

Accreditation No. 8

Purchase Order: None

ChemCentre Reference: 11E0650

PO Box 1250, Bentley Delivery Centre
Bentley WA 6983

T +61 8 9422 9800

F +61 8 9422 9801

www.chemcentre.wa.gov.au

ABN 40 991 885 705

Dept of Environment and Conservation
PO Box 51
Wanneroo WA 6065

Attention: Kirsty Quinlan

Report on: 23 samples received on 04/10/2011

LAB ID	Material	Client ID and Description
11E0650 / 001	water	JCS 001 Salt Lake
11E0650 / 002	water	JCS 002 Samphire Flats
11E0650 / 003	water	JCS 003 Flats South of JCS 001
11E0650 / 004	water	JCS 004 Sedge Swamps nr flats S of JCS
11E0650 / 005	water	JCS 005 Flats North of Coorow-Greenhea
11E0650 / 006	water	JCS 006 RCM 025
11E0650 / 007	water	JCS 007 Mounds Springs S of Little Thr
11E0650 / 008	water	JCS 008 SPS 178 Coolimba Salt Lake
11E0650 / 009	water	JCS 009 Airstrip Salt Lake
11E0650 / 010	water	JCS 010 Diamond in the Desert Spring
11E0650 / 011	water	JCS 011 Samphire Flat NE Cervantes (co
11E0650 / 012	water	JCS 012 Salt Lake NE Cervantes (Car bo
11E0650 / 013	water	JCS 013 Thetis Claypan
11E0650 / 014	water	JCS 014 Thetis Claypan Mound Spring
11E0650 / 015	water	JCS 015 Lake Thetis
11E0650 / 016	water	JCS 016 Eatha Spring
11E0650 / 017	water	JCS 017 Eatha Salt Lake
11E0650 / 018	water	JCS 018 Deadhorse Soak
11E0650 / 019	water	JCS 019 Sedge Swamps W of Deadhorse So
11E0650 / 020	water	JCS 020 Roman Hill Fort
11E0650 / 021	water	JCS 021 Hill River Sedge Swamps
11E0650 / 022	water	JCS 022 Lake Thetis Sedge Swamp
11E0650 / 023	water	JCS 023 South Cervantes palaeo creek

LAB ID	Client ID	001	002	003	004
		JCS 001	JCS 002	JCS 003	JCS 004
Sampled		12/09/2011	12/09/2011	13/09/2011	13/09/2011
Analyte	Method	Unit			
Bicarbonate	iALK1WATI	mg/L	95	262	436
Calcium	iMET1WCICP	mg/L	390	186	144
Carbonate	iALK1WATI	mg/L	27	<1	<1
Chloride	iCO1WCDA	mg/L	12600	6310	3490
Colour, TCU	iCOL1WACO	TCU	5	46	220
Electrical Conductivity	IEC1WZSE	mS/m	3990	1930	1200
Magnesium	iMET1WCICP	mg/L	1480	503	307
Nitrogen, nitrate + nitrite	iNTAN1WFIA	mg/L	<0.01	<0.01	0.01
Nitrogen, total soluble	iNP1WDFIA	mg/L	1.1	2.4	3.3
Nitrogen, total	iNP1WTFIA	mg/L	1.2	5.6	3.3
Phosphorus, total	iPP1WTFIA	mg/L	<0.01	0.34	0.03
Phosphorus, total soluble	iPP1WDFIA	mg/L	<0.01	<0.01	0.02
Potassium	iMET1WCICP	mg/L	312	147	71.3
					65.0

LAB ID			001	002	003	004
Client ID			JCS 001	JCS 002	JCS 003	JCS 004
Sampled			12/09/2011	12/09/2011	13/09/2011	13/09/2011
Analyte	Method	Unit				
Sodium	iMET1WCICP	mg/L	7810	3450	1910	1740
Sulphate	iCO1WCDA	mg/L	4000	1100	580	560
Total dissolved solids(grav)	iSOL1WDGR	mg/L	28000	12000	6800	6600
Ionic Balance	ixIONBAL5	%	5.1	-0.3	-0.3	-5.1
Chlorophyll "A"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001
Chlorophyll "B"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001
Chlorophyll "C"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001
Phaeophytin "A"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001

LAB ID			005	006	007	008
Client ID			JCS 005	JCS 006	JCS 007	JCS 008
Sampled			13/09/2011	13/09/2011	14/09/2011	14/09/2011
Analyte	Method	Unit				
Bicarbonate	iALK1WATI	mg/L	320	104	1000	85
Calcium	iMET1WCICP	mg/L	1630	1250	160	1870
Carbonate	iALK1WATI	mg/L	<1	27	<1	18
Chloride	iCO1WCDA	mg/L	16400	40900	2540	52600
Colour, TCU	iCOL1WACO	TCU	180	5	280	6
Electrical Conductivity	IEC1WZSE	mS/m	4790	9350	889	11800
Magnesium	iMET1WCICP	mg/L	851	1850	172	2770
Nitrogen, nitrate + nitrite	iNTAN1WFIA	mg/L	0.02	0.01	0.03	<0.01
Nitrogen, total soluble	iNP1WDFIA	mg/L	3.2	1.3	1.0	3.2
Nitrogen, total	iNP1WTFIA	mg/L	4.2	1.3	2.2	4.6
Phosphorus, total	iPP1WTFIA	mg/L	<0.01	<0.01	0.61	0.01
Phosphorus, total soluble	iPP1WDFIA	mg/L	<0.01	<0.01	0.33	<0.01
Potassium	iMET1WCICP	mg/L	350	847	156	1570
Sodium	iMET1WCICP	mg/L	9150	21100	1330	27000
Sulphate	iCO1WCDA	mg/L	3300	5400	120	7000
Total dissolved solids(grav)	iSOL1WDGR	mg/L	34000	71000	4800	97000
Ionic Balance	ixIONBAL5	%	2.0	-4.7	-3.9	-3.1
Chlorophyll "A"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001
Chlorophyll "B"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001
Chlorophyll "C"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001
Phaeophytin "A"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001

LAB ID			009	010	011	012
Client ID			JCS 009	JCS 010	JCS 011	JCS 012
Sampled			14/09/2011	15/09/2011	16/09/2011	16/09/2011
Analyte	Method	Unit				
Bicarbonate	iALK1WATI	mg/L	49	70	204	46
Calcium	iMET1WCICP	mg/L	1150	14.7	215	647
Carbonate	iALK1WATI	mg/L	30	<1	27	21
Chloride	iCO1WCDA	mg/L	29600	382	4010	12400
Colour, TCU	iCOL1WACO	TCU	9	120	100	22
Electrical Conductivity	IEC1WZSE	mS/m	7230	128	1350	3820
Magnesium	iMET1WCICP	mg/L	2070	22.3	327	909
Nitrogen, nitrate + nitrite	iNTAN1WFIA	mg/L	0.01	0.01	0.01	0.01

LAB ID			017	018	019	020
Client ID			JCS 017	JCS 018	JCS 019	JCS 020
Sampled			20/09/2011	21/09/2011	21/09/2011	22/09/2011
Analyte	Method	Unit				
Chloride	iCO1WCDA	mg/L	38700	1070	1140	12700
Colour, TCU	iCOL1WACO	TCU	4	26	11	190
Electrical Conductivity	IEC1WZSE	mS/m	8730	390	426	3830
Magnesium	iMET1WCICP	mg/L	2040	56.7	65.0	930
Nitrogen, nitrate + nitrite	iNTAN1WFIA	mg/L	<0.01	0.24	0.17	0.02
Nitrogen, total soluble	iNP1WDFIA	mg/L	1.6	0.54	0.29	4.0
Nitrogen, total	iNP1WTFIA	mg/L	1.9	0.54	0.37	4.6
Phosphorus, total	iPP1WTFIA	mg/L	<0.01	0.01	<0.01	<0.01
Phosphorus, total soluble	iPP1WDFIA	mg/L	<0.01	<0.01	<0.01	<0.01
Potassium	iMET1WCICP	mg/L	969	26.2	22.1	289
Sodium	iMET1WCICP	mg/L	18900	628	656	6590
Sulphate	iCO1WCDA	mg/L	6200	73	100	2300
Total dissolved solids(grav)	iSOL1WDGR	mg/L	66000	2000	2300	27000
Ionic Balance	ixIONBAL5	%	-6.1	2.6	2.6	-1.3
Chlorophyll "A"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001
Chlorophyll "B"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001
Chlorophyll "C"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001
Phaeophytin "A"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001

LAB ID			021	022	023
Client ID			JCS 021	JCS 022	JCS 023
Sampled			22/09/2011	22/09/2011	23/09/2011
Analyte	Method	Unit			
Bicarbonate	iALK1WATI	mg/L	156	351	305
Calcium	iMET1WCICP	mg/L	57.4	99.4	29.0
Carbonate	iALK1WATI	mg/L	<1	<1	108
Chloride	iCO1WCDA	mg/L	1760	1480	3140
Colour, TCU	iCOL1WACO	TCU	190	100	27
Electrical Conductivity	IEC1WZSE	mS/m	593	544	997
Magnesium	iMET1WCICP	mg/L	116	128	298
Nitrogen, nitrate + nitrite	iNTAN1WFIA	mg/L	<0.01	<0.01	0.01
Nitrogen, total soluble	iNP1WDFIA	mg/L	0.76	1.0	1.8
Nitrogen, total	iNP1WTFIA	mg/L	1.6	1.0	2.8
Phosphorus, total	iPP1WTFIA	mg/L	0.07	0.01	0.01
Phosphorus, total soluble	iPP1WDFIA	mg/L	<0.01	<0.01	<0.01
Potassium	iMET1WCICP	mg/L	40.5	35.8	71.9
Sodium	iMET1WCICP	mg/L	965	874	1770
Sulphate	iCO1WCDA	mg/L	210	210	310
Total dissolved solids(grav)	iSOL1WDGR	mg/L	3300	3000	5700
Ionic Balance	ixIONBAL5	%	-1.1	2.3	0.4
Chlorophyll "A"	iCHLA1WACO	mg/L	0.001	<0.001	<0.001
Chlorophyll "B"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001
Chlorophyll "C"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001
Phaeophytin "A"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001

Method	Method Description
iALK1WATI	Alkalinity (as CaCO3) and constituents by acid titration (APHA 2320B).
iCHLA1WACO	Chlorophyll A, B and C by colourimetry, APHA 1020.
11E0650	This document is issued in accordance with NATA's accreditation requirements.

LAB ID			009	010	011	012
Client ID			JCS 009	JCS 010	JCS 011	JCS 012
Sampled			14/09/2011	15/09/2011	16/09/2011	16/09/2011
Analyte	Method	Unit				
Nitrogen, total soluble	iNP1WDFIA	mg/L	2.7	0.43	1.2	1.5
Nitrogen, total	iNP1WTFIA	mg/L	3.3	0.46	2.6	3.7
Phosphorus, total	iPP1WTFIA	mg/L	<0.01	0.02	0.01	0.02
Phosphorus, total soluble	iPP1WDFIA	mg/L	<0.01	<0.01	<0.01	<0.01
Potassium	iMET1WCICP	mg/L	629	6.6	122	285
Sodium	iMET1WCICP	mg/L	14700	225	2270	6730
Sulphate	iCO1WCDA	mg/L	6100	34	1000	3300
Total dissolved solids(grav)	iSOL1WDGR	mg/L	55000	660	8500	27000
Ionic Balance	ixIONBAL5	%	-4.5	-0.3	0.5	-1.5
Chlorophyll "A"	iCHLA1WACO	mg/L	<0.001	0.004	<0.001	<0.001
Chlorophyll "B"	iCHLA1WACO	mg/L	<0.001	0.001	<0.001	<0.001
Chlorophyll "C"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001
Phaeophytin "A"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001

LAB ID			013	014	015	016
Client ID			JCS 013	JCS 014	JCS 015	JCS 016
Sampled			19/09/2011	19/09/2011	19/09/2011	20/09/2011
Analyte	Method	Unit				
Bicarbonate	iALK1WATI	mg/L	110	253	271	311
Calcium	iMET1WCICP	mg/L	113	83.6	489	334
Carbonate	iALK1WATI	mg/L	30	<1	36	<1
Chloride	iCO1WCDA	mg/L	3190	349	28600	8620
Colour, TCU	iCOL1WACO	TCU	82	6	2	3
Electrical Conductivity	iEC1WZSE	mS/m	995	150	7020	2520
Magnesium	iMET1WCICP	mg/L	206	24.1	1700	565
Nitrogen, nitrate + nitrite	iNTAN1WFIA	mg/L	0.03	1.7	0.01	1.8
Nitrogen, total soluble	iNP1WDFIA	mg/L	1.4	2.0	2.9	2.3
Nitrogen, total	iNP1WTFIA	mg/L	1.7	2.0	3.1	2.3
Phosphorus, total	iPP1WTFIA	mg/L	<0.01	<0.01	<0.01	<0.01
Phosphorus, total soluble	iPP1WDFIA	mg/L	<0.01	<0.01	<0.01	<0.01
Potassium	iMET1WCICP	mg/L	65.6	7.5	704	164
Sodium	iMET1WCICP	mg/L	1680	186	14300	4800
Sulphate	iCO1WCDA	mg/L	450	39	3300	1100
Total dissolved solids(grav)	iSOL1WDGR	mg/L	5400	760	50000	16000
Ionic Balance	ixIONBAL5	%	-2.4	-1.7	-4.6	1.0
Chlorophyll "A"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001
Chlorophyll "B"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001
Chlorophyll "C"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001
Phaeophytin "A"	iCHLA1WACO	mg/L	<0.001	<0.001	<0.001	<0.001

LAB ID			017	018	019	020
Client ID			JCS 017	JCS 018	JCS 019	JCS 020
Sampled			20/09/2011	21/09/2011	21/09/2011	22/09/2011
Analyte	Method	Unit				
Bicarbonate	iALK1WATI	mg/L	140	308	354	515
Calcium	iMET1WCICP	mg/L	1370	123	156	675
Carbonate	iALK1WATI	mg/L	6	<1	<1	<1

Dept of Environment and Conservation
PO Box 51
Wanneroo WA 6065

Attention: Kirsty Quinlan

Report on: 2 samples received on 02/03/2012

<u>LAB ID</u>	<u>Material</u>	<u>Client ID and Description</u>
11E1709 / 001	water	JCS 024 Spring within Thetis Claypan
11E1709 / 002	water	JCS 025 Spring within JCS 011

LAB ID			001	002
Client ID			JCS 024	JCS 025
Sampled			27/02/2012	27/02/2012
Analyte	Method	Unit		
Bicarbonate	iALK1WATI	mg/L	296	262
Calcium	iMET1WCICP	mg/L	112	78.0
Carbonate	iALK1WATI	mg/L	<1	<1
Chloride	iCO1WCDA	mg/L	607	443
Chlorophyll "A"	iCHLA1WACO	mg/L	0.002	<0.001
Chlorophyll "B"	iCHLA1WACO	mg/L	<0.001	<0.001
Chlorophyll "C"	iCHLA1WACO	mg/L	<0.001	<0.001
Colour, TCU	iCOL1WACO	TCU	6	10
Electrical Conductivity	IEC1WZSE	mS/m	245	186
Magnesium	iMET1WCICP	mg/L	43.4	30.8
Nitrate	iNTA1WFIA	mg/L	11	0.31
Nitrogen, total soluble	iNP1WDFIA	mg/L	2.6	0.54
Nitrogen, total	iNP1WTFIA	mg/L	2.6	0.54
Phaeophytin "A"	iCHLA1WACO	mg/L	<0.001	<0.001
Phosphorus, total	iPP1WTFIA	mg/L	<0.01	<0.01
Phosphorus, total soluble	iPP1WDFIA	mg/L	<0.01	<0.01
Potassium	iMET1WCICP	mg/L	11.6	12.9
Sodium	iMET1WCICP	mg/L	364	231
Sulphate (from S)	iMET1WCICP	mg/L	79.2	66.1
Total dissolved solids(grav)	iSOL1WDGR	mg/L	1300	980

Method

Method Description

iALK1WATI	Alkalinity (as CaCO ₃) and constituents by acid titration (APHA 2320B).
iCHLA1WACO	Chlorophyll A, B, C and phaeophytin by colourimetry, APHA 1020.
iCO1WCDA	Colourimetric analysis by DA (Discrete Autoanalyser), APHA and in house methods.
iCOL1WACO	Colour by spectrometry (APHA 2120-C)
IEC1WZSE	Electrical conductivity in water compensated to 25C (APHA 2510B).
iMET1WCICP	Total dissolved metals by ICPAES (APHA 3120).
iNP1WDFIA	Total Soluble Nitrogen by persulphate digestion FIA (APHA 4500N-C,I).
iNP1WTFIA	Total Nitrogen by persulphate digestion FIA (APHA 4500N-C,I).

Method	Method Description
iNTA1WFIA	Nitrite plus Nitrate in water by FIA expressed as Nitrate (APHA 4500NO ₃ -I)
iPP1WDFIA	Total Soluble Phosphorus by persulphate digestion and FIA (APHAP-J,G).
iPP1WTFIA	Total Phosphorus by persulphate digestion and FIA (APHAP-J,G).
iSOL1WDGR	Total dissolved solids (TDS) by gravimetry (APHA 2540C).

These results apply only to the sample(s) as received. Unless arrangements are made to the contrary, these samples will be disposed of after 30 days of the issue of this report.
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Dr Michael North
Senior Chemist and Research Officer
Environmental Chemistry Section
13-Mar-2012