

DD Science
Environmental Monitoring Services
Test Report



CC-CKP/0720/23

To
CC
From
Report Date
Report No

Thiara Ratshibvumo
Lettah Koki, Thabang Legari, Simon Masingi, Rendani Nekhavhambe, Pfundzo Nemaheni, Ismail Kola, Temaswati Dlamini
Mr D Dorling.
2026/01/13
Wsurf 01/20251229

South Deep Surface - Water Quality Report

Sample ID	Sample			pH	Cond	TDS	SS	TH	CaH	FCN	WAD CN	TCN	SO ₄	Mg	Na	Fe	F	NO ₃	OPPO ₄	Cl	Oil	U	Al	Mn	As	Cu	Cd	Hg	Pb	Ni	Zn	Mo	COD	NO ₂	NH ₄	Sets	Temp	F Cl2	T Cl2	OA	PC	Ecoli	DO	Turb	Malk			
Control	Date			at 25°C	at 25°C	at 180°C	at 105°C																																									
STANDARDS and				mS/m	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l O ₂	mg/l N	mg/l N	ml	oC	ug/l	ug/l	mg/l O ₂	cfu/100ml	cfu/100ml						
GUIDELINES								CaCO ₃	CaCO ₃	CN	CN	CN						N	P																													
SANS 241-2015				5-9.7	170	1200	5						500		200	0.3	1.5	11	300		30	300	500	10	2000	3	6	10	70	5000																		
WHO				6.5-8.5			5	500				0.2	500		200	0.3	1.5	12	250		15	200	500	10	2000	3	1	10	20	3000	70																	
Rietsspruit				6.5-8.5	70		20						300	30	100	0.5	0.7	3.0	0.4	150			400	500																								
Cyanide Code			Sampler	Time Sampled							0.022	0.5					0.8	<0.08		0.8																												
S6	/01	2025/12/29	Lordwick	10:46	7.6	100	899	<10	402	336	<0.02	<0.02	<0.5	390	16	45	<0.1	0.1	1.4	<0.08	34	0.4	14	10	300	0.7	28	<0.1	0.4	<0.1	380	244	1.1	468	0.03	1.7	<1.0	24	<0.1	<0.1	2.1	17	14	5.7	1.1	103		
S9E	/01	2025/12/29	Ishmael	10:35	8.7	56	253	<10	75	63	<0.5	<0.5	<0.5	42	3.0	25	<0.1	0.1	6.7	0.4	91	0.4	0.1	3.5	14	2.2	9.0	<0.1	0.4	<0.1	5.9	40	0.7	101	1.1	0.9	<1.0	26	<0.1	<0.1	2.3	47	28	5.6	1.0	62		
S10	/01	2025/12/29	Ishmael	10:19	7.8	73	672	<10	289	166	<0.02	<0.02	<0.5	200	30	30	<0.1	<0.08	2.5	<0.08	23	0.4	13	3.8	0.2	3.8	8.8	<0.1	0.5	<0.1	12	7.7	3.4	552	0.04			24				39	39	5.6	1.0	168		
S13	/01	2025/12/29	Lordwick	10:58	7.5	29	187	<10	246	61	<0.5	<0.5	<0.5	55	45	17	<0.1	<0.08	1.7	<0.08	14	0.6	3.0	1.1	177	1.7	6.2	<0.1	0.5	<0.1	3.0	2.8	0.5															
S14	/01	2025/12/29	Ishmael	12:01	7.7	107	893	<10	430	241	<0.5	<0.5	<0.5	443	46	48	<0.1	0.2	2.1	<0.08	35	0.2	85	1.1	0.6	1.1	1.7	<0.1	0.5	<0.1	55	19	1.4															
S11A	/01	2025/12/29	Ishmael	10:01																																												
S11B	/01	2025/12/29	Lordwick	10:15																																												
S19	/01	2025/12/29	Lordwick	11:34	7.5	106	883	<10	336	200	<0.02	<0.02	<0.5	425	33	19	<0.1	<0.08	2.2	<0.08	63	0.6	1.1	15	0.5	1.0	2.5	<0.1	0.4	<0.1	2.1	1.8	0.7															
S20	/01	2025/12/29	Ishmael	11:40	7.5	112	909	<10	326	170	<0.02	<0.02	<0.5	370	38	30	<0.1	<0.08	3.0	<0.08	76	0.8	3.1	11	0.4	1.0	2.5	<0.1	0.6	<0.1	6.0	1.7	1.0															
OLD RWD	/01	2025/12/29	Lordwick	11:08	5.5	250	1980	<10	950	786	<0.5	<0.5	<0.5	1290	40	166	<0.1	<0.08	10	<0.08	106	0.4	123	11	1910	12	163	<0.1	0.6	<0.1	950	8.7	25															

Comment:

D Dorling

Copies to:

S6 Lecooespruit East ex South #
S9E South Shaft Sewage Final effluent.
S10 Kariegaspruit ex South Deep/Twinshaft
S13 South shaft surface effluent
S14 Lecooespruit East S6-S10
S11A Lecooespruit East @R28 Highway.
S11B Lecooespruit at South Shaft exit.
S19 Loopspruit on Farm Road.
S20 Lecooespruit West @De Buckenhof Farm.
RWD Return Water Dam

STANDARD and GUIDELINES

1. SANS 241-2011
2. WHO 2012
3. Rietsspruit Forum Effective 2003
4. Cyanide Management Code

DD Science
Environmental Monitoring Services
Test Report



CC CKSP/020323

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Mr D Dorling.
2026/01/26
Wsurf 02/20260108

South Deep Surface - Water Quality Report

Sample ID	Sample			pH	Cond	TDS	SS	TH	CaH	FCN	WAD CN	TCN	SO ₄	Mg	Na	Fe	F	NO ₃	OPPO ₄	Cl	Oil	U	Al	Mn	As	Cu	Cd	Hg	Pb	Ni	Zn	Mo	COD	NO ₂	NH ₄	Sets	Temp	F Cl2	T Cl2	OA	FC	Ecoli	DO	Turb	Malk	
Control	Date			at 25°C	at 25°C	at 180°C	at 105°C																																							
STANDARDS and				mS/m	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l O ₂	mg/l N	mg/l N	ml	oC	ug/l	ug/l	mg/l O ₂	cfu/100ml	cfu/100ml			
GUIDELINES								CaCO ₃	CaCO ₃	CN	CN	CN						N	P																											
SANS 241-2015				5-9.7	170	1200	5						500		200	0.3	1.5	11	300		30	300	500	10	2000	3	6	10	70	5000																
WHO				6.5-8.5			5	500				0.2	500		200	0.3	1.5	12	250		15	200	500	10	2000	3	1	10	20	3000	70															
Rietsspruit				6.5-8.5	70		20						300	30	100	0.5	0.7	3.0	0.4	150			400	500																						
Cyanide Code			Sampler	Time Sampled						0.022	0.5						0.8	<0.08		0.8																										
S6	/02	2026/01/08	Lordwick	10:55	7.5	117	936	29	652	414	<0.02	<0.02	<0.5	549	58	39	<0.1	0.2	2.4	<0.08	100	0.4	5.0	11	1760	0.3	50	<0.1	0.5	<0.1	550	266	3.2	39	0.04	1.5	<1.0	21	<0.1	<0.1	2.9	26	26	3.5	1.7	76
S9E	/02	2026/01/08	Lordwick	10:51	7.9	30	239	<10	92	78	<0.5	<0.5	<0.5	<40	3.3	35	<0.1	<0.08	2.0	0.4	30	0.8	0.7	18	9.0	2.2	25	0.1	0.6	<0.1	7.7	26	4.4	25	0.8	1.0	<1.0	22	<0.1	<0.1	2.4	0	0	5.0	2.3	36
S10	/02	2026/01/08	Lordwick	11:23	8.3	66	484	<10	244	170	<0.02	<0.02	<0.5	142	18	27	<0.1	0.1	1.4	<0.08	26	0.2	18	3.4	0.8	5.5	5.1	<0.1	0.6	<0.1	11	2.8	3.0	30	0.03			23				16	10	4.0	1.8	162
S13	/02	2026/01/08	Lordwick	11:12	8.3	28	145	19	437	75	<0.5	<0.5	<0.5	50	15	11	<0.1	<0.08	3.0	<0.08	12	0.8	6.0	12	1.0	2.7	2.0	<0.1	0.5	<0.1	2.1	1.6	2.2													
S14	/02	2026/01/08	Lordwick	13:24	8.2	123	993	<10	664	447	<0.5	<0.5	<0.5	473	52	38	<0.1	0.2	1.5	0.2	51	0.4	5.2	13	1020	0.2	48	<0.1	0.4	<0.1	411	209	3.5													
S11A	/02	2026/01/08	Lordwick	13:45																																										
S11B	/02	2026/01/08	Lordwick	13:51																																										
S19	/02	2026/01/08	Lordwick	12:43	8.5	46	373	<10	464	79	<0.02	<0.02	<0.5	91	20	20	<0.1	<0.08	2.3	<0.08	30	0.4	1.8	2.6	1.0	0.9	0.6	<0.1	0.4	<0.1	0.5	1.2	2.7													
S20	/02	2026/01/08	Lordwick	13:05	8.5	97	747	<10	749	403	<0.02	<0.02	<0.5	285	82	134	<0.1	0.1	2.0	<0.08	78	0.8	35	4.4	91	1.5	2.6	<0.1	0.6	<0.1	21	1.5	3.0													
OLD RWD	/02	2026/01/08	Lordwick	11:04	4.7	256	2110	34	4222	1110	<0.5	<0.5	<0.5	1260	42	179	0.1	<0.08	10	<0.08	129	0.4	119	15	1415	156	98	0.1	0.7	<0.1	466	42	4.9													

Comment:

D Dorling

Copies to:

S6 Lecoospruit East ex South #
S9E South Shaft Sewage Final effluent.
S10 Kariesspruit ex South Deep/Twinshaft
S13 South shaft surface effluent
S14 Lecoospruit East S6+S10
S11A Lecoospruit East @R28 Highway.
S11B Lecoospruit at South Shaft exit.
S19 Lecoospruit on Farm Road.
S20 Lecoospruit West @De Badenhorst Farm.
RWD Return Water Dam

STANDARD and GUIDELINES

1. SANS 241-2011
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DD Science
26-Jan-26
Wsurf 03/20260113

Comment:

S16	Leepoerspruit East ex South s	S18	Loopspruit on Doornpoort slimes Dam outlet
S19	Kariegaarspruit ex South Deep/Twinafspr	S19	Loopspruit on Farm Road
S12	South Shaft chilled water to U/G @ Fridge Pt	S20	Leepoerspruit West @ Dr Badenhorst Farm
S13	South shaft surface effluent	S21	Doornpoort Slimes Dam Outlet
S14	Leepoerspruit East 56-510	S22	Kariegaarspruit upstream South Deep
S15	Leepoerspruit East @ R20 Highway	S26	South Shaft effluent to R20
S11B	Leepoerspruit at South Shaft exit	S27	Doornpoort RWD North B/H
S15	Upstream South Deep Loopspruit	S28	Doornpoort RWD
S16	Small Dam in Leepoerspruit West downstream	S9E	South Shaft Sewage Final effluent
S17	Leepoerspruit/Febichelle road Bridge 3602@	S29	Doornpoort Ground Water Seepage
	Doornpoort Slimes Dam	SSD1	Service Water Dam South Deep s
		S29	Doornpoort Ground Water Seepage

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2026/02/10
Wsurf 04/20260120

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Sample ID	Sample			pH	Cond	TDS	SS	TH	CaH	FCN	WAD CN	TCN	SO ₄	Mg	Na	Fe	F	NO ₃	OPPO ₄	Cl	Oil	U	Al	Mn	As	Cu	Cd	Hg	Pb	Ni	Zn	Mo	COD	NO ₂	NH ₄	Sets	Temp	F Cl2	T Cl2	OA	FC	Ecoli	DO	Turb	Malk			
Control	Date			at 25°C	at 25°C	at 180°C	at 105°C																																									
STANDARDS and				mS/m	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l		
GUIDELINES								CaCO ₃	CaCO ₃	CN	CN	CN						N	P																													
SANS 241-2015				5-9.7	170	1200	5						500		200	0.3	1.5	11	300		30	300	500	10	2000	3	6	10	70	5000																		
WHO				6.5-8.5			5	500				0.2	500		200	0.3	1.5	12	250		15	200	500	10	2000	3	1	10	20	3000	70																	
Rietsspruit				6.5-8.5	70		20						300	30	100	0.5	0.7	3.0	0.4	150			400	500																								
Cyanide Code		Sampler	Time Sampled							0.022	0.5						0.8	<0.08		0.8																												
S6	/04	2026/01/20	Lordwick	12:01	6.8	133	934	<10	734	467	<0.02	<0.02	<0.5	657	65	44	<0.1	0.2	1.5	<0.08	64	0.6	7.0	12	1440	0.3	54	<0.1	0.4	<0.1	502	223	3.1	30	0.03	1.4	<1.0	21	<0.1	<0.1	2.0	0	0	5.6	1.8	78		
S9E	/04	2026/01/20	Ishmael	11:46	7.9	33	196	<10	96	80	<0.5	<0.5	<0.5	<40	3.8	35	<0.1	0.1	3.0	0.3	28	0.8	0.8	14	10	2.3	26	<0.1	0.5	<0.1	7.6	2.8	4.8	<20	1.0	1.2	<1.0	24	<0.1	<0.1	2.1	0	0	5.5	2.3	66		
S10	/04	2026/01/20	Lordwick	12:30	8.1	55	296	<10	226	160	<0.02	<0.02	<0.5	81	16	29	<0.1	0.1	2.3	<0.08	20	0.4	20	2.3	0.5	6.9	5.0	<0.1	0.4	<0.1	12	2.2	3.6	22	0.03			22				40	40	5.5	1.9	172		
S13	/04	2026/01/20	Lordwick	12:08	7.5	29	178	<10	438	76	<0.5	<0.5	<0.5	43	15	13	<0.1	0.1	1.5	<0.08	35	0.6	7.7	15	1.4	2.9	3.9	<0.1	0.5	<0.1	2.6	1.7	2.2															
S14	/04	2026/01/20	Lordwick	13:13	7.8	128	932	<10	656	454	<0.5	<0.5	<0.5	487	54	36	<0.1	0.2	2.0	<0.08	59	0.4	5.7	10	984	0.6	56	<0.1	0.5	<0.1	414	204	3.6															
S11A	/04	2026/01/20	Ishmael	13:54																																												
S11B	/04	2026/01/20	Lordwick	13:48																																												
S19	/04	2026/01/20	Ishmael	12:44	8.5	43	286	<10	499	80	<0.02	<0.02	<0.5	49	29	24	<0.1	0.1	1.8	<0.08	27	0.6	1.2	3.2	1.6	1.2	1.1	<0.1	0.5	<0.1	0.9	1.5	3.8															
S20	/04	2026/01/20	Ishmael	12:52	8.1	97	722	25	774	409	<0.02	<0.02	<0.5	277	88	132	<0.1	0.1	1.8	0.1	79	0.7	38	3.4	98	1.1	2.1	<0.1	0.4	<0.1	38	2.5	4.5															
OLD RWD	/04	2026/01/20	Lordwick	12:15	7.0	298	2650	<10	4486	1280	<0.5	<0.5	<0.5	1590	50	190	0.1	0.1	12	<0.08	153	0.4	128	17	1440	170	111	0.1	0.6	<0.1	512	48	2.1															

Comment:

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Wsurf 05/20260127

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Sample ID	Sample			pH	Cond	TDS	SS	TH	CaH	PCN	WAD CN	TCN	SO ₄	Mg	Na	Fe	F	NO ₃	OPPO ₄	Cl	Oil	U	Al	Mn	As	Cu	Cd	Hg	Pb	Ni	Zn	Mo	COD	NO ₂	NH ₄	Sets	Temp	F Cl2	T Cl2	OA	FC	Ecoli	DO	Turb	Mulk	
Control	Date			at 25°C	at 25°C	at 180°C	at 105°C																																							
STANDARDS and				mS/m	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l O ₂	mg/l N	mg/l N	ml	oC	ug/l	ug/l	mg/l O ₂	cfu/100ml	cfu/100ml			
GUIDELINES								CaCO ₃	CaCO ₃	CN	CN	CN						N	P																											
SANS 241-2015				5-9.7	170	1200	5						500		200	0.3	1.5	11	300		30	300	500	10	2000	3	6	10	70	5000																
WHO				6.5-8.5			5	500				0.2	500		200	0.3	1.5	12	250		15	200	500	10	2000	3	1	10	20	3000	70															
Rietsspruit				6.5-8.5	70		20						300	30	100	0.5	0.7	3.0	0.4	150			400	500																						
Cyanide Code		Sampler	Time Sampled							0.022	0.5						0.8	<0.08		0.8																										
S6	/05	2026/01/27	Lordwick	12:01	7.2	89	771	10	460	312	<0.02	<0.02	<0.5	345	36	23	<0.1	0.1	1.8	<0.08	42	0.4	5.0	13	511	0.1	24	<0.1	0.4	<0.1	102	50	3.0	20	0.02	1.2	<1.0	22	<0.1	<0.1	2.0	42	42	5.7	1.6	94
S9E	/05	2026/01/27	Ishmael	11:46	6.8	50	321	22	446	102	<0.5	<0.5	<0.5	<40	3.4	45	<0.1	0.1	3.6	0.3	85	0.4	0.8	12	11	2.1	20	<0.1	0.4	<0.1	7.2	22	2.0	15	0.02	1.0	<1.0	25	<0.1	<0.1	1.9	0	0	5.6	2.2	63
S10	/05	2026/01/27	Lordwick	12:30	7.8	51	337	<10	228	158	<0.02	<0.02	<0.5	78	17	30	<0.1	0.1	2.7	<0.08	20	0.2	2.0	2.0	0.9	7.9	6.3	<0.1	0.5	<0.1	15	2.1	4.5	19	0.01			26				260	260	5.6	1.8	148
S13	/05	2026/01/27	Lordwick	12:08	7.4	31	219	<10	139	77	<0.5	<0.5	<0.5	62	15	14	<0.1	0.1	1.7	<0.08	15	0.4	7.8	17	1.6	2.8	4.4	<0.1	0.4	<0.1	2.3	1.7	1.9													
S14	/05	2026/01/27	Lordwick	13:13	7.5	130	1130	28	669	439	<0.5	<0.5	<0.5	468	56	38	<0.1	0.2	1.8	<0.08	61	0.2	7.7	11	440	0.4	57	<0.1	0.5	<0.1	95	3.4	1.6													
S11A	/05	2026/01/27	Ishmael	13:54																																										
S11B	/05	2026/01/27	Lordwick	13:48																																										
S19	/05	2026/01/27	Ishmael	12:44	8.4	44	364	12	202	80	<0.02	<0.02	<0.5	55	30	25	<0.1	0.1	2.0	<0.08	32	0.4	1.8	2.9	1.3	1.4	1.2	<0.1	0.5	<0.1	0.6	1.5	3.4													
S20	/05	2026/01/27	Ishmael	12:52	7.8	90	771	<10	772	414	<0.02	<0.02	<0.5	273	87	127	<0.1	0.1	2.3	0.1	72	0.6	34	3.7	92	1.0	1.9	<0.1	0.5	<0.1	33	3.0	3.9													
OLD RWD	/05	2026/01/27	Lordwick	12:15	6.5	302	2940	17	1508	1290	<0.5	<0.5	<0.5	1610	53	193	0.1	0.1	12	0.1	161	0.6	139	2.6	1550	184	132	0.1	0.5	<0.1	522	55	5.2													

Comment:

D Dorling

Copies to:

S6 Lecoospruit East ex South #
S9E South Shaft Sewage Final effluent.
S10 Kariesspruit ex South Deep/Twinshaft
S13 South shaft surface effluent
S14 Lecoospruit East S6-S10
S11A Lecoospruit East @R28 Highway.
S11B Lecoospruit at South Shaft exit.
S19 Loopspruit on Farm Road.
S20 Lecoospruit West @De Badenhorst Farm.
RWD Return Water Dam

STANDARD and GUIDELINES

1. SANS 241-2011
2. WHO 2012
3. Rietsspruit Forum Effective 2003
4. Cyanide Management Code

DD Science
Environmental Monitoring Services
Test Report



CC CKP/020323

To
CC
From
Report Date
Report No

Thiara Ratshibvumo
Lettah Koki, Thabang Legari, Simon Masingi, Rendani Nekhavhambe, Pfundzo Nemaheni, Ismail Kola, Temaswati Dlamini
Mr D Dorling.
2026/03/02
Wsurf 07/20260210

South Deep Surface - Water Quality Report

Sample ID	Sample			pH	Cond	TDS	SS	TH	CaH	FCN	WAD CN	TCN	SO ₄	Mg	Na	Fe	F	NO ₃	OPPO ₄	Cl	Oil	U	Al	Mn	As	Cu	Cd	Hg	Pb	Ni	Zn	Mo	COD	NO ₂	NH ₄	Sets	Temp	F Cl2	T Cl2	OA	FC	Ecoli	DO	Turb	Malk	
Control	Date			at 25°C	at 25°C	at 180°C	at 105°C																																							
STANDARDS and				mS/m	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l O ₂	mg/l N	mg/l N	ml	oC	ug/l	ug/l	mg/l O ₂	cfu/100ml	cfu/100ml			
GUIDELINES								CaCO ₃	CaCO ₃	CN	CN	CN						N	P																											
SANS 241-2015				5-9.7	170	1200	5						500		200	0.3	1.5	11	300		30	300	500	10	2000	3	6	10	70	5000																
WHO				6.5-8.5			5	500				0.2	500		200	0.3	1.5	12	250		15	200	500	10	2000	3	1	10	20	3000	70															
Rietsspruit				6.5-8.5	70		20						300	30	100	0.5	0.7	3.0	0.4	150			400	500																						
Cyanide Code		Sampler	Time Sampled							0.022	0.5						0.8	<0.08		0.8																										
S6	/07	2026/02/10	Lordwick	11:29	6.7	128	1250	<10	740	465	<0.02	<0.02	<0.5	662	67	67	<0.1	0.7	4.1	<0.08	74	0.4	167	11	4122	0.9	16	0.4	0.4	<0.1	546	135	4.1	306	0.02	1.6	<1.0	22	<0.1	<0.1	1.7	52	52	5.7	1.5	74
S9E	/07	2026/02/10	Ishmael	11:15	7.3	44	228	<10	66	50	<0.5	<0.5	<0.5	<40	3.9	32	0.1	0.3	6.0	0.8	18	0.4	0.5	6.8	92	1.9	15	<0.1	0.4	0.1	6.3	7.0	0.5	60	0.0	1.1	<1.0	23	<0.1	<0.1	2.1	0	0	5.7	1.9	82
S10	/07	2026/02/10	Ishmael	11:57	8.0	64	484	<10	175	105	<0.02	<0.02	<0.5	129	17	33	<0.1	0.6	7.0	4.1	33	0.6	11	6.2	0.9	5.4	2.5	0.1	0.5	<0.1	6.7	3.3	4.0	56	0.02			24				18	11	5.6	1.9	152
S13	/07	2026/02/10	Ishmael	11:43	7.4	26	118	<10	118	65	<0.5	<0.5	<0.5	<40	13	11	<0.1	0.1	4.1	<0.08	17	0.6	3.9	2.6	550	2.4	1.3	<0.1	0.4	<0.1	4.3	1.6	0.3													
S14	/07	2026/02/10	Ishmael	12:40	7.9	126	1250	<10	607	378	<0.5	<0.5	<0.5	501	56	64	<0.1	0.8	4.6	<0.08	72	0.2	60	1.5	1.2	0.8	2.6	<0.1	0.3	<0.1	31	0.8	2.2													
S11A	/07	2026/02/10	Ishmael	10:53																																										
S11B	/07	2026/02/10		11:01																																										
S19	/07	2026/02/10	Ishmael	12:11	9.0	40	277	<10	181	95	<0.02	<0.02	<0.5	45	21	14	<0.1	0.2	4.6	<0.08	29	0.4	1.0	2.3	0.4	0.7	1.7	<0.1	0.5	<0.1	1.8	0.8	0.3													
S20	/07	2026/02/10	Lordwick	12:19	8.1	93	809	<10	414	230	<0.02	<0.02	<0.5	288	45	53	<0.1	0.6	4.5	<0.08	77	0.6	45	0.9	0.3	1.4	2.6	<0.1	0.4	<0.1	7.6	1.2	2.2													
OLD RWD	/07	2026/02/10	Lordwick	11:35	8.1	316	3211	11	1098	930	<0.5	<0.5	<0.5	1790	41	212	<0.1	1.3	10	<0.08	203	1.2	13	0.6	6091	7.0	150	3.3	0.8	<0.1	2637	336	12													

Comment:

D Dorling

Copies to:

S6 Lecoospruit East ex South #
S9E South Shaft Sewage Final effluent.
S10 Kariegaspruit ex South Deep/Twinshaft
S13 South shaft surface effluent
S14 Lecoospruit East S6-S10
S11A Lecoospruit East @R28 Highway.
S11B Lecoospruit at South Shaft exit.
S19 Lecoospruit on Farm Road.
S20 Lecoospruit West @De Badenhorst Farm.
RWD Return Water Dam

STANDARD and GUIDELINES

1. SANS 241-2011
2. WHO 2012
3. Rietsspruit Forum Effective 2003
4. Cyanide Management Code

DD Science
Environmental Monitoring Services
Test Report



To
CC
From
Report Date
Report No

Thiara Ratshibvumo
Lettah Koki, Thabang Legari, Simon Masingi, Rendani Nekhavhambe, Pfundzo Nemaheni, Ismail Kola, Temaswati Dlamini
DD Science
03-Mar-26
Wsurf 08/20260217

South Deep Surface - Water Quality Report																																																									
Sample ID	Sample	Time Sample	Sampler	pH	Cond	TDS	SS	TH	CaH	FCN	WAD CN	TCN	SO ₄	Mg	Na	Fe	F	NO ₃	OPO ₄	Cl	Oil	U	Al	Mn	As	Cu	Cd	Hg	Pb	Ni	Zn	Mo	COD	N0 ₂	NH ₄	Sets	Temp	F Cl2	T Cl2	OA	FC	Ecoli	Turb	Malik	DO												
Control	Date			at 25°C	at 25°C	at 180°C	at 105°C																																																		
STANDARDS and					mS/m	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l										
GUIDELINES								CaCO ₃	CaCO ₃	CN	CN	CN						N	P																																						
SANS 241-2015				5-9.7	170	1200	5						500		200	0.3	1.5	11		300		30	300	500	10	2000	3	6	10	70	5000																										
WHO				6.5-8.5	250		5	500					70	500		200	0.3	1.5	12		250		15	200	500	10	2000	3	1	10	20	3000	70																								
Rietspruit				6.5-8.5	70		20						300	30	100	0.5	0.7	3.0	0.4	150			400	500																																	
Cyanide Code										0.022	0.5																																														
S6	/08	2026/02/17	10:43	Lordwick	6.8	124	1030	<10	492	320	<0.02	<0.02	<0.5	740	42	42	<0.1	0.9	4.2	<0.08	68	0.0	142	0.9	192	1.4	3.9	0.1	0.2	<0.1	174	2.6	3.8	61	0.04	1.3	<1.0	19	<0.1	<0.1	2.0	3	3	1.2	69	5.7											
S9E	/08	2026/02/17	10:53	Ishmael	7.2	50	258	<10	46	30	<0.5	<0.5	<0.5	41	4.0	32	<0.1	0.2	4.5	0.4	29	0.6	0.1	2.5	0.7	1.7	12	<0.1	0.3	0.1	6.0	18	0.4	85	1.1	1.6	<1.0	20	<0.1	<0.1	1.9	0	0	1.4	67	5.2											
S10	/08	2026/02/17	16:31	Lordwick	8.1	60	407	<10	48	28	<0.02	<0.02	<0.5	120	51	7.6	0.1	0.2	6.5	<0.08	31	0.4	0.5	13	1.2	1.5	20	<0.1	0.2	<0.1	2.4	1.2	0.1	64	0.03																						
S12	/08	2026/02/17	11:58	Lordwick	7.6	208	1810	<10	915	755	<0.5	<0.5	<0.5	966	39	180	<0.1	0.7	12	<0.08	182	0.6	602	7.1	287	2.8	5.2	0.2	0.2	<0.1	229	60	22																								
S13	/08	2026/02/17	10:18	Lordwick	7.5	24	187	<10	104	55	<0.5	<0.5	<0.5	<40	12	10	<0.1	0.5	4.2	<0.08	17	0.4	14	1.5	574	1.9	2.7	<0.1	0.2	0.1	6.1	1.9	0.4																								
S14	/08	2026/02/17	11:19	Lordwick	8.0	105	952	<10	545	353	<0.5	<0.5	<0.5	365	47	53	<0.1	0.1	4.6	<0.08	68	0.2	53	1.0	1.1	0.9	2.8	<0.1	0.2	<0.1	32	1.5	1.5																								
S11	/08	2026/02/17	11:07	Lordwick	7.6	101	850	<10	778	540	<0.5	<0.5	<0.5	442	58	64	<0.1	0.8	5.1	<0.08	55	0.4	27	1.5	1.1	0.9	17	0.1	0.3	0.3	121	88	0.5																								
S11A	/08	2026/02/17	16:54	Lordwick	No Flow																																																				
S11B	/08	2026/02/17	16:48	Ishmael	No Flow																																																				
SSD3	/08	2026/02/17	15:54	Ishmael	8.3	47	208	<10	128	83	<0.5	<0.5	<0.5	61	11	45	<0.1	0.9	4.8	<0.08	42	0.4	0.9	4.2	0.1	10	1.8	<0.1	0.3	0.2	1.8	53	4.0																								
SSD4	/08	2026/02/17	15:54	Lordwick	9.0	46	177	<10	130	85	<0.5	<0.5	<0.5	62	11	47	<0.1	0.8	4.8	<0.08	44	0.2	1.3	8.6	0.1	13	2.5	<0.1	0.4	0.1	1.6	7.5	4.5																								
S15	/08	2026/02/17	09:35	Ishmael	7.7	11	56	<10	34	20	<0.5	<0.5	<0.5	<40	3.4	7.1	<0.1	<0.08	4.2	<0.08	14	0.4	0.1	2.1	0.1	0.5	2.0	<0.1	0.4	0.1	1.1	3.0	0.2																								
S16	/08	2026/02/17	13:52	Ishmael	7.9	11	60	<10	35	21	<0.5	<0.5	<0.5	<40	3.2	1.0	<0.1	<0.08	4.1	<0.08	11	0.0	0.1	2.2	0.1	0.5	3.2	<0.1	0.4	0.1	1.1	3.2	0.2																								
S17	/08	2026/02/17	15:21	Ishmael	8.0	23	99	<10	95	50	<0.5	<0.5	<0.5	<40	11	10	<0.1	<0.08	4.2	<0.08	18	0.6	1.2	13	0.2	0.4	15	<0.1	0.4	0.1	2.2	3.1	0.2																								
S18	/08	2026/02/17			8.1	27	178	<10	127	65	<0.5	<0.5	<0.5	<40	15	12	<0.1	<0.08	4.1	<0.08	23	0.4	4.3	8.3	0.3	0.7	5.3	<0.1	0.4	0.1	1.5	1.2	0.2																								
S19	/08	2026/02/17	11:46	Lordwick	8.4	35	168	<10	172	90	<0.02	<0.02	<0.5	45	20	15	<0.1	<0.08	4.5	<0.08	29	0.4	1.9	40	0.2	0.6	2.1	<0.1	0.3	0.1	2.3	1.3	0.4																								
S20	/08	2026/02/17	11:33	Lordwick	8.1	80	648	<10	359	195	<0.02	<0.02	<0.5	244	40	43	<0.1	0.2	4.5	<0.08	74	0.6	27	1.7	0.1	0.7	2.8	<0.1	0.3	0.1	7.2	1.1	1.6																								
S21	/08	2026/02/17	13:37	Lordwick	8.0	225	1680	<10	1442	655	<0.5	<0.5	<0.5	1270	192	69	<0.1	0.6	6.2	<0.08	244	0.2	5.6	4.4	209	2.0	5.8	<0.1	0.3	0.2	22	2.8	1.0																								
S22	/08	2026/02/17	09:43	Ishmael	No Flow																																																				
S26	/08	2026/02/17	13:58	Lordwick	No Flow																																																				
S27	/08	2026/02/17	13:38	Lordwick	No Flow																																																				
S28	/08	2026/02/17	12:30	Lordwick	8.0	284	2540	<10	1264	1075	<0.5	<0.5	<0.5	1740	46	258	<0.1	0.9	10	<0.08	230	0.8	105	16	2603	41	213	1.0	0.9	0.1	1891	92	46																								
S29	/08	2026/02/17	12:14	Lordwick	8.6	220	1910	<10	1502	658	<0.5	<0.5	<0.5	1210	206	62	<0.1	0.5	4.1	<0.08	263	0.4	4.3	2.0	658	1.7	12	<0.1	0.4	0.1	7.2	1.9	0.8																								

Comment:

D Dorling
Copies to:

S6	Leewerspruit East ex South #	S18	Leewerspruit @Doornpoort slimes Dam outlet.
S10	Karicasspruit ex South Deep/Twinshalt	S19	Leewerspruit on Farm Road.
S12	South Shaft chilled water to U/G @ Fridge P.	S20	Leewerspruit West @Dr. Badenhorst Farm.
S13	South shaft surface effluent	S21	Doornpoort Slimes Dam Outlet.
S14	Leewerspruit East S6/S10	S22	Karicasspruit upstream South Deep.
S11A	Leewerspruit East @R28 Hillway.	S26	Doornpoort RWD South B/H
S11B	Leewerspruit @ South Shaft exit.	S27	Doornpoort RWD North B/H
S15	Upstream South Deep Leewerspruit.	S28	Doornpoort RWD.
S16	Small Dam in Leewerspruit West downstream	S9E	South Shaft Sewage Final effluent.
S17	Leewerspruit @schelle road Bisdas 3602 @	S8D	Service Water Dam South Deep #
	Doornpoort Slimes Dam.	S8D4	Service Water Dam South Deep #
		S29	Doornpoort Ground Water Seepage

STANDARD and GUIDELINES
1. SANS 240:2011
2. WHO 2012
3. Rietsspruit Forum Effective 2003
4. Cyanide Management Code

DD Science
Environmental Monitoring Services
Test Report



CC CKSP/0203/23

To
CC
From
Report Date
Report No

Thiara Ratshibvumo
Lettah Koki, Thabang Legari, Simon Masingi, Rendani Nekhavhambe, Pfundzo Nemaheni, Ismail Kola, Temaswati Dlamini
Mr D Dorling.
2026/03/09
Wsurf 09/20260224

South Deep Surface - Water Quality Report

Sample ID	Sample			pH	Cond	TDS	SS	TH	CaH	FCN	WAD CN	TCN	SO ₄	Mg	Na	Fe	F	NO ₃	OPPO ₄	Cl	Oil	U	Al	Mn	As	Cu	Cd	Hg	Pb	Ni	Zn	Mo	COD	NO ₂	NH ₄	Sets	Temp	F Cl2	T Cl2	OA	FC	Ecoli	DO	Turb	Malk	
Control	Date			at 25°C	at 25°C	at 180°C	at 105°C																																							
STANDARDS and				mS/m	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l O ₂	mg/l N	mg/l N	ml	oC	ug/l	ug/l	mg/l O ₂	cfu/100ml	cfu/100ml			
GUIDELINES								CaCO ₃	CaCO ₃	CN	CN	CN						N	P																											
SANS 241-2015				5-9.7	170	1200	5						500		200	0.3	1.5	11		300		30	300	500	10	2000	3	6	10	70	5000															
WHO				6.5-8.5			5	500				0.2	500		200	0.3	1.5	12		250		15	200	500	10	2000	3	1	10	20	3000	70														
Rietsspruit				6.5-8.5	70		20						300	30	100	0.5	0.7	3.0	0.4	150			400	500																						
Cyanide Code		Sampler	Time Sampled							0.022	0.5						0.8	<0.08		0.8																										
S6	/09	2026/02/24	Ishmael	13:23	6.6	142	905	62	650	420	<0.02	<0.02	<0.5	861	56	57	<0.1	0.8	2.1	<0.08	87	0.4	115	3.4	1210	0.6	6.9	0.2	0.2	<0.1	190	41	3.6	77	0.03	1.9	<1.0	20	<0.1	<0.1	2.0	230	138	5.5	1.9	66
S9E	/09	2026/02/24	Ishmael	13:33	7.9	38	167	13	114	98	<0.5	<0.5	<0.5	<40	4.0	31	0.1	<0.08	3.4	0.2	33	0.2	0.9	21	75	1.9	14	<0.1	0.5	0.3	6.7	21	0.9	246	1.4	2.7	<1.0	22	<0.1	<0.1	1.7	>800	>800	5.6	1.7	94
S10	/09	2026/02/24	Lordwick	12:54	8.1	53	423	<10	162	113	<0.02	<0.02	<0.5	86	12	22	<0.1	0.5	4.1	<0.08	30	0.4	6.9	5.4	0.7	4.0	2.8	<0.1	0.3	<0.1	5.1	2.6	3.2	72	0.03			21				>800	>800	5.7	1.7	150
S13	/09	2026/02/24	Ishmael	13:04	7.6	24	178	<10	97	58	<0.5	<0.5	<0.5	<40	10	8.6	0.1	0.2	3.4	<0.08	17	0.6	1.4	4.3	54	1.3	1.3	<0.1	0.2	0.1	2.5	2.1	0.1													
S14	/09	2026/02/24	Lordwick	12:10	8.0	106	750	<10	508	315	<0.5	<0.5	<0.5	312	47	57	<0.1	0.9	2.2	<0.08	57	0.2	65	0.8	0.4	0.3	2.4	<0.1	0.2	<0.1	10	1.5	2.0													
S11A	/09	2026/02/24	Ishmael	11:50																																										
S11B	/09	2026/02/24	Lordwick	11:55																																										
S19	/09	2026/02/24	Lordwick	12:37	8.2	33	236	14	143	78	<0.02	<0.02	<0.5	<40	16	11	<0.1	0.1	2.2	<0.08	28	0.6	0.9	1.9	0.2	0.4	1.1	<0.1	0.3	<0.1	1.0	0.8	0.2													
S20	/09	2026/02/24	Lordwick	12:30	7.9	81	731	<10	311	180	<0.02	<0.02	<0.5	249	32	37	<0.1	0.3	2.4	<0.08	68	0.8	15	0.8	0.2	0.5	1.4	<0.1	0.4	<0.1	6.1	1.2	1.2													
OLD RWD	/09	2026/02/24	Ishmael	13:14	7.7	263	2550	18	1128	980	<0.5	<0.5	<0.5	1450	36	216	<0.1	0.9	10	<0.08	638	0.6	35	15	4960	6.9	643	2.8	0.3	0.1	2838	314	15													

Comment:

D Dorling

Copies to:

S6 Lecoospruit East ex South #
S9E South Shaft Sewage Final effluent.
S10 Kariegaspruit ex South Deep/Twinsthaft
S13 South shaft surface effluent
S14 Lecoospruit East S6+S10
S11A Lecoospruit East @R28 Highway.
S11B Lecoospruit at South Shaft exit.
S19 Lecoospruit on Farm Road.
S20 Lecoospruit West @De Badenhorst Farm.
RWD Return Water Dam

STANDARD and GUIDELINES

1. SANS 241-2011
2. WHO 2012
3. Rietsspruit Forum Effective 2003
4. Cyanide Management Code

Thiara Ratshibvumo
Lettah Koki, Thabang Legari, Simon Masingi, Rendani Nekhavhambe, Pfundzo Nemaheni, Ismail Kola, Temaswati Dlamini
Mr D Dorling
2026/04/01
 Wsurf 10/20260303

Comment: **Note Manganese at S6, Sulphate @ S20.**

Copies to:

S6	Leeuwspruit East ex South #
S9E	South Shaft Sewage Final effluent.
S10	Kariegaspruit ex South Deep/Twinshaft
S13	South shaft surface effluent
S14	Leeuwspruit East S6+S10
S11A	Leeuwspruit East @R28 Highbway.
S11B	Leeuwspruit East @South Shaft exit.
S19	Loopspruit on Farm Road.
S20	Leeuwspruit West @Dr Badenhorst Farm.
RWD	Return Water Dam

STANDARD and GUIDELINES

1. SANS 241-2011
2. WHO 2012
3. Rietspruit Forum Effective 2003
4. Cyanide Management Code

DD Science
Environmental Monitoring Services
Test Report



To
CC
From
Report Date
Report No

Thiara Ratshibvumo
Lettah Koki, Thabang Legari, Simon Masingi, Rendani Nekhavhambe, Pfundzo Nemaheni, Ismail Kola, Temaswati Dlamini
DD Science
01-Apr-26
Wsurl 11/20260310

South Deep Surface - Water Quality Report																																																											
Sample ID	Sample	Time Sample	Sampler	pH	Cond	TDS	SS	TH	CaH	FCN	WAD C	TCN	SO ₄	Mg	Na	Fe	F	NO ₃	OPO ₄	Cl	Oil	U	Al	Mn	As	Cu	Cd	Hg	Pb	Ni	Zn	Mo	COD	N0 ₂	NH ₄	Sets	Temp	F Cl2	T Cl2	OA	FC	Ecoli	Turb	Malik	DO														
Control	Date			at 25°C	at 25°C	at 180°C	at 105°C																																																				
STANDARDS and					ms/m	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l												
GUIDELINES								CaCO ₃	CaCO ₃	CN	CN	CN							N	P																																							
SANS 241-2015				5-9.7	170	1200	5						500		200	0.3	1.5	11		300		30	300	500	10	2000	3	6	10	70	5000																												
WHO				6.5-8.5	250		5	500				70	500		200	0.3	1.5	12		250		15	200	500	10	2000	3	1	10	20	3000	70																											
Rietspruit				6.5-8.5	70		20					300	30	100	0.5	0.7	3.0	0.4	150				400	500																																			
Cyanide Code										0.022	0.5																																																
S6	/11	2026/03/10	11:11	Ishmael	7.3	96	775	<10	526	338	<0.005	<0.02	<0.5	447	46	45	<0.1	0.6	2.0	<0.08	50	0.2	143	29	1409	1.5	17	0.3	13	0.1	263	109	4.6	52	0.03	1.7	<1.0	19	<0.1	<0.1	2.0	12	7	2.1	97	5.6													
S9E	/11	2026/03/10	11:23	Ishmael	7.3	38	194	<10	769	728	<0.5	<0.5	<0.5	56	10	102	<0.1	<0.08	4.2	0.9	43	0.8	2.1	88	0.8	1.9	10	<0.1	0.6	0.8	5.3	16	2.2	65	1.1	2.3	<1.0	20	<0.1	<0.1	2.1	2	2	1.7	81	5.6													
S10	/11	2026/03/10	10:47	Ishmael	7.9	55	397	<10	229	155	<0.005	<0.02	<0.5	113	18	31	<0.1	0.4	3.1	<0.08	28	0.4	6.3	4.1	73	4.2	2.2	<0.1	4.7	<0.1	8.5	3.1	3.3	44	0.04																								
S12	/11	2026/03/10	14:59	Ishmael	7.3	229	1860	<10	1022	850	<0.5	<0.5	<0.5	986	42	184	<0.1	1.2	12	<0.08	167	0.6	554	20	650	7.6	8.7	0.2	3.2	0.1	370	99	19																										
S13	/11	2026/03/10	10:22	Ishmael	7.2	28	196	<10	98	53	<0.5	<0.5	<0.5	40	11	10	0.2	0.2	1.9	<0.08	13	0.4	12	6.6	596	2.1	1.3	<0.1	1.9	<0.1	3.4	14	0.2																										
S14	/11	2026/03/10	12:03	Ishmael	7.9	111	920	<10	599	378	<0.5	<0.5	<0.5	515	54	63	<0.1	0.7	2.3	<0.08	63	0.2	57	1.7	0.9	1.2	5.0	<0.1	1.7	<0.1	30	4.6	1.1																										
S11	/11	2026/03/10	11:53	Ishmael	7.4	110	891	<10	659	450	<0.5	<0.5	<0.5	619	51	62	<0.1	0.8	2.0	<0.08	68	0.4	31	3.0	31	1.0	12	0.1	1.2	<0.1	106	66	0.4																										
S11A	/11	2026/03/10	11:30	Ishmael	No Flow																																																						
S11B	/11	2026/03/10	11:34	Ishmael	No Flow																																																						
SSD3	/11	2026/03/10	16:24	Ishmael	8.0	46	327	<10	133	88	<0.5	<0.5	<0.5	55	11	45	<0.1	1.1	2.4	<0.08	39	0.6	2.0	4.0	0.7	10	2.5	<0.1	0.9	<0.1	1.6	55	4.1																										
SSD4	/11	2026/03/10	16:25	Ishmael	8.6	47	238	<10	125	80	<0.5	<0.5	<0.5	64	11	46	<0.1	1.1	2.2	<0.08	40	0.2	1.7	8.9	0.5	9.1	2.3	<0.1	1.0	0.1	1.7	16	4.3																										
S15	/11	2026/03/10	16:41	Ishmael	7.2	10	76	<10	41	24	<0.5	<0.5	<0.5	<40	4.0	9.0	0.3	<0.08	1.9	<0.08	10	0.2	0.2	50	2.9	0.7	9.1	<0.1	1.1	0.1	1.1	11	0.1																										
S16	/11	2026/03/10	14:17	Ishmael	7.2	10	72	<10	38	21	<0.5	<0.5	<0.5	<40	4.2	8.8	0.2	<0.08	1.8	<0.08	10	0.2	0.4	37	2.4	0.2	3.7	<0.1	1.0	0.1	1.4	3.4	0.1																										
S17	/11	2026/03/10	14:01	Ishmael	7.5	24	142	<10	82	43	<0.5	<0.5	<0.5	<40	10	12	0.2	0.1	2.3	<0.08	23	0.6	0.5	37	1.2	0.3	2.3	<0.1	0.8	0.1	1.1	1.6	0.1																										
S18	/11	2026/03/10	12:41	Ishmael	7.7	31	204	<10	117	60	<0.5	<0.5	<0.5	<40	14	14	0.2	<0.08	2.1	<0.08	29	0.4	0.6	44	0.6	0.7	1.8	<0.1	0.8	0.1	1.4	2.2	0.1																										
S19	/11	2026/03/10	12:28	Ishmael	7.8	38	188	<10	160	83	<0.005	<0.02	<0.5	54	19	16	<0.1	0.1	2.4	<0.08	32	0.6	0.9	3.4	0.3	0.5	1.6	<0.1	0.7	<0.1	1.4	1.9	0.2																										
S20	/11	2026/03/10	12:20	Ishmael	7.9	68	489	<10	309	170	<0.005	<0.02	<0.5	168	34	37	<0.1	0.4	2.5	<0.08	61	0.6	21	5.4	0.3	1.0	1.2	<0.1	0.7	<0.1	7.0	1.7	1.0																										
S21	/11	2026/03/10	13:20	Ishmael	8.3	241	2000	<10	1536	733	<0.5	<0.5	<0.5	1210	196	72	<0.1	0.8	3.8	<0.08	226	0.4	5.8	3.0	4.5	2.0	3.2	<0.1	0.4	<0.1	14	0.7	0.7																										
S22	/11	2026/03/10	16:52	Ishmael	No Flow																																																						
S26	/11	2026/03/10	13:22	Ishmael	No Flow																																																						
S27	/11	2026/03/10	13:22	Ishmael	7.0	285	2250	<10	1526	1120	<0.5	<0.5	<0.5	1170	99	251	<0.1	1.0	10	<0.08	205	0.2	52	1.4	811	38	75	0.2	0.4	0.1	1362	32	44																										
S28	/11	2026/03/10	13:12	Ishmael	8.1	284	2290	11	1229	1065	<0.5	<0.5	<0.5	1520	40	304	<0.1	1.1	12	<0.08	178	0.6	98	8.2	1872	85	282	0.4	1.3	0.2	1909	19	58																										
S29	/11	2026/03/10	12:59	Ishmael	8.3	235	1850	<10	1480	648	<0.5	<0.5	<0.5	1170	203	64	<0.1	0.8	10.0	<0.08	55	0.4	5.0	6.4	238	1.1	1.2	<0.1	0.2	<0.1	4.1	1.4	0.7																										

Comment:

D Dorling

Copies to:

S6	Leewerspruit East ex South #	S18	Leewerspruit @Doompoort slimes Dam outlet.
S10	Karicasspruit ex South Deep/Twinshalt	S19	Leewerspruit on Farm Road.
S12	South Shaft chilled water to U/G @ Fridge P.	S20	Leewerspruit West @Dr. Badenhorst Farm.
S13	South shaft surface effluent	S21	Doompoort Slimes Dam Outlet.
S14	Leewerspruit East S6/S10	S22	Karicasspruit upstream South Deep.
S11A	Leewerspruit East @R28 Hillview.	S26	Doompoort RWD South B/H.
S11B	Leewerspruit @ South Shaft exit.	S27	Doompoort RWD North B/H.
S15	Upstream South Deep Leewerspruit.	S28	Doompoort RWD.
S16	Small Dam in Leewerspruit West downstream	S9E	South Shaft Sewage Final effluent.
S17	Leewerspruit @schelle road Bisdas 360200	S8D3	Service Water Dam South Deep #
	Doompoort Slimes Dam.	S8D4	Service Water Dam South Deep #
		S29	Doompoort Ground Water Seepage

STANDARD and GUIDELINES
1. SANS 241-2011
2. WHO 2012
3. Rietsspruit Forum Effective 2003
4. Cyanide Management Code

DD Science
Environmental Monitoring Services
Test Report



CC CKSP-020323

To
CC
From
Report Date
Report No

Thiara Ratshibvumo
Lettah Koki, Thabang Legari, Simon Masingi, Rendani Nekhavhambe, Pfundzo Nemaheni, Ismail Kola, Temaswati Dlamini
Mr D Dorling.
2026/04/08
Wsurf 12/20260317

South Deep Surface - Water Quality Report

Sample ID	Sample			pH	Cond	TDS	SS	TH	CaH	FCN	WAD CN	TCN	SO ₄	Mg	Na	Fe	F	NO ₃	OPPO ₄	Cl	Oil	U	Al	Mn	As	Cu	Cd	Hg	Pb	Ni	Zn	Mo	COD	NO ₂	NH ₄	Sets	Temp	F Cl2	T Cl2	OA	FC	Ecoli	DO	Turb	Mulk		
Control	Date			at 25°C	at 25°C	at 180°C	at 105°C																																								
STANDARDS and				mS/m	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l O ₂	mg/l N	mg/l N	ml	oC	ug/l	ug/l	mg/l O ₂	cfu/100ml	cfu/100ml				
GUIDELINES								CaCO ₃	CaCO ₃	CN	CN	CN						N	P																												
SANS 241-2015				5-9.7	170	1200	5						500		200	0.3	1.5	11		300		30	300	500	10	2000	3	6	10	70	5000																
WHO				6.5-8.5			5	500				0.2	500		200	0.3	1.5	12		250		15	200	500	10	2000	3	1	10	20	3000	70															
Rietsspruit				6.5-8.5	70		20						300	30	100	0.5	0.7	3.0	0.4	150			400	500																							
Cyanide Code		Sampler	Time Sampled							0.022	0.5						0.8	<0.08		0.8																											
S6	/12	2026/03/17	Lordwick	11:56	7.0	86	623	13	558	344	<0.02	<0.02	<0.5	350	52	57	<0.1	1.3	1.4	<0.08	41	0.4	86	7.0	3061	0.7	15	<0.1	1.0	<0.1	374	100	38	<20	0.04	2.1	<1.0	21	<0.1	<0.1	2.7	65	65	6.0	1.9	109	
S9E	/12	2026/03/17	Ishmael	12:11	7.4	34	212	11	66	46	<0.5	<0.5	<0.5	<40	4.9	60	<0.1	0.1	2.9	0.9	29	0.4	2.2	50	0.8	1.4	11	0.1	1.1	<0.1	4.3	17	2.8	89	1.1	2.8	<1.0	24	<0.1	<0.1	2.1	590	590	5.5	2.0	86	
S10	/12	2026/03/17	Lordwick	12:26	7.9	51	252	<10	229	150	<0.02	<0.02	<0.5	89	1.7	30	<0.1	0.4	2.8	<0.08	24	0.6	6.1	4.3	75	3.8	2.0	<0.1	1.2	<0.1	7.7	3.2	0.7	<20	0.04			22				380	228	6.0	1.8	147	
S13	/12	2026/03/17	Lordwick	11:30	7.1	25	148	13	72	42	<0.5	<0.5	<0.5	<40	7.4	9.1	<0.1	0.1	1.6	<0.08	15	0.4	0.5	18	266	2.0	1.4	<0.1	1.0	<0.1	2.3	2.4	0.9														
S14	/12	2026/03/17	Ishmael	13:14	7.8	116	913	<10	298	280	<0.5	<0.5	<0.5	515	4.4	50	<0.1	1.3	2.1	<0.08	66	0.4	44	0.9	1.2	0.8	1.6	<0.1	0.9	<0.1	0.6	1.9	1.6														
S11A	/12	2026/03/17	Lordwick	13:35																																											
S11B	/12	2026/03/17	Lordwick	13:41																																											
S19	/12	2026/03/17	Ishmael	12:39	8.2	37	223	<10	139	73	<0.02	<0.02	<0.5	52	16	18	<0.1	0.1	1.9	<0.08	29	0.6	0.5	15	0.6	0.5	1.5	<0.1	0.9	<0.1	1.2	1.8	4.4														
S20	/12	2026/03/17	Lordwick	12:47	7.8	87	678	<10	352	188	<0.02	<0.02	<0.5	288	40	54	<0.1	0.5	2.4	<0.08	66	0.4	19	1.8	0.2	0.9	1.6	<0.1	1.0	<0.1	2.7	1.9	4.0														
OLD RWD	/12	2026/03/17	Ishmael	11:42	6.8	297	2400	19	1281	1084	<0.5	<0.5	<0.5	1530	48	231	0.2	1.0	10	<0.08	163	0.4	115	20	2110	14	95	0.1	1.0	<0.1	55	37	3.2														

Comment:

D Dorling

Copies to:

S6 Lecoospruit East ex South #
S9E South Shaft Sewage Final effluent.
S10 Kariesspruit ex South Deep/Twinshaft
S13 South shaft surface effluent
S14 Lecoospruit East S6-S10
S11A Lecoospruit East @R28 Highway.
S11B Lecoospruit at South Shaft exit.
S19 Lecoospruit on Farm Road.
S20 Lecoospruit West @De Badenhorst Farm.
RWD Return Water Dam

STANDARD and GUIDELINES

1. SANS 241-2011
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DD Science
Environmental Monitoring Services
Test Report



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Report Date
Report No

Thiara Ratshibvumo
Lettah Koki, Thabang Legari, Simon Masingi, Rendani Nekhavhambe, Pfundzo Nemaheni, Ismail Kola, Temaswati Dlamini
Mr D Dorling.
2026/04/09
Wsurf 13/20260324

South Deep Surface - Water Quality Report

Sample ID	Sample			pH	Cond	TDS	SS	TH	CaH	FCN	WAD CN	TCN	SO ₄	Mg	Na	Fe	F	NO ₃	OPO ₄	Cl	Oil	U	Al	Mn	As	Cu	Cd	Hg	Pb	Ni	Zn	Mo	COD	NO ₂	NH ₄	Sets	Temp	F Cl2	T Cl2	OA	FC	Ecoli	DO	Turb	Mailk									
Control	Date			at 25°C	at 25°C	at 180°C	at 105°C																																															
STANDARDS and GUIDELINES				mS/m	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l O2	mg/l N	mg/l N	ml/l	°C	ug/l	ug/l	mg/l O2	cfu/100ml	cfu/100ml												
								CaCO ₃	CaCO ₃	CN	CN	CN						N	P																																			
SANS 241-2015				5-9.7	170	1200	5						500		200	0.3	1.5	11		300		30	300	500	10	2000	3	6	10	70	5000																							
WHO				6.5-8.5			5	500				0.2	500		200	0.3	1.5	12		250		15	200	500	10	2000	3	1	10	20	3000	70																						
Rietvlei				6.5-8.5	70		20					300	30	100	0.5	0.7	3.0	0.4	150			400	500																															
Cyanide Code										0.022	0.5						0.8		<0.08		0.8																																	
S6	/13	2026/03/24	Lordwick	14:46	7.8	83	678	<10	543	333	<0.02	<0.02	<0.5	337	51	55	<0.1	0.5	1.9	<0.08	39	0.4	102	6.0	3983	0.8	15	<0.1	0.9	<0.1	336	103	3.9	<20	0.02	1.2	1.0	23	<0.1	<0.1	2.9	49	29	6.1	1.9	124								
S9E	/13	2026/03/24	Ishmael	14:58	7.4	33	234	<10	64	44	<0.5	<0.5	<0.5	43	4.8	29	<0.1	0.1	2.7	0.6	22	0.5	1.2	21	55	3.7	18	<0.1	0.8	0.2	4.0	45	2.2	36	0.02	0.7	<1.0	24	<0.1	<0.1	2.0	>800	>800	5.4	1.8	35								
S10	/13	2026/03/24	Ishmael	12:41	7.7	70	546	<10	218	152	<0.02	<0.02	<0.5	189	16	34	<0.1	0.2	2.9	<0.08	25	0.5	11	2.9	1.8	4.0	1.9	<0.1	0.9	<0.1	6.1	1.8	3.4	32	0.02			22				590	472	5.2	2.2	135								
S13	/13	2026/03/24	Lordwick	12:09	7.3	34	216	47	87	47	<0.5	<0.5	<0.5	66	9.8	10	<0.1	0.4	1.9	<0.08	17	0.6	0.8	23	266	3.0	1.3	<0.1	1.1	<0.1	2.3	2.9	0.8																					
S14	/13	2026/03/24	Ishmael	14:17	7.6	94	792	15	394	230	<0.5	<0.5	<0.5	367	40	41	<0.1	0.5	2.3	<0.08	42	0.7	40	0.7	1.0	0.4	1.5	<0.1	1.0	<0.1	11	1.8	0.6																					
S11A	/13	2026/03/24	Lordwick	15:31																																																		
S11B	/13	2026/03/24	Lordwick	15:35																																																		
S19	/13	2026/03/24	Ishmael	13:50	7.6	118	822	19	460	243	<0.02	<0.02	<0.5	448	55	48	<0.1	0.5	6.1	<0.08	87	0.6	1.8	33	2.0	22	6.2	<0.1	0.8	<0.1	3.4	3.9	4.5																					
S20	/13	2026/03/24	Ishmael	13:57	7.3	111	919	<10	462	252	<0.02	<0.02	<0.5	436	51	57	<0.1	0.4	5.4	<0.08	89	0.5	23	1.9	3.4	33	3.6	<0.1	0.9	<0.1	7.7	3.1	4.0																					
OLD RWD	/13	2026/03/24	Ishmael	12:31	6.9	224	1830	10	898	754	<0.5	<0.5	<0.5	1120	35	175	0.1	0.8	12	<0.08	137	0.5	96	25.0	1666.0	13.0	78.0	0.2	1.0	0.1	757.0	37.0	4.0																					
OLD RWD O/F	/13	2026/03/24	Lordwick	12:21	6.4	266	2160	13	4135	954	<0.5	<0.5	<0.5	1510	44	222	0.1	0.9	12	<0.08	158	0.6	122	28	2112	15	99	0.2	1.0	0.1	954	48	3.9																					

Comment:

D Dorling
Copies to:

S6 Leuwerpoort East ex South P
S9E South Shaft Sewage Final effluent.
S10 Kariqaspruit ex South Deep/Twinshaft
S13 South shaft surface effluent
S14 Leuwerpoort East S6/S10
S11A Leuwerpoort East @R28 Highway.
S11B Leuwerpoort at South Shaft exit.
S19 Leuwerpoort on Farm Road.
S20 Leuwerpoort West @D-Badenhorst Farm.
RWD Return Water Dam

STANDARD and GUIDELINES

1. SANS 241-2011
2. WHO 2012
3. Rietvlei Forum Effective 2003
4. Cyanide Management Code

DD Science
Environmental Monitoring Services
Test Report



CC CKSP/020/23

To
CC
From
Report Date
Report No

Thiara Ratshibvumo
Lettah Koki, Thabang Legari, Simon Masingi, Rendani Nekhavhambe, Pfundzo Nemaheni, Ismail Kola, Temaswati Dlamini
Mr D Dorling.
2026/04/09
Wsurf 14/20260331

South Deep Surface - Water Quality Report

Sample ID	Sample			pH	Cond	TDS	SS	TH	CaH	FCN	WAD CN	TCN	SO ₄	Mg	Na	Fe	F	NO ₃	OPPO ₄	Cl	Oil	U	Al	Mn	As	Cu	Cd	Hg	Pb	Ni	Zn	Mo	COD	NO ₂	NH ₄	Sets	Temp	F Cl2	T Cl2	OA	FC	Ecoli	DO	Turb	Malk	
Control	Date			at 25°C	at 25°C	at 180°C	at 105°C																																							
STANDARDS and				mS/m	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l O ₂	mg/l N	mg/l N	ml	oC	ug/l	ug/l	mg/l O ₂	cfu/100ml	cfu/100ml				
GUIDELINES								CaCO ₃	CaCO ₃	CN	CN	CN						N	P																											
SANS 241-2015				5-9.7	170	1200	5						500		200	0.3	1.5	11		300		30	300	500	10	2000	3	6	10	70	5000															
WHO				6.5-8.5			5	500				0.2	500		200	0.3	1.5	12		250		15	200	500	10	2000	3	1	10	20	3000	70														
Rietsspruit				6.5-8.5	70		20						300	30	100	0.5	0.7	3.0	0.4	150			400	500																						
Cyanide Code		Sampler	Time Sampled							0.022	0.5						0.8	<0.08		0.8																										
S6	/14	2026/03/31	Lordwick	13:33	7.4	89	692	<10	544	343	<0.02	<0.02	<0.5	427	49	43	<0.1	0.7	2.2	<0.08	51	0.4	124	32.0	1395	1.6	17	<0.1	0.8	<0.1	266	114	2.8	40	0.02	1.9	<1.0	22	<0.1	<0.1	2.0	49	49	5.6	2.0	90
S9E	/14	2026/03/31	Ishmael	13:25	7.0	44	132	<10	69	49	<0.5	<0.5	<0.5	<40	4.9	32	<0.1	0.5	3.7	1.1	76	0.6	1.0	13	55	2	11	0.2	0.9	0.1	3.9	20	4.0	57	0.02	2.2	<1.0	22	<0.1	<0.1	2.1	0	0	5.6	1.9	90
S10	/14	2026/03/31	Lordwick	13:53	7.9	59	379	<10	240	136	<0.02	<0.02	<0.5	140	18	28	<0.1	0.4	4.0	<0.08	28	0.2	10	2.9	1.8	3.6	2.5	<0.1	0.9	<0.1	8.6	22.0	2.3	20	0.02			21								
S13	/14	2026/03/31	Ishmael	13:40	7.3	27	137	<10	82	45	<0.5	<0.5	<0.5	52	8.9	9.0	<0.1	<0.08	2.3	<0.08	15	0.6	0.7	25	244	2.6	1.8	<0.1	0.7	<0.1	1.9	3.1	3.2													
S14	/14	2026/03/31	Ishmael	14:26	7.8	94	684	<10	365	221	<0.5	<0.5	<0.5	459	35	42	<0.1	0.7	2.7	<0.08	54	0.6	38	0.8	1.9	0.4	1.1	<0.1	0.4	<0.1	11	954.0	1.5													
S11A	/14	2026/03/31	Ishmael	13:07																																										
S11B	/14	2026/03/31	Lordwick	13:15																																										
S19	/14	2026/03/31	Lordwick	14:04	7.6	102	991	<10	428	214	<0.02	<0.02	<0.5	502	52	46	<0.1	0.2	5.3	<0.08	88	0.4	2.1	9.9	0.7	1.8	5.2	<0.1	0.8	<0.1	3.3	6.4	4.5													
S20	/14	2026/03/31	Ishmael	14:09	7.8	104	879	<10	483	269	<0.02	<0.02	<0.5	488	52	57	<0.1	0.5	4.7	<0.08	99	0.4	32	8.3	0.5	1.5	1.7	<0.1	0.9	<0.1	11.0	1.6	4.0													
OLD RWD	/14	2026/03/31	Lordwick	13:46	6.7	241	1880	21	1045	897	<0.1	<0.1	<0.1	1270	36	200	0.2	0.7	12	<0.08	149	0.6	102	18	1876	11	88	0.1	1.1	0.1	885	40	4.6													

Comment:

D Dorling

Copies to:

S6 Lecoospruit East ex South #
S9E South Shaft Sewage Final effluent.
S10 Kariesspruit ex South Deep/Twinstaff
S13 South shaft surface effluent
S14 Lecoospruit East S6+S10
S11A Lecoospruit East @R28 Highway.
S11B Lecoospruit at South Shaft exit.
S19 Lecoospruit on Farm Road.
S20 Lecoospruit West @De Bakenhorst Farm.
RWD Return Water Dam

STANDARD and GUIDELINES

1. SANS 241-2011
2. WHO 2012
3. Rietsspruit Forum Effective 2003
4. Cyanide Management Code