

## Vales Point Power Station Monthly Environmental Data Summary



LICENCE NO	761	<a href="http://www.epa.nsw.gov.au/prpoeoapp/">http://www.epa.nsw.gov.au/prpoeoapp/</a>
LICENCE HOLDER	SUNSET POWER INTERNATIONAL PTY LTD	
REPORTING PERIOD	November 2021	
ADDRESS	VALES ROAD, MANNERING PARK NSW	

POINT 2 Combined air emissions from boiler 5 via Points 4 to 7 to Point 1 marked and shown as EPA ID 2 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).												
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Cadmium	(mg/m3)	Every 6 months							0.2		
Nov-21	Chlorine	(mg/m3)	Every 6 months							20		
Nov-21	Fluorine	(mg/m3)	Every 6 months							30		
Nov-21	Hydrogen chloride	(mg/m3)	Every 6 months							50		
Nov-21	Mercury	(mg/m3)	Every 6 months							0.05		
Nov-21	Nitrogen Oxides	(mg/m3)	Continuous	97.7%	Nov-21	436	668	781	1100	1500	No	
Nov-21	Solid Particles	(mg/m3)	Quarterly							50	No	
Nov-21	Sulfur dioxide	(mg/m3)	Continuous	97.5%	Nov-21	494	740	942	1400	1700	No	
Nov-21	Sulfuric acid mist and sulfur trioxide (as SO3)	(mg/m3)	Every 6 months							100		
Nov-21	Type 1 and Type 2 substances in aggregate	(mg/m3)	Every 6 months							0.75		
Nov-21	VOC's as n-propane equivalent	(mg/m3)	Every 6 months							10		

POINT 3 Combined air emissions from boiler 6 via Points 8 to 11 to Point 1 marked and shown as EPA ID 3 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).												
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Cadmium	(mg/m3)	Every 6 months							0.2		
Nov-21	Chlorine	(mg/m3)	Every 6 months							20		
Nov-21	Fluorine	(mg/m3)	Every 6 months							30		
Nov-21	Hydrogen chloride	(mg/m3)	Every 6 months							50		
Nov-21	Mercury	(mg/m3)	Every 6 months							0.05		
Nov-21	Nitrogen Oxides	(mg/m3)	Continuous	99.2%	Nov-21	240	549	899	1100	1500	No	
Nov-21	Solid Particles	(mg/m3)	Quarterly							50		
Nov-21	Sulfur dioxide	(mg/m3)	Continuous	99.8%	Nov-21	495	691	969	1400	1700	No	
Nov-21	Sulfuric acid mist and sulfur trioxide (as SO3)	(mg/m3)	Every 6 months							100		
Nov-21	Type 1 and Type 2 substances in aggregate	(mg/m3)	Every 6 months							0.75		
Nov-21	VOC's as n-propane equivalent	(mg/m3)	Every 6 months							10		

POINT 4 Boiler number 5 exhaust - duct A marked and shown as EPA ID 4 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).												
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Cadmium	(mg/m3)	Every 6 months									
Nov-21	Carbon dioxide	(%)	Every 6 months									
Nov-21	Chlorine	(mg/m3)	Every 6 months									
Nov-21	Flow rate	(m3/s)	Continuous									
Nov-21	Fluorine	(mg/m3)	Every 6 months									
Nov-21	Hydrogen chloride	(mg/m3)	Every 6 months									
Nov-21	Mercury	(mg/m3)	Every 6 months									
Nov-21	Moisture	(%)	Continuous									
Nov-21	Oxygen (O2)	(%)	Continuous									
Nov-21	Solid Particles	(mg/m3)	Quarterly									
Nov-21	Sulfuric acid mist and sulfur trioxide (as SO3)	(mg/m3)	Every 6 months									
Nov-21	Temperature	(°C)	Continuous									
Nov-21	Type 1 and Type 2 substances in aggregate	(mg/m3)	Every 6 months									
Nov-21	VOC's as n-propane equivalent	(mg/m3)	Every 6 months									

See note at end of report regarding installation of continuous monitoring instrumentation.

POINT 5 Boiler number 5 exhaust - duct B marked and shown as EPA ID 5 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).												
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Cadmium	(mg/m3)	Every 6 months									
Nov-21	Flow rate	(m3/s)	Continuous									
Nov-21	Mercury	(mg/m3)	Every 6 months									
Nov-21	Moisture	(%)	Continuous									
Nov-21	Oxygen (O2)	(%)	Continuous									
Nov-21	Solid Particles	(mg/m3)	Quarterly									
Nov-21	Temperature	(°C)	Continuous									
Nov-21	Type 1 and Type 2 substances in aggregate	(mg/m3)	Every 6 months									

POINT 6 Boiler number 5 exhaust - duct C marked and shown as EPA ID 6 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).												
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Cadmium	(mg/m3)	Every 6 months									
Nov-21	Carbon dioxide	(%)	Every 6 months									
Nov-21	Chlorine	(mg/m3)	Every 6 months									
Nov-21	Flow rate	(m3/s)	Continuous									
Nov-21	Fluorine	(mg/m3)	Every 6 months									
Nov-21	Hydrogen chloride	(mg/m3)	Every 6 months									
Nov-21	Mercury	(mg/m3)	Every 6 months									
Nov-21	Moisture	(%)	Continuous									
Nov-21	Oxygen (O2)	(%)	Continuous									
Nov-21	Solid Particles	(mg/m3)	Quarterly									
Nov-21	Sulfuric acid mist and sulfur trioxide (as SO3)	(mg/m3)	Every 6 months									
Nov-21	Temperature	(°C)	Continuous									
Nov-21	Type 1 and Type 2 substances in aggregate	(mg/m3)	Every 6 months									
Nov-21	VOC's as n-propane equivalent	(mg/m3)	Every 6 months									

POINT 7 Boiler number 5 exhaust - duct D marked and shown as EPA ID 7 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).												
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Cadmium	(mg/m3)	Every 6 months									
Nov-21	Flow rate	(m3/s)	Continuous									
Nov-21	Mercury	(mg/m3)	Every 6 months									
Nov-21	Moisture	(%)	Continuous									
Nov-21	Oxygen (O2)	(%)	Continuous									
Nov-21	Solid Particles	(mg/m3)	Quarterly									
Nov-21	Temperature	(°C)	Continuous									
Nov-21	Type 1 and Type 2 substances in aggregate	(mg/m3)	Every 6 months									

POINT 8 Boiler number 6 exhaust - duct A marked and shown as EPA ID 8 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).												
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Cadmium	(mg/m3)	Every 6 months									
Nov-21	Carbon dioxide	(%)	Every 6 months									
Nov-21	Chlorine	(mg/m3)	Every 6 months									
Nov-21	Flow rate	(m3/s)	Continuous									
Nov-21	Fluorine	(mg/m3)	Every 6 months									
Nov-21	Hydrogen chloride	(mg/m3)	Every 6 months									
Nov-21	Mercury	(mg/m3)	Every 6 months									
Nov-21	Moisture	(%)	Continuous									
Nov-21	Oxygen (O2)	(%)	Continuous									
Nov-21	Solid Particles	(mg/m3)	Quarterly									
Nov-21	Sulfuric acid mist and sulfur trioxide (as SO3)	(mg/m3)	Every 6 months									
Nov-21	Temperature	(°C)	Continuous									
Nov-21	Type 1 and Type 2 substances in aggregate	(mg/m3)	Every 6 months									
Nov-21	VOC's as n-propane equivalent	(mg/m3)	Every 6 months									

POINT 9 Boiler number 6 exhaust - duct B marked and shown as EPA ID 9 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).												
Month	Pollutant	Unit of Measure	Sample/Masurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Cadmium	(mg/m3)	Every 6 months									
Nov-21	Flow rate	(m3/s)	Continuous									
Nov-21	Mercury	(mg/m3)	Every 6 months									
Nov-21	Moisture	(%)	Continuous									See note at end of report regarding installation of continuous monitoring instrumentation.
Nov-21	Oxygen (O2)	(%)	Continuous									
Nov-21	Solid Particles	(mg/m3)	Quarterly									
Nov-21	Temperature	(°C)	Continuous									
Nov-21	Type 1 and Type 2 substances in aggregate	(mg/m3)	Every 6 months									

POINT 10 Boiler number 6 exhaust - duct C marked and shown as EPA ID 10 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).												
Month	Pollutant	Unit of Measure	Sample/Masurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Cadmium	(mg/m3)	Every 6 months									
Nov-21	Carbon dioxide	(%)	Every 6 months									
Nov-21	Chlorine	(mg/m3)	Every 6 months									
Nov-21	Flow rate	(m3/s)	Continuous									
Nov-21	Fluorine	(mg/m3)	Every 6 months									
Nov-21	Hydrogen chloride	(mg/m3)	Every 6 months									
Nov-21	Mercury	(mg/m3)	Every 6 months									See note at end of report regarding installation of continuous monitoring instrumentation.
Nov-21	Moisture	(%)	Continuous									
Nov-21	Oxygen (O2)	(%)	Continuous									
Nov-21	Solid Particles	(mg/m3)	Quarterly									
Nov-21	Sulfuric acid mist and sulfur trioxide (as SO3)	(mg/m3)	Every 6 months									
Nov-21	Temperature	(°C)	Continuous									
Nov-21	Type 1 and Type 2 substances in aggregate	(mg/m3)	Every 6 months									
Nov-21	VOC's as n-propane equivalent	(mg/m3)	Every 6 months									

POINT 11 Boiler number 6 exhaust - duct D marked and shown as EPA ID 11 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).												
Month	Pollutant	Unit of Measure	Sample/Masurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Cadmium	(mg/m3)	Every 6 months									
Nov-21	Flow rate	(m3/s)	Continuous									
Nov-21	Mercury	(mg/m3)	Every 6 months									
Nov-21	Moisture	(%)	Continuous									See note at end of report regarding installation of continuous monitoring instrumentation.
Nov-21	Oxygen (O2)	(%)	Continuous									
Nov-21	Solid Particles	(mg/m3)	Quarterly									
Nov-21	Temperature	(°C)	Continuous									
Nov-21	Type 1 and Type 2 substances in aggregate	(mg/m3)	Every 6 months									

POINT 12 Boiler number 5 combined exhaust - duct A and B (points 4 and 5) marked and shown as EPA ID 12 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).												
Month	Pollutant	Unit of Measure	Sample/Masurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Nitrogen Oxides	(mg/m3)	Continuous	98.7%	Nov-21	387	650	770				N/A
Nov-21	Sulfur dioxide	(mg/m3)	Continuous	98.5%	Nov-21	514	717	916				N/A

POINT 13 Boiler number 5 combined exhaust - duct C and D (points 6 and 7) marked and shown as EPA ID 13 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).												
Month	Pollutant	Unit of Measure	Sample/Masurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Nitrogen Oxides	(mg/m3)	Continuous	96.7%	Nov-21	350	686	848				N/A
Nov-21	Sulfur dioxide	(mg/m3)	Continuous	96.5%	Nov-21	342	764	968				N/A

POINT 14 Boiler number 6 combined exhaust - duct A and B (points 8 and 9) marked and shown as EPA ID 14 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).												
Month	Pollutant	Unit of Measure	Sample/Masurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Nitrogen Oxides	(mg/m3)	Continuous	99.2%	Nov-21	202	518	800				N/A
Nov-21	Sulfur dioxide	(mg/m3)	Continuous	99.6%	Nov-21	498	715	991				N/A

**POINT 15 Boiler number 6 combined exhaust - duct C and D (points 10 and 11) marked and shown as EPA ID 12 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).**

Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Nitrogen Oxides	(mg/m3)	Continuous	99.3%	Nov-21	212	580	1036			N/A	
Nov-21	Sulfur dioxide	(mg/m3)	Continuous	100.0%	Nov-21	478	667	947			N/A	

**POINT 22 Discharge of cooling water from the cooling water outlet canal to Wye Bay marked and shown as EPA ID 22 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).**

Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Chlorine (free residual)	(mg/L)	Monthly during discharge	1	25/11/2021	<0.1	<0.1	<0.1		0.2	No	
Nov-21	Copper	(mg/L)	Monthly during discharge	1	25/11/2021	0.005	0.005	0.005		0.005	No	
Nov-21	Iron	(mg/L)	Monthly during discharge	1	25/11/2021	0.148	0.148	0.148		0.3	No	
Nov-21	Oil and Grease	Visible	Continuous during discharge	100%	Nov-21	NIL	NIL	NIL				
Nov-21	Selenium	(mg/L)	Monthly during discharge	1	25/11/2021	<0.002	<0.002	<0.002		0.005	No	
Nov-21	Temperature	(°C)	Continuous during discharge	100%	Nov-21	23.7	27.1	32.2	35	37.5	No	

**POINT 23 Discharge of supernatant water from the ash dam to the cooling water outlet canal to Wye Bay marked and shown as EPA ID 23 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).**

Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Aluminium	(mg/L)	Monthly during discharge	1	25/11/2021	0.035	0.035	0.035				
Nov-21	Ammonia	(mg/L)	Monthly during discharge	1	25/11/2021	0.17	0.17	0.17				
Nov-21	Arsenic (III)	(mg/L)	Monthly during discharge	1	25/11/2021	0.0014	0.0014	0.0014				
Nov-21	Arsenic (V)	(mg/L)	Monthly during discharge	1	25/11/2021	0.0071	0.0071	0.0071				
Nov-21	Cadmium	(mg/L)	Monthly during discharge	1	25/11/2021	0.00006	0.00006	0.00006				
Nov-21	Chromium (trivalent)	(mg/L)	Monthly during discharge	1	25/11/2021	<0.001	<0.001	<0.001				
Nov-21	Chromium (VI) Compounds	(mg/L)	Monthly during discharge	1	25/11/2021	0.030	0.030	0.030				
Nov-21	Copper	(mg/L)	Monthly during discharge	1	25/11/2021	<0.0005	<0.0005	<0.0005				
Nov-21	Iron	(mg/L)	Monthly during discharge	1	25/11/2021	0.04	0.04	0.04				
Nov-21	Lead	(mg/L)	Monthly during discharge	1	25/11/2021	<0.0001	<0.0001	<0.0001				
Nov-21	Manganese	(mg/L)	Monthly during discharge	1	25/11/2021	0.0051	0.0051	0.0051				
Nov-21	Nickel	(mg/L)	Monthly during discharge	1	25/11/2021	<0.0005	<0.0005	<0.0005				
Nov-21	Nitrate + nitrite (oxidised nitrogen)	(mg/L)	Monthly during discharge	1	25/11/2021	0.34	0.34	0.34				
Nov-21	Nitrogen	(mg/L)	Monthly during discharge	1	25/11/2021	<0.5	<0.5	<0.5				
Nov-21	pH	pH	Monthly during discharge	1	25/11/2021	9.08	9.08	9.08		6.5 - 9.5	No	
Nov-21	Phosphorus	(mg/L)	Monthly during discharge	1	25/11/2021	<0.05	<0.05	<0.05				
Nov-21	Reactive Phosphorus	(mg/L)	Monthly during discharge	1	25/11/2021	0.03	0.03	0.03				
Nov-21	Selenium	(mg/L)	Monthly during discharge	1	25/11/2021	0.102	0.102	0.102				
Nov-21	Total Kjeldahl Nitrogen	(mg/L)	Monthly during discharge	1	25/11/2021	<0.5	<0.5	<0.5				
Nov-21	Total Suspended Solids	(mg/L)	Monthly during discharge	1	25/11/2021	4	4	4		50	No	
Nov-21	Vanadium	(mg/L)	Monthly during discharge	1	25/11/2021	0.0736	0.0736	0.0736				
Nov-21	Zinc	(mg/L)	Monthly during discharge	1	25/11/2021	<0.001	<0.001	<0.001				

**POINT 24 Discharge of seepage water from the ash dam rehabilitation area to Mannering Bay marked and shown as EPA ID 24 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).**

Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	Discharge (yes/no)	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Aluminium	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Ammonia	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Arsenic (III)	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Arsenic (V)	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Cadmium	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Chromium (trivalent)	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Chromium (VI) Compounds	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Copper	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Iron	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Lead	(mg/L)	Monthly during discharge	1	25/11/2021				No			No discharge from EPA Point 24 during November 2021
Nov-21	Manganese	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Nickel	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Nitrate + nitrite (oxidised nitrogen)	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Nitrogen	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	pH	pH	Monthly during discharge	1	25/11/2021				No	6.5 - 9.5	No	
Nov-21	Phosphorus	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Reactive Phosphorus	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Selenium	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Total Kjeldahl Nitrogen	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Total Suspended Solids	(mg/L)	Monthly during discharge	1	25/11/2021				No	50	No	
Nov-21	Vanadium	(mg/L)	Monthly during discharge	1	25/11/2021				No			
Nov-21	Zinc	(mg/L)	Monthly during discharge	1	25/11/2021				No			

**POINT 25 Discharge of over boarded water from the ash dam to Mannering Bay marked and shown as EPA ID 25 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).**

Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	Discharge (yes/no)	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Aluminium	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Ammonia	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Arsenic (III)	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Arsenic (V)	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Cadmium	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Chromium (trivalent)	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Chromium (VI) Compounds	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Copper	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Iron	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Lead	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Manganese	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Nickel	(mg/L)	Daily for any discharge >2 hrs						No			No discharge from EPA Point 25 during November 2021
Nov-21	Nitrate + nitrite (oxidised nitrogen)	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Nitrogen	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	pH	pH	Daily for any discharge >2 hrs						No	6.5 - 9.5	No	
Nov-21	Phosphorus	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Reactive Phosphorus	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Selenium	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Total Kjeldahl Nitrogen	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Total Suspended Solids	(mg/L)	Daily for any discharge >2 hrs						No	50	No	
Nov-21	Vanadium	(mg/L)	Daily for any discharge >2 hrs						No			
Nov-21	Zinc	(mg/L)	Daily for any discharge >2 hrs						No			

**POINT 30** Groundwater quality monitoring bore marked and shown as EPA ID 30 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).

Month	Pollutant	Unit of Measure	Sample/Masurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Aluminium	(mg/L)	Quarterly	1	25/11/2021	0.069	0.069	0.069				
Nov-21	Ammonia	(mg/L)	Quarterly	1	25/11/2021	1.02	1.02	1.02				
Nov-21	Arsenic (III)	(mg/L)	Quarterly	1	25/11/2021	<0.0050	<0.0050	<0.0050				
Nov-21	Arsenic (V)	(mg/L)	Quarterly	1	25/11/2021	<0.0050	<0.0050	<0.0050				
Nov-21	Cadmium	(mg/L)	Quarterly	1	25/11/2021	<0.0002	<0.0002	<0.0002				
Nov-21	Chromium (trivalent)	(mg/L)	Quarterly	1	25/11/2021	<0.001	<0.001	<0.001				
Nov-21	Chromium (VI) Compounds	(mg/L)	Quarterly	1	25/11/2021	<0.001	<0.001	<0.001				
Nov-21	Copper	(mg/L)	Quarterly	1	25/11/2021	0.001	0.001	0.001				
Nov-21	Electrical Conductivity	(us/cm)	Quarterly	1	25/11/2021	37700	37700	37700				
Nov-21	Iron	(mg/L)	Quarterly	1	25/11/2021	74.8	74.8	74.8				
Nov-21	Lead	(mg/L)	Quarterly	1	25/11/2021	0.0004	0.0004	0.0004				
Nov-21	Magnesium	(mg/L)	Quarterly	1	25/11/2021	902	902	902				
Nov-21	Manganese	(mg/L)	Quarterly	1	25/11/2021	4.61	4.61	4.61				
Nov-21	Nickel	(mg/L)	Quarterly	1	25/11/2021	0.0203	0.0203	0.0203				
Nov-21	pH	pH	Quarterly	1	25/11/2021	5.72	5.72	5.72				
Nov-21	Potassium	(mg/L)	Quarterly	1	25/11/2021	125	125	125				
Nov-21	Selenium	(mg/L)	Quarterly	1	25/11/2021	<0.002	<0.002	<0.002				
Nov-21	Sodium	(mg/L)	Quarterly	1	25/11/2021	6540	6540	6540				
Nov-21	Standing Water Level	(m)	Quarterly	1	25/11/2021	3.75	3.75	3.75				
Nov-21	Vanadium	(mg/L)	Quarterly	1	25/11/2021	<0.0005	<0.0005	<0.0005				
Nov-21	Zinc	(mg/L)	Quarterly	1	25/11/2021	0.014	0.014	0.014				

**POINT 31** Groundwater quality monitoring bore marked and shown as EPA ID 31 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).

Month	Pollutant	Unit of Measure	Sample/Masurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Aluminium	(mg/L)	Quarterly	1	25/11/2021	0.74	0.74	0.74				
Nov-21	Ammonia	(mg/L)	Quarterly	1	25/11/2021	<0.01	<0.01	<0.01				
Nov-21	Arsenic (III)	(mg/L)	Quarterly	1	25/11/2021	<0.0005	<0.0005	<0.0005				
Nov-21	Arsenic (V)	(mg/L)	Quarterly	1	25/11/2021	<0.0005	<0.0005	<0.0005				
Nov-21	Cadmium	(mg/L)	Quarterly	1	25/11/2021	0.07800	0.07800	0.07800				
Nov-21	Chromium (trivalent)	(mg/L)	Quarterly	1	25/11/2021	<0.001	<0.001	<0.001				
Nov-21	Chromium (VI) Compounds	(mg/L)	Quarterly	1	25/11/2021	<0.001	<0.001	<0.001				
Nov-21	Copper	(mg/L)	Quarterly	1	25/11/2021	0.0007	0.0007	0.0007				
Nov-21	Electrical Conductivity	(us/cm)	Quarterly	1	25/11/2021	465	465	465				
Nov-21	Iron	(mg/L)	Quarterly	1	25/11/2021	0.66	0.66	0.66				
Nov-21	Lead	(mg/L)	Quarterly	1	25/11/2021	0.0154	0.0154	0.0154				
Nov-21	Magnesium	(mg/L)	Quarterly	1	25/11/2021	9	9	9				
Nov-21	Manganese	(mg/L)	Quarterly	1	25/11/2021	0.004	0.004	0.004				
Nov-21	Nickel	(mg/L)	Quarterly	1	25/11/2021	0.0528	0.0528	0.0528				
Nov-21	pH	pH	Quarterly	1	25/11/2021	6.18	6.18	6.18				
Nov-21	Potassium	(mg/L)	Quarterly	1	25/11/2021	2	2	2				
Nov-21	Selenium	(mg/L)	Quarterly	1	25/11/2021	0.0036	0.0036	0.0036				
Nov-21	Sodium	(mg/L)	Quarterly	1	25/11/2021	57	57	57				
Nov-21	Standing Water Level	(m)	Quarterly	1	25/11/2021	0.57	0.57	0.57				
Nov-21	Vanadium	(mg/L)	Quarterly	1	25/11/2021	0.002	0.002	0.002				
Nov-21	Zinc	(mg/L)	Quarterly	1	25/11/2021	0.75	0.75	0.75				

**POINT 32 Groundwater quality monitoring bore marked and shown as EPA ID 32 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).**

Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analyzed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Aluminium	(mg/L)	Quarterly	1	25/11/2021	3.89	3.89	3.89				
Nov-21	Ammonia	(mg/L)	Quarterly	1	25/11/2021	<0.01	<0.01	<0.01				
Nov-21	Arsenic (III)	(mg/L)	Quarterly	1	25/11/2021	<0.0005	<0.0005	<0.0005				
Nov-21	Arsenic (V)	(mg/L)	Quarterly	1	25/11/2021	<0.0005	<0.0005	<0.0005				
Nov-21	Cadmium	(mg/L)	Quarterly	1	25/11/2021	0.062	0.062	0.062				
Nov-21	Chromium (trivalent)	(mg/L)	Quarterly	1	25/11/2021	0.002	0.002	0.002				
Nov-21	Chromium (VI) Compounds	(mg/L)	Quarterly	1	25/11/2021	0.002	0.002	0.002				
Nov-21	Copper	(mg/L)	Quarterly	1	25/11/2021	0.0039	0.0039	0.0039				
Nov-21	Electrical Conductivity	(us/cm)	Quarterly	1	25/11/2021	152	152	152				
Nov-21	Iron	(mg/L)	Quarterly	1	25/11/2021	1.80	1.80	1.80				
Nov-21	Lead	(mg/L)	Quarterly	1	25/11/2021	0.0045	0.0045	0.0045				
Nov-21	Magnesium	(mg/L)	Quarterly	1	25/11/2021	2	2	2				
Nov-21	Manganese	(mg/L)	Quarterly	1	25/11/2021	0.0011	0.0011	0.0011				
Nov-21	Nickel	(mg/L)	Quarterly	1	25/11/2021	0.008	0.008	0.008				
Nov-21	pH	pH	Quarterly	1	25/11/2021	5.99	5.99	5.99				
Nov-21	Potassium	(mg/L)	Quarterly	1	25/11/2021	1	1	1				
Nov-21	Selenium	(mg/L)	Quarterly	1	25/11/2021	0.0031	0.0031	0.0031				
Nov-21	Sodium	(mg/L)	Quarterly	1	25/11/2021	24	24	24				
Nov-21	Standing Water Level	(m)	Quarterly	1	25/11/2021	1.67	1.67	1.67				
Nov-21	Vanadium	(mg/L)	Quarterly	1	25/11/2021	0.0053	0.0053	0.0053				
Nov-21	Zinc	(mg/L)	Quarterly	1	25/11/2021	0.009	0.009	0.009				

**POINT 33 Groundwater quality monitoring bore marked and shown as EPA ID 33 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).**

Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analyzed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Aluminium	(mg/L)	Quarterly	1	25/11/2021	0.29	0.29	0.29				
Nov-21	Ammonia	(mg/L)	Quarterly	1	25/11/2021	0.25	0.25	0.25				
Nov-21	Arsenic (III)	(mg/L)	Quarterly	1	25/11/2021	<0.0050	<0.0050	<0.0050				
Nov-21	Arsenic (V)	(mg/L)	Quarterly	1	25/11/2021	<0.0050	<0.0050	<0.0050				
Nov-21	Cadmium	(mg/L)	Quarterly	1	25/11/2021	<0.0002	<0.0002	<0.0002				
Nov-21	Chromium (trivalent)	(mg/L)	Quarterly	1	25/11/2021	<0.001	<0.001	<0.001				
Nov-21	Chromium (VI) Compounds	(mg/L)	Quarterly	1	25/11/2021	0.012	0.012	0.012				
Nov-21	Copper	(mg/L)	Quarterly	1	25/11/2021	0.002	0.002	0.002				
Nov-21	Electrical Conductivity	(us/cm)	Quarterly	1	25/11/2021	50700	50700	50700				
Nov-21	Iron	(mg/L)	Quarterly	1	25/11/2021	63	63	63				
Nov-21	Lead	(mg/L)	Quarterly	1	25/11/2021	0.0005	0.0005	0.0005				
Nov-21	Magnesium	(mg/L)	Quarterly	1	25/11/2021	1330	1330	1330				
Nov-21	Manganese	(mg/L)	Quarterly	1	25/11/2021	0.659	0.659	0.659				
Nov-21	Nickel	(mg/L)	Quarterly	1	25/11/2021	0.0011	0.0011	0.0011				
Nov-21	pH	pH	Quarterly	1	25/11/2021	6.36	6.36	6.36				
Nov-21	Potassium	(mg/L)	Quarterly	1	25/11/2021	295	295	295				
Nov-21	Selenium	(mg/L)	Quarterly	1	25/11/2021	<0.002	<0.002	<0.002				
Nov-21	Sodium	(mg/L)	Quarterly	1	25/11/2021	9920	9920	9920				
Nov-21	Standing Water Level	(m)	Quarterly	1	25/11/2021	0.00	0.00	0.00				
Nov-21	Vanadium	(mg/L)	Quarterly	1	25/11/2021	0.0027	0.0027	0.0027				
Nov-21	Zinc	(mg/L)	Quarterly	1	25/11/2021	0.008	0.008	0.008				

POINT 34 Groundwater quality monitoring bore marked and shown as EPA ID 33 on The Plans ("VX837351-1 AND "VX837351-2" 03/06/2020 EPA REFERENCE DOC20/476695 AND DOC20/476695-1).

Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	99 Percentile Concentration Limit	100 Percentile Concentration Limit	Exceedance (yes/no)	Comments
Nov-21	Aluminium	(mg/L)	Quarterly	1	25/11/2021	0.12	0.12	0.12				
Nov-21	Ammonia	(mg/L)	Quarterly	1	25/11/2021	0.02	0.02	0.02				
Nov-21	Arsenic (III)	(mg/L)	Quarterly	1	25/11/2021	<0.0005	<0.0005	<0.0005				
Nov-21	Arsenic (V)	(mg/L)	Quarterly	1	25/11/2021	<0.0005	<0.0005	<0.0005				
Nov-21	Cadmium	(mg/L)	Quarterly	1	25/11/2021	0.05000	0.05000	0.05000				
Nov-21	Chromium (trivalent)	(mg/L)	Quarterly	1	25/11/2021	<0.001	<0.001	<0.001				
Nov-21	Chromium (VI) Compounds	(mg/L)	Quarterly	1	25/11/2021	<0.001	<0.001	<0.001				
Nov-21	Copper	(mg/L)	Quarterly	1	25/11/2021	0.0003	0.0003	0.0003				
Nov-21	Electrical Conductivity	(us/cm)	Quarterly	1	25/11/2021	757	757	757				
Nov-21	Iron	(mg/L)	Quarterly	1	25/11/2021	1.56	1.56	1.56				
Nov-21	Lead	(mg/L)	Quarterly	1	25/11/2021	0.0012	0.0012	0.0012				
Nov-21	Magnesium	(mg/L)	Quarterly	1	25/11/2021	12	12	12				
Nov-21	Manganese	(mg/L)	Quarterly	1	25/11/2021	0.0002	0.0002	0.0002				
Nov-21	Nickel	(mg/L)	Quarterly	1	25/11/2021	0.0780	0.0780	0.0780				
Nov-21	pH	pH	Quarterly	1	25/11/2021	5.32	5.32	5.32				
Nov-21	Potassium	(mg/L)	Quarterly	1	25/11/2021	3	3	3				
Nov-21	Selenium	(mg/L)	Quarterly	1	25/11/2021	0.0049	0.0049	0.0049				
Nov-21	Sodium	(mg/L)	Quarterly	1	25/11/2021	124	124	124				
Nov-21	Standing Water Level	(m)	Quarterly	1	25/11/2021	0.09	0.09	0.09				
Nov-21	Vanadium	(mg/L)	Quarterly	1	25/11/2021	0.0004	0.0004	0.0004				
Nov-21	Zinc	(mg/L)	Quarterly	1	25/11/2021	0.018	0.018	0.018				

**GENERAL COMMENTS**

Delta has requested amendment of the required date for installation of continuous monitoring instrumentation (temperature, oxygen, moisture) as permissible under Condition M2.4 of EPL761. Delta has also provided the EPA with a proposal for utilisation of a gas flowrate calculation at monitoring points 4 to 11 as an alternative to in-line instrumentation. Instrument suppliers advise that there are currently no flow instruments capable of accurately measuring gas flowrate at monitoring locations 4 to 11.