	R 640.00	R -	To be constructed according to program
130	62	Waste conveyor	5.1.2	m	1226.00	R 265.00	R 324 890.00	Overland conveyor
131	63	Return water pipeline	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
132	64	Tailing delivery pipeline	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
133	65	Pipeline from sump to PCD	5.2.2	m	348.00	R 48.00	R 16 704.00	200-350mm steel pipelines
134	66	Emergency pipeline from concentrator to dam	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
135	67	Distribution pipelines	5.2.2	m	4780.00	R 48.00	R 229 440.00	200-350mm steel pipelines
136	68	Water main pipeline	5.2.2	m	1870.00	R 48.00	R 89 760.00	200-350mm steel pipelines
137	69	Fire main pipeline	5.2.2	m	1870.00	R 48.00	R 89 760.00	200-350mm steel pipelines
138	74	Perimeter fencing	5.5.3	m	3600.00	R 27.00	R 97 200.00	
139	75	Perimeter fencing to tailings complex	5.5.3	m	0.00	R 27.00	R -	To be constructed according to program
140	76	Perimeter fence to explosives bunker	5.5.3	m	201.00	R 27.00	R 5 427.00	
141	105	Plant - Steel gantry's with delivery pipelines	2.3.1	m ²	0.00	R 107.00	R -	To be constructed according to program
142	106	Plant - Security fencing	5.5.3	m	0.00	R 27.00	R -	To be constructed according to program
143		Main water pipeline	5.2.3	m	4669.00	R 64.00	R 298 816.00	
144		Sub - Total for removal of all linear items					R 1 154 292.00	
145		Rehabilitation of roads						
146		Entrance road	1.1	na	0.00	R -	R -	Assume will remain
147		Minor gravel road to explosives bunker	8.3	m ²	5864.00	R 4.00	R 23 456.00	
148		Sub - Total for rehabilitation of roads					R 23 456.00	
149		Disposal of demolition waste						
150		Sorting and screening of waste	6.1	%	12359792.85	2.50%	R 308 994.82	2.50%
151		Disposal of demolition waste	6.2.1	m ³ /km	25348.00	R 160.00	R 4 055 680.00	Assume 50km distance
152		Sub - Total for disposal of demolition waste					R 4 364 674.82	
153		Sub - Total for infrastructural aspects					R 19 748 467.67	
154								
155		Mining Aspects						
156		Open pit reclamation including final voids and ramps						
157		Not applicable	1.1	na	0.00	R -	R -	
158		Sub - Total open pit reclamation including final voids and ramps					R -	
159		Sealing of shafts and inclines						
160	15	Service and Production Shaft	7.1.15	sum	1.00	R 2 573 324.00	R 2 573 324.00	10m Diameter
161	23	Refrigeration shaft	7.1.11	sum	1.00	R 1 838 850.00	R 1 838 850.00	8m Diameter
162	28	Vent Shaft	7.1.11	sum	1.00	R 1 838 850.00	R 1 838 850.00	8m Diameter
163		Sub - Total for sealing of shafts and inclines					R 6 251 024.00	
164		Rehabilitation of overburden and spoils						
165	110	Topsoil stockpiles						Only footprints will remain
166		Rip area to alleviate compaction	9.5.1	ha	1.18	R 9 400.00	R 11 099.52	
167		Establish vegetation	10.4.1	ha	1.18	R 13 800.00	R 16 295.04	
168		Sub - Total for rehabilitation of overburden and spoils					R 27 394.56	
169		Rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)						
170		Not applicable	1.1	na	0.00	R -	R -	
171		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)					R -	
172		Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)						
173	70	Settling dams						
174		Remove contaminated sediment and stockpile	9.2	m ³	1320.00	R 20.00	R 26 400.00	Assume 250mm contaminated sediment
175		Load and haul contaminated sediment	1.2	sum	1320.00	R 90.40	R 119 328.00	Haul sediment to tailings facility 8km
176		Remove HDPE liner	6.4	m ²	5280.00	R 6.50	R 34 320.00	
177		Breach dam wall	10.1.5	m	302.00	R 220.00	R 66 440.00	Doze material inward to fill void
178		Shape and level area	10.1.1	ha	0.53	R 55 250.00	R 29 172.00	Make area free draining
179		Establish vegetation	10.4.1	ha	0.53	R 13 800.00	R 7 286.40	
180	71A	Emergency storage dam						
181		Remove contaminated sediment and stockpile	9.2	m ³	2986.50	R 20.00	R 59 730.00	Assume 100mm contaminated sediment
182		Load and haul contaminated sediment	1.2	sum	2986.50	R 90.40	R 269 979.60	Haul sediment to tailings facility 8km
183		Remove HDPE liner	6.4	m ²	31861.00	R 6.50	R 207 096.50	
184		Breach dam wall	10.1.5	m	714.00	R 220.00	R 157 080.00	Doze material inward to fill void
185		Shape and level area	10.1.1	ha	3.19	R 55 250.00	R 176 032.03	Make area free draining
186		Establish vegetation	10.4.1	ha	3.19	R 13 800.00	R 43 968.18	
187	71B	Emergency storage dam						
188		Remove contaminated sediment and stockpile	9.2	m ³	2160.80	R 20.00	R 43 216.00	Assume 100mm contaminated sediment
189		Load and haul contaminated sediment	1.2	sum	2160.80	R 90.40	R 195 336.32	Haul sediment to tailings facility 8km
190		Remove HDPE liner	6.4	m ²	29000.00	R 6.50	R 188 500.00	
191		Breach dam wall	10.1.5	m	688.00	R 220.00	R 151 360.00	Doze material inward to fill void
192		Shape and level area	10.1.1	ha	2.90	R 55 250.00	R 160 225.00	Make area free draining
193		Establish vegetation	10.4.1	ha	2.90	R 13 800.00	R 40 020.00	
194	72	Pollution control dam						
195		Remove contaminated sediment and stockpile	9.2	m ³	1768.50	R 20.00	R 35 370.00	Assume 100mm contaminated sediment
196		Load and haul contaminated sediment	1.2	sum	1768.50	R 90.40	R 159 872.40	Haul sediment to tailings facility 8km
197		Remove HDPE liner	6.4	m ²	17685.00	R 6.50	R 114 952.50	

Closure Costing - Leeuwkop			Closure Costs - Year 6 - (2017)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
198		Breach dam wall	10.1.5	m	532.00	R 220.00	R 117 040.00	Doze material inward to fill void
199		Shape and level area	10.1.1	ha	0.17	R 55 250.00	R 9 248.85	Make area free draining
200		Establish vegetation	10.4.1	ha	0.17	R 13 800.00	R 2 310.12	
201	107	Waste Rock Dump						Assumed 20m strip would not have been rehabilitated
202		Strip topsoil and stockpile for movement of toe	9.2	m³	1717.00	R 20.00	R 34 340.00	Assume 250mm thick
203		Reshape WRD	9.1.1	m³	29925.00	R 13.50	R 403 987.50	Cut to fill action assumed 20m high at 87.5m³/per meter
204		Import capping layers	9.6.1	m³	8160.00	R 28.00	R 228 480.00	Assumed 1km haul distance, 300mm thick capillary layer and 300mm thick black turf
205		Import topsoil layer	9.6.1	m³	2720.00	R 28.00	R 76 160.00	Assumed 1km haul distance, 200mm thick layer
206		Establish vegetation	10.4.1	ha	1.36	R 13 800.00	R 18 768.00	
207	108	Tailings Complex						To be constructed according to program
208		Seal Penstocks	7.3	sum	0.00	R 213 200.00	R -	
209		Breach wall & reshape	10.1.5	m	0.00	R 220.00	R -	
210		Rip to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
211		Establish vegetation disturbed footprint	10.4.1	ha	0.00	R 13 800.00	R -	
212		Establish vegetation on tailings dam slopes	10.4.2	ha	0.00	R 19 250.00	R -	
213		Establish vegetation on tailings dam top	10.4.2	ha	0.00	R 19 250.00	R -	
214	109	Waste Rock Noise Barrier						
215		Reshape berm	10.1.1	ha	2.10	R 55 250.00	R 116 025.00	
216		Import topsoil layer	9.6.1	m³	4200.00	R 28.00	R 117 600.00	Assumed 1km haul distance, 200mm thick layer
217		Establish vegetation	10.4.1	ha	2.10	R 13 800.00	R 28 980.00	
218		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (polluting potential)					R 3 438 624.40	
219		Reclamation of subsided areas						
220		Not applicable	1.1	na	0.00	R -	R -	
221		Sub - Total for reclamation of subsided areas					R -	
222		Sub - Total for Mining aspects					R 9 717 042.96	
223								
224		General Surface Reclamation						
225		Mine						
226		Shape and level disturbed area	10.1.1	ha	20.00	R 55 250.00	R 1 105 000.00	Includes stockpiling of material, backfilling of excavations in cut to fill operation and final profiling @ave 500mm over footprint
227		Rip area to alleviate compaction	9.5.1	ha	20.00	R 9 400.00	R 188 000.00	500mm deep ripping
228		Import topsoil	9.6.1	m³	30000.00	R 28.00	R 840 000.00	150mm from local stockpile, assume 1km load and haul
229		Establish vegetation	10.4.1	ha	20.00	R 13 800.00	R 276 000.00	
230		Plant						Footprint not disturbed
231		Shape and level disturbed area	10.1.1	ha	0.00	R 55 250.00	R -	
232		Rip area to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
233		Import topsoil	9.6.1	m³	0.00	R 28.00	R -	
234		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
235		Sub - Total for General Surface Reclamation					R 2 409 000.00	
236								
237		Water Management						
238		Not applicable	1.1	na	0.00	R -	R -	Assume none required, all mitigation measures will be implemented during the operational phase
239		Sub - Total for Water Management					R -	
240								
241		SUB - TOTAL 1 (for infrastructural and related structures)					R 31 874 510.63	
242		Post - closure aspects						
243		Surface water quality monitoring	12.1	yr	5.00	R 106 000.00	R 530 000.00	8 monitoring points on a monthly basis
244		Groundwater quality monitoring	12.2	yr	5.00	R 150 000.00	R 750 000.00	15 monitoring points on a quarterly basis
245		Reclamation monitoring on reclaimed areas	12.3	ha	28.90	R 2 500.00	R 72 250.00	5 years
246		Care and maintenance of reclaimed areas	12.4	ha	28.90	R 15 500.00	R 447 950.00	5 years
247		Sub - Total for Post closure aspects					R 1 800 200.00	
248		Contingencies for post closure aspects	1.2	sum	1.00	R 180 020.00	R 180 020.00	Assumed 10 percent for post closure aspects
249		Sub - Total for Contingencies for post closure aspects					R 180 020.00	
250		SUB - TOTAL 2 (for post - closure aspects)					R 1 980 220.00	
251		Additional allowances						
252		Preliminary and General	1.2	sum	1.00	R 1 912 470.64	R 1 912 470.64	Assume 6 percent of sub - total 1
253		Contingencies	1.2	sum	1.00	R 3 187 451.06	R 3 187 451.06	Assume 10 percent of sub - total 1
254		SUB - TOTAL 3 (for additional allowances)					R 5 099 921.70	
255		Grand - Total (for sub - total 1+2+3)					R 38 954 652.33	

Closure Costing - Leeuwkop			Closure Costs - Year 7 - (2018)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
1		Infrastructural Aspects						
2		Nominal cost and time related items						
3		Mine						
4		Removal of salvageable equipment	1.2	sum	1.00	R 2 500 000.00	R 2 500 000.00	Nominal allowance
5		Crane	11.1	p/day	25.00	R 38 700.00	R 967 500.00	For assistance in the removal of equipment and demolition purposes
6		Plant						
7		Removal of salvageable equipment	1.2	sum	0.00	R 6 500 000.00	R -	Nominal allowance
8		Crane	11.1	p/day	0.00	R 38 700.00	R -	For assistance in the removal of equipment and demolition purposes
9		Sub-Total for cost and time related items					R 3 467 500.00	
10		Demolitioning of plant and related structures						
11	21	Compressor house	3.7	m²	1318.45	R 380.00	R 501 011.00	Double volume building
12	22	Condenser cooling towers	4.2	m³	527.80	R 640.00	R 337 792.00	Structural Concrete, assume 5m high, 250mm thick
13	23	Refrigeration plant	4.2	m³	1128.75	R 640.00	R 722 400.00	Structural Concrete, assume 5m high, 250mm thick
14	27	Grout Plant	3.7	m²	1734.00	R 380.00	R 658 920.00	Double volume building
15	28	Ventilation Shaft	2.2	t	480.00	R 1 280.00	R 614 400.00	Info received from Impala
16	40	Water treatment plant	2.3.2	m²	1225.00	R 590.00	R 722 750.00	Assume 450kg of steel per m²
17	43	Sewage Plant	3.6	m²	1732.50	R 320.00	R 554 400.00	Single volume building
18	59	Booster pump station	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
19	87	Plant - Cleaners						To be constructed according to program
20		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
21		Structural concrete	4.3	m³	0.00	R 400.00	R -	
22	88	Plant - Cleaners						To be constructed according to program
23		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
24		Structural concrete	4.3	m³	0.00	R 400.00	R -	
25	89	Plant - Mill						To be constructed according to program
26		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
27		Structural concrete	4.3	m³	0.00	R 400.00	R -	
28	94	Plant - Storage area	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
29	98	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
30	99	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
31	100	Plant - Thickener						To be constructed according to program
32		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
33		Structural concrete	4.3	m³	0.00	R 400.00	R -	
34	101	Plant - Thickener						To be constructed according to program
35		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
36		Structural concrete	4.3	m³	0.00	R 400.00	R -	
37	102	Plant - Thickener						To be constructed according to program
38		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
39		Structural concrete	4.3	m³	0.00	R 400.00	R -	
40		Sub - Total for demolitioning of plant and related structures					R 4 111 673.00	
41		Demolitioning of all structural structures						
42	16	Carpports	2.6.1	m²	5934.00	R 90.00	R 534 060.00	IBR sheeting
43	17	Contractors Carpports	2.6.1	m²	424.00	R 90.00	R 38 160.00	IBR sheeting
44	15	Headgear	2.2	t	600.00	R 1 280.00	R 768 000.00	Info received from Impala
45		Structural concrete	4.1	m³	147.00	R 1 280.00	R 188 160.00	
46	38	Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
47	38	Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
48	41	Water tank	2.4.2	no	1.00	R 26 650.00	R 26 650.00	
49	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
50	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
51	60	Sump	4.2	m³	6.24	R 640.00	R 3 993.60	Structural concrete, 300mm thick, 2m deep
52	61	Water Canal	8.4	m²	2892.00	R 135.00	R 363 420.00	Thin reinforced concrete
53	78	Plant - covered parking	2.6.1	m²	0.00	R 90.00	R -	To be constructed according to program
54	104	Plant - Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
55		Sub - Total for demolitioning of all structural structures					R 1 967 443.60	
56		Demolitioning of workshops and stores						
57	13	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
58	14	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
59	18	Winder rope store	3.1.1	m²	45.00	R 295.00	R 13 275.00	Single storey brick building
60	24	Fan and electrical motor store	3.1.1	m²	198.00	R 295.00	R 58 410.00	Single storey brick building
61	25	Workshop sink and perm	3.6	m²	819.90	R 320.00	R 262 368.00	Single volume building
62	31	Main Store	3.7	m²	1380.80	R 380.00	R 524 704.00	Double volume building
63	32	Explosives Store	3.6	m²	285.00	R 320.00	R 91 200.00	Single volume building
64	33	Gas bottle store	3.1.1	m²	38.00	R 295.00	R 10 620.00	Single storey brick building
65	34	Chemical Store	3.1.1	m²	201.00	R 295.00	R 59 295.00	Single storey brick building
66	35	Paint Store	3.1.1	m²	41.00	R 295.00	R 12 095.00	Single storey brick building
67	36	Oil store	3.1.1	m²	36.00	R 295.00	R 10 620.00	Single storey brick building
68	44	Generator farm	3.2.1	m²	412.00	R 480.00	R 197 760.00	Single storey brick building
69	82	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
70	83	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
71	86	Plant - Workshop	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
72	93	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
73	95	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
74	96	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
75		Sub - Total for demolitioning of workshops and stores					R 1 240 347.00	
76		Demolitioning of permanent brick structures and temporary structures						
77	1	Offices	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
78	2	Change House	3.1.1	m²	1066.00	R 295.00	R 314 470.00	Single storey brick building
79	3	Laundry	3.1.1	m²	179.00	R 295.00	R 52 805.00	Single storey brick building
80	4	Boiler House	3.1.1	m²	232.00	R 295.00	R 68 440.00	Single storey brick building
81	5	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
82	6	Lamp Room	3.1.1	m²	909.50	R 295.00	R 268 302.50	Single storey brick building
83	7	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
84	8	Induction Room	3.1.1	m²	144.00	R 295.00	R 42 480.00	Single storey brick building
85	9	Training Centre	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
86	10	Gate House	3.1.1	m²	184.00	R 295.00	R 54 280.00	Single storey brick building
87	11	Banksman Cabin & Proto Room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
88	12	Central Control room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
89	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
90	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
91	20	Transformer bays	3.2.1	m²	156.00	R 480.00	R 74 880.00	Single storey brick building

Closure Costing - Leeuwkop			Closure Costs - Year 7 - (2018)						
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes	
92	29	Sub-station	3.2.1	m ²	120.00	R	480.00	R 57 600.00	Single storey brick building
93	30	MCC	3.2.1	m ²	65.00	R	480.00	R 31 200.00	Single storey brick building
94	45	Sumer Sub-station	3.2.1	m ²	206.40	R	480.00	R 99 072.00	Single storey brick building
95	47	Geology building	3.1.1	m ²	183.00	R	295.00	R 53 985.00	Single storey brick building
96	48	Offices	3.1.1	m ²	149.60	R	295.00	R 44 132.00	Single storey brick building
97	49	Offices	3.1.1	m ²	149.60	R	295.00	R 44 132.00	Single storey brick building
98	50	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
99	51	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
100	52	Change House	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
101	53	Change House	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
102	54	Change House	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
103	55	Lamp Room	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
104	56	Steffanuti Stocks	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
105	57	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
106	58	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
107	76	Explosives bunker	3.1.1	m ²	150.00	R	295.00	R 44 250.00	Single storey brick building
108	77	Weighbridge	1.2	sum	0.00	R	50 000.00	R -	To be constructed according to program
109	79	Plant - Admin building	3.1.1	m ²	0.00	R	295.00	R -	To be constructed according to program
110	80	Plant - Induction room	3.1.1	m ²	0.00	R	295.00	R -	To be constructed according to program
111	81	Plant - Office	3.1.1	m ²	0.00	R	295.00	R -	To be constructed according to program
112	84	Plant - Sub-station	3.2.1	m ²	0.00	R	480.00	R -	To be constructed according to program
113	85	Plant - Sub-station	3.2.1	m ²	0.00	R	480.00	R -	To be constructed according to program
114	97	Plant - building	3.1.1	m ²	0.00	R	295.00	R -	To be constructed according to program
115		Sub - Total for demolitoning of permanent brick structures and temporary structures						R 1 345 068.50	
116		Removal of all surface related finishes							
117	26	Surface cable yard	4.5	m ²	30.00	R	590.00	R 17 700.00	Assume 250mm thick concrete
118	46	PFC yard	4.5	m ²	1199.00	R	590.00	R 707 410.00	Assume 250mm thick concrete
119	47	Geology yard	4.5	m ²	473.00	R	590.00	R 279 070.00	Assume 250mm thick concrete
120	73	General surface bed	4.4	m ²	10610.85	R	215.00	R 2 281 332.75	Assume 150mm thick concrete
121	90	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
122	91	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
123	92	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
124	103	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
125		Sub - Total for removal of all surface related finishes						R 3 285 512.75	
126		Removal of all linear items							
127	32	Fencing to explosives store	5.5.3	m	85.00	R	27.00	R 2 295.00	
128	37	Reef and waste conveyor	5.1.5	m	0.00	R	640.00	R -	To be constructed according to program
129	39	Reef conveyor	5.1.5	m	0.00	R	640.00	R -	To be constructed according to program
130	62	Waste conveyor	5.1.2	m	1226.00	R	265.00	R 324 890.00	Overland conveyor
131	63	Return water pipeline	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
132	64	Tailing delivery pipeline	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
133	65	Pipeline from sump to PCD	5.2.2	m	348.00	R	48.00	R 16 704.00	200-350mm steel pipelines
134	66	Emergency pipeline from concentrator to dam	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
135	67	Distribution pipelines	5.2.2	m	4780.00	R	48.00	R 229 440.00	200-350mm steel pipelines
136	68	Water main pipeline	5.2.2	m	1870.00	R	48.00	R 89 760.00	200-350mm steel pipelines
137	69	Fire main pipeline	5.2.2	m	1870.00	R	48.00	R 89 760.00	200-350mm steel pipelines
138	74	Perimeter fencing	5.5.3	m	3600.00	R	27.00	R 97 200.00	
139	75	Perimeter fencing to tailings complex	5.5.3	m	0.00	R	27.00	R -	To be constructed according to program
140	76	Perimeter fence to explosives bunker	5.5.3	m	201.00	R	27.00	R 5 427.00	
141	105	Plant - Steel gantry's with delivery pipelines	2.3.1	m ²	0.00	R	107.00	R -	To be constructed according to program
142	106	Plant - Security fencing	5.5.3	m	0.00	R	27.00	R -	To be constructed according to program
143		Main water pipeline	5.2.3	m	4669.00	R	64.00	R 298 816.00	
144		Sub - Total for removal of all linear items						R 1 154 292.00	
145		Rehabilitation of roads							
146		Entrance road	1.1	na	0.00	R	-	R -	Assume will remain
147		Minor gravel road to explosives bunker	8.3	m ²	5864.00	R	4.00	R 23 456.00	
148		Sub - Total for rehabilitation of roads						R 23 456.00	
149		Disposal of demolition waste							
150		Sorting and screening of waste	6.1	%	13127792.85		2.50%	R 328 194.82	2.50%
151		Disposal of demolition waste	6.2.1	m ³ /km	25644.00	R	160.00	R 4 103 040.00	Assume 50km distance
152		Sub - Total for disposal of demolition waste						R 4 431 234.82	
153		Sub - Total for infrastructural aspects						R 21 026 527.67	
154									
155		Mining Aspects							
156		Open pit reclamation including final voids and ramps							
157		Not applicable	1.1	na	0.00	R	-	R -	
158		Sub - Total open pit reclamation including final voids and ramps						R -	
159		Sealing of shafts and inclines							
160	15	Service and Production Shaft	7.1.15	sum	1.00	R	2 573 324.00	R 2 573 324.00	10m Diameter
161	23	Refrigeration shaft	7.1.11	sum	1.00	R	1 838 850.00	R 1 838 850.00	8m Diameter
162	28	Vent Shaft	7.1.11	sum	1.00	R	1 838 850.00	R 1 838 850.00	8m Diameter
163		Sub - Total for sealing of shafts and inclines						R 6 251 024.00	
164		Rehabilitation of overburden and spoils							
165	110	Topsoil stockpiles							Only footprints will remain
166		Rip area to alleviate compaction	9.5.1	ha	1.18	R	9 400.00	R 11 099.52	
167		Establish vegetation	10.4.1	ha	1.18	R	13 800.00	R 16 295.04	
168		Sub - Total for rehabilitation of overburden and spoils						R 27 394.56	
169		Rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)							
170		Not applicable	1.1	na	0.00	R	-	R -	
171		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)						R -	
172		Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)							
173	70	Settling dams							
174		Remove contaminated sediment and stockpile	9.2	m ³	1320.00	R	20.00	R 26 400.00	Assume 250mm contaminated sediment
175		Load and haul contaminated sediment	1.2	sum	1320.00	R	90.40	R 119 328.00	Haul sediment to tailings facility 8km
176		Remove HDPE liner	6.4	m ²	5280.00	R	6.50	R 34 320.00	
177		Breach dam wall	10.1.5	m	302.00	R	220.00	R 66 440.00	Doze material inward to fill void
178		Shape and level area	10.1.1	ha	0.53	R	55 250.00	R 29 172.00	Make area free draining
179		Establish vegetation	10.4.1	ha	0.53	R	13 800.00	R 7 286.40	
180	71A	Emergency storage dam							
181		Remove contaminated sediment and stockpile	9.2	m ³	2986.50	R	20.00	R 59 730.00	Assume 100mm contaminated sediment
182		Load and haul contaminated sediment	1.2	sum	2986.50	R	90.40	R 269 979.60	Haul sediment to tailings facility 8km
183		Remove HDPE liner	6.4	m ²	31861.00	R	6.50	R 207 096.50	
184		Breach dam wall	10.1.5	m	714.00	R	220.00	R 157 080.00	Doze material inward to fill void
185		Shape and level area	10.1.1	ha	3.19	R	55 250.00	R 176 032.03	Make area free draining
186		Establish vegetation	10.4.1	ha	3.19	R	13 800.00	R 43 968.18	
187	71B	Emergency storage dam							
188		Remove contaminated sediment and stockpile	9.2	m ³	2160.80	R	20.00	R 43 216.00	Assume 100mm contaminated sediment
189		Load and haul contaminated sediment	1.2	sum	2160.80	R	90.40	R 195 336.32	Haul sediment to tailings facility 8km
190		Remove HDPE liner	6.4	m ²	29000.00	R	6.50	R 188 500.00	
191		Breach dam wall	10.1.5	m	688.00	R	220.00	R 151 360.00	Doze material inward to fill void
192		Shape and level area	10.1.1	ha	2.90	R	55 250.00	R 160 225.00	Make area free draining
193		Establish vegetation	10.4.1	ha	2.90	R	13 800.00	R 40 020.00	
194	72	Pollution control dam							
195		Remove contaminated sediment and stockpile	9.2	m ³	1768.50	R	20.00	R 35 370.00	Assume 100mm contaminated sediment
196		Load and haul contaminated sediment	1.2	sum	1768.50	R	90.40	R 159 872.40	Haul sediment to tailings facility 8km
197		Remove HDPE liner	6.4	m ²	17685.00	R	6.50	R 114 952.50	

Closure Costing - Leeuwkop				Closure Costs - Year 7 - (2018)				
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
198		Breach dam wall	10.1.5	m	532.00	R 220.00	R 117 040.00	Doze material inward to fill void
199		Shape and level area	10.1.1	ha	0.17	R 55 250.00	R 9 248.85	Make area free draining
200		Establish vegetation	10.4.1	ha	0.17	R 13 800.00	R 2 310.12	
201	107	Waste Rock Dump						Assumed 20m strip would not have been rehabilitated
202		Strip topsoil and stockpile for movement of toe	9.2	m³	1717.00	R 20.00	R 34 340.00	Assume 250mm thick
203		Reshape WRD	9.1.1	m³	29925.00	R 13.50	R 403 987.50	Cut to fill action assumed 20m high at 87.5m³/per meter
204		Import capping layers	9.6.1	m³	8160.00	R 28.00	R 228 480.00	Assumed 1km haul distance, 300mm thick capillary layer and 300mm thick black turf
205		Import topsoil layer	9.6.1	m³	2720.00	R 28.00	R 76 160.00	Assumed 1km haul distance, 200mm thick layer
206		Establish vegetation	10.4.1	ha	1.36	R 13 800.00	R 18 768.00	
207	108	Tailings Complex						To be constructed according to program
208		Seal Penstocks	7.3	sum	0.00	R 213 200.00	R -	
209		Breach wall & reshape	10.1.5	m	0.00	R 220.00	R -	
210		Rip to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
211		Establish vegetation disturbed footprint	10.4.1	ha	0.00	R 13 800.00	R -	
212		Establish vegetation on tailings dam slopes	10.4.2	ha	0.00	R 19 250.00	R -	
213		Establish vegetation on tailings dam top	10.4.2	ha	0.00	R 19 250.00	R -	
214	109	Waste Rock Noise Barrier						
215		Reshape berm	10.1.1	ha	2.10	R 55 250.00	R 116 025.00	
216		Import topsoil layer	9.6.1	m³	4200.00	R 28.00	R 117 600.00	Assumed 1km haul distance, 200mm thick layer
217		Establish vegetation	10.4.1	ha	2.10	R 13 800.00	R 28 980.00	
218		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (polluting potential)					R 3 438 624.40	
219		Reclamation of subsided areas						
220		Not applicable	1.1	na	0.00	R -	R -	
221		Sub - Total for reclamation of subsided areas					R -	
222		Sub - Total for Mining aspects					R 9 717 042.96	
223								
224		General Surface Reclamation						
225		Mine						
226		Shape and level disturbed area	10.1.1	ha	20.00	R 55 250.00	R 1 105 000.00	Includes stockpiling of material, backfilling of excavations in cut to fill operation and final profiling @ave 500mm over footprint
227		Rip area to alleviate compaction	9.5.1	ha	20.00	R 9 400.00	R 188 000.00	500mm deep ripping
228		Import topsoil	9.6.1	m³	30000.00	R 28.00	R 840 000.00	150mm from local stockpile, assume 1km load and haul
229		Establish vegetation	10.4.1	ha	20.00	R 13 800.00	R 276 000.00	
230		Plant						Footprint not disturbed
231		Shape and level disturbed area	10.1.1	ha	0.00	R 55 250.00	R -	
232		Rip area to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
233		Import topsoil	9.6.1	m³	0.00	R 28.00	R -	
234		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
235		Sub - Total for General Surface Reclamation					R 2 409 000.00	
236								
237		Water Management						
238		Not applicable	1.1	na	0.00	R -	R -	Assume none required, all mitigation measures will be implemented during the operational phase
239		Sub - Total for Water Management					R -	
240								
241		SUB - TOTAL 1 (for infrastructural and related structures)					R 33 152 570.63	
242		Post - closure aspects						
243		Surface water quality monitoring	12.1	yr	5.00	R 106 000.00	R 530 000.00	8 monitoring points on a monthly basis
244		Groundwater quality monitoring	12.2	yr	5.00	R 150 000.00	R 750 000.00	15 monitoring points on a quarterly basis
245		Reclamation monitoring on reclaimed areas	12.3	ha	30.90	R 2 500.00	R 77 250.00	5 years
246		Care and maintenance of reclaimed areas	12.4	ha	30.90	R 15 500.00	R 478 950.00	5 years
247		Sub - Total for Post closure aspects					R 1 836 200.00	
248		Contingencies for post closure aspects	1.2	sum	1.00	R 183 620.00	R 183 620.00	Assumed 10 percent for post closure aspects
249		Sub - Total for Contingencies for post closure aspects					R 183 620.00	
250		SUB - TOTAL 2 (for post - closure aspects)					R 2 019 820.00	
251		Additional allowances						
252		Preliminary and General	1.2	sum	1.00	R 1 989 154.24	R 1 989 154.24	Assume 6 percent of sub - total 1
253		Contingencies	1.2	sum	1.00	R 3 315 257.06	R 3 315 257.06	Assume 10 percent of sub - total 1
254		SUB - TOTAL 3 (for additional allowances)					R 5 304 411.30	
255		Grand - Total (for sub - total 1+2+3)					R 40 476 801.93	

Closure Costing - Leeuwkop			Closure Costs - Year 8 - (2019)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
1		Infrastructural Aspects						
2		Nominal cost and time related items						
3		Mine						
4		Removal of salvageable equipment	1.2	sum	1.00	R 2 750 000.00	R 2 750 000.00	Nominal allowance
5		Crane	11.1	p/day	30.00	R 38 700.00	R 1 161 000.00	For assistance in the removal of equipment and demolition purposes
6		Plant						
7		Removal of salvageable equipment	1.2	sum	0.00	R 6 500 000.00	R -	Nominal allowance
8		Crane	11.1	p/day	0.00	R 38 700.00	R -	For assistance in the removal of equipment and demolition purposes
9		Sub-Total for cost and time related items					R 3 911 000.00	
10		Demolitioning of plant and related structures						
11	21	Compressor house	3.7	m²	1318.45	R 380.00	R 501 011.00	Double volume building
12	22	Condenser cooling towers	4.2	m³	527.80	R 640.00	R 337 792.00	Structural Concrete, assume 5m high, 250mm thick
13	23	Refrigeration plant	4.2	m³	1128.75	R 640.00	R 722 400.00	Structural Concrete, assume 5m high, 250mm thick
14	27	Grout Plant	3.7	m²	1734.00	R 380.00	R 658 920.00	Double volume building
15	28	Ventilation Shaft	2.2	t	480.00	R 1 280.00	R 614 400.00	Info received from Impala
16	40	Water treatment plant	2.3.2	m²	1225.00	R 590.00	R 722 750.00	Assume 450kg of steel per m²
17	43	Sewage Plant	3.6	m²	1732.50	R 320.00	R 554 400.00	Single volume building
18	59	Booster pump station	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
19	87	Plant - Cleaners						To be constructed according to program
20		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
21		Structural concrete	4.3	m³	0.00	R 400.00	R -	
22	88	Plant - Cleaners						To be constructed according to program
23		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
24		Structural concrete	4.3	m³	0.00	R 400.00	R -	
25	89	Plant - Mill						To be constructed according to program
26		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
27		Structural concrete	4.3	m³	0.00	R 400.00	R -	
28	94	Plant - Storage area	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
29	98	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
30	99	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
31	100	Plant - Thickener						To be constructed according to program
32		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
33		Structural concrete	4.3	m³	0.00	R 400.00	R -	
34	101	Plant - Thickener						To be constructed according to program
35		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
36		Structural concrete	4.3	m³	0.00	R 400.00	R -	
37	102	Plant - Thickener						To be constructed according to program
38		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
39		Structural concrete	4.3	m³	0.00	R 400.00	R -	
40		Sub - Total for demolitioning of plant and related structures					R 4 111 673.00	
41		Demolitioning of all structural structures						
42	16	Carpports	2.6.1	m²	5934.00	R 90.00	R 534 060.00	IBR sheeting
43	17	Contractors Carpports	2.6.1	m²	424.00	R 90.00	R 38 160.00	IBR sheeting
44	15	Headgear	2.2	t	600.00	R 1 280.00	R 768 000.00	Info received from Impala
45		Structural concrete	4.1	m³	147.00	R 1 280.00	R 188 160.00	
46	38	Waste silo	4.3	m³	210.00	R 400.00	R 84 000.00	Structural concrete, 250mm thick, assume 15m high
47	38	Waste silo	4.3	m³	210.00	R 400.00	R 84 000.00	Structural concrete, 250mm thick, assume 15m high
48	41	Water tank	2.4.2	no	1.00	R 26 650.00	R 26 650.00	
49	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
50	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
51	60	Sump	4.2	m³	6.24	R 640.00	R 3 993.60	Structural concrete, 300mm thick, 2m deep
52	61	Water Canal	8.4	m²	2892.00	R 135.00	R 363 420.00	Thin reinforced concrete
53	78	Plant - covered parking	2.6.1	m²	0.00	R 90.00	R -	To be constructed according to program
54	104	Plant - Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
55		Sub - Total for demolitioning of all structural structures					R 2 135 443.60	
56		Demolitioning of workshops and stores						
57	13	Winder House	3.7	m²	1119.00	R 380.00	R 425 220.00	Double volume building
58	14	Winder House	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
59	18	Winder rope store	3.1.1	m²	45.00	R 295.00	R 13 275.00	Single storey brick building
60	24	Fan and electrical motor store	3.1.1	m²	198.00	R 295.00	R 58 410.00	Single storey brick building
61	25	Workshop sink and perm	3.6	m²	819.90	R 320.00	R 262 368.00	Single volume building
62	31	Main Store	3.7	m²	1380.80	R 380.00	R 524 704.00	Double volume building
63	32	Explosives Store	3.6	m²	285.00	R 320.00	R 91 200.00	Single volume building
64	33	Gas bottle store	3.1.1	m²	38.00	R 295.00	R 10 620.00	Single storey brick building
65	34	Chemical Store	3.1.1	m²	201.00	R 295.00	R 59 295.00	Single storey brick building
66	35	Paint Store	3.1.1	m²	41.00	R 295.00	R 12 095.00	Single storey brick building
67	36	Oil store	3.1.1	m²	36.00	R 295.00	R 10 620.00	Single storey brick building
68	44	Generator farm	3.2.1	m²	412.00	R 480.00	R 197 760.00	Single storey brick building
69	82	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
70	83	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
71	86	Plant - Workshop	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
72	93	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
73	95	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
74	96	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
75		Sub - Total for demolitioning of workshops and stores					R 1 665 567.00	
76		Demolitioning of permanent brick structures and temporary structures						
77	1	Offices	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
78	2	Change House	3.1.1	m²	1066.00	R 295.00	R 314 470.00	Single storey brick building
79	3	Laundry	3.1.1	m²	179.00	R 295.00	R 52 805.00	Single storey brick building
80	4	Boiler House	3.1.1	m²	232.00	R 295.00	R 68 440.00	Single storey brick building
81	5	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
82	6	Lamp Room	3.1.1	m²	909.50	R 295.00	R 268 302.50	Single storey brick building
83	7	Change House	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
84	8	Induction Room	3.1.1	m²	144.00	R 295.00	R 42 480.00	Single storey brick building
85	9	Training Centre	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
86	10	Gate House	3.1.1	m²	184.00	R 295.00	R 54 280.00	Single storey brick building
87	11	Banksman Cabin & Proto Room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
88	12	Central Control room	3.1.1	m²	0.00	R 295.00	R -	To be constructed according to program
89	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
90	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
91	20	Transformer bays	3.2.1	m²	156.00	R 480.00	R 74 880.00	Single storey brick building

Closure Costing - Leeuwkop			Closure Costs - Year 8 - (2019)						
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes	
92	29	Sub-station	3.2.1	m ²	120.00	R	480.00	R 57 600.00	Single storey brick building
93	30	MCC	3.2.1	m ²	65.00	R	480.00	R 31 200.00	Single storey brick building
94	45	Sumer Sub-station	3.2.1	m ²	206.40	R	480.00	R 99 072.00	Single storey brick building
95	47	Geology building	3.1.1	m ²	183.00	R	295.00	R 53 985.00	Single storey brick building
96	48	Offices	3.1.1	m ²	149.60	R	295.00	R 44 132.00	Single storey brick building
97	49	Offices	3.1.1	m ²	149.60	R	295.00	R 44 132.00	Single storey brick building
98	50	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
99	51	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
100	52	Change House	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
101	53	Change House	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
102	54	Change House	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
103	55	Lamp Room	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
104	56	Steffanuti Stocks	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
105	57	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
106	58	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
107	76	Explosives bunker	3.1.1	m ²	150.00	R	295.00	R 44 250.00	Single storey brick building
108	77	Weighbridge	1.2	sum	0.00	R	50 000.00	R -	To be constructed according to program
109	79	Plant - Admin building	3.1.1	m ²	0.00	R	295.00	R -	To be constructed according to program
110	80	Plant - Induction room	3.1.1	m ²	0.00	R	295.00	R -	To be constructed according to program
111	81	Plant - Office	3.1.1	m ²	0.00	R	295.00	R -	To be constructed according to program
112	84	Plant - Sub-station	3.2.1	m ²	0.00	R	480.00	R -	To be constructed according to program
113	85	Plant - Sub-station	3.2.1	m ²	0.00	R	480.00	R -	To be constructed according to program
114	97	Plant - building	3.1.1	m ²	0.00	R	295.00	R -	To be constructed according to program
115		Sub - Total for demolitoning of permanent brick structures and temporary structures						R 1 345 068.50	
116		Removal of all surface related finishes							
117	26	Surface cable yard	4.5	m ²	30.00	R	590.00	R 17 700.00	Assume 250mm thick concrete
118	46	PFC yard	4.5	m ²	1199.00	R	590.00	R 707 410.00	Assume 250mm thick concrete
119	47	Geology yard	4.5	m ²	473.00	R	590.00	R 279 070.00	Assume 250mm thick concrete
120	73	General surface bed	4.4	m ²	10610.85	R	215.00	R 2 281 332.75	Assume 150mm thick concrete
121	90	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
122	91	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
123	92	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
124	103	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
125		Sub - Total for removal of all surface related finishes						R 3 285 512.75	
126		Removal of all linear items							
127	32	Fencing to explosives store	5.5.3	m	85.00	R	27.00	R 2 295.00	
128	37	Reef and waste conveyor	5.1.5	m	0.00	R	640.00	R -	To be constructed according to program
129	39	Reef conveyor	5.1.5	m	252.00	R	640.00	R 161 280.00	Suspended conveyor
130	62	Waste conveyor	5.1.2	m	1226.00	R	265.00	R 324 890.00	Overland conveyor
131	63	Return water pipeline	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
132	64	Tailing delivery pipeline	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
133	65	Pipeline from sump to PCD	5.2.2	m	348.00	R	48.00	R 16 704.00	200-350mm steel pipelines
134	66	Emergency pipeline from concentrator to dam	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
135	67	Distribution pipelines	5.2.2	m	4780.00	R	48.00	R 229 440.00	200-350mm steel pipelines
136	68	Water main pipeline	5.2.2	m	1870.00	R	48.00	R 89 760.00	200-350mm steel pipelines
137	69	Fire main pipeline	5.2.2	m	1870.00	R	48.00	R 89 760.00	200-350mm steel pipelines
138	74	Perimeter fencing	5.5.3	m	3600.00	R	27.00	R 97 200.00	
139	75	Perimeter fencing to tailings complex	5.5.3	m	0.00	R	27.00	R -	To be constructed according to program
140	76	Perimeter fence to explosives bunker	5.5.3	m	201.00	R	27.00	R 5 427.00	
141	105	Plant - Steel gantry's with delivery pipelines	2.3.1	m ²	0.00	R	107.00	R -	To be constructed according to program
142	106	Plant - Security fencing	5.5.3	m	0.00	R	27.00	R -	To be constructed according to program
143		Main water pipeline	5.2.3	m	4669.00	R	64.00	R 298 816.00	
144		Sub - Total for removal of all linear items						R 1 315 572.00	
145		Rehabilitation of roads							
146		Entrance road	1.1	na	0.00	R	-	R -	Assume will remain
147		Minor gravel road to explosives bunker	8.3	m ²	5864.00	R	4.00	R 23 456.00	
148		Sub - Total for rehabilitation of roads						R 23 456.00	
149		Disposal of demolition waste							
150		Sorting and screening of waste	6.1	%	13882292.85		2.50%	R 347 057.32	2.50%
151		Disposal of demolition waste	6.2.1	m ³ /km	26524.00	R	160.00	R 4 243 840.00	Assume 50km distance
152		Sub - Total for disposal of demolition waste						R 4 590 897.32	
153		Sub - Total for infrastructural aspects						R 22 384 190.17	
154									
155		Mining Aspects							
156		Open pit reclamation including final voids and ramps							
157		Not applicable	1.1	na	0.00	R	-	R -	
158		Sub - Total open pit reclamation including final voids and ramps						R -	
159		Sealing of shafts and inclines							
160	15	Service and Production Shaft	7.1.15	sum	1.00	R	2 573 324.00	R 2 573 324.00	10m Diameter
161	23	Refrigeration shaft	7.1.11	sum	1.00	R	1 838 850.00	R 1 838 850.00	8m Diameter
162	28	Vent Shaft	7.1.11	sum	1.00	R	1 838 850.00	R 1 838 850.00	8m Diameter
163		Sub - Total for sealing of shafts and inclines						R 6 251 024.00	
164		Rehabilitation of overburden and spoils							
165	110	Topsoil stockpiles							Only footprints will remain
166		Rip area to alleviate compaction	9.5.1	ha	1.18	R	9 400.00	R 11 099.52	
167		Establish vegetation	10.4.1	ha	1.18	R	13 800.00	R 16 295.04	
168		Sub - Total for rehabilitation of overburden and spoils						R 27 394.56	
169		Rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)							
170		Not applicable	1.1	na	0.00	R	-	R -	
171		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)						R -	
172		Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)							
173	70	Settling dams							
174		Remove contaminated sediment and stockpile	9.2	m ³	1320.00	R	20.00	R 26 400.00	Assume 250mm contaminated sediment
175		Load and haul contaminated sediment	1.2	sum	1320.00	R	90.40	R 119 328.00	Haul sediment to tailings facility 8km
176		Remove HDPE liner	6.4	m ²	5280.00	R	6.50	R 34 320.00	
177		Breach dam wall	10.1.5	m	302.00	R	220.00	R 66 440.00	Doze material inward to fill void
178		Shape and level area	10.1.1	ha	0.53	R	55 250.00	R 29 172.00	Make area free draining
179		Establish vegetation	10.4.1	ha	0.53	R	13 800.00	R 7 286.40	
180	71A	Emergency storage dam							
181		Remove contaminated sediment and stockpile	9.2	m ³	2986.50	R	20.00	R 59 730.00	Assume 100mm contaminated sediment
182		Load and haul contaminated sediment	1.2	sum	2986.50	R	90.40	R 269 979.60	Haul sediment to tailings facility 8km
183		Remove HDPE liner	6.4	m ²	31861.00	R	6.50	R 207 096.50	
184		Breach dam wall	10.1.5	m	714.00	R	220.00	R 157 080.00	Doze material inward to fill void
185		Shape and level area	10.1.1	ha	3.19	R	55 250.00	R 176 032.03	Make area free draining
186		Establish vegetation	10.4.1	ha	3.19	R	13 800.00	R 43 968.18	
187	71B	Emergency storage dam							
188		Remove contaminated sediment and stockpile	9.2	m ³	2160.80	R	20.00	R 43 216.00	Assume 100mm contaminated sediment
189		Load and haul contaminated sediment	1.2	sum	2160.80	R	90.40	R 195 336.32	Haul sediment to tailings facility 8km
190		Remove HDPE liner	6.4	m ²	29000.00	R	6.50	R 188 500.00	
191		Breach dam wall	10.1.5	m	688.00	R	220.00	R 151 360.00	Doze material inward to fill void
192		Shape and level area	10.1.1	ha	2.90	R	55 250.00	R 160 225.00	Make area free draining
193		Establish vegetation	10.4.1	ha	2.90	R	13 800.00	R 40 020.00	
194	72	Pollution control dam							
195		Remove contaminated sediment and stockpile	9.2	m ³	1768.50	R	20.00	R 35 370.00	Assume 100mm contaminated sediment
196		Load and haul contaminated sediment	1.2	sum	1768.50	R	90.40	R 159 872.40	Haul sediment to tailings facility 8km
197		Remove HDPE liner	6.4	m ²	17685.00	R	6.50	R 114 952.50	

Closure Costing - Leeuwkop				Closure Costs - Year 8 - (2019)				
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
198		Breach dam wall	10.1.5	m	532.00	R 220.00	R 117 040.00	Doze material inward to fill void
199		Shape and level area	10.1.1	ha	0.17	R 55 250.00	R 9 248.85	Make area free draining
200		Establish vegetation	10.4.1	ha	0.17	R 13 800.00	R 2 310.12	
201	107	Waste Rock Dump						Assumed 20m strip would not have been rehabilitated
202		Strip topsoil and stockpile for movement of toe	9.2	m³	1717.00	R 20.00	R 34 340.00	Assume 250mm thick
203		Reshape WRD	9.1.1	m³	29925.00	R 13.50	R 403 987.50	Cut to fill action assumed 20m high at 87.5m³/per meter
204		Import capping layers	9.6.1	m³	8160.00	R 28.00	R 228 480.00	Assumed 1km haul distance, 300mm thick capillary layer and 300mm thick black turf
205		Import topsoil layer	9.6.1	m³	2720.00	R 28.00	R 76 160.00	Assumed 1km haul distance, 200mm thick layer
206		Establish vegetation	10.4.1	ha	1.36	R 13 800.00	R 18 768.00	
207	108	Tailings Complex						To be constructed according to program
208		Seal Penstocks	7.3	sum	0.00	R 213 200.00	R -	
209		Breach wall & reshape	10.1.5	m	0.00	R 220.00	R -	
210		Rip to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
211		Establish vegetation disturbed footprint	10.4.1	ha	0.00	R 13 800.00	R -	
212		Establish vegetation on tailings dam slopes	10.4.2	ha	0.00	R 19 250.00	R -	
213		Establish vegetation on tailings dam top	10.4.2	ha	0.00	R 19 250.00	R -	
214	109	Waste Rock Noise Barrier						
215		Reshape berm	10.1.1	ha	2.10	R 55 250.00	R 116 025.00	
216		Import topsoil layer	9.6.1	m³	4200.00	R 28.00	R 117 600.00	Assumed 1km haul distance, 200mm thick layer
217		Establish vegetation	10.4.1	ha	2.10	R 13 800.00	R 28 980.00	
218		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (polluting potential)					R 3 438 624.40	
219		Reclamation of subsided areas						
220		Not applicable	1.1	na	0.00	R -	R -	
221		Sub - Total for reclamation of subsided areas					R -	
222		Sub - Total for Mining aspects					R 9 717 042.96	
223								
224		General Surface Reclamation						
225		Mine						
226		Shape and level disturbed area	10.1.1	ha	20.00	R 55 250.00	R 1 105 000.00	Includes stockpiling of material, backfilling of excavations in cut to fill operation and final profiling @ave 500mm over footprint
227		Rip area to alleviate compaction	9.5.1	ha	20.00	R 9 400.00	R 188 000.00	500mm deep ripping
228		Import topsoil	9.6.1	m³	30000.00	R 28.00	R 840 000.00	150mm from local stockpile, assume 1km load and haul
229		Establish vegetation	10.4.1	ha	20.00	R 13 800.00	R 276 000.00	
230		Plant						Footprint not disturbed
231		Shape and level disturbed area	10.1.1	ha	0.00	R 55 250.00	R -	
232		Rip area to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
233		Import topsoil	9.6.1	m³	0.00	R 28.00	R -	
234		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
235		Sub - Total for General Surface Reclamation					R 2 409 000.00	
236								
237		Water Management						
238		Not applicable	1.1	na	0.00	R -	R -	Assume none required, all mitigation measures will be implemented during the operational phase
239		Sub - Total for Water Management					R -	
240								
241		SUB - TOTAL 1 (for infrastructural and related structures)					R 34 510 233.13	
242		Post - closure aspects						
243		Surface water quality monitoring	12.1	yr	5.00	R 106 000.00	R 530 000.00	8 monitoring points on a monthly basis
244		Groundwater quality monitoring	12.2	yr	5.00	R 150 000.00	R 750 000.00	15 monitoring points on a quarterly basis
245		Reclamation monitoring on reclaimed areas	12.3	ha	32.90	R 2 500.00	R 82 250.00	5 years
246		Care and maintenance of reclaimed areas	12.4	ha	32.90	R 15 500.00	R 509 950.00	5 years
247		Sub - Total for Post closure aspects					R 1 872 200.00	
248		Contingencies for post closure aspects	1.2	sum	1.00	R 187 220.00	R 187 220.00	Assumed 10 percent for post closure aspects
249		Sub - Total for Contingencies for post closure aspects					R 187 220.00	
250		SUB - TOTAL 2 (for post - closure aspects)					R 2 059 420.00	
251		Additional allowances						
252		Preliminary and General	1.2	sum	1.00	R 2 070 613.99	R 2 070 613.99	Assume 6 percent of sub - total 1
253		Contingencies	1.2	sum	1.00	R 3 451 023.31	R 3 451 023.31	Assume 10 percent of sub - total 1
254		SUB - TOTAL 3 (for additional allowances)					R 5 521 637.30	
255		Grand - Total (for sub - total 1+2+3)					R 42 091 290.43	

Closure Costing - Leeuwkop			Closure Costs - Year 9 - (2020)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
1		Infrastructural Aspects						
2		Nominal cost and time related items						
3		Mine						
4		Removal of salvageable equipment	1.2	sum	1.00	R 3 000 000.00	R 3 000 000.00	Nominal allowance
5		Crane	11.1	p/day	35.00	R 38 700.00	R 1 354 500.00	For assistance in the removal of equipment and demolition purposes
6		Plant						
7		Removal of salvageable equipment	1.2	sum	0.00	R 6 500 000.00	R -	Nominal allowance
8		Crane	11.1	p/day	0.00	R 38 700.00	R -	For assistance in the removal of equipment and demolition purposes
9		Sub-Total for cost and time related items					R 4 354 500.00	
10		Demolitioning of plant and related structures						
11	21	Compressor house	3.7	m²	1318.45	R 380.00	R 501 011.00	Double volume building
12	22	Condenser cooling towers	4.2	m³	527.80	R 640.00	R 337 792.00	Structural Concrete, assume 5m high, 250mm thick
13	23	Refrigeration plant	4.2	m³	1128.75	R 640.00	R 722 400.00	Structural Concrete, assume 5m high, 250mm thick
14	27	Grout Plant	3.7	m²	1734.00	R 380.00	R 658 920.00	Double volume building
15	28	Ventilation Shaft	2.2	t	480.00	R 1 280.00	R 614 400.00	Info received from Impala
16	40	Water treatment plant	2.3.2	m²	1225.00	R 590.00	R 722 750.00	Assume 450kg of steel per m²
17	43	Sewage Plant	3.6	m²	1732.50	R 320.00	R 554 400.00	Single volume building
18	59	Booster pump station	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
19	87	Plant - Cleaners						To be constructed according to program
20		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
21		Structural concrete	4.3	m³	0.00	R 400.00	R -	
22	88	Plant - Cleaners						To be constructed according to program
23		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
24		Structural concrete	4.3	m³	0.00	R 400.00	R -	
25	89	Plant - Mill						To be constructed according to program
26		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
27		Structural concrete	4.3	m³	0.00	R 400.00	R -	
28	94	Plant - Storage area	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
29	98	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
30	99	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
31	100	Plant - Thickener						To be constructed according to program
32		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
33		Structural concrete	4.3	m³	0.00	R 400.00	R -	
34	101	Plant - Thickener						To be constructed according to program
35		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
36		Structural concrete	4.3	m³	0.00	R 400.00	R -	
37	102	Plant - Thickener						To be constructed according to program
38		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
39		Structural concrete	4.3	m³	0.00	R 400.00	R -	
40		Sub - Total for demolitioning of plant and related structures					R 4 111 673.00	
41		Demolitioning of all structural structures						
42	16	Carpports	2.6.1	m²	5934.00	R 90.00	R 534 060.00	IBR sheeting
43	17	Contractors Carpports	2.6.1	m²	424.00	R 90.00	R 38 160.00	IBR sheeting
44	15	Headgear	2.2	t	600.00	R 1 280.00	R 768 000.00	Info received from Impala
45		Structural concrete	4.1	m³	147.00	R 1 280.00	R 188 160.00	
46	38	Waste silo	4.3	m³	210.00	R 400.00	R 84 000.00	Structural concrete, 250mm thick, assume 15m high
47	38	Waste silo	4.3	m³	210.00	R 400.00	R 84 000.00	Structural concrete, 250mm thick, assume 15m high
48	41	Water tank	2.4.2	no	1.00	R 26 650.00	R 26 650.00	
49	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
50	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
51	60	Sump	4.2	m³	6.24	R 640.00	R 3 993.60	Structural concrete, 300mm thick, 2m deep
52	61	Water Canal	8.4	m²	2892.00	R 135.00	R 363 420.00	Thin reinforced concrete
53	78	Plant - covered parking	2.6.1	m²	0.00	R 90.00	R -	To be constructed according to program
54	104	Plant - Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
55		Sub - Total for demolitioning of all structural structures					R 2 135 443.60	
56		Demolitioning of workshops and stores						
57	13	Winder House	3.7	m²	1119.00	R 380.00	R 425 220.00	Double volume building
58	14	Winder House	3.7	m²	956.70	R 380.00	R 363 546.00	Double volume building
59	18	Winder rope store	3.1.1	m²	45.00	R 295.00	R 13 275.00	Single storey brick building
60	24	Fan and electrical motor store	3.1.1	m²	198.00	R 295.00	R 58 410.00	Single storey brick building
61	25	Workshop sink and perm	3.6	m²	819.90	R 320.00	R 262 368.00	Single volume building
62	31	Main Store	3.7	m²	1380.80	R 380.00	R 524 704.00	Double volume building
63	32	Explosives Store	3.6	m²	285.00	R 320.00	R 91 200.00	Single volume building
64	33	Gas bottle store	3.1.1	m²	36.00	R 295.00	R 10 620.00	Single storey brick building
65	34	Chemical Store	3.1.1	m²	201.00	R 295.00	R 59 295.00	Single storey brick building
66	35	Paint Store	3.1.1	m²	41.00	R 295.00	R 12 095.00	Single storey brick building
67	36	Oil store	3.1.1	m²	36.00	R 295.00	R 10 620.00	Single storey brick building
68	44	Generator farm	3.2.1	m²	412.00	R 480.00	R 197 760.00	Single storey brick building
69	82	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
70	83	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
71	86	Plant - Workshop	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
72	93	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
73	95	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
74	96	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
75		Sub - Total for demolitioning of workshops and stores					R 2 029 113.00	
76		Demolitioning of permanent brick structures and temporary structures						
77	1	Offices	3.1.1	m²	1023.00	R 295.00	R 301 785.00	Single storey brick building
78	2	Change House	3.1.1	m²	1066.00	R 295.00	R 314 470.00	Single storey brick building
79	3	Laundry	3.1.1	m²	179.00	R 295.00	R 52 805.00	Single storey brick building
80	4	Boiler House	3.1.1	m²	232.00	R 295.00	R 68 440.00	Single storey brick building
81	5	Change House	3.1.1	m²	0.00	R 295.00	R -	
82	6	Lamp Room	3.1.1	m²	909.50	R 295.00	R 268 302.50	Single storey brick building
83	7	Change House	3.1.1	m²	0.00	R 295.00	R -	
84	8	Induction Room	3.1.1	m²	144.00	R 295.00	R 42 480.00	Single storey brick building
85	9	Training Centre	3.1.1	m²	116.70	R 295.00	R 34 426.50	Single storey brick building
86	10	Gate House	3.1.1	m²	184.00	R 295.00	R 54 280.00	Single storey brick building
87	11	Banksman Cabin & Proto Room	3.1.1	m²	88.60	R 295.00	R 26 137.00	Single storey brick building
88	12	Central Control room	3.1.1	m²	302.00	R 295.00	R 89 090.00	Single storey brick building
89	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
90	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
91	20	Transformer bays	3.2.1	m²	156.00	R 480.00	R 74 880.00	Single storey brick building

Closure Costing - Leeuwkop			Closure Costs - Year 9 - (2020)						
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes	
92	29	Sub-station	3.2.1	m ²	120.00	R	480.00	R 57 600.00	Single storey brick building
93	30	MCC	3.2.1	m ²	65.00	R	480.00	R 31 200.00	Single storey brick building
94	45	Sumer Sub-station	3.2.1	m ²	206.40	R	480.00	R 99 072.00	Single storey brick building
95	47	Geology building	3.1.1	m ²	183.00	R	295.00	R 53 985.00	Single storey brick building
96	48	Offices	3.1.1	m ²	149.60	R	295.00	R 44 132.00	Single storey brick building
97	49	Offices	3.1.1	m ²	149.60	R	295.00	R 44 132.00	Single storey brick building
98	50	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
99	51	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
100	52	Change House	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
101	53	Change House	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
102	54	Change House	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
103	55	Lamp Room	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
104	56	Steffanuti Stocks	3.3	m ²	16.00	R	140.00	R 2 240.00	Portable offices
105	57	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
106	58	Shaft Sinker Offices	3.3	m ²	124.00	R	140.00	R 17 360.00	Portable offices
107	76	Explosives bunker	3.1.1	m ²	150.00	R	295.00	R 44 250.00	Single storey brick building
108	77	Weighbridge	1.2	sum		R	50 000.00	R -	To be constructed according to program
109	79	Plant - Admin building	3.1.1	m ²		R	295.00	R -	To be constructed according to program
110	80	Plant - Induction room	3.1.1	m ²		R	295.00	R -	To be constructed according to program
111	81	Plant - Office	3.1.1	m ²		R	295.00	R -	To be constructed according to program
112	84	Plant - Sub-station	3.2.1	m ²		R	480.00	R -	To be constructed according to program
113	85	Plant - Sub-station	3.2.1	m ²		R	480.00	R -	To be constructed according to program
114	97	Plant - building	3.1.1	m ²		R	295.00	R -	To be constructed according to program
115		Sub - Total for demolitoning of permanent brick structures and temporary structures						R 1 796 507.00	
116		Removal of all surface related finishes							
117	26	Surface cable yard	4.5	m ²	30.00	R	590.00	R 17 700.00	Assume 250mm thick concrete
118	46	PFC yard	4.5	m ²	1199.00	R	590.00	R 707 410.00	Assume 250mm thick concrete
119	47	Geology yard	4.5	m ²	473.00	R	590.00	R 279 070.00	Assume 250mm thick concrete
120	73	General surface bed	4.4	m ²	10610.85	R	215.00	R 2 281 332.75	Assume 150mm thick concrete
121	90	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
122	91	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
123	92	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
124	103	Plant - Laydown areas	4.5	m ²	0.00	R	590.00	R -	To be constructed according to program
125		Sub - Total for removal of all surface related finishes						R 3 285 512.75	
126		Removal of all linear items							
127	32	Fencing to explosives store	5.5.3	m	85.00	R	27.00	R 2 295.00	
128	37	Reef and waste conveyor	5.1.5	m	0.00	R	640.00	R -	To be constructed according to program
129	39	Reef conveyor	5.1.5	m	252.00	R	640.00	R 161 280.00	Suspended conveyor
130	62	Waste conveyor	5.1.2	m	1226.00	R	265.00	R 324 890.00	Overland conveyor
131	63	Return water pipeline	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
132	64	Tailing delivery pipeline	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
133	65	Pipeline from sump to PCD	5.2.2	m	348.00	R	48.00	R 16 704.00	200-350mm steel pipelines
134	66	Emergency pipeline from concentrator to dam	5.2.2	m	0.00	R	48.00	R -	To be constructed according to program
135	67	Distribution pipelines	5.2.2	m	4780.00	R	48.00	R 229 440.00	200-350mm steel pipelines
136	68	Water main pipeline	5.2.2	m	1870.00	R	48.00	R 89 760.00	200-350mm steel pipelines
137	69	Fire main pipeline	5.2.2	m	1870.00	R	48.00	R 89 760.00	200-350mm steel pipelines
138	74	Perimeter fencing	5.5.3	m	3600.00	R	27.00	R 97 200.00	
139	75	Perimeter fencing to tailings complex	5.5.3	m	0.00	R	27.00	R -	To be constructed according to program
140	76	Perimeter fence to explosives bunker	5.5.3	m	201.00	R	27.00	R 5 427.00	
141	105	Plant - Steel gantry's with delivery pipelines	2.3.1	m ²	0.00	R	107.00	R -	To be constructed according to program
142	106	Plant - Security fencing	5.5.3	m	0.00	R	27.00	R -	To be constructed according to program
143		Main water pipeline	5.2.3	m	4669.00	R	64.00	R 298 816.00	
144		Sub - Total for removal of all linear items						R 1 315 572.00	
145		Rehabilitation of roads							
146		Entrance road	1.1	na	0.00	R	-	R -	Assume will remain
147		Minor gravel road to explosives bunker	8.3	m ²	5864.00	R	4.00	R 23 456.00	
148		Sub - Total for rehabilitation of roads						R 23 456.00	
149		Disposal of demolition waste							
150		Sorting and screening of waste	6.1	%	14697277.35		2.50%	R 367 431.93	2.50%
151		Disposal of demolition waste	6.2.1	m ³ /km	27745.00	R	160.00	R 4 439 200.00	Assume 50km distance
152		Sub - Total for disposal of demolition waste						R 4 806 631.93	
153		Sub - Total for infrastructural aspects						R 23 858 409.28	
154									
155		Mining Aspects							
156		Open pit reclamation including final voids and ramps							
157		Not applicable	1.1	na	0.00	R	-	R -	
158		Sub - Total open pit reclamation including final voids and ramps						R -	
159		Sealing of shafts and inclines							
160	15	Service and Production Shaft	7.1.15	sum	1.00	R	2 573 324.00	R 2 573 324.00	10m Diameter
161	23	Refrigeration shaft	7.1.11	sum	1.00	R	1 838 850.00	R 1 838 850.00	8m Diameter
162	28	Vent Shaft	7.1.11	sum	1.00	R	1 838 850.00	R 1 838 850.00	8m Diameter
163		Sub - Total for sealing of shafts and inclines						R 6 251 024.00	
164		Rehabilitation of overburden and spoils							
165	110	Topsoil stockpiles							Only footprints will remain
166		Rip area to alleviate compaction	9.5.1	ha	1.18	R	9 400.00	R 11 099.52	
167		Establish vegetation	10.4.1	ha	1.18	R	13 800.00	R 16 295.04	
168		Sub - Total for rehabilitation of overburden and spoils						R 27 394.56	
169		Rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)							
170		Not applicable	1.1	na	0.00	R	-	R -	
171		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)						R -	
172		Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)							
173	70	Settling dams							
174		Remove contaminated sediment and stockpile	9.2	m ³	1320.00	R	20.00	R 26 400.00	Assume 250mm contaminated sediment
175		Load and haul contaminated sediment	1.2	sum	1320.00	R	90.40	R 119 328.00	Haul sediment to tailings facility 8km
176		Remove HDPE liner	6.4	m ²	5280.00	R	6.50	R 34 320.00	
177		Breach dam wall	10.1.5	m	302.00	R	220.00	R 66 440.00	Doze material inward to fill void
178		Shape and level area	10.1.1	ha	0.53	R	55 250.00	R 29 172.00	Make area free draining
179		Establish vegetation	10.4.1	ha	0.53	R	13 800.00	R 7 286.40	
180	71A	Emergency storage dam							
181		Remove contaminated sediment and stockpile	9.2	m ³	2986.50	R	20.00	R 59 730.00	Assume 100mm contaminated sediment
182		Load and haul contaminated sediment	1.2	sum	2986.50	R	90.40	R 269 979.60	Haul sediment to tailings facility 8km
183		Remove HDPE liner	6.4	m ²	31861.00	R	6.50	R 207 096.50	
184		Breach dam wall	10.1.5	m	714.00	R	220.00	R 157 080.00	Doze material inward to fill void
185		Shape and level area	10.1.1	ha	3.19	R	55 250.00	R 176 032.03	Make area free draining
186		Establish vegetation	10.4.1	ha	3.19	R	13 800.00	R 43 968.18	
187	71B	Emergency storage dam							
188		Remove contaminated sediment and stockpile	9.2	m ³	2160.80	R	20.00	R 43 216.00	Assume 100mm contaminated sediment
189		Load and haul contaminated sediment	1.2	sum	2160.80	R	90.40	R 195 336.32	Haul sediment to tailings facility 8km
190		Remove HDPE liner	6.4	m ²	29000.00	R	6.50	R 188 500.00	
191		Breach dam wall	10.1.5	m	688.00	R	220.00	R 151 360.00	Doze material inward to fill void
192		Shape and level area	10.1.1	ha	2.90	R	55 250.00	R 160 225.00	Make area free draining
193		Establish vegetation	10.4.1	ha	2.90	R	13 800.00	R 40 020.00	
194	72	Pollution control dam							
195		Remove contaminated sediment and stockpile	9.2	m ³	1768.50	R	20.00	R 35 370.00	Assume 100mm contaminated sediment
196		Load and haul contaminated sediment	1.2	sum	1768.50	R	90.40	R 159 872.40	Haul sediment to tailings facility 8km
197		Remove HDPE liner	6.4	m ²	17685.00	R	6.50	R 114 952.50	

Closure Costing - Leeuwkop			Closure Costs - Year 9 - (2020)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
198		Breach dam wall	10.1.5	m	532.00	R 220.00	R 117 040.00	Doze material inward to fill void
199		Shape and level area	10.1.1	ha	0.17	R 55 250.00	R 9 248.85	Make area free draining
200		Establish vegetation	10.4.1	ha	0.17	R 13 800.00	R 2 310.12	
201	107	Waste Rock Dump						Assumed 20m strip would not have been rehabilitated
202		Strip topsoil and stockpile for movement of toe	9.2	m³	1717.00	R 20.00	R 34 340.00	Assume 250mm thick
203		Reshape WRD	9.1.1	m³	29925.00	R 13.50	R 403 987.50	Cut to fill action assumed 20m high at 87.5m³/per meter
204		Import capping layers	9.6.1	m³	8160.00	R 28.00	R 228 480.00	Assumed 1km haul distance, 300mm thick capillary layer and 300mm thick black turf
205		Import topsoil layer	9.6.1	m³	2720.00	R 28.00	R 76 160.00	Assumed 1km haul distance, 200mm thick layer
206		Establish vegetation	10.4.1	ha	1.36	R 13 800.00	R 18 768.00	
207	108	Tailings Complex						To be constructed according to program
208		Seal Penstocks	7.3	sum	0.00	R 213 200.00	R -	
209		Breach wall & reshape	10.1.5	m	0.00	R 220.00	R -	
210		Rip to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
211		Establish vegetation disturbed footprint	10.4.1	ha	0.00	R 13 800.00	R -	
212		Establish vegetation on tailings dam slopes	10.4.2	ha	0.00	R 19 250.00	R -	
213		Establish vegetation on tailings dam top	10.4.2	ha	0.00	R 19 250.00	R -	
214	109	Waste Rock Noise Barrier						
215		Reshape berm	10.1.1	ha	2.10	R 55 250.00	R 116 025.00	
216		Import topsoil layer	9.6.1	m³	4200.00	R 28.00	R 117 600.00	Assumed 1km haul distance, 200mm thick layer
217		Establish vegetation	10.4.1	ha	2.10	R 13 800.00	R 28 980.00	
218		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (polluting potential)					R 3 438 624.40	
219		Reclamation of subsided areas						
220		Not applicable	1.1	na	0.00	R -	R -	
221		Sub - Total for reclamation of subsided areas					R -	
222		Sub - Total for Mining aspects					R 9 717 042.96	
223								
224		General Surface Reclamation						
225		Mine						
226		Shape and level disturbed area	10.1.1	ha	20.00	R 55 250.00	R 1 105 000.00	Includes stockpiling of material, backfilling of excavations in cut to fill operation and final profiling @ave 500mm over footprint
227		Rip area to alleviate compaction	9.5.1	ha	20.00	R 9 400.00	R 188 000.00	500mm deep ripping
228		Import topsoil	9.6.1	m³	30000.00	R 28.00	R 840 000.00	150mm from local stockpile, assume 1km load and haul
229		Establish vegetation	10.4.1	ha	20.00	R 13 800.00	R 276 000.00	
230		Plant						Footprint not disturbed
231		Shape and level disturbed area	10.1.1	ha	0.00	R 55 250.00	R -	
232		Rip area to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
233		Import topsoil	9.6.1	m³	0.00	R 28.00	R -	
234		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
235		Sub - Total for General Surface Reclamation					R 2 409 000.00	
236								
237		Water Management						
238		Not applicable	1.1	na	0.00	R -	R -	Assume none required, all mitigation measures will be implemented during the operational phase
239		Sub - Total for Water Management					R -	
240								
241		SUB - TOTAL 1 (for infrastructural and related structures)					R 35 984 452.24	
242		Post - closure aspects						
243		Surface water quality monitoring	12.1	yr	5.00	R 106 000.00	R 530 000.00	8 monitoring points on a monthly basis
244		Groundwater quality monitoring	12.2	yr	5.00	R 150 000.00	R 750 000.00	15 monitoring points on a quarterly basis
245		Reclamation monitoring on reclaimed areas	12.3	ha	34.90	R 2 500.00	R 87 250.00	5 years
246		Care and maintenance of reclaimed areas	12.4	ha	34.90	R 15 500.00	R 540 950.00	5 years
247		Sub - Total for Post closure aspects					R 1 908 200.00	
248		Contingencies for post closure aspects	1.2	sum	1.00	R 190 820.00	R 190 820.00	Assumed 10 percent for post closure aspects
249		Sub - Total for Contingencies for post closure aspects					R 190 820.00	
250		SUB - TOTAL 2 (for post - closure aspects)					R 2 099 020.00	
251		Additional allowances						
252		Preliminary and General	1.2	sum	1.00	R 2 159 067.13	R 2 159 067.13	Assume 6 percent of sub - total 1
253		Contingencies	1.2	sum	1.00	R 3 598 445.22	R 3 598 445.22	Assume 10 percent of sub - total 1
254		SUB - TOTAL 3 (for additional allowances)					R 5 757 512.36	
255		Grand - Total (for sub - total 1+2+3)					R 43 840 984.60	

Closure Costing - Leeuwkop			Closure Costs - Year 10 - (2021)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
1		Infrastructural Aspects						
2		Nominal cost and time related items						
3		Mine						
4		Removal of salvageable equipment	1.2	sum	1.00	R 3 250 000.00	R 3 250 000.00	Nominal allowance
5		Crane	11.1	p/day	40.00	R 38 700.00	R 1 548 000.00	For assistance in the removal of equipment and demolition purposes
6		Plant						
7		Removal of salvageable equipment	1.2	sum	0.00	R 6 500 000.00	R -	Nominal allowance
8		Crane	11.1	p/day	0.00	R 38 700.00	R -	For assistance in the removal of equipment and demolition purposes
9		Sub-Total for cost and time related items					R 4 798 000.00	
10		Demolitioning of plant and related structures						
11	21	Compressor house	3.7	m²	1318.45	R 380.00	R 501 011.00	Double volume building
12	22	Condenser cooling towers	4.2	m³	527.80	R 640.00	R 337 792.00	Structural Concrete, assume 5m high, 250mm thick
13	23	Refrigeration plant	4.2	m³	1128.75	R 640.00	R 722 400.00	Structural Concrete, assume 5m high, 250mm thick
14	27	Grout Plant	3.7	m²	1734.00	R 380.00	R 658 920.00	Double volume building
15	28	Ventilation Shaft	2.2	t	480.00	R 1 280.00	R 614 400.00	Info received from Impala
16	40	Water treatment plant	2.3.2	m²	1225.00	R 590.00	R 722 750.00	Assume 450kg of steel per m²
17	43	Sewage Plant	3.6	m²	1732.50	R 320.00	R 554 400.00	Single volume building
18	59	Booster pump station	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
19	87	Plant - Cleaners						To be constructed according to program
20		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
21		Structural concrete	4.3	m³	0.00	R 400.00	R -	
22	88	Plant - Cleaners						To be constructed according to program
23		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
24		Structural concrete	4.3	m³	0.00	R 400.00	R -	
25	89	Plant - Mill						To be constructed according to program
26		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
27		Structural concrete	4.3	m³	0.00	R 400.00	R -	
28	94	Plant - Storage area	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
29	98	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
30	99	Plant	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
31	100	Plant - Thickener						To be constructed according to program
32		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
33		Structural concrete	4.3	m³	0.00	R 400.00	R -	
34	101	Plant - Thickener						To be constructed according to program
35		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
36		Structural concrete	4.3	m³	0.00	R 400.00	R -	
37	102	Plant - Thickener						To be constructed according to program
38		Structural steel	2.3.2	m²	0.00	R 590.00	R -	
39		Structural concrete	4.3	m³	0.00	R 400.00	R -	
40		Sub - Total for demolitioning of plant and related structures					R 4 111 673.00	
41		Demolitioning of all structural structures						
42	16	Carpports	2.6.1	m²	5934.00	R 90.00	R 534 060.00	IBR sheeting
43	17	Contractors Carpports	2.6.1	m²	424.00	R 90.00	R 38 160.00	IBR sheeting
44	15	Headgear	2.2	t	600.00	R 1 280.00	R 768 000.00	Info received from Impala
45		Structural concrete	4.1	m³	147.00	R 1 280.00	R 188 160.00	
46	38	Waste silo	4.3	m³	210.00	R 400.00	R 84 000.00	Structural concrete, 250mm thick, assume 15m high
47	38	Waste silo	4.3	m³	210.00	R 400.00	R 84 000.00	Structural concrete, 250mm thick, assume 15m high
48	41	Water tank	2.4.2	no	1.00	R 26 650.00	R 26 650.00	
49	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
50	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
51	60	Sump	4.2	m³	6.24	R 640.00	R 3 993.60	Structural concrete, 300mm thick, 2m deep
52	61	Water Canal	8.4	m²	2892.00	R 135.00	R 363 420.00	Thin reinforced concrete
53	78	Plant - covered parking	2.6.1	m²	0.00	R 90.00	R -	To be constructed according to program
54	104	Plant - Waste silo	4.3	m³	0.00	R 400.00	R -	To be constructed according to program
55		Sub - Total for demolitioning of all structural structures					R 2 135 443.60	
56		Demolitioning of workshops and stores						
57	13	Winder House	3.7	m²	1119.00	R 380.00	R 425 220.00	Double volume building
58	14	Winder House	3.7	m²	956.70	R 380.00	R 363 546.00	Double volume building
59	18	Winder rope store	3.1.1	m²	45.00	R 295.00	R 13 275.00	Single storey brick building
60	24	Fan and electrical motor store	3.1.1	m²	198.00	R 295.00	R 58 410.00	Single storey brick building
61	25	Workshop sink and perm	3.6	m²	819.90	R 320.00	R 262 368.00	Single volume building
62	31	Main Store	3.7	m²	1380.80	R 380.00	R 524 704.00	Double volume building
63	32	Explosives Store	3.6	m²	285.00	R 320.00	R 91 200.00	Single volume building
64	33	Gas bottle store	3.1.1	m²	38.00	R 295.00	R 10 620.00	Single storey brick building
65	34	Chemical Store	3.1.1	m²	201.00	R 295.00	R 59 295.00	Single storey brick building
66	35	Paint Store	3.1.1	m²	41.00	R 295.00	R 12 095.00	Single storey brick building
67	36	Oil store	3.1.1	m²	38.00	R 295.00	R 10 620.00	Single storey brick building
68	44	Generator farm	3.2.1	m²	412.00	R 480.00	R 197 760.00	Single storey brick building
69	82	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
70	83	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
71	86	Plant - Workshop	3.7	m²	0.00	R 380.00	R -	To be constructed according to program
72	93	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
73	95	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
74	96	Plant - Building	3.6	m²	0.00	R 320.00	R -	To be constructed according to program
75		Sub - Total for demolitioning of workshops and stores					R 2 029 113.00	
76		Demolitioning of permanent brick structures and temporary structures						
77	1	Offices	3.1.1	m²	1023.00	R 295.00	R 301 785.00	Single storey brick building
78	2	Change House	3.1.1	m²	1066.00	R 295.00	R 314 470.00	Single storey brick building
79	3	Laundry	3.1.1	m²	179.00	R 295.00	R 52 805.00	Single storey brick building
80	4	Boiler House	3.1.1	m²	232.00	R 295.00	R 68 440.00	Single storey brick building
81	5	Change House	3.1.1	m²	1119.00	R 295.00	R 330 105.00	Single storey brick building
82	6	Lamp Room	3.1.1	m²	909.50	R 295.00	R 268 302.50	Single storey brick building
83	7	Change House	3.1.1	m²	0.00	R 295.00	R -	
84	8	Induction Room	3.1.1	m²	144.00	R 295.00	R 42 480.00	Single storey brick building
85	9	Training Centre	3.1.1	m²	116.70	R 295.00	R 34 426.50	Single storey brick building
86	10	Gate House	3.1.1	m²	184.00	R 295.00	R 54 280.00	Single storey brick building
87	11	Banksman Cabin & Proto Room	3.1.1	m²	88.60	R 295.00	R 26 137.00	Single storey brick building
88	12	Central Control room	3.1.1	m²	302.00	R 295.00	R 89 090.00	Single storey brick building
89	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
90	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
91	20	Transformer bays	3.2.1	m²	156.00	R 480.00	R 74 880.00	Single storey brick building

Closure Costing - Leeuwkop			Closure Costs - Year 10 - (2021)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
92	29	Sub-station	3.2.1	m ²	120.00	R 480.00	R 57 600.00	Single storey brick building
93	30	MCC	3.2.1	m ²	65.00	R 480.00	R 31 200.00	Single storey brick building
94	45	Sumer Sub-station	3.2.1	m ²	206.40	R 480.00	R 99 072.00	Single storey brick building
95	47	Geology building	3.1.1	m ²	183.00	R 295.00	R 53 985.00	Single storey brick building
96	48	Offices	3.1.1	m ²	149.60	R 295.00	R 44 132.00	Single storey brick building
97	49	Offices	3.1.1	m ²	149.60	R 295.00	R 44 132.00	Single storey brick building
98	50	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
99	51	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
100	52	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
101	53	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
102	54	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
103	55	Lamp Room	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
104	56	Steffanuti Stocks	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
105	57	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
106	58	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
107	76	Explosives bunker	3.1.1	m ²	150.00	R 295.00	R 44 250.00	Single storey brick building
108	77	Weighbridge	1.2	sum	0.00	R 50 000.00	R -	To be constructed according to program
109	79	Plant - Admin building	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
110	80	Plant - Induction room	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
111	81	Plant - Office	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
112	84	Plant - Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
113	85	Plant - Sub-station	3.2.1	m ²	0.00	R 480.00	R -	To be constructed according to program
114	97	Plant - building	3.1.1	m ²	0.00	R 295.00	R -	To be constructed according to program
115		Sub - Total for demolitoning of permanent brick structures and temporary structures					R 2 126 612.00	
116		Removal of all surface related finishes						
117	26	Surface cable yard	4.5	m ²	30.00	R 590.00	R 17 700.00	Assume 250mm thick concrete
118	46	PFC yard	4.5	m ²	1199.00	R 590.00	R 707 410.00	Assume 250mm thick concrete
119	47	Geology yard	4.5	m ²	473.00	R 590.00	R 279 070.00	Assume 250mm thick concrete
120	73	General surface bed	4.4	m ²	10610.85	R 215.00	R 2 281 332.75	Assume 150mm thick concrete
121	90	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
122	91	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
123	92	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
124	103	Plant - Laydown areas	4.5	m ²	0.00	R 590.00	R -	To be constructed according to program
125		Sub - Total for removal of all surface related finishes					R 3 285 512.75	
126		Removal of all linear items						
127	32	Fencing to explosives store	5.5.3	m	85.00	R 27.00	R 2 295.00	
128	37	Reef and waste conveyor	5.1.5	m	0.00	R 640.00	R -	To be constructed according to program
129	39	Reef conveyor	5.1.5	m	252.00	R 640.00	R 161 280.00	Suspended conveyor
130	62	Waste conveyor	5.1.2	m	1226.00	R 265.00	R 324 890.00	Overland conveyor
131	63	Return water pipeline	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
132	64	Tailing delivery pipeline	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
133	65	Pipeline from sump to PCD	5.2.2	m	348.00	R 48.00	R 16 704.00	200-350mm steel pipelines
134	66	Emergency pipeline from concentrator to dam	5.2.2	m	0.00	R 48.00	R -	To be constructed according to program
135	67	Distribution pipelines	5.2.2	m	4780.00	R 48.00	R 229 440.00	200-350mm steel pipelines
136	68	Water main pipeline	5.2.2	m	1870.00	R 48.00	R 89 760.00	200-350mm steel pipelines
137	69	Fire main pipeline	5.2.2	m	1870.00	R 48.00	R 89 760.00	200-350mm steel pipelines
138	74	Perimeter fencing	5.5.3	m	3600.00	R 27.00	R 97 200.00	
139	75	Perimeter fencing to tailings complex	5.5.3	m	0.00	R 27.00	R -	To be constructed according to program
140	76	Perimeter fence to explosives bunker	5.5.3	m	201.00	R 27.00	R 5 427.00	
141	105	Plant - Steel gantry's with delivery pipelines	2.3.1	m ²	0.00	R 107.00	R -	To be constructed according to program
142	106	Plant - Security fencing	5.5.3	m	0.00	R 27.00	R -	To be constructed according to program
143		Main water pipeline	5.2.3	m	4669.00	R 64.00	R 298 816.00	
144		Sub - Total for removal of all linear items					R 1 315 572.00	
145		Rehabilitation of roads						
146		Entrance road	1.1	na	0.00	R -	R -	Assume will remain
147		Minor gravel road to explosives bunker	8.3	m ²	5864.00	R 4.00	R 23 456.00	
148		Sub - Total for rehabilitation of roads					R 23 456.00	
149		Disposal of demolition waste						
150		Sorting and screening of waste	6.1	%	15027382.35	2.50%	R 375 684.56	2.50%
151		Disposal of demolition waste	6.2.1	m ³ /km	28296.00	R 160.00	R 4 527 360.00	Assume 50km distance
152		Sub - Total for disposal of demolition waste					R 4 903 044.56	
153		Sub - Total for infrastructural aspects					R 24 728 426.91	
154								
155		Mining Aspects						
156		Open pit reclamation including final voids and ramps						
157		Not applicable	1.1	na	0.00	R -	R -	
158		Sub - Total open pit reclamation including final voids and ramps					R -	
159		Sealing of shafts and inclines						
160	15	Service and Production Shaft	7.1.15	sum	1.00	R 2 573 324.00	R 2 573 324.00	10m Diameter
161	23	Refrigeration shaft	7.1.11	sum	1.00	R 1 838 850.00	R 1 838 850.00	8m Diameter
162	28	Vent Shaft	7.1.11	sum	1.00	R 1 838 850.00	R 1 838 850.00	8m Diameter
163		Sub - Total for sealing of shafts and inclines					R 6 251 024.00	
164		Rehabilitation of overburden and spoils						
165	110	Topsoil stockpiles						Only footprints will remain
166		Rip area to alleviate compaction	9.5.1	ha	1.18	R 9 400.00	R 11 099.52	
167		Establish vegetation	10.4.1	ha	1.18	R 13 800.00	R 16 295.04	
168		Sub - Total for rehabilitation of overburden and spoils					R 27 394.56	
169		Rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)						
170		Not applicable	1.1	na	0.00	R -	R -	
171		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)					R -	
172		Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)						
173	70	Settling dams						
174		Remove contaminated sediment and stockpile	9.2	m ³	1320.00	R 20.00	R 26 400.00	Assume 250mm contaminated sediment
175		Load and haul contaminated sediment	1.2	sum	1320.00	R 90.40	R 119 328.00	Haul sediment to tailings facility 8km
176		Remove HDPE liner	6.4	m ²	5280.00	R 6.50	R 34 320.00	
177		Breach dam wall	10.1.5	m	302.00	R 220.00	R 66 440.00	Doze material inward to fill void
178		Shape and level area	10.1.1	ha	0.53	R 55 250.00	R 29 172.00	Make area free draining
179		Establish vegetation	10.4.1	ha	0.53	R 13 800.00	R 7 286.40	
180	71A	Emergency storage dam						
181		Remove contaminated sediment and stockpile	9.2	m ³	2986.50	R 20.00	R 59 730.00	Assume 100mm contaminated sediment
182		Load and haul contaminated sediment	1.2	sum	2986.50	R 90.40	R 269 979.60	Haul sediment to tailings facility 8km
183		Remove HDPE liner	6.4	m ²	31861.00	R 6.50	R 207 096.50	
184		Breach dam wall	10.1.5	m	714.00	R 220.00	R 157 080.00	Doze material inward to fill void
185		Shape and level area	10.1.1	ha	3.19	R 55 250.00	R 176 032.03	Make area free draining
186		Establish vegetation	10.4.1	ha	3.19	R 13 800.00	R 43 968.18	
187	71B	Emergency storage dam						
188		Remove contaminated sediment and stockpile	9.2	m ³	2160.80	R 20.00	R 43 216.00	Assume 100mm contaminated sediment
189		Load and haul contaminated sediment	1.2	sum	2160.80	R 90.40	R 195 336.32	Haul sediment to tailings facility 8km
190		Remove HDPE liner	6.4	m ²	29000.00	R 6.50	R 188 500.00	
191		Breach dam wall	10.1.5	m	688.00	R 220.00	R 151 360.00	Doze material inward to fill void
192		Shape and level area	10.1.1	ha	2.90	R 55 250.00	R 160 225.00	Make area free draining
193		Establish vegetation	10.4.1	ha	2.90	R 13 800.00	R 40 020.00	
194	72	Pollution control dam						
195		Remove contaminated sediment and stockpile	9.2	m ³	1768.50	R 20.00	R 35 370.00	Assume 100mm contaminated sediment
196		Load and haul contaminated sediment	1.2	sum	1768.50	R 90.40	R 159 872.40	Haul sediment to tailings facility 8km
197		Remove HDPE liner	6.4	m ²	17685.00	R 6.50	R 114 952.50	

Closure Costing - Leeuwkop			Closure Costs - Year 10 - (2021)					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
198		Breach dam wall	10.1.5	m	532.00	R 220.00	R 117 040.00	Doze material inward to fill void
199		Shape and level area	10.1.1	ha	0.17	R 55 250.00	R 9 248.85	Make area free draining
200		Establish vegetation	10.4.1	ha	0.17	R 13 800.00	R 2 310.12	
201	107	Waste Rock Dump						Assumed 20m strip would not have been rehabilitated
202		Strip topsoil and stockpile for movement of toe	9.2	m³	1717.00	R 20.00	R 34 340.00	Assume 250mm thick
203		Reshape WRD	9.1.1	m³	29925.00	R 13.50	R 403 987.50	Cut to fill action assumed 20m high at 87.5m³/per meter
204		Import capping layers	9.6.1	m³	8160.00	R 28.00	R 228 480.00	Assumed 1km haul distance, 300mm thick capillary layer and 300mm thick black turf
205		Import topsoil layer	9.6.1	m³	2720.00	R 28.00	R 76 160.00	Assumed 1km haul distance, 200mm thick layer
206		Establish vegetation	10.4.1	ha	1.36	R 13 800.00	R 18 768.00	
207	108	Tailings Complex						To be constructed according to program
208		Seal Penstocks	7.3	sum	0.00	R 213 200.00	R -	
209		Breach wall & reshape	10.1.5	m	0.00	R 220.00	R -	
210		Rip to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
211		Establish vegetation disturbed footprint	10.4.1	ha	0.00	R 13 800.00	R -	
212		Establish vegetation on tailings dam slopes	10.4.2	ha	0.00	R 19 250.00	R -	
213		Establish vegetation on tailings dam top	10.4.2	ha	0.00	R 19 250.00	R -	
214	109	Waste Rock Noise Barrier						
215		Reshape berm	10.1.1	ha	2.10	R 55 250.00	R 116 025.00	
216		Import topsoil layer	9.6.1	m³	4200.00	R 28.00	R 117 600.00	Assumed 1km haul distance, 200mm thick layer
217		Establish vegetation	10.4.1	ha	2.10	R 13 800.00	R 28 980.00	
218		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (polluting potential)					R 3 438 624.40	
219		Reclamation of subsided areas						
220		Not applicable	1.1	na	0.00	R -	R -	
221		Sub - Total for reclamation of subsided areas					R -	
222		Sub - Total for Mining aspects					R 9 717 042.96	
223								
224		General Surface Reclamation						
225		Mine						
226		Shape and level disturbed area	10.1.1	ha	20.00	R 55 250.00	R 1 105 000.00	Includes stockpiling of material, backfilling of excavations in cut to fill operation and final profiling @ave 500mm over footprint
227		Rip area to alleviate compaction	9.5.1	ha	20.00	R 9 400.00	R 188 000.00	500mm deep ripping
228		Import topsoil	9.6.1	m³	30000.00	R 28.00	R 840 000.00	150mm from local stockpile, assume 1km load and haul
229		Establish vegetation	10.4.1	ha	20.00	R 13 800.00	R 276 000.00	
230		Plant						Footprint not disturbed
231		Shape and level disturbed area	10.1.1	ha	0.00	R 55 250.00	R -	
232		Rip area to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	
233		Import topsoil	9.6.1	m³	0.00	R 28.00	R -	
234		Establish vegetation	10.4.1	ha	0.00	R 13 800.00	R -	
235		Sub - Total for General Surface Reclamation					R 2 409 000.00	
236								
237		Water Management						
238		Not applicable	1.1	na	0.00	R -	R -	Assume none required, all mitigation measures will be implemented during the operational phase
239		Sub - Total for Water Management					R -	
240								
241		SUB - TOTAL 1 (for infrastructural and related structures)					R 36 854 469.86	
242		Post - closure aspects						
243		Surface water quality monitoring	12.1	yr	5.00	R 106 000.00	R 530 000.00	8 monitoring points on a monthly basis
244		Groundwater quality monitoring	12.2	yr	5.00	R 150 000.00	R 750 000.00	15 monitoring points on a quarterly basis
245		Reclamation monitoring on reclaimed areas	12.3	ha	36.90	R 2 500.00	R 92 250.00	5 years
246		Care and maintenance of reclaimed areas	12.4	ha	36.90	R 15 500.00	R 571 950.00	5 years
247		Sub - Total for Post closure aspects					R 1 944 200.00	
248		Contingencies for post closure aspects	1.2	sum	1.00	R 194 420.00	R 194 420.00	Assumed 10 percent for post closure aspects
249		Sub - Total for Contingencies for post closure aspects					R 194 420.00	
250		SUB - TOTAL 2 (for post - closure aspects)					R 2 138 620.00	
251		Additional allowances						
252		Preliminary and General	1.2	sum	1.00	R 2 211 268.19	R 2 211 268.19	Assume 6 percent of sub - total 1
253		Contingencies	1.2	sum	1.00	R 3 685 446.99	R 3 685 446.99	Assume 10 percent of sub - total 1
254		SUB - TOTAL 3 (for additional allowances)					R 5 896 715.18	
255		Grand - Total (for sub - total 1+2+3)					R 44 889 805.04	

Closure Costing - Leeuwkop			Closure Costs - Scheduled					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
1		Infrastructural Aspects						
2		Nominal cost and time related items						
3		Mine						
4		Removal of salvageable equipment	1.2	sum	1.00	R 3 750 000.00	R 3 750 000.00	Nominal allowance
5		Crane	11.1	p/day	45.00	R 38 700.00	R 1 741 500.00	For assistance in the removal of equipment and demolition purposes
6		Plant						
7		Removal of salvageable equipment	1.2	sum	1.00	R 6 500 000.00	R 6 500 000.00	Nominal allowance
8		Crane	11.1	p/day	30.00	R 38 700.00	R 1 161 000.00	For assistance in the removal of equipment and demolition purposes
9		Sub-Total for cost and time related items					R 13 162 500.00	
10		Demolitioning of plant and related structures						
11	21	Compressor house	3.7	m²	1318.45	R 380.00	R 501 011.00	Double volume building
12	22	Condenser cooling towers	4.2	m³	527.80	R 640.00	R 337 792.00	Structural Concrete, assume 5m high, 250mm thick
13	23	Refrigeration plant	4.2	m³	1128.75	R 640.00	R 722 400.00	Structural Concrete, assume 5m high, 250mm thick
14	27	Grout Plant	3.7	m²	1734.00	R 380.00	R 658 920.00	Double volume building
15	28	Ventilation Shaft	2.2	t	480.00	R 1 280.00	R 614 400.00	Info received from Impala
16	40	Water treatment plant	2.3.2	m²	1225.00	R 590.00	R 722 750.00	Assume 450kg of steel per m²
17	43	Sewage Plant	3.6	m²	1732.50	R 320.00	R 554 400.00	Single volume building
18	59	Booster pump station	3.6	m²	850.00	R 320.00	R 272 000.00	Single volume building
19	87	Plant - Cleaners						
20		Structural steel	2.3.2	m²	765.00	R 590.00	R 451 350.00	Assume 450kg of steel per m²
21		Structural concrete	4.3	m³	191.25	R 400.00	R 76 500.00	Assume 250mm thick reinforced concrete
22	88	Plant - Cleaners						
23		Structural steel	2.3.2	m²	1297.00	R 590.00	R 765 230.00	Assume 450kg of steel per m²
24		Structural concrete	4.3	m³	324.25	R 400.00	R 129 700.00	Assume 250mm thick reinforced concrete
25	89	Plant - Mill						
26		Structural steel	2.3.2	m²	1240.00	R 590.00	R 731 600.00	Assume 450kg of steel per m²
27		Structural concrete	4.3	m³	310.00	R 400.00	R 124 000.00	Assume 250mm thick reinforced concrete
28	94	Plant - Storage area						
29	98	Plant	3.7	m²	1363.00	R 380.00	R 517 940.00	Double volume building
30	99	Plant	3.6	m²	333.00	R 320.00	R 106 560.00	Single volume building
31	100	Plant - Thickener						
32		Structural steel	2.3.2	m²	146.00	R 590.00	R 86 140.00	Assume 450kg of steel per m²
33		Structural concrete	4.3	m³	565.00	R 400.00	R 226 000.00	Assume 250mm thick reinforced concrete
34	101	Plant - Thickener						
35		Structural steel	2.3.2	m²	115.00	R 590.00	R 67 850.00	Assume 450kg of steel per m²
36		Structural concrete	4.3	m³	299.00	R 400.00	R 119 600.00	Assume 250mm thick reinforced concrete
37	102	Plant - Thickener						
38		Structural steel	2.3.2	m²	115.00	R 590.00	R 67 850.00	Assume 450kg of steel per m²
39		Structural concrete	4.3	m³	299.00	R 400.00	R 119 600.00	Assume 250mm thick reinforced concrete
40		Sub - Total for demolishing of plant and related structures					R 8 095 833.00	
41		Demolitioning of all structural structures						
42	16	Carpports	2.6.1	m²	5934.00	R 90.00	R 534 060.00	IBR sheeting
43	17	Contractors Carpports	2.6.1	m²	424.00	R 90.00	R 38 160.00	IBR sheeting
44	15	Headgear	2.2	t	600.00	R 1 280.00	R 768 000.00	Info received from Impala
45		Structural concrete	4.1	m³	147.00	R 1 280.00	R 188 160.00	
46	38	Waste silo	4.3	m³	210.00	R 400.00	R 84 000.00	Structural concrete, 250mm thick, assume 15m high
47	38	Waste silo	4.3	m³	210.00	R 400.00	R 84 000.00	Structural concrete, 250mm thick, assume 15m high
48	41	Water tank	2.4.2	no	1.00	R 26 650.00	R 26 650.00	
49	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
50	42	M/W Dam	4.3	m³	56.25	R 400.00	R 22 500.00	Assume concrete dam, 250mm thick, 6m high
51	60	Sump	4.2	m³	6.24	R 640.00	R 3 993.60	Structural concrete, 300mm thick, 2m deep
52	61	Water Canal	8.4	m²	2892.00	R 135.00	R 363 420.00	Thin reinforced concrete
53	78	Plant - covered parking	2.6.1	m²	1580.00	R 90.00	R 142 200.00	IBR sheeting
54	104	Plant - Waste silo	4.3	m³	210.00	R 400.00	R 84 000.00	Structural concrete, 250mm thick, assume 15m high
55		Sub - Total for demolishing of all structural structures					R 2 361 643.00	
56		Demolitioning of workshops and stores						
57	13	Winder House	3.7	m²	1119.00	R 380.00	R 425 220.00	Double volume building
58	14	Winder House	3.7	m²	956.70	R 380.00	R 363 546.00	Double volume building
59	18	Winder rope store	3.1.1	m²	45.00	R 295.00	R 13 275.00	Single storey brick building
60	24	Fan and electrical motor store	3.1.1	m²	198.00	R 295.00	R 58 410.00	Single storey brick building
61	25	Workshop sink and perm	3.6	m²	819.90	R 320.00	R 262 368.00	Double volume building
62	31	Main Store	3.7	m²	1380.80	R 380.00	R 524 704.00	Double volume building
63	32	Explosives Store	3.6	m²	285.00	R 320.00	R 91 200.00	Single volume building
64	33	Gas bottle store	3.1.1	m²	38.00	R 295.00	R 10 620.00	Single storey brick building
65	34	Chemical Store	3.1.1	m²	201.00	R 295.00	R 59 295.00	Single storey brick building
66	35	Paint Store	3.1.1	m²	41.00	R 295.00	R 12 095.00	Single storey brick building
67	36	Oil store	3.1.1	m²	36.00	R 295.00	R 10 620.00	Single storey brick building
68	44	Generator farm	3.2.1	m²	412.00	R 480.00	R 197 760.00	Single storey brick building
69	82	Plant - Building	3.6	m²	702.00	R 320.00	R 224 640.00	Single volume building
70	83	Plant - Building	3.6	m²	383.00	R 320.00	R 122 560.00	Single volume building
71	86	Plant - Workshop	3.7	m²	647.00	R 380.00	R 245 860.00	Double volume building
72	93	Plant - Building	3.6	m²	150.00	R 320.00	R 48 000.00	Single volume building
73	95	Plant - Building	3.6	m²	132.00	R 320.00	R 42 240.00	Single volume building
74	96	Plant - Building	3.6	m²	136.00	R 320.00	R 43 520.00	Single volume building
75		Sub - Total for demolishing of workshops and stores					R 2 755 933.00	
76		Demolitioning of permanent brick structures and temporary structures						
77	1	Offices	3.1.1	m²	1023.00	R 295.00	R 301 785.00	Single storey brick building
78	2	Change House	3.1.1	m²	1066.00	R 295.00	R 314 470.00	Single storey brick building
79	3	Laundry	3.1.1	m²	179.00	R 295.00	R 52 805.00	Single storey brick building
80	4	Boiler House	3.1.1	m²	232.00	R 295.00	R 68 440.00	Single storey brick building
81	5	Change House	3.1.1	m²	1119.00	R 295.00	R 330 105.00	Single storey brick building
82	6	Lamp Room	3.1.1	m²	909.50	R 295.00	R 268 302.50	Single storey brick building
83	7	Change House	3.1.1	m²	1066.00	R 295.00	R 314 470.00	Single storey brick building
84	8	Induction Room	3.1.1	m²	144.00	R 295.00	R 42 480.00	Single storey brick building
85	9	Training Centre	3.1.1	m²	116.70	R 295.00	R 34 426.50	Single storey brick building
86	10	Gate House	3.1.1	m²	184.00	R 295.00	R 54 280.00	Single storey brick building
87	11	Banksman Cabin & Proto Room	3.1.1	m²	88.60	R 295.00	R 26 137.00	Single storey brick building
88	12	Central Control room	3.1.1	m²	302.00	R 295.00	R 89 090.00	Single storey brick building
89	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
90	19	Sub-station	3.2.1	m²	15.00	R 480.00	R 7 200.00	Single storey brick building
91	20	Transformer bays	3.2.1	m²	156.00	R 480.00	R 74 880.00	Single storey brick building

Closure Costing - Leeuwkop			Closure Costs - Scheduled					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
92	29	Sub-station	3.2.1	m ²	120.00	R 480.00	R 57 600.00	Single storey brick building
93	30	MCC	3.2.1	m ²	65.00	R 480.00	R 31 200.00	Single storey brick building
94	45	Sumer Sub-station	3.2.1	m ²	206.40	R 480.00	R 99 072.00	Single storey brick building
95	47	Geology building	3.1.1	m ²	183.00	R 295.00	R 53 985.00	Single storey brick building
96	48	Offices	3.1.1	m ²	149.60	R 295.00	R 44 132.00	Single storey brick building
97	49	Offices	3.1.1	m ²	149.60	R 295.00	R 44 132.00	Single storey brick building
98	50	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
99	51	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
100	52	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
101	53	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
102	54	Change House	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
103	55	Lamp Room	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
104	56	Steffanuti Stocks	3.3	m ²	16.00	R 140.00	R 2 240.00	Portable offices
105	57	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
106	58	Shaft Sinker Offices	3.3	m ²	124.00	R 140.00	R 17 360.00	Portable offices
107	76	Explosives bunker	3.1.1	m ²	150.00	R 295.00	R 44 250.00	Single storey brick building
108	77	Weighbridge	1.2	sum	2.00	R 50 000.00	R 100 000.00	Nominal allowance
109	79	Plant - Admin building	3.1.1	m ²	739.00	R 295.00	R 218 005.00	Single storey brick building
110	80	Plant - Induction room	3.1.1	m ²	74.00	R 295.00	R 21 830.00	Single storey brick building
111	81	Plant - Office	3.1.1	m ²	154.00	R 295.00	R 45 430.00	Single storey brick building
112	84	Plant - Sub-station	3.2.1	m ²	3.70	R 480.00	R 1 776.00	
113	85	Plant - Sub-station	3.2.1	m ²	5.00	R 480.00	R 2 400.00	
114	97	Plant - building	3.1.1	m ²	120.00	R 295.00	R 35 400.00	Single storey brick building
115		Sub - Total for demolitoning of permanent brick structures and temporary structures					R 2 865 923.00	
116		Removal of all surface related finishes						
117	26	Surface cable yard	4.5	m ²	30.00	R 590.00	R 17 700.00	Assume 250mm thick concrete
118	46	PFC yard	4.5	m ²	1199.00	R 590.00	R 707 410.00	Assume 250mm thick concrete
119	47	Geology yard	4.5	m ²	473.00	R 590.00	R 279 070.00	Assume 250mm thick concrete
120	73	General surface bed	4.4	m ²	10610.85	R 215.00	R 2 281 332.75	Assume 150mm thick concrete
121	90	Plant - Laydown areas	4.5	m ²	224.00	R 590.00	R 132 160.00	Assume 250mm thick concrete
122	91	Plant - Laydown areas	4.5	m ²	119.00	R 590.00	R 70 210.00	Assume 250mm thick concrete
123	92	Plant - Laydown areas	4.5	m ²	163.00	R 590.00	R 96 170.00	Assume 250mm thick concrete
124	103	Plant - Laydown areas	4.5	m ²	1006.00	R 590.00	R 593 540.00	Assume 250mm thick concrete
125		Sub - Total for removal of all surface related finishes					R 4 177 592.75	
126		Removal of all linear items						
127	32	Fencing to explosives store	5.5.3	m	85.00	R 27.00	R 2 295.00	
128	37	Reef and waste conveyor	5.1.5	m	406.00	R 640.00	R 259 840.00	Suspended conveyor
129	39	Reef conveyor	5.1.5	m	252.00	R 640.00	R 161 280.00	Suspended conveyor
130	62	Waste conveyor	5.1.2	m	1226.00	R 265.00	R 324 890.00	Overland conveyor
131	63	Return water pipeline	5.2.2	m	11100.00	R 48.00	R 532 800.00	200-350mm steel pipelines
132	64	Tailing delivery pipeline	5.2.2	m	11295.00	R 48.00	R 542 160.00	200-350mm steel pipelines
133	65	Pipeline from sump to PCD	5.2.2	m	348.00	R 48.00	R 16 704.00	200-350mm steel pipelines
134	66	Emergency pipeline from concentrator to dam	5.2.2	m	221.00	R 48.00	R 10 608.00	200-350mm steel pipelines
135	67	Distribution pipelines	5.2.2	m	4780.00	R 48.00	R 229 440.00	200-350mm steel pipelines
136	68	Water main pipeline	5.2.2	m	1870.00	R 48.00	R 89 760.00	200-350mm steel pipelines
137	69	Fire main pipeline	5.2.2	m	1870.00	R 48.00	R 89 760.00	200-350mm steel pipelines
138	74	Perimeter fencing	5.5.3	m	3600.00	R 27.00	R 97 200.00	
139	75	Perimeter fencing to tailings complex	5.5.3	m	5509.00	R 27.00	R 148 743.00	
140	76	Perimeter fence to explosives bunker	5.5.3	m	201.00	R 27.00	R 5 427.00	
141	105	Plant - Steel gantry's with delivery pipelines	2.3.1	m ²	1204.00	R 107.00	R 128 828.00	Assume 100kg of steel per m ²
142	106	Plant - Security fencing	5.5.3	m	1333.00	R 27.00	R 35 991.00	
143		Main water pipeline	5.2.3	m	4669.00	R 64.00	R 298 816.00	
144		Sub - Total for removal of all linear items					R 2 974 542.00	
145		Rehabilitation of roads						
146		Entrance road	1.1	na	0.00	R -	R -	Assume will remain
147		Minor gravel road to explosives bunker	8.3	m ²	5864.00	R 4.00	R 23 456.00	
148		Sub - Total for rehabilitation of roads					R 23 456.00	
149		Disposal of demolition waste						
150		Sorting and screening of waste	6.1	%	23254923.35	2.50%	R 581 373.08	2.50%
151		Disposal of demolition waste	6.2.1	m ³ /km	51480.00	R 160.00	R 8 236 800.00	Assume 50km distance
152		Sub - Total for disposal of demolition waste					R 8 818 173.08	
153		Sub - Total for infrastructural aspects					R 45 225 596.43	
154								
155		Mining Aspects						
156		Open pit reclamation including final voids and ramps						
157		Not applicable	1.1	na	0.00	R -	R -	
158		Sub - Total open pit reclamation including final voids and ramps					R -	
159		Sealing of shafts and inclines						
160	15	Service and Production Shaft	7.1.15	sum	1.00	R 2 573 324.00	R 2 573 324.00	10m Diameter
161	23	Refrigeration shaft	7.1.11	sum	1.00	R 1 838 850.00	R 1 838 850.00	8m Diameter
162	28	Vent Shaft	7.1.11	sum	1.00	R 1 838 850.00	R 1 838 850.00	8m Diameter
163		Sub - Total for sealing of shafts and inclines					R 6 251 024.00	
164		Rehabilitation of overburden and spoils						
165	110	Topsoil stockpiles						Only footprints will remain
166		Rip area to alleviate compaction	9.5.1	ha	1.18	R 9 400.00	R 11 099.52	
167		Establish vegetation	10.4.1	ha	1.18	R 13 800.00	R 16 295.04	
168		Sub - Total for rehabilitation of overburden and spoils					R 27 394.56	
169		Rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)						
170		Not applicable	1.1	na	0.00	R -	R -	
171		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (non polluting potential)					R -	
172		Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)						
173	70	Settling dams						
174		Remove contaminated sediment and stockpile	9.2	m ³	1320.00	R 20.00	R 26 400.00	Assume 250mm contaminated sediment
175		Load and haul contaminated sediment	1.2	sum	1320.00	R 90.40	R 119 328.00	Haul sediment to tailings facility 8km
176		Remove HDPE liner	6.4	m ²	5280.00	R 6.50	R 34 320.00	
177		Breach dam wall	10.1.5	m	302.00	R 220.00	R 66 440.00	Doze material inward to fill void
178		Shape and level area	10.1.1	ha	0.53	R 55 250.00	R 29 172.00	Make area free draining
179		Establish vegetation	10.4.1	ha	0.53	R 13 800.00	R 7 286.40	
180	71A	Emergency storage dam						
181		Remove contaminated sediment and stockpile	9.2	m ³	2986.50	R 20.00	R 59 730.00	Assume 100mm contaminated sediment
182		Load and haul contaminated sediment	1.2	sum	2986.50	R 90.40	R 269 979.60	Haul sediment to tailings facility 8km
183		Remove HDPE liner	6.4	m ²	31861.00	R 6.50	R 207 096.50	
184		Breach dam wall	10.1.5	m	714.00	R 220.00	R 157 080.00	Doze material inward to fill void
185		Shape and level area	10.1.1	ha	3.19	R 55 250.00	R 176 032.03	Make area free draining
186		Establish vegetation	10.4.1	ha	3.19	R 13 800.00	R 43 968.18	
187	71B	Emergency storage dam						
188		Remove contaminated sediment and stockpile	9.2	m ³	2160.80	R 20.00	R 43 216.00	Assume 100mm contaminated sediment
189		Load and haul contaminated sediment	1.2	sum	2160.80	R 90.40	R 195 336.32	Haul sediment to tailings facility 8km
190		Remove HDPE liner	6.4	m ²	29000.00	R 6.50	R 188 500.00	
191		Breach dam wall	10.1.5	m	688.00	R 220.00	R 151 360.00	Doze material inward to fill void
192		Shape and level area	10.1.1	ha	2.90	R 55 250.00	R 160 225.00	Make area free draining
193		Establish vegetation	10.4.1	ha	2.90	R 13 800.00	R 40 020.00	
194	72	Pollution control dam						
195		Remove contaminated sediment and stockpile	9.2	m ³	1768.50	R 20.00	R 35 370.00	Assume 100mm contaminated sediment
196		Load and haul contaminated sediment	1.2	sum	1768.50	R 90.40	R 159 872.40	Haul sediment to tailings facility 8km
197		Remove HDPE liner	6.4	m ²	17685.00	R 6.50	R 114 952.50	

Closure Costing - Leeuwkop			Closure Costs - Scheduled					
Item nr	ID	Task	Unit Rate Code	Unit	Quantity	Rate	Amount	Notes
198		Breach dam wall	10.1.5	m	532.00	R 220.00	R 117 040.00	Doze material inward to fill void
199		Shape and level area	10.1.1	ha	0.17	R 55 250.00	R 9 248.85	Make area free draining
200		Establish vegetation	10.4.1	ha	0.17	R 13 800.00	R 2 310.12	
201	107	Waste Rock Dump						Assumed 20m strip would not have been rehabilitated
202		Strip topsoil and stockpile for movement of toe	9.2	m³	1717.00	R 20.00	R 34 340.00	Assume 250mm thick
203		Reshape WRD	9.1.1	m³	29925.00	R 13.50	R 403 987.50	Cut to fill action assumed 20m high at 87.5m³/per meter
204		Import capping layers	9.6.1	m³	8160.00	R 28.00	R 228 480.00	Assumed 1km haul distance, 300mm thick capillary layer and 300mm thick black turf
205		Import topsoil layer	9.6.1	m³	2720.00	R 28.00	R 76 160.00	Assumed 1km haul distance, 200mm thick layer
206		Establish vegetation	10.4.1	ha	1.36	R 13 800.00	R 18 768.00	
207	108	Tailings Complex						
208		Seal Penstocks	7.3	sum	4.00	R 213 200.00	R 852 800.00	Assume 4 penstocks
209		Breach wall & reshape	10.1.5	m	0.00	R 220.00	R -	Not required as wall will remain
210		Rip to alleviate compaction	9.5.1	ha	0.00	R 9 400.00	R -	Not required, entire area is covered
211		Establish vegetation disturbed footprint	10.4.1	ha	0.00	R 13 800.00	R -	Not required, entire area is covered
212		Establish vegetation on tailings dam slopes	10.4.2	ha	1.00	R 19 250.00	R 19 307.75	Assume last lift will remain upon closure
213		Establish vegetation on tailings dam top	10.4.2	ha	155.00	R 19 250.00	R 2 983 750.00	Assume total top surface to be vegetated
214	109	Waste Rock Noise Barrier						
215		Reshape berm	10.1.1	ha	2.10	R 55 250.00	R 116 025.00	
216		Import topsoil layer	9.6.1	m³	4200.00	R 28.00	R 117 600.00	Assumed 1km haul distance, 200mm thick layer
217		Establish vegetation	10.4.1	ha	2.10	R 13 800.00	R 28 980.00	
218		Sub - Total for rehabilitation of processing waste deposits and evaporation ponds (polluting potential)					R 7 294 482.15	
219		Reclamation of subsided areas						
220		Not applicable	1.1	na	0.00	R -	R -	
221		Sub - Total for reclamation of subsided areas					R -	
222		Sub - Total for Mining aspects					R 13 572 900.71	
223								
224		General Surface Reclamation						
225		Mine						
226		Shape and level disturbed area	10.1.1	ha	20.00	R 55 250.00	R 1 105 000.00	Includes stockpiling of material, backfilling of excavations in cut to fill operation and final profiling @ave 500mm over footprint
227		Rip area to alleviate compaction	9.5.1	ha	20.00	R 9 400.00	R 188 000.00	500mm deep ripping
228		Import topsoil	9.6.1	m³	30000.00	R 28.00	R 840 000.00	150mm from local stockpile, assume 1km load and haul
229		Establish vegetation	10.4.1	ha	20.00	R 13 800.00	R 276 000.00	
230		Plant						
231		Shape and level disturbed area	10.1.1	ha	9.00	R 55 250.00	R 497 250.00	Includes stockpiling of material, backfilling of excavations in cut to fill operation and final profiling @ave 500mm over footprint
232		Rip area to alleviate compaction	9.5.1	ha	9.00	R 9 400.00	R 84 600.00	500mm deep ripping
233		Import topsoil	9.6.1	m³	13500.00	R 28.00	R 378 000.00	150mm from local stockpile, assume 1km load and haul
234		Establish vegetation	10.4.1	ha	9.00	R 13 800.00	R 124 200.00	
235		Sub - Total for General Surface Reclamation					R 3 493 050.00	
236								
237		Water Management						
238		Not applicable	1.1	na	0.00	R -	R -	Assume none required, all mitigation measures will be implemented during the operational phase
239		Sub - Total for Water Management					R -	
240								
241		SUB - TOTAL 1 (for infrastructural and related structures)					R 62 291 547.14	
242		Post - closure aspects						
243		Surface water quality monitoring	12.1	yr	5.00	R 106 000.00	R 530 000.00	8 monitoring points on a monthly basis
244		Groundwater quality monitoring	12.2	yr	30.00	R 150 000.00	R 4 500 000.00	15 monitoring points on a quarterly basis
245		Reclamation monitoring on reclaimed areas	12.3	ha	133.90	R 2 500.00	R 334 750.00	5 years
246		Care and maintenance of reclaimed areas	12.4	ha	133.90	R 15 500.00	R 2 075 450.00	5 years
247		Sub - Total for Post closure aspects					R 7 440 200.00	
248		Contingencies for post closure aspects	1.2	sum	1.00	R 744 020.00	R 744 020.00	Assumed 10 percent for post closure aspects
249		Sub - Total for Contingencies for post closure aspects					R 744 020.00	
250		SUB - TOTAL 2 (for post - closure aspects)					R 8 184 220.00	
251		Additional allowances						
252		Preliminary and General	1.2	sum	1.00	R 3 737 492.83	R 3 737 492.83	Assume 6 percent of sub - total 1
253		Contingencies	1.2	sum	1.00	R 6 229 154.71	R 6 229 154.71	Assume 10 percent of sub - total 1
254		SUB - TOTAL 3 (for additional allowances)					R 9 966 647.54	
255		Grand - Total (for sub - total 1+2+3)					R 80 442 414.68	

Rates Table - 2012					
Unit Rate Code	Costing Items	Currency	Unit Rates	Unit	Notes
1 Nominal cost and time related items					
1.1	Not Applicable	Rands	R -	na	
1.2	Sum	Rands	R -	sum	
1.3	Rate	Rands	R -	unit	
2 Steel and related structures					
2.1	Cladding / Sheeting	Rands	R 21.50	m ²	
2.2	Structural steelwork	Rands	R 1 280.00	t	
2.3	Super structures				
2.3.1	Light plant structures	Rands	R 107.00	m ²	up to 100kg of steel per square meter
2.3.2	Medium plant structures	Rands	R 590.00	m ²	up to 450kg of steel per square meter
2.3.3	Medium / Heavy plant structures	Rands	R 1 280.00	m ²	up to 1000kg of steel per square meter
2.3.4	Heavy plant structures	Rands	R 1 900.00	m ²	up to 1500kg of steel per square meter
2.4	Steel tanks with rubber lining				
2.4.1	0-5m	Rands	R 10 600.00	no	diameter
2.4.2	5-10m	Rands	R 26 650.00	no	diameter
2.4.3	10-15m	Rands	R 37 300.00	no	diameter
2.4.4	15-20m	Rands	R 53 300.00	no	diameter
2.4.5	20-30m	Rands	R 69 300.00	no	diameter
2.5	Single steel tanks	Rands	R 5 300.00	no	small enclosed steel tanks
2.6	Carports				
2.6.1	Carports with IBR covering	Rands	R 90.00	m ²	excludes paving
2.6.2	Carports with Shade net covering	Rands	R 43.00	m ²	excludes paving
3 Buildings and related structures					
3.1	Brick buildings				
3.1.1	Single storey building	Rands	R 295.00	m ²	includes soft strip, excludes disposal of waste
3.1.2	Double storey building	Rands	R 500.00	m ²	includes soft strip, excludes disposal of waste
3.2	Substations, pump stations and strong rooms				
3.2.1	Single storey building	Rands	R 480.00	m ²	includes soft strip, excludes disposal of waste
3.2.2	Double storey or double volume building	Rands	R 690.00	m ²	includes soft strip, excludes disposal of waste
3.3	Prefabricated or temporary buildings	Rands	R 140.00	m ²	
3.4	110mm Brick wall	Rands	R 15.00	m ²	
3.5	230mm Brick wall	Rands	R 30.00	m ²	
3.6	Workshop & Stores	Rands	R 320.00	m ²	single volume buildings
3.7	Workshop & Stores	Rands	R 380.00	m ²	double volume buildings
4 Concrete					
4.1	Heavy concrete, thickness greater than 750mm	Rands	R 1 280.00	m ³	bulk and heavy reinforced concrete
4.2	Medium concrete, thickness between 250 and 750mm	Rands	R 640.00	m ³	Heavy reinforced concrete
4.3	Light concrete, thickness less than 250mm	Rands	R 400.00	m ³	reinforced concrete
4.4	Floors, bases and foundations after removal of superstructure	Rands	R 215.00	m ²	250mm floors with 500mm bases on 30% of the area
4.5	Heavy duty floors, bases and foundations after removal of superstructure	Rands	R 590.00	m ²	400mm floors with 800mm bases on 30% of the area
4.6	Strip footings	Rands	R 135.00	m	
4.7	Column footings	Rands	R 280.00	no	
5 Linear items					
5.1	Conveyors				
5.1.1	Overland conveyor - light, no cladding	Rands	R 215.00	m	
5.1.2	Overland conveyor - medium	Rands	R 265.00	m	
5.1.3	Overland conveyor - heavy	Rands	R 320.00	m	
5.1.4	Suspended conveyor - light to medium	Rands	R 535.00	m	
5.1.5	Suspended conveyor - heavy with cladding	Rands	R 640.00	m	
5.2	Pipelines				
5.2.1	Overland steel pipelines on plinths (<200mm)	Rands	R 27.00	m	5m plinth spacing, includes disposal of waste @ 10km
5.2.2	Overland steel pipelines on plinths (200-350mm)	Rands	R 48.00	m	5m plinth spacing, includes disposal of waste @ 10km
5.2.3	Overland steel pipelines on plinths (350-500mm)	Rands	R 64.00	m	5m plinth spacing, includes disposal of waste @ 10km
5.3	Overland power lines				
5.3.1	Minor lines	Rands	R 27.00	m	
5.3.2	Major lines	Rands	R 80.00	m	
5.4	Railway lines				
5.4.1	Electrified	Rands	R 295.00	m	excludes ballast and rehab
5.4.2	Non - electrified	Rands	R 215.00	m	excludes ballast and rehab
5.5	Fencing				
5.5.1	Erect security fencing	Rands	R 133.00	m	
5.5.2	Erect stock fencing	Rands	R 27.00	m	
5.5.3	Dismantling of security fencing	Rands	R 27.00	m	
5.5.4	Dismantling of stock fencing	Rands	R 8.00	m	
5.5.5	Dismantling of steel palisade fencing	Rands	R 58.00	m	
5.5.6	Dismantling of concrete palisade fencing	Rands	R 120.00	m	
6 Waste					
6.1	Sorting and screening of waste	Rands		2.5	%
6.2	Disposal of waste				
6.2.1	Disposal of inert demolition waste	Rands	R 160.00	m ³ /km	50km haul distance
6.2.2	Disposal of hazardous waste	Rands	R 805.00	m ³	excludes transport
6.3	Decontamination of equipment				
6.3.1	Decontamination of equipment - small projects	Rands		5	% of overall dismantling of steel structures
6.3.2	Decontamination of equipment - large projects	Rands		2.5	% of overall dismantling of steel structures
6.4	Removal and disposal of single HDPE liner	Rands	R 6.50	m ²	
7 Shaft and portals					
7.1	Shafts				
7.1.1	Sealing of vertical shaft	Rands	R 714 220.00	sum	3m diameter
7.1.2	Sealing of vertical shaft	Rands	R 810 160.00	sum	3.5m diameter
7.1.3	Sealing of vertical shaft	Rands	R 986 050.00	sum	4m diameter
7.1.4	Sealing of vertical shaft	Rands	R 1 087 320.00	sum	4.5m diameter
7.1.5	Sealing of vertical shaft	Rands	R 1 332 500.00	sum	5m diameter
7.1.6	Sealing of vertical shaft	Rands	R 1 375 140.00	sum	5.5m diameter
7.1.7	Sealing of vertical shaft	Rands	R 1 410 500.00	sum	6.0m diameter
7.1.8	Sealing of vertical shaft	Rands	R 1 492 400.00	sum	6.5m diameter

Rates Table - 2012					
Unit Rate Code	Costing Items	Currency	Unit Rates	Unit	Notes
7.1.9	Sealing of vertical shaft	Rands	R 1 599 000.00	sum	7m diameter
7.1.10	Sealing of vertical shaft	Rands	R 1 719 458.00	sum	7.5m diameter
7.1.11	Sealing of vertical shaft	Rands	R 1 838 850.00	sum	8m diameter
7.1.12	Sealing of vertical shaft	Rands	R 1 982 760.00	sum	8.5m diameter
7.1.13	Sealing of vertical shaft	Rands	R 2 132 000.00	sum	9m diameter
7.1.14	Sealing of vertical shaft	Rands	R 2 281 240.00	sum	9.5m diameter
7.1.15	Sealing of vertical shaft	Rands	R 2 573 324.00	sum	10m diameter
7.1.16	Sealing of vertical shaft	Rands	R 2 665 000.00	sum	11m diameter
7.2	Backfill incline shaft portal	Rands	R 31 980.00	sum	
7.3	Plug outlet and seal penstock of tailings dam	Rands	R 213 200.00	sum	assume 100 000m ³ backfilled with waste rock <1km haul distance, excl topsoil
7.4	Plug surface holing's	Rands	R 200 000.00	sum	
7.5	Seal incline shaft	Rands	R 159 900.00	sum	
8 Roads, hardstands and paving					
8.1	Remove tar roads with 600mm layer works	Rands	R 48.00	m ²	layer works buried in trench next to road or 10km load and haul, but excludes disposal of tar
8.2	Major gravel roads with engineered surfaces	Rands	R 21.00	m ²	layer works buried next to road or 10km load and haul
8.3	Minor gravel roads and tracks	Rands	R 4.00	m ²	minor gravel roads and tracks (no layer works) - ripped, profiled and vegetated
8.4	Concrete slab or concrete liners	Rands	R 135.00	m ²	thin concrete with minimal reinforcing
8.5	Removal of gunited embankments	Rands	R 80.00	m ²	excludes disposal
8.6	Removal of brick paving & stone pitching	Rands	R 38.00	m ²	
9 Earthworks					
9.1	Dozing				
9.1.1	Dozing to profile dumps (60m max)	Rands	R 13.50	m ³	cut to fill including final profiling
9.1.2	Bulk dozing of material (60m max)	Rands	R 11.00	m ³	bulk dozing, no profiling
9.2	Excavation	Rands	R 20.00	m ³	
9.3	Backfilling				
9.3.1	Backfilling of final void	Rands	R 15.50	m ³	large volumes: 50% dozing & 50% load and haul
9.3.2	Backfilling of final void	Rands	R 27.00	m ³	large volumes : 5km haul distance for bulk material
9.4	Compacting	Rands	R 3.50	m ²	in layers of 250mm
9.5	Ripping				
9.5.1	Ripping of areas to alleviate compaction	Rands	R 9 400.00	ha	500mm deep ripping
9.5.2	Deep ripping	Rands	R 13 800.00	ha	1000mm deep ripping
9.6	Transport				
9.6.1	Load and haul	Rands	R 28.00	m ³	1km, small volumes
9.6.2	Extra over rates for hauling outside free haul distance	Rands	R 7.80	m ³ /km	small volumes
9.6.3	Load and haul for 4km distance	Rands	R 51.40	m ³ /km	small volumes
9.6.4	Load and haul	Rands	R 13.20	m ³	1km, large volumes
9.6.5	Extra over rates for hauling outside free haul distance	Rands	R 3.00	m ³ /km	large volumes
9.6.6	Load and haul for 4km distance	Rands	R 163.20	m ³ /km	large volumes
9.6.7	Load and haul for 50km distance	Rands	R 163.20	m ³ /km	large volumes
10 Reclamation on disturbed areas					
10.1	Profiling - dozer work				
10.1.1	Shaping, leveling of infrastructural footprint areas (500mm)	Rands	R 55 250.00	ha	includes stockpiling of material, backfilling of excavations in cut to fill operation and final profiling @ave 500mm over footprint
10.1.2	Shaping, leveling of infrastructural footprint areas (750mm)	Rands	R 82 875.00	ha	includes stockpiling of material, backfilling of excavations in cut to fill operation and final profiling @ave 750mm over footprint
10.1.3	Reshaping, profiling of dumps (general)	Rands	R 110 500.00	ha	
10.1.4	Profiling of disturbed areas (general)	Rands	R 939 250.00	ha	minimal dozing to make area free draining
10.1.5	Breach dam wall & reshape 1:5	Rands	R 220.00	m	approx. 5m high @ 1:5
10.2	Import clean / removing contaminated soil				
10.2.1	Import cover material and spread (250m)	Rands	R 88 400.00	ha	2500m ³ over 1km average @ R32/m ³
10.2.2	Remove contaminated soil to 250mm average depth	Rands	R 127 000.00	ha	assume 4km haul distance
10.3	Capping / impermeable cover				
10.3.1	Install 2mm HDPE liner	Rands	R 94.00	m ²	
10.4	Establish vegetation				includes soil amelioration, cultivation and seeding actions
10.4.1	Establishment of vegetation (general)	Rands	R 13 800.00	ha	general on flat surfaces
10.4.2	Establishment of vegetation on WRD and tailings dams	Rands	R 19 250.00	ha	general in topsoil layer on sloped areas
10.4.3	Establish vegetation on backfilled pit areas	Rands	R 4 400.00	ha	
10.4.4	Rip and establish vegetation on stockpile footprint areas and haul roads	Rands	R 5 500.00	ha	
11 Plant and machinery					
11.1	Crane	Rands	R 38 700.00	p/day	excludes site establishment
11.2	Tlb	Rands	R 2 800.00	p/day	excludes site establishment
11.3	Excavator (20ton)	Rands	R 4 200.00	p/day	excludes site establishment
11.4	Pecker (20ton)	Rands	R 6 850.00	p/day	excludes site establishment
12 Post closure aspects					
12.1	Surface water	Rands	R 106 000.00	yr	8 monitoring points on a monthly basis
12.2	Groundwater	Rands	R 150 000.00	yr	15 monitoring points on a quarterly basis
12.3	Reclamation monitoring	Rands	R 2 500.00	ha	5 years
12.4	Care and maintenance	Rands	R 15 500.00	ha	5 years
13 Specialists Work					
13.1	Specialist, soil and groundwater study	Rands	R 330 000.00	sum	Nominal allowance, not for large and complex and integrated sites
13.2	Basic Assessment with Public Participation	Rands	R 250 000.00	sum	Nominal allowance, not for large and complex and integrated sites
13.3	Integrated Water and Waste Management Plan (IWWMP) and Water Use License Application (WULA)	Rands	R 220 000.00	sum	Nominal allowance, not for large and complex and integrated sites
13.4	Waste License Application	Rands	R 40 000.00	sum	Nominal allowance, not for large and complex and integrated sites
14 Water Treatment Cost					
14.1	Cleaning of Stormwater system	Rands	R -	sum	Nominal allowance
14.2	Cleaning of Oily and Chemical Sewer system	Rands	R -	sum	Nominal allowance
14.3	xxxxxxx	Rands	R -	m ³	
14.4	yyyyyyy	Rands	R -	m ³	
14.5	zzzzzzz	Rands	R -	m ³	
15 Boreholes					
15.1	Drilling of borehole	Rands	R 33 000.00	sum	Nominal allowance
15.2	Equipping of borehole (Pump, electrical and piping)	Rands	R 55 000.00	sum	Nominal allowance
16 Other					
16.1	Unspecified	Rands	R -	sum	
16.2	Unspecified	Rands	R -	sum	

Rates Table - 2012					
Unit Rate Code	Costing Items	Currency	Unit Rates	Unit	Notes
16.3	Unspecified	: Rands	R	- sum	



Appendix B: Detailed reference maps.

