DEPARTMENT OF WATER AND SANITATION

NO. 932 07 SEPTEMBER 2018

ANNEXURE A:

OLIFANTS & LETABA NOTICE (ENGLISH)

DEPARTMENT OF WATER AND SANITATION

NATIONAL WATER ACT, 1998

(ACT NO.36 OF 1998)

RESERVE DETERMINATION OF WATER RESOURCES FOR THE OLIFANTS AND LETABA CATCHMENTS

I, Deborah Mochotlhi, in my capacity as the Acting Director-General of the Department of Water and Sanitation, having complied with section 13 of the National Water Act, (Act No. 36 of 1998) ("the Act") and Regulation 3 of the Regulations for the establishment of Water Resource Classification System (No. R. 810 Government Gazette No. 33541, 17 September 2010), and duly authorised in terms of sections 16(1) and 63(1)(a) of the Act, after having complied with section 16(2) and (3) of the Act, hereby publish the Reserve determination of water resources for the catchments of the Olifants and Letaba.

Director: Reserve Determination
Attention: Mr Yakeen Atwaru
Department of Water and Sanitation
Ndinaye Building 5084
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MS DEBORAH MOCHOTLHI
ACTING DIRECTOR-GENERAL
DATE: 25/07/2018

RESERVE DETERMINATION OF WATER RESOURCES FOR THE CATCHMENTS OF THE OLIFANTS AND LETABA IN TERMS OF SECTION 16(1) AND (2) OF THE NATIONAL WATER ACT, 1998 (ACT NO. 36 OF 1998)

SCHEDULE

DESCRIPTION OF WATER RESOURCE

1. (1) The Reserve is determined for all or part of every significant water resource within the catchments of the Olifants and Letaba as set out below:

Water Management Area:	Olifants
Drainage Regions:	B Primary Drainage Region (excluding Shingwedzi catchment (B90))
Rivers:	Olifants and Letaba River Systems

(2) The Minister has in terms of section 16 of the National Water Act, 1998 (Act No.36 of 1998) ("the Act'), prescribed a system for classifying water resources by issuing Government Notice No. R. 810, published in Government Gazette No. 33541 dated 17 September 2010. In terms of section 16(1) of the Act, the Minister must, as soon as reasonably practicable after the class of all or part of a water resource has been determined, by Notice in the Gazette, determine the Reserve for all or part of that water resource.

(3) The Minister, in terms of section 16(1) and (2) of the Act, declares, the following Reserve for the catchments of the Olifants and Letaba.

RESERVE DERMINATION AS REQUIRED IN TERMS OF SECTION 16(1) AND (2) OF THE NATIONAL WATER ACT, 1998

2. (1)A summary of the quantity component for the Rivers which include the EWR (**Figure 1 & 2**) and the BHN in terms of section 16(1) of the Act for the Olifants and Letaba catchments is set out in item 4. **Table 4.1** includes the results of the priority sites and **Table 4.2** includes the results of the biophysical nodes and the remaining EWR sites.

(2)A summary of the quality component for the River at the EWR sites in terms of section 16(1) of the Act for the Olifants and Letaba catchments is set out in **Table 5.1 - 5.29**.

(3) A summary of the groundwater contribution to the Reserve for Water Quantity in terms of section 16(1) of the Act for the Olifants and Letaba catchments is set out in **Table 6.1**.

(4)A summary of the groundwater contribution to the Reserve for Water Quality in terms of section 16(1) of the Act for the Olifants and Letaba catchments is set out in **Table 7.1**, **7.2** and **7.3**.

(5)A summary of the wetland Reserve for Water Quantity & Quality in terms of section 16(1) of the Act for the Olifants and Letaba catchments is set out in **Table 8.1**.

(6)The Reserve will apply from the date signed off as determined in terms of section 16(1) of the Act, unless otherwise specified by the Minister.

3. ACRONYMS AND DEFINITIONS

3.1. Acronyms

BHN	Basic Human Needs
EcoSpecs	Ecological Specifications
EIS	Ecological Importance and Sensitivity
EWR	Ecological Water Requirement
GRAII	Groundwater Resource Assessment Phase II
GRDM	Groundwater Reserve Determination Methodology
GRUs	Groundwater Resource Units
NMAR	Natural Mean Annual Runoff
MCM	Million Cubic Metres
PES	Present Ecological Status
REC	Recommended Ecological Category
TEC	Target Ecological Category
TPCs	Thresholds of Potential Concern

3.2. Definitions

Baseflow is a sustained low flow in rivers during dry or fair weather conditions, but not necessarily all contributed by groundwater; includes contribution from delayed interflow and groundwater discharge.

EWR (Ecological Water Requirements) refers to the flow patterns (magnitude, timing and duration) and water quality needed to maintain a riverine ecosystem in a particular condition.

Recharge is the addition of water to the zone of saturation, either by downward percolation of precipitation or surface water and/ or the lateral migration of groundwater from adjacent aquifers.

Reserve is the quantity and quality of the water required to satisfy the basic human needs by securing a basic water supply and to protect the aquatic ecosystem in order to secure ecologically sustainable development and use of the relevant water resource.

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4. SURFACE-WATER - QUANTITY COMPONENT FOR RIVERS

The results for the Reserve determination and ecological categorisation for the Olifants and Letaba Systems, where the Reserve are expressed as a percentage of the NMAR for the respective catchments (cumulative) in terms of section (16)(1).

Table 4.1: Summary of the **quantity** component for the Rivers which include the EWR & BHN for the priority sites.

Quaternary Catchment	Water Resource	PES	EI_ES	TEC[5]	Ecological Reserve[3] (%NMAR)	BHN Reserve[4] (%NMAR)	Total Reserve[2] (%NMAR)	NMAR (MCM)[1]
B31C	Upper Elands - Olifants_ELA1	C/D	Very high	C	20.87	0.003	20.873	31.08
B20J	Lower Wilge - Olifants_EWR4	C	High	B	36.28	0.013	36.293	175.59
B20F	Wilge River - Olifants_WIL1	C/D	High	C	15.11	0.008	15.118	44.76
B11J	Olifants - Olifants_EWR1	D	Moderate	D	17.80	0.052	17.852	184.54
B32A	Olifants - Olifants_EWR2	C	High	B/C	29.83	0.008	29.838	500.63
B32A	Kranspoortspruit - OLI_EWR3	C	Very high	B	30.26	0.008	30.268	13.86
B32C	Selons - Olifants_SEL1	D	Very high	C	21.86	0.020	21.88	33.11
B71D	Olifants - Olifants_EWR8	C	Moderate	C/D	15.19	0.020	15.21	813.17
B42H	Lower Spekboom - Olifants_SPE1	C	High	C	23.16	0.091	23.251	148.19
B60B	Upper Blyde - Olifants_BLY1	C	High	B	46.08	0.005	46.085	164.45
B71J	Olifants - Olifants_EWR11	C	High	C/D	12.81	0.052	12.862	1321.92
B60J	Lower Blyde - Olifants_EWR12	C	High	B	31.14	0.052	31.192	383.27
B72D	Olifants - Olifants_EWR13	C	Moderate	C	22.37	0.301	22.671	1762.10
B73H	Olifants - Olifants_EWR16	D	High	C	21.06	0.002	21.062	1918.30
B83D	Letaba - Letaba_EWR7	C/D	High	C	17.34	0.000	17.34	646.28
B81D	Letsitele - Letaba_EWR2	D	High	D	17.59	0.078	17.668	116.55
B81B	Great Letaba - Letaba_EWR1	C/D	High	C	24.76	0.030	24.79	99.85
B81A	Broederstroom - Letaba_BRO1	B/C	High	B/C	49.22	0.012	49.232	6.68
B12E	Klein Olifants - Olifants-EWR3	D	High	C/D	19.8	0.009	19.809	81.54
B32D	Olifants - Olifants-EWR5	C	High	C	12.51	0.060	12.57	571.13
B31G	Lower Elands - Olifants-EWR6	C/D	Moderate	D	10.48	0.033	10.513	60.32
B51G	Olifants - Olifants-EWR7	E	Moderate	D	9.89	0.365	10.255	736.94
B41H	Steelpoort - Olifants-EWR9	D	High	C/D	23.33	3.086	26.416	137.50
B72K	Lower Ga-Selati - Olifants_EWR14b	E	Moderate	D	19.45	0.043	19.493	72.74
B11H	Spookspruit - SPK_EWR1	C	Moderate	C	30.12	0.001	30.121	9.32
B41H	Dwars - DWA_EWR1	B/C	High	B/C	31.24	3.086	34.326	26.10
B41K	Steelpoort - Olifants_EWR10	D	High	D	12.69	0.480	13.17	342.75
B60H	Ohrigstad - OLI_EWR8	C	Moderate	C	17.41	0.512	17.922	67.79
B72H	Upper Ga-Selati - Olifants_EWR14a	C	Moderate	C	27.53	0.123	27.653	52.20

1) NMAR is the Natural Mean Annual Runoff.
2) The total Reserve amount accounts for both the Ecological Reserve and the Basic Human Needs Reserve (BHN).
3) This amount represent the long term mean based on the NMAR. If the NMAR changes, this volume will also change.
4) Represents the percentage of BHN.
5) Target Ecological Category (TEC): The ultimate target to achieve a sustainable system both ecologically and economically taking into account the PES and REC.

Table 4.2: Summary of the **quantity** component for the Rivers EWR & BHN for the biophysical nodes and the remaining EWR sites.

Quaternary catchment	Water Resource	PES	EI	ES	REC	Ecological Reserve (%NMAR)	BHN Reserve (%NMAR)	Total Reserve (%NMAR)	NMAR (MCM)
B11A, B11B	Olifants (confluence with Steenkoolspruit)	C	High	High	C	10.25	0.001	10.251	61.30
B11D	Steenkoolspruit (outlet of quaternary	D	Moderate	High	D	4.70	0.006	4.706	44.60
B11E	Steenkoolspruit (confluence with Olifants)	D	Moderate	High	D	4.70	0.004	4.704	65.40
B11F	Olifants (outlet of quaternary)	D	Moderate	High	D	4.70	0.007	4.707	147.90
B11G	**Noupoortspruit (EWR site – NOU-EWR1) (existing)**	**C/D**	**EIS-Moderate**		**C/D**	**13.90**	**0.075**	**13.975**	**4.28**
B11G	Olifants (releases from Witbank Dam)	D	Moderate	High	D	4.70	0.075	4.775	164.00
B11H	Spookspruit (confluence with Olifants)	C	High	High	C	10.25	0.001	10.251	11.40
B11K, B11L	Klipspruit (confluence with Olifants)	D	High	Moderate	D	4.67	0.052	4.722	45.70
B12A	Klein Olifants (outlet of quaternary)	C	High	High	C	18.85	0.001	18.851	12.70
B12B	Klein Olifants (outlet of quaternary)	D	Moderate	High	D	8.11	0.000	8.110	16.90
B12C	**Klein Olifants (EWR site – OLI-EWR1) (Rapid site)**	**C**	**EIS-Low**		**C**	**18.85**	**0.003**	**18.853**	**44.50**
B12C	Klein Olifants (releases from Middelburg Dam)	D	High	High	D	5.52	0.003	5.523	53.50
B12D	Klein Olifants (outlet of quaternary)	D	Moderate	High	D	5.52	0.004	5.524	67.30
B20A	Bronkhorstspruit (outlet of quaternary)	C	Moderate	High	C	13.38	0.003	13.383	27.70
B20B	Koffiespruit (confluence with Bronkhorstspruit)	C	Moderate	High	C	13.38	0.005	13.385	15.50
B20C	Bronkhorstpruit (outlet from Bronkhorstspruit Dam)	C	High	High	C	13.44	0.003	13.443	56.40
B20D	Hondespruit (confluence with Bronkhorstspruit)	C	High	High	C	13.39	0.002	13.395	11.90
B20D	Bronkhorstpruit (confluence with Wilge)	C	High	Very High	C	13.45	0.002	13.452	79.90
B20E, B20F	Wilge (confluence with Bronkhorstspruit	C	High	High	C	13.42	0.003	13.423	45.80
B20G	Saalboomspruit (confluence with Wilge)	C	Moderate	High	C	13.40	0.025	13.425	22.10
B20H	Grootspruit (confluence with Wilge)	C	High	Very high	C	13.40	0.006	13.406	12.80
B20H	Wilge (outlet of quaternary)	B	High	Very high	B	17.92	0.006	17.926	158.20
B32C	Olifants (releases from Loskop Dam)	D	High	High	D	7.22	0.020	7.240	568.60
B32C	Olifants (outlet of quaternary – outlet of IUA3)	D	High	High	D	7.22	0.020	7.240	576.80
B31A, B, C	B31A (Elands) B31B (Hartbeesspruit) B31C (Elands) Node at outlet of B31C releases from Rust de Winter Dam.	C C C	High High High	High Very high Very high	C	12.34	0.003	12.343	33.50

Quaternary catchment	Water Resource	PES	EI	ES	REC	Ecological Reserve (%NMAR)	BHN Reserve (%NMAR)	Total Reserve (%NMAR)	NMAR (MCM)
B31F	Elands (releases from Mkumbe Dam)	C	High	High	C	12.34	0.008	12.348	59.80
B31H, B31J	Elands (outlet of quaternary, confluence with Olifants))	D	Moderate	Moderate	D	6.32	0.084	6.404	84.10
B32E, B32F	B32E (Bloed) B32F (Doringpoortloop) Node at confluence with Olifants in B32F.	B	Moderate High	High Moderate	B	13.90	0.397	14.297	17.20
B32G, B32H	B32G (Moses) B32H (Mametse and Moses) Node at outlet of B32H	C	High High	High High	C	9.93	0.084	10.014	35.40
B51B	Olifants (releases from Flag Boshielo Dam)	D	Moderate	High	D	3.91	1.009	4.919	723.40
B51D, B51E	Olifants (outlet of quaternary– outlet of IUA5)	D	Moderate	High	D	3.81	0.000	3.810	726.60
B41A	Grootspruit (outlet of quaternary) Langspruit, including Lakenvleispruit and Kleinspruit	C D	High High	High Very high	C	20.78	0.003	20.783	41.90
B41B	**Steelpoort (EWR site – OLI-EWR2) (Rapid site)**	**C**	**EIS=Moderate**		**C**	**20.78**	**0.006**	**20.786**	**63.50**
B41D, B41E	Steelpoort (inflow to De Hoop Dam)	C	High	Very high	C	20.78	0.394	21.174	117.00
B41F	**Klip (EWR site – OLI-EWR4) (Rapid site)**	**C**	**EIS=Moderate**		**C**	**12.44**	**0.019**	**12.459**	**5.20**
B41G	Upper reaches of Dwars (before mining impacts)	C	High	Very high	C	13.33	0.015	13.345	24.50
B51F	Nkumpi (outlet of quaternary)	C	High	Moderate	C	10.73	0.023	10.753	3.80
B52A, E,G,H	Olifants (outlet of quaternary – outlet of IUA7)	D	Moderate	High	D	3.88	0.541	4.421	799.7
B42B	**Dorpspruit (EWR site – OLI-EWR9) (Rapid site)**	**C/D**	**EIS=Low**		**C/D**	**11.99**	**0.006**	**11.996**	**63.20**
B42D, B42E	Dorps (confluence with Spekboom) Spekboom (confluence with Dorps)	C C	High High	High Very high	C	14.95	0.011	14.961	69.70
B42D	**Spekboom (EWR site – OLI-EWR6) (Rapid site)**	**C**	**EIS=High**		**C**	**17.15**	**0.001**	**17.151**	**28.00**
B42F	Watervals (releases from Buffelskloof Dam)	C	High	Very high	C	17.36	0.011	17.371	28.60
B42G	**Watervals (EWR site – OLI-EWR5) (Rapid site)**	**C**	**EIS=Moderate**		**C**	**15.47**	**0.283**	**31.220**	**36.40**
B42H	Spekboom (outlet of quaternary – outlet of IUA 8)	B	High	Moderate	B	28.84	0.091	28.931	149.00
B60E, B60F	Kranskloofspruit (confluence with Ohrigstad) Mantshibi (confluence with Ohrigstad) Ohrigstad (outlet of quaternary) Node at outlet of B60F.	C C D	High High Moderate	Very high Very high Very high	D	6.31	0.012	6.322	35.60

Quaternary catchment	Water Resource	PES	EI	ES	REC	Ecological Reserve (%NMAR)	BHN Reserve (%NMAR)	Total Reserve (%NMAR)	NMAR (MCM)
B60H	Ohrigstad (outlet of quaternary – outlet of IUA9B)	D	High	Very high	D	8.05	0.512	8.562	69.70
B60J	Blyde (confluence with Olifants)	C	Very high	Very high	C	16.13	0.052	16.182	385.70
B71C	Mohlapitse (upper reaches)	B	Very high	Very high	B	26.50	0.103	26.603	42.10
B71D, B71F	Olifants (confluence with Steelpoort)	D	High	Very high	D	4.30	0.253	4.553	937.9
B72A	Makhutswi, including Moungwane and Malomanye	C	High	High	C	12.89	23.721	36.611	38.00
B72C	Olifants (outlet – outlet of IUA10)	C	High	High	C	18.07	0.616	18.686	1755.5
B72E	Ngwabatse (confluence with Ga-Selati)	D	High	Very high	D	9.05	0.341	9.391	25.70
B72F, G	Ga-Selati (outlet of quaternary)	C	High	Very high	C	19.59	0.023	19.613	13.50
B72J	Molatle (confluence with Ga-Selati)	B	Moderate	Moderate	B	12.67	0.038	12.705	11.40
B72K	Ga-Selati (outlet of quaternary – outlet of UIA11)	E	High	High	D	11.95	0.043	11.993	72.70
B73A	**Klaserie (EWR site – OLI-EWR7) (Rapid site)**	**B/C**	**EIS=High**		**B/C**	**22.31**	**0.033**	**22.343**	**25.50**
B73B	Klaserie (confluence with Olifants)	C	High	High	C	15.41	0.008	15.418	37.10
B73D	Nhlaralumi, including Machaton, Nyameni and Thlaralumi	B	High	Low	B	13.65	0.006	13.656	6.80
B73E	Sesete (confluence with Timbavati)	B	High	Low	B	12.24	0.152	12.392	11.10
B73F	Timbavati (outlet of quaternary)	B	High	Moderate	B	12.12	0.003	12.123	18.70
B73J	Olifants (outlet of quaternary – outlet of IUA12)	C	High	Low	C	21.07	0.007	21.077	1931.7
B60A	Blyde (confluence with Lisbon)	C	High	Very high	C	18.73	0.015	18.745	87.10
B60B	Blyde (outlet of quaternary)	B	High	Very high	B	32.86	0.005	32.865	183.80
B60C	**Treur (EWR site – TRE-EWR1) (existing)**	**B**	**EIS=Very High**		**B**	**34.60**	**0.001**	**34.601**	**46.80**
B60D	Blyde (inflow to Blyderivierpoort Dam – outlet of IUA13)	B	High	Very high	B	31.57	0.008	31.578	283.90
B81A	00242 - Broederstroom	C	Moderate	High	C	21.90	0.012	21.912	23.83
B81A	00256 - Unnamed tributary	D	Low	High	D	21.90	0.012	21.912	16.34
B81A	00263 - Unnamed tributary	D	Moderate	Moderate	D	21.90	0.012	21.912	5.75
B81A	00270 - Broederstroom	C	Moderate	Very high	C	27.10	0.012	27.112	44..47
B81B	00227 - Mahitse	D	Moderate	High	D	22.10	0.030	22.130	13.60
B81B	00233 - Mahitse	C	Moderate	High	C	27.40	0.030	27.430	2.69
B81B	00234 - Mahitse	C	Moderate	High	C	29.80	0.030	29.130	10.13

Quaternary catchment	Water Resource	PES	EI	ES	REC	Ecological Reserve (%NMAR)	BHN Reserve (%NMAR)	Total Reserve (%NMAR)	NMAR (MCM)
B81B	00240 - Politsi	C	Moderate	High	C	19.10	0.030	19.130	38.98
B81B	00246 - Politsi	C	Moderate	Very high	C	17.70	0.030	17.730	36.26
B81B	00251 - Unnamed tributary	D	Low	Moderate	D	15.40	0.030	15.430	1.34
B81B	00269 - Morudi	B	Moderate	Very high	B	34.60	0.030	34.630	1.95
B81D	00272 - Letsitele	C	High	Very high	C	22.00	0.078	22.078	91.27
B81D	00277 - Thabina	D	High	High	D	13.00	0.078	13.078	25.28
B81D	00280 - Bobs	B	High	Very high	B	29.30	0.078	29.378	18.51
B81D	00296 - Mothlaka-Semeetse	B	High	Very high	B	34.60	0.078	34.678	10.53
B81E	00213 - Nwanedzi	D	Moderate	High	C	8.10	0.249	8.349	17.28
B81F	00189 - Merekome	C	Moderate	Moderate	C	7.10	0.244	7.344	4.74
B81F	00203 - Lerwatlou	C	Moderate	High	C	8.80	0.244	9.044	3.74
B81F	00228 - Reshwele	B	Moderate	Low	B	9.10	0.244	9.344	3.53
B81F	00232 - Makwena	B	Moderate	Low	B	12.80	0.244	13.044	2.75
B81G	00164 - Molototsi	D	Moderate	Moderate	D	6.60	0.288	6.888	16.72
B81H	00162 - Metsemola	C	Moderate	Low	C	9.80	0.545	10.345	0.64
B81H	00171 - Molototsi	D	Moderate	Moderate	D	6.50	0.545	7.045	25.84
B81J	00187 - Mbhawula	C	Moderate	Low	C	9.80	0.024	9.824	2.53
B82A	00168 - Middle Letaba	C	Moderate	Moderate	C	24.30	0.014	24.314	31.12
B82B	00173 - Koedoes	D	Moderate	Moderate	D	12.30	0.013	12.313	23.13
B82D	00154 - Middle Letaba	D	Moderate	Moderate	D	17.30	0.116	17.416	40.53
B82D	00163 - Lebjelebore	C	Moderate	High	C	25.80	0.116	25.916	4.90
B82D	00166 - Mosukodutsi	D	Moderate	Moderate	D	10.20	0.116	10.316	42.25
B82E	00149 - Khwali	B	High	Low	B	13.90	0.158	14.058	4.51
B82E	00150 - Klein Letaba	C	Moderate	Moderate	C	16.00	0.158	16.158	3.48
B82F	00128 - Klein Letaba	C	Moderate	Moderate	C	15.40	0.071	15.471	32.13
B82F	00137 - Klein Letaba	D	Moderate	Moderate	D	9.70	0.071	9.771	13.64
B82F	00141 - Soeketse	C	Moderate	Low	C	12.80	0.071	12.871	7.32
B82H	00127 - Nsama	C	Moderate	High	C	10.60	0.064	10.664	6.91
B82H	00139 - Magobe	B	Moderate	Low	B	14.90	0.064	14.964	3.10
B82H	00157 - Nsama	B	Moderate	Moderate	B	14.40	0.064	14.964	11.72
B82J	00197 - Ka-Malilibone	B	Moderate	Very low	B	13.80	0.013	13.813	0.66

5. SURFACE-WATER - QUALITY COMPONENT FOR RIVERS

Summary of the Quality component at EWR sites

Table 5.1: Olifants_ELA1: **Upper Elands** - EcoSpecs relating to Physico-chemical data

River: Upper Elands		**EWR : Olifants_ELA1**	Nearest WQ site (downstream Rust De Winter Dam) B3H013. No WQ site in vicinity of EWR site. In situ reading obtaining during survey
Water quality metrics		**ECOSPEC: PES AND REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 30 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 80 mg/L	
	Na	The 95th percentile of the data must be ≤ 70 mg/L	
	Cl	The 95th percentile of the data must be ≤.40 mg/L	
	Ca	The 95th percentile of the data must be ≤ 32 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 30 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 6.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 2.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.058 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L.	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2.	
	Ammonia	The 95th percentile of the data must be ≤ 72.5 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 78.5 µg/L	
	Flouride	The 95th percentile of the data must be ≤ 3.52 mg/L	

Table 5.2: Olifants_EWR4: **Lower Wilge** - EcoSpecs relating to Physico-chemical data

River: Lower Wilge		**EWR : Olifants_EWR4**	Downstream B2H015Q01 Wilge River at Zusterstroom
Water quality metrics		**ECOSPEC: PES AND REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 50 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 150 mg/L	
	Na	The 95th percentile of the data must be ≤ 92.5 mg/L	
	Cl	The 95th percentile of the data must be ≤.120 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 0.75 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.025 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Aluminium	The 95th percentile of the data must be ≤ 62.5 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 2.50 mg/L	
	Manganese	The 95th percentile of the data must be ≤ 99.0 µg/L	

Table 5.3: Olifants_WIL1: **Upper Wilge** - EcoSpecs relating to Physico-chemical data

River: Lower Wilge		**EWR : Olifants_WIL1**	Downstream B2H014Q01
Water quality metrics		**ECOSPEC: PES AND REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 30 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 80 mg/L	
	Na	The 95th percentile of the data must be ≤ 70mg/L	
	Cl	The 95th percentile of the data must be ≤.40 mg/L	
	Ca	The 95th percentile of the data must be ≤ 32 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 6.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 2.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.058 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 3.52 mg/L	

Table 5.4: Olifants_EWR1: **Olifants** - EcoSpecs relating to Physico-chemical data

River: Olifants		**EWR : Olifants_EWR1**	No water quality site in vicinity of EWR site
Water quality metrics		**ECOSPEC: REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 70 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 250 mg/L	
	Na	The 95th percentile of the data must be ≤ 115mg/L	
	Cl	The 95th percentile of the data must be ≤.175 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 85 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.6 – 9.2	
	Temperature	Variation of 2°C or 10% from background average temperature	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 6.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	Nitrite &Nitrite	The 50th percentile of the data must be ≤ 3.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.091 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 3.52 mg/L	

Table 5.5: Olifants_EWR2: **Olifants** - EcoSpecs relating to Physico-chemical data

River: Olifants		**EWR : Olifants_EWR2**	No water quality site in vicinity of EWR site
Water quality metrics		**ECOSPEC: REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 50 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 150 mg/L	
	Na	The 95th percentile of the data must be ≤ 92.5 mg/L	
	Cl	The 95th percentile of the data must be ≤.120 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 1.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.025 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Aluminium	The 95th percentile of the data must be ≤ 62.5 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 2.5 mg/L	
	Manganese	The 95th percentile of the data must be ≤ 180 µg/L	

Table 5.6: OLI_EWR3: **Kranspoortspruit** - EcoSpecs relating to Physico-chemical data

River: Kranspoortspruit		**EWR : OLI_EWR3**	No water quality site in vicinity of EWR
Water quality metrics		**ECOSPEC: REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 30 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 80 mg/L	
	Na	The 95th percentile of the data must be ≤ 70mg/L	
	Cl	The 95th percentile of the data must be ≤.40 mg/L	
	Ca	The 95th percentile of the data must be ≤ 32 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 30 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 0.75 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.02 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 15µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 14.56 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 3.52 mg/L	

Table 5.7: Olifants_SEL1: **Selons** - EcoSpecs relating to Physico-chemical data

River: Selons		**EWR : Olifants_SEL1**	No water quality site in vicinity of EWR site
Water quality metrics		**ECOSPEC: PES and REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 50 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 150 mg/L	
	Na	The 95th percentile of the data must be ≤ 92.5 mg/L	
	Cl	The 95th percentile of the data must be ≤.120 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.6 – 9.2	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 6.5 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 2.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.058 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m²	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 3.52 mg/L	
	Aluminium	The 95th percentile of the data must be ≤ 0.15 mg/L	
	Manganese	The 95th percentile of the data must be ≤ 1.30 mg/L	
	Zinc	The 95th percentile of the data must be ≤ 36 µg/L.	

Table 5.8: Olifants_EWR8: **Olifants** - EcoSpecs relating to Physico-chemical data

River: Olifants		**EWR : Olifants_EWR8**	No water quality site in vicinity of EWR site
Water quality metrics		**ECOSPEC: PES and REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 50 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 150 mg/L	
	Na	The 95th percentile of the data must be ≤ 92.5 mg/L	
	Cl	The 95th percentile of the data must be ≤.120 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 2.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.058 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m²	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 3.52 mg/L	

Table 5.9: Olifants_SPE1: **Spekboom** - EcoSpecs relating to Physico-chemical data

River: Lower Spekboom		**EWR : Olifants_SPE1**	No water quality site in vicinity of EWR site
Water quality metrics		**ECOSPEC: REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 50 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 150 mg/L	
	Na	The 95th percentile of the data must be ≤ 92.5 mg/L	
	Cl	The 95th percentile of the data must be ≤.120 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 1.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.025 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Aluminium	The 95th percentile of the data must be ≤ 150 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 3 mg/L	
	Manganese	The 95th percentile of the data must be ≤ 1.3 mg/L	

Table 5.10: Olifants_BLY1: **Upper Blyde** - EcoSpecs relating to Physico-chemical data

River: Upper Blyde		**EWR : Olifants_BLY1**	Downstream site B6H001Q01
Water quality metrics		**ECOSPEC: PES AND REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 30 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 80 mg/L	
	Na	The 95th percentile of the data must be ≤ 70mg/L	
	Cl	The 95th percentile of the data must be ≤.40 mg/L	
	Ca	The 95th percentile of the data must be ≤ 32 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 30 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 8.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 0.5 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.025 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 15 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 14.56 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 15 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 9 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 1.5 mg/L	

Table 5.11: Olifants_EWR11: **Olifants** - EcoSpecs relating to Physico-chemical data

River: Olifants		**EWR : Olifants_EWR11**	Downstream site B7H009Q01
Water quality metrics		**ECOSPEC: PES and REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 50 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 150 mg/L	
	Na	The 95th percentile of the data must be ≤ 92.5 mg/L	
	Cl	The 95th percentile of the data must be ≤.120 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 2.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.058 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 3.52 mg/L	

Table 5.12: Olifants_EWR12: **Lower Blyde** - EcoSpecs relating to Physico-chemical data

River: Lower Blyde		**EWR : Olifants_EWR12**	Upstream site B6H004Q01
Water quality metrics		**ECOSPEC: PES AND REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 30 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 80 mg/L	
	Na	The 95th percentile of the data must be ≤ 70mg/L	
	Cl	The 95th percentile of the data must be ≤.40 mg/L	
	Ca	The 95th percentile of the data must be ≤ 32 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 30 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 8.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 0.5 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.020 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 15 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 14.56 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 15 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 19 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 1.0 mg/L	

Table 5.13: Olifants_EWR13: **Olifants** - EcoSpecs relating to Physico-chemical data

River: Olifants		**EWR : Olifants_EWR13**	Upstream site B7H007Q01
Water quality metrics		**ECOSPEC: PES and REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 50 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 150 mg/L	
	Na	The 95th percentile of the data must be ≤ 92.5 mg/L	
	Cl	The 95th percentile of the data must be ≤.120 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 1.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.025 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Aluminium	The 95th percentile of the data must be ≤ 62.5 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 2.5 mg/L	

Table 5.14: Olifants_EWR16: **Olifants** - EcoSpecs relating to Physico-chemical data

River: Olifants		**EWR : Olifants_EWR16**	Downstream site B7H017Q01
Water quality metrics		**ECOSPEC: PES and REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 30 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 80 mg/L	
	Na	The 95th percentile of the data must be ≤ 70mg/L	
	Cl	The 95th percentile of the data must be ≤.40 mg/L	
	Ca	The 95th percentile of the data must be ≤ 32 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 30 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 8.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 0.75 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.02 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 2.5 mg/L	

Table 5.15: Olifants_EWR3: **Klein Olifants** - EcoSpecs relating to Physico-chemical data

River: Klein Olifants		**EWR : Olifants_EWR3**	No water quality site in vicinity of EWR site
Water quality metrics		**ECOSPEC: REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 50 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 150 mg/L	
	Na	The 95th percentile of the data must be ≤ 92.5 mg/L	
	Cl	The 95th percentile of the data must be ≤.120 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.6 – 9.2	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 6.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 2.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.058 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Fluoride	The 95th percentile of the data must be ≤ 3.52 mg/L	

Table 5.16: Olifants_EWR5: **Olifants** - EcoSpecs relating to Physico-chemical data

River: Olifants		**EWR : Olifants_EWR5**	No water quality site in vicinity of EWR site
Water quality metrics		**ECOSPEC: PES and REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 50 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 150 mg/L	
	Na	The 95th percentile of the data must be ≤ 92.5 mg/L	
	Cl	The 95th percentile of the data must be ≤.120 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 2.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.058 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 72.5 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 78.5 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 3.52 mg/L	

Table 5.17: Olifants_EWR6: **Lower Elands** - EcoSpecs relating to Physico-chemical data

River: Elands		**EWR : Olifants_EWR6**	Downstream site B3R005Q01
Water quality metrics		**ECOSPEC: PES and REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 50 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 150 mg/L	
	Na	The 95th percentile of the data must be ≤ 92.5 mg/L	
	Cl	The 95th percentile of the data must be ≤.120 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.6 – 9.2	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 6.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 3.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.091 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 30 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 42 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 72.5 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 78.5 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 3.52 mg/L	

Table 5.18: Olifants_EWR7: **Olifants** - EcoSpecs relating to Physico-chemical data

River: Olifants		**EWR : Olifants_EWR7**	No water quality site in vicinity of EWR site
Water quality metrics		**ECOSPEC: PES and REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 70 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 250 mg/L	
	Na	The 95th percentile of the data must be ≤ 115 mg/L	
	Cl	The 95th percentile of the data must be ≤.175 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 85 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.0 – 10.0	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 5.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 4.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.125 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 30 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 42 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 72.5 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 78.5 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 3.52 mg/L	

Table 5.19: Olifants_EWR9: **Steelpoort** - EcoSpecs relating to Physico-chemical data

River: Steelpoort		**EWR : Olifants_EWR9**	No water quality site in vicinity of EWR site
Water quality metrics		**ECOSPEC: PES and REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 70 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 250 mg/L	
	Na	The 95th percentile of the data must be ≤ 115 mg/L	
	Cl	The 95th percentile of the data must be ≤.175 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 85 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.0 – 10.0	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 5.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 4.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.125 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 30 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 42 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 72.5 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 78.5 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 3.52 mg/L	

Table 5.20: Olifants_EWR10: **Steelpoort** - EcoSpecs relating to Physico-chemical data

River: Lower Steelpoort		**EWR : Olifants_EWR10**	No water quality site in vicinity of EWR site use upstream site B4H011Q01 (B4H11)
Water quality metrics		**ECOSPEC: PES, RQO and TEC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 40 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 50 mg/L	
	Na	The 95th percentile of the data must be ≤ 40 mg/L	
	Cl	The 95th percentile of the data must be ≤ 50 mg/L	
	Ca	The 95th percentile of the data must be ≤ 50 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 70 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.0 – 9.0	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 4.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.091 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 30 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 42 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 72.5 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.8 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 0.7 mg/L	
	Aluminium	The 95th percentile of the data must be ≤ 62.5 µg/L	
	Zinc	The 95th percentile of the data must be ≤ 14.4 µg/L	
	Manganese	The 95th percentile of the data must be ≤ 0.68 mg/L	

Table 5.21: Olifants_EWR14a: **Upper Ga-Selati** - EcoSpecs relating to Physico-chemical data

River: Upper Ga-Selati		**EWR : Olifants_EWR14a**	No water quality site in vicinity of EWR site. Closest site is B7H140Q01
Water quality metrics		**ECOSPEC: PES and TEC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 20 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 10 mg/L	
	Na	The 95th percentile of the data must be ≤ 15 mg/L	
	Cl	The 95th percentile of the data must be ≤.15 mg/L	
	Ca	The 95th percentile of the data must be ≤ 30 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 35 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 6.4 – 8.6	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 1.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.01 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 0.7 mg/L	

Table 5.22: Olifants_EWR14b: **Lower Ga-Selati** - EcoSpecs relating to Physico-chemical data

River: Lower Ga-Selati		**EWR : Olifants_EWR14b**	Upstream water quality site B7H19
Water quality metrics		**ECOSPEC: PES and TEC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 70 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 250 mg/L	
	Na	The 95th percentile of the data must be ≤ 115 mg/L	
	Cl	The 95th percentile of the data must be ≤.175 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 85 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.0 – 10.0	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 5.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 4.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.125 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 30 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 42 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 72.5 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 78.5 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 1.0 mg/L	

Table 5.23: SPK_EWR1: **Spookspruit** - EcoSpecs relating to Physico-chemical data

River: Spookspruit		**EWR : SPK_EWR1**	No water quality site in vicinity of EWR site, but can use downstream site B1H200Q01
Water quality metrics		**ECOSPEC: PES and TEC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 50 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 250 mg/L	
	Na	The 95th percentile of the data must be ≤ 92.5 mg/L	
	Cl	The 95th percentile of the data must be ≤.120 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 1.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.025 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 2.5 mg/L	

Table 5.24: DWA_EWR1: **Dwars** - EcoSpecs relating to Physico-chemical data

River: Dwars		**EWR : DWA_EWR1**	No water quality site in vicinity of EWR site, use water quality site B4H9
Water quality metrics		**ECOSPEC: PES and TEC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 50 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 30 mg/L	
	Na	The 95th percentile of the data must be ≤ 25 mg/L	
	Cl	The 95th percentile of the data must be ≤ 20 mg/L	
	Ca	The 95th percentile of the data must be ≤ 45 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 7.0 – 8.7	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 1.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.025 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 0.7 µg/L	

Table 5.25: OLI_EWR8: **Origstad** - EcoSpecs relating to Physico-chemical data

River: Ohrigstad		**EWR : OLI_EWR8**	No water quality site in vicinity of EWR site. Use upstream water quality site B60_1000009803
Water quality metrics		**ECOSPEC: PES and TEC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 20 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 20 mg/L	
	Na	The 95th percentile of the data must be ≤ 15 mg/L	
	Cl	The 95th percentile of the data must be ≤ 15 mg/L	
	Ca	The 95th percentile of the data must be ≤ 25 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 6.4 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 1.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.025 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 0.5 mg/L	

Table 5.26: Letaba_EWR7: **Letaba** - EcoSpecs relating to Physico-chemical data

River: Letaba		**EWR: Letaba EWR7**	Downstream site B8H018Q01
Water quality metrics		**ECOSPEC: PES and REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 50 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 150 mg/L	
	Na	The 95th percentile of the data must be ≤ 92.5 mg/L	
	Cl	The 95th percentile of the data must be ≤.120 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 2.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.058 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 3.52 mg/L	

Table 5.27: Letaba_EWR2: **Letsitele** - EcoSpecs relating to Physico-chemical data

River: Letsitele		**EWR : Letaba EWR2**	Upstream site B8H010Q01
Water quality metrics		**ECOSPEC: PES and REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 50 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 150 mg/L	
	Na	The 95th percentile of the data must be ≤ 92.5 mg/L	
	Cl	The 95th percentile of the data must be ≤.120 mg/L	
	Ca	The 95th percentile of the data must be ≤ 80 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 55 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.0 – 10.0	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 5.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 4.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.125 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 30 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 42 mg/m²	
	Ammonia	The 95th percentile of the data must be ≤ 72.5 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 78.5 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 3.52 mg/L	

Table 5.28: Letaba_EWR1: **Great Letaba** - EcoSpecs relating to Physico-chemical data

River: Great Letaba		**EWR: Letaba_EWR1**	Downstream site B8H014Q01
Water quality metrics		**ECOSPEC: PES and REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 30 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 80 mg/L	
	Na	The 95th percentile of the data must be ≤ 70mg/L	
	Cl	The 95th percentile of the data must be ≤.40 mg/L	
	Ca	The 95th percentile of the data must be ≤ 32 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 30 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 2.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.058 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m²	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 3.52 mg/L	

Table 5.29: Letaba_BRO1: **Broederstroom** - EcoSpecs relating to Physico-chemical data

River: Broederstroom		**EWR : Letaba_BRO1**	No water quality site in vicinity of EWR site
Water quality metrics		**ECOSPEC: PES and REC**	
Major Ions	Mg	The 95th percentile of the data must be ≤ 30 mg/L	
	SO_4	The 95th percentile of the data must be ≤ 80 mg/L	
	Na	The 95th percentile of the data must be ≤ 70mg/L	
	Cl	The 95th percentile of the data must be ≤.40 mg/L	
	Ca	The 95th percentile of the data must be ≤ 32 mg/L	
Physical variables	EC	The 95th percentile of the data must be ≤ 30 mS/m	
	pH	The 5th and 95th percentiles of the data must range from 5.9 – 8.8	
	Temperature	Variation of 2°C or 10% from background average temperature.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L	
	Turbidity	Vary (small amount) from natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 1.0 mg/L	
	PO_4-P	The 50th percentile of the data must be ≤ 0.025 mg/L	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be ≤ 20 µg/L	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m^2	
	Ammonia	The 95th percentile of the data must be ≤ 43.75 µg/L.	
	Atrazine	The 95th percentile of the data must be ≤ 48.75 µg/L	
	Aluminium	The 95th percentile of the data must be ≤ 62.5 µg/L	
	Fluoride	The 95th percentile of the data must be ≤ 2.5 mg/L	

6. GROUNDWATER - QUANTITY COMPONENT

Table 6.1 below contains datasets from three different groundwater Resources Directed Measures (RDM) study results since 2005 for the study area.

The sources of the datasets were: (i) Groundwater Resources Assessment Phase II (DWAF, 2005), (ii) Leshika Water Systems Management (2013 and 2014), ((iii) Exigo (2009) and SRK (2009).

Some variations in the groundwater recharge and baseflow were noted and where possible, a mean value was adopted. BHN values were calculated using a GIS algorithm around perennial river systems to differentiate between surface water and groundwater users – this application is not fully accurate as the differentiation of perennial and non-perennial river systems is vague in real time.

The prescribed GRDM algorithm was used and an "allocable groundwater" volume (MCM/a) was calculated.

Two different Stress Indexes (SRK, 2009, Exigo, 2009 and WSM, 2014)) were adopted – although significant variations between the two sources were noted in a few cases.

A groundwater quantity ranking approach was applied, based on a ranking approach followed by SRK 2009, from an Unmodified System (A) to a Critically Modified System (F). This ranking approach was applied by considering the differences between the different data sources, but specifically applying a larger weight on the actual allocable groundwater (SRK-WSM) and physical assessments from the Exigo dataset.

The allocable groundwater value (MCM/a), as well as the dependence (%) of the Reserve depending on the groundwater recharge forms the basis of the ranking process. Several cases where the allocable groundwater value is ZERO, the quantity ranking was accordingly lowered (towards D, E or F) depending on the reserve dependence on recharge.

The potential impact of groundwater abstraction on the surface water component in the quaternary catchments is listed as well and use as a factor where the groundwater allocation was ZERO.

Table 6.1: Groundwater Resource Directed Measures (GRDM) Template (An indicator for potential surface water resources impacts due to high groundwater abstraction is added (surface water Impact)

Quaternary Catchment	Area (km^2)	Recharge (Mm^3/a)		Rech to Aqf	Baseflow (Mm3/a)				EWR_MLF (Mm3/a)	BHN Reserve (Mm3/a)	Total Gw Reserve (Mm3/a)	Total Gwater Use (Mm3/a)	SI = Gw Use / Aqf Rech	(Mm3/a)	Reserve (% of Recharge)	Quantity (GRDM)	Swater Impact	Allocable Gwater (Mm3/a)
	GRA II	WSM_{2009}	$Exigo_{2009}$	Ave	WSM_{2013}	$Exigo_{2009}$	SRK_{2009}	Ave			=AW+BB	Calc'd	WSM2013	$Exigo_{2009}$		Ranked	Narrative	Cal'd
B11A	945.4	15.45	8.52	11.99	12.2	6.72	8.37	10.29		0.10	12.30	0.57	0.04	0.21	79.6	A-Unmodified	Low	2.98
B11B	435.3	6.84	4.47	5.66	5.37	2.73	3.71	4.54	0.068	0.12	5.49	0.20	0.03	0.39	80.3	A-Unmodified	Low	1.32
B11C	385.4	5.71	5.59	5.65	4.85	4.43	3.14	4.00		0.04	4.89	4.37	0.77	0.21	85.6	C-Moderately modified	Low	0.00
B11D	550.9	7.66	10.79	9.23	6.5	8.45	4.3	5.40		0.18	6.68	2.34	0.31	0.33	87.2	B-Largely Natural	Low	0.00
B11E	466.7	6.80	6.27	6.53	5.36	3.28	3.75	4.56	0.048	0.11	5.47	3.53	0.52	0.48	80.4	C-Moderately modified	Low	0.00
B11F	428.3	6.44	4.43	5.44	5.07	0.48	3.57	4.32		0.08	5.15	0.37	0.06	0.89	80.0	B-Largely Natural	Low	1.08
B11G	367.8	5.61	3.56	4.58	4.42	14.11	3.03	3.73	0.103	0.07	4.49	0.10	0.02	0.41	80.0	A-Unmodified	Low	1.17
B11H	246.0	3.78	3.01	3.40	2.97	2.33	2.03	2.50	0.024	0.04	3.01	0.46	0.12	0.23	79.6	B-Largely Natural	Low	0.41
B11J	269.4	7.08	1.90	4.49	5.6	4.03	5.17	5.39		0.45	6.05	1.88	0.06	0.15	85.5	B-Largely Natural	Moderate	0.00
B11K	378.3	9.84	3.16	6.50	7.59	0.00	7.06	7.33		0.03	7.62	0.22	0.02	0.92	77.4	B-Largely Natural	Moderate	2.25
B11L	241.8	6.05	3.48	4.77	4.95	3.28	4.6	4.78	0.996	0.01	4.96	0.06	0.01	0.06	82.0	A-Unmodified	Moderate	1.21
B12A	406.9	4.72	5.44	5.08	4.31	4.29	3.09	3.70		0.18	4.49	0.16	0.03	0.21	95.1	A-Unmodified	Low	0.26
B12B	658.5	8.62	8.79	8.70	7.81	6.09	5.15	6.48		0.08	7.89	3.84	0.45	0.31	91.5	B-Largely Natural	Low	0.00
B12C	529.0	7.20	4.58	5.89	6.54	9.52	4.24	5.39	0.109	0.04	6.58	0.21	0.03	0.23	91.4	A-Unmodified	Low	0.70
B12D	362.3	5.16	4.10	4.63	4.72	0.32	3.09	3.91	0.179	0.98	5.70	0.24	0.05	0.92	110.5	E – Seriously modified	Low	0.00
B12E	435.8	11.49	8.63	10.06	9.15	8.16	8.73	8.94	0.187	0.04	9.19	0.45	0.04	0.05	80.0	A-Unmodified	Moderate	2.21
B20A	574.3	10.26	14.45	12.35	6.6	9.21	7.39	7.00		0.48	9.84	20.57	2.00	1.00	95.9	F-Critically modified	Low	0.00
B20B	321.0	5.72	5.69	5.71	3.62	0.00	4.07	3.85		0.38	4.72	58.03	10.02	1.00	82.5	F-Critically modified	Low	0.00
B20C	363.7	6.53	4.50	5.52	4.13	12.36	4.71	4.42		0.03	4.16	0.91	0.14	0.12	63.7	B-Largely Natural	High	1.59
B20D	480.4	8.52	10.03	9.27	5.3	13.77	6.1	5.70	0.293	0.26	5.56	1.43	0.17	0.11	65.3	B-Largely Natural	Moderate	1.70
B20E	619.9	9.61	8.69	9.25	7.27	3.93	7.75	7.51		0.37	7.64	3.58	0.36	0.55	77.9	C-Moderately modified	Moderate	0.00
B20F	504.2	9.05	9.44	9.25	5.71	8.74	6.28	6.00	0.081	0.05	5.76	0.80	0.09	0.07	63.6	B-Largely Natural	Moderate	2.62
B20G	522.4	13.15	9.31	11.23	10.28	8.28	9.31	9.80	0.067	0.30	10.58	1.87	0.14	0.12	80.5	B-Largely Natural	Moderate	1.04
B20H	562.5	13.70	5.55	9.63	11.03	3.57	9.79	10.41		0.36	11.39	1.77	0.13	0.36	83.1	B-Largely Natural	Moderate	0.87

[illegible]	[illegible]	[illegible]		Rech to Aqf	Baseflow (Mm3/a)				EWR_MLF (Mm3/a)	BHN Reserve (Mm3/a)	Total Gw Reserve (Mm3/a)	Total Gwater Use (Mm3/a)	SI = Gw Use / Aqf Rech	(Mm3/a)	Reserve (% of Recharge)	Quantity (GRDM)	Swater Impact	Allocable Gwater (Mm3/a)
	GRAII	WSM2013	Exigo2009	Ave	WSM2013	Exigo2009	SRK2009	Ave			=AW+BB	Calc'd	WSM2013	Exigo2009		Ranked	Narrative	Cal'd
B20J	407.4	10.03	7.12	8.58	8.03	6.20	7.34	7.69	0.958	0.05	8.08	1.09	0.11	0.13	80.6	B-Largely Natural	Moderate	1.14
B31A	386.6	6.09	4.43	5.26	3.77	1.99	3.15	3.46		0.04	3.81	4.81	0.79	0.55	62.6	C-Moderately modified	Moderate	0.00
B31B	385.1	5.56	9.40	7.48	3.45	6.64	2.64	3.05		0.19	3.64	1.22	0.22	0.29	65.5	B-Largely Natural	Moderate	0.71
B31C	373.4	5.14	9.23	7.19	2.75	8.71	2.27	2.51	0.076	0.00	2.75	0.82	0.16	0.07	53.5	B-Largely Natural	Moderate	1.59
B31D	557.0	7.58	10.19	8.89	4.06	6.92	3.3	3.68		0.42	4.48	1.96	0.26	0.32	59.1	B-Largely Natural	Low	1.16
B31E	1382.4	8.34	47.74	28.04	0	43.36	0	0.00		0.14	0.14	9.24	1.11	0.09	1.7	C-Moderately modified	Low	0.00
B31F	637.5	3.69	8.09	5.89	0	3.85	0	0.00		0.43	0.43	2.31	0.63	0.52	11.7	C-Moderately modified	Low	0.95
B31G	433.2	4.67	7.29	5.98	1.4	4.26	2.54	1.97	0.096	0.31	1.71	1.42	0.30	0.42	36.6	B-Largely Natural	Low	1.59
B31H	611.8	6.85	6.31	6.58	1.96	4.67	3.26	2.61		1.64	3.60	4.36	0.64	0.26	52.6	C-Moderately modified	Negligible	0.00
B31J	1379.9	7.84	27.75	17.80	0	25.02	0	0.00	0.085	0.10	0.10	30.84	3.93	0.10	1.3	E – Seriously modified	Negligible	0.00
B32A	801.4	21.18	15.31	18.24	16.26	25.10	15 2	15.73	1.717	0.05	16.31	0.54	0.03	0.07	77.0	A-Unmodified	Low	4.36
B32B	613.8	13.40	8.72	11.06	9.7	7.68	10.83	10.27		0.04	9.74	0.25	0.02	0.12	72.7	A-Unmodified	Low	3.59
B32C	302.8	3.19	4.04	3.62	1.09	2.92	4.5	2.80	0.094	0.01	1.10	3.47	1.09	0.28	34.5	C-Moderately modified	Low	0.00
B32D	521.1	4.95	9.03	6.99	3.15	8.39	1.79	2.47	0.875	0.07	3.22	3.14	0.63	0.07	65.1	C-Moderately modified	Negligible	0.00
B32E	203.2	2.43	3.05	2.74	1.59	2.81	0.89	1.24		0.01	1 60	0.19	0.08	0.08	65.8	A-Unmodified	Low	0.67
B32F	667.2	3.71	4.83	4.27	0.71	2.74	2.7	1.71	0.005	0.34	1.05	4.30	1.16	0.43	28.3	D – Largely modified	Low	0.00
B32G	967.6	8.89	15.09	11.99	1.35	6.51	6.86	4.11		1.83	3.18	5.85	0.66	0.57	35.8	C-Moderately modified	Low	0.07
B32H	693.9	10.21	13.42	11.81	5.77	11.22	4.42	5.10	0.046	0.06	5.83	2.90	0.28	0.18	57.1	B-Largely Natural	Low	1.49
B32J	322.8	1.17	2.76	1.97	0	0.58	0.05	0.03		0.44	0.44	1.01	0.86	0.79	37.6	C-Moderately modified	Negligible	0.00
B41A	764.5	18.28	8.43	13.36	14.79	5.87	12.35	13.57	0.122	0.14	14.93	0.06	0.00	0.32	81.7	A-Unmodified	Negligible	3.47
B41B	778.0	18.51	11.67	15.09	14.96	10.07	12.16	13.56		0.04	15.00	1.23	0.07	0.14	81.0	A-Unmodified	Negligible	2.45
B41C	302.4	7.19	1.96	4.57	5.79	0.00	4.6	5.20		0.02	5.81	0.54	0.08	1.00	80.8	C-Moderately modified	Negligible	0.90
B41D	402.9	4.97	6.22	5.60	2.61	5.50	5.03	3.82	0.506	0.09	2.70	1.72	0 35	0.12	54.3	B-Largely Natural	Negligible	0.59
B41E	237.1	1.17	6.79	3.98	0	5.66	0.04	0.02		0.23	0.23	0.11	0.09	0.17	19.7	A-Unmodified	Moderate	0.83
B41F	379.8	10.88	7.21	9.04	9.99	6.84	7.92	8.96		0.01	10.00	0.00	0.00	0.05	91.9	A-Unmodified	Moderate	1.03

				Rech to Aqf	Baseflow (Mm3/a)				EWR_MLF (Mm3/a)	BHN Reserve (Mm3/a)	Total Gw Reserve (Mm3/a)	Total Gwater Use (Mm3/a)	SI = Gw Use / Aqf Rech	(Mm3/a)	Reserve (% of Recharge)	Quantity (GRDM)	Gwater Impact	Allocable Gwater (Mm3/a)
				Ave	WSM2013	Exigo2009	SRK2009	Ave			=AW+BB	Calc'd	WSM2013	Exigo2009		Ranked	Narrative	Cal'd
B41G	442.1	11.41	6.71	9.06	10.34	3.98	8.48	9.41		0.01	10.35	0.38	0.03	0.41	90.7	A-Unmodified	Moderate	0.88
B41H	410.3	2.57	7.57	5.07	0	5.03	0.1	0.05	0.537	0.35	0.35	0.16	0.06	0.34	13.6	A-Unmodified	Moderate	2.06
B41J	690.8	4.31	10.88	7.59	0	6.02	0.2	0.10		0.41	0.41	0.64	0.15	0.45	9.5	A-Unmodified	Negligible	3.26
B41K	635.2	3.53	7.00	5.27	0	4.64	0.23	0.12	0.495	0.47	0.47	1.99	0.56	0.34	13.3	B-Largely Natural	High	1.07
B42A	318.9	10.64	1.86	6.25	9.81	1.41	15.41	12.61		0.02	9.83	3.46	0.33	0.24	92.4	B-Largely Natural	High	0.00
B42B	213.7	7.65	7.45	7.55	6.28	6.33	12.8	9.54		0.17	6.45	0.06	0.01	0.15	84.3	A-Unmodified	Negligible	1.29
B42C	164.1	2.66	3.45	3.05	2.57	3.08	1.39	1.98	0.143	0.00	2.57	0.00	0.00	0.11	96.6	B-Largely Natural	Negligible	0.28
B42D	154.6	6.33	3.64	4.98	5.72	3.39	11.44	8.58		0.00	5.72	0.00	0.00	0.07	90.4	A-Unmodified	Negligible	0.99
B42E	221.4	2.04	2.49	2.26	1.99	1.91	1.25	1.62		0.01	2.00	0.22	0.11	0.23	98.0	A-Unmodified	Negligible	0.00
B42F	279.1	9.39	2.52	5.96	8.55	2.09	12.42	10.49		0.01	8.56	0.22	0.02	0.17	91.2	A-Unmodified	Negligible	0.67
B42G	327.2	3.86	3.28	3.57	3.59	2.59	2.13	2.86	0.265	0.01	3.60	3.26	0.84	0.21	93.3	B-Largely Natural	Negligible	0.00
B42H	412.3	2.31	13.36	7.83	0	12.43	0.1	0.05	0.594	0.07	0.07	0.99	0.43	0.07	3.0	B-Largely Natural	Negligible	1.25
B51A	311.5	2.24	2.75	2.49	0	0.84	0.07	0.04		0.40	0.40	0.08	0.04	0.69	17.9	B-Largely Natural	Negligible	1.76
B51B	591.1	4.82	7.51	6.16	0	5.24	0.1	0.05		0.46	0.46	0.33	0.07	0.30	9.5	A-Unmodified	Negligible	4.03
B51C	638.1	4.52	6.65	5.58	0	4.67	0.07	0.04	1.785	0.45	0.45	0.22	0.05	0.30	10.0	A-Unmodified	Negligible	3.85
B51E	2926.8	6.31	38.17	22.24	0	22.43	0	0.00		0.34	0.34	8.56	1.36	0.41	5.4	D – Largely modified	Negligible	0.00
B51F	394.6	2.71	4.87	3.79	0	4.27	0.07	0.04		0.01	0.01	3.02	1.11	0.12	0.4	D – Largely modified	Negligible	0.00
B51G	590.7	3.79	6.25	5.02	0	1.85	0.07	0.04		0.97	0.97	12.43	3.28	0.70	25.6	F-Critically modified	Negligible	0.00
B51H	717.3	4.90	16.81	10.86	0	11.64	0.13	0.07		0.98	0.98	0.57	0.12	0.31	20.0	A-Unmodified	Negligible	3.35
B52A	566.1	2.58	9.96	6.27	0	6.37	0.02	0.01		0.48	0.48	0.28	0.11	0.36	18.6	A-Unmodified	Negligible	1.82
B52B	632.9	7.09	7.65	7.37	0	2.75	0.11	0.06		1.07	1.07	2.08	0.29	0.64	15.1	B-Largely Natural	High	3.94
B52C	200.4	0.96	2.25	1.60	0	1.27	0	0.00		0.16	0.16	0.22	0.23	0.43	16.7	B-Largely Natural	High	0.58
B52D	341.0	2.09	6.50	4.30	0	3.69	0.01	0.01		0.73	0.73	1.19	0.57	0.43	34.9	C-Moderately modified	Low	0.17
B52E	450.8	4.66	8.37	6.52	0	6.03	0.05	0.03		0.34	0.34	0.51	0.11	0.28	7.3	B-Largely Natural	High	3.81
B52F	118.4	0.58	1.93	1.26	0	1.41	0	0.00		0.09	0.09	0.47	0.81	0.27	15.5	C-Moderately modified	Low	0.02

[illegible]	[illegible]	[illegible]		Rech to Aqf	Baseflow (Mm3/a)				BWR_MLF (Mm3/a)	BHN Reserve (Mm3/a)	Total Gw Reserve (Mm3/a)	Total Gwater Use (Mm3/a)	SI = Gw Use / Aqf Rech	(Mm3/a)	Reserve (% of Recharge)	Quantity (GRDM)	Swater Impact	Allocable Gwater (Mm3/a)
	GRAII	WSM_{2009}	$Exigo_{2009}$	Ave	WSM_{2013}	$Exigo_{2009}$	SRK_{2009}	Ave			=AW+BB	Calc'd	WSM2013	$Exigo_{2009}$		Ranked	Narrative	Cal'd
B52G	290.9	1.35	6.10	3.73	0	4.36	0	0.00		0.22	0.22	0.84	0.62	0.29	16.3	C-Moderately modified	High	0.29
B52H	563.3	3.38	5.19	4.28	0	1.80	0.27	0.14		0.66	0.66	0.77	0.23	0.65	19.5	B-Largely Natural	Low	1.95
B52J	394.7	2.09	11.73	6.91	0	9.16	0.05	0.03		0.22	0.22	0.14	0.07	0.22	10.5	A-Unmodified	Negligible	1.73
B60A	209.4	12.93	10.44	11.69	11.46	9.77	48.12	29.79		0.02	11.48	0.13	0.01	0.06	88.8	A-Unmodified	High	2.23
B60B	302.2	20.22	15.36	17.79	17.18	15.09	56.91	37.05	1.501	0.01	17.19	0.00	0.00	0.02	85.0	A-Unmodified	Moderate	3.83
B60C	94.1	5.33	0.84	3.08	4.93	0.76	22.43	13.68	0.376	0.00	4.93	0.00	0.00	0.09	92.5	A-Unmodified	Moderate	0.97
B60D	243.5	15.98	9.27	12.62	14	7.61	20.57	17.29	1.694	0.15	14.15	0.00	0.00	0.18	88.5	A-Unmodified	Low	2.52
B60E	83.4	1.73	1.30	1.52	0.76	1.36	6.45	3.61		0.00	0.76	0.00	0.00	0.05	43.9	A-Unmodified	Moderate	1.00
B60F	399.3	7.68	5.55	6.61	5.43	4.40	4.45	4.94	0.097	0.01	5.44	2.71	0.35	0.21	70.8	B-Largely Natural	Negligible	0.00
B60G	448.0	4.52	7.49	6.00	1.32	6.64	3.69	2.51		0.03	1.35	3.71	0.82	0.11	29.9	C-Moderately modified	Negligible	0.00
B60H	384.6	7.58	11.30	9.44	6.15	9.84	4.37	5.26	0.181	0.14	6.29	5.34	0.70	0.18	83.0	D – Largely modified	High	0.00
B60J	675.9	13.05	9.63	11.34	6.46	8.48	32.86	19.66	2.269	0.05	6.51	1.37	0.10	0.12	49.9	A-Unmodified	High	5.21
B71A	297.6	3.37	13.61	8.49	0	12.76	0.16	0.08		0.03	0.03	0.23	0.07	0.06	0.9	A-Unmodified	Negligible	3.11
B71B	274.3	2.11	7.39	4.75	0	6.58	0.04	0.02		0.07	0.07	0.19	0.09	0.11	3.3	A-Unmodified	High	1.85
B71C	262.5	5.87	6.85	6.36	2.17	6.45	16.52	9.35		0.03	2.20	0.00	0.00	0.06	37.5	A-Unmodified	High	3.78
B71D	227.1	4.03	1.97	3.00	1.98	1.11	6.92	4.45	1.865	0.10	2.08	0.22	0.05	0.44	51.6	A-Unmodified	Negligible	1.77
B71E	781.9	6.25	4.15	5.20	0	0.00	0.3	0.15		0.80	0.80	1.55	0.25	0.90	12.8	B-Largely Natural	Negligible	3.90
B71F	540.8	12.68	21.55	17.12	9.11	20.54	22.14	15.63	2.458	0.07	9.18	0.03	0.00	0.05	72.4	A-Unmodified	Negligible	3.84
B71G	244.9	6.94	5.25	6.10	3.97	4.32	11.3	7.64		0.13	4.10	0.22	0.03	0.18	59.1	A-Unmodified	Negligible	2.87
B71H	329.7	1.56	2.47	2.02	0	1.40	0	0.00		0.20	0.20	2.52	1.62	0.43	12.8	C-Moderately modified	Negligible	0.00
B71J	78.5	0.18	0.48	0.33	0	0.36	0	0.00	3.011	0.01	0.01	0.00	0.00	0.26	5.6	A-Unmodified	Negligible	0.17
B72A	534.0	12.53	8.29	10.41	8.64	5.57	19.8	14.22		0.54	9.18	3.01	0.24	0.33	73.3	B-Largely Natural	Moderate	0.56
B72B	331.7	1.37	3.02	2.20	0	2.81	0	0.00	0.285	0.00	0.00	0.06	0.04	0.07	0.0	A-Unmodified	High	1.31
B72C	334.7	1.88	3.87	2.88	0	3.46	0	0.00		0.05	0.05	0.07	0.04	0.11	2.7	A-Unmodified	Negligible	1.76
B72D	922.2	6.54	8.72	7.63	0	7.55	0	0.00	7.339	0.01	0.01	4.49	0.69	0.13	0.2	B-Largely Natural	Negligible	2.04

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Quaternary Catchment	Area (km^2)	Recharge (Mm^3/a)		Rech to Aqf	Baseflow (Mm3/a)				EWR_MLF (Mm3/a)	BHN Reserve (Mm3/a)	Total Gw Reserve (Mm3/a)	Total Gwater Use (Mm3/a)	SI = Gw Use / Aqf Rech	(Mm3/a)	Reserve (% of Recharge)	Quantity (GRDM)	Swater Impact	Allocable Gwater (Mm3/a)
	GRA II	WSM_{2009}	$Exigo_{2009}$	Ave	WSM_{2013}	$Exigo_{2009}$	SRK_{2009}	Ave			=AW+BB	Calc'd	WSM2013	$Exigo_{2009}$		Ranked	Narrative	Cal'd
B72E	320.1	6.54	2.76	5.65	4.9	0.36	12.71	8.81	0.024	0.45	5.35	0.90	0.11	0.87	62.6	B-Largely Natural	Negligible	2.48
B72F	81.2	2.27	2.31	2.29	1.3	2.26	4.11	2.71		0.00	1.30	0.00	0.00	0.02	57.3	A-Unmodified	Negligible	1.07
B72G	47.9	0.12	0.56	0.34	0	0.48	0	0.00		0.01	0.01	0.43	3.58	0.13	8.3	E – Seriously modified	High	0.00
B72H	385.7	1.94	3.25	2.60	0	2.69	0	0.00		0.01	0.01	0.92	0.47	0.17	0.5	B-Largely Natural	Negligible	1.01
B72J	537.4	2.91	2.64	2.77	0	2.22	0	0.00		0.03	0.03	0.16	0.05	0.16	1.0	A-Unmodified	Negligible	2.72
B72K	965.9	3.45	10.73	7.09	0	7.27	0	0.00	0.172	0.52	0.52	0.61	0.18	0.38	15.1	A-Unmodified	Negligible	2.32
B73A	164.5	2.20	2.76	2.48	1.29	1.07	11.37	6.33		0.00	1.29	0.00	0.00	0.61	58.6	A-Unmodified	Negligible	1.04
B73B	687.7	2.19	4.53	3.36	0	3.34	0	0.00	0.122	0.01	0.01	2.75	1.26	0.26	0.5	C-Moderately modified	Negligible	0.00
B73C	880.0	3.19	11.16	7.18	0	10.12	0	0.00		0.65	0.65	1.01	0.32	0.09	20.4	A-Unmodified	Negligible	1.53
B73D	687.0	2.34	7.40	4.87	0	6.58	0	0.00		0.00	0.00	1.20	0.51	0.11	0.0	B-Largely Natural	Negligible	1.14
B73E	430.5	2.51	3.55	3.03	0	0.00	0	0.00		0.00	0.00	0.35	0.14	1.00	0.0	B-Largely Natural	Negligible	2.16
B73F	506.8	3.37	9.96	6.66	0	9.79	0	0.00		0.00	0.00	0.00	0.00	0.02	0.0	A-Unmodified	High	3.37
B73G	733.2	4.31	15.44	9.88	0	12.84	0	0.00		0.00	0.00	0.00	0.00	0.07	0.0	A-Unmodified	High	4.31
B73H	301.8	1.50	2.40	1.95	0	2.32	0	0.00		0.00	0.00	0.00	0.00	0.03	0.0	A-Unmodified	High	1.50
B73J	254.5	1.55	2.07	1.81	0	0.00	0	0.00	7.713	0.00	0.00	0.00	0.00	0.69	0.0	A-Unmodified	High	1.55
B81A	169.1	10.34		10.34	7.57			7.57	0.058	0.00	7.57	0.15	0.01	0.01	73.2	A-Unmodified	High	10.19
B81B	481.2	20.32		20.32	1.12			1.12	0.398	0.00	1.12	2.64	0.13	0.13	5.5	B-Largely Natural	High	17.68
B81C	208.4	16.27		16.27	10.54			10.54		0.00	10.54	5.47	0.34	0.34	64.8	C – Moderately modified	Moderate	10.80
B81D	478.8	12.84		12.84	1.59			1.59		3.00	4.59	4.13	0.32	0.32	35.7	C-Moderately modified	Negligible	8.71
B81E	664.9	18.20		18.20	0.04			0.04	0.32	0.59	0.63	15.75	0.87	0.87	3.5	D – Largely modified	Negligible	2.45
B81F	1199.7	18.47		18.47	0.06			0.06		0.00	0.06	7.94	0.43	0.43	0.3	D - Largely modified	Negligible	10.53
B81G	512.5	12.58		12.58	0.13			0.13		0.00	0.13	5.06	0.40	0.40	1.0	D – Largely modified	Negligible	7.52
B81H	667.7	8.80		8.80	0.01			0.01		0.00	0.01	2.62	0.30	0.30	0.1	C – Moderately modified	Negligible	6.18
B81J	567.0	6.34		6.34	0			0		0.00	0.00	0.00	0.00	0.00	0.0	A - Unmodified	Negligible	6.34
B82A	466.6	11.36		11.36	6.45			6.45		1.45	7.90	2.93	0.26	0.26	69.5	B-Largely Natural	Low	8.43

[illegible]	[illegible]	[illegible]		Rech to Aqf	[illegible]				EWR_MLF (Mm3/a)	BHN Reserve (Mm3/a)	Total Gw Reserve (Mm3/a)	Total Gwater Use (Mm3/a)	SI = Gw Use / Aqf Rech	(Mm3/a)	Reserve (% of Recharge)	Quantity (GRDM)	Swater Impact	Allocable Gwater (Mm3/a)
[illegible]	[illegible]	[illegible]	Exigo$_{2009}$	Ave	WSM$_{2013}$	Exigo$_{2009}$	SRK$_{2009}$	Ave			=AW+BB	Calc'd	WSM2013	Exigo$_{2009}$		Ranked	Narrative	Cal'd
B82B	406.3	9.50		9.50	5.47			5.47		0.00	5.47	14.50	1.53	1.53	57.6	F-Critically modified	Low	0.00
B82C	299.7	7.14		7.14	3.27			3.27		0.00	3.27	13.00	1.82	1.82	45.8	E – Seriously modified	Low	5.83
B82D	631.7	10.35		10.35	4.76			4.76		4.00	8.76	4.52	0.44	0.44	84.6	D-Largely modified	Low	0.00
B82E	423.4	8.05		8.05	0.21			0.21		0.00	0.21	1.45	0.18	0.18	2.6	C – Moderately modified	Low	6.60
B82F	759.8	14.30		14.30	1			1		0.00	1.00	1.43	0.10	0.10	7.0	B - Largely natural	Low	12.87
B82G	920.2	10.75		10.75	0.01			0.01		0.00	0.01	0.06	0.01	0.06	0.1	B - Largely natural	Negligible	10.15
B82J	748.7	9.27		9.27	0.01			0.01		0.00	0.01	0.00	0.00	0.00	0.1	A – Unmodified	Negligible	9.27
B82H	793.7	8.36		8.36	0.01			0.01		0.00	0.01	0.16	0.02	0.02	0.1	A – Unmodified	Negligible	8.36
B83A	1250.0	11.77		11.77	0.01			0.01		0.00	0.01	0.00	0.00	0.00	0.1	A – Unmodified	Negligible	11.77
B83B	438.8	5.71		5.71	0			0		0.00	0.00	0.00	0.00	0.00	0.0	A – Unmodified	Negligible	5.71
B83C	596.0	7.70		7.70	0.01			0.01		0.00	0.01	0.00	0.00	0.00	0.1	A – Unmodified	Negligible	7.70
B83D	783.7	7.88		7.88	0			0	2.015	0.00	0.00	0.00	0.00	0.00	0.0	A – Unmodified	Negligible	7.88
B83E	311.8	3.11		3.11	0			0		0.00	0.00	0.00	0.00	0.00	0.0	A – Unmodified	Negligible	3.11

7. GROUNDWATER - QUALITY COMPONENT

The basic human needs Reserve provides for the essential needs of individuals served by the water resource in question and includes water for drinking, food preparation and for personal hygiene. A life-line amount of 25 litres per person per day was used.

In the Reserve determinations of the quality component during Intermediate/Comprehensive assessments the ambient groundwater quality is compared to the Class 1 recommended value (SANS 241:2006). The lowest or more conservative value of the two is selected. In instances where the ambient value is selected, it is increased by 10 per cent. In instances where the ambient quality, of geological origin exceeds the recommended value, the ambient water quality is used. These poor water quality areas will become exclusion zones in determining the Basic Human Needs Reserve Requirement. The groundwater quality should comply with the target water quality ranges as shown in **Table 7.1** and **Table 7.2**. **Table 7.3** shows a summary of the results for the quality aspects at quaternary level in terms of the BHN.

Table 7.1: Chemical water quality

Chemical Parameter	Target Water Quality Ranges[1]				
	Units	Class 0	Class I	Class II	Class III
Calcium as Ca	mg/l	0 - 80	80 - 150	150 - 300	> 300
Magnesium as Mg	mg/l	0 - 30	30 - 70	70 - 100	> 100
Sodium as Na	mg/l	0 - 100	100 - 200	200 - 400	> 400
Chloride as Cl	mg/l	0 - 100	100 - 200	200 - 600	> 600
Sulphate as SO_4	mg/l	0 - 200	200 - 400	400 - 600	> 600
Nitrate as NO_x- N	mg/l	0 - 6	6 - 10	10 - 20	> 20
Flouride as F	mg/l	0 - 1	1 - 1.5	1.5 - 3.5	> 3.5
Faecal coliforms	counts/100ml	0	0 - 1	1 - 10	> 10

1) Ref: South African Water Quality Guidelines, Volume 1: Domestic Water Use, 2nd Ed. 1996. Department of Water Affairs and Forestry. Pretoria, South Africa.

2) Ref: South African Water Quality Guidelines, Volume 1: Domestic Water Use, 2nd Ed. 1996. Department of Water Affairs and Forestry. Pretoria, South Africa.

Table 7.2: Physical water quality

Physical Parameter	Target Water Quality Ranges[2]				
	Units	Class 0	Class I	Class II	Class III
pH (pH Units)		6 - 9	5 - 6 & 9 - 9.5	4 - 5&> 9.5 - 10	< 4 or > 10
Total Dissolved Solids	mg/l	0 - 450	450 - 1000	1000 - 2450	> 2450
Electrical Conductivity	mS/m	0 - 70	70 - 150	150 - 300	> 370

NOTE:

Class 0 This is ideal water quality, suitable for lifetime use, with no adverse health effects on the user. This class is essentially the same as the target water quality range in the 2nd edition of the *South African Water Quality Guidelines for Domestic Use* (DWAF, 1996).

Class I Water in this class is safe for lifetime use, but falls short of the ideal water quality in that there may be instances of adverse health effects, but these are usually mild, and overt health effects are almost sub-clinical and difficult to demonstrate. Water in Class I does not cause health effects under normal circumstances. Aesthetic effects may, however, be apparent.

Class II Water in this class is defined as that where adverse health effects are unusual for limited short-term use. Adverse health effects may become more common particularly with prolonged use over many years, or with lifetime use. This class represents water suitable for short-term or emergency use only, but not necessarily suitable for continuous use over a lifetime.

Class III This water has constituents in a concentration range where serious health effects might be anticipated, particularly in infants or elderly people with short-term use, and even more so with longer term use. The water in this class is not suitable for use as drinking water without adequate treatment to shift the water into a lower and safer class.

NOTE: THE WATER QUALITY FOR THE FOLLOWING QUATERNARY CATCHMENTS WERE NOT ASSESSED DUE TO INSUFFICIENT INFORMATION (LACK OF REPRESENTABLE GROUNDWATER QUALITY DATA):

B11A, B11B, B11C, B11D, B11E, B11F, B11G, B11H, B11K, B11L, B11K, B11L, B12A, B12B, B12C, B12D, B12E, B20B, B20D, B20E, B20F, B20G, B20H, B20J, B21A, B31A, B31B, B31C, B31D, B31E, B31F, B31G, B32A,B32B, B32C, B32D, B32E, B41A, B41B, B41F, B42A, B42C, B42D, B42E, B42G, B42H, B51D, B51E, B51F, B60A, B60B, B60C, B60E, B60F, B60H, B60J, B71A, B71B, B71C, B71D, B71E, B71F, B71G, B71H, B771J, B72A, B72B, B72C, B72D, B72E, B72F, B72G, B72H, B72J, B73B, B72C, B72D, B72G, B72H, B72J, B81A, B81B, B81F, B81J, B82B, B82H, B83A, B83C, B83D, B83E

Table 7.3: The results of the Groundwater Component – Quality Aspects

Chemical Parameter	Unit	Olifants River Catchment QC B20A			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	95	8.23	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	95	43.7	<150	48
Calcium as Ca	mg/l	95	32.1	<150	35
Magnesium as Mg	mg/l	95	22.2	<100	24
Sodium as Na	mg/l	95	10.0	<200	11
Potassium as K	mg/l	95	2.14	<50	2.3
Total Alkalinity as $CaCO_3$	mg/l	95	150.8	N/A	165
Chloride as Cl	mg/l	95	15.5	<200	17
Sulphate as SO_4	mg/l	95	15.2	<400	16
Nitrate as NO_x-N	mg/l	95	0.36	<10	0.40
Fluoride as F	Mg/l	95	0.17	<1.0	0.19
				Water quality class	**Class 0**

1 Median value (calculated from population of samples in QC).
2 Upper limit of Class I water quality (DWAF et al 1998).
3 The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B31H			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	28	8.201	5.0 – 9.5	8.50
Electrical Conductivity	mS/m	28	123.85	<150	136
Calcium as Ca	mg/l	28	74.3495	<150	81
Magnesium as Mg	mg/l	28	74.3055	<100	81
Sodium as Na	mg/l	28	93.461	<200	102
Potassium as K	mg/l	28	3.2095	<50	3.5
Total Alkalinity as $CaCO_3$	mg/l	28	402.9	N/A	403[4]
Chloride as Cl	mg/l	28	71.0795	<200	78
Sulphate as SO_4	mg/l	28	44.199	<400	48
Nitrate as NO_x-N	mg/l	28	25.0555	<10	25.0
Fluoride as F	Mg/l	28	0.6355	<1.0	0.7
				Water quality class	Class III

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B31J			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	83	7.927	5.0 – 9.5	8.25
Electrical Conductivity	mS/m	83	89.3	<150	98
Calcium as Ca	mg/l	83	64.445	<150	70
Magnesium as Mg	mg/l	83	34.851	<100	38
Sodium as Na	mg/l	83	41.59	<200	45
Potassium as K	mg/l	83	6.61	<50	7.2
Total Alkalinity as $CaCO_3$	mg/l	83	156.554	N/A	172
Chloride as Cl	mg/l	83	113.12	<200	124
Sulphate as SO_4	mg/l	83	71.082	<400	78
Nitrate as NO_x-N	mg/l	83	9.768	<10	9.8
Fluoride as F	Mg/l	83	0.387	<1.0	0.5
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B32F			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	71	7.53	5.0 – 9.5	7.75
Electrical Conductivity	mS/m	71	10.9	<150	11
Calcium as Ca	mg/l	71	5.129	<150	5
Magnesium as Mg	mg/l	71	1.8	<100	1
Sodium as Na	mg/l	71	9.383	<200	10
Potassium as K	mg/l	71	2.98	<50	3.2
Total Alkalinity as $CaCO_3$	mg/l	71	30	N/A	33
Chloride as Cl	mg/l	71	5	<200	5
Sulphate as SO_4	mg/l	71	4.1	<400	4
Nitrate as NO_x-N	mg/l	71	0.462	<10	0.5
Fluoride as F	Mg/l	71	0.26	<1.0	0.3
				Water quality class	Class 0

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B32H			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	10	8.07	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	10	32.75	<150	36
Calcium as Ca	mg/l	10	15.4205	<150	16
Magnesium as Mg	mg/l	10	3.919	<100	4
Sodium as Na	mg/l	10	27.375	<200	30
Potassium as K	mg/l	10	1.7715	<50	1.9
Total Alkalinity as $CaCO_3$	mg/l	10	76.44	N/A	84
Chloride as Cl	mg/l	10	19.831	<200	21
Sulphate as SO_4	mg/l	10	3.1255	<400	3
Nitrate as NO_x-N	mg/l	10	2.7245	<10	2.9
Fluoride as F	Mg/l	10	0.684	<1.0	0.75
				Water quality class	Class 0

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B32J			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	20	8.1255	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	20	34.75	<150	38
Calcium as Ca	mg/l	20	25.0525	<150	27
Magnesium as Mg	mg/l	20	3.9455	<100	4
Sodium as Na	mg/l	20	36.878	<200	40
Potassium as K	mg/l	20	3.288	<50	3.6
Total Alkalinity as $CaCO_3$	mg/l	20	119.036	N/A	130
Chloride as Cl	mg/l	20	22.976	<200	25
Sulphate as SO_4	mg/l	20	6.497	<400	7
Nitrate as NO_x-N	mg/l	20	0.6245	<10	0.6
Fluoride as F	Mg/l	20	2.7755	<1.0	2.8
				Water quality class	Class III

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B41C			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	35	8.13	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	35	55.2	<150	60
Calcium as Ca	mg/l	35	66.099	<150	72
Magnesium as Mg	mg/l	35	26.2	<100	28
Sodium as Na	mg/l	35	13.01	<200	14
Potassium as K	mg/l	35	0.5	<50	0.5
Total Alkalinity as $CaCO_3$	mg/l	35	274.083	N/A	275
Chloride as Cl	mg/l	35	10.8	<200	11
Sulphate as SO_4	mg/l	35	11.118	<400	12
Nitrate as NO_x-N	mg/l	35	0.703	<10	0.7
Fluoride as F	Mg/l	35	0.11	<1.0	0.12
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B41D			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	20	7.345	5.0 – 9.5	7.75
Electrical Conductivity	mS/m	20	10.78	<150	11
Calcium as Ca	mg/l	20	6.4	<150	7
Magnesium as Mg	mg/l	20	2.059	<100	2
Sodium as Na	mg/l	20	7.424	<200	8
Potassium as K	mg/l	20	2.5015	<50	2.7
Total Alkalinity as $CaCO_3$	mg/l	20	32.708	N/A	35
Chloride as Cl	mg/l	20	5	<200	5
Sulphate as SO_4	mg/l	20	4.956	<400	5
Nitrate as NO_x-N	mg/l	20	0.294	<10	0.3
Fluoride as F	Mg/l	20	0.4065	<1.0	0.44
				Water quality class	Class 0

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B41E			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	37	8.028	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	37	29	<150	31
Calcium as Ca	mg/l	37	18.1	<150	19
Magnesium as Mg	mg/l	37	4.039	<100	4
Sodium as Na	mg/l	37	21.117	<200	23
Potassium as K	mg/l	37	4.456	<50	4.9
Total Alkalinity as $CaCO_3$	mg/l	37	109.16	N/A	120
Chloride as Cl	mg/l	37	7.398	<200	8
Sulphate as SO_4	mg/l	37	6.603	<400	7
Nitrate as NO_x-N	mg/l	37	1.531	<10	1.6
Fluoride as F	Mg/l	37	0.379	<1.0	0.41
				Water quality class	Class 0

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B41G			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	13	8.055	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	13	59.2	<150	65
Calcium as Ca	mg/l	13	51.605	<150	56
Magnesium as Mg	mg/l	13	29.374	<100	32
Sodium as Na	mg/l	13	23.522	<200	25
Potassium as K	mg/l	13	0.796	<50	0.8
Total Alkalinity as $CaCO_3$	mg/l	13	244	N/A	268
Chloride as Cl	mg/l	13	17.18	<200	18
Sulphate as SO_4	mg/l	13	10.187	<400	11
Nitrate as NO_x-N	mg/l	13	0.055	<10	0.1
Fluoride as F	Mg/l	13	0.1	<1.0	0.11
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B41H			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	109	8.187	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	109	91	<150	100
Calcium as Ca	mg/l	109	70.6	<150	77
Magnesium as Mg	mg/l	109	47.88	<100	52
Sodium as Na	mg/l	109	45.1	<200	49
Potassium as K	mg/l	109	0.995	<50	1.1
Total Alkalinity as $CaCO_3$	mg/l	109	259.5	N/A	285
Chloride as Cl	mg/l	109	58.3	<200	64
Sulphate as SO_4	mg/l	109	44.6715	<400	49
Nitrate as NO_x-N	mg/l	109	5.692	<10	6.2
Fluoride as F	Mg/l	109	0.24	<1.0	0.26
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B41J			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve [2]	Groundwater Quality Reserve [3]
pH	–	134	8.292	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	134	89.45	<150	98
Calcium as Ca	mg/l	134	37.69	<150	41
Magnesium as Mg	mg/l	134	71.6125	<100	78
Sodium as Na	mg/l	134	29.1	<200	32
Potassium as K	mg/l	134	1.2445	<50	1.3
Total Alkalinity as $CaCO_3$	mg/l	134	345.7	<330	346[4]
Chloride as Cl	mg/l	134	43.5825	<200	47
Sulphate as SO_4	mg/l	134	30.315	<400	33
Nitrate as NO_x-N	mg/l	134	6.5185	<10	7.1
Fluoride as F	Mg/l	134	0.1275	<1.0	0.14
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B41K			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve [2]	Groundwater Quality Reserve [3]
pH	–	60	8.1035	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	60	110.75	<150	121
Calcium as Ca	mg/l	60	54.651	<150	60
Magnesium as Mg	mg/l	60	61.1175	<100	67
Sodium as Na	mg/l	60	81.835	<200	90
Potassium as K	mg/l	60	2.789	<50	3.1
Total Alkalinity as $CaCO_3$	mg/l	60	362.1	N/A	362[4]
Chloride as Cl	mg/l	60	80.582	<200	88
Sulphate as SO_4	mg/l	60	40.9105	<400	45
Nitrate as NO_x-N	mg/l	60	3.9235	<10	4.3
Fluoride as F	Mg/l	60	0.484	<1.0	0.53
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B42B			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	39	7.523	5.0 – 9.5	7.75
Electrical Conductivity	mS/m	40	5.76	<150	6
Calcium as Ca	mg/l	40	4.299	<150	4
Magnesium as Mg	mg/l	40	2.176	<100	2
Sodium as Na	mg/l	40	2.19	<200	2
Potassium as K	mg/l	40	0.3275	<50	0.3
Total Alkalinity as $CaCO_3$	mg/l	40	17.932	N/A	19
Chloride as Cl	mg/l	40	3.25	<200	3.
Sulphate as SO_4	mg/l	40	3	<400	3
Nitrate as NO_x-N	mg/l	40	0.6955	<10	0.8
Fluoride as F	Mg/l	40	0.104	<1.0	0.11
				Water quality class	Class 0

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B42F			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	37	7.93	5.0 – 9.5	8.25
Electrical Conductivity	mS/m	37	59	<150	64
Calcium as Ca	mg/l	37	17.146	<150	18
Magnesium as Mg	mg/l	37	52.835	<100	58
Sodium as Na	mg/l	37	14.4	<200	15
Potassium as K	mg/l	37	0.853	<50	0.9
Total Alkalinity as $CaCO_3$	mg/l	37	154.3	N/A	169
Chloride as Cl	mg/l	37	53.976	<200	59
Sulphate as SO_4	mg/l	37	17.706	<400	19
Nitrate as NO_x-N	mg/l	37	8.679	<10	9.5
Fluoride as F	Mg/l	37	0.206	<1.0	0.22
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B51A			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	50	7.568	5.0 – 9.5	7.75
Electrical Conductivity	mS/m	50	14.4	<150	15
Calcium as Ca	mg/l	50	6.838	<150	7
Magnesium as Mg	mg/l	50	2.27	<100	2
Sodium as Na	mg/l	50	11.348	<200	12
Potassium as K	mg/l	50	3.835	<50	4.3
Total Alkalinity as $CaCO_3$	mg/l	50	35.5425	N/A	39
Chloride as Cl	mg/l	50	6.6835	<200	7
Sulphate as SO_4	mg/l	50	2	<400	2
Nitrate as NO_x-N	mg/l	50	3.5095	<10	3.8
Fluoride as F	Mg/l	50	0.418	<1.0	0.45
				Water quality class	**Class 0**

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B51B			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	62	7.908	5.0 – 9.5	8.25
Electrical Conductivity	mS/m	62	20.95	<150	23
Calcium as Ca	mg/l	62	9.1095	<150	10
Magnesium as Mg	mg/l	62	2.1195	<100	2
Sodium as Na	mg/l	62	18.919	<200	20
Potassium as K	mg/l	62	2.91	<50	3.2
Total Alkalinity as $CaCO_3$	mg/l	62	62.909	N/A	69
Chloride as Cl	mg/l	62	8.565	<200	9
Sulphate as SO_4	mg/l	62	3.091	<400	3
Nitrate as NO_x-N	mg/l	62	1.0575	<10	1.2
Fluoride as F	Mg/l	62	0.9945	<1.0	1.0
				Water quality class	**Class II**

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B51C			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	55	7.954	5.0 – 9.5	8.25
Electrical Conductivity	mS/m	55	51.4	<150	56
Calcium as Ca	mg/l	55	40.544	<150	44
Magnesium as Mg	mg/l	55	8.812	<100	9
Sodium as Na	mg/l	55	47.532	<200	52
Potassium as K	mg/l	55	3.095	<50	3.4
Total Alkalinity as $CaCO_3$	mg/l	55	122.026	N/A	134
Chloride as Cl	mg/l	55	41.026	<200	45
Sulphate as SO_4	mg/l	55	18.15	<400	19
Nitrate as NO_x-N	mg/l	55	3.955	<10	4.3
Fluoride as F	Mg/l	55	2.171	<1.0	2.2
				Water quality class	Class III

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B51E			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	117	8.04	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	117	112.2	<150	123
Calcium as Ca	mg/l	117	86.1	<150	94
Magnesium as Mg	mg/l	117	54.055	<100	59
Sodium as Na	mg/l	117	61.675	<200	67
Potassium as K	mg/l	117	4.345	<50	4.8
Total Alkalinity as $CaCO_3$	mg/l	117	260.7	N/A	286
Chloride as Cl	mg/l	117	74.8	<200	82
Sulphate as SO_4	mg/l	117	58.789	<400	64
Nitrate as NO_x-N	mg/l	117	23.174	<10	23
Fluoride as F	Mg/l	117	0.345	<1.0	0.4
				Water quality class	Class III

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B51G			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	168	8.2285	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	168	90.6	<150	99
Calcium as Ca	mg/l	168	54.406	<150	59
Magnesium as Mg	mg/l	168	35.9285	<100	39
Sodium as Na	mg/l	168	61.381	<200	67
Potassium as K	mg/l	168	3.785	<50	4.1
Total Alkalinity as $CaCO_3$	mg/l	168	250.4975	N/A	275
Chloride as Cl	mg/l	168	82.078	<200	90
Sulphate as SO_4	mg/l	168	17.7	<400	19
Nitrate as NO_x-N	mg/l	168	5.333	<10	5.8
Fluoride as F	Mg/l	168	0.2945	<1.0	0.32
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B51H			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	219	7.978	5.0 – 9.5	8.25
Electrical Conductivity	mS/m	219	39.3	<150	43
Calcium as Ca	mg/l	219	25.6	<150	28
Magnesium as Mg	mg/l	219	5.1	<100	5
Sodium as Na	mg/l	219	33.852	<200	37
Potassium as K	mg/l	219	2.979	<50	3.3
Total Alkalinity as $CaCO_3$	mg/l	219	103.8	N/A	114
Chloride as Cl	mg/l	219	27.699	<200	30
Sulphate as SO_4	mg/l	219	6.5	<400	7
Nitrate as NO_x-N	mg/l	219	2.75	<10	3.1
Fluoride as F	Mg/l	219	0.818	<1.0	1.00[4]
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B52A			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	95	8.251	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	95	116.3	<150	127
Calcium as Ca	mg/l	95	69.871	<150	76
Magnesium as Mg	mg/l	95	47.17	<100	51
Sodium as Na	mg/l	95	113.292	<200	124
Potassium as K	mg/l	95	6.052	<50	6.6
Total Alkalinity as $CaCO_3$	mg/l	95	320.786	N/A	321[4]
Chloride as Cl	mg/l	95	142.676	<200	156
Sulphate as SO_4	mg/l	95	48.865	<400	53
Nitrate as NO_x-N	mg/l	95	14.852	<10	14.9
Fluoride as F	Mg/l	95	1.232	<1.0	1.23[4]
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B52B			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	267	8.175	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	268	94.3	<150	103
Calcium as Ca	mg/l	268	78.1675	<150	85
Magnesium as Mg	mg/l	268	52.385	<100	57
Sodium as Na	mg/l	268	48.44	<200	53
Potassium as K	mg/l	268	0.932	<50	1.0
Total Alkalinity as $CaCO_3$	mg/l	268	336.5035	N/A	337[4]
Chloride as Cl	mg/l	268	58.677	<200	64
Sulphate as SO_4	mg/l	268	23.316	<400	25
Nitrate as NO_x-N	mg/l	268	12.3475	<10	13.5
Fluoride as F	Mg/l	268	0.173	<1.0	0.19
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B52C			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	15	8.12	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	15	76.4	<150	84
Calcium as Ca	mg/l	15	57.541	<150	63
Magnesium as Mg	mg/l	15	26.2	<100	28
Sodium as Na	mg/l	15	48.3	<200	53
Potassium as K	mg/l	15	2.526	<50	2.7
Total Alkalinity as $CaCO_3$	mg/l	15	259.21	N/A	285
Chloride as Cl	mg/l	15	42.701	<200	46
Sulphate as SO_4	mg/l	15	15.788	<400	17
Nitrate as NO_x-N	mg/l	15	4.477	<10	4.9
Fluoride as F	Mg/l	15	0.282	<1.0	0.31
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B52D			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	66	8.124	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	66	129	<150	141
Calcium as Ca	mg/l	66	80.419	<150	88
Magnesium as Mg	mg/l	66	75.161	<100	82
Sodium as Na	mg/l	66	73.681	<200	81
Potassium as K	mg/l	66	3.373	<50	3.7
Total Alkalinity as $CaCO_3$	mg/l	66	368.735	N/A	369[4]
Chloride as Cl	mg/l	66	155.5865	<200	171
Sulphate as SO_4	mg/l	66	68.1475	<400	74
Nitrate as NO_x-N	mg/l	66	8.625	<10	9.5
Fluoride as F	Mg/l	66	0.463	<1.0	0.50
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B52E			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	92	8.19	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	92	187	<150	<150[4]
Calcium as Ca	mg/l	92	93.099	<150	102
Magnesium as Mg	mg/l	92	99.779	<100	109
Sodium as Na	mg/l	92	130.3125	<200	143
Potassium as K	mg/l	92	0.9365	<50	1.1
Total Alkalinity as $CaCO_3$	mg/l	92	353.535	N/A	354[4]
Chloride as Cl	mg/l	92	271.372	<200	271[4]
Sulphate as SO_4	mg/l	92	92.543	<400	101
Nitrate as NO_x-N	mg/l	92	20.1515	<10	20.2
Fluoride as F	Mg/l	92	0.1425	<1.0	0.16
				Water quality class	Class III

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B52F			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	16	8.2865	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	16	63.55	<150	69
Calcium as Ca	mg/l	16	39.18	<150	43
Magnesium as Mg	mg/l	16	19.85	<100	21
Sodium as Na	mg/l	16	76.3	<200	83
Potassium as K	mg/l	16	2.86	<50	3.1
Total Alkalinity as $CaCO_3$	mg/l	16	260.7275	<330	286
Chloride as Cl	mg/l	16	26.6075	<200	29
Sulphate as SO_4	mg/l	16	8.8	<400	9
Nitrate as NO_x-N	mg/l	16	1.1595	<10	1.2
Fluoride as F	Mg/l	16	1.45	<1.0	1.5
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B52G			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve [2]	Groundwater Quality Reserve [3]
pH	–	29	8.152	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	29	105.1	<150	115
Calcium as Ca	mg/l	29	84.691	<150	93
Magnesium as Mg	mg/l	29	69.516	<100	76
Sodium as Na	mg/l	29	52.144	<200	57
Potassium as K	mg/l	29	2.33	<50	2.5
Total Alkalinity as $CaCO_3$	mg/l	29	356.471	<330	356 [4]
Chloride as Cl	mg/l	29	94.103	<200	103
Sulphate as SO_4	mg/l	29	31	<400	34
Nitrate as NO_x-N	mg/l	29	12.666	<10	12.7
Fluoride as F	Mg/l	29	0.253	<1.0	0.27
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B52H			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve [2]	Groundwater Quality Reserve [3]
pH	–	64	8.094	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	64	91.65	<150	100
Calcium as Ca	mg/l	64	58.418	<150	64
Magnesium as Mg	mg/l	64	32.033	<100	35
Sodium as Na	mg/l	64	62.1165	<200	68
Potassium as K	mg/l	64	2.675	<50	2.9
Total Alkalinity as $CaCO_3$	mg/l	64	241.4405	N/A	265
Chloride as Cl	mg/l	64	71.774	<200	78
Sulphate as SO_4	mg/l	64	26.55	<400	29
Nitrate as NO_x-N	mg/l	64	9.7805	<10	9.8
Fluoride as F	Mg/l	64	0.538	<1.0	0.59
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B52J			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	78	8.144	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	78	109.35	<150	120
Calcium as Ca	mg/l	78	69.1765	<150	76
Magnesium as Mg	mg/l	78	71.318	<100	78
Sodium as Na	mg/l	78	62.3	<200	68
Potassium as K	mg/l	78	1.63	<50	1.7
Total Alkalinity as $CaCO_3$	mg/l	78	334.125	N/A	367
Chloride as Cl	mg/l	78	86.681	<200	95
Sulphate as SO_4	mg/l	78	52.3	<400	57
Nitrate as NO_x-N	mg/l	78	10.5165	<10	11
Fluoride as F	Mg/l	78	0.135	<1.0	0.14
				Water quality class	**Class II**

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B60D			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	42	8.1615	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	42	44.65	<150	49
Calcium as Ca	mg/l	42	45.0725	<150	49
Magnesium as Mg	mg/l	42	26.8335	<100	29
Sodium as Na	mg/l	42	5.362	<200	5
Potassium as K	mg/l	42	0.512	<50	0.5
Total Alkalinity as $CaCO_3$	mg/l	42	211.7055	N/A	232
Chloride as Cl	mg/l	42	5	<200	5
Sulphate as SO_4	mg/l	42	4.35	<400	4
Nitrate as NO_x-N	mg/l	42	2.74	<10	3.0
Fluoride as F	Mg/l	42	0.183	<1.0	0.20
				Water quality class	**Class I**

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B60G			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	12	8.2325	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	12	61.6	<150	67
Calcium as Ca	mg/l	12	40.2825	<150	44
Magnesium as Mg	mg/l	12	32.098	<100	35
Sodium as Na	mg/l	12	45.8895	<200	50
Potassium as K	mg/l	12	0.6575	<50	0.7
Total Alkalinity as $CaCO_3$	mg/l	12	233.8585	N/A	257
Chloride as Cl	mg/l	12	50.102	<200	55
Sulphate as SO_4	mg/l	12	14.519	<400	15
Nitrate as NO_x-N	mg/l	12	1.812	<10	1.9
Fluoride as F	Mg/l	12	0.453	<1.0	0.49
				Water quality class	**Class I**

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B60H			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	26	7.998	5.0 – 9.5	8.25
Electrical Conductivity	mS/m	26	51.25	<150	56
Calcium as Ca	mg/l	26	41.6925	<150	45
Magnesium as Mg	mg/l	26	21.389	<100	23
Sodium as Na	mg/l	26	18.465	<200	20
Potassium as K	mg/l	26	0.6945	<50	0.7
Total Alkalinity as $CaCO_3$	mg/l	26	204.4145	N/A	224
Chloride as Cl	mg/l	26	15.6565	<200	17
Sulphate as SO_4	mg/l	26	10.8385	<400	11
Nitrate as NO_x-N	mg/l	26	0.916	<10	1.0
Fluoride as F	Mg/l	26	0.1825	<1.0	0.20
				Water quality class	**Class I**

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B60J			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	22	7.819	5.0 – 9.5	8.00
Electrical Conductivity	mS/m	22	148	<150	150[4]
Calcium as Ca	mg/l	22	73.509	<150	80
Magnesium as Mg	mg/l	22	60.6	<100	66
Sodium as Na	mg/l	22	154.017	<200	169
Potassium as K	mg/l	22	3.585	<50	3.9
Total Alkalinity as $CaCO_3$	mg/l	22	381.78	N/A	382[4]
Chloride as Cl	mg/l	22	166.4	<200	183
Sulphate as SO_4	mg/l	22	82.4675	<400	90
Nitrate as NO_x-N	mg/l	22	7.887	<10	8.7
Fluoride as F	Mg/l	22	0.62	<1.0	0.68
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B71A			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	25	8.18	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	25	75.9	<150	83
Calcium as Ca	mg/l	25	41.692	<150	45
Magnesium as Mg	mg/l	25	35.6	<100	39
Sodium as Na	mg/l	25	27.457	<200	30
Potassium as K	mg/l	25	2.488	<50	2.7
Total Alkalinity as $CaCO_3$	mg/l	25	239.8	N/A	263
Chloride as Cl	mg/l	25	43.299	<200	47
Sulphate as SO_4	mg/l	25	14.9	<400	16
Nitrate as NO_x-N	mg/l	25	3.908	<10	4.3
Fluoride as F	Mg/l	25	0.2	<1.0	0.22
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B71B			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	22	8.245	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	22	116.45	<150	128
Calcium as Ca	mg/l	22	43.1465	<150	47
Magnesium as Mg	mg/l	22	86.0155	<100	94
Sodium as Na	mg/l	22	58.222	<200	64
Potassium as K	mg/l	22	2.425	<50	2.7
Total Alkalinity as $CaCO_3$	mg/l	22	393.132	N/A	393[4]
Chloride as Cl	mg/l	22	111.8245	<200	123
Sulphate as SO_4	mg/l	22	39.897	<400	43
Nitrate as NO_x-N	mg/l	22	4.1535	<10	4.6
Fluoride as F	Mg/l	22	0.161	<1.0	0.17
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B71D			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	9	8.123	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	9	70	<150	77
Calcium as Ca	mg/l	9	33.574	<150	36
Magnesium as Mg	mg/l	9	18.525	<100	20
Sodium as Na	mg/l	9	18.321	<200	20
Potassium as K	mg/l	9	3.815	<50	4.1
Total Alkalinity as $CaCO_3$	mg/l	9	219.423	N/A	241
Chloride as Cl	mg/l	9	35.581	<200	39
Sulphate as SO_4	mg/l	9	9.179	<400	10
Nitrate as NO_x-N	mg/l	9	0.515	<10	0.6
Fluoride as F	Mg/l	9	0.18	<1.0	0.19
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B71E			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	180	8.283	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	180	93.05	<150	102
Calcium as Ca	mg/l	180	42.4955	<150	46
Magnesium as Mg	mg/l	180	73.983	<100	81
Sodium as Na	mg/l	180	34.421	<200	37
Potassium as K	mg/l	180	1.402	<50	1.5
Total Alkalinity as $CaCO_3$	mg/l	180	363.32	N/A	363[4]
Chloride as Cl	mg/l	180	55.85	<200	61
Sulphate as SO_4	mg/l	177	25.37	<400	27
Nitrate as NO_x-N	mg/l	180	10.442	<10	10.4
Fluoride as F	Mg/l	180	0.1155	<1.0	0.12
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B71F			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	46	8.2235	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	46	84.5	<150	92
Calcium as Ca	mg/l	46	74.201	<150	81
Magnesium as Mg	mg/l	46	37.6255	<100	41
Sodium as Na	mg/l	46	44.6935	<200	49
Potassium as K	mg/l	46	2.189	<50	2.4
Total Alkalinity as $CaCO_3$	mg/l	46	258.762	N/A	284
Chloride as Cl	mg/l	46	88.4355	<200	97
Sulphate as SO_4	mg/l	46	51.892	<400	57
Nitrate as NO_x-N	mg/l	46	0.925	<10	1.0
Fluoride as F	Mg/l	46	0.3	<1.0	0.33
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B71G			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	16	8.216	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	16	65.6	<150	72
Calcium as Ca	mg/l	16	52.8585	<150	58
Magnesium as Mg	mg/l	16	47.3295	<100	52
Sodium as Na	mg/l	16	13.832	<200	15
Potassium as K	mg/l	16	1.1435	<50	1.3
Total Alkalinity as $CaCO_3$	mg/l	16	304.0185	N/A	304[4]
Chloride as Cl	mg/l	16	16.358	<200	17
Sulphate as SO_4	mg/l	16	11.1915	<400	12
Nitrate as NO_x-N	mg/l	16	2.496	<10	2.7
Fluoride as F	Mg/l	16	0.2525	<1.0	0.27
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B71H			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	56	7.945	5.0 – 9.5	8.0
Electrical Conductivity	mS/m	56	93.6	<150	102
Calcium as Ca	mg/l	56	55.15	<150	60
Magnesium as Mg	mg/l	56	31.1	<100	34
Sodium as Na	mg/l	56	68.05	<200	74.
Potassium as K	mg/l	56	2.465	<50	2.7
Total Alkalinity as $CaCO_3$	mg/l	56	303.4585	N/A	303[4]
Chloride as Cl	mg/l	56	65.056	<200	71
Sulphate as SO_4	mg/l	56	12.6	<400	13
Nitrate as NO_x-N	mg/l	56	0.741	<10	0.8
Fluoride as F	Mg/l	56	0.446	<1.0	0.49
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B72A			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	100	7.915	5.0 – 9.5	8.25
Electrical Conductivity	mS/m	100	46.45	<150	51
Calcium as Ca	mg/l	100	33.95	<150	37
Magnesium as Mg	mg/l	100	16.7285	<100	18
Sodium as Na	mg/l	100	30.7	<200	33
Potassium as K	mg/l	100	1.8155	<50	1.9
Total Alkalinity as $CaCO_3$	mg/l	100	176.85	N/A	194
Chloride as Cl	mg/l	100	23.8	<200	26
Sulphate as SO_4	mg/l	100	7.112	<400	7
Nitrate as NO_x-N	mg/l	100	1.0335	<10	1.1
Fluoride as F	Mg/l	100	0.2755	<1.0	0.30
				Water quality class	Class 0

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B72C			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	26	8.17	5.0 – 9.5	8.50
Electrical Conductivity	mS/m	26	125.65	<150	138
Calcium as Ca	mg/l	26	51.7	<150	56
Magnesium as Mg	mg/l	26	37.25	<100	40
Sodium as Na	mg/l	26	175.8	<200	193
Potassium as K	mg/l	26	2.63	<50	2.8
Total Alkalinity as $CaCO_3$	mg/l	26	442.65	N/A	443[4]
Chloride as Cl	mg/l	26	138.187	<200	152
Sulphate as SO_4	mg/l	26	20.564	<400	22
Nitrate as NO_x-N	mg/l	26	0.66	<10	0.7
Fluoride as F	Mg/l	26	0.7885	<1.0	0.86
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B72E			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	101	8.035	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	101	53.3	<150	58
Calcium as Ca	mg/l	101	39.2	<150	43
Magnesium as Mg	mg/l	101	26.2	<100	28
Sodium as Na	mg/l	101	26.5	<200	29
Potassium as K	mg/l	101	0.898	<50	0.9
Total Alkalinity as $CaCO_3$	mg/l	101	236.548	N/A	260
Chloride as Cl	mg/l	101	13.9	<200	15
Sulphate as SO_4	mg/l	101	4.3	<400	4
Nitrate as NO_x-N	mg/l	101	1.927	<10	2.1
Fluoride as F	Mg/l	101	0.227	<1.0	0.24
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B72J			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	47	8.038	5.0 – 9.5	8.50
Electrical Conductivity	mS/m	47	110.23	<150	121
Calcium as Ca	mg/l	47	64.86	<150	71
Magnesium as Mg	mg/l	47	69.761	<100	76
Sodium as Na	mg/l	47	69.6	<200	76
Potassium as K	mg/l	47	0.65	<50	0.7
Total Alkalinity as $CaCO_3$	mg/l	47	381.88	N/A	382[4]
Chloride as Cl	mg/l	47	101.636	<200	111
Sulphate as SO_4	mg/l	47	41.281	<400	45
Nitrate as NO_x-N	mg/l	47	9.989	<10	10
Fluoride as F	Mg/l	47	0.3	<1.0	0.33
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B72K			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	61	8.21	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	61	180	<150	180[4]
Calcium as Ca	mg/l	61	61.681	<150	67
Magnesium as Mg	mg/l	61	61.2	<100	67
Sodium as Na	mg/l	61	223.785	<200	224[4]
Potassium as K	mg/l	61	5.38	<50	5.9
Total Alkalinity as $CaCO_3$	mg/l	61	459	N/A	459[4]
Chloride as Cl	mg/l	61	244.7	<200	245[4]
Sulphate as SO_4	mg/l	61	54.8	<400	60
Nitrate as NO_x-N	mg/l	61	9.088	<10	9.9
Fluoride as F	Mg/l	61	0.642	<1.0	0.70
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B73A			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	25	7.67	5.0 – 9.5	8.00
Electrical Conductivity	mS/m	25	22.6	<150	24
Calcium as Ca	mg/l	25	10.3	<150	11
Magnesium as Mg	mg/l	25	3.6	<100	3
Sodium as Na	mg/l	25	28.4	<200	31
Potassium as K	mg/l	25	1.3	<50	1.4
Total Alkalinity as $CaCO_3$	mg/l	25	84.6	N/A	93
Chloride as Cl	mg/l	25	9.2	<200	10
Sulphate as SO_4	mg/l	25	4.9	<400	5
Nitrate as NO_x-N	mg/l	25	0.93	<10	1.0
Fluoride as F	Mg/l	25	0.398	<1.0	0.43
				Water quality class	Class 0

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B73E			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	50	8.16	5.0 – 9.5	8.50
Electrical Conductivity	mS/m	50	80.3	<150	88
Calcium as Ca	mg/l	50	40.7885	<150	44
Magnesium as Mg	mg/l	50	21.05	<100	23
Sodium as Na	mg/l	50	102.9	<200	113
Potassium as K	mg/l	50	2.203	<50	2.4
Total Alkalinity as $CaCO_3$	mg/l	50	281.2	N/A	309
Chloride as Cl	mg/l	50	55.35	<200	60
Sulphate as SO_4	mg/l	50	10.85	<400	11
Nitrate as NO_x-N	mg/l	50	3.3105	<10	3.6
Fluoride as F	Mg/l	50	0.99	<1.0	1.0
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B73F			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	19	8.346	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	19	50.5	<150	55
Calcium as Ca	mg/l	19	15.864	<150	17
Magnesium as Mg	mg/l	19	30.272	<100	33
Sodium as Na	mg/l	19	43.2	<200	47
Potassium as K	mg/l	19	1.893	<50	2.0
Total Alkalinity as $CaCO_3$	mg/l	19	197.544	N/A	217
Chloride as Cl	mg/l	19	32.906	<200	36
Sulphate as SO_4	mg/l	19	10.439	<400	11
Nitrate as NO_x-N	mg/l	19	1.443	<10	1.5
Fluoride as F	Mg/l	19	0.333	<1.0	0.36
				Water quality class	Class 0

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B81C			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	64	7.689	5.0 – 9.5	8.00
Electrical Conductivity	mS/m	64	22.6185	<150	25
Calcium as Ca	mg/l	64	13.7065	<150	15
Magnesium as Mg	mg/l	64	4.2295	<100	5
Sodium as Na	mg/l	63	16.8	<200	18
Potassium as K	mg/l	61	2.638	<50	2.9
Total Alkalinity as $CaCO_3$	mg/l	64	46.5115	N/A	51
Chloride as Cl	mg/l	64	23.9395	<200	26
Sulphate as SO_4	mg/l	64	3	<400	3
Nitrate as NO_x-N	mg/l	64	3.5385	<10	3.9
Fluoride as F	Mg/l	63	0.14	<1.0	0.15
				Water quality class	Class 0

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B81D			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	178	7.827	5.0 – 9.5	8.0
Electrical Conductivity	mS/m	178	44.65	<150	49
Calcium as Ca	mg/l	178	36.9385	<150	41
Magnesium as Mg	mg/l	178	21.843	<100	24
Sodium as Na	mg/l	175	17.5	<200	19
Potassium as K	mg/l	175	0.542	<50	0.6
Total Alkalinity as $CaCO_3$	mg/l	177	187.634	N/A	206
Chloride as Cl	mg/l	178	11.9215	<200	13
Sulphate as SO_4	mg/l	178	4.6	<400	5
Nitrate as NO_x-N	mg/l	177	1.949	<10	2.1
Fluoride as F	Mg/l	177	0.192	<1.0	0.21
				Water quality class	Class 0

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B81E			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	144	8.077	5.0 – 9.5	8.25
Electrical Conductivity	mS/m	144	45.25	<150	50
Calcium as Ca	mg/l	144	27.84	<150	31
Magnesium as Mg	mg/l	144	15.55	<100	17
Sodium as Na	mg/l	144	33.4565	<200	37
Potassium as K	mg/l	144	2.6485	<50	2.9
Total Alkalinity as $CaCO_3$	mg/l	144	166.2245	N/A	183
Chloride as Cl	mg/l	144	27.5525	<200	30
Sulphate as SO_4	mg/l	144	5.85	<400	6
Nitrate as NO_x-N	mg/l	144	0.784	<10	0.9
Fluoride as F	Mg/l	144	0.34	<1.0	0.37
				Water quality class	Class 0

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B81G			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	298	7.99	5.0 – 9.5	8.25
Electrical Conductivity	mS/m	298	83.35	<150	92
Calcium as Ca	mg/l	298	44.047	<150	48
Magnesium as Mg	mg/l	298	33.068	<100	36
Sodium as Na	mg/l	298	68.3885	<200	75
Potassium as K	mg/l	298	2.0605	<50	2.3
Total Alkalinity as $CaCO_3$	mg/l	298	266.67	N/A	293
Chloride as Cl	mg/l	298	63.85	<200	70
Sulphate as SO_4	mg/l	298	10.42	<400	11
Nitrate as NO_x-N	mg/l	298	3.7285	<10	4.1
Fluoride as F	Mg/l	298	0.471	<1.0	0.52
				Water quality class	Class 0

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B81H			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	169	8.208	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	169	175	<150	<175[4]
Calcium as Ca	mg/l	169	74.8	<150	82
Magnesium as Mg	mg/l	169	72.6	<100	80
Sodium as Na	mg/l	169	164.759	<200	181
Potassium as K	mg/l	169	5.781	<50	6.4
Total Alkalinity as $CaCO_3$	mg/l	169	435.6	N/A	436[4]
Chloride as Cl	mg/l	169	232.193	<200	232[4]
Sulphate as SO_4	mg/l	169	27.609	<400	30
Nitrate as NO_x-N	mg/l	168	11.143	<10	12.3
Fluoride as F	Mg/l	168	0.605	<1.0	0.67
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B82A			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	59	7.854	5.0 – 9.5	8.00
Electrical Conductivity	mS/m	58	63	<150	69
Calcium as Ca	mg/l	59	38.951	<150	43
Magnesium as Mg	mg/l	59	27.147	<100	30
Sodium as Na	mg/l	59	43.935	<200	48
Potassium as K	mg/l	59	2.66	<50	2.9
Total Alkalinity as $CaCO_3$	mg/l	59	232.8	N/A	256
Chloride as Cl	mg/l	59	40.451	<200	44
Sulphate as SO_4	mg/l	59	11.214	<400	12
Nitrate as NO_x-N	mg/l	59	2.506	<10	2.8
Fluoride as F	Mg/l	58	0.317	<1.0	0.35
				Water quality class	Class I

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B82C			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	31	7.76	5.0 – 9.5	8.00
Electrical Conductivity	mS/m	31	33.2	<150	37
Calcium as Ca	mg/l	31	21.981	<150	24
Magnesium as Mg	mg/l	31	11.7	<100	13
Sodium as Na	mg/l	30	21.188	<200	23
Potassium as K	mg/l	30	1.3995	<50	1.5
Total Alkalinity as $CaCO_3$	mg/l	31	109	N/A	120
Chloride as Cl	mg/l	31	20.489	<200	23
Sulphate as SO_4	mg/l	31	4.6	<400	5
Nitrate as NO_x-N	mg/l	31	2.878	<10	3.2
Fluoride as F	Mg/l	31	0.218	<1.0	0.24
				Water quality class	Class 0

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B82D			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	249	8.06	5.0 – 9.5	8.50
Electrical Conductivity	mS/m	249	76.5	<150	84
Calcium as Ca	mg/l	249	42.482	<150	47
Magnesium as Mg	mg/l	249	44.02	<100	48
Sodium as Na	mg/l	248	55.2845	<200	61
Potassium as K	mg/l	248	5.2555	<50	5.8
Total Alkalinity as $CaCO_3$	mg/l	248	260.05	N/A	286
Chloride as Cl	mg/l	249	50.5	<200	56
Sulphate as SO_4	mg/l	249	14.488	<400	16
Nitrate as NO_x-N	mg/l	248	9.7535	<10	9.8
Fluoride as F	Mg/l	248	0.302	<1.0	0.33
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B82E			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	113	7.958	5.0 – 9.5	8.25
Electrical Conductivity	mS/m	113	65.5	<150	72
Calcium as Ca	mg/l	113	34.922	<150	38
Magnesium as Mg	mg/l	113	30.514	<100	34
Sodium as Na	mg/l	108	37.64	<200	41
Potassium as K	mg/l	108	5.0595	<50	5.6
Total Alkalinity as $CaCO_3$	mg/l	113	183.846	N/A	200
Chloride as Cl	mg/l	113	49.127	<200	54
Sulphate as SO_4	mg/l	113	16.067	<400	18
Nitrate as NO_x-N	mg/l	113	5.914	<10	6.5
Fluoride as F	Mg/l	113	0.197	<1.0	0.22
				Water quality class	**Class 0**

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B82F			
		No. of Samples	Ambient GW quality or median [1)]	BHN Reserve[2)]	Groundwater Quality Reserve[3]
pH	–	232	8.032	5.0 – 9.5	8.25
Electrical Conductivity	mS/m	232	63.05	<150	69
Calcium as Ca	mg/l	232	33.353	<150	37
Magnesium as Mg	mg/l	232	36.834	<100	41
Sodium as Na	mg/l	231	29.3	<200	32
Potassium as K	mg/l	231	3.831	<50	4.2
Total Alkalinity as $CaCO_3$	mg/l	228	212.5	<330	234
Chloride as Cl	mg/l	232	38.3085	<200	42
Sulphate as SO_4	mg/l	232	11.063	<400	12
Nitrate as NO_x-N	mg/l	228	6.0725	<10	6.7
Fluoride as F	Mg/l	227	0.276	<1.0	0.30
				Water quality class	**Class I**

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.

Chemical Parameter	Unit	Olifants River Catchment QC B82G			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve [2]	Groundwater Quality Reserve [3]
pH	–	220	8.19	5.0 – 9.5	8.5
Electrical Conductivity	mS/m	220	112.85	<150	124
Calcium as Ca	mg/l	220	52.8	<150	58
Magnesium as Mg	mg/l	220	62.807	<100	69
Sodium as Na	mg/l	218	84.9	<200	93
Potassium as K	mg/l	218	3.669	<50	4.0
Total Alkalinity as $CaCO_3$	mg/l	219	368.1	N/A	370[4]
Chloride as Cl	mg/l	220	92.0335	<200	101
Sulphate as SO_4	mg/l	220	17.0815	<400	19
Nitrate as NO_x-N	mg/l	218	4.6245	<10	5.1
Fluoride as F	Mg/l	217	0.469	<1.0	0.52
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B82J			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve [2]	Groundwater Quality Reserve [3]
pH	–	26	8.0975	5.0 – 9.5	8.25
Electrical Conductivity	mS/m	26	176.5	<150	177[4]
Calcium as Ca	mg/l	26	75.872	<150	83
Magnesium as Mg	mg/l	26	184.0145	<100	184[4]
Sodium as Na	mg/l	26	70.92	<200	78
Potassium as K	mg/l	26	6.5275	<50	7.2
Total Alkalinity as $CaCO_3$	mg/l	26	454.1	N/A	454[4]
Chloride as Cl	mg/l	26	205.8395	<200	206[4]
Sulphate as SO_4	mg/l	26	29.3965	<400	32
Nitrate as NO_x-N	mg/l	26	9.4955	<10	10.4
Fluoride as F	Mg/l	26	0.536	<1.0	0.59
				Water quality class	Class II

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Chemical Parameter	Unit	Olifants River Catchment QC B83B			
		No. of Samples	Ambient GW quality or median [1]	BHN Reserve[2]	Groundwater Quality Reserve[3]
pH	–	22	7.5	5.0 – 9.5	8.00
Electrical Conductivity	mS/m	18	105.991	<150	117
Calcium as Ca	mg/l	22	484	<150	484[4]
Magnesium as Mg	mg/l	20	4.691	<100	5
Sodium as Na	mg/l	22	105.219	<200	116
Potassium as K	mg/l	20	3.953	<50	4.3
Total Alkalinity as $CaCO_3$	mg/l	21	484	N/A	484[4]
Chloride as Cl	mg/l	22	105	<200	116
Sulphate as SO_4	mg/l	22	4.69	<400	5
Nitrate as NO_x-N	mg/l	21	3.95	<10	4.3
Fluoride as F	Mg/l	20	0.70	<1.0	0.77
				Water quality class	Class III

[1] Median value (calculated from population of samples in QC).
[2] Upper limit of Class I water quality (DWAF et al 1998).
[3] The median plus 10% for the Groundwater Quality Reserve.
[4] Natural geological conditions may cause elevated dissolved solids in groundwater.

Please note:

In the case of Karoo Supergroup aquifers and the Rustenburg Layered Suite, magnesium (Mg), sodium (Na) and chloride (Cl) values are elevated due to these elements being part of the primary sediment/crystalline rock chemistry and are released into the groundwater due to weathering/decomposing processes.

Elevated values of total alkalinity is a general groundwater hydrochemical phenomenon in South Africa and could only in specific cases be the result of poor water quality management.

Elevated values for nitrate (NO3–N) has been noted through all of the sub-catchments, except the lower Letaba catchment (B83), and values of ~45 to 50 mg/l has been noted in the 95th percentile slot.

The observed groundwater quality criteria in terms of water quality for basic human needs (BHN) is significantly impacted by elevated values for nitrate (NO3–N) – therefore groundwater reserve values for nitrate has been set at the median values which in all cases (except the Central Olifants

8. WETLAND RESERVE

Important quaternary catchments identified during a team workshop in July 2015 were considered for possible field visits based on a review of the available literature and a scan of the existing wetland databases. Quaternary catchments were identified for further investigation, many of which were then also targeted for field investigations.

The catchments were selected based on the following considerations:

- Important wetlands that should possibly be visited (already identified/prioritised in the current Reserve documents) for various reasons; and/or
- Potential gaps where additional important wetlands may exist and which should possibly also be included or prioritised in the Reserve process.

Table 8.1 identifies the priority wetlands in the Olifants and Letaba catchments and summarises the PES, EIS, REC and ecological specifications for the identified priority wetlands.

Table 8.1: Table showing results of the prioritised wetlands.

IUA	Quat & Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
1	B11E Oli_1.1	Blesbokspruit wetland Floodplain	-26.222	29.059	E/F	High	D	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Rehabilitation measures should be implemented in this system to improve its current state.
1	B11E Oli_1.2	Rietspruit wetland Unchannelled valley bottom; Channelled valley bottom	-26.252	29.103	D	High	C/D	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Rehabilitation measures should be implemented in this system to improve its current state.
1	B11D Oli_1.3	Kriel wetland Channelled valley bottom	-26.268	29.229	C/D	Moderate	C/D	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Rehabilitation measures should be implemented in this system to improve its current state.

IUA	Quat & Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
1	B11F Oli_1.4	Klipoortjiespruit wetland Unchannelled valley bottom	-26.087	29.141	D	High	C/D	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of achieving the REC
1	B11B Oli_1.5	Koringspruit wetland Channelled valley bottom (section of unchannelled valley bottom)	-26.094	29.385	D	Moderate	C	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of achieving the REC. Rehabilitation measures should be implemented in this system to improve its current state.
1	B11K Oli_1.6	Klipspruit wetland Unchannelled valley bottom	-25.801	29.135	D	High	C/D	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition.

IUA	Quat & Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
								Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Rehabilitation measures should be implemented in this system to improve its current state.
1	B12A Oli_1.7	Klein-Olifants tributary Channelled valley bottom; Hillslope seepage	-26.057	29.746	D	High	C/D	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of achieving the REC. Rehabilitation measures should be implemented in this system to improve its current state.
1	B12B Oli_1.8	Matla wetland Channelled valley bottom	-26.037	29.815	C	Moderate	C	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including

IUA	Quat & Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
								interflow) of scenarios to establish the potential impact in terms of achieving the REC. Rehabilitation measures should be implemented in this system to improve its current state.
1	B12B Oli_1.9	Woes-alleenspruit wetland Unchannelled valley bottom	-25.990	29.581	C	Moderate to High	C	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Rehabilitation measures should be implemented in this system to improve its current state.
1	B12B Oli_1.10	Bosmanspruit wetland Unchannelled valley bottom	-25.909	29.715	C	Moderate to High	C	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of achieving the REC.
1	B12C Oli_1.11	Kopermyn wetland Unchannelled valley bottom; Channelled valley bottom; Hillslope seepage	-25.847	29.720	C	High	B/C	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition.

IUA	Quat & Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
								Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply.
1	B11C Oli_1.12	Debeerspruit/ Piekespruit floodplain	-26.391	29.322	A/B	High	A/B	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of achieving the REC.
1	B11A Oli_1.13	Viskuile floodplain complex Floodplain	-26.261	29.492	C	High to Very High	B	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of achieving the REC. Rehabilitation measures should be implemented in this system to improve its current state.

IUA	Quat & Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
1	B11C Oli_1.14	Steenkoolspruit floodplain	-26.337	29.354	D	High	C/D	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of achieving the REC.
2	B20C Oli_2.1	Elandsvlei pans Pan/depression; Hillslope seepage	-25.996	28.463	C	High	B/C	No increase in cultivation or habitat transformation within the pan catchments should be permitted. Water quality impacts to the pan system must be restricted to ensure that the water and sediment chemistry remain within an acceptable normal range (anion and cation concentration to pan volume relationship) for this particular water chemistry pan type. Lateral flow inputs from the catchment and hillslope seepage wetlands must be protected through the application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Maintain suitable African Grass Owl habitat.
2	B20B Oli_2.2	Koffiespruit tributary Unchannelled valley bottom	-26.071	28.599	A/B	Moderate to High	A/B	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and

IUA	Quat & Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
								strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of achieving the REC.
2	B20A Oli_2.3	Delmas wetland Unchannelled valley bottom	-26.137	28.690	D	Moderate	D	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of achieving the REC.
2	B20A Oli_2.4	Bronkhorstspruit tributary Unchannelled valley bottom; Channelled valley bottom; Hillslope seepage	-26.252	28.767	C	High	B	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of

IUA	Quat & Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
								achieving the REC
2	B20E Oli_2.5	Wilge tributary Floodplain; Channelled valley bottom	-26.126	28.935	A/B to C	Moderate to High	B/C	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of achieving the REC.
2	B20G Oli_2.6	Zaalklap wetland Unchannelled valley bottom	-25.908	29.053	D	High	C/D	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of achieving the REC.
2	B20G Oli_2.7	Saalboomspruit wetland Unchannelled valley bottom; Channelled valley	-25.864	29.008	D	Moderate to High	C/D	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems.

IUA	Quat & Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
		bottom						Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of achieving the REC.
2	B20E Oli_2.8	Upper Wilge River Floodplain	-26.131	28.874	D	High	C/D	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of achieving the REC.
3	B12E Oli_3.1	Klein-Olifants tributary Unchannelled valley bottom; Channelled valley bottom; Hillslope seepage	-25.659	29.407	A/B to C	High	B	Maintain the existing flow distribution and retention patterns in the system. Currently unchannelled wetlands must be maintained as unchannelled systems. Maintain existing vegetation structure and composition. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply.

IUA	Quat & Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
4	B31A Oli_4.1	Elands tributary wetland Channelled valley bottom; Hillslope seepage	-25.627	28.650	C	High	B/C	Maintain the existing flow distribution and retention patterns in the system. Maintain existing vegetation structure and composition. Maintain permanent saturation of peat wetlands. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply.
5	B51C Oli_5.1	Makotswane Channelled valley bottom Hillslope seepage	-24.852	29.701	C	Very High	B	Maintain the existing flow distribution and retention patterns in the system. Maintain existing vegetation structure and composition. Maintain permanent saturation of peat wetlands. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Targeted wetland management actions and rehabilitation interventions should be implemented to safeguard and improve the wetland structure and functioning and associated peat and artesian springs.
6	B41A Oli_6.1	Lakenvlei wetland complex Unchannelled valley bottom Channelled valley bottom Hillslope seepage	-25.560	30.097	A/B	Very High	A/B	Maintain the existing flow distribution and retention patterns in the system. Maintain existing vegetation structure and composition. Maintain permanent saturation of peat wetlands. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Any applications for development, abstraction or groundwater use in the area will need to consider the impacts on this system, both from an EIA and WUL perspective, and strict licensing conditions including monitoring of the system should apply. The overall biodiversity and viable populations of Red Data bird species must be maintained. No new dams should be constructed in the system without following detailed authorisation process.

IUA	Quat & Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
								No increase in cultivation or habitat transformation within the hillslope seepage wetlands should be permitted. Any application for development including mining likely to impact this system, besides going through the normal licensing processes, should also include as a minimum an Intermediate Level Wetland Reserve which includes flow modelling (surface and groundwater including interflow) of scenarios to establish the potential impact in terms of achieving the REC.
6	B41B Oli_6.2	Welgevonden wetland Channelled valley bottom Hillslope seepage	-25.467	30.082	A/B	High to Very High	A/B	Maintain the existing flow distribution and retention patterns in the system. Maintain existing vegetation structure and composition. Maintain permanent saturation of peat wetlands. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply.
6	B41F Oli_6.3	Draaikraal wetland 1 Channelled valley bottom	-25.254	30.034	C	High to Very High	B	Maintain the existing flow distribution and retention patterns in the system. Unchannelled nature of sections of the wetland must be maintained. Maintain existing vegetation structure and composition. Maintain permanent saturation of peat wetlands. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply.
6	B41F Oli_6.4	Draaikraal wetland 2 Channelled valley bottom	-25.217	30.075	A/B to C	High to Very High	A/B to B	Maintain the existing flow distribution and retention patterns in the system. Unchannelled nature of sections of the wetland must be maintained. Maintain existing vegetation structure and composition. Maintain permanent saturation of peat wetlands. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply.

[illegible]	[illegible] Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
6	B41F Oli_6.5	Draaikraal wetland 3 Hillslope seepage	-25.178	30.057	A/B	High to Very High	A/B	Maintain the existing flow distribution and retention patterns in the system. Unchannelled nature of sections of the wetland must be maintained. Maintain existing vegetation structure and composition. Maintain permanent saturation of peat wetlands. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply.
6	B41F Oli_6.8	Verloren Valei Comprises a mosaic of hillslope seepage wetlands and channelled and unchannelled valley bottom wetlands	-25.298	30.111	A/B	Very High	A	Maintain the existing flow distribution and retention patterns in the system. Unchannelled nature of sections of the wetland must be maintained. Maintain existing vegetation structure and composition. Maintain permanent saturation of peat wetlands. The conservation measures and management practices as per the Ramsar Information Sheet (RIS) (https://rsis.ramsar.org/RISapp/files/RISrep/ZA1110RIS.pdf) for Verloren Valei Nature Reserve must be implemented and maintained together with any additional management plans/actions that have subsequently been implemented by the Mpumalanga Parks Board.
6	B41A Oli_6.9	Belfast wetland complex Unchannelled valley bottom Channelled valley bottom Hillslope seepage	-25.695	30.036	A/B to C	High to Very High	B to A/B	Maintain the existing flow distribution and retention patterns in the system. Unchannelled nature of sections of the wetland must be maintained. Maintain existing vegetation structure and composition. Maintain permanent saturation of peat wetlands. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro- pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply.
9	B60F Oli_9.1	Krankloofpsruit wetland Channelled valley bottom	-24.932	30.506	C	Moderate	C	Maintain the existing flow distribution and retention patterns in the system. Maintain existing vegetation structure and composition.

IUA	Quat & Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
9	B60H Oli_9.2	Ohrigstad wetland Channelled valley bottom	-24.531	30.708	C	High to Very High	B	Maintain the existing flow distribution and retention patterns in the system. Maintain existing vegetation structure and composition.
10	B71G Oli_10.1	Tufa waterfall	-24.457	30.610	B	Very High	A/B	Maintenance of permanent water inputs to the tufa waterfall is critical for ongoing tufa formation. Any applications for groundwater use in the area will need to consider the impacts on this system, both from an EIA and WUL perspective, and strict licensing conditions including monitoring of the system should apply. Control of cultural activities within the wetland, e.g. salt harvesting. Site specific management measures should be developed in consultation with the local community to ensure the continued protection of this system.
13	B60C Oli_13.1	Treur wetland Hillslope seepage	-24.776	30.880	C	Very High	B	The unchannelled nature of sections of the wetland must be maintained. Maintain permanent saturation of peat wetlands. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Strict application of suitable forestry buffers. A viable populations of the Treur River Barb fish species should be maintained.
13	B60D Oli_13.2	Kadishi waterfall Tufa waterfall	-24.566	30.795	A/B	Very High	A/B	Maintenance of permanent water inputs to the tufa waterfall is critical for tufa formation. Any applications for groundwater use in the area will need to consider the impacts on this system, both from an EIA and WUL perspective, and strict licensing conditions including monitoring of the system should apply.
1	B81A Let_1.1	Stanford wetland Floodplain	-23.893	29.984	D	Moderate	D	The unchannelled nature of sections of the wetland must be maintained. Lateral flow inputs to the wetland must be protected through

IUA	Quat & Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
								application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Strict application of suitable forestry buffers. Targeted wetland management actions and rehabilitation interventions should be implemented to improve the wetland structure and functioning. This must address in particular afforestation related rehabilitation measures.
1	B81B Let_1.2	Tzaneen Dam wetland Unchannelled valley bottom Channelled valley bottom	-23.729	30.200	D/E	Moderate	D	The unchannelled nature of sections of the wetland must be maintained. Lateral flow inputs to the wetland must be protected through application of hydrological buffers determined via hydro-pedological assessments undertaken as part of EIA and/or WUL applications, and strict licensing conditions including monitoring of the systems should apply. Strict application of suitable forestry buffers.
2	B81D Let_2.1	Thabina wetland Channelled valley bottom	-23.992	30.260	C	High	B	The unchannelled nature of sections of the wetland must be maintained. Existing vegetation types and structure must be maintained or improved within natural seasonal variability. Targeted wetland management actions and rehabilitation interventions should be investigated and implemented if required to improve the wetland structure and functioning. Site specific management measures should be developed in consultation with the local community to ensure the maintenance and controlled utilisation of the wetland.
9	B82G Let_9.1	Baleni hot spring Spring	-23.419	30.912	B	Very High	A/B	Maintenance of permanent water inputs to the wetland is critical for peat formation and to prevent oxidation. Maintain existing vegetation structure and composition. Any applications for groundwater use in the area will need to consider the impacts on this system, both from an EIA and WUL perspective, and strict licensing conditions including monitoring of the system should apply. Control of cultural activities within the wetland, e.g. salt harvesting. Site specific management measures should be developed in consultation with the local community to ensure the continued protection of this

IUA	Quat & Wetland ID	Wetland Name & Type	Co-ordinates		PES	EIS	REC	Ecological Specifications*
			Latitude	Longitude				
								system.
12	B83C Let_12.1	Nshawu Unchannelled valley bottom Channelled valley bottom	-23.537	31.487	C	High	B	Maintain the existing flow distribution and retention patterns in the system. Maintain existing vegetation structure and composition. No new activities that could lead to flow concentration should be allowed in the system without following a detailed authorisation process.
12	B83D Let_12.2	Manyeleti/ Makhadzi wetland Unchannelled valley bottom	-23.657	31.607	A	High	A	Unchannelled nature of the wetland must be maintained. Maintain existing vegetation structure and composition. No new activities that could lead to flow concentration should be allowed in the system without following a detailed authorisation process. No increase in groundwater abstraction within the immediate vicinity of the wetland unless a detailed authorisation process has been followed.

***Note:** Ecological specifications (Ecospecs) defined for drivers and responses serve as the ecological objectives that must be met. The monitoring of these specifications and the drivers would determine how a resource is changing over time and whether the Reserve is being met. If not met, management intervention may be required in order to attain the desired ecological category. The monitoring requirements are indicated on the Ecological Specifications Report No: **RDM/WMA02/00/CON/0516**.

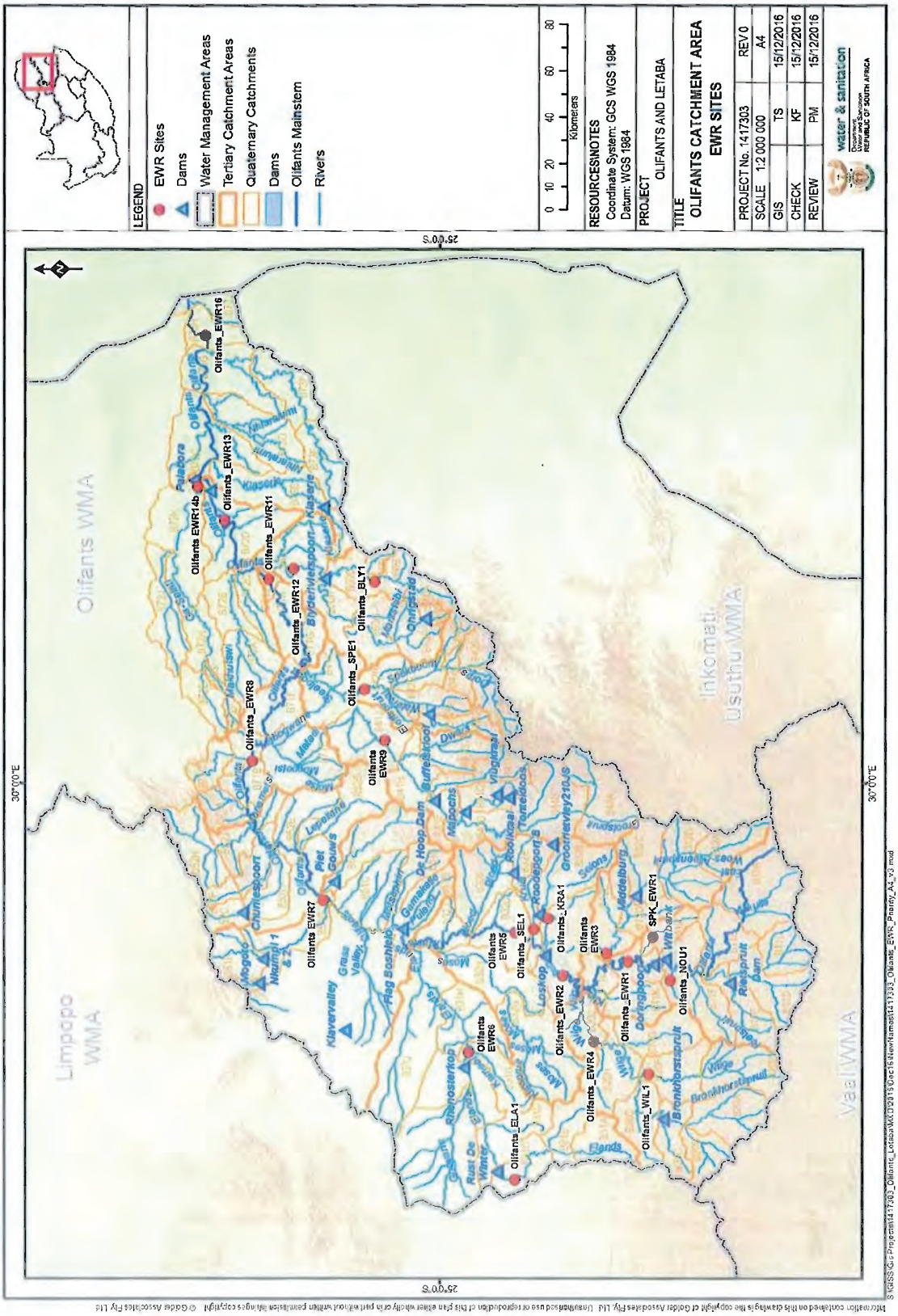

Figure 1: Locality map of the Olifants Catchment illustrating the prioritised EWR sites

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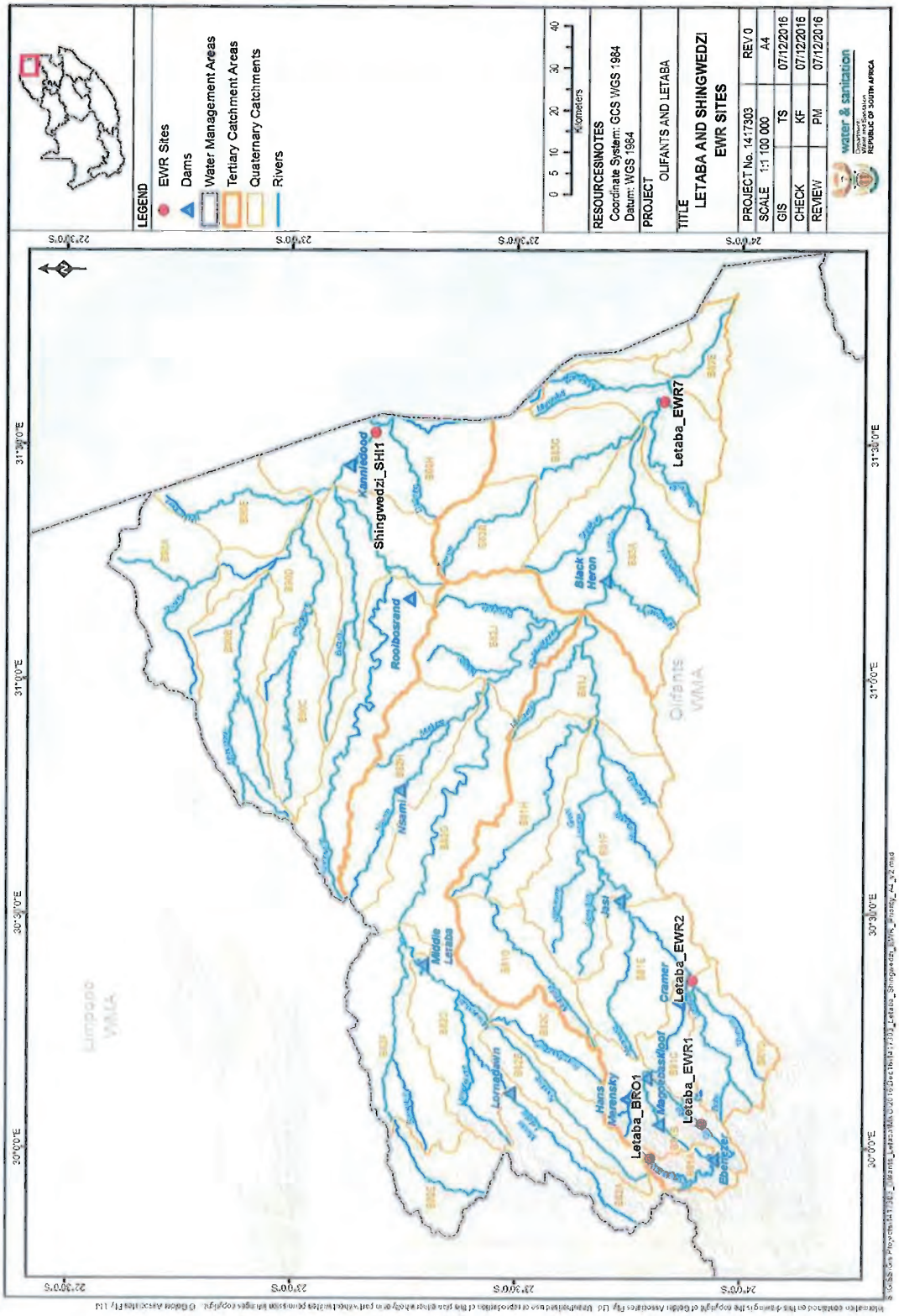

Figure 2: Map of the Letaba and Shingwedzi Catchments illustrating the priortised EWR sites

ANNEXURE B:
OLIFANTS & LETABA NOTICE (SEPEDI)

NOTHISI YA TŠENERALE

KGORO YA MEETSE LE KELELATŠHILA

MOLAWANA WA NAGA WA MEETSE, 1998

(MOLAWANA NO.36 WA 1998)

BOINEELO BJA PEELO YA DIDIRIŠWA TŠA MEETSE GO DITSHWARO TŠA OLIFANTS LE LETABA

Nna, Deborah Mochotlhi, ka khaphasithi ya ka bjalo ka Taerektha Tšenerale ya Motšwaotshwere ya Kgoro ya Meetse le Kelelatšhila, ka morago ga go latela karolo 13 a Molawana wa Naga wa Meetse, (Molawana No.36 wa 1998) ("Molawana") le Molawana 3 wa Melawana ya hlomo ya Sesteme ya Hlopo ya Didirišwa tša Meetse (No. R. 810 Gazete ya Mmušo No. 33541, 17 Setemere 2010), ebile e filwe tumelelo ya maleba go ya ka karolo 16(1) le 63(1)(a) ya Molawana, morago ga go latela karolo 16(2) le (3) ya Molawana, mo o phatlalatša boineelo bja Peelo ya didirišwa tša meetse tša ditshwaro tša Olifants le Letaba.

Taerektha: Boineelo bja Peelo
Athenšene: Mr Yakeen Atwaru
Kgoro ya Meetse le Kelelatšhila
178 Francis Baard Street
Private Bag X313
Pretoria
0001

Emeile: atwaruy@dws.gov.za

MS DEBORAH MOCHOTLHI
MOTŠWAOSWERE TAEREKTHA TŠENERALE
LETŠATŠIKGWEDI: 25/07/2018

BOINEELO BJA PEELO YA DIDIRIŠWA TŠA MEETSE LE KELELATŠHILA TŠA TSHWARO YA OLIFANTS LE LETABA GO YA KA KAROLO 16(1) LE YA MOLAWANA WA MEETSE WA NAGA, 1998 (MOLAWANA NO. 36 YA 1998)

LENANEO

TLHALOŠO YA DIDIRIŠWA TŠA MEETSE

1. (1) Peelo e ineetše go tšohle le seripa sa bohlokwa bjo bongwe le bjo bongwe bja sedirišwa sa meetse ka gare ga tshwaro ya Olfants le Letaba bjale ka ge di boletšwe ka fase:

Bolaodi bja Lefelo la Meetse:	Olifants
Diretšhene tša Kgamollo:	B Motheo wa Retšene ya Kgamollo (go sa balwe tshwaro ya Shingwedzi (B90))
Dinoka:	Disesteme tša Olifants le Noka ya Letaba

(2) Tona go ya ka karolo 16 ya Molawana wa Naga wa Meetse (Molawana No. 36 wa 1998) ("Molawana"), e laetše sesteme ya go hlopa didirišwa tša meetse ka go ntšha Nothisi ya Mmušo No. R. 810 yeo e gatišitšwego ka gare ga Gazete ya Mmušo No. 33541 ya 17 Setemere 2010. Go ya ka karolo 16(1) ya Molawana, Tona e swanetše, ka potlako ka mabaka a go kwagala a go kgonega, morago ga tlase yohle goba seripa sa sedirišwa sa meetse se hweditšwe, ka Nothisi ka gare ga Gazete, a hwetše Peelo ya tšohle goba seripa sa sedirišwa sa meetse.

(3) Tona, go ya ka karolo 16(1) le (2) ya Molawana, o bega, Peelo yeo e latelago ya tshwaro ya Olifants le Letaba.

DEMINEIŠENE YA PEELO BJALO KA GE E NYAKEGA GO YA KA KAROLO 16(1) LE (2) YA MOLAWANA WA NAGA WA MEETSE, 1998

2. (1) Kakaretšo ya khwanthithi ya seripana sa Dinoka tšeo di akaretšago EWR (**Fikara 1 & 2**) le BHN go ya ka karolo 16(1) ya Molawana wa ditshwaro tša Olifants le Letaba bjalo ka ge e boletšwe go aethemo 4. **Tafola 4.1** e akaretša dipoelo tša mafelo a bohlokwa kudu, le **Tafola 4.2** e akaretša dinoute tša bayofisikhale le mafelo a EWR ao a šetšego.

(2) Kakaretšo ya khwalithi ya seripana sa Noka go mafelo a EWR go ya ka karolo 16(1) ya Molawana wa ditshwaro tša Olifants le Letaba e boletšwe go **Tafola 5.1-5.29**.

(3) Kakaretšo ya seabe sa meetse a fase go Peelo ya Kwanthithi ya Meetse go ya ka karolo 16(1) ya Molawana wa tshwaro ya Olifants le Letaba e boletšwe go **Tafola 6.1**.

(4) Kakaretšo ya seabe sa meetse a fase go Peelo ya Khwalithi ya Meetse go ya ka karolo 16(1) ya Molawana wa tshwaro ya Olifants le Letaba e boletšwe go **Tafola 7.1, 7.2** le **7.3.**

(5) Kakaretšo ya Peelo ya lefelo la monola ya Khwanthithi ya Meetse le Khwalithi go ya ka karolo 16(1) ya Molawana wa tshwaro ya Olifants le Lataba e boletšwe go **Tafola 8.1**.

(6) Peelo e tla ama go tloga ka letšatšikgwedi leo e saenilwego ka ge e laetšwe go ya ka karolo 16(1) ya Molawana, ntle le ge e laetšwe ke Tona.

3. Diakronimi le Ditlhalošo

3.1. Diakronimi

BHN	Theo ya Dinyakwa tša Batho
EcoSpecs	Taetšo ya Ekholotšikhale
EIS	Bohlokwa bja Ekholotšikhale le go tšea ka Maikutlo
EWR	Senyakwa sa Ekolotšikhale ya Meetse
GRAII	Feise II ya go Lekodišo ya Didirišwa tša Meetse a Fase
GRDM	Methotolotši wa Dithemineišene ya Peelo ya Meetse a Fase
GRUs	Diyuniti tša Didirišwa tša Meetse a Fase
NMAR	Mokgwa wa Hlago le Poelo ya Ngwaga
MCM	Dimithara tša Khubiki tše Milione
PES	Seemo sa Bjale sa Ekholotšikhale
REC	Khatekori yeo e Akantšwego ya Ekholotšikhale
TEC	Nepišo ya Khatekori ya Ekholotšikhale
TPCs	Dithrešolte tša Dikamo tšeo di ka bago gona

3.2. Ditlhalošo

Kelelelo ya beise ke tshwarelelo ya kelo ya fase ka dinokeng ka nako ya komelelo goba boemo bja go se kgahliše bja boso, efela e sego kabelo ka moka ya meetse a fase; go balwa le kabelo go tšwa go kelelo ya ka gare yeo e šaletsego morago le go ntšha meetse a fase.

EWR (Senyakwa sa Ekholotšikhale sa Meetse) e bolela ka mokgwa wa kelo (maknitšhute, tebelelo ya nako le nako) le khwalitihi yeo e hlokegago go swarelela ekhosestemo ya ribaraene go maemo a itšego.

Retšhatše ke koketšo ya meetse go ya go zoune ya satšhureišene, e kaba ka phekholeišene ya go ya fase ya prespitheišene goba bokagodimo bja meetse le/goba maekreišene ya letherale ya meetse a fase go tšwa go adtšeisente ya dikhwifaya.

Peelo ke khwanthithi le khwalithi ya meetse ao a nyakegago go fihliša theo ya dinyakwa tša batho ka go hwetša theo ya kabo ya meetse le go šireletša ekhosesteme ya akhwathiki go hwetša tšweletšopele ya ekholotšikhale yeo e swarelelago le go šomiša sedirišwa sa maleba sa meetse.

4. MEETSE A- BOKAGODIMO- KHOMPHONENTE YA KHWANTHITHI YA DINOKA

Dipoelo tša hwetšo ya Peelo le khatekoraeseišene ya ekholotšikhale ya Disesteme tša Olifants le Letaba, moo Peelo e hlagišwago bjalo ka phesenthetše ya NMAR ya ditshwaro tše itšego (khumuleithifi) go ya ka karolo (16)(1).

Tafola 4.1: Kakaretšo ya **khwanthithi** ya khomponente ya Dinoka yeo e balago le EWR & BHN ya mafelo a bohlokwa le go feta.

Ditshwaro tša Khwathenari	Sedirišwa sa Meetse	PES	EI_ES	TEC[5]	Peelo ya Ekholotšikhale[3] (%NMAR)	BHN Peelo[4] (%NMAR)	Kakaretšo ya Peelo[2] (%NMAR)	NMAR (MCM)[1]
B31C	Elands ya ka Godimo-Olifants_ELA1	C/D	Godimo kudu	C	20.87	0.003	20.873	31.08
B20J	Wilge ya Fase - Olifants_EWR4	C	Godimo	B	36.28	0.013	36.293	175.59
B20F	Noka ya Wilge - Olifants_WIL1	C/D	Godimo	C	15.11	0.008	15.118	44.76
B11J	Olifants - Olifants_EWR1	D	Magareng	D	17.80	0.052	17.852	184.54
B32A	Olifants - Olifants_EWR2	C	Godimo	B/C	29.83	0.008	29.838	500.63
B32A	Kranspoortspruit - OLI_EWR3	C	Godimo kudu	B	30.26	0.008	30.268	13.86
B32C	Selons - Olifants_SEL1	D	Godimo kudu	C	21.86	0.020	21.88	33.11
B71D	Olifants - Olifants_EWR8	C	Magareng	C/D	15.19	0.020	15.21	813.17
B42H	Spekboom ya Fase - Olifants_SPE1	C	Godimo	C	23.16	0.091	23.251	148.19
B60B	Blyde ya Godimo - Olifants_BLY1	C	Godimo	B	46.08	0.005	46.085	164.45
B71J	Olifants - Olifants_EWR11	C	Godimo	C/D	12.81	0.052	12.862	1321.92
B60J	Blyde ya Fase - Olifants_EWR12	C	Godimo	B	31.14	0.052	31.192	383.27
B72D	Olifants - Olifants_EWR13	C	Magareng	C	22.37	0.301	22.671	1762.10
B73H	Olifants - Olifants_EWR16	D	Godimo	C	21.06	0.002	21.062	1918.30
B83D	Letaba - Letaba_EWR7	C/D	Godimo	C	17.34	0.000	17.34	646.28
B81D	Letsitele - Letaba_EWR2	D	Godimo	D	17.59	0.078	17.668	116.55
B81B	Great Letaba - Letaba_EWR1	C/D	Godimo	C	24.76	0.030	24.79	99.85
B81A	Broederstroom - Letaba_BRO1	B/C	Godimo	B/C	49.22	0.012	49.232	6.68
B12E	Klein Olifants - Olifants-EWR3	D	Godimo	C/D	19.8	0.009	19.809	81.54
B32D	Olifants - Olifants-EWR5	C	Godimo	C	12.51	0.060	12.57	571.13
B31G	Elands ya Fase - Olifants-EWR6	C/D	Magareng	D	10.48	0.033	10.513	60.32
B51G	Olifants - Olifants-EWR7	E	Magareng	D	9.89	0.365	10.255	736.94
B41H	Steelpoort - Olifants-EWR9	D	Godimo	C/D	23.33	3.086	26.416	137.50
B72K	Ga-Selati ya Fase-Olifants_EWR14b	E	Magareng	D	19.45	0.043	19.493	72.74
B11H	Spookspruit - SPK_EWR1	C	Magareng	C	30.12	0.001	30.121	9.32
B41H	Dwars - DWA_EWR1	B/C	Godimo	B/C	31.24	3.086	34.326	26.10
B41K	Steelpoort - Olifants_EWR10	D	Godimo	D	12.69	0.480	13.17	342.75
B60H	Ohrigstad - OLI_EWR8	C	Magareng	C	17.41	0.512	17.922	67.79
B72H	Ga-Selati ya Godimo - Olifants_EWR14a	C	Magareng	C	27.53	0.123	27.653	52.20

1) NMAR ke Mokgwa wa Hlago wa Peelo ya Ngwaga
2) Kakaretšo ya kelo e akhaonta go bobedi, Peelo ya Ekholotšhikhale le Theo ya Dinyakwa tša Batho (BHN).
3) Kelo ye e emela mokgwa wa nako ye telele go NMAR. Ge NMAR e fetoga, bolumo ye etla fetoga.
4) E emala phesenthetše ya BHN.
5) Nepišo ya Khathekori ya Ekholotšikhale (TEC): Nepišo yeo e lebeletšwego go fihlelela sesteme yeo e swarelelago bobedi go ekholotšikhale le ikhonomikhale go sa lebalwe PES le REC.

Tafola 4.2: Kakaretšo ya khomponente ya **khwanthithi** ya Dinoka tša EWR & BHN tša dinoute tša payofisikhale le mafelo ao a šetšego a EWR.

Tshwaro ya Kwhwathenari	Sedirišwa sa Meetse	PES	EI	ES	REC	Peelo ya Ikholoitšikhale (%NMAR)	BHN Peelo (%NMAR)	Kakaretšo ya Peelo (%NMAR)	NMAR (MCM)
B11A, B11B	Olifants (Khonfluense le Steenkoolspruit)	C	Godimo	Godimo	C	10.25	0.001	10.251	61.30
B11D	Steenkoolspruit (bo ntle bja khwathenari)	D	Magareng	Godimo	D	4.70	0.006	4.706	44.60
B11E	Steenkoolspruit (khonfluense le Olifants)	D	Magareng	Godimo	D	4.70	0.004	4.704	65.40
B11F	Olifants (bo ntle bja khwathenari)	D	Magareng	Godimo	D	4.70	0.007	4.707	147.90
B11G	**Noupoortspruit (EWR lefelo – NOU-EWR1) (existing)**	**C/D**	**EIS- Magareng**		**C/D**	**13.90**	**0.075**	**13.975**	**4.28**
B11G	Olifants (e ntša go Letamo la Witbank)	D	Magareng	Godimo	D	4.70	0.075	4.775	164.00
B11H	Spookspruit (khonfluense le Olifants)	C	Godimo	Godimo	C	10.25	0.001	10.251	11.40
B11K, B11L	Klipspruit (khonfluense le Olifants)	D	Godimo	Magareng	D	4.67	0.052	4.722	45.70
B12A	Klein Olifants (bo ntle bja khwathenari)	C	Godimo	Godimo	C	18.85	0.001	18.851	12.70
B12B	Klein Olifants (bo ntle bja khwathenari)	D	Magareng	Godimo	D	8.11	0.000	8.110	16.90
B12C	**Klein Olifants (EWR lefelo – OLI-EWR1) (Lefelo la Lebelo)**	**C**	**EIS-Fase**		**C**	**18.85**	**0.003**	**18.853**	**44.50**
B12C	Klein Olifants (e ntša go Letamo la Middelburg)	D	Godimo	Godimo	D	5.52	0.003	5.523	53.50
B12D	Klein Olifants (bo ntle bja khwathenari)	D	Magareng	Godimo	D	5.52	0.004	5.524	67.30
B20A	Bronkhorstpruit (bo ntle bja khwathenari)	C	Magareng	Godimo	C	13.38	0.003	13.383	27.70
B20B	Koffiespruit (khonfluense le Bronkhorstspruit)	C	Magareng	Godimo	C	13.38	0.005	13.385	15.50
B20C	Bronkhorstpruit (ka ntle go tloga Letomong la Bronkhorstspruit)	C	Godimo	Godimo	C	13.44	0.003	13.443	56.40
B20D	Hondespruit (khonfluense le Bronkhorstspruit)	C	Godimo	Godimo	C	13.39	0.002	13.395	11.90
B20D	Bronkhorstpruit (khonfluense le Wilge)	C	Godimo	Godimo kudu	C	13.45	0.002	13.452	79.90
B20E, B20F	Wilge (khonfluense le Bronkhorstspruit	C	Godimo	Godimo	C	13.42	0.003	13.423	45.80
B20G	Saalboomspruit (khonfluense le Wilge)	C	Magareng	Godimo	C	13.40	0.025	13.425	22.10
B20H	Grootspruit (khonfluense le Wilge)	C	Godimo	Godimo kudu	C	13.40	0.006	13.406	12.80
B20H	Wilge (bo ntle bja khwathenari)	B	Godimo	Godimo kudu	B	17.92	0.006	17.926	158.20
B32C	Olifants (e ntša go Letamo Loskop)	D	Godimo	Godimo	D	7.22	0.020	7.240	568.60
B32C	Olifants (bo ntle bja khwathenari – bo ntle	D	Godimo	Godimo	D	7.22	0.020	7.240	576.80
B31A, B, C	B31A (Elands) B31B (Hartbeesspruit)	C C	Godimo Godimo	Godimo Godimo	C		0.003	12.343	33.50

Tshwaro ya Kwinwathenari	Sedirišwa sa Meetse	PES	EI	ES	REC	Peelo ya Ikholoitšikhale (%NMAR)	BHN Peelo (%NMAR)	Kakaretšo ya Peelo (%NMAR)	NMAR (MCM)
	B31C (Elands) Note ka bo ntle of B31C e ntšha Letamong la Rust de Winter.	C	Godimo	kudu Godimo kudu		12.34			
B31F	Elands (e ntšha go Letamo la Mkumbe)	C	Godimo	Godimo	C	12.34	0.008	12.348	59.80
B31H, B31J	Elands (bo ntle bja khwathenari, khonfluense le Olifants))	D	Magareng	Magareng	D	6.32	0.084	6.404	84.10
B32E, B32F	B32E (Bloed) B32F (Doringpoortloop) Noute ya khonfluense le Olifants go B32F.	B	Magareng Godimo	Godimo Magareng	B	13.90	0.397	14.297	17.20
B32G, B32H	B32G (Moses) B32H (Mametse le Moses) Note ka bo ntle bja B32H	C	Godimo Godimo	Godimo Godimo	C	9.93	0.084	10.014	35.40
B51B	Olifants (e ntšha go Letamo la Flag Boshielo)	D	Magareng	Godimo	D	3.91	1.009	4.919	723.40
B51D, B51E	Olifants (bontle bja khwathenari– bo ntle bja IUA5)	D	Magareng	Godimo	D	3.81	0.000	3.810	726.60
B41A	Grootspruit (bo ntle bja khwathenari) Langspruit, go akaretšwa le Lakenvleispruit le Kleinspruit	C D	Godimo Godimo	Godimo Godimo kudu	C	20.78	0.003	20.783	41.90
B41B	**Steelpoort (EWR lefelo – OLI-EWR2) (lefelo la Lebelo)**	**C**	**EIS=Magareng**		**C**	**20.78**	**0.006**	**20.786**	**63.50**
B41D, B41E	Steelpoort (kelelo go Letamo la De Hoop Dam)	C	Godimo	Godimo kudu	C	20.78	0.394	21.174	117.00
B41F	**Klip (EWR site – OLI-EWR4) (lefelo la Lebelo)**	**C**	**EIS=Magareng**		**C**	**12.44**	**0.019**	**12.459**	**5.20**
B41G	Phihlo ya ka Godimo ya Dwars (pele ga thulano ya tša moepo)	C	Godimo	Godimo kudu	C	13.33	0.015	13.345	24.50
B51F	Nkumpi (bo ntle bja khwathenari)	C	Godimo	Magareng	C	10.73	0.023	10.753	3.80
B52A, E,G,H	Olifants (bo ntle bja khwathenari – bo ntle bja IUA7)	D	Magareng	Godimo	D	3.88	0.541	4.421	799.7
B42B	**Dorpspruit (EWR lefelo – OLI-EWR9) (lefelo la Lebelo)**	**C/D**	**EIS=Fase**		**C/D**	**11.99**	**0.006**	**11.996**	**63.20**
B42D, B42E	Dorps (khonfluense le Spekboom) Spekboom (khonfluense le Dorps)	C C	Godimo Godimo	Godimo Godimo kudu	C	14.95	0.011	14.961	69.70
B42D	**Spekboom (EWR lefelo – OLI-EWR6) (lefelo la Lebelo)**	**C**	**EIS=Godimo**		**C**	**17.15**	**0.001**	**17.151**	**28.00**
B42F	Watervals (e ntšha go Letamo la Buffelskloof)	C	Godimo	Godimo kudu	C	17.36	0.011	17.371	28.60
B42G	**Watervals (EWR lefelo – OLI-EWR5) (lefelo la Lebelo)**	**C**	**EIS=Magareng**		**C**	**15.47**	**0.283**	**31.220**	**36.40**

Tshwaro ya Kwinwathenari	Sedirišwa sa Meetse	PES	EI	ES	REC	Peelo ya Ikholoitšikhale (%NMAR)	BHN Peelo (%NMAR)	Kakaretšo ya Peelo (%NMAR)	NMAR (MCM)
B42H	Spekboom (bo ntle bja khwathenari – bo ntle bja IUA 8)	B	Godimo	Magareng	B	28.84	0.091	28.931	149.00
B60E, B60F	Kranskloofspruit (khonfluense le Ohrigstad) Mantshibi (khonfluense le Ohrigstad) Ohrigstad (bo ntle bja) Note ka bo ntle bja B60F.	C C D	Godimo Godimo Magareng	Godimo kudu Godimo kudu Godimo kudu	D	6.31	0.012	6.322	35.60
B60H	Ohrigstad (bo ntle bja khwathenari – bo ntle bja IUA9B)	D	Godimo	Godimo kudu	D	8.05	0.512	8.562	69.70
B60J	Blyde (khonfluense le Olifants)	C	Godimo kudu	Godimo kudu	C	16.13	0.052	16.182	385.70
B71C	Mohlapitse (go fihlela godimo)	B	Godimo kudu	Godimo kudu	B	26.50	0.103	26.603	42.10
B71D, B71F	Olifants (khonfluense le Steelpoort)	D	Godimo	Godimo kudu	D	4.30	0.253	4.553	937.9
B72A	Makhutswi, go akaretšwa le Moungwane le	C	Godimo	Godimo	C	12.89	23.721	36.611	38.00
B72C	Olifants (bo ntle – bo ntle IUA10)	C	Godimo	Godimo	C	18.07	0.616	18.686	1755.5
B72E	Ngwabatse (khonfluense le Ga-Selati)	D	Godimo	Godimo kudu	D	9.05	0.341	9.391	25.70
B72F, G	Ga-Selati (bo ntle bja khwathenari)	C	Godimo	Godimo kudu	C	19.59	0.023	19.613	13.50
B72J	Molatle (khonfluense le Ga-Selati)	B	Magareng	Magareng	B	12.67	0.038	12.705	11.40
B72K	Ga-Selati (bo ntle bja khwathenari – bo ntle bja UIA11)	E	Godimo	Godimo	D	11.95	0.043	11.993	72.70
B73A	**Klaserie (EWR lefelo – OLI-EWR7) (lefelo la Lebelo)**	**B/C**	**EIS=Godimo**		**B/C**	**22.31**	**0.033**	**22.343**	**25.50**
B73B	Klaserie (khonfluense le Olifants)	C	Godimo	Godimo	C	15.41	0.008	15.418	37.10
B73D	Nhlaralumi, go akaretšwa le Machaton, Nyameni le Thlaralumi	B	Godimo	Fase	B	13.65	0.006	13.656	6.80
B73E	Sesete (khonfluense le Timbavati)	B	Godimo	Fase	B	12.24	0.152	12.392	11.10
B73F	Timbavati (bo ntle bja khwathenari)	B	Godimo	Magareng	B	12.12	0.003	12.123	18.70
B73J	Olifants (bo ntle bja khwathenari – bo ntle bja IUA12)	C	Godimo	Fase	C	21.07	0.007	21.077	1931.7
B60A	Blyde (khonfluense le Lisbon)	C	Godimo	Godimo kudu	C	18.73	0.015	18.745	87.10
B60B	Blyde (bo ntle bja khwathenari)	B	Godimo	Godimo kudu	B	32.86	0.005	32.865	183.80
B60C	**Treur (EWR lefelo – TRE-EWR1) (ye e lego gona)**	**B**	**EIS=Godimo kudu**		**B**	**34.60**	**0.001**	**34.601**	**46.80**
B60D	Blyde (kelelo go ya go Letamo la Blyderivierpoort – bo ntle bja IUA13)	B	Godimo	Godimo kudu	B	31.57	0.008	31.578	283.90

Tshwaro ya Kwhwathenari	Sedirišwa sa Meetse	PES	EI	ES	REC	Peelo ya Ikholoitšiknale (%NMAR)	BHN Peelo (%NMAR)	Kakaretšo ya Peelo (%NMAR)	NMAR (MCM)
B81A	00242 – Broederstroom	C	Magareng	Godimo	C	21.90	0.012	21.912	23.83
B81A	00256 – Tributhari yeo e se nago leina	D	Fase	Godimo	D	21.90	0.012	21.912	16.34
B81A	00263 – Tributhari yeo e se nago leina	D	Magareng	Magareng	D	21.90	0.012	21.912	5.75
B81A	00270 – Broederstroom	C	Magareng	Godimo kudu	C	27.10	0.012	27.112	44..47
B81B	00227 – Mahitse	D	Magareng	Godimo	D	22.10	0.030	22.130	13.60
B81B	00233 – Mahitse	C	Magareng	Godimo	C	27.40	0.030	27.430	2.69
B81B	00234 – Mahitse	C	Magareng	Godimo	C	29.80	0.030	29.130	10.13
B81B	00240 – Politsi	C	Magareng	Godimo	C	19.10	0.030	19.130	38.98
B81B	00246 – Politsi	C	Magareng	Godimo kudu	C	17.70	0.030	17.730	36.26
B81B	00251 – Tributhari yeo e se nago leina	D	Fase	Magareng	D	15.40	0.030	15.430	1.34
B81B	00269 – Morudi	B	Magareng	Godimo kudu	B	34.60	0.030	34.630	1.95
B81D	00272 – Letsitele	C	Godimo	Godimo kudu	C	22.00	0.078	22.078	91.27
B81D	00277 – Thabina	D	Godimo	Godimo	D	13.00	0.078	13.078	25.28
B81D	00280 – Bobs	B	Godimo	Godimo kudu	B	29.30	0.078	29.378	18.51
B81D	00296 - Mothlaka-Semeetse	B	Godimo	Godimo kudu	B	34.60	0.078	34.678	10.53
B81E	00213 - Nwanedzi	D	Magareng	Godimo	C	8.10	0.249	8.349	17.28
B81F	00189 - Merekome	C	Magareng	Magareng	C	7.10	0.244	7.344	4.74
B81F	00203 - Lerwatlou	C	Magareng	Godimo	C	8.80	0.244	9.044	3.74
B81F	00228 - Reshwele	B	Magareng	Fase	B	9.10	0.244	9.344	3.53
B81F	00232 - Makwena	B	Magareng	Fase	B	12.80	0.244	13.044	2.75
B81G	00164 - Molototsi	D	Magareng	Magareng	D	6.60	0.288	6.888	16.72
B81H	00162 - Metsemola	C	Magareng	Fase	C	9.80	0.545	10.345	0.64
B81H	00171 - Molototsi	D	Magareng	Magareng	D	6.50	0.545	7.045	25.84
B81J	00187 - Mbhawula	C	Magareng	Fase	C	9.80	0.024	9.824	2.53
B82A	00168 – Bogare bja Letaba	C	Magareng	Magareng	C	24.30	0.014	24.314	31.12
B82B	00173 – Koedoes	D	Magareng	Magareng	D	12.30	0.013	12.313	23.13
B82D	00154 – Bogare bja Letaba	D	Magareng	Magareng	D	17.30	0.116	17.416	40.53
B82D	00163 – Lebjelebore	C	Magareng	Godimo	C	25.80	0.116	25.916	4.90
B82D	00166 - Mosukodutsi	D	Magareng	Magareng	D	10.20	0.116	10.316	42.25
B82E	00149 – Khwali	B	Godimo	Fase	B	13.90	0.158	14.058	4.51
B82E	00150 - Klein Letaba	C	Magareng	Magareng	C	16.00	0.158	16.158	3.48
B82F	00128 - Klein Letaba	C	Magareng	Magareng	C	15.40	0.071	15.471	32.13
B82F	00137 - Klein Letaba	D	Magareng	Magareng	D	9.70	0.071	9.771	13.64
B82F	00141 – Soeketse	C	Magareng	Fase	C	12.80	0.071	12.871	7.32
B82H	00127 – Nsama	C	Magareng	Godimo	C	10.60	0.064	10.664	6.91
B82H	00139 – Magobe	B	Magareng	Fase	B	14.90	0.064	14.964	3.10
B82H	00157 – Nsama	B	Magareng	Magareng	B	14.40	0.064	14.964	11.72
B82J	00197 - Ka-Malilibone	B	Magareng	Fase kudu	B	13.80	0.013	13.813	0.66

5. BOKAGODIMO BJA MEETSE- KHOMPHONENTE YA KHWALITHI YA DINOKA

Kakaretšo ya khomphonente ya khwalithi go mafelo a EWR

Tafola 5.1: Olifants_ELA1: **Elands tša ka Godimo**- EcoSpecs ye e tswananago le datha ya Fisikho-khemikhale

Noka: Elands tša Godimo		**EWR : Olifants_ELA1**	Lefelo la WQ la kgauswi (Letamo la kelelo ya fase la Rust De Winter) B3H013. Ga gona lefelo la WQ kgauswi le lefelo la EWR. Ka dipalo tša situ tšeo di hwetšagalago ka nako ya dinyakišišo
Dimetrikse tša khwalithi ya meetse		**ECOSPEC: PES AND REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 30 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 70 mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.40 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 32 mg/L	
Sebepego sa difariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 30 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 6.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubidithi ya go thoma go; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 2.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.058 mg/L	
Phetolo ya dibariepole	Chl- faethoplankthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L.	
	Chl-pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2.	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 72.5 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 78.5 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	

Tafola 5.2: Olifants_EWR4: **Wilge ya Fase**- EcoSpecs ye e tswananago le datha ya Fisikho-khemikhale

Noka: Wilge ya Fase		**EWR : Olifants_EWR4**	Kelelo ya fase B2H015Q01 Noka ya Wilge go la Zusterstroom
Dimatrikse tša khwalithi ya Meetse		**ECOSPEC: PES AND REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 150 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 92.5 mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.120 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng.	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 0.75 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ≤ 0.025 mg/L	
Phetolo ya dibariepole	Chl-faethoplankthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Aluminiamo	95th phesenthaele ya datha e swanetše go ba ≤ 62.5 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 2.50 mg/L	
	Manganese	95th phesenthaele ya datha e swanetše go ba ≤ 99.0 µg/L	

Tafola 5.3: Olifants_WIL1: **Wilge ya Godimo**- EcoSpecs ye e tswananago le datha ya Fisikho-khemikhale

Noka: Olifants		**EWR : Olifants_EWR1**	**Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR**
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 70 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 250 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 115mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.175 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 85 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.6 – 9.2	
	Themphereitša	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 6.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	Nitrite &Nitrite	50th phesenthaele ya datha e swanetše go ba ≤ 3.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.091 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	

Tafola 5.4: Olifants_EWR1: **Olifants** – EcoSpecs ye e tswalanago le datha ya go Fisikho-khemikhale

Noka: Olifants		**EWR : Olifants_EWR1**	**Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR**
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 70 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 250 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 115mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.175 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 85 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.6 – 9.2	
	Themphereitša	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 6.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	Nitrite &Nitrite	50th phesenthaele ya datha e swanetše go ba ≤ 3.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.091 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	

Tafola 5.5: Olifants_EWR2: **Olifants-** EcoSpecs ye e tswananago le datha ya Fisikho-khemikhale

Noka: Olifants		**EWR : Olifants_EWR2**	Ga gona lefelo la khwallthi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 150 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 92.5mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.120 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 1.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.025 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Aluminium	95th phesenthaele ya datha e swanetše go ba ≤ 62.5 µg/L	
	Fluoride	95th phesenthaele ya datha e swanetše go ba ≤ 2.5 mg/L	
	Manganese	95th phesenthaele ya datha e swanetše go ba ≤ 180 µg/L	

Tafola 5.6: OLI_EWR3: **Kranspoortspruit-** EcoSpecs ye e tswananago le datha ya Fisikho-khemikhale

Noka: Kranspoortspruit		**EWR : Olifants_EWR3**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 30 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 70mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.40 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 32 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 30 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 0.75 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.02 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 15 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 14.56 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	

Tafola 5.7: Olifants SEL1: **Selons**- EcoSpecs ye e tswalanago le datha ya Fisikho-khemikhale

Noka: Selons		**EWR : Olifants_SEL1**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Dilyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 150 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 92.5mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.120 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.6 – 9.2	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 6.5 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 2.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.058 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	
	Aluminiamo	95th phesenthaele ya datha e swanetše go ba ≤ 0.15 µg/L	
	Manganese	95th phesenthaele ya datha e swanetše go ba ≤ 1.30 µg/L	
	Sinki	95th phesenthaele ya datha e swanetše go ba ≤ 36 µg/L	

Tafola 5.8: Olifants-EWR8: **Olifants**- EcoSpecs yeo e tswalanago le datha ya Fisikho-khemikhale

Noka: Olifants		**EWR : Olifants_EWR8**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Dilyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 150 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 92.5mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.120 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 2.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.058 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	

Tafola 5.9: Olifants-SPE1: **Spekboom**- EcoSpecs yeo e tswalanago le datha ya Fisikho-khemikhale

Noka: Sekboom		**EWR : Olifants_SPE1**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 150 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 92.5 mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.120 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitša	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 1.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.025 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m²	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 9 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 14.56 µg/L	
	Aluminiamo	95th phesenthaele ya datha e swanetše go ba ≤ 15 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 9 mg/L	
	Manganese	95th phesenthaele ya datha e swanetše go ba ≤ 1.5 mg/L	

Tafola 5.10: Olifants-BLY1: **Upper Blyde**- EcoSpecs yeo e tswalanago le datha ya Fisikho-khemikhale

Noka: Sekboom		**EWR : Olifants_SPE1**	Downstream site B6H001Q01
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 30 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 70 mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤ 40 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 32 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 30 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitša	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 8.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 0.5 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.025 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 15 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 14.56 mg/m²	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 15 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 9 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 1.5 mg/L	

Tafola 5.11: Olifants-EWR11: **Olifants**- EcoSpecs yeo e tswalanago le datha ya Fisikho-khemikhale

Noka: Olifants		**EWR : Olifants_EWR11**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: PES le REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 150 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 92.5mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.120 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitša	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 2.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.058 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	

Tafola 5.12: Olifants-EWR12: **Bylde ya Fase**- EcoSpecs yeo e tswalanago le datha ya Fisikho-khemikhale

Noka: Blyde ya Fase		**EWR : Olifants_EWR12**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: PES le REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 30 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 70 mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.40 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 32 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 85 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitša	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 8.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 0.5 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.020 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 15 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 14.56 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 15 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 19 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 1.0 mg/L	

Tafola 5.13 Olifants-EWR13: **Olifants**-EcoSpecs yeo e tswalanago le datha ya go ya go Fisikho-khemikhale

Noka: Olifants		**EWR : Olifants_EWR13**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 150 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 92.5mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.120 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	Nitrite &Nitrite	50th phesenthaele ya datha e swanetše go ba ≤ 1.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.05 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 15 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 2.5 mg/L	

Tafola 5.14: Olifants_EWR16: **Olifants**-EcoSpecs yeo e tswalanago le datha ya go ya go Fisikho-khemikhale

Noka: Olifants		**EWR : Olifants_EWR16**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 30 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 70mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.40 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 32 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 30 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 8.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 0.75 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.02 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 2.5 mg/L	

Tafola 5.15: Olifants_EWR5: **Klein Olifants**- EcoSpecs yeo e tswalanago le datha ya go ya Fisikho-khemikhale

Noka: Olifants		**EWR : Olifants_EWR5**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Dilyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 150 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 92.5mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.120 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.6 – 9.2	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 6.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	Nitrite &Nitrite	50th phesenthaele ya datha e swanetše go ba ≤ 2.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.058 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	

Tafola 5.16: Olifants_EWR6: **Olifants** - EcoSpec yeo tswalanago le datha ya go ya go Fisikho-khemikhale

Noka: Olifants		**EWR : Olifants_EWR5**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Dilyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 150 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 92.5mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.120 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	Nitrite &Nitrite	50th phesenthaele ya datha e swanetše go ba ≤ 2.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.058 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 72.5 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 78.5 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	

Tafola 5.17 Olifants_EWR6: **Elands ya Fase**- EcoSpecs yeo e tswalanago le datha ya Fisikho-khemikhale

Noka: Elands		**EWR : Olifants_EWR6**	**Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR**
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Dilyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 150 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 92.5mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.120 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.6 – 9.2	
	Themphereitša	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 6.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 3.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.091 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 30 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 42 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 72.5 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 78.5 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	

Tafola 5.18: Olifants_EWR7: **Olifants**- EcoSpecs yeo e tswalanago le datha ya Fisikho-khemikhale

Noka: Olifants		**EWR : Olifants_EWR7**	**Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR**
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Dilyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 70 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 250 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 115mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.175 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 85 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.0 – 10.0	
	Themphereitša	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 5.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 4.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.125 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 30 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 42 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 72.5 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 78.5 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	

Tafola 5.19: Olifants_EWR 9: **Steelport**- EcoSpecs yeo e tswalanago le datha ya Fisikho-khemikhale

Noka: Steelport		**EWR : Olifants_EWR9**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 70 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 250 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 115mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.175 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 85 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.0 – 10.0	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 5.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 4.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.125 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 30 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 42 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 72.5 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 78.5 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	

Tafola 5.20: Olifants-EWR10: **Steelpoort** - EcoSpecs yeo e swalanago le datha ya Fisikho-khemikhale

Noka: Steelpoort ya Fase		**EWR : Olifants_EWR10**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: PES, RQO le TEC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 40 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 40 mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 70 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.0 – 9.0	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 4.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.091 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 30 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 42 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 72.5 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.8 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 0.7 mg/L	
	Aluminiamo	95th phesenthaele ya datha e swanetše go ba ≤ 62.5 µg/L	
	Sinki	95th phesenthaele ya datha e swanetše go ba ≤ 14.4 µg/L	
	Manganese	95th phesenthaele ya datha e swanetše go ba ≤ 0.68 µg/L	

Tafola 5.21: Olifants_EWR14a: **Ga-Selati ka Godimo**- EcoSpecs yeo e tswalanago le datha ya Fisiko-khemikhale

Noka: Ga-Selati ka Godimo		**EWR : Olifants_EWR14a**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: PES le TEC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 20 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 10 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 15mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.15 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 30 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 35 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 6.4 – 8.6	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 1.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.01 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 0.7 mg/L	

Tafola 5.22: Olifants_EWR14b: **Ga-Selati ka Fase**- EcoSpecs yeo e tswalanago le datha ya Fisikho-khemikhale

Noka: Ga-Selati ka Fase		**EWR : Olifants_EWR14b**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: PES le TEC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 70 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 250 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 115mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.175 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 85 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.0 – 10.0	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 5.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 4.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.125 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 30 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 42 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 72.5 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 78.5 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 1.0 mg/L	

Tafola 5.23: SPK_EWR1: **Spookspruit**- EcoSpecs yeo e tswalanago le datha ya go Fisikho-khemikhale

Noka: Spookspruit		**EWR : SPK_EWR1**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR, efela go ka šomišwa kelo ya fase lifelong B1H200Q01
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: PES le TEC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 250 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 92.5mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.120 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 1.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.025 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 2.5 mg/L	

Tafola 5.24: DWA_EWR1: **Dwars**- EcoSpecs yeo tswalanago le datha ya Fisikho-khemikhale

Noka: Dwars		**EWR : DWA_EWR1**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR, šomiša lefelo la khwallthi ya meets B4H9
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: PES le TEC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 30 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 25mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.20 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 45 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 7.0 – 8.7	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 1.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.025 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 0.7 pg/L	

Tafola 5.25: Oli_EWR8: **Origstad**- EcoSpecs yeo e tswalanago le datha ya Fisikho-khemikhale

Noka: Ohrigstad		**EWR : OLI_EWR8**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR. Šomiša lefelo la kelelo ya godimo la khwalithi ya meets B60_1000009803
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: PES le TEC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 20 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 20 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 15mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.15 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 25 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 6.4 – 8.8	
	Themphereitša	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 1.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.025 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 0.5 mg/L	

Tafola 5.26: Letaba_EWR7: **Letaba**- EcoSpecs yeo e tswalanago le datha ya Fisikho-khemikhale

Noka: Letaba		**EWR : Letaba_EWR7**	Lefelo la kelelo ya fase B8H018Q01
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: PES le TEC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 150 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 92.5mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.120 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitša	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 2.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.058 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	

Tafola 5.27: Letaba-EWR2: **Letsitele**- EcoSpecs yeo e tswalanago le datha ya Fisikho-khemikhale

Noka: Letsitele		**EWR : Letaba_EWR2**	Lefelo la kelelo ya godimo B8H01Q01
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: PES le REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 50 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 150 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 92.5mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.120 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 55 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.0 – 10.0	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 5.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 4.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.125 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 30 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 42 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 72.5 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 78.5 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	

Tafola 5.28: Letaba EWR1: **Great Letaba**- EcoSpecs yeo tswalanago le datha ya Fisikho-khemikhale

Noka: Great Letaba		**EWR : Letaba_EWR1**	Lefelo la kelelo ya fase B8H014Q01
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: PES le REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 30 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 70 mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤.40 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 32 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 30 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 2.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.058 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrabine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 3.52 mg/L	

Tafola 5.29: Letaba_BRO1: **Broederstroom**- EcoSpecs yeo e tswalanago le datha ya go Fisikho-khemikhale

Noka: Broederstroom		**EWR : Letaba_BRO1**	Ga gona lefelo la khwalithi ya meetse kgauswi le lefelo la EWR
Dimetrikse tša khwalithi ya Meetse		**ECOSPEC: PES le REC**	
Diiyone tše Kgolo	Mg	95th phesenthaele ya datha e swanetše go ba ≤ 30 mg/L	
	SO_4	95th phesenthaele ya datha e swanetše go ba ≤ 80 mg/L	
	Na	95th phesenthaele ya datha e swanetše go ba ≤ 70 mg/L	
	Cl	95th phesenthaele ya datha e swanetše go ba ≤ 40 mg/L	
	Ca	95th phesenthaele ya datha e swanetše go ba ≤ 32 mg/L	
Sebopego sa dibariepole	EC	95th phesenthaele ya datha e swanetše go ba ≤ 30 mS/m	
	pH	5th le 95th phesenthaele ya datha e swanetše go thoma go 5.9 – 8.8	
	Themphereitšha	Phapano ya 2°C goba 10% go tšwa go bokamorago bja themphereitša ya magareng	
	Oksitšene yeo e tologilego	5th phesenthaele ya datha e swanetše go ba ≥ 7.0 mg/L	
	Thubidithi	Go fapana (kelo ye nnyane) go tšwa go thubithi ya hlago; silthing ya nnyane ya kelo ya ka gare ya dihabithate tšeo di dumelegago.	
Dinutriente	TIN	50th phesenthaele ya datha e swanetše go ba ≤ 1.0 mg/L	
	PO_4-P	50th phesenthaele ya datha e swanetše go ba ≤ 0.025 mg/L	
Phetolo ya dibariepole	Chl-fithoplakthone	50th phesenthaele ya datha e swanetše go ba ≤ 20 µg/L	
	Chl-a pherifaethone	50th phesenthaele ya datha e swanetše go ba ≤ 21 mg/m^2	
	Amonia	95th phesenthaele ya datha e swanetše go ba ≤ 43.75 µg/L.	
	Atrasine	95th phesenthaele ya datha e swanetše go ba ≤ 48.75 µg/L	
	Aluminiamo	95th phesenthaele ya datha e swanetše go ba ≤ 62.5 µg/L	
	Floraete	95th phesenthaele ya datha e swanetše go ba ≤ 2.5 mg/L	

6. MEETSE A FASE – KHOMPHONENTE YA KHWALITHI

Tafola 6.1 ya ka fase e bontšha disete tša datha ya go tšwa go Dimešara tšeo di Laeditšwego tša Didirišwa tše tharo tša meetse a fase (RDM), dipoelo tša dinyakišišo go tloga 2005 go lefelo la nyakišišo

Methopo ya disete tša datha e be ele: (i) Faese II ya go Lekodišiša Didirišwa tša Meetse a Fase (DWAF, 2005), (ii) Bolaodi bja Disesteme tša Meetse a Leshika (2013 le 2014), (iii) Exigo (2009) le SRK (2009).

Dibariešene tše dingwe ka gare ga retšhatše ya meetse a fase le botlase bja kelelo di noutilwe ebile di be di kgonega, kelo ya mabaka e amogetšwe. Go šomišitšwe alkorithimi ya GIS go hlakantša Kelo ya BHN go dikologa pherenial ya disesteme tša noka go kgethologanya magareng ga bokagodimo bja meetse le bašomi ba meetse a fase- aplikheišene ye ga se ya nepagala gabotse bjalo ka kgethologanyo ya phereniale le ya go sebe phereniale ya disesteme tša noka ye e sa kwagalego ka nako ya kgonthe.
Alkoriteme ya GRDM yeo e laetšwego e šomišitšwe le "meetse a fase a go abelega") bolumo (MCM/a) e hlakantšhitšwe.

Distrese Idekse tše pedi tša go fapana (SRK, 2009, Exigo, 2009 le WSM, 2014) di amogetšwe- le ge e le gore dibariešene tše bohlokwa magareng ga didirišwa tše pedi di noutilwe go dikheisi tše mmalwa.

Tatelo ya rankingi ya khwalithi ya meetse a fase e diragaditšwe, e beilwe godimo ga tatelo ya rankingi yeo e latelwago ke SRK 2009, go tšwa go Sesteme yeo e sa Fetošwago (A) go ya go Sesteme yeo e Fetošitšwego ka Bohlokwa (F). Tatelo ye ya rankingi e diragaditšwe ka go lebeletšwe diphapano magareng ga didirišwa tša datha tša go fapana, efela go šomišwa tše itšego ka weite ye kgolo go meetse a fase ao a abelegago ka nnete (SRK-WSM) le tekolo ya fisikhale go tšwa go sete ya datha ya Exigo.

Kelo ya meetse a fase ao a abelegago (MCM/a), gape le diphendense (%) ya Peelo go ya ka tshepedišo ya beisese ya dirankingi tša difomo tša ritšhatše tša meetse a fase. Dikheisi tše mmalwa moo meetse a fase ao a abelegago kelo ya gona ke NNOTO, rankingi ya khwanthithi e išitšwe fase ka maleba (go ya go D, E goba F) go ya ka diphendense ya peelo go ritšhatše.

Thulano ye e kabago gona ya apstrkšene ya meetse a fase go khomphonente ya bokagodimo bja meetse ka gare ga tshwaro ya khwathenari le yona e ngwadilwe ka tatelano le go šoma bjalo ka factha moo kabelo ya meetse a fase e lego NNOTO.

Tafola 6.1: Diela tša go Lebantša tša Sedirišwa sa Meetse a Fase (GRDM) Thempleiti (pontšho ya dithulo tšeo di ka bago gona tša bokagodimo bja meetse ka ge gona le apstrakšene ya godimo ya meetse a fase yeo e tlaleleditšwego) (Thulano ya bokagodimo bja meetse)

Tshwaro ya Khwanthenari	Lefelo (km^2)	Ritšhate (Mm^3/a)		Rech go ya go Aqf	Botlase bja kelelo ($Mm3/a$)				EWR_MLF ($Mm3/a$)	BHN Peelo ($Mm3/a$)	Kakaretšo ya Peelo ya Gw ($Mm3/a$)	Kakaretšo ya tšhomišo ya meets a Gw ($Mm3/a$)	SI = Gw Tšhomišo / Aqf Rech	($Mm3/a$)	Peelo (% ya Ritšhatše)	Khwanthithi (GRDM)	$ Thulano ya meetse	Meets a G ao a ka Abiwago ($Mm3/a$)
	GRA II	WSM_{2009}	$Exigo_{2009}$	Ave	WSM_{2013}	$Exigo_{2009}$	SRK_{2009}	Ave			=AW+BB	Calc'd	WSM2013	$Exigo_{2009}$		A beilwe go seemo se	Nareithifi	Cal'd
B11A	945.4	15.45	8.52	11.99	12.2	6.72	8.37	10.29		0.10	12.30	0.57	0.04	0.21	79.6	A- Ao a sa fetošwago	Fase	2.98
B11B	435.3	6.84	4.47	5.66	5.37	2.73	3.71	4.54	0.068	0.12	5.49	0.20	0.03	0.39	80.3	A-Ao a sa fetošwago	Fase	1.32
B11C	385.4	5.71	5.59	5.65	4.85	4.43	3.14	4.00		0.04	4.89	4.37	0.77	0.21	85.6	C-Fetošwa ga Magareng	Fase	0.00
B11D	550.9	7.66	10.79	9.23	6.5	8.45	4.3	5.40		0.18	6.68	2.34	0.31	0.33	87.2	B- Tlhago ka Bogolo	Fase	0.00
B11E	466.7	6.80	6.27	6.53	5.36	3.28	3.75	4.56	0.048	0.11	5.47	3.53	0.52	0.48	80.4	C-Go Fetošwa ga Magareng	Fase	0.00
B11F	428.3	6.44	4.43	5.44	5.07	0.48	3.57	4.32		0.08	5.15	0.37	0.06	0.89	80.0	B-Tlhago ka Bogolo	Fase	1.08
B11G	367.8	5.61	3.56	4.58	4.42	14.11	3.03	3.73	0.103	0.07	4.49	0.10	0.02	0.41	80.0	A-Ao a sa fetošwago	Fase	1.17
B11H	246.0	3.78	3.01	3.40	2.97	2.33	2.03	2.50	0.024	0.04	3.01	0.46	0.12	0.23	79.6	B-Tlhago ka Bogolo	Fase	0.41
B11J	269.4	7.08	1.90	4.49	5.6	4.03	5.17	5.39		0.45	6.05	1.88	0.06	0.15	85.5	B-Tlhago ka Bogolo	Magareng	0.00
B11K	378.3	9.84	3.16	6.50	7.59	0.00	7.06	7.33		0.03	7.62	0.22	0.02	0.92	77.4	B-Tlhago ka Bogolo	Magareng	2.25
B11L	241.8	6.05	3.48	4.77	4.95	3.28	4.6	4.78	0.996	0.01	4.96	0.06	0.01	0.06	82.0	A-Ao a sa fetošwago	Magareng	1.21
B12A	406.9	4.72	5.44	5.08	4.31	4.29	3.09	3.70		0.18	4.49	0.16	0.03	0.21	95.1	A-Ao a sa fetošwago	Fase	0.26
B12B	658.5	8.62	8.79	8.70	7.81	6.09	5.15	6.48		0.08	7.89	3.84	0.45	0.31	91.5	B-Tlhago ka Bogolo	Fase	0.00
B12C	529.0	7.20	4.58	5.89	6.54	9.52	4.24	5.39	0.109	0.04	6.58	0.21	0.03	0.23	91.4	A-Ao a sa fetošwago	Fase	0.70
B12D	362.3	5.16	4.10	4.63	4.72	0.32	3.09	3.91	0.179	0.98	5.70	0.24	0.05	0.92	110.5	E – Fetošwa ka Tiišetšo	Fase	0.00
B12E	435.8	11.49	8.63	10.06	9.15	8.16	8.73	8.94	0.187	0.04	9.19	0.45	0.04	0.05	80.0	A-Ao a sa fetošwago	Magareng	2.21
B20A	574.3	10.26	14.45	12.35	6.6	9.21	7.39	7.00		0.48	9.84	20.57	2.00	1.00	95.9	F-Fetošwa ka Tiišetšo	Fase	0.00
B20B	321.0	5.72	5.69	5.71	3.62	0.00	4.07	3.85		0.38	4.72	58.03	10.02	1.00	82.5	F-Fetošwa ka Tiišetšo	Fase	0.00
B20C	363.7	6.53	4.50	5.52	4.13	12.36	4.71	4.42		0.03	4.16	0.91	0.14	0.12	63.7	B-Tlhago ka Bogolo	Godimo	1.59
B20D	480.4	8.52	10.03	9.27	5.3	13.77	6.1	5.70	0.293	0.26	5.56	1.43	0.17	0.11	65.3	B-Tlhago ka Bogolo	Magareng	1.70

[illegible]	[illegible]	[illegible] (Mm3/a)		Rebngo ya go Aqf	Bohlale bja kelelo (Mm3/a)				EWR MLF (Mm3/a)	BHN Peelo (Mm3/a)	Kakaretšo ya Peelo ya Gw (Mm3/a)	Kakaretšo ya tšhomišo ya meetse a Gw (Mm3/a)	SI = Gw Tšhomišo / Aqf Rech.	(Mm3/a)	Peelo [illegible]	[illegible] (GRDM)	S Thulano ya meetse	Meetse a G [illegible] Abiwago (Mm3/a)
	[illegible]	WSM[illegible]	Exigo2009	Ave	WSM[illegible]	Exigo2009	SRK2009	Ave			=AW+BB	Calc'd	WSM2013	Exigo2009		A beilwe go seemo se	Nareithili	Cal'd
B20E	619.9	9.81	8.69	9.25	7.27	3.93	7.75	7.51		0.37	7.64	3.58	0.36	0.55	77.9	C-Fetošwa ga Magareng	Magareng	0.00
B20F	504.2	9.05	9.44	9.25	5.71	8.74	6.28	6.00	0.081	0.05	5.76	0.80	0.09	0.07	63.6	B-Tlhago ka Bogolo	Magareng	2.62
B20G	522.4	13.15	9.31	11.23	10.28	8.28	9.31	9.80	0.067	0.30	10.58	1.87	0.14	0.12	80.5	B-Tlhago ka Bogolo	Magareng	1.04
B20H	562.5	13.70	5.55	9.63	11.03	3.57	9.79	10.41		0.36	11.39	1.77	0.13	0.36	83.1	B-Tlhago ka Bogolo	Magareng	0.87
B20J	407.4	10.03	7.12	8.58	8.03	6.20	7.34	7.69	0.958	0.05	8.08	1.09	0.11	0.13	80.6	B-Tlhago ka Bogolo	Magareng	1.14
B31A	386.6	6.09	4.43	5.26	3.77	1.99	3.15	3.46		0.04	3.81	4.81	0.79	0.55	62.6	C-Fetošwa ga Magareng	Magareng	0.00
B31B	385.1	5.56	9.40	7.48	3.45	6.64	2.64	3.05		0.19	3.64	1.22	0.22	0.29	65.5	B-Tlhago ka Bogolo	Magareng	0.71
B31C	373.4	5.14	9.23	7.19	2.75	8.71	2.27	2.51	0.076	0.00	2.75	0.82	0.16	0.07	53.5	B-Tlhago ka Bogolo	Magareng	1.59
B31D	557.0	7.58	10.19	8.89	4.06	6.92	3.3	3.68		0.42	4.48	1.96	0.26	0.32	59.1	B-Tlhago ka Bogolo	Fase	1.16
B31E	1382.4	8.34	47.74	28.04	0	43.36	0	0.00		0.14	0.14	9.24	1.11	0.09	1.7	C-Fetošwa ga Magareng	Fase	0.00
B31F	637.5	3.69	8.09	5.89	0	3.85	0	0.00		0.43	0.43	2.31	0.63	0.52	11.7	C-Fetošwa ga Magareng	Fase	0.95
B31G	433.2	4.67	7.29	5.98	1.4	4.26	2.54	1.97	0.096	0.31	1.71	1.42	0.30	0.42	36.6	B-Tlhago ka Bogolo	Fase	1.59
B31H	611.8	6.85	6.31	6.58	1.96	4.67	3.26	2.61		1.64	3.60	4.36	0.64	0.26	52.6	C-Fetošwa ga Magareng	A ma nnyane go kaba bohlokwa	0.00
B31J	1379.9	7.84	27.75	17.80	0	25.02	0	0.00	0.085	0.10	0.10	30.84	3.93	0.10	1.3	E – Fetošwa ka Tlišetšo	A ma nnyane go kaba bohlokwa	0.00
B32A	801.4	21.18	15.31	18.24	16.26	25.10	15.2	15.73	1.717	0.05	16.31	0.54	0.03	0.07	77.0	A-Ao a sa fetošwago	Fase	4.36
B32B	613.8	13.40	8.72	11.06	9.7	7.68	10.83	10.27		0.04	9.74	0.25	0.02	0.12	72.7	A-Ao a sa fetošwago	Fase	3.59
B32C	302.8	3.19	4.04	3.62	1.09	2.92	4.5	2.80	0.094	0.01	1.10	3.47	1.09	0.28	34.5	C-Fetošwa ga Magareng	Fase	0.00
B32D	521.1	4.95	9.03	6.99	3.15	8.39	1.79	2.47	0.875	0.07	3.22	3.14	0.63	0.07	65.1	C-Fetošwa ga Magareng	A ma nnyane go kaba bohlokwa	0.00
B32E	203.2	2.43	3.05	2.74	1.59	2.81	0.89	1.24		0.01	1.60	0.19	0.08	0.08	65.8	A-Ao a sa fetošwago	Fase	0.67
B32F	667.2	3.71	4.83	4.27	0.71	2.74	2.7	1.71	0.005	0.34	1.05	4.30	1.16	0.43	28.3	D – Fetošwa kudu	Fase	0.00
B32G	967.6	8.89	15.09	11.99	1.35	6.51	6.86	4.11		1.83	3.18	5.85	0.66	0.57	35.8	C-Fetošwa ga Magareng	Fase	0.07
B32H	693.9	10.21	13.42	11.81	5.77	11.22	4.42	5.10	0.046	0.06	5.83	2.90	0.28	0.16	57.1	B-Tlhago ka bogolo	Fase	1.49

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[illegible]	[illegible] (km²)	[illegible] (Mm3/a)		Rech go ya go Aqf	Boitšeo bja kelelo (Mm3/a)				BMR_MLF (Mm3/a)	BHN Peelo (Mm3/a)	Kakaretšo ya Peelo ya Gw (Mm3/a)	Kakaretšo ya tšhomišo ya meetse a Gw (Mm3/a)	SI = Gw Tšhomišo / Aqf Rech	(Mm3/a)	Peelo (% ya RitšhatŠe)	Khwantithi (GRDM)	S Thulano ya meetse	Meetsa a G ao a ka Abiwago (Mm3/a)
	[illegible]	WSM2000	Exigo2009	Ave	WSM2013	Exigo2009	SRK2009	Ave			=AW+BB	Calc'd	WSM2013	Exigo2009		A beilwe go seemo se	Nareithifi	Cal'd
B32J	322.8	1.17	2.76	1.97	0	0.58	0.05	0.03		0.44	0.44	1.01	0.86	0.79	37.6	C-Fetošwa ga Magareng	A ma nnyane go kaba bohlokwa	0.00
B41A	764.5	18.28	8.43	13.36	14.79	5.87	12.35	13.57	0.122	0.14	14.93	0.06	0.00	0.32	81.7	A-Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	3.47
B41B	778.0	18.51	11.67	15.09	14.96	10.07	12.16	13.56		0.04	15.00	1.23	0.07	0.14	81.0	A-Ao a sa fetošwago	A mannyane go kaba bohlokwa	2.45
B41C	302.4	7.19	1.96	4.57	5.79	0.00	4.6	5.20		0.02	5.81	0.54	0.08	1.00	80.8	C-Fetošwa ga Magareng	A ma nnyane go kaba bhlokwa	0.90
B41D	402.9	4.97	6.22	5.60	2.61	5.50	5.03	3.82	0.506	0.09	2.70	1.72	0.35	0.12	54.3	B-Tlhago ka Bogolo	A ma nnyane go kaba bohlokwa	0.59
B41E	237.1	1.17	6.79	3.98	0	5.66	0.04	0.02		0.23	0.23	0.11	0.09	0.17	19.7	A-Ao a sa fetošwago	Magareng	0.83
B41F	379.8	10.88	7.21	9.04	9.99	6.84	7.92	8.96		0.01	10.00	0.00	0.00	0.05	91.9	A-Ao a sa fetošwago	Magareng	1.03
B41G	442.1	11.41	6.71	9.06	10.34	3.98	8.48	9.41		0.01	10.35	0.38	0.03	0.41	90.7	A-Ao a sa fetošwago	Magareng	0.88
B41H	410.3	2.57	7.57	5.07	0	5.03	0.1	0.05	0.537	0.35	0.35	0.16	0.06	0.34	13.6	A-Ao a sa fetošwago	Magareng	2.06
B41J	690.8	4.31	10.88	7.59	0	6.02	0.2	0.10		0.41	0.41	0.64	0.15	0.45	9.5	A-Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	3.26
B41K	635.2	3.53	7.00	5.27	0	4.64	0.23	0.12	0.495	0.47	0.47	1.99	0.56	0.34	13.3	B-Tlhago ka Bogolo	Godimo	1.07
B42A	318.9	10.64	1.86	6.25	9.81	1.41	15.41	12.61		0.02	9.83	3.46	0.33	0.24	92.4	B-Tlhago ka Bogolo	Godimo	0.00
B42B	213.7	7.65	7.45	7.55	6.28	6.33	12.8	9.54		0.17	6.45	0.06	0.01	0.15	84.3	A-Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	1.29
B42C	164.1	2.66	3.45	3.05	2.57	3.08	1.39	1.98	0.143	0.00	2.57	0.00	0.00	0.11	96.6	B-Tlhago ka Bogolo	A ma nnyane go kaba bohlokwa	0.28
B42D	154.6	6.33	3.64	4.98	5.72	3.39	11.44	8.58		0.00	5.72	0.00	0.00	0.07	90.4	A-Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	0.99
B42E	221.4	2.04	2.49	2.26	1.99	1.91	1.25	1.62		0.01	2.00	0.22	0.11	0.23	98.0	A-Ao a sa feošwago	A ma nnyane go kaba bohlokwa	0.00

Tshwarô ya Khwanthenar	Lefelo (km^2)	Ritšhate (Mm^3/a)		Rech go ya go Aqf	Botlaae bja kelelo ($Mm3/a$)				EWR_MLF ($Mm3/a$)	BHN Peelo ($Mm3/a$)	Kakaretšo ya Peelo ya Gw ($Mm3/a$)	Kakaretšo ya tšhomišo ya meets a Gw ($Mm3/a$)	SI = Gw Tšhomišo / Aqf Rech	($Mm3/a$)	Peelo (% ya Ritšhatše)	Khwanthithi (GRDM)	S Thulano ya meetse	Meets a Gao a ka Abiwago ($Mm3/a$)
	GRA II	WSM_{2009}	$Exigo_{2009}$	Ave	WSM_{2013}	$Exigo_{2009}$	SRK_{2009}	Ave			=AW+BB	Calc'd	WSM2013	$Exigo_{2009}$		A beilwe go seemo se	Nareithifi	Cal'd
B42F	279.1	9.39	2.52	5.96	8.55	2.09	12.42	10.49		0.01	8.56	0.22	0.02	0.17	91.2	A-Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	0.67
B42G	327.2	3.86	3.28	3.57	3.59	2.59	2.13	2.86	0.265	0.01	3.60	3.26	0.84	0.21	93.3	B-Tlhago ka Bogolo	A ma nnyane go kaba bohlokwa	0.00
B42H	412.3	2.31	13.36	7.83	0	12.43	0.1	0.05	0.594	0.07	0.07	0.99	0.43	0.07	3.0	B-Tlhago ka Bogolo	A ma nnyane go kaba bohlokwa	1.25
B51A	311.5	2 24	2.75	2.49	0	0.84	0.07	0.04		0.40	0.40	0.08	0.04	0.69	17.9	B-Tlhago ka Bogolo	A ma nnyane go kaba bohlokwa	1.76
B51B	591.1	4.82	7.51	6.16	0	5.24	0.1	0.05		0.46	0.46	0.33	0.07	0.30	9.5	A-Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	4.03
B51C	638.1	4.52	6.65	5.58	0	4.67	0.07	0.04	1.785	0.45	0.45	0.22	0.05	0.30	10.0	A-Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	3.85
B51E	2926.8	6.31	38.17	22.24	0	22.43	0	0.00		0.34	0.34	8.56	1.36	0.41	5.4	D – Fetošwa ka Bogolo	A ma nnyane go kaba bohlokwa	0.00
B51F	394.6	2.71	4.87	3.79	0	4.27	0.07	0.04		0.01	0.01	3.02	1.11	0.12	0.4	D – Fetošwa ka Bogolo	A ma nnyane go kaba bohlokwa	0.00
B51G	590.7	3.79	6.25	5.02	0	1.85	0.07	0.04		0.97	0.97	12.43	3.28	0.70	25.6	F-Fetošwa ka tiišetšo	A ma nnyane go kaba bohlokwa	0.00
B51H	717.3	4.90	16.81	10.86	0	11.64	0.13	0.07		0.98	0.98	0.57	0.12	0.31	20.0	A-Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	3.35
B52A	566.1	2.58	9.96	6.27	0	6.37	0.02	0.01		0.48	0.48	0.28	0.11	0.36	18.6	A-Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	1.82
B52B	632.9	7.09	7.65	7.37	0	2.75	0.11	0.06		1.07	1.07	2.08	0.29	0.64	15.1	B-Tlhago ka Bogolo	Godimo	3.94
B52C	200.4	0.96	2.25	1.60	0	1.27	0	0.00		0.16	0.16	0.22	0.23	0.43	16.7	B- Tlhago ka Bogolo	Godimo	0.58
B52D	341.0	2.09	6.50	4.30	0	3.69	0.01	0.01		0.73	0.73	1.19	0.57	0.43	34.9	C-Fetošwa ga Magareng	Godimo	0.17
B52E	450.8	4.66	8.37	6.52	0	6.03	0.05	0.03		0.34	0.34	0.51	0.11	0.28	7.3	B-Tlhago ka Bogolo	Godimo	3.81
B52F	118.4	0.58	1.93	1.26	0	1.41	0	0.00		0.09	0.09	0.47	0.81	0.27	15.5	C-Fetošwa ga Magareng	Fase	0.02

[illegible]	Lefelo (km²)	Ritšhatšo (Mm3/a)		Reitšo go ya go Aqf	Botlase bja kelelo (Mm3/a)				EWR_MLF (Mm3/a)	BHN Peelo (Mm3/a)	Kakaretšo ya Peelo ya Gw (Mm3/a)	Kakaretšo ya tšhomišo ya meetse a Gw (Mm3/a)	SI = Gw Tšhomišo / Aqf Rech	(Mm3/a)	Peelo (% ya Ritšhatšo)	[illegible]	S Thulano ya meetse	Meets a G ao a ka Abiwago (Mm3/a)
	[illegible]	[illegible]	Exigo2009	Ave	WSM2013	Exigo2009	SRK2009	Ave			=AW+BB	Calcd	WSM2013	Exigo2009		A beilwe go seemo se	Nareithifi	Cal'd
B52G	290.9	1.35	6.10	3.73	0	4.36	0	0.00		0.22	0.22	0.84	0.62	0.29	16.3	C- Fetošwa ga Magareng	Godimo	0.29
B52H	563.3	3.38	5.19	4.28	0	1.80	0.27	0.14		0.66	0.66	0.77	0.23	0.65	19.5	B- Tlhago ka Bogolo	Fase	1.95
B52J	394.7	2.09	11.73	6.91	0	9.16	0.05	0.03		0.22	0.22	0.14	0.07	0.22	10.5	A- Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	1.73
B60A	209.4	12.93	10.44	11.69	11.46	9.77	48.12	29.79		0.02	11.48	0.13	0.01	0.06	88.8	A- Ao a sa fetošwago	Godimo	2.23
B60B	302.2	20.22	15.36	17.79	17.18	15.09	56.91	37.05	1.501	0.01	17.19	0.00	0.00	0.02	85.0	A- Ao a sa fetošwago	Magareng	3.83
B60C	94.1	5.33	0.84	3.08	4.93	0.76	22.43	13.68	0.376	0.00	4.93	0.00	0.00	0.09	92.5	A- Ao a sa fetošwago	Magareng	0.97
B60D	243.5	15.98	9.27	12.62	14	7.61	20.57	17.29	1.694	0.15	14.15	0.00	0.00	0.18	88.5	A- Ao a sa fetošwago	Fase	2.52
B60E	83.4	1.73	1.30	1.52	0.76	1.36	6.45	3.61		0.00	0.76	0.00	0.00	0.05	43.9	A- Ao a sa fetošwago	Magareng	1.00
B60F	399.3	7.68	5.55	6.61	5.43	4.40	4.45	4.94	0.097	0.01	5.44	2.71	0.35	0.21	70.8	B- Tlhago ka Bogolo	A ma nnyane go kaba bohlokwa	0.00
B60G	448.0	4.52	7.49	6.00	1.32	6.64	3.69	2.51		0.03	1.35	3.71	0.82	0.11	29.9	C- Fetošwa ga Magareng	A ma nnyane go kaba bohlokwa	0.00
B60H	384.6	7.58	11.30	9.44	6.15	9.84	4.37	5.26	0.181	0.14	6.29	5.34	0.70	0.18	83.0	D – Fetošwa ka Bogolo	Godimo	0.00
B60J	675.9	13.05	9.63	11.34	6.46	8.48	32.86	19.66	2.269	0.05	6.51	1.37	0.10	0.12	49.9	A- Ao a sa fetošwago	Godimo	5.21
B71A	297.6	3.37	13.61	8.49	0	12.76	0.16	0.08		0.03	0.03	0.23	0.07	0.06	0.9	A- Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	3.11
B71B	274.3	2.11	7.39	4.75	0	6.58	0.04	0.02		0.07	0.07	0.19	0.09	0.11	3.3	A- Ao a sa fetošwago	Godimo	1.85
B71C	262.5	5.87	6.85	6.36	2.17	6.45	16.52	9.35		0.03	2.20	0.00	0.00	0.06	37.5	A- Ao a sa fetošwago	Godimo	3.78
B71D	227.1	4.03	1.97	3.00	1.98	1.11	6.92	4.45	1.865	0.10	2.08	0.22	0.05	0.44	51.6	A- Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	1.77
B71E	781.9	6.25	4.15	5.20	0	0.00	0.3	0.15		0.80	0.80	1.55	0.25	0.90	12.8	B- Tlhago ka Bogolo	A ma nnyane go kaba bohlokwa	3.90
B71F	540.8	12.68	21.55	17.12	9.11	20.54	22.14	15.63	2.458	0.07	9.18	0.03	0.00	0.05	72.4	A- Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	3.84

[illegible]	[illegible]	[illegible]		Rech go ya go Aqf	Botlase bja kelelo (Mm3/a)				EWR_MLF (Mm3/a)	BHN Peelo (Mm3/a)	Kakaretšo ya Peelo ya Gw (Mm3/a)	Kakaretšo ya tšhomišo ya meetse a Gw (Mm3/a)	Si = Gw Tšhomišo / Aqf Rech	(Mm3/a)	Peelo (Peja Peelo)	Khwanthithi (GRDM)	$ Thulano ya meetse	Meets a G ao a ka Abiwago (Mm3/a)
	SRA	WSM	Exigo2006	Ave	WSM	Exigo2006	SRK2006	Ave			=AW+BB	Calc'd	WSM2013	Exigo2006		A beilwe go se mo se	Nareithiši	Cal'd
B71G	244.9	6.94	5.25	6.10	3.97	4.32	11.3	7.64		0.13	4.10	0.22	0.03	0.18	59.1	A- Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	2.87
B71H	329.7	1.56	2.47	2.02	0	1.40	0	0.00		0.20	0.20	2.52	1.62	0.43	12.8	C- Fetošwa ga Magareng	A ma nnyane go kaba bohlokwa	0.00
B71J	78.5	0.18	0.48	0.33	0	0.36	0	0.00	3.011	0.01	0.01	0.00	0.00	0.26	5.6	A- Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	0.17
B72A	534.0	12.53	8.29	10.41	8.64	5.57	19.8	14.22		0.54	9.18	3.01	0.24	0.33	73.3	B- Tlhago ka Bogolo	Magareng	0.56
B72B	331.7	1.37	3.02	2.20	0	2.81	0	0.00	0.285	0.00	0.00	0.06	0.04	0.07	0.0	A- Ao a sa fetošwago	Godimo	1.31
B72C	334.7	1.88	3.87	2.88	0	3.46	0	0.00		0.05	0.05	0.07	0.04	0.11	2.7	A- Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	1.76
B72D	922.2	6.54	8.72	7.63	0	7.55	0	0.00	7.339	0.01	0.01	4.49	0.69	0.13	0.2	B- Tlhago ka Bogolo	A ma nnyane go kaba bohlokwa	2.04
B72E	320.1	8.54	2.76	5.65	4.9	0.36	12.71	8.81	0.024	0.45	5.35	0.90	0.11	0.87	62.6	B- Tlhago ka Bogolo	A ma nnyane go kaba bohlokwa	2.48
B72F	81.2	2.27	2.31	2.29	1.3	2.26	4.11	2.71		0.00	1.30	0.00	0.00	0.02	57.3	A- Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	1.07
B72G	47.9	0.12	0.56	0.34	0	0.48	0	0.00		0.01	0.01	0.43	3.58	0.13	8.3	E – Fetošwa ka tiišetšo	Godimo	0.00
B72H	385.7	1.94	3.25	2.60	0	2.69	0	0.00		0.01	0.01	0.92	0.47	0.17	0.5	B- Tlhago ka Bogolo	A ma nnyane go kaba bohlokwa	1.01
B72J	537.4	2.91	2.64	2.77	0	2.22	0	0.00		0.03	0.03	0.16	0.05	0.16	1.0	A- Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	2.72
B72K	965.9	3.45	10.73	7.09	0	7.27	0	0.00	0.172	0.52	0.52	0.61	0.18	0.38	15.1	A- Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	2.32
B73A	164.5	2.20	2.76	2.48	1.29	1.07	11.37	6.33		0.00	1.29	0.00	0.00	0.61	58.6	A- Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	1.04
B73B	687.7	2.19	4.53	3.36	0	3.34	0	0.00	0.122	0.01	0.01	2.75	1.26	0.26	0.5	C- Fetošwa ga Magareng	A ma nnyane go kaba bohlokwa	0.00

Tshwaro ya Khwanthenen	Lefelo (km^2)	Ritshate (Mm^3/a)		Rech go ya go Aqf	Botlase bja kelelo (Mm^3/a)				EWR_MLF (Mm^3/a)	BHN Peelo (Mm^3/a)	Kakaretšo ya Peelo ya Gw (Mm^3/a)	Kakaretšo ya tšhomišo ya meets a Gw (Mm^3/a)	SI = Gw Tšhomišo / Aqf Rech	(Mm^3/a)	Peelo (% ya Ritšhartše)	Khwanthithi (GRDM)	S Thulano ya meetse	Meets a G ao a ka Abiwago (Mm^3/a)
	GRA II	WSM_{2009}	$Exigo_{2009}$	Ave	WSM_{2013}	$Exigo_{2009}$	SRK_{2009}	Ave			=AW+BB	Calc'd	WSM2013	$Exigo_{2009}$		A beilwe go seemo se	Nareithifi	Cal'd
B73C	880.0	3.19	11.16	7.18	0	10.12	0	0.00		0.65	0.65	1.01	0.32	0.09	20.4	A- Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	1.53
B73D	687.0	2.34	7.40	4.67	0	6.58	0	0.00		0.00	0.00	1.20	0.51	0.11	0.0	B- Tlhago ka Bogolo	A ma nnyane go kaba bohlokwa	1.14
B73E	430.5	2.51	3.55	3.03	0	0.00	0	0.00		0.00	0.00	0 35	0.14	1.00	0.0	B- Tlhago ka Bogolo	A ma nnyane go kaba bohlokwa	2.16
B73F	506.8	3.37	9.96	6.66	0	9.79	0	0.00		0.00	0.00	0.00	0.00	0.02	0.0	A- Ao a sa fetošwago	Godimo	3.37
B73G	733.2	4.31	15.44	9.88	0	12.84	0	0.00		0.00	0.00	0.00	0.00	0.07	0.0	A- Ao a sa fetošwago	Godimo	4.31
B73H	301.8	1.50	2.40	1.95	0	2.32	0	0.00		0.00	0.00	0.00	0.00	0.03	0.0	A- Ao a sa fetošwago	Godimo	1.50
B73J	254.5	1.55	2.07	1.81	0	0.00	0	0.00	7.713	0.00	0.00	0.00	0.00	0.69	0.0	A- Ao a sa fetošwago	Godimo	1.55
B81A	169.1	10.34		10.34	7.57			7.57	0.058	0.00	7.57	0.15	0.01	0.01	73.2	A- Ao a sa fetošwago	Godimo	10.19
B81B	481.2	20.32		20.32	1.12			1.12	0.398	0.00	1.12	2.64	0.13	0.13	5.5	B- Tlhago ka Bogolo	Godimo	17.68
B81C	208.4	16.27		16.27	10.54			10.54		0.00	10.54	5.47	0.34	0.34	64.8	C – Moderately modified	Magareng	10.80
B81D	478.8	12.84		12.84	1.59			1.59		3.00	4.59	4.13	0.32	0.32	35.7	C- Fetošwa ga Magareng	A ma nnyane go kaba bohlokwa	8.71
B81E	664.9	18.20		18.20	0.04			0.04	0.32	0.59	0.63	15.75	0.87	0.87	3.5	D – Fetošwa ka Bogolo	A ma nnyane go kaba bohlokwa	2.45
B81F	1199.7	18.47		18.47	0.06			0.06		0.00	0.06	7.94	0.43	0.43	0.3	D – Fetošwa ka Bogolo	A ma nnyane go kaba bohlokwa	10.53
B81G	512.5	12.58		12.58	0.13			0.13		0.00	0.13	5.06	0.40	0.40	1.0	D – Fetošwa ka Bogolo	A ma nnyane go kaba bohlokwa	7.52
B81H	667.7	8.80		8.80	0.01			0.01		0.00	0.01	2.62	0.30	0.30	0.1	C- Fetošwa ga Magareng	A ma nnyane go kaba bohlokwa	6.18
B81J	567.0	6.34		6.34	0			0		0.00	0.00	0.00	0.00	0.00	0.0	A –Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	6.34
B82A	466.6	11.36		11.36	6.45			6.45		1.45	7.90	2.93	0.26	0.26	69.5	B- Tlhago ka Bogolo	Fase	8.43

Tlhwaelo ya Khwahlabelo	Lefelo (km²)	Bitlhelo (Mm3/a)		Reoh go ya go Aqf	Bolläse bja kelelo (Mm3/a)				EWR_MLF (Mm3/a)	BHN Peelo (Mm3/a)	Kakaretšo ya Peelo ya Gw (Mm3/a)	Kakaretšo ya tšhomišo ya mohlala Gw (Mm3/a)	SI = Go tšhomišo / Aqf Bjeli	(Mm3/a)	Peelo (% ya Rechaaše)	Khwatšhithi (GRDM)	$ Thulano ya meetse	Meets a G ao a ka Abiwago (Mm3/a)
	GRAII	WSM	Exigo2006	Ave	WSM2005	Exigo2006	SRK2006	Ave			=AW+BB	Calc'd	WSM2013	Exigo2006		Abelwa go seemo se	Nareithii	Cal'd
B82B	406.3	9.50		9.50	5.47			5.47		0.00	5.47	14.50	1.53	1.53	57.6	F- Fetošwa ka Bohlokwa	Fase	0.00
B82C	299.7	7.14		7.14	3.27			3.27		0.00	3.27	13.00	1.82	1.82	45.8	E – Fetošwa ka tiišetšo	Fase	5.83
B82D	631.7	10.35		10.35	4.76			4.76		4.00	8.76	4.52	0.44	0.44	84.6	D- Fetošwa ka Bogolo	Fase	0.00
B82E	423.4	8.05		8.05	0.21			0.21		0.00	0.21	1.45	0.18	0.18	2.6	C – Fetošwa ga Magareng	Fase	6.60
B82F	759.8	14.30		14.30	1			1		0.00	1.00	1.43	0.10	0.10	7.0	B - Tlhago ka Bogolo	Fase	12.87
B82G	920.2	10.75		10.75	0.01			0.01		0.00	0.01	0.06	0.01	0.06	0.1	B - Tlhago ka Bogolo	A ma nnyane go kaba bohlokwa	10.15
B82J	748.7	9.27		9.27	0.01			0.01		0.00	0.01	0.00	0.00	0.00	0.1	A – Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	9.27
B82H	793.7	8.36		8.36	0.01			0.01		0.00	0.01	0.16	0.02	0.02	0.1	A – Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	8.36
B83A	1250.0	11.77		11.77	0.01			0.01		0.00	0.01	0.00	0.00	0.00	0.1	A – Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	11.77
B83B	438.8	5.71		5.71	0			0		0.00	0.00	0.00	0.00	0.00	0.0	A – Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	5.71
B83C	596.0	7.70		7.70	0.01			0.01		0.00	0.01	0.00	0.00	0.00	0.1	A – Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	7.70
B83D	783.7	7.88		7.88	0			0	2.015	0.00	0.00	0.00	0.00	0.00	0.0	A – Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	7.88
B83E	311.8	3.11		3.11	0			0		0.00	0.00	0.00	0.00	0.00	0.0	A – Ao a sa fetošwago	A ma nnyane go kaba bohlokwa	3.11

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7. MEETSE A FASE- KHOMPHONENTE YA KHWALITHI

Peelo ya dinyakwa tše bohlokwa tša batho efa ditshwanelo tša dinyakwa tša batho bao ba hlankelwago ke sedirišwa sa meetse seo go bolelwago ka sona gomme se se akaretša meetse a gonwa, tokišetšo ya dijo le haetšini ya motho. Meetse a kelo ya dilithara tše 25 di filwe motho gore a šomiše ka letšatši.

Go Peelo ya dithemineišene ya khomphonente ya khwalithi ka nako ya tsenelobogare/ditekolo tša Khomprohensifi ambiente ya khwalithi ya meetse e fase go ya go kelo yeo e akantšwego go Tlase 1 (SANS 241:2006). Kelo ya fase goba ya khonsebethibi kudu ya tše tše pedi e kgethilwe. Ka lebaka leo kelo ya ambiete e kgethilwego, e oketšwa ka diperesente tše 10. Ka lebaka leo khwalithi ya ambiente, ya setlogo sa tšiolotšikhale e fetago kelo yeo e akantšwego. Khwalithi ya ambiente ya meetse e a šomišwa. Mafelo a khwalithi ya fase a tlaba dizoune tšeo di tlogelwago ge go laetšwa Dinyakego tša Peelo ya Theo ya Dihlokwa tša Batho. Khwalithi ya meetse a fase e swanetše go latela direntše tša nepišo ya khwalithi ya meetse ka ge di bontšhitšwe **Tafola 7.1**, **Tafola 7.2** le **Tafola 7.3** a bontšha kakaretšo ya dipoelo tša diaspekte tša khwalithi go lebele ya khwathenari go ya ka BHN.

Tafola 7.1 Khwalithi ya khemikhale ya meetse

Pharamitha ya khemikhale	**Nepišo ya Direntšhe tša Khwalithi ya Meetse**[1]				
	Diyuniti	**Tlase 0**	**Tlase I**	**Tlase II**	**Tlase III**
Khalsiamo bjalo ka Ca	mg/l	0 - 80	80 - 150	150 – 300	> 300
Maknesiamo bjalo ka Mg	mg/l	0 - 30	30 - 70	70 – 100	> 100
Sodiamo bjalo ka Na	mg/l	0 – 100	100 - 200	200 – 400	> 400
Tlorine bjalo ka Cl	mg/l	0 – 100	100 - 200	200 – 600	> 600
Salfeiti bjalo ka SO_4	mg/l	0 – 200	200 - 400	400 – 600	> 600
Nitreite bjalo ka NO_x-N	mg/l	0 - 6	6 - 10	10 – 20	> 20
Floraete bjalo ka F	mg/l	0 – 1	1 - 1.5	1.5 - 3.5	> 3.5
Faekhale kholifomose	dipalo/100ml	0	0 – 1	1 – 10	> 10

1) Ref: methalotlhatlhi ya Afrika Borwa ya Khwalithi ya Meetse, Bolumo 1: Tšhomišo ya meetse ya ka gae, 2nd Ed. 1996. Kgoro ya Ditaba tša Meetse le Kagodikgwa. Pretoria, Afrika Borwa
2) Ref: Methalotlhi ya Afrika Borwa ya Khwalithi ya Meetse, Bolumu 1: Tšhomišo ya meetse ya ka gae, 2nd Ed. 1996. Kgoro ya Ditaba tša Meetse le Kagodikgwa. Pretoria, Afrika Borwa.

Tafola 7.2: Khwalithi ya meetse a fisikhale

Paramitha ya Fisikhale	**Nepišo ya Direntše tša Khwalithi ya Meetse**[2]				
	Diyuniti	**Tlase 0**	**Tlase I**	**Tlase II**	**Tlase III**
pH (pH Diyuniti)		6 – 9	5 - 6 & 9 - 9.5	4 - 5&> 9.5 – 10	< 4 or > 10
Kakaretšo ya tša go Tia tšeo di Tološitšwego	mg/l	0 - 450	450 - 1000	1000 – 2450	> 2450
Khondakthivithi ya ilektrikhale	mS/m	0 - 70	70 - 150	150 – 300	> 370

NOUTE

Tlase 0 Ye ke khwalithi ya meetse yeo e akantšwego, ya maleba go tšhomišo ya bophelo ka moka, go sena dikhuetšo tše mpe tša maphelo go mošomiši. Tlase ye e a tshwanelega go swana le nepišo ya khwalithi ya meetse ya mehutahuta go edišene ya 2nd *ya Methalotlhatlho ya Khwalithi ya Meetse a Afrika Borwa ya Tšhomišo ya ka Gae* (DWAF, 1996).

Tlase I Meetse a tlase ye a bolokegile go šomišwa bophelo ka moka, efela a šalela morago ka khwalithi ya meetse yeo e akantšwego go ka ba le mabaka moo go ka bago le dikhuetšo tša advese tša maphelo, efela tše gantši di magareng, gape dikhuetšo tša obete tša maphelo di ka nyaka goba sap-klinikhale le go ba bothata go bontšha. Meetse go Tlase I ga a dira khuetšo ye mpe go maphelo ka fase ga mabaka ao a tlwaelegilego. Dikamano tša Aesthetiki di ka, eupša, di ka ba ka go bonala.

Tlase II Meetse a tlase ye a hlaloswa bjalo a moo khuetšo ya adbese ya maphelo di ka ba go tša go se tlwaelege di ka ba tše di lekantšwego go tšhomišo ya lebakanyana. Dikhuetšo tša Adbese tša maphelo di ka ba tša go tlwaelega gagolo go tšhomišo yeo e okeditšwego go mengwaga ye mentši, goba go tšhomišo ya bophelo ka moka. Tlase ye e emela meetse a maleba go tšhomišo fela ya lebakanyana goba ya tšhoganetšo, efela ga a name a le a maleba go tšhomišo yeo e tšwelago pele bophelo ka moka.

Tlase III Meetse a a na le dikhonstitšhuente go mehutahuta ya khonsentreišene moo dikhuetšo tše kgolo tša maphelo di ka letelwago, gagolo bana ba ba nnyane le batšofe go tšhomišo ya lebakanyana, kudu le go tšhomišo ya lebaka le le telele. Meetse a tlase ye ga se a maleba go šomišwa go nwa ntle le kalafo yeo e lekanego go tloša meetse go ya go tlase ya fase le ye e bolokegilego.

NOUTE: KHWALITHI YA MEETSE YA DIPEELO TŠA KHWATHENARI TŠEO DI LATELAGO GA DIA LEKODIŠIŠWA KA LEBAKA LA HLAELELO YA TSHEDIMOŠO (HLOKEGO YA KHWALITHI YADATHA YA MEETSE A FASE AO A KA BONTŠHWAGO):

B11A, B11B, B11C, B11D, B11E, B11F, B11G, B11H, B11K, B11L, B11K, B11L, B12A, B12B, B12C, B12D, B12E, B20B, B20D, B20E, B20F, B20G, B20H, B20J, B21A, B31A, B31B, B31C, B31D, B31E, B31F, B31G, B32A,B32B, B32C, B32D, B32E, B41A, B41B, B41F, B42A, B42C, B42D, B42E, B42G, B42H, B51D, B51E, B51F, B60A, B60B, B60C, B60E, B60F, B60H, B60J, B71A, B71B, B71C, B71D, B71E, B71F, B71G, B71H, B771J, B72A, B72B, B72C, B72D, B72E, B72F, B72G, B72H, B72J, B73B, B72C, B72D, B72G, B72H, B72J, B81A, B81B, B81F, B81J, B82B, B82H, B83A, B83C, B83D, B83E

Tafola 7.3: Sephetho sa khomphonente ya Meetse a Fase- Kokwane ya Khwalithi

Pharamitha ya Khemikhale	Yuniti	Peelo ya Noka ya Olifants QC B20A			
		No. ya Disampolo	Ambiente GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	95	8.23	5.0 – 9.5	8.5
Khondakthivithi ya Ilektrikhale	mS/m	95	43.7	<150	48
Khalsiamo bjalo ka Ca	mg/l	95	32.1	<150	35
Maknesiamo bjalo ka Mg	mg/l	95	22.2	<100	24
Sodiamo bjalo ka Na	mg/l	95	10.0	<200	11
Phothesiamo bjalo ka K	mg/l	95	2.14	<50	2.3
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	95	150.8	N/A	165
Tloraete bjalo ka Cl	mg/l	95	15.5	<200	17
Salfeiti bjalo ka SO_4	mg/l	95	15.2	<400	16
Nitreite bjalo ka NO_x-N	mg/l	95	0.36	<10	0.40
Floraete bjalo ka F	Mg/l	95	0.17	<1.0	0.19
				Tlase ya khwalithi ya meets	**Tlase 0**

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharemitha ya Khemikhale	Yuniti	Peelo ya Noka ya Olifants QC B31H			
		No. ya Disampolo	Ambiente ya GW ya khalithi goba mediene[1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	28	8.201	5.0 – 9.5	8.50
Khodakthilvithi ya Ilektrikhale	mS/m	28	123.85	<150	136
Khalsiamo bjalo ka Ca	mg/l	28	74.3495	<150	81
Maknesiamo bjalo ka Mg	mg/l	28	74.3055	<100	81
Sodiamo bjalo ka Na	mg/l	28	93.461	<200	102
Phothesiamo bjalo ka K	mg/l	28	3.2095	<50	3.5
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	28	402.9	N/A	403[4]
Tloraete bjalo ka Cl	mg/l	28	71.0795	<200	78
Salfeiti bjalo ka SO_4	mg/l	28	44.199	<400	48
Nitreite bjalo ka NO_x-N	mg/l	28	25.0555	<10	25.0
Floraete bjalo ka F	Mg/l	28	0.6355	<1.0	0.7
				Tlase ya khwalithi ya meets	**Tlase III**

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharemitha ya Khemikhale	Yunit	Peelo ya Noka ya Olifants QC B31J			
		No. ya Disampolo	Ambiente ya GW khwalithi goba mediene[1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	83	7.927	5.0 – 9.5	8.25
Khondakthivithi ya Ilektrikhale	mS/m	83	89.3	<150	98
Khalsioma bjalo ka Ca	mg/l	83	64.445	<150	70
Magnesiamo bjalo ka Mg	mg/l	83	34.851	<100	38
Sodiamo bjalo ka Na	mg/l	83	41.59	<200	45
Phothesiamo bjalo ka K	mg/l	83	6.61	<50	7.2
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	83	156.554	N/A	172
Tloraete bjalo ka Cl	mg/l	83	113.12	<200	124
Salfeiti bjalo ka SO_4	mg/l	83	71.082	<400	78
Nitreite bjalo ka NO_x-N	mg/l	83	9.768	<10	9.8
Floraete bjalo ka F	Mg/l	83	0.387	<1.0	0.5
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharemitha ya Khemikhale	Yuniti	Peelo ya Noka ya Olifants QC B32F			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	71	7.53	5.0 – 9.5	7.75
Khondakthivithi ya Ilektrikhale	mS/m	71	10.9	<150	11
Khalsiamo bjalo ka Ca	mg/l	71	5.129	<150	5
Maknesiamo bjalo ka Mg	mg/l	71	1.8	<100	1
Sodiamo bjalo ka Na	mg/l	71	9.383	<200	10
Phothesiamo bjalo ka K	mg/l	71	2.98	<50	3.2
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	71	30	N/A	33
Tloraete bjalo ka Cl	mg/l	71	5	<200	5
Salfeiti bjalo ka SO_4	mg/l	71	4.1	<400	4
Nitreite bjalo ka NO_x-N	mg/l	71	0.462	<10	0.5
Floraete bjalo ka F	Mg/l	71	0.26	<1.0	0.3
				Tllaseya khwalithi ya meetse	Tllase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Peelo ya Noka ya Olifants QC B32H			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	10	8.07	5.0 – 9.5	8.5
Khodakthivithi ya Ilektrikhale	mS/m	10	32.75	<150	36
Khalsiamo bjalo ka Ca	mg/l	10	15.4205	<150	16
Maknesiamo bjalo ka Mg	mg/l	10	3.919	<100	4
Sodiamo bjalo ka Na	mg/l	10	27.375	<200	30
Phothesiamo bjalo ka K	mg/l	10	1.7715	<50	1.9
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	10	76.44	N/A	84
Tloraete bjalo ka Cl	mg/l	10	19.831	<200	21
Salfeiti bjalo ka SO_4	mg/l	10	3.1255	<400	3
Nitreite bjalo ka NO_x-N	mg/l	10	2.7245	<10	2.9
Floraete bjalo ka F	Mg/l	10	0.684	<1.0	0.75
				Tlase ya khwalithi ya meetse	Tlase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Peelo ya Noka ya Olifants QC B32J			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	20	8.1255	5.0 – 9.5	8.5
Khondakthivithi ya Ilektrikhale	mS/m	20	34.75	<150	38
Khalsiamo bjalo ka Ca	mg/l	20	25.0525	<150	27
Maknesiamo bjalo ka Mg	mg/l	20	3.9455	<100	4
Sodiamo bjalo ka Na	mg/l	20	36.878	<200	40
Phothesiamo bjalo ka K	mg/l	20	3.288	<50	3.6
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	20	119.036	N/A	130
Tloraete bjalo ka Cl	mg/l	20	22.976	<200	25
Salfeiti bjalo ka SO_4	mg/l	20	6.497	<400	7
Nitreite bjalo ka NO_x-N	mg/l	20	0.6245	<10	0.6
Floraete bjalo ka F	Mg/l	20	2.7755	<1.0	2.8
				Tlase ya khwalithi ya meetse	Ttlase III

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B41C			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	35	8.13	5.0 – 9.5	8.5
Khondakthivithi ya Ilektrikhale	mS/m	35	55.2	<150	60
Khalsiamo bjalo ka Ca	mg/l	35	66.099	<150	72
Maknesiamo bjalo ka Mg	mg/l	35	26.2	<100	28
Sodiamo bjalo ka Na	mg/l	35	13.01	<200	14
Phothesiamo bjalo ka K	mg/l	35	0.5	<50	0.5
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	35	274.083	N/A	275
Tloraete bjalo ka Cl	mg/l	35	10.8	<200	11
Salfeiti bjalo ka SO_4	mg/l	35	11.118	<400	12
Nitreite bjalo ka NO_x-N	mg/l	35	0.703	<10	0.7
Floraete bjalo ka F	Mg/l	35	0.11	<1.0	0.12
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B41D			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN [2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	20	7.345	5.0 – 9.5	7.75
Khondakthivithi ya Ilektrikhale	mS/m	20	10.78	<150	11
Khalsiamo bajlo ka Ca	mg/l	20	6.4	<150	7
Maknesiamo bjalo ka Mg	mg/l	20	2.059	<100	2
Sodiamo bjalo ka Na	mg/l	20	7.424	<200	8
Photasiamo bjalo ka K	mg/l	20	2.5015	<50	2.7
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	20	32.708	N/A	35
Tloraete bjalo ka Cl	mg/l	20	5	<200	5
Salfeiti bjalo ka SO_4	mg/l	20	4.956	<400	5
Nitreite bjalo ka NO_x-N	mg/l	20	0.294	<10	0.3
Floraete bjalo ka F	Mg/l	20	0.4065	<1.0	0.44
				Tllase ya Khwalithi ya Meetse	Tllase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B41E			
		No. ya Sampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse ya Fase[3]
pH	–	37	8.028	5.0 – 9.5	8.5
Khondakthivithi Ilektrikhale	mS/m	37	29	<150	31
Khalsiamo bjalo ka Ca	mg/l	37	18.1	<150	19
Maknesiamo bjalo ka Mg	mg/l	37	4.039	<100	4
Sodiamo bjalo ka Na	mg/l	37	21.117	<200	23
Phothisiamo bjalo ka K	mg/l	37	4.456	<50	4.9
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	37	109.16	N/A	120
Tloraete bjalo ka Cl	mg/l	37	7.398	<200	8
Salfeiti bjalo ka SO_4	mg/l	37	6.603	<400	7
Nitreite bjalo ka NO_x-N	mg/l	37	1.531	<10	1.6
Floraete bjalo ka F	Mg/l	37	0.379	<1.0	0.41
				Tllase ya Khwalithi ya Meetse	Tllase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B41G			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Kwalithi ya Meetse a Fase[3]
pH	–	13	8.055	5.0 – 9.5	8.5
Khondakthivithi ya Ilektrikhale	mS/m	13	59.2	<150	65
Khanlsiamo bjalo ka Ca	mg/l	13	51.605	<150	56
Maknesiamo bjalo ka Mg	mg/l	13	29.374	<100	32
Sodiamo bjalo ka Na	mg/l	13	23.522	<200	25
Phothesiamo bjalo ka K	mg/l	13	0.796	<50	0.8
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	13	244	N/A	268
Tloraete bjalo ka Cl	mg/l	13	17.18	<200	18
Salfeiti bjalo ka SO_4	mg/l	13	10.187	<400	11
Nitreite bjalo ka NO_x-N	mg/l	13	0.055	<10	0.1
Floraete bjalo ka F	Mg/l	13	0.1	<1.0	0.11
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B41H			
		No. ya Disampolo	Ambiente ya GW ya khwalthi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya khwalithi ya Meetse a Fase[3]
pH	–	109	8.187	5.0 – 9.5	8.5
Khondakthivithi ya llektrikhale	mS/m	109	91	<150	100
Khalsiamo bjalo ka Ca	mg/l	109	70.6	<150	77
Maknesiamo bjalo ka Mg	mg/l	109	47.88	<100	52
Sodiamo ya Na	mg/l	109	45.1	<200	49
Phothesiamo bjalo ka K	mg/l	109	0.995	<50	1.1
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	109	259.5	N/A	285
Tloraete bjalo ka Cl	mg/l	109	58.3	<200	64
Salfeiti bjalo ka SO_4	mg/l	109	44.6715	<400	49
Nitreite bjalo ka NO_x-N	mg/l	109	5.692	<10	6.2
Floraete bjalo ka F	Mg/l	109	0.24	<1.0	0.26
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B41J			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	134	8.292	5.0 – 9.5	8.5
Khondakthibithi ya llektrikhale	mS/m	134	89.45	<150	98
Khalsiamo bjalo ka Ca	mg/l	134	37.69	<150	41
Maknesiamo bjalo ka Mg	mg/l	134	71.6125	<100	78
Sodiamo bjalo ka Na	mg/l	134	29.1	<200	32
Phothesiamo bjalo ka K	mg/l	134	1.2445	<50	1.3
Kakaretšo ya Alkhalinithi as $CaCO_3$	mg/l	134	345.7	<330	346[4]
Tloraete bjalo ka Cl	mg/l	134	43.5825	<200	47
Salfeiti bjalo ka SO_4	mg/l	134	30.315	<400	33
Nitreite bjalo ka NO_x-N	mg/l	134	6.5185	<10	7.1
Floraete bjalo ka F	Mg/l	134	0.1275	<1.0	0.14
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B41K			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	60	8.1035	5.0 – 9.5	8.5
Khodakbithi ilektrikhale	mS/m	60	110.75	<150	121
Khalsiamo bjalo ka Ca	mg/l	60	54.651	<150	60
Maknesiamo bjalo ka Mg	mg/l	60	61.1175	<100	67
Sodiamo bjalo ka Na	mg/l	60	81.835	<200	90
Phothesiamo bjalo ka K	mg/l	60	2.789	<50	3.1
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	60	362.1	N/A	362[4]
Tloraete bjalo ka Cl	mg/l	60	80.582	<200	88
Salfeiti bjalo ka SO_4	mg/l	60	40.9105	<400	45
Nitreite bjalo ka NO_x-N	mg/l	60	3.9235	<10	4.3
Floraete bjalo ka F	Mg/l	60	0.484	<1.0	0.53
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamithi ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B42B			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	39	7.523	5.0 – 9.5	7.75
Khodakthibithi ya ilektrikhale	mS/m	40	5.76	<150	6
Khalsiamo bjalo ka Ca	mg/l	40	4.299	<150	4
Maknesiamo bjalo ka Mg	mg/l	40	2.176	<100	2
Sodiamo bjalo ka Na	mg/l	40	2.19	<200	2
Phothesiamo bjalo ka K	mg/l	40	0.3275	<50	0.3
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	40	17.932	N/A	19
Tloraete bjalo ka Cl	mg/l	40	3.25	<200	3.
Salfeiti bjalo ka SO_4	mg/l	40	3	<400	3
Nitreite bjalo ka NO_x-N	mg/l	40	0.6955	<10	0.8
Floraete bjalo ka F	Mg/l	40	0.104	<1.0	0.11
				Tllase ya khwaliti ya meetse	Tllase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B42F			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	37	7.93	5.0 – 9.5	8.25
Khondakthibithi ya llektrikhale	mS/m	37	59	<150	64
Khalsiamo bjalo ka Ca	mg/l	37	17.146	<150	18
Maknesiamo bjalo ka Mg	mg/l	37	52.835	<100	58
Sodiamo bjalo ka Na	mg/l	37	14.4	<200	15
Phothesiamo bjalo ka K	mg/l	37	0.853	<50	0.9
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	37	154.3	N/A	169
Tloraete bjalo ka Cl	mg/l	37	53.976	<200	59
Salfeite bjalo ka SO_4	mg/l	37	17.706	<400	19
Nitreite bjalo ka NO_x-N	mg/l	37	8.679	<10	9.5
Floraete bjalo ka F	Mg/l	37	0.206	<1.0	0.22
				Tlase ya khwalithi ya meetse	Tlase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B51A			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	50	7.568	5.0 – 9.5	7.75
Khodakthibithi ya llektrikhale	mS/m	50	14.4	<150	15
Khalsiamo bjalo ka Ca	mg/l	50	6.838	<150	7
Maknesiamo bjalo ka Mg	mg/l	50	2.27	<100	2
Sodiamo bjalo ka Na	mg/l	50	11.348	<200	12
Phothesiamo bjalo ka K	mg/l	50	3.835	<50	4.3
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	50	35.5425	N/A	39
Tloraete bjalo ka Cl	mg/l	50	6.6835	<200	7
Salfeiti bjalo ka SO_4	mg/l	50	2	<400	2
Nitreite bjalo ka NO_x-N	mg/l	50	3.5095	<10	3.8
Floraete bjalo ka F	Mg/l	50	0.418	<1.0	0.45
				Tlase ya khwalithi ya meetse	Tlase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B51B			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	62	7.908	5.0 – 9.5	8.25
Khondakthibithi ya lletrikhale	mS/m	62	20.95	<150	23
Khalsiamo bjalo ka Ca	mg/l	62	9.1095	<150	10
Maknesiamo bjalo ka Mg	mg/l	62	2.1195	<100	2
Sodiamo bjalo ka Na	mg/l	62	18.919	<200	20
Phothesiamo bjalo ka K	mg/l	62	2.91	<50	3.2
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	62	62.909	N/A	69
Tloraete bjalo ka Cl	mg/l	62	8.565	<200	9
Salfeiti bjalo ka SO_4	mg/l	62	3.091	<400	3
Nitreite bjalo ka NO_x-N	mg/l	62	1.0575	<10	1.2
Floraete bjalo ka F	Mg/l	62	0.9945	<1.0	1.0
				Tllase ya khwalithi ya meetse	Tllase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B51C			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	55	7.954	5.0 – 9.5	8.25
Khondakthibithi ya llektrikhale	mS/m	55	51.4	<150	56
Khalsiamo bjalo ka Ca	mg/l	55	40.544	<150	44
Maknesiamo bjalo ka Mg	mg/l	55	8.812	<100	9
Sodiamo bjalo ka Na	mg/l	55	47.532	<200	52
Phothesiamo bjalo ka K	mg/l	55	3.095	<50	3.4
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	55	122.026	N/A	134
Tloraete bjalo ka Cl	mg/l	55	41.026	<200	45
Salfeiti bjalo ka SO_4	mg/l	55	18.15	<400	19
Nitreite bjalo ka NO_x-N	mg/l	55	3.955	<10	4.3
Floraete bjalo ka F	Mg/l	55	2.171	<1.0	2.2
				Tllase ya khwalithi ya meetse	Tllase III

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B51E			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	117	8.04	5.0 – 9.5	8.5
Khondakthibithi ya llektrikhale	mS/m	117	112.2	<150	123
Khalsiamo bjalo ka Ca	mg/l	117	86.1	<150	94
Maknesiamo bjalo ka Mg	mg/l	117	54.055	<100	59
Sodiamo bjalo ka Na	mg/l	117	61.675	<200	67
Phothesiamo bjalo ka K	mg/l	117	4.345	<50	4.8
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	117	260.7	N/A	286
Tloraete bjalo ka Cl	mg/l	117	74.8	<200	82
Salfeite bjalo ka SO_4	mg/l	117	58.789	<400	64
Nitreite bjalo ka NO_x-N	mg/l	117	23.174	<10	23
Floraete bjalo ka F	Mg/l	117	0.345	<1.0	0.4
				Tllase ya khwalithi ya meetse	Tllase III

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B51G			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	168	8.2285	5.0 – 9.5	8.5
Khondakthibithi ya llektrikhale	mS/m	168	90.6	<150	99
Khalsiamo bjalo ka Ca	mg/l	168	54.406	<150	59
Maknesiamo bjalo ka Mg	mg/l	168	35.9285	<100	39
Sodiamo bjalo ka Na	mg/l	168	61.381	<200	67
Phothesiamo bjalo ka K	mg/l	168	3.785	<50	4.1
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	168	250.4975	N/A	275
Tloraete bjalo ka Cl	mg/l	168	82.078	<200	90
Salfeiti bjalo ka SO_4	mg/l	168	17.7	<400	19
Nitreite bjalo ka NO_x-N	mg/l	168	5.333	<10	5.8
Floraete bjalo ka F	Mg/l	168	0.2945	<1.0	0.32
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B51H			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	219	7.978	5.0 – 9.5	8.25
Khondakthibithi ya Ilektrikhale	mS/m	219	39.3	<150	43
Khalsiamo bjalo ka Ca	mg/l	219	25.6	<150	28
Maknesiamo bjalo ka Mg	mg/l	219	5.1	<100	5
Sodiamo bjalo ka Na	mg/l	219	33.852	<200	37
Phothesiamo bjalo ka K	mg/l	219	2.979	<50	3.3
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	219	103.8	N/A	114
Tloraete bjalo ka Cl	mg/l	219	27.699	<200	30
Salfeiti bjalo ka SO_4	mg/l	219	6.5	<400	7
Nitreite bjalo ka NO_x-N	mg/l	219	2.75	<10	3.1
Floraete bjalo ka F	Mg/l	219	0.818	<1.0	1.00[4]
				Tllase ya khwalithi ya meetse	Tllase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B52A			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	95	8.251	5.0 – 9.5	8.5
Khondakthibithi ya Ilektrikhale	mS/m	95	116.3	<150	127
Khalsiamo bjalo ka Ca	mg/l	95	69.871	<150	76
Maknesiamo bjalo ka Mg	mg/l	95	47.17	<100	51
Sodiamo bjalo ka Na	mg/l	95	113.292	<200	124
Phothesiamo bjalo ka K	mg/l	95	6.052	<50	6.6
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	95	320.786	N/A	321[4]
Tloraete bjalo ka Cl	mg/l	95	142.676	<200	156
Salfeiti bjalo ka SO_4	mg/l	95	48.865	<400	53
Nitreite bjalo ka NO_x-N	mg/l	95	14.852	<10	14.9
Floraete bjalo ka F	Mg/l	95	1.232	<1.0	1.23[4]
				Tllase ya khwalithi ya meetse	Tllase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B52B			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN [2)]	Peelo ya Khwalithi ya Meetse a Fas[3]
pH	–	267	8.175	5.0 – 9.5	8.5
Khondakthibithi ya Ilektrikhale	mS/m	268	94.3	<150	103
Khalsiamo bjalo ka Ca	mg/l	268	78.1675	<150	85
Maknesiamo bjalo ka Mg	mg/l	268	52.385	<100	57
Sodiamo bjalo ka Na	mg/l	268	48.44	<200	53
Phothesiamo bjalo ka K	mg/l	268	0.932	<50	1.0
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	268	336.5035	N/A	337[4]
Tloraete bjalo ka Cl	mg/l	268	58.677	<200	64
Salfeiti bjalo ka SO_4	mg/l	268	23.316	<400	25
Nitreite bjalo ka NO_x-N	mg/l	268	12.3475	<10	13.5
Floraete bjalo ka F	Mg/l	268	0.173	<1.0	0.19
				Tllase ya khwalithi ya meetse	Tllase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B52C			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1)]	Peelo ya BHN [2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	15	8.12	5.0 – 9.5	8.5
Khondakthibithi ya Ilektrikhale	mS/m	15	76.4	<150	84
Khalsiamo bjalo ka Ca	mg/l	15	57.541	<150	63
Maknesiamo bjalo ka Mg	mg/l	15	26.2	<100	28
Sodiamo bjalo ka Na	mg/l	15	48.3	<200	53
Phothesiamo bjalo ka K	mg/l	15	2.526	<50	2.7
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	15	259.21	N/A	285
Tloraete bjalo ka Cl	mg/l	15	42.701	<200	46
Salfeiti bjalo ka SO_4	mg/l	15	15.788	<400	17
Nitreite bjalo ka NO_x-N	mg/l	15	4.477	<10	4.9
Floraete bjalo ka F	Mg/l	15	0.282	<1.0	0.31
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B52D			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN [2]	Peelo ya Khwalithi ya Meetse a Fase [3]
pH	–	66	8.124	5.0 – 9.5	8.5
Khondakthibithi ya llektrikhale	mS/m	66	129	<150	141
Khalsiamo bjalo ka Ca	mg/l	66	80.419	<150	88
Maknesiamo bjalo ka Mg	mg/l	66	75.161	<100	82
Sodiamo bjalo ka Na	mg/l	66	73.681	<200	81
Phothesiamo bjalo ka K	mg/l	66	3.373	<50	3.7
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	66	368.735	N/A	369[4]
Tloraete bjalo ka Cl	mg/l	66	155.5865	<200	171
Salfeiti bjalo ka SO_4	mg/l	66	68.1475	<400	74
Nitreite bjalo ka NO_x-N	mg/l	66	8.625	<10	9.5
Floraete bjalo ka F	Mg/l	66	0.463	<1.0	0.50
				Tlase ya khwalithi ya meets	Tlase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B52E			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN [2]	Peelo ya Khwalithi ya Meetse a Fase [3]
pH	–	92	8.19	5.0 – 9.5	8.5
Khondakthibithi ya llektrikhale	mS/m	92	187	<150	<150[4]
Khalsiamo bjalo ka Ca	mg/l	92	93.099	<150	102
Maknesiamo bjalo ka Mg	mg/l	92	99.779	<100	109
Sodiamo bjalo ka Na	mg/l	92	130.3125	<200	143
Phothesiamo bjalo ka K	mg/l	92	0.9365	<50	1.1
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	92	353.535	N/A	354[4]
Tloraete bjalo ka Cl	mg/l	92	271.372	<200	271[4]
Salfeiti bjalo ka SO_4	mg/l	92	92.543	<400	101
Nitreite bjalo ka NO_x-N	mg/l	92	20.1515	<10	20.2
Floraete bjalo ka F	Mg/l	92	0.1425	<1.0	0.16
				Tlase ya khwalithi ya meetse	Tlase III

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

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Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B52F			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	16	8.2865	5.0 – 9.5	8.5
Khondakthibithi ya Ilektrikhale	mS/m	16	63.55	<150	69
Khalsiamo bjalo ka Ca	mg/l	16	39.18	<150	43
Maknesiamo bjalo ka Mg	mg/l	16	19.85	<100	21
Sodiamo bjalo ka Na	mg/l	16	76.3	<200	83
Phothesiamo bjalo ka K	mg/l	16	2.86	<50	3.1
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	16	260.7275	<330	286
Tloraete bjalo ka Cl	mg/l	16	26.6075	<200	29
Salfeiti bjalo ka SO_4	mg/l	16	8.8	<400	9
Nitreite bjalo ka NO_x-N	mg/l	16	1.1595	<10	1.2
Floraete bjalo ka F	Mg/l	16	1.45	<1.0	1.5
				Tlase ya khwalithi ya meetse	Tlase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B52G			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	29	8.152	5.0 – 9.5	8.5
Khondakthibithi ya Ilektrikhale	mS/m	29	105.1	<150	115
Khalsiamo bjalo ka Ca	mg/l	29	84.691	<150	93
Maknesiamo bjalo ka Mg	mg/l	29	69.516	<100	76
Sodiamo bjalo ka Na	mg/l	29	52.144	<200	57
Phothesiamo bjalo ka K	mg/l	29	2.33	<50	2.5
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	29	356.471	<330	356[4]
Tloraete bjalo ka Cl	mg/l	29	94.103	<200	103
Salfeiti bjalo ka SO_4	mg/l	29	31	<400	34
Nitreite bjalo ka NO_x-N	mg/l	29	12.666	<10	12.7
Floraete bjalo ka F	Mg/l	29	0.253	<1.0	0.27
				Tlase ya khwalithi ya meetse	Tlase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B52H			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	64	8.094	5.0 – 9.5	8.5
Khondakthibithi ya Ilektrikhale	mS/m	64	91.65	<150	100
Khalsiamo bjalo ka Ca	mg/l	64	58.418	<150	64
Maknesiamo bjalo ka Mg	mg/l	64	32.033	<100	35
Sodiamo bjalo ka Na	mg/l	64	62.1165	<200	68
Phothesiamo bjalo ka K	mg/l	64	2.675	<50	2.9
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	64	241.4405	N/A	265
Tloraete bjalo ka Cl	mg/l	64	71.774	<200	78
Salfeiti bjalo ka SO_4	mg/l	64	26.55	<400	29
Nitreite bjalo ka NO_x-N	mg/l	64	9.7805	<10	9.8
Floraete bjalo ka F	Mg/l	64	0.538	<1.0	0.59
				Tllase ya khwalithi ya meetse	Tllase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B52J			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	78	8.144	5.0 – 9.5	8.5
Khondakthibithi ya Ilektrikhale	mS/m	78	109.35	<150	120
Khalsiamo bjalo ka Ca	mg/l	78	69.1765	<150	76
Maknesiamo bjalo ka Mg	mg/l	78	71.318	<100	78
Sodiamo bjalo ka Na	mg/l	78	62.3	<200	68
Phothesiamo bjalo ka K	mg/l	78	1.63	<50	1.7
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	78	334.125	N/A	367
Tloraete bjalo ka Cl	mg/l	78	86.681	<200	95
Salfeiti bjalo ka SO_4	mg/l	78	52.3	<400	57
Nitreite bjalo ka NO_x-N	mg/l	78	10.5165	<10	11
Floraete bjalo ka F	Mg/l	78	0.135	<1.0	0.14
				Tllase ya khwalithi ya meetse	Tllase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B60D			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	42	8.1615	5.0 – 9.5	8.5
Khonfakthibithi ya Ilektrikhale	mS/m	42	44.65	<150	49
Khalsiamo bjalo ka Ca	mg/l	42	45.0725	<150	49
Maknesiamo bjalo ka Mg	mg/l	42	26.8335	<100	29
Sodiamo bjalo ka Na	mg/l	42	5.362	<200	5
Phothesiamo bjalo ka K	mg/l	42	0.512	<50	0.5
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	42	211.7055	N/A	232
Tloraete bjalo ka Cl	mg/l	42	5	<200	5
Salfeiti bjalo ka SO_4	mg/l	42	4.35	<400	4
Nitreite bjalo ka NO_x-N	mg/l	42	2.74	<10	3.0
Floraete bjalo ka F	Mg/l	42	0.183	<1.0	0.20
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B60G			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	12	8.2325	5.0 – 9.5	8.5
Khondakthibithi ya Ilektrikhale	mS/m	12	61.6	<150	67
Khalsiamo bjalo ka Ca	mg/l	12	40.2825	<150	44
Maknesiamo bjalo ka Mg	mg/l	12	32.098	<100	35
Sodiamo bjalo ka Na	mg/l	12	45.8895	<200	50
Phothesiamo bjalo ka K	mg/l	12	0.6575	<50	0.7
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	12	233.8585	N/A	257
Tloraete bjalo ka Cl	mg/l	12	50.102	<200	55
Salfeiti bjalo ka SO_4	mg/l	12	14.519	<400	15
Nitreite bjalo ka NO_x-N	mg/l	12	1.812	<10	1.9
Floraete bjalo ka F	Mg/l	12	0.453	<1.0	0.49
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B60H			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	26	7.998	5.0 – 9.5	8.25
Khondakthibithi ya llektrikhale	mS/m	26	51.25	<150	56
Khalsiamo bjalo ka Ca	mg/l	26	41.6925	<150	45
Maknesiamo bjalo ka Mg	mg/l	26	21.389	<100	23
Sodiamo bjalo ka Na	mg/l	26	18.465	<200	20
Phothesiamo bjalo ka K	mg/l	26	0.6945	<50	0.7
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	26	204.4145	N/A	224
Tloraete bjalo ka Cl	mg/l	26	15.6565	<200	17
Salfeiti bjalo ka SO_4	mg/l	26	10.8385	<400	11
Nitreite bjalo ka NO_x-N	mg/l	26	0.916	<10	1.0
Floaraete bjalo ka F	Mg/l	26	0.1825	<1.0	0.20
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B60J			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse ya Fase[3]
pH	–	22	7.819	5.0 – 9.5	8.00
Khondakthibithi ya llektrikhale	mS/m	22	148	<150	150[4]
Khalsiamo bjalo ka Ca	mg/l	22	73.509	<150	80
Magnesiamo bjalo ka Mg	mg/l	22	60.6	<100	66
Sodiamo bjalo ka Na	mg/l	22	154.017	<200	169
Phothesiamo bjalo ka K	mg/l	22	3.585	<50	3.9
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	22	381.78	N/A	382[4]
Tloraete bjalo ka Cl	mg/l	22	166.4	<200	183
Salfeiti bjalo ka SO_4	mg/l	22	82.4675	<400	90
Nitreite bjalo ka NO_x-N	mg/l	22	7.887	<10	8.7
Floraete bjalo F	Mg/l	22	0.62	<1.0	0.68
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B71A			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN [2]	Peelo ya Khwalithi ya Meetse a Fase [3]
pH	–	25	8.18	5.0 – 9.5	8.5
Khondakthibithi ya Ilektrikhale	mS/m	25	75.9	<150	83
Khalsiamo bjalo ka Ca	mg/l	25	41.692	<150	45
Magnesiamo bjalo ka Mg	mg/l	25	35.6	<100	39
Sodiamo bjalo ka Na	mg/l	25	27.457	<200	30
Phothesiamo bjalo ka K	mg/l	25	2.488	<50	2.7
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	25	239.8	N/A	263
Tloraete bjalo ka Cl	mg/l	25	43.299	<200	47
Salfeiti bjalo ka SO_4	mg/l	25	14.9	<400	16
Nitreite bjalo ka NO_x-N	mg/l	25	3.908	<10	4.3
Floraete bjalo ka F	Mg/l	25	0.2	<1.0	0.22
				Tlase ya khwalithi ya meetse	Tlase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B71B			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN [2]	Peelo Khwalithi ya Meetse a Fase [3]
pH	–	22	8.245	5.0 – 9.5	8.5
Khodakthibithi ya Ilektrikhale	mS/m	22	116.45	<150	128
Khalsiamo bjalo ka Ca	mg/l	22	43.1465	<150	47
Maknesiamo bjalo ka Mg	mg/l	22	86.0155	<100	94
Sodiamo bjalo ka Na	mg/l	22	58.222	<200	64
Phothesiamo bjalo ka K	mg/l	22	2.425	<50	2.7
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	22	393.132	N/A	393[4]
Tloraete bjalo ka Cl	mg/l	22	111.8245	<200	123
Salfeiti bjalo ka SO_4	mg/l	22	39.897	<400	43
Nitreite bjalo ka NO_x-N	mg/l	22	4.1535	<10	4.6
Floraete bjalo ka F	Mg/l	22	0.161	<1.0	0.17
				Tlase ya khwalithi ya meetse	Tlase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B71D			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase [3]
pH	–	9	8.123	5.0 – 9.5	8.5
Khondakthibithi ya llektrikhale	mS/m	9	70	<150	77
Khalsiamo bjalo ka Ca	mg/l	9	33.574	<150	36
Maknesiamo bjalo ka Mg	mg/l	9	18.525	<100	20
Sodiamo bjalo ka Na	mg/l	9	18.321	<200	20
Phothesiamo bjalo ka K	mg/l	9	3.815	<50	4.1
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	9	219.423	N/A	241
Tloraete bjalo ka Cl	mg/l	9	35.581	<200	39
Salfeiti bjalo ka SO_4	mg/l	9	9.179	<400	10
Nitreite bjalo ka NO_x-N	mg/l	9	0.515	<10	0.6
Floraete bjalo ka F	Mg/l	9	0.18	<1.0	0.19
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B71E			
		No. ya Disampolo	Ambiente ya GW ya khwaliti goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	180	8.283	5.0 – 9.5	8.5
Khodakthibithi ya llektrikhale	mS/m	180	93.05	<150	102
Khalsiamo bjalo ka Ca	mg/l	180	42.4955	<150	46
Maknesiamo bjalo ka Mg	mg/l	180	73.983	<100	81
Sodiamo bjalo ka Na	mg/l	180	34.421	<200	37
Phothesiamo bjalo ka K	mg/l	180	1.402	<50	1.5
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	180	363.32	N/A	363[4]
Tloraete bjalo ka Cl	mg/l	180	55.85	<200	61
Salfeiti bjalo ka SO_4	mg/l	177	25.37	<400	27
Nitreite bjalo ka NO_x-N	mg/l	180	10.442	<10	10.4
Floraete bjalo ka F	Mg/l	180	0.1155	<1.0	0.12
				Tllase ya khwalithi ya meetse	Tllase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B71F			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	46	8.2235	5.0 – 9.5	8.5
Khondakthibithi ya llektrikhale	mS/m	46	84.5	<150	92
Khalsiamo bjalo ka Ca	mg/l	46	74.201	<150	81
Maknesiamo bjalo ka Mg	mg/l	46	37.6255	<100	41
Sodiamo bjalo ka Na	mg/l	46	44.6935	<200	49
Phothesiamo bjalo ka K	mg/l	46	2.189	<50	2.4
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	46	258.762	N/A	284
Tloraete bjalo ka Cl	mg/l	46	88.4355	<200	97
Salfeiti bjalo ka SO_4	mg/l	46	51.892	<400	57
Nitreite bjalo ka NO_x-N	mg/l	46	0.925	<10	1.0
Floraete bjalo ka F	Mg/l	46	0.3	<1.0	0.33
				Tllase ya khwalithi ya meets	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B71G			
		No. ya Disampolo	Ambiente ya GW ya khwaithi goba mediene [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	16	8.216	5.0 – 9.5	8.5
Khondakthibithi ya llektrikhale	mS/m	16	65.6	<150	72
Khalsiamo bjalo ka Ca	mg/l	16	52.8585	<150	58
Maknesiamo bjalo ka Mg	mg/l	16	47.3295	<100	52
Sodiamo bjalo ka Na	mg/l	16	13.832	<200	15
Phothesiamo bjalo ka K	mg/l	16	1.1435	<50	1.3
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	16	304.0185	N/A	304[4]
Tloraete bjalo ka Cl	mg/l	16	16.358	<200	17
Salfeiti bjalo ka SO_4	mg/l	16	11.1915	<400	12
Nitreite bjalo ka NO_x-N	mg/l	16	2.496	<10	2.7
Floraete bjalo ka F	Mg/l	16	0.2525	<1.0	0.27
				Tllase ya khwalithi ya meets	Tllase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B71H			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	56	7.945	5.0 – 9.5	8.0
Khondakthibithi ya Khemikhale	mS/m	56	93.6	<150	102
Khalsiamo bjalo ka Ca	mg/l	56	55.15	<150	60
Maknesiamo bjalo ka Mg	mg/l	56	31.1	<100	34
Sodiamo bjalo ka Na	mg/l	56	68.05	<200	74.
Phothesiamo bjalo ka K	mg/l	56	2.465	<50	2.7
Kakaretšo ya Alkhalinithi bjalo $CaCO_3$	mg/l	56	303.4585	N/A	303[4]
Tloraete bjalo ka Cl	mg/l	56	65.056	<200	71
Salfeiti bjalo ka SO_4	mg/l	56	12.6	<400	13
Nitreite bjalo ka NO_x-N	mg/l	56	0.741	<10	0.8
Floraete bjalo ka F	Mg/l	56	0.446	<1.0	0.49
				Tllase ya khwalithi ya meetse	Tllase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B72A			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	100	7.915	5.0 – 9.5	8.25
Khondakthibithi ya Elektrikhale	mS/m	100	46.45	<150	51
Khalsiamo bjalo ka Ca	mg/l	100	33.95	<150	37
Maknesiamo bjalo ka Mg	mg/l	100	16.7285	<100	18
Sodiamo bjalo ka Na	mg/l	100	30.7	<200	33
Phothesiamo bjalo ka K	mg/l	100	1.8155	<50	1.9
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	100	176.85	N/A	194
Tloraete bjalo ka Cl	mg/l	100	23.8	<200	26
Salfeiti bjalo ka SO_4	mg/l	100	7.112	<400	7
Nitreiti bjalo ka NO_x-N	mg/l	100	1.0335	<10	1.1
Floraete bjalo ka F	Mg/l	100	0.2755	<1.0	0.30
				Tllase ya khwalithi ya meetse	Tllase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B72C			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN [2]	Peelo ya khwalithi ya Meetse a Fase[3]
pH	–	26	8.17	5.0 – 9.5	8.50
Khondakthibithi ya Elektrikhale	mS/m	26	125.65	<150	138
Khalsiamo bjalo ka Ca	mg/l	26	51.7	<150	56
Maknesiamo bjalo ka Mg	mg/l	26	37.25	<100	40
Sodiamo bjalo ka Na	mg/l	26	175.8	<200	193
Phothesiamo bjalo ka K	mg/l	26	2.63	<50	2.8
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	26	442.65	N/A	443[4]
Tloraete bjalo ka Cl	mg/l	26	138.187	<200	152
Salfeiti bjalo ka SO_4	mg/l	26	20.564	<400	22
Nitreite bjalo ka NO_x-N	mg/l	26	0.66	<10	0.7
Floraete bjalo ka F	Mg/l	26	0.7885	<1.0	0.86
				Tllase ya khwalithi ya meetse	Tllase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B72E			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	101	8.035	5.0 – 9.5	8.5
Khondakthibithi ya Ilektrikhale	mS/m	101	53.3	<150	58
Khalsiamo bjalo ko Ca	mg/l	101	39.2	<150	43
Maknesiamo bjalo ka Mg	mg/l	101	26.2	<100	28
Sodiamo bjalo ka Na	mg/l	101	26.5	<200	29
Phothesiamo bjalo ka K	mg/l	101	0.898	<50	0.9
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	101	236.548	N/A	260
Tloraete bjalo ka Cl	mg/l	101	13.9	<200	15
Salfeiti bjalo ka SO_4	mg/l	101	4.3	<400	4
Nitreite bjalo ka NO_x-N	mg/l	101	1.927	<10	2.1
Floraete bjalo ka F	Mg/l	101	0.227	<1.0	0.24
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B72J			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	47	8.038	5.0 – 9.5	8.50
Khobakthibithi ya Ilektrikhale	mS/m	47	110.23	<150	121
Khalsiamo bjalo ka Ca	mg/l	47	64.86	<150	71
Maknesiamo bjalo ka Mg	mg/l	47	69.761	<100	76
Sodiamo bjalo ka Na	mg/l	47	69.6	<200	76
Phothesiamo bjalo ka K	mg/l	47	0.65	<50	0.7
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	47	381.88	N/A	382[4]
Tloraete bjalo ka Cl	mg/l	47	101.636	<200	111
Salfeiti bjalo ka SO_4	mg/l	47	41.281	<400	45
Nitreite bjalo ka NO_x-N	mg/l	47	9.989	<10	10
Floraete bjalo ka F	Mg/l	47	0.3	<1.0	0.33
				Tllase ya khwalithi ya meetse	Tllase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B72K			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	61	8.21	5.0 – 9.5	8.5
Khondakthibithi ya Iletrikhale	mS/m	61	180	<150	180[4]
Khalsiamo bjalo ka Ca	mg/l	61	61.681	<150	67
Maknesiamo bjalo ka Mg	mg/l	61	61.2	<100	67
Sodiamo bjalo ka Na	mg/l	61	223.785	<200	224[4]
Phothesiamo bjalo ka K	mg/l	61	5.38	<50	5.9
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	61	459	N/A	459[4]
Tloraete bjalo ka Cl	mg/l	61	244.7	<200	245[4]
Salfeiti bjalo ka SO_4	mg/l	61	54.8	<400	60
Nitreite bjalo ka NO_x-N	mg/l	61	9.088	<10	9.9
Floraete bjalo ka F	Mg/l	61	0.642	<1.0	0.70
				Tllase ya khwalithi ya meetse	Tllase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B73A			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN [2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	25	7.67	5.0 – 9.5	8.00
Khodakbithi ya Elektrikhale	mS/m	25	22.6	<150	24
Khalsiamo bjalo ka Ca	mg/l	25	10.3	<150	11
Maknesiamo bjalo ka Mg	mg/l	25	3.6	<100	3
Sodiamo bjalo ka Na	mg/l	25	28.4	<200	31
Phothesiamo bjalo ka K	mg/l	25	1.3	<50	1.4
Kakaretšo Alkhalinithi bjalo ka $CaCO_3$	mg/l	25	84.6	N/A	93
Tloraete bjalo ka Cl	mg/l	25	9.2	<200	10
Salfeiti bjalo ka SO_4	mg/l	25	4.9	<400	5
Nitreite bjalo ka NO_x-N	mg/l	25	0.93	<10	1.0
Floraete bjalo ka F	Mg/l	25	0.398	<1.0	0.43
				Tllase ya khwalithi ya meetse	Tllase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B73E			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	50	8.16	5.0 – 9.5	8.50
Khondakthibithi ya llektrikhale	mS/m	50	80.3	<150	88
Khalsiamo bjalo ka Ca	mg/l	50	40.7885	<150	44
Maknesiamo bjalo ka Mg	mg/l	50	21.05	<100	23
Sodiamo bjalo ka Na	mg/l	50	102.9	<200	113
Phothesiamo bjalo ka K	mg/l	50	2.203	<50	2.4
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	50	281.2	N/A	309
Tloraete bjalo ka Cl	mg/l	50	55.35	<200	60
Salfeite bjalo ka SO_4	mg/l	50	10.85	<400	11
Nitreite bjalo ka NO_x-N	mg/l	50	3.3105	<10	3.6
Floraete bjalo ka F	Mg/l	50	0.99	<1.0	1.0
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B73F			
		No. Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	19	8.346	5.0 – 9.5	8.5
Khondakthibithi Ilektriikhale	mS/m	19	50.5	<150	55
Khalsiamo bjalo ka Ca	mg/l	19	15.864	<150	17
Maknesiamo bjalo ka Mg	mg/l	19	30.272	<100	33
Sodiamo bjalo ka Na	mg/l	19	43.2	<200	47
Phothesiamo bjalo ka K	mg/l	19	1.893	<50	2.0
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	19	197.544	N/A	217
Tloraete bjalo ka Cl	mg/l	19	32.906	<200	36
Salfeiti bjalo ka SO_4	mg/l	19	10.439	<400	11
Nitreite bjalo ka NO_x-N	mg/l	19	1.443	<10	1.5
Floraete bjalo ka F	Mg/l	19	0.333	<1.0	0.36
				Tllase ya khwalithi ya meetse	Tllase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B81C			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya meets a Fase[3]
pH	–	64	7.689	5.0 – 9.5	8.00
Khondakthibithi ya Ilektrikhale	mS/m	64	22.6185	<150	25
Khalsiamo bjalo ka Ca	mg/l	64	13.7065	<150	15
Maknesiamo bjalo ka Mg	mg/l	64	4.2295	<100	5
Sodiamo bjalo ka Na	mg/l	63	16.8	<200	18
Phothesiamo bjalo ka K	mg/l	61	2.638	<50	2.9
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	64	46.5115	N/A	51
Tloraete bjalo ka Cl	mg/l	64	23.9395	<200	26
Salfeiti bjalo ka SO_4	mg/l	64	3	<400	3
Nitreite bjalo ka NO_x-N	mg/l	64	3.5385	<10	3.9
Floraete bjalo ka F	Mg/l	63	0.14	<1.0	0.15
				Tllase ya khwalithi ya meetse	Tllase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B81D			
		No. ya Disampolo	Ambiente ya GW ya khwalithi go mediene[1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	178	7.827	5.0 – 9.5	8.0
Khondakthibithi ya Ilektrikhale	mS/m	178	44.65	<150	49
Khalsiamo bjalo ka Ca	mg/l	178	36.9385	<150	41
Maknesiamo bjalo ka Mg	mg/l	178	21.843	<100	24
Sodiamo bjalo ka Na	mg/l	175	17.5	<200	19
Phothesiamo bjalo ka K	mg/l	175	0.542	<50	0.6
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	177	187.634	N/A	206
Tloraete bjalo ka Cl	mg/l	178	11.9215	<200	13
Salfeiti bjalo ka SO_4	mg/l	178	4.6	<400	5
Nitreite bjalo ka NO_x-N	mg/l	177	1.949	<10	2.1
Floraete bjalo ka F	Mg/l	177	0.192	<1.0	0.21
				Tllase ya khwalithi ya meetse	Tllase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B81E			
		No. ya Disampolo	Ambiente ya GW ya khwlithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	144	8.077	5.0 – 9.5	8.25
Khondakthibithi ya Ilektrikhale	mS/m	144	45.25	<150	50
Khalsiamo bjalo ka Ca	mg/l	144	27.84	<150	31
Maknesiamo bjalo ka Mg	mg/l	144	15.55	<100	17
Sodiamo bjalo ka Na	mg/l	144	33.4565	<200	37
Phothesiamo bjalo ka K	mg/l	144	2.6485	<50	2.9
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	144	166.2245	N/A	183
Tloraete bjalo ka Cl	mg/l	144	27.5525	<200	30
Salfeiti bjalo ka SO_4	mg/l	144	5.85	<400	6
Nitreite bjalo ka NO_x-N	mg/l	144	0.784	<10	0.9
Floraete bjalo ka F	Mg/l	144	0.34	<1.0	0.37
				Tllase ya khwalithi ya meetse	Tllase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B81G			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	298	7.99	5.0 – 9.5	8.25
Khondakthibithi ya Ilektrikhale	mS/m	298	83.35	<150	92
Khalsiamo bjalo ka Ca	mg/l	298	44.047	<150	48
Maknesiamo bjalo ka Mg	mg/l	298	33.068	<100	36
Sodiamo bjalo ka Na	mg/l	298	68.3885	<200	75
Phothesiamo bjalo ka K	mg/l	298	2.0605	<50	2.3
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	298	266.67	N/A	293
Tloraete bjalo ka Cl	mg/l	298	63.85	<200	70
Salfeiti bjalo ka SO_4	mg/l	298	10.42	<400	11
Nitreite bjalo ka NO_x-N	mg/l	298	3.7285	<10	4.1
Floraete bjalo ka F	Mg/l	298	0.471	<1.0	0.52
				Tlase ya khwalithi ya meetse	Tlase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B81H			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediane [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	169	8.208	5.0 – 9.5	8.5
Khondakthibithi ya Ilektrikhale	mS/m	169	175	<150	<175[4]
Khalsiamo bjalo ka Ca	mg/l	169	74.8	<150	82
Maknesiamo bjalo ka Mg	mg/l	169	72.6	<100	80
Sodiamo bjalo ka Na	mg/l	169	164.759	<200	181
Phothesiamo bjalo ka K	mg/l	169	5.781	<50	6.4
Kakretšo ua Alkhalinithi bjalo ka $CaCO_3$	mg/l	169	435.6	N/A	436[4]
Tloraete bjalo ka Cl	mg/l	169	232.193	<200	232[4]
Salfeiti bjalo ka SO_4	mg/l	169	27.609	<400	30
Nitreite bjalo ka NO_x-N	mg/l	168	11.143	<10	12.3
Foraete bjalo ka F	Mg/l	168	0.605	<1.0	0.67
				Tlase ya khwalithi ya meetse	Tlase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B82A			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	59	7.854	5.0 – 9.5	8.00
Khondakthibithi ya llektrikhale	mS/m	58	63	<150	69
Khalsiamo bjalo ka Ca	mg/l	59	38.951	<150	43
Maknesiamo bjalo ka Mg	mg/l	59	27.147	<100	30
Sodiamo bjalo ka Na	mg/l	59	43.935	<200	48
Phothesiamo bjalo ka K	mg/l	59	2.66	<50	2.9
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	59	232.8	N/A	256
Tloraete bjalo ka Cl	mg/l	59	40.451	<200	44
Salfeiti bjalo ka SO_4	mg/l	59	11.214	<400	12
Nitreite bjalo ka NO_x-N	mg/l	59	2.506	<10	2.8
Floraete bjalo ka F	Mg/l	58	0.317	<1.0	0.35
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B82C			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	31	7.76	5.0 – 9.5	8.00
Khondakthibithi ya lektrikhale	mS/m	31	33.2	<150	37
Khalsiamo bjalo ka Ca	mg/l	31	21.981	<150	24
Maknesiamo bjalo ka Mg	mg/l	31	11.7	<100	13
Sodiamo bjalo ka Na	mg/l	30	21.188	<200	23
Phothesiamo bjalo ka K	mg/l	30	1.3995	<50	1.5
Kakretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	31	109	N/A	120
Tloraete bjalo ka Cl	mg/l	31	20.489	<200	23
Salfeiti bjalo ka SO_4	mg/l	31	4.6	<400	5
Nitreite bjalo ka NO_x-N	mg/l	31	2.878	<10	3.2
Floraete bjalo ka F	Mg/l	31	0.218	<1.0	0.24
				Tllase ya khwalithi ya meetse	Tllase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B82D			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN [2]	Peelo ya Khwalitihi ya Meetse a Fase[3]
pH	–	249	8.06	5.0 – 9.5	8.50
Khondakthibithi ya llektrikhale	mS/m	249	76.5	<150	84
Khalsiamo bjalo ka Ca	mg/l	249	42.482	<150	47
Maknesiamo bjalo ka Mg	mg/l	249	44.02	<100	48
Sodiamo bjalo ka Na	mg/l	248	55.2845	<200	61
Phothesiamo bjalo ka K	mg/l	248	5.2555	<50	5.8
Kakretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	248	260.05	N/A	286
Tloraete bjalo ka Cl	mg/l	249	50.5	<200	56
Salfeiti bjalo ka SO_4	mg/l	249	14.488	<400	16
Nitreite bjalo ka NO_x-N	mg/l	248	9.7535	<10	9.8
Floraete bjalo ka F	Mg/l	248	0.302	<1.0	0.33
				Tllase ya khwalithi ya meetse	Tllase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B82E			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	113	7.958	5.0 – 9.5	8.25
Khondakthibithi ya llektrikhale	mS/m	113	65.5	<150	72
Khalsiamo bjalo ka Ca	mg/l	113	34.922	<150	38
Maknesiamo bjalo ka Mg	mg/l	113	30.514	<100	34
Sodiamo bjalo ka Na	mg/l	108	37.64	<200	41
Phothesiamo bjalo ka K	mg/l	108	5.0595	<50	5.6
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	113	183.846	N/A	200
Tloraete bjalo ka Cl	mg/l	113	49.127	<200	54
Salfeite bjalo ka SO_4	mg/l	113	16.067	<400	18
Nitreiti bjalo ka NO_x-N	mg/l	113	5.914	<10	6.5
Floraete bjalo ka F	Mg/l	113	0.197	<1.0	0.22
				Tllase ya khwalithi ya meetse	Tllase 0

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B82F			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	232	8.032	5.0 – 9.5	8.25
Khondakthibithi ya lletrikhale	mS/m	232	63.05	<150	69
Khalsiamo bjalo ka Ca	mg/l	232	33.353	<150	37
Maknesiamo bjalo ka Mg	mg/l	232	36.834	<100	41
Sodiamo bjalo ka Na	mg/l	231	29.3	<200	32
Phothesiamo bjalo ka K	mg/l	231	3.831	<50	4.2
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	228	212.5	<330	234
Tloraete bjalo ka Cl	mg/l	232	38.3085	<200	42
Salfeite bjalo ka SO_4	mg/l	232	11.063	<400	12
Nitreite bjalo ka NO_x-N	mg/l	228	6.0725	<10	6.7
Floraete bjalo ka F	Mg/l	227	0.276	<1.0	0.30
				Tllase ya khwalithi ya meetse	Tllase I

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B82G			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1]	Peelo ya BHN[2]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	220	8.19	5.0 – 9.5	8.5
Khodakthibithi ya llektrikhale	mS/m	220	112.85	<150	124
Khalsiamo bjalo ka Ca	mg/l	220	52.8	<150	58
Maknesiamo bjalo ka Mg	mg/l	220	62.807	<100	69
Sodiamo bjalo ka Na	mg/l	218	84.9	<200	93
Phothesiamo bjalo ka K	mg/l	218	3.669	<50	4.0
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	219	368.1	N/A	370[4]
Tloraete bjalo ka Cl	mg/l	220	92.0335	<200	101
Salfeite bjalo ka SO_4	mg/l	220	17.0815	<400	19
Nitreite bjalo ka NO_x-N	mg/l	218	4.6245	<10	5.1
Floraete bjalo ka F	Mg/l	217	0.469	<1.0	0.52
				Tllase ya khwalithi ya meetse	Tllase II

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tllase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B82J			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene [1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	26	8.0975	5.0 – 9.5	8.25
Khodakthibithi ya Ilektrikhale	mS/m	26	176.5	<150	177[4]
Khalsiamo bjalo ka Ca	mg/l	26	75.872	<150	83
Maknesiamo bjalo ka Mg	mg/l	26	184.0145	<100	184[4]
Sodiamo bjalo ka Na	mg/l	26	70.92	<200	78
Phothesiamo bjalo ka K	mg/l	26	6.5275	<50	7.2
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	26	454.1	N/A	454[4]
Tloraete bjalo ka Cl	mg/l	26	205.8395	<200	206[4]
Salfeiti bjalo ka SO_4	mg/l	26	29.3965	<400	32
Nitreite bjalo ka NO_x-N	mg/l	26	9.4955	<10	10.4
Floraete bjalo ka F	Mg/l	26	0.536	<1.0	0.59
				Tlase ya khwalithi ya meetse	**Tlase II**

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Pharamitha ya Khemikhale	Yuniti	Tshwaro ya Noka ya Olifants QC B83B			
		No. ya Disampolo	Ambiente ya GW ya khwalithi goba mediene[1)]	Peelo ya BHN[2)]	Peelo ya Khwalithi ya Meetse a Fase[3]
pH	–	22	7.5	5.0 – 9.5	8.00
Khondakthibi ya Ilektrikhale	mS/m	18	105.991	<150	117
Khalsiamo bjalo ka Ca	mg/l	22	484	<150	484[4]
Magnesiamo bjalo ka Mg	mg/l	20	4.691	<100	5
Sodiamo bjalo ka Na	mg/l	22	105.219	<200	116
Phothesiamo bjalo ka K	mg/l	20	3.953	<50	4.3
Kakaretšo ya Alkhalinithi bjalo ka $CaCO_3$	mg/l	21	484	N/A	484[4]
Tloraete bjalo ka Cl	mg/l	22	105	<200	116
Salfeiti bjalo ka SO_4	mg/l	22	4.69	<400	5
Nitreite bjalo ka NO_x-N	mg/l	21	3.95	<10	4.3
Floraete bjalo ka F	Mg/l	20	0.70	<1.0	0.77
				Tlase ya khwalithi ya meetse	**Tlase III**

[1] Mohola wa mediene (e hlakantšhitšwe go tšwa go disampolo tša setšhaba go QC).
[2] Tekano ya bokagodimo bja khwalithi ya Tlase I ya meetse (DWAF et al 1998).
[3] Mediene e hlakanywa le 10% ya Peelo ya Khwalithi ya Meetse a Fase.
[4] Seemo sa Tšiolotši ya hlago e ka hlola kgolo ya disoliti tšeo di tologilego tša meetse a fase.

Ele hloko:

Ka kheisi ya diakhwifaya tša Karoo Supergroup le Rustenburg Layered Suite, maknesiamo (Mg), sodiamo (Na) le tloraete (Cl) mehola e a phagamišwa ka ge dielemente tše di bago karolo ya motheo wa khemistri ya leswika la sediment/kristaline le go ntšhwa ka go meetse a fase go ya ka ditshepedišo ya wetering/dibodilego.

Mohola wo o phogamišitšwego wa palomoka ya alkhalinithi ka fenomenone ya kakaretšo ya meetse a fase a haetrokhemikhale ka Afrika Borwa, gape fela ka dikheisi tše itsego e kaba ditlamorago tša bolaodi bja se kgahliše bja khwalithi ya meetse.

Mohola wo o phagamišitšwego wa nitreite (NO3-N) o noutilwe ka dithuša-ditshwaro ka moka, ntle le tshwaro ya bofase ya Letaba (B83), mehola ya ~45 go ya go 50 mg/l e noutilwe go slote sa phesenthaele sa 95th.

Kraetheri ya khwalithi ya meetse a fase yeo e bonwego go ya ka theo ya dihlokwa tša batho (BHN) e amaega kudu ka mehola yeo e phagamišitšwego ya nitreiti (NO3-N)- bjalo mehola ya peelo meetse a fase ya nitreiti e beilwe go mehla ya mediene go dikheisi ka moka (ntle le Olifants ya Bogare)

8. PEEELO YA LEFELO LA MONOLA

Ditshwaro tše bohlokwa tša khwathenari tšeo di hlathilwe ka nako ya wokešopo ya sehlopha ka Julae 2015 di lebeletšwe go diketelo tša felte go lebeletšwe tshekatsheko ya lithiritšha yeo e lego gona le skene sa dathabeise ya mafelo a monola ao a lego gona. Ditshwaro tša khwathenari di hlathilwe go dira dinyakišišo tša go ya pele, moo tše ntšhi di nepišitšwego go dira dinyakišišo tša filte.

Ditshwaro di kgethilwe go lebeletšwe dikhonsitareišene:

- Mafelo a monola a bohlakwa a swanetše go etelwa (ao a kgethilwego/ ao a lego bohlokwa le go feta go ditokomane tša Peelo ya bjalo) ka mabaka a itšego, le/goba
- Dikgoba tšeo di ka bago gona moo e bego ele mafelo a monola a bohlokwa ao a okeditšwego di kaba gona le tšeo di ka kgonago go tsentšhwa goba tša ba tša bohlokwa kudu go tshepedišo ya Peelo.

Tafola 8.1 e hlatha mafelo a monola a bohlokwa go ditshwaro tša Olifants le Letaba le go fa dikakaretšo tša PES, EIS, REC le ditaetšo tša ikholotšikhale tša mafelo a monola a laeditšwego bjalo ka a bohlokwa kudu.

Tafola 8.1: Tafola yeo e bontšago mafelo a monola a bohlokwa ka go feta.

IUA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša lkholotšikhale*
			Lathitšhute	Longitšhute				
1	B11E Oli_1.1	Blesbokspruit lefelo la monola Floodplain	-26.222	29.059	E/F	Godimo	D	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go driwa. Ditekanyetšo tsa rehabilitheišene di swanetše go diragatšwa ka gare ga sesteme go kaonafatša seemo sa bjale.
1	B11E Oli_1.2	Rietspruit lefelo la monola Bofase bja molapo wo o sa fiwago tsela; Bofase bja molapo wo o filwego tsela	-26.252	29.103	D	Godimo	C/D	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go driwa. Ditekanyetšo tsa rehabilitheišene di swanetše go diragatšwa ka gare ga sesteme go kaonafatša seemo sa bjale.
1	B11D Oli_1.3	Kriel lefelo la monola Bofase bja molapo wo o filwego tsela	-26.268	29.229	C/D	Magareng	C/D	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go driwa.

IUA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša lkholotšikhale*
			Lathitšhute	Longitšhute				
								Ditekanyetšo tsa rehabilitheišene di swanetše go diragatšwa ka gare ga sesteme go kaonafatša seemo sa bjale.
1	B11F Oli_1.4	Klipoortjiespruit lefelo la monola Bofase bja molapo wo o filwego tsela	-26.087	29.141	D	Godimo	C/D	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modeling ya kelelo (bokagodimo le meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC.
1	B11B Oli_1.5	Koringspruit lefelo la monola Bofase bja molapo wo o filwego tsela (karalo ya bofase bja molapo wo o sa fiwago tsela)	-26.094	29.385	D	Magareng	C	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC

IUA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša lkholotšikhale*
			Lathitšhute	Longitšhute				
								Ditekanyetšo tsa rehabilitheišene di swanetše go diragatšwa ka gare ga sesteme go kaonafatša seemo sa bjale.
1	B11K Oli_1.6	Klipspruit lefelo la monola Bofase bja molapo wo o sa fiwago tsela	-25.801	29.135	D	Godimo	C/D	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go driwa. Ditekanyetšo tsa rehabilitheišene di swanetše go diragatšwa ka gare ga sesteme go kaonafatša seemo sa bjale.
1	B12A Oli_1.7	Klein-Olifants tributhari Bofase bja molapo wo o filwego tsela; Hillslope sipheitše	-26.057	29.746	D	Godimo	C/D	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC. Ditekanyetšo tsa rehabilitheišene di swanetše go diragatšwa ka gare ga sesteme go kaonafatša seemo sa bjale.

IUA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša lkholotšikhale*
			Lathitšhute	Longitšhute				
1	B12B Oli_1.8	Matla lefelo la monola Bofase bja molapo wo o filwego tsela	-26.037	29.815	C	Magareng	C	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC Ditekanyetšo tsa rehabilitheišene di swanetše go diragatšwa ka gare ga sesteme go kaonafatša seemo sa bjale.
1	B12B Oli_1.9	Woes-alleenspruit lefelo la monola Bofase bja molapo wo o sa fiwago tsela	-25.990	29.581	C	Magaren go ya Godimo	C	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go driwa. Ditekanyetšo tsa rehabilitheišene di swanetše go diragatšwa ka gare ga sesteme go kaonafatša seemo sa bjale.
1	B12B Oli_1.10	Bosmanspruit lefelo la monola Bofase bja molapo wo o sa fiwago	-25.909	29.715	C	Magareng go ya Godimo	C	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela.

IUA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša lkholotšikhale*
			Lathitšhute	Longitšhute				
								Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC
1	B12C Oli_1.11	Kopermyn lefelo le monola Bofase bja molapo wo o sa fiwago tsela; Bofase bja molapo wo o filwego tsela; Hillslope sipheitšhe	-25.847	29.720	C	Godimo	B/C	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go driwa. Ditekanyetšo tsa rehabilitheišene di swanetše go diragatšwa ka gare ga sesteme go kaonafatša seemo sa bjale.
1	B11C Oli_1.12	Debeerspruit/ Piekespruit floutpleine	-26.391	29.322	A/B	Godimo	A/B	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go driwa.

IUA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša lkholotšikhale*
			Lathitšhute	Longitšhute				
								Ditekanyetšo tsa rehabilitheišene di swanetše go diragatšwa ka gare ga sesteme go kaonafatša seemo sa bjale.
1	B11A Oli_1.13	Viskuile floutpleine yeo e thatafetšego Floutpleine	-26.261	29.492	C	Godimo go ya go Godimo Kudu	B	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modeling ya kelelo (bokagodimo le meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC Ditekanyetšo tsa rehabilitheišene di swanetše go diragatšwa ka gare ga sesteme go kaonafatša seemo sa bjale.
1	B11C Oli_1.14	Steenkoolspruit floutpleine	-26.337	29.354	D	Godimo	C/D	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le

IUA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša tkholotšikhale*
			Lathitšhute	Longitšhute				
								meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC
2	B20C Oli_2.1	Elandsvlei diphane Phene/diprešene; Hillslope sipheitšhe	-25.996	28.463	C	Godimo	B/C	Ga gona kgolo yeo e swanetšego go dumelelwa go khalthibeišene goba phetogo ya habithate ka ga re ga ditshwaro tša pan. Dithulano tša khwalithi ya meets go ya go sesteme ya pan di swanetše go thibelwa go netefatša gore meetse le khemistri ya sedimente e dula ka gare ga seemo seo se tlaelegilego (anione le khašene ya go ya go kamano ya bolumu ya pan) ya meetse a a itšego a mokgwa wa khemistri ya pan. Kelelo ya go lebanya ya go tsentša go tšwa go tshwaro le siipheitše ya sloupo sa godimo sa mafelo a monola e swanetše go šireletšwa ka aplikheišene ya dibafeise tša haetrolitšikhale tšeo di laetšwego ka ditekanyo tša haetro-phedolotšikhale tšseo di tšewago bjalo ka seripa sa EIA le goba diaplikheišene tša WUL, peelano yeo e safapogego yeo e akaretšaso le hlokomela ya disesteme e swanetše go dirwa. Phegelela habithate ya Awolo Krase ya maleba.
2	B20B Oli_2.2	Koffiespruit tributhari Bofase bja molapo wo o sa fiwago tsela	-26.071	28.599	A/B	Magareng go ya Godimo	A/B	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC
2	B20A Oli_2.3	Delmas lefelo la monola Bofase bja molapo	-26.137	28.690	D	Magareng	D	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa

IUA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša ikholotšikhale*
			Lathitšhute	Longitšhute				
		wo o sa fiwago tsela						bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC
2	B20A Oli_2.4	Bronkhorstspruit tributhari Bofase bja molapo wo o sa fiwago tsela; Bofase bja molapo wo o filwego tsela; Hillslope sipheitšhe	-26.252	28.767	C	Godimo	B	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC
2	B20E Oli_2.5	Wilge tributhari Floutpleine; Bofase bja molapo wo o filwego tsela	-26.126	28.935	A/B to C	Magareng go ya Godimo	B/C	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene.

IUA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša lkholotšikhale*
			Lathitšhute	Longitšhute				
								Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC
2	B20G Oli_2.6	Zaalklap lefelo la monola Bofase bja molapo wo o sa fiwago tsela	-25.908	29.053	D	Godimo	C/D	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC
2	B20G Oli_2.7	Saalboomspruit lefelo la monola Bofase bja molapo wo a sa fiwago tsela; Bofase bja molapo wo o filwego tsela	-25.864	29.008	D	Magareng go ya Godimo	C/D	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše

IUA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša Ikholotšikhale*
			Lathitšhute	Longitšhute				
								go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC
2	B20E Oli_2.8	Bogodimo bja Noka ya Wilge Floudpleine	-26.131	28.874	D	Godimo	C/D	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteem tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC
3	B12E Oli_3.1	Klein-Olifants tributhari Bofase bja molapo wo o sa fiwago tsela; Bofase bja molapo wo o filwego tsela; Hillslope sepheitšhe	-25.659	29.407	A/B to C	Godimo	B	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo

ILIA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša lkholotšikhale*
			Lathitšhute	Longitšhute				
								ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go driwa.
4	B31A Oli_4.1	Elands tributhari ya lefelo la monola Bofase bja molapo wo o filwego tsela; Hillslope sipheitšhe	-25.627	28.650	C	Godimo	B/C	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa.
5	B51C Oli_5.1	Makotswane Bofase bja molapo wo o filwego tsela Hiilslope sipheitše	-24.852	29.701	C	Godimo Kudu	B	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go driwa. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le meets a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC Ditekanyetšo tsa rehabilitheišene di swanetše go diragatšwa ka gare ga sesteme go kaonafatša seemo sa bjale. Ditiro tša mafelo a monola tšeo di lebeletšwego le ditsenobogare tša rihabilitheišene di sawnetše go diragatvwa go šireletša le go kaonafatša sebopego sa sa mafelo a monola le tiragatšo le phiiti yeo e

IUA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša Ikholotšikhale*
			Lathitšhute	Longitšhute				
								tswalanywago le disprengse tša atheiene.
6	B41A Oli_6.1	Lakenvlei lefelo la monola le le thathafetšego Bofase bja molapo wo o sa fiwago tsela Bofase bja molapo wo o filwego tsela Hillslope sipheitše	-25.560	30.097	A/B	Godimo Kudu	A/B	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa. Kakaretšo ya payotaebesithi le setšhaba se se baepolo sa Datha ye Hubedu ya diphidi tša dinonyane di swanetšego go phegelelwa. Go gona matamo ao a swanetšego go agwa ka gare ga sesteme ntle le go latela tshepedišo yeo e tseneletšego ya tumelelo. Go gona kgodišo yeo e swanetšego go dumelelwa go khalthibeišene goba phetogo ya habitat ka gare ga siipheitše ya sloupo sa godimo sa mafelo a meetse. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC
6	B41B Oli_6.2	Welgevonden lefelo la monola Bofase bja molapo wo o filwego tsela Hillslope sipheitše	-25.467	30.082	A/B	Godimo go ya go Godimo Kudu	A/B	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Aplikheišene yengwe le yengwe ya tšweletšopele go akaretšwa le tša meepo di kaba le thulano go sesteme, ka ntle ga go ya go ya ka tshepedišo ye e tlwailegilego ya lesentsing, a swanetše go akaretšago gape bjalo ka mathomo a Peelo ya Mafelo a Monola a Seemo sa Magareng yeo e akaretšago modelling ya kelelo (bokagodimo le

IUA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša lkholotšikhale*
			Lathitšhute	Longitšhute				
								meetse a ka fase go akaretša kelelo ya ka gare) ya disinario go thea dithulano tšeo di ka bago gona go lebeletšwe gore go fihlelelwe REC
6	B41F Oli_6.3	Draaikraal lefelo la monola1 Bofase bja molapo wo o filwego tsela	-25.254	30.034	C	Godimo go ya go Godimo Kudu	B	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go driwa.
6	B41F Oli_6.4	Draaikraal lefelo la monola 2 Bofase bja molapo wo o filwego tsela	-25.217	30.075	A/B to C	Godimo go ya go Godimo Kudu	A/B to B	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa.
6	B41F Oli_6.5	Draaikraal lefelo la monola 3 Hillslope sipheitše	-25.178	30.057	A/B	Godimo go ya go Godimo Kudu	A/B	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa.

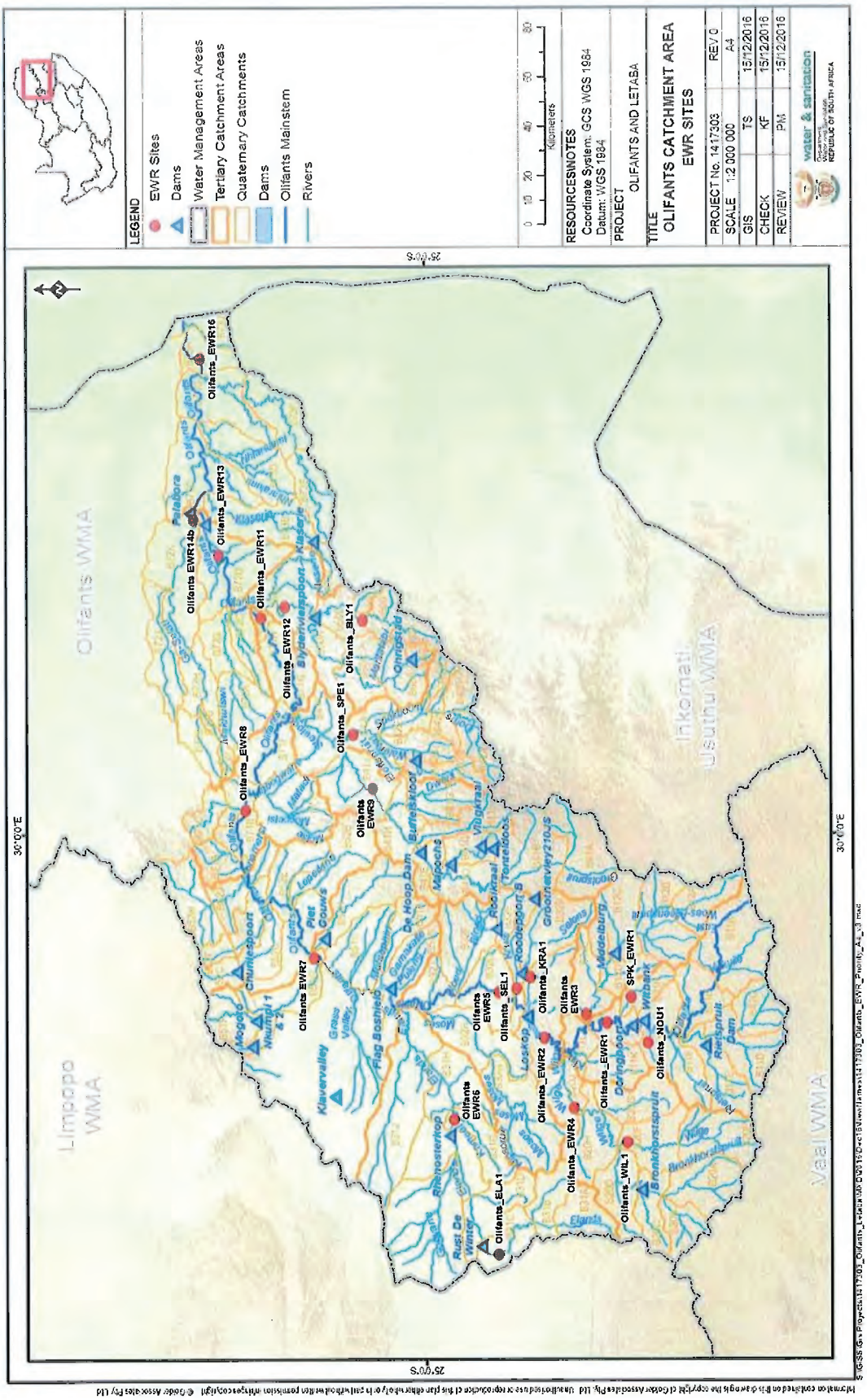
IUA	Khwat & Lefelo la monola ID	Leina la lefelo la monola & Mokgwa	Dikhoodineiti		PES	EIS	REC	Dilaetša Kholotšikhate*
			Lathitšhute	Longitšhute				
6	B41F Oli_6.8	Verloren Valei E swere moseiki ya Hillslope sipheitše ya lefelo la monola le bofase bja mafelo a monola ao a filwego tsela le ao a sa fiwago tsela	-25.298	30.111	A/B	Godimo Kudu	A	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene Phegellela satšhureišene ya go ya go ile ya phiiti ya mafelo a monola Kelo ya dipoledišano le mekgwa ya taolo go ya ka Šhiti ya Tshedimošo ya Ramsar (RIS) (https://rsis.ramsar.org/RISapp/files/RISrep/ZA1110RIS.pdf) ya Naitšha Risebe ya Verloren Valei e swanetšego go diragatšwa le go phegelelwa go mmago le merero yeo e akeditšwego ya taolo/ ditiro tšeo di kgonnego go diragatšwa ke Boto ya Diphaka tša Mpumalanga
6	B41A Oli_6.9	Belfast lefelo la monola le le thathafetšego Bofase bja molapo wo o sa fiwago tsela Bofase bja molapo wo o filwego tsela Hillslope sipheitše	-25.695	30.036	A/B to C	Godimo go ya go Godimo Kudu	B to A/B	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Phegelela satšhureišene ya go ya go ile ya piiti ya mafelo a monola Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa
9	B60F Oli_9.1	Krankloofpsruit lefelo la monola Bofase bja molapo wo o filwego tsela	-24.932	30.506	C	Magareng	C	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela.
9	B60H Oli_9.2	Ohrigstad lefelo la monola Bofase bja molapo wo o filwego tsela	-24.531	30.708	C	Godimo go ya go Godimo Kudu	B	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela.
10	B71G Oli_10.1	Tufa boelo bja meets	-24.457	30.610	B	Godimo Kudu	A/B	Hlokomelo ya tshentšho ya go ya go ile ya meetse go kelelo ya meetse ya Turfa e bohlokwa le go feta go popo yeo e tšwelago pele ya Turfa Kgopelo yengwe le yengwe ya tšhomišo ya meets a fase e hloka go šetša thulano go sesteme, go tšwa go bobedi EIA le pono ya WUL, peelano yeo e sa fapogego ya go fa laesentse yeo e akaretšago le

IUA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša lkholotšikhale*
			Lathitšhute	Longitšhute				
								hlokomelo ya disesteme e swanetše go dirwa. Taolo ya ditiragalo tša setšo go mafelo a monola. Mohlala: puno ya letswai. Taolo ye e lebanego ya lefelo e swanetše go tšweletšapele go ririšanwe le setšhaba sa selegaeng go netefatša tšhireletšo ya disesteme.
13	B60C Oli_13.1	Treur lefelo la monola Hillslope sipheitše	-24.776	30.880	C	Godimo Kudu	B	Phegelela kabo ya kelello yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelala sebopego sa go ba gona sa dimela le khomphosišene. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go driwa. Dikgopelo tša maleba tšeo di sa fapogego tša dibafase tša dikgwa Setšhaba seo se lego gona sa Noka ya Treur Barb sa diphedi sa swanetšego phegelelwa.
13	B60D Oli_13.2	Kadishi boelo bja meetse I Tufa boelo bja meetse	-24.566	30.795	A/B	Godimo Kudu	A/B	Hlokomelo ya tshentšho ya go ya go ile ya meetse go kelelo ya meetse ya Turfa e bohlokwa le go feta go popo yeo e tšwelago pele ya Turfa Kgopelo yengwe le yengwe ya tšhomišo ya meetse a fase e hloka go šetša thulano go sesteme, go tšwa go bobedi EIA le pono WUL, peelano yeo e sa fapogego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go dirwa
1	B81A Let_1.1	Stanford lefelo la monola Floutpleine	-23.893	29.984	D	Magareng	D	Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa. Dikgopelo tša maleba tšeo di sa fapogego tša dibafase tša dikgwa Ditiro tšeo tša taolo ya mafelo a monola ao a nepišitšwego le rehabilitheišene di swanetše go diragatsšwa go kaonafatša sebopego sa mafelo a monola le tshepedišo ya maleba. Se se swanetše go rarolla

IUA	Khwat & Lefelo la monola le ID	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša Ikholotšikhale*
			Lathitšhute	Longitšhute				
								ka go lebanya rehabilitheišene ya go tswalana le go tloša dikgwa.
1	B81B Let_1.2	Letamo la Tzaneen lefelo la monola Bofase bja molapo wo o sa fiwago tsela Bofase bja molapo wo o sa fiwago tsela	-23.729	30.200	D/E	Magareng	D	Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšego phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Kelelo ya go lebana yeo e tsentšago go mafelo a monola e swanetše go šireletšwa ka tšhomišo ya dibafeise tša haetrolotšikhale tšeo di laetšwego ka tekanyo ya haetro-phedolotšikhale yeo e tšweerego bjalo ka seripa sa EIA le/goba diaplikhaišene, peelano yeo e sa fapegego ya go fa laesentse yeo e akaretšago le hlokomelo yay a disesteme e swanetše go driwa. Dikgopelo tša maleba tšeo di sa fapogego tša dibafase tša dikgwa
2	B81D Let_2.1	Thabina lefelo la monola Bofase bja molapo wo o filwego tsela	-23.992	30.260	C	Godimo	B	Dikarolo tša thlago tšeo di sa fiwago tsela tša lefelo la monola di swanetše go phegelelwa. Mekgwa yeo e lego gona ya dienya le sebopego di swanetše go phegelelwa goba go kaonafatšwa ka gare ga sehla sa go fapana sa tlhago. Ditiro tša taolo ya mafelo a monola ao a nepišitšwego le tsenobogare ya rehabilitheišene di swanetšego nyakišišwa le go diragatšwa ge go hlokega go kaonafatša lefelo la monola le sebopego le tshepedišo ya maleba. Ditsela tša taolo ye e itšego ya lefelo di swanetše go tšweletšwa ka go rerišana le setšhaba sa selegae go netefatša hlokomelo le taolo ya tšhomišo ya lefelo la monola.
9	B82G Let_9.1	Baleni hot spring Spring	-23.419	30.912	B	Godimo Kudu	A/B	Hlokomelo ya tsentšho ya go ya go ile go ya go lefelo la monola e bohlokwa kudu go thomo ya phiti le go thibela oksiteišene. Phegelela sebopego sa dikenywa tšeo di lego gona le khomphosišene. Kgopelo ya tšhomišo ya meetse a fase lefelong e tla lebeletšwe thulano go sesteme ye, bobedi go tšwa go EIA le pono ya WUL, peelano yeo e sa fapogego ya go fa laesentse yeo e akaretšago le hlokomelo ya disesteme e swanetše go dirwa Taolo ya ditiragalo tša setšo go mafelo a monola. Mohlala: puno ya letswai. Taolo ye e lebanego ya lefelo e swanetše go tšweletšapele go ririšanwe le setšhaba sa selegaeng go netefatša tšhireletšo ya disesteme.
12	B83C Let_12.1	Nshawu Bofase bja molapo wo o sa fiwago tsela	-23.537	31.487	C	Godimo	B	Phegelela kabo ya kelelo yeo e lego gona le diphethene tša rithenšene ka gare ga sesteme. Phegelela sebopego sa dikenywa yeo e lego gona le khomphosišene.

ItiA	Khwat & Lefelo la monola le fD	Leina la lefelo la monola & Mokgwa	Di khoodineiti		PES	EIS	REC	Ditaetša Ikholotšikhale*
			Lathitšhute	Longitšhute				
		Bofase bja molapo wo o filwego tsela						Go go a swanela go dumelelwa ditiragalo tšeo di ka dirago kelelo ya khosentreišene ka gare ga sesteme ntle le go latela tshepedišo ye e feleletšego ya tumelelo.
12	B83D Let_12.2	Manyeleti/ Makhadzi lefelo la monola Bofase bja molapo wo o sa fiwago tsela	-23.657	31.607	A	Godimo	A	Mafelo a monola a bjalo ao a sa fiwago tsela a swanetšgo phegelelwa bjalo ka disesteme tšeo di sa fiiwago tsela. Phegelela sebopego sa dikenywa yeo e lego gona le khomphosišene. Go go a swanela go dumelelwa ditiragalo tšeo di ka dirago kelelo ya khosentreišene ka gare ga sesteme ntle le go latela tshepedišo ye e feleletšego ya tumelelo Go sebe le kgolo ya abstrakšene go meetse a fase ka gare ga bisinithi ya bjako ntle le ge tshepedišo ye e feletšego ya tumelelo e latetšwe.

***Noute:** Ditaetšo tša Ikhlotšikhale (Ecospecs) tšeo di hlaloseditšwego go baotledi le dikarabo tša tiro ka ge maikemišetšo a ikholotšikhale a swanetše go fihlelelwa. Tekolo ya ditaetšo tše le baotledi ba tla laetša ka moo sedirišwa se fetogago ka gona go sepela ga nako le ge eba Peelo e fihleletšwe. Ge esa fihlelelwa, ditsenelelo tša balaodi e ka hlokega gore go kgonwe go tshwarelela khathekori yeo e nyakegago ya ikholotšikhale. Dinyakwa tša tekolo di šupeditšwe go Rephoto ya Ditaetšo tša Ikholotšikhale No: **RDM/WMA02/00/CON/0516**.



Fikara 1: Mmapa o bontshang dibaka tse kgethilweng tsa pokello ya meetse ya EWR tsa Olifants.

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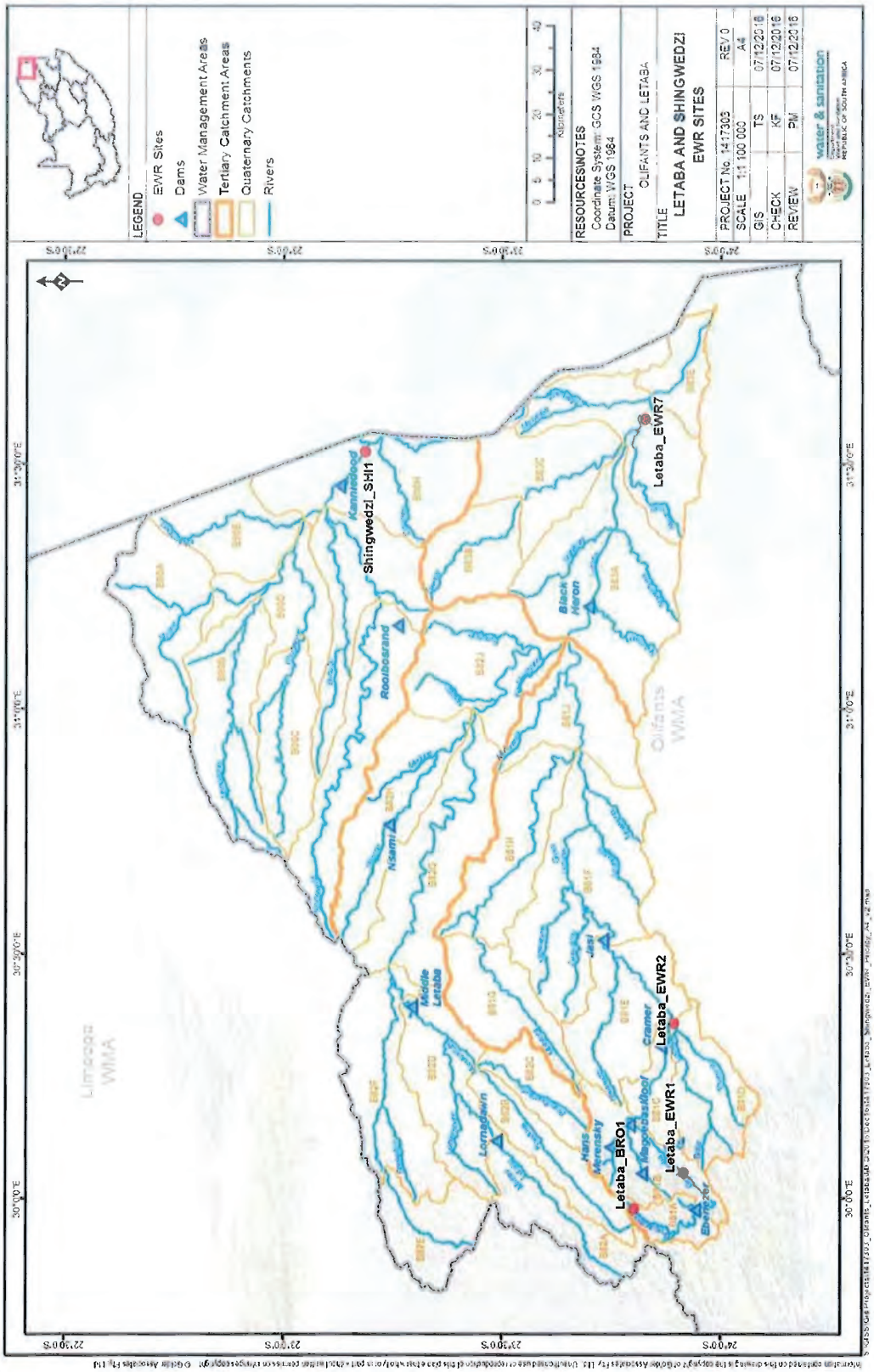

Fikara 2: Mmapa o bontshang dibaka tse kgethilweng tsa pokello ya meetse ya EWR tsa Letaba le Shingwedzi.

ANNEXURE C:
OLIFANTS & LETABA NOTICE (XITSONGA)

XITIVISO XA MANI NA MANI

NDZAWULO YA MATI NA NKULULO

NAWU WA MATI YA RIXAKA, 1998

(NAWU WA NO. 36 WA 1998)

HLAYISA KU TINYIKETELA KA NDHAWU YA LAHA MATI MA KUMEKEKA KONA YA NDHAWU YA LAHA MATI MA HLENGELETIWAKA KONA YA OLIFANTS NA LETABA

Mina, Deborah Mochotlhi, eka vuswikoti bya mina tanihi Muyimela Mufambisi Nkulu wa Ndzawulo ya Mati na Nkululo, ku va ndzi landzelele na xiyenge xa 13 xa Nawu wa Mati ya Rixaka, Nawu wa No. 36 wa 1998) ("nawu") na xinawana xa vunharhu xa mafambiselo yo simekiwa ka Sisiteme ya Ntlawahato wa Ndhawu ya laha mati ma kumekeka kona (No. R.810 Phephahungu ra Mfumo ra No. 33541, 17 Ndzati 2010), no tlhela yi pfumeleriwa kahle hi tlhelo ra xiyenge xa 16 (1) xa Nawu, hi mukhuva wolowo hangalasa ku Tinyiketela ko Hlayisa tindhawu ta laha mati ma kumekaka kona ta Olifants na Letaba.

Mufambisi: Ku tinyiketela ko Hlayisa
Nyingiso: Tat Yakeen Atwaru
Ndzawulo ya Mati na Nkululo
Muako wa Ndinaye 185 xitarata xa Francis Baard
Private Bag x313
Pretoria
0001
Email:atwaruy@dws.gov.za

MS DEBORAH MOCHOTLHI
MUYIMELA MUFAMBISI NKULU
SIKU: 25/07/2018

KU TINYIKETELA KO HLAYISIWA KA TINDHAWU TA LAHA MATI MA KUMEKAKA KONA YA LAHA MATI MA HLENGELETIWAKA OLIFANTS NA LETABA HI KUYA HI XIYENGE XA 16 (1) NA (2) XA NAWU WA MATI YA RIXAKA, 1998 (NAWU WA NO. 36 WA 1998)

XEDULU

NHLAMUSELO YA NDHAWU YA LAHA MATI MA KUMEKEKA KONA

1. (1) Ku hlayisa swi tiyisiwa ka hinkwaswo kumbe xiphemu xa ndhawu ya nkoka ya laha mati ma kumekaka kona endzeni ka ndhawu ya laha mati ma hlengeletiwaka kona ka Olifants na Letaba tanihiloko swi vekiwile laha hansi:

Xifundza xa Vulawuri bya Mati: Olifants	
Swifundza swa Mphomiso:	B Xifundza xa Mphomiso wa Masungulo (a ku Katsiwanga Ndhawu Laha Mati ma Shingwedzi ma Hlengeletiwaka Kona (B90))
Milambu:	Tisisiteme ta Nambu wa Olifants na Letaba

(2) Holobye u na hi kuya hi xiyenge xa 16 xa Nawu wa Mati ya Rixaka, 1998 (Nawu wa No.36 wa 1998) ("Nawu"), wu hlamuseriwa tanihi sisiteme yo ntlawahata tindhawu ta laha mati ma kumekaka hi ku humesa Xiviko xa Mfumo No.R.810, lexi hangalasiweke eka Phephahungu ra Mfumo No. 33541 hi siku ra ti 17 Ndzati 2010. Hi kuya hi xiyenge xa 16 (n'we) xa Nawu, Holobye u fanele a, hi ku hatlisa hi ku endla ko twisiseka endzhaku ka ntlawa wa hinkwavo kumbe xiphemu xa ndhawu ya laha mati ma kumekaka kona xi kumekile, hi xiviko endzeni ka Phephahungu, ku kumeka vuhlayiseki bya hinkwerhu kumbe xiphemu xa ndhawu ya laha mati ma kumekeka kona.

(3) Holobye, hi kuya hi xiyenge xa 16(n'we) na (mbirhi) xa Nawu, u hlambanya leswaku, vuhlayiseki lebyi landzelaka bya tindhawu ta laha mati ma hlengeletiwaka ta Olifants na Letaba.

KU TINYIKETELA KA VUHLAYISEKI TANIHILOKO SWI LAVEKILE HI KUYA HI XIYENGE XA 16(N'WE) NA (MBIRHI) NAWU WA MATI YA RIXAKA, 1998

2. (1) Nkatsakanyo wa ntalo wa xiphemu xa Milambu lexi katsaka EWR (**Figara yo sungula na ya vumbirhi)** na BHN hi kuya hi xiyenge xa 16(n'we) xa Nawu wa ndhawu ya laha mati ma hlengeletiwaka kona eOlifants na Letaba xi vekiwile eka nongonoko wa vumune. **Tafula ra 4.1** ri katsa mimbuyelo ya tindhawu ta xirhangana na **Tafula ra 4.2** ri katsaka mimbuyelo ya vuhlanganelo madingu ya bayofizikali na tindhawu ta EWR leti saleke.

(2) Nkatsakanyo wa nkoka wa xiphemu xa Milambu eka tindhawu ta EWR hi kuya hi xiyenge xa 16(n'we) xa Nawu xa tindhawu laha mati ma hlengeletiwaka eOlifants na Letaba xi vekiwile eka **Tafula ra 5.1- 5.29.**

(3) Nkatsakanyo wa mpfuno wa mati ya le hansi ka misava eka ku Hlayisa ka Ntalo wa Mati hi kuya hi xiyenge xa 16(n'we) xa Nawu wa Ndhawu ya laha mati ma hlengeletiwaka kona eka Olifants na Letaba xi vekiwile eka **Tafula ra 6.1**.
(4) Nkatsakanyo wa mpfuno wa mati ya le hansi ka misava eka ku Hlayisa ka Ntalo wa Mati hi kuya hi xiyenge xa 16(n'we) xa Nawu wa Ndhawu ya laha mati ma hlengeletiwaka kona eka Olifants na Letaba xi vekiwile eka **Tafula ra 7.1**, **7.2** na **7.3.**

(5) Nkatsakanyo wa ku Hlayisiwa ka xibodlho xa Ntalo na Xiyimo xa Mati hi kuya hi xiyenge xa 16 (n'we) xa Nawu wa Ndhawu laha Mati ma Hlengeletiwa Kona eOlifants na Letaba wu vekiwile eka **Tafula ra 8.1.**

(6) ku hlayisa loku ku ta tirha ku suka ka siku leri nga sayiniwa tanihiloko swi kumiwile hi kuya hi Xiyenge xa 16(n'we) xa Nawu, handle ka loko ku ri na swin'wana swi hlamuseriweke hi Holobye.

3. MINKOMISO YA MARITO NA TINHLAMUSELO

3.1 MINKOMISO YA MARITO

BHN	Swilaveko swa Nkoka swa Vanhu
EcoSpecs	Swiringanisi swa Ikholoji
EIS	Nkoka wa swa Ikholoji na ku Hatla ku Khumbeka
EWR	Swilaveko swa Mati ya Ikholoji
GRAII	Xiyimo xa Vuhleri bya Mati ya le Hansi Ndhawu ya laha mati ma kumekeka kona
GRDM	Maendlelo yo Tinyiketela ku Hlayisa Mati ya le Hansi
GRUs	Swiphemu swa Ndhawu laha Mati ma Kumekaka Mati ya le Hansi ka misava
NMAR	Nhlayo xikarhi wa Ntumbuluko wa NKhuluko wa Lembe na Lembe
MCM	Miliyoni ya Mitara ya Vundzeni
PES	Xiyimo xa sweswi xa swa Ikholoji
REC	Ntlawa lowu Bumabumeriweke wa swa Ikholoji
TEC	Ntlawa wa Xikongomiwa xa Ikholoji
TPCs	Vunavelo bya vuswikoti byo khumbeka

3.2 Tinhlamuselo

Nkhuluko wa le ka tshaku ra misava i nkhuluko wa le hansi wa nkarhi wo leha eminambyeni hi nkarhi wa ku oma kumbe swiyimo swa maxelo ya kahle, Kambe a hi ngopfungopfu hinkwayo yi nga pfuniwa hi mati ya le hansi ka misava, ku katsa mpfuneto wo suka eka nkhuluko wa le xikarhi lowu hlweleke na ku humesiwa ka mati ya le hansi.

EWR (Swilaveko swa Mati ya Ikholojikhali) ku kongomisiwa eka tiphetheni ta nkhuluko (vukulu, ku rhiya nkarhi na nkarhi) na xiyimo xa le henhla xa mati lexi lavekaka ku hlayisa tlhelo ra nambu ra sisiteme ya swa mbangu eka xiyimo xo karhi.

Ku pfuxetiwa matimba i ku engeteriwa ka mati eka ndhawu yo hliki, hambi hi ku hangalaka ka le hansi ka ahlukanyo kumbe vuandlalo bya mati na/ kumbe ku suka ka le matlhelo ka mati ya le hansi ku suka ekusuhi na maribye lama kotaka ku tswonga no khoma mati.

Hlayisa i ntalo na nkoka wa mati lama lavekaka ku enerisa swilaveko Swa nkoka swa vanhu hi ku hlayisa mphakelo wa nkoka wa Mati no sirhelela sisiteme ya swa mbangu wa swa le matini Ku kota ku hlayisa nhluvukiso lowu nga ta heta nkarhi wo leha wa swa ikholoji no tirhisiwa ko fambelana na ndhawu ya laha mati ma kumekeka kona.

4. VUANDLALO BYA MATI- NTALO WA XIPHEMU XA MILAMBU

Mimbuyelo yo tinyiketela ku Hlayisa na ntlawahato wa swa ikholoji eka tisisiteme ta Olifants na Letaba, laha vuhlayisi yi hlamuseriwaka tanihi phesente ya NMAR eka tindhawu to hlonipheka ta laha mati ma hlengeletiwaka kona (ku tlakuka hi xihatla) hi kuya hi xiyenge xa 16(n'we) xa Nawu.

Tafula ra 4.1: Nkatsakanyo wa **ntalo** wa xiphemu wa Milambu leyi katsaka EWR na BHN wa tindhawu ta xirhangana

Kotara ya ndhawu laha mati ma hlengeletiwakakona	Ndhawu ya laha mati ma kumekeka kona	PES	EI_ES	TEC[5]	Ku hlayisa swa Ikholoji[3] (%NMAR)	Ku Hlaysiwa ka BHN[4] (%NMAR)	Ntsengo hinkwawo wo Hlayisa[2] (%NMAR)	NMAR (MCM)[1]
B31C	Elands ya le Henhla - Olifants_ELA1	C/D	Henhla swinene	C	20.87	0.003	20.873	31.08
B20J	Wilge ya le Hansi - Olifants_EWR4	C	Henhla	B	36.28	0.013	36.293	175.59
B20F	Nambu wa Wilge - Olifants_WIL1	C/D	Henhla	C	15.11	0.008	15.118	44.76
B11J	Olifants - Olifants_EWR1	D	Yo ringanela	D	17.80	0.052	17.852	184.54
B32A	Olifants - Olifants_EWR2	C	Henhla	B/C	29.83	0.008	29.838	500.63
B32A	Kranspokumbetspruit - OLI_EWR3	C	Henhla swinene	B	30.26	0.008	30.268	13.86
B32C	Selons - Olifants_SEL1	D	Henhla swinene	C	21.86	0.020	21.88	33.11
B71D	Olifants - Olifants_EWR8	C	Yo ringanela	C/D	15.19	0.020	15.21	813.17
B42H	Spekboom ya le Hansi- Olifants_SPE1	C	Henhla	C	23.16	0.091	23.251	148.19
B60B	Blyde ya le Henhla - Olifants_BLY1	C	Henhla	B	46.08	0.005	46.085	164.45
B71J	Olifants - Olifants_EWR11	C	Henhla	C/D	12.81	0.052	12.862	1321.92
B60J	Blyde ya le Hansi - Olifants_EWR12	C	Henhla	B	31.14	0.052	31.192	383.27
B72D	Olifants - Olifants_EWR13	C	Yo ringanela	C	22.37	0.301	22.671	1762.10
B73H	Olifants - Olifants_EWR16	D	Henhla	C	21.06	0.002	21.062	1918.30
B83D	Letaba - Letaba_EWR7	C/D	Henhla	C	17.34	0.000	17.34	646.28
B81D	Letsitele - Letaba_EWR2	D	Henhla	D	17.59	0.078	17.668	116.55
B81B	Great Letaba - Letaba_EWR1	C/D	Henhla	C	24.76	0.030	24.79	99.85
B81A	Broederstroom - Letaba_BRO1	B/C	Henhla	B/C	49.22	0.012	49.232	6.68
B12E	Klein Olifants - Olifants-EWR3	D	Henhla	C/D	19.8	0.009	19.809	81.54
B32D	Olifants - Olifants-EWR5	C	Henhla	C	12.51	0.060	12.57	571.13
B31G	Elands ya le Hansi - Olifants-EWR6	C/D	Moderate	D	10.48	0.033	10.513	60.32
B51G	Olifants - Olifants-EWR7	E	Yo ringanela	D	9.89	0.365	10.255	736.94
B41H	Steelpokumbet - Olifants-	D	Henhla	C/D	23.33	3.086	26.416	137.50
B72K	Ga-Selati ya le Hansi- Olifants_EWR14b	E	Yo ringanela	D	19.45	0.043	19.493	72.74

B11H	Spookspruit - SPK_EWR1	C	Yo ringanela	C	30.12	0.001	30.121	9.32
B41H	Dwars - DWA_EWR1	B/C	Henhla	B/C	31.24	3.086	34.326	26.10
B41K	Steelpokumbet - Olifants_EWR10	D	Henhla	D	12.69	0.480	13.17	342.75
B60H	Ohrigstad - OLI_EWR8	C	Yo ringanela	C	17.41	0.512	17.922	67.79
B72H	Ga-Selati ya le Henhla - Olifants_EWR14a	C	Yo ringanela	C	27.53	0.123	27.653	52.20

1) NMAR i Nkhuluko wa Lembe na Lembe wa le Xikarhi wa Ntumbuluko.
2) Ntsengo wa Vunkwabyo byo Hlayisa wu teka vutihlamuleri eka hinkwako ku Hlayisiwa ka swa Ikholoji na ku Hlayisa Swilaveko swa Vanhu swa Nkoka (BHN).
3) Ntsengo lowu wu yimela nhlayo xikarhi wa nkarhi wo leha hikuya hi NMAR. Loko NMAR yi cinca, mpimo lowu na wona wu ta cinca.
4) Wu yimela tiphesente ta BHN.
5) Xikongomiwa xa Khategkumbei ya swa Ikholoji (TEC). Xikongomiwa xa le ku heteleni eka ku fikelela sisiteme yo heta nkarhi wo leha matlhelo hinkwawo ikholojikali na ikhonomikali ku karhi ku tekeriwa enhlokweni PES na REC.

Tafula ra 4.2: Nkatsakanyo wa **ntalo** wa xiphemu Milambu ya EWR na BHN ya vuhlanganelo Madingu na tindhawu ta EWR leti saleke.

Kotara ya ndhawu laha mati ma hlengeletiwkakona	Ndhawu ya laha mati ma kumekeka kona	PES	EI	ES	REC	Ku Hlayisiwa ka swa Ikholoji (%NMAR)	Ku Hlayisiwa ka BHN (%NMAR)	Ntsengo wa ku Hlayisiwa (%NMAR)	NMAR (MCM)
B11A, B11B	Olifants (ndhawu ya laha milambu mimbirhi yi hlanganaka na Steenkoolspruit)	C	Henhla	Henhla	C	10.25	0.001	10.251	61.30
B11D	Steenkoolspruit (phayiphi ya kotara	D	Yo ringanela	Henhla	D	4.70	0.006	4.706	44.60
B11E	Steenkoolspruit (ndhawu ya laha milambu mimbirhi yi hlanganaka na Olifants)	D	Yo ringanela	Henhla	D	4.70	0.004	4.704	65.40
B11F	Olifants (phayiphi ya kotara)	D	Yo ringanela	Henhla	D	4.70	0.007	4.707	147.90
B11G	**Noupokumbetspruit (ndhawu ya EWR – NOW-EWR1) (existing)**	**C/D**	**EIS-yo ringanela**		**C/D**	**13.90**	**0.075**	**13.975**	**4.28**
B11G	Olifants (Yi ntshunxiwa ku suka eka Damu ra Witbank)	D	Yo ringanela	Henhla	D	4.70	0.075	4.775	164.00
B11H	Spookspruit (ndhawu ya laha milambu mimbirhi yi hlanganaka na Olifants)	C	Henhla	Henhla	C	10.25	0.001	10.251	11.40
B11K, B11L	Klipspruit (ndhawu ya laha milambu mimbirhi yi hlanganaka na Olifants)	D	Henhla	Yo ringanela	D	4.67	0.052	4.722	45.70
B12A	Klein Olifants (phayiphi ya kotara)	C	Henhla	Henhla	C	18.85	0.001	18.851	12.70
B12B	Klein Olifants (phayiphi ya kotara)	D	Yo ringanela	Henhla	D	8.11	0.000	8.110	16.90
B12C	**Klein Olifants (ndhawu ya EWR – OLI-EWR1) (Ndhawu ya xihatla)**	**C**	**EIS-ya le Hansi**		**C**	**18.85**	**0.003**	**18.853**	**44.50**

Kotara ya ndhawu laha mati ma hlengeletiwkakona	Ndhawu ya laha mati ma kumekeka kona	PES	EI	ES	REC	Ku Hlayisiwa ka swa Ikholoji (%NMAR)	Ku Hlayisiwa ka BHN (%NMAR)	Ntsengo wa ku Hlayisiwa (%NMAR)	NMAR (MCM)
B12C	Klein Olifants (ryi tshunxiwa ku suka eka Damu ro suka Middelburg)	D	Henhla	Henhla	D	5.52	0.003	5.523	53.50
B12D	Klein Olifants (phayiphi ya kotara)	D	Yo ringanela	Henhla	D	5.52	0.004	5.524	67.30
B20A	Bronkhkumbestpruit (phayiphi ya kotara)	C	Yo ringanela	Henhla	C	13.38	0.003	13.383	27.70
B20B	Koffiespruit (ndhawu ya laha milambu mimbirhi yi hlanganaka na Bronkhkumbestspruit)	C	Yo ringanela	Henhla	C	13.38	0.005	13.385	15.50
B20C	Bronkhkumbestpruit (phayiphi yo suka eka Damu ra Bronkhkumbestspruit)	C	Henhla	Henhla	C	13.44	0.003	13.443	56.40
B20D	Hondespruit (ndhawu ya laha miłambu mimbirhi yi hlanganaka na Bronkhkumbestspruit)	C	Henhla	Henhla	C	13.39	0.002	13.395	11.90
B20D	Bronkhkumbestpruit (ndhawu ya laha milambu mimbirhi yi hlanganaka na Wilge)	C	Henhla	Henhla swinene	C	13.45	0.002	13.452	79.90
B20E, B20F	Wilge (ndhawu ya laha milambu mimbirhi yi hlanganaka na Bronkhkumbestspruit	C	Henhla	Henhla	C	13.42	0.003	13.423	45.80
B20G	Saalboomspruit (ndhawu ya laha milambu mimbirhi yi hłanganaka na Wilge)	C	Yo ringanela	Henhla	C	13.40	0.025	13.425	22.10
B20H	Grootspruit (ndhawu ya laha milambu mimbirhi yi hlanganaka na Wilge)	C	Henhla	Henhla swinene	C	13.40	0.006	13.406	12.80
B20H	Wilge (phayiphi ya kotara)	B	Henhla	Henhla swinene	B	17.92	0.006	17.926	158.20
B32C	Olifants (yi tshunxiwa ku suka eka Damu ra Loskop)	D	Henhla	Henhla	D	7.22	0.020	7.240	568.60
B32C	Olifants (phayiphi ya kotara – phayiphi ya IUA3)	D	Henhla	Henhla	D	7.22	0.020	7.240	576.80
B31A, B, C	B31A (Elands) B31B (Hartbeesspruit) B31C (Elands) Vuhlanganelo madingu eka phayiphi ya B31C yi humesa ku suka eka Damu ra Rust de Winter.	C C C	Henhla Henhla Henhla	Henhla Henhla swinene Henhla swinene	C	12.34	0.003	12.343	33.50
B31F	Elands (ri humesa ku suka eka Damu ra Mkumbe)	C	Henhla	Henhla	C	12.34	0.008	12.348	59.80
B31H, B31J	Elands (phayiphi ya kotara, ndhawu ya laha milambu mimbirhi yi hlanganaka na Olifants))	D	Yo ringanela	Yo ringanela	D	6.32	0.084	6.404	84.10

Kotara ya ndhawu laha mati ma hlengeletiwkakona	Ndhawu ya laha mati ma kumekeka kona	PES	EI	ES	REC	Ku Hlayisiwa ka swa Ikholoji (%NMAR)	Ku Hlayisiwa ka BHN (%NMAR)	Ntsengo wa ku Hlayisiwa (%NMAR)	NMAR (MCM)
B32E, B32F	B32E (Bloed) B32F (Dkumbeingpokumbetloop) Vuhlanganela madingu eka ndhawu ya laha milambu mimbirhi yi hlanganaka kona na Olifants eka B32F.	B	Yo ringanela Henhla	Henhla Yo ringanela	B	13.90	0.397	14.297	17.20
B32G, B32H	B32G (Moses) B32H (Mametse and Moses) Vuhlanganela madingu eka phayiphi ya B32H	C	Henhla Henhla	Henhla Henhla	C	9.93	0.084	10.014	35.40
B51B	Olifants (ya humesiwa ku suka Mujeko Damu ra Boshielo)	D	Yo ringanela	Henhla	D	3.91	1.009	4.919	723.40
B51D, B51E	Olifants (phayiphi ya kotara– phayiphi ya IUA5)	D	Yo ringanela	Henhla	D	3.81	0.000	3.810	726.60
B41A	Grootspruit (phayiphi ya kotara) Langspruit, ku katsa Lakenvleispruit na Kleinspruit	C D	Henhla Henhla	Henhla Henhla swinene	C	20.78	0.003	20.783	41.90
B41B	**Steelpokumbet (ndhawu ya EWR – OLI-EWR2) (Ndhawu ya xihatla)**	**C**	**EIS=yo ringanela**		**C**	**20.78**	**0.006**	**20.786**	**63.50**
B41D, B41E	Steelpokumbet (nkhuluko wa le ndzeni eka Damu ra De Hoop)	C	Henhla	Henhla swinene	C	20.78	0.394	21.174	117.00
B41F	**Klip (ndhawu ya EWR – OLI-EWR4) (Ndhawu ya xihatla)**	**C**	**EIS=yo ringanela**		**C**	**12.44**	**0.019**	**12.459**	**5.20**
B41G	Mfikelelo ya le henhla ya Dwars (ku nga si va na ku khumbeka ka mayini)	C	Henhla	Henhla swinene	C	13.33	0.015	13.345	24.50
B51F	Nkumpi (phayiphi ya kotara)	C	Henhla	Yo ringanela	C	10.73	0.023	10.753	3.80
B52A, E,G,H	Olifants (phayiphi ya kotara– phayiphi ya IUA7)	D	Yo ringanela	Henhla	D	3.88	0.541	4.421	799.7
B42B	**Dkumbepspruit (ndhawu ya EWR – OLI-EWR9) (Ndhawu ya Xihatla)**	**C/D**	**EIS=ya le Hansi**		**C/D**	**11.99**	**0.006**	**11.996**	**63.20**
B42D, B42E	Dkumbeps (ndhawu ya laha milambu mimbirhi yi hlanganaka na Spekboom) Spekboom (ndhawu ya laha milambu mimbirhi yi hlanganaka na Dkumbeps)	C C	Henhla Henhla	Henhla Henhla swinene	C	14.95	0.011	14.961	69.70
B42D	**Spekboom (ndhawu ya EWR – OLI-EWR6) (ndhawu ya xihatla)**	**C**	**EIS=Henhla**		**C**	**17.15**	**0.001**	**17.151**	**28.00**

Kotara ya ndhawu laha mati ma hlengeletiwkakona	Ndhawu ya laha mati ma kumekeka kona	PES	EI	ES	REC	Ku Hlayisiwa ka swa Ikholoji (%NMAR)	Ku Hlayisiwa ka BHN (%NMAR)	Ntsengo wa ku Hlayisiwa (%NMAR)	NMAR (MCM)
B42F	Watervals (u humesa ku suka eka Damu ra Buffelskloof)	C	Henhla	Henhla swinene	C	17.36	0.011	17.371	28.60
B42G	**Watervals (ndhawu ya EWR – OLI-EWR5) (Ndhawu ya xihatla)**	**C**	**EIS=yo ringanela**		**C**	**15.47**	**0.283**	**31.220**	**36.40**
B42H	Spekboom (phayiphi ya kotara – phayiphi ya IUA 8)	B	Henhla	Yo ringanela	B	28.84	0.091	28.931	149.00
B60E, B60F	Kranskloofspruit (ndhawu ya laha milambu mimbirhi yi hlanganaka na Ohrigstad) Mantshibi (ndhawu ya laha milambu mimbirhi yi hlanganaka na Ohrigstad) Ohrigstad (phayiphi ya kotara) Vuhlanganela madingu eka phayiphi ya B60F.	C C D	Henhla Henhla Yo ringanela	Henhla swinene Henhla swinene Henhla swinene	D	6.31	0.012	6.322	35.60
B60H	Ohrigstad (phayiphi ya kotara – phayiphi ya IUA9B)	D	Henhla	Henhla swinene	D	8.05	0.512	8.562	69.70
B60J	Blyde (ndhawu ya laha milambu mimbirhi yi hlanganaka na Olifants)	C	Henhla swinene	Henhla swinene	C	16.13	0.052	16.182	385.70
B71C	Mohlapitse (mimfikelelo ya le henhla)	B	Henhla swinene	Henhla swinene	B	26.50	0.103	26.603	42.10
B71D, B71F	Olifants (ndhawu ya laha milambu mimbirhi yi hlanganaka na Steelpokumbet)	D	Henhla	Henhla swinene	D	4.30	0.253	4.553	937.9
B72A	Makhutswi, ku katsa Moungwane and Malomanye	C	Henhla	Henhla	C	12.89	23.721	36.611	38.00
B72C	Olifants (phayiphi – phayiphi ya IUA10)	C	Henhla	Henhla	C	18.07	0.616	18.686	1755.5
B72E	Ngwabatse (ndhawu ya laha milambu mimbirhi yi hlanganaka na Ga-Selati)	D	Henhla	Henhla swinene	D	9.05	0.341	9.391	25.70
B72F, G	Ga-Selati (phayiphi ya kotara)	C	Henhla	Henhla swinene	C	19.59	0.023	19.613	13.50
B72J	Molatle (ndhawu ya laha milambu mimbirhi yi hlanganaka na Ga-Selati)	B	Yo ringanela	Yo ringanela	B	12.67	0.038	12.705	11.40
B72K	Ga-Selati (phayiphi ya kotara – phayiphi ya UIA11)	E	Henhla	Henhla	D	11.95	0.043	11.993	72.70
B73A	**Klaserie (ndhawu ya EWR – OLI-EWR7) (Ndhawu ya xihatla)**	**B/C**	**EIS=Henhla**		**B/C**	**22.31**	**0.033**	**22.343**	**25.50**

Kotara ya ndhawu laha mati ma hlengeletiwkakona	Ndhawu ya laha mati ma kumekeka kona	PES	EI	ES	REC	Ku Hlayisiwa ka swa likholoji (%NMAR)	Ku Hlayisiwa ka BHN (%NMAR)	Ntsengo wa ku Hlayisiwa (%NMAR)	NMAR (MCM)
B73B	Klaserie (ndhawu ya laha milambu mimbirhi yi hlanaganaka na Olifants)	C	Henhla	Henhla	C	15.41	0.008	15.418	37.10
B73D	Nhlaralumi, ku katsa Machaton, Nyameni na Thlaralumi	B	Henhla	Hansi	B	13.65	0.006	13.656	6.80
B73E	Sesete (ndhawu ya laha milambu mimbirhi yi hlanganaka na Timbavati)	B	Henhla	Hansi	B	12.24	0.152	12.392	11.10
B73F	Timbavati (phayiphi ya kotara)	B	Henhla	Yo ringanela	B	12.12	0.003	12.123	18.70
B73J	Olifants (phayiphi ya kotara – phayiphi ya IUA12)	C	Henhla	Hansi	C	21.07	0.007	21.077	1931.7
B60A	Blyde (ndhawu ya laha milambu mimbirhi yi hlanganaka na Lisbon)	C	Henhla	Henhla swinene	C	18.73	0.015	18.745	87.10
B60B	Blyde (phayiphi ya kotara)	B	Henhla	Henhla swinene	B	32.86	0.005	32.865	183.80
B60C	**Treur (ndhawu ya EWR – TRE-EWR1) (leyi nga kona)**	**B**	**EIS=Henhla swinene**		**B**	**34.60**	**0.001**	**34.601**	**46.80**
B60D	Blyde (nkhuluko wa le ndzeni eka Damu ra Blyderivierpokumbet – phayiphi ya IUA13)	B	Henhla	Henhla swinene	B	31.57	0.008	31.578	283.90
B81A	00242 - Broederstroom	C	Yo ringanela	Henhla	C	21.90	0.012	21.912	23.83
B81A	00256 - Unnamed tributary	D	hansi	Henhla	D	21.90	0.012	21.912	16.34
B81A	00263 - Unnamed tributary	D	Yo ringanela	Yo ringanela	D	21.90	0.012	21.912	5.75
B81A	00270 - Broederstroom	C	Yo ringanela	Henhla swinene	C	27.10	0.012	27.112	44..47
B81B	00227 - Mahitse	D	Yo ringanela	Henhla	D	22.10	0.030	22.130	13.60
B81B	00233 - Mahitse	C	Yo ringanela	Henhla	C	27.40	0.030	27.430	2.69
B81B	00234 - Mahitse	C	Yo ringanela	Henhla	C	29.80	0.030	29.130	10.13
B81B	00240 - Politsi	C	Yo ringanela	Henhla	C	19.10	0.030	19.130	38.98
B81B	00246 - Politsi	C	Yo ringanela	Henhla swinene	C	17.70	0.030	17.730	36.26
B81B	00251 – xinambyana lexi nga riki na vito	D	Hansi	Yo ringanela	D	15.40	0.030	15.430	1.34
B81B	00269 - Mkumbeudi	B	Yo ringanela	Henhla swinene	B	34.60	0.030	34.630	1.95
B81D	00272 - Letsitele	C	Henhla	Henhla swinene	C	22.00	0.078	22.078	91.27
B81D	00277 - Thabina	D	Henhla	Henhla	D	13.00	0.078	13.078	25.28
B81D	00280 - Bobs	B	Henhla	Henhla swinene	B	29.30	0.078	29.378	18.51

Kotara ya ndhawu laha mati ma hlengeletiwkakona	Ndhawu ya laha mati ma kumekeka kona	PES	EI	ES	REC	Ku Hlayisiwa ka swa ikholoji (%NMAR)	Ku Hlayisiwa ka BHN (%NMAR)	Ntsengo wa ku Hlayisiwa (%NMAR)	NMAR (MCM)
B81D	00296 - Mothlaka-Semeetse	B	Henhla	Henhla swinene	B	34.60	0.078	34.678	10.53
B81E	00213 - Nwanedzi	D	Yo ringanela	Henhla	C	8.10	0.249	8.349	17.28
B81F	00189 - Merekome	C	Yo ringanela	Yo ringanela	C	7.10	0.244	7.344	4.74
B81F	00203 - Lerwatlou	C	Yo ringanela	Henhla	C	8.80	0.244	9.044	3.74
B81F	00228 - Reshwele	B	Yo ringanela	Hansi	B	9.10	0.244	9.344	3.53
B81F	00232 - Makwena	B	Yo ringanela	Hansi	B	12.80	0.244	13.044	2.75
B81G	00164 - Molototsi	D	Yo ringanela	Yo ringanela	D	6.60	0.288	6.888	16.72
B81H	00162 - Metsemola	C	Yo ringanela	hansi	C	9.80	0.545	10.345	0.64
B81H	00171 - Molototsi	D	Yo ringanela	Yo ringanela	D	6.50	0.545	7.045	25.84
B81J	00187 - Mbhawula	C	Yo ringanela	Hansi	C	9.80	0.024	9.824	2.53
B82A	00168 - Middle Letaba	C	Yo ringanela	Yo ringanela	C	24.30	0.014	24.314	31.12
B82B	00173 - Koedoes	D	Yo ringanela	Yo ringanela	D	12.30	0.013	12.313	23.13
B82D	00154 - Middle Letaba	D	Yo ringanela	Yo ringanela	D	17.30	0.116	17.416	40.53
B82D	00163 - Lebjelebkumbee	C	Yo ringanela	Henhla	C	25.80	0.116	25.916	4.90
B82D	00166 - Mosukodutsi	D	Yo ringanela	Yo ringanela	D	10.20	0.116	10.316	42.25
B82E	00149 - Khwali	B	Henhla	Hansi	B	13.90	0.158	14.058	4.51
B82E	00150 - Klein Letaba	C	Yo ringanela	Yo ringanela	C	16.00	0.158	16.158	3.48
B82F	00128 - Klein Letaba	C	Yo ringanela	Yo ringanela	C	15.40	0.071	15.471	32.13
B82F	00137 - Klein Letaba	D	Yo ringanela	Yo ringanela	D	9.70	0.071	9.771	13.64
B82F	00141 - Soeketse	C	Yo ringanela	Hansi	C	12.80	0.071	12.871	7.32
B82H	00127 - Nsama	C	Yo ringanela	Henhla	C	10.60	0.064	10.664	6.91
B82H	00139 - Magobe	B	Yo ringanela	Hansi	B	14.90	0.064	14.964	3.10
B82H	00157 - Nsama	B	Yo ringanela	Yo ringanela	B	14.40	0.064	14.964	11.72
B82J	00197 - Ka-Malilibone	B	Yo ringanela	Hansi swinene	B	13.80	0.013	13.813	0.66

5. VUANDLALO BYA MATI- XIPHEMU XA NKOKA EKA MILAMBU

Nkatsakanyo wa xiphemu xa nkoka etindhawini ta EWR

Tafula ra 5.1: Olifants_ELA1: **Elands ya le Henhla**-Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Elands ta le Henhla		**EWR : Olifants_ELA1**	Ndhawu ya le kusuhi ya WQ (ndlela leyi Damu ra Rust De Winter ri khulukelaka kona) B3H013.No ya ndhawu ya WQ ya ndhawu eka ndhawu yo karhi ya ndhawu ya EWR. Eka ku hlaya ndhawu yo karhileyi nga le ku kumeni nchumu hi nkarhi wa nkambisiso
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA REC**	
Tiayoni ta nkoka	Mg	95th Phesenthavili ya switiviwa vi fanele ku va ≤ 30 mg/L	
	SO_4	95th Phesenthavili ya switiviwa vi fanele ku va ≤ 80 mg/L	
	Na	95th Phesenthavili ya switiviwa vi fanele ku va ≤ 70 mg/L	
	Cl	95th Phesenthavili ya switiviwa vi fanele ku va ≤.40 mg/L	
	Ca	95th Phesenthavili ya switiviwa vi fanele ku va ≤ 32 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th Phesenthavili ya switiviwa vi fanele ku va ≤ 30 mS/m	
	pH	5th na 95th wa tiphesenthavili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th Phesenthayili ya switiviwa yi fanele ku va ≥ 6.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka.	
Swakudya	TIN	50th Phesenthayili ya switiviwa yi fanele ku va ≤ 2.0 mg/L	
	PO_4-P	50th Phesenthayili ya switiviwa yi fanele ku va ≤ 0.058 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a Fayitoplakthoni	50th Phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L.	
	Chl-a perifayithoni	50th Phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m^2.	
	Amoniya	95th Phesenthayili ya switiviwa yi fanele ku va ≤ 72.5 µg/L.	
	Atrazine	95th Phesenthayili ya switiviwa yi fanele ku va ≤ 78.5 µg/L	
	Flkumbeayidl	95th Phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 mg/L	

Tafula ra 5.2: Olifants_EWR: **Wilge ya le Hansi**- Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Wilge ya le Hansi		**EWR : Olifants_EWR4**	Ndlela ya B2H015Q01 ya nambu wa Wilge eZusterstrom
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES AND REC**	
Tiayoni ta nkoka	Mg	95th Phesenthavili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 150 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 92.5 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤.120 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	Phesenthayili ya vuntlhanu ya switiviwa yi fanele ku va be ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.75 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.025 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankithoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaython	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m^2	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.75 µg/L	
	Aluminiyamu	95th phesenthayili ya switiviwa yi fanele ku va ≤ 62.5 µg/L	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 2.50 mg/L	
	Manganisi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 99.0 µg/L	

Tafula ra 5.3: Olifants_WIL1: **Wilge ya le henhla** Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Wilge ya le Hansi		**EWR : Olifants_WIL1**	Ndlela ya nkhuluko wa nambu B2H014Q01
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES AND REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 70mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 40 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 32 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 6.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 2.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.058 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaython	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m^2	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.75 µg/L	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 mg/L	

Tafula ra 5.4: Olifants_EWR1: **Olifants** Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Olifants		**EWR : Olifants_EWR1**	Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR
Mimpimo ya Mati ya Nkoka		**ECOSPEC: REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 70 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 250 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 115 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 175 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 85 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.6 –	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 6.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	Nayitireti na Nayitireti	50th phesenthayili ya switiviwa yi fanele ku va ≤ 3.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.091 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaython	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m^2	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.75 µg/L	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 mg/L	

Tafula ra 5.5: Olifants_EWR2: **Olifants**- Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Olifants		**EWR : Olifants_EWR2**	Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR
Mimpimo ya Mati ya Nkoka		**ECOSPEC: REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 150 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 92.5 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 120 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 1.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.025 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaython	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.75 µg/L	
	Aluminiyamu	95th phesenthayili ya switiviwa yi fanele ku va ≤ 62.5 µg/L	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 2.5 mg/L	
	manganisi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 180 mg/L	

Tafula ra 5.6: OLI_EWR3: **Kranspokumbetspruit** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Kranspokumbetsprult		**EWR : OLI_EWR3**	Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR
Mimpimo ya Mati ya Nkoka		**ECOSPEC: REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 70mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 40 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 32 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.75 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.02 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 15 µg/L	
	Chl-a Pherifaython	50th phesenthayili ya switiviwa yi fanele ku va ≤ 14.56 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.75 µg/L	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 mg/L	

Tafula ra 5.7: Olifants_SEL1: **Selons** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Selons		**EWR : Olifants_SEL1**	**Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR**
Mimpimo ya Mati ya Nkoka		**ECOSPEC: REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 150 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 92.5 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 120 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.6 – 9.2.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 6.5 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 2.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.058 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaython	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.75 µg/L	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 µg/L	
	Aluminiyamu	95th phesenthayili ya switiviwa yi fanele ku va ≤ 0.15 mg/L	
	Manganisi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 1.30 mg/L	
	Zinki	95th phesenthayili ya switiviwa yi fanele ku va ≤ 36 µg /L	

Tafula ra 5.8: Olifants_EWR8: **Olifants** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Olifants		**EWR : Olifants_EWR8**	**Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR**
Mimpimo ya Mati ya Nkoka		**ECOSPEC: REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 150 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 92.5 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 120 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 2.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.058 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaython	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.75 µg/L	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 mg/L	

Tafula ra 5.9: Olifants_SPE1: **Spekboom** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Olifants		**EWR : Olifants_SPE1**	Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR
Mimpimo ya Mati ya Nkoka		**ECOSPEC: REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 150 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 92.5 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 120 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 1.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.025 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaython	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.75 µg/L	
	Aluminiyamu	95th phesenthayili ya switiviwa yi fanele ku va ≤ 150 µg/L	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3 mg/L	
	manganisi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 1.3 mg/L	

Tafula ra 5.10: Olifants_BLY1: **Bylde ya le Henhla**- Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Blyde ya le Henhla		**EWR : Olifants_BLY1**	Nndlela ya ndhawu ya nkhuluko wa nambu B6H001Q01
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 70 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 40 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 32 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 8.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.5 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.025 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 15 µg/L	
	Chl-a Pherifaython	50th phesenthayili ya switiviwa yi fanele ku va ≤ 14.56 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 15 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 9 µg/L	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 1.5 mg/L	

Tafula ra 5.11: Olifants_EWR11: **Olifants** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Olifants		**EWR : Olifants_EWR11**	Ndlela ya ndhawu ya nkhuluko wa nambu B7H009Q01
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 150 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 92.5 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 120 mg/L	
	Ca	95th phesenthaylli ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 2.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.058 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaython	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.75 µg/L	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 mg/L	

Tafula ra 12: Olifants_EWR12: **Bylde ya le Hansi** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Blyde ya le Hansi		**EWR : Olifants_EWR12**	Ndlela ya ndhawu ya nkhuluko wa nambu wa le henhla B6H004Q01
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 70 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 40 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 32 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 8.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.5 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.020 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 15 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 14.56 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 15 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 19 µg/L	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 1.0 mg/L	

Tafula ra 5.13: Olifants_EWR13: **Olifants** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Olifants		**EWR : Olifants_EWR13**	Ndlela ya ndhawu ya nkhuluko wa nambu wa le henhla B7H007Q01
Mimpimo ya Mati ya Nkoka		**ECOSPEC: REC**	
Tlayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 150 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 92.5 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 120 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 1.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.025 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaython	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.75 µg/L	
	Aluminiyamu	95th phesenthayili ya switiviwa yi fanele ku va ≤ 62.5 µg/L	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 2.5 mg/L	

Tafula ra 5.14: Olifants_EWR16: **Olifants** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Olifants		**EWR : Olifants_EWR16**	Ndlela ya ndhawu ya nkhuluko wa nambu B7H017Q01
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA REC**	
Tlayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 70 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 40 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 32 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 8.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.75 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.02 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.75 µg/L	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 2.5 mg/L	

Tafula ra 5.15: Olifants_EWR3: **Klein Olifants** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Olifants		**EWR : Olifants_EWR3**	Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR
Mimpimo ya Mati ya Nkoka		**ECOSPEC: REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 150 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 92.5 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 120 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 6.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 2.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.058 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 mg/L	

Tafula ra 5.16: Olifants_EWR5: **Olifants** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Olifants		**EWR : Olifants_EWR5**	Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 150 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 92.5 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 120 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10 wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 2.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.058 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 72.5 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 78.5 µg/L.	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 mg/L	

Tafula ra 5.17: Olifants_EWR6: **Elands ya le Hansi** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Olifants		**EWR : Olifants_EWR6**	Ndlela ya ndhawu ya nkhuluko wa nambu B3R005Q01
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 150 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 92.5 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 120 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.6 – 9.2.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 6.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 3.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.091 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 30 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 42 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 72.5 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 78.5 µg/L.	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 mg/L	

Tafula ra 5.18: Olifants_EWR7: **Olifants** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Olifants		**EWR : Olifants_EWR7**	Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 70 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 250 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 115 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 175 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 85 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.0 – 10.0.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 6.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 4.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.125 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 30 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 42 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 72.5 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 78.5 µg/L.	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 mg/L	

Tafula ra 5.19: Olifants_EWR9: **Steelpokumbet** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Olifants		**EWR : Olifants_EWR7**	Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 70 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 250 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 115 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 175 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 85 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.0 – 10.0.	
	Mahiselo	Ku hambana ka 2°C kumbe 10% wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 5.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 4.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.125 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 30 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 42 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 72.5 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 78.5 µg/L.	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 mg/L	

Tafula ra 5.20: Olifants_EWR10: Steelpokumbet - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Olifants		**EWR : Olifants_EWR10**	Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR tirhisa ndawu ya xinambyana xa le henhla B4H011Q01 (B4H11)
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES, RQO NA TEC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 40 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 40 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 70 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.0 – 9.0.	
	Mahiselo	Ku hambana ka 2°C kumbe 10 wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 4.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.091 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 30 µg/L	
	Chl-a Pherifaython	50th phesenthayili ya switiviwa yi fanele ku va ≤ 42 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 72.5 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.8 µg/L	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 0.7 µg/L	
	Aluminiyamu	95th phesenthayili ya switiviwa yi fanele ku va ≤ 62.5 µg/L	
	Zinki	95th phesenthayili ya switiviwa yi fanele ku va ≤ 14.4 mg/L	
	manganisi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 0.68 mg/L	

Tafula ra 5.21: Olifants_EWR14a: Upper Ga-Selati - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Ga-Selati ya le Henhla		**EWR : Olifants_EWR14a**	Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR. Ndhawu ya le kusuhi i B7H140Q01
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA TEC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 20 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 10 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 15 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 15 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 35 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 6.4 – 8.6.	
	Mahiselo	Ku hambana ka 2°C kumbe 10 wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 1.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.01 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.5 µg/L.	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 0.7 mg/L	

Tafula ra 5.22: Olifants_EWR14b: **Ga-Selati ya le Hansi** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Ga-Selati ya le Hansi		**EWR : Olifants_EWR14a**	Ndhawu ya mati ya nkoka ya xinambyana xa le henhla B7H19
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA TEC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 70 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 250 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 115 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 175 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 85 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.0 – 10.0.	
	Mahiselo	Ku hambana ka 2°C kumbe 10 wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 5.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 4.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.125 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 30 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 42 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 72.5 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 78.5 µg/L.	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 1.0 mg/L	

Tafula ra 5.23: SPK_EWR1: **Spookspruit** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Ga-Selati ya le Hansi		**EWR : SPK_EWR1**	Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR, kambe ya nga tirhisa ndhawu ya laha nambu wu khulukelaka kona B1H200Q01
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA TEC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 250 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 92.5 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 120 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10 wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 1.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.025 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.5 µg/L.	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 2.5 mg/L	

Tafula ra 5.24: DWA_EWR1: **Dwars** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: DWARS		**EWR : DWA_EWR1**	Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR, tirhisani ndhawu ya mati ya nkoka B4H9
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA TEC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 25 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 20 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 45 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 7.0 – 8.7.	
	Mahiselo	Ku hambana ka 2°C kumbe 10 wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 1.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.025 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.5 µg/L.	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 0.7 mg/L	

Tafula ra 5.25: OLI_EWR8: **Kumbeigstad** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Ohrigstad		**EWR : OLI_EWR8**	Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR, tirhisani ndhawu ya mati ya nkoka ya xinambyana xa le henhla B60_1000009803
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA TEC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 20 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 20 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 15 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 15 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 25 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 6.4 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10 wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 1.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.025 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.5 µg/L.	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 0.5 mg/L	

Tafula ra 5.26: Letaba_EWR7: **Letaba** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Letaba		**EWR : Letaba_EWR7**	Ndhawu ya laha nambu wu khulukelaka
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 150 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 92.5 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 120 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10 wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 2.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.058 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.75 µg/L.	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 mg/L	

Tafula ra 5.27: Letaba_EWR2: **Letsitele** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Letsitele		**EWR : Letaba_EWR2**	Ndhawu ya laha xinambyana xa le henhla xi khulukelaka B8H010Q01
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 50 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 150 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 92.5 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 120 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 55 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.0 – 10.0.	
	Mahiselo	Ku hambana ka 2°C kumbe 10 wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 4.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.125 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 30 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 42 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 72.5 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 78.5 µg/L.	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 mg/L	

Tafula ra 5.28: Letaba_EWR1: **Great Letaba** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Great Letaba		**EWR : Letaba_EWR1**	Ndhawu ya laha nambu wu khulukelaka B8H014Q01
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA REC**	
Tiayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 70 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 40 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 32 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10 wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 2.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.058 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.75 µg/L.	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 3.52 mg/L	

Tafula ra 5.29: Letaba_BRO1: **Broederstroom** - Ecospecs leyi yelanaka na switiviwa swa khemikhali ya fizikho

Nambu: Broederstroom		**EWR : Letaba_BRO1**	**Ku hava ndhawu ya mati ya nkoka eka ndhawu leyi nga le kusuhi na ndhawu yo karhi ya ndhawu ya EWR**
Mimpimo ya Mati ya Nkoka		**ECOSPEC: PES NA REC**	
Tlayoni ta nkoka	Mg	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mg/L	
	SO_4	95th phesenthayili ya switiviwa yi fanele ku va ≤ 80 mg/L	
	Na	95th phesenthayili ya switiviwa yi fanele ku va ≤ 70 mg/L	
	Cl	95th phesenthayili ya switiviwa yi fanele ku va ≤ 40 mg/L	
	Ca	95th phesenthayili ya switiviwa yi fanele ku va ≤ 32 mg/L	
Nchumu lowu nga na vuswikoti byo cinca wa fizikali	EC	95th phesenthayili ya switiviwa yi fanele ku va ≤ 30 mS/m	
	pH	5th na 95th wa tiphesenthayili ta switiviwa swi fanele ku fika ku suka eka 5.9 – 8.8.	
	Mahiselo	Ku hambana ka 2°C kumbe 10 wa tiphesente ku suka eka mahiselo ya nhlayo xikarhi wa vuyimelo	
	Okisijini leyi n'okisiweke	5th phesenthayili ya switiviwa yi fanele ku va ≥ 7.0 mg/L	
	Xihalaki lexi nga na ndzhope	Ku hambana (ntsengo lowutsongo) ku suka eka vuandlalo bya xihalaki xo va na ndzhope hi ntumbuluko, sava leritsongo ra makaya ya nambu wa le ndzeni leri amukeriwaka	
Swakudya	TIN	50th phesenthayili ya switiviwa yi fanele ku va ≤ 1.0 mg/L	
	PO_4-P	50th phesenthayili ya switiviwa yi fanele ku va ≤ 0.025 mg/L	
Nhlamulo ya swilo leswi nga na vuswikoti byo cinca	Chl-a fayitoplankthoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 20 µg/L	
	Chl-a Pherifaythoni	50th phesenthayili ya switiviwa yi fanele ku va ≤ 21 mg/m²	
	Amoniya	95th phesenthayili ya switiviwa yi fanele ku va ≤ 43.75 µg/L.	
	Atirazini	95th phesenthayili ya switiviwa yi fanele ku va ≤ 48.75 µg/L.	
	Aluminiyamu	95th phesenthayili ya switiviwa yi fanele ku va ≤ 62.5 µg/L.	
	Flkumbeayidi	95th phesenthayili ya switiviwa yi fanele ku va ≤ 2.5 mg/L	

6. MATI YA LE HANSI KA MISAVA- XIPHEMU XA NKOKA

Tafula ra 6.1 laha hansi ri na tisete ta switiviwa ku suka eka mimbuyelo ya dyondzo ya Mimpimo yo Kongomisiwa eka Switirhisiwa swinharhu swo hambana swa mati ya le hansi ka misava (RDM) ku suka hi 2005 ya ndhawu yo dyondzela.

Swihlovo swa tisete ta switiviwa a ku ri: (i) Xiyenge xa Mahlelelo ya Switirhisiwa swa Mati ya le Hansi ka Misava II (DWAF, 2005), (ii) Vulawuri bya Tisisiteme ta Mati ya Leshika (2013 na 2014), ((iii) Exigo (2009) na SRK (2009).

Ku hambana ko karhi eka ku nyikiwa matimba ka mati ya le hansi ka misava na nkhuluko wa le tshakwini ra misava ku xiyaxiyiwile naswona laha a ku koteka, nkoka wa nhlayo xikarhi wu amukeriwile. Mihakelo ya BHN yi hlayeriwile hi ku tirhisa nongonoko wa milawu leyi faneleke ku landzeleriwa loko ku lulamisiwa xiphiqo xo karhi xa GIS kusuhi na tisiteme ta nambu wa perennial ku hambanyisa exikarhi ka mati ya vuandlalo na vatirhisi va mati ya le hansi ka misava – matirhiselo lama a ya hetisekanga tanihi ku hambanyisiwa ka tisisiteme ta nambu wa perennial na wo ka wu nga ri wa perennial a ku twisiseki hi ntiyiso.

Nongonoko wa milawu leyi faneleke ku landzeleriwa loko ku lulamisiwa xiphiqo xa GRDM lexi hlamuseriweke yi tirhisiwile naswona mpimo wa mati ya le hansi ka misava wo nyikeka (MCM/a) wu hlayeriwile.

Mimpimo ya Ntshikelelo mimbirhi yo hambana (SRK, 2009, Exigo, 2009 na WSM, 2014)) yi amukeriwile – hambileswi ku hambana lokukukulu exikarhi ka swihlovo swimbirhi ku xiyaxiyiweke eka tikheyisi to hlaya.

Maendlelo ya xiyimo xa ntsengo wa mati ya le hansi ka misava ya tirhisiwile, ehenhla ka maendlelo ya xiyimo lama ya landzeleriweke hi SRK 2009, ku suka eka Sisiteme yo ka yi nga Lulamisiwanga (F). Xiyimo lexi xa maendlelo xi tirhisiwile hi ku tekela enhlokweni ku hambana exikarhi ka swihlovo swa switiviwa swo hambana, kambe swi tirhisa ngopfungopfu ntikelo wukulukumba eka mati ya le hansi ka misava ya ntiyiso yo nyikeka (SRK-WSM) na mahlelelo ya xiviri ku suka eka sete ya switiviwa ya Exigo.

Nkoka wa mati ya le hansi ka misava yo nyikeka (MCM/a), xikan'we no tshembela (tiphesente) ta Nhlayiso hikuya hi ku nyikiwa matimba ka mati ya le hansi ka misava swi vumba masungulo ya xiyimo xa maendlelo. Tikheyisi to hlaya laha hakelo wa mati ya le hansi ka misava ku nga ziro, xiyimo xa ntalo a xi hungutiwile hi mfanelo (kusuhi na D,E kumbe F) hi kuya hi ku tshembela ka nhlayiso eka ku nyikiwa matimba.

Ku khumbeka ko koteka ka ku tsavuriwa ka mati ya le hansi ka misava eka xiphemu xa vuandlalo bya mati eka kotara ya tindhawu ta laha mati ma hlengeletiwaka kona ti longoloxiwile na kona no tirhisiwa tanihi xivangelo laha ku nyiketiwa ka mati ya le hansi ka misava a ku ri ZIRO.

Tafula ra 6.1: Mimpimo yo Kongomisiwa eka Xitirhisiwa xa Mati ya le Hansi ka Misava (GRDM) xo Tsema (xikombisi xo khumbeka ka vuswikoti bya vuandlalo bya tindhawu laha mati ma kumekaka hikokwalaho ka ku tsavuriwa ka le henhla ka mati ya le hansi ka misava ku engeteriwile (ku khumbeka ka mati)

Kotare ya ndhawu ya laha mati ma hlengeletiwaka kona	Ntlhawu (km²)	Ku nyika matimba (Mm^3/a)		Rech to Aqf	Nkhuluko wa le tahakwini (Mm3/a)				EWR_MLF (Mm3/a)	Ku hlayisiwa ka BHN (Mm3/a)	ntsengo wa ku hlayisiwa ka Gw (Mm3/a)	Ntsengo wa ku tirhisiwa ka mati ya G (Mm3/a)	Si = Ku tirhiswa ka Gw / Aqf Rech	(Mm3/a)	Ku hlayisiwa (% ka ku nyikiwa matimba)	Ntalo (GRDM)	Ku khumbeka ka Mati ya S	Mati ya G yo nyikeka (Mm3/a)
	GRA II	WSM_{2009}	$Exigo_{2009}$	Mpimo xikarhi	WSM_{2013}	$Exigo_{2009}$	SRK_{2009}	Mpimo xikarhi			=AW+BB	Calc'd	WSM2013	$Exigo_{2009}$		Ya pimeka	Ya hlamuseleka	Cal'd
B11A	945.4	15.45	8.52	11.99	12.2	6.72	8.37	10.29		0.10	12.30	0.57	0.04	0.21	79.6	A- a yi lulamisiwanga	Hansi	2.98
B11B	435.3	6.84	4.47	5.66	5.37	2.73	3.71	4.54	0.068	0.12	5.49	0.20	0.03	0.39	80.3	A-a yi lulamisiwanga	Hansi	1.32
B11C	385.4	5.71	5.59	5.65	4.85	4.43	3.14	4.00		0.04	4.89	4 37	0.77	0.21	85.6	C-yi lulamisiwile ku ringanela	Hansi	0.00
B11D	550.9	7.66	10.79	9.23	6.5	8.45	4.3	5.40		0.18	6.68	2.34	0.31	0.33	87.2	B-yi kulukumba hi ntumbuluko	Hansi	0.00
B11E	466.7	6.80	6.27	6.53	5.36	3.28	3.75	4.56	0.048	0.11	5.47	3.53	0.52	0.48	80.4	C-yi lulamisiwile ku ringanela	Hansi	0.00
B11F	428.3	6.44	4.43	5.44	5.07	0.48	3.57	4.32		0.08	5.15	0.37	0.06	0.89	80.0	B-yi kulukumba hi ntumbuluko	Hansi	1.08
B11G	367.8	5.61	3.56	4.58	4.42	14.11	3.03	3.73	0.103	0.07	4 49	0.10	0.02	0.41	80.0	A-a yi lulamisiwanga	Hansi	1.17
B11H	246.0	3.78	3.01	3.40	2.97	2.33	2.03	2.50	0.024	0.04	3.01	0.46	0.12	0.23	79.6	B-yi kulukumba hi ntumbuluko	Hansi	0.41
B11J	269.4	7.08	1.90	4.49	5.6	4.03	5.17	5.39		0.45	6.05	1.88	0.06	0.15	85.5	B-yi kulukumba hi ntumbuluko	Ringanela	0.00
B11K	378.3	9.84	3.16	6.50	7.59	0.00	7.06	7.33		0.03	7.62	0.22	0.02	0.92	77.4	B-yi kulukumba hi ntumbuluko	Ringanela	2.25
B11L	241.8	6.05	3.48	4.77	4.95	3.28	4.6	4.78	0.996	0.01	4.96	0.06	0.01	0.06	82.0	A-a yi lulamisiwanga	Ringanela	1.21
B12A	406.9	4.72	5.44	5.08	4.31	4.29	3.09	3.70		0.18	4.49	0.16	0.03	0.21	95.1	A-a yi lulamisiwanga	Hansi	0.26
B12B	658.5	8.62	8.79	8.70	7.81	6.09	5.15	6.48		0.08	7.89	3.84	0.45	0.31	91.5	B-yi kulukumba hi ntumbuluko	Hansi	0.00
B12C	529.0	7.20	4.58	5.89	6.54	9.52	4.24	5.39	0.109	0.04	6.58	0.21	0.03	0.23	91.4	A-a yi lulamisiwanga	Hansi	0.70
B12D	362.3	5.16	4.10	4.63	4.72	0.32	3.09	3.91	0.179	0.98	5.70	0.24	0.05	0.92	110.5	E – yi lulamisiwile hi ntiyiso	Hansi	0.00
B12E	435.8	11.49	8.63	10.06	9.15	8.16	8.73	8.94	0.187	0.04	9.19	0.45	0.04	0.05	80.0	A-a yi lulamisiwanga	Ringanela	2.21
B20A	574.3	10.26	14.45	12.35	6.6	9.21	7.39	7.00		0.48	9.84	20.57	2.00	1.00	95.9	F-ku nonoha loku lulamisiweke	Hansi	0.00
B20B	321.0	5.72	5.69	5.71	3.62	0.00	4.07	3.85		0.38	4.72	58.03	10.02	1.00	82.5	F-ku nonoha loku lulamisiweke	Hansi	0.00
B20C	363.7	6.53	4.50	5.52	4.13	12.36	4.71	4.42		0.03	4.16	0.91	0.14	0.12	63.7	B-yi kulukumba hi ntumbuluko	Henhla	1.59
B20D	480.4	8.52	10.03	9.27	5.3	13.77	6.1	5.70	0.293	0.26	5.56	1.43	0.17	0.11	65.3	B-yi kulukumba hi ntumbuluko	Ringanela	1.70

[illegible]	[illegible]	[illegible]		Regn to Agt	Nkhuluko wa le [illegible] (Mm3/a)				EWR_MLF (Mm3/a)	Ku hlayisiwa ka BHN (Mm3/a)	htsengo wa ku hlayisiwa ka Gw (Mm3/a)	Ntsengo wa ku [illegible] ka [illegible] (Mm3/a)	Si eKu tirhisiwa ka Gw / Agt Rech	(Mm3/a)	Ku hlayisiwa (% ka ku nyikiwa matimba)	Ntalo (GRDM)	Ku khumbeka ka Mati ya $	Mati ya G yo nyikeka (Mm3/a)
	[illegible]	WSM2005	Exigo2009	[illegible]	WSM2013	Exigo2009	SRK2008	[illegible]			=AW+BB	Calc'd	WSM2013	Exigo2009		Ya pimeka	Ya hlamuseleka	CaPd
B20E	619.9	9.81	8.69	9.25	7.27	3.93	7.75	7.51		0.37	7.64	3.58	0.36	0.55	77.9	C-yi lulmisiwile ku ringanela	Ringanela	0.00
B20F	504.2	9.05	9.44	9.25	5.71	8.74	6.28	6.00	0.081	0.05	5.76	0.80	0.09	0.07	63.6	B-yi kulukumba hi ntumbuluko	Ringanela	2.62
B20G	522.4	13.15	9.31	11.23	10.28	8.28	9.31	9.80	0.067	0.30	10.58	1.87	0.14	0.12	80.5	B-yi kulukumba hi ntumbuluko	Ringanela	1.04
B20H	562.5	13.70	5.55	9.63	11.03	3.57	9.79	10.41		0.36	11.39	1.77	0.13	0.36	83.1	B-yi kulukumba hi ntumbuluko	Ringanela	0.87
B20J	407.4	10.03	7.12	8.58	8.03	6.20	7.34	7.69	0.958	0.05	8.08	1.09	0.11	0.13	80.6	B-yi kulukumba hi ntumbuluko	Ringanela	1.14
B31A	386.6	6.09	4.43	5.26	3.77	1.99	3.15	3.46		0.04	3.81	4.81	0.79	0.55	62.6	C-yi lulamisiwile ku ringanela	Ringanela	0.00
B31B	385.1	5.56	9.40	7.48	3.45	6.64	2.64	3.05		0.19	3.64	1.22	0.22	0.29	65.5	B-yi kulukumba hi ntumbuluko	Ringanela	0.71
B31C	373.4	5.14	9.23	7.19	2.75	8.71	2.27	2.51	0.076	0.00	2.75	0.82	0.16	0.07	53.5	B-yi kulukumba hi ntumbuluko	Ringanela	1.59
B31D	557.0	7.58	10.19	8.89	4.06	6.92	3.3	3.68		0.42	4.48	1.96	0.26	0.32	59.1	B-yi kulukumba hi ntumbuluko	Hansi	1.16
B31E	1382.4	8.34	47.74	28.04	0	43.36	0	0.00		0.14	0.14	9.24	1.11	0.09	1.7	C-yi lulamisiwile ku ringanela	Hansi	0.00
B31F	637.5	3.69	8.09	5.89	0	3.85	0	0.00		0.43	0.43	2.31	0.63	0.52	11.7	C-yi lulamisiwile ku ringanela	Hansi	0.95
B31G	433.2	4.67	7.29	5.98	1.4	4.26	2.54	1.97	0.096	0.31	1.71	1.42	0.30	0.42	36.6	B-yi kulukumba hi ntumbuluko	Hansi	1.59
B31H	611.8	6.85	6.31	6.58	1.96	4.67	3.26	2.61		1.64	3.60	4.36	0.64	0.26	52.6	C-yi lulamisiwile ku ringanela	A xi na nkoka	0.00
B31J	1379.9	7.84	27.75	17.80	0	25.02	0	0.00	0.085	0.10	0.10	30.84	3.93	0.10	1.3	E – yi lulamisiwile hi ntiyiso	A xi na nkoka	0.00
B32A	801.4	21.18	15.31	18.24	16.26	25.10	15.2	15.73	1.717	0.05	16.31	0.54	0.03	0.07	77.0	A-a yi lulamisiwanga	Hansi	4.36
B32B	613.8	13.40	8.72	11.06	9.7	7.68	10.83	10.27		0.04	9.74	0.25	0.02	0.12	72.7	A-a yi lulamisiwanga	Hansi	3.59
B32C	302.8	3.19	4.04	3.62	1.09	2.92	4.5	2.80	0.094	0.01	1.10	3.47	1.09	0.28	34.5	C-yi lulamisiwile ku ringanela	Hansi	0.00
B32D	521.1	4.95	9.03	6.99	3.15	8.39	1.79	2.47	0.875	0.07	3.22	3.14	0.63	0.07	65.1	C-yi lulamisiwile ku ringanela	A xi na nkoka	0.00
B32E	203.2	2.43	3.05	2.74	1.59	2.81	0.89	1.24		0.01	1.60	0.19	0.08	0.08	65.8	A-a yi lulamisiwanga	Hansi	0.67
B32F	667.2	3.71	4.83	4.27	0.71	2.74	2.7	1.71	0.005	0.34	1.05	4.30	1.16	0.43	28.3	D – yi lulamisiwile hi ku kulukumba	Hansi	0.00

B32G	967.6	8.89	15.09	11.99	1.35	6.51	6.86	4.11		1.83	3.18	5.85	0.66	0.57	35.8	C-yi lulamisiwile ku ringanela	Hansi	0.07
B32H	693.9	10.21	13.42	11.81	5.77	11.22	4.42	5.10	0.046	0.06	5.83	2.90	0.28	0.16	57.1	B-yi kulukumba hi ntumbululko	Hansi	1.49
B32J	322.8	1.17	2.76	1.97	0	0.58	0.05	0.03		0.44	0.44	1.01	0.86	0.79	37.6	C-yi lulamisiwile ku ringanela	A xi na nkoka	0.00
B41A	764.5	18.28	8.43	13.36	14.79	5.87	12.35	13.57	0.122	0.14	14.93	0.06	0.00	0.32	81.7	A- a yi lulamisiwanga	A xi na nkoka	3.47
B41B	778.0	18.51	11.67	15.09	14.96	10.07	12.16	13.56		0.04	15.00	1.23	0.07	0.14	81.0	A-a yi lulamisiwanga	A xi na nkoka	2.45
B41C	302.4	7.19	1.96	4.57	5.79	0.00	4.6	5.20		0.02	5.81	0.54	0.08	1.00	80.8	C-yi lulamisiwile ku ringanela	A xi na nkoka	0.90
B41D	402.9	4.97	6.22	5.60	2.61	5.50	5.03	3.82	0.506	0.09	2.70	1.72	0.35	0.12	54.3	B-yi kulukumba hi ntumbululko	A xi na nkoka	0.59
B41E	237.1	1.17	6.79	3.98	0	5.66	0.04	0.02		0.23	0.23	0.11	0.09	0.17	19.7	A-a yi lulamisiwanga	Ringanela	0.83
B41F	379.8	10.88	7.21	9.04	9.99	6.84	7.92	8.96		0.01	10.00	0.00	0.00	0.05	91.9	A-a yi lulamisiwanga	Ringanela	1.03
B41G	442.1	11.41	6.71	9.06	10.34	3.98	8.48	9.41		0.01	10.35	0.38	0.03	0.41	90.7	A-a yi lulamisiwanga	Ringanela	0.88
B41H	410.3	2.57	7.57	5.07	0	5.03	0.1	0.05	0.537	0.35	0.35	0.16	0.06	0.34	13.6	A-a yi lulamisiwanga	Ringanela	2.06
B41J	690.8	4.31	10.88	7.59	0	6.02	0.2	0.10		0.41	0.41	0.64	0.15	0.45	9.5	A-a yi lulamisiwanga	A xi na nkoka	3.26
B41K	635.2	3.53	7.00	5.27	0	4.64	0.23	0.12	0.495	0.47	0.47	1.99	0.56	0.34	13.3	B-yi kulukumba hi ntumbululko	Henhla	1.07
B42A	318.9	10.64	1.86	6.25	9.81	1.41	15.41	12.61		0.02	9.83	3.46	0.33	0.24	92.4	B-yi kulukumba hi ntumbululko	Henhla	0.00
B42B	213.7	7.65	7.45	7.55	6.28	6.33	12.8	9.54		0.17	6.45	0.06	0.01	0.15	84.3	Aa yi lulamisiwanga	A xi a nkoka	1.29
B42C	164.1	2.66	3.45	3.05	2.57	3.08	1.39	1.88	0.143	0.00	2.57	0.00	0.00	0.11	96.6	B-yi kulukumba hii ntumbululko	A xi na nkoka	0.28
B42D	154.6	6.33	3.64	4.98	5.72	3.39	11.44	8.58		0.00	5.72	0.00	0.00	0.07	90.4	A-a yi lulamisiwanga	A xi na nkoka	0.99
B42E	221.4	2.04	2.49	2.26	1.99	1.91	1.25	1.62		0.01	2.00	0.22	0.11	0.23	98.0	A-a yi lulamisiwanga	A xi na nkoka	0.00
B42F	279.1	9.39	2.52	5.96	8.55	2.09	12.42	10.49		0.01	8.56	0.22	0.02	0.17	91.2	Aa yi lulamisiwanga	A xi na nkoka	0.67
B42G	327.2	3.86	3.28	3.57	3.59	2.59	2.13	2.86	0.265	0.01	3.60	3.26	0.84	0.21	93.3	B-yi kulukumba hi ntumbululko	A xi na nkoka	0.00

[illegible]	[illegible]	[illegible] (Mm3/a)		Rech to Aqf	Nkhuluko wa le [illegible] (Mm3/a)				EWR_MLF (Mm3/a)	Ku hlayisiwa ka BHN (Mm3/a)	ntsengo wa ku hlayisiwa ka Gw (Mm3/a)	Ntsengo wa ku [illegible] (Mm3/a)	SI = ku tirhisiwa ka Gw / Aqf Rech	(Mm3/a)	Ku hlayisiwa (% ka ku nyikiwa matimba)	Ntalo (GRDM)	Ku khumbeka ka Mati ya S	Mati ya G yo nyikeka (Mm3/a)
	GRAII	WSM	Exlgo2009	Mpimo xikarhi	WSM2015	Exlgo2009	SRK2009	Mpimo xikarhi			=AW+BB	Calc'd	WSM2013	Exlgo2009		Ya pimeka	Ya hlamuseleka	Cal'd
B42H	412.3	2.31	13.36	7.83	0	12.43	0.1	0.05	0.594	0.07	0.07	0.99	0.43	0.07	3.0	B-yi kulukumba hi ntumbuluko	A xi na nkoka	1.25
B51A	311.5	2.24	2.75	2.49	0	0.84	0.07	0.04		0.40	0.40	0.08	0.04	0.69	17.9	B-yi kulukumba hi ntumbuluko	a xi na nkoka	1.76
B51B	591.1	4.82	7.51	6.16	0	5.24	0.1	0.05		0.46	0.46	0.33	0.07	0.30	9.5	A-a yi lulamisiwanga	A xi na nkoka	4.03
B51C	638.1	4.52	6.65	5.58	0	4.67	0.07	0.04	1.785	0.45	0.45	0.22	0.05	0.30	10.0	A-a yi lulamisiwanga	A xi na nkoka	3.85
B51E	2926.8	6.31	38.17	22.24	0	22.43	0	0.00		0.34	0.34	8.56	1.36	0.41	5.4	D – yi lulamisiwile hi vukulukumba	A xi na nkoka	0.00
B51F	394.6	2.71	4.87	3.79	0	4.27	0.07	0.04		0.01	0.01	3.02	1.11	0.12	0.4	D – yi lulamisiwie hi vukulukumba	A xi na nkoka	0.00
B51G	590.7	3.79	6.25	5.02	0	1.85	0.07	0.04		0.97	0.97	12.43	3.28	0.70	25.6	F-ku nonoha loku lulamisiweke	A xi na nkoka	0.00
B51H	717.3	4.90	16.81	10.86	0	11.64	0.13	0.07		0.98	0.98	0.57	0.12	0.31	20.0	A-a yi lulamisiwanga	A xi na nkoka	3.35
B52A	566.1	2.58	9.96	6.27	0	6.37	0.02	0.01		0.48	0.48	0.28	0.11	0.36	18.6	A-a yi lulamisiwanga	A xi na nkoka	1.82
B52B	632.9	7.09	7.65	7.37	0	2.75	0.11	0.06		1.07	1.07	2.08	0.29	0.64	15.1	B-yi kulukumba hi ntumbuluko	Henhla	3.94
B52C	200.4	0.96	2.25	1.60	0	1.27	0	0.00		0.16	0.16	0.22	0.23	0.43	16.7	B-yi kulukumba hi ntumbuluko	Henhla	0.58
B52D	341.0	2.09	6.50	4.30	0	3.69	0.01	0.01		0.73	0.73	1.19	0.57	0.43	34.9	C-yi lulamisiwile ko ringanela	Hansi	0.17
B52E	450.8	4.66	8.37	6.52	0	6.03	0.05	0.03		0.34	0.34	0.51	0.11	0.28	7.3	B-yi kulukumba hi ntumbuluko	Henhla	3.81
B52F	118.4	0.58	1.93	1.26	0	1.41	0	0.00		0.09	0.09	0.47	0.81	0.27	15.5	C-yi lulamisiwile ku ringanela	Hansi	0.02
B52G	290.9	1.35	6.10	3.73	0	4.36	0	0.00		0.22	0.22	0.84	0.62	0.29	16.3	C-yi lulamisiwiel ku ringanela	Henhla	0.29
B52H	563.3	3.38	5.19	4.28	0	1.80	0.27	0.14		0.66	0.66	0.77	0.23	0.65	19.5	B-yi kulukumba hi ntumbuluko	Hansi	1.95
B52J	394.7	2.09	11.73	6.91	0	9.16	0.05	0.03		0.22	0.22	0.14	0.07	0.22	10.5	A-a yi lulamisiwanga	A xi na nkoka	1.73
B60A	209.4	12.93	10.44	11.69	11.46	9.77	48.12	29.79		0.02	11.48	0.13	0.01	0.06	88.8	A-a yi lulamisiwanga	Henhla	2.23
B60B	302.2	20.22	15.36	17.79	17.18	15.09	56.91	37.05	1.501	0.01	17.19	0.00	0.00	0.02	85.0	A-a yi lulamisiwanga	Ringanela	3.83
B60C	94.1	5.33	0.84	3.08	4.93	0.76	22.43	13.68	0.376	0.00	4.93	0.00	0.00	0.09	92.5	A-a yi lulamisiwanga	Ringanela	0.97

[illegible]	[illegible]	[illegible]		Regh lo Aqf	[illegible]				EWR_MLF (Mm3/a)	Ku hlayisiwa ka BHN (Mm3/a)	ntsengo wa ku hlayisiwa ka Gw (Mm3/a)	Ntsengo wa ku tirhisiwa ka mati ya G (Mm3/a)	Si a ku tirhisiwa ke Gw / Aqf Rech	(Mm3/a)	Ku hlayisiwa (% ka ku nyikiwa matimba)	Ntajo (GRDM)	Ku khumbeka ka Mati ya S	Mati ya G yo nyikeka (Mm3/a)
	[illegible]	WRSM2005	Exigo2009	Mpimo xikari	WRSM2013	Exigo2009	SRK2009	Mpimo xikari			=AW+BB	Cal'd	WRSM2013	Exigo2009		Ya pimeka	Ya hlamuseleka	Cal'd
B60D	243.5	15.98	9.27	12.62	14	7.61	20.57	17.29	1.694	0.15	14.15	0.00	0.00	0.18	88.5	A-a yi lulamisiwanga	Hansi	2.52
B60E	83.4	1.73	1.30	1.52	0.76	1.36	6.45	3.61		0.00	0.76	0.00	0.00	0.05	43.9	A-a yi lulamisiwanga	Ringanela	1.00
B60F	399.3	7.68	5.55	6.61	5.43	4.40	4.45	4.94	0.097	0.01	5.44	2.71	0.35	0.21	70.8	B-yi kulukumba hi ntumbuluko	A xi na nkoka	0.00
B60G	448.0	4.52	7.49	6.00	1.32	6.64	3.69	2.51		0.03	1.35	3.71	0.82	0.11	29.9	C-yi lulamisiwile ku ringanela	A xi na nkoka	0.00
B60H	384.6	7.58	11.30	9.44	6.15	9.84	4.37	5.26	0.181	0.14	6.29	5.34	0.70	0.18	83.0	D – yi lulamisiwile hi vukulukumba	Henhla	0.00
B60J	675.9	13.05	9.63	11.34	6.46	8.48	32.86	19.66	2.269	0.05	6.51	1.37	0.10	0.12	49.9	Aa yi lulamisiwanga	Hemnla	5.21
B71A	297.6	3.37	13.61	8.49	0	12.76	0.16	0.08		0.03	0.03	0.23	0.07	0.06	0.9	A-a yi lulamisiwanga	A xi na nkoka	3.11
B71B	274.3	2.11	7.39	4.75	0	6.58	0.04	0.02		0.07	0.07	0.19	0.09	0.11	3.3	A-a yi lulamisiwanga	Henhla	1.85
B71C	262.5	5.87	6.85	6.36	2.17	6.45	16.52	9.35		0.03	2.20	0.00	0.00	0.06	37.5	A-a yi lulamisiwanga	Henhla	3.78
B71D	227.1	4.03	1.97	3.00	1.98	1.11	6.92	4.45	1.865	0.10	2.08	0.22	0.05	0.44	51.6	A-a yi lulamisiwanga	A xi na nkoka	1.77
B71E	781.9	6.25	4.15	5.20	0	0.00	0.3	0.15		0.80	0.80	1.55	0.25	0.90	12.8	B-yi kulukumba hi ntumbuluko	A xi na nkoka	3.90
B71F	540.8	12.68	21.55	17.12	9.11	20.54	22.14	15.63	2.458	0.07	9.18	0.03	0.00	0.05	72.4	A-a yi lulamisiwanga	A xi na nkoka	3.84
B71G	244.9	6.94	5.25	6.10	3.97	4.32	11.3	7.64		0.13	4.10	0.22	0.03	0.18	59.1	A-a yi lulamisiwanga	A xi na nkoka	2.87
B71H	329.7	1.56	2.47	2.02	0	1.40	0	0.00		0.20	0.20	2.52	1.62	0.43	12.8	C-yi lulamisiwile ku ringanela	A xi na nkoka	0.00
B71J	78.5	0.18	0.48	0.33	0	0.36	0	0.00	3.011	0.01	0.01	0.00	0.00	0.26	5.6	A-a yi lulamisiwanga	A xi na nkoka	0.17
B72A	534.0	12.53	8.29	10.41	8.64	5.57	19.8	14.22		0.54	9.18	3.01	0.24	0.33	73.3	B-yi kulukumba hi ntumbuluko	Ringanela	0.56
B72B	331.7	1.37	3.02	2.20	0	2.81	0	0.00	0.285	0.00	0.00	0.06	0.04	0.07	0.0	Aa yi lulamisiwanga	Henhla	1.31
B72C	334.7	1.88	3.87	2.88	0	3.46	0	0.00		0.05	0.05	0.07	0.04	0.11	2.7	A-a yi lulamisiwanga	A xi na nkoka	1.76
B72D	922.2	6.54	8.72	7.63	0	7.55	0	0.00	7.339	0.01	0.01	4.49	0.69	0.13	0.2	B-yi kulukumba hi ntumbuluko	A xi na nkoka	2.04
B72E	320.1	8.54	2.76	5.65	4.9	0.36	12.71	8.81	0.024	0.45	5.35	0.90	0.11	0.87	62.6	B-yi kulukumba hi ntumbuluko	A xi na nkoka	2.48

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Kotare ya ndhawu ya laha mati ma tlengelatiwaka kona	Ndhawu (km²)	Ku nyika matimba (Mm³/a)		Rech to Aqf	Nkhuluko wa le tshakwini (Mm3/a)				EWR_MLF (Mm3/a)	Ku hlayisiwa ka BHN (Mm3/a)	ntsengo wa ku hlayisiwa ka Gw (Mm3/a)	Ntsengo wa ku tirhisiwa ka mati ya G (Mm3/a)	SI = Ku tirhisiwa ka Gw / Aqf Rech	(Mm3/a)	Ku hlayisiwa (% ka ku nyikiwa matimba)	Ntalo (GRDM)	Ku khumbeka ka Mati ya S	Mati ya G yo nyikeka (Mm3/a)
	GRA II	WSM2009	ExIgo2009	Mpimo xikarhi	WSM2013	ExIgo2009	SRK2009	Mpimo xikarhi			=AW+BB	Calc'd	WSM2013	ExIgo2009		Ya pimeka	Ya hlamuseleka	Cal'd
B72F	81.2	2.27	2.31	2.29	1.3	2.26	4.11	2.71		0.00	1.30	0.00	0.00	0.02	57.3	A-a yi lulamisiwanga	A xi na nkoka	1.07
B72G	47.9	0.12	0.56	0.34	0	0.48	0	0.00		0.01	0.01	0.43	3.58	0.13	8.3	E –yi lulamisiwile hi ntiyiso	Henhla	0.00
B72H	385.7	1.94	3.25	2.60	0	2.69	0	0.00		0.01	0.01	0.92	0.47	0.17	0.5	Byi kulukumba hi ntumbuluko	A xi na nkoka	1.01
B72J	537.4	2.91	2.64	2.77	0	2.22	0	0.00		0.03	0.03	0.16	0.05	0.16	1.0	Aa yi lulamisiwanga	A xi na nkoka	2.72
B72K	965.9	3.45	10.73	7.09	0	7.27	0	0.00	0.172	0.52	0.52	0.61	0.18	0.38	15.1	A-a yi lulamisiwanga	A xi na nkoka	2.32
B73A	164.5	2.20	2.76	2.48	1.29	1.07	11.37	6.33		0.00	1.29	0.00	0.00	0.61	58.6	Aa yi lulamisiwanga	A xi na nkoka	1.04
B73B	687.7	2.19	4.53	3.36	0	3.34	0	0.00	0.122	0.01	0.01	2.75	1.26	0.26	0.5	C-yi lulamisiwile ku ringanela	A xi na nkoka	0.00
B73C	880.0	3.19	11.16	7.18	0	10.12	0	0.00		0.65	0.65	1.01	0.32	0.09	20.4	Aa yi lulamisiwanga	A xi na nkoka	1.53
B73D	687.0	2.34	7.40	4.87	0	6.58	0	0.00		0.00	0.00	1.20	0.51	0.11	0.0	B-yi kulukumba hi ntumbuluko	A xi na nkoka	1.14
B73E	430.5	2.51	3.55	3.03	0	0.00	0	0.00		0.00	0.00	0.35	0.14	1.00	0.0	B-yi kulukumba hi ntumbuluko	A xi na nkoka	2.16
B73F	506.8	3.37	9.96	6.66	0	9.79	0	0.00		0.00	0.00	0.00	0.00	0.02	0.0	A-a yi lulamisiwanga	Henhla	3.37
B73G	733.2	4.31	15.44	9.88	0	12.84	0	0.00		0.00	0.00	0.00	0.00	0.07	0.0	A-a yi lulamisiwanga	Henhla	4.31
B73H	301.8	1.50	2.40	1.95	0	2.32	0	0.00		0.00	0.00	0.00	0.00	0.03	0.0	A-a yi lulamisiwanga	Henhla	1.50
B73J	254.5	1.55	2.07	1.81	0	0.00	0	0.00	7.713	0.00	0.00	0.00	0.00	0.69	0.0	A-a yi lulamisiwanga	Henhla	1.55
B81A	169.1	10.34		10.34	7.57			7.57	0.056	0.00	7.57	0.15	0.01	0.01	73.2	A-a yi lulamisiwanga	Henhla	10.19
B81B	481.2	20.32		20.32	1.12			1.12	0.398	0.00	1.12	2.64	0.13	0.13	5.5	B-yi kulukumba hi ntumbuluko	Henhla	17.68
B81C	208.4	16.27		16.27	10.54			10.54		0.00	10.54	5.47	0.34	0.34	64.8	C – yi lulamisiwile ku ringanela	Ringanela	10.80
B81D	478.8	12.84		12.84	1.59			1.59		3.00	4.59	4.13	0.32	0.32	35.7	C-yi lulamisiwile ku ringanela	A xi na nkoka	8.71
B81E	664.9	18.20		18.20	0.04			0.04	0.32	0.59	0.63	15.75	0.87	0.87	3.5	D – yi lulamisiwile hi vukulukumba	A xi na nkoka	2.45
B81F	1199.7	18.47		18.47	0.06			0.06		0.00	0.06	7.94	0.43	0.43	0.3	D – yi lulamisiwile hi vukulukumba	A xi na nkoka	10.53

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[illegible]	[illegible] (km²)	Ku vuyisa [illegible] (Mm3/a)		Rephito Api	Nkondzo wa [illegible] (Mm3/a)				EWR MLF (Mm3/a)	Ku hlayisiwa ka BHN (Mm3/a)	ntsengo wa ku hlayisiwa ka Gw (Mm3/a)	Ntsengo wa ku [illegible] (Mm3/a)	[illegible] Gw Y Api Reh	(Mm3/a)	Ku hlayisiwa (% ka ku nyikiwa matimba)	Ntajo (GRDM)	Ku khumbeka ka Mati ya S	Mati ya G yo nyikeka (Mm3/a)
	[illegible]	WSM2003	Exigo2009	Mpimo xikarhi	WSM2003	Exigo2009	SRK2009	Mpimo xikarhi			=AW+BB	Caled	WSM2013	Exigo2009		Ya pimeka	Ya hlamuseleka	Cal'd
B81G	512.5	12.58		12.58	0.13			0.13		0.00	0.13	5.06	0.40	0.40	1.0	D – yi lulamisiwile hi vukulukumba	A xi na nkoka	7.52
B81H	667.7	8.80		8.80	0.01			0.01		0.00	0.01	2.62	0.30	0.30	0.1	C – yi lulamisiwile ku ringanela	A xi na nkoka	6.18
B81J	567.0	6.34		6.34	0			0		0.00	0.00	0.00	0.00	0.00	0.0	A – a yi lulamisiwanga	A xi na nkoka	6.34
B82A	466.6	11.36		11.36	6.45			6.45		1.45	7.90	2.93	0.26	0.26	69.5	B-yi kulukumba hi ntumbuluko	Hansi	8.43
B82B	406.3	9.50		9.50	5.47			5.47		0.00	5.47	14.50	1.53	1.53	57.6	F-ku nonoha loku lulamisiweke	Hansi	0.00
B82C	299.7	7.14		7.14	3.27			3.27		0.00	3.27	13.00	1.82	1.82	45.8	E – ku lulamisiwa ka ntiyiso	Hansi	5.63
B82D	631.7	10.35		10.35	4.76			4.76		4.00	8.76	4.52	0.44	0.44	84.6	D-ku lulamisiwa ku kulukumba	Hansi	0.00
B82E	423.4	8.05		8.05	0.21			0.21		0.00	0.21	1.45	0.18	0.18	2.6	C – ku lulamisiwa ko ringanela	Hansi	6.60
B82F	759.8	14.30		14.30	1			1		0.00	1.00	1.43	0.10	0.10	7.0	B – yi kulukumba hi ntumbuluko	Hansi	12.87
B82G	920.2	10.75		10.75	0.01			0.01		0.00	0.01	0.06	0.01	0.06	0.1	B – yi kulukumba hi ntumbuluko	A xi na nkoka	10.15
B82J	748.7	9.27		9.27	0.01			0.01		0.00	0.01	0.00	0.00	0.00	0.1	A – a yi lulamisiwanga	A xi na nkoka	9.27
B82H	793.7	8.36		8.36	0.01			0.01		0.00	0.01	0.16	0.02	0.02	0.1	A – a yi lulamisiwanga	A xi na nkoka	8.36
B83A	1250.0	11.77		11.77	0.01			0.01		0.00	0.01	0.00	0.00	0.00	0.1	A – a yi lulamisiwanga	A xi na nkoka	11.77
B83B	438.8	5.71		5.71	0			0		0.00	0.00	0.00	0.00	0.00	0.0	A –a yi lulamisiwanga	A xi na nkoka	5.71
B83C	596.0	7.70		7.70	0.01			0.01		0.00	0.01	0.00	0.00	0.00	0.1	A – a yi lulamisiwanga	A xi na nkoka	7.70
B83D	783.7	7.88		7.88	0			0	2.015	0.00	0.00	0.00	0.00	0.00	0.0	A – a yi lulamisiwanga	A xi na nkoka	7.88
B83E	311.8	3.11		3.11	0			0		0.00	0.00	0.00	0.00	0.00	0.0	A –a yi lulamisiwanga	A xi na nkoka	3.11

7. MATI YA LE HANSI KA MISAVA- XIPHEMU XA NKOKA

Ku hlayisiwa ka swilaveko swa nkoka swa vanhu swi nyika swilaveko swa nkoka swa munhu un'we leswi tirhiwaka hi ndhawu ya laha mati ma kumekeka kona eka xivutiso naswona swi katsa mati yo nwa, ku lulamisiwa ka swakudya na nsivela mavabyi hi xiviri. Ntila wa vutomi wa 25 wa tilitara hi munhu hi siku ti tirhisiwile.

Eka ku tinyiketa ku hlayisa ka xiphemu xa nkoka hi nkarhi wa mahlelelo ya le xikarhi/yo hetiseka ndhawu ya mati ya le hansi ka misava ya nkoka yi xaxametiwile na ntlawa wo sungula wa nkoka lowu nga bumabumeriweke (SANS 241: 2006). Hakelo wa le hansi kumbe ku hlayisiwa ko tala ka nhlayiso leyimbirhi wu hlawuriwile. Eka mikarhi laha ndhawu ya nkoka yi nga hlawuriwa, yi tlakuka hi tiphesente to ringana 10. Eka mikarhi laha ndhawu ya nkoka, ya masungulo ya swa ntivo misava xi hundzisa hakelo lowu tiyisiweke, ndhawu ya mati ya nkoka ya tirhisiwa. Tindhawu to pfumala mati ya nkoka ti ta va tindhawu leti nga katsiwangiki eka ku kuma Xilaveko xo Hlayisa Swilaveko swa Vanhu swa Nkoka. Mati ya le hansi ka misava ya nkoka ya fanele ku landzelela swileriso na vuandlalo bya xikongomiwa xa mati ya nkoka tanihiloko byi kombisiwile eka **Tafula ra 7.1. na Tafula ra 7.2** ri kombisa nkatsakanyo wa mimbuyelo wa swiphemu swa nkoka eka levhele ya kotara hi kuya hi BHN.

Tafula ra 7.1: Mati ya nkoka ya khemikhali

Pharamitara ya khemikhali	**Xikongomiwa xa Vuandlalo bya Mati ya Nkoka**[1]				
	Tiyuniti	**Ntlawa wa 0**	**Ntlawa wa I**	**Ntlawa wa II**	**Ntlawa wa III**
Khalisiyamu tanihi Ca	mg/l	0 - 80	80 - 150	150 - 300	> 300
Magineziyamu tanihi Mg	mg/l	0 - 30	30 - 70	70 - 100	> 100
Sodiyamu tanihi Na	mg/l	0 - 100	100 - 200	200 - 400	> 400
Tlilkumbeayidi tanihi Cl	mg/l	0 - 100	100 - 200	200 - 600	> 600
Salifayiti tanihi SO_4	mg/l	0 - 200	200 - 400	400 - 600	> 600
Nayitireyiti tanihi NO_x N	mg/l	0 - 6	6 - 10	10 - 20	> 20
Flkumbeayidi tanihi F	mg/l	0 - 1	1 - 1.5	1.5 - 3.5	> 3.5
Mahuma ya bakitheriya ya le marhumbini	counts/100ml	0	0 - 1	1 - 10	> 10

1) Ref: Swiletelo swa Mati ya nkoka ya Afrika-Dzonga, Mpimo wo sungula: Ntirhiso wa Mati ya le Ndyangwini, Edixini ya vumbirhi.1996. Ndzawulo ya Timhaka ta Mati na Swihlahla. Pretkumbeia, Afrika-Dzonga
2) Ref: Swiletelo swa Mati ya nkoka ya Afrika-Dzonga, Vholumu yo sungula: Ntirhiso wa Mati ya le Ndyangwini, Edixini ya vumbirhi.1996. Ndzawulo ya Timhaka ta Mati na Swihlahla. Pretkumbeia, Afrika-Dzonga

Tafula ra 7.2: Mati ya nkoka ya xiviri

Pharamitara ya fizikali	**Xikongomiwa xa Vuandlalo bya Mati ya Nkoka**[2]				
	Tiyuniti	**Ntlawa wa 0**	**Ntlawa wa I**	**Ntlawa wa II**	**Ntlawa wa III**
pH (tiyuniti ta pH)		6 - 9	5 - 6 & 9 - 9.5	4 - 5&> 9.5 - 10	< 4 kumbe > 10
Ntsengo was wo Tiya leswi N'okisiweke	mg/l	0 - 450	450 - 1000	1000 - 2450	> 2450
Mfambiso wa swa gezi	mS/m	0 - 70	70 - 150	150 - 300	> 370

XIYAXIYA:

Ntlawa wa 0 lexi i xikongomelo xa mati ya nkoka, ya nga fanela ku tirhisiwa nkarhi wo leha, yo pfumala mbuyelo wo ka wu nga ri kahle eka rihanyo ra mutirhisi. Ntlawa lowu i xilaveko xa nkoka lexi fanaka na vuandlalo bya xikongomiwa xa mati ya nkoka eka edixini ya vumbirhi ya *Swiletelo swa Nkoka swa Mati ya Afrika-Dzonga ya ntirhiso eka swa muti* (DWAF, 1996)

Ntlawa wa I Mati eka ntlawa lowu ya hlayisekile ku tirhisiwa nkarhi wo leha, kambe ya kayivela xikongomelo xa mati ya nkoka ka leswaku ku nga va na mikarhi yo ka yi nga ri kahle ya mimbuyelo ya rihanyo, kambe leswi hi ntolovelo swi le xikarhi, na mimbuyelo ya rihanyo yo endliwa erivaleni yi le xikarhi ka swa xibedlhelentsongo no tlhela swi tika ku kombisa maendlelo. Mati eka ntlawa wa I a ya vangi mimbuyelo yo ka yi nga ri kahle eka rihanyo ehansi ka swiyimo swa ntolovelo. Mimbuyelo ya swa vumburhi yi nga, loko swi ri tano, yi nga va erivaleni.

Ntlawa wa II Mati eka ntlawa lowu ya hlamuseriwa tanihi laha mimbuyelo yo ka yi nga ri kahle eka rihanyo yi nga tolovelekangiki eka ntirhiso wa xinkarhana wo pimiwa. Mimbuyelo ya rihanyo yo ka yi nga ri kahle yi nga va leyi fanaka swinene ngopfungopfu na ntirhiso lowu nga lehisiwa ku hundza malembe yo tala, kumbe na ntirhiso wa nkarhi wo leha. Ntlawa lowu wu yimela mati lama nga fanela eka xinkarhana kumbe eka ntirhiso wa xihatla ntsena, kambe ya nga vi ngopfungopfu lama nga fanela ku tirhisiwa ku ya emahlweni nkarhi wo leha.

Ntlawa wa III Mati lama ma na swiphemu endzeni ka vuandlalo bya mpfanganyiso laha mimbuyelo ya ntiyiso ya rihanyo yi nga ta languteriwa, ngopfungopfu eka ticece kumbe vanhu lavakulu na ntirhiso wa xinkarhana, na ku tlula kwalaho na ntirhiso wa nkarhi wo leha. Mati eka ntlawa lowu a ya fanelanga ku tirhisiwa tanihi mati yo nwa handle ko va ya tengisiwa ku ringanela ku tshineta mati ku ya eka ntlawa wa le hansi wu tlhela wu hlayiseka.

XIYAXIYA: XIYIMO XA MATI YA KOTARA YA TINDHAWU YA LAHA MATI MA HLENGELETIWAKA KONA A TI HLERIWANGA HIKOKWALAHO KA MAHUNGU YO KA YA NGA ENELANGA (MPFUMALEKO WA SWITIVIWA XIYIMO XA MATI YA LE HANSI KA MISAVA YO YIMELEKA)

B11A, B11B, B11C, B11D, B11E, B11F, B11G, B11H, B11K, B11L, B11K, B11L, B12A, B12B, B12C, B12D, B12E, B20B, B20D, B20E, B20F, B20G, B20H, B20J, B21A, B31A, B31B, B31C, B31D, B31E, B31F, B31G, B32A,B32B, B32C, B32D, B32E, B41A, B41B, B41F, B42A, B42C, B42D, B42E, B42G, B42H, B51D, B51E, B51F, B60A, B60B, B60C, B60E, B60F, B60H, B60J, B71A, B71B, B71C, B71D, B71E, B71F, B71G, B71H, B771J, B72A, B72B, B72C, B72D, B72E, B72F, B72G, B72H, B72J, B73B, B72C, B72D, B72G, B72H, B72J, B81A, B81B, B81F, B81J, B82B, B82H, B83A, B83C, B83D, B83E

Tafula ra 7.3: Mimbuyelo ya Xiphemu xa Mati ya le Hansi ka Misava Swiphemu swa Nkoka

Pharamitara ya Khalisiyamu	Yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B20A			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le Hansi ka Misava [3]
pH	–	95	8.23	5.0 – 9.5	8.5
Mfambiso wa Gezi	mS/m	95	43.7	<150	48
Khalisiyamu tanihi Ca	mg/l	95	32.1	<150	35
Magineziyamu tanihi Mg	mg/l	95	22.2	<100	24
Sodiyamu tanihi Na	mg/l	95	10.0	<200	11
Photaxi tanihi K	mg/l	95	2.14	<50	2.3
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	95	150.8	N/A	165
Tlilkumbeayidi tanihi Cl	mg/l	95	15.5	<200	17
Salifeyiti tanihi SO_4	mg/l	95	15.2	<400	16
Nayitireyiti tanihi NO_x-N	mg/l	95	0.36	<10	0.40
Flkumbeayidi tanihi F	Mg/l	95	0.17	<1.0	0.19
				Ntlawa wa Mati ya Nkoka	**Ntlawa 0**

1 Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhuc eka QC).
2 Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998).
3 Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka.

Pharamitara ya Khemikhali	Yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B31H			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava[3]
pH	–	28	8.201	5.0 – 9.5	8.50
Mfambiso wa Gezi	mS/m	28	123.85	<150	136
Khalisiyamu tanihi Ca	mg/l	28	74.3495	<150	81
Magineziyamu tanihi Mg	mg/l	28	74.3055	<100	81
Sodiyamu tanihi Na	mg/l	28	93.461	<200	102
Photaxi tanihi K	mg/l	28	3.2095	<50	3.5
Vunkwabyo bya kalaka tanihi $CaCO_3$	mg/l	28	402.9	N/A	403[4]
Tlilkumbeayidi tanihi Cl	mg/l	28	71.0795	<200	78
Salifeyiti tanihi SO_4	mg/l	28	44.199	<400	48
Nayitireyiti tanihi NO_x-N	mg/l	28	25.0555	<10	25.0
Flkumbeayidi tanihi F	Mg/l	28	0.6355	<1.0	0.7
				Ntlawa wa Mati ya Nkoka	**Ntlawa III**

[1] .Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC)
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998)
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka.
[4] Swiyimo swa jiyolojikhali swa Ntumbuluko swi nga vanga swo tiya leswi n'okeke leswi tlakusiweke endzeni ka mati ya le hansi ka misava

Pharamitara ya Khemikhali	Yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B31J			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	83	7.927	5.0 – 9.5	8.25
Mfambiso wa Gezi	mS/m	83	89.3	<150	98
Khalisiyamu tanihi Ca	mg/l	83	64.445	<150	70
Magineziyamu tanihi Mg	mg/l	83	34.851	<100	38
Sodiyamu tanihi Na	mg/l	83	41.59	<200	45
Photaxi tanihi K	mg/l	83	6.61	<50	7.2
Vunkwabyo bya kalaka tanihi $CaCO_3$	mg/l	83	156.554	N/A	172
Tlilkumbeayidi tanihi Cl	mg/l	83	113.12	<200	124
Salifeyiti tanihi SO_4	mg/l	83	71.082	<400	78
Nayitireyiti tanihi NO_x-N	mg/l	83	9.768	<10	9.8
Flkumbeayidi tanihi F	Mg/l	83	0.387	<1.0	0.5
				Ntlawa wa Mati ya Nkoka	Ntlawa I

[1]. Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC)
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998)
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka.

Pharamitara ya Khemikhali	Yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B32F			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	71	7.53	5.0 – 9.5	7.75
Mfambiso wa Gezi	mS/m	71	10.9	<150	11
Khalisiyamu tanihi Ca	mg/l	71	5.129	<150	5
Magineziyamu tanihi Mg	mg/l	71	1.8	<100	1
Sodiyamu tanihi Na	mg/l	71	9.383	<200	10
Photaxi tanihi K	mg/l	71	2.98	<50	3.2
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	71	30	N/A	33
Tlilkumbeayidi tanihi Cl	mg/l	71	5	<200	5
Salifeyiti tanihi SO_4	mg/l	71	4.1	<400	4
Nayitireyiti tanihi NO_x-N	mg/l	71	0.462	<10	0.5
Flkumbeayidi tanihi F	Mg/l	71	0.26	<1.0	0.3
				Ntlawa wa Mati ya Nkoka	Ntlawa 0

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC)
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998)
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka

Pharamitara ya Khemikhali	Yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B32H			
		No. of Samples	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	10	8.07	5.0 – 9.5	8.5
Mfambiso wa Gezi	mS/m	10	32.75	<150	36
Khalisiyamu tanihi Ca	mg/l	10	15.4205	<150	16
Magineziyamu tanihi Mg	mg/l	10	3.919	<100	4
Sodiyamu tanihi Na	mg/l	10	27.375	<200	30
Photaxi tanihi K	mg/l	10	1.7715	<50	1.9
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	10	76.44	N/A	84
Tlilkumbeayidi tanihi Cl	mg/l	10	19.831	<200	21
Salifeyiti tanihi SO_4	mg/l	10	3.1255	<400	3
Nayitireyiti tanihi NO_x-N	mg/l	10	2.7245	<10	2.9
Flkumbeayidi tanihi F	Mg/l	10	0.684	<1.0	0.75
				Ntlawa wa Mati ya Nkoka	Ntlawa wa 0

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC)
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998)
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka

Pharamitara ya Khemikhali	Yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B32J			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	20	8.1255	5.0 – 9.5	8.5
Mfambiso wa Gezi	mS/m	20	34.75	<150	38
Khalisiyamu tanihi Ca	mg/l	20	25.0525	<150	27
Magineziyamu tanihi Mg	mg/l	20	3.9455	<100	4
Sodiyamu tanihi Na	mg/l	20	36.878	<200	40
Photaxi tanihi K	mg/l	20	3.288	<50	3.6
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	20	119.036	N/A	130
Tlilkumbeayidi tanihi Cl	mg/l	20	22.976	<200	25
Salifeyiti tanihi SO_4	mg/l	20	6.497	<400	7
Nayitireyiti tanihi NO_x-N	mg/l	20	0.6245	<10	0.6
Flkumbeayidi tanihi F	Mg/l	20	2.7755	<1.0	2.8
				Ntlawa wa Mati ya Nkoka	Ntlawa III

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC)
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998)
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka

Pharamitara ya Khemikhali	Yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B41C			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	35	8.13	5.0 – 9.5	8.5
Mfambiso wa Gezi	mS/m	35	55.2	<150	60
Khalisiyamu tanihi Ca	mg/l	35	66.099	<150	72
Magineziyamu tanihi Mg	mg/l	35	26.2	<100	28
Sodiyamu tanihi Na	mg/l	35	13.01	<200	14
Photaxi tanihi K	mg/l	35	0.5	<50	0.5
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	35	274.083	N/A	275
Tlilkumbeayidi tanihi Cl	mg/l	35	10.8	<200	11
Salifeyiti tanihi SO_4	mg/l	35	11.118	<400	12
Nayitireyiti tanihi NO_x-N	mg/l	35	0.703	<10	0.7
Flkumbeayidi tanihi F	Mg/l	35	0.11	<1.0	0.12
				Ntlawa wa Mati ya Nkoka	Ntlawa I

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998).
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka.

Pharamitara ya Khemikhali	Yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B41D			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	20	7.345	5.0 – 9.5	7.75
Mfambiso wa Gezi	mS/m	20	10.78	<150	11
Khalisiyamu tani Ca	mg/l	20	6.4	<150	7
Magineziyamu tanihi Mg	mg/l	20	2.059	<100	2
Sodiyamu tanihi Na	mg/l	20	7.424	<200	8
Photaxi tanihi K	mg/l	20	2.5015	<50	2.7
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	20	32.708	N/A	35
Tlilkumbeayidi tanihi Cl	mg/l	20	5	<200	5
Salifeyiti tanihi SO_4	mg/l	20	4.956	<400	5
Nayitireyiti tanihi NO_x-N	mg/l	20	0.294	<10	0.3
Flkumbeayidi tanihi F	Mg/l	20	0.4065	<1.0	0.44
				Ntlawa wa Mati ya Nkoka	Ntlawa 0

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998).
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka.

Pharamitara ya Khemikhali	Yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B41E			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	37	8.028	5.0 – 9.5	8.5
Mfambiso wa Gezi	mS/m	37	29	<150	31
Khalisiyamu tanihi Ca	mg/l	37	18.1	<150	19
Magineziyamu tanihi Mg	mg/l	37	4.039	<100	4
Sodiyamu tanihi Na	mg/l	37	21.117	<200	23
Photaxi tanihi K	mg/l	37	4.456	<50	4.9
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	37	109.16	N/A	120
Tlilkumbeayidi tanihi Cl	mg/l	37	7.398	<200	8
Salifeyiti tanihi SO_4	mg/l	37	6.603	<400	7
Nayitireyiti tanihi NO_x-N	mg/l	37	1.531	<10	1.6
Flkumbeayidi tanihi F	Mg/l	37	0.379	<1.0	0.41
				Ntlawa wa Mati ya Nkoka	Ntlawa 0

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998).
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka.

Pharamitara ya Khemikhali	yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B41G			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	13	8.055	5.0 – 9.5	8.5
Mfambiso wa Gezi	mS/m	13	59.2	<150	65
Khalisiyamu tanihi Ca	mg/l	13	51.605	<150	56
Magineziyamu tanihi Mg	mg/l	13	29.374	<100	32
Sodiyamu tanihi Na	mg/l	13	23.522	<200	25
Photaxi tanihi K	mg/l	13	0.796	<50	0.8
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	13	244	N/A	268
Tlilkumbeayidi tanihi Cl	mg/l	13	17.18	<200	18
Salifeyiti tanihi SO_4	mg/l	13	10.187	<400	11
Nayitireyiti tanihi NO_x-N	mg/l	13	0.055	<10	0.1
Flkumbeayidi tanihi F	Mg/l	13	0.1	<1.0	0.11
				Ntlawa wa Mati ya Nkoka	Ntlawa I

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998).
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka.

Pharamitara ya Khemikhali	yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B41H			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	109	8.187	5.0 – 9.5	8.5
Mfambiso wa Gezi	mS/m	109	91	<150	100
Khalisiyamu tanihi Ca	mg/l	109	70.6	<150	77
Magineziyamu tanihi Mg	mg/l	109	47.88	<100	52
Sodiyamu tanihi Na	mg/l	109	45.1	<200	49
Photaxi tanihi K	mg/l	109	0.995	<50	1.1
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	109	259.5	N/A	285
Tlilkumbeayidi tanihi Cl	mg/l	109	58.3	<200	64
Salifeyiti tanihi SO_4	mg/l	109	44.9715	<400	49
Nayitireyiti tanihi NO_x-N	mg/l	109	5.692	<10	6.2
Flkumbeayidi tanihi F	Mg/l	109	0.24	<1.0	0.26
				Ntlawa wa Mati ya Nkoka	Ntlawa I

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998).
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka.

Pharamitara ya Khemikhali	yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B41J			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	134	8.292	5.0 – 9.5	8.5
Mfambiso wa Gezi	mS/m	134	89.45	<150	98
Khalisiyamu tanihi Ca	mg/l	134	37.69	<150	41
Magineziyamu tanihi Mg	mg/l	134	71.6125	<100	78
Sodiyamu tanihi Na	mg/l	134	29.1	<200	32
Photaxi tanihi K	mg/l	134	1.2445	<50	1.3
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	134	345.7	N/A	346[4]
Tlilkumbeayidi tanihi Cl	mg/l	134	43.5825	<200	47
Salifeyiti tanihi SO_4	mg/l	134	30.315	<400	33
Nayitireyiti tanihi NO_x-N	mg/l	134	6.5185	<10	7.1
Flkumbeayidi tanihi F	Mg/l	134	0.1275	<1.0	0.14
				Ntlawa wa Mati ya Nkoka	Ntlawa I

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998).
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava

Pharamitara ya Khemikhali	yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B41K			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	60	8.1035	5.0 – 9.5	8.5
Mfambiso wa Gezi	mS/m	60	110.75	<150	121
Khalisiyamu tanihi Ca	mg/l	60	54.651	<150	60
Magineziyamu tanihi Mg	mg/l	60	61.1175	<100	67
Sodiyamu tanihi Na	mg/l	60	81.835	<200	90
Photaxi tanihi K	mg/l	60	2.789	<50	3.1
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	60	362.1	N/A	362[4]
Tlilkumbeayidi tanihi Cl	mg/l	60	80.582	<200	88
Salifeyiti tanihi SO_4	mg/l	60	40.9105	<400	45
Nayitireyiti tanihi NO_x-N	mg/l	60	3.9235	<10	4.3
Flkumbeayidi tanihi F	Mg/l	60	0.484	<1.0	0.53
				Ntlawa wa Mati ya Nkoka	**Ntlawa I**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998).
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava

Pharamitara ya Khemikhali	yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B42B			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	39	7.523	5.0 – 9.5	7.75
Mfambiso wa Gezi	mS/m	40	5.79	<150	6
Khalisiyamu tanihi Ca	mg/l	40	4.299	<150	4
Magineziyamu tanihi Mg	mg/l	40	2.176	<100	2
Sodiyamu tanihi Na	mg/l	40	2.19	<200	2
Photaxi tanihi K	mg/l	40	0.3275	<50	0.3
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	40	17.932	N/A	19
Tlilkumbeayidi tanihi Cl	mg/l	40	3.25	<200	3
Salifeyiti tanihi SO_4	mg/l	40	3	<400	3
Nayitireyiti tanihi NO_x-N	mg/l	40	0.6955	<10	0.8
Flkumbeayidi tanihi F	Mg/l	40	0.104	<1.0	0.11
				Ntlawa wa Mati ya Nkoka	**Ntlawa 0**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998).
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava

Pharamitara ya Khemikhali	yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B42F			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	37	7.93	5.0 – 9.5	8.25
Mfambiso wa Gezi	mS/m	37	59	<150	64
Khalisiyamu tanihi Ca	mg/l	37	17.146	<150	18
Magineziyamu tanihi Mg	mg/l	37	52.835	<100	58
Sodiyamu tanihi Na	mg/l	37	14.4	<200	15
Photaxi tanihi K	mg/l	37	0.853	<50	0.9
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	37	154.3	N/A	169
Tlilkumbeayidi tanihi Cl	mg/l	37	53.976	<200	59
Salifeyiti tanihi SO_4	mg/l	37	17.706	<400	19
Nayitireyiti tanihi NO_x-N	mg/l	37	8.679	<10	9.5
Flkumbeayidi tanihi F	Mg/l	37	0.206	<1.0	0.22
				Ntlawa wa Mati ya Nkoka	**Ntlawa I**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998).
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka.

Pharamitara ya Khemikhali	yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B51A			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	50	7.568	5.0 – 9.5	7.75
Mfambiso wa Gezi	mS/m	50	14.4	<150	15
Khalisiyamu tanihi Ca	mg/l	50	6.838	<150	7
Magineziyamu tanihi Mg	mg/l	50	2.27	<100	2
Sodiyamu tanihi Na	mg/l	50	11.348	<200	12
Photaxi tanihi K	mg/l	50	3.835	<50	4.3
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	50	35.5425	N/A	39
Tlilkumbeayidi tanihi Cl	mg/l	50	6.6835	<200	7
Salifeyiti tanihi SO_4	mg/l	50	2	<400	2
Nayitireyiti tanihi NO_x-N	mg/l	50	3.5095	<10	3.8
Flkumbeayidi tanihi F	Mg/l	50	0.418	<1.0	0.45
				Ntlawa wa Mati ya Nkoka	**Ntlawa 0**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998).
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka.

Pharamitara ya Khemikhali	yuniti	Ndhawu ya laha mati ma hlengeletiwaka kona ya Nambu wa Olifants QC B51B			
		No. ya tisampulu	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Nhlayiso wa BHN[2)]	Nhlayiso wa Mati ya Nkoka ya le hansi ka Misava [3]
pH	–	62	7.908	5.0 – 9.5	8.25
Mfambiso wa Gezi	mS/m	62	20.95	<150	23
Khalisiyamu tanihi Ca	mg/l	62	9.1095	<150	10
Magineziyamu tanihi Mg	mg/l	62	2.1195	<100	2
Sodiyamu tanihi Na	mg/l	62	18.919	<200	20
Photaxi tanihi K	mg/l	62	2.91	<50	3.2
Vunkwabyo bya Kalaka tanihi $CaCO_3$	mg/l	62	62.909	N/A	69
Tlilkumbeayidi tanihi Cl	mg/l	62	8.565	<200	9
Salifeyiti tanihi SO_4	mg/l	62	3.091	<400	3
Nayitireyiti tanihi NO_x-N	mg/l	62	1.0575	<10	1.2
Flkumbeayidi tanihi F	Mg/l	62	0.9945	<1.0	1.0
				Ntlawa wa Mati ya Nkoka	Ntlawa II

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka eka tisampulu ta nhlayo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa I wa mati ya nkoka (DWAF et al 1998).
[3] Xikarhi na 10 wa tiphesente ta ku Hlayisiwa ka Mati ya le Hansi ka Misava ya Nkoka.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B51C			
		Nhlayo ya swikombiso	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	55	7.954	5.0 – 9.5	8.25
Maendlelo yo Fambisa Gezi	mS/m	55	51.4	<150	56
Khalisiyamu tanihi Ca	mg/l	55	40.544	<150	44
Manganisi tanihi Mg	mg/l	55	8.812	<100	9
Sodiyamu tanihi Na	mg/l	55	47.532	<200	52
Photheziyamu tanihi K	mg/l	55	3.095	<50	3.4
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	55	122.026	Ku hava	134
Tlilkumbeayidi tanihi Cl	mg/l	55	41.026	<200	45
Salipheyiti tanihi SO_4	mg/l	55	18.15	<400	19
Nitireyiti tanihi NO_x-N	mg/l	55	3.955	<10	4.3
Fulkumbeayidi tanihi F	Mg/l	55	2.171	<1.0	2.2
				Ntlawa wa mati ya nkoka	Ntlawa wa nharhu

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B51E			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	117	8.04	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	117	112.2	<150	123
Khalisiyamu tanihi Ca	mg/l	117	86.1	<150	94
Manganisi tanihi Mg	mg/l	117	54.055	<100	59
Sodiyamu tanihi Na	mg/l	117	61.675	<200	67
Photheziyamu tanihi K	mg/l	117	4.345	<50	4.8
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	117	260.7	N/A	286
Tlilkumbeayidi tanihi Cl	mg/l	117	74.8	<200	82
Salipheyiti tanihi SO_4	mg/l	117	58.789	<400	64
Nitireyiti tanihi NO_x-N	mg/l	117	23.174	<10	23
Fulkumbeayidi tanihi F	Mg/l	117	0.345	<1.0	0.4
				Ntlawa wa mati ya nkoka	Ntlawa wa nharhu

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B51G			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi [1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	168	8.2285	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	168	90.6	<150	99
Khalisiyamu tanihi Ca	mg/l	168	54.406	<150	59
Manganisi tanihi Mg	mg/l	168	35.9285	<100	39
Sodiyamu tanihi Na	mg/l	168	61.381	<200	67
Photheziyamu tanihi K	mg/l	168	3.785	<50	4.1
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	168	250.4975	N/A	275
Tlilkumbeayidi tanihi Cl	mg/l	168	82.078	<200	90
Salipheyiti tanihi SO_4	mg/l	168	17.7	<400	19
Nitireyiti tanihi NO_x-N	mg/l	168	5.333	<10	5.8
Fulkumbeayidi tanihi F	Mg/l	168	0.2945	<1.0	0.32
				Ntlawa wa mati ya nkoka	Ntlawa wa n'we

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B51H			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	219	7.978	5.0 – 9.5	8.25
Maendlelo yo Fambisa Gezi	mS/m	219	39.3	<150	43
Khalisiyamu tanihi Ca	mg/l	219	25.6	<150	28
Manganisi tanihi Mg	mg/l	219	5.1	<100	5
Sodiyamu tanihi Na	mg/l	219	33.852	<200	37
Photheziyamu tanihi K	mg/l	219	2.979	<50	3.3
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	219	103.8	N/A	114
Tlilkumbeayidi tanihi Cl	mg/l	219	27.699	<200	30
Salipheyiti tanihi SO_4	mg/l	219	6.5	<400	7
Nitireyiti tanihi NO_x-N	mg/l	219	2.75	<10	3.1
Fulkumbeayidi tanihi F	Mg/l	219	0.818	<1.0	1.00[4]
				Ntlawa wa mati ya nkoka	Ntlawa wa mbirhi

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B52A			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	95	8.251	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	95	116.3	<150	127
Khalisiyamu tanihi Ca	mg/l	95	69.871	<150	76
Manganisi tanihi Mg	mg/l	95	47.17	<100	51
Sodiyamu tanihi Na	mg/l	95	113.292	<200	124
Photheziyamu tanihi K	mg/l	95	6.052	<50	6.6
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	95	320.786	Ku hava	321[4]
Tlilkumbeayidi tanihi Cl	mg/l	95	142.676	<200	156
Salipheyiti tanihi SO_4	mg/l	95	48.865	<400	53
Nitireyiti tanihi NO_x-N	mg/l	95	14.852	<10	14.9
Fulkumbeayidi tanihi F	Mg/l	95	1.232	<1.0	1.23[4]
				Ntlawa wa mati ya nkoka	Ntlawa wa vumbirhi

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B52B			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	267	8.175	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	268	94.3	<150	103
Khalisiyamu tanihi Ca	mg/l	268	78.1675	<150	85
Manganisi tanihi Mg	mg/l	268	52.385	<100	57
Sodiyamu tanihi Na	mg/l	268	48.44	<200	53
Photheziyamu tanihi K	mg/l	268	0.932	<50	1.0
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	268	336.5035	Ku hava	337[4]
Tlilkumbeayidi tanihi Cl	mg/l	268	58.677	<200	64
Salipheyiti tanihi SO_4	mg/l	268	23.316	<400	25
Nitireyiti tanihi NO_x-N	mg/l	268	12.3475	<10	13.5
Fulkumbeayidi tanihi F	Mg/l	268	0.173	<1.0	0.19
				Ntlawa wa mati ya nkoka	**Ntlawa wa vumbirhi**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B52C			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	15	8.12	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	15	76.4	<150	84
Khalisiyamu tanihi Ca	mg/l	15	57.541	<150	63
Manganisi tanihi Mg	mg/l	15	26.2	<100	28
Sodiyamu tanihi Na	mg/l	15	48.3	<200	53
Photheziyamu tanihi K	mg/l	15	2.526	<50	2.7
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	15	259.21	N/A	285
Tlilkumbeayidi tanihi Cl	mg/l	15	42.701	<200	46
Salipheyiti tanihi SO_4	mg/l	15	15.788	<400	17
Nitireyiti tanihi NO_x-N	mg/l	15	4.477	<10	4.9
Fulkumbeayidi tanihi F	Mg/l	15	0.282	<1.0	0.31
				Ntlawa wa mati ya nkoka	**Ntlawa wa mbirhi**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B52D			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	66	8.124	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	66	129	<150	141
Khalisiyamu tanihi Ca	mg/l	66	80.419	<150	88
Manganisi tanihi Mg	mg/l	66	75.161	<100	82
Sodiyamu tanihi Na	mg/l	66	73.681	<200	81
Photheziyamu tanihi K	mg/l	66	3.373	<50	3.7
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	66	368.735	N/A	369[4]
Tlilkumbeayidi tanihi Cl	mg/l	66	155.5865	<200	171
Salipheyiti tanihi SO_4	mg/l	66	68.1475	<400	74
Nitireyiti tanihi NO_x-N	mg/l	66	8.625	<10	9.5
Fulkumbeayidi tanihi F	Mg/l	66	0.463	<1.0	0.50
				Ntlawa wa mati ya nkoka	**Ntlawa wa mbirhi**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B52E			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	92	8.19	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	92	187	<150	<150[4]
Khalisiyamu tanihi Ca	mg/l	92	93.099	<150	102
Manganisi tanihi Mg	mg/l	92	99.779	<100	109
Sodiyamu tanihi Na	mg/l	92	130.3125	<200	143
Photheziyamu tanihi K	mg/l	92	0.9365	<50	1.1
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	92	353.535	N/A	354[4]
Tlilkumbeayidi tanihi Cl	mg/l	92	271.372	<200	271[4]
Salipheyiti tanihi SO_4	mg/l	92	92.543	<400	101
Nitireyiti tanihi NO_x-N	mg/l	92	20.1515	<10	20.2
Fulkumbeayidi tanihi F	Mg/l	92	0.1425	<1.0	0.16
				Ntlawa wa mati ya nkoka	**Ntlawa wa nharhu**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B52F			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	16	8.2865	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	16	63.55	<150	69
Khalisiyamu tanihi Ca	mg/l	16	39.18	<150	43
Manganisi tanihi Mg	mg/l	16	19.85	<100	21
Sodiyamu tanihi Na	mg/l	16	76.3	<200	83
Photheziyamu tanihi K	mg/l	16	2.86	<50	3.1
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	16	260.7275	<330	286
Tlilkumbeayidi tanihi Cl	mg/l	16	26.6075	<200	29
Salipheyiti tanihi SO_4	mg/l	16	8.8	<400	9
Nitireyiti tanihi NO_x-N	mg/l	16	1.1595	<10	1.2
Fulkumbeayidi tanihi F	Mg/l	16	1.45	<1.0	1.5
				Ntlawa wa mati ya nkoka	Ntlawa wa mbirhi

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B52G			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	29	8.152	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	29	105.1	<150	115
Khalisiyamu tanihi Ca	mg/l	29	84.691	<150	93
Manganisi tanihi Mg	mg/l	29	69.516	<100	76
Sodiyamu tanihi Na	mg/l	29	52.144	<200	57
Photheziyamu tanihi K	mg/l	29	2.33	<50	2.5
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	29	356.471	<330	356[4]
Tlilkumbeayidi tanihi Cl	mg/l	29	94.103	<200	103
Salipheyiti tanihi SO_4	mg/l	29	31	<400	34
Nitireyiti tanihi NO_x-N	mg/l	29	12.666	<10	12.7
Fulkumbeayidi tanihi F	Mg/l	29	0.253	<1.0	0.27
				Ntlawa wa mati ya nkoka	Ntlawa wa mbirhi

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B52H			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	64	8.094	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	64	91.65	<150	100
Khalisiyamu tanihi Ca	mg/l	64	58.418	<150	64
Manganisi tanihi Mg	mg/l	64	32.033	<100	35
Sodiyamu tanihi Na	mg/l	64	62.1165	<200	68
Photheziyamu tanihi K	mg/l	64	2.675	<50	2.9
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	64	241.4405	N/A	265
Tlilkumbeayidi tanihi Cl	mg/l	64	71.774	<200	78
Salipheyiti tanihi SO_4	mg/l	64	26.55	<400	29
Nitireyiti tanihi NO_x-N	mg/l	64	9.7805	<10	9.8
Fulkumbeayidi tanihi F	Mg/l	64	0.538	<1.0	0.59
				Ntlawa wa mati ya nkoka	Ntlawa wa mbirhi

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B52J			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	78	8.144	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	78	109.35	<150	120
Khalisiyamu tanihi Ca	mg/l	78	69.1765	<150	76
Manganisi tanihi Mg	mg/l	78	71.318	<100	78
Sodiyamu tanihi Na	mg/l	78	62.3	<200	68
Photheziyamu tanihi K	mg/l	78	1.63	<50	1.7
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	78	334.125	Ku hava	367
Tlilkumbeayidi tanihi Cl	mg/l	78	86.681	<200	95
Salipheyiti tanihi SO_4	mg/l	78	52.3	<400	57
Nitireyiti tanihi NO_x-N	mg/l	78	10.5165	<10	11
Fulkumbeayidi tanihi F	Mg/l	78	0.135	<1.0	0.14
				Ntlawa wa mati ya nkoka	Ntlawa wa mbirhi

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B60D			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	42		5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	42	44.65	<150	49
Khalisiyamu tanihi Ca	mg/l	42	45.0725	<150	49
Manganisi tanihi Mg	mg/l	42	26.8335	<100	29
Sodiyamu tanihi Na	mg/l	42	5.362	<200	5
Photheziyamu tanihi K	mg/l	42	0.512	<50	0.5
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	42	211.7055	N/A	232
Tlilkumbeayidi tanihi Cl	mg/l	42	5	<200	5
Salipheyiti tanihi SO_4	mg/l	42	4.35	<400	4
Nitireyiti tanihi NO_x-N	mg/l	42	2.74	<10	3.0
Fulkumbeayidi tanihi F	Mg/l	42	0.183	<1.0	0.20
				Ntlawa wa mati ya nkoka	Ntlawa wa n'we

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B60G			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	12	8.2325	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	12	61.6	<150	67
Khalisiyamu tanihi Ca	mg/l	12	40.2825	<150	44
Manganisi tanihi Mg	mg/l	12	32.098	<100	35
Sodiyamu tanihi Na	mg/l	12	45.8895	<200	50
Photheziyamu tanihi K	mg/l	12	0.6575	<50	0.7
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	12	233.8585	N/A	257
Tlilkumbeayidi tanihi Cl	mg/l	12	50.102	<200	55
Salipheyiti tanihi SO_4	mg/l	12	14.519	<400	15
Nitireyiti tanihi NO_x-N	mg/l	12	1.812	<10	1.9
Fulkumbeayidi tanihi F	Mg/l	12	0.453	<1.0	0.49
				Ntlawa wa mati ya nkoka	Ntlawa wa n'we

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B60H			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	26	7.998	5.0 – 9.5	8.25
Maendlelo yo Fambisa Gezi	mS/m	26	51.25	<150	56
Khalisiyamu tanihi Ca	mg/l	26	41.6925	<150	45
Manganisi tanihi Mg	mg/l	26	21.389	<100	23
Sodiyamu tanihi Na	mg/l	26	18.465	<200	20
Photheziyamu tanihi K	mg/l	26	0.6945	<50	0.7
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	26	204.4145	N/A	224
Tlilkumbeayidi tanihi Cl	mg/l	26	15.6565	<200	17
Salipheyiti tanihi SO_4	mg/l	26	10.8385	<400	11
Nitireyiti tanihi NO_x-N	mg/l	26	0.916	<10	1.0
Fulkumbeayidi tanihi F	Mg/l	26	0.1825	<1.0	0.20
				Ntlawa wa mati ya nkoka	Ntlawa wa n'we

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B60J			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	22	7.819	5.0 – 9.5	8.00
Maendlelo yo Fambisa Gezi	mS/m	22	148	<150	150[4]
Khalisiyamu tanihi Ca	mg/l	22	73.509	<150	80
Manganisi tanihi Mg	mg/l	22	60.6	<100	66
Sodiyamu tanihi Na	mg/l	22	154.017	<200	169
Photheziyamu tanihi K	mg/l	22	3.585	<50	3.9
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	22	381.78	N/A	382[4]
Tlilkumbeayidi tanihi Cl	mg/l	22	166.4	<200	183
Salipheyiti tanihi SO_4	mg/l	22	82.4675	<400	90
Nitireyiti tanihi NO_x-N	mg/l	22	7.887	<10	8.7
Fulkumbeayidi tanihi F	Mg/l	22	0.62	<1.0	0.68
				Ntlawa wa mati ya nkoka	Ntlawa wa n'we

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B71A			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	25	8.18	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	25	75.9	<150	83
Khalisiyamu tanihi Ca	mg/l	25	41.692	<150	45
Manganisi tanihi Mg	mg/l	25	35.6	<100	39
Sodiyamu tanihi Na	mg/l	25	27.457	<200	30
Photheziyamu tanihi K	mg/l	25	2.488	<50	2.7
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	25	239.8	N/A	263
Tlilkumbeayidi tanihi Cl	mg/l	25	43.299	<200	47
Salipheyiti tanihi SO_4	mg/l	25	14.9	<400	16
Nitireyiti tanihi NO_x-N	mg/l	25	3.908	<10	4.3
Fulkumbeayidi tanihi F	Mg/l	25	0.2	<1.0	0.22
				Ntlawa wa mati ya nkoka	**Ntlawa wa n'we**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B71B			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	22	8.245	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	22	116.45	<150	128
Khalisiyamu tanihi Ca	mg/l	22	43.1465	<150	47
Manganisi tanihi Mg	mg/l	22	86.0155	<100	94
Sodiyamu tanihi Na	mg/l	22	58.222	<200	64
Photheziyamu tanihi K	mg/l	22	2.425	<50	2.7
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	22	393.132	N/A	393[4]
Tlilkumbeayidi tanihi Cl	mg/l	22	111.8245	<200	123
Salipheyiti tanihi SO_4	mg/l	22	39.897	<400	43
Nitireyiti tanihi NO_x-N	mg/l	22	4.1535	<10	4.6
Fulkumbeayidi tanihi F	Mg/l	22	0.161	<1.0	0.17
				Ntlawa wa mati ya nkoka	**Ntlawa wa mbirhi**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B71D			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	9	8.123	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	9	70	<150	77
Khalisiyamu tanihi Ca	mg/l	9	33.574	<150	36
Manganisi tanihi Mg	mg/l	9	18.525	<100	20
Sodiyamu tanihi Na	mg/l	9	18.321	<200	20
Photheziyamu tanihi K	mg/l	9	3.815	<50	4.1
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	9	219.423	N/A	241
Tlilkumbeayidi tanihi Cl	mg/l	9	35.581	<200	39
Salipheyiti tanihi SO_4	mg/l	9	9.179	<400	10
Nitireyiti tanihi NO_x-N	mg/l	9	0.515	<10	0.6
Fulkumbeayidi tanihi F	Mg/l	9	0.18	<1.0	0.19
				Ntlawa wa mati ya nkoka	Ntlawa wa n'we

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B71E			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	180	8.283	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	180	93.05	<150	102
Khalisiyamu tanihi Ca	mg/l	180	42.4955	<150	46
Manganisi tanihi Mg	mg/l	180	73.983	<100	81
Sodiyamu tanihi Na	mg/l	180	34.421	<200	37
Photheziyamu tanihi K	mg/l	180	1.402	<50	1.5
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	180	363.32	N/A	363[4]
Tlilkumbeayidi tanihi Cl	mg/l	180	55.85	<200	61
Salipheyiti tanihi SO_4	mg/l	177	25.37	<400	27
Nitireyiti tanihi NO_x-N	mg/l	180	10.442	<10	10.4
Fulkumbeayidi tanihi F	Mg/l	180	0.1155	<1.0	0.12
				Ntlawa wa mati ya nkoka	Ntlawa wa mbirhi

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B71F			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	46	8.2235	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	46	84.5	<150	92
Khalisiyamu tanihi Ca	mg/l	46	74.201	<150	81
Manganisi tanihi Mg	mg/l	46	37.6255	<100	41
Sodiyamu tanihi Na	mg/l	46	44.6935	<200	49
Photheziyamu tanihi K	mg/l	46	2.189	<50	2.4
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	46	258.762	N/A	284
Tlilkumbeayidi tanihi Cl	mg/l	46	88.4355	<200	97
Salipheyiti tanihi SO_4	mg/l	46	51.892	<400	57
Nitireyiti tanihi NO_x-N	mg/l	46	0.925	<10	1.0
Fulkumbeayidi tanihi F	Mg/l	46	0.3	<1.0	0.33
				Ntlawa wa mati ya nkoka	**Ntlawa wa n'we**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B71G			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	16	8.216	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	16	65.6	<150	72
Khalisiyamu tanihi Ca	mg/l	16	52.8585	<150	58
Manganisi tanihi Mg	mg/l	16	47.3295	<100	52
Sodiyamu tanihi Na	mg/l	16	13.832	<200	15
Photheziyamu tanihi K	mg/l	16	1.1435	<50	1.3
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	16	304.0185	N/A	304[4]
Tlilkumbeayidi tanihi Cl	mg/l	16	16.358	<200	17
Salipheyiti tanihi SO_4	mg/l	16	11.1915	<400	12
Nitireyiti tanihi NO_x-N	mg/l	16	2.496	<10	2.7
Fulkumbeayidi tanihi F	Mg/l	16	0.2525	<1.0	0.27
				Ntlawa wa mati ya nkoka	**Ntlawa wa mbirhi**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B71H			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	56	7.945	5.0 – 9.5	8.0
Maendlelo yo Fambisa Gezi	mS/m	56	93.6	<150	102
Khalisiyamu tanihi Ca	mg/l	56	55.15	<150	60
Manganisi tanihi Mg	mg/l	56	31.1	<100	34
Sodiyamu tanihi Na	mg/l	56	68.05	<200	74.
Photheziyamu tanihi K	mg/l	56	2.465	<50	2.7
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	56	303.4585	N/A	303[4]
Tlilkumbeayidi tanihi Cl	mg/l	56	65.056	<200	71
Salipheyiti tanihi SO_4	mg/l	56	12.6	<400	13
Nitireyiti tanihi NO_x-N	mg/l	56	0.741	<10	0.8
Fulkumbeayidi tanihi F	Mg/l	56	0.446	<1.0	0.49
				Ntlawa wa mati ya nkoka	Ntlawa wa mbirhi

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B72A			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	100	7.915	5.0 – 9.5	8.25
Maendlelo yo Fambisa Gezi	mS/m	100	46.45	<150	51
Khalisiyamu tanihi Ca	mg/l	100	33.95	<150	37
Manganisi tanihi Mg	mg/l	100	16.7285	<100	18
Sodiyamu tanihi Na	mg/l	100	30.7	<200	33
Photheziyamu tanihi K	mg/l	100	1.8155	<50	1.9
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	100	176.85	N/A	194
Tlilkumbeayidi tanihi Cl	mg/l	100	23.8	<200	26
Salipheyiti tanihi SO_4	mg/l	100	7.112	<400	7
Nitireyiti tanihi NO_x-N	mg/l	100	1.0335	<10	1.1
Fulkumbeayidi tanihi F	Mg/l	100	0.2755	<1.0	0.30
				Ntlawa wa mati ya nkoka	Ntlawa wa ziro

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B72C			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	26	8.17	5.0 – 9.5	8.50
Maendlelo yo Fambisa Gezi	mS/m	26	125.65	<150	138
Khalisiyamu tanihi Ca	mg/l	26	51.7	<150	56
Manganisi tanihi Mg	mg/l	26	37.25	<100	40
Sodiyamu tanihi Na	mg/l	26	175.8	<200	193
Photheziyamu tanihi K	mg/l	26	2.63	<50	2.8
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	26	442.65	N/A	443[4]
Tlilkumbeayidi tanihi Cl	mg/l	26	138.187	<200	152
Salipheyiti tanihi SO_4	mg/l	26	20.564	<400	22
Nitireyiti tanihi NO_x-N	mg/l	26	0.66	<10	0.7
Fulkumbeayidi tanihi F	Mg/l	26	0.7885	<1.0	0.86
				Ntlawa wa mati ya nkoka	Ntlawa wa mbirhi

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B72E			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	101	8.035	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	101	53.3	<150	58
Khalisiyamu tanihi Ca	mg/l	101	39.2	<150	43
Manganisi tanihi Mg	mg/l	101	26.2	<100	28
Sodiyamu tanihi Na	mg/l	101	26.5	<200	29
Photheziyamu tanihi K	mg/l	101	0.898	<50	0.9
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	101	236.548	N/A	260
Tlilkumbeayidi tanihi Cl	mg/l	101	13.9	<200	15
Salipheyiti tanihi SO_4	mg/l	101	4.3	<400	4
Nitireyiti tanihi NO_x-N	mg/l	101	1.927	<10	2.1
Fulkumbeayidi tanihi F	Mg/l	101	0.227	<1.0	0.24
				Ntlawa wa mati ya nkoka	Ntlawa wa n'we

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B72J			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	47	8.038	5.0 – 9.5	8.50
Maendlelo yo Fambisa Gezi	mS/m	47	110.23	<150	121
Khalisiyamu tanihi Ca	mg/l	47	64.86	<150	71
Manganisi tanihi Mg	mg/l	47	69.761	<100	76
Sodiyamu tanihi Na	mg/l	47	69.6	<200	76
Photheziyamu tanihi K	mg/l	47	0.65	<50	0.7
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	47	381.88	N/A	382[4]
Tlilkumbeayidi tanihi Cl	mg/l	47	101.636	<200	111
Salipheyiti tanihi SO_4	mg/l	47	41.281	<400	45
Nitireyiti tanihi NO_x-N	mg/l	47	9.989	<10	10
Fulkumbeayidi tanihi F	Mg/l	47	0.3	<1.0	0.33
				Ntlawa wa mati ya nkoka	Ntlawa wa mbirhi

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B72K			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	61	8.21	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	61	180	<150	180[4]
Khalisiyamu tanihi Ca	mg/l	61	61.681	<150	67
Manganisi tanihi Mg	mg/l	61	61.2	<100	67
Sodiyamu tanihi Na	mg/l	61	223.785	<200	224[4]
Photheziyamu tanihi K	mg/l	61	5.38	<50	5.9
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	61	459	N/A	459[4]
Tlilkumbeayidi tanihi Cl	mg/l	61	244.7	<200	245[4]
Salipheyiti tanihi SO_4	mg/l	61	54.8	<400	60
Nitireyiti tanihi NO_x-N	mg/l	61	9.088	<10	9.9
Fulkumbeayidi tanihi F	Mg/l	61	0.642	<1.0	0.70
				Ntlawa wa mati ya nkoka	Ntlawa wa mbirhi

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B73A			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	25	7.67	5.0 – 9.5	8.00
Maendlelo yo Fambisa Gezi	mS/m	25	22.6	<150	24
Khalislyamu tanihi Ca	mg/l	25	10.3	<150	11
Manganisi tanihi Mg	mg/l	25	3.6	<100	3
Sodiyamu tanihi Na	mg/l	25	28.4	<200	31
Photheziyamu tanihi K	mg/l	25	1.3	<50	1.4
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	25	84.6	N/A	93
Tlilkumbeayidi tanihi Cl	mg/l	25	9.2	<200	10
Salipheyiti tanihi SO_4	mg/l	25	4.9	<400	5
Nitireyiti tanihi NO_x-N	mg/l	25	0.93	<10	1.0
Fulkumbeayidi tanihi F	Mg/l	25	0.398	<1.0	0.43
				Ntlawa wa mati ya nkoka	Ntlawa wa ziro

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B73E			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	50	8.16	5.0 – 9.5	8.50
Maendlelo yo Fambisa Gezi	mS/m	50	80.3	<150	88
Khalisiyamu tanihi Ca	mg/l	50	40.7885	<150	44
Manganisi tanihi Mg	mg/l	50	21.05	<100	23
Sodiyamu tanihi Na	mg/l	50	102.9	<200	113
Photheziyamu tanihi K	mg/l	50	2.203	<50	2.4
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	50	281.2	N/A	309
Tlilkumbeayidi tanihi Cl	mg/l	50	55.35	<200	60
Salipheyiti tanihi SO_4	mg/l	50	10.85	<400	11
Nitireyiti tanihi NO_x-N	mg/l	50	3.3105	<10	3.6
Fulkumbeayidi tanihi F	Mg/l	50	0.99	<1.0	1.0
				Ntlawa wa mati ya nkoka	Ntlawa wa n'we

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B73F			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	19	8.346	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	19	50.5	<150	55
Khalisiyamu tanihi Ca	mg/l	19	15.864	<150	17
Manganisi tanihi Mg	mg/l	19	30.272	<100	33
Sodiyamu tanihi Na	mg/l	19	43.2	<200	47
Photheziyamu tanihi K	mg/l	19	1.893	<50	2.0
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	19	197.544	N/A	217
Tlilkumbeayidi tanihi Cl	mg/l	19	32.906	<200	36
Salipheyiti tanihi SO_4	mg/l	19	10.439	<400	11
Nitireyiti tanihi NO_x-N	mg/l	19	1.443	<10	1.5
Fulkumbeayidi tanihi F	Mg/l	19	0.333	<1.0	0.36
				Ntlawa wa mati ya nkoka	Ntlawa wa ziro

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B81C			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	64	7.689	5.0 – 9.5	8.00
Maendlelo yo Fambisa Gezi	mS/m	64	22.6185	<150	25
Khalisiyamu tanihi Ca	mg/l	64	13.7065	<150	15
Manganisi tanihi Mg	mg/l	64	4.2295	<100	5
Sodiyamu tanihi Na	mg/l	63	16.8	<200	18
Photheziyamu tanihi K	mg/l	61	2.638	<50	2.9
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	64	46.5115	N/A	51
Tlilkumbeayidi tanihi Cl	mg/l	64	23.9395	<200	26
Salipheyiti tanihi SO_4	mg/l	64	3	<400	3
Nitireyiti tanihi NO_x-N	mg/l	64	3.5385	<10	3.9
Fulkumbeayidi tanihi F	Mg/l	63	0.14	<1.0	0.15
				Ntlawa wa mati ya nkoka	Ntlawa wa zlro

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B81D			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	178	7.827	5.0 – 9.5	8.0
Maendlelo yo Fambisa Gezi	mS/m	178	44.65	<150	49
Khalisiyamu tanihi Ca	mg/l	178	36.9385	<150	41
Manganisi tanihi Mg	mg/l	178	21.843	<100	24
Sodiyamu tanihi Na	mg/l	175	17.5	<200	19
Photheziyamu tanihi K	mg/l	175	0.542	<50	0.6
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	177	187.634	N/A	206
Tlilkumbeayidi tanihi Cl	mg/l	178	11.9215	<200	13
Salipheyiti tanihi SO_4	mg/l	178	4.6	<400	5
Nitireyiti tanihi NO_x-N	mg/l	177	1.949	<10	2.1
Fulkumbeayidi tanihi F	Mg/l	177	0.192	<1.0	0.21
				Ntlawa wa mati ya nkoka	Ntlawa wa ziro

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B81E			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	144	8.077	5.0 – 9.5	8.25
Maendlelo yo Fambisa Gezi	mS/m	144	45.25	<150	50
Khalisiyamu tanihi Ca	mg/l	144	27.84	<150	31
Manganisi tanihi Mg	mg/l	144	15.55	<100	17
Sodiyamu tanihi Na	mg/l	144	33.4565	<200	37
Photheziyamu tanihi K	mg/l	144	2.6485	<50	2.9
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	144	166.2245	N/A	183
Tlilkumbeayidi tanihi Cl	mg/l	144	27.5525	<200	30
Salipheyiti tanihi SO_4	mg/l	144	5.85	<400	6
Nitireyiti tanihi NO_x-N	mg/l	144	0.784	<10	0.9
Fulkumbeayidi tanihi F	Mg/l	144	0.34	<1.0	0.37
				Ntlawa wa mati ya nkoka	Ntlawa wa ziro

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B81G			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	298	7.99	5.0 – 9.5	8.25
Maendlelo yo Fambisa Gezi	mS/m	298	83.35	<150	92
Khalisiyamu tanihi Ca	mg/l	298	44.047	<150	48
Manganisi tanihi Mg	mg/l	298	33.068	<100	36
Sodiyamu tanihi Na	mg/l	298	68.3885	<200	75
Photheziyamu tanihi K	mg/l	298	2.0605	<50	2.3
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	298	266.67	N/A	293
Tlilkumbeayidi tanihi Cl	mg/l	298	63.85	<200	70
Salipheyiti tanihi SO_4	mg/l	298	10.42	<400	11
Nitireyiti tanihi NO_x-N	mg/l	298	3.7285	<10	4.1
Fulkumbeayidi tanihi F	Mg/l	298	0.471	<1.0	0.52
				Ntlawa wa mati ya nkoka	Ntlawa wa ziro

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B81H			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	169	8.208	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	169	175	<150	<175[4]
Khalisiyamu tanihi Ca	mg/l	169	74.8	<150	82
Manganisi tanihi Mg	mg/l	169	72.6	<100	80
Sodiyamu tanihi Na	mg/l	169	164.759	<200	181
Photheziyamu tanihi K	mg/l	169	5.781	<50	6.4
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	169	435.6	N/A	436[4]
Tlilkumbeayidi tanihi Cl	mg/l	169	232.193	<200	232[4]
Salipheyiti tanihi SO_4	mg/l	169	27.609	<400	30
Nitireyiti tanihi NO_x-N	mg/l	168	11.143	<10	12.3
Fulkumbeayidi tanihi F	Mg/l	168	0.605	<1.0	0.67
				Ntlawa wa mati ya nkoka	Ntlawa wa mbirhi

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B82A			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	59	7.854	5.0 – 9.5	8.00
Maendlelo yo Fambisa Gezi	mS/m	58	63	<150	69
Khalisiyamu tanihi Ca	mg/l	59	38.951	<150	43
Manganisi tanihi Mg	mg/l	59	27.147	<100	30
Sodiyamu tanihi Na	mg/l	59	43.935	<200	48
Photheziyamu tanihi K	mg/l	59	2.66	<50	2.9
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	59	232.8	N/A	256
Tlilkumbeayidi tanihi Cl	mg/l	59	40.451	<200	44
Salipheyiti tanihi SO_4	mg/l	59	11.214	<400	12
Nitireyiti tanihi NO_x-N	mg/l	59	2.506	<10	2.8
Fulkumbeayidi tanihi F	Mg/l	58	0.317	<1.0	0.35
				Ntlawa wa mati ya nkoka	**Ntlawa wa n'we**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B82C			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	31	7.76	5.0 – 9.5	8.00
Maendlelo yo Fambisa Gezi	mS/m	31	33.2	<150	37
Khalisiyamu tanihi Ca	mg/l	31	21.981	<150	24
Manganisi tanihi Mg	mg/l	31	11.7	<100	13
Sodiyamu tanihi Na	mg/l	30	21.188	<200	23
Photheziyamu tanihi K	mg/l	30	1.3995	<50	1.5
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	31	109	N/A	120
Tlilkumbeayidi tanihi Cl	mg/l	31	20.489	<200	23
Salipheyiti tanihi SO_4	mg/l	31	4.6	<400	5
Nitireyiti tanihi NO_x-N	mg/l	31	2.878	<10	3.2
Fulkumbeayidi tanihi F	Mg/l	31	0.218	<1.0	0.24
				Ntlawa wa mati ya nkoka	**Ntlawa wa ziro**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B82D			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	249	8.06	5.0 – 9.5	8.50
Maendlelo yo Fambisa Gezi	mS/m	249	76.5	<150	84
Khalisiyamu tanihi Ca	mg/l	249	42.482	<150	47
Manganisi tanihi Mg	mg/l	249	44.02	<100	48
Sodiyamu tanihi Na	mg/l	248	55.2845	<200	61
Photheziyamu tanihi K	mg/l	248	5.2555	<50	5.8
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	248	260.05	N/A	286
Tlilkumbeayidi tanihi Cl	mg/l	249	50.5	<200	56
Salipheyiti tanihi SO_4	mg/l	249	14.488	<400	16
Nitireyiti tanihi NO_x-N	mg/l	248	9.7535	<10	9.8
Fulkumbeayidi tanihi F	Mg/l	248	0.302	<1.0	0.33
				Ntlawa wa mati ya nkoka	**Ntlawa wa mbirhi**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B82E			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	113	7.958	5.0 – 9.5	8.25
Maendlelo yo Fambisa Gezi	mS/m	113	65.5	<150	72
Khalisiyamu tanihi Ca	mg/l	113	34.922	<150	38
Manganisi tanihi Mg	mg/l	113	30.514	<100	34
Sodiyamu tanihi Na	mg/l	108	37.64	<200	41
Photheziyamu tanihi K	mg/l	108	5.0595	<50	5.6
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	113	183.846	N/A	200
Tlilkumbeayidi tanihi Cl	mg/l	113	49.127	<200	54
Salipheyiti tanihi SO_4	mg/l	113	16.067	<400	18
Nitireyiti tanihi NO_x-N	mg/l	113	5.914	<10	6.5
Fulkumbeayidi tanihi F	Mg/l	113	0.197	<1.0	0.22
				Ntlawa wa mati ya nkoka	**Ntlawa wa ziro**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B82F			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	232	8.032	5.0 – 9.5	8.25
Maendlelo yo Fambisa Gezi	mS/m	232	63.05	<150	69
Khalisiyamu tanihi Ca	mg/l	232	33.353	<150	37
Manganisi tanihi Mg	mg/l	232	36.834	<100	41
Sodiyamu tanihi Na	mg/l	231	29.3	<200	32
Photheziyamu tanihi K	mg/l	231	3.831	<50	4.2
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	228	212.5	<330	234
Tlilkumbeayidi tanihi Cl	mg/l	232	38.3085	<200	42
Salipheyiti tanihi SO_4	mg/l	232	11.063	<400	12
Nitireyiti tanihi NO_x-N	mg/l	228	6.0725	<10	6.7
Fulkumbeayidi tanihi F	Mg/l	227	0.276	<1.0	0.30
				Ntlawa wa mati ya nkoka	Ntlawa wa mbirhi

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B82G			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	220	8.19	5.0 – 9.5	8.5
Maendlelo yo Fambisa Gezi	mS/m	220	112.85	<150	124
Khalisiyamu tanihi Ca	mg/l	220	52.8	<150	58
Manganisi tanihi Mg	mg/l	220	62.807	<100	69
Sodiyamu tanihi Na	mg/l	218	84.9	<200	93
Photheziyamu tanihi K	mg/l	218	3.669	<50	4.0
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	219	368.1	N/A	370[4]
Tlilkumbeayidi tanihi Cl	mg/l	220	92.0335	<200	101
Salipheyiti tanihi SO_4	mg/l	220	17.0815	<400	19
Nitireyiti tanihi NO_x-N	mg/l	218	4.6245	<10	5.1
Fulkumbeayidi tanihi F	Mg/l	217	0.469	<1.0	0.52
				Ntlawa wa mati ya nkoka	Ntlawa wa mbirhi

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

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Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B82J			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	26	8.0975	5.0 – 9.5	8.25
Maendlelo yo Fambisa Gezi	mS/m	26	176.5	<150	177[4]
Khalisiyamu tanihi Ca	mg/l	26	75.872	<150	83
Manganisi tanihi Mg	mg/l	26	184.0145	<100	184[4]
Sodiyamu tanihi Na	mg/l	26	70.92	<200	78
Photheziyamu tanihi K	mg/l	26	6.5275	<50	7.2
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	26	454.1	N/A	454[4]
Tlilkumbeayidi tanihi Cl	mg/l	26	205.8395	<200	206[4]
Salipheyiti tanihi SO_4	mg/l	26	29.3965	<400	32
Nitireyiti tanihi NO_x-N	mg/l	26	9.4955	<10	10.4
Fulkumbeayidi tanihi F	Mg/l	26	0.536	<1.0	0.59
				Ntlawa wa mati ya nkoka	**Ntlawa wa mbirhi**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Mpimo wa Khemikhali	Yuniti	Laha mati ya Nambu wa Olifants ya Hlanganaka kona QC B83B			
		Nhlayo ya swikombisoo	Nkoka wa Ndhawu ya GW kumbe xikarhi[1)]	Mali ya BHN leyi nga vekiwa [2)]	Ku Hlayisa Mati ya Nkoka lama nga Ehansi ka misava[3]
pH	–	22	7.5	5.0 – 9.5	8.00
Maendlelo yo Fambisa Gezi	mS/m	18	105.991	<150	117
Khalisiyamu tanihi Ca	mg/l	22	484	<150	484[4]
Manganisi tanihi Mg	mg/l	20	4.691	<100	5
Sodiyamu tanihi Na	mg/l	22	105.219	<200	116
Photheziyamu tanihi K	mg/l	20	3.953	<50	4.3
Vunkwabyo bya Alikalinity tanihi $CaCO_3$	mg/l	21	484	N/A	484[4]
Tlilkumbeayidi tanihi Cl	mg/l	22	105	<200	116
Salipheyiti tanihi SO_4	mg/l	22	4.69	<400	5
Nitireyiti tanihi NO_x-N	mg/l	21	3.95	<10	4.3
Fulkumbeayidi tanihi F	Mg/l	20	0.70	<1.0	0.77
				Ntlawa wa mati ya nkoka	**Ntlawa wa nharhu**

[1] Nkoka wa le xikarhi (wu hlayeriwile ku suka swikombiso swa nhlayo ya matalelo ya vanhu eka QC).
[2] Mpimo wa le henhla wa Ntlawa wa n'we wa mati ya nkoka (DWAF sw.sw. 1998).
[3] Nhlayo ya le xikarhi ku katsa na khume ra tiphesente ta Mati ya Nkoka lama nga hlayisiwa lama nga ehansi ka misava.
[4] Swiyimo swa misava ya ntumbuluko leyi nga ta vanga nhlohlotelo wo n'okisa swimakiwa swo tiya leswi nga le mati lama nga hansi ka misava.

Tekela leswi enhlokweni:

Eka mhaka ya Ntlawa lowukulu wa maribye lama ngaehansi ka misava lama hundzisaka mati ya Karoo na Ntlawa wun'we wa Leyara ya le Rustenburg, manganisi (Mg), sodiyamu (Na) na tlilkumbeayidi (Cl) nkoka wu fambelana ku ya hi swiphemu leswi nga na xiave xa nhlengeleto wo sungula swilo leswintsongo ngopfungopfu thyaka/ ribye ro hlanganisiwa hi swimakiwa swo tiya naswona ri humesiwile eka mati lama nga ehansi ka misava ku ya hi maxelo/ maendlelo yo hambanisa.

Nhlohlotelo wa nkoka wa vunkwabyo bya alikalinithi hi ku angarhela i mati lama humaka ehansi ka misava lama nga khemikhali ya mati leyi vonakaka eAfrika-Dzonga naswona swi nga endla ntsena eka timhaka tin'wana leti nga ta hetelela ti van a vuyelo wa le hansi wa vulavuri bya nkoka wa mati.

Nhlohlotelo wa nkoka wa niterayiti (NO3–N) yi tekeriwile enhlokweni ku ya hi masungulo hinkwawo ya laha mati ya hlengeletanaka kona, handle ka laha mati ya le hansi ya Lethaba ya hlengeletanaka kona (B 83), na ntikelo wa ~45 to 50 mg/l wu tekeriwile enhlokweni hi avanyiso wa mitlawa wa vu95.

Nxopanxopo wa nkoka wa mati lama nga ehansi ka misava mayelana na nkoka wa mati eka swilavekonkulu swa vanhu (SNV) swi vonaka tanihi leswi nga vekiwa swin'we hi ku hlohloteriwa ka ka nkoka wa nitereyiti (NO3–N) – i vi mati ya nkoka lama nga hlayisiwa lama nga le hansi ka misava ya nitereyiti ya vekiwile eka nkoka wa le xikarhi lowu eka timhaka hinkwato (handle ka Olifants ya le Xikarhi).

8. NHLAYISO WA NDHAWU LEYI TSAKAMAKA

Nkoka wa malongolokelo ya laha mati ya hlanganaka kona laha ku nga langutisiwa hi nkarhi wa ntlawa wa dyondzo hi Mawuwani 2015 yi anakanyiwile khwatsi eka ku endzela tindhawu tin'wana eka ku kambisisa matsalwa lama nga kona na nkambisiso wa vuxokoxoko bya ndhawu leyi tsakamaka. Malongolokelo ya laha mati ya hlanganaka kona ya langutiwile eka ku yisa ndzavisiso emahlweni, swotala swa swona swi langutisiwile eka ndhawu ya mindzavisiso.

Laha mati ya hlanganaka kona ku hlawuriwile ehansi ka mianakanyo leyi landzelaka:

- Tindhawu ta nkoka leti tsakamaka leti fanelaka ku endzeriwa (ti langutisiwile/ ti lulamisiwile eka tidokhumende ta sweswi ta Vuhlayiselo) eka swivangelo swo hambanahambana; na/kumbe
- Mavangwa ya vuswikoti lebyi nga tekeriweki enhlokweni na wona ya engetela nkoka wa tindhawu leti tsakamaka leti nga va ka kona naswona leti nga ta katsiwa kumbe ku lulamisiwa eka maendlelo yo Hlayisa.

Tafula 8.1 ri komba nkoka wa tindhawu leti tsakamaka eka Olifants na laha mati ya Lethaba ya hlanganaka kona na ku katsakanya PES, EIS, REC na vuxaka byin'wana bya swimilana, swifuwo na mbangu eka ku langutisa nkoka wa tindhawu leti tsakamaka.

Tafula nhungu.n'we: Tafula ri komba vuyelo bya malulamiselo ya tindhawu leti tsakamaka.

IUA	Malongolokelo na No ya Ndhawu leyi tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
N'we	B11E Oli_1.1	Ndhawu leyi tsakamaka ya Blesbokspruit leyi nga hava Nkukhula	-26.222	29.059	E/F	Henhla	D	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Ku lunghisiwa ka mimpimo swi fanerile ku simekiwa eka sisiteme ku antswisa xiyimo xa sweswi.
N'we	B11E Oli_1.2	Ndhawu leyi tsakamaka ya Rietspruit Ku hava ndlela leyi mati ya nambu ya fambaka hi kona ehansi; Ndlela leyi mati ya nambu ya fambaka hi kona ehansi	-26.252	29.103	D	Henhla	C/D	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Ku lunghisiwa ka mimpimo swi fanerile ku simekiwa eka sisiteme ku antswisa xiyimo xa sweswi.
N'we	B11D Oli_1.3	Kriel wetland Ndlela leyi mati ya nambu ya fambaka hi kona ehansi	-26.268	29.229	C/D	Nhlayoxi karhi	C/D	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga

IUA	Malongolokelo na No ya Ndhawu leyi tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
								anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Ku lunghisiwa ka mimpimo swi fanerile ku simekiwa eka sisiteme ku antswisa xiyimo xa sweswi.
N'we	B11F Oli_1.4	Klipokumbetjiespruit Ku hava ndlela leyi mati ya nambu ya fambaka hi kona ehansi eka ndhawu leyi tsakamaka	-26.087	29.141	D	Henhla	C/D	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC.
N'we	B11B Oli_1.5	Kkumbeingspruit ndhawu leyi tsakamaka leyi nga na Ndlela leyi mati ya fambaka hi kona, ehansi (xiyenge lexi nga hava ndlela leyi fambaka mati ehansi)	-26.094	29.385	D	Nhlayoxi karhi	C	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa.

IUA	Malongolokel o na No ya Ndhawu leyi tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungw ini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
								Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC. Ku lunghisiwa ka mimpimo swi fanerile ku simekiwa eka sisiteme ku antswisa xiyimo xa sweswi.
N'we	B11K Oli_1.6	Klipspruit ndhawu leyi tsakamaka leyi ku nga hava ndlela leyi mati ya nambu ya fambaka hi kona ehansi;	-25.801	29.135	D	Henhla	C/D	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Ku lunghisiwa ka mimpimo swi fanerile ku simekiwa eka sisiteme ku antswisa xiyimo xa sweswi.
N'we	B12A Oli_1.7	Ndlela leyi mati ya Klein-Olifants ya fambaka hi kona ehansi; Ndhawu leyi nga na le henhla na le hansi leyi nga na mati	-26.057	29.746	D	Henhla	C/D	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu

IHA	Malongolokelo na No ya Ndhawu leyi tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
								tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC. Ku lunghisiwa ka mimpimo swi fanerile ku simekiwa eka sisiteme ku antswisa xiyimo xa sweswi.
N'we	B12B Oli_1.8	Ndhawu leyi tsakama ya Matla leyi nga na Ndlela leyi fambaka mati ehansi	-26.037	29.815	C	Nhlayoxi karhi	C	Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC. Ku lunghisiwa ka mimpimo swi fanerile ku simekiwa eka sisiteme ku antswisa xiyimo xa sweswi.
N'we	B12B Oli_1.9	Ndhawu yo tsakama ya Woes-alleenspruit leyi nga hava ndlela leyi mati ya fambaka hi kona ehansi	-25.990	29.581	C	Nhlayoxi karhi ya le henhla	C	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme

IUA	Malongolokelo na Nomo ya Ndhawu leyi tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
								leti fanelaka ku tirhisiwa. Ku lunghisiwa ka mimpimo swi fanerile ku simekiwa eka sisiteme ku antswisa xiyimo xa sweswi.
N'we	B12B Oli_1.10	Ndhawu yo tsakama ya Bosmanspruit leyi nga hava ndlela leyi mati ya fambaka hi kona	-25.909	29.715	C	Nhlayoxi karhi ya le henhla	C	Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC. Ku lunghisiwa ka mimpimo swi fanerile ku simekiwa eka sisiteme ku antswisa xiyimo xa sweswi.
N'we	B12C Oli_1.11	Ndhawu yo tsakama Kopermyn leyi nga hava ndlela leyi mati ya fambaka hi kona ehansi; Ndlela leyi mati ya fambaka hi kona ehansi; Ndhawu leyi nga na le henhla na le hansi leyi nga na mati	-25.847	29.720	C	Henhla	B/C	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Ku lunghisiwa ka mimpimo swi fanerile ku simekiwa eka sisiteme ku antswisa xiyimo xa sweswi.

IUA	Malongoloko/ Nomboro ya Ndhawu leyi tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
N'we	B11C Oli_1.12	Ku hava nkhukhula Debeerspruit/ Piekespruit	-26.391	29.322	A/B	Henhla	A/B	Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC. Ku lunghisiwa ka mimpimo swi fanerile ku simekiwa eka sisiteme ku antswisa xiyimo xa sweswi.
N'we	B11A Oli_1.13	Ku hava nkhukhula eka Viskuile Vuxokoxoko Byo pfumala Nkhukhula	-26.261	29.492	C	Henhla Eka Henhla Swinene	B	Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC. Ku lunghisiwa ka mimpimo swi fanerile ku simekiwa eka sisiteme ku

IUA	Malongololokelo ya Ndhawu leyi Tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
								antswisa xiyimo xa sweswi.
N'we	B11C Oli_1.14	Ku hava nkhukhula eka Steenkoolspruit	-26.337	29.354	D	Henhla	C/D	Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC.
Mbirhi	B20C Oli_2.1	Swikobyana swa Elandsvlei Xikobyana/ndhawu leyi nga hansi; Ndhawu leyi nga na le henhla na le hansi leyi nga na mati	-25.996	28.463	C	Henhla	B/C	Ku hava engetelo wa swa swimilana kumbe ku cinca laha ku tshamaka swifuwo na swilana eka tindhawu leti mati ya hlanganaka kona yi fanerile ku pfumeleriwa. Nkoka wa mati eka sisiteme leyinene yo veka leyi fanelaka ku pimeriwa ku tiyisisa leswaku mati na nhlanganiso wa masalela lama nga salela eka mpimo lowu amukelekaka lowu nga toloveleka (swo endla gezi na swihlanganisi swa gezi eka vuxaka bya mpimo lowu nga vekiwa) eka muxaka lowu wa nhlanganiso wa mati lama nga vekiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Hlayisa Byasi bya le Afrika lebyi ku tshamaka Swikhovha.

IUA	Malonggolokel o na-lo ya Ndhawu leyi tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
Mbirhi	B20B Oli_2.2	Ku hava ndlela leyi mati ya Koffiespruit ya fambaka hi kona ehansi	-26.071	28.599	A/B	Nhlayoxi karhi wa le henhla	A/B	Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC.
Mbirhi	B20A Oli_2.3	Ndhawu yo tsakama ya Delmas leyi nga hava ndlela leyi mati ya fambaka hi kona ehansi	-26.137	28.690	D	Nhlayoxi karhi	D	Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC.
Mbirhi	B20A Oli_2.4	Ndhawu ya Bronkhkumbestspruit	-26.252	28.767	C	Henhla	B	Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti

IUA	Malongolokelo ya No ya Ndhawu leyi tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
		leyi nga hava ndlela leyi mati ya fambaka hi kona ehansi; Ndlela leyi mati ya fambaka hi kona ehansi; Ndhawu leyi nga na le henhla na le hansi leyi nga na mati						fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC.
Mbirhi	B20E Oli_2.5	Ndlela ya Wilge leyi nga hava Nkhuluko; Ndlela leyi fambaka ehansi	-26.126	28.935	A/B ku ya eka C	Nhlayoxi karhi ya le henhla	B/C	Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC.
Mbirhi	B20G Oli_2.6	Ndhawu yo tsakama ya Zaalklap leyi nga hava ndlela leyi mati ya fambaka hi kona	-25.908	29.053	D	Henhla	C/D	Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa.

IUA	Malongoloko lo na No ya Ndhawu leyi tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso: Ndhawu ku suka en'walungwini kumbe edzongeni	Ndzinganiso: Ndhawu ku suka eka evuxeni kumbe evupela dyambu	PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
		ehansi						Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC.
Mbirhi	B20G Oli_2.7	Ndhawu yo tsakama ya Saalboomspruit leyi nga hava ndlela leyi mati ya fambaka hi kona ehansi; Ndlela leyi mati ya fambaka hi kona ehansi	-25.864	29.008	D	Nhlayoxi karhi ya le henhla	C/D	Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC.
Mbirhi	B20E Oli_2.8	Ehenhla ka Nambu wa Wilge lowu nga hava Nkhukhula	-26.131	28.874	D	Henhla	C/D	Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga

IUA	Malongoloko/[illegible]/No ya Ndhawu leyi tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
								anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC.
Nharhu	B12E Oli_3.1	Ku hava ndlela leyi mati ya Klein-Olifants ya fambaka hi kona ehansi; Ndlela leyi mati ya fambaka hi kona ehansi; Ndhawu leyi nga na le hansi na le henhla leyi nga na mati	-25.659	29.407	A/B ku ya eka C	Henhla	B	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa.
Mune	B31A Oli_4.1	Ndhawu yo tsakama ya Elands laha mati ya fambaka hi kona ehansi; Ndhawu leyi nga na le henhla na le hansi leyi ku nga na mati	-25.627	28.650	C	Henhla	B/C	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa.

IUA	Malongolokel o na No ya Ndhawu leyi tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
Ntlhanu	B51C Oli_5.1	Ndlela leyi mati ya Makotswane ya fambaka hi kona ehansi Ndhawu leyi nga na le henhla na le hansi leyi nga na mati	-24.852	29.701	C	Ehenhla swinene	B	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Maendlelo ya vulawuri lebyi tekeriwaka enhlokweni na ku lunghisa makatselo swi fanerile ku simekiwa ku hlayisa na ku antswisa swivumbeko swa tindhawu leti tsakamaka na ku tirhisa na ku hlanganisa misava leyi nga endliwa hi swimilana swo bola na ku hlanganisa leswi nga ta humesiwa.
Tsevu	B41A Oli_6.1	Ndhawu yo tsakama ya Lakenvlei leyi nga na vuxokoxoko byo pfumaleka ka ndlela leyi mati ya fambaka hi kona ehansi Ndlela leyi mati ya fambaka hi kona ehansi Ndhawu leyi nga na le henhla na le hansi leyi nga na mati	-25.560	30.097	A/B	Ehenhla swinene	A/B	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Tindhawu hinkwato leti ku tshamaka swimilana na swifuwo na vuswikoti bya nhlayo ya Vuxokoxoko bya Swinyenyana swo Tshuka leswi fanelaka ku hlayisiwa. Ku hava madamu yantshwa lama fanelaka ku makiwa eka sisiteme leyi handle ka vuxokoxoko lebyi landzelaka bya maendlelo ya nawu. Ku hava engetelo wa swimilana kumbe ku cinca ka laha swimilana na swifuwo swi tshamaka kona eka ndhawu leyi tsakamaka ya le hansi na le henhla ti fanerile ku pfumeriwa. Ku lunghisiwa ka mimpimo swi fanerile ku simekiwa eka sisiteme ku

ILIA	Malonggolokelo ya No ya Ndhawu leyi tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
								antswisa xiyimo xa sweswi. Matirhiselo yan'wana na yan'wana eka nhluvukiso ku katsa mayini wu tala ku onha sisiteme leyi, handle ka ku ya hi maendlelo ya ntolovelo ya mpfumelelo, ya fanerile ku katsa Levhele ya le Xikarhi yo Hlayisa Ndhawu leyi Tsakamaka ya le hansi leswi katsaka muxaka wa makhulukelo (ehenhla na mati lama nga ehansi ka misava ku katsa makhulukelo ya le ndzeni) xikombiso xo sungula matimba yo hlohlotela mayelana na ku antswisa REC.
Tsevu	B41B Oli_6.2	Ndhawu yo tsakama ya le Welgevonden Ndlela leyi mati ya fambaka hi kona ehansi Ndhawu leyi nga na le henhla na le hansi leyi nga na mati	-25.467	30.082	A/B	Ehenhla ku ya eHenhla	A/B	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa.
Tsevu	B41F Oli_6.3	Ndhawu yo tsakama ya n'we ya le Draaikraal Ndlela leyi mati ya fambaka hi kona ehansi	-25.254	30.034	C	Henhla ku ya eHenhla swinene	B	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa.
Tsevu	B41F Oli_6.4	Ndhawu yo tsakama ya mbirhi ya le Draaikraal	-25.217	30.075	A/B ku ya eka C	EHenhla ku ya eHenhla	A/B ku ya eka B	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme.

		Ndlela leyi mati ya fambaka hi kona ehansi				swinene		Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa.
Tsevu	B41F Oli_6.5	Ndhawu yo tsakama ya nharhu ya le Draaikraal Ndhawu leyi nga na le henhla na le hansi leyi nga na mati	-25.178	30.057	A/B	EHenhla ku ya eHenhla swinene	A/B	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa.
Tsevu	B41F Oli_6.8	Ndhawu yo tsakama ya Verlkumbeen Valei Yi na xikombiso xa ndhawu leyi nga na le henhla na le hansi leyi nga na mati na Ndlela leyi mati ya fambaka hi kona na ndhawu leyi tsakamaka leyi nga hava ndlela leyi mati ya fambaka hi kona ehansi;	-25.298	30.111	A/B	Ehenhla swinene	A	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Ntumbuluko lowu nga hava ndlela ya swiyenge swa ndhawu leyi tsakamaka leyi fanelaka ku hlayisiwa. Hlayisa xivumbeko xa swimilana na swihlanganisi. Hlayisa swilo leswi nga cheriwangeki nchumu leswi nga ta va kona vutomi hinkwabyo eka tindhawu leti tsakamaka. Nhlayiso wa mimpimo na maendlelo ya vufambisis tanihi Vuxokoxoko lebyi nga Tumbetiwa hi Ramsar (VTR) (https://rsis.ramsar.kumbeg/RISapp/files/RISrep/ZA1110RIS.pdf) eka Nhlayiso wa Ntumbuluko wa Verlkumbeen Valei wu fanerile ku simekiwa na ku hlayisiwa xikan'we na ku engetela makungu ya vulawuri/maendlelo lama hi nkarhi lowu landzelaka wu nga ta simekiwa hi Bodo ya Phaka ya le Mpumalanga.

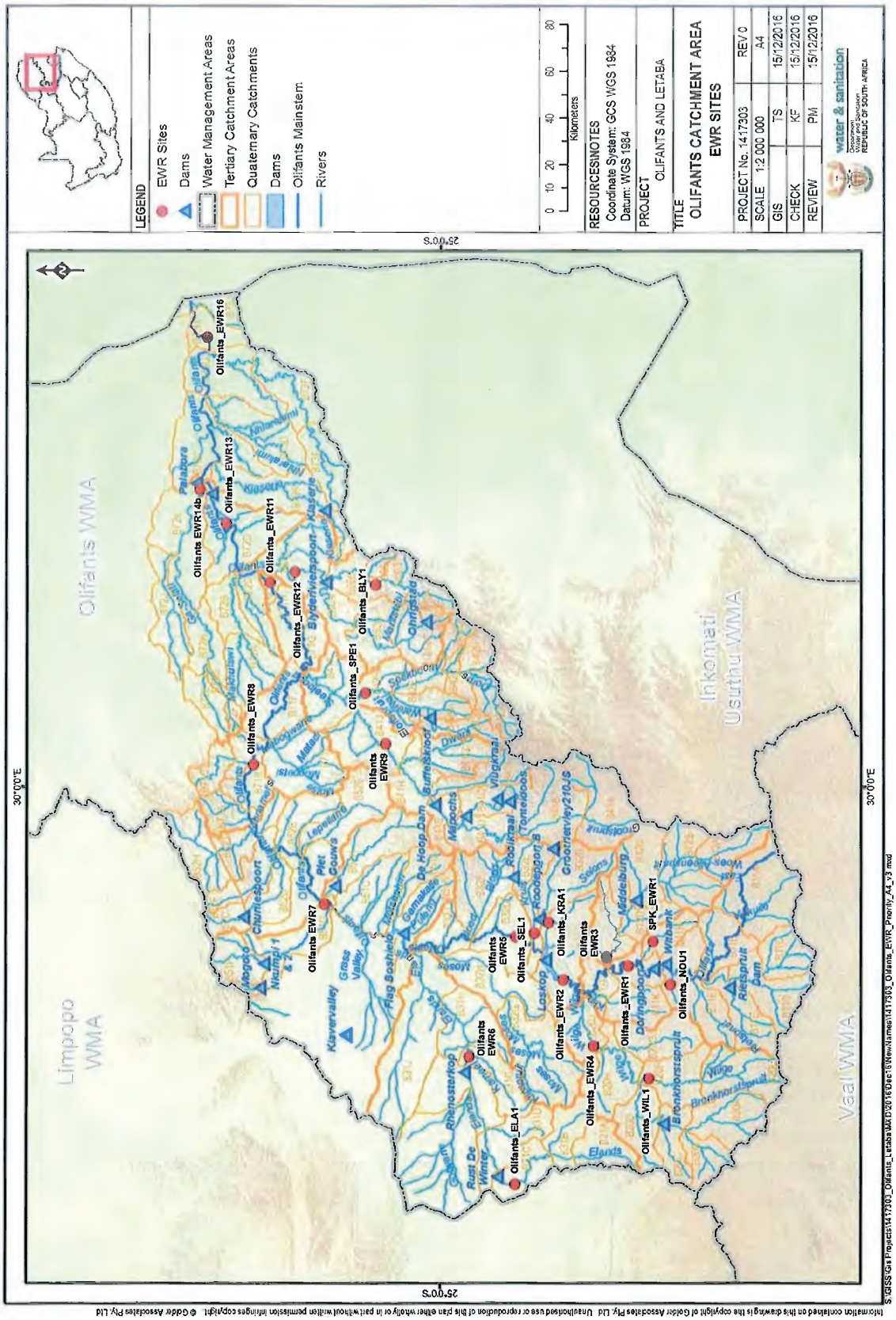
IUA	Malongololekelo na No ya Ndhawu leyi tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
Tsevu	B41A Oli_6.9	Ndhawu yo tsakama ya Belfast leyi nga na vuxokoxoko byo pfumala ndlela leyi mati ya fambaka hi kona ehansi Ndlela leyi mati ya fambaka hi kona ehansi Ndhawu leyi nga na le henhla na le hansi leyi nga na mati	-25.695	30.036	A/B ku ya eka C	Ehenhla ku ya eHenhla swinene	B ku ya eka A/B	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Tindhawu leti tsakamaka leti nga hava laha mati ya fambaka hi kona ti fanerile ku hlayisiwa tanihi tisisiteme leti pfumalaka ndlela. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Tihelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa.
kaye	B60F Oli_9.1	Ndhawu yo tsakama ya Krankloofpsruit leyi nga na ndlela leyi mati ya fambaka hi kona ehansi	-24.932	30.506	C	Nhlayoxi karhi	C	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa.
kaye	B60H Oli_9.2	Ndhawu yo tsakama ya Ohrigstad Ndlela leyi mati ya fambaka hi kona ehansi	-24.531	30.708	C	Ehenhla ku ya eHenhla swinene	B	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa.
khume	B71G Oli_10.1	Lribye leri mati ya fambaka eka rona entshaveni	-24.457	30.610	B	Ehenhla swinene	A/B	Hlayisa mati lama nga ta va kona vutomi hinkwabyo eka ndhawu leyi mati ya khulukaka hi kona eka ribye swi na nkoka eka ku yisa maribye ya le ntshaveni emahlweni. Matirhelo yan'wana na yan'wana eka mati lama nga le hansi ka misava lama tirhisiwaka eka ndhawu ya ta lava ku anakanyiwa khwatsi eka leswinene eka sisistemem leyi, hi vumbirhi ka swona ku suka eka mavonelo ya EIA na WUL, na swiyimo swa mpfumelelo leswi nga na matimba ku katsa ku antswisa sisiteme leyi fanelaka ku tirha. Lawula migingiriko ya xintu eka ndhawu leyi tsakamaka, xik: ku tshovela munyu. Ndhawu yin'wana leyi nga na mimpimo ya vulawuri yi fanerile ku kurisiwa eka ku tihlanganisa na muganga wa le ka ndhawu ya leyo ku tiyisisa nsirhelelo lowu ya ka emahlweni wa sisisteme leyi.

IUA	Malongolokelo na [illegible] ya Ndhawu leyi Tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
khumen harhu	B60C Oli_13.1	Ndhawu yo tsakama ya Treur Ndhawu leyi nga na le henhla na le hansi leyi nga na mati	-24.776	30.880	C	Ehenhla swinene	B	Ntumbuluko lowu nga hava ndlela ya swiyenge swa ndhawu leyi tsakamaka leyi fanelaka ku hlayisiwa. Hlayisa swilo leswi nga cheriwangeki nchumu leswi nga ta va kona vutomi hinkwabyo eka tinhawu leti tsakamaka. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhelo lama nga na matimba lama nga fanela eka mahambaniselo ya nhova. Nhlayo ya vanhu leyi nga ta anakanyiwa khwatsi ya Nambu wa Treur Barb lowu nga na tinhlampfi wu fanerile ku hlayisiwa.
Khume nharhu	B60D Oli_13.2	Ribye ra le ntshaveni leri mati ya Kadishi ya fambaka eka rona	-24.566	30.795	A/B	Ehenhla swinene	A/B	Hlayisa mati lama nga ta kona vutomi hinkwabyo eka ribye leri khulukaka mati eka ribye leri nga le ntshaveni. Matirhiselo yan'wana na yan'wana eka mati lama nga le hansi ka misava lama tirhisiwaka eka ndhawu ya ta lava ku anakanyiwa khawtsi eka sisiteme leyinene, hi vumbirhi ka EIA na mavonelo ya WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa.
N'we	B81A Let_1.1	Ndhawu yo tsakama ya Stanfkumbed leyi nga hava Nkhukhulo	-23.893	29.984	D	nhlayoxik arhi	D	Ntumbuluko lowu nga hava ndlela ya swiyenge swa ndhawu leyi tsakamaka leyi fanelaka ku hlayisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhelo lama nga na matimba lama nga fanela eka mahambaniselo ya nhova. Maendlelo ya vulawuri bya ndhawu leyi tsakamaka leyi nga tekeriwa enhlokweni na ku lunghisa leswi endlaka swi fanerile ku simekiwa ku antswisa xivumbeko xa ndhawu leyi tsakamaka na matirhelo. Leswi

IUA	Malongolokel o na Nkuva Ndhawu leyi Tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
								swi fanerile ku tivisiwa eka nhova yin'wana leyi yelanaka na malulamiselo ya mimpimo.
N'we	B81B Let_1.2	Ndhawu yo tsakama ya le Dan'wini ra leTzaneen Ku hava ndlela leyi mati ya fambaka hi yona ehansi Ndlela leyi mati ya fambaka hi kona	-23.729	30.200	D/E	Nhlayoxi karhi	D	Ntumbuluko lowu nga hava ndlela ya swiyenge swa ndhawu leyi tsakamaka leyi fanelaka ku hlayisiwa. Tlhelo leri khulukaka eka ndhawu leyi tsakamaka ri fanerile ku sirheleriwa ku ya hi ku tirhisa mahanyiselo ya mati lama nga anakanyiwa khwatsi hi ndzavisiso wa misiva leyi nga na mati lowu nga endliwa tanihi xiphemu xa EIA na/kumbe ku tirhisiwa WUL, na swiyimo swa mpfumelelo lowu nga na matimba ku katsa ku antswisa tisisiteme leti fanelaka ku tirhisiwa. Matirhiselo lama nga na matimba lama nga fanela eka maavanyiselo ya nhova.
Mbirhi	B81D Let_2.1	Ndhawu yo tsakama ya le Thabina Ndlela leyi mati ya fambaka hi kona	-23.992	30.260	C	Henhla	B	Ntumbuluko lowu nga hava ndlela ya swiyenge swa ndhawu leyi tsakamaka leyi fanelaka ku hlayisiwa. Muxaka lowu nga kona wa swimilana na xivumbeko swifanerile kumbe ku antswisiwa na swivangelo swa ntumbuluko leswi nga na swihlawulekisi. Maendlelo ya vulawuri lebyi tekeriwaka enhlokweni na ku lunghisa makatselo swi fanerile ku simekiwa ku hlayisa na ku antswisa swivumbeko swa tindhawu leti tsakamaka na ku tirhisa. Tlhelo rin'wana ra vulawuri bya mimpimo ri fanerile ku kurisiwa eka ku ku ti hlanganisa na muganga wa le ndhawini ya leyo ku tiyisisa vuhlayisi na ku lawula matirhelo ya le ka ndhawu leyi tsakamaka.
kaye	B82G Let_9.1	Ndhawu yo hisa ya Baleni Ndhawu	-23.419	30.912	B	Ehenhla swinene	A/B	Vuhlayisi bya mati lebyi nga ta va kona vutomi hinkwabyo eka ndhawu leyi tsakamaka byi na nkoka eka ribye ra le ntshaveni na ku sivela okisayidi. Matirhelo yan'wana na yan'wana eka mati lama nga le hansi ka misava lama tirhisiwaka eka ndhawu ya ta lava ku anakanyiwa khwatsi eka leswinene eka sisistemem leyi, hi vumbirhi ka swona ku suka eka mavonelo ya EIA na WUL, na swiyimo swa mpfumelelo leswi nga na matimba ku katsa ku antswisa sisiteme leyi fanelaka ku tirha. Lawula migingiriko ya xintu eka ndhawu leyi tsakamaka, xik: ku tshovela munyu. Ndhawu yin'wana leyi nga na mimpimo ya vulawuri yi

IUA	Malongolokelo na No ya Ndhawu leyi tsakamaka	Vito ra Ndhawu leyi Tsakamaka na Muxaka	Ndzinganiso		PES	EIS	REC	vuxaka byin'wana bya swimilana,swifuwo na mbangu *
			Ndhawu ku suka en'walungwini kumbe edzongeni	Ndhawu ku suka eka evuxeni kumbe evupela dyambu				
								fanerile ku kurisiwa eka ku tihlanganisa na muganga wa le ka ndhawu ya leyo ku tiyisisa nsirhelelo lowu ya ka emahlweni wa sisisteme leyi.
khume mbirhi	B83C Let_12.1	Ku hava ndlela leyi mati ya Nshawu ya fambaka hi kona ehansi Ndlela leyi mati ya fambaka hi kona ehansi	-23.537	31.487	C	Henhla	B	Hlayisa makhulukelo lama nga kona na matimba yo ehleketa xikombiso eka sisiteme. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisi. Ku hava migingiriko yintshwa leyi nga ta endla swihlanganisi leswi nga ta khulukaka swi fanerile ku pfumeleriwa eka sisiteme handle ka vuxokoxoko lebyi landzelaka bya maendlelo ya nawu.
khume mbirhi	B83D Let_12.2	Ndhawu yo tsakama ya Manyeleti/ Makhadzi Ku hava ndlela leyi mati ya mati ya famabaka hi kona ehansi	-23.657	31.607	A	Henhla	A	Ntumbuluko lowu nga hava ndlela eka ndhawu leyi tsakamaka yi fanela ku hlayisiwa. Hlayisa xivumbeko xa swimilana leswi nga kona na swihlanganisiwa. Maintain existing vegetation structure and composition. Ku hava migingiriko yintshwa leyi nga ta endla swihlanganisi swo khuluka leswi nga ta pfumeriwa eka sisisteme handle ka ku landzelela vuxokoxoko bya maendlelo ya nawu. Ku hava engetelo wa nkatsakanyo wa mati lama nga ehansi ka misava na leswi nga ekusuhi hi nkarhi wa lowo eka ndhawu leyi tsakamaka handle ka maendlelo ya vuxokoxoko bya nawu lowu nga landzeleriwa.

***Tekela enhlokweni:** Swin'wana leswi nga ri ku na khombo eka mbangu (Laha ku tshamaka swimilana na swifuwo) swi hlamuseriwile eka vafambisis na ku hlayisa vafambisa tanihi swikongomelo swa ndhawu leyi ku tshamaka swimilana na swifuwo leyi fanelaka ku fikeleriwa. Ku antswisa swin'wana na vafambisi swi nga komba leswaku leswaku switirhisiwa leswi cincaka nkarhi wo leha na loko Nhlayiso wu fikeleriwile. Loko wu nga fikeleriwanga, maendlelo ya vufambisi swi nga laveka ku kota ku kuma ntlawa lowu naveriwaka wa laha ku tshamaka swimilana na swifuwo. Swilaveko swo antswisa swi kombiwile eka Swin'wana leswi nga ri ku na khombo eka mbangu, Xiviko No: **RDM/WMA02/00/CON/0516**.



Figara ya n'we: Mepe wa le ka ndhawu ya laha mati ya Olifants ya Hlanganaka kona ya komba maavanyiselo ya tindhawu ta EWR

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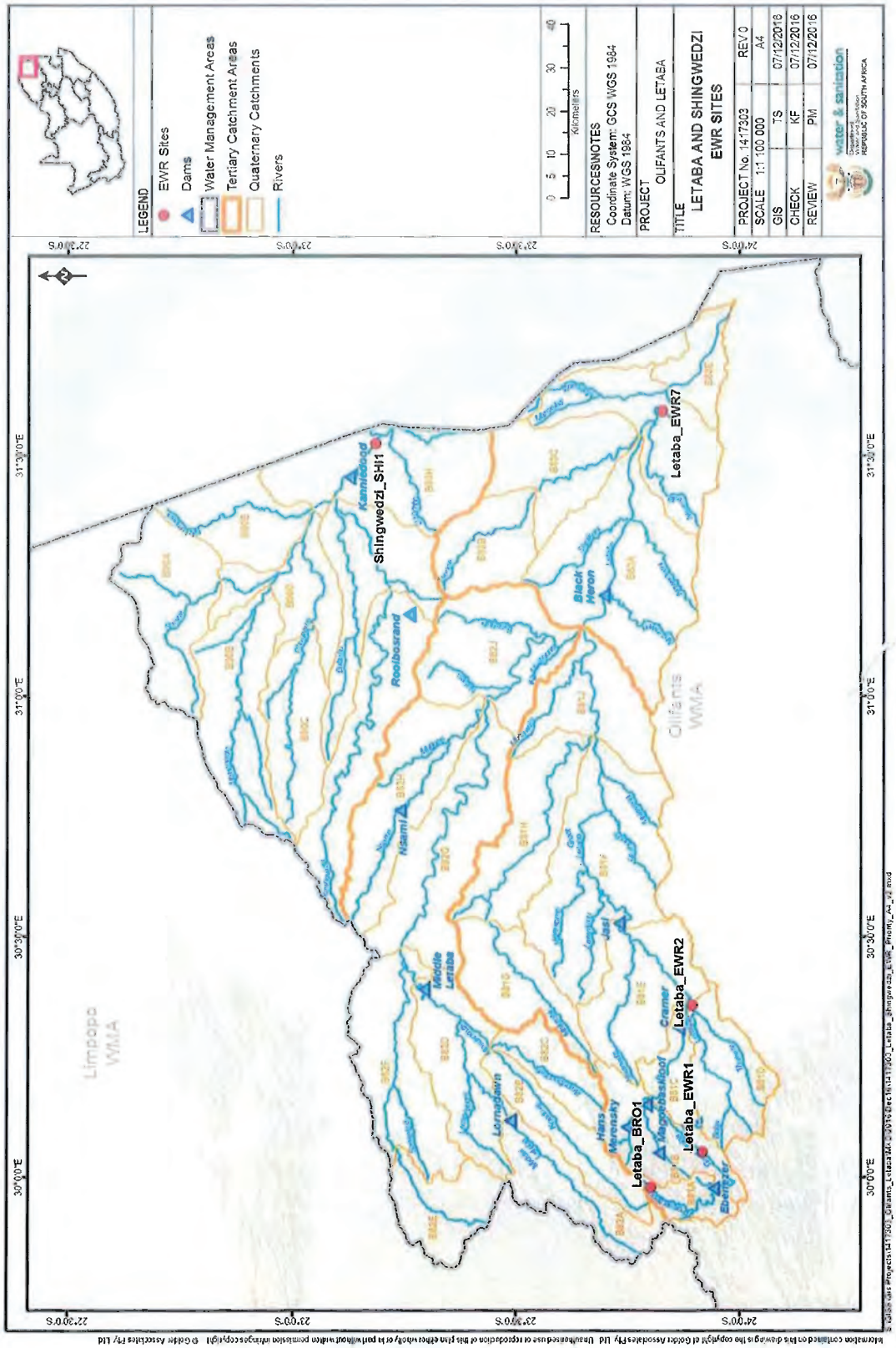

Figura ya mbirhi: Mepe wa Letaba na Laha mati ya le Shingwedzi ya hlanganaka kona ya komba maavanyiselo ya tindhawu ta EWR.