

Darvill Wastewater works, 69.5 ML/d, Period 01 July 2009 - 30 June 2010

Darvill WWW		Darvill Influent				Darvill Effluent				Darvill Licence - Limits
DETERMINAND	Units	Minimum	Average	95 th Percentile	Maximum	Minimum	Average	95 th Percentile	Maximum	
Total chlorine	mg/l	-	-	-	-	<0.05	0.06*	0.1*	1.3	0.3
<i>E. coli</i>	Count/100ml	-	-	-	-	5	230 [^]	108600	2220000	500 [#]
pH		7.1	-	8.0	9.5	6.7	-	8.0	8.5	5.5 - 9.5
Chemical Oxygen Demand	mg/l	289	660	1046	1302	10	53	112	374	75
Nitrate	mg N/l	<0.50	<0.50	<0.50	<0.50	<0.50	0.41*	1.37*	8.56	15 mg/l
Ammonia	mg/l	7.99	25.32	29.76	30.24	0.25	16.35	28.49	29.81	6
Soluble Reactive Phosphate	µg/l	140	3317	5580	5910	<100	647*	2122*	8130	1000 [@]
Suspended Solids	mg/l	99	308	514	654	<4	29*	73*	137	25
Conductivity	mS/m	48.8	75.6	112.0	183.2	48.3	78.6	93.4	108.2	75 - 250
Arsenic	µg/l	-	-	-	-	<2.0	<2.0	<2.0	<2.0	500
Boron	µg/l	-	-	-	-	10	39	57	58	1000
Cadmium	µg/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	50
Chromium (Hexavalent)	µg/l	-	-	-	-	<4.0	<4.0	<4.0	<4.0	50
Chromium (Total)	µg/l	<3.0	70.9*	203.8*	217.0	3.1	6.9	12.7	15.3	500
Copper	mg/l	<0.05	0.03*	0.06*	0.08	<0.05	<0.05	<0.05	<0.05	1
Cyanides	µg/l	-	-	-	-	<10	12*	16*	16	500
Fluoride	µg/l	<100	132*	220*	243	<50	100*	127*	130	1000
Lead	µg/l	<4.0	6.7*	13.0*	19.0	<4.0	2.2*	3.2*	4.4	100
Manganese	mg/l	-	-	-	-	0.04	0.09	0.11	0.11	0.4
Mercury	µg/l	<0.5	0.41*	0.9*	1.4	<0.5	0.48*	1.2*	1.4	0.02
Phenols	µg/l	-	-	-	-	<5.0	5.1*	9.4*	10.2	100
Selenium	µg/l	-	-	-	-	<1.0	<1.0	<1.0	<1.0	50
Soap, Oil or Grease	mg/l	-	-	-	-	<1.2	<1.2	<1.2	<1.2	2.5
Sodium	mg/l	-	-	-	-	52.5	76.0	93.9	95.4	95
Sulphides	mg/l	-	-	-	-	41.7	70.8	106.8	123.0	1
Zinc	mg/l	0.07	0.18	0.24	0.25	0.03	0.04	0.08	0.10	5

[#] Darvill Licence: 21065561

[@] DWA Special Phosphate Limit

* Statistics for constituents that had some results below the detection limit were calculated using half the detection limit.

[^] Median

Albert Falls South Wastewater works, Period 01 July 2009 - 30 June 2010

Albert Falls North		Effluent				DWA General Authorisation - General Limit
Determinand	Unit	Minimum	Average	95th	Maximum	
E. coli	per 100 ml	10000	197300 [^]	1203000	1203000	1000
Chemical Oxygen Demand	mg/l	20	123	364	660	75
pH		6.3	-	7.7	7.8	5.5-9.5
Ammonia	mg/l	5.84	23.32	30.51	31.68	6
Suspended solids	mg/l	10	143	597	838	25
Conductivity	mS/m	18.0	41.3	58.2	69.9	80
Soluble Reactive Phosphate	µg/l	1160	3718	4970	5240	10000
Nitrate	mg/l	0.25	0.29	0.48	0.66	15

[®] DWA Special Phosphate Limit

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[^] Median

Albert Falls North Wastewater works Period 01 July 2009 - 30 June 2010

Albert Falls South		Effluent				DWA General Authorisation - General Limit
Determinand	Unit	Minimum	Average	95th	Maximum	
Chemical Oxygen Demand	mg/l	10	66	142	198	75
pH		6.0	-	7.8	8.0	5.5-9.5
Ammonia	mg/l	0.50	18.38	27.98	28.32	6
Suspended solids	mg/l	2	19	57.5	74	25
Conductivity	mS/m	15.7	34.8	45.8	46.0	80
Soluble Reactive Phosphate	µg/l	50	2697	4665	4990	1000
Nitrate	mg/l	0.25	0.67	2.54	4.53	15

[®] DWA Special Phosphate Limit

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[^] Median

Howick Wastewater works, 3.6 ML/d, Period 01 July 2009 - 30 June 2010

Howick WWW		Howick Influent				Howick Effluent				Howick License - Limit
Determinand	Unit	Minimum	Average	95 th Percentile	Maximum	Minimum	Average	95 th Percentile	Maximum	
Free chlorine	mg/l	-	-			<0.05	0.04*	0.10*	0.20	0.25
<i>E. coli</i>	count/100ml					10	5100^	116780	276000	500
pH		6.8	-	7.8	8.1	6.5	-	7.9	8.2	5.5 - 9.5
Chemical Oxygen Demand	mg/l	157	640	1158	1214	10	150	751	2475	75
Nitrate	mg N/l	<0.5	1.6*	5.7*	5.8	<0.5	1.6*	3.8*	6.2	15
Ammonia	mg/l	6.0	25.49	29.15	29.68	<0.50	2.12*	7.99*	13.39	6
Soluble Reactive Phosphate	mg/l	1520	5139	7930	8630	<100	1188*	4132*	7170	1
Suspended Solids	mg/l	65	281	432	530	<4	142*	680*	2508	25
Conductivity	mS/m	37.0	54.5	64.4	67.1	28.5	34.5	40.1	44.0	75 - 250
Arsenic	mg/l	-	-	-	-	<2.0	<2.0	<2.0	<2.0	0.5
Boron	mg/l	-	-	-	-	<20	13.5*	21.8*	23.9	1
Cadmium	mg/l	-	-	-	-	<1.0	<1.0	<1.0	<1.0	0.05
Chromium (Hexavalent)	mg/l	-	-	-	-	<4.0	<4.0	<4.0	<4.0	0.05 mg/l
Chromium (Total)	mg/l	-	-	-	-	<3.0	2.6*	5.2*	5.8	0.5 mg/l
Copper	mg/l	-	-	-	-	<0.05	<0.05	<0.05	<0.05	1 mg/l
Cyanides	mg/l	-	-	-	-	19	32	39	39	0.5 mg/l
Fluoride	µg/l	-	-	-	-	<100	<100	<100	<100	1000
Lead	mg/l	-	-	-	-	<4.0	<4.0	<4.0	<4.0	0.1 mg/l
Manganese	mg/l	-	-	-	-	0.03	0.05	0.07	0.07	0.4 mg/l
Mercury	mg/l	-	-	-	-	<0.5	0.4*	0.6*	0.7	0.02 mg/l
Oxygen Absorbed	mg/l	-	-	-	-	4.5	6.3	9.8	10.6	10 mg/l
Phenols	mg/l	-	-	-	-	<5.0	<5.0	<5.0	<5.0	0.1 mg/l
Selenium	mg/l	-	-	-	-	<1.0	<1.0	<1.0	<1.0	0.05 mg/l
Soap, Oil or Grease	mg/l	-	-	-	-	<1.2	<1.2	<1.2	<1.2	2.5 mg/l
Sodium	mg/l	-	-	-	-	38.6	43.5	49.0	49.8	95 mg/l
Sulphides	mg/l	-	-	-	-	<0.04	0.09*	0.15*	0.15	1 mg/l
Temperature	°C	-	-	-	-	13.1	18.5	23.9	25.5	35 °C
Zinc	mg/l	-	-	-	-	0.04	0.05	0.06	0.06	5 mg/l

® DWA Special Phosphate Limit

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^ Median

Ixopo Wastewater works, 0.32 ML/d, Period 01 July 2009 - 30 June 2010

Ixopo WWW		Ixopo Influent				Ixopo Effluent				DWA General Authorisation - General Limit
Determinand	Unit	Minimum	Average	95th	Maximum	Minimum	Average	95th	Maximum	
<i>E. coli</i>	per 100 ml	-	-	-	-	5	75 [^]	47040	62000	1000
COD	mg/l	378	775	1095	1169	10	35	68	70	75
pH		6.2	-	7.7	7.7	6.5	-	7.8	8.2	5.5-9.5
Ammonia	mg/l	21.19	27.94	35.17	36.20	<0.50	5.6*	22.4*	23.5	3
Free chlorine	mg/l	-	-	-	-	<0.05	0.06*	0.20*	0.20	0.25
Suspended solids	mg/l	165	335	560	615	2	17	33	43	25
Conductivity	mS/m	63.4	75.7	91.1	91.6	39.8	48.8	57.7	62.1	90
Soluble Reactive Phosphate	mg/l	3520	7238	9212	15200	50	4186	9508	9910	10
Nitrate	mg/l	<0.50	<0.50	<0.50	0.61	<0.5	0.29*	0.58*	0.88	15
Fluoride	mg/l	-	-	-	-	<100	71*	122*	135	1
SOG	mg/l	-	-	-	-	<1.2	<1.2	<1.2	<1.2	2.5
Arsenic	mg/l	-	-	-	-	<2.0	<2.0	<2.0	<2.0	0.02
Cadmium	mg/l	-	-	-	-	<1.0	<1.0	<1.0	<1.0	0.005
Chromium	mg/l	-	-	-	-	<3.0	<3.0	<3.0	<3.0	0.05
Copper	mg/l	-	-	-	-	<0.05	0.04*	0.06*	0.07	0.01
Cyanides	mg/l	-	-	-	-	<10.0	8.2*	15.9*	17.8	0.02
Lead	mg/l	-	-	-	-	<4.0	<4.0	<4.0	<4.0	0.01
Mercury	mg/l	-	-	-	-	<0.5	0.43*	0.67*	0.70	0.005
Selenium	mg/l	-	-	-	-	<1.0	<1.0	<1.0	<1.0	0.02

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