

CERTIFICATE OF ANALYSIS

Work Order : **EM2116912**
Client : **Dept for Environment & Water**
Contact : **Mr FRANK MANGERUCA**
Address : **GPO BOX 2834**
ADELAIDE SA, AUSTRALIA 5001
Telephone : **----**
Project : **HCHB**
Order number : **----**
C-O-C number : **----**
Sampler : **RB**
Site : **----**
Quote number : **AD/052/20 V2**
No. of samples received : **21**
No. of samples analysed : **21**

Page : 1 of 12
Laboratory : Environmental Division Melbourne
Contact : Kieren Burns
Address : 4 Westall Rd Springvale VIC Australia 3171
Telephone : +61881625130
Date Samples Received : 26-Aug-2021 11:10
Date Analysis Commenced : 26-Aug-2021
Issue Date : 03-Sep-2021 14:38



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC
Samantha Smith	Laboratory Coordinator	WRG Subcontracting, Springvale, VIC



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- ED037-P: EM2116912 #19. Insufficient sample provided to analyse alkalinity duplicate.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the Chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.
- EP008, LOR raised for Chlorophyll-a, b and Pheophytin-a due to sample matrix.
- EP008, Chlorophyll-a standard does not contained Pheophytin-a standard.
- TDS by method EA-015 may bias high due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- EP002: EM2116912 #2 Poor matrix spike recovery for dissolved organic carbon due to sample matrix. Insufficient sample to re-confirm results by re-extraction and re-analysis.
- Total Algae Count (MB010) is conducted by ALS Scoresby NATA accreditation no. 992, site no. 989.

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	Murray Mouth	US Tauwitschere	DS Tauwitschere	Mark Point	Long Point
Sampling date / time				25-Aug-2021 13:30	25-Aug-2021 10:15	25-Aug-2021 10:15	25-Aug-2021 09:40	25-Aug-2021 08:50	
Compound	CAS Number	LOR	Unit	EM2116912-001	EM2116912-002	EM2116912-003	EM2116912-004	EM2116912-005	
				Result	Result	Result	Result	Result	
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	1800	465	486	14000	28200	
EA045: Turbidity									
Turbidity	----	0.1	NTU	52.8	42.2	42.9	14.9	11.4	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	101	92	92	113	133	
Total Alkalinity as CaCO3	----	1	mg/L	101	92	92	113	133	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	1070	231	238	8250	14400	
EG052G: Silica by Discrete Analyser									
Reactive Silica	----	0.05	mg/L	0.26	0.11	0.17	0.85	1.08	
EK055G-SW: Ammonia as N by Discrete Analyser in Saline Water									
Ammonia as N	7664-41-7	0.02	mg/L	0.07	0.45	0.10	0.07	0.06	
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L	0.01	0.01	0.03	0.02	<0.01	
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L	0.01	0.01	0.03	0.02	<0.01	
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	0.9	1.3	1.3	0.1	0.1	
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L	0.9	1.3	1.3	0.1	0.1	
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L	0.06	0.10	0.10	0.15	0.02	
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	<0.01	0.02	<0.01	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	7	7	6	8	10	
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	1	mg/L	9	----	8	10	11	
EP008: Chlorophyll									



Analytical Results

Sub-Matrix: **WATER**
 (Matrix: **WATER**)

Sample ID

				Murray Mouth	US Tauwitschere	DS Tauwitschere	Mark Point	Long Point
Sampling date / time				25-Aug-2021 13:30	25-Aug-2021 10:15	25-Aug-2021 10:15	25-Aug-2021 09:40	25-Aug-2021 08:50
Compound	CAS Number	LOR	Unit	EM2116912-001	EM2116912-002	EM2116912-003	EM2116912-004	EM2116912-005
				Result	Result	Result	Result	Result
EP008: Chlorophyll - Continued								
Chlorophyll a	----	1	mg/m ³	20	<10	19	7	11
Chlorophyll b	----	1	mg/m ³	<10	<10	<12	<3	2
Pheophytin a	----	1	mg/m ³	12	17	<12	3	4
Subcontracted Analysis								
Dummy Analyte	----	-	-	NRind	NRind	NRind	NRind	NRind

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	Noonameena	Bonneys	McGrath Flat North	Parnka Point	Villa du Yumpa
Sampling date / time				25-Aug-2021 08:15	25-Aug-2021 07:55	25-Aug-2021 07:20	24-Aug-2021 15:40	24-Aug-2021 14:50	
Compound	CAS Number	LOR	Unit	EM2116912-006	EM2116912-007	EM2116912-008	EM2116912-009	EM2116912-010	
				Result	Result	Result	Result	Result	
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	42700	51700	67200	70400	71000	
EA045: Turbidity									
Turbidity	----	0.1	NTU	11.5	26.3	12.1	23.6	17.4	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	161	180	205	210	217	
Total Alkalinity as CaCO3	----	1	mg/L	161	180	205	210	217	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	21800	26500	35300	38500	40900	
EG052G: Silica by Discrete Analyser									
Reactive Silica	----	0.05	mg/L	0.62	0.43	0.48	0.50	0.19	
EK055G-SW: Ammonia as N by Discrete Analyser in Saline Water									
Ammonia as N	7664-41-7	0.02	mg/L	0.12	0.05	<0.02	<0.02	0.04	
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.7	0.4	0.7	1.7	1.4	
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L	1.7	0.4	0.7	1.7	1.4	
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L	0.05	0.02	<0.01	0.58	0.77	
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	17	22	22	25	
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	1	mg/L	15	18	26	27	28	
EP008: Chlorophyll									



Analytical Results

Sub-Matrix: **WATER**
 (Matrix: **WATER**)

Sample ID

				Noonameena	Bonneys	McGrath Flat North	Parnka Point	Villa du Yumpa
Sampling date / time				25-Aug-2021 08:15	25-Aug-2021 07:55	25-Aug-2021 07:20	24-Aug-2021 15:40	24-Aug-2021 14:50
Compound	CAS Number	LOR	Unit	EM2116912-006	EM2116912-007	EM2116912-008	EM2116912-009	EM2116912-010
				Result	Result	Result	Result	Result
EP008: Chlorophyll - Continued								
Chlorophyll a	----	1	mg/m ³	3	6	7	9	4
Chlorophyll b	----	1	mg/m ³	<1	<1	1	<2	<1
Pheophytin a	----	1	mg/m ³	<1	3	3	<2	2
Subcontracted Analysis								
Dummy Analyte	----	-	-	NRind	NRind	NRind	NRind	NRind

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	Stony Well	North Jacks Point	Seagull Island	Snipe Point	Morella Basin @ Outlet Regulator
Sampling date / time				24-Aug-2021 14:15	24-Aug-2021 13:30	24-Aug-2021 13:10	24-Aug-2021 12:45	24-Aug-2021 13:10	
Compound	CAS Number	LOR	Unit	EM2116912-011	EM2116912-012	EM2116912-013	EM2116912-014	EM2116912-015	
				Result	Result	Result	Result	Result	
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	73000	77100	77200	71600	6710	
EA045: Turbidity									
Turbidity	----	0.1	NTU	16.0	17.2	10.9	13.8	2.9	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	110	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	210	216	211	230	309	
Total Alkalinity as CaCO3	----	1	mg/L	210	216	211	230	419	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	42300	41900	41400	40900	3500	
EG052G: Silica by Discrete Analyser									
Reactive Silica	----	0.05	mg/L	0.21	0.49	1.12	1.51	15.3	
EK055G-SW: Ammonia as N by Discrete Analyser in Saline Water									
Ammonia as N	7664-41-7	0.02	mg/L	<0.02	<0.02	<0.02	<0.02	0.06	
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	0.02	
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	0.24	
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	0.26	
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.5	1.9	2.0	1.6	1.2	
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L	1.5	1.9	2.0	1.6	1.5	
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L	0.99	1.05	1.02	1.17	0.04	
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	23	25	25	25	7	
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	1	mg/L	28	30	30	30	9	
EP008: Chlorophyll									



Analytical Results

Sub-Matrix: **WATER**
 (Matrix: **WATER**)

Sample ID

				Stony Well	North Jacks Point	Seagull Island	Snipe Point	Morella Basin @ Outlet Regulator
Sampling date / time				24-Aug-2021 14:15	24-Aug-2021 13:30	24-Aug-2021 13:10	24-Aug-2021 12:45	24-Aug-2021 13:10
Compound	CAS Number	LOR	Unit	EM2116912-011	EM2116912-012	EM2116912-013	EM2116912-014	EM2116912-015
				Result	Result	Result	Result	Result
EP008: Chlorophyll - Continued								
Chlorophyll a	----	1	mg/m ³	8	14	7	13	3
Chlorophyll b	----	1	mg/m ³	<1	<2	<1	2	<1
Pheophytin a	----	1	mg/m ³	11	5	2	6	<1
Subcontracted Analysis								
Dummy Analyte	----	-	-	NRind	NRind	NRind	NRind	NRind



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				Morella Creek @ Guage	Salt Creek Outlet	1.8km West of Salt Creek	3.2km South of Salt Creek (Land)	Tilley Swamp D/S Nth Outlet
Sampling date / time				24-Aug-2021 12:50	24-Aug-2021 12:15	24-Aug-2021 12:30	24-Aug-2021 12:25	24-Aug-2021 15:20
Compound	CAS Number	LOR	Unit	EM2116912-016	EM2116912-017	EM2116912-018	EM2116912-019	EM2116912-020
				Result	Result	Result	Result	Result
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	6250	70500	74400	68100	5880
EA045: Turbidity								
Turbidity	----	0.1	NTU	3.1	10.5	8.3	11.9	2.9
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	119	<1	<1	<1	67
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	302	234	232	252	405
Total Alkalinity as CaCO3	----	1	mg/L	422	234	232	252	472
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	3580	41700	42400	39600	3280
EG052G: Silica by Discrete Analyser								
Reactive Silica	----	0.05	mg/L	15.3	1.66	1.48	1.81	8.21
EK055G-SW: Ammonia as N by Discrete Analyser in Saline Water								
Ammonia as N	7664-41-7	0.02	mg/L	0.08	<0.02	<0.02	0.06	0.14
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	14797-65-0	0.01	mg/L	0.02	<0.01	<0.01	<0.01	0.04
EK058G: Nitrate as N by Discrete Analyser								
Nitrate as N	14797-55-8	0.01	mg/L	0.24	<0.01	<0.01	<0.01	0.76
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	0.26	<0.01	<0.01	<0.01	0.80
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.2	1.7	1.4	1.4	1.5
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ Total Nitrogen as N	----	0.1	mg/L	1.5	1.7	1.4	1.4	2.3
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	0.04	1.00	0.36	0.17	0.03
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
EP002: Dissolved Organic Carbon (DOC)								
Dissolved Organic Carbon	----	1	mg/L	4	26	25	25	<1
EP005: Total Organic Carbon (TOC)								
Total Organic Carbon	----	1	mg/L	10	31	31	30	12



Analytical Results

Sub-Matrix: **WATER**
 (Matrix: **WATER**)

Sample ID

				Morella Creek @ Guage	Salt Creek Outlet	1.8km West of Salt Creek	3.2km South of Salt Creek (Land)	Tilley Swamp D/S Nth Outlet
Sampling date / time				24-Aug-2021 12:50	24-Aug-2021 12:15	24-Aug-2021 12:30	24-Aug-2021 12:25	24-Aug-2021 15:20
Compound	CAS Number	LOR	Unit	EM2116912-016	EM2116912-017	EM2116912-018	EM2116912-019	EM2116912-020
				Result	Result	Result	Result	Result
EP008: Chlorophyll								
Chlorophyll a	----	1	mg/m ³	4	7	9	6	2
Chlorophyll b	----	1	mg/m ³	<1	<1	1	<1	<1
Pheophytin a	----	1	mg/m ³	<1	2	3	2	<1
Subcontracted Analysis								
Dummy Analyte	----	-	-	NRind	NRind	NRind	NRind	NRind

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	Tilley Swamp Watercourse Outlet	----	----	----	----
				Sampling date / time	24-Aug-2021 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2116912-021	-----	-----	-----	-----	-----
				Result	----	----	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	6100	----	----	----	----	----
EA045: Turbidity									
Turbidity	----	0.1	NTU	2.8	----	----	----	----	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	82	----	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	375	----	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	457	----	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	3480	----	----	----	----	----
EG052G: Silica by Discrete Analyser									
Reactive Silica	----	0.05	mg/L	8.37	----	----	----	----	----
EK055G-SW: Ammonia as N by Discrete Analyser in Saline Water									
Ammonia as N	7664-41-7	0.02	mg/L	0.23	----	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L	0.04	----	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L	0.75	----	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L	0.79	----	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.6	----	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L	2.4	----	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L	0.03	----	----	----	----	----
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	----	----	----	----	----
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	6	----	----	----	----	----
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	1	mg/L	8	----	----	----	----	----
EP008: Chlorophyll									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	Tilley Swamp Watercourse Outlet	----	----	----	----
				Sampling date / time	24-Aug-2021 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2116912-021	-----	-----	-----	-----
				Result		----	----	----	----
EP008: Chlorophyll - Continued									
Chlorophyll a	----	1	mg/m ³		2	----	----	----	----
Chlorophyll b	----	1	mg/m ³		<1	----	----	----	----
Pheophytin a	----	1	mg/m ³		<1	----	----	----	----
Subcontracted Analysis									
Dummy Analyte	----	-	-		NRind	----	----	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(WATER) EP008: Chlorophyll