

Water Monitoring 2019

EPA Licence No: 13366

Monitoring Point 1

(UTM Zone 56: 262017.85 East, 6180632.609 North)

Dam labelled as "Southern Dam" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: each overflow event

Pollutant	Unit of Measure	No. Samples Req by Licence	No. of samples	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples	30/10/2019
BOD	mg/L	1	1	20	-	-	-	<i>No discharge events during period</i>
pH	pH units	1	1	6.5-8.5	-	-	-	
Total Suspended Solids	mg/L	1	1	30	-	-	-	
Turbidity	NTU	1	1	150	-	-	-	

Monitoring Point 2

(UTM Zone 56: 262080.407 East, 6180766.636 North)

Dam labelled as "Southern Dam" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: Yearly

Pollutant	Unit of Measure	100 Percentile Concentration Limit	No. of Samples Required by Licence	No. of Samples Collected & Analysed	Lowest sample value	Highest sample value	Mean of samples	Sample Date
								30/10/2019
Alkalinity (as CaCO ₃)	mg/L	<i>No limits apply - sampling for monitoring purposes only</i>	1	-	-	-	-	<i>sampling not conducted, water level below 150mm</i>
Aluminium (Al)	mg/L		1	-	-	-	-	
Arsenic (As)	mg/L		1	-	-	-	-	
Barium (Ba)	mg/L		1	-	-	-	-	
Benzene	mg/L		1	-	-	-	-	
Cadmium (Cd)	mg/L		1	-	-	-	-	
Calcium (Ca)	mg/L		1	-	-	-	-	
Chemical Oxygen Demand	mg/L		1	-	-	-	-	
Chloride (Cl)	mg/L		1	-	-	-	-	
Conductivity	(µ/cm)		1	-	-	-	-	
Copper (Cu)	mg/L		1	-	-	-	-	
Dissolved Organic Carbon	mg/L		1	-	-	-	-	
Ethyl Benzene	mg/L		1	-	-	-	-	
Fluoride (F)	mg/L		1	-	-	-	-	
Lead (Pb)	mg/L		1	-	-	-	-	
Magnesium (Mg)	mg/L		1	-	-	-	-	
Manganese (Mn)	mg/L	1	-	-	-	-		
Mercury (Hg)	mg/L	1	-	-	-	-		



Nitrate + Nitrite	mg/L	1	-	-	-	-
Nitrogen as Ammonia (NH3)	mg/L	1	-	-	-	-
Organochlorine Pesticides	mg/L	1	-	-	-	-
Organophosphate Pesticides	mg/L	1	-	-	-	-
pH	pH Units	1	-	-	-	-
Phosphate (PO4)	mg/L	1	-	-	-	-
Phosphorus (P)	mg/L	1	-	-	-	-
Polychlorinated biphenyls (mg/L)	mg/L	1	-	-	-	-
Polycyclic Aromatic Hydrocarbons (mg/L)	mg/L	1	-	-	-	-
Potassium (K)	mg/L	1	-	-	-	-
Sodium (Na)	mg/L	1	-	-	-	-
Sulfate (SO4)	mg/L	1	-	-	-	-
Toluene	mg/L	1	-	-	-	-
Total Iron (Fe)	mg/L	1	-	-	-	-
Total Petroleum Hydrocarbons	mg/L	1	-	-	-	-
Total Phenolics	mg/L	1	-	-	-	-
Xylene	mg/L	1	-	-	-	-
Zinc (Zn)	mg/L	1	-	-	-	-

Monitoring Point 3

(Zone 56: 262079.587 East, 6180676.705 North)

Well labelled as "P1A" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: Every 6 months

Pollutant	Unit of Measure	100 Percentile Concentration Limit	No. of Samples Required by Licence	No. of Samples Collected & Analysed	Lowest sample value	Highest sample value	Mean of samples	Sample Date
								30/10/2019
Alkalinity (as CaCO ₃)	mg/L	<i>No limits apply - sampling for monitoring purposes only</i>	1	1	-	-	-	804
Aluminium (Al)	mg/L		1	1	-	-	-	<0.01
Calcium (Ca)	mg/L		1	1	-	-	-	130
Chloride (Cl)	mg/L		1	1	-	-	-	75
Conductivity	(µ/cm)		1	1	-	-	-	1540
Copper (Cu)	mg/L		1	1	-	-	-	<0.001
Fluoride (F)	mg/L		1	1	-	-	-	0.3
Iron (Fe)	mg/L		1	1	-	-	-	1.16
Lead (Pb)	mg/L		1	1	-	-	-	<0.001
Magnesium (Mg)	mg/L		1	1	-	-	-	93
Manganese (Mn)	mg/L		1	1	-	-	-	0.15
Nitrate (NO ₃ -)	mg/L		1	1	-	-	-	0.08
Nitrogen as Ammonia (NH ₃)	mg/L		1	1	-	-	-	1.03
pH	pH Units		1	1	-	-	-	7.76
Potassium (K)	mg/L		1	1	-	-	-	9
Sodium (Na)	mg/L		1	1	-	-	-	60
Standing Water Level	m		1	1	-	-	-	15.22
Sulfate (SO ₄)	mg/L		1	1	-	-	-	18
Total Dissolved Solids	mg/L		1	1	-	-	-	782
Total Organic Carbon	mg/L	1	1	-	-	-	8	
Total Phenolics	mg/L	1	1	-	-	-	<0.05	
Zinc (Zn)	mg/L	1	1	-	-	-	<0.005	

Monitoring Point 4

(UTM Zone 56: 262078.88 East, 6180675.577 North)

Well labelled as "P1B" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: Every 6 months

Pollutant	Unit of Measure	100 Percentile Concentration Limit	No. of Samples Required by Licence	No. of Samples Collected & Analysed	Lowest sample value	Highest sample value	Mean of samples	Sample Date
								30/10/2019
Alkalinity (as CaCO ₃)	mg/L	<i>No limits apply - sampling for monitoring purposes only</i>	1	1	-	-	-	180
Aluminium (Al)	mg/L		1	1	-	-	-	<0.01
Calcium (Ca)	mg/L		1	1	-	-	-	40
Chloride (Cl)	mg/L		1	1	-	-	-	106
Conductivity	(µ/cm)		1	1	-	-	-	691
Copper (Cu)	mg/L		1	1	-	-	-	<0.001
Fluoride (F)	mg/L		1	1	-	-	-	0.1
Iron (Fe)	mg/L		1	1	-	-	-	<0.05
Lead (Pb)	mg/L		1	1	-	-	-	<0.001
Magnesium (Mg)	mg/L		1	1	-	-	-	30
Manganese (Mn)	mg/L		1	1	-	-	-	0.036
Nitrate (NO ₃ -)	mg/L		1	1	-	-	-	0.06
Nitrogen as Ammonia (NH ₃)	mg/L		1	1	-	-	-	<0.01
pH	pH Units		1	1	-	-	-	7.2
Potassium (K)	mg/L		1	1	-	-	-	4
Sodium (Na)	mg/L		1	1	-	-	-	36
Standing Water Level	m		1	1	-	-	-	36.83
Sulfate (SO ₄)	mg/L		1	1	-	-	-	6
Total Dissolved Solids	mg/L		1	1	-	-	-	347
Total Organic Carbon	mg/L	1	1	-	-	-	8	
Total Phenolics	mg/L	1	1	-	-	-	<0.05	
Zinc (Zn)	mg/L	1	1	-	-	-	<0.005	

Monitoring Point 5

(UTM Zone 56: 262020.004 East, 6180860.549 North)

Well labelled as "P2A" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: Every 6 months

Pollutant	Unit of Measure	100 Percentile Concentration Limit	No. of Samples Required by Licence	No. of Samples Collected & Analysed	Lowest sample value	Highest sample value	Mean of samples	Sample Date
								30/10/2019
Alkalinity (as CaCO ₃)	mg/L	<i>No limits apply - sampling for monitoring purposes only</i>	1	1	-	-	-	256
Aluminium (Al)	mg/L		1	1	-	-	-	<0.01
Calcium (Ca)	mg/L		1	1	-	-	-	94
Chloride (Cl)	mg/L		1	1	-	-	-	40
Conductivity	(µ/cm)		1	1	-	-	-	1190
Copper (Cu)	mg/L		1	1	-	-	-	<0.001
Fluoride (F)	mg/L		1	1	-	-	-	<0.1
Iron (Fe)	mg/L		1	1	-	-	-	6.6
Lead (Pb)	mg/L		1	1	-	-	-	<0.001
Magnesium (Mg)	mg/L		1	1	-	-	-	67
Manganese (Mn)	mg/L		1	1	-	-	-	0.769
Nitrate (NO ₃ -)	mg/L		1	1	-	-	-	0.11
Nitrogen as Ammonia (NH ₃)	mg/L		1	1	-	-	-	0.37
pH	pH Units		1	1	-	-	-	6.81
Potassium (K)	mg/L		1	1	-	-	-	6
Sodium (Na)	mg/L		1	1	-	-	-	39
Standing Water Level	m		1	1	-	-	-	21.05
Sulfate (SO ₄)	mg/L		1	1	-	-	-	332
Total Dissolved Solids	mg/L		1	1	-	-	-	715
Total Organic Carbon	mg/L		1	1	-	-	-	10
Total Phenolics	mg/L	1	1	-	-	-	<0.05	
Zinc (Zn)	mg/L	1	1	-	-	-	0.012	

Monitoring Point 6

(UTM Zone 56: 262018.357 East, 6180860.285 North)

Well labelled as "P2B" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: Every 6 months

Pollutant	Unit of Measure	100 Percentile Concentration Limit	No. of Samples Required by Licence	No. of Samples Collected & Analysed	Lowest sample value	Highest sample value	Mean of samples	Sample Date
								30/10/2019
Alkalinity (as CaCO ₃)	mg/L	<i>No limits apply - sampling for monitoring purposes only</i>	1	1	-	-	-	186
Aluminium (Al)	mg/L		1	1	-	-	-	<0.01
Calcium (Ca)	mg/L		1	1	-	-	-	39
Chloride (Cl)	mg/L		1	1	-	-	-	78
Conductivity	(µ/cm)		1	1	-	-	-	682
Copper (Cu)	mg/L		1	1	-	-	-	<0.001
Fluoride (F)	mg/L		1	1	-	-	-	0.1
Iron (Fe)	mg/L		1	1	-	-	-	<0.05
Lead (Pb)	mg/L		1	1	-	-	-	<0.001
Magnesium (Mg)	mg/L		1	1	-	-	-	32
Manganese (Mn)	mg/L		1	1	-	-	-	0.039
Nitrate (NO ₃ ⁻)	mg/L		1	1	-	-	-	0.01
Nitrogen as Ammonia (NH ₃)	mg/L		1	1	-	-	-	<0.01
pH	pH Units		1	1	-	-	-	7.09
Potassium (K)	mg/L		1	1	-	-	-	4
Sodium (Na)	mg/L		1	1	-	-	-	37
Standing Water Level	m		1	1	-	-	-	38.41
Sulfate (SO ₄)	mg/L		1	1	-	-	-	17
Total Dissolved Solids	mg/L		1	1	-	-	-	344
Total Organic Carbon	mg/L		1	1	-	-	-	12
Total Phenolics	mg/L	1	1	-	-	-	<0.05	
Zinc (Zn)	mg/L	1	1	-	-	-	<0.005	

Monitoring Point 7

(UTM Zone 56: 262240.26 East, 6180931.016 North)

Well labelled as "P3A" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: Every 6 months

Pollutant	Unit of Measure	100 Percentile Concentration Limit	No. of Samples Required by Licence	No. of Samples Collected & Analysed	Lowest sample value	Highest sample value	Mean of samples	Sample Date
								30/10/2019
Alkalinity (as CaCO ₃)	mg/L	<i>No limits apply - sampling for monitoring purposes only</i>	1	1	-	-	-	233
Aluminium (Al)	mg/L		1	1	-	-	-	<0.01
Calcium (Ca)	mg/L		1	1	-	-	-	56
Chloride (Cl)	mg/L		1	1	-	-	-	149
Conductivity	(µ/cm)		1	1	-	-	-	891
Copper (Cu)	mg/L		1	1	-	-	-	0.002
Fluoride (F)	mg/L		1	1	-	-	-	0.2
Iron (Fe)	mg/L		1	1	-	-	-	0.37
Lead (Pb)	mg/L		1	1	-	-	-	<0.001
Magnesium (Mg)	mg/L		1	1	-	-	-	40
Manganese (Mn)	mg/L		1	1	-	-	-	0.25
Nitrate (NO ₃ -)	mg/L		1	1	-	-	-	0.62
Nitrogen as Ammonia (NH ₃)	mg/L		1	1	-	-	-	0.04
pH	pH Units		1	1	-	-	-	7
Potassium (K)	mg/L		1	1	-	-	-	6
Sodium (Na)	mg/L		1	1	-	-	-	46
Standing Water Level	m		1	1	-	-	-	32.55
Sulfate (SO ₄)	mg/L		1	1	-	-	-	4
Total Dissolved Solids	mg/L		1	1	-	-	-	456
Total Organic Carbon	mg/L		1	1	-	-	-	14
Total Phenolics	mg/L	1	1	-	-	-	<0.05	
Zinc (Zn)	mg/L	1	1	-	-	-	0.014	

Monitoring Point 8

(UTM Zone 56: 262241.047 East, 6180932.59 North)

Well labelled as "P3B" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: Every 6 months

Pollutant	Unit of Measure	100 Percentile Concentration Limit	No. of Samples Required by Licence	No. of Samples Collected & Analysed	Lowest sample value	Highest sample value	Mean of samples	Sample Date
								30/10/2019
Alkalinity (as CaCO ₃)	mg/L	<i>No limits apply - sampling for monitoring purposes only</i>	1	1	-	-	-	158
Aluminium (Al)	mg/L		1	1	-	-	-	<0.01
Calcium (Ca)	mg/L		1	1	-	-	-	28
Chloride (Cl)	mg/L		1	1	-	-	-	52
Conductivity	(µ/cm)		1	1	-	-	-	502
Copper (Cu)	mg/L		1	1	-	-	-	<0.001
Fluoride (F)	mg/L		1	1	-	-	-	0.1
Iron (Fe)	mg/L		1	1	-	-	-	0.79
Lead (Pb)	mg/L		1	1	-	-	-	<0.001
Magnesium (Mg)	mg/L		1	1	-	-	-	20
Manganese (Mn)	mg/L		1	1	-	-	-	0.164
Nitrate (NO ₃ ⁻)	mg/L		1	1	-	-	-	0.1
Nitrogen as Ammonia (NH ₃)	mg/L		1	1	-	-	-	0.07
pH	pH Units		1	1	-	-	-	6.89
Potassium (K)	mg/L		1	1	-	-	-	5
Sodium (Na)	mg/L		1	1	-	-	-	32
Standing Water Level	m		1	1	-	-	-	40.86
Sulfate (SO ₄)	mg/L		1	1	-	-	-	5
Total Dissolved Solids	mg/L		1	1	-	-	-	258
Total Organic Carbon	mg/L		1	1	-	-	-	15
Total Phenolics	mg/L	1	1	-	-	-	<0.05	
Zinc (Zn)	mg/L	1	1	-	-	-	0.014	