



Teys Australia Wagga Wagga
Dampier Street
Wagga Wagga
NSW 2650

Teys Australia Southern Property Pty Ltd (Teys Australia Wagga Wagga)

Environmental Monitoring Data Summary

Environmental Protection Licence number 2262

Executive Summary

Teys Australia Wagga is the holder of Environmental Protection Licence (EPL) 2262. This Licence is administered by the *NSW Environmental Protection Authority (EPA)*, and includes conditions relevant to the site's operation, including environmental monitoring, as is outlined in this report. All environmental monitoring results required under EPL 2262 are submitted to the *EPA* each year in a formal annual return, and interpreted, and submitted to the *NSW Department of Planning and Infrastructure* in an Annual Environmental Management Review (AEMR).

All monitoring specified under EPL 2262 was completed in the 2013/2014 annual reporting period, which covered the period between 6 December 2013 and 5 December 2014.

Nil instances of non – compliance with any of the conditions in EPL 2262 occurred during the reporting period.

Further information is available by contacting the Teys Corporate Environmental team on (07) 3198 9166.

A full copy of EPL 2262 can be obtained on the EPA website from the following URL using the search function for licence number “2262”:

<http://www.environment.nsw.gov.au/prpoeoapp/>

EPA Monitoring Point 4: Summary of results for soil monitoring on CFA High irrigation paddock (EPA Monitoring Point 4)

<i>Pollutant</i>	<i>Units of measure</i>	<i>Monitoring frequency required by licence</i>	<i>No of times measured during year</i>	<i>Date of Sampling</i>	<i>Date data obtained</i>	<i>Date Published</i>	<i>Minimum Value</i>	<i>Mean Value</i>	<i>Maximum Value</i>
Conductivity	(dS/m)	Annual	1	05/09/14	01/10/14	07/10/14	0.11	0.25	0.5
Exchangeable Calcium	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	312	871.8	2180
Exchangeable Magnesium	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	69.3	195.6	369.4
Exchangeable Potassium	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	191.6	288.9	473.1
Exchangeable Sodium	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	39.1	235	598
Exchangeable Sodium Percentage	Percent	Annual	1	05/09/14	01/10/14	07/10/14	5.2	13.3	20.1
Extractable Phosphorus	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	44	201.9	419
Nitrate	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	1	5.6	16
Nitrogen (total)	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	366	1019	4660
pH	pH	Annual	1	05/09/14	01/10/14	07/10/14	5.7	6.6	7.2
Phosphorus (total)	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	91	484	1820
Phosphorus Sorption	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	136	279	538
Total Organic Carbon	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	752	11222	44200

The monitoring data in the table above has been taken from monitoring point 4 in EPL 2262. The monitoring point has been established to monitor the soil on

which treated wastewater is applied. The monitoring point is located within in the 'CFA High' irrigation area.

EPA Monitoring Point 6: Summary of results for soil monitoring on CFA Low irrigation paddock (EPA Monitoring point 6).

<i>Pollutant</i>	<i>Units of measure</i>	<i>Monitoring frequency required by licence</i>	<i>No of times measured during year</i>	<i>Date of Sampling</i>	<i>Date data obtained</i>	<i>Date Published</i>	<i>Minimum Value</i>	<i>Maximum Value</i>	<i>Mean Value</i>
Conductivity	(dS/m)	Annual	1	05/09/14	01/10/14	07/10/14	0.27	0.62	1.17
Exchangeable Calcium	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	980	1430	1974
Exchangeable Magnesium	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	588	1087	1458
Exchangeable Potassium	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	168	239	355.8
Exchangeable Sodium	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	496	2091.4	3680
Exchangeable Sodium Percentage	Percent	Annual	1	05/09/14	01/10/14	07/10/14	14.6	32.6	48.8
Extractable Phosphorus	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	28	66.6	171
Nitrate	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	1	1	1
Nitrogen (total)	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	237	801.9	1710
pH	pH	Annual	1	05/09/14	01/10/14	07/10/14	6.2	7.5	8.6
Phosphorus (total)	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	134	282.4	634
Phosphorus Sorption	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	291	405.2	526
Total Organic Carbon	(mg/kg)	Annual	1	05/09/14	01/10/14	07/10/14	781	7581	23100

The monitoring data in the table above has been taken from monitoring point 6 in EPL 2262. The monitoring point has been established to monitor the soil on which treated wastewater is applied. The monitoring point is located within in the 'CFA Low' irrigation area.

EPA Monitoring Point 9: Summary of results for groundwater monitoring of Piezometer 1 (EPA Monitoring point 9).

<i>Pollutant</i>	<i>Units of measure</i>	<i>Monitoring frequency required by licence</i>	<i>No of times measured during year</i>	<i>Date of Sampling</i>	<i>Date data obtained</i>	<i>Date Published</i>	<i>Value</i>
Conductivity	(μ S/m)	Annual	1	05/09/14	16/9/14	19/9/14	2010
Nitrate	(mg/L)	Annual	1	05/09/14	16/9/14	19/9/14	72
pH	pH	Annual	1	05/09/14	16/9/14	19/9/14	7.6
Standing Water Level	m	Annual	1	05/09/14	16/9/14	19/9/14	11.9

EPA Monitoring Point 10: Summary of results for groundwater monitoring of Piezometer 5 (EPA Monitoring point 10).

<i>Pollutant</i>	<i>Units of measure</i>	<i>Monitoring frequency required by licence</i>	<i>No of times measured during year</i>	<i>Date of Sampling</i>	<i>Date data obtained</i>	<i>Date Published</i>	<i>Value</i>
Conductivity	(μ S/m)	Annual	1	05/09/14	16/9/14	19/9/14	763
Nitrate	(mg/L)	Annual	1	05/09/14	16/9/14	19/9/14	40
pH	pH	Annual	1	05/09/14	16/9/14	19/9/14	6.8
Standing Water Level	m	Annual	1	05/09/14	16/9/14	19/9/14	5.3

EPA Monitoring Point 11: Summary of results for groundwater monitoring of Piezometer 7 (EPA Monitoring point 11).

<i>Pollutant</i>	<i>Units of measure</i>	<i>Monitoring frequency required by licence</i>	<i>No of times measured during year</i>	<i>Date of Sampling</i>	<i>Date data obtained</i>	<i>Date Published</i>	<i>Value</i>
Conductivity	(µS/m)	Annual	1	05/09/14	16/9/14	19/9/14	2610
Nitrate	(mg/L)	Annual	1	05/09/14	16/9/14	19/9/14	1
pH	pH	Annual	1	05/09/14	16/9/14	19/9/14	7.8
Standing Water Level	m	Annual	1	05/09/14	16/9/14	19/9/14	5.9

Table 3: Summary of results for waste water applied to irrigation areas (monitoring point 1) under Environmental Protection Licence 2262 (monthly sample – required only when irrigating)

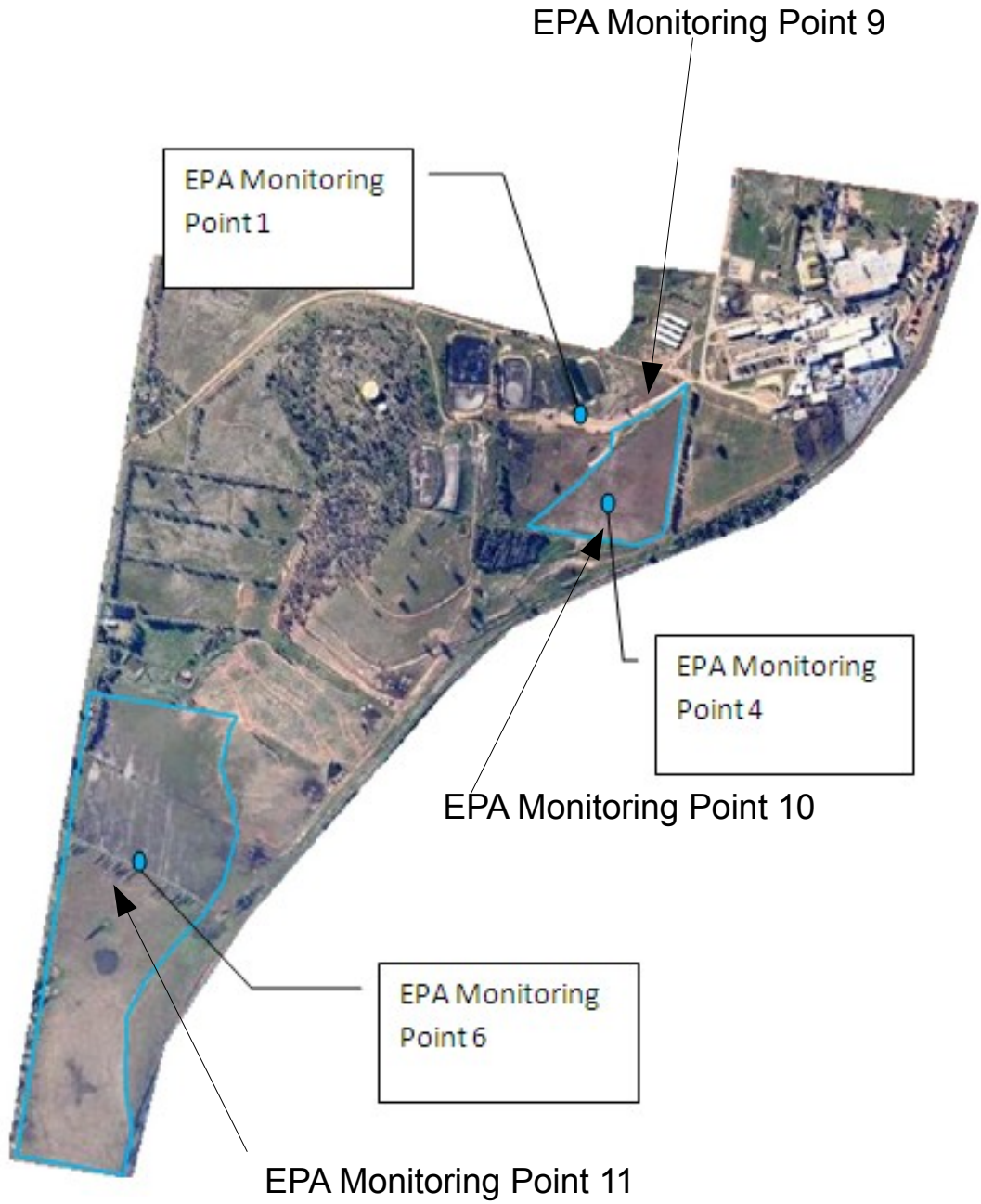
<i>Pollutant</i>	<i>Unit of measure</i>	<i>Monitoring frequency required by Licence</i>	<i>No. of times measured during month</i>	<i>100 percentile limit</i>	<i>Date of Sampling</i>	<i>Date data obtained</i>	<i>Date Published</i>	<i>Value</i>	<i>Exceedance (Yes/no)</i>
Biochemical Oxygen Demand	(mg/L)	Monthly	1	200	December	12/19/13	12/19/13	2	No
Biochemical Oxygen Demand	(mg/L)	Monthly	1	200	January	01/15/14	01/15/14	2	No
Biochemical Oxygen Demand	(mg/L)	Monthly	1	200	February	03/07/14	03/11/14	10	No
Biochemical Oxygen Demand	(mg/L)	Monthly	1	200	March	05/02/14	05/07/14	7	No
Biochemical Oxygen Demand	(mg/L)	Monthly	1	200	April	04/28/14	04/29/14	11	No
Biochemical Oxygen Demand	(mg/L)	Monthly	1	200	May	NA	NA	NA	NA

Biochemical Oxygen Demand	(mg/L)	Monthly	1	200	June	NA	NA	NA	NA
Biochemical Oxygen Demand	(mg/L)	Monthly	1	200	July	NA	NA	NA	NA
Biochemical Oxygen Demand	(mg/L)	Monthly	1	200	August	NA	NA	NA	NA
Biochemical Oxygen Demand	(mg/L)	Monthly	1	200	September	NA	NA	NA	NA
Biochemical Oxygen Demand	(mg/L)	Monthly	1	200	October	NA	NA	NA	NA
Biochemical Oxygen Demand	(mg/L)	Monthly	1	200	November	01/12/14	05/12/14	8	No

The monitoring data in the table above has been taken from monitoring point 1 from EPL 2262. The monitoring point has been established to monitor effluent quality at the discharge from the wastewater treatment system, to the effluent utilisation area on the Teys site. The monitoring point is located at the equalisation pond, downstream of the biological nutrient removal (BNR) system.

The 100 percentile limit refers to a maximum concentration, which BOD concentrations must be below, in order for the water to be irrigated on site.

Locations of monitoring points 1, 4 and 6 are shown in the Figure 1 below.



Units of measure – Abbreviations outlined in full

mg/L = Concentration in milligrams per litre, which is equivalent unit of measure to parts per million (ppm)

µS/m = Microsiemens per metre, a measure of electrical conductivity, which gives an indication of the concentration of dissolved ions

dS/m = Decisiemens per metre, a measure of electrical conductivity, which gives an indication of the concentration of dissolved ions

mg/kg = Milligrams per kilogram, a measure of concentration of different parameters within a soil sample

Correction Log

This section is included to correct any incorrect data which may have been published in good faith.

Teys Australia Southern Property Pty Ltd T/A Teys Australia Wagga Wagga

EPL number 2262

Pollutant:

Table 4: Correction log

<i>Sample date and time</i>	<i>Original data</i>	<i>Corrected data</i>	<i>Date corrected</i>	<i>Date originally published</i>	<i>Reason</i>

Note: No corrections required to date.