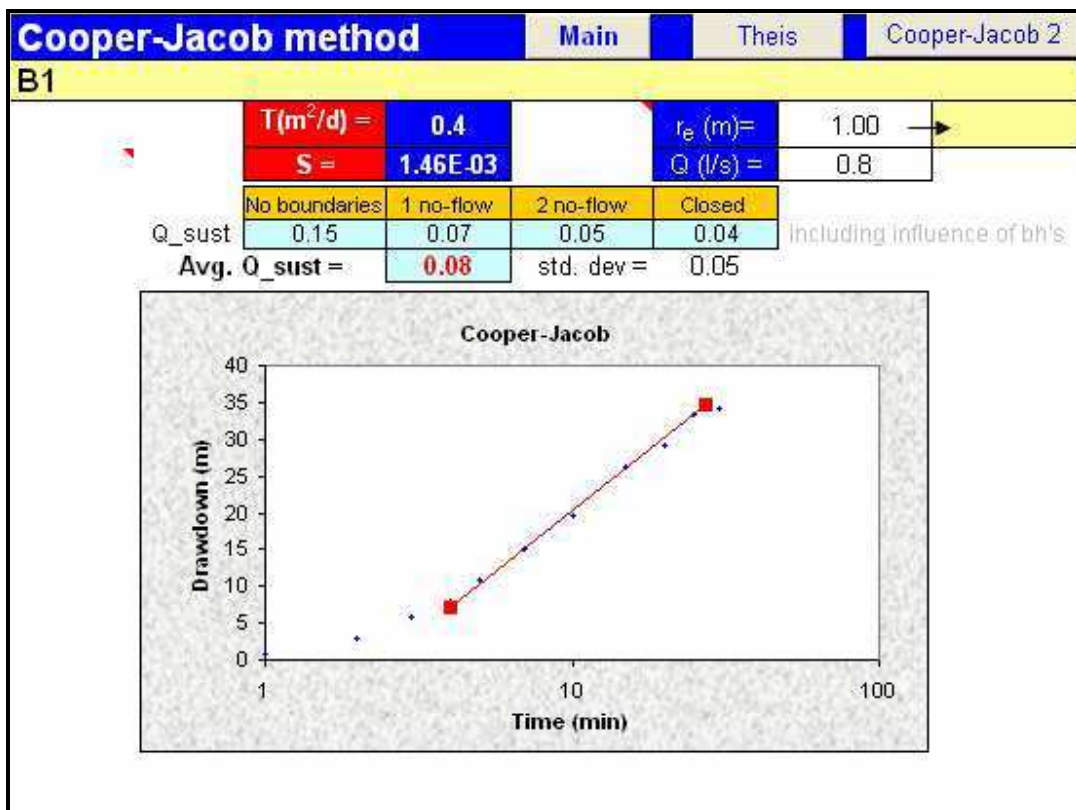
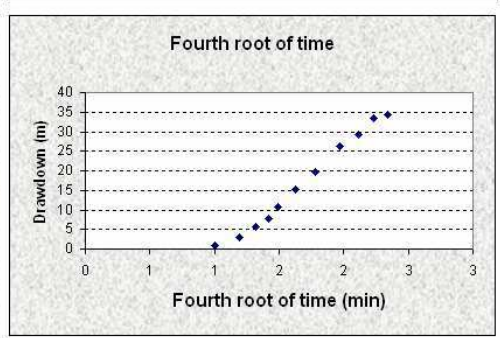
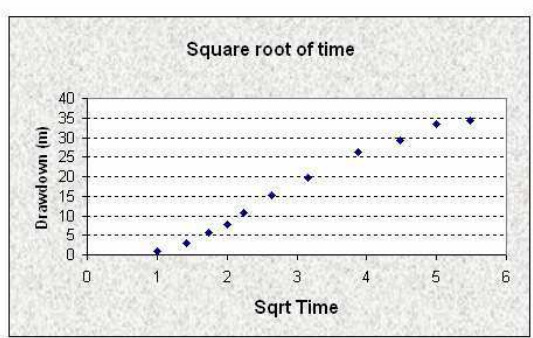
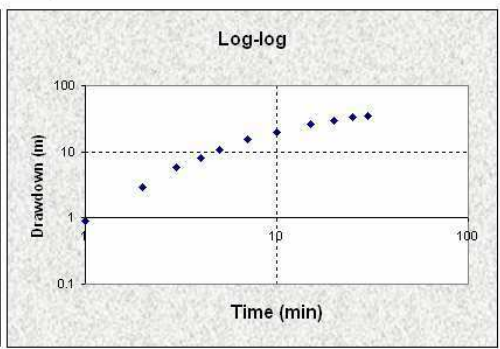
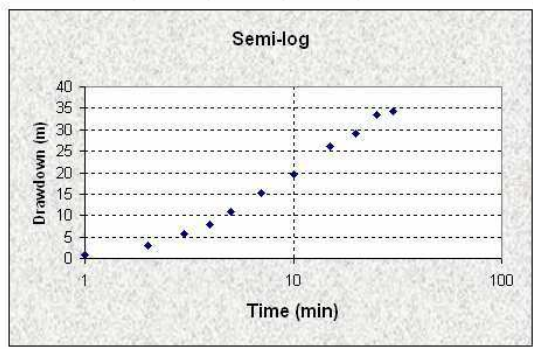


ANNEXURE A
AQUIFER TEST DATA

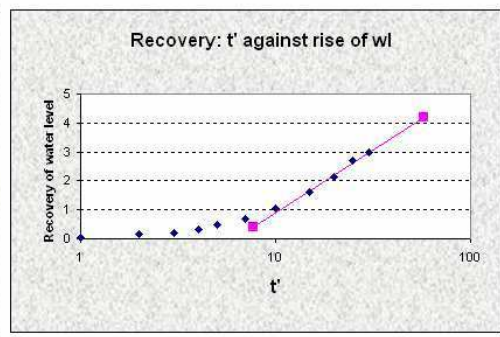
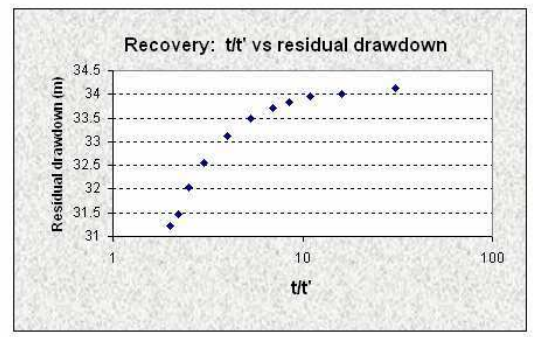
Borehole ID:	B1			
Pump Rate:	0.8 L/s			
SWL (pump installed):	0.67			
Time	Drawdown	Corrected Drawdown	Recovery	Corrected Recovery
1	1.58	0.91	34.79	34.12
2	3.62	2.95	34.67	34.00
3	6.48	5.81	34.63	33.96
4	8.58	7.91	34.51	33.84
5	11.47	10.8	34.38	33.71
7	15.9	15.23	34.15	33.48
10	20.24	19.57	33.8	33.13
15	26.83	26.16	33.23	32.56
20	29.8	29.13	32.7	32.03
25	34.04	33.37	32.13	31.46
30	34.85	34.18	31.88	31.21
40	reached pump inlet		30.45	29.78
50			30.16	29.49
60			29.83	29.16



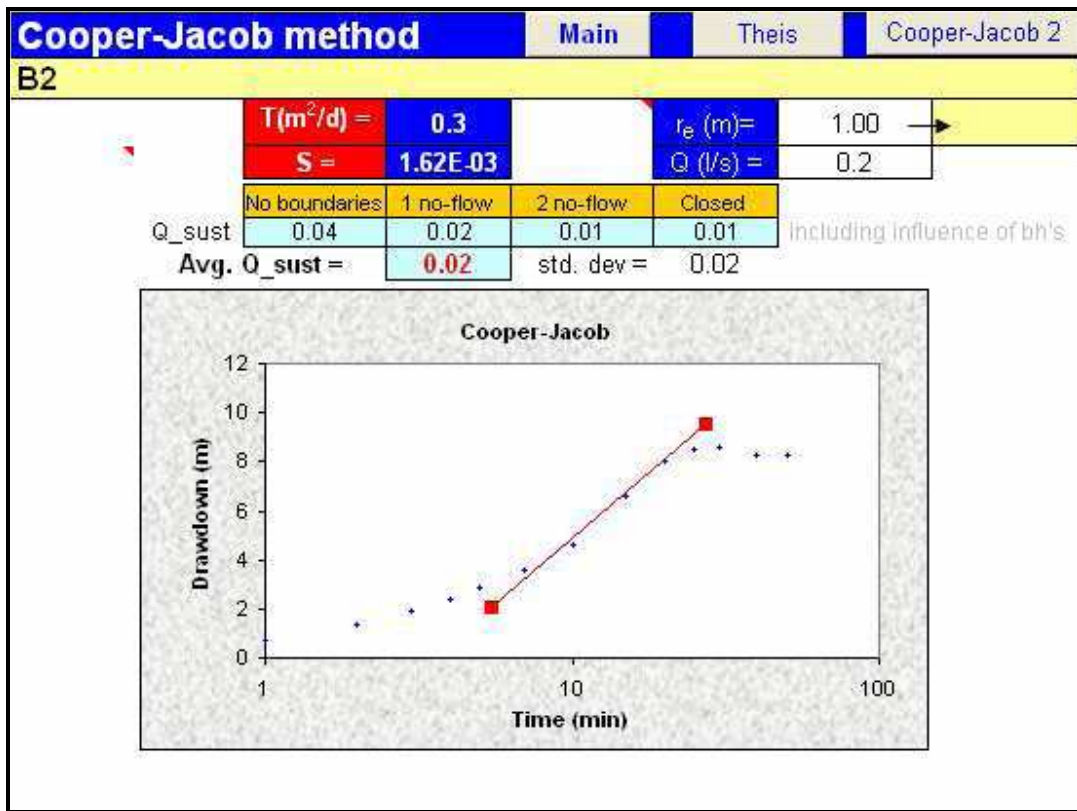
B1



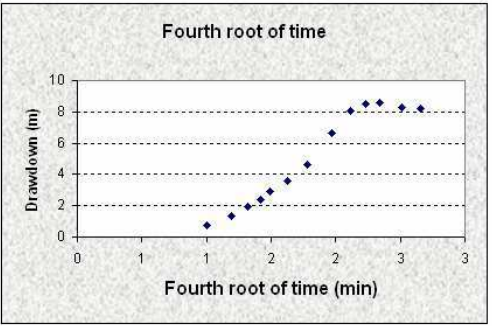
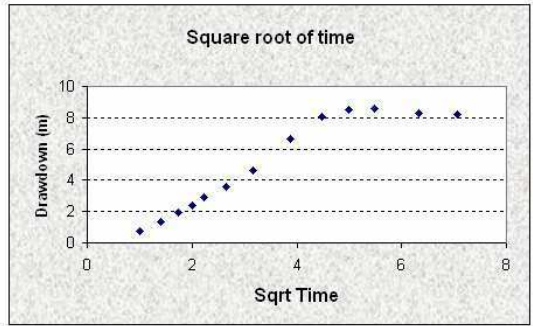
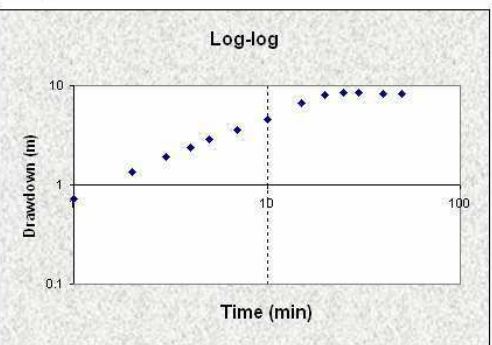
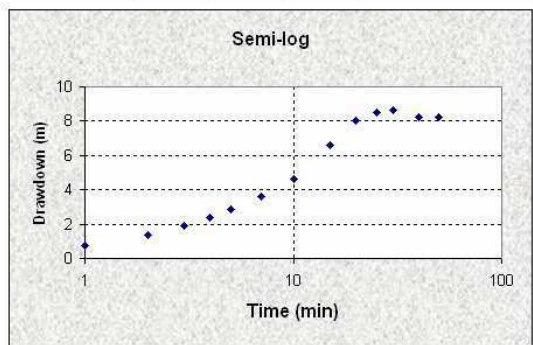
T = 2.9



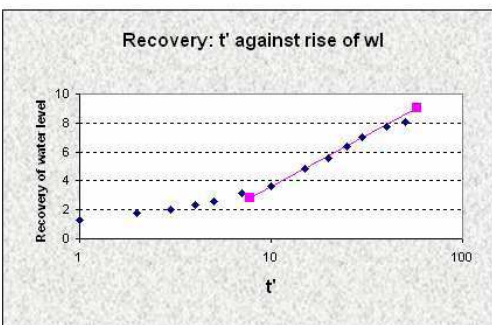
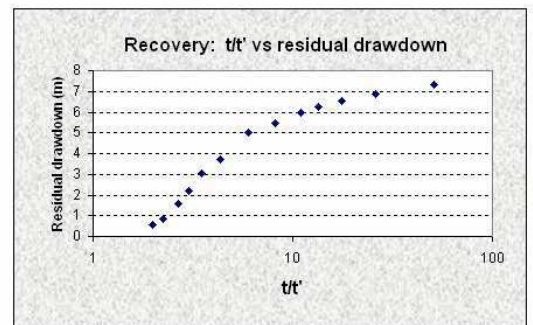
Borehole ID:	B2			
Pump Rate	0.2 L/s			
SWL (pump installed):	0.25			
Time	Drawdown	Corrected Drawdown	Recovery	Corrected Recovery
1	0.98	0.73	7.55	7.30
2	1.61	1.36	7.11	6.86
3	2.16	1.91	6.81	6.56
4	2.64	2.39	6.52	6.27
5	3.13	2.88	6.25	6.00
7	3.85	3.6	5.71	5.46
10	4.85	4.6	5.24	4.99
15	6.88	6.63	3.99	3.74
20	8.3	8.05	3.28	3.03
25	8.75	8.5	2.47	2.22
30	8.86	8.61	1.84	1.59
40	8.5	8.25	1.11	0.86
50	8.48	8.23	0.8	0.55
60	WL started to recover			



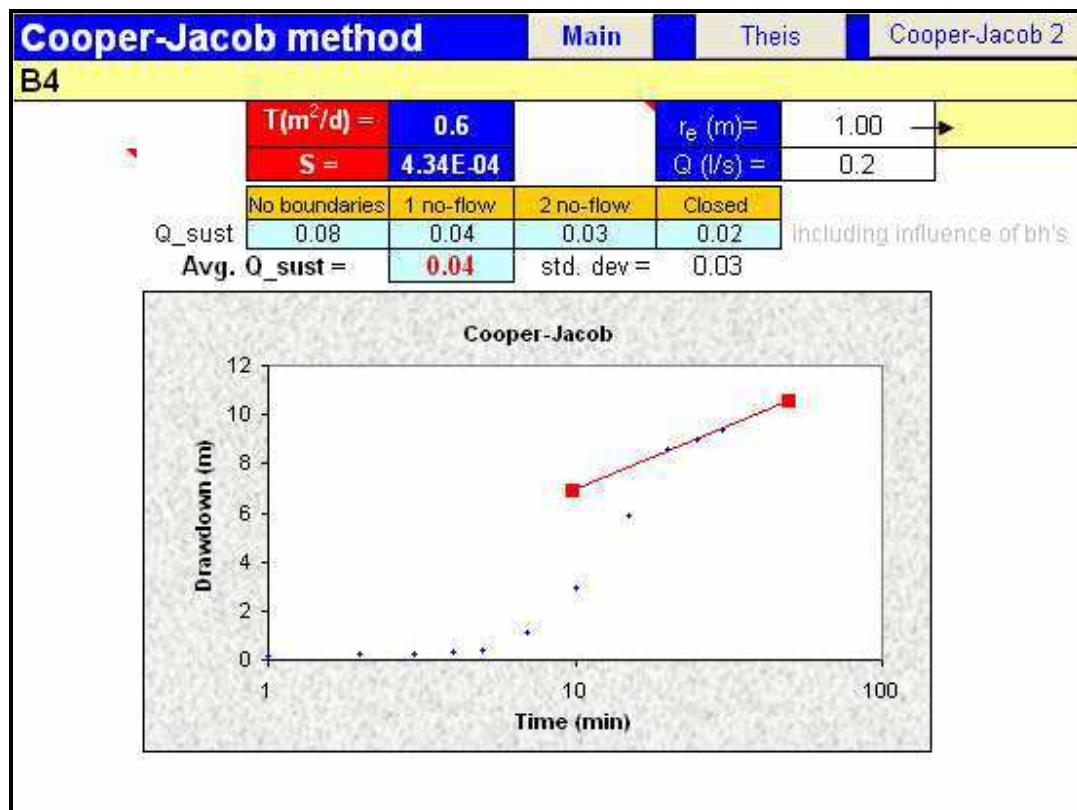
B2



T = 0.4



Borehole ID:	B4			
Pump Rate	0.2 L/s			
SWL (pump installed):	1.24			
Time	Drawdown	Corrected Drawdown	Recovery	Corrected Recovery
1	1.42	0.18		
2	1.47	0.23	7.65	6.41
3	1.5	0.26	7.15	5.91
4	1.55	0.31	6.8	5.56
5	1.61	0.37	4.9	3.66
7	2.37	1.13	3.87	2.63
10	4.17	2.93	2.77	1.53
15	7.11	5.87	2.14	0.90
20	9.85	8.61	1.73	0.49
25	10.2	8.96	1.64	0.40
30	10.65	9.41		
40	cascading water - no readings			
50				
60				

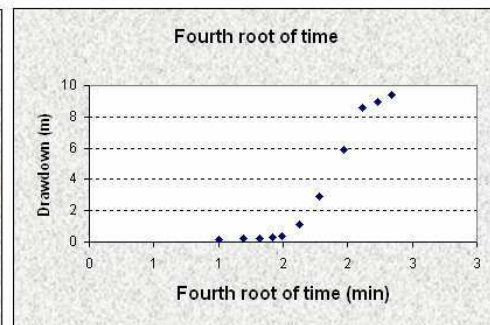
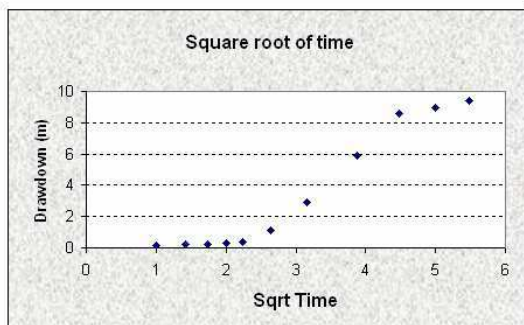
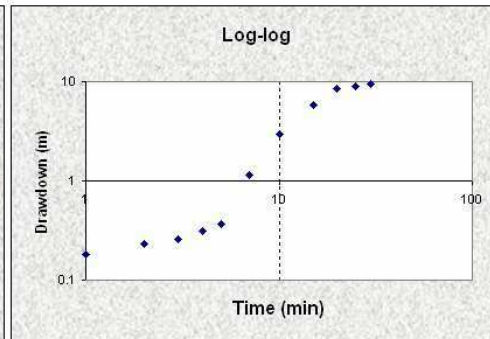
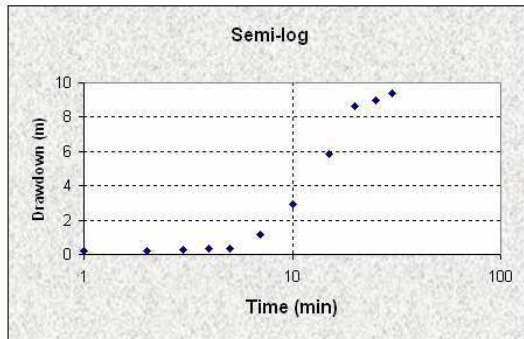


DIAGNOSTIC PLOTS

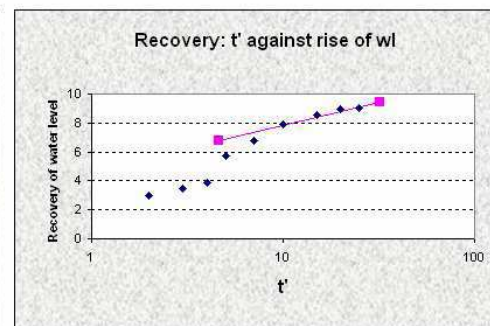
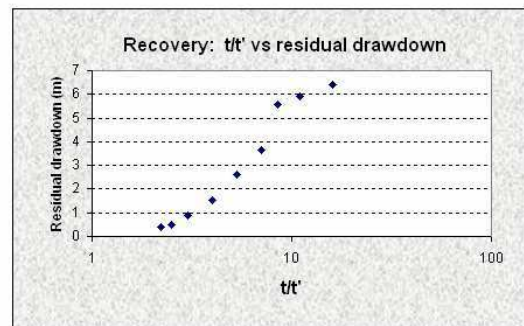
Main

Data

B4



T = 1.0



ANNEXURE B
HISTORICAL GROUNDWATER QUALITY

Komati Power Station - Routine Monitoring Phase 37

No.	Date	pH	EC mS/m	Na mg/L	Ca mg/L	Mg mg/L	K mg/L	Cl mg/L	SO4 mg/L	CO3 mg/L	HCO3 mg/L	F mg/L	NO3-N mg/L	M.Alk	COD	Fe mg/L	Mn mg/L	Ionbal %
B1	20040510	7.1	169	106	104	80	10.4	86	235	0	518			425				2.71
B1	20041029	7.2	169	112	100	85	12.3	108	247	1	565			464				0.76
B1	20050523	7.3	179	154	128	80	14.2	130	368	1	632	0.1	0.1	520	35	7.52	0.5	3.25
B2	20040510	6.9	42	20	25	16	3.1	30	57	0	93			76				0.14
B2	20041029	6.6	53	35	24	23	4.6	46	80	0	107			88				0.48
B2	20050523	6.9	190	49	27	21	3.8	57	113	0	98	0.1	0.2	80	0	1.41	0.3	2.02
B3	20040510	6.5	112	46	97	72	16.5	50	410	0	201			165				0.22
B3	20041029	6.6	108	35	104	68	10.5	48	366	0	180			148				2.73
B3	20050523	6.6	107	56	104	75	12.7	58	443	0	178	0.1	0.1	146		0.97	0.8	1.72
B4	20040510	6.9	91	36	60	52	11.3	41	280	0	124			102				0.7
B4	20041029	7.2	87	39	54	57	14.2	64	273	0	127			104				0.47
B4	20050523	7.3	800	56	46	47	14.2	71	242	0	146	0.1	0.1	120		0.03	0.42	2.67
B5	20040510	7.1	88	91	60	23	21	71	112	0	325			267				1.54
B5	20041029	7	91	84	72	33	16.4	97	104	0	309			254				1.98
B5	20050523	6.9	109	116	66	51	24.1	126	207	0	302	0.1	0.1	248	0	1.71	0.1	1.72
B6	20040510	7.1	33	23	25	16	3.2	13	6	0	197			162				1.32
B6	20041029	7.3	33	20	29	17	4.1	15	5	0	192			158				2.13
B6	20050523	7.4	338	15	28	20	3.4	20	9	0	197	0.6	0.1	162	0	1.63	0.78	1.15
B7	20040510	6	233	85	204	184	5.4	46	1272	0	88			72				0.15
B7	20040512	6.4	85	47	36	13	4.2	20	44	0	201			165				2.05
B7	20050523	6.7	179	72	138	128	5.1	57	898	0	88	0.1	0.1	72		1.01	2.02	2.18
B8	20040510	6.6	96	105	43	20	5.1	33	225	0	165			135				0.89
B8	20041019	6.3	111	98	64	45	3.6	51	308	0	217			178				0.61
B8	20050523	6.4	111	115	56	45	10.4	78	283	0	259	0.1	0.1	212	0	6.24	0.67	1.44
B9	20040510	7.1	233	73	240	126	3.8	22	630	1	610			501				3.74
B9	20041019	7	273	56	265	176	3.9	75	742	1	714			586				1.63
B9	20050523	6.9	287	141	457	173	5.6	30	1573	0	590	0.1	0.1	484	0	9.84	7.43	0.7

ANNEXURE C
LABORATORY CERTIFICATE



DD SCIENCE cc ENVIRONMENTAL MONITORING

TEST REPORT



COOKEPLANT
OFF R559

CC CK97/47253/23
34 LARK CRESCENT
GREENHILLS
RANDFONTEIN
1759

TEL (011) 414-4263
FAX (011) 414-2258

Mr. M van Biljon
Rison Groundwater Consulting
PO Box 2635
Noordheuwel
1756

Tel. No.: (011) 956-6478
Fax. No.: (011) 956-6478
e-mail: maris@rison.co.za
adrian@rison.co.za
Date: 28-Nov-2007
Ref: 151107/2984

Attention: Marius van Biljon
Adrian van Bart

Section 01: Sample identification and test results:

Type of sample:	Water Samples		
Number of samples:	6		
Condition of sample(s):	Acceptable		

Sampling plan: N/A

Sampling procedure: N/A

Date of receipt(where critical to validity and application of results): 15-Nov-2007

Date(s) of testing(where critical to validity and application of results): 15-Nov-2007

Identification of methods used and tests subcontracted:

Please refer to Section 03 of this report: Methods used and tests subcontracted

Test Results

Sample ID	Units	Komati B1	Komati B2	Komati B3	Komati B4	Komati B5	Komati B6
Lab ID		2984/1	2984/2	2984/3	2984/4	2984/5	2984/6
pH	@25°C	7.3	6.7	6.6	7.2	7.4	7.6
Conductivity	mS/m @25°C	263	93	129	122	86	38
Total Alkalinity	mg/l CaCO ₃	375	72	165	291	96	151
Calcium	mg/l	151	90	255	253	74	26
Magnesium	mg/l	118	35	174	123	40	16
Sodium	mg/l	231	42	90	80	112	25
Potassium	mg/l	25	14	46	11	10	4.7
Manganese	mg/l	0.3	0.3	1.4	0.3	0.1	0.5
Iron	mg/l	1.9	1.9	0.3	2.1	0.5	0.9
Ammonium	mg/l N	2.2	1.1	1.6	3.4	10	0.7
Chloride	mg/l	205	31	58	78	67	20
Sulphate	mg/l	779	331	1240	877	411	<50
Nitrate	mg/l N	0.7	0.8	0.6	0.6	0.6	0.6
Fluoride	mg/l	0.5	0.3	0.6	0.6	0.4	0.1
Mercury	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Test Results

Sample ID	Units	Komati B1	Komati B2	Komati B3	Komati B4	Komati B5	Komati B6
Lab ID		2984/1	2984/2	2984/3	2984/4	2984/5	2984/6
Aluminium	ug/l	18	50	11	25	30	11
Antimony	ug/l	0.05	0.06	0.06	0.05	0.05	0.02
Arsenic	ug/l	0.7	0.5	0.4	0.6	0.5	0.8
Barium	ug/l	35	81	32	47	38	631
Beryllium	ug/l	0.09	0.08	0.1	0.08	0.1	0.09
Bismuth	ug/l	0.08	0.03	0.02	0.02	< 0.01	< 0.01
Boron	ug/l	891	873	1142	805	714	812
Cadmium	ug/l	0.09	0.1	0.09	0.06	0.06	0.05
Caesium	ug/l	0.04	0.06	0.08	0.2	0.05	0.02
Chromium	ug/l	7.8	9.7	10	10	6.8	8.2
Cobalt	ug/l	1.2	1.8	20	5.7	0.3	0.2
Copper	ug/l	2.2	2.7	2.6	1.9	4.9	2.1
Indium	ug/l	0.02	0.02	0.02	0.02	0.02	0.02
Lanthanum	ug/l	0.3	0.5	2.6	0.3	0.1	0.1
Lead	ug/l	2.8	2.0	2.4	3.9	2.1	2.2
Lithium	ug/l	4.1	6.5	3.1	4.5	296	13
Molybdenum	ug/l	0.7	0.6	0.8	0.7	3.5	0.6
Nickel	ug/l	8.3	12	35	10	6.1	5.7
Platinum	ug/l	0.02	0.03	0.03	0.02	0.02	0.02
Rubidium	ug/l	22	14	43	15	15	3.5
Selenium	ug/l	5.2	2.0	2.0	2.9	2.7	2.0
Silver	ug/l	0.09	0.4	0.9	0.4	0.5	0.5
Strontium	ug/l	1102	1010	1292	1510	1033	219
Tellurium	ug/l	0.1	0.05	0.07	0.06	0.04	0.03
Thallium	ug/l	0.1	0.09	0.4	0.05	0.04	0.04
Tin	ug/l	0.1	0.07	0.08	0.1	0.10	0.06
Titanium	ug/l	0.6	1.3	0.4	0.4	0.8	0.2
Tungsten	ug/l	0.07	0.07	0.10	0.06	0.06	0.07
Uranium	ug/l	2.7	1.1	1.0	5.3	0.7	0.3
Vanadium	ug/l	0.2	0.3	0.2	0.2	0.2	0.09
Zinc	ug/l	14	27	20	13	18	14

Section 02: Opinions and interpretations (if any):

Reviewed by: _____
Z. Suliman-Ahmed (Quality Manager)

Compiled and approved by: _____
D. Dorling (Executive Manager)

Date of issue: 28-Nov-2007

Please note:

- 1. Results relate only to the samples tested;*
- 2. Opinions and interpretations expressed herein are outside the scope of SANAS accreditation;*
- 3. This report shall not be reproduced, except in full, without the written approval of DD Science cc Environmental Monitoring;*
- 4. While every effort is made to provide a service of the highest quality, the liability of DD Science cc Environmental Monitoring shall not extend beyond the cost of services rendered;*
- 5. Samples will be disposed of two weeks after the date of issue of this report, unless otherwise instructed by the client.*

Section 03: Methods used and tests subcontracted:

DETERMINAND	METHOD CODE	ACCREDITED	SUBCONTRACTED	TECHNIQUE
pH @ 25 ^o C	M001	Yes	No	Potentiometric
EC (Electical Conductivity) @ 25 ^o C	M002	Yes	No	Conductometric
COD (Chemical Oxygen Demand)	M003	Yes	No	UV-VIS
Oxygen Absorbed (OA)	M004	No	No	Titrimetric
Dissolved Solids @ 180 ^o C	M005	Yes	No	Gravimetric
Suspended Solids @ 105 ^o C	M006	Yes	No	Gravimetric
Turbidity	M007	No	No	UV-VIS
Settleable Solids	M008	No	No	Imhoff cone
Calcium	M009	No	No	AAS
Magnesium	M010	No	No	AAS
Potassium	M011	No	No	AAS
Sodium	M012	No	No	AAS
Iron	M013	No	No	AAS
Manganese	M014	No	No	AAS
Total alkalinity	M015	No	No	Titrimetric
Chloride	M016	Yes	No	Titrimetric
Fluoride	M017	No	No	UV-VIS
Nitrate as N	M018	No	No	UV-VIS
Nitrite as N	M019	No	No	UV-VIS
Sulphate	M020	Yes	No	Gravimetric
	M021	No	No	UV-VIS
Orthophosphate	M022	No	No	UV-VIS
Total Phosphate	M023	No	No	UV-VIS
Free chlorine	M024	No	No	UV-VIS
Total chlorine	M025	No	No	UV-VIS
Ammonium as N	M026	No	No	UV-VIS
Free and saline ammonia as N	M027	No	No	UV-VIS
Free cyanide	M028	No	No	Titrimetric
Total cyanide	M029	Yes	No	Distillation
Radium 226	M030	No	No	UV-VIS
Uranium	M031	Yes	No	UV-VIS
Aluminium	M032	No	Yes	ICP
Antimony	M033	No	Yes	ICP
Beryllium	M034	No	Yes	ICP
Boron	M035	No	Yes	ICP
Cadmium	M036	No	Yes	ICP
Chromium (III+VI)	M037	No	Yes	ICP
Chromium (VI)	M038	No	Yes	UV-VIS
Cobalt	M039	No	Yes	ICP
Copper	M040	No	Yes	ICP
Lead	M041	No	Yes	ICP
Lithium	M042	No	Yes	ICP
Molybdenum	M043	No	Yes	ICP
Nickel	M044	No	Yes	ICP
Tin	M045	No	Yes	ICP
Titanium	M046	No	Yes	ICP
Vanadium	M047	No	Yes	ICP
Zinc	M048	No	Yes	ICP
Arsenic	M049	No	Yes	ICP-MS
Mercury	M050	No	Yes	ICP-MS
Selenium	M051	No	Yes	ICP-MS
Standard Total Plate Count	M052	Yes	No	Pour plate
Total Coliforms	M053	Yes	No	Membrane Filtration
Faecal Coliforms	M054	Yes	No	Membrane Filtration
E. Coli	M055	Yes	No	Membrane Filtration
Faecal streptococci	M056	No	No	Membrane Filtration
Pseudomonas	M057	No	No	Pour plate
SRB	M058	No	No	Serial dilution
SOB	M059	No	No	Serial dilution

END OF DOCUMENT

ANNEXURE D
IMPACT ASSESSMENT METHODOLOGY

IMPACT ASSESSMENT METHODOLOGY

The significance of the impact of the construction of Ash Dam 3 is ranked based on the categories provided Table 1, considering the *consequence* of the impact and the *likelihood* of occurrence. The following impact assessment methodology was used.

Once the consequence and likelihood are ranked, the overall significance of an activity / impact is evaluated based on the total score, read off the matrix presented in Table 2. A significance ranking of **LOW**, **MEDIUM** or **HIGH** is then indicated. The significance ranking was calculated for the construction of Ash Dam 3 with and without mitigation measures in order to determine (qualitatively) if management measures are effective, through re-evaluation of the ranking assuming management measures are in place.

TABLE 1 Criteria considered

CRITERIA	ABBREVIATION USED IN THE TABLES IN SECTION 0
Nature / Intensity of impact	Int
Spatial extent of impact	Ext
Duration of impact	Dur
Probability of potential occurrence	Pro
Frequency of potential occurrence	Freq

TABLE 2 Ranking of evaluation criteria.

CONSEQUENCE	NATURE / INTENSITY / SEVERITY OF IMPACT:		
	Low	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are not affected	1
	Medium	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are altered	3
	High	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes will temporarily or permanently cease.	5
	SPATIAL EXTENT OF IMPACT:		
	On-site	Impact occurs on-site.	1
	Local	Impact occurs within a 5km radius of the site.	2
	Regional	Impact occurs within a 100km radius of the site.	3
	National	Impact occurs within South Africa.	4
	International	Impact occurs internationally.	5
	DURATION OF IMPACT:		
	Short-term	Through dilution and dispersion, the impact reduces to insignificant within 1 week.	1
	Medium-term	Through dilution and dispersion, the impact reduces to insignificant within the life of the mine.	2
	Long-term	The impact will cease after the operational life of the mine either because of natural process or by human intervention.	3
Permanent	Where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.	4	
LIKELIHOOD	PROBABILITY OF POTENTIAL OCCURRENCE OF THE IMPACT:		
	Improbable	The possibility of the impact materialising is very low either because of design or historic experience	1
	Probable	There is a distinct possibility that the impact will occur	2
	Highly probably	It is most likely that the impact will occur	3
	Definite	The impact will occur regardless of any prevention measures.	4
	FREQUENCY OF POTENTIAL OCCURRENCE OF THE IMPACT:		
	Annually or less	Impact occurs at least once in a year or less frequently	1
6 months	Impact occurs at least once in 6 months.	2	

	Monthly	Impact occurs at least once a month	3
	Weekly	Impact occurs at least once a week	4
	Daily	Impact occurs daily	5

TABLE 3: Significance ranking matrix.

LIKELIHOOD	CONSEQUENCE												
		3	4	5	6	7	8	9	10	11	12	13	14
2	5	6	7	8	9	10	11	12	13	14	15	16	17
3	6	7	8	9	10	11	12	13	14	15	16	17	18
4	7	8	9	10	11	12	13	14	15	16	17	18	19
5	8	9	10	11	12	13	14	15	16	17	18	19	20
6	9	10	11	12	13	14	15	16	17	18	19	20	21
7	10	11	12	13	14	15	16	17	18	19	20	21	22
8	11	12	13	14	15	16	17	18	19	20	21	22	23
9	12	13	14	15	16	17	18	19	20	21	22	23	24

The significance of impacts is determined based on the evaluation of an activity's impact in terms of; consequence and likelihood. Using the sum of the evaluation ranking within Table 2 and the matrix in Table 2 overall significance can be classified as follows:

TABLE 4: Overall significance

Low	Where it will not have a significant influence on the environment. Management measures <i>can</i> be proposed to ensure that significance does not increase.	5 – 11
Moderate	Where it could have a significant influence on the environment unless it is mitigated or managed.	12 – 17
High	Where it would have a significant influence on the environment regardless of any possible mitigation and hence must be either avoided or managed.	18 – 23