Public Works
Manly Hydraulics Laboratory

OEH NSW ESTUARIES SALINITY DATA COMPILATION 1992 to 2011

Report MHL1812
May 2012

prepared for
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1992 to 2011

Report No. MHL1812

NSW Public Works
Manly Hydraulics Laboratory

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Foreword

This report presents a compilation of data collected by NSW Public Works' Manly Hydraulics Laboratory (MHL) between 1992 and 2011, primarily as part of the NSW Estuary Baseline Data Program. The Program is currently managed by the Urban and Coastal Water Branch of the Office of Environment & Heritage (OEH).

A full set of the raw data collected in the field and calculations used in the preparation of this report are retained at Manly Hydraulics Laboratory and may be viewed upon application to the Environmental Data Services Manager.

This report was prepared by David Allsop and Roman Kadluczka. The report was overseen by Martin Fitzhenry and Bruce Coates from OEH.

Introduction

The water quality data compiled in this report was collected between 1992 and 2011 by Manly Hydraulics Laboratory, primarily as part of the NSW Office of Environment & Heritage Estuary Baseline Data Program. The data was collected for a variety of reasons including:

- as part of a state-wide estuary tidal data collection exercise
- to provide input to estuary process studies and estuary management plans
- to provide data for environmental flow investigations and water sharing plans
- to provide a useful baseline data set to examine the potential impacts of climate change and associated sea level rise, and
- to provide information about the characteristics of various estuary types in NSW.

The data has been collected with a variety of instrumentation. Originally a YeoKal 606 SDL was used, but since 1995 profiling has been done mainly using SeaBird SBE19-03 and SeaBird SBE25-03 instruments. The SeaBird is a sophisticated instrument that can be set up to measure density, conductivity, salinity, temperature, pH, dissolved oxygen, backscatterance, chlorophyll-a and PAR.

The longitudinal profile data was obtained by travelling along the estuary in an upstream direction, stopping at regular intervals to slowly lower the instrument over the side of the boat. The instrument measures a range of water quality parameters as it descends to the river bed. These runs along the estuary were typically done to coincide with high water slack and low water slack. However, for practical reasons this was not always achievable.

The data collection in the summer of 2002-03 was undertaken because the NSW coast was experiencing drought conditions due to a weak to moderate El Nino event. The major 2002-03 drought had rainfall deficiencies that ranked in severity and aerial extent with the extreme droughts of 1902 and 1982-83. Practically all parts of Australia were affected and in southern areas this exacerbated the effects of several preceding years of dry conditions (see Figure A). The extreme dryness coincided with exceptionally warm conditions: maximum temperatures averaged across Australia established new records in each of the autumn, winter and spring seasons by a wide margin for the post-1950 era. This period of exceptionally dry conditions and low freshwater flows provided an ideal dataset to determine the most extreme penetration of ocean water into the major estuaries where sampling was undertaken.

Other data collection exercises have taken place at times of varying freshwater inflow, although monitoring was usually done at a time when inflow was as close as practical to base flow conditions. Details of freshwater inflow and rainfall preceding each data collection have not been included in this report. This information should be available in the separate reports prepared for individual data collection exercises. Where these reports have been produced they are referred to in the relevant section and listed in the References at the end of this report. For some of the smaller estuaries no freshwater flow data was available for the sampling exercise, with only rainfall data available from adjacent catchments.

Throughout the report the chainage referred to in the summary of profile locations tables is the distance upstream from the ocean in kilometres. In the figures showing long channel depth-averaged salinity the chainage shown is the distance upstream from a specific local reference point. Included in each figure is the distance from the ocean to this local reference point.

During periods of extended dry weather, when freshwater flows are minimal, the salinity limit reaches its furthest upstream point in an estuary. During periods of wet weather the salinity is pushed further downstream towards the ocean, while under full flood flows, the salt may be completely washed out of an estuary. In the post-flood recovery period the salt gradually works its way back up the estuary.

Estuaries along the NSW coastline exhibit a great diversity in shape, size, depth and length. However, a ubiquitous characteristic is the presence of a variable salinity and salinity gradients. The dynamic nature of variations in vertical and horizontal salinity structures are defining features of an estuary.

The salinity structure of an estuary reflects the relative inputs of fresh water from the catchment and marine waters through the entrance. Freshwater inputs tend to be episodic while entrance conditions (intermittent closures) and relative sea levels influence the exchange of marine waters and the penetration of tidal currents.

The differing salinity regimes in NSW estuaries (see Figure B) are described in the NSW Government 1992 Estuary Management Manual as follows:

a) Well mixed conditions where the salinity distribution is almost uniform with depth.

b) Partially mixed conditions where salinity varies continuously through the water column with no evidence of a marked interface between the upper and lower layers. The salinity can vary over the depth by as little as 1 psu and as much as 10 psu.

c) Stratified conditions where there can be an abrupt increase in salinity over the water depth. In the absence of significant tidal velocities, vertical mixing in an estuary is weak. This allows the saltwater to move into the estuary as an arrested salt wedge, which can penetrate a long distance into a deep estuary. The freshwater overlying the wedge tends to entrain saltwater as it moves seaward, thereby becoming more brackish as it approaches the estuary mouth.

Salinity measurements are a valuable indicator of the dynamic nature of biophysical processes operating in an estuary. The salinity in an estuary can indicate the level of freshwater inflows and mixing processes with marine water. It can also be used as a conservative tracer to model the movements of other substances such as nutrients and contaminants.

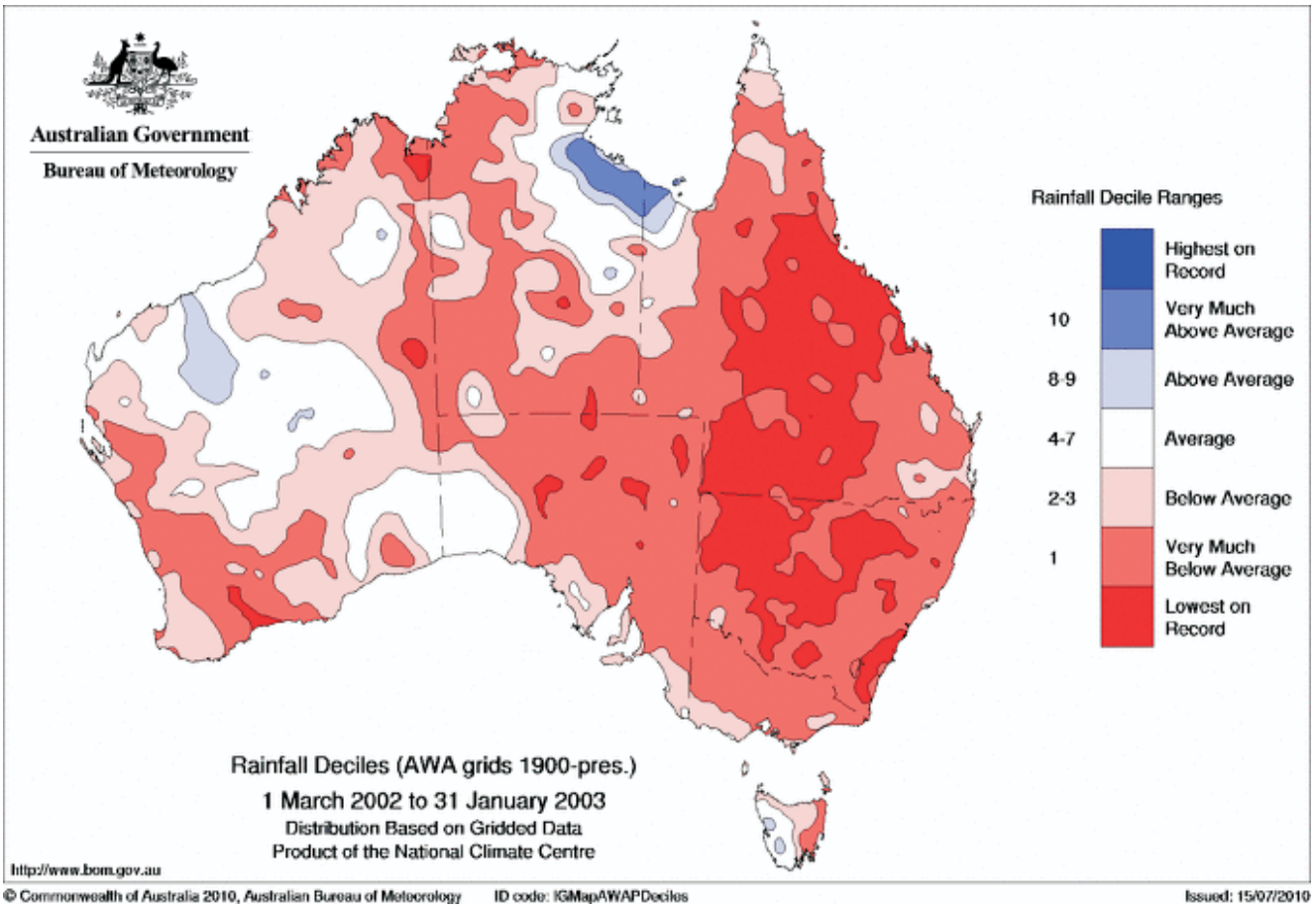
The circulation and mixing processes in an estuary can be strongly influenced by variations in water density associated with salinity, which may inhibit vertical mixing and lead to stratification which has important implications for dissolved oxygen concentrations and geo-chemical processes.

Salinity is also an important parameter for ecological processes, with the longitudinal salinity gradient determining the location of suitable habitats and life cycles for estuarine plants and animals.

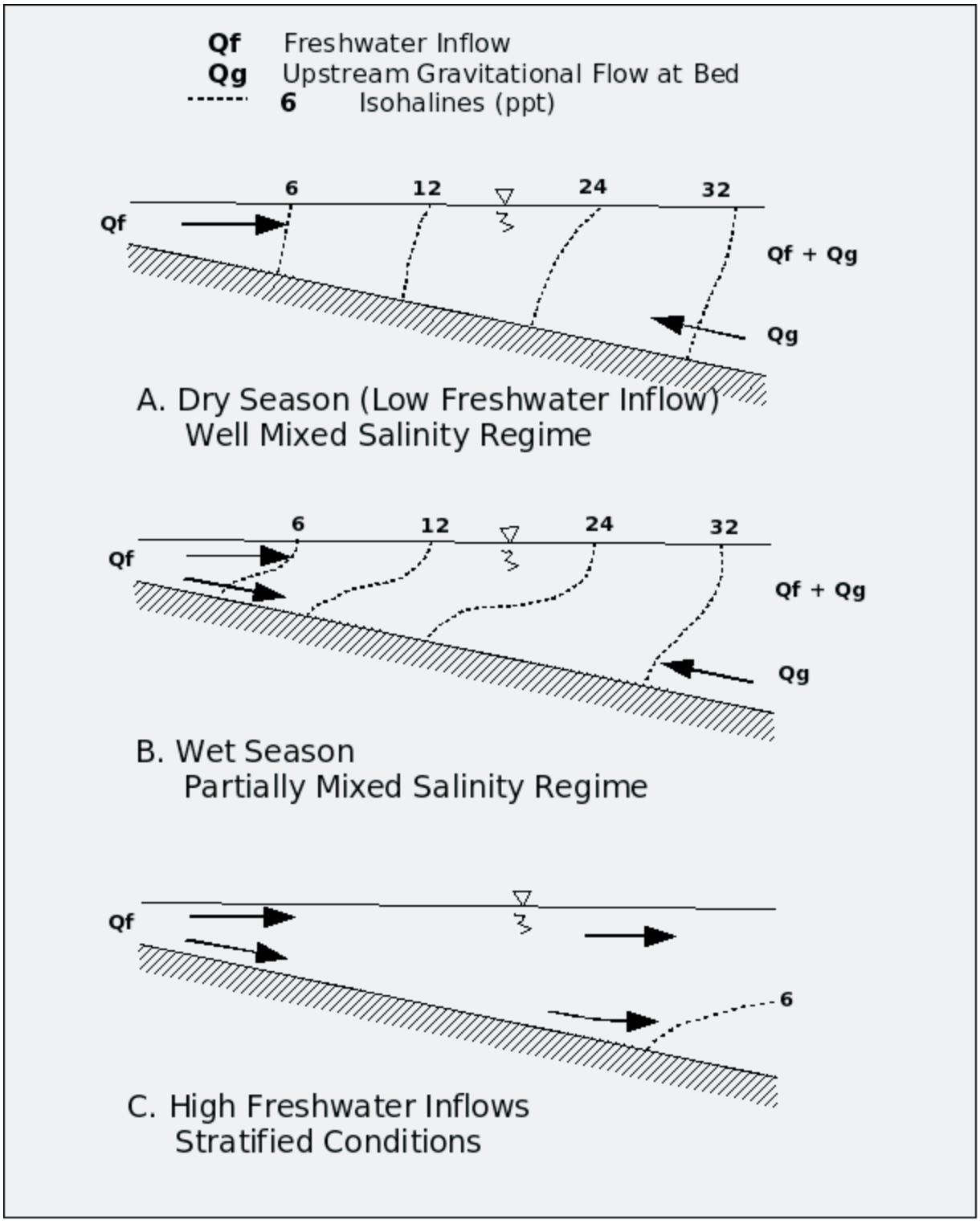
Salinity tends to be defined in practical salinity units (psu) as the conductivity ratio of a seawater sample compared to a standard KCl solution (UNESCO 1981). The UNESCO seawater formula is commonly used to convert a seawater sample to psu and is based on temperature, conductivity and depth. Some of the earlier salinity data is shown as parts per thousand (ppt) which for all practical purposes is equivalent to psu.

The majority of data in this report is longitudinal event-type data collected by measuring profiles along each particular estuary. Other continuous in situ water quality data may be available for some estuaries and the data is summarised in the DECCW Tidal Data Compilation report (MHL 2010). There is also estuary salinity data presented in the NSW Office of Water, Water Sharing Plans summary report (MHL 2011).

All the easting and northing map co-ordinates referred to in this report are in MGA.



NSW GOVERNMENT Public Works Manly Hydraulics Laboratory	RAINFALL DECILES 1 MARCH 2002 TO 31 JANUARY 2003	MHL Report 1812 Figure A DRAWING 1812-A.CDR



Source: http://test.dnr.nsw.gov.au/estuaries/factsheets/physical/figures/b22.shtml

Table A Estuary Listing - North to South

Estuary	Page	Figure
Tweed River	1	1
Cudgen Creek and Lake	3	4
Brunswick River	6	6
Lake Ainsworth	15	13
Richmond River	21	14
Evans River	47	39
Clarence River	49	41
Sandon River	60	52
Wooli Wooli River	62	55
Corindi River	64	57
Arrawarra Creek	66	59
Darkum Creek	68	62
Woolgoolga Lake	70	64
Hearns Lake	72	66
Moonee Creek	74	68
Boambee Creek	76	70
Bonville Creek	78	73
Bellinger/Kalang River	80	76
Deep Creek	92	89
Nambucca River	95	92
Macleay River	103	100
Saltwater Creek	112	110
Korogoro Creek	114	112
Killick Creek	116	114
Hastings River	118	115
Camden Haven River	128	125
Manning River	131	129
Wallis Lake	146	145
Smiths Lake	153	154
Myall River and Lake	158	155
Port Stephens	166	162
Hunter River	170	165
Swansea Channel and Lake Macquarie	177	171
Brisbane Water	184	173
Hawkesbury River	191	179
Berowra Creek	203	191
Port Jackson	219	206
Hewitts Creek	225	209
Towradgi Creek	227	210
Fairy Creek	229	212
Lake Illawarra	231	214
Elliot Lake	237	216
Minnamurra River	239	218
Werri Lagoon	241	220
Shoalhaven/Crookhaven River	243	222
Conjola Lake	255	234
Narrawallee Creek	259	238
Burrill Lake	261	240
Willinga Lake	263	243
Durras Lake	265	245
Clyde River	267	247
Tomaga River	272	251
Moruya River	274	253
Coila Lake	279	258
Tuross River and Lake	281	259

(continued)

Table A Estuary Listing - North to South (continued)

Estuary	Page	Figure
Kianga Lake	286	263
Wagonga Inlet	288	265
Nangudga Lake	290	266
Wallaga Lake	292	268
Bermagui River	296	270
Middle Lagoon	298	272
Bega River	300	274
Back Lagoon	306	283
Merimbula Lake	308	285
Pambula Lake	311	287
Curalo Lagoon	313	289
Wonboyn River	315	290

Table B River and Creek Listing - Alphabetical

Estuary	Page	Figure
Andersons Inlet (Macleay River)	106	102
Arrawarra Creek	66	59
Back Lagoon	306	283
Bega River	300	274
Bellinger River	80	76
Belmore River (Macleay River)	106	103
Bermagui River	296	270
Berowra Creek	203	191
Boambee Creek	76	70
Bonville Creek	78	73
Brisbane Water	184	173
Broughton Creek (Shoalhaven River)	250	230
Brunswick River	6	6
Burrill Lake	261	240
Camden Haven River	128	125
Caswell Channel (Hastings River)	120	118
Cattai Creek (Manning River)	131	130
Clarence River	49	41
Clyde River	267	247
Cockle Channel (Brisbane Water)	184	173
Coila Lake	279	258
Coldstream River (Clarence River)	51	42
Conjola Lake	255	234
Connection Creek (Hastings River)	118	115
Coolongolook River (Wallis Lake)	147	148
Cordwells Creek (Boambee Creek)	76	70
Corindi River	64	57
Crookhaven River/Creek	243	230
Cudgen Creek and Lake	3	4
Curalo Lagoon	313	289
Darkum Creek	68	62
Deep Creek	92	89
Durras Lake	265	245
Fairy Creek	229	212
Elliot Lake	237	216
Erina Creek (Brisbane Water)	185	173
Esk River (Clarence River)	49	43
Evans River	47	39
Hastings River	118	115
Hawkesbury River	191	179
Hearns Lake	72	66
Hewitts Creek	225	209
Hunter River	170	165
Kalang River	80	76
Kianga Lake	286	263
Killick Creek	116	114
Kinchela Creek (Macleay River)	106	103
Korogoro Creek	114	112
Lake Ainsworth	15	13
Lake Illawarra	231	214
Lake Macquarie	177	171
Lansdowne River (Manning River)	132	130
Limeburners Creek (Hastings River)	121	117
Macleay River	103	100
Macleay Arm	105	102

(continued)

Table B River and Creek Listing - Alphabetical (continued)

Estuary	Page	Figure
Malabar Creek (Moruya River)	274	253
Manning River	131	129
Maria River (Hastings River)	118	115
Marshalls Creek (Brunswick River)	10	10
Merimbula Lake	308	285
Middle Lagoon	298	272
Minnamurra River	239	218
Moonee Creek	74	68
Mooney Mooney Creek (Hawkesbury River)	199	187
Moruya River	274	253
Mullet Creek (Hawkesbury River)	199	187
Munns Channel (Hastings River)	120	118
Myall River and Lake	158	155
Nambucca River	95	92
Nangudga Lake	290	266
Narara Creek (Brisbane Water)	185	173
Narrawallee Creek	259	238
Newports Creek (Boambee Creek)	76	70
Pambula Lake	311	287
Paterson River (Hunter River)	171	165
Pine Creek	78	73
Port Jackson	219	206
Port Stephens	166	162
Richmond River	21	14
Rous River	1	1
Saltwater Creek (Corindi River)	65	57
Saltwater Creek (South West Rocks)	112	110
Sandbrook Inlet (Hawkesbury River)	199	187
Sandon River	60	52
Scotts Creek (Manning River)	131	130
Shoalhaven River	243	222
Simpsons Creek (Brunswick River)	11	10
Smiths Lake	153	154
Swansea Channel	177	171
Taylors Arm (Nambucca River)	95	92
Tomaga River	272	251
Towradgi Creek	227	210
Tuross River and Lake	281	259
Tweed River	1	1
Wagonga Inlet	288	265
Wallaga Lake	292	268
Wallamba River (Wallis Lake)	147	145
Wallingat River (Wallis Lake)	147	148
Wallis Lake	146	145
Wang Wauk River (Wallis Lake)	147	147
Warrell Creek (Nambucca River)	96	93
Werri Lagoon	241	220
Williams River (Hunter River)	171	165
Willinga Lake	263	243
Wilsons River (Hastings River)	121	118
Wilsons River (Richmond River)	21	14
Wonboyn River	315	290
Woolgoolga Lake	70	64
Wooloweyah Lagoon (Clarence River)	50	43
Wooli Wooli River	62	55
Woy Woy Bay (Brisbane Water)	185	173

Tweed River Data Summary

Data was collected in the Tweed River estuary on 8 December 2002. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 1 and 2. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 3a-b and 4a-b. The locations at which these profiles were taken are shown in Figure 1. Long channel depth-averaged salinity profiles are shown in Figures 2 and 3.

Table 1 Tweed River - 8 December 2002

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	539215	6866395	29.71	21.98	21.55
2	539045	6865187	30.96	21.71	-
3	538514	6864552	32.26	21.20	21.15
4	537560	6863690	33.56	20.80	-
5	536765	6864520	34.99	20.38	20.39
6	536761	6864594	35.04	0.09	-

Note High water profiles terminated at Station 6 on upstream side of weir
Low water profiles terminated at Station 5 due to shoals

Table 2 Rous River - 8 December 2002

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	539010	6870128	29.11	20.13	15.74
2	538131	6869687	30.79	17.41	-
3	536780	6866905	34.94	10.61	9.25
4	535157	6865996	37.49	-	7.06
5	535089	6865902	37.61	8.19	-
6	534007	6866990	39.51	6.16	-

Note High water profiles terminated at Station 6 due to low level temporary bridge
Low water profiles terminated at Station 4 due to shoals

Table 3a Tweed River - Water Quality Maxima and Minima - High Water - 8 December 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	*.POF
1	1413	7.3	1012.5	1012.8	1012.7	27.72	28.11	27.83	21.80	22.12	21.98	105.36	129.72	113.05	7.24	7.38	7.30	7.33	11.23	8.60	TWH01
2	1419	4.0	1012.4	1012.5	1012.4	28.03	28.13	28.09	21.65	21.73	21.71	108.97	122.24	112.68	7.37	7.39	7.39	6.84	7.33	7.12	TWH02
3	1425	11.5	1011.8	1012.3	1012.2	27.52	28.46	27.63	21.05	21.22	21.20	94.25	118.02	102.44	7.34	7.51	7.38	5.86	15.63	7.61	TWH03
4	1435	3.2	1011.6	1011.9	1011.8	27.38	28.08	27.73	20.64	20.87	20.80	102.91	119.40	109.20	7.38	7.53	7.50	6.35	11.72	7.26	TWH04
5	1443	2.2	1011.2	1011.7	1011.5	27.47	28.14	27.80	20.15	20.48	20.38	100.03	114.59	104.65	7.39	7.49	7.46	8.30	10.74	8.85	TWH05
6	1448	0.4	996.2	996.2	996.2	28.26	28.26	28.26	0.09	0.09	0.09	108.51	110.38	109.41	8.66	8.80	8.76	5.86	6.35	6.23	TWH06

Note Profiles terminated at Station 6 due to weir

Table 3b Tweed River - Water Quality Maxima and Minima - Low Water - 8 December 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	*.POF
1	2126	3.9	1012.4	1012.4	1012.4	27.64	27.67	27.66	21.55	21.56	21.55	106.23	110.86	108.56	7.34	7.37	7.36	6.35	7.33	6.60	TWL01
3	2139	11.0	1012.1	1012.3	1012.2	27.24	27.56	27.49	21.03	21.21	21.15	93.81	133.22	113.02	7.29	7.51	7.39	6.35	9.77	7.17	TWL02
5	2158	1.5	1011.6	1011.8	1011.7	27.04	27.27	27.13	20.28	20.51	20.39	116.86	121.04	117.78	7.22	7.34	7.32	8.79	10.26	9.60	TWL03

Note Profiles terminated at Station 5 due to shoals

Table 4a Rous River - Water Quality Maxima and Minima - High Water - 8 December 2002

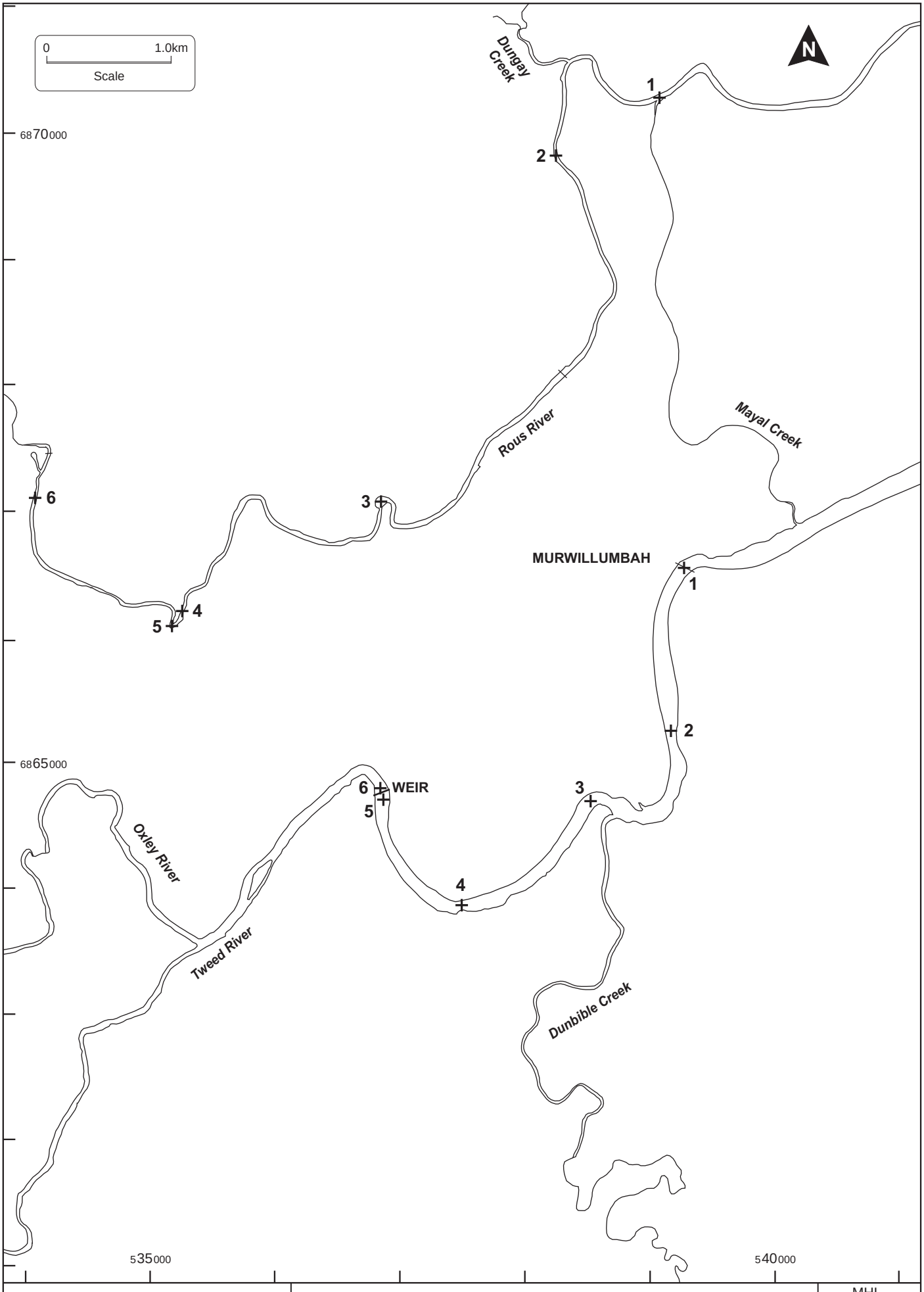
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	*.POF
1	1524	2.5	1011.4	1011.6	1011.5	27.25	27.29	27.26	19.99	20.25	20.13	90.32	96.25	92.22	7.04	7.05	7.05	9.77	12.21	10.68	TWH07
2	1535	4.5	1009.5	1009.5	1009.5	27.09	27.11	27.10	17.40	17.43	17.41	90.85	97.17	93.17	6.90	6.91	6.91	12.21	14.65	13.21	TWH08
3	1546	3.2	1004.4	1004.4	1004.4	27.15	27.19	27.16	10.57	10.63	10.61	110.47	114.25	111.35	6.71	6.71	6.71	13.19	14.65	13.62	TWH09
5	1555	4.1	1002.5	1002.5	1002.5	27.54	27.56	27.54	8.18	8.20	8.19	123.52	129.36	125.75	6.45	6.46	6.45	17.58	20.02	18.58	TWH10
6	1605	1.3	1001.2	1001.2	1001.2	26.80	26.81	26.80	6.16	6.16	6.16	120.75	124.28	121.92	6.05	6.06	6.06	14.16	16.61	14.81	TWH11

Note Profiles terminated at Station 6 due to low level temporary bridge

Table 4b Rous River - Water Quality Maxima and Minima - Low Water - 8 December 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	*.POF
1	2251	1.9	1008.2	1008.5	1008.4	26.43	26.74	26.59	15.40	15.97	15.74	106.39	110.51	108.66	6.83	6.84	6.83	10.26	12.70	11.19	TWL04
3	2316	2.1	1003.5	1003.5	1003.5	26.73	26.82	26.75	9.23	9.29	9.25	118.99	128.86	122.83	6.43	6.45	6.44	16.12	35.65	17.15	TWL05
4	2336	1.7	1002.1	1002.1	1002.1	25.98	26.00	26.00	7.05	7.08	7.06	113.11	116.69	114.46	5.98	5.98	5.98	19.54	21.00	20.17	TWL06

Note Profiles terminated at Station 4 due to shoals



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TWEED RIVER

8 DECEMBER 2002

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Figure 1

DRAWING 1812-001.CDR

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES

TWEED RIVER - 8 DECEMBER 2002

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Figure 2

DRAWING 1812-002.CDR

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES

ROUS RIVER - 8 DECEMBER 2002

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Figure 3

DRAWING 1812-003.CDR

Cudgen Creek/Lake Data Summary

Data was collected in Cudgen Creek/Lake on 14 October 1993, as detailed in report MHL672. A summary of the location of each profile and the corresponding minimum and maximum salinity is shown below in Table 5. Summaries of the minimum and maximum values for all parameters measured on the high and low water runs are shown in Tables 6a-b. The locations at which these profiles were taken are shown in Figure 4. Long channel depth-averaged salinity profiles are shown in Figure 5.

Table 5 Cudgen Creek/Lake - High and Low Water - 14 October 1993

Station No.	MGA (m) Zone 56		Chainage (km)	High Water		Low Water	
	Easting	Northing		Min Salinity (ppt)	Max Salinity (ppt)	Min Salinity (ppt)	Max Salinity (ppt)
1	557290	6874125	0.10	35.0	35.5	34.2	34.2
2	557090	6873510	0.80	35.4	35.5	34.2	34.2
3	556890	6873210	1.26	35.2	35.5	35.2	35.4
4	556285	6872855	2.06	34.8	35.0	29.9	35.1
5	556175	6872010	3.00	34.4	34.7	30.0	32.3
6	556110	6871145	3.95	33.1	33.8	29.5	29.5
7	555565	6870920	4.54	-	-	27.9	28.1
8	555525	6870450	5.24	32.6	33.1	25.4	25.6
9	555525	6870450	5.24	31.1	32.2	-	-
10	555545	6870245	5.41	-	-	25.6	25.6
11	555695	6869575	6.60	30.2	30.4	-	-
12	555495	6869745	6.81	-	-	23.7	23.7
13	555525	6869470	7.06	-	-	7.8	8.5
14	555605	6868745	8.17	25.0	25.5	7.8	7.9
15	555605	6868745	8.17	27.6	28.1	-	-
16	555605	6868745	8.17	25.8	25.8	-	-
17	555495	6868225	8.73	-	-	6.0	6.0
18	555340	6867610	9.47	24.2	24.3	4.4	4.8
19	555065	6867600	9.75	20.7	21.6	7.5	13.6
20	554940	6867310	9.97	2.6	2.7	2.6	2.7
21	554530	6866815	10.60	2.4	2.4	2.4	2.4
22	554530	6867470	10.27	3.0	8.6	2.9	9.6
23	554205	6866815	10.83	2.2	2.3	2.2	2.3
24	553880	6866885	11.11	2.3	2.3	-	-
25	554570	6866605	10.72	2.1	2.3	2.3	2.3

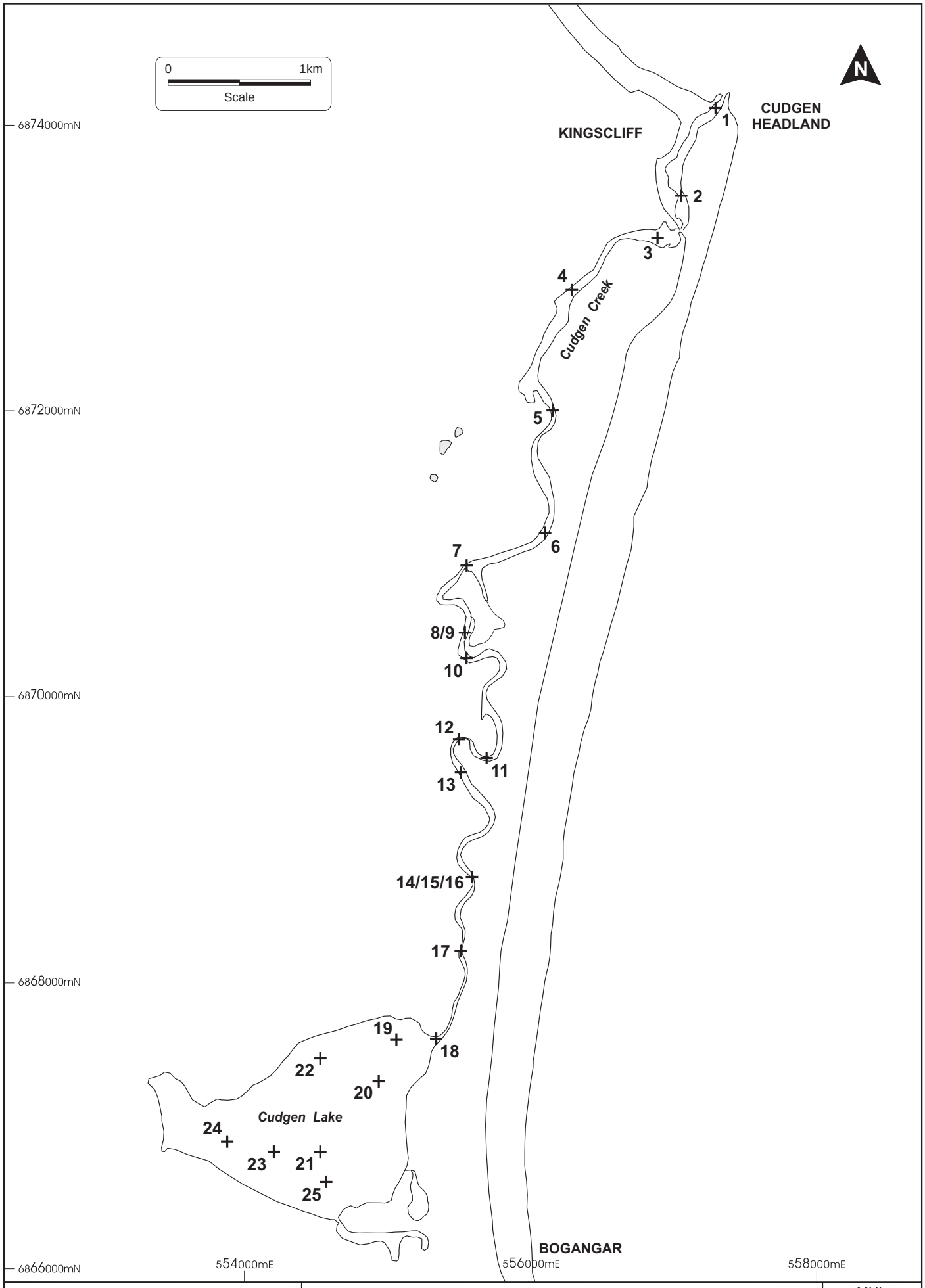
Note Station locations transferred from report figure to aerial photo in Department of Lands database
Profiles were not done at all stations on each run

Table 6a Cudgen Creek/Lake - Water Quality Maxima and Minima - High Water - 14 October 1993

Station No.	Time (EST)	Temperature (°C)		Salinity (ppt)		Dissolved O_2 (mg/L)	
		Min	Max	Min	Max	Min	Max
1	0717	20.4	20.4	35.0	35.5	6.4	6.4
2	0726	20.3	20.5	35.4	35.5	6.4	6.5
3	0733	20.2	20.3	35.2	35.5	6.2	6.4
4	0744	19.9	20.0	34.8	35.0	6.0	6.2
5	0755	19.9	19.9	34.4	34.7	6.0	6.2
6	0805	19.6	19.7	33.1	33.8	6.1	6.5
7	0815	19.7	19.7	32.6	33.1	6.1	6.5
8	0824	19.7	19.8	31.1	32.2	6.0	6.5
9	0832	19.8	19.8	30.2	30.4	5.8	6.5
10	0850	20.1	20.1	25.0	25.5	6.2	6.8
11	1025	20.2	20.3	27.6	28.1	6.3	6.7
12	1033	20.4	20.5	25.8	25.8	6.2	6.7
13	1044	20.5	20.5	24.2	24.3	5.9	6.0
14	1055	21.4	21.5	20.7	21.6	6.3	6.4
15	1117	20.4	21.0	2.6	2.7	7.3	7.9
16	1128	20.5	20.5	2.4	2.4	7.6	7.7
17	1133	20.6	23.7	3.0	8.6	5.5	6.9
18	1145	21.1	21.1	2.2	2.3	7.3	7.7
19	1155	21.2	21.3	2.3	2.3	7.5	7.6
20	1212	20.1	21.0	2.1	2.3	7.1	8.0

Table 6b Cudgen Creek/Lake - Water Quality Maxima and Minima - Low Water - 14 October 1993

Station No.	Time (EST)	Temperature (°C)		Salinity (ppt)		Dissolved O_2 (mg/L)	
		Min	Max	Min	Max	Min	Max
1	1427	21.6	21.7	34.2	34.2	6.3	6.4
2	1432	21.4	21.4	34.2	34.2	6.2	6.3
3	1440	20.3	20.3	35.2	35.4	6.2	6.3
4	1454	20.1	22.2	29.9	35.1	5.9	6.3
5	1512	21.2	22.7	30.0	32.3	6.2	6.5
6	1528	22.4	22.4	29.5	29.5	6.5	6.6
7	1539	22.2	22.2	27.9	28.1	6.3	6.6
8	1604	22.1	22.1	25.4	25.6	6.2	6.7
9	1614	21.9	21.9	25.6	25.6	6.2	6.7
10	1627	22.3	22.3	23.7	23.7	6.1	6.7
11	1638	21.8	21.8	7.8	8.5	4.3	7.1
12	1706	23.5	23.5	7.8	7.9	7.0	7.3
13	1716	23.2	23.2	6.0	6.0	7.4	7.6
14	1730	22.2	22.3	4.4	4.8	7.4	7.7
15	1742	23.8	24.7	7.5	13.6	6.9	7.2
16	1754	21.9	25.7	2.9	9.6	6.4	7.1
17	1800	23.2	23.3	2.2	2.3	7.5	7.7
18	1807	22.5	22.5	2.4	2.4	7.6	7.8
19	1813	21.0	22.4	2.6	2.7	7.5	8.0
20	1821	20.4	22.3	2.3	2.3	7.8	8.1



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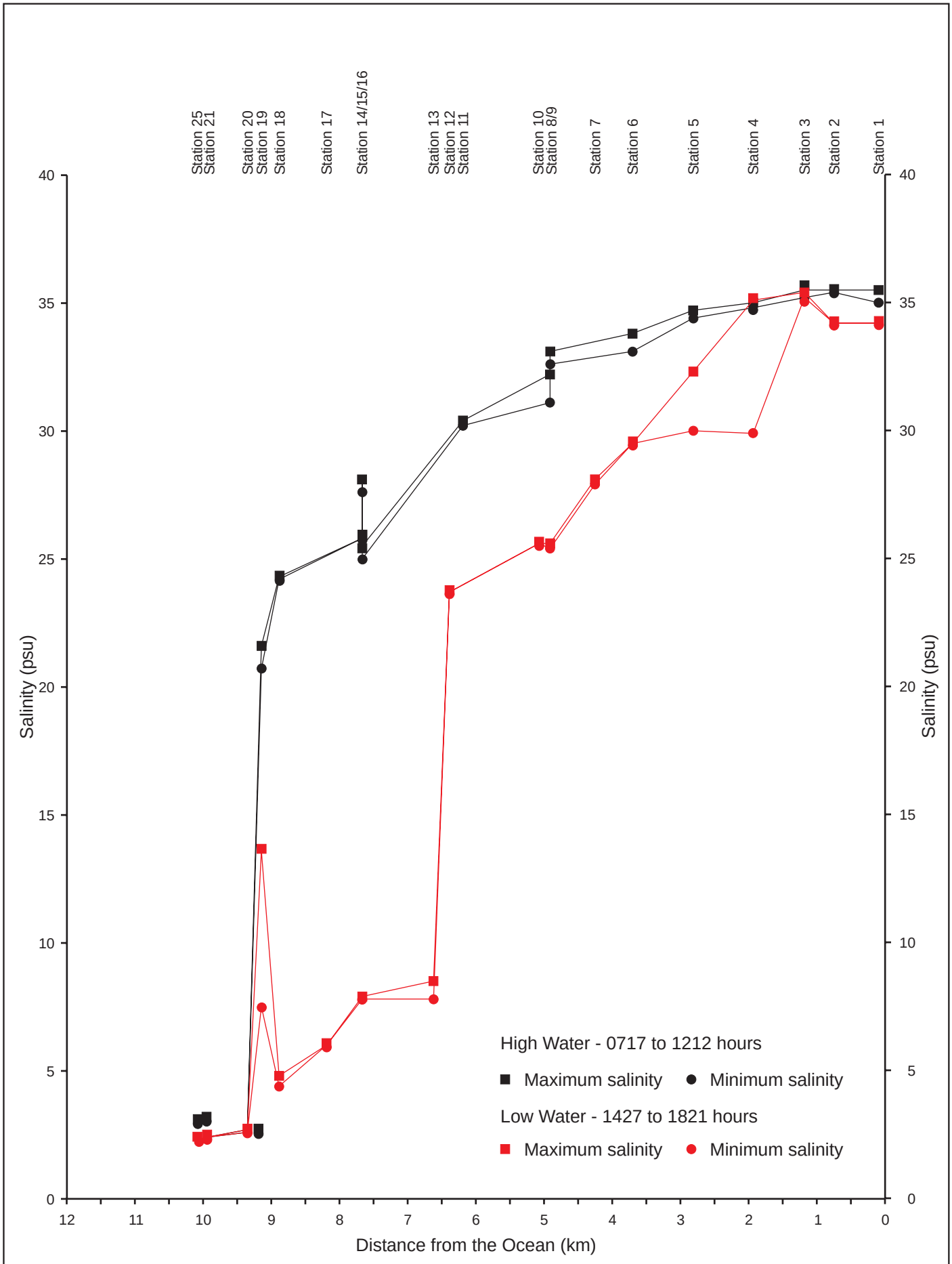
CUDGEN CREEK/LAKE

14 OCTOBER 1993

MHL Report 1812

Figure 4

DRAWING 1812-004.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
CUDGEN CREEK/LAKE - HIGH AND LOW WATER
14 OCTOBER 1993

MHL Report 1812

Figure 5

DRAWING 1812-005.CDR

Brunswick River Data Summary

Data was collected in the Brunswick River on three occasions: 26 July 1994, 11 October 1994 and 30 August to 1 September 2008.

Data was collected in the Brunswick River estuary on 26 July 1994, as detailed in report MHL711. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 7. Summaries of the minimum and maximum values for all parameters measured on the high and low water runs are shown in Tables 8a-b. The locations at which these profiles were taken are shown in Figure 6. Long channel depth-averaged salinity profiles are shown in Figure 7.

Table 7 Brunswick River - 26 July 1994

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water		High Water	
	Easting	Northing		Min Salinity (psu)	Max Salinity (psu)	Min Salinity (psu)	Max Salinity (psu)
1	554570	6843080	0.00	27.6	27.8	34.8	35.0
2	554025	6843235	0.57	25.8	26.0	34.7	34.9
3	552680	6843830	2.06	24.4	25.4	34.3	34.8
4	551665	6843625	3.11	24.4	25.3	30.0	33.9
5	551455	6843620	3.35	18.5	20.7	26.0	28.6
6	551585	6842895	4.11	16.3	29.4	23.1	25.5
7	551750	6841525	5.79	7.5	25.3	17.9	22.3
8	550990	6841465	6.75	9.7	20.7	15.4	19.6
9	550575	6841915	7.94	7.7	11.1	13.3	16.0
10	549820	6841755	8.95	-	-	8.0	10.3
11	549355	6842390	9.81	-	-	7.6	7.7
12	549045	6842090	11.10	-	-	3.1	4.5

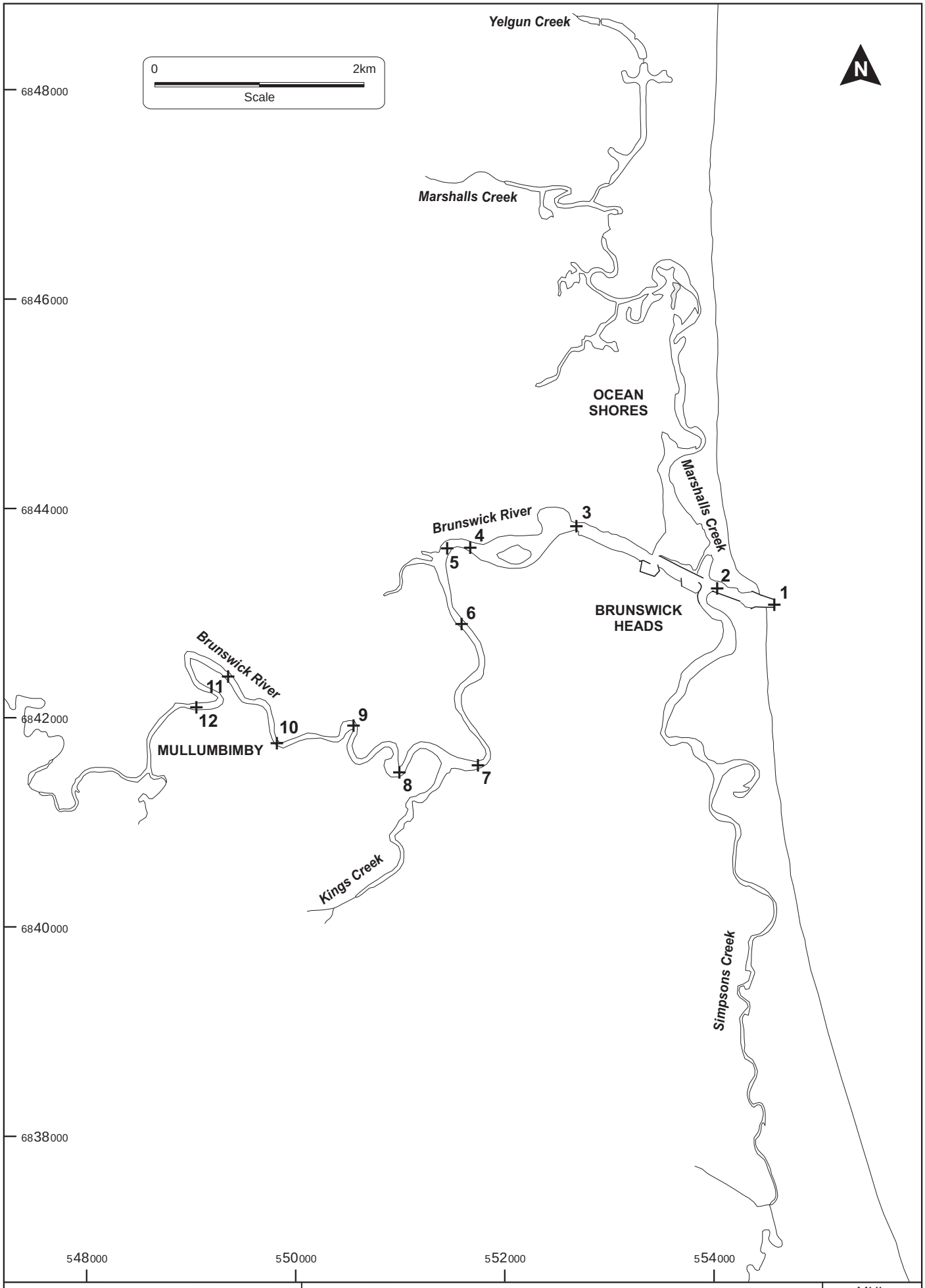
Note Station locations transferred from report figure to aerial photo in Department of Lands database
Profiling stopped at Station 9 on low water run due to shoals

Table 8a Brunswick River - Water Quality Maxima and Minima - Low Water - 26 July 1994

Profile (#)	Depth (m)	Time (EST)	Temperature (°C)		Salinity (psu)		Dissolved O_2 (mg/L)		pH (0-14)	
			Min	Max	Min	Max	Min	Max	Min	Max
1	3.6	0629	16.5	16.7	27.6	27.8	9.7	11.2	8.4	8.6
2	1.8	0634	16.2	16.4	25.8	26.0	9.4	10.8	8.3	8.5
3	3.9	0637	16.1	16.4	24.4	25.4	9.1	10.6	8.3	8.4
4	2.3	0643	15.3	16.8	24.4	25.3	9.8	10.6	8.2	8.3
5	1.4	0651	15.4	15.9	18.5	20.7	9.8	11.0	8.2	8.3
6	6.7	0656	15.2	17.8	16.3	29.4	8.5	10.1	8.0	8.1
7	5.8	0703	14.2	17.0	7.5	25.3	8.8	11.1	7.9	8.1
8	2.4	0711	14.1	16.5	9.7	20.7	9.4	11.0	8.0	8.1
9	1.1	0718	13.4	14.9	7.7	11.1	11.5	12.0	7.9	8.0

Table 8b Brunswick River - Water Quality Maxima and Minima - High Water - 26 July 1994

Profile (#)	Depth (m)	Time (EST)	Temperature (°C)		Salinity (psu)		Dissolved O_2 (mg/L)		pH (0-14)	
			Min	Max	Min	Max	Min	Max	Min	Max
1	3.7	1128	19.5	19.6	34.8	35.0	9.5	9.8	8.1	8.1
2	2.7	1132	19.2	19.3	34.7	34.9	9.4	9.7	8.1	8.1
3	3.0	1135	19.0	19.1	34.3	34.8	9.4	9.6	8.0	8.1
4	3.1	1139	17.4	18.5	30.0	33.9	9.5	9.9	8.0	8.0
5	2.6	1144	16.8	16.8	26.0	28.6	9.5	10.4	8.0	8.0
6	6.3	1149	16.5	16.7	23.1	25.5	9.2	10.5	7.9	8.0
7	6.7	1154	16.1	16.4	17.9	22.3	9.7	11.0	7.8	7.9
8	3.6	1200	15.8	16.1	15.4	19.6	10.4	11.7	7.9	7.9
9	2.0	1204	15.6	16.0	13.3	16.0	11.5	12.6	7.9	7.9
10	0.1	1213	14.7	14.9	8.0	10.3	12.8	13.5	7.9	8.1
11	1.0	1217	14.2	14.2	7.6	7.7	13.1	13.6	7.9	8.0
12	1.4	1226	13.4	13.5	3.1	4.5	13.5	14.2	7.8	8.1



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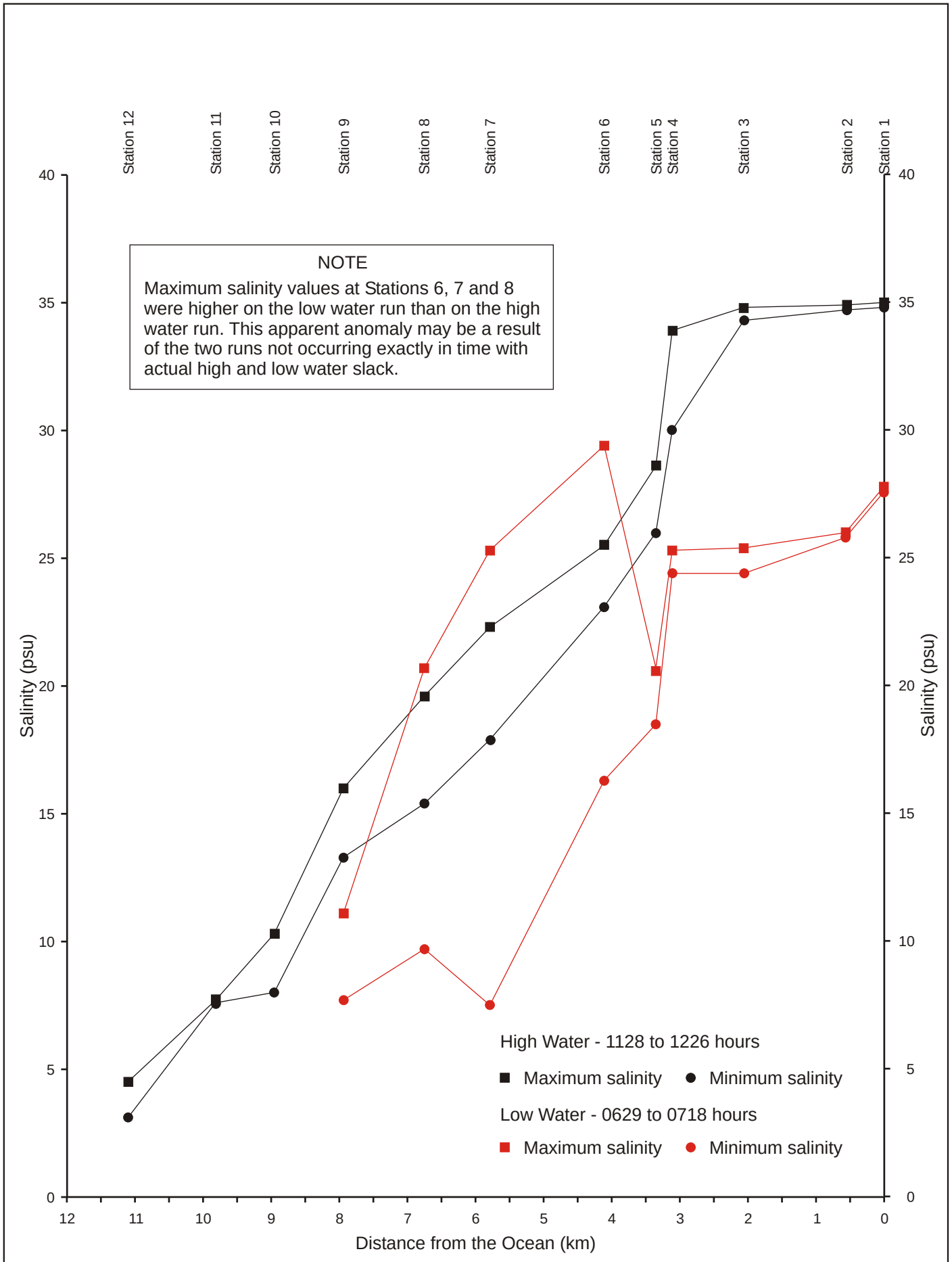
BRUNSWICK RIVER

26 JULY 1994

MHL Report 1812

Figure 6

DRAWING 1812-006.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BRUNSWICK RIVER - HIGH AND LOW WATER
26 JULY 1994

MHL Report 1812

Figure 7

DRAWING 1812-007.CDR

Data was collected in the Brunswick River estuary on 11 October 1994, as detailed in report MHL711. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 9. Summaries of the minimum and maximum values for all parameters measured on the high and low water runs are shown in Tables 10a-b. The locations at which these profiles were taken are shown in Figure 8. Long channel depth-averaged salinity profiles are shown in Figure 9.

Table 9 Brunswick River - 11 October 1994

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water		High Water	
	Easting	Northing		Min Salinity (psu)	Max Salinity (psu)	Min Salinity (psu)	Max Salinity (psu)
1	554570	6843080	0.00	34.9	35.0	35.6	35.6
2	554025	6843235	0.57	34.7	35.0	35.5	35.6
3	552680	6843830	2.06	34.1	34.3	35.5	35.6
4	551665	6843625	3.11	33.3	33.5	35.3	35.6
5	551455	6843620	3.35	33.1	33.4	33.0	35.5
6	551585	6842895	4.11	33.0	33.5	35.4	35.5
7	551750	6841525	5.79	31.7	33.0	34.7	35.0
8	550990	6841465	6.75	30.3	30.9	33.2	34.5
9	550575	6841915	7.94	28.7	32.7	32.1	33.0
10	549820	6841755	8.95	26.8	31.1	30.6	31.5
11	549355	6842390	9.81	25.5	29.6	29.1	30.0
12	549045	6842090	11.10	23.9	25.5	26.4	27.0
13	548600	6841760	11.77	-	-	25.0	26.0
14	548040	6841475	12.73	-	-	22.8	23.4

Note Station locations transferred from report figure to aerial photo in Department of Lands database
Profiling stopped at Station 12 on low water run due to shoals

Table 10a Brunswick River - Water Quality Maxima and Minima - Low Water - 11 October 1994

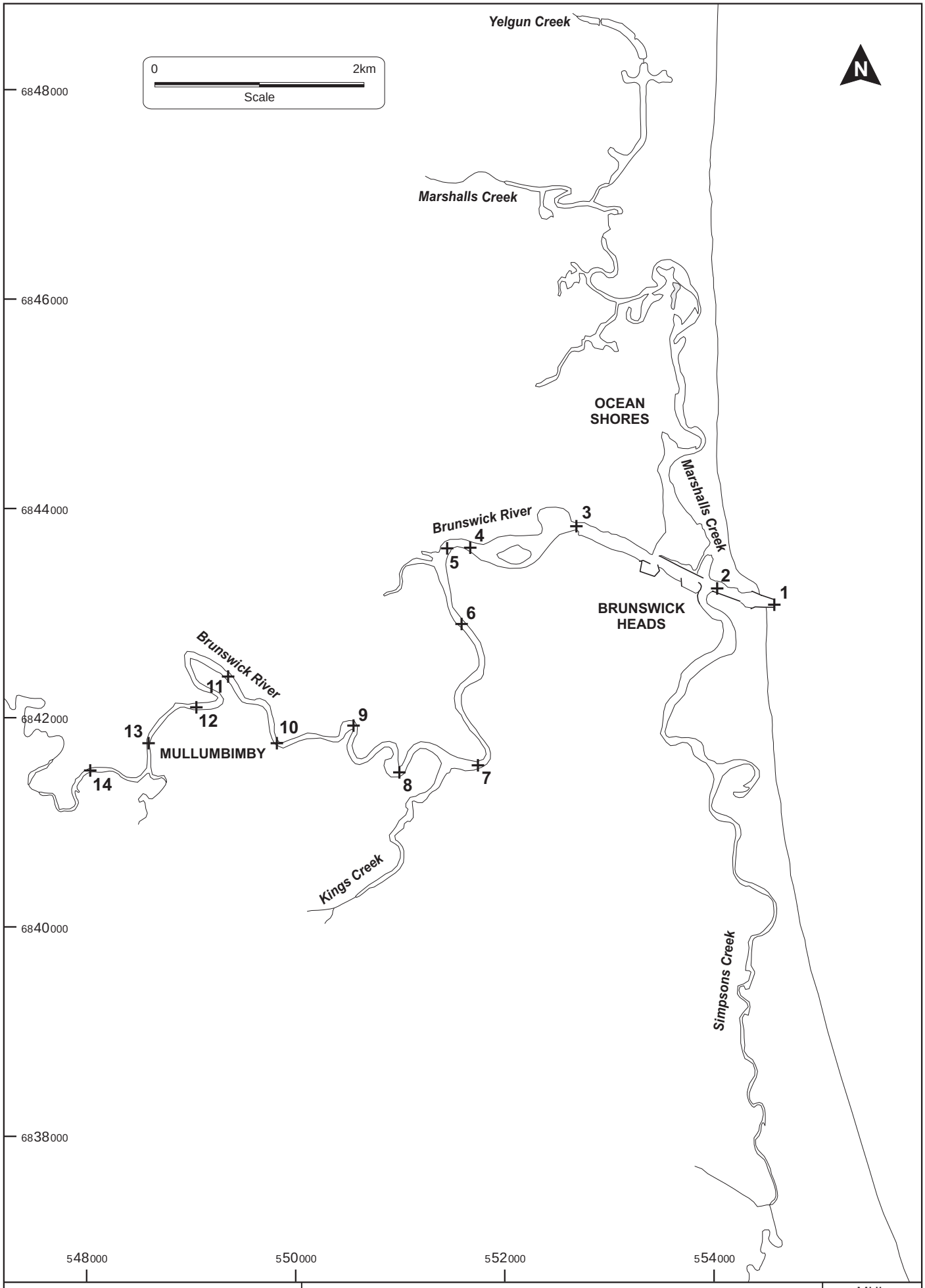
Profile (#)	Depth (m)	Time (EST)	Temperature (°C)		Salinity (psu)		Dissolved O_2 (mg/L)		pH (0-14)	
			Min	Max	Min	Max	Min	Max	Min	Max
1	2.3	0713	19.0	19.2	34.9	35.0	6.6	7.0	9.6*	11.7*
2	3.2	0716	19.9	19.1	34.7	35.0	6.6	7.0	11.6*	13.3*
3	5.6	0723	19.1	19.2	34.1	34.3	6.2	6.6	12.5*	13.4*
4	1.7	0730	19.5	19.7	33.3	33.5	5.9	6.7	12.0*	13.4*
5	4.4	0734	19.4	19.6	33.1	33.4	5.8	6.6	13.1*	13.4*
6	4.1	0737	19.4	19.6	33.0	33.5	5.8	6.4	13.4*	13.4*
7	2.1	0743	19.7	19.8	31.7	33.0	5.6	5.9	13.4*	13.4*
8	1.1	0751	19.8	20.1	30.3	30.9	5.3	5.6	13.4*	13.4*
9	6.5	0756	19.9	20.2	28.7	32.7	5.5	6.0	13.4*	13.4*
10	6.2	0804	19.8	20.3	26.8	31.1	5.3	6.8	13.4*	13.4*
11	2.6	0814	19.9	20.3	25.5	29.6	5.0	6.5	13.4*	13.4*
12	0.8	0819	19.3	19.9	23.9	25.5	5.7	6.2	13.4*	13.4*

* indicates suspect or erroneous data

Table 10b Brunswick River - Water Quality Maxima and Minima - High Water - 11 October 1994

Profile (#)	Depth (m)	Time (EST)	Temperature (°C)		Salinity (psu)		Dissolved O_2 (mg/L)		pH (0-14)	
			Min	Max	Min	Max	Min	Max	Min	Max
1	3.6	1354	20.3	20.3	35.6	35.6	8.5	8.6	9.8*	10.4*
2	3.3	1357	20.2	20.3	35.5	35.6	8.5	8.6	10.6*	11.2*
3	5.4	1403	20.2	20.9	35.5	35.6	8.3	8.6	10.6*	11.5*
4	3.0	1408	20.6	20.9	35.3	35.6	7.8	7.9	10.9*	11.7*
5	5.2	1412	20.5	20.6	33.0	35.5	7.9	8.0	11.4*	12.2*
6	3.1	1416	20.7	20.9	35.4	35.5	7.6	7.8	11.4*	12.1*
7	2.3	1424	21.0	21.4	34.7	35.0	7.0	7.2	11.0*	11.7*
8	7.1	1427	21.0	22.2	33.2	34.5	6.8	7.0	11.5*	12.8*
9	7.6	1433	21.2	21.7	32.1	33.0	6.6	7.0	11.7*	13.1*
10	3.3	1437	21.3	22.2	30.6	31.5	6.6	6.8	12.1*	13.3*
11	2.6	1441	21.4	22.1	29.1	30.0	6.7	7.3	12.3*	13.3*
12	1.9	1446	21.6	22.2	26.4	27.0	8.1	8.4	12.3*	13.3*
13	3.4	1450	21.6	21.8	25.0	26.0	8.2	8.6	12.9*	13.4*
14	1.4	1458	21.4	21.5	22.8	23.4	8.0	8.3	12.6*	13.4*

* indicates suspect or erroneous data



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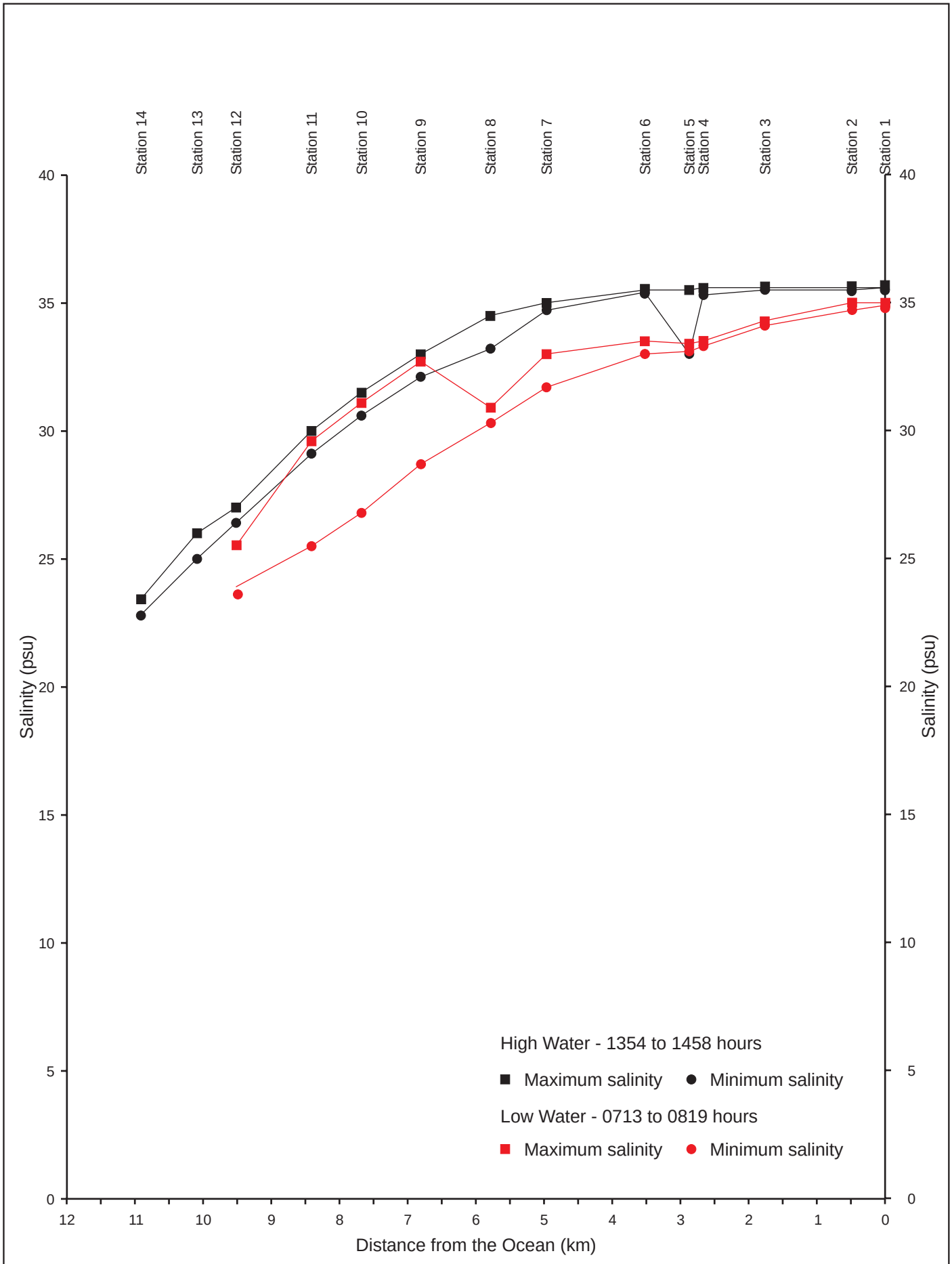
BRUNSWICK RIVER

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Figure 8

DRAWING 1812-008.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BRUNSWICK RIVER - HIGH AND LOW WATER
11 OCTOBER 1994

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Figure 9

DRAWING 1812-009.CDR

Data was collected in the Brunswick River estuary on 30 August and 1 September 2007, as detailed in report MHL1787. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 11, 12 and 13. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 14a-b, 15a-b and 16a-b. The locations at which these profiles were taken are shown in Figure 10. Long channel depth-averaged salinity profiles are shown in Figures 11 and 12.

Table 11 Brunswick River - 1 September 2007

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity (psu)	High Water Salinity (psu)
	Easting	Northing			
B1	554341	6843121	0.23	-	-
B2	553453	6843478	1.17	-	-
B3	552594	6843771	2.10	-	-
B4	551464	6843651	3.40	-	-
B5	551812	6842566	4.60	-	-
B6	551548	6841506	6.12	-	-
B7	550572	6841916	7.90	-	-
B8	549756	6842086	9.14	-	-
B9	548950	6842602	10.10	-	-
B10	549179	6842090	10.81	-	-
B11	548600	6841767	11.57	-	-
B12	547866	6841332	12.76	-	-
B13	547433	6841337	13.62	-	-

Note No salinity data available from Brunswick River due to instrument malfunction

Table 12 Marshalls Creek - 30 August 2007

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
M1	559456	6843534	1.28	35.65	26.56
M2	553525	6844350	2.24	33.45	-
M3	553634	6845507	3.68	23.54	-
M4	553328	6846070	5.47	14.28	8.89
M5	552900	6846075	5.97	9.59	7.31
M6	553075	6846675	7.03	7.59	6.81
M7	552850	6846907	7.56	7.38	7.28
M8	551960	6847110	8.75	10.09	8.50
M9	551575	6847100	9.28	5.13	-
M10	552860	6847000	7.63	7.57	-
M11	553000	6847075	7.87	-	7.69
M12	553310	6847837	8.71	-	25.76

Note Stations M10, M11 and M12 are in Yelgun Creek (Ocean Shores)

Table 13 Simpsons Creek - 30 August 2007

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
S1	553954	6843273	0.65	35.60	25.63
S2	553817	6842394	1.85	35.50	-
S3	553890	6841589	2.99	34.52	-
S4	554239	6840453	4.36	17.44	3.73
S5	554340	6839450	5.71	6.08	0.78
S6	554374	6838290	7.18	1.11	0.42
S7	554550	6837328	8.38	0.34	0.23

Table 14a Brunswick River - Water Quality Maxima and Minima - Low Water - 1 September 2007

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
B1	0557	2.2	-	-	-	18.66	18.85	18.81	-	-	-	-	-	-	7.70	7.74	7.72	4.48	5.94	4.93	-	-	-	BR0708020
B2	0603	5.0	-	-	-	18.29	19.05	18.68	-	-	-	-	-	-	7.53	7.62	7.57	4.48	6.43	5.20	-	-	-	BR0708021
B3	0614	1.2	-	-	-	18.71	18.73	18.73	-	-	-	-	-	-	7.47	7.48	7.48	4.97	5.94	5.25	-	-	-	BR0708022
B4	0622	2.9	-	-	-	18.56	18.78	18.63	-	-	-	-	-	-	7.29	7.32	7.30	4.97	6.43	5.44	-	-	-	BR0708023
B5	0629	3.7	-	-	-	18.62	19.59	19.09	-	-	-	-	-	-	7.11	7.77	7.36	3.01	6.43	5.18	-	-	-	BR0708024
B6	0637	1.7	-	-	-	17.91	18.08	18.03	-	-	-	-	-	-	6.94	6.99	6.98	6.92	8.38	7.38	-	-	-	BR0708025
B7	0646	2.9	-	-	-	17.31	18.82	17.82	-	-	-	-	-	-	6.74	6.83	6.79	8.38	15.71	9.90	-	-	-	BR0708026
B8	0653	3.1	-	-	-	16.68	18.97	17.57	-	-	-	-	-	-	6.58	6.77	6.70	7.41	10.83	9.55	-	-	-	BR0708027
B9	0703	4.9	-	-	-	16.15	18.60	17.15	-	-	-	-	-	-	6.41	6.76	6.65	7.90	11.32	9.25	-	-	-	BR0708028
B10	0711	1.5	-	-	-	15.58	15.60	15.59	-	-	-	-	-	-	6.69	6.70	6.69	8.87	9.36	9.08	-	-	-	BR0708029

Note Shoals in the creek prevented access upstream from Station 10 on the low water run
Instrument pump was blocked and did not function correctly, therefore no density, salinity, dissolved oxygen or chlorophyll-a data collected

Table 14b Brunswick River - Water Quality Maxima and Minima - High Water - 1 September 2007

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
B1	1328	3.5	-	-	-	19.14	19.18	19.15	-	-	-	-	-	-	7.62	7.64	7.63	3.99	8.38	5.05	-	-	-	BR070901001
B2	1335	6.3	-	-	-	19.25	19.41	19.35	-	-	-	-	-	-	7.68	7.71	7.70	3.01	5.46	3.74	-	-	-	BR070901002
B3	1343	2.4	-	-	-	19.38	19.48	19.43	-	-	-	-	-	-	7.72	7.73	7.73	3.50	5.46	4.27	-	-	-	BR070901003
B4	1349	4.2	-	-	-	19.63	19.69	19.66	-	-	-	-	-	-	7.71	7.71	7.71	3.01	5.94	3.59	-	-	-	BR070901004
B5	1357	5.7	-	-	-	19.65	19.88	19.71	-	-	-	-	-	-	7.69	7.71	7.71	3.01	4.48	3.47	-	-	-	BR070901005
B6	1403	2.6	-	-	-	19.36	19.39	19.37	-	-	-	-	-	-	7.52	7.59	7.56	3.50	5.46	4.18	-	-	-	BR070901006
B7	1411	4.8	-	-	-	19.12	19.63	19.21	-	-	-	-	-	-	7.20	7.26	7.23	.00	559.30	203.67	-	-	-	BR070901007
B8	1418	4.3	-	-	-	18.79	19.04	18.84	-	-	-	-	-	-	6.89	7.03	6.95	.00	580.79	336.47	-	-	-	BR070901008
B9	1425	6.3	-	-	-	18.55	19.07	18.70	-	-	-	-	-	-	6.80	6.84	6.83	8.38	11.32	9.77	-	-	-	BR070901009
B10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B11	1434	4.6	-	-	-	17.55	17.77	17.64	-	-	-	-	-	-	6.65	6.68	6.66	10.83	12.78	11.63	-	-	-	BR070901010
B12	1442	2.2	-	-	-	16.50	16.54	16.51	-	-	-	-	-	-	6.61	6.63	6.63	8.38	9.85	9.02	-	-	-	BR070901011
B13	1450	1.2	-	-	-	16.13	16.16	16.14	-	-	-	-	-	-	6.71	6.73	6.72	5.46	5.94	5.53	-	-	-	BR070901012

Note No profile done at Station 10 on high water run. Shoals in the creek prevented access upstream from Station 13 on the high water run
Instrument pump was blocked and did not function correctly, therefore no density, salinity, dissolved oxygen or chlorophyll-a data collected

Table 15a Marshalls Creek - Water Quality Maxima and Minima - High Water - 30 August 2007

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
M1	0926	1.2	1025.4	1025.6	1025.5	18.93	19.15	18.94	35.53	35.70	35.65	80.27	88.11	85.44	7.55	7.57	7.56	7.90	11.80	9.80	0.00	0.00	0.00	BR0708001
M2	0939	1.5	1023.8	1024.0	1023.9	18.87	18.93	18.90	33.30	33.59	33.45	74.30	82.51	78.88	7.70	7.75	7.73	3.99	6.92	4.67	0.00	0.00	0.00	BR0708002
M3	0952	1.3	1016.2	1016.8	1016.5	18.06	18.28	18.13	23.18	23.91	23.54	69.78	73.96	72.01	7.37	7.40	7.38	3.99	6.43	4.66	0.00	0.00	0.00	BR0708003
M4	1008	1.5	1009.3	1009.4	1009.3	18.63	18.65	18.64	14.25	14.41	14.28	69.30	84.86	74.99	6.92	6.93	6.92	4.97	8.38	5.45	0.00	0.00	0.00	BR0708004
M5	1023	1.2	1005.7	1005.9	1005.8	18.60	18.69	18.64	9.53	9.69	9.59	61.83	66.55	65.02	6.64	6.66	6.65	3.99	7.90	6.32	0.00	0.00	0.00	BR0708005
M6	1040	2.9	1004.1	1004.4	1004.3	18.47	18.59	18.53	7.37	7.70	7.59	71.60	72.39	71.89	6.54	6.56	6.55	5.94	8.87	6.67	1.52	1.97	1.61	BR0708006
M7	1046	1.2	1003.8	1004.3	1004.1	18.60	18.64	18.62	6.95	7.65	7.38	70.77	71.69	71.05	6.55	6.58	6.57	4.48	8.87	6.37	1.53	1.80	1.65	BR0708007
M8	1057	1.6	1002.5	1008.8	1006.1	17.39	19.54	18.87	4.91	13.62	10.09	43.70	63.98	58.09	6.15	6.28	6.24	6.92	8.87	7.27	2.31	4.38	3.37	BR0708008
M9	1106	1.8	1000.8	1006.7	1002.7	15.15	17.69	17.03	2.35	10.52	5.13	47.51	74.01	57.48	5.85	6.71	6.21	7.90	9.36	8.60	0.00	0.08	0.00	BR0708009
M10	1127	0.9	1004.2	1004.3	1004.2	18.82	18.84	18.83	7.52	7.64	7.57	71.51	71.65	71.59	6.62	6.63	6.62	6.43	6.92	6.62	1.67	1.91	1.76	BR0708010

Note Shoals in the creek prevented access upstream from Station 9 on the high water run. Profiling at Stations 11 and 12 not attempted on high water run

Table 15b Marshalls Creek - Water Quality Maxima and Minima - Low Water - 30 August 2007

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
M1	1626	3.1	1012.8	1019.2	1018.3	19.98	21.60	20.07	19.80	27.62	26.56	76.10	91.16	78.38	7.48	7.61	7.57	5.46	7.41	6.31	0.00	0.70	0.08	BR0708012
M2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M4	1656	1.3	1004.8	1005.0	1004.9	20.24	20.28	20.25	8.78	8.98	8.89	73.50	74.31	73.91	6.49	6.53	6.51	6.92	7.90	7.44	1.54	2.09	1.95	BR0708013
M5	1712	1.2	1003.7	1003.8	1003.7	20.08	20.13	20.11	7.29	7.33	7.31	77.42	78.41	78.12	6.45	6.46	6.46	6.92	7.41	7.11	1.84	2.18	2.05	BR0708014
M6	1723	2.0	1003.3	1003.3	1003.3	20.31	20.33	20.32	6.80	6.83	6.81	75.47	75.97	75.67	6.41	6.44	6.42	5.94	6.92	6.19	1.99	2.17	2.05	BR0708015
M7	1730	.9	1002.5	1005.1	1003.6	19.75	21.13	20.47	6.00	9.07	7.28	71.02	72.39	71.55	6.43	6.55	6.49	4.97	6.92	5.91	0.12	3.02	2.63	BR0708016
M8	1741	1.5	1004.5	1005.2	1004.8	18.26	19.59	19.15	7.84	8.94	8.50	51.53	53.91	52.59	5.89	6.44	6.13	6.92	10.34	7.71	0.00	0.00	0.00	BR0708017
M9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M11	1758	.6	1003.9	1003.9	1003.9	20.78	20.85	20.82	7.69	7.70	7.69	66.54	66.97	66.80	6.41	6.42	6.41	4.48	4.97	4.66	0.00	0.00	0.00	BR0708018
M12	1808	3.3	1006.8	1023.9	1017.7	20.01	20.79	20.23	11.56	33.92	25.76	72.44	77.65	75.73	6.36	6.85	6.55	3.50	9.85	4.95	0.00	6.37	1.40	BR0708019

Note Shoals in Marshalls Creek prevented access to Stations 2 and 3 and upstream from Station 8 on the low water run. No profile attempted at Station M10 on low water run

Table 16a Simpsons Creek - Water Quality Maxima and Minima - High Water - 30 August 2007

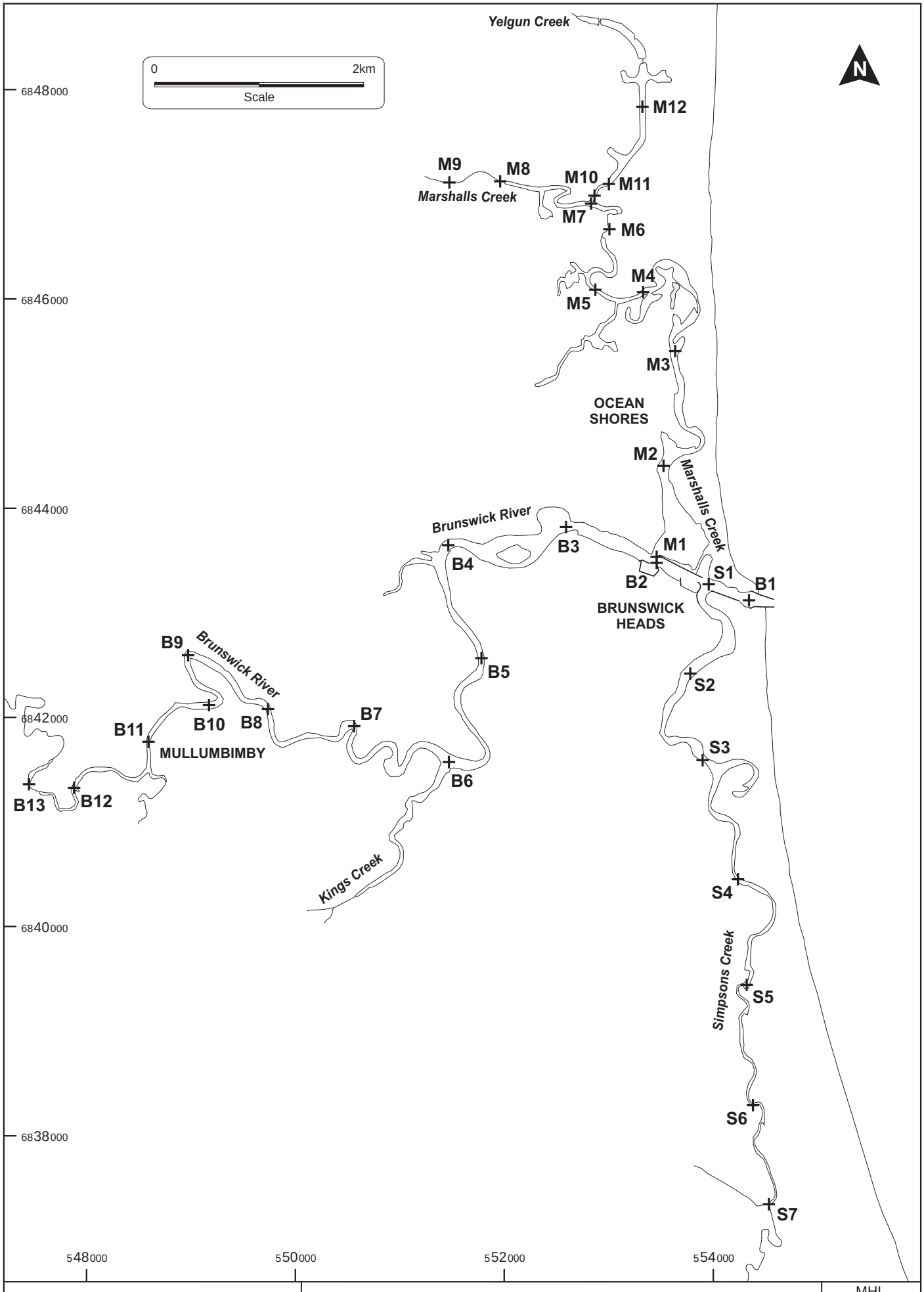
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
S1	0926	4.0	1025.5	1025.5	1025.5	18.86	18.89	18.87	35.58	35.63	35.60	89.59	92.36	90.39	8.69	8.74	8.71	11.14	14.56	12.62	BR070830001
S2	0939	1.2	1025.3	1025.4	1025.4	19.18	19.19	19.19	35.49	35.51	35.50	87.88	88.58	88.23	8.63	8.64	8.64	4.79	6.26	5.50	BR070830002
S3	0945	1.4	1024.6	1024.7	1024.6	19.12	19.14	19.13	34.45	34.62	34.52	86.52	89.92	88.36	8.25	8.29	8.27	4.30	6.75	5.14	BR070830003
S4	0954	1.8	1011.6	1012.1	1011.9	17.74	17.87	17.80	17.08	17.66	17.44	68.54	76.58	73.42	7.44	7.52	7.48	5.28	6.26	5.72	BR070830004
S5	1003	1.0	1003.3	1003.3	1003.3	17.56	17.64	17.60	6.08	6.09	6.08	52.00	53.85	52.99	6.89	6.91	6.90	7.72	8.21	7.74	BR070830005
S6	1018	2.4	999.6	999.7	999.7	16.60	16.73	16.67	1.06	1.16	1.11	39.79	44.87	41.40	6.75	6.79	6.77	7.72	8.70	7.88	BR070830006
S7	1035	1.6	999.2	999.2	999.2	16.26	16.33	16.29	0.34	0.34	0.34	39.46	41.57	40.31	6.75	6.77	6.76	6.75	6.75	6.75	BR070830007

Note Logs across the creek prevented access upstream from Station S7 on the high water run

Table 16b Simpsons Creek - Water Quality Maxima and Minima - Low Water - 30 August 2007

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
S1	1605	2.2	1016.8	1018.0	1017.6	20.32	20.45	20.35	24.59	26.30	25.63	82.52	83.13	82.85	7.48	7.52	7.50	5.94	7.41	6.54	BR0708011
S2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	1659	1.0	1001.1	1001.5	1001.2	19.12	19.18	19.14	3.59	4.14	3.73	57.16	58.52	57.95	7.22	7.24	7.23	9.68	10.16	9.71	BR070830008
S5	1715	1.0	999.2	999.2	999.2	17.82	17.83	17.82	0.78	0.78	0.78	43.90	49.68	45.57	7.07	7.10	7.08	8.70	10.16	9.39	BR070830009
S6	1737	1.0	999.0	999.1	999.1	17.29	17.31	17.30	0.42	0.42	0.42	42.38	44.11	43.29	6.99	7.03	7.01	7.23	7.23	7.23	BR070830010
S7	1754	0.9	999.0	999.0	999.0	16.98	16.98	16.98	0.23	0.23	0.23	41.18	45.62	44.17	6.97	6.99	6.98	6.26	6.75	6.27	BR070830011

Note Profile at Station S1 was done with SBE25-03 on low water run. Shoals in the creek prevented access to Stations 2 and 3 on the low water run



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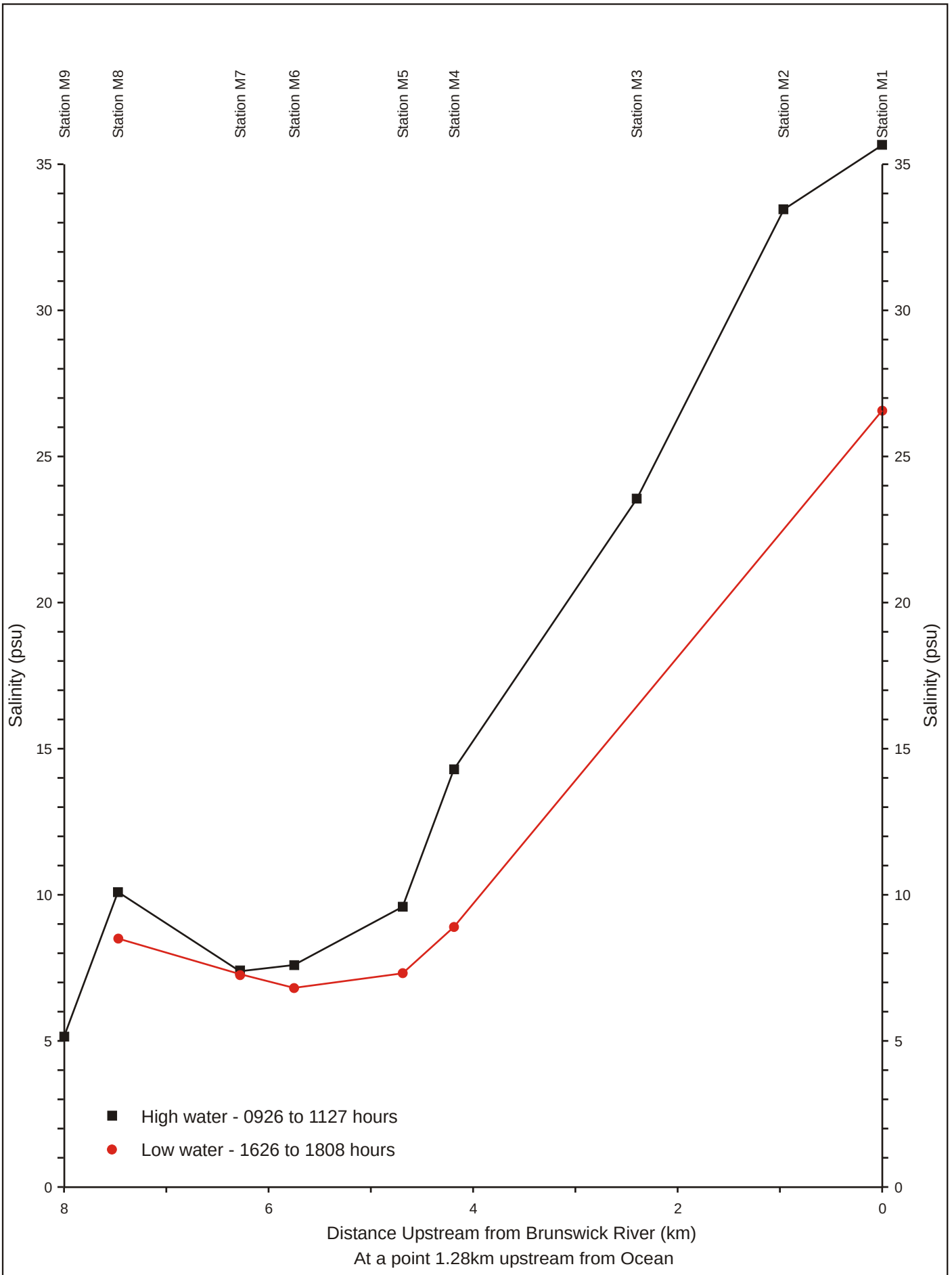
BRUNSWICK RIVER

30 AUGUST TO 1 SEPTEMBER 2007

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Figure 10

DRAWING 1812-010.CDR



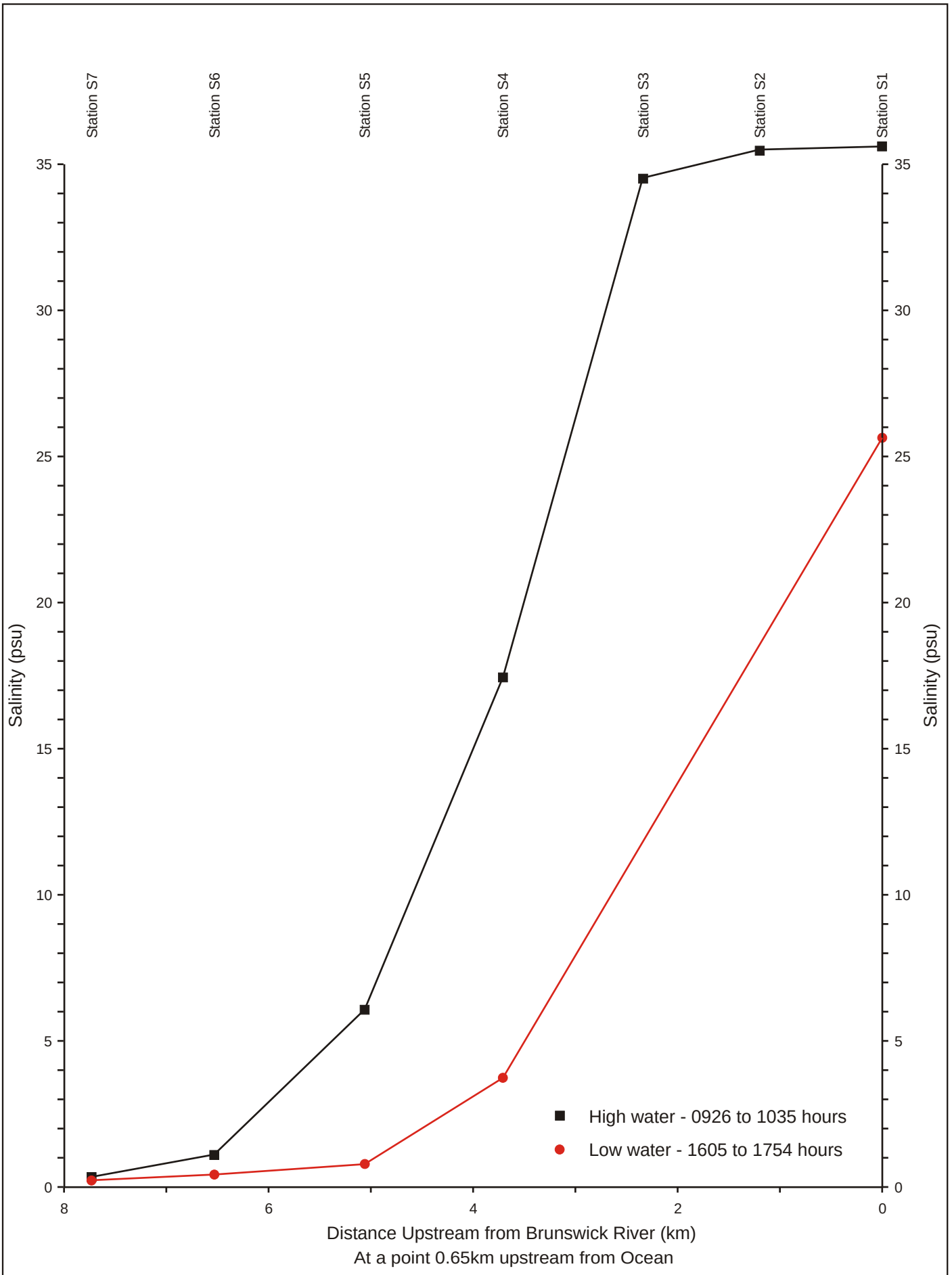
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MARSHALLS CREEK - HIGH AND LOW WATER
30 AUGUST 2007

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Figure 11

DRAWING 1812-011.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
SIMPSONS CREEK - HIGH AND LOW WATER
30 AUGUST 2007

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Figure 12

DRAWING 1812-012.CDR

Lake Ainsworth Data Summary

Data was collected in Lake Ainsworth on 7 and 8 February 1996, as detailed in report AWACS96/07. A summary of the location of each profile is shown below in Table 17. Depth-averaged salinities have not been shown because maximum salinity was always less than 0.150 psu. Summaries of the minimum and maximum values for all parameters measured on all the runs are shown in Tables 18 and 19. The locations at which these profiles were taken are shown in Figure 13. Long channel depth-averaged salinity profiles have not been plotted because the variations in the minimum and maximum salinity throughout the lake were insignificant.

Table 17 Lake Ainsworth - 7 and 8 February 1996

Station No.	MGA (m) Zone 56	
	Easting	Northing
1	557750	6816300
2	557800	6816185
3	557815	6816030
4	557810	6815850
5	557820	6815735
6	557820	6815670
7	557870	6815850
8	557725	6815850
9	557655	6815860
10	557610	6815860
11	557660	6815780
12	557655	6815945
13	557725	6815950
14	557725	6815735

Note No chainage as the lake is not tidal

Table 18 Lake Ainsworth - Water Quality Maxima and Minima - 7 February 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	0501	1.40	28.944	29.169	0.133	0.133	242.035	243.122	996.001	996.071	3.20	3.55	41.9	46.5	5.40	5.53	46	47	AA700001
2	0508	3.00	25.906	29.346	0.132	0.140	241.232	257.769	995.948	996.931	2.85	3.26	37.3	42.8	5.29	5.49	45	47	AA700002
3	0512	5.20	24.016	29.413	0.132	0.143	241.015	266.109	995.928	997.427	3.73	4.76	49.0	58.1	5.28	5.62	45	128	AA700003
4	0516	8.40	22.911	29.502	0.132	0.145	240.605	270.265	995.902	997.710	3.46	5.23	45.5	61.6	5.28	5.85	45	337	AA700004
5	0520	5.40	23.945	29.585	0.132	0.144	240.256	267.801	995.880	997.446	3.45	4.22	45.5	51.0	5.27	5.72	44	247	AA700005
6	0524	2.40	28.050	29.563	0.132	0.135	240.355	247.570	995.882	996.335	3.75	3.97	49.4	52.3	5.43	5.67	45	46	AA700006
8	0530	7.60	22.837	29.410	0.132	0.146	241.085	272.143	995.932	997.725	3.50	5.32	46.0	62.7	5.26	5.89	45	210	AA700008
9	0533	6.00	23.504	29.462	0.132	0.145	240.877	268.703	995.916	997.557	3.51	4.94	46.1	59.3	5.28	5.83	45	125	AA700009
10	0537	1.40	29.456	29.482	0.132	0.132	240.797	240.921	995.908	995.915	3.53	3.58	46.4	47.1	5.58	5.61	44	45	AA700010
11	0540	5.20	24.044	29.520	0.132	0.144	240.596	267.318	995.897	997.421	3.60	4.57	46.8	54.6	5.25	5.68	45	122	AA700011
12	0543	6.20	23.502	29.441	0.132	0.145	240.821	268.711	995.921	997.558	3.57	4.86	47.0	58.1	5.26	5.68	45	229	AA700012
13	0547	0.80	29.371	29.385	0.132	0.132	240.191	241.200	995.937	995.941	3.83	3.83	50.3	50.3	5.58	5.59	45	45	AA700013
14	0550	0.80	29.517	29.529	0.132	0.132	241.119	241.431	995.894	995.897	-	-	-	-	5.61	5.63	45	45	AA700014
1	0702	1.40	28.329	29.113	0.131	0.133	239.618	244.701	996.015	996.250	3.42	3.61	44.1	47.2	5.39	5.51	46	47	AA700015
2	0705	3.40	25.544	29.277	0.132	0.140	240.217	259.456	995.970	997.028	3.14	3.77	41.0	47.0	5.30	5.58	46	146	AA700016
3	0708	5.40	23.781	29.316	0.133	0.145	242.126	268.459	995.957	997.487	4.61	5.39	58.3	70.7	5.27	5.74	46	136	AA700017
4	0712	8.60	22.645	29.377	0.132	0.142	241.152	263.561	995.940	997.769	7.57	13.35	95.5	157.1	5.25	6.00	46	118	AA700018
5	0716	5.20	24.136	29.494	0.132	0.142	240.559	263.563	995.904	997.396	7.60	11.74	100.0	141.6	5.24	5.65	45	133	AA700019
6	0720	2.20	28.843	29.497	0.132	0.134	240.561	244.934	995.903	996.105	7.15	8.36	94.2	110.0	5.48	5.62	44	45	AA700020
7	0723	0.60	29.394	29.419	0.133	0.133	242.261	242.384	995.927	995.935	7.59	7.59	99.7	99.7	5.61	5.63	45	45	AA700021
8	0726	7.60	22.953	29.411	0.133	0.145	242.286	269.541	995.929	997.695	5.18	9.20	61.7	119.2	5.24	5.97	47	548	AA700022
9	0730	6.00	23.492	29.458	0.133	0.145	242.115	269.452	995.915	997.560	4.77	5.89	58.0	77.4	5.25	5.93	45	221	AA700023
10	0734	1.60	29.245	29.455	0.132	0.133	240.882	242.251	995.915	995.983	5.42	7.43	71.2	97.7	5.53	5.58	45	46	AA700024
11	0738	5.20	24.089	29.425	0.133	0.144	242.302	267.145	995.925	997.410	4.62	6.66	57.5	87.6	5.23	5.58	46	223	AA700025
12	0743	6.40	23.437	29.501	0.132	0.142	240.806	263.340	995.902	997.571	7.60	12.87	100.1	153.9	5.22	5.67	46	75	AA700026
13	0748	0.80	29.388	29.410	0.133	0.133	242.141	242.504	995.929	995.937	7.65	7.65	100.6	100.6	5.56	5.58	46	47	AA700027
14	0751	0.80	29.477	29.532	0.133	0.133	241.832	242.104	995.892	995.911	7.68	7.76	101.2	102.1	5.58	5.60	46	47	AA700028
1	0957	1.40	28.857	29.721	0.133	0.134	242.138	245.853	995.837	996.098	4.45	4.87	58.5	64.3	5.32	5.53	45	46	AA700036
2	1001	3.20	25.668	30.012	0.130	0.138	238.460	254.563	995.749	996.995	2.79	5.10	35.1	66.8	5.27	5.53	44	46	AA700037
3	1005	5.40	23.847	30.213	0.132	0.136	239.810	251.971	995.687	997.464	5.55	8.59	66.3	112.5	5.25	5.74	44	48	AA700038
4	1010	8.60	22.710	29.733	0.079	0.138	143.740	254.124	995.833	997.708	4.75	7.49	57.4	99.0	5.24	5.99	44	255	AA700039
5	1015	5.20	23.921	30.221	0.128	0.142	235.948	263.358	995.685	997.450	1.69	5.90	20.4	77.7	5.26	5.71	47	166	AA700040
6	1018	3.00	26.645	30.879	0.132	0.136	239.317	250.482	995.482	996.729	7.47	9.13	100.7	117.6	5.32	5.72	47	48	AA700041
7	1022	0.60	29.850	30.172	0.132	0.133	239.879	241.454	995.701	995.798	6.21	7.47	82.7	99.2	5.60	5.66	48	49	AA700042
8	1025	7.20	-	30.355	-	0.138	-	257.033	-	997.664	5.73	6.25	68.1	83.5	5.23	5.99	45	134	AA700043
9	1029	5.60	23.767	30.151	0.133	0.137	241.475	253.579	995.706	997.484	5.16	5.61	65.8	74.7	5.24	5.61	45	50	AA700044
10	1033	1.00	30.317	30.339	0.133	0.133	241.375	241.925	995.650	995.659	-	-	-	-	5.59	5.63	46	47	AA700045
11	1036	5.00	24.233	30.462	0.133	0.137	241.554	253.308	995.613	997.368	5.91	7.79	71.5	104.3	5.25	5.66	45	129	AA700046
12	1040	6.40	23.251	30.101	0.133	0.138	241.940	255.610	995.721	997.614	5.25	5.68	63.3	73.8	5.22	5.70	45	537	AA700047
13	1043	0.80	30.204	30.246	0.133	0.133	241.798	241.970	995.678	995.690	5.47	6.14	73.0	81.8	5.55	5.57	45	47	AA700048
14	1101	1.60	30.082	30.636	0.133	0.133	241.448	241.946	995.558	995.733	5.91	5.98	79.4	80.2	5.60	5.68	47	47	AA700049

(continued)

Table 18 Lake Ainsworth - Water Quality Maxima and Minima - 7 February 1996 (continued)

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1210	1.40	29.059	29.741	0.133	0.134	243.065	245.309	995.831	996.038	4.93	4.96	64.9	65.6	5.35	5.43	46	47	AA700050
2	1213	3.20	-	29.887	-	0.139	-	256.006	-	996.897	4.87	5.20	62.9	68.8	5.24	5.51	45	47	AA700051
3	1217	5.40	23.639	31.635	0.132	0.137	238.585	253.643	995.246	997.515	5.03	5.59	66.3	69.5	5.28	5.61	45	47	AA700052
4	1221	8.40	22.898	30.981	0.133	0.139	241.191	259.533	995.452	997.709	6.23	9.05	73.1	119.0	5.27	5.91	43	53	AA700053
5	1229	4.60	24.505	31.254	0.133	0.140	241.156	257.716	995.367	997.297	5.29	5.91	70.7	75.0	5.26	5.78	44	57	AA700054
6	1232	3.00	26.210	31.653	0.133	0.142	240.666	262.334	995.242	996.852	5.90	6.70	76.2	91.5	5.40	5.78	44	54	AA700055
7	1236	0.80	30.313	30.370	0.133	0.133	241.998	242.217	995.641	995.660	5.39	5.52	72.1	73.7	5.64	5.67	45	45	AA700056
9	1239	6.40	23.221	30.857	0.133	0.139	241.703	257.823	995.490	997.622	5.42	6.01	70.8	76.2	5.22	5.70	44	98	AA700057
10	1244	5.60	-	30.786	-	0.137	-	251.987	-	997.462	5.94	7.78	74.5	104.7	5.24	5.66	43	45	AA700058
11	1248	0.80	31.084	31.098	0.133	0.133	241.341	241.456	995.416	995.422	5.63	5.84	76.1	79.0	5.63	5.66	45	45	AA700059
12	1251	5.00	24.335	31.507	0.133	0.138	240.530	252.552	995.288	997.341	6.16	7.91	75.0	107.2	5.25	5.76	44	46	AA700060
13	1259	1.00	-	30.810	-	0.134	-	242.707	-	995.637	7.50	7.50	101.0	101.0	5.55	5.59	45	45	AA700062
14	1303	1.60	30.898	31.534	0.133	0.134	240.608	242.704	995.279	995.483	7.47	7.91	100.9	107.6	5.68	5.76	45	46	AA700063
1	1419	1.60	28.398	30.460	0.132	0.140	239.460	256.786	995.610	996.236	5.30	6.64	70.0	88.8	5.20	5.53	41	290	AB700101
2	1423	3.20	25.400	30.780	0.132	0.138	239.697	255.611	995.513	997.064	4.82	6.39	61.8	84.5	5.24	5.53	45	49	AB700102
3	1428	5.40	-	31.178	-	0.138	-	253.136	-	997.403	2.57	6.35	31.0	79.7	5.25	5.91	47	179	AB700103
4	1434	8.40	22.707	31.425	0.133	0.149	240.811	278.301	995.313	997.761	1.63	6.31	19.0	76.4	5.26	5.95	-	653	AB700104
5	1440	5.00	24.137	31.753	0.131	0.140	240.543	259.497	995.209	997.391	5.00	6.61	65.8	80.4	5.23	5.78	34	232	AB700105
6	1446	2.20	28.833	32.500	0.133	0.140	239.398	255.897	994.969	996.111	5.49	5.96	74.1	82.6	5.62	5.84	45	51	AB700106
7	1451	0.60	31.123	31.141	0.086	0.134	152.870	241.579	995.371	995.406	5.91	6.32	80.0	85.5	5.67	5.68	47	74	AB700107
8	1456	7.60	22.878	31.296	0.128	0.153	236.791	285.031	995.354	997.720	0.60	6.12	7.0	83.0	5.21	5.95	25	68	AB700108
9	1503	5.60	23.993	31.945	0.128	0.141	236.857	261.792	995.148	997.433	0.81	6.06	9.7	80.4	5.21	5.69	45	82	AB700109
10	1508	1.80	-	31.525	0.000	0.133	-	241.067	-	995.303	5.13	6.61	69.9	90.0	5.67	5.70	45	46	AB700110
11	1513	5.00	24.215	31.633	0.128	0.139	236.352	257.448	995.247	997.373	1.09	6.08	13.2	82.9	5.22	5.70	45	95	AB700111
12	1517	6.80	-	31.684	0.000	0.137	.000	253.252	-	997.582	5.85	6.97	70.0	92.8	5.22	5.72	40	383	AB700112
13	1522	0.80	31.439	31.508	0.131	0.133	235.732	241.021	995.286	995.312	7.14	7.14	97.3	97.3	5.65	5.67	46	47	AB700114
14	1526	1.00	31.425	31.450	0.133	0.133	241.058	241.212	995.305	995.317	6.06	6.19	82.5	84.3	5.66	5.68	46	67	AB700115
1	1559	1.40	28.442	30.461	0.133	0.136	242.261	248.874	995.612	996.219	6.59	6.91	88.0	90.9	5.33	5.57	46	60	AB700116
2	1604	3.20	-	30.864	0.000	0.138	-	253.816	-	996.639	5.97	7.24	77.7	95.1	5.24	5.75	40	47	AB700117
3	1608	5.40	-	31.332	0.000	0.137	-	253.544	-	997.433	3.35	8.04	40.4	99.1	5.24	5.80	23	69	AB700118
4	1614	8.40	22.815	31.342	0.132	0.138	238.942	257.694	995.337	997.728	1.25	7.64	14.6	98.7	5.23	5.91	22	443	AB700119
5	1620	5.20	24.047	31.711	0.130	0.137	233.642	252.332	995.224	997.413	6.36	7.15	78.8	91.4	5.25	5.74	44	429	AB700120
6	1625	3.20	26.158	31.941	0.133	0.138	239.998	252.944	995.150	996.862	5.76	6.25	78.9	84.8	5.31	5.82	46	46	AB700121
7	1630	0.80	31.034	31.148	0.130	0.134	234.880	241.979	995.397	995.438	6.17	6.18	83.5	83.7	5.64	5.67	-	69	AB700122
8	1634	7.60	22.911	31.548	0.130	0.139	234.113	257.794	995.276	997.701	1.59	6.59	18.6	86.9	5.21	5.94	42	130	AB700123
9	1640	6.00	23.476	31.857	0.132	0.138	239.452	254.482	995.176	997.557	2.21	7.61	26.3	103.9	5.23	5.77	42	94	AB700124
10	1644	2.40	28.897	31.747	0.129	0.137	232.699	251.266	995.211	996.092	5.59	6.88	76.5	94.0	5.42	5.70	42	43	AB700125
11	1647	5.00	24.112	31.677	0.129	0.135	232.979	250.868	995.235	997.396	5.80	6.66	77.2	89.9	5.25	5.71	43	78	AB700126
12	1652	6.60	23.364	31.416	0.131	0.136	238.272	252.966	995.318	997.587	1.62	6.12	19.2	82.9	5.21	5.77	43	352	AB700127
13	1655	0.80	31.376	31.398	0.132	0.133	237.486	240.858	995.321	995.331	-	-	-	-	5.65	5.65	43	53	AB700128
14	1701	1.00	31.647	31.815	0.133	0.134	239.748	241.512	995.190	995.246	5.66	5.79	77.5	79.2	5.74	5.74	44	47	AB700129

(continued)

Table 18 Lake Ainsworth - Water Quality Maxima and Minima - 7 February 1996 (continued)

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1804	1.40	29.870	30.664	0.131	0.135	237.344	245.448	995.549	995.798	5.98	6.30	80.3	84.5	5.57	5.60	43	453	AB700130
2	1807	3.20	25.693	30.854	0.132	0.140	239.725	258.549	995.492	996.989	4.56	5.78	60.1	77.9	5.24	5.58	43	208	AB700131
3	1811	5.40	23.695	31.078	0.130	0.137	234.487	253.178	995.418	997.500	1.14	7.84	13.8	100.6	5.24	5.63	42	45	AB700132
4	1816	8.40	22.654	31.211	0.128	0.139	231.669	258.578	995.375	997.766	0.37	6.61	4.3	89.5	5.22	5.99	42	467	AB700133
5	1822	5.40	23.920	31.518	0.128	0.138	231.699	252.793	995.283	997.445	0.88	6.78	10.6	92.4	5.22	5.80	-	186	AB700134
6	1826	2.80	27.237	31.639	0.131	0.138	236.092	252.317	995.243	996.566	4.70	5.61	64.2	72.0	5.33	5.79	42	44	AB700135
7	1831	0.80	31.197	31.219	0.133	0.133	240.192	241.075	995.378	995.387	5.94	6.00	80.6	81.4	5.69	5.73	43	43	AB700136
8	1834	7.40	23.007	31.323	0.133	0.138	239.765	255.605	995.345	997.677	4.36	5.76	51.2	78.2	5.21	5.84	43	123	AB700137
9	1840	6.00	23.456	31.294	0.132	0.137	239.875	251.234	995.354	997.561	4.96	5.75	59.0	76.6	5.22	5.74	43	57	AB700138
10	1845	1.20	31.270	31.289	0.132	0.133	238.581	241.162	995.359	995.366	5.61	5.61	76.1	76.1	5.65	5.67	43	43	AB700139
11	1849	4.80	24.276	31.185	0.132	0.138	238.263	254.480	995.390	997.355	5.42	6.00	69.0	75.9	5.22	5.67	41	47	AB700140
12	1852	6.60	23.192	31.371	0.132	0.137	238.767	254.616	995.329	997.629	5.26	6.43	65.3	87.3	5.21	5.78	43	669	AB700141
13	1856	0.80	31.166	31.209	0.129	0.132	233.142	238.992	995.382	995.393	4.38	6.10	59.3	82.6	5.70	5.70	42	43	AB700142
14	1901	0.80	31.479	31.480	0.130	0.134	235.111	241.122	995.294	995.299	5.28	5.76	71.9	78.4	5.73	5.75	42	47	AB700143
1	2001	1.40	29.735	30.486	0.133	0.135	241.784	245.255	995.606	995.838	6.15	6.50	82.3	87.1	5.42	5.57	43	55	AB700144
2	2004	3.00	25.872	30.800	0.132	0.136	240.240	251.444	995.509	996.937	5.32	5.68	70.2	76.4	5.33	5.64	43	44	AB700145
3	2008	5.20	23.982	31.048	0.131	0.136	239.798	251.886	995.430	997.430	1.84	5.96	22.4	76.5	5.25	5.67	42	53	AB700146
4	2013	8.40	22.834	31.057	0.131	0.139	240.505	258.646	995.428	997.724	5.68	7.41	70.2	97.7	5.23	5.91	42	442	AB700147
5	2017	5.20	24.012	31.132	0.131	0.135	240.570	250.414	995.407	997.422	6.08	7.20	74.0	97.2	5.24	5.74	42	47	AB700148
6	2026	0.60	30.931	30.952	0.133	0.133	241.265	241.430	995.461	995.466	6.00	6.37	80.9	86.0	5.69	5.72	42	42	AB700149
7	2029	7.40	23.078	30.990	0.131	0.139	240.995	258.174	995.450	997.661	5.91	7.00	70.0	94.5	5.24	5.79	42	47	AB700150
9	2033	5.60	23.969	30.953	0.132	0.135	240.662	248.389	995.462	997.433	5.53	6.15	66.6	83.0	5.23	5.67	42	43	AB700151
10	2038	1.20	30.963	30.983	0.133	0.133	241.106	241.488	995.452	995.462	5.65	5.74	76.3	77.4	5.65	5.70	42	43	AB700152
11	2041	5.00	24.579	31.055	0.131	0.135	240.925	247.103	995.430	997.278	5.63	6.24	75.2	84.4	5.23	5.72	42	44	AB700153
12	2046	6.40	23.268	30.935	0.131	0.137	240.799	255.008	995.467	997.610	3.32	6.54	39.4	88.2	5.23	5.71	42	48	AB700154
13	2053	0.80	30.879	30.898	0.133	0.133	241.152	241.463	995.477	995.486	-	-	-	-	5.63	5.70	42	42	AB700155
14	2058	1.00	31.006	31.020	0.133	0.133	241.278	241.414	995.441	995.445	5.90	5.96	79.7	80.5	5.66	5.71	42	42	AB700156
1	2159	1.40	29.494	30.362	0.133	0.134	241.809	244.468	995.642	995.910	5.41	5.56	72.2	74.2	5.36	5.59	43	44	AB700157
2	2204	3.00	26.476	30.618	0.133	0.136	241.591	249.310	995.565	996.774	5.36	5.82	71.9	78.1	5.28	5.61	42	43	AB700158
3	2209	5.20	24.061	30.786	0.133	0.135	241.435	249.831	995.511	997.409	5.46	6.25	69.1	84.0	5.25	5.79	46	47	AB700159
4	2214	8.60	22.785	30.798	0.131	0.140	241.448	260.026	995.510	997.736	2.44	6.29	28.6	79.4	5.22	5.97	45	298	AB700160
5	2220	5.60	23.746	30.871	0.131	0.135	240.641	251.415	995.486	997.490	4.47	5.64	60.2	74.0	5.23	5.86	45	122	AB700161
6	2224	3.20	26.063	30.933	0.132	0.137	238.866	253.048	995.468	996.888	5.23	5.71	70.6	75.4	5.34	5.74	41	48	AB700162
7	2228	0.60	30.719	30.737	0.133	0.133	241.544	241.692	995.526	995.534	-	-	-	-	5.67	5.70	44	44	AB700163
8	2232	7.40	23.034	30.755	0.131	0.138	241.562	257.238	995.522	997.671	4.34	6.56	50.9	88.2	5.21	5.83	44	46	AB700164
9	2236	5.80	23.593	30.767	0.132	0.136	241.145	251.936	995.518	997.528	5.75	6.70	69.0	89.7	5.24	5.69	44	45	AB700165
10	2240	1.20	30.719	30.768	0.133	0.133	241.120	241.552	995.519	995.532	7.50	7.83	100.9	105.3	5.64	5.70	44	62	AB700166
11	2245	5.20	24.278	30.811	0.131	0.136	241.260	251.330	995.506	997.355	5.35	5.90	68.8	76.8	5.21	5.69	42	66	AB700167
12	2250	6.20	23.357	30.720	0.132	0.136	240.671	253.577	995.535	997.587	4.91	5.88	58.3	77.4	5.21	5.69	42	46	AB700168
13	2254	0.80	30.646	30.658	0.131	0.133	237.133	241.406	995.552	995.555	-	-	-	-	5.60	5.68	42	46	AB700169
14	2259	1.00	30.736	30.765	0.131	0.133	237.296	241.502	995.521	995.525	5.95	6.11	80.0	82.1	5.64	5.67	44	51	AB700170
1	2355	1.40	29.621	30.179	0.132	0.134	240.386	244.307	995.700	995.872	5.49	6.42	73.1	85.5	5.33	5.58	45	48	AB700171
2	2358	3.20	26.116	30.437	0.133	0.137	241.559	253.491	995.621	996.874	5.69	6.92	72.5	92.6	5.27	5.59	44	67	AB700172

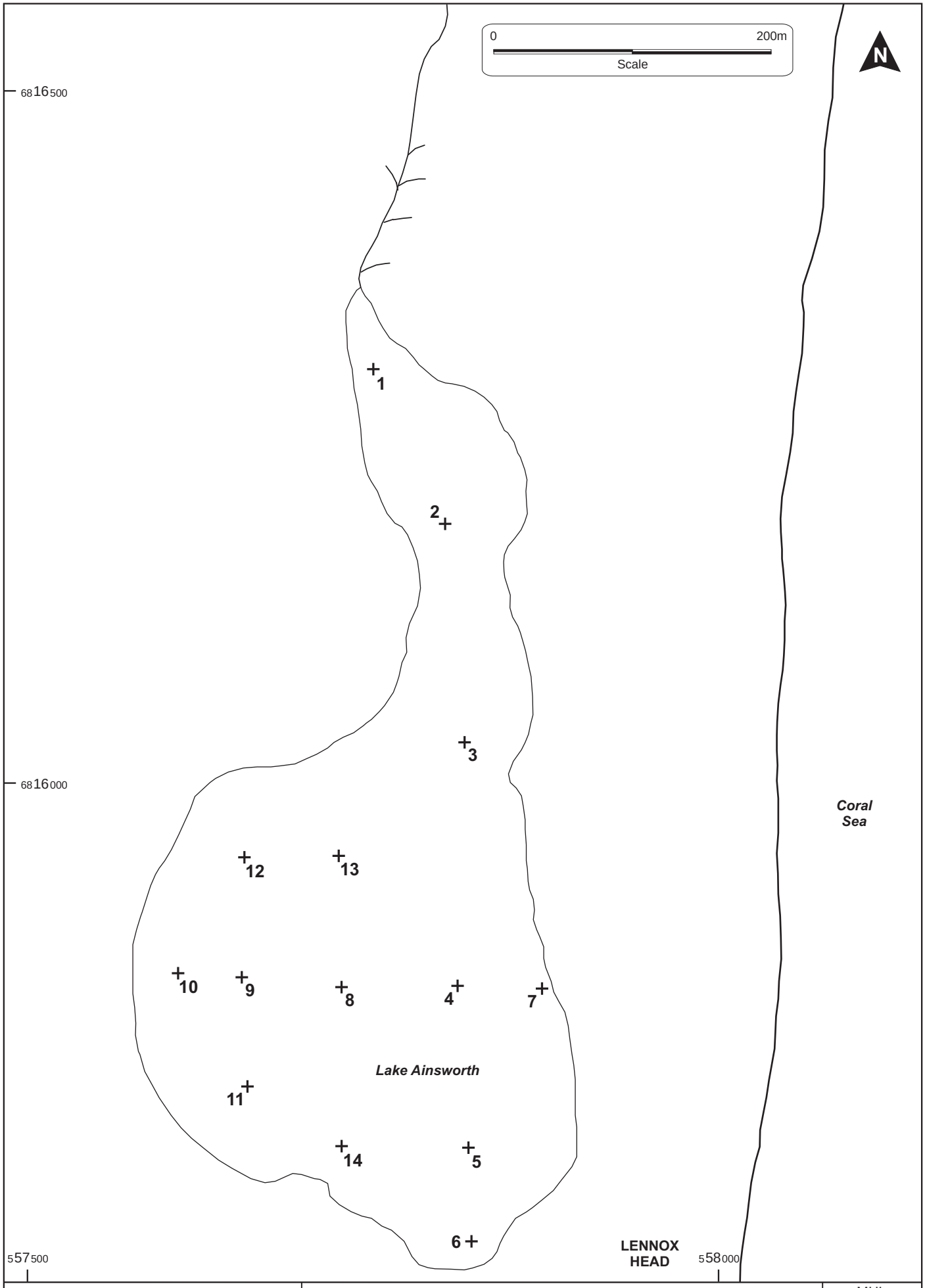
Table 19 Lake Ainsworth - Water Quality Maxima and Minima - 8 February 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
3	0002	5.20	24.075	30.519	0.132	0.136	240.463	251.279	995.594	997.407	3.84	6.77	46.2	90.6	5.23	5.63	43	86	AB700173
4	0007	8.40	22.854	30.486	0.130	0.139	235.359	258.277	995.603	997.719	4.51	6.27	52.9	83.9	5.21	5.93	43	145	AB700174
5	0012	5.20	23.938	30.628	0.131	0.135	239.578	249.401	995.562	997.440	5.73	6.68	69.6	88.2	5.22	5.68	43	44	AB700175
6	0016	3.20	26.066	30.636	0.131	0.136	237.242	250.624	995.556	996.886	5.55	6.43	74.5	85.5	5.32	5.68	43	47	AB700176
8	0024	7.60	22.978	30.483	0.132	0.138	241.769	257.472	995.607	997.685	6.29	7.51	73.9	99.2	5.20	5.90	43	64	AB700178
9	0028	5.80	23.704	30.551	0.130	0.135	235.610	250.341	995.581	997.500	6.38	7.74	79.4	96.2	5.24	5.68	44	46	AB700179
10	0032	1.20	-	30.525	-	0.133	-	241.656	-	995.601	6.21	6.35	83.2	85.0	5.57	5.64	43	44	AB700180
11	0036	5.20	24.126	30.560	0.129	0.134	233.303	246.960	995.578	997.392	5.99	6.57	75.9	87.9	5.21	5.66	43	55	AB700181
12	0041	6.00	23.556	30.498	0.131	0.136	240.793	252.820	995.601	997.538	5.74	7.07	68.8	93.7	5.21	5.65	33	47	AB700182
13	0045	0.80	30.365	30.400	0.132	0.133	240.206	241.547	995.632	995.640	-	-	-	-	5.59	5.61	45	46	AB700183
14	0049	1.00	30.453	30.484	0.131	0.133	237.076	241.990	995.602	995.618	6.26	6.86	83.8	91.8	5.58	5.62	45	47	AB700184
1	0202	1.20	29.807	29.897	0.132	0.133	239.726	242.202	995.781	995.814	4.65	5.32	61.6	70.5	5.53	5.57	43	43	AB700185
2	0206	3.20	25.810	30.171	0.130	0.141	235.836	260.213	995.702	996.963	4.93	6.22	63.6	82.8	5.26	5.58	43	168	AB700186
3	0211	5.20	24.109	30.232	0.130	0.137	236.918	252.852	995.682	997.398	2.43	6.04	29.3	80.5	5.24	5.59	43	297	AB700187
4	0216	8.60	-	30.220	-	0.139	-	258.101	-	997.722	0.70	6.30	8.2	84.0	5.20	6.04	43	261	AB700188
5	0221	5.60	23.754	30.281	0.129	0.136	234.613	252.823	995.668	997.488	2.95	7.68	35.3	102.4	5.23	5.86	43	175	AB700189
6	0226	3.00	26.404	30.293	0.128	0.135	231.885	249.837	995.666	996.794	6.15	6.77	78.9	89.3	5.33	5.64	44	104	AB700190
7	0231	1.20	30.138	30.201	0.129	0.134	234.800	242.884	995.689	995.715	6.49	6.71	86.5	89.5	5.63	5.66	44	122	AB700191
8	0235	7.60	22.966	30.130	0.131	0.138	237.947	256.614	995.713	997.688	0.71	6.61	8.3	88.0	5.19	5.88	40	306	AB700192
9	0240	6.20	-	30.254	-	0.137	-	252.614	-	997.539	1.46	8.95	17.3	116.9	5.20	5.95	42	955	AB700193
10	0245	1.20	30.191	30.221	0.131	0.133	237.233	242.227	995.684	995.698	5.94	6.15	79.1	82.0	5.56	5.58	42	42	AB700194
11	0249	5.40	-	30.226	-	0.135	-	249.670	-	997.420	5.62	7.32	74.9	95.2	5.20	6.16	41	50	AB700195
12	0254	6.60	-	30.200	-	0.137	-	255.349	-	997.612	1.29	4.98	15.2	66.3	5.20	5.96	45	396	AB700196
13	0259	0.80	30.056	30.095	0.131	0.133	237.206	242.393	995.724	995.733	5.82	5.92	77.4	78.7	5.58	5.61	42	44	AB700197
14	0304	1.00	30.188	30.203	0.132	0.133	239.918	242.195	995.693	995.696	6.19	6.57	82.5	87.5	5.54	5.57	42	42	AB700198
1	0400	1.60	-	29.685	-	0.135	-	246.053	-	996.076	7.32	7.98	96.7	105.4	5.44	5.53	43	136	AC700201
2	0404	3.20	25.669	29.945	0.132	0.138	239.237	255.558	995.770	996.994	6.23	8.66	78.6	114.4	5.25	5.55	43	68	AC700202
3	0408	5.20	24.128	29.941	0.129	0.137	234.757	252.555	995.773	997.393	5.52	7.92	66.7	105.1	5.22	5.66	45	182	AC700203
4	0413	8.40	22.809	29.908	0.131	0.138	238.227	257.324	995.784	997.729	5.54	11.39	64.9	135.4	5.21	5.96	46	161	AC700204
5	0419	5.60	23.739	29.965	0.129	0.135	234.330	251.485	995.760	997.491	4.85	7.80	58.2	102.5	5.24	5.88	42	111	AC700205
6	0424	2.80	27.454	29.972	0.128	0.137	233.415	251.411	995.761	996.506	5.22	6.46	68.3	85.7	5.32	5.62	41	54	AC700206
7	0429	080	29.852	29.884	0.131	0.133	238.749	242.403	995.788	995.794	5.33	5.52	70.7	73.1	5.63	5.64	41	41	AC700207
8	0434	7.40	23.026	29.855	0.129	0.138	235.107	255.796	995.798	997.672	1.08	6.54	12.7	86.7	5.19	5.83	41	139	AC700208
9	0439	6.00	-	29.937	-	0.135	-	249.845	-	997.506	4.83	6.97	57.9	92.5	5.22	5.95	41	42	AC700209
10	0444	1.40	29.884	29.928	0.129	0.133	234.724	242.189	995.772	995.792	6.88	7.77	91.2	103.1	5.56	5.57	44	46	AC700210
11	0447	5.40	23.627	29.916	0.130	0.135	236.689	251.639	995.776	997.518	5.93	8.69	71.2	114.6	5.21	5.82	45	131	AC700211
12	0453	6.40	23.503	29.914	0.132	0.135	240.358	250.728	995.781	997.552	5.02	6.81	59.9	90.2	5.21	5.70	41	207	AC700212
13	0457	080	29.747	29.774	0.129	0.133	235.049	242.170	995.820	995.829	6.00	6.42	79.3	84.9	5.57	5.59	42	57	AC700213
14	0501	1.00	29.890	29.894	0.131	0.133	238.062	242.517	995.781	995.789	5.78	6.14	76.7	81.4	5.53	5.57	41	43	AC700214

(continued)

Table 19 Lake Ainsworth - Water Quality Maxima and Minima - 8 February 1996 (continued)

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	0601	1.20	29.328	29.359	0.128	0.133	233.213	242.590	995.942	995.953	6.03	6.61	79.2	86.8	5.45	5.48	42	56	AC700215
2	0606	3.20	25.796	29.702	0.128	0.138	234.022	255.418	995.845	996.960	5.86	6.92	74.4	91.4	5.28	5.52	43	47	AC700216
3	0611	5.00	24.274	29.661	0.128	0.135	233.621	249.316	995.854	997.355	5.86	7.51	77.3	94.6	5.23	5.51	43	46	AC700217
4	0617	8.40	22.758	29.625	0.129	0.139	234.545	258.908	995.865	997.741	066	6.78	7.8	89.4	5.21	5.98	-	228	AC700218
5	0622	5.40	-	29.711	-	0.136	-	250.606	.000	997.390	1.28	6.53	15.4	86.2	5.22	5.80	46	109	AC700219
6	0628	2.80	27.208	29.711	0.132	0.136	239.525	250.545	995.840	996.574	6.24	7.57	82.4	100.1	5.33	5.57	45	46	AC700220
7	0632	1.20	-	29.580	-	0.133	-	242.636	-	995.892	6.73	6.82	88.7	89.9	5.59	5.63	42	43	AC700221
8	0636	7.60	-	29.641	-	0.139	-	257.856	-	997.697	5.31	6.89	62.3	90.9	5.20	6.02	42	769	AC700222
9	0640	6.20	23.462	29.713	0.131	0.136	239.340	252.404	995.840	997.561	6.19	7.32	73.8	94.3	5.23	5.69	27	242	AC700223
10	0644	2.20	-	29.719	-	0.134	-	245.596	-	996.090	5.52	6.47	72.9	84.5	5.40	5.58	43	46	AC700224
11	0648	5.40	23.802	29.688	0.131	0.134	237.639	249.102	995.844	997.474	5.43	7.01	65.7	92.0	5.18	5.71	42	62	AC700225
12	0653	6.40	23.247	29.691	0.128	0.137	233.348	254.602	995.841	997.615	5.78	7.28	68.9	94.7	5.20	5.88	42	764	AC700226
13	0657	080	29.575	29.581	0.131	0.133	238.442	242.132	995.878	995.881	-	-	-	-	5.53	5.55	43	44	AC700227
14	0701	1.00	29.699	29.711	0.129	0.133	235.014	242.519	995.835	995.845	5.92	5.97	78.2	78.8	5.51	5.54	42	58	AC700228
1	0802	1.40	28.593	29.757	0.130	0.135	237.315	246.989	995.823	996.175	5.85	6.77	77.1	89.5	5.38	5.49	43	300	AC700229
2	0805	3.20	26.228	29.761	0.132	0.140	239.629	258.144	995.822	996.846	4.51	5.66	57.8	74.8	5.25	5.49	43	158	AC700230
3	0809	5.40	23.758	29.821	0.130	0.136	236.090	251.742	995.804	997.486	5.45	6.83	67.6	90.1	5.23	5.79	43	47	AC700231
4	0813	8.20	22.812	29.829	0.132	0.138	242.439	257.345	995.803	997.727	2.47	7.19	29.0	91.7	5.21	5.96	-	94	AC700232
5	0818	5.20	24.087	29.764	0.130	0.138	236.620	254.137	995.825	997.403	5.27	6.47	64.0	85.5	5.22	5.57	42	183	AC700233
6	0821	2.80	27.817	29.830	0.132	0.137	240.452	251.127	995.802	996.404	5.57	6.52	73.7	86.2	5.36	5.57	42	44	AC700234
6	0824	2.40	28.954	29.815	0.131	0.133	239.876	242.906	995.808	996.071	5.21	5.81	68.9	76.9	5.52	5.60	42	45	AC700235
5	0829	5.40	23.844	29.883	0.128	0.146	236.369	271.356	995.786	997.473	1.13	5.63	13.6	74.4	5.21	5.79	42	79	AC700236
4	0833	8.40	22.871	29.909	0.131	0.141	239.016	262.792	995.777	997.716	1.77	5.87	20.8	77.9	5.21	5.88	42	243	AC700237
7	0837	1.20	29.835	29.904	0.133	0.133	242.014	242.676	995.781	995.806	4.92	5.22	65.2	69.1	5.57	5.60	42	60	AC700238
8	0840	7.60	-	29.998	-	0.141	-	263.393	-	997.682	037	5.65	4.4	75.0	5.19	5.93	42	48	AC700239
9	0844	5.80	23.622	29.827	0.109	0.144	197.770	267.652	995.787	997.527	054	5.58	6.4	73.8	5.21	5.64	-	46	AC700240
10	0849	1.20	29.561	30.109	0.133	0.133	241.750	242.634	995.718	995.888	5.48	5.56	72.7	73.9	5.50	5.56	42	65	AC700241
11	0853	5.20	23.991	29.917	0.128	0.143	236.793	265.294	995.776	997.433	1.29	5.39	15.5	71.2	5.21	5.61	42	323	AC700242
12	0858	6.60	23.205	29.761	0.128	0.145	235.614	269.550	995.823	997.632	075	5.44	8.9	71.8	5.19	5.77	42	189	AC700243
13	0902	080	29.790	29.883	0.133	0.133	242.365	242.545	995.787	995.818	5.57	5.57	73.8	73.8	5.54	5.55	43	45	AC700244
14	0907	1.00	29.879	30.249	0.133	0.133	241.066	242.848	995.675	995.792	5.34	5.35	71.2	71.3	5.56	5.59	42	53	AC700245
1	0959	1.40	28.896	29.849	0.131	0.134	239.494	245.879	995.798	996.086	4.74	5.33	62.4	70.5	5.39	5.50	43	55	AC700246
2	1003	3.00	26.368	30.416	0.130	0.142	238.352	262.242	995.625	996.808	1.71	5.46	21.6	72.9	5.23	5.50	42	74	AC700247
3	1008	5.40	23.768	30.337	0.128	0.159	236.302	296.486	995.649	997.502	0.29	5.64	3.5	75.3	5.17	5.51	42	52	AC700248
4	1013	8.60	-	29.951	-	0.154	-	287.776	-	997.722	0.20	5.80	2.3	76.9	5.17	6.01	42	1296	AC700249
5	1020	5.40	-	30.645	-	0.138	-	255.108	-	997.435	2.83	5.99	34.1	73.7	5.18	5.80	42	69	AC700250
6	1025	3.40	25.931	31.056	0.133	0.138	240.969	255.431	995.427	996.926	5.30	6.42	67.0	86.8	5.26	5.66	42	147	AC700251
7	1030	1.20	29.688	29.939	0.133	0.133	242.438	242.977	995.770	995.851	5.67	5.71	75.2	75.5	5.54	5.57	20	42	AC700252
8	1034	7.60	22.918	30.607	0.129	0.148	238.394	276.001	995.567	997.707	0.44	5.66	5.1	71.5	5.18	5.91	32	56	AC700253
9	1040	5.80	23.558	30.490	0.128	0.145	235.572	268.995	995.602	997.543	0.47	5.57	5.6	74.5	5.19	6.02	41	55	AC700254
10	1045	1.60	30.613	30.712	0.133	0.134	242.075	242.614	995.535	995.571	4.76	4.84	63.9	65.0	5.55	5.58	41	43	AC700255
11	1049	3.20	25.670	30.767	0.129	0.135	237.532	247.065	995.517	996.985	2.27	5.52	27.9	71.9	5.25	5.64	31	58	AC700256
12	1055	6.80	23.159	30.648	0.128	0.168	235.246	313.569	995.555	997.662	0.48	5.64	5.7	75.8	5.14	5.84	41	196	AC700257
13	1059	080	30.100	30.158	0.133	0.133	242.150	242.686	995.704	995.724	5.09	5.13	67.7	68.2	5.51	5.54	41	70	AC700258
14	1104	1.00	30.772	30.843	0.133	0.134	241.669	242.207	995.495	995.520	6.03	6.06	81.2	81.6	5.62	5.66	42	43	AC700259



Public Works
Manly Hydraulics Laboratory

LAKE AINSWORTH
7 AND 8 FEBRUARY 1996

MHL Report 1812

Figure 13

DRAWING 1812-013.CDR

Richmond River Data Summary

Data has been collected in the Richmond/Wilsons rivers on ten occasions: once in November 1994, eight times between October 2002 and August 2003, and once in May 2011.

Data was collected in the Richmond/Wilsons Rivers on 2 and 3 November 1994, as detailed in report MHL708. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 20. Summaries of the minimum and maximum mean values for all parameters measured on the low and high water runs are shown in Table 21a-b. The locations at which these profiles were taken are shown in Figure 14. Long channel depth-averaged salinity profiles are shown in Figure 15.

Table 20 Richmond/Wilsons River - 2 and 3 November 1994

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity		High Water Salinity	
	Easting	Northing		Min (psu)	Max (psu)	Min (psu)	Max (psu)
1	556925	6805905	0.5	34.7	34.7	35.5	35.6
2	551415	6805755	6.1	31.0	31.5	35.4	35.6
3	549330	6801680	11.8	26.4	26.6	34.3	34.8
4	545320	6797035	18.2	20.7	20.9	26.8	27.7
5	542420	6791580	25.7	17.2	18.0	19.5	21.5
6	541965	6791840	25.7	15.9	16.5	19.3	19.6
7	537480	6789960	34.2	8.8	10.3	16.2	16.8
8	533325	6784155	42.8	3.3	3.8	8.4	8.5
9	529905	6785270	51.9	1.0	1.0	2.0	2.6
10	527805	6789295	57.4	-	-	0.9	1.1
11	528075	6793735	64.4	-	-	0.2	0.2
12	529870	6795415	71.3	-	-	0.1	0.1
13	528760	6798600	77.3	-	-	0.1	0.1
14	528940	6804040	86.0	-	-	0.1	0.1
15	526210	6806420	94.4	-	-	0.1	0.1
16	526305	6812770	102.4	-	-	0.1	0.1
17	527875	6814155	105.4	-	-	0.1	0.1
18	529350	6815380	111.8	-	-	0.1	0.1

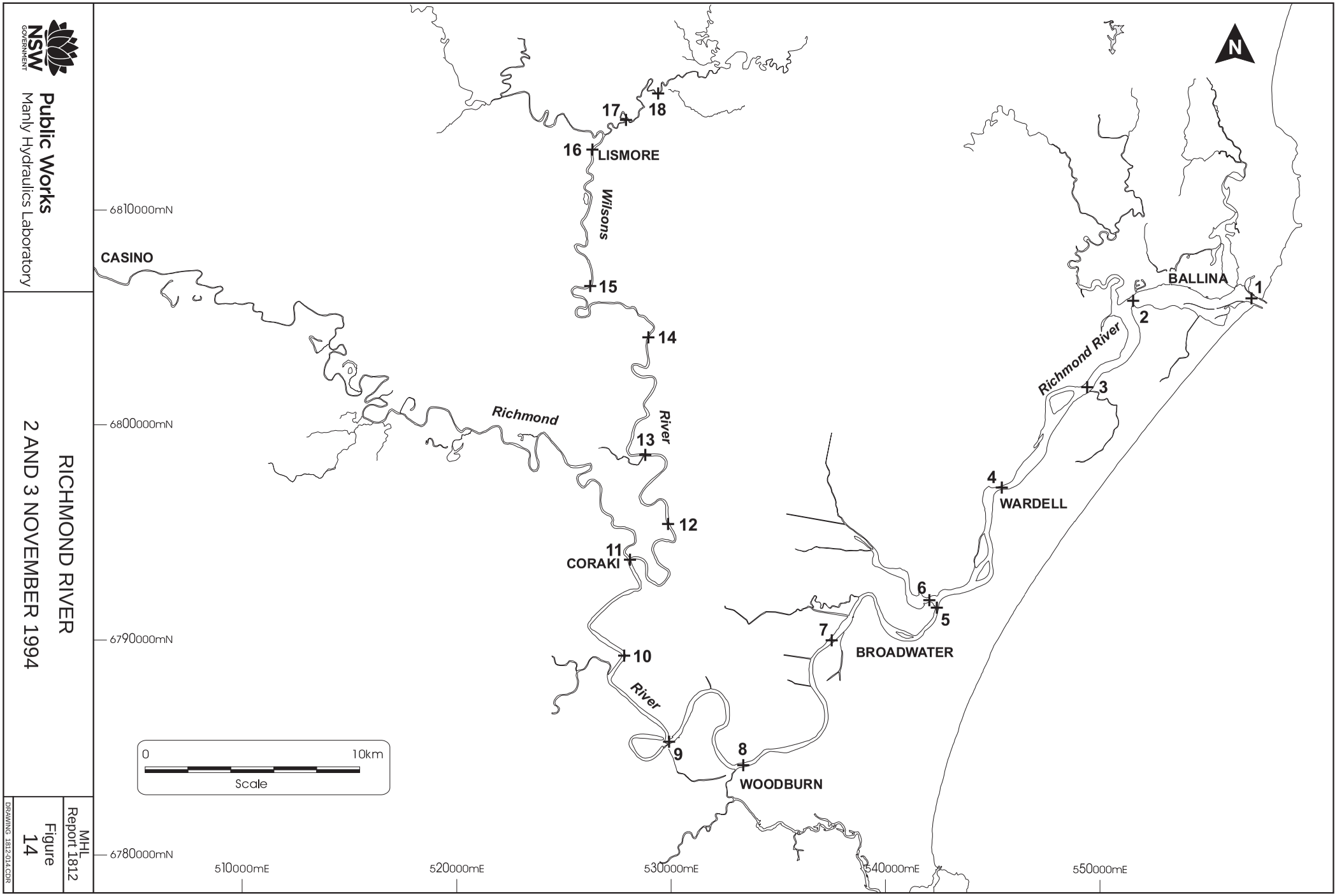
Note Station locations transferred from report figure to aerial photo in Department of Lands database
On the low water run profiling stopped at Station 9 because salinity was near zero

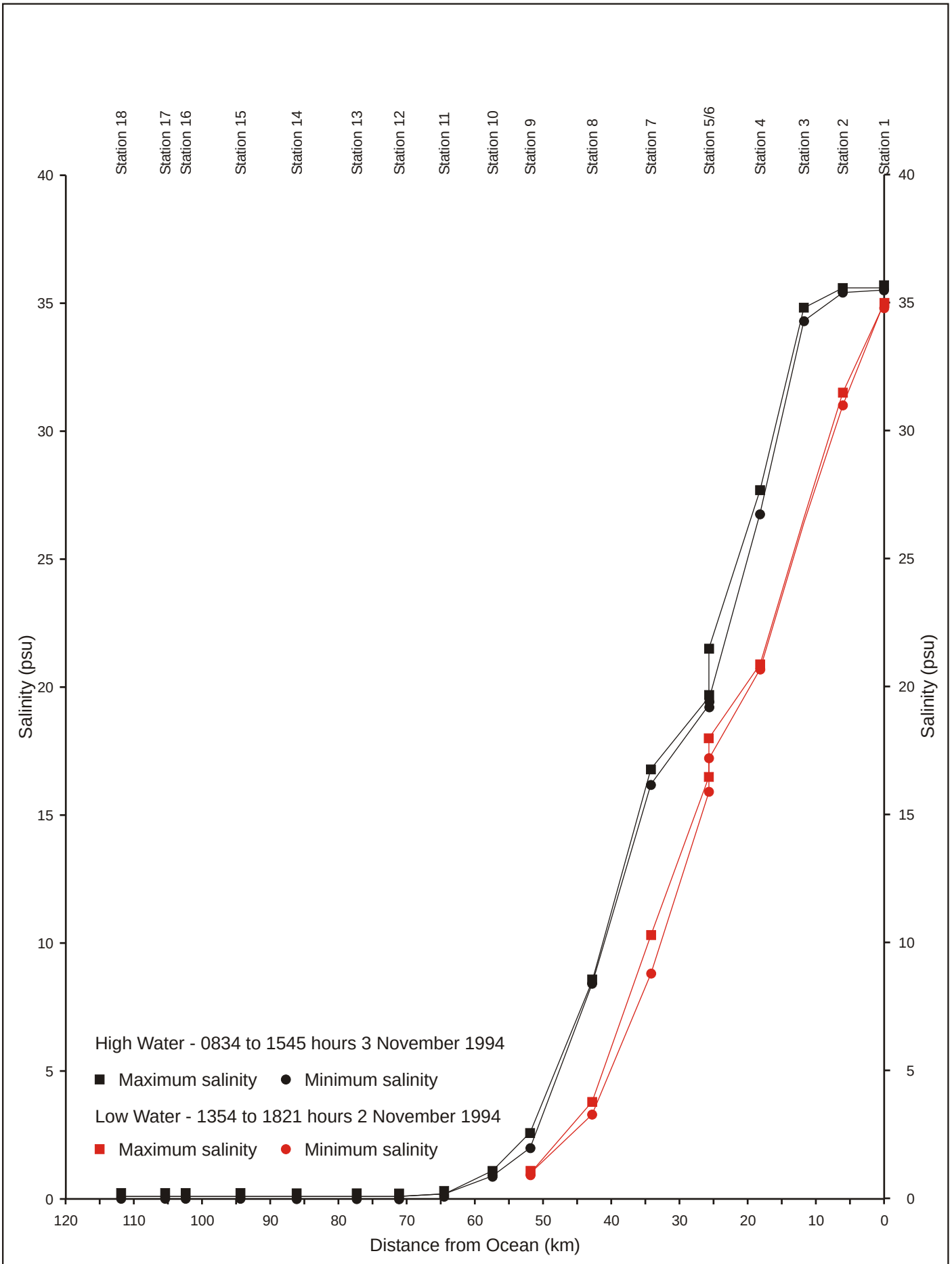
Table 21a Richmond/Wilsons River - Water Quality Maxima and Minima - Low Water - 2 November 1994

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Dissolved O_2 (mg/L)		Turbidity (NTU)	
			Min	Max	Min	Max	Min	Max	Min	Max
1	1354	2.53	21.3	21.4	34.7	34.7	7.2	7.5	4.1	17.1
2	1451	6.60	22.7	22.9	31.0	31.5	7.3	7.4	1.9	6.0
3	1510	4.00	23.1	23.2	26.4	26.6	7.5	7.6	4.0	5.0
4	1540	8.00	23.7	23.9	20.7	20.9	7.2	7.4	4.9	9.2
5	1600	6.93	24.0	24.2	17.2	18.0	6.8	7.1	2.8	5.5
6	1607	2.90	24.5	24.8	15.9	16.5	6.9	7.6	7.9	18.7
7	1730	5.50	24.0	24.1	8.8	10.3	7.7	7.8	2.6	6.6
8	1802	5.37	23.8	24.0	3.3	3.8	8.4	8.6	2.3	6.1
9	1821	16.63	23.4	23.6	1.0	1.0	8.6	8.8	4.6	10.0

Table 21b Richmond/Wilsons River - Water Quality Maxima and Minima - High Water - 3 November 1994

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Dissolved O_2 (mg/L)		Turbidity (NTU)	
			Min	Max	Min	Max	Min	Max	Min	Max
1	0834	5.13	20.0	20.1	35.5	35.6	7.7	7.8	0.2	7.2
2	0858	11.10	20.0	20.1	35.4	35.6	7.5	7.7	0.9	5.2
3	0927	3.63	20.8	21.3	34.3	34.8	6.9	7.2	2.9	7.4
4	0943	12.43	22.2	22.6	26.8	27.7	7.0	7.2	5.0	11.6
5	1104	6.67	23.1	23.7	19.5	21.5	7.0	7.2	4.5	7.2
6	1014	4.10	23.3	23.5	19.3	19.6	6.8	6.9	4.5	7.9
7	1127	5.77	23.9	24.2	16.2	16.8	6.6	6.8	2.3	5.1
8	1150	4.30	23.7	23.8	8.4	8.5	7.7	7.9	4.0	12.5
9	1215	24.33	23.4	23.9	2.0	2.6	8.4	8.7	6.1	30.1
10	1232	6.47	23.4	23.5	0.9	1.1	8.5	8.7	2.1	24.9
11	1319	16.13	23.7	24.3	0.2	0.2	9.3	9.6	7.0	27.2
12	1348	4.00	23.8	24.4	0.1	0.1	9.7	10.0	9.2	19.3
13	1405	5.37	23.9	24.6	0.1	0.1	9.8	10.1	13.0	21.4
14	1427	6.07	23.6	24.3	0.1	0.1	8.8	9.4	7.6	23.9
15	1452	5.40	23.7	24.5	0.1	0.1	8.6	9.1	5.2	9.8
16	1514	5.13	24.0	24.2	0.1	0.1	9.5	9.7	6.5	8.0
17	1527	4.77	24.0	24.1	0.1	0.1	9.1	9.3	5.9	28.5
18	1545	5.20	23.6	23.9	0.1	0.1	8.6	9.0	3.9	4.7


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RICHMOND RIVER
2 AND 3 NOVEMBER 1994
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Figure 14
DRAWING 1812-014.CDR
N
BALLINA
1
2
Richmond River
3
4
WARDELL
5
6
7
BROADWATER
8
WOODBURN
9
10
River
11
CORAKI
12
13
River
Richmond
14
15
Wilsons
16
LISMORE
17
18
CASINO
6810000mN
6800000mN
6790000mN
6780000mN
510000mE
520000mE
530000mE
540000mE
550000mE
0
10km
Scale



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
RICHMOND RIVER - HIGH AND LOW WATER
2 AND 3 NOVEMBER 1994

MHL Report 1812

Figure 15

DRAWING 1812-015.CDR

Water quality data collected in the Richmond and Wilsons rivers on 30 October 2002 is summarised in Table 22. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Table 23. The locations at which these profiles were taken are shown in Figure 16. Long channel depth-averaged salinity profiles are shown in Figure 17.

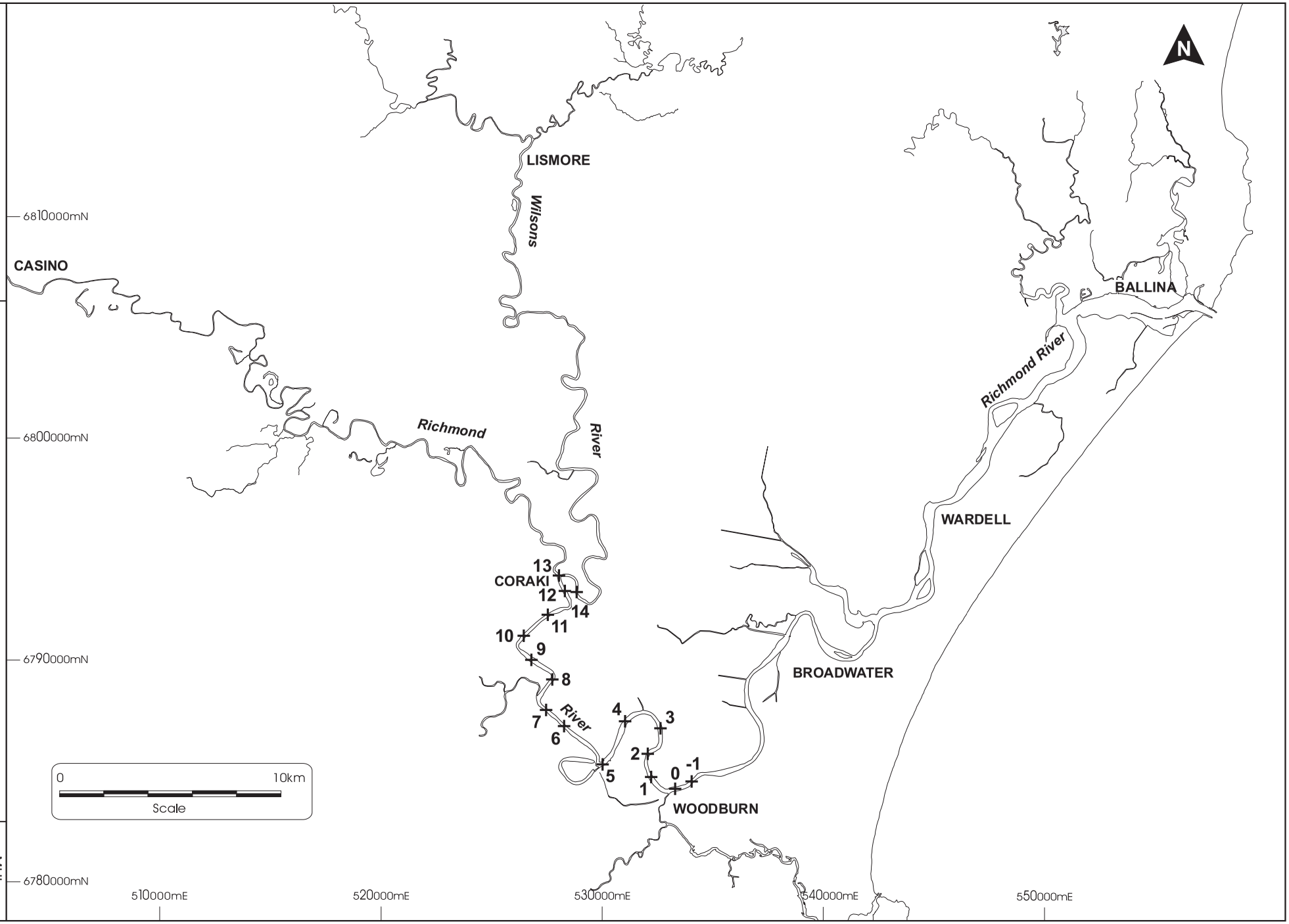
Table 22 Richmond/Wilsons Rivers - 30 October 2002

Profile No.	Station No.	MGA (m) Zone 56		Chainage (km)	Mean Salinity (psu)
		Easting	Northing		
1	0	533320	6784211	42.50	4.79
2	-1	534024	6784500	41.50	5.05
3	0	533299	6784177	42.50	5.00
4	1	532216	6784674	43.78	4.33
5	2	532038	6785746	44.83	3.91
6	3	532663	6786886	46.35	3.05
9	4	530996	6787213	48.50	2.31
10	5	530034	6785246	50.75	1.93
11	6	528273	6786975	53.38	1.12
12	7	527475	6787693	54.53	0.92
13	8	527745	6789088	56.15	0.60
14	9	526805	6789971	57.65	0.36
15	10	526406	6791084	59.03	0.24
16	11	527539	6792020	60.53	0.20
17	12	528340	6793086	62.48	0.16
18	13	528046	6793787	63.23	0.15
19	14	528852	6793035	64.65	0.14
20	(5)	530204	6785439	50.43	3.52
21	0	533386	6784190	42.50	9.29

Note There were three slightly different locations for Station 0. All three plot in the same place in Figure 15 due to the scale of the map
Profiles 7 and 8 were aborted

Table 23 Richmond/Wilsons River - Water Quality Maxima and Minima - 30 October 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
0	1438	3.7	1000.7	1001.8	1001.1	23.02	23.46	23.27	4.32	5.63	4.79	92.23	106.64	98.13	7.46	7.64	7.59	3.48	7.38	4.83	4.62	6.67	6.12	85.0	1069.0	395.1	RR1
-1	1454	4.4	1001.0	1001.4	1001.2	23.39	23.77	23.53	4.80	5.22	5.05	0.00	109.54	85.89	7.57	7.68	7.63	2.99	10.32	4.59	4.76	6.94	5.75	20.2	706.0	127.1	RR2
0	1502	4.6	1000.7	1001.7	1001.2	23.06	23.86	23.34	4.42	5.44	5.00	0.00	110.83	94.03	7.44	7.70	7.58	3.48	7.38	5.02	4.99	7.13	5.94	17.0	167.2	94.3	RR3
1	1510	4.1	1000.2	1001.0	1000.7	23.08	23.93	23.33	3.72	4.63	4.33	95.70	110.17	98.56	7.51	7.77	7.65	3.48	11.29	6.19	5.98	7.64	6.69	31.7	663.2	241.3	RR4
2	1519	4.7	1000.3	1000.6	1000.5	23.00	23.06	23.01	3.67	3.98	3.91	0.00	100.04	91.41	7.49	7.59	7.53	4.94	8.85	6.77	6.77	7.72	7.22	6.9	343.6	70.0	RR5
3	1527	3.9	999.7	999.7	999.7	23.51	23.53	23.52	3.05	3.06	3.05	0.00	105.53	100.58	7.72	7.73	7.73	6.90	8.85	7.51	7.50	10.68	8.11	10.6	301.0	84.6	RR6
4	1545	4.3	999.1	999.2	999.2	23.59	23.68	23.60	2.31	2.31	2.31	107.65	108.30	107.88	7.89	7.93	7.90	5.43	11.78	6.67	8.73	11.01	9.64	5.7	429.9	105.6	RR9
5	1556	9.1	998.7	998.9	998.8	23.56	24.10	23.75	1.90	1.99	1.93	112.65	116.79	113.78	8.08	8.14	8.11	5.43	9.83	7.10	10.29	12.48	11.21	0.2	303.2	19.2	RR10
6	1610	5.7	997.8	998.4	998.3	23.18	24.70	23.37	0.95	1.14	1.12	0.00	129.99	105.53	8.10	8.60	8.28	5.43	11.78	9.01	13.47	16.15	14.41	0.2	273.6	31.9	RR11
7	1618	7.1	997.8	998.2	998.1	23.33	24.38	23.60	0.84	0.94	0.92	0.00	119.15	109.63	8.19	8.55	8.33	6.41	12.27	8.86	14.28	16.72	15.21	0.2	160.0	16.2	RR12
8	1628	2.4	997.9	997.9	997.9	23.43	23.47	23.44	0.59	0.60	0.60	107.00	107.51	107.15	8.19	8.27	8.23	11.29	14.22	12.81	15.79	17.29	16.44	10.5	86.3	38.3	RR13
9	1637	2.9	997.6	997.6	997.6	23.95	24.02	23.98	0.35	0.37	0.36	0.00	115.55	101.94	8.46	8.48	8.47	8.36	13.25	11.59	15.63	17.50	16.53	2.5	114.1	25.9	RR14
10	1647	5.0	997.3	997.5	997.4	24.09	24.60	24.23	0.23	0.24	0.24	0.00	120.49	112.86	8.45	8.66	8.55	6.90	21.06	11.01	14.26	18.04	15.49	0.2	25.1	5.0	RR15
11	1655	7.3	997.4	997.6	997.6	23.53	24.02	23.63	0.19	0.20	0.20	0.00	107.19	97.78	8.05	8.62	8.20	6.41	19.59	9.86	12.04	14.67	12.93	0.2	36.9	2.8	RR16
12	1709	4.9	997.4	997.6	997.5	23.49	24.04	23.67	0.16	0.16	0.16	0.00	109.49	96.47	8.06	8.40	8.22	5.92	13.73	7.86	10.53	13.02	11.16	0.5	115.0	16.3	RR17
13	1726	8.6	997.4	997.7	997.5	23.18	24.24	23.93	0.15	0.16	0.15	56.97	111.86	104.08	8.19	8.41	8.26	5.43	12.27	6.98	10.81	16.71	11.66	0.1	163.0	10.4	RR18
14	1736	8.5	997.5	997.5	997.5	23.63	23.78	23.66	0.14	0.14	0.14	100.32	104.55	101.06	8.04	8.14	8.07	6.90	15.20	9.83	10.21	14.46	11.20	0.2	115.0	1.9	RR19
(5)	1829	5.5	1000.1	1000.1	1000.1	23.39	23.41	23.40	3.47	3.54	3.52	101.57	102.53	101.82	7.58	7.60	7.59	9.83	52.81	11.97	8.12	9.18	8.49	0.2	8.3	1.8	RR20
0	1901	4.6	1004.3	1004.4	1004.4	23.77	23.80	23.79	9.22	9.33	9.29	103.88	104.72	104.15	7.53	7.54	7.54	3.48	5.92	4.63	7.08	7.74	7.43	0.4	4.7	1.8	RR21



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RICHMOND AND WILSONS RIVER

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Figure 16

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
RICHMOND AND WILSONS RIVERS
30 OCTOBER 2002

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Figure 17

DRAWING 1812-017.CDR

Water quality data collected in the Richmond and Wilsons rivers on high water slack on 5 November 2002 is summarised in Table 24. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Table 25. The locations at which these profiles were taken are shown in Figure 18. Long channel depth-averaged salinity profiles are shown in Figure 19.

Table 24 Richmond/Wilsons Rivers - High Water - 5 November 2002

Profile No.	Station No.	MGA (m) Zone 56		Chainage (km)	Mean Salinity (psu)
		Easting	Northing		
1	7	527475	6787693	54.53	2.91
2	8	527745	6789088	56.15	2.48
3	9	526805	6789971	57.65	2.01
4	10	526406	6791084	59.03	1.34
5	11	527539	6792020	60.53	0.91
6	12	528340	6793086	62.48	0.49
7	13	528046	6793787	63.23	0.33
8	14	528852	6793035	64.65	0.27
9	15	529962	6793048	66.25	0.21
10	16	529173	6794089	67.80	0.18
11	17	530252	6794709	69.25	0.15

Table 25 Richmond/Wilsons River - Water Quality Maxima and Minima - High Water - 5 November 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
7	1154	4.0	999.4	999.5	999.5	24.20	24.24	24.21	2.86	2.95	2.91	92.72	93.42	92.95	7.48	7.50	7.49	7.87	12.27	9.73	5.71	8.41	8.09	1.4	1693.0	147.2	RR01
8	1205	4.3	999.1	999.1	999.1	24.24	24.28	24.25	2.44	2.50	2.48	92.21	93.58	93.17	7.57	7.59	7.58	9.34	14.71	11.36	8.16	9.81	9.00	0.4	2508.0	177.6	RR02
9	1213	4.2	998.7	998.8	998.7	24.31	24.34	24.33	1.90	2.04	2.01	94.49	95.34	94.86	7.65	7.68	7.66	8.85	14.22	10.71	9.04	10.17	9.58	0.6	1946.0	136.8	RR03
10	1222	5.4	998.1	998.3	998.2	24.34	24.51	24.38	1.25	1.39	1.34	94.75	96.44	95.32	7.75	7.83	7.78	7.87	12.76	10.05	9.78	12.75	10.60	0.2	1842.0	101.6	RR04
11	1231	5.0	997.8	997.9	997.9	24.38	24.53	24.41	0.86	0.94	0.91	93.97	95.15	94.56	7.80	7.86	7.83	7.38	12.27	9.29	9.49	13.49	11.48	0.3	2462.0	176.5	RR05
12	1241	4.9	997.5	997.6	997.6	24.43	24.57	24.47	0.47	0.50	0.49	95.23	98.00	96.09	7.88	7.96	7.92	7.38	20.57	11.52	10.35	14.43	12.30	0.3	5153.0	294.1	RR06
13	1247	9.4	997.4	997.5	997.4	24.48	24.59	24.51	0.31	0.35	0.33	95.86	98.06	96.61	7.91	7.98	7.94	7.87	16.18	10.83	10.79	15.41	12.75	0.2	2564.0	72.0	RR07
14	1255	8.2	997.3	997.4	997.4	24.51	24.66	24.57	0.26	0.27	0.27	96.77	98.95	97.86	7.95	7.99	7.97	6.41	13.25	9.28	11.25	14.93	12.61	0.2	1584.0	63.9	RR08
15	1305	7.3	997.3	997.4	997.3	24.55	24.60	24.58	0.20	0.21	0.21	97.36	98.85	98.18	7.96	7.98	7.97	7.87	15.20	10.60	11.00	15.75	12.70	0.2	4133.0	150.1	RR09
16	1313	6.6	997.3	997.3	997.3	24.62	24.73	24.64	0.18	0.18	0.18	98.64	100.44	99.26	7.98	8.04	8.00	6.41	13.25	9.16	9.86	15.15	12.41	0.2	4335.0	252.3	RR10
17	1323	6.0	997.3	997.3	997.3	24.59	24.62	24.61	0.15	0.15	0.15	98.75	99.88	99.29	7.97	8.00	7.99	7.38	14.22	9.67	11.40	14.85	12.59	0.2	2189.0	119.6	RR11

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Figure 18

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
RICHMOND AND WILSONS RIVERS
HIGH WATER - 5 NOVEMBER 2002

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Figure 19

DRAWING 1812-019.CDR

Water quality data collected in the Richmond River on low water slack on 6 November 2002 is summarised in Table 26. Summaries of the minimum, maximum and mean values for all parameters measured on the low and high water runs are shown in Tables 27a-b. The locations at which these profiles were taken are shown in Figure 20. Long channel depth-averaged salinity profiles are shown in Figure 21.

Table 26 Richmond River - Low Water - 6 November 2002

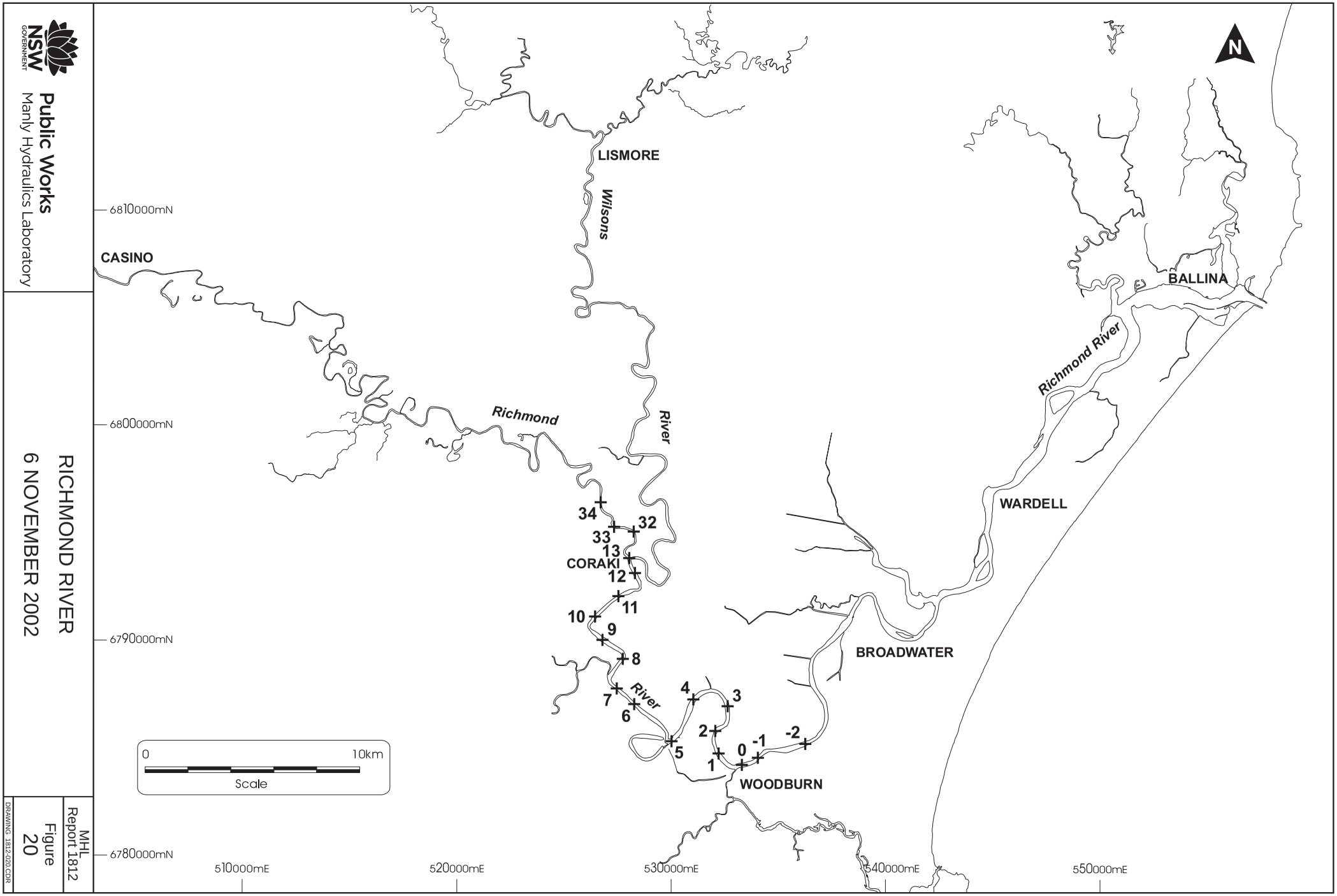
Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity (psu)	High Water Salinity (psu)
	Easting	Northing			
-2	536240	6785127	39.29	8.28	-
0	533299	6784177	42.50	5.04	10.05
1	532216	6784674	43.78	4.09	-
2	532038	6785746	44.83	3.62	8.40
3	532663	6786886	46.35	3.51	-
4	530996	6787213	48.50	2.90	6.05
5	530034	6785246	50.75	2.23	-
6	528273	6786975	53.38	1.21	3.26
7	527475	6787693	54.53	0.93	2.95
8	527745	6789088	56.15	0.57	2.50
9	526805	6789971	57.65	0.35	1.93
10	526406	6791084	59.03	0.24	1.34
11	527539	6792020	60.53	0.20	0.95
12	528340	6793086	62.48	0.16	0.34
13	528046	6793787	63.23	0.15	0.27
32	528268	6795015	64.83	-	0.17
33	527361	6795238	65.88	-	0.15
34	526731	6796394	67.28	-	0.13

Table 27a Richmond River - Water Quality Maxima and Minima - Low Water - 6 November 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
-2	0533	3.1	1003.6	1003.6	1003.6	23.77	23.80	23.79	8.27	8.30	8.28	86.00	86.51	86.33	7.30	7.31	7.31	4.94	7.38	5.76	2.91	3.17	3.04	5.1	375.3	42.0	RRL01
0	0646	4.4	1001.1	1001.6	1001.2	23.70	23.77	23.76	4.91	5.65	5.04	87.71	88.93	88.40	7.39	7.43	7.42	5.43	7.87	6.98	4.22	4.92	4.52	2.6	719.0	56.8	RRL02
1	0655	3.8	1000.3	1000.8	1000.5	23.72	23.75	23.73	3.92	4.50	4.09	86.43	88.60	87.49	7.43	7.47	7.46	4.94	11.29	8.01	4.93	5.49	5.22	4.7	3490.0	244.1	RRL03
2	0702	4.4	1000.1	1000.1	1000.1	23.77	23.78	23.77	3.61	3.62	3.62	88.46	88.99	88.78	7.48	7.49	7.48	6.90	9.83	8.16	5.46	6.24	5.84	1.6	4416.0	317.3	RRL04
3	0709	3.8	1000.0	1000.0	1000.0	23.80	23.80	23.80	3.50	3.52	3.51	88.27	89.18	88.73	7.48	7.50	7.49	5.92	9.83	8.18	5.58	6.50	5.97	4.6	4179.0	294.9	RRL05
4	0720	5.6	999.5	999.6	999.5	23.88	23.90	23.89	2.86	2.92	2.90	90.87	91.90	91.26	7.55	7.58	7.57	6.90	11.78	8.76	6.78	7.87	7.50	0.3	4841.0	184.2	RRL06
5	0730	3.5	999.0	999.1	999.0	23.96	24.02	23.98	2.20	2.30	2.23	91.01	92.50	91.69	7.61	7.65	7.63	6.90	10.80	8.51	7.89	9.18	8.65	3.0	252.3	44.1	RRL07
6	0740	5.8	998.2	998.2	998.2	24.03	24.08	24.04	1.19	1.23	1.21	90.60	92.87	91.34	7.70	7.75	7.73	6.90	14.71	9.64	9.20	11.77	10.31	0.2	4028.0	112.2	RRL08
7	0748	9.6	998.0	998.1	998.0	23.98	24.05	24.00	0.91	0.97	0.93	88.94	92.34	90.61	7.70	7.77	7.74	6.41	10.32	7.99	9.30	12.89	10.94	0.2	4498.0	106.7	RRL09
8	0756	3.9	997.7	997.7	997.7	24.09	24.16	24.11	0.56	0.57	0.57	90.19	92.97	91.59	7.79	7.85	7.82	6.41	10.80	7.75	9.83	12.44	10.96	1.9	3784.0	302.7	RRL10
9	0804	3.6	997.5	997.5	997.5	24.20	24.33	24.24	0.34	0.35	0.35	91.10	94.68	92.53	7.85	7.93	7.90	6.41	11.29	8.16	10.69	13.19	11.38	3.0	4894.0	423.5	RRL11
10	0811	5.0	997.4	997.5	997.4	24.18	24.38	24.23	0.24	0.25	0.24	91.00	93.68	91.81	7.84	7.97	7.89	4.94	12.76	7.88	10.47	13.66	11.83	0.5	4700.0	279.1	RRL12
11	0821	5.0	997.3	997.4	997.4	24.22	24.43	24.25	0.20	0.21	0.20	91.47	94.07	92.04	7.85	8.00	7.91	4.94	15.20	8.80	9.70	14.48	11.97	0.4	4632.0	269.0	RRL13
12	0830	4.2	997.3	997.4	997.4	24.25	24.38	24.28	0.16	0.16	0.16	92.13	95.27	93.28	7.87	7.97	7.92	4.46	8.36	6.41	10.05	12.70	11.41	3.6	5022.0	531.5	RRL14
13	0835	9.6	997.3	997.4	997.4	24.26	24.32	24.27	0.15	0.15	0.15	93.14	95.00	93.65	7.85	7.88	7.87	5.43	11.29	7.13	10.49	14.98	11.91	0.1	1035.0	63.5	RRL15

Table 27b Richmond River - Water Quality Maxima and Minima - High Water - 6 November 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
0	1153	5.7	1004.8	1004.8	1004.8	24.26	24.30	24.28	10.04	10.05	10.05	89.28	89.95	89.60	7.31	7.34	7.33	5.43	7.38	6.55	3.37	4.32	3.92	4.8	2373.0	208.8	RRH01
2	1204	5.5	1003.4	1003.6	1003.6	24.21	24.42	24.23	8.27	8.43	8.40	88.09	88.46	88.26	7.31	7.33	7.32	3.48	14.71	7.87	0.00	4.49	0.03	3.0	4164.0	377.2	RRH02
4	1216	5.1	1001.7	1001.8	1001.8	24.30	24.36	24.32	5.93	6.07	6.05	90.78	91.38	91.11	7.37	7.38	7.38	7.38	11.78	9.64	4.00	5.70	5.18	1.9	1505.0	129.4	RRH03
6	1231	4.0	999.5	999.7	999.7	24.34	24.47	24.37	3.12	3.31	3.26	94.80	95.26	94.98	7.54	7.56	7.54	7.38	10.80	8.99	6.88	7.74	7.34	4.7	4465.0	336.3	RRH04
7	1240	3.9	999.3	999.5	999.4	24.45	24.66	24.51	2.90	2.99	2.95	95.91	97.62	96.49	7.57	7.60	7.59	6.90	10.80	8.98	6.42	8.41	7.78	4.2	1939.0	399.3	RRH05
8	1249	5.0	999.0	999.1	999.1	24.41	24.60	24.47	2.39	2.55	2.50	96.81	98.38	97.40	7.62	7.68	7.64	6.90	14.71	9.93	7.16	9.51	8.69	0.7	3013.0	280.1	RRH06
9	1257	4.8	998.5	998.7	998.6	24.53	24.67	24.56	1.88	1.95	1.93	98.07	99.14	98.65	7.71	7.75	7.73	7.38	14.71	10.75	7.77	10.68	9.61	0.4	2149.0	205.4	RRH07
10	1305	4.8	998.1	998.2	998.2	24.53	24.87	24.58	1.29	1.36	1.34	98.44	100.31	99.19	7.81	7.89	7.86	5.92	15.69	8.86	9.11	12.19	10.67	0.4	2181.0	151.1	RRH08
11	1314	5.7	997.8	997.9	997.9	24.49	24.87	24.60	0.90	0.98	0.95	76.75	101.24	97.76	7.84	7.98	7.91	5.92	15.69	7.97	10.51	13.91	11.91	0.3	1975.0	79.8	RRH09
12	1323	4.9	997.3	997.4	997.4	24.59	25.04	24.66	0.34	0.34	0.34	37.63	38.97	38.12	7.98	8.12	8.03	5.43	17.64	10.21	4.64	19.96	17.33	0.3	4823.0	283.1	RRH10
13	1329	9.5	997.2	997.4	997.3	24.69	25.01	24.85	0.27	0.27	0.27	35.52	36.47	36.17	8.03	8.12	8.09	4.94	14.22	8.04	0.00	0.00	0.00	0.2	971.8	43.2	RRH11
32	1342	6.5	997.2	997.2	997.2	24.84	24.98	24.92	0.17	0.18	0.17	52.59	55.04	53.13	8.14	8.25	8.20	6.41	10.32	7.39	0.22	27.02	9.30	0.3	4179.0	178.4	RRH12
33	1348	6.9	997.2	997.2	997.2	24.81	25.04	24.90	0.15	0.15	0.15	48.65	51.27	49.17	8.18	8.28	8.22	4.94	9.34	6.25	0.00	0.00	0.00	0.2	4210.0	185.5	RRH13
34	1359	4.1	997.1	997.2	997.2	24.78	25.14	24.90	0.11	0.13	0.13	53.28	56.05	54.27	8.17	8.30	8.24	3.48	7.38	5.87	0.00	0.00	0.00	4.1	3869.0	446.8	RRH14

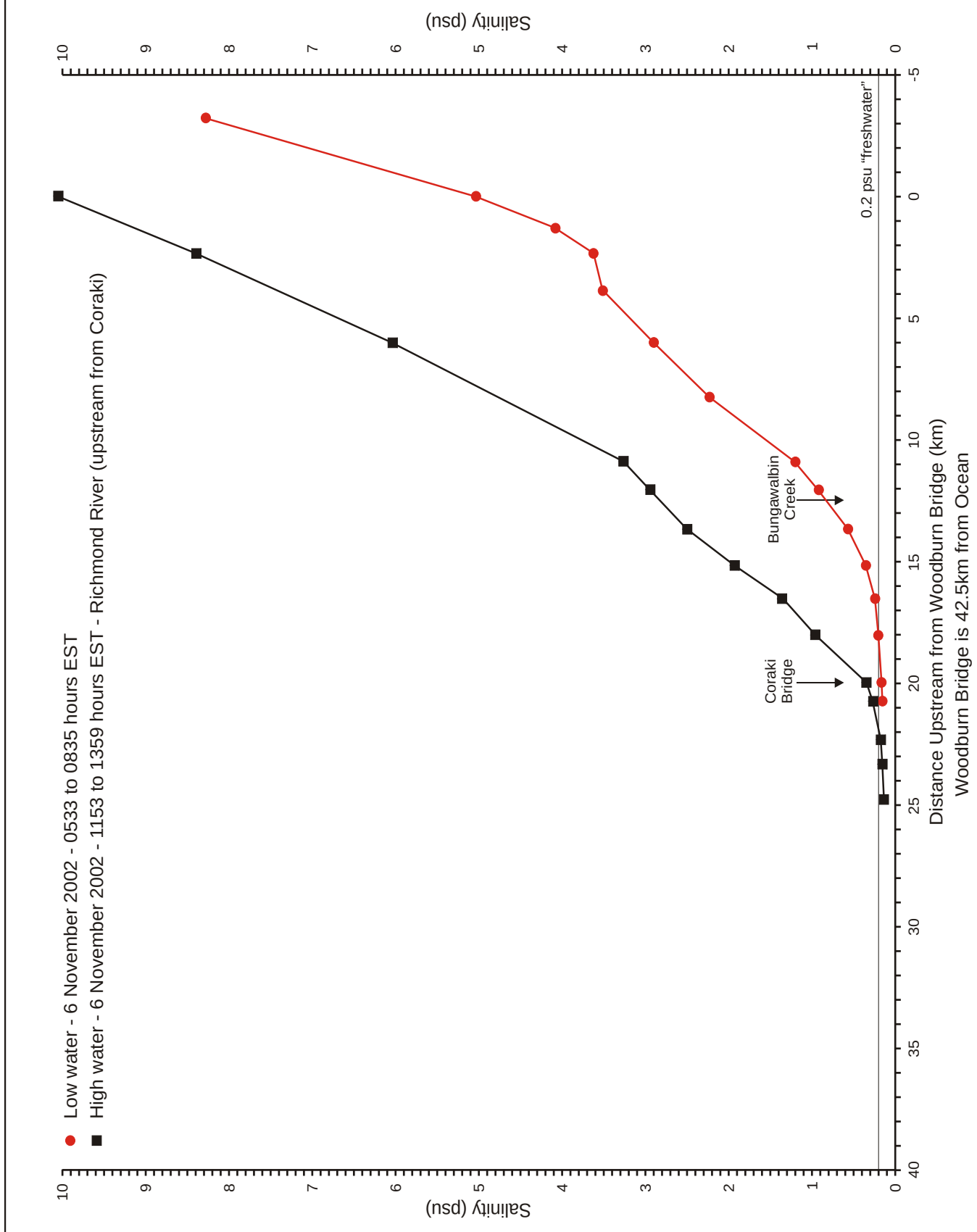


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6 NOVEMBER 2002

MHL Report 1812
Figure 20

DRAWING: 1812-020.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
RICHMOND RIVER
HIGH AND LOW WATER - 6 NOVEMBER 2002

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Figure 21

DRAWING 1812-021.CDR

Water quality data collected in the Richmond and Wilsons rivers on low water slack on 6 December 2002 is summarised in Table 28. Summaries of the minimum, maximum and mean values for all parameters measured on the low water run are shown in Table 29. The locations at which these profiles were taken are shown in Figure 22. Long channel depth-averaged salinity profiles are shown in Figure 23.

Table 28 Richmond/Wilsons Rivers - Low Water - 6 December 2002

Profile No.	Station No.	MGA (m) Zone 56		Chainage (km)	Mean Salinity (psu)
		Easting	Northing		
1	0	533299	6784177	42.50	9.02
2	1	532216	6784674	43.78	7.96
3	2	532038	6785746	44.83	7.35
4	3	532663	6786886	46.35	6.57
5	5	530034	6785246	50.75	5.01
6	8	527745	6789088	56.15	2.43
7	10	526406	6791084	59.03	1.57
8	11	527539	6792020	60.53	1.15
9	12	528340	6793086	62.48	0.72
10	13	528046	6793787	63.23	0.63
11	15	529962	6793048	66.25	0.28
12	16	529173	6794089	67.80	0.21
13	17	530252	6794709	69.25	0.17
14	18	529810	6796247	70.78	0.15

Table 29 Richmond/Wilsons Rivers - Water Quality Maxima and Minima - Low Water - 6 December 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
0	2033	2.6	1003.0	1003.1	1003.0	27.81	27.82	27.82	8.93	9.06	9.02	95.43	95.84	95.66	7.50	7.51	7.51	4.46	5.43	4.72	7.89	8.24	8.03	0.1	0.1	0.1	RRL01
1	2045	2.8	1002.2	1002.2	1002.2	27.87	27.93	27.91	7.95	7.97	7.96	93.50	93.86	93.72	7.51	7.52	7.51	5.43	112.88	8.27	6.85	7.17	7.04	0.1	0.1	0.1	RRL02
2	2059	2.9	1001.8	1001.9	1001.8	27.84	27.88	27.87	7.32	7.44	7.35	92.06	92.42	92.28	7.51	7.52	7.51	7.38	12.76	9.76	6.78	7.21	6.96	0.1	0.1	0.1	RRL03
3	2112	2.6	1001.2	1001.2	1001.2	27.82	27.85	27.85	6.56	6.58	6.57	93.18	93.48	93.37	7.56	7.57	7.57	8.36	12.76	10.48	7.51	7.86	7.67	0.1	0.1	0.1	RRL04
5	2201	2.0	1000.0	1000.0	1000.0	27.82	27.91	27.87	4.99	5.04	5.01	102.62	104.31	103.60	7.67	7.68	7.68	9.28	10.26	9.64	-	-	-	-	-	-	RRL05
8	2226	7.8	998.1	998.2	998.1	27.79	27.85	27.83	2.41	2.47	2.43	108.88	112.91	111.45	7.73	7.74	7.73	8.30	10.74	9.50	-	-	-	-	-	-	RRL06
10	2242	4.6	997.3	997.5	997.4	28.04	28.14	28.11	1.46	1.70	1.57	113.44	114.66	114.18	7.66	7.71	7.69	8.30	13.19	9.99	-	-	-	-	-	-	RRL07
11	2251	5.7	997.1	997.1	997.1	28.10	28.13	28.11	1.14	1.18	1.15	105.91	108.94	107.82	7.67	7.69	7.68	8.79	11.72	9.21	-	-	-	-	-	-	RRL08
12	2300	5.0	996.7	996.8	996.7	28.15	28.17	28.16	0.71	0.72	0.72	105.41	107.28	106.59	7.67	7.70	7.69	8.30	12.21	9.00	-	-	-	-	-	-	RRL09
13	2308	7.6	996.7	996.7	996.7	28.13	28.20	28.17	0.61	0.68	0.63	104.17	110.07	107.59	7.66	7.68	7.67	7.81	10.74	8.84	-	-	-	-	-	-	RRL10
15	2325	7.7	996.4	996.4	996.4	28.07	28.15	28.13	0.28	0.28	0.28	99.31	106.57	103.97	7.64	7.68	7.66	7.81	255.92	12.77	-	-	-	-	-	-	RRL11
16	2338	6.0	996.4	996.4	996.4	28.07	28.09	28.09	0.20	0.21	0.21	101.27	107.28	105.42	7.58	7.62	7.60	7.81	12.21	8.94	-	-	-	-	-	-	RRL12
17	2347	4.1	996.3	996.4	996.3	28.10	28.14	28.12	0.17	0.17	0.17	99.47	107.55	104.08	7.54	7.57	7.56	7.81	9.77	8.76	-	-	-	-	-	-	RRL13
18	2356	6.7	996.3	996.4	996.3	28.04	28.08	28.07	0.15	0.15	0.15	88.45	102.85	96.76	7.49	7.53	7.51	8.30	12.70	9.51	-	-	-	-	-	-	RRL14

Note At Station 5 instrument changed to Seabird 19 which does not have chlorophyll or PAR sensors

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RICHMOND AND WILSONS RIVERS

6 DECEMBER 2002

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Figure 22

DRAWING 1812-022.CDR

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
RICHMOND AND WILSONS RIVERS
LOW WATER - 6 DECEMBER 2002

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Figure 23

DRAWING 1812-023.CDR

Water quality data collected in the Richmond and Wilsons rivers on high water slack on 7 December 2002 is summarised in Table 30. Data collected in the Richmond River (upstream from Coraki) on high water slack on 7 December 2002 is summarised in Table 31. Summaries of the minimum, maximum and mean values for all parameters measured on the high water runs are shown in Tables 32 and 33. The locations at which these profiles were taken are shown in Figure 24. Long channel depth-averaged salinity profiles are shown in Figure 25.

Table 30 Richmond/Wilsons Rivers - High Water - 7 December 2002

Profile No.	Station No.	MGA (m) Zone 56		Chainage (km)	Mean Salinity (psu)
		Easting	Northing		
1	6	528273	6786975	53.38	5.69
2	7	527475	6787693	54.53	5.35
3	8	527745	6789088	56.15	4.76
4	9	526805	6789971	57.65	4.07
5	10	526406	6791084	59.03	3.24
6	11	527539	6792020	60.53	2.70
7	12	528340	6793086	62.48	1.92
8	13	528046	6793787	63.23	1.59
9	14	528852	6793035	64.65	1.34
10	15	529962	6793048	66.25	0.96
11	16	529173	6794089	67.80	0.73
12	17	530252	6794709	69.25	0.53
13	18	529810	6796247	70.78	0.34
14	19	528625	6796440	72.28	0.24
15	20	529600	6797810	74.08	0.17
16	21	528762	6798602	75.71	0.15
17	24	529082	6801510	79.86	0.12

Table 31 Richmond River - High Water - 7 December 2002

Profile No.	Station No.	MGA (m) Zone 56		Chainage (km)	Mean Salinity (psu)
		Easting	Northing		
18	13	528046	6793787	63.23	1.64
19	32	528268	6795015	64.83	0.83
20	33	527361	6795238	65.88	0.58
21	34	526731	6796394	67.28	0.38
22	35	526540	6797380	68.41	0.32
23	36	525639	6797462	69.71	0.26
24	37	526255	6798183	70.86	0.22
25	38	525240	6798113	71.86	0.20
26	39	524787	6798824	72.71	0.20
27	40	523738	6799205	74.46	0.19
28	43	522139	6799540	78.61	0.21
29	45	520275	6799663	80.94	0.22

Table 32 Richmond/Wilsons River - Water Quality Maxima and Minima - High Water - 7 December 2002

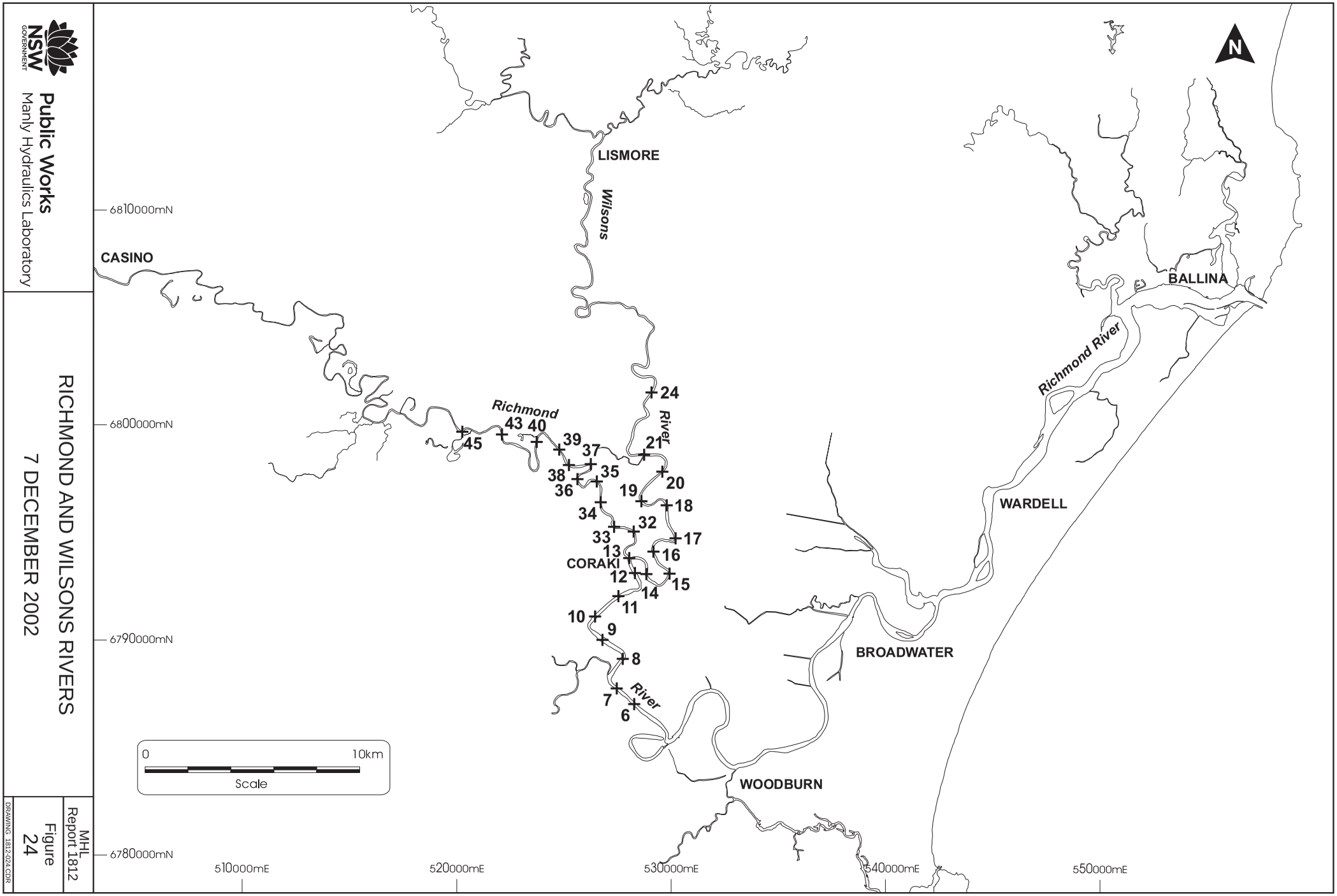
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
6	1421	5.6	1000.6	1000.7	1000.7	27.45	27.52	27.47	5.62	5.73	5.69	82.28	96.08	89.58	7.73	7.77	7.74	9.77	22.47	14.30	RRH01
7	1428	5.9	1000.3	1000.4	1000.4	27.55	27.58	27.56	5.29	5.37	5.35	88.47	104.06	96.39	7.76	7.79	7.77	11.72	18.07	15.14	RRH02
8	1434	4.6	999.8	1000.0	999.9	27.58	27.70	27.64	4.68	4.84	4.76	101.27	109.13	105.41	7.83	7.88	7.86	9.28	488.40	23.98	RRH03
9	1440	4.3	999.3	999.4	999.4	27.70	27.77	27.72	4.02	4.11	4.07	90.17	100.66	96.31	7.87	7.89	7.88	10.74	15.14	12.93	RRH04
10	1446	5.3	998.6	998.8	998.7	27.73	27.80	27.76	3.13	3.33	3.24	91.90	105.78	99.96	7.90	7.95	7.92	9.28	14.16	10.48	RRH05
11	1455	7.2	998.3	998.5	998.4	27.60	27.66	27.64	2.60	2.80	2.70	83.95	100.78	93.53	7.85	7.92	7.88	9.28	11.72	10.35	RRH06
12	1503	5.5	997.7	997.8	997.8	27.71	27.76	27.73	1.84	1.95	1.92	91.84	103.02	97.10	7.81	7.88	7.84	0.00	15.14	11.20	RRH07
13	1508	9.1	997.4	997.6	997.5	27.79	27.86	27.81	1.50	1.67	1.59	77.93	103.23	89.71	7.81	7.84	7.82	9.28	17.58	13.04	RRH08
14	1516	6.5	997.2	997.3	997.3	27.90	27.95	27.91	1.30	1.35	1.34	89.15	104.09	97.31	7.81	7.82	7.81	9.28	15.63	12.69	RRH09
15	1523	5.8	997.0	997.0	997.0	27.92	27.94	27.92	0.95	0.97	0.96	78.50	98.48	87.61	7.80	7.82	7.81	10.26	14.65	12.38	RRH10
16	1531	5.5	996.8	996.8	996.8	27.94	27.96	27.94	0.72	0.73	0.73	82.01	95.06	88.80	7.80	7.85	7.82	8.79	17.09	11.57	RRH11
17	1537	5.3	996.7	996.7	996.7	27.86	27.89	27.87	0.52	0.53	0.53	82.84	98.87	89.81	7.78	7.80	7.79	0.00	120.15	13.93	RRH12
18	1543	6.0	996.5	996.5	996.5	27.93	27.96	27.94	0.33	0.34	0.34	75.46	93.96	82.51	7.83	7.86	7.85	8.30	11.72	9.48	RRH13
19	1549	5.8	996.4	996.5	996.5	27.89	27.93	27.92	0.23	0.24	0.24	75.27	91.44	82.79	7.77	7.81	7.79	0.00	478.63	20.75	RRH14
20	1556	6.4	996.4	996.4	996.4	27.91	27.93	27.92	0.17	0.17	0.17	73.74	86.98	80.20	7.68	7.72	7.69	8.79	11.72	9.96	RRH15
21	1603	6.2	996.4	996.4	996.4	27.93	27.95	27.94	0.15	0.15	0.15	74.38	87.95	79.83	7.65	7.71	7.68	0.00	202.20	12.49	RRH16
24	1614	6.6	996.3	996.4	996.4	27.95	27.98	27.96	0.12	0.12	0.12	73.34	86.85	79.51	7.56	7.67	7.60	0.00	38.09	8.87	RRH17

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors

Table 33 Richmond River - Water Quality Maxima and Minima - High Water - 7 December 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
13	1650	11.4	997.3	997.7	997.6	27.77	27.85	27.80	1.35	1.82	1.64	89.36	104.49	95.05	7.74	7.80	7.77	9.28	11.72	10.30	RRH18
32	1657	5.7	996.9	996.9	996.9	27.88	27.98	27.97	0.80	0.86	0.83	87.46	105.01	94.23	7.76	7.85	7.82	8.79	16.12	10.85	RRH19
33	1703	6.6	996.7	996.7	996.7	27.90	27.94	27.92	0.57	0.59	0.58	80.75	92.38	86.04	7.80	7.83	7.82	8.79	11.72	9.83	RRH20
34	1709	4.5	996.5	996.5	996.5	27.96	28.00	27.98	0.37	0.38	0.38	80.03	89.52	84.23	7.86	7.87	7.87	8.30	10.26	9.15	RRH21
35	1715	6.1	996.5	996.5	996.5	27.98	28.05	28.02	0.32	0.32	0.32	76.24	92.73	81.24	7.86	7.88	7.87	8.30	10.26	9.17	RRH22
36	1721	9.6	996.4	996.5	996.4	28.02	28.06	28.05	0.26	0.26	0.26	74.05	89.90	80.90	7.91	7.95	7.93	8.30	12.70	9.04	RRH23
37	1727	11.7	996.4	996.4	996.4	28.11	28.14	28.13	0.22	0.22	0.22	78.98	97.74	85.77	7.97	8.01	7.99	8.79	10.74	9.28	RRH24
38	1734	6.3	996.3	996.4	996.3	28.17	28.20	28.18	0.20	0.20	0.20	88.72	107.14	96.31	8.01	8.04	8.02	8.79	12.21	9.44	RRH25
39	1740	5.3	996.3	996.3	996.3	28.14	28.20	28.19	0.20	0.20	0.20	86.73	96.47	91.19	8.01	8.04	8.02	9.28	10.74	9.81	RRH26
40	1747	4.1	996.3	996.3	996.3	28.29	28.34	28.33	0.19	0.19	0.19	89.88	100.46	94.33	8.06	8.08	8.07	8.79	10.26	9.21	RRH27
43	1758	5.2	996.3	996.3	996.3	28.29	28.32	28.32	0.21	0.21	0.21	95.48	106.13	100.53	7.98	8.00	7.99	9.28	11.72	10.23	RRH28
45	1805	7.2	996.3	996.4	996.3	28.28	28.33	28.31	0.22	0.22	0.22	89.64	104.39	96.30	8.08	8.09	8.08	9.77	11.72	10.38	RRH29

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors



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Figure 24

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
RICHMOND AND WILSONS RIVERS
HIGH WATER - 7 DECEMBER 2002

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Figure 25

DRAWING 1812-025.CDR

Water quality data collected in the Richmond and Wilsons rivers on high water slack on 4 January 2003 is summarised in Table 34. Data collected in the Richmond River (upstream from Coraki) on high water slack on 4 January 2003 is summarised in Table 35. Summaries of the minimum, maximum and mean values for all parameters measured on the high water runs are shown in Tables 36 and 37. The locations at which these profiles were taken are shown in Figure 26. Long channel depth-averaged salinity profiles are shown in Figure 27.

Table 34 Richmond/Wilsons Rivers - High Water - 4 January 2003

Profile No.	Station No.	MGA (m) Zone 56		Chainage (km)	Mean Salinity (psu)
		Easting	Northing		
1	6	528273	6786975	53.38	6.49
2	7	527475	6787693	54.53	6.11
3	8	527745	6789088	56.15	5.54
4	9	526805	6789971	57.65	4.82
5	10	526406	6791084	59.03	4.04
6	11	527539	6792020	60.53	3.43
7	12	528340	6793086	62.48	2.56
8	13	528046	6793787	63.23	2.17
9	14	528852	6793035	64.65	1.95
10	15	529962	6793048	66.25	1.57
11	16	529173	6794089	67.80	1.18
12	17	530252	6794709	69.25	0.84
13	18	529810	6796247	70.78	0.44
14	19	528625	6796440	72.28	0.25
15	20	529600	6797810	74.08	0.18
16	21	528762	6798602	75.71	0.15
17	24	529082	6801510	79.86	0.13

Table 35 Richmond River - High Water - 4 January 2003

Profile No.	Station No.	MGA (m) Zone 56		Chainage (km)	Mean Salinity (psu)
		Easting	Northing		
18	13	528046	6793787	63.23	2.27
19	32	528268	6795015	64.83	1.41
20	33	527361	6795238	65.88	0.95
21	34	526731	6796394	67.28	0.61
22	35	526540	6797380	68.41	0.58
23	36	525639	6797462	69.71	0.52
24	37	526255	6798183	70.86	0.43
25	38	525240	6798113	71.86	0.35
26	39	524787	6798824	72.71	0.31
27	40	523738	6799205	74.46	0.26
28	43	522139	6799540	78.61	0.22
29	45	520275	6799663	80.94	0.23

Table 36 Richmond/Wilsons River - Water Quality Maxima and Minima - High Water - 4 January 2003

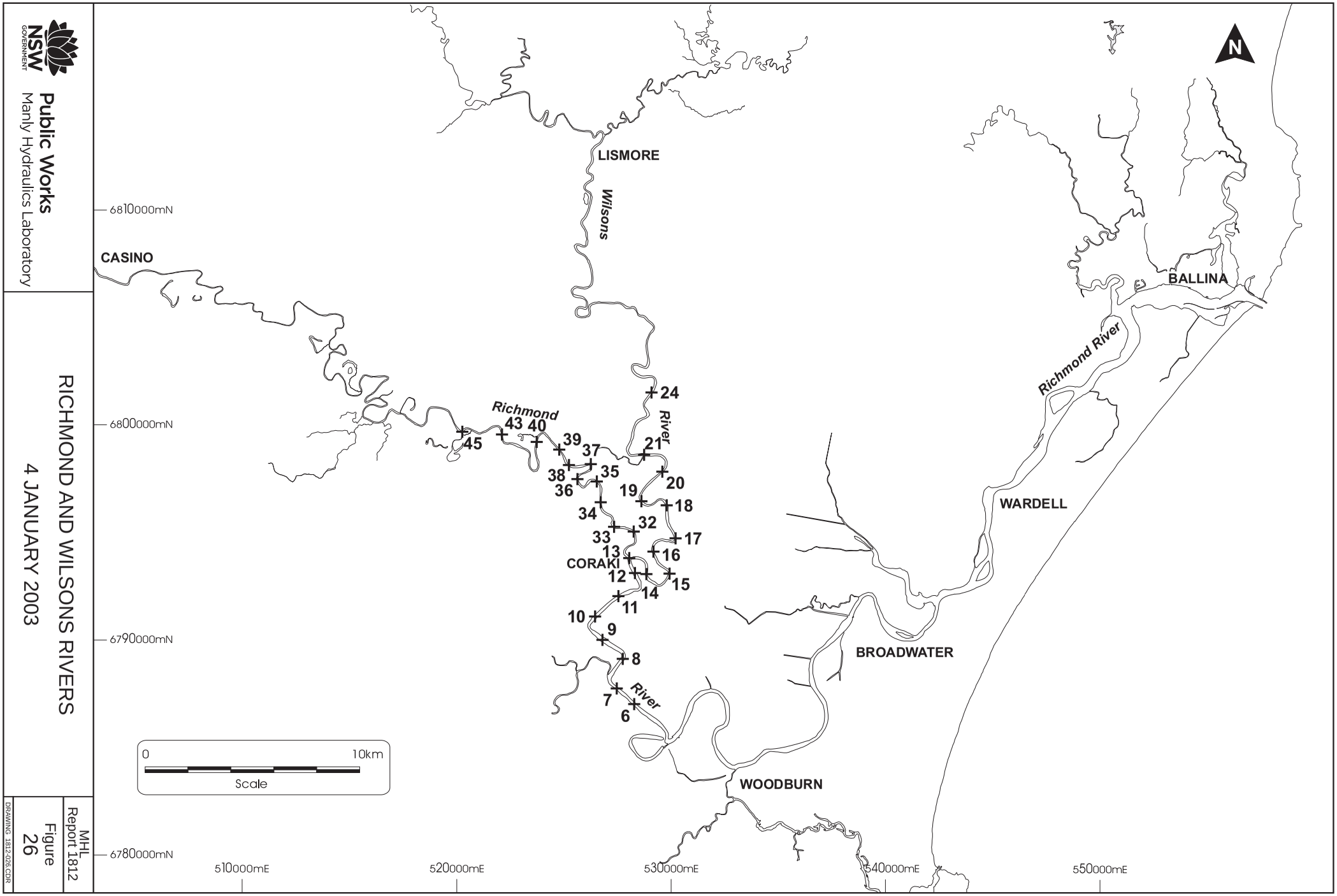
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
6	1258	5.0	1001.1	1001.2	1001.2	27.60	27.73	27.64	6.41	6.52	6.49	103.87	107.79	105.03	7.97	8.02	7.98	15.63	28.33	18.66	RR001
7	1306	5.3	1000.8	1001.0	1000.9	27.56	27.65	27.60	6.01	6.20	6.11	104.87	108.03	105.40	8.02	8.05	8.03	18.07	21.98	19.74	RR002
8	1313	4.6	1000.4	1000.5	1000.5	27.66	27.74	27.69	5.41	5.61	5.54	107.67	109.17	108.34	8.11	8.14	8.13	13.68	23.44	18.98	RR003
9	1320	3.4	999.9	999.9	999.9	27.75	27.81	27.78	4.80	4.85	4.82	98.81	106.45	103.87	8.14	8.17	8.15	18.07	28.82	21.58	RR004
10	1327	4.2	999.1	999.4	999.3	27.91	28.17	28.00	3.88	4.12	4.04	108.03	114.12	109.96	8.19	8.27	8.22	12.21	22.95	16.90	RR005
11	1336	5.7	998.7	998.9	998.8	27.77	28.36	27.94	3.36	3.47	3.43	105.89	114.95	109.38	8.13	8.31	8.20	0.00	25.40	16.35	RR006
12	1344	5.3	998.1	998.2	998.2	27.83	28.04	27.89	2.49	2.58	2.56	104.84	109.35	106.53	8.09	8.21	8.13	0.00	22.95	16.84	RR007
13	1349	8.4	997.7	997.9	997.9	27.98	28.10	28.00	2.05	2.23	2.17	103.55	106.15	103.98	8.11	8.18	8.12	12.21	67.89	17.79	RR008
14	1357	5.5	997.6	997.7	997.7	28.15	28.19	28.16	1.93	1.97	1.95	106.12	106.97	106.50	8.16	8.19	8.17	13.68	39.07	17.52	RR009
15	1404	5.8	997.3	997.4	997.4	28.21	28.30	28.25	1.56	1.59	1.57	106.47	110.20	107.31	8.19	8.24	8.21	7.81	76.68	15.09	RR010
16	1412	5.6	997.0	997.1	997.1	28.19	28.23	28.20	1.17	1.19	1.18	106.11	107.53	106.77	8.22	8.25	8.23	11.23	21.00	14.23	RR011
17	1418	5.6	996.8	996.8	996.8	28.19	28.35	28.23	0.83	0.85	0.84	107.24	111.22	108.13	8.30	8.38	8.33	0.00	27.35	13.72	RR012
18	1424	5.2	996.5	996.5	996.5	28.18	28.22	28.20	0.42	0.46	0.44	110.12	112.82	111.51	8.53	8.59	8.56	10.26	83.03	12.54	RR013
19	1431	5.9	996.4	996.4	996.4	28.16	28.28	28.21	0.25	0.26	0.25	112.36	116.64	113.41	8.66	8.72	8.68	8.79	15.14	10.83	RR014
20	1439	4.1	996.2	996.3	996.3	28.18	28.49	28.28	0.18	0.19	0.18	114.37	118.24	115.76	8.73	8.81	8.77	7.33	13.68	9.30	RR015
21	1445	5.4	996.3	996.3	996.3	28.12	28.29	28.17	0.15	0.15	0.15	111.88	116.04	113.69	8.68	8.78	8.72	7.81	12.21	9.60	RR016
24	1456	6.7	996.2	996.3	996.3	28.18	28.40	28.22	0.13	0.13	0.13	109.52	114.56	111.16	8.50	8.65	8.55	0.00	30.77	8.65	RR017

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors

Table 37 Richmond River - Water Quality Maxima and Minima - High Water - 4 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
13	1539	7.2	997.7	998.0	997.9	28.07	28.18	28.14	2.03	2.39	2.27	110.26	114.19	112.56	8.12	8.24	8.20	10.26	26.86	11.67	RR018
32	1546	7.5	997.1	997.3	997.2	28.20	28.53	28.32	1.32	1.49	1.41	106.89	116.67	111.08	8.14	8.44	8.27	8.79	17.09	10.79	RR019
33	1555	7.3	996.8	996.9	996.9	28.29	28.41	28.34	0.92	0.97	0.95	110.30	115.33	112.73	8.32	8.49	8.40	8.79	12.70	10.26	RR020
34	1604	4.0	996.6	996.6	996.6	28.26	28.40	28.32	0.60	0.61	0.61	111.89	119.20	114.92	8.45	8.63	8.53	0.00	149.94	13.83	RR021
35	1610	5.1	996.6	996.6	996.6	28.26	28.39	28.32	0.58	0.58	0.58	112.56	117.85	115.35	8.49	8.63	8.55	9.77	15.14	11.63	RR022
36	1617	5.3	996.5	996.6	996.6	28.18	28.34	28.22	0.52	0.53	0.52	115.54	126.08	118.71	8.60	8.76	8.64	0.00	48.35	14.23	RR023
37	1624	6.6	996.5	996.5	996.5	28.27	28.36	28.32	0.43	0.44	0.43	120.44	124.03	121.96	8.72	8.77	8.74	0.00	110.38	13.47	RR024
38	1631	4.9	996.4	996.4	996.4	28.29	28.32	28.30	0.35	0.36	0.35	121.27	124.86	122.51	8.76	8.81	8.78	0.00	549.94	18.14	RR025
39	1636	4.9	996.4	996.4	996.4	28.29	28.34	28.31	0.31	0.32	0.31	122.38	124.97	123.12	8.79	8.81	8.79	11.72	36.63	12.90	RR026
40	1643	4.0	996.3	996.4	996.3	28.34	28.38	28.37	0.26	0.26	0.26	120.41	123.08	121.99	8.71	8.75	8.73	9.77	14.65	11.32	RR027
43	1656	4.8	996.3	996.3	996.3	28.27	28.33	28.30	0.22	0.22	0.22	94.43	98.51	96.36	8.18	8.25	8.21	0.00	299.88	12.67	RR028
45	1704	4.8	996.3	996.3	996.3	28.30	28.34	28.33	0.23	0.23	0.23	93.84	95.52	94.35	8.24	8.25	8.25	10.74	14.65	11.65	RR029

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors



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Figure 26

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
RICHMOND AND WILSONS RIVERS
HIGH WATER - 4 JANUARY 2003

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Figure 27

DRAWING 1812-027.CDR

Water quality data collected in the Richmond and Wilsons rivers on high water slack on 20 January 2003 is summarised in Table 38. Data collected in the Richmond River (upstream from Coraki) on high water slack on 20 January 2003 is summarised in Table 39. Summaries of the minimum, maximum and mean values for all parameters measured on the high water runs are shown in Tables 40 and 41. The locations at which these profiles were taken are shown in Figure 28. Long channel depth-averaged salinity profiles are shown in Figure 29.

Table 38 Richmond/Wilsons Rivers - High Water - 20 January 2003

Profile No.	Station No.	MGA (m) Zone 56		Chainage (km)	Mean Salinity (psu)
		Easting	Northing		
1	9	526805	6789971	57.65	5.93
2	10	526406	6791084	59.03	4.98
3	11	527539	6792020	60.53	4.36
4	12	528340	6793086	62.48	3.51
5	13	528046	6793787	63.23	3.31
6	14	528852	6793035	64.65	2.95
7	15	529962	6793048	66.25	2.51
8	16	529173	6794089	67.80	2.11
9	17	530252	6794709	69.25	1.58
10	18	529810	6796247	70.78	0.79
11	19	528625	6796440	72.28	0.45
12	20	529600	6797810	74.08	0.27
13	21	528762	6798602	75.71	0.21
14	22	528096	6799112	76.94	0.18
15	23	528453	6800155	78.04	0.16
16	24	529082	6801510	79.86	0.14
17	25	528250	6802784	82.11	0.13

Table 39 Richmond River - High Water - 20 January 2003

Profile No.	Station No.	MGA (m) Zone 56		Chainage (km)	Mean Salinity (psu)
		Easting	Northing		
18	13	528046	6793787	63.23	3.20
19	32	528268	6795015	64.83	2.26
20	33	527361	6795238	65.88	1.74
21	34	526731	6796394	67.28	1.17
22	35	526540	6797380	68.41	0.98
23	36	525639	6797462	69.71	0.69
24	37	526255	6798183	70.86	0.53
25	38	525240	6798113	71.86	0.44
26	39	524787	6798824	72.71	0.40
27	40	523738	6799205	74.46	0.33
28	42	523408	6798733	76.89	0.26
29	43	522139	6799540	78.61	0.24
30	44	521487	6799762	79.56	0.24
31	46	519863	6800195	81.66	0.24

Table 40 Richmond/Wilsons River - Water Quality Maxima and Minima - High Water - 20 January 2003

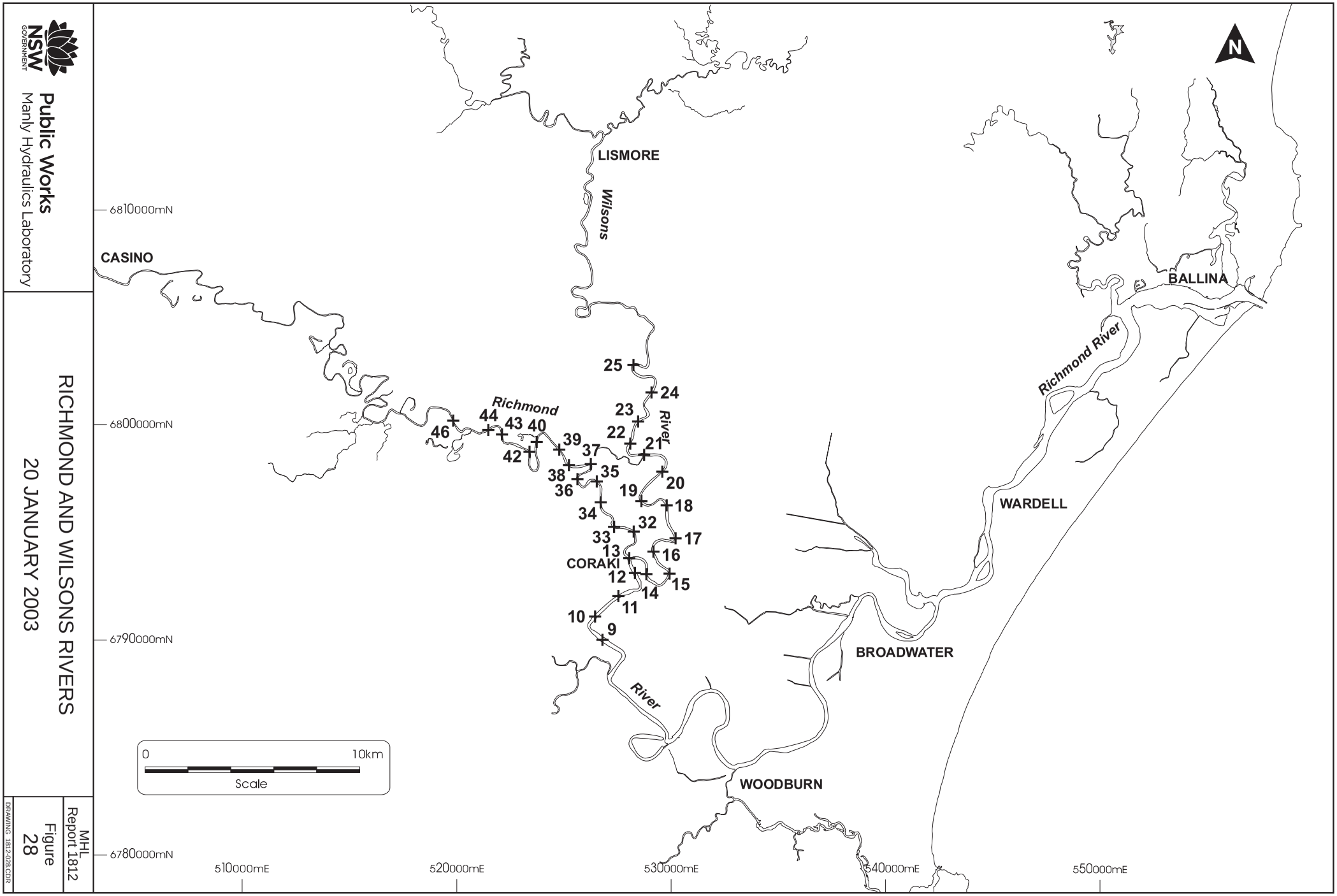
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
9	1337	3.6	1000.9	1001.0	1001.0	27.01	27.02	27.01	5.86	5.95	5.93	98.30	99.04	98.59	7.46	7.53	7.50	13.19	18.56	16.49	MEMRR001
10	1346	5.2	1000.1	1000.4	1000.3	26.94	26.98	26.95	4.80	5.08	4.98	98.12	101.55	99.34	7.55	7.58	7.56	10.74	17.58	12.97	MEMRR002
11	1357	6.6	999.8	999.9	999.8	26.81	26.87	26.84	4.32	4.40	4.36	94.82	97.85	97.01	7.50	7.56	7.55	10.26	19.54	12.24	MEMRR003
12	1405	5.5	999.1	999.2	999.2	26.84	26.91	26.86	3.45	3.53	3.51	93.96	96.53	95.12	7.50	7.53	7.51	10.74	35.65	18.99	MEMRR004
13	1410	7.6	999.0	999.1	999.0	26.93	26.97	26.94	3.26	3.33	3.31	93.45	94.93	93.94	7.49	7.51	7.50	14.65	37.12	21.76	MEMRR005
14	1417	8.5	998.7	998.8	998.7	27.06	27.10	27.08	2.93	2.98	2.95	92.09	93.23	92.61	7.46	7.49	7.48	11.72	20.02	14.19	MEMRR006
15	1424	7.3	998.3	998.4	998.4	27.17	27.19	27.18	2.38	2.54	2.51	91.29	92.54	91.89	7.48	7.49	7.48	11.72	21.00	15.28	MEMRR007
16	1432	6.4	998.0	998.1	998.1	27.18	27.20	27.19	2.08	2.17	2.11	89.45	90.14	89.84	7.47	7.48	7.48	11.23	23.93	14.18	MEMRR008
17	1439	4.6	997.6	997.7	997.7	27.15	27.20	27.18	1.57	1.59	1.58	86.83	89.64	87.42	7.48	7.50	7.49	11.72	17.58	14.35	MEMRR009
18	1446	2.2	997.1	997.1	997.1	27.17	27.18	27.18	0.78	0.80	0.79	80.28	82.24	81.91	7.54	7.55	7.54	10.26	12.21	11.05	MEMRR010
19	1452	8.5	996.8	996.8	996.8	27.18	27.20	27.18	0.44	0.45	0.45	75.24	77.24	76.31	7.52	7.55	7.53	9.77	15.14	11.74	MEMRR011
20	1500	6.6	996.7	996.7	996.7	27.19	27.21	27.20	0.27	0.28	0.27	67.51	69.64	68.63	7.44	7.46	7.45	10.26	12.21	10.80	MEMRR012
21	1508	6.7	996.6	996.6	996.6	27.25	27.26	27.25	0.21	0.21	0.21	61.09	63.62	63.06	7.36	7.38	7.37	9.77	13.68	11.02	MEMRR013
22	1515	6.1	996.6	996.6	996.6	27.27	27.31	27.28	0.18	0.18	0.18	56.27	58.29	57.55	7.30	7.32	7.30	9.77	23.44	12.31	MEMRR014
23	1522	6.8	996.5	996.6	996.6	27.28	27.33	27.29	0.16	0.17	0.16	55.05	56.69	55.64	7.25	7.29	7.26	9.28	12.70	10.99	MEMRR015
24	1529	6.3	996.5	996.6	996.6	27.27	27.36	27.30	0.14	0.14	0.14	53.47	56.98	55.22	7.21	7.27	7.24	8.30	12.21	9.78	MEMRR016
25	1537	8.3	996.5	996.6	996.6	27.28	27.33	27.29	0.13	0.13	0.13	58.72	60.59	59.39	7.26	7.30	7.28	8.30	11.23	9.70	MEMRR017

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors

Table 41 Richmond River - Water Quality Maxima and Minima - High Water - 20 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
13	1613	8.5	998.7	999.1	998.9	26.92	27.14	27.02	3.00	3.43	3.20	96.02	98.79	97.13	7.42	7.49	7.45	10.26	12.70	11.49	MEMRR018
32	1621	6.2	998.0	998.3	998.2	27.19	27.36	27.23	2.12	2.41	2.26	91.95	98.89	94.56	7.44	7.59	7.50	8.30	14.16	10.23	MEMRR019
33	1626	4.2	997.8	997.8	997.8	27.20	27.25	27.23	1.74	1.74	1.74	89.63	90.69	90.26	7.47	7.48	7.48	10.26	2000.0	125.88	MEMRR020
34	1633	3.9	997.3	997.4	997.3	27.21	27.32	27.25	1.15	1.19	1.17	86.57	92.13	89.08	7.51	7.61	7.56	9.77	16.12	12.03	MEMRR021
35	1638	6.5	997.2	997.2	997.2	27.26	27.34	27.28	0.97	0.98	0.98	90.47	93.71	91.41	7.64	7.69	7.65	8.79	11.72	10.45	MEMRR022
36	1644	8.4	997.0	997.0	997.0	27.24	27.28	27.25	0.69	0.70	0.69	90.59	93.85	90.89	7.75	7.78	7.76	9.28	11.72	10.49	MEMRR023
37	1650	8.4	996.8	996.9	996.8	27.30	27.37	27.33	0.53	0.54	0.53	88.48	91.24	89.96	7.79	7.85	7.82	8.79	12.21	10.30	MEMRR024
38	1656	6.0	996.7	996.8	996.7	27.36	27.48	27.41	0.43	0.45	0.44	84.57	89.56	86.81	7.76	7.89	7.81	7.81	11.72	9.27	MEMRR025
39	1702	5.2	996.7	996.7	996.7	27.42	27.45	27.43	0.39	0.40	0.40	83.91	86.27	85.19	7.79	7.83	7.81	8.30	11.23	9.91	MEMRR026
40	1708	4.0	996.6	996.6	996.6	27.48	27.51	27.49	0.33	0.33	0.33	83.32	86.90	86.13	7.85	7.88	7.87	2.44	25.89	9.15	MEMRR027
42	1717	6.8	996.6	996.6	996.6	27.44	27.48	27.45	0.26	0.26	0.26	84.66	87.92	85.66	7.88	7.94	7.90	8.30	10.26	9.34	MEMRR028
43	1724	5.1	996.6	996.6	996.6	27.48	27.49	27.48	0.24	0.24	0.24	83.89	87.16	84.42	7.90	7.92	7.91	9.28	10.26	9.68	MEMRR029
44	1730	3.6	996.5	996.6	996.6	27.53	27.54	27.53	0.24	0.24	0.24	84.89	86.92	85.97	7.94	7.96	7.95	8.79	29.79	11.38	MEMRR030
46	1738	4.3	996.5	996.6	996.6	27.52	27.53	27.53	0.24	0.24	0.24	88.00	91.58	91.01	8.06	8.09	8.07	9.28	19.54	10.35	MEMRR031

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors



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RICHMOND AND WILSONS RIVERS

20 JANUARY 2003

MHL Report 1812

Figure 28

DRAWING: 1812-028.CDR

Public Works
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
RICHMOND AND WILSONS RIVERS
HIGH WATER - 20 JANUARY 2003

MHL Report 1812

Figure 29

DRAWING 1812-029.CDR

Water quality data collected in the Richmond River on high water slack on 17 February 2003 is summarised in Table 42. Summaries of the minimum, maximum and mean values for all parameters measured on the high water run are shown in Table 43. The locations at which these profiles were taken are shown in Figure 30. Long channel depth-averaged salinity profiles are shown in Figure 31.

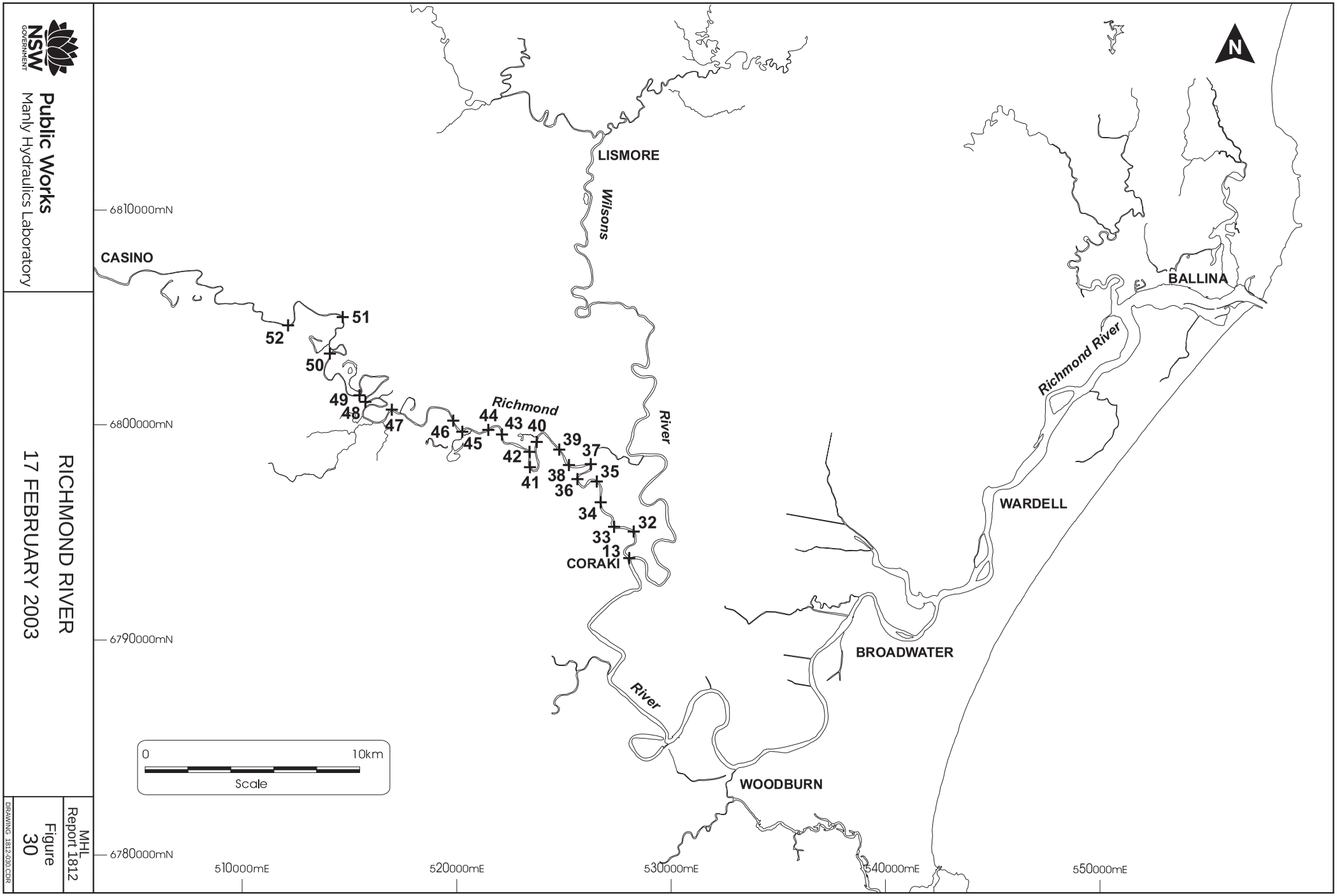
Table 42 Richmond River - High Water - 17 February 2003

Profile No.	Station No.	MGA (m) Zone 56		Chainage (km)	Mean Salinity (psu)
		Easting	Northing		
1	13	528046	6793787	63.23	1.20
2	32	528268	6795015	64.83	0.72
3	33	527361	6795238	65.88	0.52
4	34	526731	6796394	67.28	0.39
5	35	526540	6797380	68.41	0.40
6	36	525639	6797462	69.71	0.39
7	37	526255	6798183	70.86	0.34
8	38	525240	6798113	71.86	0.31
9	39	524787	6798824	72.71	0.30
10	40	523738	6799205	74.46	0.27
11	41	523435	6798035	76.16	0.26
12	42	523408	6798733	76.89	0.26
13	43	522139	6799540	78.61	0.27
14	44	521487	6799762	79.56	0.27
15	45	520328	6799685	80.86	0.28
16	46	519863	6800195	81.66	0.29
17	47	516990	6800725	85.64	0.26
18	48	515755	6801057	90.06	0.21
19	49	515475	6801374	93.84	0.21
20	50	514105	6803305	97.34	0.21
21	51	514718	6805015	101.09	0.21
22	52	512152	6804625	104.76	0.18

Table 43 Richmond River - Water Quality Maxima and Minima - High Water - 17 February 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Conductivity (mS/cm)			Conductance (25°C) K25 (mS/cm)			pH			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
13	1251	9.4	997.1	997.3	997.2	27.86	28.27	27.99	1.185	1.253	1.203	2.457	2.585	2.490	2.315	2.468	2.349	6.69	7.80	7.75	RICH001
32	1302	6.5	996.6	996.8	996.7	28.24	28.62	28.33	0.702	0.739	0.718	1.506	1.573	1.533	1.406	1.478	1.437	7.87	7.96	7.91	RICH002
33	1308	7.3	996.5	996.6	996.5	28.31	28.42	28.36	0.495	0.554	0.519	1.072	1.197	1.123	1.003	1.123	1.052	7.88	7.92	7.90	RICH003
34	1315	4.2	996.4	996.5	996.4	28.23	28.58	28.32	0.390	0.392	0.391	0.851	0.857	0.854	0.799	0.802	0.800	7.87	7.98	7.92	RICH004
35	1321	7.4	996.3	996.5	996.4	28.18	28.76	28.37	0.396	0.401	0.400	0.870	0.877	0.873	0.809	0.820	0.818	7.94	8.06	8.00	RICH005
36	1328	7.0	996.4	996.5	996.5	28.22	28.49	28.31	0.388	0.391	0.390	0.849	0.851	0.850	0.794	0.800	0.797	8.00	8.08	8.04	RICH006
37	1334	11.2	996.3	996.5	996.4	28.26	28.78	28.37	0.333	0.347	0.343	0.733	0.762	0.752	0.684	0.714	0.704	8.09	8.16	8.12	RICH007
38	1340	5.8	996.2	996.4	996.3	28.36	28.93	28.50	0.306	0.319	0.310	0.675	0.708	0.684	0.630	0.659	0.639	8.15	8.22	8.18	RICH008
39	1345	5.4	996.2	996.4	996.3	28.33	28.93	28.45	0.294	0.298	0.296	0.651	0.655	0.653	0.604	0.613	0.611	8.13	8.22	8.17	RICH009
40	1352	4.0	996.1	996.4	996.3	28.35	29.09	28.58	0.269	0.274	0.271	0.596	0.611	0.600	0.555	0.569	0.560	8.14	8.21	8.18	RICH010
41	1401	4.9	996.2	996.4	996.3	28.27	28.81	28.44	0.260	0.261	0.261	0.574	0.580	0.576	0.538	0.540	0.539	8.10	8.20	8.14	RICH011
42	1407	6.8	996.1	996.4	996.3	28.28	29.07	28.42	0.260	0.261	0.261	0.574	0.582	0.575	0.536	0.539	0.538	8.08	8.20	8.12	RICH012
43	1414	4.9	996.1	996.4	996.3	28.33	29.25	28.53	0.266	0.268	0.267	0.588	0.600	0.590	0.548	0.555	0.551	8.05	8.17	8.10	RICH013
44	1420	3.4	996.1	996.4	996.3	28.36	29.25	28.66	0.272	0.274	0.273	0.600	0.612	0.604	0.561	0.565	0.563	8.07	8.16	8.12	RICH014
45	1426	10.4	996.2	996.4	996.3	28.43	28.84	28.57	0.281	0.282	0.282	0.621	0.625	0.623	0.580	0.583	0.581	8.12	8.19	8.14	RICH015
46	1432	4.1	996.1	996.4	996.3	28.37	29.09	28.56	0.284	0.286	0.285	0.629	0.636	0.630	0.586	0.590	0.588	8.13	8.24	8.19	RICH016
47	1443	6.6	996.1	996.3	996.3	28.45	29.07	28.63	0.263	0.265	0.264	0.582	0.593	0.586	0.544	0.549	0.546	8.23	8.37	8.28	RICH017
48	1456	6.2	996.2	996.4	996.3	28.24	28.58	28.32	0.208	0.209	0.209	0.461	0.463	0.461	0.432	0.433	0.433	8.38	8.56	8.44	RICH018
49	1507	5.4	996.2	996.3	996.2	28.49	28.66	28.55	0.208	0.209	0.209	0.463	0.464	0.463	0.432	0.433	0.432	7.92	8.07	7.98	RICH019
50	1519	3.7	996.2	996.2	996.2	28.69	28.76	28.71	0.208	0.208	0.208	0.462	0.463	0.462	0.430	0.431	0.431	7.87	7.94	7.90	RICH020
51	1531	4.3	996.1	996.2	996.1	28.67	29.03	28.96	0.205	0.206	0.205	0.457	0.459	0.459	0.424	0.428	0.425	8.12	8.26	8.23	RICH021
52	1548	0.7	995.8	995.8	995.8	29.89	29.92	29.90	0.183	0.184	0.184	0.418	0.418	0.418	0.380	0.381	0.381	8.68	8.69	8.68	RICH022

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors


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RICHMOND RIVER
17 FEBRUARY 2003
MHL Report 1812
Figure 30
DRAWING 1812-030.CDR
LISMORE
Wilsons River
CASINO
BALLINA
Richmond River
WARDELL
BROADWATER
WOODBURN
CORAKI
Richmond River
51
52
50
49
48
47
46
45
44
43
40
39
37
42
38
35
41
36
34
32
33
13
0
10km
Scale
N
6810000mN
6800000mN
6790000mN
6780000mN
510000mE
520000mE
530000mE
540000mE
550000mE

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
RICHMOND RIVER
HIGH WATER - 17 FEBRUARY 2003

MHL Report 1812

Figure 31

DRAWING 1812-031.CDR

Water quality data collected in the Wilsons River on high water slack on 18 February 2003 is summarised in Table 44. Summaries of the minimum, maximum and mean values for all parameters measured on the high water run are shown in Table 45. The locations at which these profiles were taken are shown in Figure 32. Long channel depth-averaged salinity profiles are shown in Figure 33.

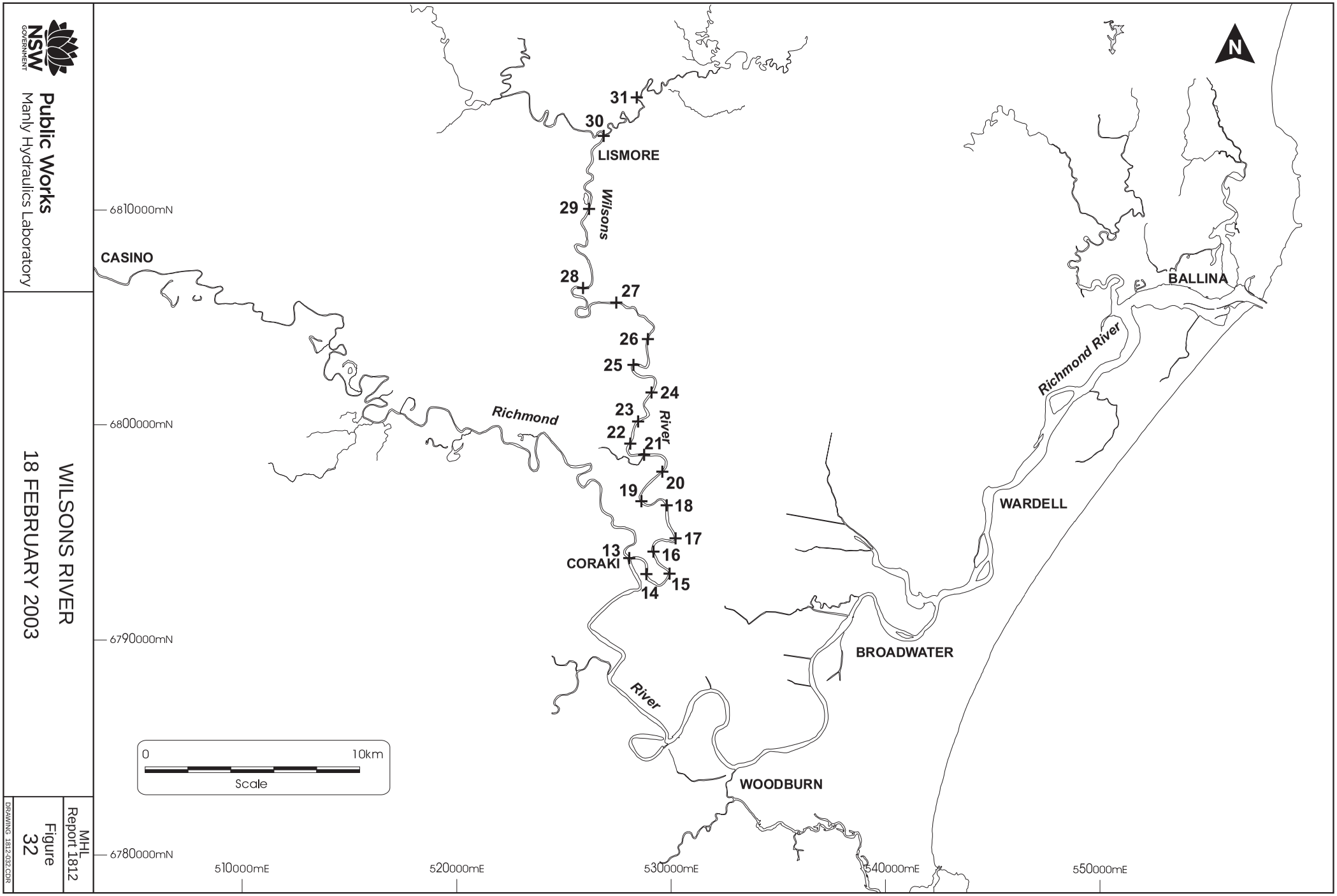
Table 44 Wilsons River - High Water - 18 February 2003

Profile No.	Station No.	MGA (m) Zone 56		Chainage (km)	Mean Salinity (psu)
		Easting	Northing		
1	13	528046	6793787	63.23	1.18
2	14	528852	6793035	64.65	0.93
3	15	529962	6793048	66.25	0.68
4	16	529173	6794089	67.80	0.51
5	17	530252	6794709	69.25	0.37
6	18	529810	6796247	70.78	0.23
7	19	528625	6796440	72.28	0.18
8	20	529600	6797810	74.08	0.15
9	21	528762	6798602	75.71	0.14
10	22	528096	6799112	76.94	0.14
11	23	528453	6800155	78.04	0.14
12	24	529082	6801510	79.86	0.14
13	25	528250	6802784	82.11	0.14
14	26	528928	6803995	84.16	0.14
15	27	527435	6805694	87.11	0.13
16	28	525894	6806346	91.99	0.11
17	29	526175	6810052	97.09	0.08
18	30	526855	6813443	101.26	0.07
19	31	528395	6815243	106.11	0.06

Table 45 Wilsons River - Water Quality Maxima and Minima - High Water - 18 February 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Conductivity (mS/cm)			Conductance (25°C) K25 (mS/cm)			pH			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
13	1326	13.8	997.0	997.2	997.1	28.13	28.15	28.13	1.130	1.217	1.184	2.353	2.526	2.460	2.211	2.380	2.315	7.68	7.76	7.74	WIL001
14	1334	10.4	996.8	996.9	996.9	28.21	28.31	28.25	0.890	0.949	0.927	1.880	1.997	1.953	1.758	1.877	1.833	7.75	7.80	7.79	WIL002
15	1342	7.0	996.6	996.7	996.7	28.31	28.41	28.36	0.665	0.686	0.677	1.426	1.467	1.450	1.334	1.375	1.359	7.79	7.82	7.81	WIL003
16	1348	6.1	996.5	996.5	996.5	28.32	28.35	28.34	0.496	0.519	0.511	1.074	1.123	1.107	1.006	1.058	1.037	7.78	7.80	7.79	WIL004
17	1355	5.7	996.4	996.4	996.4	28.31	28.32	28.32	0.365	0.370	0.368	0.799	0.809	0.805	0.748	0.759	0.755	7.79	7.80	7.80	WIL005
18	1403	6.0	996.3	996.4	996.4	28.23	28.25	28.24	0.227	0.233	0.230	0.501	0.513	0.506	0.470	0.482	0.475	7.78	7.81	7.80	WIL006
19	1411	6.2	996.3	996.3	996.3	28.17	28.19	28.18	0.174	0.176	0.175	0.382	0.388	0.386	0.359	0.365	0.363	7.76	7.80	7.77	WIL007
20	1418	6.6	996.3	996.3	996.3	28.19	28.20	28.19	0.149	0.149	0.149	0.329	0.329	0.329	0.309	0.310	0.309	7.76	7.80	7.77	WIL008
21	1426	6.5	996.3	996.3	996.3	28.16	28.18	28.17	0.142	0.142	0.142	0.312	0.314	0.313	0.293	0.295	0.294	7.74	7.81	7.77	WIL009
22	1434	6.7	996.3	996.3	996.3	28.14	28.15	28.14	0.140	0.140	0.140	0.308	0.309	0.309	0.290	0.291	0.290	7.72	7.75	7.73	WIL010
23	1442	6.8	996.3	996.3	996.3	28.11	28.13	28.13	0.140	0.140	0.140	0.307	0.307	0.307	0.289	0.289	0.289	7.71	7.73	7.72	WIL011
24	1450	6.5	996.3	996.3	996.3	28.11	28.12	28.12	0.139	0.139	0.139	0.306	0.306	0.306	0.288	0.288	0.288	7.71	7.74	7.73	WIL012
25	1459	8.1	996.3	996.3	996.3	28.10	28.11	28.11	0.139	0.139	0.139	0.304	0.305	0.304	0.286	0.287	0.287	7.80	7.82	7.80	WIL013
26	1507	6.3	996.3	996.4	996.3	28.02	28.08	28.03	0.137	0.137	0.137	0.301	0.302	0.301	0.284	0.284	0.284	7.74	7.80	7.76	WIL014
27	1516	6.6	996.3	996.4	996.4	27.96	27.98	27.97	0.134	0.134	0.134	0.294	0.295	0.294	0.278	0.278	0.278	7.61	7.65	7.63	WIL015
28	1529	5.3	996.4	996.4	996.4	27.66	27.70	27.69	0.112	0.114	0.113	0.244	0.248	0.246	0.231	0.235	0.234	7.41	7.47	7.43	WIL016
29	1541	4.9	996.5	996.5	996.5	27.29	27.43	27.34	0.083	0.085	0.084	0.177	0.180	0.178	0.169	0.172	0.170	7.20	7.32	7.25	WIL017
30	1553	4.9	996.4	996.5	996.4	27.45	27.51	27.48	0.071	0.071	0.071	0.149	0.150	0.150	0.142	0.143	0.142	6.93	7.03	6.97	WIL018
31	1608	5.5	996.3	996.4	996.4	27.77	27.78	27.77	0.059	0.059	0.059	0.122	0.122	0.122	0.115	0.116	0.115	6.97	7.03	6.99	WIL019

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors


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WILSONS RIVER
18 FEBRUARY 2003
MHL Report 1812
Figure 32
DRAWING: 1812-032.CDR
N
31
30
LISMORE
29
Wilsons
28
27
26
25
24
23
22
21
20
19
18
17
16
15
14
13
CORAKI
CASINO
Richmond
River
BALLINA
Richmond River
WARDELL
BROADWATER
River
WOODBURN
0
10km
Scale
6810000mN
6800000mN
6790000mN
6780000mN
510000mE
520000mE
530000mE
540000mE
550000mE

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Manly Hydraulics Laboratory

LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
WILSONS RIVER
HIGH WATER - 18 FEBRUARY 2003

MHL Report 1812

Figure 33

DRAWING 1812-033.CDR

Water quality data collected in the Richmond River on high water slack on 4 March 2003 is summarised in Table 46. Summaries of the minimum, maximum and mean values for all parameters measured on the high water run are shown in Table 47. The locations at which these profiles were taken are shown in Figure 34. Long channel depth-averaged salinity profiles are shown in Figure 35.

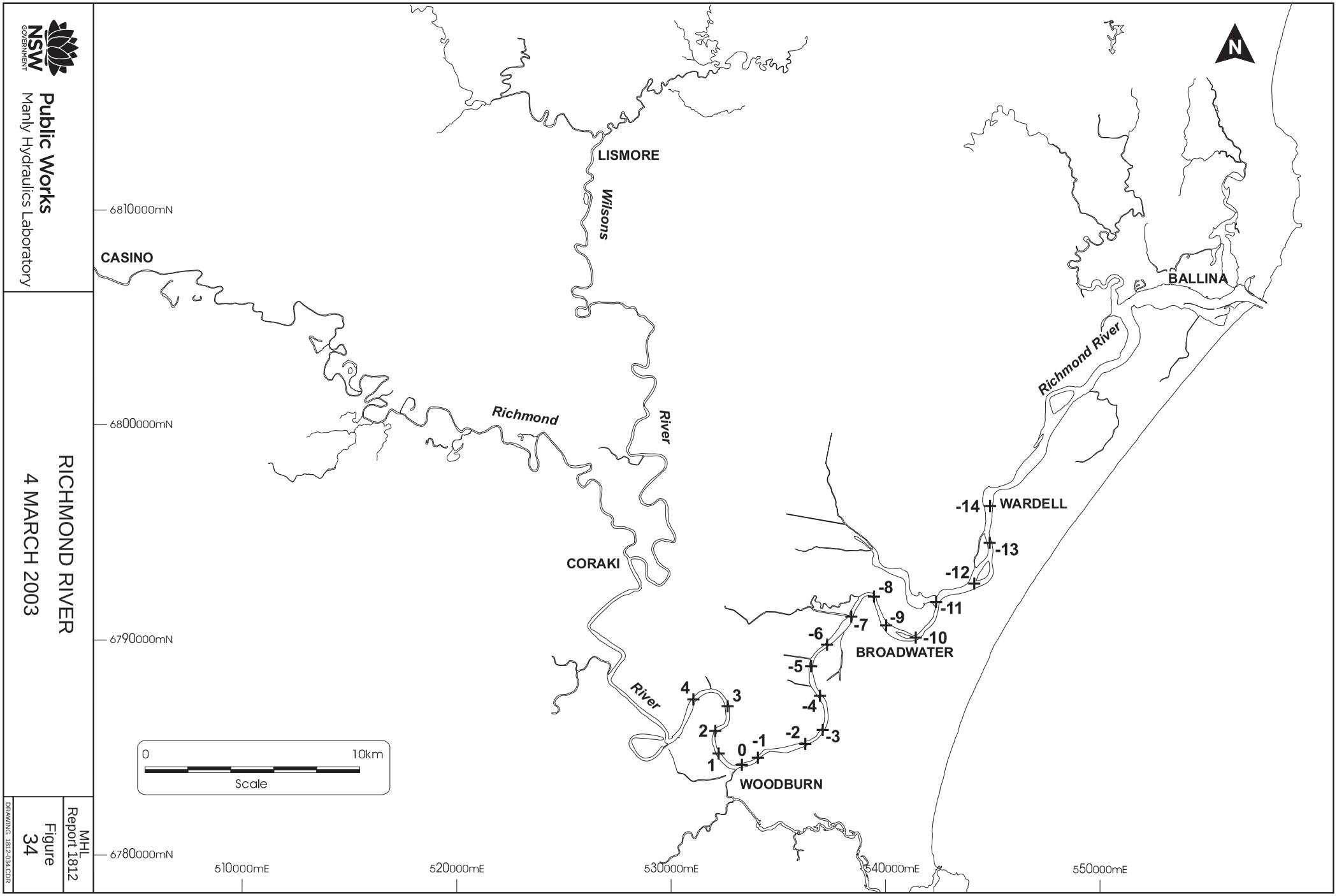
Table 46 Richmond River - High Water - 4 March 2003

Profile No.	Station No.	MGA (m) Zone 56		Chainage (km)	Mean Salinity (psu)
		Easting	Northing		
1	-14	544882	6796208	18.95	10.33
2	-13	544889	6794494	20.70	7.35
3	-12	544132	6792611	22.97	4.56
4	-11	542330	6791740	25.07	2.30
5	-10	541389	6790095	27.12	1.31
6	-9	540035	6790655	28.75	0.93
7	-8	539464	6792017	30.25	0.79
8	-7	538402	6791063	31.95	0.61
9	-6	537273	6789775	33.65	0.48
10	-5	536528	6788747	34.95	0.44
11	-4	536937	6787357	36.45	0.41
12	-3	537045	6785795	38.10	0.38
13	-2	536240	6785127	39.20	0.36
14	-1	534024	6784500	41.55	0.32
15	0	533299	6784177	42.50	0.28
16	1	532216	6784674	43.78	0.28
17	2	532038	6785746	44.83	0.25
18	3	532663	6786886	46.35	0.24
19	4	530996	6787213	48.50	0.22

Table 47 Richmond River - Water Quality Maxima and Minima - High Water - 4 March 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Conductivity (mS/cm)			Conductance (25°C) K25 (mS/cm)			pH			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
-14	1141	3.7	1002.8	1005.5	1004.7	25.49	25.58	25.52	7.874	11.396	10.328	13.814	19.388	17.710	13.555	19.204	17.524	7.93	7.99	7.96	RR0304001
-13	1148	7.5	1001.5	1003.1	1002.4	25.50	25.74	25.58	6.131	8.179	7.349	10.989	14.294	12.953	10.793	14.144	12.805	7.80	7.86	7.83	RR0304002
-12	1156	2.3	1000.1	1000.4	1000.3	25.68	25.82	25.73	4.303	4.720	4.560	7.917	8.610	8.343	7.776	8.505	8.223	7.64	7.69	7.67	RR0304003
-11	1206	8.5	997.4	999.0	998.6	25.76	25.86	25.84	0.781	2.885	2.301	1.580	5.452	4.390	1.551	5.361	4.316	7.41	7.58	7.54	RR0304004
-10	1224	4.5	997.8	997.9	997.8	25.75	25.79	25.77	1.194	1.359	1.306	2.367	2.678	2.577	2.321	2.637	2.537	7.49	7.51	7.50	RR0304005
-9	1234	3.7	997.5	997.6	997.5	25.79	25.82	25.80	0.927	0.932	0.929	1.861	1.870	1.866	1.831	1.841	1.836	7.47	7.49	7.48	RR0304006
-8	1249	10.1	997.4	997.5	997.5	25.71	25.76	25.73	0.734	0.806	0.788	1.487	1.626	1.591	1.464	1.603	1.568	7.38	7.41	7.41	RR0304007
-7	1258	4.4	997.2	997.3	997.3	25.80	25.96	25.84	0.582	0.624	0.607	1.196	1.274	1.243	1.173	1.254	1.222	7.32	7.34	7.33	RR0304008
-6	1310	5.7	997.1	997.2	997.2	25.77	26.04	25.80	0.480	0.484	0.481	0.989	1.003	0.992	0.974	0.984	0.976	7.21	7.28	7.23	RR0304009
-5	1319	6.5	997.0	997.2	997.2	25.73	26.32	25.78	0.437	0.446	0.444	0.910	0.922	0.918	0.889	0.909	0.904	7.14	7.17	7.15	RR0304010
-4	1328	3.8	997.1	997.2	997.2	25.66	25.82	25.69	0.402	0.415	0.406	0.832	0.857	0.841	0.820	0.848	0.830	7.07	7.10	7.08	RR0304011
-3	1340	5.4	997.1	997.2	997.2	25.62	25.90	25.64	0.362	0.405	0.380	0.754	0.836	0.787	0.740	0.832	0.777	7.00	7.01	7.01	RR0304012
-2	1347	3.9	997.1	997.2	997.2	25.59	25.87	25.64	0.354	0.367	0.359	0.738	0.760	0.746	0.725	0.753	0.737	6.97	7.01	6.98	RR0304013
-1	1355	10.3	997.1	997.2	997.2	25.57	25.75	25.63	0.321	0.324	0.322	0.668	0.675	0.671	0.659	0.667	0.662	6.96	6.99	6.97	RR0304014
0	1403	5.8	997.1	997.1	997.1	25.60	25.63	25.61	0.276	0.279	0.278	0.577	0.582	0.580	0.569	0.575	0.573	6.95	6.96	6.95	RR0304015
1	1412	5.0	997.0	997.1	997.1	25.56	25.79	25.60	0.273	0.278	0.275	0.572	0.579	0.575	0.563	0.573	0.568	6.93	6.96	6.94	RR0304016
2	1420	5.4	997.1	997.1	997.1	25.56	25.58	25.57	0.251	0.252	0.252	0.524	0.527	0.526	0.518	0.521	0.520	6.92	6.93	6.93	RR0304017
3	1439	3.7	997.1	997.1	997.1	25.59	25.60	25.59	0.235	0.236	0.236	0.492	0.494	0.494	0.486	0.489	0.488	6.92	6.93	6.93	RR0304018
4	1450	5.9	997.1	997.1	997.1	25.53	25.54	25.53	0.214	0.216	0.215	0.448	0.452	0.449	0.443	0.448	0.445	6.93	6.94	6.93	RR0304019

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors.



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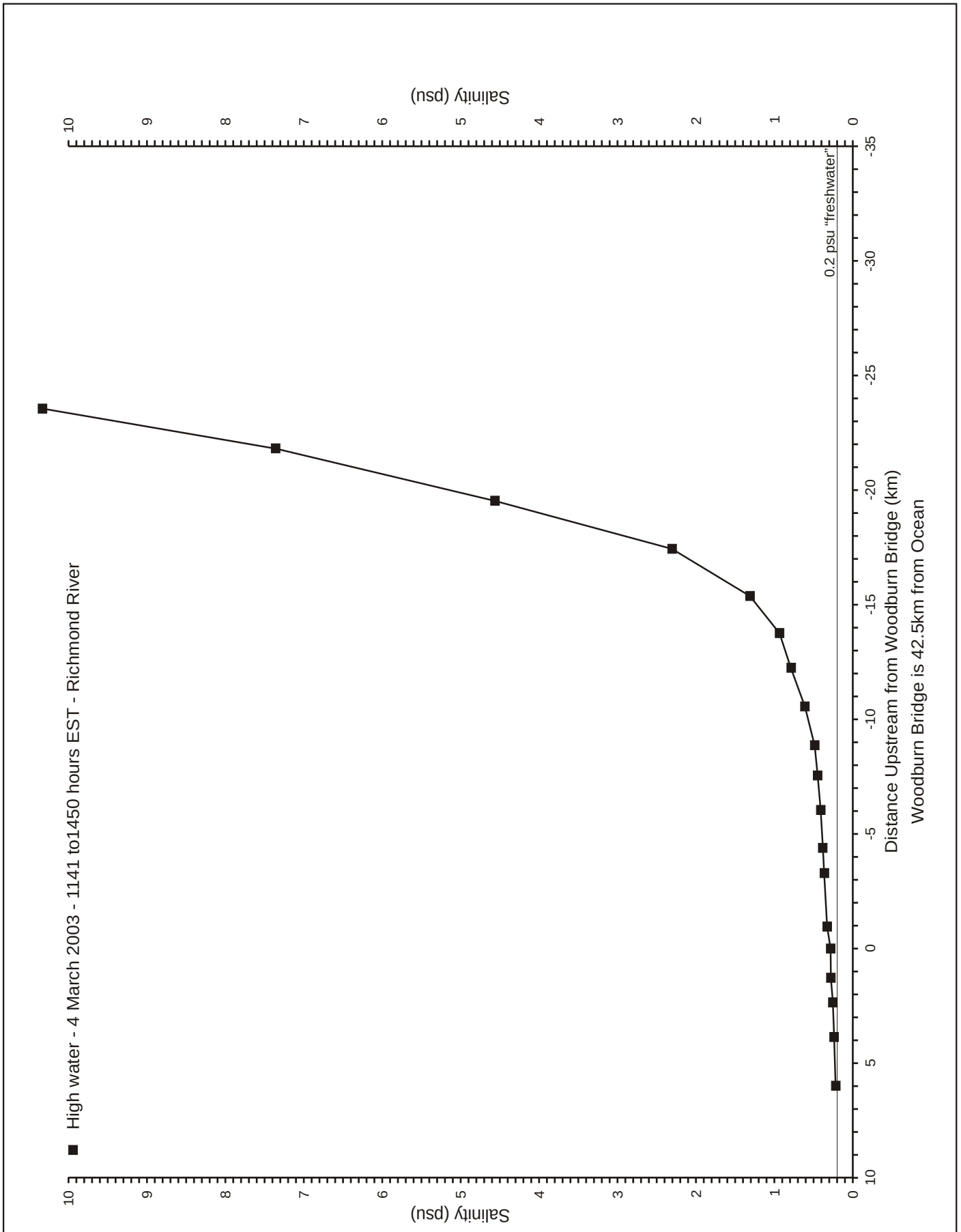
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RICHMOND RIVER
4 MARCH 2003

MHL Report 1812

Figure 34

DRAWING: 1812-034.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
RICHMOND RIVER
HIGH WATER - 4 MARCH 2003

MHL Report 1812

Figure 35

DRAWING 1812-035.CDR

Water quality data collected in the Richmond River on high water slack on 12-13 August 2003 is summarised in Table 48. Summaries of the minimum, maximum and mean values for all parameters measured on the high water run are shown in Table 49. The locations at which these profiles were taken are shown in Figure 36. Long channel depth-averaged salinity profiles are shown in Figure 37.

Table 48 Richmond River - High Water - 12/13 August 2003

Profile No.	Station No.	MGA (m) Zone 56		Chainage (km)	Mean Salinity (psu)
		Easting	Northing		
1	-10	541389	6790095	27.12	10.91
2	-9	540035	6790655	28.75	10.06
3	-8	539464	6792017	30.25	8.34
4	-7	538402	6791063	31.95	6.88
5	-6	537273	6789775	33.65	5.03
6	-5	536528	6788747	34.95	3.80
7	-4	536937	6787357	36.45	2.53
8	-3	537045	6785795	38.10	1.78
9	-2	536240	6785127	39.20	1.16
10	-1	534024	6784500	41.55	0.29
11	0	533299	6784177	42.50	0.18
12	1	532216	6784674	43.78	0.16
13	3	532663	6786886	46.35	0.13
14	5	530034	6785246	50.75	0.11
15	7	527475	6787693	54.53	0.01

Table 49 Richmond River - Water Quality Maxima and Minima - High Water - 12/13 August 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Conductivity (mS/cm)			Conductance (25°C) K25 (mS/cm)			pH			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
-10	2224	4.9	1007.0	1007.2	1007.0	17.54	17.58	17.55	10.828	11.116	10.911	15.632	16.028	15.746	18.341	18.847	18.503	8.01	8.05	8.02	SB0812004
-9	2234	3.8	1006.4	1006.4	1006.4	17.45	17.45	17.45	10.043	10.075	10.060	14.556	14.597	14.578	17.139	17.196	17.169	7.99	7.99	7.99	SB0812005
-8	2242	6.4	1005.0	1005.1	1005.1	17.43	17.46	17.45	8.264	8.380	8.335	12.150	12.316	12.252	14.307	14.503	14.430	7.85	7.88	7.86	SB0812006
-7	2251	3.6	1003.8	1004.0	1004.0	17.28	17.34	17.33	6.690	6.913	6.879	9.954	10.276	10.228	11.766	12.139	12.079	7.65	7.69	7.67	SB0812007
-6	2259	5.0	1002.5	1002.6	1002.6	17.16	17.19	17.19	4.865	5.072	5.028	7.380	7.679	7.615	8.751	9.105	9.025	7.39	7.43	7.41	SB0812008
-5	2308	5.8	1001.3	1001.8	1001.7	16.95	17.08	17.05	3.335	3.916	3.800	5.160	6.015	5.845	6.136	7.148	6.948	7.21	7.30	7.26	SB0812009
-4	2319	4.5	1000.6	1000.8	1000.8	16.76	16.85	16.83	2.268	2.575	2.528	3.575	4.037	3.966	4.274	4.824	4.740	7.13	7.18	7.16	SB0812010
-3	2329	6.3	1000.1	1000.3	1000.2	16.65	16.70	16.68	1.627	1.867	1.781	2.606	2.971	2.841	3.128	3.562	3.408	7.08	7.10	7.09	SB0812011
-2	2337	5.1	999.7	999.8	999.8	16.58	16.59	16.59	1.145	1.172	1.164	1.864	1.907	1.894	2.240	2.293	2.276	6.96	7.05	7.02	SB0812012
-1	2346	7.1	999.1	999.1	999.1	16.52	16.53	16.52	0.277	0.297	0.292	0.477	0.510	0.501	0.571	0.615	0.603	6.98	7.15	7.11	SB0812013
0	2357	6.3	999.0	999.0	999.0	16.45	16.48	16.47	0.179	0.185	0.182	0.310	0.320	0.315	0.373	0.386	0.380	6.77	7.08	7.00	SB0812014
1	0007	5.1	999.0	999.0	999.0	16.46	16.47	16.47	0.158	0.159	0.158	0.274	0.276	0.275	0.329	0.333	0.332	6.65	7.04	6.98	SB0812015
3	0019	3.6	999.0	999.0	999.0	16.35	16.35	16.35	0.130	0.130	0.130	0.224	0.224	0.224	0.271	0.271	0.271	6.83	6.97	6.92	SB0812016
5	0032	7.1	999.0	999.0	999.0	16.32	16.35	16.34	0.111	0.112	0.111	0.192	0.194	0.193	0.232	0.234	0.233	6.85	7.01	6.96	SB0812017
7	0046	6.6	999.0	999.0	999.0	16.30	16.31	16.31	0.096	0.097	0.096	0.166	0.168	0.166	0.201	0.203	0.202	6.78	7.00	6.91	SB0812018

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors

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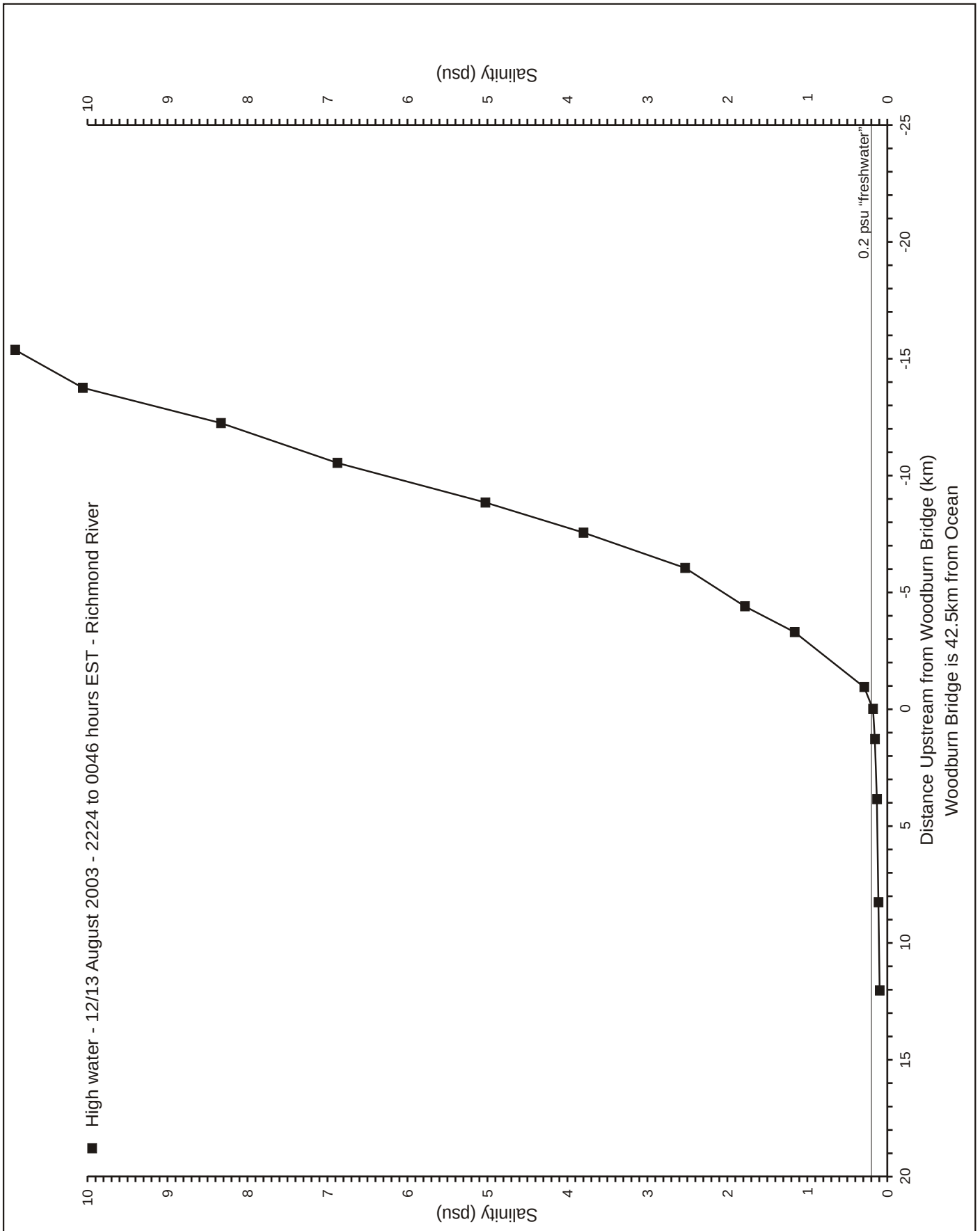
RICHMOND RIVER

12 AND 13 AUGUST 2003

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Figure 36

DRAWING 1812-036.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
RICHMOND RIVER
HIGH WATER - 12 AND 13 AUGUST 2003

MHL Report 1812

Figure 37

DRAWING 1812-037.CDR

Water quality data collected in the Richmond River on low and high water slack on 16 and 17 May 2011 is summarised in Table 50. Summaries of the minimum, maximum and mean values for all parameters measured on the low and high water run are shown in Table 51a-b. The locations at which these profiles were taken are shown in Figure 38. Long channel depth-averaged salinity profiles have not been plotted because the variations in the minimum and maximum salinity throughout the river were insignificant.

Table 50 Richmond River - Low and High Water - 16 and 17 May 2011

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity (psu)	High Water Salinity (psu)
	Easting	Northing			
1	544870	6796307	18.95	0.15	9.76
2	543200	6792176	24.40	0.09	2.21
3	539385	6792142	30.25	0.09	0.09
4	536870	6787480	36.45	0.09	0.09
5	533480	6784157	42.50	0.09	0.09
6	530540	6785975	50.07	0.09	0.09
7	527130	6788195	55.21	0.09	0.09
8	526846	6791427	59.78	0.09	0.09
9	528073	6793751	63.23	0.11	0.09
10	527317	6795282	65.88	0.14	0.09
11	526216	6797400	68.80	0.14	0.14

Table 51a Richmond River - Water Quality Maxima and Minima - Low Water - 16 May 2011

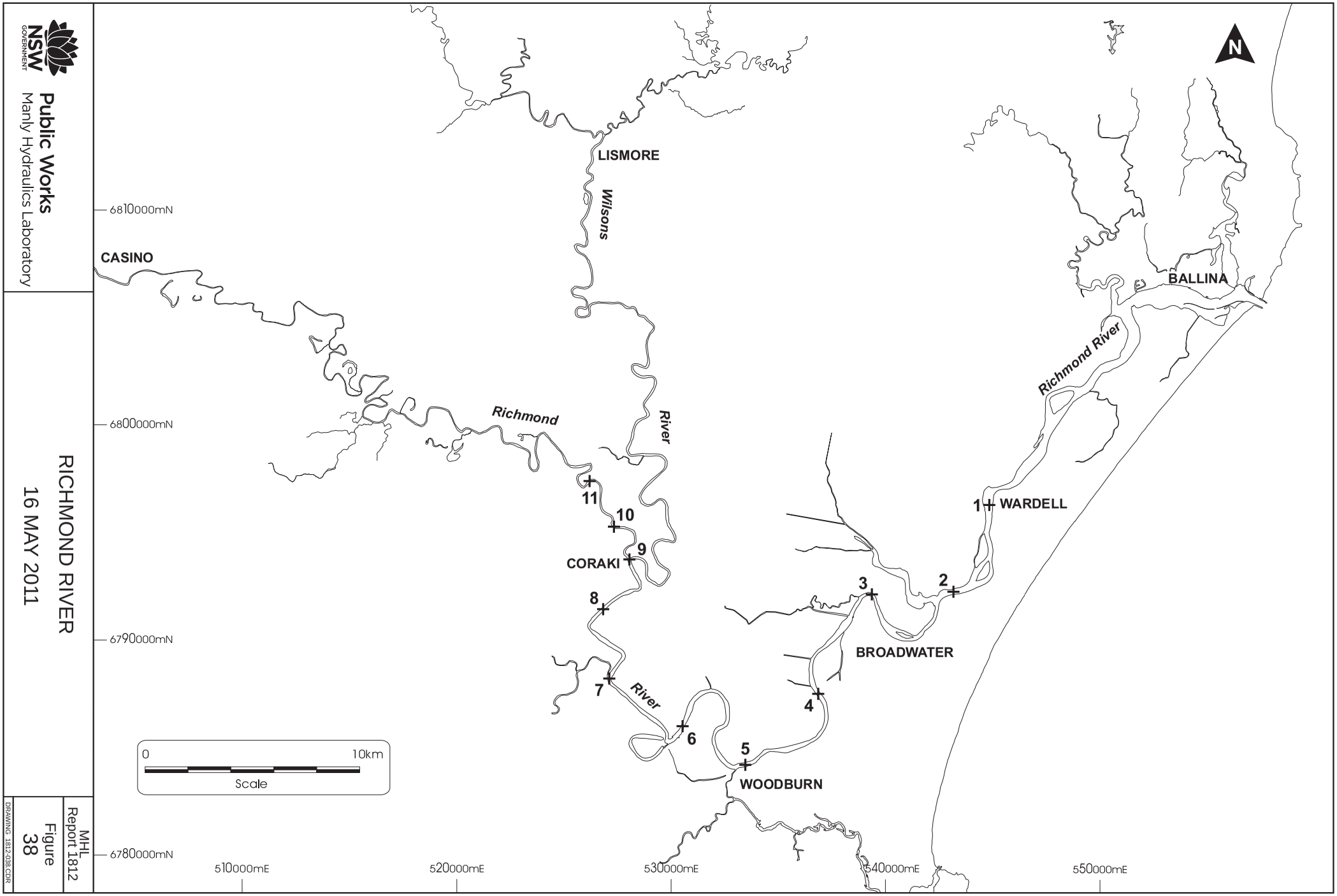
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1436	3.2	998.8	998.8	998.8	17.71	17.75	17.72	0.14	0.15	0.15	WS110520001
2	1450	4.9	998.7	998.7	998.7	18.02	18.04	18.03	0.09	0.09	0.09	WS110520002
3	1551	7.9	998.7	998.7	998.7	18.05	18.08	18.07	0.09	0.09	0.09	WS110520003
4	1607	3.9	998.7	998.7	998.7	17.97	17.98	17.97	0.09	0.09	0.09	WS110520004
5	1641	4.2	998.7	998.7	998.7	17.84	17.87	17.86	0.09	0.09	0.09	WS110520005
6	1700	8.2	998.7	998.8	998.7	17.66	17.67	17.67	0.09	0.09	0.09	WS110520006
7	1714	3.9	998.7	998.8	998.7	17.61	17.62	17.62	0.09	0.09	0.09	WS110520007
8	1727	6.7	998.8	998.8	998.8	17.36	17.39	17.38	0.09	0.09	0.09	WS110520008
9	1740	13.2	998.8	998.9	998.8	17.19	17.39	17.29	0.08	0.14	0.11	WS110520009
10	1755	5.5	998.8	998.9	998.8	17.26	17.27	17.26	0.14	0.14	0.14	WS110520010
11	1805	5.5	998.9	998.9	998.9	17.16	17.19	17.18	0.14	0.14	0.14	WS110520011

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors

Table 51b Richmond River - Water Quality Maxima and Minima - High Water - 16 and 17 May 2011

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	2105	4.2	1004.3	1006.1	1005.9	18.52	19.01	18.92	7.64	10.13	9.76	WS110520012
2	2118	5.0	1000.0	1000.4	1000.3	17.70	18.04	18.00	1.81	2.34	2.21	WS110520013
3	2134	6.4	998.7	998.7	998.7	17.84	17.84	17.84	0.09	0.09	0.09	WS110520014
4	2236	5.1	998.7	998.7	998.7	17.93	17.99	17.98	0.09	0.09	0.09	WS110520015
5	2318	5.2	998.7	998.7	998.7	17.83	17.89	17.88	0.09	0.09	0.09	WS110520016
6	2339	5.4	998.7	998.7	998.7	17.69	17.76	17.75	0.09	0.09	0.09	WS110520017
7	2352	4.2	998.7	998.8	998.7	17.55	17.60	17.59	0.09	0.09	0.09	WS110520018
8	0006	7.0	998.8	998.8	998.8	17.35	17.43	17.42	0.09	0.09	0.09	WS110520019
9	0019	16.0	998.8	998.8	998.9	17.25	17.34	17.33	0.09	0.09	0.09	WS110520020
10	0033	7.6	998.8	998.8	998.9	17.13	17.16	17.15	0.09	0.09	0.09	WS110520021
11	0050	4.4	998.9	998.9	998.9	17.13	17.17	17.16	0.14	0.14	0.14	WS110520022

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors



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RICHMOND RIVER
16 MAY 2011

MHL Report 1812
Figure 38

DRAWING: 1812-038.CDR

Evans River Data Summary

Data was collected in the Evans River on 1 March 2006, as detailed in report MHL1481. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 52. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 53a-b. The locations at which these profiles were taken are shown in Figure 39. Long channel depth-averaged salinity profiles are shown in Figure 40.

Table 52 Evans River - 1 March 2006

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	542392	6779235	0.32	35.18	33.98
2	541941	6778347	1.49	35.16	33.18
3	540910	6777778	2.60	35.09	32.02
4	540143	6777975	3.33	35.11	31.60
5	539700	6778209	3.85	35.08	29.95
6	539044	6779033	5.05	35.07	28.17
7	538657	6779993	6.07	34.95	27.39
8	538743	6780993	7.15	34.62	25.66
9	537887	6781484	8.55	33.66	23.99
10	536834	6781092	10.10	30.32	22.30
11	535881	6781053	11.27	27.93	21.63
12	534887	6781353	12.41	24.33	20.21
13	533993	6781629	13.69	20.64	19.19
14	533063	6782557	15.07	17.37	16.68
15	535742	6780270	12.15	23.71	24.57
16	536034	6779713	12.82	21.83	-

Notes Stations 15 and 16 were in Brandy Arm Creek. No profile was done at Station 16 on the low water run due to restricted access

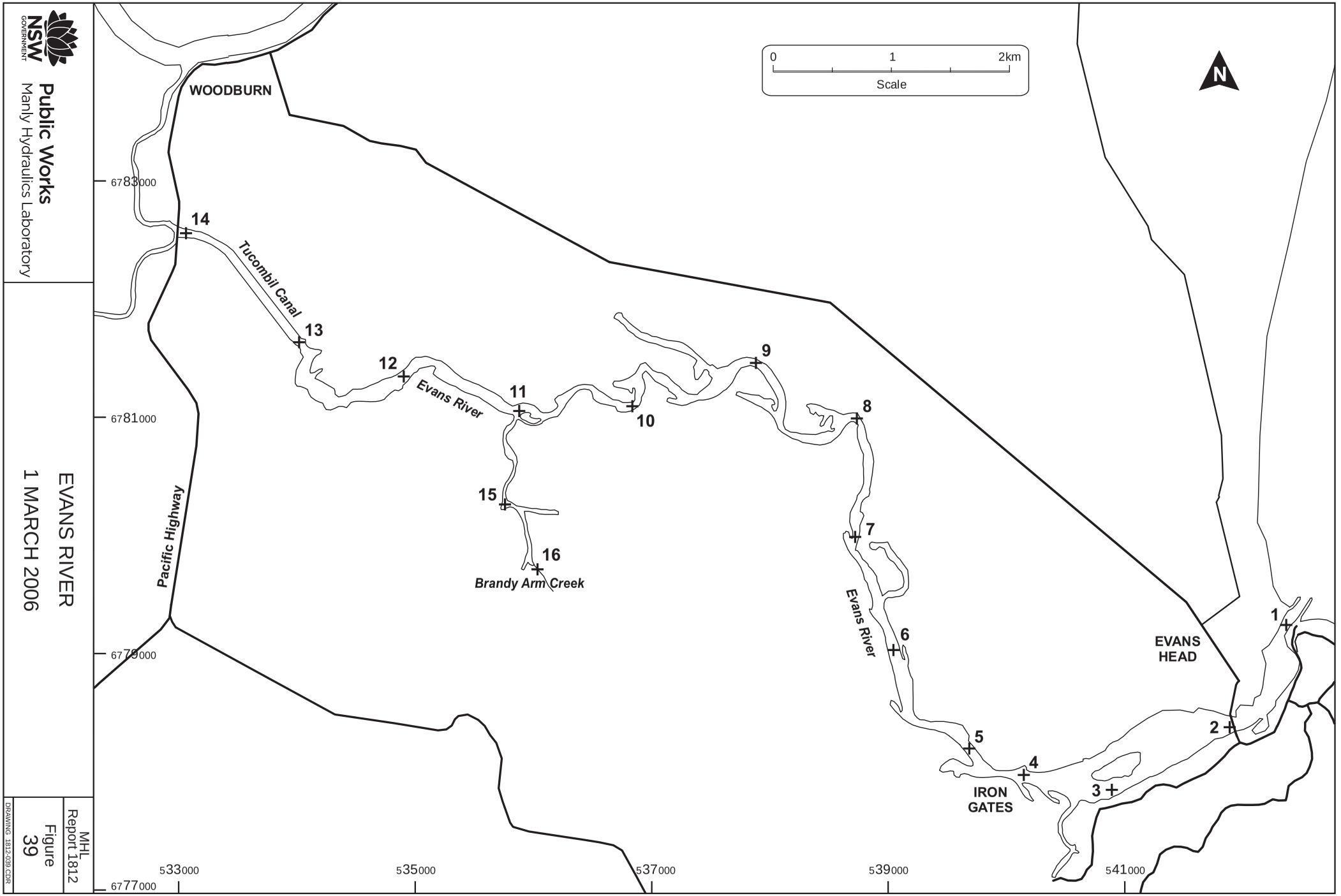
Table 53a Evans River - Water Quality Maxima and Minima - High Water - 1 March 2006

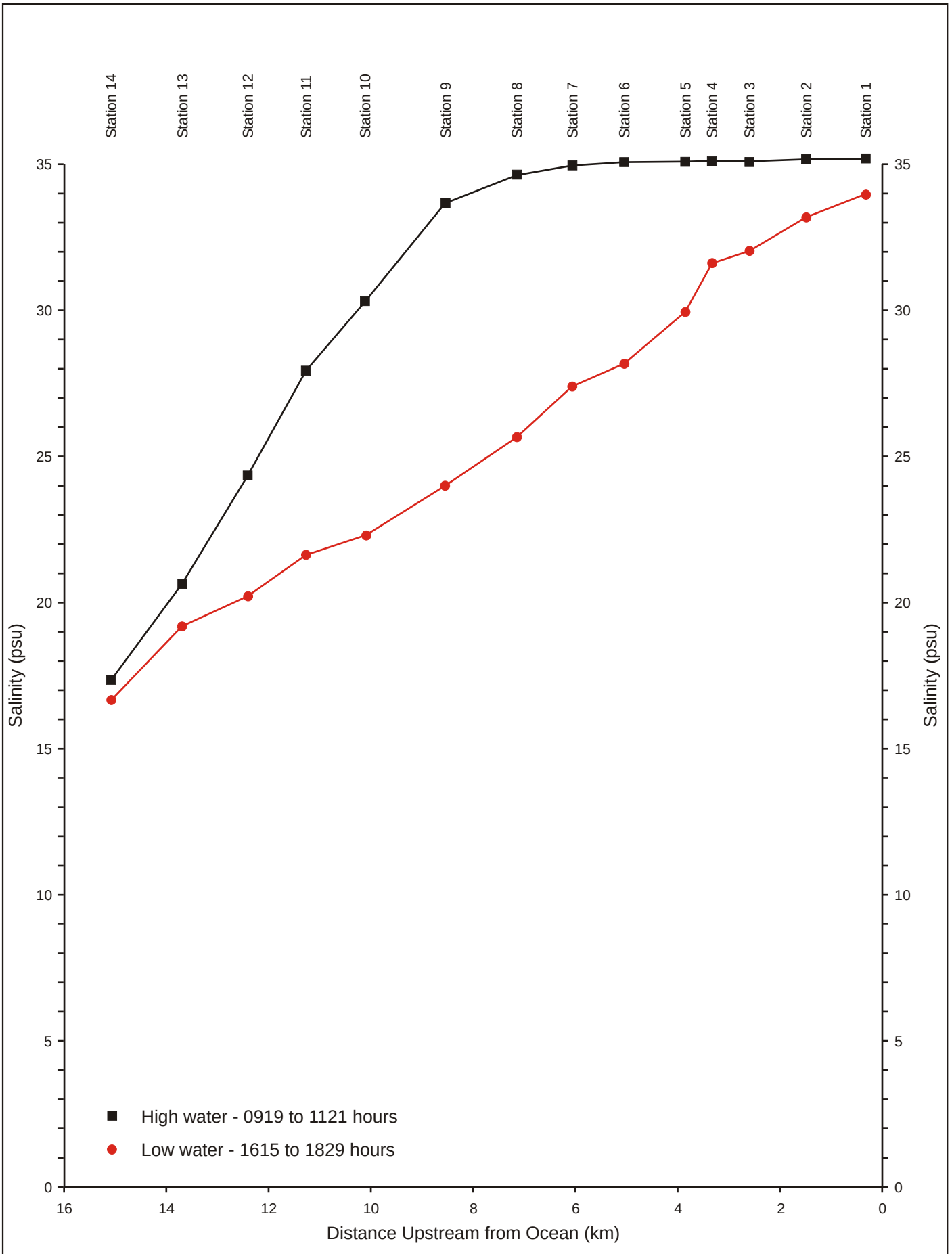
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0919	5.1	1023.8	1023.8	1023.8	23.91	23.93	23.92	35.17	35.18	35.18	96.39	97.25	96.99	7.93	7.94	7.94	4.97	9.85	5.97	0.01	3.61	0.33	34.4	1862.2	290.6	ER060301001
2	0949	3.3	1023.7	1023.8	1023.8	24.04	24.07	24.04	35.14	35.16	35.16	94.29	95.02	94.58	7.94	7.94	7.94	3.50	5.94	4.70	0.00	0.52	0.06	363.1	5525.0	1537.4	ER060301002
3	0956	3.8	1023.6	1023.7	1023.7	24.19	24.24	24.20	35.08	35.10	35.09	89.62	92.65	92.05	7.93	7.94	7.94	3.01	4.48	3.36	0.00	0.71	0.00	343.6	3503.3	908.3	ER060301003
4	1001	3.1	1023.6	1023.6	1023.6	24.36	24.38	24.37	35.10	35.12	35.11	91.35	92.28	91.94	7.93	7.94	7.93	2.52	3.01	2.66	0.00	0.00	0.00	743.2	3826.2	1280.0	ER060301004
5	1007	3.6	1023.6	1023.6	1023.6	24.30	24.35	24.32	35.06	35.09	35.08	90.85	91.91	91.43	7.92	7.93	7.93	2.52	4.48	3.16	0.00	0.00	0.00	344.8	2789.6	778.6	ER060301005
6	1014	2.2	1023.6	1023.6	1023.6	24.39	24.40	24.39	35.06	35.07	35.07	90.25	90.61	90.47	7.93	7.93	7.93	3.01	4.48	3.55	0.00	0.00	0.00	653.5	3255.1	1248.6	ER060301006
7	1019	1.7	1023.4	1023.5	1023.4	24.54	24.55	24.54	34.94	34.96	34.95	90.13	90.44	90.25	7.92	7.92	7.92	0.08	4.97	3.65	0.00	0.00	0.00	968.3	3255.1	1546.3	ER060301007
8	1025	5.3	1023.2	1023.2	1023.2	24.52	24.56	24.54	34.60	34.64	34.62	86.41	88.07	87.22	7.89	7.90	7.90	0.57	7.90	5.04	0.00	0.40	0.10	77.6	3998.7	791.3	ER060301008
9	1033	4.3	1022.2	1022.5	1022.4	24.73	24.87	24.77	33.39	33.72	33.66	82.36	84.35	83.42	7.83	7.85	7.84	4.97	7.41	5.75	0.09	0.69	0.46	49.7	4497.6	642.1	ER060301009
10	1044	3.5	1019.5	1019.9	1019.7	25.30	25.42	25.36	30.13	30.50	30.32	71.88	73.08	72.57	7.59	7.61	7.60	6.43	9.85	7.26	1.60	2.18	1.97	35.0	4497.6	662.4	ER060301010
11	1056	1.8	1017.7	1017.8	1017.8	25.87	25.87	25.87	27.92	27.94	27.93	70.22	70.63	70.42	7.44	7.45	7.45	7.41	9.85	8.26	3.18	3.79	3.36	172.2	2321.5	738.0	ER060301011
12	1104	2.0	1014.6	1015.1	1014.9	26.24	26.43	26.31	23.97	24.52	24.33	66.71	71.56	70.26	7.29	7.31	7.30	6.92	8.38	7.63	8.43	10.25	9.01	78.7	2086.8	561.8	ER060301012
13	1113	2.2	1012.0	1012.4	1012.2	26.00	26.24	26.07	20.36	20.88	20.64	68.00	75.93	73.53	7.17	7.21	7.19	12.29	14.25	12.98	21.08	29.89	23.74	28.0	2728.8	624.2	ER060301013
14	1121	2.0	1008.9	1010.7	1009.7	25.97	26.97	26.21	16.21	18.90	17.37	71.83	85.84	83.98	7.03	7.18	7.11	9.85	11.80	10.87	13.06	17.93	14.70	73.4	2759.0	811.5	ER060301014
15	1137	2.0	1013.4	1015.6	1014.4	26.24	26.71	26.47	22.42	25.22	23.71	68.81	76.96	73.61	7.27	7.31	7.30	5.94	8.87	7.85	8.76	13.88	12.36	174.1	2936.9	1044.7	ER060301015
16	1143	1.7	1012.3	1013.6	1013.0	26.29	26.81	26.52	20.86	22.77	21.83	58.74	67.81	63.96	7.12	7.14	7.13	9.36	10.83	10.20	16.01	19.02	17.81	113.3	2262.5	739.9	ER060301016

Table 53b Evans River - Water Quality Maxima and Minima - Low Water - 1 March 2006

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1615	2.5	1022.4	1022.4	1022.4	25.57	25.57	25.57	33.94	33.99	33.98	89.43	90.01	89.80	7.78	7.79	7.78	2.04	11.32	6.73	1.31	1.74	1.47	109.6	2679.1	722.4	ER060301017
2	1640	1.1	1021.8	1021.8	1021.8	25.64	25.64	25.64	33.17	33.18	33.18	86.72	87.29	87.16	7.78	7.78	7.78	4.48	6.43	5.38	1.87	2.31	2.04	229.3	1045.9	570.4	ER060301018
3	1647	1.5	1020.8	1020.9	1020.9	25.80	25.81	25.81	32.01	32.04	32.02	84.92	85.42	85.23	7.71	7.71	7.71	4.48	6.92	5.14	2.71	7.77	3.32	143.3	1198.2	475.8	ER060301019
4	1653	2.4	1020.2	1020.6	1020.5	25.87	25.94	25.89	31.16	31.74	31.60	85.01	85.81	85.43	7.67	7.70	7.68	4.48	7.41	5.32	3.27	4.15	3.46	30.7	688.0	173.9	ER060301020
5	1715	2.7	1019.1	1019.3	1019.2	26.09	26.11	26.11	29.86	30.03	29.95	81.97	82.71	82.44	7.59	7.60	7.60	4.48	11.32	5.42	4.33	5.36	4.53	11.6	471.3	97.1	ER060301021
6	1727	1.0	1017.7	1017.9	1017.8	26.34	26.34	26.34	28.05	28.27	28.17	65.73	65.90	65.82	7.51	7.51	7.51	4.48	6.92	5.32	6.59	7.03	6.83	88.9	480.0	268.4	ER060301022
7	1735	1.6	1016.9	1017.6	1017.2	26.44	26.52	26.47	27.12	27.95	27.39	79.56	80.10	79.81	7.45	7.47	7.46	5.46	7.41	5.91	5.71	6.88	5.99	25.6	319.2	114.6	ER060301023
8	1745	6.5	1015.6	1015.9	1015.8	26.78	26.80	26.78	25.50	25.75	25.66	80.05	82.44	81.28	7.41	7.42	7.41	5.94	10.34	7.37	6.32	10.12	8.21	0.1	262.8	18.7	ER060301024
9	1754	2.8	1014.4	1014.6	1014.5	26.95	26.97	26.97	23.89	24.16	23.99	85.42	88.01	87.18	7.41	7.42	7.42	8.87	17.66	9.97	10.13	13.78	11.13	0.9	144.4	22.1	ER060301025
10	1802	3.1	1013.2	1013.2	1013.2	26.98	26.99	26.99	22.27	22.34	22.30	91.72	92.95	92.50	7.41	7.42	7.41	11.32	13.27	11.95	12.51	19.07	15.73	0.3	112.0	16.3	ER060301026
11	1810	1.0	1012.7	1012.8	1012.8	26.68	26.74	26.71	21.54	21.70	21.63	87.77	88.96	88.46	7.36	7.37	7.36	13.76	14.73	14.01	18.03	18.77	18.41	8.9	62.0	32.1	ER060301027
12	1816	1.0	1011.7	1011.7	1011.7	26.60	26.61	26.61	20.21	20.22	20.21	91.63	92.13	91.99	7.34	7.35	7.35	13.76	14.25	13.92	20.15	20.98	20.52	3.2	29.3	13.6	ER060301028
13	1824	1.2	1010.9	1011.0	1010.9	26.70	26.73	26.72	19.15	19.20	19.19	93.77	94.21	93.99	7.40	7.41	7.41	11.80	13.27	12.57	20.18	20.44	20.28	1.0	10.2	4.6	ER060301029
14	1829	1.1	1007.5	1010.3	1009.1	25.90	26.86	26.64	14.24	18.37	16.68	80.45	99.62	95.72	7.35	7.39	7.38	9.85	10.34	10.23	14.33	16.73	15.40	0.6	4.2	2.0	ER060301030
15	1845	1.8	1012.6	1016.1	1015.0	26.29	26.95	26.51	21.36	25.98	24.57	62.03	70.20	66.50	7.09	7.26	7.15	5.94	10.83	8.75	7.71	18.48	12.97	0.1	0.2	0.1	ER060301031
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note Debris in the creek prevented access upstream from Station 15 on the low water run


NSW GOVERNMENT
Public Works
Manly Hydraulics Laboratory
EVANS RIVER
1 MARCH 2006
MHL Report 1812
Figure 39
DRAWING 1812-039.CDR
0
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2km
Scale
N
WOODBURN
Tucombil Canal
Evans River
Pacific Highway
Brandy Arm Creek
Evans River
EVANS HEAD
IRON GATES
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6779000
6777000
533000
535000
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541000



Public Works
Manly Hydraulics Laboratory

LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
EVANS RIVER - HIGH AND LOW WATER
1 MARCH 2006

MHL Report 1812

Figure 40

DRAWING 1812-040.CDR

Clarence River Data Summary

Data was collected in the Clarence River on 22 to 24 October 1996, as detailed in report MHL798. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 54 to 59. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 60a to 65. The locations at which these profiles were taken are shown in Figures 41 to 43. Long channel depth-averaged salinity profiles are shown in Figures 44 to 48.

Table 54 Esk River - 24 October 1996

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
E1	530815	6750650	9.98	27.39	22.75
E2	530165	6751480	13.78	24.59	15.66
E3	530845	6752830	15.40	22.22	14.05
E4	530375	6754650	17.45	15.76	12.86
E5	530425	6756390	19.40	12.10	10.73
E6	530015	6758630	22.35	8.28	7.91
E7	530695	6761050	25.20	5.86	5.67
E8	531805	6762890	27.75	4.63	4.78
E9	530535	6763230	29.55	2.91	2.68

Table 55 Clarence River North Arm - 22/23 October 1996

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
NA1	533375	6747550	4.60	35.48	27.14
NA2	532980	6750040	7.35	29.69	26.54
NA3	530105	6750590	10.60	27.18	24.72
NA4	527225	6751750	13.75	25.69	19.31
NA5	524405	6751400	16.85	19.59	18.06
NA6	522195	6748640	20.60	18.55	14.44
NA7	520665	6746190	23.60	15.56	8.61
NA8	519805	6743810	26.15	12.28	7.12

Table 56 Clarence River – 22-23 October 1996

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
C1	535225	6744710	0.6	35.60	31.96
C2	533255	6747460	4.5	35.38	27.99
C3	530005	6749350	8.1	32.62	21.97
C4	527406	6748229	12.4	26.74	16.46
C5	526985	6745310	15.3	23.15	15.70
C6	523405	6744350	18.7	18.35	12.32
C7	518825	6741330	24.6	12.03	8.77
C8	516105	6741660	28.7	7.99	5.21
C9	512535	6738270	33.8	5.53	2.64
C10	510005	6736140	37.3	4.37	1.56
C11	510125	6732030	41.6	2.53	0.96
C12	507165	6729290	45.8	1.53	0.30
C13	504205	6727000	49.7	0.40	0.11
C14	502995	6723320	53.6	0.11	0.11
C15	500735	6721090	57.0	0.11	0.11
C16	496633	6718554	62.0	0.12	0.12
C17	493785	6714670	67.3	0.11	0.11
C18	490885	6717440	71.3	0.11	0.10
C19	490925	6721190	75.5	0.10	0.10
C20	493105	6724390	79.4	0.10	0.10
C21	491155	6727290	83.2	0.09	0.09
C22	489634	6727161	85.3	0.08	-
C23	490425	6725190	87.6	0.08	0.08
C24	488765	6723290	91.2	0.08	0.08

Note No profile at Station 22 on low water run

Table 57 Oyster Channel / Wooloweyah Lagoon - 24 October 1996

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
W1	531585	6746190	5.10	35.10	32.83
W2	530585	6744190	7.90	32.90	31.74
W3	531155	6742250	-	-	31.25
W4	531835	6740810	12.10	32.54	31.04
W5	533205	6740610	-	-	-
W6	531475	6738690	15.10	30.79	30.49
W7	529925	6737010	17.40	30.52	30.94
W8	528405	6735190	19.80	30.91	30.92
W9	528065	6737380	-	-	-

Note Mean salinity not calculated for profiles at Station W3, W5 and W9 on high water run and W5 and W9 on low water run

Table 58 Clarence River South Arm/Coldstream River - 22/23 October 1996

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
SA1	519085	6740460	25.43	10.15	3.76
SA2	518410	6735860	30.56	3.53	0.82
SA3	515805	6732180	36.19	0.75	0.58
SA4	512585	6729440	41.19	0.47	0.51
SA5	511525	6726190	46.14	0.70	0.64
SA6	511785	6723430	49.72	0.50	0.46
SA7	510365	6720220	54.17	0.45	0.46
SA8	510105	6717920	58.47	0.46	0.46
SA9	509275	6714420	62.47	0.50	0.49

Table 59 The Broadwater - 25 October 1996

Station No.	MGA (m) Zone 56		Chainage (km)	Min Salinity (psu)	Max Salinity (psu)
	Easting	Northing			
B1	515945	6742060	29.00	6.737	7.793
B2	514855	6743310	30.66	6.262	6.267
B3	513205	6744520	32.77	5.032	5.034
B4	511905	6745420	34.38	-	-
B5	511745	6742930	33.42	5.383	5.512
B6	514555	6745650	32.72	4.770	4.783

Note No data collected at B4 due to shallow water. Mean salinity not calculated for high water run. No profiling run at low water

Table 60a Esk River - Water Quality Maxima and Minima - High Water - 24 October 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
E1	0835	2.00	19.497	19.584	27.118	27.498	38145	38632	1018.87	1019.18	7.48	7.72	96.1	99.1	8.49	8.52	3	4	ES167048.CNV
E2	0848	3.20	20.038	20.121	24.511	24.618	34791	34933	1016.76	1016.87	8.05	8.44	102.7	107.7	8.38	8.39	3	20	ES167049.CNV
E3	0855	1.60	20.595	20.803	21.824	22.463	31288	32128	1014.55	1015.09	6.51	7.82	82.9	99.6	8.25	8.28	3	4	ES167050.CNV
E4	0904	2.80	21.732	21.956	15.203	16.074	22474	23654	1009.26	1009.97	6.07	7.03	76.1	88.1	7.90	7.92	3	3	ES167051.CNV
E5	0911	2.40	22.037	22.413	11.904	12.289	17947	18491	1006.66	1007.05	5.38	6.26	66.3	77.1	7.64	7.75	2	2	ES167052.CNV
E6	0920	6.40	22.428	22.727	7.880	8.449	12265	13084	1003.55	1004.05	5.39	5.51	65.6	67.1	7.24	7.59	2	2	ES167053.CNV
E7	0939	3.20	22.139	22.387	5.659	5.996	9026	9525	1001.97	1002.24	4.29	4.42	51.2	52.7	6.86	7.09	2	3	ES167054.CNV
E8	0953	4.00	21.725	22.150	4.466	4.843	7245	7811	1001.17	1001.45	2.04	3.33	24.1	39.1	6.47	6.81	2	2	ES167055.CNV
E9	1018	1.80	21.076	21.148	2.752	3.040	4607	5059	1000.06	1000.29	2.53	3.50	29.0	40.1	6.54	6.79	3	3	ES167056.CNV

Table 60b Esk River - Water Quality Maxima and Minima - Low Water - 24 October 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
E1	1505	1.80	22.493	22.534	22.342	23.044	31874	32782	1014.49	1015.04	6.28	9.28	82.8	122.4	8.32	8.34	4	6	ES167057.CNV
E2	1542	2.20	23.001	23.060	15.559	15.834	22915	23287	1009.25	1009.47	6.56	7.53	83.9	96.3	7.92	7.97	3	4	ES167058.CNV
E3	1623	1.20	22.582	23.339	12.240	15.039	18403	22233	1006.68	1008.98	6.34	7.25	80.2	91.7	7.63	7.75	3	5	ES167059.CNV
E4	1631	2.40	22.136	23.409	11.007	15.250	16676	22532	1005.73	1009.26	6.61	7.01	82.9	88.1	7.45	7.62	2	3	ES167060.CNV
E5	1640	1.40	22.257	23.266	9.086	11.654	13970	17607	1004.33	1006.52	5.54	6.42	68.5	79.1	7.25	7.35	2	3	ES167061.CNV
E6	1649	6.60	22.545	23.967	6.704	8.429	10541	13057	1002.36	1004.04	4.99	5.83	60.7	72.1	6.94	7.08	2	2	ES167062.CNV
E7	1705	3.00	22.246	24.092	5.187	6.091	8309	9665	1001.23	1002.30	3.61	4.94	43.3	60.8	6.65	6.78	2	2	ES167063.CNV
E8	1719	5.00	21.317	23.007	4.174	5.635	6792	9002	1000.70	1002.21	0.47	3.57	5.5	42.7	6.34	6.49	2	3	ES167064.CNV
E9	1741	1.60	21.337	21.540	2.071	2.962	3524	4936	999.46	1000.18	2.49	4.02	28.7	46.2	6.28	6.54	3	3	ES167065.CNV

Table 61a Clarence River North Arm - Water Quality Maxima and Minima - Low Water - 22 October 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
NA1	1222	3.80	20.052	20.968	23.883	27.783	33946	38959	1016.07	1019.27	5.48	14.98	71.3	193.6	8.36	8.37	4	8	CN178501.CNV
NA2	1234	3.00	21.132	21.186	26.485	26.589	37251	37384	1017.99	1018.08	10.24	13.66	134.8	179.9	8.33	8.34	4	5	CN178502.CNV
NA3	1245	3.80	21.267	22.027	23.163	25.859	32959	36450	1015.25	1017.50	4.47	12.96	58.6	170.5	8.28	8.39	4	5	CN178503.CNV
NA4	1258	2.20	22.415	22.436	19.240	19.356	27837	27990	1012.18	1012.27	6.26	11.84	80.9	153.0	8.27	8.29	5	6	CN178504.CNV
NA5	1319	6.00	21.863	22.421	16.745	19.193	24529	27800	1010.31	1012.32	4.13	10.97	52.8	139.9	8.18	8.21	4	23	CN178505.CNV
NA6	1335	3.60	22.002	22.474	13.253	15.773	19804	23241	1007.66	1009.69	4.44	10.32	55.7	129.0	8.15	8.24	5	6	CN178506.CNV
NA7	1346	1.60	23.030	23.047	8.611	8.615	13307	13312	1004.03	1004.04	9.09	9.28	111.7	114.1	8.31	8.33	13	39	CN178507.CNV
NA8	1355	2.80	22.536	22.587	7.002	7.244	10996	11349	1002.93	1003.13	5.85	8.83	70.6	106.7	8.28	8.32	4	4	CN178508.CNV

Table 61b Clarence River North Arm - Water Quality Maxima and Minima - High Water - 23 October 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
NA1	0653	2.80	18.744	18.768	35.329	35.529	48416	48660	1025.34	1025.50	5.65	13.01	75.1	172.8	8.42	8.44	3	3	CN178518.CNV
NA2	0702	3.40	19.236	19.319	29.576	29.776	41264	41512	1020.83	1020.98	7.62	14.56	98.8	188.7	8.39	8.40	4	4	CN178519.CNV
NA3	0713	4.20	19.367	19.380	27.090	27.204	38122	38267	1018.90	1019.00	8.29	13.29	106.0	170.0	8.35	8.36	4	4	CN178520.CNV
NA4	0724	3.60	20.290	20.315	25.601	25.747	36176	36363	1017.54	1017.66	12.23	12.53	157.8	161.5	8.28	8.29	3	4	CN178521.CNV
NA5	0735	5.40	20.918	21.001	19.299	19.735	27978	28551	1012.61	1012.94	6.53	12.01	82.3	150.9	8.26	8.29	3	4	CN178522.CNV
NA6	0749	4.00	21.197	21.260	18.407	18.605	26788	27049	1011.87	1012.02	11.34	11.84	142.9	148.9	8.20	8.20	4	4	CN178523.CNV
NA7	0759	2.00	21.153	21.161	15.553	15.561	22972	22983	1009.73	1009.73	11.57	11.66	143.0	144.0	8.14	8.15	6	12	CN178524.CNV
NA8	0810	3.00	21.262	21.483	11.400	12.875	17275	19313	1006.56	1007.63	10.91	11.49	133.4	138.9	8.22	8.24	4	7	CN178525.CNV

Table 62a Clarence River - Water Quality Maxima and Minima - Low Water - 22 October 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
C1	1204	13.60	18.983	19.764	29.548	32.891	41194	45409	1020.67	1023.47	6.94	8.02	91.1	105.2	8.55	8.57	2	4	CL167001.CNV
C2	1218	10.20	19.289	21.122	23.847	31.202	33886	43293	1016.00	1022.09	6.18	8.48	80.0	110.5	8.57	8.60	2	3	CL167002.CNV
C3	1306	7.20	20.082	21.741	19.851	27.986	28669	39211	1012.82	1019.43	6.86	7.97	88.3	103.5	8.55	8.60	2	4	CL167003.CNV
C4	1320	6.00	21.534	22.237	14.256	19.668	21180	28440	1008.48	1012.76	6.87	7.41	87.6	94.4	8.52	8.56	2	3	CL167004.CNV
C5	1328	9.60	21.268	22.418	11.455	21.286	17327	30569	1006.34	1014.06	7.62	7.83	95.3	99.9	8.48	8.52	2	3	CL167005.CNV
C6	1339	7.20	21.957	22.478	9.167	15.545	14110	22936	1004.59	1009.55	6.66	7.22	83.4	90.6	8.42	8.49	2	3	CL167006.CNV
C7	1352	12.80	22.192	22.540	5.376	10.865	8603	16508	1001.71	1005.98	6.63	7.64	81.3	91.3	8.38	8.59	3	5	CL167007.CNV
C8	1401	11.60	21.959	22.775	3.937	7.278	6433	11401	1000.58	1003.24	5.29	7.71	63.0	90.8	8.40	8.87	4	174	CL167008.CNV
C9	1412	3.40	22.893	23.055	2.425	3.266	4083	5399	999.37	1000.05	7.68	8.13	91.2	96.5	8.45	8.52	5	5	CL167009.CNV
C10	1421	2.80	22.849	22.892	1.554	1.571	2682	2711	998.75	998.78	7.75	8.01	91.2	94.2	8.53	8.56	4	5	CL167010.CNV
C11	1431	6.00	22.712	23.194	0.635	1.362	1143	2368	997.98	998.67	7.40	7.97	86.8	93.9	8.44	8.73	5	6	CL167011.CNV
C12	1443	8.40	22.632	23.048	0.183	0.481	339	876	997.67	998.03	6.97	8.15	81.2	95.4	8.45	8.85	5	17	CL167012.CNV
C13	1452	3.00	22.943	22.969	0.113	0.114	209	210	997.64	997.65	7.73	8.13	90.4	95.1	8.66	8.76	5	5	CL167013.CNV
C14	1504	4.20	23.183	23.200	0.113	0.113	209	210	997.59	997.60	7.64	7.72	89.7	90.7	8.55	8.70	4	5	CL167014.CNV
C15	1513	4.00	23.523	23.543	0.113	0.114	210	211	997.50	997.52	7.51	7.65	88.8	90.4	8.58	8.69	5	5	CL167015.CNV
C16	1525	4.60	23.576	23.650	0.115	0.120	212	222	997.48	997.51	7.60	7.90	89.9	93.6	8.61	8.88	7	8	CL167016.CNV
C17	1540	7.40	23.318	23.860	0.112	0.113	207	209	997.42	997.58	7.29	7.83	85.8	93.1	8.53	8.87	6	9	CL167017.CNV
C18	1556	2.60	23.576	23.598	0.104	0.104	191	191	997.48	997.49	7.36	7.53	87.0	89.1	8.64	8.75	6	7	CL167018.CNV
C19	1610	6.00	23.571	23.605	0.100	0.100	184	184	997.48	997.51	7.35	7.54	87.0	89.2	8.58	8.74	6	8	CL167019.CNV
C20	1619	4.80	23.556	24.293	0.096	0.098	175	180	997.30	997.50	7.10	7.48	84.1	89.7	8.55	8.83	4	6	CL167020.CNV
C21	1634	5.40	24.060	24.078	0.087	0.087	158	159	997.35	997.37	7.08	7.14	84.5	85.2	8.49	8.71	4	4	CL167021.CNV
C22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C23	1651	3.20	24.260	24.281	0.080	0.081	146	147	997.29	997.31	6.84	7.18	82.0	86.0	8.59	8.77	3	4	CL167022.CNV
C24	1701	1.80	24.072	24.097	0.080	0.080	145	145	997.34	997.35	7.04	7.15	84.1	85.4	8.60	8.69	4	4	CL167023.CNV

Note No profile was attempted at Station 22 on 22/10/96

Table 62b Clarence River - Water Quality Maxima and Minima - High Water - 23 October 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
C1	0642	14.00	18.650	18.721	35.574	35.658	48722	48828	1025.56	1025.67	6.12	8.69	81.3	115.3	8.64	8.67	1	2	CL167024.CNV
C2	0651	10.20	18.702	18.841	33.190	35.548	45788	48691	1023.68	1025.56	5.09	11.78	67.6	156.4	8.63	8.68	1	2	CL167025.CNV
C3	0704	7.80	18.730	19.097	29.807	34.405	41562	47283	1021.04	1024.65	4.97	8.95	65.5	116.6	8.62	8.66	2	707	CL167026.CNV
C4	0716	6.60	19.826	20.138	25.425	27.152	35965	38176	1017.47	1018.86	5.71	8.82	73.6	113.1	8.59	8.62	2	4	CL167027.CNV
C5	0738	10.80	20.505	20.589	22.406	23.589	32054	33589	1015.04	1016.00	6.71	6.90	85.8	87.8	8.58	8.61	2	5	CL167028.CNV
C6	0828	7.60	20.930	21.229	17.489	18.657	25566	27131	1011.17	1012.15	7.70	8.21	96.8	102.7	8.53	8.56	2	3	CL167029.CNV
C7	0841	12.20	21.444	21.660	9.490	13.007	14586	19491	1005.08	1007.76	7.28	7.66	89.2	94.1	8.45	8.47	3	8	CL167030.CNV
C8	0850	11.40	21.666	21.736	6.494	8.567	10266	13270	1002.76	1004.38	7.11	7.40	85.2	87.6	8.44	8.53	3	5	CL167031.CNV
C9	0902	4.00	21.588	21.798	4.586	6.240	7428	9892	1001.34	1002.57	7.10	7.46	84.1	87.3	8.48	8.54	4	6	CL167032.CNV
C10	0910	3.20	21.759	22.018	3.571	4.839	5877	7805	1000.54	1001.45	6.98	7.54	82.3	87.9	8.41	8.46	4	6	CL167033.CNV
C11	0919	6.00	22.112	22.211	2.011	3.117	3426	5173	999.25	1000.13	6.19	8.41	72.3	98.0	8.40	8.54	5	6	CL167034.CNV
C12	0928	8.80	22.275	22.455	1.052	2.037	1854	3467	998.51	999.25	7.28	7.81	85.2	90.8	8.41	8.64	5	7	CL167035.CNV
C13	0937	3.20	22.351	22.463	0.273	0.511	505	929	997.88	998.09	7.49	7.77	86.7	90.0	8.52	8.73	5	9	CL167036.CNV
C14	0945	5.00	22.174	22.448	0.112	0.113	208	209	997.76	997.84	7.19	7.91	83.0	91.1	8.55	8.78	5	6	CL167037.CNV
C15	0955	3.80	22.410	22.541	0.112	0.113	207	209	997.74	997.78	7.30	7.60	84.5	88.2	8.60	8.79	4	5	CL167038.CNV
C16	1007	5.40	22.916	23.017	0.115	0.116	213	215	997.63	997.67	7.03	8.85	82.2	103.5	8.64	8.95	5	7	CL167039.CNV
C17	1018	6.40	22.826	23.198	0.114	0.116	212	214	997.58	997.70	7.12	7.50	83.0	88.1	8.53	8.77	8	14	CL167040.CNV
C18	1032	3.20	22.852	23.165	0.110	0.111	204	205	997.59	997.67	7.25	7.62	84.6	88.9	8.62	8.71	6	7	CL167041.CNV
C19	1041	6.40	22.978	23.265	0.101	0.102	186	188	997.56	997.65	6.86	7.63	80.6	89.6	8.59	8.79	7	8	CL167042.CNV
C20	1049	5.80	22.973	23.249	0.099	0.100	182	184	997.56	997.65	6.83	7.49	79.9	87.5	8.57	8.80	6	7	CL167043.CNV
C21	1059	6.60	23.490	23.705	0.089	0.091	163	167	997.44	997.52	7.12	7.28	84.1	86.0	8.54	8.78	4	5	CL167044.CNV
C22	1145	25.40	23.417	24.007	0.084	0.086	153	158	997.37	997.62	6.79	7.20	80.0	85.8	8.40	8.74	4	5	CL167047.CNV
C23	1109	3.20	23.588	23.754	0.083	0.083	150	151	997.43	997.48	7.15	7.23	84.5	85.7	8.59	8.73	4	4	CL167045.CNV
C24	1118	2.40	23.843	23.897	0.080	0.080	145	146	997.39	997.41	6.99	7.13	83.1	84.8	8.63	8.77	4	4	CL167046.CNV

Table 63a Oyster Channel / Wooloweyah Lagoon - Water Quality Maxima and Minima - High Water - 24 October 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
W1	0802	2.60	19.052	19.071	35.074	35.112	48079	48125	1025.07	1025.10	11.85	12.83	157.8	171.0	8.46	8.46	3	3	OC178535.CNV
W2	0812	4.20	18.742	18.766	32.886	32.909	45414	45445	1023.47	1023.51	12.42	13.41	162.4	175.3	8.40	8.41	5	7	OC178536.CNV
W3	0923	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	OC178537.CNV
W4	0830	3.20	18.709	18.717	32.532	32.541	44980	44991	1023.21	1023.23	13.00	13.12	169.5	171.0	8.36	8.36	8	11	OC178538.CNV
W5	0838	0.80	18.592	18.594	31.786	31.795	44064	44075	1022.67	1022.68	13.29	13.30	172.1	172.2	8.34	8.34	6	7	OC178539.CNV
W6	0854	1.40	18.060	18.100	30.771	30.796	42836	42870	1022.02	1022.05	13.15	13.54	167.5	172.7	8.27	8.28	22	434	OC178540.CNV
W7	0903	1.20	18.162	18.175	30.514	30.539	42509	42541	1021.80	1021.82	13.70	14.14	174.6	180.2	8.18	8.19	26	37	OC178541.CNV
W8	0912	1.00	18.160	18.164	30.907	30.910	43001	43005	1022.11	1022.11	13.54	14.04	173.0	179.4	8.23	8.23	13	13	OC178542.CNV
W9	0923	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	OC178543.CNV

Note Insufficient data was collected at Stations 3 and 9 on 24/10/96 due to the shallow water depth at these locations.

Table 63b Oyster Channel / Wooloweyah Lagoon - Water Quality Maxima and Minima - Low Water - 24 October 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
W1	1500	4.00	19.884	20.219	32.440	32.936	44779	45367	1022.85	1023.14	4.77	5.03	63.5	67.6	8.35	8.36	5	6	OC178544.CNV
W2	1511	2.40	20.949	20.969	31.732	31.743	43827	43842	1022.02	1022.04	12.72	14.01	172.0	189.5	8.36	8.36	8	9	OC178545.CNV
W3	1521	1.60	21.190	21.201	31.245	31.258	43209	43225	1021.59	1021.60	15.28	17.90	207.0	242.5	8.35	8.36	8	9	OC178546.CNV
W4	1531	1.20	20.774	20.861	31.023	31.044	42958	42989	1021.52	1021.55	17.63	18.20	237.1	244.4	8.38	8.40	12	13	OC178547.CNV
W5	1549	0.60	20.710	20.719	30.975	30.985	42907	42921	1021.51	1021.52	13.91	18.59	186.5	249.2	8.32	8.34	13	16	OC178548.CNV
W6	1600	0.80	20.733	20.742	30.485	30.497	42298	42312	1021.14	1021.14	16.75	17.68	224.0	236.4	8.26	8.26	28	28	OC178549.CNV
W7	1609	0.80	20.722	20.726	30.931	30.939	42853	42862	1021.48	1021.48	18.35	18.36	246.0	246.1	8.28	8.28	27	28	OC178550.CNV
W8	1617	0.80	20.872	20.872	30.916	30.920	42824	42829	1021.43	1021.43	18.25	18.28	245.3	245.7	8.33	8.33	20	21	OC178551.CNV
W9	1625	0.80	21.124	21.132	30.683	30.730	42517	42575	1021.18	1021.22	18.03	18.03	243.1	243.2	8.16	8.16	65	76	OC178552.CNV

Table 64a Clarence River South Arm / Coldstream River - Water Quality Maxima and Minima - Low Water - 22 October 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
SA1	1407	2.60	22.679	22.953	2.876	5.026	4793	8080	999.73	1001.43	6.88	8.77	82.0	104.9	8.35	8.52	6	7	CS178509.CNV
SA2	1422	2.80	23.219	23.245	0.824	0.825	1466	1468	998.11	998.13	5.72	7.30	67.5	86.1	8.45	8.51	8	9	CS178510.CNV
SA3	1438	6.80	22.985	23.193	0.574	0.584	1038	1055	997.94	998.02	5.37	6.21	63.0	73.1	8.37	8.61	8	12	CS178511.CNV
SA4	1454	1.80	23.140	23.300	0.495	0.520	899	942	997.87	997.89	5.75	7.73	67.6	91.1	8.54	8.74	8	9	CS178512.CNV
SA5	1509	4.00	22.685	23.398	0.600	0.662	1082	1190	997.91	998.14	4.24	6.47	49.5	76.5	8.22	8.52	7	23	CS178513.CNV
SA6	1521	3.60	22.347	22.837	0.456	0.467	832	851	997.93	998.07	4.10	6.48	47.4	75.7	8.18	8.73	8	12	CS178514.CNV
SA7	1534	4.00	22.251	22.922	0.455	0.461	829	840	997.92	998.08	3.01	5.16	34.7	60.4	7.99	8.34	8	14	CS178515.CNV
SA8	1547	5.40	22.109	23.247	0.457	0.460	834	837	997.84	998.12	2.30	5.20	26.5	61.2	7.84	8.35	7	7	CS178516.CNV
SA9	1559	3.40	21.238	22.468	0.493	0.497	897	903	998.05	998.33	0.00	3.06	0.0	35.5	7.70	8.13	8	10	CS178517.CNV

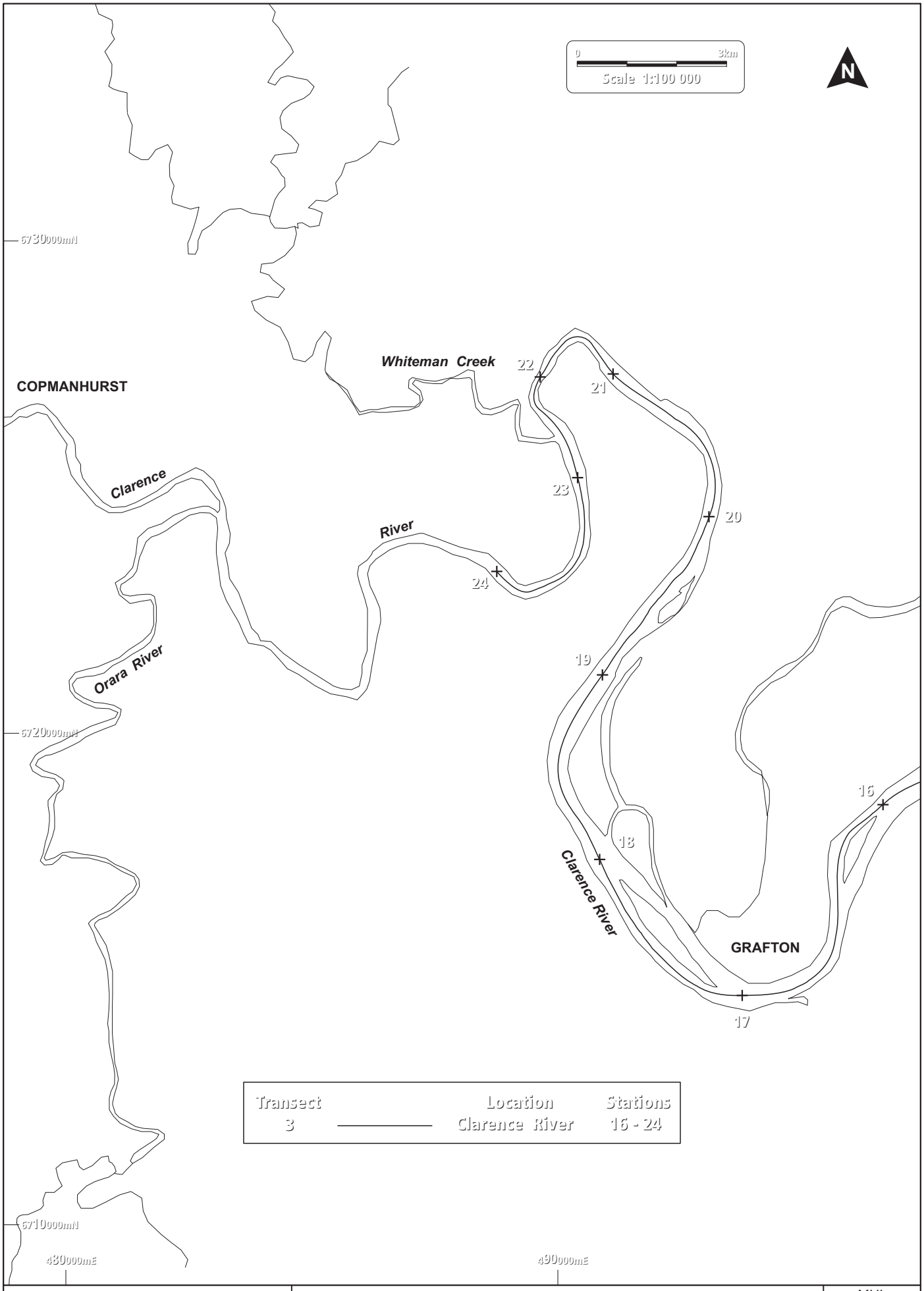
Table 64b Clarence River South Arm / Coldstream River - Water Quality Maxima and Minima - High Water - 23 October 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
SA1	0823	3.00	21.681	21.797	9.761	10.467	14966	15959	1005.22	1005.74	10.39	10.96	126.1	132.3	8.22	8.24	4	5	CS178526.CNV
SA2	0839	2.20	21.857	21.879	3.526	3.541	5808	5832	1000.48	1000.49	9.25	9.79	108.0	114.3	8.30	8.34	6	7	CS178527.CNV
SA3	0855	7.80	22.519	22.566	0.736	0.750	1317	1342	998.21	998.26	5.14	8.37	59.8	97.4	8.33	8.63	7	9	CS178528.CNV
SA4	0922	2.40	22.238	22.251	0.471	0.472	859	860	998.08	998.09	6.76	7.36	78.1	85.1	8.50	8.61	9	9	CS178529.CNV
SA5	0938	4.40	22.437	22.594	0.694	0.699	1245	1254	998.17	998.22	5.54	7.92	64.4	92.3	8.19	8.67	7	9	CS178530.CNV
SA6	0949	4.20	21.977	22.164	0.496	0.499	903	907	998.12	998.18	4.54	5.72	52.2	66.0	8.13	8.42	7	9	CS178531.CNV
SA7	1005	4.40	21.876	21.955	0.449	0.451	819	823	998.13	998.16	3.67	4.83	42.1	55.5	7.96	8.31	8	13	CS178532.CNV
SA8	1018	5.20	21.814	22.017	0.458	0.459	836	837	998.12	998.19	2.67	3.97	30.6	45.7	7.79	8.17	7	8	CS178533.CNV
SA9	1031	3.80	20.746	21.069	0.493	0.499	898	909	998.36	998.45	0.95	3.45	10.7	38.9	7.68	8.37	8	8	CS178534.CNV

Table 65 The Broadwater - Water Quality Maxima and Minima - High Water - 24 October 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
B1	0915	2.00	21.483	21.599	6.737	7.793	10622	12158	1002.96	1003.79	10.93	12.02	129.9	142.3	8.23	8.33	4	88	BW178553.CNV
B2	0922	1.00	21.916	21.927	6.262	6.267	9923	9930	1002.53	1002.54	7.12	7.50	84.5	89.1	8.56	8.59	12	120	BW178554.CNV
B3	0929	0.80	21.404	21.414	5.032	5.034	8101	8104	1001.72	1001.72	13.28	13.71	155.1	160.1	9.63	9.65	33	120	BW178555.CNV
B4	0940	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	BW178556.CNV
B5	1003	0.60	21.437	21.593	5.383	5.512	8625	8817	1001.94	1002.08	5.66	6.53	66.5	76.5	9.62	9.82	27	41	BW178557.CNV
B6	1020	0.80	21.574	21.624	4.770	4.783	7706	7725	1001.48	1001.49	1.19	15.23	13.9	178.2	9.79	9.85	1	30	BW178558.CNV

Note Insufficient data was collected at Station 4 on 25/10/96 due to the shallow water depth at this location.



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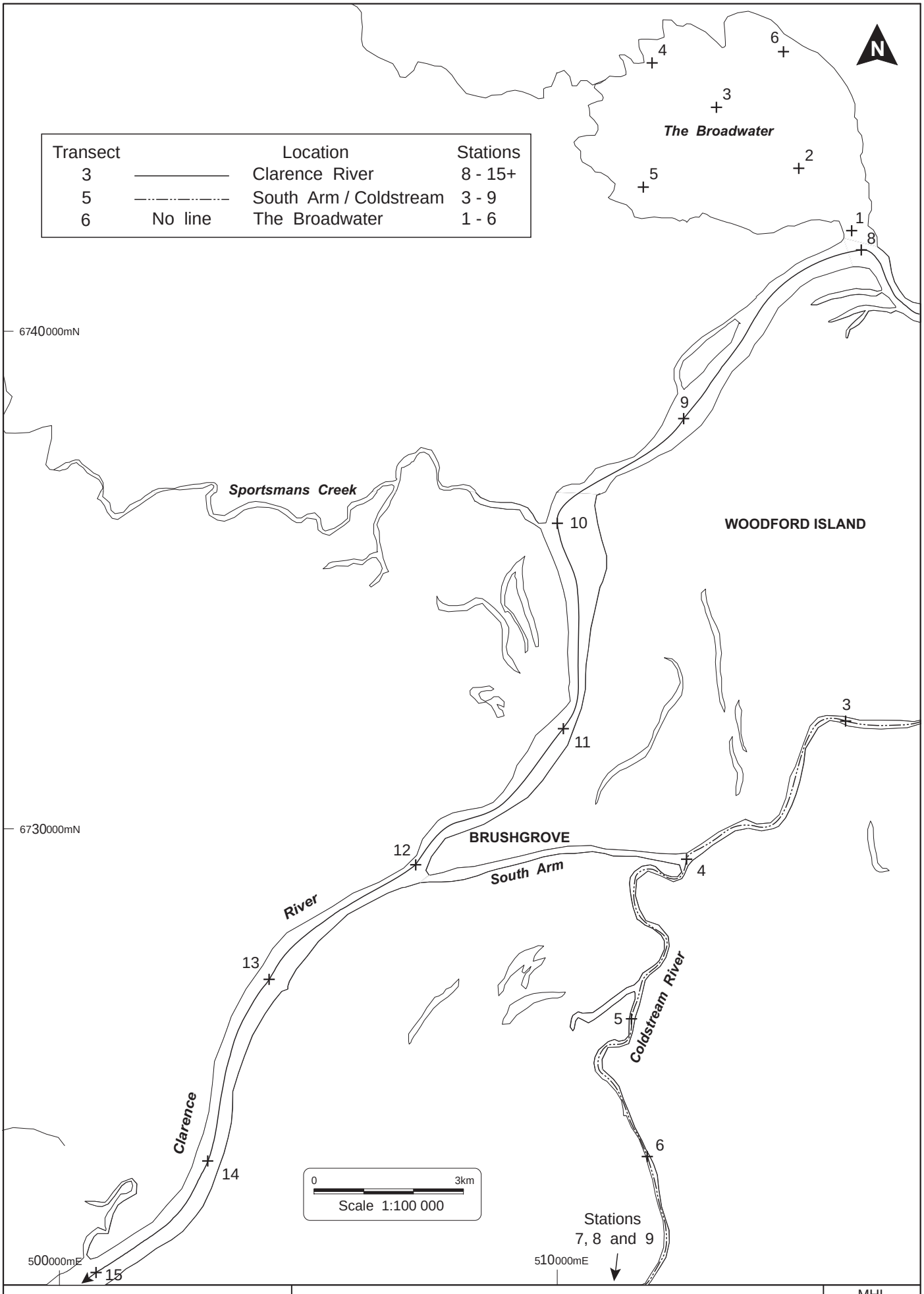
CLARENCE RIVER - WESTERN SECTION

22 TO 24 OCTOBER 1996

MHL Report 1812

Figure 41

DRAWING 1812-041.CDR



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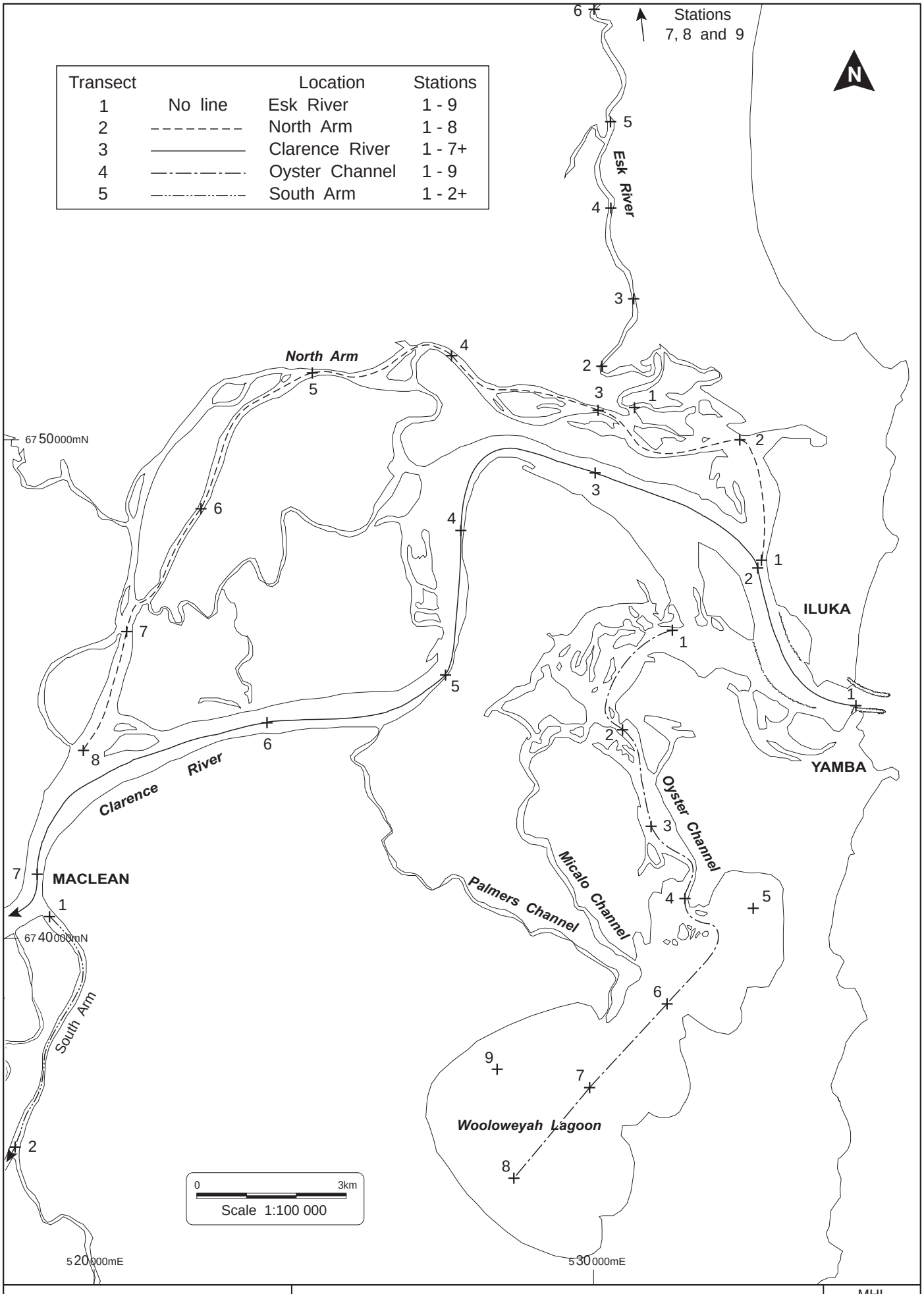
CLARENCE RIVER - MIDDLE SECTION

22 TO 24 OCTOBER 1996

MHL Report 1812

Figure 42

DRAWING 1812-042.CDR



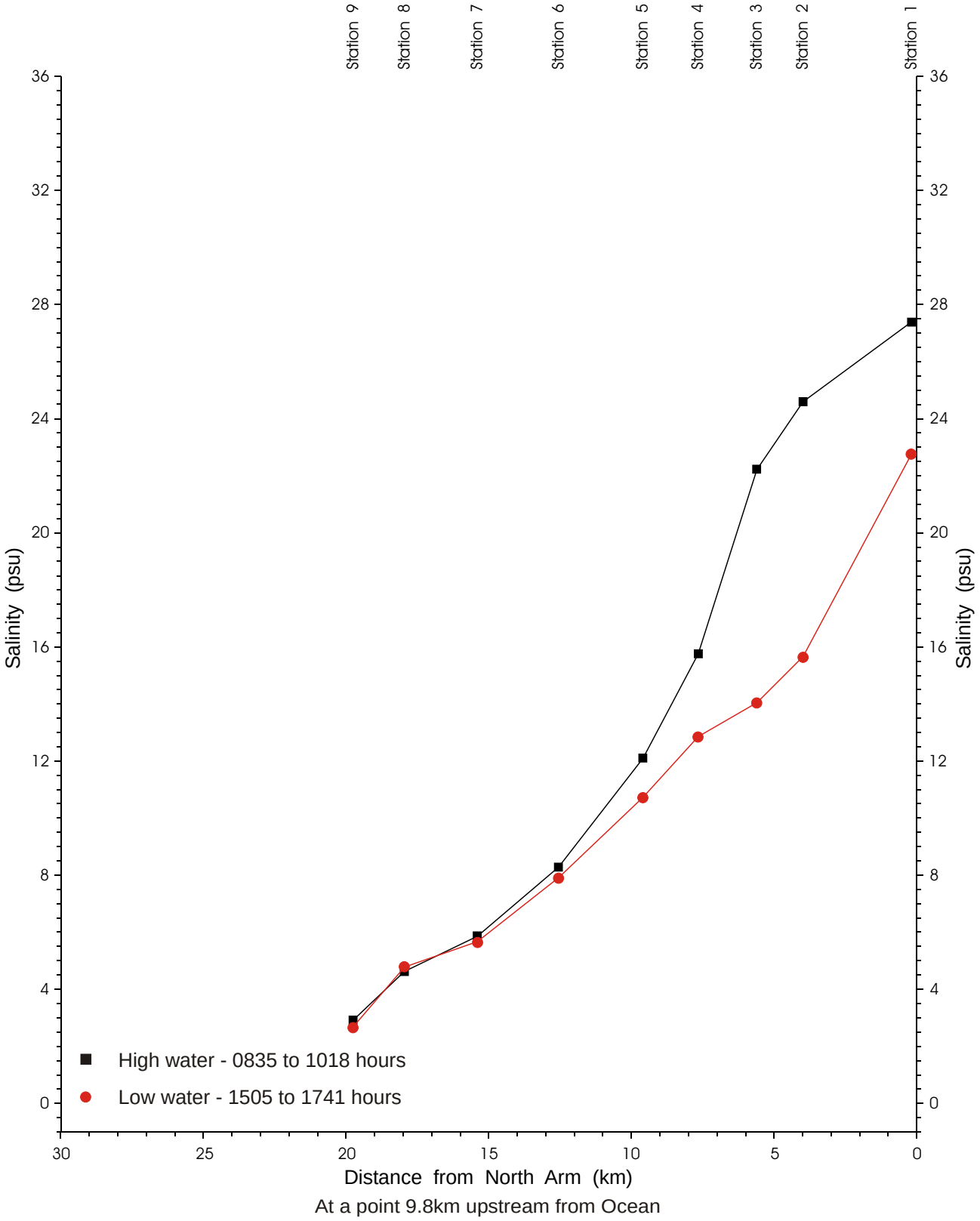
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CLARENCE RIVER - EASTERN SECTION
22 TO 24 OCTOBER 1996

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Figure 43

DRAWING 1812-043.CDR



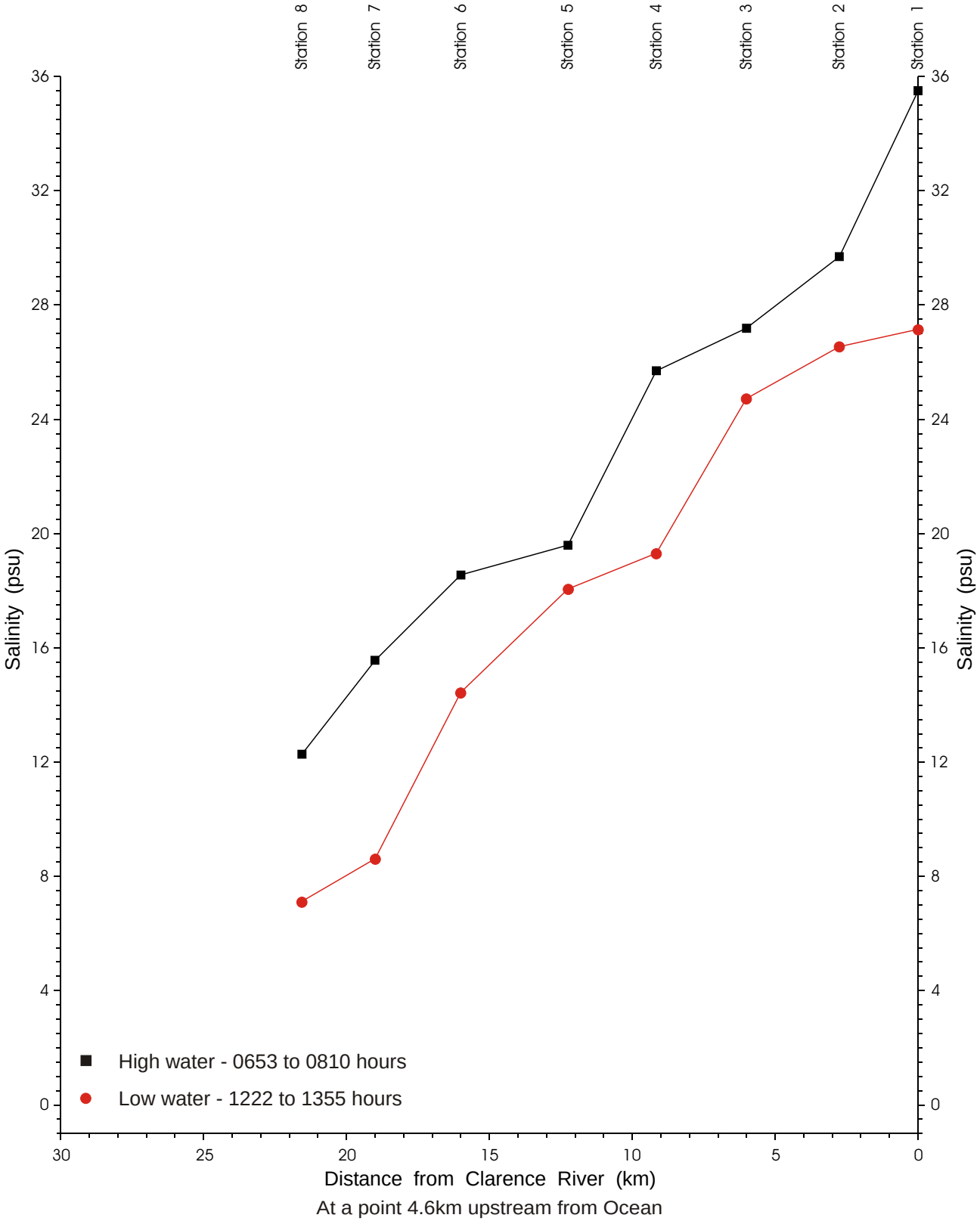
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
ESK RIVER - HIGH AND LOW WATER
24 OCTOBER 1996

MHL Report 1812

Figure 44

DRAWING 1812-044.CDR



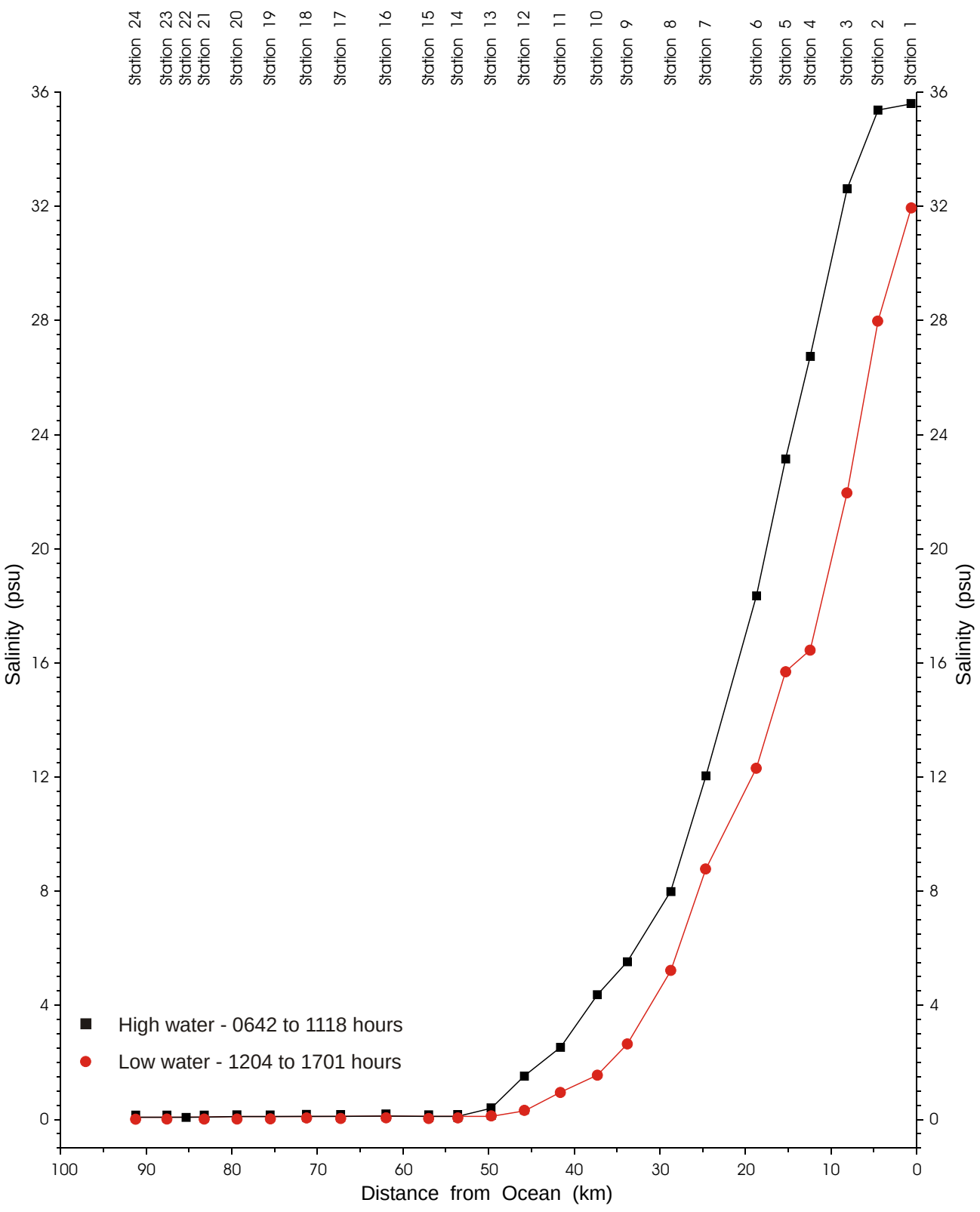
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
CLARENCE RIVER NORTH ARM - HIGH AND LOW WATER
22/23 OCTOBER 1996

MHL Report 1812

Figure 45

DRAWING 1812-045.CDR



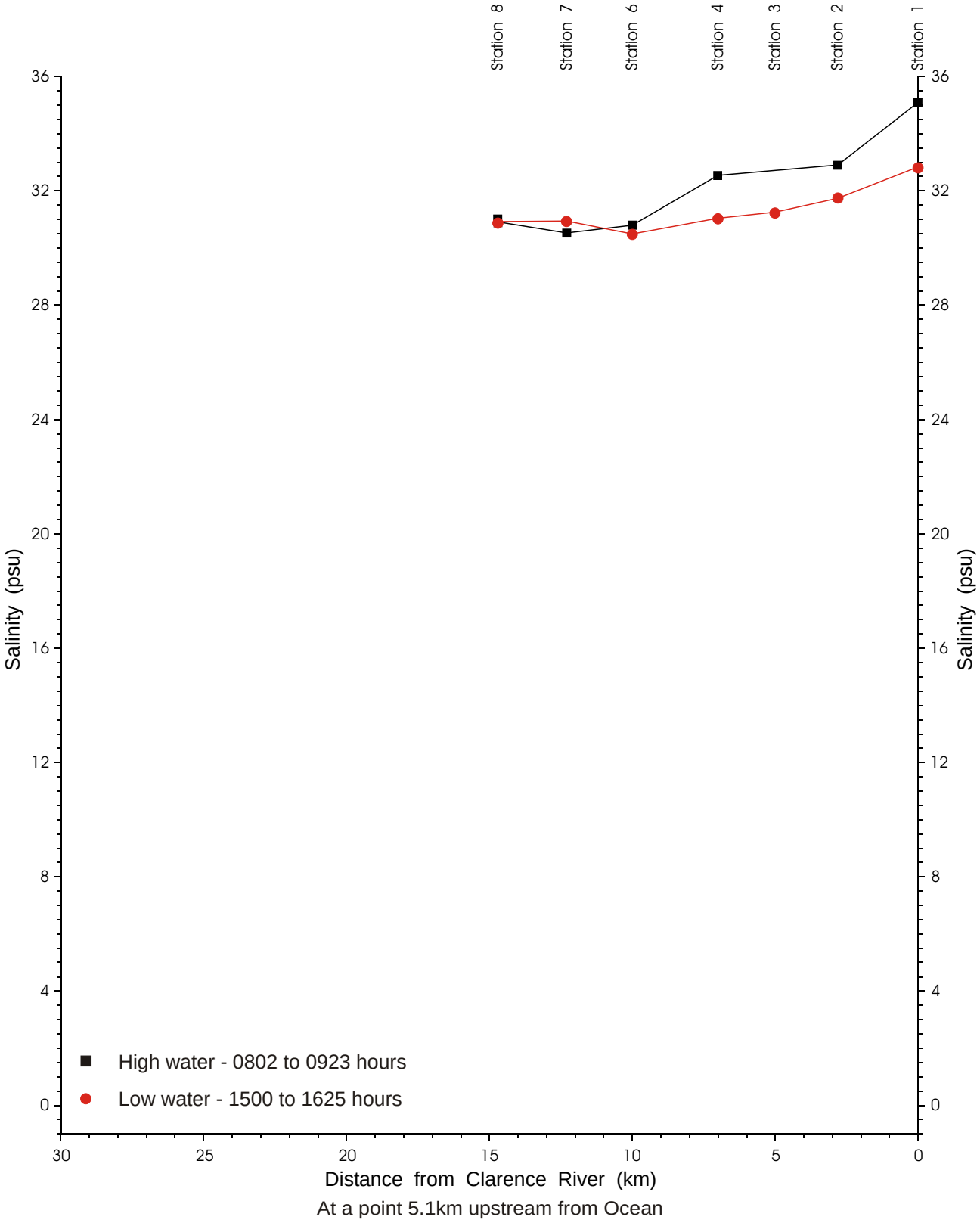
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
CLARENCE RIVER - HIGH AND LOW WATER
22/23 OCTOBER 1996

MHL Report 1812

Figure 46

DRAWING 1812-046.CDR



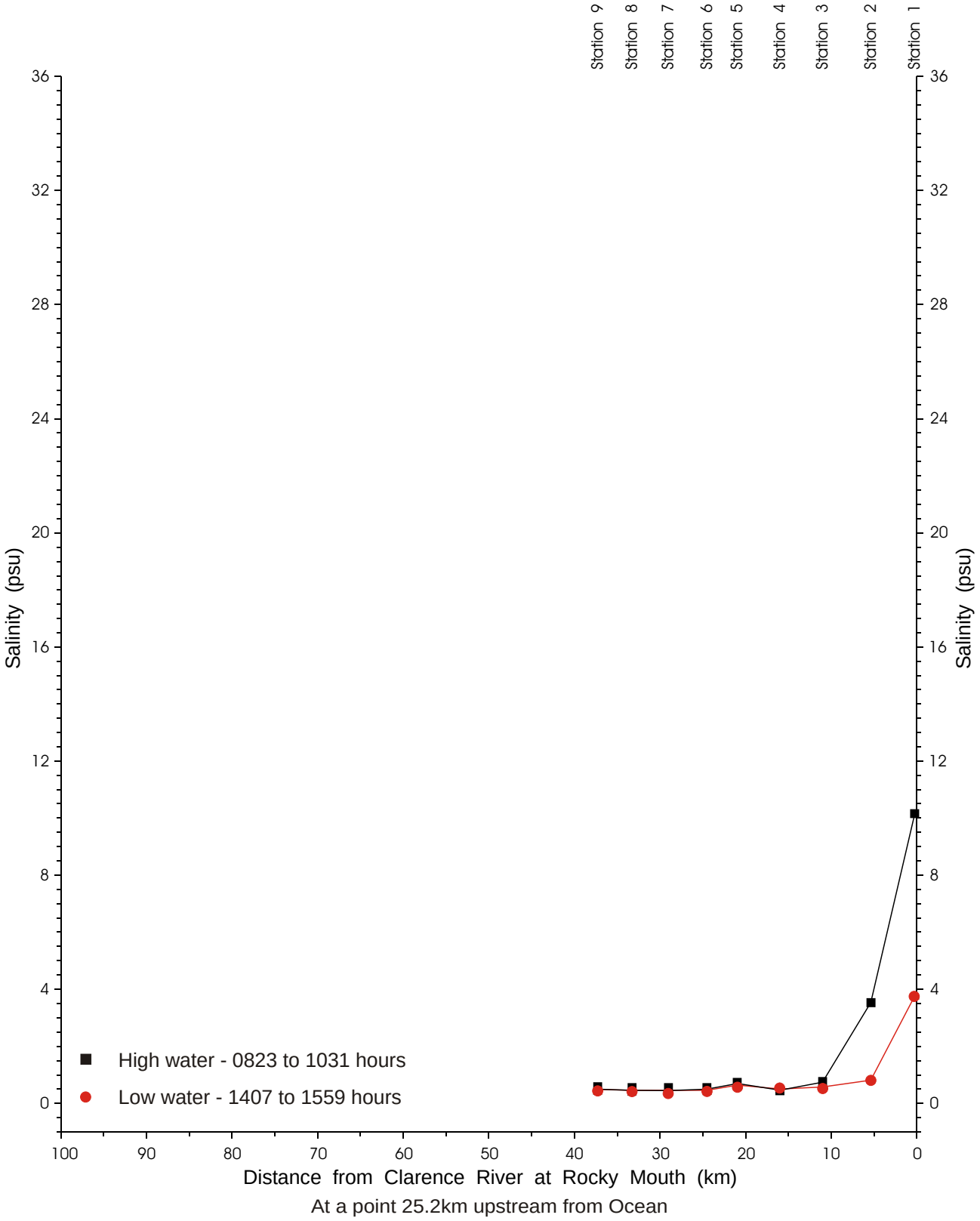
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
WOOLOWEYAH LAGOON - HIGH AND LOW WATER
24 OCTOBER 1996

MHL Report 1812

Figure 47

DRAWING 1812-047.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
COLDSTREAM RIVER - HIGH AND LOW WATER
22/23 OCTOBER 1996

MHL Report 1812

Figure 48

DRAWING 1812-048.CDR

Data was also collected in the Clarence River on 3 January 2003. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 66. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 67a-b. The locations at which these profiles were taken are shown in Figure 49. Long channel depth-averaged salinity profiles are shown in Figure 50.

Table 66 Clarence River - 3 January 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	492901	6723941	79.93	7.00	6.59
2	493157	6725120	81.13	7.08	6.54
3	492485	6726255	82.50	6.55	5.42
4	491055	6727426	84.35	5.87	5.12
5	489596	6727172	86.55	5.31	5.02
6	490412	6725178	88.80	4.67	4.12
7	490171	6723239	90.80	4.13	-
8	488705	6723324	92.60	3.60	3.18
9	487147	6723931	94.27	3.43	-
10	486029	6723346	95.53	-	-
11	486201	6721622	97.33	-	-
12	485141	6721012	99.13	2.35	-
13	483500	6722557	101.50	1.73	-
14	483236	6724325	103.38	1.14	-
15	481945	6724784	105.38	0.31	-
16	480347	6725018	107.25	0.12	-
17	480125	6725974	108.20	0.06	-
18	479098	6726471	109.50	0.06	-
19	478769	6726393	109.88	-	-

Note Profiling stopped at Station 19 on high water run due to rocky shoals at Copmanhurst
Profiling stopped at Station 8 on low water run due to time constraints
Instrument malfunctioned at Stations10, 11 and 19 on the high water run and at Station 7 on the low water run

Table 67a Clarence River - Water Quality Maxima and Minima - High Water - 3 January 2003

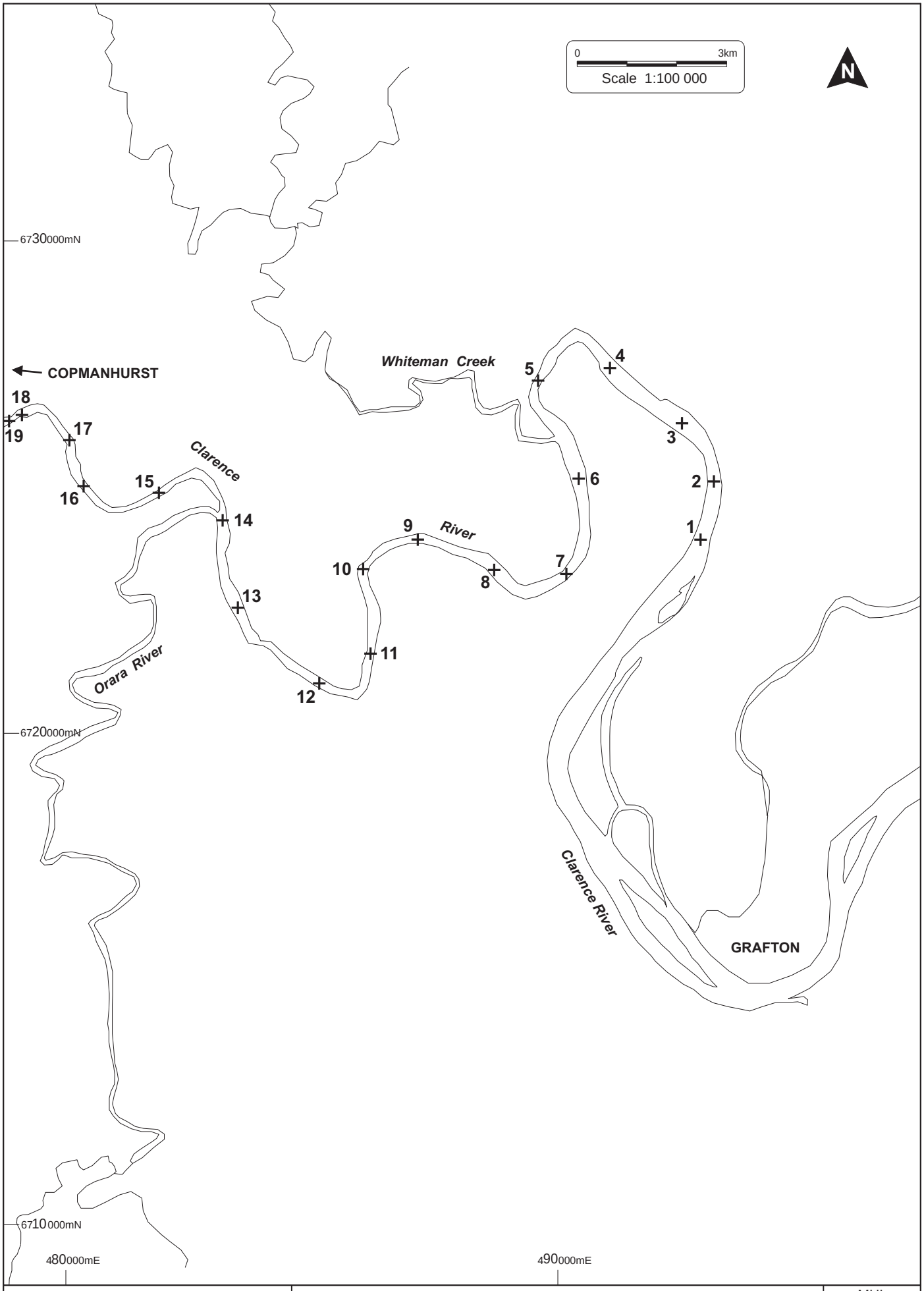
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1415	5.1	1001.2	1001.8	1001.6	27.40	27.98	27.58	6.68	7.20	7.00	91.61	98.86	94.18	7.33	7.48	7.39	0.00	8.79	7.25	CR001
2	1421	11.1	1000.9	1001.9	1001.7	27.35	28.05	27.59	6.24	7.29	7.08	91.42	101.44	96.45	7.38	7.54	7.46	1.95	12.21	7.82	CR002
3	1428	5.2	1001.1	1001.5	1001.3	27.25	27.66	27.46	6.32	6.73	6.55	92.53	102.93	96.42	7.37	7.53	7.46	5.86	35.65	7.33	CR003
4	1436	4.5	1000.4	1000.8	1000.6	27.85	28.17	28.02	5.61	6.04	5.87	94.87	99.49	95.72	7.50	7.53	7.51	0.00	20.51	6.51	CR004
5	1445	10.5	999.8	1000.5	1000.3	27.54	28.40	27.72	4.87	5.50	5.31	87.91	98.33	91.29	7.30	7.47	7.35	4.88	9.28	6.43	CR005
6	1456	3.0	999.4	999.9	999.7	28.07	28.40	28.27	4.41	4.92	4.67	95.78	98.39	96.77	7.45	7.50	7.48	4.40	5.86	5.62	CR006
7	1503	8.9	998.6	999.7	999.4	27.65	28.50	27.91	3.37	4.50	4.13	93.26	99.60	95.69	7.38	7.58	7.46	4.88	8.79	5.87	CR007
8	1512	2.6	998.9	999.1	998.9	27.84	28.12	28.04	3.54	3.75	3.60	96.52	99.49	97.66	7.51	7.58	7.56	0.00	62.03	6.40	CR008
9	1519	4.0	998.6	999.0	998.7	28.14	28.41	28.33	3.24	3.73	3.43	95.53	99.39	97.75	7.46	7.59	7.56	4.88	5.86	5.38	CR009
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	1540	3.7	997.8	998.1	998.0	28.06	28.14	28.12	2.14	2.44	2.35	96.43	97.03	96.76	7.57	7.63	7.60	5.37	6.35	5.46	CR010
13	1548	6.5	997.4	997.5	997.5	28.26	28.34	28.30	1.67	1.82	1.73	94.81	95.56	95.30	7.61	7.62	7.62	5.37	7.33	6.29	CR011
14	1555	8.4	996.8	997.2	997.0	28.03	28.36	28.29	0.89	1.27	1.14	88.81	95.85	94.07	7.51	7.74	7.64	6.84	13.68	7.72	CR012
15	1602	3.8	996.4	996.8	996.5	26.83	28.42	27.90	0.27	0.34	0.31	72.61	94.39	87.44	7.40	7.78	7.67	8.30	9.77	8.50	CR013
16	1608	8.1	996.0	996.9	996.3	26.56	28.96	28.16	0.08	0.24	0.12	62.18	97.47	85.43	7.07	7.94	7.59	8.30	33.70	12.03	CR014
17	1613	3.9	995.9	996.9	996.4	25.85	29.42	27.45	0.06	0.07	0.06	56.18	97.09	75.62	7.04	7.82	7.42	0.00	20.51	17.27	CR015
18	1620	2.9	995.7	996.0	995.8	28.91	29.96	29.72	0.06	0.06	0.06	97.27	105.54	103.41	7.81	8.23	8.10	17.58	21.00	18.31	CR016
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note At Stations 10, 11 and 19 the instrument did not record any data
Profiling stopped at Station 19 due to rocky shoals at Copmanhurst.

Table 67b Clarence River - Water Quality Maxima and Minima - Low Water - 3 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	2119	6.6	1001.1	1001.7	1001.4	27.28	27.49	27.39	6.19	7.10	6.59	89.15	96.87	93.68	7.32	7.48	7.41	6.35	27.35	7.53	CR017
2	2127	11.4	1000.9	1001.9	1001.3	27.27	27.59	27.43	5.99	7.16	6.54	84.26	95.68	90.45	7.26	7.46	7.36	6.35	37.12	7.56	CR018
3	2137	3.2	1000.4	1000.5	1000.4	27.47	27.52	27.50	5.39	5.43	5.42	92.87	93.64	93.12	7.42	7.43	7.43	5.37	7.33	5.73	CR019
4	2147	6.1	999.9	1000.3	1000.1	27.79	27.91	27.86	4.76	5.31	5.12	90.67	94.45	92.97	7.35	7.42	7.39	5.86	12.70	6.20	CR020
5	2203	16.2	999.5	1000.6	1000.1	27.43	27.96	27.71	4.09	5.55	5.02	85.41	95.08	90.99	7.26	7.45	7.35	5.37	12.21	6.27	CR021
6	2217	3.5	999.3	999.7	999.4	27.56	27.85	27.69	3.87	4.53	4.12	89.10	94.61	93.19	7.27	7.45	7.40	5.37	18.56	5.94	CR022
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	2241	2.3	998.6	998.7	998.7	27.71	27.89	27.82	3.16	3.22	3.18	93.71	94.96	94.41	7.49	7.51	7.50	4.88	5.37	5.32	CR023

Note At Station 7 the instrument did not record any data
Profiling stopped at Station 8 due to time constraints



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CLARENCE RIVER

3 JANUARY 2003

MHL Report 1812

Figure 49

DRAWING 1812-049.CDR

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
CLARENCE RIVER - HIGH AND LOW WATER
3 JANUARY 2003

MHL Report 1812

Figure 50

DRAWING 1812-050.CDR

Water quality data collected in the Clarence River on the low and high water slack on 17 and 18 May 2011 is summarised in Table 68. Summaries of the minimum, maximum and mean values for all parameters measured on the low and high water run are shown in Tables 69a-b. The locations at which these profiles were taken are shown in Figure 51. Long channel depth-averaged salinity profiles have not been plotted because the variations in the minimum and maximum salinity throughout the river were insignificant.

Table 68 Clarence River - Low and High Water - 17 and 18 May 2011

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity (psu)	High Water Salinity (psu)
	Easting	Northing			
1	493327	6715037	68.64	0.07	0.07
2	491017	6717292	72.30	0.06	0.07
3	490934	6721192	76.88	0.06	0.06
4	492974	6723908	79.93	0.06	0.06
5	491274	6727150	84.35	0.06	0.06
6	490395	6725288	88.80	0.06	0.06
7	488800	6723222	90.80	0.06	0.06
8	486062	6723350	95.53	0.06	0.06
9	485503	6720831	99.13	0.06	0.06
10	483243	6724181	103.38	0.06	0.06
11	480341	6725050	107.25	0.06	0.06
12	478983	6726361	109.50	-	0.06

Note No profile at Station 12 on low water run due to shoals

Table 69a Clarence River - Water Quality Maxima and Minima - Low Water - 17 May 2011

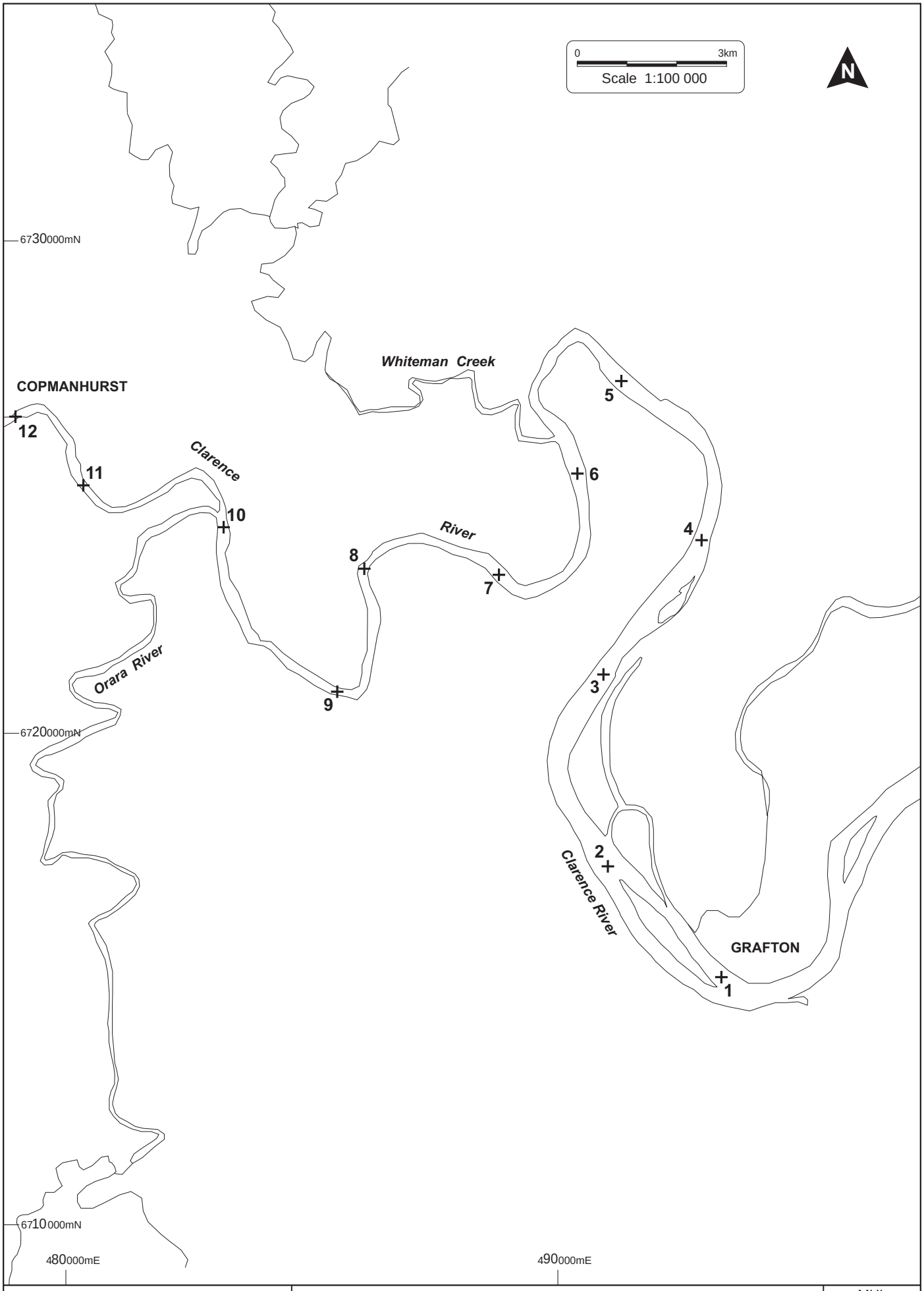
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1932	3.6	998.6	998.6	998.6	18.19	18.24	18.20	0.07	0.07	0.07	WS110520023
2	1949	3.2	998.6	998.6	998.6	18.19	18.26	18.23	0.06	0.06	0.06	WS110520024
3	2007	5.5	998.7	998.7	998.7	17.85	17.88	17.87	0.06	0.06	0.06	WS110520025
4	2018	8.4	998.7	998.8	998.7	17.46	17.67	17.54	0.06	0.06	0.06	WS110520026
5	2031	4.0	998.8	998.8	998.8	17.04	17.06	17.06	0.06	0.06	0.06	WS110520027
6	2044	3.2	998.9	998.9	998.9	16.66	16.71	16.70	0.06	0.06	0.06	WS110520028
7	2057	2.3	998.9	998.9	998.9	16.57	16.58	16.58	0.06	0.06	0.06	WS110520029
8	2118	6.9	998.9	998.9	998.9	16.39	16.46	16.45	0.06	0.06	0.06	WS110520030
9	2133	4.7	998.9	998.9	998.9	16.44	16.48	16.48	0.06	0.06	0.06	WS110520031
10	2152	6.1	998.9	999.1	998.9	15.67	16.59	16.33	0.06	0.06	0.06	WS110520032
11	2208	5.1	998.9	998.9	998.9	16.77	16.83	16.82	0.06	0.06	0.06	WS110520033

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors

Table 69b Clarence River - Water Quality Maxima and Minima - High Water - 18 May 2011

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0143	4.7	998.6	998.7	998.6	18.06	18.11	18.10	0.07	0.07	0.07	WS110520034
2	0156	3.6	998.6	998.7	998.7	17.95	18.01	17.98	0.06	0.07	0.07	WS110520035
3	0208	5.4	998.7	998.7	998.7	17.75	17.83	17.80	0.06	0.06	0.06	WS110520036
4	0220	9.2	998.7	998.8	998.7	17.55	17.63	17.59	0.06	0.06	0.06	WS110520037
5	0233	4.2	998.8	998.8	998.8	17.08	17.16	17.12	0.06	0.06	0.06	WS110520038
6	0247	3.2	998.9	998.9	998.9	16.74	16.77	16.75	0.06	0.06	0.06	WS110520039
7	0300	2.9	998.9	998.9	998.9	16.37	16.42	16.41	0.06	0.06	0.06	WS110520040
8	0313	10.7	999.0	999.0	999.0	16.21	16.25	16.24	0.06	0.06	0.06	WS110520041
9	0326	4.8	998.4	999.0	999.0	16.27	16.37	16.30	0.06	0.06	0.06	WS110520042
10	0342	6.0	998.9	999.0	998.9	16.02	16.47	16.37	0.06	0.06	0.06	WS110520043
11	0357	6.8	998.9	999.0	998.9	16.32	16.36	16.35	0.06	0.06	0.06	WS110520044
12	0416	5.1	998.9	999.0	999.0	16.10	16.35	16.30	0.06	0.06	0.06	WS110520045

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors



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CLARENCE RIVER

17 MAY 2011

MHL Report 1812

Figure 51

DRAWING 1812-051.CDR

Sandon River Data Summary

Data was collected in the Sandon River on 9 September 2010, as detailed in report MHL2021. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 70. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 71a-b. The locations at which these profiles were taken are shown in Figure 52. Long channel depth-averaged salinity profiles are shown in Figures 53 and 54.

Table 70 Sandon River - 9 September 2010

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	531660	6717100	0.62	35.49	33.62
2	530896	6717716	1.98	35.47	31.32
3	530222	6716650	3.40	35.37	28.69
4	529275	6716132	5.09	35.07	23.98
5	528730	6715404	6.43	34.62	24.21
6	528110	6714846	7.36	31.90	24.92
7	527394	6714233	8.87	23.16	12.18
8	526756	6713745	10.70	14.28	12.86
9	526122	6713525	11.68	-	11.55
10	525624	6713867	12.51	9.57	-
11	524942	6713854	13.53	7.40	-
12	528239	6716208	6.74	31.63	-
13	527065	6716462	8.02	26.28	-

Note No profiling done at Station 9 on high water run. No profiling done upstream from Station 9 on low water run due to rocky shoals. Stations 12 and 13 in Candole Creek not done on low water run due to restricted access

Table 71a Sandon River - Water Quality Maxima and Minima - High Water - 9 September 2010

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0838	4.6	1025.4	1025.4	1025.4	19.00	19.02	19.01	35.49	35.50	35.49	97.46	98.05	97.78	7.64	7.76	7.70	0.00	0.00	0.00	0.00	0.00	0.00	348.5	2010.4	689.5	SR100909001
2	0857	2.4	1025.4	1025.4	1025.4	19.02	19.03	19.02	35.47	35.48	35.47	97.89	98.54	98.22	7.80	7.81	7.81	0.00	0.00	0.00	0.00	0.00	0.00	313.2	978.4	447.8	SR100909002
3	0904	2.3	1025.3	1025.4	1025.3	18.85	18.91	18.89	35.32	35.39	35.37	98.27	99.40	98.81	7.81	7.83	7.82	0.00	0.00	0.00	0.00	0.00	0.00	225.9	629.6	268.0	SR100909003
4	0911	2.0	1025.1	1025.2	1025.1	18.70	18.74	18.73	35.05	35.08	35.07	98.03	98.52	98.30	7.82	7.84	7.82	0.00	0.39	0.02	0.00	0.00	0.00	192.9	751.0	280.4	SR100909004
5	0945	2.9	1024.8	1024.9	1024.9	18.52	18.54	18.53	34.60	34.65	34.62	95.41	96.01	95.73	7.76	7.82	7.79	0.00	0.87	0.07	0.00	0.00	0.00	129.2	3170.5	235.5	SR100909005
6	0952	3.5	1021.3	1023.2	1022.9	17.96	18.05	17.98	29.76	32.29	31.90	89.51	91.10	90.45	7.69	7.74	7.71	0.00	2.34	0.80	0.13	0.80	0.39	30.8	332.2	57.5	SR100909006
7	1000	2.5	1015.8	1016.4	1016.2	18.05	18.09	18.06	22.60	23.40	23.16	80.28	81.12	80.73	7.40	7.42	7.41	0.39	1.85	0.80	1.22	1.45	1.34	38.3	3112.8	595.2	SR100909007
8	1011	3.6	1008.7	1011.5	1009.6	17.35	18.41	17.57	13.14	17.09	14.28	67.27	70.28	68.17	7.07	7.21	7.16	0.00	0.39	0.00	1.49	1.93	1.81	1.9	3462.8	283.5	SR100909008
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	1019	4.3	1005.8	1006.1	1006.0	17.39	17.57	17.44	9.34	9.73	9.57	57.28	57.98	57.70	6.92	6.97	6.94	0.00	8.20	0.11	1.43	1.52	1.47	0.3	3217.5	370.6	SR100909009
11	1031	1.2	1004.4	1004.4	1004.4	17.08	17.09	17.09	7.39	7.41	7.40	56.48	56.89	56.67	6.75	6.77	6.76	0.00	0.00	0.00	1.05	1.25	1.09	259.7	2967.6	1036.7	SR100909010
12	1106	2.6	1020.1	1024.2	1022.4	18.58	19.46	19.04	28.44	33.99	31.63	88.02	90.57	89.30	7.14	7.42	7.25	0.00	0.87	0.21	0.13	1.36	.75	60.4	1116.8	211.0	SR100909011
13	1114	2.7	1016.6	1018.8	1018.1	19.68	20.56	20.01	24.49	27.11	26.28	79.10	82.69	80.47	7.30	7.39	7.34	0.00	0.87	0.28	1.02	1.50	1.21	46.5	1045.3	206.5	SR100909012

Note No profiling done at Station 9 on high water run

Table 71b Sandon River - Water Quality Maxima and Minima - Low Water - 9 September 2010

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1531	2.1	1023.4	1023.9	1023.6	20.52	20.58	20.55	33.38	33.99	33.62	104.83	105.61	105.11	7.41	7.51	7.46	0.39	0.87	0.45	0.27	0.61	0.46	167.1	2171.6	460.7	SR100909013
2	1549	1.8	1021.9	1022.0	1021.9	20.21	20.25	20.23	31.27	31.40	31.32	102.13	102.62	102.42	7.58	7.60	7.59	0.00	0.87	0.39	1.05	1.36	1.14	73.1	670.2	184.9	SR100909014
3	1559	1.7	1019.7	1020.5	1020.0	19.86	20.15	19.94	28.30	29.43	28.69	97.33	100.13	98.25	7.52	7.53	7.52	0.39	0.87	0.46	1.76	2.13	1.93	43.2	541.5	162.7	SR100909015
4	1635	1.0	1015.9	1018.9	1016.5	19.40	20.55	19.66	23.12	27.35	23.98	87.67	93.79	88.43	7.14	7.17	7.17	0.39	1.36	0.86	2.21	2.63	2.41	33.7	271.4	120.3	SR100909016
5	1651	2.2	1011.4	1020.3	1016.9	18.45	18.57	18.49	16.89	28.57	24.21	80.36	86.30	83.29	7.13	7.30	7.21	0.00	1.85	0.85	1.12	2.01	1.61	0.6	37.7	5.0	SR100909017
6	1657	2.8	1009.9	1021.6	1017.4	18.24	19.98	18.78	14.89	30.25	24.92	77.98	91.49	87.33	6.99	7.30	7.13	0.39	4.29	2.11	1.06	3.29	1.89	0.2	46.0	4.4	SR100909018
7	1706	1.5	1007.6	1008.1	1007.9	17.89	17.90	17.90	11.73	12.49	12.18	69.06	69.76	69.56	6.99	7.03	7.01	0.00	0.00	0.00	1.76	1.88	1.83	0.8	28.5	7.5	SR100909019
8	1723	2.5	1006.1	1011.1	1008.4	17.52	18.38	17.84	9.93	16.43	12.86	61.28	66.38	63.96	6.76	6.88	6.82	0.00	0.00	0.00	1.47	1.88	1.66	0.1	12.5	1.9	SR100909020
9	1738	5.7	1005.3	1008.1	1007.5	17.52	18.40	17.68	8.84	12.25	11.55	57.71	61.07	60.08	6.65	6.79	6.68	0.00	0.87	0.00	1.28	1.88	1.67	0.1	1.7	0.2	SR100909021

Note No profiling done upstream from Station 9 on low water run due to rocky shoals. Stations 12 and 13 in Candole Creek not done on low water run due to restricted access



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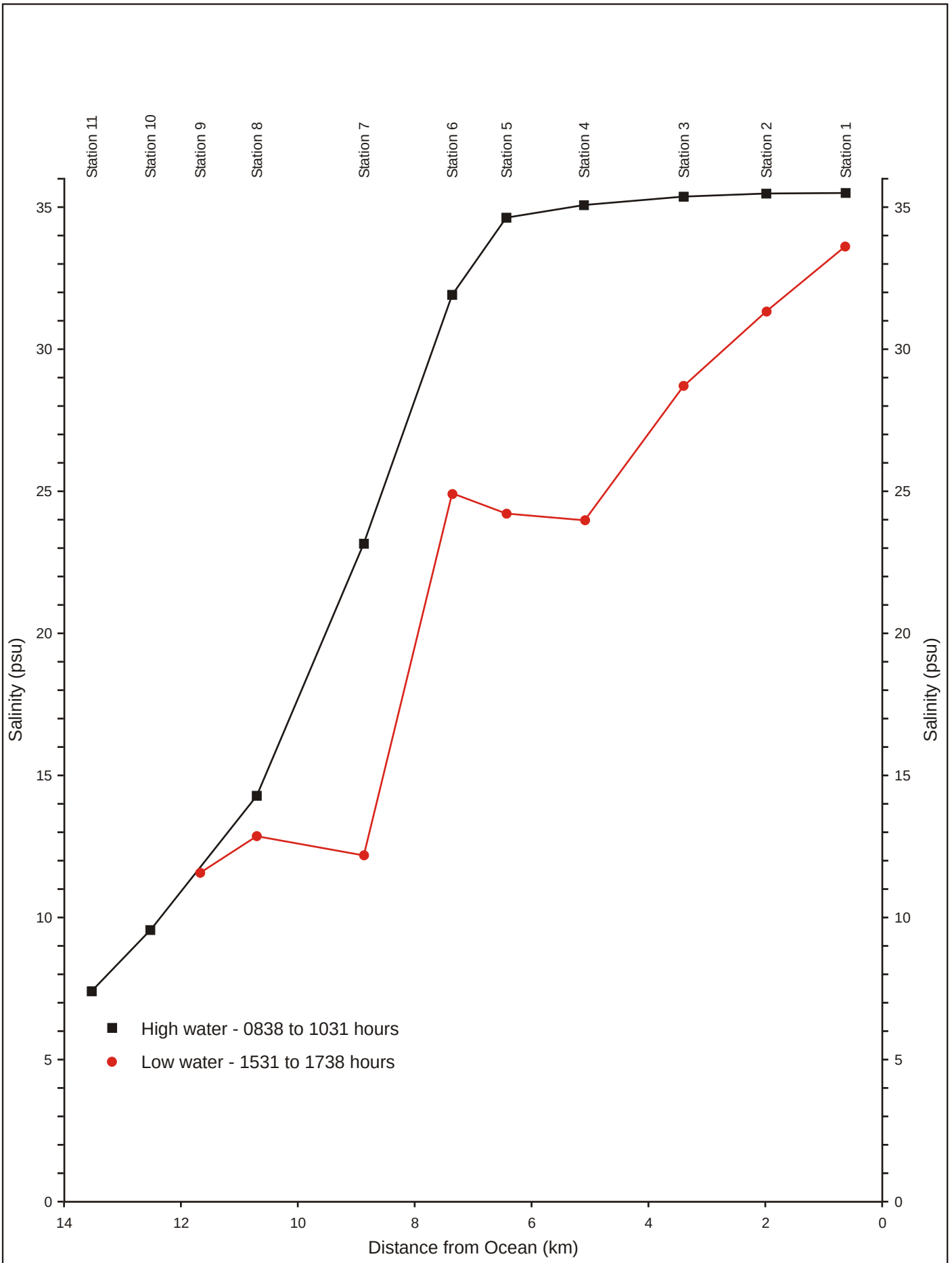
SANDON RIVER

9 SEPTEMBER 2010

MHL Report 1812

Figure 52

DRAWING 1812-052.CDR



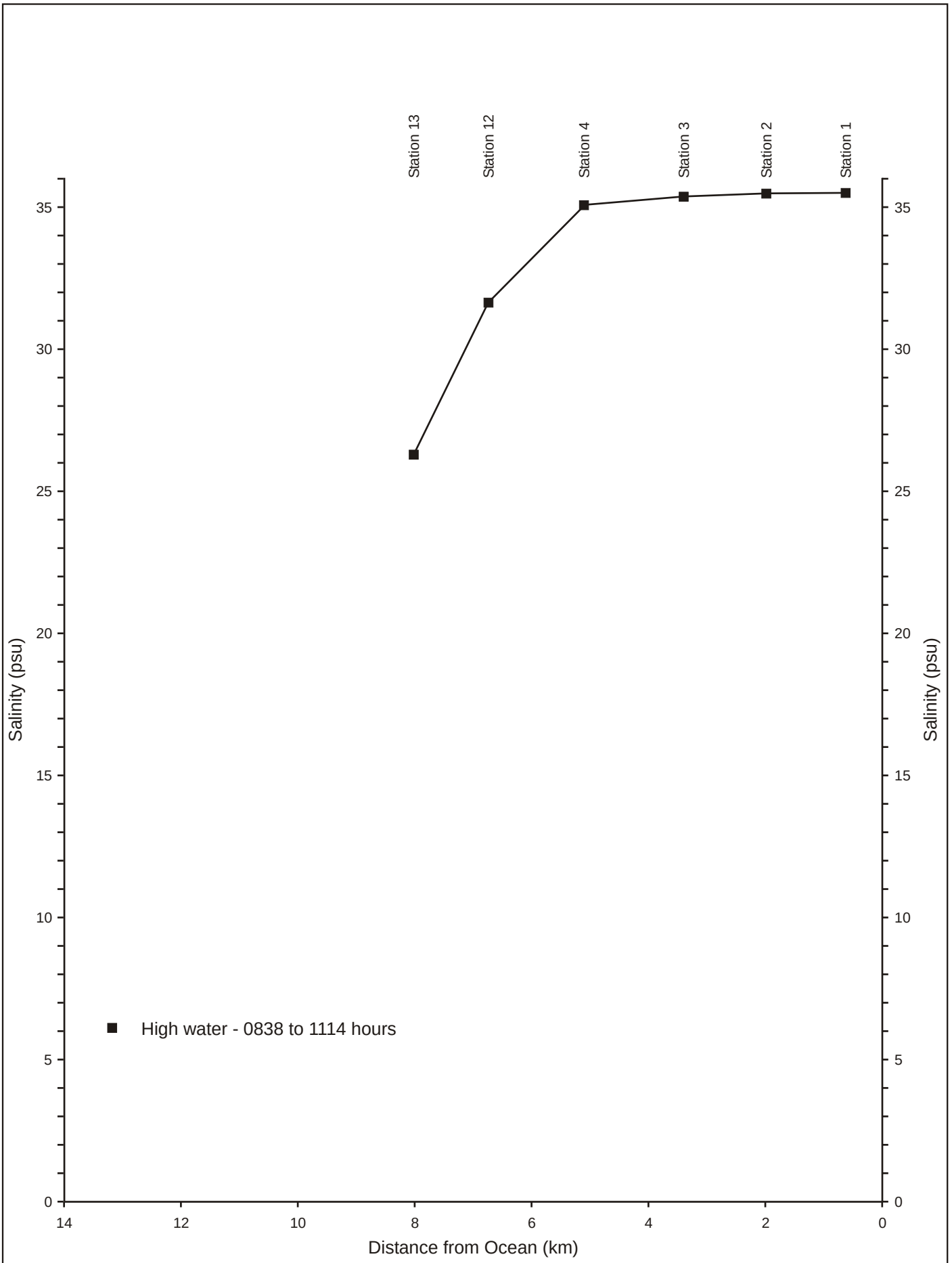
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
SANDON RIVER - HIGH AND LOW WATER
9 SEPTEMBER 2010

MHL Report 1812

Figure 53

DRAWING 1812-053.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
CANDOLE CREEK - HIGH WATER
9 SEPTEMBER 2010

MHL Report 1812

Figure 54

DRAWING 1812-054.CDR

Wooli Wooli River Data Summary

Data was collected in the Wooli Wooli River on 18 March 2003, as detailed in report MHL1232. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 72. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 73a-b. The locations at which these profiles were taken are shown in Figure 55. Long channel depth-averaged salinity profiles are shown in Figure 56.

Table 72 Wooli Wooli River - 18 March 2003

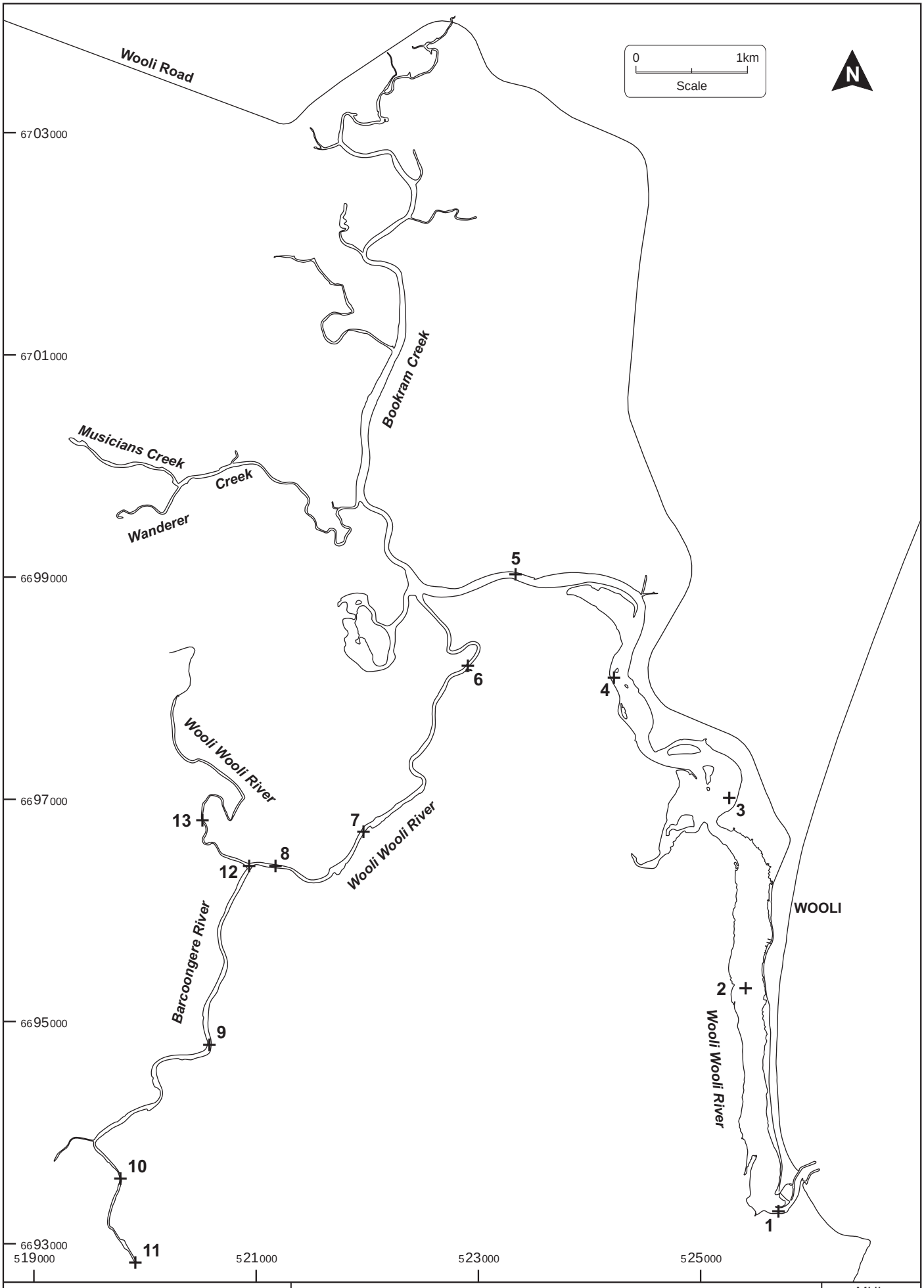
Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	525683	6693296	0.63	34.67	18.03
2	525387	6695304	2.81	34.63	7.80
3	525257	6697009	4.78	34.03	3.26
4	524203	6698088	6.66	31.90	1.47
5	523322	6699023	8.59	20.55	0.87
6	522896	6698193	10.63	3.74	0.37
7	521958	6696706	12.66	0.51	0.36
8	521174	6696405	13.72	0.34	-
9	520581	6694790	15.63	0.35	-
10	519773	6693596	17.66	0.42	-
11	519900	6692835	18.53	0.21	-
12	520932	6696399	13.97	0.35	-
13	520525	6696810	14.66	0.32	-

Table 73a Wooli Wooli River - Water Quality Maxima and Minima - High Water - 18 March 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0839	4.9	1020.7	1023.4	1023.4	24.10	24.14	24.13	31.09	34.69	34.67	92.14	93.19	92.56	8.06	8.09	8.07	175.40	533.88	299.93	0.00	0.00	0.00	80.8	1057.5	178.2	WOL013
2	0930	2.0	1023.3	1023.3	1023.3	24.18	24.20	24.19	34.59	34.63	34.63	91.05	91.87	91.46	8.04	8.05	8.05	317.03	436.69	400.93	0.00	0.00	0.00	228.5	1637.5	397.8	WOL014
3	0953	1.4	1022.8	1022.9	1022.9	24.11	24.13	24.11	33.95	34.06	34.03	88.70	89.86	89.61	8.03	8.04	8.04	573.93	584.19	577.15	0.00	0.08	0.00	355.1	1788.4	599.5	WOL015
4	1002	2.9	1018.0	1021.5	1021.3	23.88	23.94	23.92	27.51	32.16	31.90	84.07	85.65	85.02	7.99	8.01	8.00	157.81	387.36	229.74	0.62	1.14	0.81	87.9	3303.3	549.2	WOL016
5	1014	4.2	1011.7	1013.4	1013.0	23.14	23.20	23.17	18.82	21.08	20.55	73.45	74.50	74.05	7.69	7.77	7.75	159.77	376.62	209.65	5.59	6.29	5.82	1.1	5816.6	452.0	WOL017
6	1024	3.7	1000.1	1000.6	1000.4	22.71	22.84	22.74	3.38	3.94	3.74	64.23	64.83	64.58	6.71	6.75	6.72	189.56	383.94	206.21	9.86	9.97	9.90	0.2	867.2	23.2	WOL018
7	1033	1.5	998.0	998.1	998.1	22.47	22.52	22.49	0.51	0.51	0.51	53.26	54.08	53.89	6.19	6.21	6.20	470.88	530.95	491.14	9.13	9.26	9.18	2.7	820.7	112.6	WOL019
8	1054	2.3	998.0	998.1	998.1	21.90	21.96	21.93	0.34	0.34	0.34	51.50	51.92	51.76	6.03	6.05	6.04	167.09	401.04	261.53	8.39	8.48	8.43	0.5	4481.1	213.1	WOL020
9	1103	3.2	998.0	998.2	998.1	21.72	22.06	21.82	0.33	0.48	0.35	51.21	53.39	52.47	6.02	6.04	6.03	178.81	190.54	181.19	8.10	8.51	8.21	0.6	5565.8	288.0	WOL021
10	1112	1.5	998.3	998.4	998.3	20.75	21.05	20.88	0.39	0.48	0.42	53.67	55.02	54.55	5.88	5.92	5.90	196.88	325.82	225.89	7.58	7.93	7.81	44.1	4894.1	1000.6	WOL022
11	1122	1.0	998.3	998.3	998.3	20.34	20.46	20.37	0.20	0.22	0.21	63.97	65.22	64.39	5.84	5.86	5.85	176.37	184.19	181.63	7.17	7.24	7.20	124.6	1477.4	667.9	WOL023
12	1142	1.2	997.9	998.1	998.0	21.90	22.56	22.22	0.34	0.38	0.35	50.27	53.21	52.38	5.96	5.97	5.97	359.03	441.57	381.52	7.94	8.04	7.98	29.2	1042.1	222.8	WOL024
13	1149	1.9	998.1	998.2	998.2	21.22	21.38	21.25	0.30	0.34	0.32	51.41	52.10	51.74	5.79	5.81	5.80	197.86	473.32	273.11	6.67	6.97	6.70	4.8	4665.9	421.1	WOL025

Table 73b Wooli Wooli River - Water Quality Maxima and Minima - Low Water - 18 March 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1630	3.7	1010.0	1011.4	1010.6	25.04	25.15	25.08	17.24	19.13	18.03	78.99	80.24	79.45	7.56	7.65	7.59	179.79	337.54	200.52	5.98	6.64	6.32	0.0	0.1	0.1	WOL026
2	1711	1.0	1002.9	1003.3	1003.0	24.62	24.63	24.62	7.65	8.15	7.80	70.61	71.25	71.14	6.87	6.88	6.87	527.53	550.98	536.44	7.71	9.13	8.75	7.2	425.2	123.6	WOL027
3	1737	0.8	999.6	999.7	999.6	24.49	24.49	24.49	3.26	3.30	3.26	66.52	66.76	66.64	6.58	6.59	6.58	245.24	366.85	313.69	10.01	10.53	10.32	24.1	313.4	179.0	WOL028
4	1759	3.1	998.3	998.4	998.3	24.34	24.41	24.36	1.44	1.59	1.47	62.34	62.78	62.57	6.34	6.36	6.35	529.00	608.61	578.75	9.65	10.08	9.70	0.2	25.8	1.5	WOL029
5	1810	3.3	997.9	997.9	997.9	24.07	24.21	24.17	0.84	0.88	0.87	59.80	60.43	60.11	6.23	6.24	6.24	171.98	343.89	274.03	9.24	9.37	9.30	0.1	12.6	0.9	WOL030
6	1820	2.9	997.9	997.9	997.9	22.84	22.88	22.86	0.36	0.37	0.37	51.66	52.25	51.85	5.97	5.98	5.98	187.12	508.97	379.53	8.45	8.59	8.50	0.1	0.6	0.1	WOL031
7	1832	0.9	997.9	997.9	997.9	22.59	22.60	22.60	0.35	0.36	0.36	53.07	53.32	53.16	5.87	5.87	5.87	581.74	608.61	589.38	7.12	7.17	7.14	0.1	0.1	0.1	WOL032



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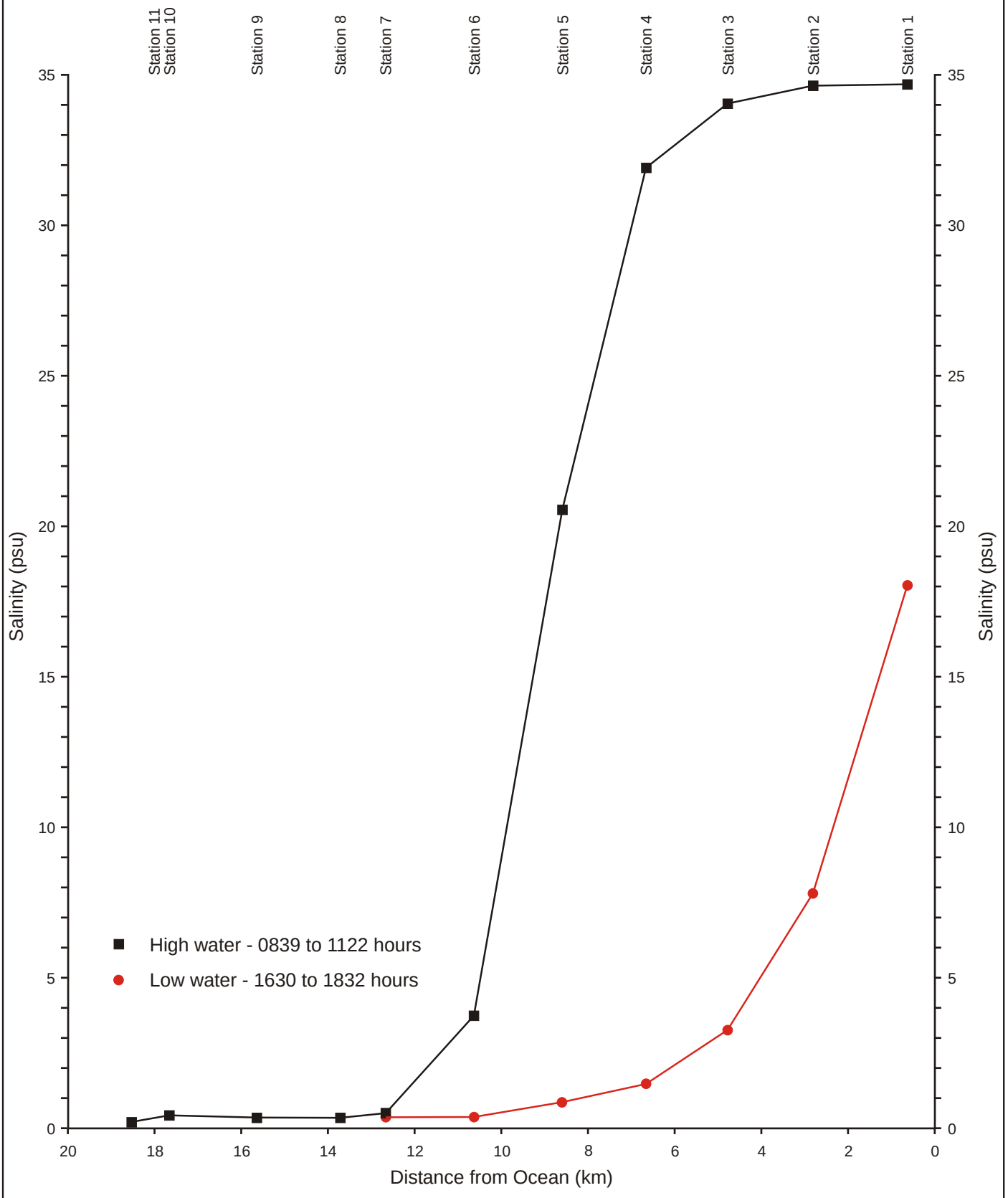
WOOLI WOOLI RIVER

18 MARCH 2003

MHL Report 1812

Figure 55

DRAWING 1812-055.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
WOOLI WOOLI RIVER - HIGH AND LOW WATER
18 MARCH 2003

MHL Report 1812

Figure 56

DRAWING 1812-056.CDR

Corindi River Data Summary

Data was collected in the Corindi River on 17 and 19 March 2003, as detailed in report MHL1318. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 74. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 75a to 76. The locations at which these profiles were taken are shown in Figure 57. Long channel depth-averaged salinity profiles are shown in Figure 58.

Table 74 Corindi River - 17 and 19 March 2003

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity (psu)	High Water Salinity (psu)
	Easting	Northing			
1	522483	6683404	0.08	18.37	34.72
2	521865	6683775	1.41	13.72	34.64
3	521038	6683298	2.73	9.20	34.44
4	520234	6682672	4.32	4.36	28.61
5	520086	6681743	5.76	1.69	19.16
6	519307	6681750	7.32	1.57	11.55
7	518989	6681333	8.53	0.43	6.35
8	518605	6680645	9.58	-	0.71
9	521092	6683920	2.34	19.12	-
10	520741	6683753	3.31	13.07	-
11	519904	6683864	4.32	21.23	-
12	519517	6684117	5.31	11.78	-
13	519135	6684355	5.88	2.84	-

Table 75a Corindi River - Water Quality Maxima and Minima - Low Water - 17 March 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1533	0.7	1010.7	1010.8	1010.8	25.28	25.28	25.28	18.31	18.41	18.37	74.21	75.48	74.83	7.56	7.57	7.56	506.04	566.60	536.30	0.00	0.00	0.00	112.5	655.9	392.5	WOL006
2	1608	0.3	1007.4	1007.4	1007.4	24.82	24.83	24.83	13.71	13.74	13.72	73.28	74.23	73.98	7.29	7.30	7.29	150.97	152.93	151.95	2.41	2.46	2.45	4431.9	4683.1	4569.2	WOL007
3	1616	0.7	1003.7	1005.4	1004.2	23.90	23.92	23.91	8.46	10.70	9.20	59.88	64.55	62.67	7.10	7.22	7.17	511.41	535.35	520.53	4.59	6.12	5.54	75.6	505.3	311.1	WOL008
4	1624	0.7	1000.1	1002.5	1000.8	23.11	23.17	23.14	3.47	6.56	4.36	62.89	64.81	63.71	7.29	7.34	7.31	176.86	198.35	188.27	1.35	2.14	1.75	172.2	641.6	513.0	WOL009
5	1632	0.7	998.8	999.2	999.0	22.28	22.58	22.43	1.54	1.94	1.69	60.38	65.06	63.49	6.60	6.66	6.64	308.73	354.64	324.82	1.87	2.28	2.09	23.9	186.0	95.4	WOL010
6	1639	0.7	998.8	999.2	999.0	21.88	21.89	21.89	1.31	1.86	1.57	21.02	22.53	21.73	6.55	6.57	6.56	186.14	228.14	207.69	3.44	3.89	3.66	53.7	1680.1	265.8	WOL011
7	1648	0.3	998.1	998.1	998.1	22.04	22.04	22.04	0.43	0.43	0.43	65.22	65.30	65.26	6.46	6.47	6.47	282.36	286.26	284.31	2.71	2.74	2.72	74.0	78.2	76.1	WOL012

Note Profiling stop at Station 7 on low water run due to shoals

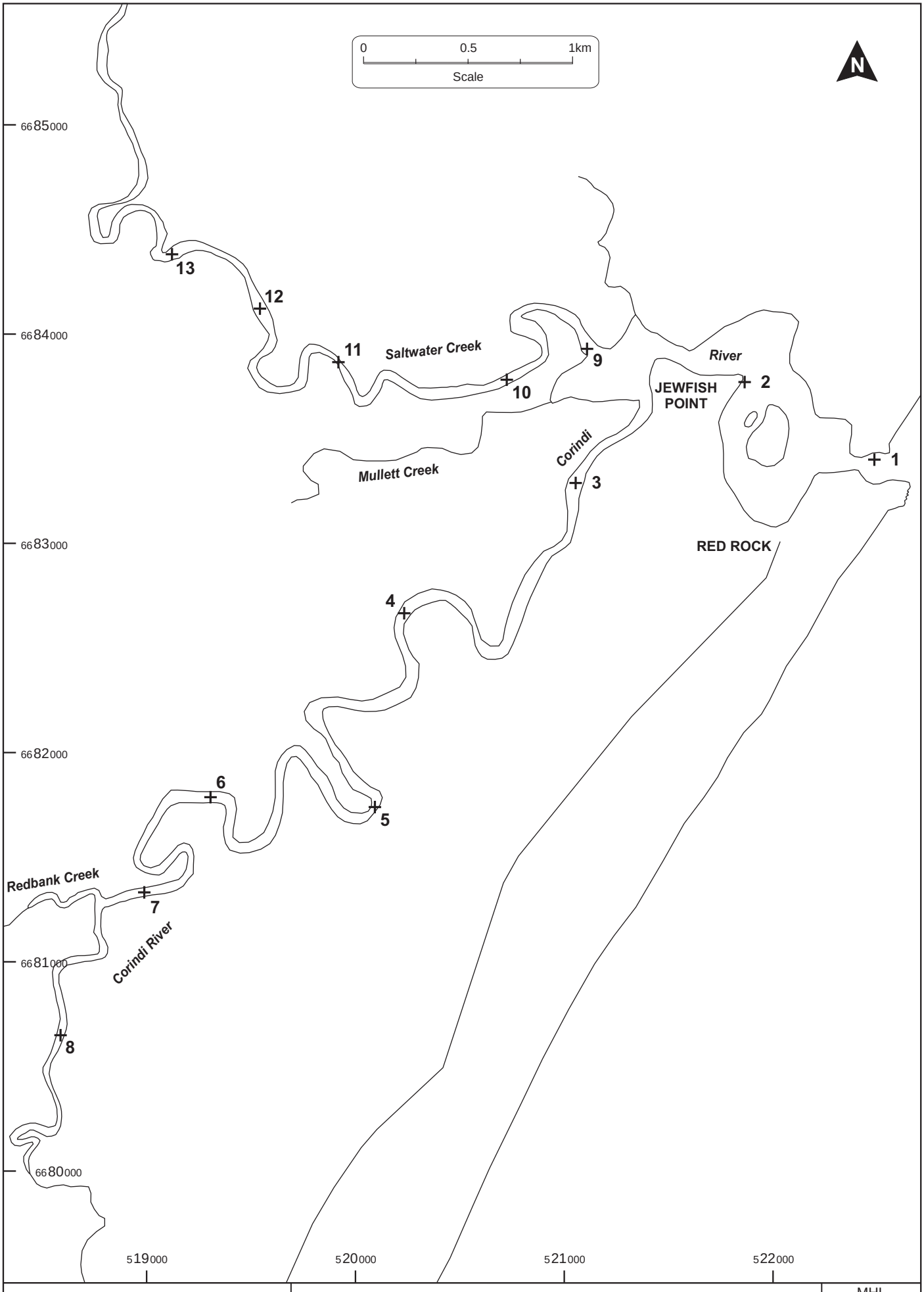
Table 75b Corindi River - Water Quality Maxima and Minima - High Water - 19 March 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1000	2.6	1023.3	1023.3	1023.3	24.43	24.55	24.49	34.70	34.74	34.72	96.36	97.31	96.74	8.09	8.10	8.10	134.37	147.56	142.07	0.00	0.00	0.00	320.4	4597.8	587.2	WOL033
2	1012	1.6	1023.2	1023.2	1023.2	24.46	24.49	24.48	34.63	34.65	34.64	92.60	93.00	92.82	8.09	8.09	8.09	181.74	416.18	297.60	0.00	0.00	0.00	385.0	4822.7	800.9	WOL034
3	1020	2.2	1016.6	1023.3	1023.2	24.10	24.22	24.12	25.77	34.56	34.44	92.75	93.74	93.44	8.07	8.08	8.07	168.07	236.93	182.99	0.00	0.00	0.00	829.8	5096.0	1809.2	WOL035
4	1027	2.4	1014.5	1022.1	1018.9	23.53	23.71	23.58	22.74	32.81	28.61	70.38	78.33	74.13	7.74	7.97	7.86	161.23	347.31	216.24	0.07	1.47	0.95	200.9	5003.2	854.5	WOL036
5	1033	2.6	1009.1	1013.4	1011.9	23.29	23.59	23.36	15.51	21.20	19.16	62.22	65.43	64.12	7.39	7.61	7.48	136.32	155.86	142.71	1.13	1.40	1.26	150.9	4822.7	1044.6	WOL037
6	1040	2.6	1003.7	1008.4	1006.3	22.59	22.82	22.71	8.04	14.39	11.55	57.05	62.95	60.59	6.86	6.92	6.89	153.42	349.75	249.29	1.39	2.00	1.54	73.2	4481.1	523.1	WOL038
7	1046	1.7	1001.0	1004.2	1002.5	22.09	22.27	22.17	4.30	8.54	6.35	60.63	64.16	63.18	6.66	6.86	6.74	169.05	174.42	170.65	1.38	1.56	1.45	228.5	4665.9	1008.8	WOL039
8	1100	1.6	998.6	998.6	998.6	20.72	20.81	20.75	0.68	0.74	0.71	72.95	73.40	73.23	6.55	6.58	6.56	184.68	268.19	208.61	1.10	1.32	1.20	141.2	4631.7	980.9	WOL040

Table 76 Saltwater Creek - Water Quality Maxima and Minima - Low Water - 17 March 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
9	1333	0.9	1010.9	1011.5	1011.3	25.19	25.35	25.30	18.51	19.43	19.12	82.30	83.62	83.09	7.59	7.61	7.60	577.84	600.79	583.98	3.02	3.40	3.18	293.4	2094.5	779.5	WOL001
10	1343	0.8	1006.8	1006.9	1006.9	24.93	24.95	24.94	13.01	13.14	13.07	61.27	64.67	63.34	7.05	7.07	7.06	206.65	458.67	311.45	0.49	5.20	4.82	568.4	2172.9	1328.8	WOL002
11	1350	1.2	1003.6	1019.1	1013.4	23.27	23.64	23.43	8.22	28.82	21.23	57.23	64.47	59.36	6.72	7.10	6.89	433.27	520.69	457.61	1.84	5.57	3.49	31.2	808.8	224.8	WOL003
12	1357	0.9	1001.0	1014.5	1006.4	23.06	23.51	23.26	4.72	22.60	11.78	47.73	50.61	49.99	6.29	6.33	6.31	291.15	303.36	296.44	2.79	6.43	4.15	40.6	644.0	214.0	WOL004
13	1402	0.4	999.5	999.6	999.5	23.66	23.67	23.66	2.78	2.98	2.84	54.48	57.33	55.42	6.14	6.15	6.14	162.70	165.14	163.98	2.53	7.28	6.15	181.3	713.8	536.8	WOL005

Note No profiles done on high water slack in Saltwater Creek



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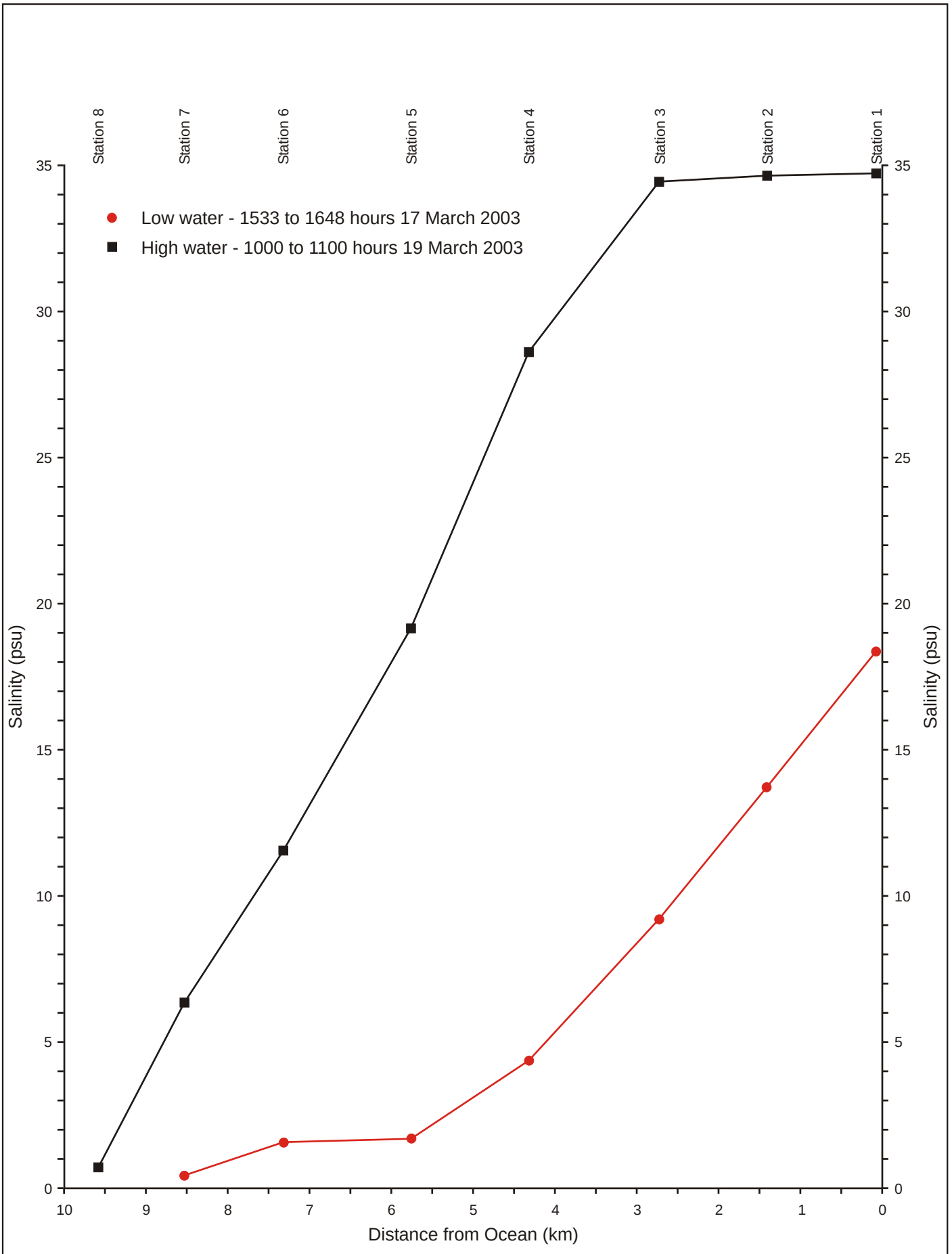
CORINDI RIVER

17 AND 19 MARCH 2003

MHL
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Figure
57

DRAWING 1812-057.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
CORINDI RIVER - HIGH AND LOW WATER
17 AND 19 MARCH 2003

MHL Report 1812

Figure 58

DRAWING 1812-058.CDR

Arrawarra Creek Data Summary

Data was collected in Arrawarra Creek on 23 and 24 August 2005, as detailed in report MHL1464. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 77. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 78a-b. The locations at which these profiles were taken are shown in Figure 59. Long channel depth-averaged salinity profiles are shown in Figures 60 and 61.

Table 77 Arrawarra Creek - 23 and 24 August 2005

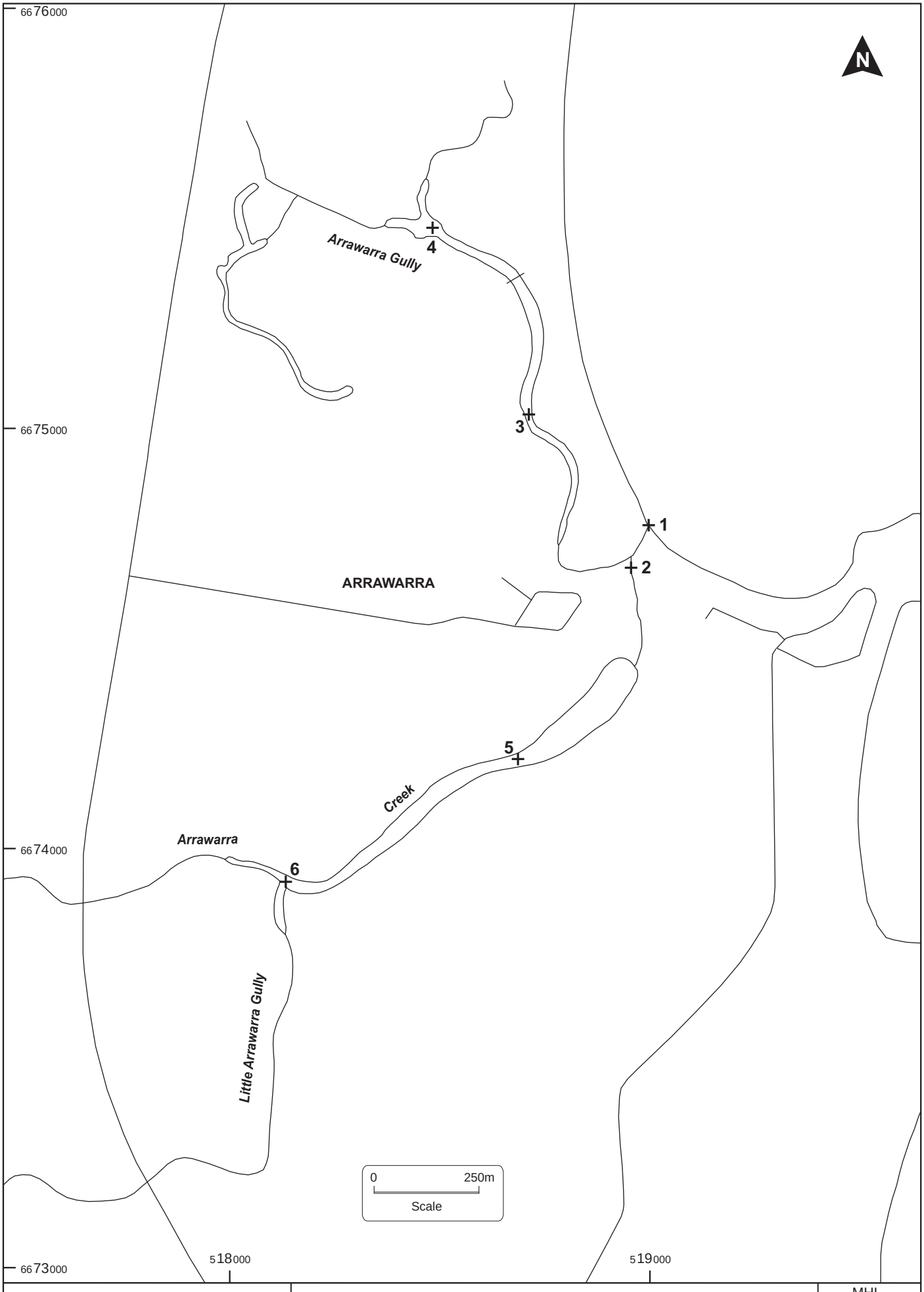
Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity (psu)	High Water Salinity (psu)
	Easting	Northing			
1	519001	6674795	0.00	35.86	35.67
2	518946	6674666	0.12	35.32	35.74
3	518721	6675035	0.71	35.19	35.77
4	518505	6675479	1.29	34.79	35.46
5	518686	6674214	0.70	35.96	35.81
6	518131	6673910	1.35	36.06	36.14

Table 78a Arrawarra Creek - Water Quality Maxima and Minima - Low Water - 23 August 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0651	0.1	1026.7	1026.8	1026.7	14.49	14.51	14.50	35.84	35.88	35.86	40.49	45.95	41.51	7.12	7.13	7.13	62.11	99.72	76.56	0.00	0.00	0.00	170.3	265.7	216.4	ar050823001
2	0657	0.4	1025.9	1026.3	1026.2	15.21	15.28	15.26	35.02	35.43	35.32	62.54	93.37	72.99	7.07	7.11	7.09	4.48	12.29	5.44	0.00	0.77	0.15	125.6	2213.2	286.3	ar050823002
3	0722	0.5	1026.1	1026.2	1026.2	14.75	14.83	14.78	35.15	35.22	35.19	49.51	59.61	57.38	7.02	7.16	7.08	3.01	11.32	9.54	0.80	1.48	1.01	39.3	195.8	50.7	ar050823003
4	0753	0.3	1025.5	1025.9	1025.8	14.86	15.32	15.12	34.38	34.99	34.79	100.50	101.82	101.55	6.82	6.90	6.87	12.78	50.39	19.12	0.00	0.07	0.02	34.1	332.4	49.0	ar050823004
5	0922	0.8	1025.4	1026.4	1026.3	16.81	17.06	16.97	34.78	36.16	35.96	69.11	72.85	70.65	7.54	7.56	7.55	7.90	39.15	15.66	0.00	9.57	2.36	839.0	4415.7	1462.1	ar050823005
6	0946	1.1	1026.6	1026.7	1026.6	15.69	15.84	15.71	36.00	36.08	36.06	57.53	58.22	57.99	7.24	7.25	7.25	2.52	8.38	5.16	0.23	0.49	0.31	210.8	2769.2	1167.6	ar050823006

Table 78b Arrawarra Creek - Water Quality Maxima and Minima - High Water - 24 August 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1143	0.6	1025.6	1025.6	1025.6	18.71	18.72	18.72	35.65	35.69	35.67	81.66	82.26	81.96	7.41	7.42	7.41	3.01	8.38	5.29	0.00	0.00	0.00	1077.1	3701.8	3261.8	ar050823016
2	1149	0.8	1025.6	1025.6	1025.6	18.88	18.89	18.88	35.73	35.74	35.74	82.24	82.85	82.67	7.48	7.48	7.48	0.00	8.38	3.53	0.00	0.00	0.00	776.7	3925.9	2070.0	ar050823017
3	1157	1.1	1025.6	1025.6	1025.6	19.08	19.11	19.09	35.76	35.77	35.77	95.47	96.40	95.74	7.51	7.52	7.52	3.01	3.50	3.15	0.00	0.00	0.00	176.7	1234.0	276.4	ar050823018
4	1205	1.3	1026.1	1026.2	1026.1	15.77	16.12	15.99	35.40	35.50	35.46	79.69	81.19	80.76	7.26	7.27	7.27	3.01	7.90	3.65	0.14	0.31	0.22	123.3	1730.3	464.2	ar050823019
5	1225	1.1	1025.5	1025.5	1025.5	19.42	19.57	19.47	35.76	35.84	35.81	84.94	89.39	88.88	7.60	7.61	7.60	3.50	4.48	4.16	0.00	0.00	0.00	1294.4	3897.1	2593.0	ar050823020
6	1230	1.5	1026.3	1026.7	1026.5	16.03	17.30	16.65	36.04	36.20	36.14	64.84	68.88	66.77	7.17	7.21	7.20	6.92	10.34	9.62	0.39	0.78	0.61	405.4	3279.1	959.0	ar050823021



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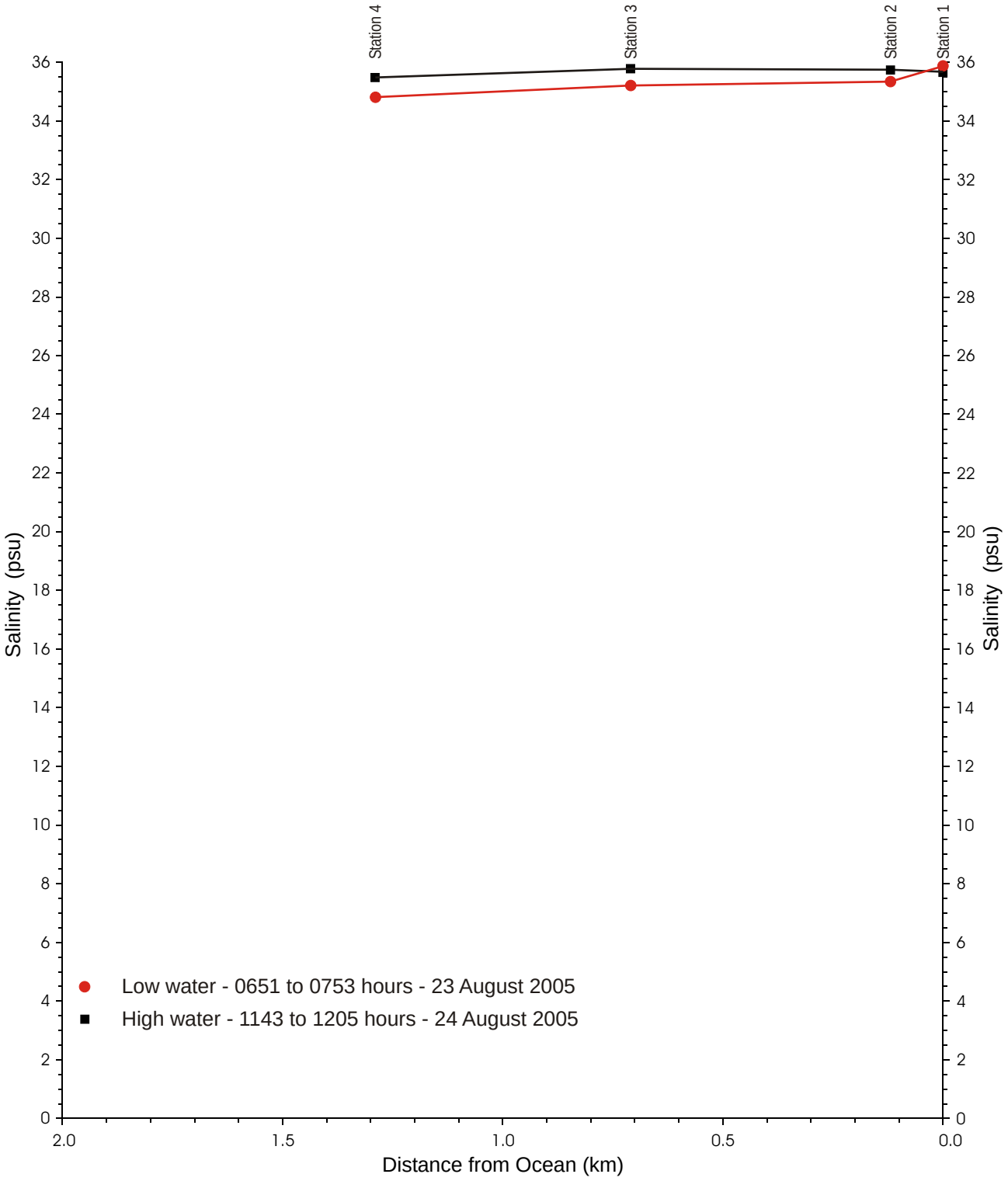
ARRAWARRA CREEK ESTUARY

23 AND 24 AUGUST 2005

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Figure 59

DRAWING 1812-059.CDR



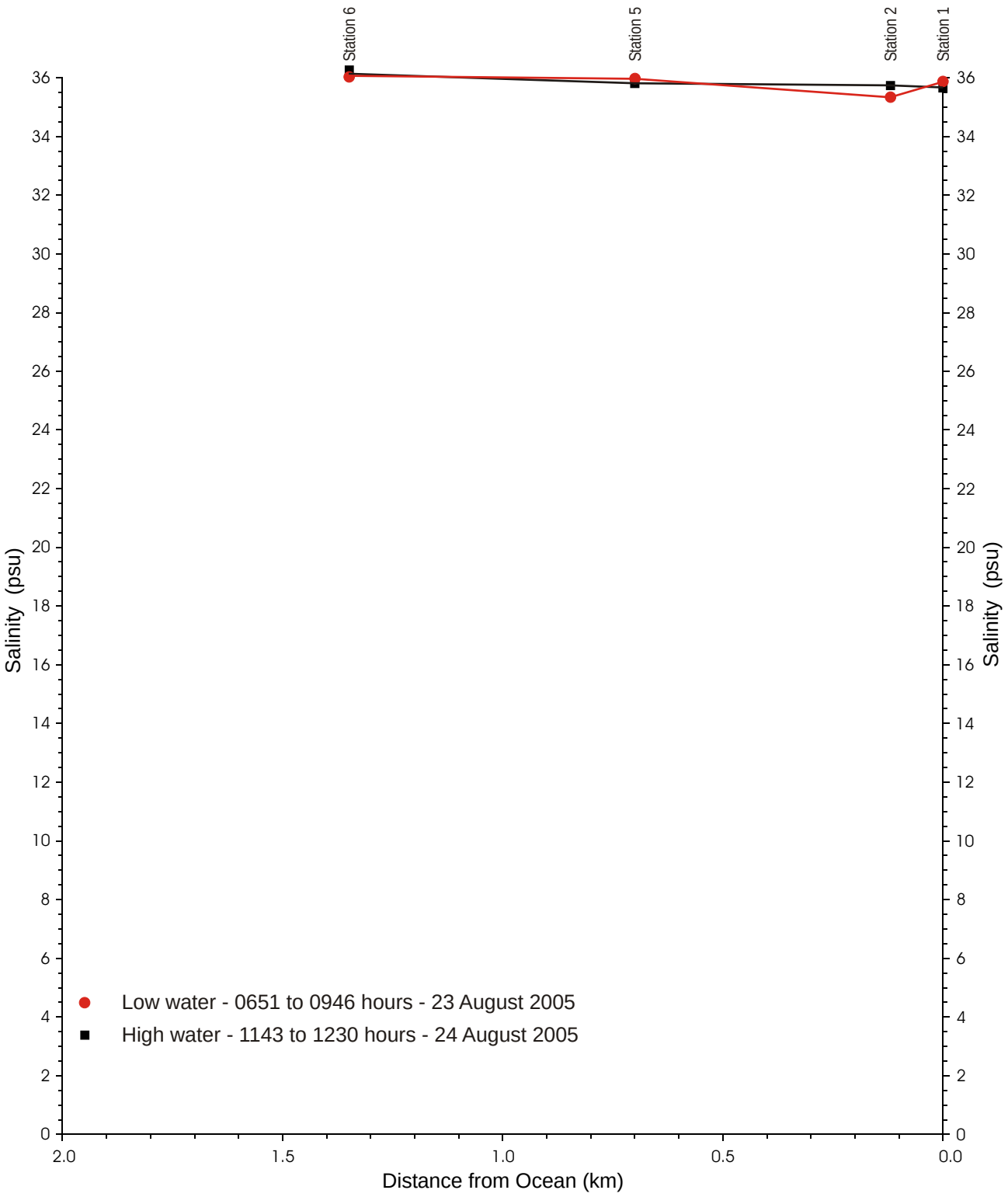
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
ARRAWARRA GULLY
23 AND 24 AUGUST 2005

MHL Report 1812

Figure 60

DRAWING 1812-060.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
ARRAWARRA CREEK
23 AND 24 AUGUST 2005

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Figure 61

DRAWING 1812-061.CDR

Darkum Creek Data Summary

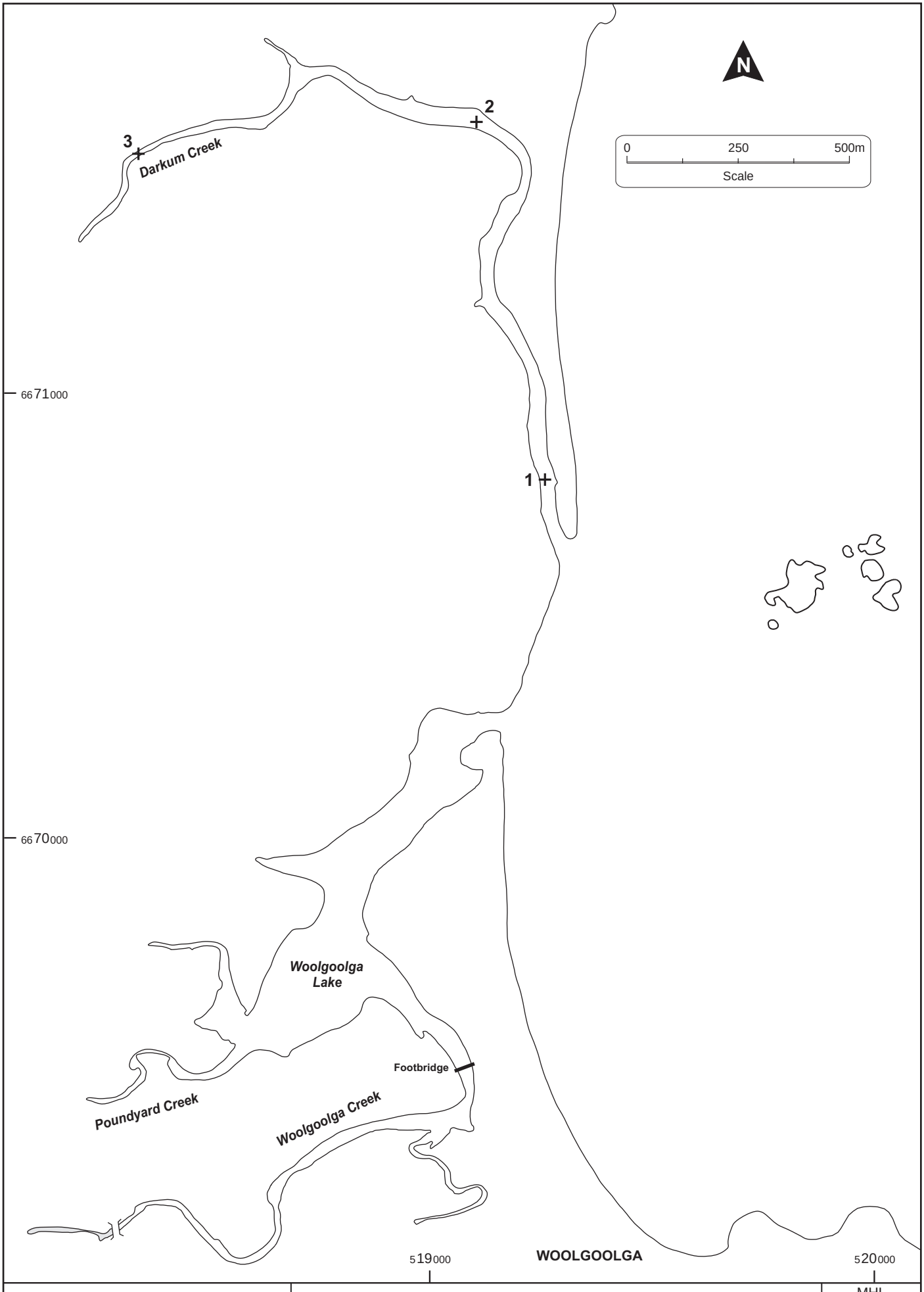
Data was collected in Darkum Creek on 11 March 2004, when the entrance to the lake was closed. The average water level during the survey was 1.72 m AHD. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 79. Summaries of the minimum, maximum and mean values for all parameters measured on the single run are shown in Table 80. The locations at which these profiles were taken are shown in Figure 62. Long channel depth-averaged salinity profiles are shown in Figure 63.

Table 79 Darkum Creek - 11 March 2004

Station No.	MGA (m) Zone 56		Chainage (km)	Salinity (psu)
	Easting	Northing		
1	519260	6670810	0.17	12.49
2	519105	6671615	1.08	10.35
3	518345	6671540	1.93	10.90

Table 80 Darkum Creek - Water Quality Maxima and Minima - 11 March 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1237	1.4	1003.4	1010.6	1005.9	26.64	27.06	26.82	9.13	18.82	12.49	60.21	85.56	75.52	7.57	7.68	7.62	6.84	7.81	7.39	CO1670007
2	1243	1.4	1000.3	1010.5	1004.0	27.39	28.31	27.90	5.18	19.29	10.35	47.98	67.70	61.25	7.06	7.54	7.25	5.86	9.77	8.13	CO1670008
3	1248	1.4	1000.6	1009.7	1004.1	28.37	29.07	28.80	6.30	18.21	10.90	2.57	33.73	17.29	6.70	6.87	6.78	6.35	9.77	6.84	CO1670009



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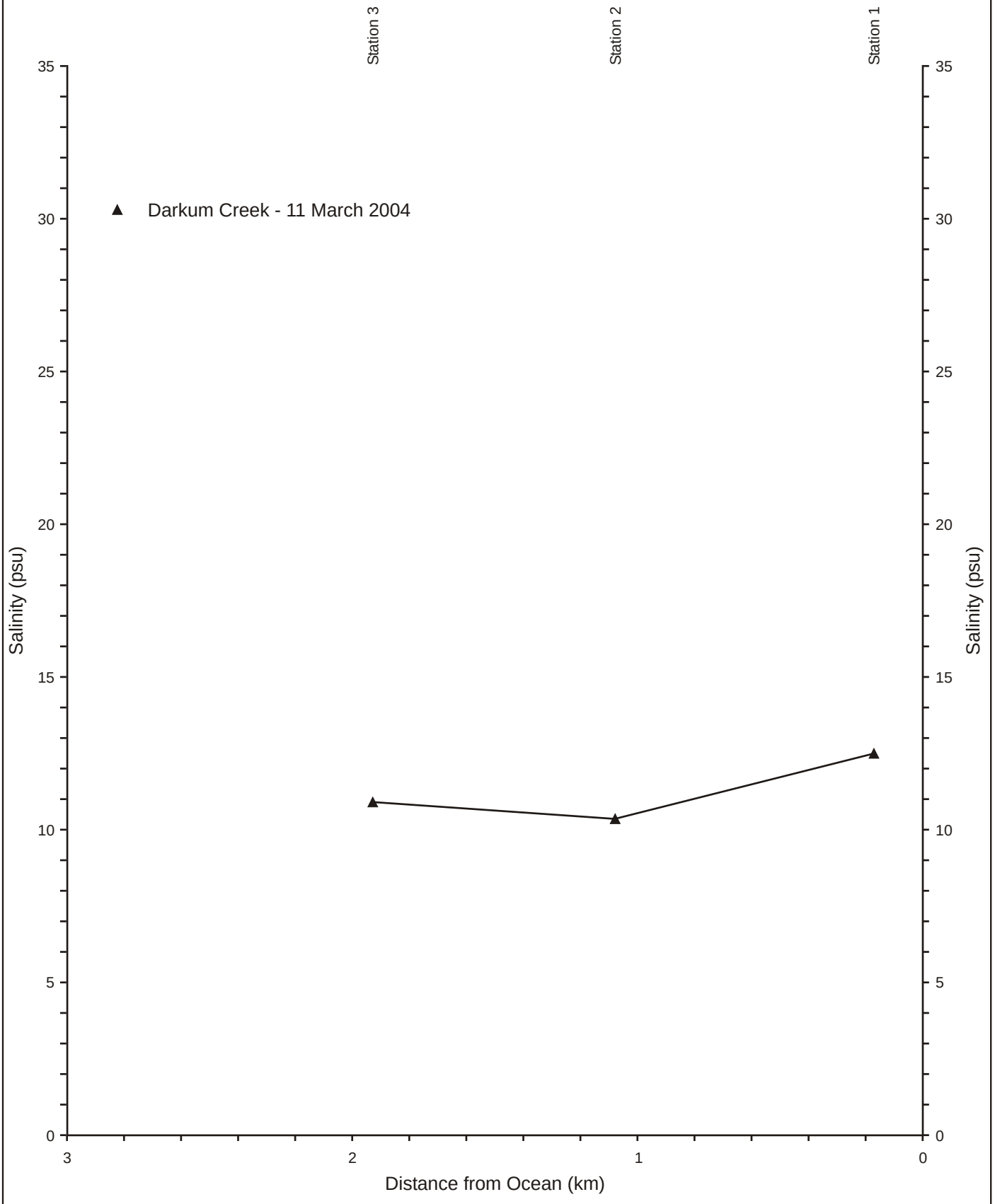
DARKUM CREEK

11 MARCH 2004

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Figure 62

DRAWING 1812-062.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
DARKUM CREEK
11 MARCH 2004

MHL Report 1812

Figure 63

DRAWING 1812-063.CDR

Woolgoolga Lake Data Summary

Data was collected in Woolgoolga Creek on 11 March and 6 May 2004, as detailed in report MHL1342. The data collection on 11 March was undertaken at high tide on an elevated lake following recent rainfall. The entrance was very constricted and the lake continued to drain past ocean low tide and so no low tide water quality run was done. The second set of water quality profiles done on 6 May 2004 were on a high tide at the same locations used in March. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 81. Summaries of the minimum, maximum and mean values for all parameters measured on the two runs are shown in Tables 82 and 83. The locations at which these profiles were taken are shown in Figure 64. Long channel depth-averaged salinity profiles are shown in Figure 65.

Table 81 Woolgoolga Creek - 11 March and 6 May 2004

Station No.	MGA (m) Zone 56		Chainage (km)	11 March High Water Salinity (psu)	6 May High Water Salinity (psu)
	Easting	Northing			
1	519020	6670273	0.14	12.60	15.98
2	518817	6669822	0.63	21.11	33.40
3	518550	6669580	1.05	16.94	23.39
4	519060	6669375	1.20	28.07	31.91
5	518660	6669220	1.64	27.11	29.10
6	518386	6669187	2.11	24.37	18.43

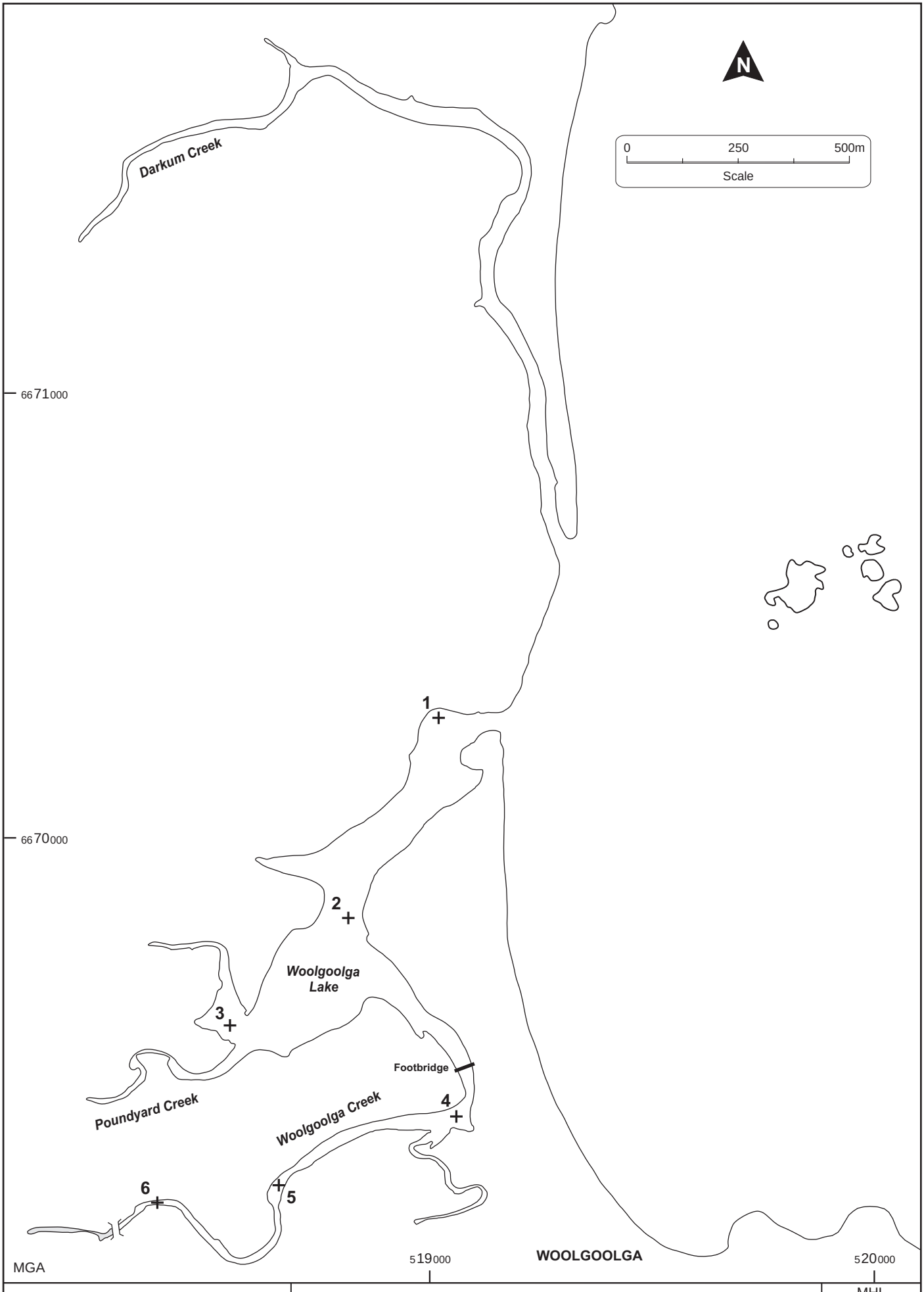
Table 82 Woolgoolga Lake - Water Quality Maxima and Minima - High Water - 11 March 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1011	0.6	1006.6	1006.6	1006.6	24.51	24.52	24.52	12.60	12.61	12.60	77.92	107.21	92.28	7.93	7.94	7.94	7.33	18.56	9.07	-	-	-	-	-	-	CO1670001
2	1034	1.4	1006.5	1018.8	1012.5	24.55	28.90	26.34	12.41	30.06	21.11	63.94	84.71	76.24	7.58	7.80	7.70	11.72	20.51	16.14	-	-	-	-	-	-	CO1670002
3	1041	0.6	1008.7	1009.0	1008.9	27.90	28.10	28.02	16.72	17.12	16.94	49.98	57.47	54.57	7.51	7.53	7.52	112.33	237.85	159.95	-	-	-	-	-	-	CO1670003
4	1047	1.9	1012.0	1021.1	1017.0	27.14	29.75	28.71	21.46	32.97	28.07	33.93	80.97	59.25	7.60	7.81	7.68	7.33	13.19	9.70	-	-	-	-	-	-	CO1670004
5	1052	1.4	1014.5	1018.5	1016.2	28.14	28.87	28.72	24.85	29.86	27.11	25.30	54.80	47.31	7.43	7.57	7.51	8.30	10.26	9.05	-	-	-	-	-	-	CO1670005
6	1059	1.1	1012.3	1015.3	1014.5	27.63	27.98	27.86	21.39	25.52	24.37	7.87	37.70	24.29	7.21	7.34	7.26	7.81	8.79	8.18	-	-	-	-	-	-	CO1670006

Note The Seabird 19 does not have chlorophyll and PAR sensors

Table 83 Woolgoolga Lake - Water Quality Maxima and Minima - High Water - 6 May 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0857	0.8	1010.9	1010.9	1010.9	17.39	17.46	17.41	15.96	15.99	15.98	70.38	97.19	86.64	7.26	7.27	7.27	3.97	22.04	8.05	0.00	0.44	0.13	799.9	3954.8	2749.4	DA0506022
2	0911	1.1	1022.9	1023.9	1023.5	19.94	20.28	20.04	32.51	33.94	33.40	72.74	73.88	73.40	7.61	7.66	7.63	3.48	5.92	4.90	1.16	4.14	2.22	227.7	2011.6	466.3	DA0506023
3	0917	0.4	1015.2	1016.2	1015.6	20.83	21.66	21.41	22.97	24.07	23.39	81.62	84.97	83.01	7.52	7.54	7.53	2.01	23.50	12.19	0.00	0.01	0.00	1775.3	4648.8	3189.3	DA0506024
4	0925	0.9	1020.5	1023.0	1022.2	20.59	20.90	20.77	29.60	32.97	31.91	71.46	82.25	76.08	7.53	7.63	7.55	4.94	6.41	5.32	1.12	9.24	3.39	111.2	2110.0	767.8	DA0506025
5	0932	0.8	1019.0	1020.2	1019.8	21.88	21.96	21.91	28.16	29.65	29.10	36.46	38.41	37.16	7.35	7.37	7.36	7.87	9.83	8.88	1.86	2.71	2.20	487.1	1202.7	925.3	DA0506026
6	0941	0.4	1010.3	1012.2	1011.3	21.98	23.66	23.50	17.23	19.10	18.43	82.93	102.11	91.72	6.81	7.29	7.07	-	-	-	7.86	11.84	9.60	86.6	488.9	318.9	DA0506027



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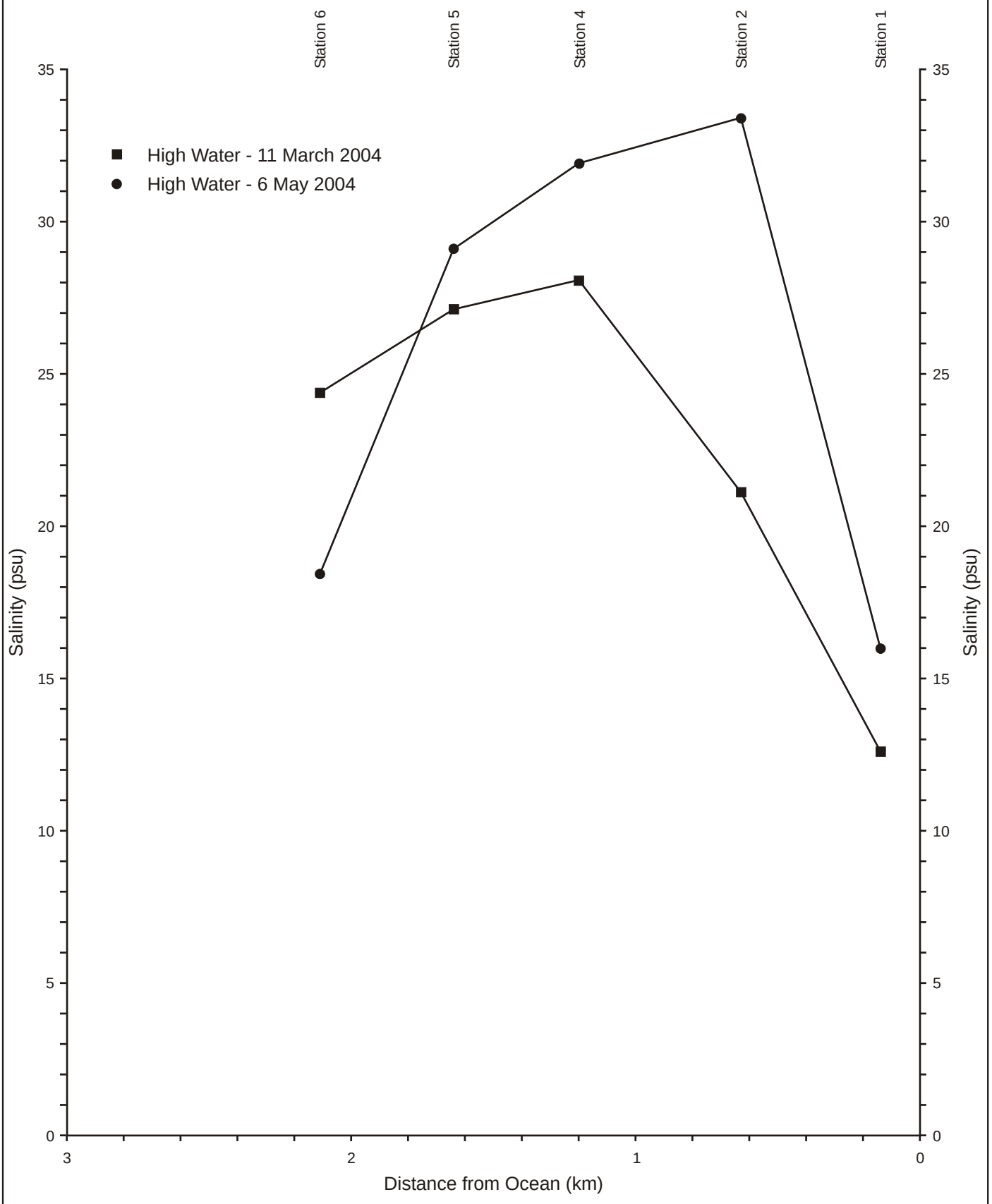
WOOLGOOLGA LAKE

11 MARCH AND 6 MAY 2004

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Figure 64

DRAWING 1812-064.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
WOOLGOOLGA LAKE
11 MARCH AND 6 MAY 2004

MHL Report 1812

Figure 65

DRAWING 1812-065.CDR

Hearns Lake Data Summary

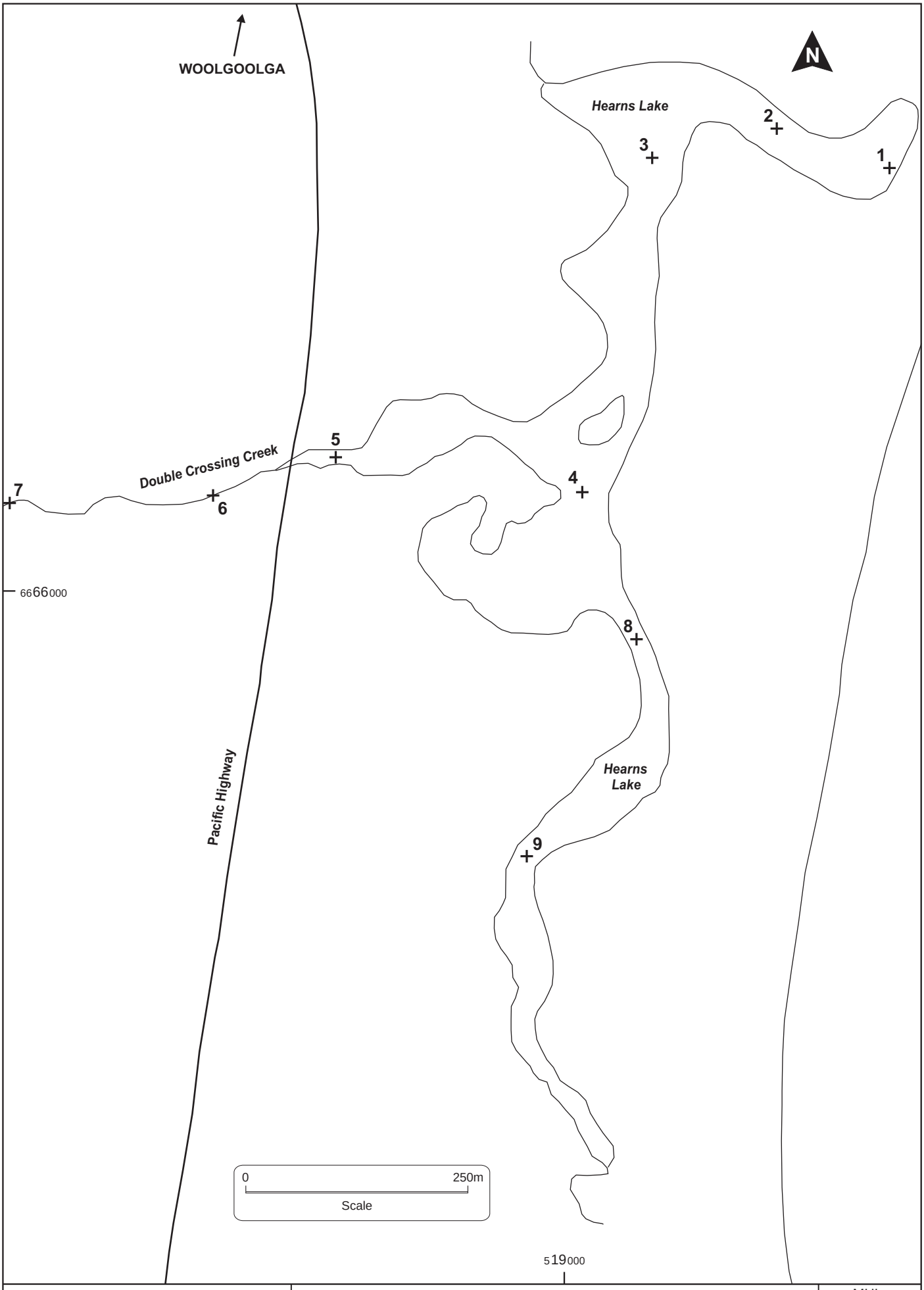
Data was collected in Hearns Lake on 23 August 2005, when the entrance to the lake was closed. The water level was 1.33 m AHD. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 84. Summaries of the minimum, maximum and mean values for all parameters measured on the single run are shown in Table 85. The locations at which these profiles were taken are shown in Figure 66. Long channel depth-averaged salinity profiles are shown in Figure 67.

Table 84 Hearns Lake - 23 August 2005

Station No.	MGA (m) Zone 56		Chainage (km)	Salinity (psu)
	Easting	Northing		
1	519371	6666469	0.16	23.65
2	519233	6666498	0.30	23.54
3	519110	6666466	0.48	23.55
4	519024	6666111	0.87	23.56
5	518743	6666128	1.17	23.25
6	518609	6666076	1.32	23.14
7	518358	6666088	1.57	22.95
8	519091	6665934	1.04	23.97
9	518956	6665702	1.35	24.53

Table 85 Hearns Lake - Water Quality Maxima and Minima - 23 August 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1310	1.0	1016.6	1016.6	1016.6	18.16	18.18	18.17	23.65	23.66	23.65	94.45	94.84	94.60	7.16	7.17	7.16	2.52	5.94	3.22	0.00	0.00	0.00	1229.5	4028.2	2267.9	ar050823007
2	1315	2.0	1016.5	1016.7	1016.6	17.38	17.86	17.68	23.51	23.60	23.54	85.36	87.06	86.49	7.04	7.05	7.05	4.48	4.97	4.52	0.00	0.00	0.00	209.2	3389.3	326.4	ar050823008
3	1320	1.1	1016.5	1016.5	1016.5	18.22	18.26	18.24	23.53	23.55	23.55	87.94	88.23	88.03	7.14	7.14	7.14	4.48	5.94	5.27	0.00	0.00	0.00	748.7	3882.9	1961.1	ar050823009
4	1326	0.9	1016.4	1016.5	1016.5	18.23	18.41	18.33	23.48	23.63	23.56	89.31	90.96	90.08	7.10	7.10	7.10	4.48	5.46	4.95	0.00	0.00	0.00	982.6	4240.8	2468.3	ar050823010
5	1332	1.0	1016.0	1016.1	1016.0	19.14	19.26	19.19	23.18	23.32	23.25	82.55	83.87	83.11	6.93	6.97	6.95	3.99	5.94	5.30	0.09	0.51	0.27	743.2	3911.5	1924.4	ar050823011
6	1337	0.9	1015.9	1016.1	1016.0	18.72	19.08	18.95	23.07	23.19	23.14	75.57	77.23	76.70	6.87	6.89	6.88	5.94	6.92	6.11	0.84	1.32	1.03	186.0	678.0	396.1	ar050823012
7	1345	1.2	1015.9	1015.9	1015.9	18.56	18.71	18.62	22.94	22.96	22.95	68.86	69.69	69.26	6.71	6.72	6.72	0.00	7.90	7.40	1.60	3.01	2.34	160.6	3376.9	642.6	ar050823013
8	1358	0.6	1016.8	1016.8	1016.8	18.27	18.35	18.29	23.93	23.99	23.97	85.47	87.47	86.76	7.08	7.09	7.08	3.50	3.99	3.61	0.00	0.18	0.03	201.7	607.2	373.8	ar050823014
9	1406	0.2	1016.9	1017.0	1016.9	19.41	19.47	19.44	24.51	24.56	24.53	85.54	88.21	87.25	7.05	7.06	7.06	3.01	19.62	5.74	0.00	0.00	0.00	1180.8	2426.1	1571.6	ar050823015



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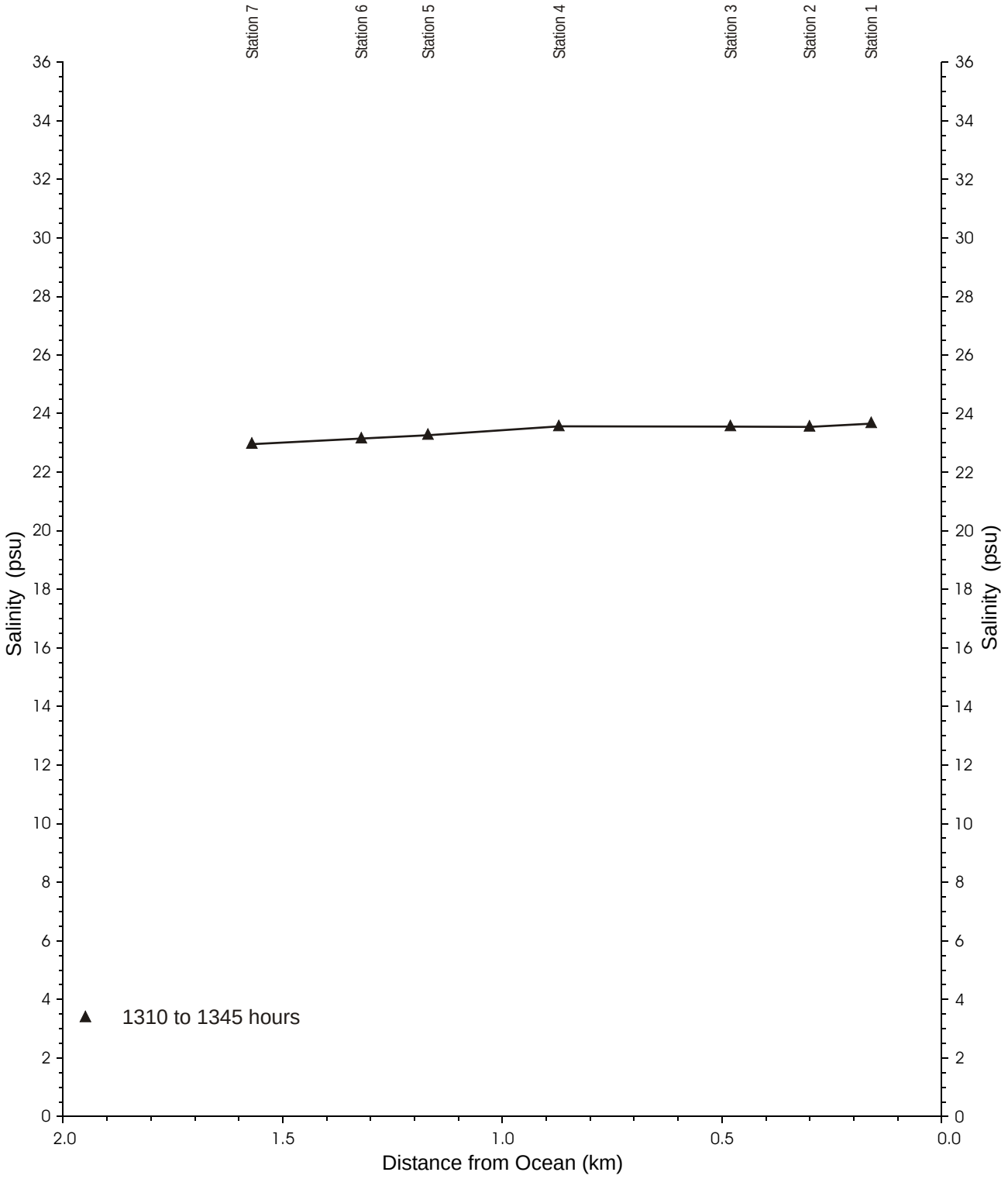
HEARNS LAKE

23 AUGUST 2005

MHL Report 1812

Figure 66

DRAWING 1812-066.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
HEARNS LAKE
23 AUGUST 2005

MHL Report 1812

Figure 67

DRAWING 1812-067.CDR

Moonee Creek Data Summary

Data was collected in Moonee Creek on 4 November 2002 as detailed in report MHL1225. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 86. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 87a-b. The locations at which these profiles were taken are shown in Figure 68. Long channel depth-averaged salinity profiles are shown in Figure 69.

Table 86 Moonee Creek - 4 November 2002

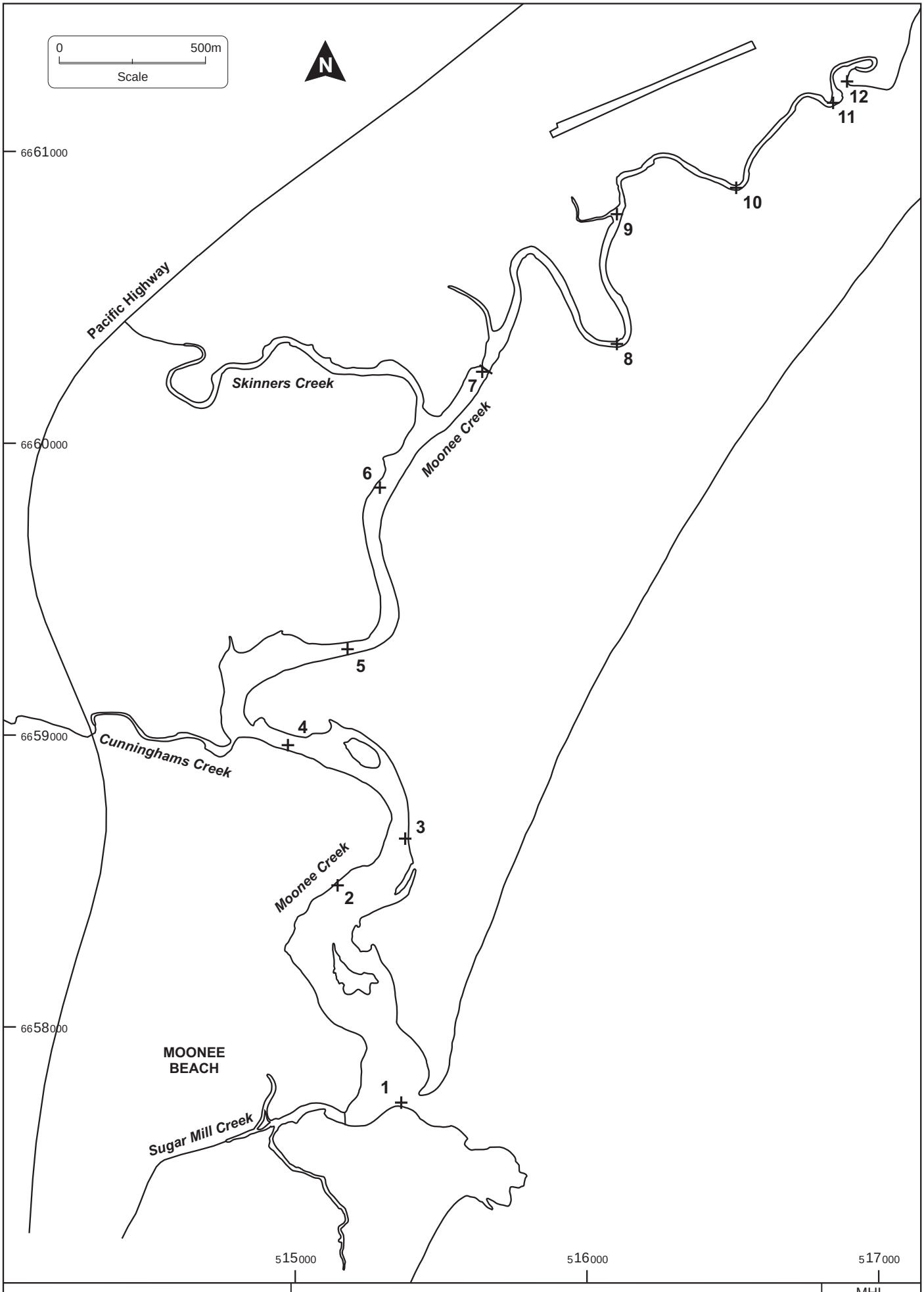
Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	515355	6657747	0.32	35.51	35.71
2	515129	6658483	1.31	35.51	35.75
3	515386	6658647	1.64	35.51	35.78
4	514988	6658962	2.21	35.52	35.83
5	515184	6659286	2.98	35.54	35.88
6	515304	6659849	3.64	35.62	35.83
7	515648	6660250	4.17	35.81	35.50
8	516109	6660336	5.11	35.79	34.95
9	516105	6660784	5.61	35.26	34.29
10	516520	6660875	6.20	34.46	33.78
11	516841	6661161	6.70	33.59	33.58
12	516887	6661253	7.10	32.83	-

Table 87a Moonee Creek - Water Quality Maxima and Minima - High Water - 4 November 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0744	1.6	1025.5	1025.5	1025.5	18.73	18.84	18.77	35.51	35.52	35.51	75.69	128.65	102.56	7.85	7.86	7.85	0.55	1.04	0.72	0.68	1.36	0.95	75.9	227.7	86.6	MC1104001
2	0813	1.4	1025.5	1025.5	1025.5	18.76	18.79	18.78	35.50	35.51	35.51	99.66	99.91	99.76	7.86	7.87	7.86	0.55	1.52	1.05	0.04	0.32	0.19	303.2	886.5	362.4	MC1104002
3	0831	1.8	1025.4	1025.5	1025.5	18.78	19.00	18.84	35.47	35.55	35.51	97.22	98.23	97.74	7.85	7.87	7.86	0.55	1.52	0.89	0.00	0.00	0.00	405.4	1643.5	575.1	MC1104003
4	0841	1.7	1025.4	1025.4	1025.4	19.00	19.02	19.01	35.51	35.53	35.52	96.69	96.98	96.84	7.86	7.86	7.86	1.04	2.01	1.47	0.00	0.00	0.00	469.5	1974.9	679.7	MC1104004
5	0846	3.2	1025.3	1025.4	1025.3	19.31	19.44	19.36	35.52	35.56	35.54	93.60	94.58	94.02	7.85	7.85	7.85	1.52	3.48	2.15	0.00	0.00	0.00	454.3	2708.8	822.1	MC1104005
6	0852	1.4	1025.0	1025.2	1025.1	20.17	20.79	20.49	35.58	35.77	35.62	83.60	86.50	85.23	7.79	7.80	7.79	3.48	3.97	3.65	0.48	0.82	0.61	441.1	1686.3	695.2	MC1104006
7	0858	1.2	1024.6	1024.7	1024.7	22.48	22.70	22.60	35.80	35.84	35.81	68.04	68.59	68.32	7.68	7.69	7.69	4.46	5.43	4.93	1.56	2.32	2.12	313.4	1142.4	464.7	MC1104007
8	0906	2.4	1024.2	1024.2	1024.2	24.04	24.12	24.08	35.78	35.80	35.79	58.60	59.05	58.88	7.49	7.50	7.49	4.46	6.41	4.87	2.04	2.85	2.55	178.7	1408.5	371.5	MC1104008
9	0911	1.5	1023.7	1023.7	1023.7	24.41	24.46	24.43	35.22	35.29	35.26	51.86	52.17	52.03	7.28	7.29	7.28	4.94	6.41	5.36	1.95	2.70	2.26	271.6	1584.2	557.6	MC1104009
10	0917	2.1	1023.0	1023.2	1023.1	24.40	24.50	24.44	34.40	34.52	34.46	44.54	45.11	44.80	7.11	7.12	7.12	3.97	5.92	4.73	1.48	2.53	1.87	186.0	2904.7	659.5	MC1104010
11	0924	2.2	1022.4	1022.6	1022.5	24.18	24.29	24.21	33.44	33.69	33.59	40.45	41.72	41.17	6.99	7.00	7.00	4.46	6.90	5.23	2.02	2.96	2.48	106.4	2205.1	321.9	MC1104011
12	0934	0.9	1022.0	1022.1	1022.0	23.87	23.95	23.90	32.76	32.90	32.83	38.47	39.92	38.90	6.91	6.92	6.91	3.48	3.97	3.62	3.02	3.40	3.17	832.9	2841.3	1408.4	MC1104012

Table 87b Moonee Creek - Water Quality Maxima and Minima - Low Water - 4 November 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1604	0.9	1024.3	1024.3	1024.3	23.47	23.50	23.48	35.69	35.71	35.71	103.28	103.56	103.38	7.86	7.86	7.86	3.48	3.97	3.58	1.22	1.35	1.27	494.3	1555.4	605.3	MC1104013
2	1645	1.0	1024.4	1024.4	1024.4	23.43	23.45	23.44	35.75	35.76	35.75	99.66	99.89	99.74	7.83	7.84	7.84	3.48	3.97	3.81	3.22	3.45	3.31	258.9	1101.1	501.4	MC1104014
3	1651	1.4	1024.3	1024.3	1024.3	23.64	23.64	23.64	35.78	35.78	35.78	96.63	96.81	96.71	7.81	7.81	7.81	3.97	4.94	4.43	3.98	4.42	4.15	146.0	751.5	262.0	MC1104015
4	1715	1.3	1024.2	1024.3	1024.2	23.84	24.22	24.09	35.78	35.85	35.83	91.85	94.27	93.57	7.77	7.78	7.78	4.94	5.92	5.20	4.90	5.68	5.19	44.4	212.3	87.2	MC1104016
5	1726	2.8	1024.0	1024.7	1024.2	22.76	25.02	24.40	35.81	36.04	35.88	71.04	86.40	81.24	7.67	7.69	7.68	4.94	6.90	5.98	4.76	7.45	6.13	7.7	226.0	36.6	MC1104017
6	1732	1.1	1023.7	1023.8	1023.7	25.68	25.75	25.73	35.81	35.86	35.83	71.77	77.52	76.16	7.55	7.55	7.55	6.90	8.36	7.42	4.75	6.41	5.94	56.6	266.6	103.0	MC1104018
7	1741	0.7	1023.5	1023.5	1023.5	25.65	25.68	25.67	35.48	35.51	35.50	65.10	66.00	65.68	7.39	7.40	7.40	5.92	7.38	6.60	4.59	5.51	5.27	42.8	85.1	55.8	MC1104019
8	1749	1.8	1023.0	1023.8	1023.2	24.78	25.52	25.29	34.70	35.45	34.95	53.04	57.30	55.65	7.21	7.22	7.21	5.43	6.90	6.14	2.58	4.45	2.95	9.1	94.3	26.2	MC1104020
9	1758	0.7	1022.5	1022.8	1022.6	25.61	25.66	25.63	34.19	34.48	34.29	52.11	54.28	53.86	7.12	7.13	7.13	4.94	5.92	5.07	2.34	2.53	2.43	22.0	72.1	46.2	MC1104021
10	1807	1.5	1022.2	1022.8	1022.4	24.79	25.12	25.00	33.50	34.25	33.78	46.73	54.48	51.76	7.05	7.05	7.05	4.46	5.43	4.89	2.26	2.45	2.32	3.0	7.9	5.0	MC1104022
11	1816	1.8	1021.9	1022.5	1022.4	24.44	24.80	24.56	32.95	33.72	33.58	39.25	50.19	44.18	6.97	7.00	6.98	3.97	5.92	4.81	3.24	4.06	3.65	0.8	8.4	2.3	MC1104023



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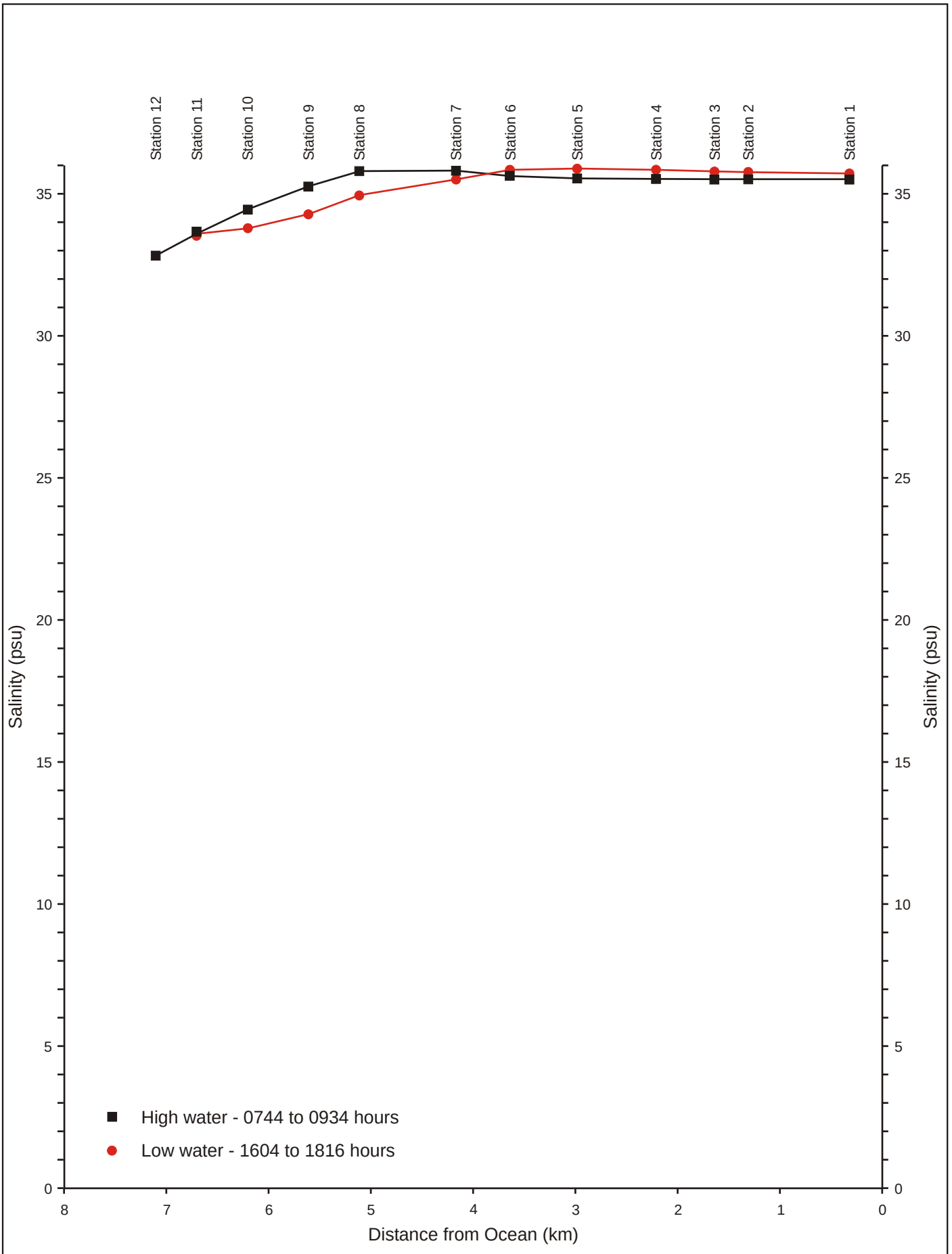
MOONEE CREEK

4 NOVEMBER 2002

MHL
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Figure
68

DRAWING 1812-068.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MOONEE CREEK - HIGH AND LOW WATER
4 NOVEMBER 2002

MHL Report 1812

Figure 69

DRAWING 1812-069.CDR

Boambee Creek Data Summary

Data was collected in Boambee Creek on 4 May 2005, as detailed in report MHL1399. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 88. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 89a-b. The locations at which these profiles were taken are shown in Figure 70. Long channel depth-averaged salinity profiles are shown in Figures 71 and 72.

Table 88 Boambee Creek - 4 May 2005

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	509914	6641973	0.71	35.55	32.53
2	509457	6642811	1.81	35.53	31.06
3	509357	6643599	2.85	35.44	29.02
4	508880	6644219	3.98	34.40	32.90
5	508218	6644433	4.99	30.78	29.00
6	507692	6643747	5.89	29.80	30.42
7	507306	6643966	6.34	28.84	29.09
8	507626	6643195	6.45	-	29.35
9	507588	6642984	6.66	28.86	-
10	510206	6644080	4.13	35.11	32.99
11	510366	6645020	5.26	31.70	29.51
12	509997	6645689	6.06	29.75	26.48
13	509400	6645947	6.76	29.71	29.42

Note Chainage is distance upstream from Boambee Head. Profiles were not done at Station 8 on the high water run. Debris in the creek prevented access to Station 9 on the low water run

Table 89a Boambee Creek - Water Quality Maxima and Minima - High Water - 4 May 2005

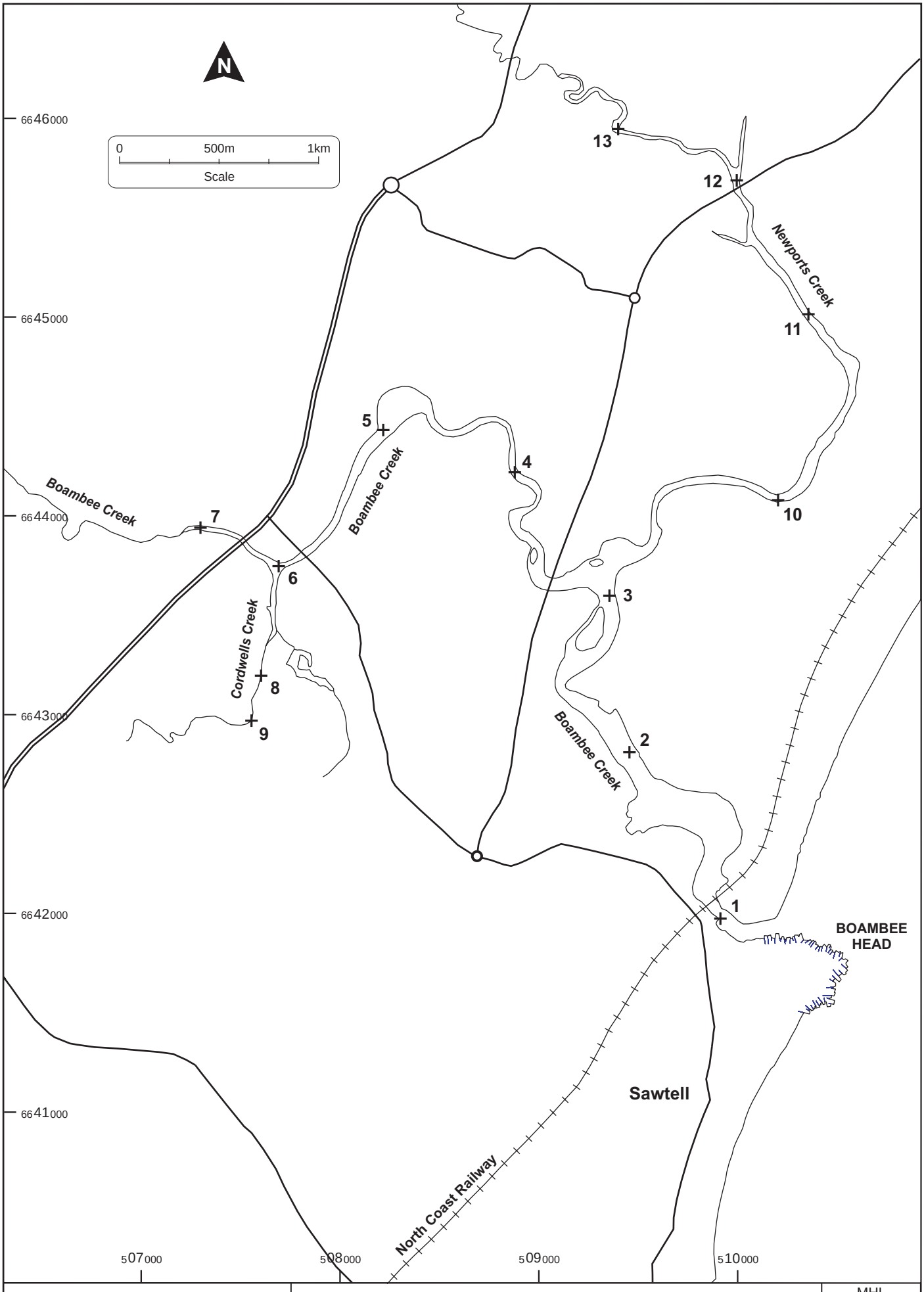
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0533	3.3	1024.8	1024.8	1024.8	21.48	21.51	21.50	35.54	35.55	35.55	99.21	99.92	99.60	7.88	7.89	7.89	1.55	3.01	2.38	0.00	0.00	0.00	0.0	0.1	0.0	BC050510001
2	0551	1.2	1024.8	1024.8	1024.8	21.40	21.41	21.40	35.52	35.53	35.53	95.63	95.85	95.73	7.95	7.95	7.95	2.04	3.01	2.16	0.00	0.00	0.00	0.1	0.1	0.1	BC050510002
3	0559	1.0	1024.8	1024.8	1024.8	21.15	21.17	21.16	35.43	35.45	35.44	90.11	90.32	90.19	7.97	7.97	7.97	2.52	3.50	3.09	0.00	0.00	0.00	0.2	0.5	0.2	BC050510003
4	0606	2.7	1023.9	1024.1	1024.1	20.89	20.94	20.93	34.16	34.50	34.40	78.38	80.31	79.43	7.87	7.91	7.89	3.50	4.97	4.13	0.00	0.07	0.01	0.3	1.7	0.5	BC050510004
5	0614	1.7	1020.8	1021.4	1021.2	21.14	21.50	21.33	30.16	31.01	30.78	57.81	60.82	59.90	7.62	7.65	7.63	4.97	9.36	6.31	1.44	1.62	1.53	1.0	9.1	1.9	BC050510005
6	0622	1.3	1019.1	1020.5	1020.1	22.19	23.33	22.76	28.27	30.51	29.80	44.54	51.38	48.92	7.53	7.54	7.53	5.94	7.90	6.54	3.24	4.25	3.82	4.4	28.2	7.6	BC050510006
7	0629	1.5	1018.4	1019.2	1019.0	23.32	24.19	23.97	27.83	29.19	28.84	29.30	35.80	34.22	7.36	7.40	7.37	5.46	6.43	5.90	4.37	5.11	4.73	1.2	7.6	2.3	BC050510007
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	0639	1.2	1018.9	1019.0	1019.0	23.96	24.05	24.02	28.77	28.92	28.86	25.33	25.74	25.49	7.31	7.32	7.31	5.46	6.43	5.95	3.81	4.11	3.91	1.4	9.6	3.0	BC050510008
10	0657	2.0	1024.5	1024.6	1024.6	20.92	21.12	21.05	34.93	35.20	35.11	85.42	87.11	86.32	7.99	8.02	8.01	3.01	4.48	3.66	0.00	0.27	0.00	21.3	115.0	29.4	BC050510009
11	0704	1.7	1021.4	1022.5	1022.0	20.84	20.98	20.88	30.92	32.27	31.70	64.47	65.74	64.86	7.76	7.79	7.77	5.46	7.41	6.40	0.84	1.31	1.10	15.1	148.1	34.2	BC050510010
12	0710	1.6	1019.9	1020.6	1020.4	21.39	21.56	21.46	29.10	29.99	29.75	58.07	59.08	58.62	7.64	7.65	7.65	6.92	11.32	9.21	2.59	4.53	3.78	21.8	178.7	44.0	BC050510011
13	0715	2.5	1018.3	1020.7	1019.9	21.73	23.58	22.99	27.11	30.96	29.71	7.83	53.03	32.06	7.32	7.54	7.45	4.97	6.92	5.97	1.93	11.05	4.50	4.5	85.4	15.0	BC050510012

Note No profile done at Station 8 on the high water run

Table 89b Boambee Creek - Water Quality Maxima and Minima - Low Water - 4 May 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1330	3.4	1022.1	1022.2	1022.2	22.48	22.57	22.55	32.41	32.57	32.53	86.58	88.02	87.51	7.81	7.82	7.82	3.01	3.99	3.48	0.22	0.57	0.44	249.6	4303.6	524.9	BC050510013
2	1339	0.9	1021.1	1021.1	1021.1	22.40	22.42	22.41	31.06	31.07	31.06	72.33	77.08	75.20	7.76	7.76	7.76	0.00	20.11	4.81	0.00	1.78	1.02	431.5	4787.4	3044.6	BC050510014
3	1345	0.7	1019.5	1019.5	1019.5	22.63	22.64	22.63	28.98	29.05	29.02	75.62	75.80	75.72	7.67	7.68	7.67	4.97	5.94	5.49	1.62	1.76	1.69	1372.7	5114.7	2476.4	BC050510015
4	1400	2.1	1018.7	1024.1	1022.8	21.11	22.86	21.46	28.02	34.50	32.90	64.95	73.32	69.73	7.56	7.85	7.67	4.97	8.87	7.05	0.60	4.80	2.20	62.0	721.7	154.2	BC050510016
5	1407	1.0	1019.4	1019.5	1019.4	22.82	22.99	22.90	28.95	29.03	29.00	62.18	79.65	67.63	7.55	7.57	7.55	6.43	7.90	7.24	0.13	0.47	0.23	266.6	1146.6	557.8	BC050510017
6	1413	0.6	1020.0	1020.1	1020.0	24.42	24.54	24.50	30.35	30.47	30.42	43.51	43.63	43.57	7.37	7.41	7.39	6.43	7.90	6.84	8.43	20.09	12.94	698.2	732.4	711.7	BC050510018
7	1421	1.2	1019.0	1019.2	1019.1	24.10	24.19	24.15	28.96	29.18	29.09	23.84	24.41	24.26	7.17	7.19	7.18	7.41	8.87	7.97	5.11	5.58	5.30	21.8	137.6	51.6	BC050510019
8	1434	0.8	1019.2	1019.3	1019.3	24.13	24.17	24.16	29.22	29.37	29.35	17.64	18.52	18.04	7.08	7.10	7.09	6.43	9.85	7.95	4.59	5.68	4.94	23.0	58.3	28.3	BC050510020
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	1453	1.7	1020.0	1023.9	1022.8	21.34	22.17	21.53	29.56	34.34	32.99	71.38	76.91	73.71	7.63	7.75	7.68	7.90	11.32	9.78	1.52	6.51	3.91	102.2	568.4	167.8	BC050510021
11	1501	1.2	1018.0	1022.6	1020.0	21.61	22.75	22.05	27.03	32.71	29.51	77.77	86.46	83.68	7.63	7.68	7.65	8.38	16.20	11.65	8.26	9.99	9.35	140.7	537.9	210.1	BC050510022
12	1506	0.7	1017.6	1017.8	1017.7	22.10	22.11	22.11	26.31	26.54	26.48	88.53	91.58	90.20	7.63	7.66	7.64	7.41	19.62	11.73	0.26	1.57	0.75	112.9	751.5	491.7	BC050510023
13	1513	1.1	1019.4	1020.1	1019.7	22.79	23.29	22.94	28.97	29.98	29.42	18.90	21.15	20.41	7.20	7.21	7.21	5.94	7.41	6.71	3.53	4.05	3.71	30.0	184.0	52.9	BC050510024

Note Debris in the creek prevented access to Station 9 on the low water run



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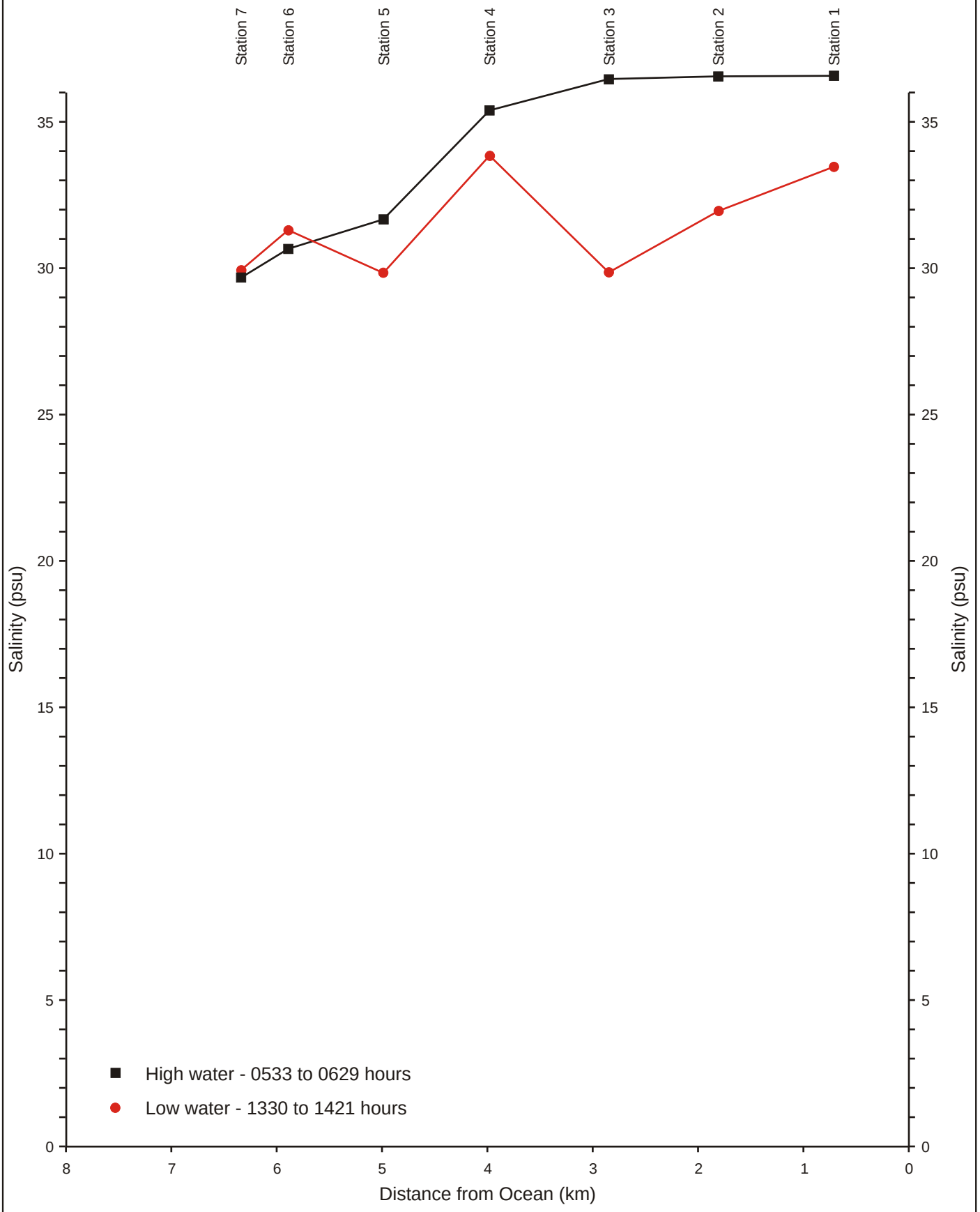
BOAMBEE CREEK

4 MAY 2005

MHL Report 1812

Figure 70

DRAWING 1812-070.CDR



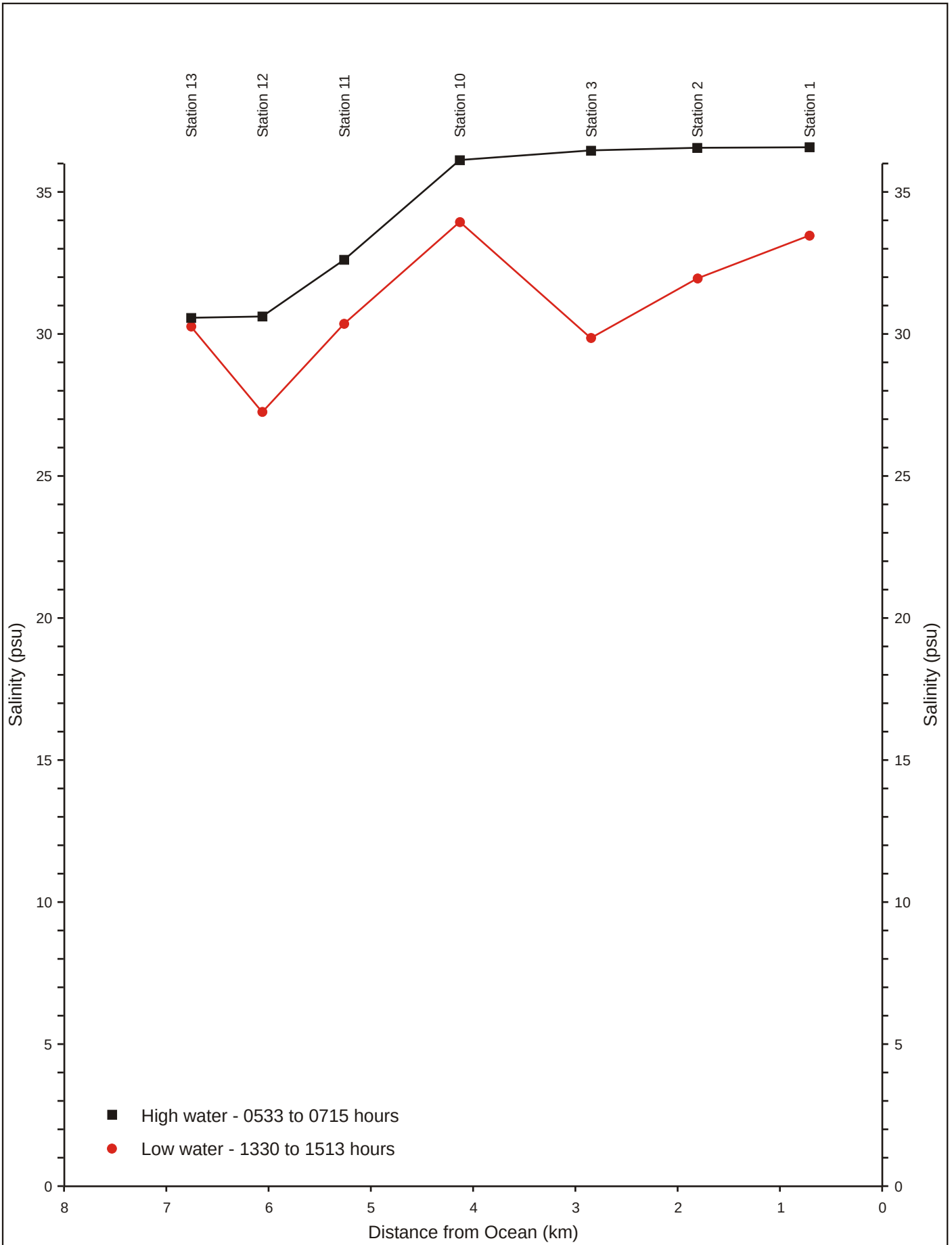
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BOAMBEE CREEK - HIGH AND LOW WATER
4 MAY 2004

MHL Report 1812

Figure 71

DRAWING 1812-071.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
NEWPORTS CREEK - HIGH AND LOW WATER
4 MAY 2004

MHL Report 1812

Figure 72

DRAWING 1812-069.CDR

Bonville Creek Data Summary

Data was collected in Bonville Creek on 21 August 1997, as detailed in report MHL885. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 90. Summaries of the minimum and maximum values for all parameters measured on the high and low water runs are shown in Tables 91a-b. The locations at which these profiles were taken are shown in Figure 73. Long channel depth-averaged salinity profiles are shown in Figures 74 and 75.

Table 90 Bonville Creek - 21 August 1997

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity (psu)	High Water Salinity (psu)
	Easting	Northing			
1	509636	6639696	0.30	34.19	34.76
2	509069	6639186	1.33	32.19	33.66
3	507726	6639513	3.11	30.69	30.90
4	506956	6639359	4.11	31.29	33.09
5	506402	6639488	5.04	32.54	32.55
6	505149	6639865	6.67	31.60	31.18
7	503909	6640412	8.22	31.35	31.08
8	507829	6639049	3.11	33.26	34.81
9	507016	6638757	4.37	32.73	33.23
10	506766	6638535	6.59	30.62	32.29
11	506412	6637334	8.44	28.39	30.18
12	505285	6637438	10.11	24.60	24.78
13	504527	6637568	11.15	12.89	17.98

Table 91a Bonville Creek - Water Quality Maxima and Minima - Low Water - 21 August 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	0723	1.00	16.852	16.938	34.076	34.202	47032	47185	1024.84	1024.94	7.51	7.86	95.6	99.8	8.43	8.45	5	8	BO167001
2	0733	1.60	17.022	17.030	25.219	33.863	35708	46755	1018.03	1024.64	7.30	8.68	88.2	110.4	8.40	8.43	5	25	BO167002
3	0748	1.00	17.534	18.286	30.122	31.553	42012	43843	1021.48	1022.72	8.15	8.29	103.4	105.7	8.23	8.30	4	222	BO167003
4	0755	1.80	18.647	18.925	30.117	32.179	41974	44548	1021.36	1022.97	8.16	8.63	105.9	112.1	8.30	8.38	5	405	BO167004
5	0802	2.00	18.474	19.865	31.128	33.555	43163	46261	1021.87	1024.06	8.01	8.88	106.3	116.0	8.20	8.37	5	36	BO167005
6	0815	1.60	20.919	21.898	29.871	32.616	41460	44920	1020.38	1022.71	7.56	8.11	103.7	110.2	8.13	8.24	5	37	BO167006
7	0826	1.60	22.483	22.522	29.625	31.983	41105	44023	1020.00	1021.80	7.49	7.85	103.6	109.3	7.93	7.95	4	10	BO167007
8	0848	1.60	17.251	17.282	33.219	33.297	45939	46036	1024.09	1024.15	8.39	9.02	106.8	114.9	8.38	8.38	5	6	BO167008
9	0856	4.00	17.326	18.110	31.621	34.652	43950	47640	1022.85	1025.00	8.43	10.62	106.6	138.6	8.29	8.47	5	10	BO167009
10	0906	3.40	17.910	18.716	30.023	31.779	41895	44048	1021.40	1022.65	8.38	10.76	106.2	139.7	8.19	8.31	5	16	BO167010
11	0917	3.00	18.450	19.607	17.760	29.795	25853	41514	1012.03	1021.03	4.32	6.60	51.3	85.9	8.07	8.25	5	11	BO167011
12	0933	1.00	17.759	18.434	23.682	26.402	33827	37318	1016.56	1018.76	6.69	8.36	82.5	102.9	7.47	7.51	4	6	BO167012
13	1001	1.80	14.916	18.118	10.601	18.116	16267	26516	1007.09	1012.37	7.34	9.83	78.4	115.0	6.94	7.11	4	4	BO167013

Table 91b Bonville Creek - Water Quality Maxima and Minima - High Water - 21 August 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1210	1.80	19.083	19.100	30.028	35.331	41841	48389	1021.21	1025.26	6.01	8.89	77.7	118.6	8.49	8.49	5	6	BO167014
2	1219	2.60	19.106	19.134	19.370	35.440	27873	48562	1013.11	1025.33	4.60	8.63	55.9	115.2	8.49	8.50	4	5	BO167015
3	1230	1.40	18.402	18.418	18.583	34.119	26760	46959	1012.67	1024.50	6.26	6.95	81.7	86.9	8.41	8.43	5	8	BO167016
4	1238	2.40	17.892	18.287	32.157	33.526	44561	46271	1023.08	1024.18	5.00	6.30	64.3	81.3	8.31	8.38	5	10	BO167017
5	1246	2.20	18.875	19.249	31.218	33.577	43313	46253	1022.08	1023.97	6.81	8.72	89.1	114.7	8.24	8.39	5	9	BO167018
6	1255	2.20	21.654	22.607	23.323	32.818	32585	45113	1015.23	1022.67	7.35	8.45	100.3	116.5	8.13	8.30	5	12	BO167019
7	1303	2.00	22.350	22.549	30.066	31.990	41663	44036	1020.38	1021.82	7.30	8.63	100.9	120.1	7.90	8.05	5	9	BO167020
8	1320	2.40	19.012	19.080	34.762	34.867	47697	47829	1024.83	1024.93	4.79	5.32	63.7	70.7	8.48	8.48	4	6	BO167021
9	1329	4.00	17.986	18.813	32.366	33.748	44767	46538	1023.06	1024.34	7.94	10.40	103.6	134.7	8.34	8.40	5	114	BO167022
10	1339	4.00	18.475	18.918	30.672	33.915	42655	46706	1021.74	1024.34	7.04	7.61	91.0	99.6	8.22	8.39	5	74	BO167023
11	1349	3.40	19.348	19.747	29.174	31.177	40727	43236	1020.40	1021.97	7.82	9.71	101.9	127.7	8.04	8.25	4	258	BO167024
12	1404	1.80	19.057	19.574	23.622	26.108	33700	36862	1016.33	1018.11	8.30	8.87	103.5	113.1	7.55	7.74	5	6	BO167025
13	1420	1.80	17.076	17.998	16.640	19.715	24571	28644	1011.44	1013.61	9.05	9.57	104.0	114.0	7.12	7.20	4	19	BO167026

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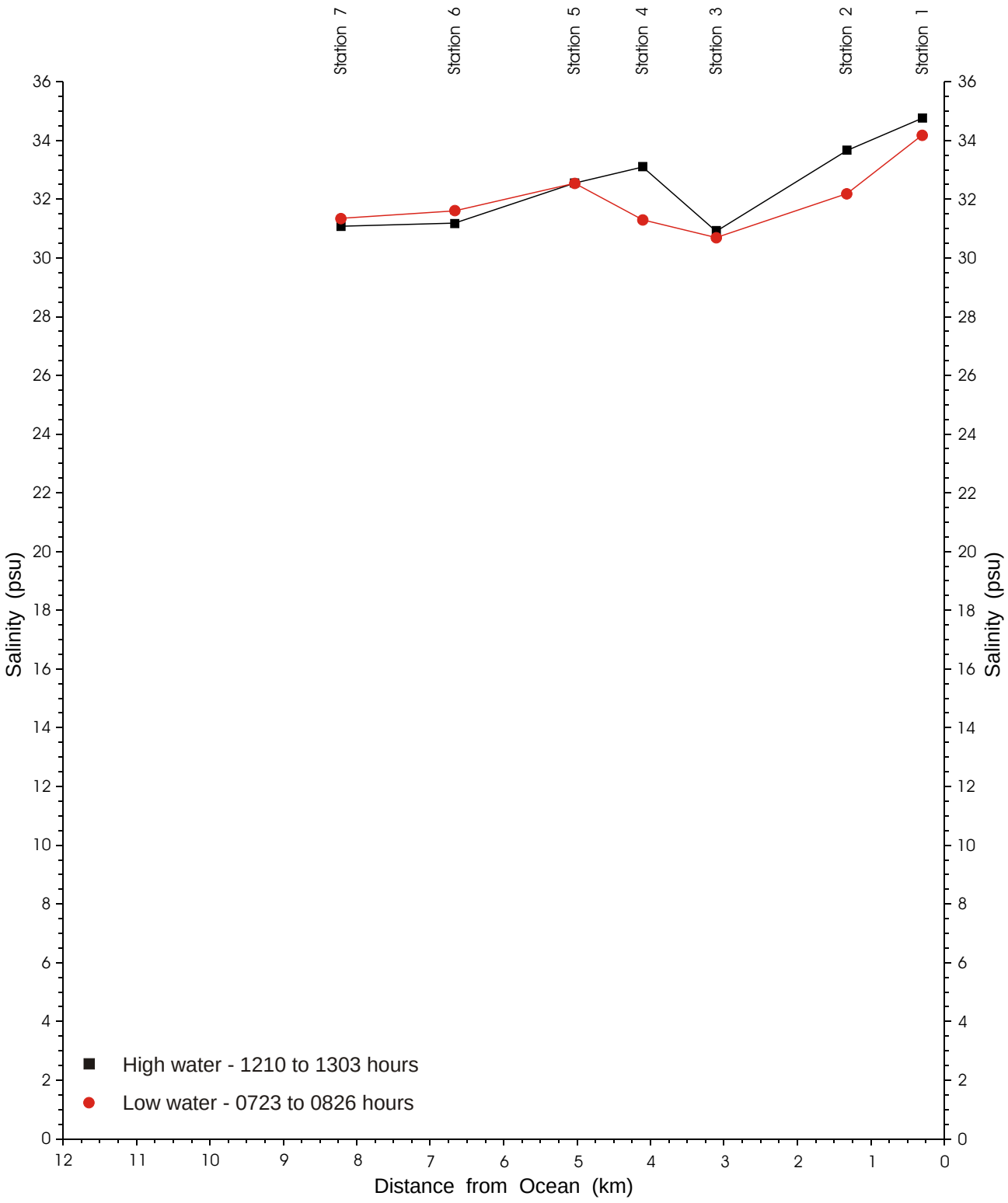
BONVILLE CREEK AND PINE CREEK

21 AUGUST 1997

MHL Report 1812

Figure 73

DRAWING 1812-073.CDR



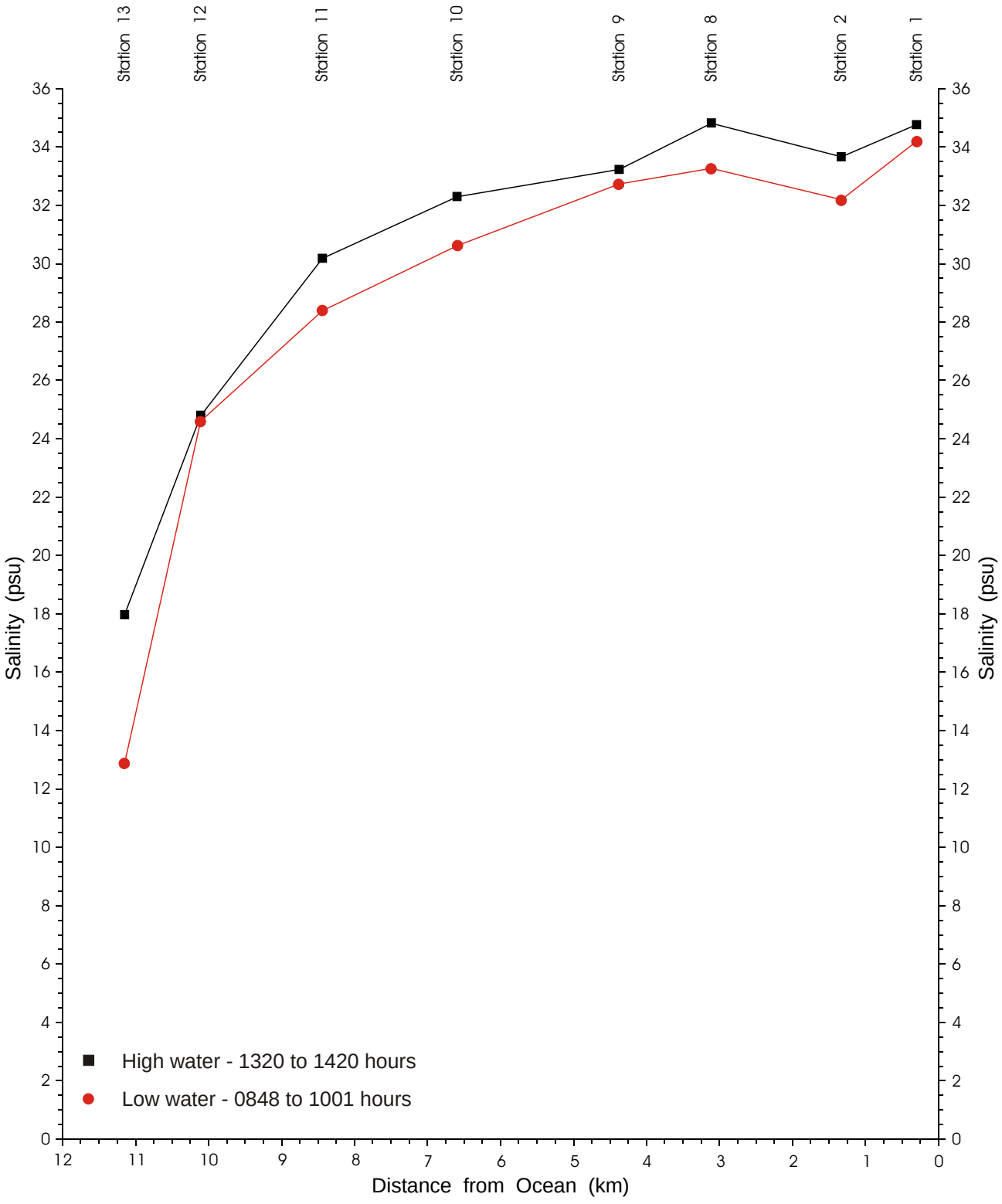
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BONVILLE CREEK - HIGH AND LOW WATER
21 AUGUST 1997

MHL Report 1812

Figure 74

DRAWING 1812-074.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
PINE CREEK - HIGH AND LOW WATER
21 AUGUST 1997

MHL Report 1812

Figure 75

DRAWING 1812-075.CDR

Bellinger River Data Summary

Data was collected in the Bellinger River estuary on 19 and 20 September 2001 as detailed in report MHL1155. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 92 and 93. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 94a to 95b. The locations at which these profiles were taken are shown in Figure 76. Long channel depth-averaged salinity profiles are shown in Figures 77 and 78.

Table 92 Bellinger River - 20 September 2001

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity (psu)	High Water Salinity (psu)
	Easting	Northing			
BR1	502570	6625845	0.68	33.36	35.46
BR2	503385	6628490	3.53	31.99	35.49
BR3	502705	6631250	7.05	26.64	32.24
BR4	500795	6630800	10.75	20.43	25.38
BR5	498610	6630440	13.30	18.34	20.35
BR6	496110	6629615	16.43	10.88	15.14
BR7	494270	6629280	18.90	7.75	9.82
BR7a	493405	6629470	19.90	1.31	-
BR8	492600	6629815	20.78	-	4.11
BR9	491770	6631210	22.43	-	0.88
BR10	490675	6631385	23.73	-	0.07

Note Profiles stopped at Station 7a on low water run. Station 7a not done on high water run

Table 93 Kalang River - 19 September 2001

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity (psu)	High Water Salinity (psu)
	Easting	Northing			
KR1	502570	6625845	0.68	34.60	35.52
KR2	501300	6626775	2.98	32.65	35.53
KR3	500245	6625320	5.70	28.69	35.35
KR4	499245	6624135	7.75	25.80	31.20
KR5	497975	6625195	10.93	23.65	26.31
KR6	495660	6625650	13.30	21.56	24.13
KR7	495275	6624000	15.80	17.54	20.97
KR8	492650	6623670	18.55	-	14.87
KR9	491945	6624415	19.98	-	11.26
KR10	490355	6624600	21.85	-	4.85

Note Profiles stopped at Station 7 on low water run

Table 94a Bellinger River - Water Quality Maxima and Minima - Low Water - 20 September 2001

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
BR1	0547	5.9	1023.1	1024.5	1023.6	19.51	19.75	19.68	32.72	34.52	33.36	88.67	89.63	89.04	8.16	8.23	8.20	2.01	3.48	2.36	0.69	1.40	1.08	3.3	23.7	10.2	BE020718
BR2	0600	1.5	1020.2	1023.4	1022.5	19.62	20.30	19.73	29.07	33.07	31.99	81.22	86.72	82.15	8.06	8.09	8.08	1.52	3.48	2.15	1.02	1.88	1.53	28.8	37.8	32.0	BE020719
BR3	0616	3.6	1015.2	1022.8	1018.2	20.39	20.79	20.64	22.58	32.54	26.64	33.77	85.60	84.35	7.84	8.10	7.93	1.52	2.99	2.10	0.70	2.41	1.88	22.2	74.2	32.6	BE020720
BR4	0633	3.8	1009.4	1016.4	1013.5	20.18	21.14	20.92	14.86	24.40	20.43	81.43	83.88	83.16	7.49	7.79	7.60	1.52	2.99	2.43	1.44	2.84	2.08	19.5	305.5	44.2	BE020721
BR5	0645	8.8	1007.4	1013.9	1011.9	20.04	21.21	21.12	12.13	21.00	18.34	79.60	83.85	81.44	7.32	7.70	7.53	2.01	4.94	2.87	1.80	3.17	2.37	2.9	614.0	92.6	BE020722
BR6	0700	1.8	1004.4	1008.2	1006.3	20.36	21.18	20.83	8.23	13.54	10.88	78.61	81.24	80.23	7.12	7.22	7.17	3.48	4.94	4.14	3.46	11.12	6.02	79.0	89.5	81.4	BE020723
BR7	0716	4.3	1000.7	1005.6	1003.9	19.88	21.18	20.79	3.31	10.07	7.75	77.79	81.79	80.25	6.99	7.25	7.06	3.48	6.41	4.69	2.54	7.67	4.08	6.1	123.3	31.5	BE020724
BR7A	0729	1.2	999.3	999.3	999.3	19.55	19.59	19.57	1.29	1.33	1.31	80.50	81.37	80.81	7.17	7.18	7.17	3.97	7.38	4.84	0.71	1.25	0.96	428.3	1142.0	715.4	BE020725

Note Station 7a was the upstream limit on the low tide run

Table 94b Bellinger River - Water Quality Maxima and Minima - High Water - 20 September 2001

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
BR1	1123	6.4	1025.2	1025.3	1025.3	19.50	19.66	19.54	35.39	35.50	35.46	87.63	92.31	90.57	8.17	8.19	8.18	0.55	1.52	0.79	0.00	0.00	0.00	651.1	2831.0	1015.9	BE020726
BR2	1136	2.5	1025.3	1025.3	1025.3	19.52	19.55	19.53	35.48	35.49	35.49	86.36	87.51	87.12	8.15	8.16	8.15	1.04	2.01	1.37	0.00	0.00	0.00	415.9	4416.0	1440.8	BE020727
BR3	1150	4.2	1021.0	1023.6	1022.6	20.13	20.84	20.40	30.35	33.56	32.24	89.23	93.16	91.28	8.06	8.14	8.10	1.52	2.50	1.83	0.43	1.10	0.85	326.4	1555.0	652.8	BE020728
BR4	1203	4.8	1016.7	1017.4	1017.2	20.91	21.23	21.02	24.81	25.59	25.38	85.41	87.42	86.53	7.91	7.94	7.92	1.04	4.94	1.86	0.96	2.37	1.81	353.8	4272.0	1137.8	BE020729
BR5	1213	9.9	1012.6	1013.8	1013.4	21.04	21.18	21.10	19.40	20.84	20.35	83.94	85.77	85.23	7.68	7.75	7.72	2.01	6.41	2.56	1.47	3.31	2.31	14.3	2012.0	436.9	BE020730
BR6	1226	3.4	1008.1	1009.9	1009.4	21.15	21.27	21.19	13.41	15.77	15.14	81.55	83.73	83.26	7.38	7.44	7.41	2.99	4.46	3.42	1.44	4.86	3.67	367.1	2650.0	902.4	BE020731
BR7	1238	7.1	1004.6	1005.8	1005.4	21.21	21.49	21.31	8.86	10.32	9.82	82.56	85.44	84.13	7.23	7.28	7.24	3.97	7.87	4.66	2.05	6.36	4.21	5.1	794.0	246.7	BE020732
BR8	1249	2.8	1000.4	1001.6	1001.1	20.83	21.04	20.90	3.23	4.65	4.11	84.42	87.05	85.70	7.07	7.19	7.10	4.94	8.36	5.97	0.80	5.25	3.78	237.9	3490.0	1001.6	BE020733
BR9	1301	3.0	998.2	999.6	998.8	19.48	21.28	20.61	0.15	2.10	0.88	78.72	90.18	83.71	6.95	7.56	7.31	2.99	6.41	4.10	1.35	13.80	4.38	227.7	2905.0	984.8	BE020734
BR10	1314	1.8	997.9	998.0	998.0	21.36	21.54	21.46	0.05	0.14	0.07	68.41	75.11	70.08	7.57	7.68	7.60	550.49	551.95	551.35	11.90	11.91	11.91	19.1	125.1	39.1	BE020735

Table 95a Kalang River - Water Quality Maxima and Minima - Low Water - 19 September 2001

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
KR1	1632	5.9	1023.8	1024.5	1024.2	20.85	21.10	20.94	34.08	34.95	34.60	95.22	97.25	96.33	8.25	8.27	8.26	2.99	4.94	3.65	0.80	1.74	1.22	22.8	148.7	84.6	BE020711
KR2	1654	2.3	1022.6	1022.8	1022.7	21.03	21.05	21.04	32.49	32.83	32.65	90.63	91.72	91.25	8.15	8.15	8.15	4.46	5.43	4.95	3.48	3.88	3.77	20.3	44.7	29.3	BE020712
KR3	1714	4.0	1019.3	1022.1	1019.7	20.85	21.24	21.20	28.23	31.73	28.69	81.83	84.25	83.17	7.90	7.94	7.91	5.43	7.38	6.27	3.53	4.18	3.95	3.0	55.1	15.7	BE020713
KR4	1728	3.4	1017.4	1017.8	1017.5	21.17	21.19	21.18	25.72	26.29	25.80	81.24	82.25	81.98	7.75	7.75	7.75	4.94	6.41	5.62	4.51	5.21	4.93	1.9	15.4	6.3	BE020714
KR5	1738	3.4	1015.1	1016.9	1015.9	20.65	21.46	21.01	22.76	24.84	23.65	73.19	78.65	75.33	7.54	7.58	7.56	4.94	8.36	6.45	3.59	4.53	4.12	0.7	9.1	3.1	BE020715
KR6	1747	3.3	1013.6	1015.4	1014.3	20.83	21.35	21.19	20.68	22.98	21.56	73.33	76.77	74.43	7.41	7.43	7.42	3.48	6.90	5.27	2.78	3.83	3.12	0.4	1.8	0.9	BE020716
KR7	1759	4.3	1010.1	1012.9	1011.2	21.05	21.19	21.08	15.96	19.65	17.54	75.24	80.52	78.55	7.32	7.36	7.34	2.99	4.46	3.55	1.93	2.62	2.40	0.1	0.2	0.2	BE020717

Note Station 7 was the upstream limit on the low tide run

Table 95b Kalang River - Water Quality Maxima and Minima - High Water - 19 September 2001

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
KR1	1053	7.1	1025.2	1025.3	1025.2	19.71	19.85	19.74	35.50	35.54	35.52	80.25	99.54	92.51	8.37	8.39	8.38	0.00	4.94	1.63	0.00	0.00	0.00	711.2	4930.0	1447.2	BE020701
KR2	1112	3.3	1025.2	1025.2	1025.2	19.87	19.92	19.89	35.52	35.54	35.53	90.00	92.46	91.53	8.38	8.39	8.39	1.04	2.01	1.64	0.00	0.00	0.00	459.3	5096.0	1340.6	BE020702
KR3	1129	4.9	1024.9	1025.1	1025.0	19.87	20.33	19.96	35.26	35.38	35.35	90.28	94.90	92.70	8.37	8.39	8.38	2.01	3.48	2.71	0.00	0.00	0.00	457.6	4967.0	1340.6	BE020703
KR4	1140	3.9	1021.2	1022.5	1021.6	20.52	21.10	20.90	30.73	32.15	31.20	73.87	81.02	79.48	8.09	8.14	8.11	4.46	6.90	5.36	0.00	1.97	0.80	143.8	2536.0	640.7	BE020704
KR5	1152	4.3	1017.7	1018.1	1018.0	20.58	21.17	20.73	26.07	26.47	26.31	75.47	77.53	76.02	7.81	7.83	7.82	5.92	9.83	7.15	0.97	3.28	2.25	60.7	4319.0	570.4	BE020705
KR6	1201	5.4	1015.8	1016.5	1016.4	20.50	21.00	20.56	23.52	24.29	24.13	71.62	73.17	72.02	7.62	7.66	7.65	3.97	7.38	5.84	1.92	3.15	2.35	15.1	306.6	89.9	BE020706
KR7	1212	7.8	1013.6	1014.4	1013.9	20.68	20.89	20.76	20.66	21.58	20.97	68.39	70.66	69.44	7.48	7.50	7.49	2.99	3.97	3.47	0.00	2.15	1.61	19.1	4547.0	519.6	BE020707
KR8	1224	3.5	1008.8	1009.8	1009.3	20.45	20.95	20.66	14.22	15.48	14.87	74.90	76.68	75.66	7.30	7.33	7.31	2.99	4.46	3.41	0.60	2.01	1.46	164.8	1118.0	212.4	BE020708
KR9	1233	2.2	1006.0	1007.5	1006.7	20.18	20.34	20.23	10.35	12.25	11.26	75.93	77.13	76.47	7.12	7.17	7.14	3.97	5.43	4.69	0.87	2.18	1.52	71.3	320.4	164.5	BE020709
KR10	1243	2.0	1001.7	1002.7	1002.1	18.98	19.16	19.07	4.28	5.64	4.85	69.04	70.52	69.83	6.91	7.03	6.97	3.48	4.46	3.72	0.00	1.36	0.24	146.5	247.8	167.5	BE020710

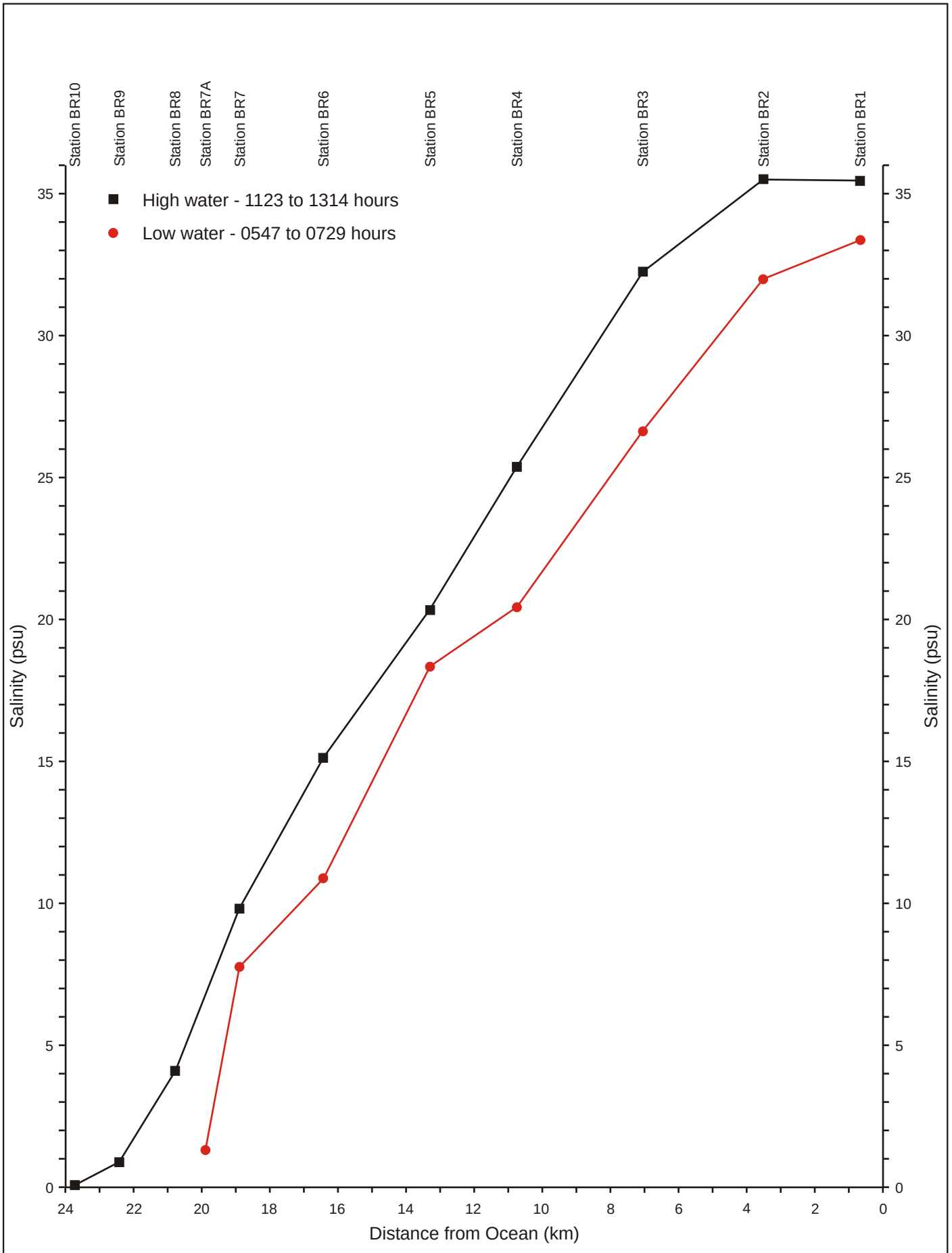
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BELLINGER RIVER AND KALANG RIVER
19 AND 20 SEPTEMBER 2001

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Figure 76

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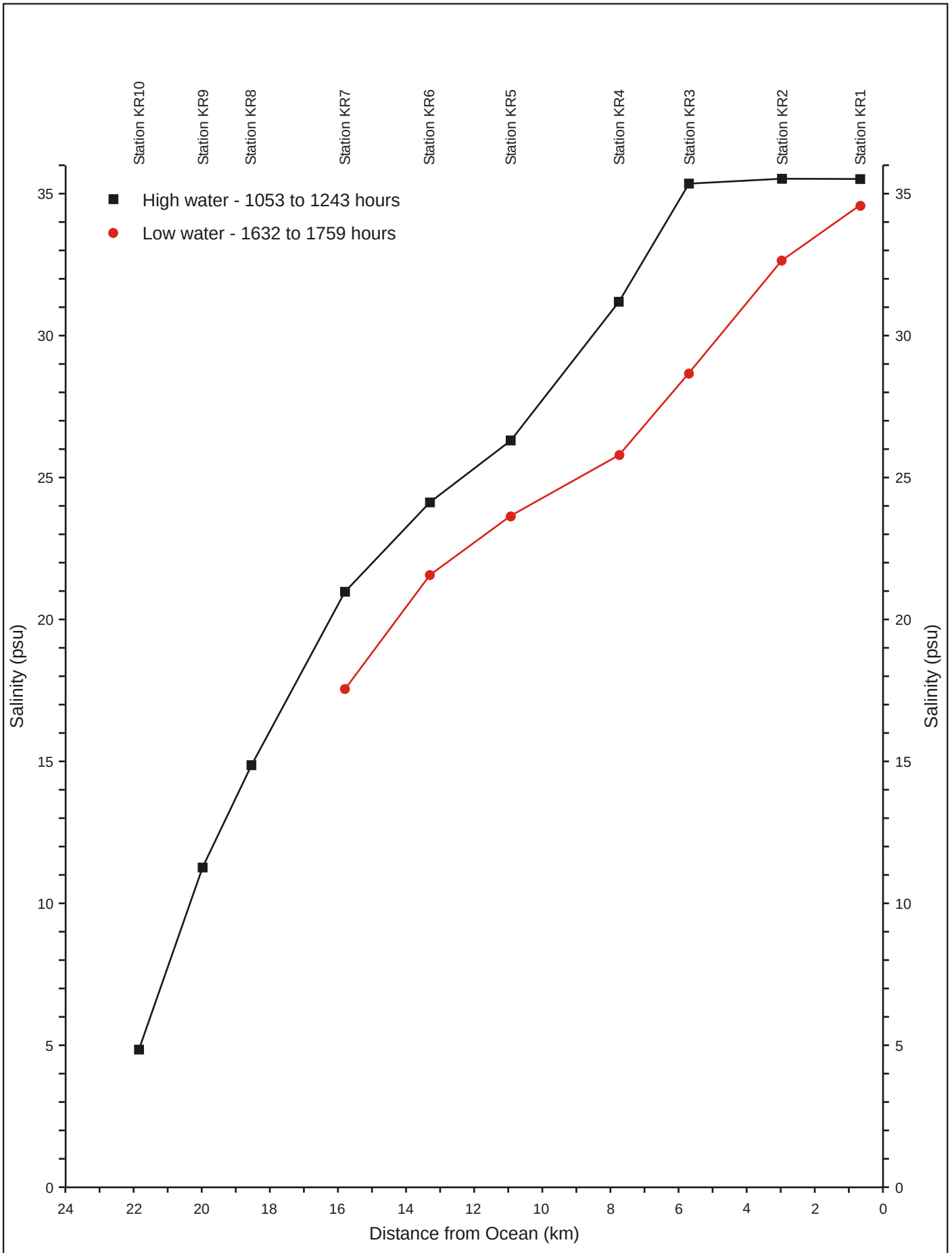
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BELLINGER RIVER - HIGH AND LOW WATER
20 SEPTEMBER 2001

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Figure 77

DRAWING 1812-077.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
KALANG RIVER - HIGH AND LOW WATER
20 SEPTEMBER 2001

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Figure 78

DRAWING 1812-078.CDR

Data was also collected in the Bellinger River estuary on 21and 22 January 2003. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 96 and 97. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 98a to 99b. The locations at which these profiles were taken are shown in Figure 79. Long channel depth-averaged salinity profiles are shown in Figures 80 and 81.

Table 96 Bellinger River - 21 January 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	500760	6630750	10.84	28.76	24.55
2	498873	6630193	12.96	26.33	22.42
3	497306	6630056	14.96	22.52	19.71
4	495604	6629931	16.96	19.78	17.09
5	494832	6629948	17.89	-	13.93
6	494153	6629231	18.91	17.40	15.26
7	493743	6629590	19.51	-	8.75
8	492470	6629961	20.89	12.39	-
9	491378	6631197	22.89	6.97	-
10	490568	6631242	23.84	0.32	-
11	490218	6631306	24.21	0.04	-

Note No profile at Stations 5 and 7 on high water run
High water profiles terminated at Station 11 on upstream side of shoal at Bellingen bridge
Low water profiles terminated at Station 7 due to shoals

Table 97 Kalang River - 22 January 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	501214	6626656	3.05	35.49	35.18
2	501006	6625935	3.83	35.48	35.23
3	498940	6625163	9.83	34.78	33.68
4	496915	6625131	11.85	34.00	33.26
5	495123	6625349	13.93	33.35	32.38
6	494028	6624117	15.95	32.40	31.16
7	493547	6624260	16.93	-	30.29
8	493439	6624308	17.03	31.66	-
9	492886	6623650	18.08	30.90	-
10	492578	6624354	19.08	30.06	-
11	491624	6624321	20.08	28.54	-
12	490880	6624581	21.03	27.05	-
13	489905	6624855	22.13	25.42	-
14	490084	6625190	22.70	24.25	-

Note Chainage is distance from ocean via south side of Newry Island
No profile at Station 7 on high water run
High water profiles terminated at Station 14 due to log across river
Low water profiles terminated at Station 7 due to shoals

Table 98a Bellinger River - Water Quality Maxima and Minima - High Water - 21 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1203	3.6	1017.8	1018.3	1018.1	26.63	27.24	26.91	28.52	28.96	28.76	87.10	90.06	88.34	7.71	7.72	7.71	6.35	7.33	7.01	BEL001
2	1210	4.6	1015.3	1016.6	1016.1	27.07	27.75	27.38	25.39	26.83	26.33	86.67	90.56	88.60	7.62	7.65	7.64	2.44	10.26	7.69	BEL002
3	1216	2.5	1012.7	1013.6	1013.0	27.70	28.49	28.16	22.21	23.07	22.52	86.14	91.96	89.39	7.54	7.58	7.56	0.00	7.33	6.89	BEL003
4	1222	2.9	1009.2	1012.1	1010.9	27.50	29.12	28.22	17.89	21.07	19.78	76.04	96.65	85.95	7.39	7.50	7.44	6.35	8.30	7.25	BEL004
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	1228	6.4	1008.4	1009.4	1009.1	28.06	29.00	28.29	16.64	17.71	17.40	81.13	90.22	84.60	7.28	7.34	7.31	7.33	15.14	8.05	BEL005
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	1234	2.5	1004.4	1006.4	1005.2	28.34	29.14	28.82	11.44	13.69	12.39	79.31	90.90	87.51	7.13	7.21	7.19	5.86	10.26	7.77	BEL006
9	1241	2.5	1000.0	1001.7	1001.2	28.57	29.43	28.76	5.44	7.54	6.97	65.26	79.74	70.47	6.73	6.89	6.78	7.33	10.26	8.76	BEL007
10	1252	1.3	995.9	996.1	996.0	29.52	29.88	29.69	0.23	0.44	0.32	111.03	114.95	113.01	7.48	7.81	7.67	4.88	9.77	5.65	BEL008
11	1258	2.1	995.8	996.4	995.9	27.40	29.78	29.15	0.04	0.04	0.04	85.28	134.10	120.00	8.76	9.31	9.16	5.86	489.87	103.84	BEL009

Note No profile at Stations 5 and 7
Profiles terminated at Station 11 on upstream side of shoal at Bellingen bridge

Table 98b Bellinger River - Water Quality Maxima and Minima - Low Water - 21 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1925	3.4	1013.3	1017.0	1014.6	27.37	28.23	27.98	22.90	27.58	24.55	87.20	96.56	93.14	7.56	7.63	7.58	7.33	8.30	7.75	BEL010
2	1931	3.6	1011.3	1013.7	1013.0	27.80	28.63	28.08	20.40	23.32	22.42	80.26	93.62	86.65	7.47	7.51	7.48	7.33	7.81	7.43	BEL011
3	1939	1.5	1010.8	1010.8	1010.8	28.32	28.32	28.32	19.70	19.71	19.71	83.58	83.69	83.63	7.34	7.34	7.34	47.86	57.14	52.50	BEL012
4	1949	2.9	1007.1	1011.1	1008.7	27.83	29.18	28.94	15.08	19.87	17.09	72.99	95.34	89.23	7.26	7.34	7.31	7.81	9.77	8.22	BEL013
5	1956	1.1	1006.3	1006.3	1006.3	29.09	29.10	29.09	13.91	13.96	13.93	88.07	88.19	88.11	7.19	7.19	7.19	7.33	7.81	7.65	BEL014
6	2006	4.9	1004.0	1009.3	1007.4	28.11	29.19	28.75	10.81	17.57	15.26	74.62	96.24	86.80	7.15	7.26	7.21	7.33	9.77	8.58	BEL015
7	2015	1.2	1002.4	1002.7	1002.5	28.83	28.88	28.84	8.63	9.02	8.75	84.86	88.60	86.97	7.04	7.05	7.04	8.30	10.26	8.71	BEL016

Note Profiling stopped at Station 7 due to shoals

Table 99a Kalang River - Water Quality Maxima and Minima - High Water - 22 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1202	3.7	1024.1	1024.1	1024.1	23.63	23.70	23.65	35.47	35.49	35.49	102.32	102.93	102.55	8.03	8.04	8.04	4.40	4.88	4.72	KAL001
2	1207	7.4	1024.0	1024.1	1024.1	23.70	23.88	23.80	35.43	35.51	35.48	102.20	106.26	104.81	8.01	8.02	8.02	4.40	5.37	4.98	KAL002
3	1235	3.1	1022.2	1022.4	1022.3	27.71	27.82	27.75	34.70	34.81	34.78	66.60	72.21	70.36	7.46	7.49	7.48	12.21	14.65	13.79	KAL003
4	1243	4.3	1021.6	1021.8	1021.7	27.77	27.92	27.85	33.91	34.07	34.00	66.95	72.08	69.79	7.38	7.40	7.39	12.21	16.12	14.09	KAL004
5	1251	3.3	1020.9	1021.1	1021.1	28.18	28.52	28.31	33.30	33.38	33.35	65.75	71.84	68.80	7.34	7.38	7.36	10.26	15.63	12.13	KAL005
6	1300	2.9	1020.3	1020.4	1020.4	28.16	28.25	28.19	32.37	32.42	32.40	62.79	65.95	64.31	7.27	7.29	7.28	8.79	11.72	9.95	KAL006
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	1306	4.5	1019.8	1019.9	1019.8	28.18	28.21	28.20	31.64	31.71	31.66	64.07	64.77	64.39	7.24	7.25	7.24	7.81	8.30	8.00	KAL007
9	1312	1.9	1019.2	1019.4	1019.3	28.16	28.23	28.19	30.77	31.02	30.90	63.16	65.15	64.22	7.21	7.22	7.22	6.35	7.33	6.67	KAL008
10	1319	1.6	1018.6	1018.7	1018.7	28.05	28.12	28.08	30.05	30.08	30.06	61.48	62.79	62.19	7.16	7.17	7.17	5.86	78.63	10.52	KAL009
11	1325	1.2	1017.6	1017.7	1017.6	27.82	27.86	27.83	28.48	28.65	28.54	63.69	64.85	64.38	7.10	7.12	7.12	5.86	6.84	6.15	KAL010
12	1332	1.6	1016.5	1016.7	1016.6	27.47	27.52	27.50	26.90	27.18	27.05	61.68	62.33	62.12	6.97	6.99	6.97	5.86	6.84	6.35	KAL011
13	1341	2.6	1015.0	1015.9	1015.6	26.59	27.13	26.89	24.56	25.90	25.42	59.06	61.08	60.37	6.72	6.85	6.78	5.86	6.84	6.39	KAL012
14	1350	3.7	1014.6	1015.0	1014.8	26.35	26.43	26.39	23.96	24.52	24.25	52.75	62.35	56.95	6.66	6.68	6.67	6.84	7.81	7.12	KAL013

Note No profile at Station 7
Profiling stopped at Station 14 due to log across river

Table 99b Kalang River - Water Quality Maxima and Minima - Low Water - 22 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1901	3.0	1023.1	1023.4	1023.2	25.58	26.07	25.89	35.13	35.26	35.18	95.10	97.87	96.11	7.87	7.91	7.89	6.35	6.84	6.61	KAL014
2	1906	6.9	1023.1	1023.2	1023.1	26.19	26.29	26.24	35.20	35.25	35.23	91.92	92.72	92.31	7.84	7.85	7.85	7.33	8.79	7.81	KAL015
3	1928	1.7	1021.4	1021.5	1021.4	27.90	27.96	27.94	33.59	33.77	33.68	66.92	73.13	70.86	7.34	7.37	7.36	10.26	11.72	10.64	KAL016
4	1940	3.5	1020.9	1021.2	1021.0	28.13	28.29	28.25	33.16	33.45	33.26	61.70	66.74	64.89	7.29	7.30	7.29	9.28	14.65	11.10	KAL017
5	1950	1.6	1020.4	1020.4	1020.4	28.14	28.15	28.14	32.37	32.40	32.38	63.48	64.19	63.92	7.24	7.25	7.25	8.30	8.79	8.47	KAL018
6	2003	1.2	1019.5	1019.5	1019.5	28.02	28.04	28.03	31.15	31.17	31.16	59.20	60.15	59.92	7.17	7.17	7.17	6.35	6.84	6.44	KAL019
7	2021	1.7	1018.9	1018.9	1018.9	27.90	27.92	27.91	30.28	30.29	30.29	60.14	60.73	60.47	7.13	7.14	7.14	5.86	6.35	6.21	KAL020

Note Profiling stopped at Station 7 due to shoals

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BELLINGER RIVER AND KALANG

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Figure 79

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BELLINGER RIVER - HIGH AND LOW WATER
21 JANUARY 2003

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Figure 80

DRAWING 1812-080.CDR

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
KALANG RIVER - HIGH AND LOW WATER
22 JANUARY 2003

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Figure 81

DRAWING 1812-081.CDR

Data was also collected in the Bellinger River estuary on 30 September, 1 October, 13 and 14 December 2008 and 24 and 25 February 2009. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 100 and 101. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 102a to 106b. The locations at which these profiles were taken are shown in Figure 82. Long channel depth-averaged salinity profiles are shown in Figures 83 to 88.

Table 100 Bellinger River - 30 September, 14 December 2008 and 24 February 2009

Station No.	MGA (m) Zone 56		Chainage (km)	30/9/08		14/12/08		24/2/09
	Easting	Northing		High Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)
BR1	502570	6625845	0.68	35.39	31.27	35.36	29.42	33.00
BR2	503385	6628490	3.53	35.30	24.53	35.38	20.04	32.31
BR3	502705	6631250	7.05	23.76	22.85	30.63	21.57	2.98
BR4	500795	6630800	10.75	19.25	15.98	20.17	13.34	0.16
BR5	498610	6630440	13.30	13.27	12.25	14.28	10.75	0.10
BR6	496110	6629615	16.43	7.43	2.28	4.58	0.78	0.11
BR7	494270	6629280	18.90	1.75	0.26	1.12	0.07	0.04
BR7a	493405	6629470	19.90	-	0.05	-	-	-
BR7b	493012	6629630	20.43	-	-	-	0.04	-
BR8	492600	6629815	20.78	0.05	-	0.04	-	0.04
BR9	491770	6631210	22.43	0.04	-	0.04	-	0.04
BR10	490675	6631385	23.73	0.04	-	0.04	-	0.04

Note No profile at Stations 7a or 7b on high water runs
Low water profiles stopped at Station 7a on 30 September and 7b on 14 December due to shoals

Table 101 Kalang River - 1 October, 13 December 2008 and 25 February 2009

Station No.	MGA (m) Zone 56		Chainage (km)	1/10/08		13/12/08		25/2/09
	Easting	Northing		High Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)
KR1	502570	6625845	0.68	35.44	32.01	35.34	29.68	34.40
KR2	501300	6626775	2.98	35.11	29.27	35.24	30.44	33.73
KR3	500245	6625320	5.70	32.76	29.69	35.14	29.08	29.84
KR4	499245	6624135	7.75	27.88	24.52	31.69	26.53	12.91
KR5	497975	6625195	10.93	21.61	19.08	26.32	23.13	0.49
KR6	495660	6625650	13.30	19.37	-	23.16	20.89	0.22
KR7	495275	6624000	15.80	18.50	-	20.30	15.53	0.20
KR8	492650	6623670	18.55	8.65	-	15.31	11.95	0.13
KR9	491945	6624415	19.98	2.67	-	10.33	4.79	0.10
KR10	490355	6624600	21.85	0.12	-	3.95	0.45	0.04
KR10a	489930	6624530	22.46	-	-	-	0.22	-
KR11	490029	6625497	23.38	0.05	-	0.05	-	0.04

Note Low water profiles stopped at Station KR5 on 1 October due to instrument malfunction
Low water profiles stopped at Station KR10a on 13 December due to shoals
Profiling only done at Station KR10a on low water run on 13 December

Table 102a Bellinger River - Water Quality Maxima and Minima - High Water - 30 September 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
BR1	1005	4.1	1025.2	1025.2	1025.2	19.61	19.62	19.62	35.39	35.40	35.39	102.77	104.41	103.66	7.96	7.98	7.97	0.00	0.41	0.01	0.00	0.00	0.00	418.7	2236.4	664.4	be081001001
BR2	1023	2.3	1025.1	1025.1	1025.1	19.72	19.75	19.72	35.29	35.31	35.30	103.70	104.77	104.29	7.95	7.96	7.96	0.00	0.41	0.00	0.00	0.00	0.00	549.6	2697.3	910.9	be081001002
BR3	1034	4.4	1013.6	1018.5	1016.1	20.52	20.84	20.63	20.48	26.87	23.76	75.73	86.27	80.95	7.76	7.82	7.80	0.00	1.87	0.80	0.00	0.27	0.03	52.7	1256.1	207.9	be081001003
BR4	1046	4.5	1007.9	1014.1	1012.5	21.18	21.53	21.43	13.17	21.48	19.25	83.52	95.19	89.99	7.56	7.66	7.62	0.00	1.87	0.89	1.01	2.74	1.78	58.6	1595.0	294.4	be081001004
BR5	1056	7.5	1004.0	1009.3	1007.9	21.25	21.84	21.70	8.05	15.17	13.27	86.15	98.06	92.01	7.22	7.35	7.31	0.41	5.29	1.43	1.14	4.38	2.98	20.5	3412.3	433.5	be081001005
BR6	1107	3.0	999.5	1005.4	1003.5	20.77	21.76	21.43	1.87	9.94	7.43	89.60	101.16	96.21	6.84	7.17	6.97	0.90	6.27	2.44	0.20	8.45	5.18	248.5	3996.3	838.9	be081001006
BR7	1116	4.8	998.4	1000.1	999.4	20.27	20.74	20.52	0.38	2.71	1.75	93.41	96.60	94.45	6.74	7.07	6.79	0.90	1.87	1.33	0.66	2.66	1.90	42.1	2286.2	308.3	be081001007
BR7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BR8	1128	3.3	998.1	998.2	998.2	20.45	20.59	20.47	0.04	0.05	0.05	98.60	99.55	99.13	6.88	7.01	6.91	0.00	0.90	0.16	0.00	0.00	0.00	112.8	2203.8	415.4	be081001008
BR9	1136	2.7	998.3	998.4	998.3	19.51	19.81	19.65	0.04	0.04	0.04	94.00	96.35	95.31	6.79	6.93	6.83	0.00	4.32	0.06	0.00	0.00	0.00	220.9	1923.6	595.2	be081001009
BR10	1155	1.8	998.2	998.2	998.2	20.34	20.38	20.36	0.04	0.04	0.04	101.03	101.81	101.51	6.88	6.96	6.90	0.00	0.00	0.00	0.00	0.00	0.00	377.8	3325.6	1317.0	be081001010

Note No profile at Station 7a

Table 102b Bellinger River - Water Quality Maxima and Minima - Low Water - 30 September 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
BR1	1633	3.4	1019.2	1022.5	1021.7	20.98	21.20	21.03	28.08	32.47	31.27	105.70	108.04	106.43	7.85	7.88	7.86	0.00	1.39	0.77	0.65	1.14	0.91	37.9	618.1	136.5	be081001011
BR2	1645	1.2	1012.2	1022.1	1016.4	21.13	21.71	21.44	18.98	31.88	24.53	101.31	104.49	103.10	7.77	7.88	7.79	0.00	1.87	0.35	0.03	3.66	2.14	68.7	512.5	219.5	be081001012
BR3	1656	3.7	1007.4	1018.8	1015.2	20.84	22.14	21.36	12.75	27.37	22.85	88.44	103.47	95.60	7.57	7.75	7.70	0.00	1.39	0.43	1.54	6.49	4.31	16.6	426.5	70.0	be081001013
BR4	1707	3.6	1003.5	1013.9	1009.9	21.65	22.08	21.88	7.58	21.26	15.98	84.81	107.86	100.47	7.32	7.54	7.43	0.00	1.87	1.05	3.97	7.00	5.76	8.3	303.1	44.7	be081001014
BR5	1715	7.9	1000.0	1009.3	1007.1	21.75	21.98	21.86	2.88	15.14	12.25	82.22	108.61	96.87	7.02	7.38	7.21	0.90	4.80	1.94	2.19	9.99	6.13	0.2	263.6	18.7	be081001015
BR6	1729	1.8	998.5	1003.3	999.6	21.10	21.68	21.38	0.70	7.19	2.28	104.40	107.34	106.42	6.60	7.10	6.91	1.39	5.29	2.76	1.17	4.83	1.67	9.4	137.6	34.5	be081001016
BR7	1755	3.7	998.0	998.9	998.2	20.71	21.05	20.97	0.07	1.14	0.26	95.69	103.81	102.49	6.55	7.04	6.87	0.90	2.85	1.43	0.10	3.05	0.61	0.1	8.2	1.2	be081001017
BR7a	1806	1.5	998.2	998.2	998.2	20.40	20.41	20.41	0.05	0.05	0.05	98.82	99.07	98.93	6.85	6.92	6.86	0.00	2.85	0.73	0.00	0.00	0.00	0.1	0.6	0.2	be081001018

Note Profiling stopped at Station 7a due to shoals

Table 103a Kalang River - Water Quality Maxima and Minima - High Water - 1 October 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
KR1	1031	3.9	1025.2	1025.2	1025.2	19.64	19.66	19.64	35.43	35.44	35.44	104.31	106.25	105.33	7.79	7.83	7.81	0.00	0.00	0.00	0.00	0.00	0.00	299.7	3952.5	624.5	be081001019
KR2	1048	3.2	1024.5	1025.0	1024.9	19.81	19.97	19.84	34.65	35.29	35.11	105.14	107.16	106.08	7.83	7.85	7.84	0.00	1.87	0.16	0.00	0.00	0.00	234.3	3996.3	784.0	be081001020
KR3	1103	5.1	1020.7	1023.8	1023.1	19.86	20.81	20.05	29.91	33.68	32.76	96.98	102.29	99.86	7.75	7.83	7.80	1.39	4.32	2.17	0.01	0.44	0.23	150.2	4025.8	922.2	be081001021
KR4	1118	4.7	1018.2	1019.6	1019.1	20.79	21.49	21.02	26.93	28.45	27.88	88.81	93.31	91.27	7.70	7.72	7.71	1.87	6.27	3.43	1.14	2.01	1.52	51.2	3579.2	750.1	be081001022
KR5	1135	3.8	1013.2	1015.4	1014.1	21.53	22.28	21.78	20.48	23.16	21.61	79.07	87.69	84.30	7.46	7.48	7.47	1.39	11.15	4.31	1.47	3.00	2.31	57.2	4332.7	753.0	be081001023
KR6	1145	3.7	1010.2	1013.9	1012.5	21.44	21.88	21.69	16.42	21.27	19.37	74.04	80.87	78.73	7.21	7.35	7.29	0.90	5.78	2.81	0.84	3.42	2.38	49.2	3909.2	688.1	be081001024
KR7	1154	6.9	1009.0	1012.5	1011.7	21.95	22.12	22.03	14.88	19.42	18.50	63.92	73.29	67.48	7.09	7.15	7.12	2.85	7.25	3.87	1.36	2.69	1.96	4.5	2747.3	394.4	be081001025
KR8	1210	3.6	1002.9	1005.2	1004.5	20.91	21.84	21.04	6.72	9.55	8.65	72.69	78.93	74.46	6.80	6.87	6.81	0.90	3.34	1.85	0.00	0.80	0.36	59.3	3412.3	558.9	be081001026
KR9	1216	1.1	1000.0	1000.6	1000.2	19.93	20.11	20.01	2.33	3.12	2.67	103.99	106.51	105.64	7.09	7.27	7.22	549.37	549.86	549.81	8.28	10.34	9.10	876.3	2562.0	1658.0	be081001027
KR10	1230	1.7	998.5	998.6	998.6	18.41	18.76	18.46	0.12	0.13	0.12	76.23	77.63	76.68	6.63	6.68	6.64	0.41	0.90	0.75	0.00	0.00	0.00	322.6	3686.0	1330.7	be081001028
KR11	1244	2.0	998.5	998.7	998.6	17.88	18.67	18.41	0.05	0.05	0.05	80.79	84.81	83.64	6.71	6.81	6.75	0.41	2.36	0.56	0.00	0.00	0.00	278.5	3374.9	982.8	be081001029

Note No profile at Station 7a

Table 103b Kalang River - Water Quality Maxima and Minima - Low Water - 1 October 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
KR1	1741	2.5	1021.3	1022.5	1022.2	21.16	21.34	21.23	30.82	32.54	32.01	106.36	107.05	106.69	7.80	7.81	7.81	0.41	1.39	0.93	0.88	1.31	1.11	4.9	59.5	13.8	be081001030
KR2	1757	2.6	1018.9	1021.5	1020.0	21.19	21.87	21.66	27.96	31.15	29.27	101.27	103.96	103.16	7.73	7.78	7.75	1.39	3.34	2.08	2.22	3.04	2.69	0.4	9.1	2.2	be081001031
KR3	1811	4.9	1015.6	1024.2	1020.5	19.95	22.40	20.95	23.80	34.26	29.69	91.98	99.76	97.45	7.63	7.83	7.73	0.90	7.25	2.49	0.56	4.01	2.54	0.1	0.2	0.1	be081001032
KR4	1825	5.2	1013.0	1019.6	1016.4	20.82	22.52	21.66	20.38	28.43	24.52	85.45	94.09	90.54	7.49	7.70	7.59	1.87	6.76	4.06	1.65	3.63	2.72	0.1	0.1	0.1	be081001033
KR5	1845	2.7	1010.1	1014.4	1012.1	21.73	23.00	22.37	16.68	21.94	19.08	73.58	91.81	85.14	7.29	7.34	7.31	1.39	10.18	3.26	2.41	4.47	3.24	0.1	0.1	0.1	be081001034

Note Profiling stopped at Station 5 due to instrument malfunction

Table 104a Bellinger River - Water Quality Maxima and Minima - High Water - 14 December 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
BR1	1028	4.0	1024.7	1024.8	1024.8	20.91	21.15	21.02	35.34	35.38	35.36	126.29	128.28	126.89	8.55	8.56	8.56	4.94	6.90	5.54	0.00	0.00	0.00	721.3	2989.5	1174.0	be081214001
BR2	1040	2.6	1024.9	1024.9	1024.9	20.52	20.63	20.57	35.36	35.40	35.38	114.64	115.88	115.24	8.54	8.55	8.55	4.94	5.92	5.14	0.00	0.00	0.00	844.7	4222.7	1929.4	be081214002
BR3	1052	4.6	1013.4	1024.0	1020.9	20.97	23.77	21.89	21.40	34.32	30.63	111.48	121.69	115.10	8.37	8.52	8.48	4.94	7.38	6.14	0.00	1.31	0.16	320.2	4238.3	1006.7	be081214003
BR4	1102	4.8	1008.7	1014.4	1012.6	23.30	24.25	23.53	15.30	22.47	20.17	101.55	112.74	106.19	8.18	8.33	8.28	5.92	8.36	6.43	0.13	1.18	0.54	146.9	4238.3	1104.9	be081214004
BR5	1110	10.3	1004.0	1009.8	1008.1	23.73	24.77	23.91	9.23	16.45	14.28	95.07	109.86	99.24	7.82	8.04	7.95	6.41	9.34	7.08	0.10	2.89	1.14	1.6	3450.1	466.7	be081214005
BR6	1120	2.8	999.3	1002.3	1000.8	23.70	23.84	23.76	2.59	6.56	4.58	90.81	109.83	105.35	7.44	7.59	7.50	6.90	10.80	7.21	0.00	2.85	1.60	170.2	3768.1	834.5	be081214006
BR7	1128	3.8	998.2	998.6	998.5	22.62	23.25	22.75	0.90	1.31	1.12	105.19	112.35	107.72	7.36	7.43	7.39	6.41	7.38	6.90	0.00	0.03	0.00	44.9	3809.9	805.9	be081214007
BR7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BR7b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BR8	1136	3.8	997.6	997.9	997.8	21.72	23.10	22.07	0.04	0.04	0.04	121.09	127.17	123.08	7.50	7.65	7.53	5.92	6.90	6.25	0.00	0.00	0.00	86.9	4115.5	989.0	be081214008
BR9	1143	2.9	997.4	997.9	997.8	21.45	23.56	22.08	0.04	0.04	0.04	118.61	134.42	123.85	7.45	7.62	7.52	4.94	5.92	5.59	0.00	0.00	0.00	209.9	3337.9	1020.8	be081214009
BR10	1207	2.0	997.7	997.7	997.7	22.41	22.44	22.42	0.04	0.04	0.04	134.70	136.31	135.32	7.56	7.67	7.59	5.43	6.90	5.62	0.00	0.00	0.00	182.5	4070.4	896.1	be081214010

Note No profiles at Stations 7a or 7b on high water run

Table 104b Bellinger River - Water Quality Maxima and Minima - Low Water - 14 December 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
BR1	1733	1.3	1019.6	1019.6	1019.6	23.42	23.43	23.42	29.40	29.42	29.42	125.55	125.98	125.72	8.36	8.37	8.36	7.38	12.76	9.39	0.70	1.08	0.86	87.2	379.2	160.2	be081214011
BR2	1742	1.1	1010.5	1018.5	1012.3	22.99	24.61	24.32	17.78	27.78	20.04	126.18	133.18	131.36	8.26	8.33	8.28	6.41	7.38	6.92	0.00	3.67	2.55	57.2	360.2	156.4	be081214012
BR3	1753	3.5	1005.8	1022.7	1013.6	21.73	24.95	23.57	11.68	32.92	21.57	110.70	127.24	119.38	7.98	8.38	8.20	5.92	7.38	6.93	2.58	3.66	3.14	10.1	4629.0	433.0	be081214013
BR4	1804	3.8	1001.4	1014.2	1007.3	23.55	24.74	24.26	5.65	22.34	13.34	100.44	116.94	110.99	7.54	8.16	7.81	7.38	9.83	8.15	1.88	4.18	2.80	2.0	4646.0	787.9	be081214014
BR5	1814	8.2	999.6	1009.6	1005.4	23.76	24.18	23.97	3.01	16.27	10.75	92.70	113.68	102.44	7.29	7.87	7.61	6.90	9.34	7.66	0.00	2.46	0.87	0.1	4680.3	890.2	be081214015
BR6	1831	1.7	997.8	998.4	998.0	23.30	23.50	23.43	0.43	1.29	0.78	122.32	125.82	124.33	7.32	7.54	7.41	7.87	9.34	8.22	0.00	0.00	0.00	4.0	92.8	24.7	be081214016
BR7	1848	2.6	997.6	997.6	997.6	23.12	23.13	23.13	0.07	0.07	0.07	124.24	126.46	125.09	7.41	7.50	7.43	6.90	7.38	7.07	0.00	0.00	0.00	0.5	4348.7	315.1	be081214017
BR7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BR7b	1907	0.6	997.6	997.6	997.6	22.90	22.93	22.92	0.04	0.04	0.04	111.95	133.39	122.09	7.50	7.53	7.51	5.43	6.41	5.83	0.00	0.00	0.00	0.2	0.6	0.5	be081214018

Note No profiling at Station 7a on low water run
Profiling stopped at Station 7b due to shoals

Table 105a Kalang River - Water Quality Maxima and Minima - High Water - 13 December 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
KR1	0931	4.3	1024.6	1024.6	1024.6	21.62	21.63	21.62	35.34	35.34	35.34	130.48	134.28	133.57	8.70	8.71	8.71	4.94	6.41	5.28	0.00	0.00	0.00	120.5	708.1	194.2	be081213001
KR2	0947	3.9	1024.5	1024.5	1024.5	21.65	21.66	21.65	35.23	35.25	35.24	128.77	130.34	129.77	8.69	8.69	8.69	5.43	6.41	5.76	0.00	0.00	0.00	115.3	643.6	187.0	be081213002
KR3	1001	6.1	1024.3	1024.4	1024.4	21.78	21.82	21.79	35.08	35.16	35.14	131.25	133.83	133.29	8.69	8.70	8.70	6.90	10.32	7.69	0.00	0.90	0.00	30.2	1060.8	182.6	be081213003
KR4	1016	4.6	1020.0	1022.7	1021.6	22.19	23.08	22.53	29.82	33.02	31.69	108.79	119.30	113.17	8.46	8.63	8.56	9.83	15.20	11.37	0.00	0.43	0.12	9.5	974.8	154.6	be081213004
KR5	1027	4.0	1016.4	1017.3	1017.1	24.01	24.28	24.09	25.53	26.62	26.32	88.81	91.81	89.94	8.18	8.23	8.21	10.32	15.20	12.25	0.17	2.37	0.96	9.5	1526.2	194.3	be081213005
KR6	1036	4.9	1014.1	1014.8	1014.5	24.67	24.90	24.75	22.65	23.45	23.16	78.44	83.09	79.76	8.00	8.02	8.01	9.34	17.15	12.11	0.47	3.15	1.35	2.1	1909.6	239.3	be081213006
KR7	1044	4.5	1011.7	1012.8	1012.3	24.85	25.19	25.05	19.52	21.10	20.30	61.94	86.74	71.75	7.79	7.93	7.83	7.38	8.85	7.77	0.16	10.42	2.93	10.2	1084.4	173.8	be081213007
KR8	1054	4.1	1007.6	1008.9	1008.5	24.95	25.12	24.98	14.06	15.76	15.31	52.41	58.26	53.96	7.56	7.59	7.58	5.92	7.38	6.51	0.00	0.79	0.38	16.2	805.3	133.6	be081213008
KR9	1101	2.2	1003.4	1005.5	1005.0	24.11	24.50	24.41	8.20	11.08	10.33	50.94	58.82	54.04	7.40	7.46	7.41	6.90	7.87	7.11	0.00	3.40	1.19	25.4	566.0	104.9	be081213009
KR10	1109	1.4	1000.0	1000.8	1000.5	22.97	23.25	23.14	3.25	4.43	3.95	47.21	51.74	49.90	7.18	7.25	7.20	6.90	7.87	7.30	0.00	0.49	0.13	41.7	545.5	149.4	be081213010
KR10a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KR11	1120	1.8	997.9	998.1	997.9	20.72	21.65	21.49	0.05	0.05	0.05	78.44	80.14	79.25	7.34	7.44	7.38	6.90	7.38	7.33	0.00	0.00	0.00	2.9	209.9	27.1	be081213011

Note No profile at Station 10a

Table 105b Kalang River - Water Quality Maxima and Minima - Low Water - 13 December 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
KR1	1701	1.9	1019.6	1019.9	1019.8	23.23	23.26	23.24	29.39	29.82	29.68	123.47	124.77	124.15	8.48	8.49	8.48	6.90	8.85	7.41	0.00	0.95	0.36	46.2	259.7	88.6	be081213012
KR2	1712	2.5	1020.2	1020.8	1020.3	23.35	23.53	23.49	30.33	30.93	30.44	112.36	114.14	112.99	8.37	8.41	8.38	7.87	9.34	8.88	0.00	0.83	0.24	14.5	243.1	61.6	be081213013
KR3	1723	4.6	1017.4	1023.3	1019.3	22.15	24.48	23.70	26.88	33.88	29.08	97.61	111.40	101.23	8.17	8.54	8.28	8.85	12.27	10.23	0.00	1.99	0.88	1.2	455.6	57.8	be081213014
KR4	1738	5.2	1014.7	1022.9	1017.2	22.20	25.25	24.31	23.62	33.26	26.53	89.77	105.64	94.45	8.02	8.53	8.15	8.36	15.69	10.66	0.00	2.98	1.47	0.8	334.7	46.1	be081213015
KR5	1759	3.3	1012.1	1017.2	1014.4	24.11	25.95	24.94	20.39	26.43	23.13	73.94	90.54	79.54	7.82	8.10	7.93	7.87	12.76	8.84	0.83	3.61	1.81	2.1	103.3	16.5	be081213016
KR6	1806	4.6	1011.1	1014.1	1012.6	25.02	25.75	25.39	19.04	22.68	20.89	60.20	72.62	67.90	7.70	7.80	7.75	6.90	14.71	9.44	0.58	1.75	1.10	0.7	116.2	17.3	be081213017
KR7	1817	3.9	1006.3	1012.0	1008.6	25.21	25.56	25.46	12.47	19.97	15.53	59.48	69.53	65.71	7.49	7.65	7.54	6.41	7.38	6.93	0.14	1.64	0.55	1.7	113.6	16.0	be081213018
KR8	1830	2.9	1000.6	1008.9	1006.1	24.19	25.04	24.79	4.42	15.76	11.95	49.23	62.94	56.84	7.18	7.48	7.36	5.92	8.36	7.15	0.13	2.28	1.17	1.4	67.7	12.8	be081213019
KR9	1857	1.0	999.6	1002.5	1001.0	23.35	23.96	23.63	2.78	6.88	4.79	50.55	57.63	54.18	7.10	7.27	7.16	8.85	11.29	10.43	0.00	0.77	0.37	0.5	4.3	2.2	be081213022
KR10	1850	0.9	998.1	998.1	998.1	22.11	22.13	22.12	0.42	0.47	0.45	65.78	66.50	66.02	7.12	7.15	7.13	7.38	9.83	8.69	0.00	0.00	0.00	1.0	8.4	3.4	be081213021
KR10a	1844	1.0	997.9	998.1	997.9	22.02	22.09	22.07	0.18	0.42	0.22	69.14	69.97	69.59	7.13	7.26	7.22	6.90	7.38	7.04	0.00	0.00	0.00	1.9	9.6	5.0	be081213020

Note Profiling stopped at Station 10a due to shoals
Profiling at Stations 9, 10 and 10a were done out of order

Table 106a Bellinger River - Water Quality Maxima and Minima - High Water - 24 February 2009

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
BR1	0915	1.7	1021.9	1022.0	1022.0	24.50	24.61	24.53	32.94	33.02	33.00	110.06	111.75	110.70	8.86	8.87	8.87	5.43	6.41	5.89	0.00	0.00	0.00	793.5	4494.9	1920.9	bl090224001
BR2	0925	2.1	1020.1	1021.6	1021.5	24.34	24.43	24.41	30.48	32.51	32.31	104.81	107.73	106.88	8.86	8.87	8.87	5.43	6.41	6.01	0.00	0.00	0.00	660.4	4332.7	1449.8	bl090224002
BR3	0938	4.3	997.8	1007.3	999.8	22.94	23.53	23.13	0.43	13.15	2.98	87.44	93.45	91.84	7.30	7.75	7.48	6.90	11.29	9.98	0.00	0.00	0.00	14.7	4176.4	404.3	bl090224003
BR4	0951	5.0	997.6	997.8	997.8	22.43	23.25	22.54	0.15	0.17	0.16	97.22	100.19	97.73	7.41	7.46	7.42	9.83	12.76	10.29	0.00	0.00	0.00	4.2	423.4	72.3	bl090224004
BR5	1002	9.8	997.8	997.8	997.8	22.16	22.30	22.19	0.10	0.11	0.10	105.61	108.17	107.06	7.29	7.37	7.32	8.36	10.32	9.03	0.00	0.00	0.00	0.2	4222.7	343.2	bl090224005
BR6	1015	2.5	997.8	997.9	997.9	21.75	22.04	21.79	0.11	0.11	0.11	106.44	108.17	107.08	7.18	7.23	7.20	7.87	9.83	8.61	0.00	0.00	0.00	243.1	1742.0	714.2	bl090224006
BR7	1024	6.5	997.9	997.9	997.9	21.69	21.71	21.70	0.04	0.06	0.04	109.89	112.01	111.07	7.08	7.20	7.13	7.38	10.80	8.57	0.00	0.00	0.00	9.9	4070.4	557.7	bl090224007
BR7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BR7b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BR8	1033	3.6	997.9	997.9	997.9	21.45	21.53	21.48	0.04	0.04	0.04	112.35	113.51	112.92	7.05	7.15	7.08	7.87	8.85	8.19	0.00	0.00	0.00	149.7	4301.0	1082.5	bl090224008
BR9	1041	2.8	997.9	998.0	997.9	21.36	21.40	21.38	0.04	0.04	0.04	113.76	114.58	114.19	7.02	7.10	7.05	7.87	9.34	8.67	0.00	0.00	0.00	283.7	2562.0	898.2	bl090224009
BR10	1048	1.2	998.0	998.0	998.0	21.30	21.33	21.31	0.04	0.04	0.04	117.39	119.78	118.12	7.06	7.13	7.08	7.87	15.20	8.87	0.00	0.00	0.00	1303.1	3782.0	2352.0	bl090224010

Note No profiles at Stations 7a or7b

Table 106b Kalang River - Water Quality Maxima and Minima - High Water - 25 February 2009

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
KR1	1004	3.5	1023.0	1023.1	1023.1	24.45	24.48	24.46	34.40	34.40	34.40	101.15	102.82	101.77	8.86	8.87	8.86	5.92	7.38	6.40	0.00	0.00	0.00	665.3	2967.6	1441.9	bl090224011
KR2	1015	3.2	1021.8	1022.9	1022.6	24.23	24.50	24.30	32.82	34.06	33.73	95.87	97.02	96.47	8.86	8.87	8.87	6.41	10.32	7.20	0.00	0.00	0.00	510.6	4222.7	1214.4	bl090224012
KR3	1027	5.8	1010.0	1021.2	1019.7	24.10	24.81	24.17	17.18	31.75	29.84	93.00	98.13	94.44	8.70	8.81	8.79	8.36	12.76	9.84	0.00	1.48	0.45	9.0	4115.5	524.1	bl090224013
KR4	1036	4.7	1002.7	1013.0	1007.0	24.03	24.45	24.20	7.26	20.93	12.91	89.92	94.18	92.31	7.92	8.63	8.15	13.25	21.06	17.92	0.22	0.86	0.65	0.2	3686.0	331.8	bl090224014
KR5	1048	4.1	997.6	998.1	997.8	23.25	23.59	23.31	0.32	0.81	0.49	90.12	91.52	90.55	7.32	7.48	7.40	22.53	25.46	23.39	0.36	0.51	0.42	0.1	4445.6	439.8	bl090224015
KR6	1059	4.4	997.5	997.8	997.7	22.85	23.90	22.98	0.22	0.23	0.22	94.25	98.62	95.53	7.35	7.36	7.35	17.64	19.11	18.37	0.00	0.07	0.03	0.1	3909.2	389.0	bl090224016
KR7	1112	6.2	997.7	997.8	997.7	22.75	22.95	22.83	0.20	0.20	0.20	101.22	102.26	101.76	7.34	7.37	7.35	12.76	15.20	13.39	0.00	0.00	0.00	0.5	3768.1	409.1	bl090224017
KR8	1123	5.3	997.8	997.9	997.8	22.15	22.26	22.20	0.13	0.13	0.13	102.86	103.94	103.30	7.24	7.30	7.26	10.32	24.48	11.17	0.00	0.00	0.00	3.3	1237.8	210.0	bl090224018
KR9	1130	2.0	997.8	997.8	997.8	22.04	22.17	22.10	0.10	0.10	0.10	105.46	106.20	105.78	7.18	7.22	7.19	9.83	11.29	10.63	0.00	0.00	0.00	205.3	2211.9	792.9	bl090224019
KR10	1138	1.4	997.8	997.8	997.8	22.04	22.08	22.05	0.04	0.04	0.04	108.37	108.74	108.58	7.19	7.26	7.21	10.32	11.29	10.68	0.00	0.00	0.00	591.5	3301.3	1603.9	bl090224020
KR10a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KR11	1153	1.5	997.9	997.9	997.9	21.60	21.61	21.61	0.04	0.04	0.04	109.55	109.80	109.69	7.18	7.22	7.19	10.32	11.29	10.92	0.00	0.00	0.00	43.7	292.1	106.3	bl090224021

Note No profile at Station 10a

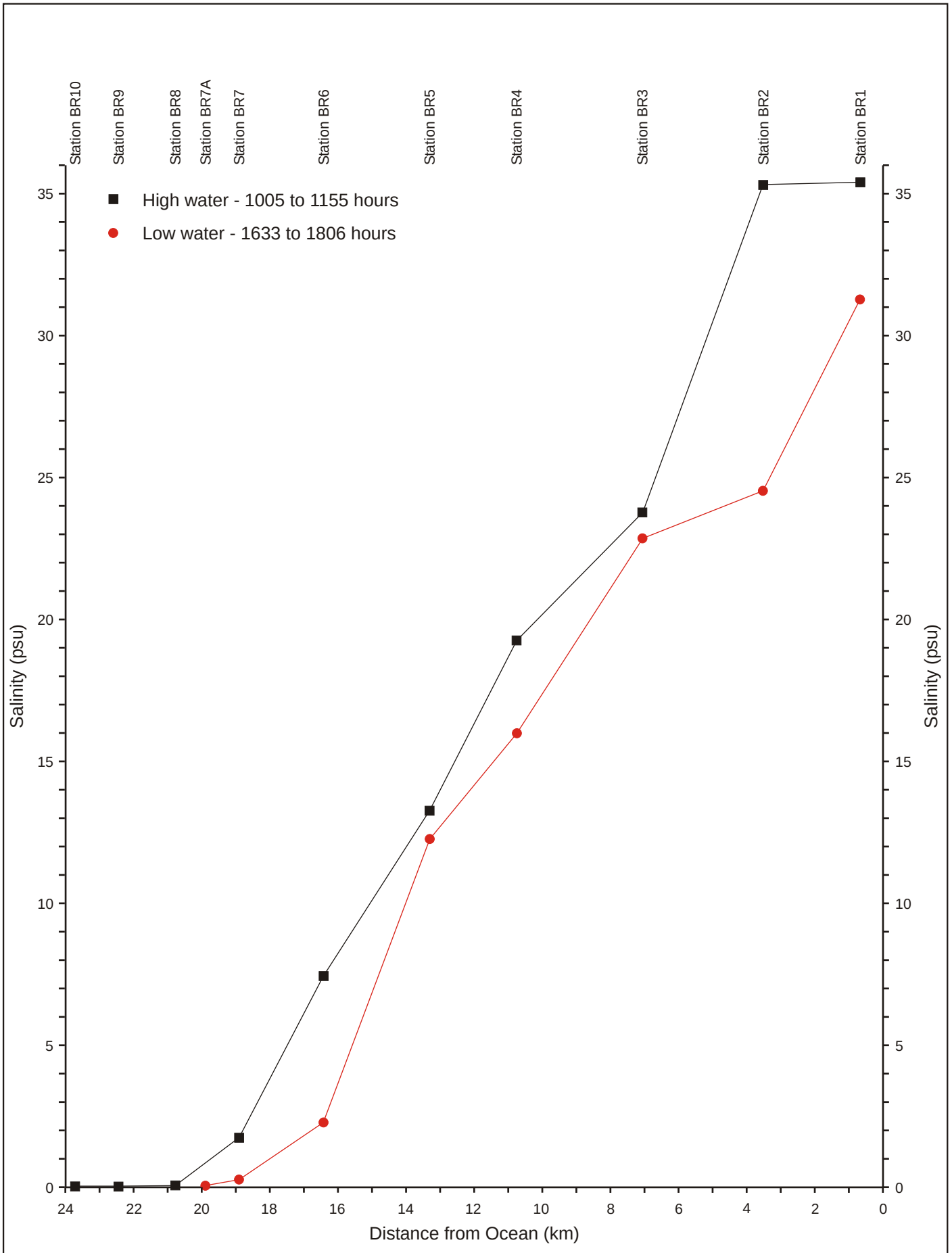
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Manly Hydraulics Laboratory

BELLINGER RIVER AND KALANG
1 SEPTEMBER, 30 OCTOBER, 13 AND 14 DECEMBER 2008
AND 24 FEBRUARY 2009

MHL
Report 1812

Figure
82

DRAWING 1812-082.CDR



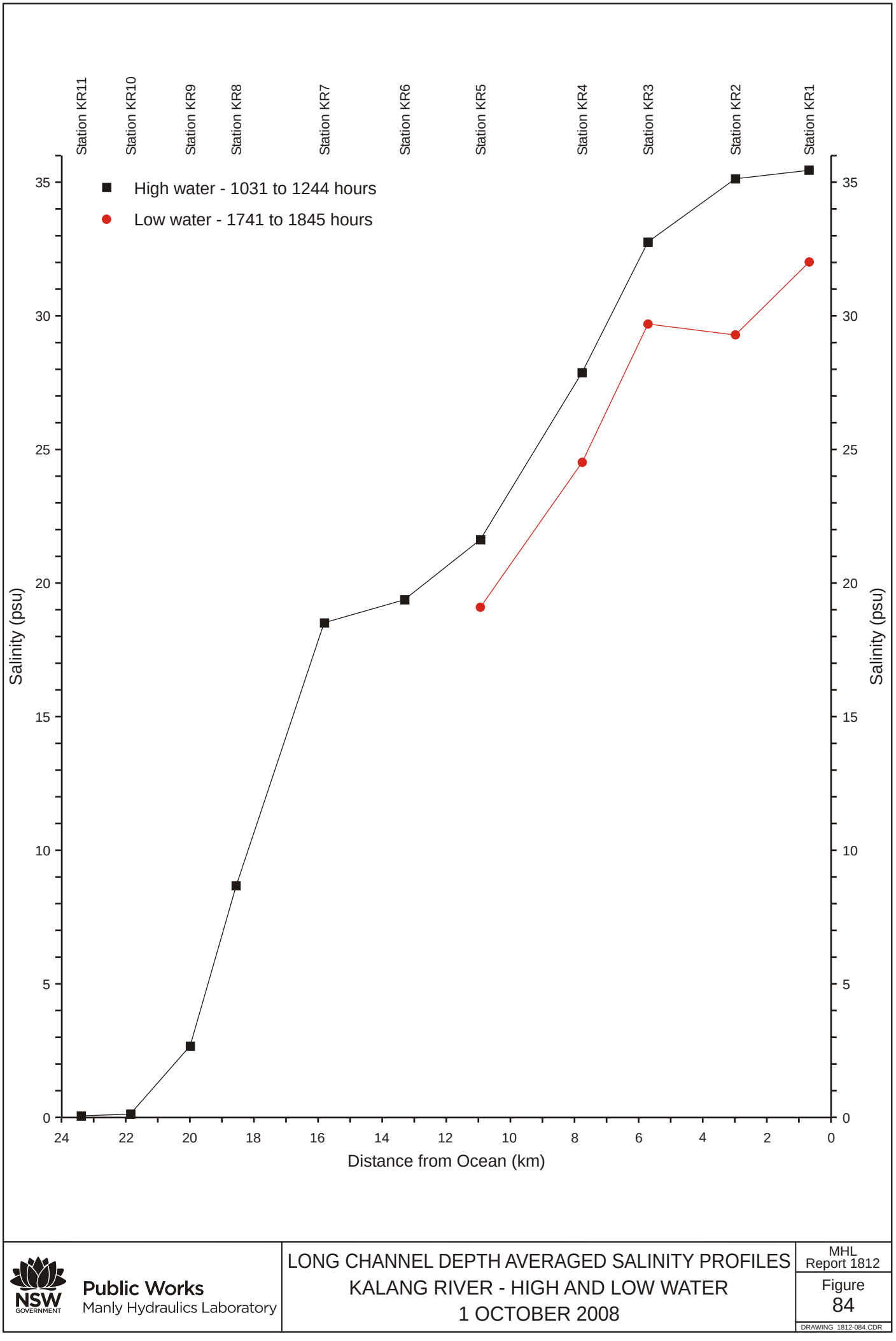
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BELLINGER RIVER - HIGH AND LOW WATER
30 SEPTEMBER 2008

MHL Report 1812

Figure 83

DRAWING 1812-083.CDR



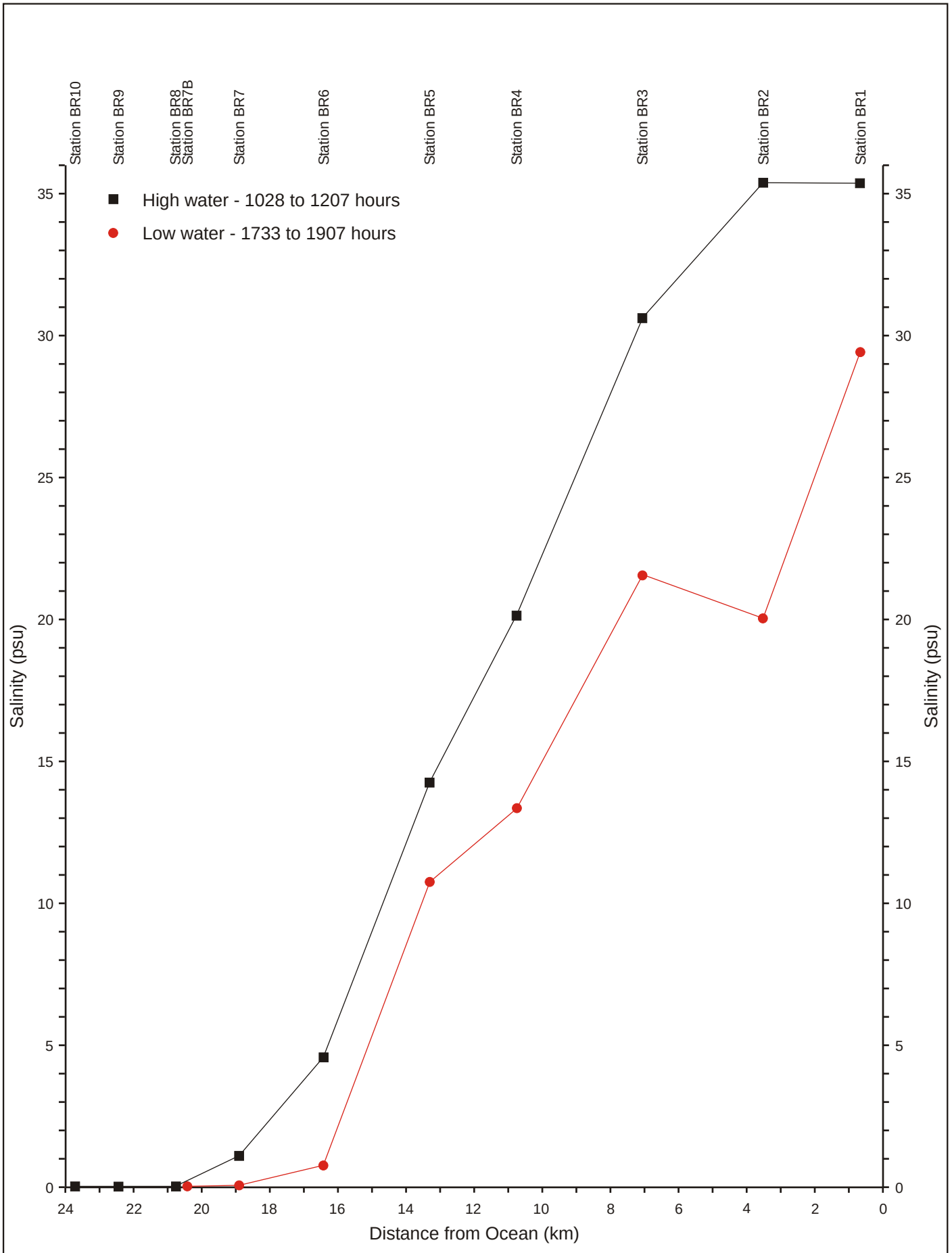
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
KALANG RIVER - HIGH AND LOW WATER
1 OCTOBER 2008

MHL Report 1812

Figure 84

DRAWING 1812-084.CDR



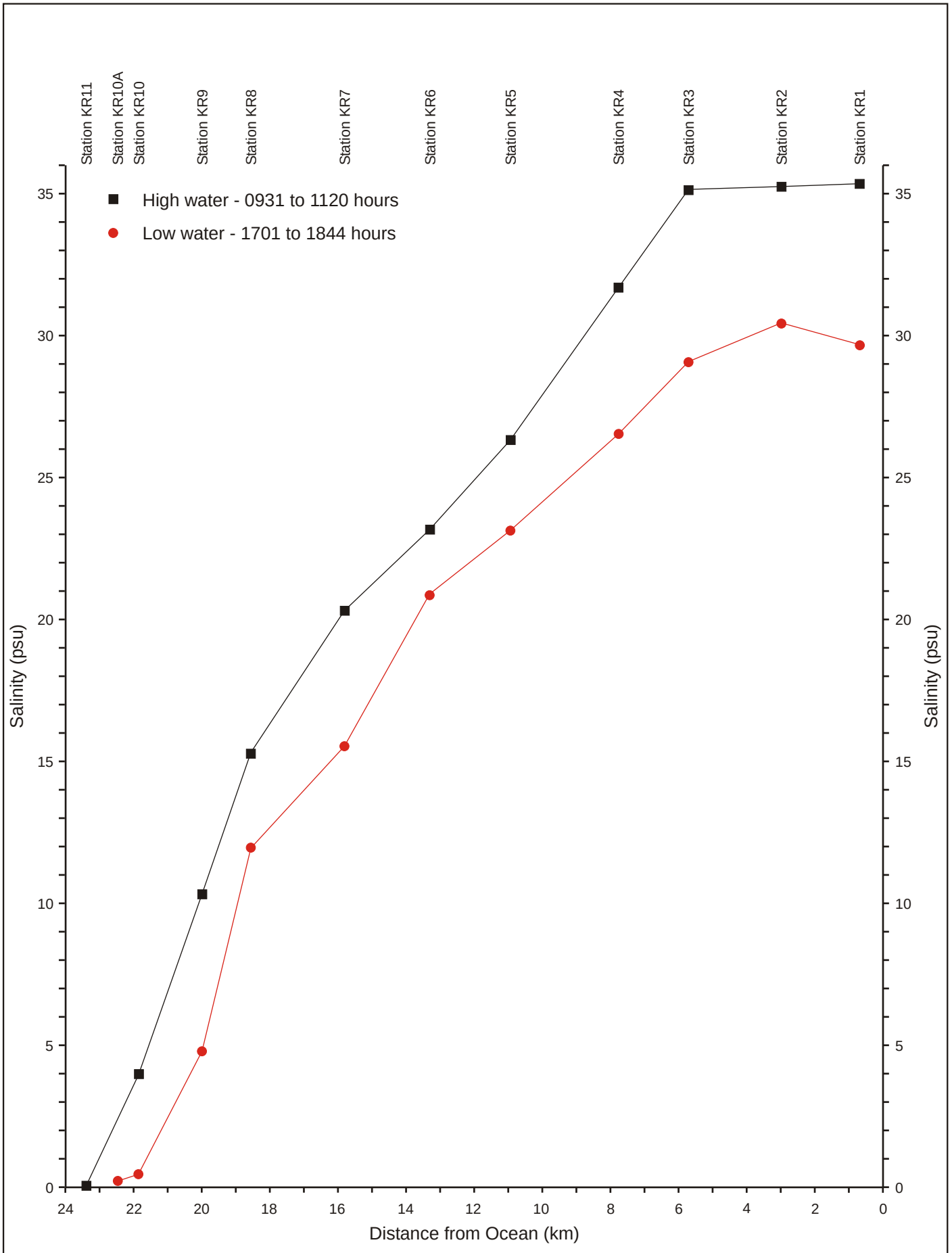
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BELLINGER RIVER - HIGH AND LOW WATER
14 DECEMBER 2008

MHL Report 1812

Figure 85

DRAWING 1812-085.CDR



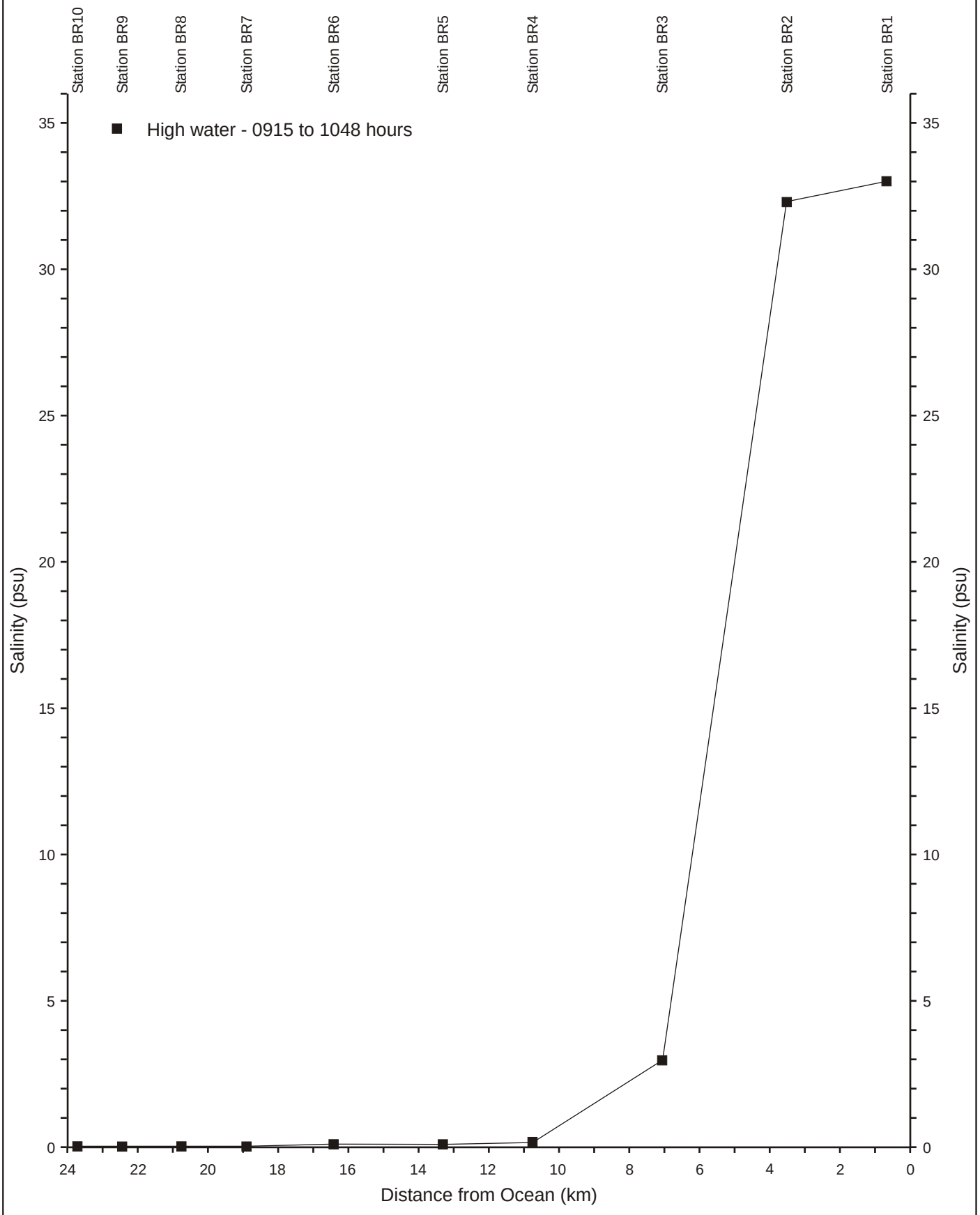
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
KALANG RIVER - HIGH AND LOW WATER
13 DECEMBER 2008

MHL Report 1812

Figure 86

DRAWING 1812-086.CDR



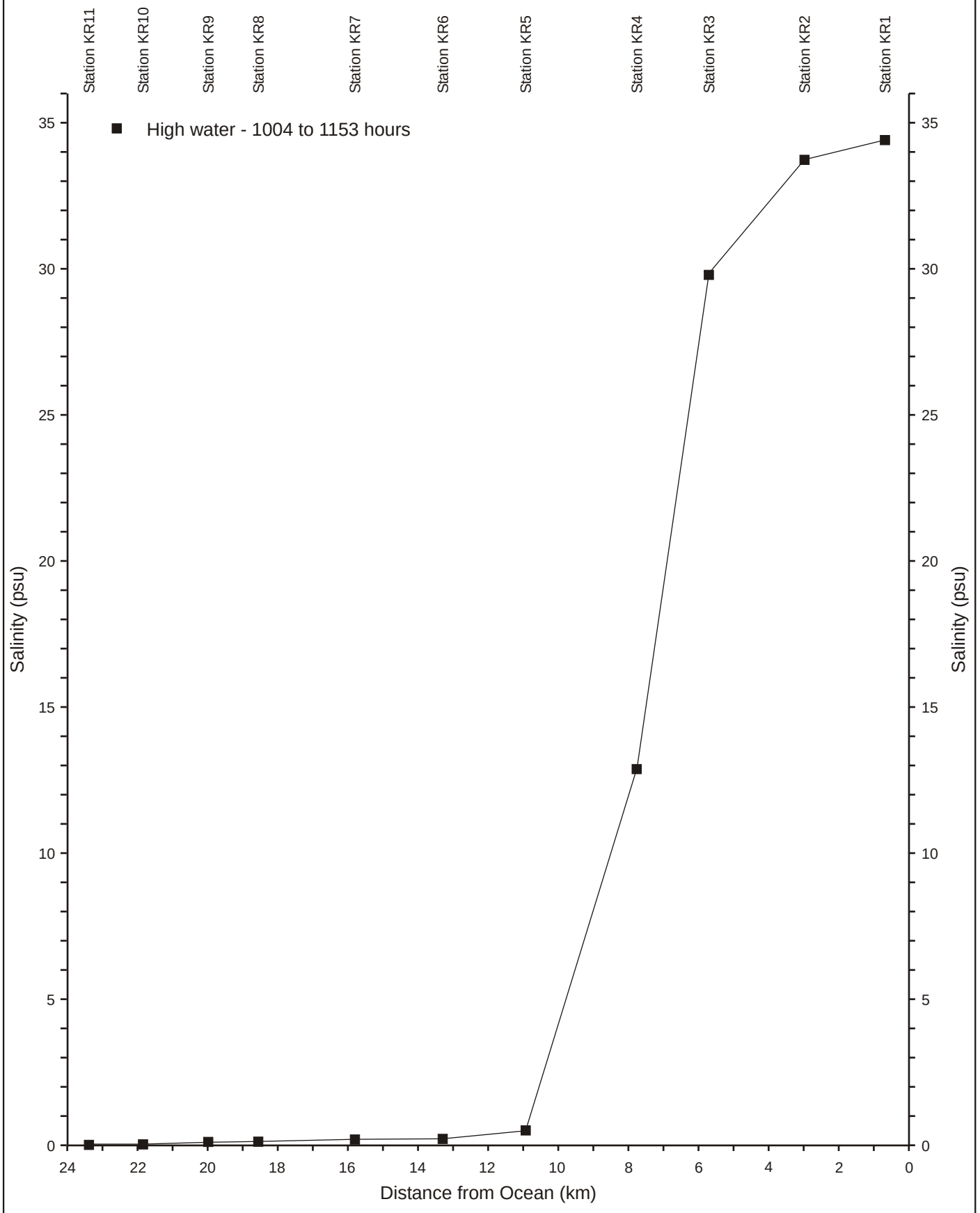
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BELLINGER RIVER - HIGH WATER
24 FEBRUARY 2009

MHL Report 1812

Figure 87

DRAWING 1812-087.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
KALANG RIVER - HIGH WATER
25 FEBRUARY 2009

MHL Report 1812

Figure 88

DRAWING 1812-088.CDR

Deep Creek Data Summary

Data was collected in Deep Creek on 26 April and 15 May 2002, as detailed in report MHL1182. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 107. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 108a to 109b. The locations at which these profiles were taken are shown in Figure 89. Long channel depth-averaged salinity profiles are shown in Figures 90 and 91.

Table 107 Deep Creek - 26 April and 15 May 2002

Station No.	MGA (m) Zone 56		Chainage (km)	26 April 2002		15 May 2002	
	Easting	Northing		High Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)	Low Water Salinity (psu)
1	500860	6614435	0.40	35.22	32.01	31.74	33.71
2	500335	6613665	1.38	35.19	32.76	33.45	29.62
3	499945	6613490	1.83	34.25	33.91	33.82	34.05
4	499475	6613860	2.45	33.24	34.28	34.73	34.31
5	498645	6612815	3.88	33.30	30.13	30.53	32.22
6	498560	6613145	4.23	33.67	29.95	28.78	29.84
7	498250	6614060	5.48	34.30	34.40	33.84	34.17
8	498575	6614775	6.35	33.63	34.08	34.02	33.45
9	498245	6614990	6.95	33.71	33.95	33.62	33.72
10	497615	6615560	8.10	32.20	32.15	30.90	32.36
11	496910	6615580	8.88	24.55	25.15	28.72	23.52

Table 108a Deep Creek - Water Quality Maxima and Minima - High Water - 26 April 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0818	1.1	1024.0	1024.0	1024.0	23.27	23.27	23.27	35.22	35.22	35.22	101.71	102.19	102.06	8.04	8.04	8.04	1.04	1.52	1.22	0.00	0.00	0.00	903.0	1802.0	1121.0	DC070201
2	0829	1.3	1024.0	1024.0	1024.0	23.17	23.17	23.17	35.19	35.19	35.19	100.67	101.21	100.81	8.04	8.04	8.04	1.52	2.50	1.97	0.00	0.00	0.00	776.7	4876.0	1786.6	DC070202
3	0835	2.0	1022.1	1024.0	1023.4	22.81	23.05	22.96	32.53	35.03	34.25	89.24	96.19	94.12	7.86	7.97	7.91	2.01	4.46	2.97	0.00	0.00	0.00	429.9	5191.0	1202.1	DC070203
4	0840	2.2	1021.2	1022.9	1022.4	22.70	23.83	23.58	31.68	33.94	33.24	79.75	82.03	80.95	7.80	7.90	7.83	2.50	3.97	3.19	0.00	0.25	0.06	80.5	2382.0	278.4	DC070204
5	0847	0.9	1021.4	1022.5	1021.9	25.45	25.71	25.59	32.64	34.06	33.30	69.80	71.69	69.97	7.83	7.84	7.84	3.97	8.36	6.42	1.50	1.86	1.65	1185.0	4416.0	2377.6	DC070205
6	0852	0.8	1021.2	1022.5	1022.2	25.45	25.80	25.54	32.42	34.10	33.67	67.57	68.38	67.76	7.68	7.77	7.71	3.48	4.94	4.22	1.32	2.08	1.60	1561.0	5267.0	3269.9	DC070206
7	0900	2.3	1021.0	1023.1	1022.6	24.70	27.71	25.74	32.95	34.59	34.30	38.69	45.39	41.42	7.60	7.77	7.67	2.01	5.92	3.32	1.54	3.04	2.52	234.5	5326.0	965.0	DC070207
8	0906	1.9	1019.2	1022.6	1021.7	25.97	28.36	26.87	30.90	34.48	33.63	30.50	49.19	35.19	7.42	7.62	7.51	0.00	13.73	2.77	2.98	5.63	4.41	279.7	4967.0	1384.0	DC070208
9	0911	2.5	1019.1	1022.4	1021.8	26.52	28.01	26.93	30.55	34.31	33.71	21.06	43.05	26.79	7.24	7.55	7.42	2.01	3.48	2.63	5.11	6.76	5.75	170.9	3427.0	697.3	DC070209
10	0920	2.8	1019.1	1021.0	1020.5	27.09	27.48	27.23	30.25	32.77	32.20	1.31	11.18	4.05	6.88	7.15	7.02	4.46	11.29	7.16	8.85	12.98	10.36	12.6	524.2	86.5	DC070210
11	0929	2.4	1014.2	1015.7	1015.3	25.30	25.59	25.49	23.03	25.07	24.55	1.37	1.70	1.51	6.50	6.56	6.51	11.29	18.13	13.85	10.09	23.22	14.09	5.2	719.0	119.1	DC070211

Table 108b Deep Creek - Water Quality Maxima and Minima - Low Water - 26 April 2002

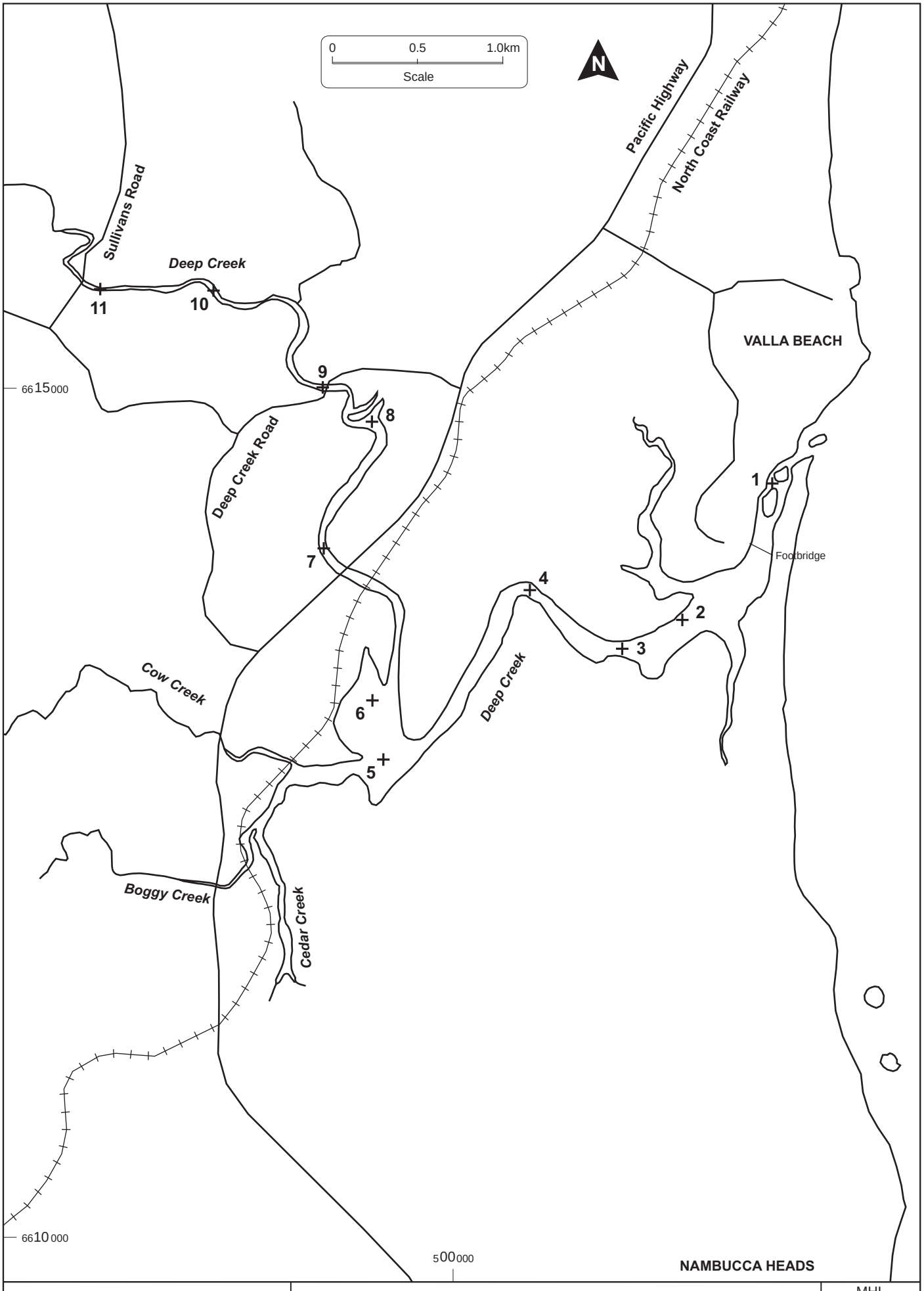
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1655	0.9	1020.9	1021.0	1021.0	25.28	25.30	25.29	31.92	32.06	32.01	97.08	97.25	97.17	7.92	7.93	7.93	3.48	3.97	3.70	0.78	0.91	0.85	36.8	139.2	65.7	DC070212
2	1708	1.1	1020.2	1022.0	1021.7	24.74	25.58	24.97	31.05	33.15	32.76	83.36	84.35	83.57	7.87	7.90	7.88	2.50	3.48	3.12	0.16	1.97	1.06	10.8	74.8	28.1	DC070213
3	1712	1.6	1021.6	1023.1	1022.6	23.90	25.66	24.66	32.89	34.28	33.91	87.22	94.57	88.46	7.88	7.95	7.91	3.48	6.41	4.75	1.41	2.34	1.75	5.4	45.2	13.3	DC070214
4	1717	3.2	1020.9	1023.8	1023.0	23.17	26.94	24.28	32.54	34.91	34.28	73.47	90.10	82.26	7.82	8.01	7.91	4.46	9.83	5.93	1.02	2.66	1.82	0.7	25.2	3.9	DC070215
5	1724	0.6	1017.8	1019.5	1018.6	27.99	28.52	28.29	28.98	31.24	30.13	83.17	84.44	83.94	7.64	7.70	7.67	3.48	4.94	4.04	4.06	4.64	4.31	3.1	14.3	8.2	DC070216
6	1727	0.5	1018.4	1018.7	1018.5	27.96	28.43	28.21	29.81	30.10	29.95	76.52	78.01	77.43	7.62	7.63	7.63	3.97	4.46	4.39	0.00	0.00	0.00	2.3	8.6	8.0	DC070217
7	1734	3.5	1019.8	1023.1	1022.8	24.65	28.69	25.45	31.89	34.58	34.40	44.84	55.77	48.68	7.54	7.79	7.71	2.01	7.38	3.91	2.58	8.65	4.25	0.1	0.8	0.2	DC070218
8	1740	1.8	1020.0	1022.6	1022.1	26.11	28.16	26.81	31.89	34.48	34.08	32.41	43.42	36.98	7.45	7.65	7.55	2.99	6.41	3.48	6.88	10.47	8.91	0.1	0.5	0.2	DC070219
9	1745	2.2	1019.6	1022.3	1021.9	26.64	27.98	26.99	31.27	34.31	33.95	25.71	39.72	30.44	7.20	7.55	7.38	2.99	4.94	3.57	7.34	10.60	9.15	0.1	0.2	0.1	DC070220
10	1759	2.4	1018.6	1021.0	1020.5	27.17	27.66	27.34	29.80	32.73	32.15	1.85	13.92	4.76	6.95	7.10	7.01	5.43	11.29	7.88	9.52	43.75	18.87	0.1	0.1	0.1	DC070221
11	1815	2.1	1013.6	1016.4	1015.7	25.12	25.85	25.65	22.11	26.06	25.15	1.71	3.38	2.00	6.46	6.61	6.48	12.76	27.90	21.61	6.86	32.59	17.90	0.1	0.1	0.1	DC070222

Table 109a Deep Creek - Water Quality Maxima and Minima - High Water - 15 May 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0903	0.6	1021.9	1021.9	1021.9	21.59	21.59	21.59	31.74	31.74	31.74	86.53	86.82	86.66	7.82	7.83	7.83	2.01	2.50	2.39	0.00	0.00	0.00	228.5	4805.0	3094.0	BL070201
2	0916	0.6	1022.8	1022.8	1022.8	22.81	22.84	22.83	33.42	33.48	33.45	67.23	72.39	68.90	7.86	7.88	7.88	2.50	7.38	3.87	0.00	0.00	0.00	2526.0	5096.0	4635.5	BL070202
3	0922	2.2	1022.1	1023.9	1023.1	22.80	22.98	22.89	32.55	34.84	33.82	77.32	83.07	80.90	7.77	7.88	7.82	3.48	10.80	5.84	0.00	1.41	0.77	389.3	1065.0	674.3	BL070203
4	0931	2.2	1021.1	1024.0	1023.8	22.30	22.95	22.92	31.06	35.02	34.73	83.23	95.14	93.24	7.68	8.02	7.92	2.50	3.97	3.09	0.18	1.26	0.73	78.5	3047.0	236.7	BL070204
5	0944	0.5	1019.5	1021.6	1020.5	22.11	23.83	23.06	28.96	32.27	30.53	66.89	72.14	69.01	7.26	7.39	7.29	4.46	5.92	5.23	1.73	2.04	1.86	173.5	498.0	291.7	BL070205
6	0951	0.4	1018.4	1020.7	1019.2	22.09	23.81	23.01	27.95	30.73	28.78	63.57	74.68	70.68	7.46	7.54	7.49	3.48	6.41	3.84	0.04	2.72	2.08	157.7	2583.0	1064.1	BL070206
7	1013	2.6	1020.2	1023.6	1022.8	22.94	25.08	23.73	30.76	34.51	33.84	43.57	59.94	52.80	7.12	7.88	7.59	0.00	31.32	3.14	1.00	5.63	3.70	357.8	4752.0	1243.1	BL070207
8	1027	3.4	1022.4	1023.0	1022.9	23.90	24.88	24.10	33.67	34.10	34.02	34.10	40.04	38.39	7.40	7.73	7.61	2.01	4.94	2.89	3.41	8.39	5.94	100.0	148.7	138.9	BL070208
9	1036	1.5	1021.2	1022.5	1022.3	24.89	25.44	25.05	32.35	33.82	33.62	20.91	24.30	22.48	6.80	7.39	7.09	2.50	3.48	3.01	5.38	8.45	7.31	122.4	277.6	130.9	BL070209
10	1048	0.9	1017.1	1020.8	1020.0	24.55	26.15	25.86	26.60	32.03	30.90	2.87	8.99	3.61	6.65	6.86	6.70	3.48	9.34	7.75	4.80	6.60	5.79	1276.0	4770.0	2627.8	BL070210
11	1104	1.3	1016.8	1018.9	1018.5	24.89	25.67	25.50	26.23	29.36	28.72	3.40	29.65	9.47	6.52	6.59	6.55	10.32	18.62	14.34	13.96	34.13	23.59	32.2	124.2	67.9	BL070211

Table 109b Deep Creek - Water Quality Maxima and Minima - Low Water - 15 May 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1210	0.8	1022.7	1022.9	1022.8	23.56	23.60	23.58	33.60	33.79	33.71	108.72	109.94	109.37	8.01	8.02	8.01	1.52	2.99	1.67	0.00	0.00	0.00	1343.0	5003.0	3207.7	BL070212
2	1219	0.5	1011.3	1021.2	1020.1	22.00	22.35	22.14	17.94	31.08	29.62	67.61	73.08	69.48	7.68	7.73	7.69	0.00	49.88	6.27	0.00	0.09	0.01	258.9	308.9	283.4	BL070213
3	1223	1.7	1021.8	1023.7	1023.2	22.97	23.17	23.07	32.12	34.72	34.05	85.98	91.33	89.82	7.74	7.95	7.85	3.48	11.29	7.27	0.18	5.75	2.41	98.9	3427.0	661.6	BL070214
4	1228	3.4	1021.9	1023.9	1023.4	23.08	23.46	23.16	32.45	34.96	34.31	79.51	95.63	90.69	7.75	8.01	7.92	3.48	13.25	5.26	0.77	4.49	2.20	124.6	1904.0	314.7	BL070215
5	1255	0.6	1020.9	1021.8	1021.4	24.42	24.57	24.51	31.52	32.81	32.22	77.85	79.92	79.22	7.62	7.72	7.66	5.92	9.34	7.82	4.27	7.15	5.89	473.0	5444.0	2686.6	BL070216
6	1300	0.6	1016.6	1021.4	1019.7	23.22	24.71	24.03	25.41	32.37	29.84	78.49	91.45	86.02	7.41	7.75	7.50	4.46	7.38	5.26	2.44	6.76	3.44	71.0	91.9	79.3	BL070217
7	1310	2.8	1021.5	1023.5	1023.2	23.03	25.10	23.53	32.64	34.48	34.17	50.83	65.09	60.88	7.24	7.85	7.72	2.01	8.36	3.04	3.01	9.07	5.98	113.3	365.7	147.2	BL070218
8	1319	2.2	1019.6	1023.0	1022.3	24.00	25.51	24.63	30.12	34.09	33.45	37.60	44.12	41.83	6.84	7.70	7.40	2.01	3.97	2.75	5.73	9.57	8.10	47.4	814.7	139.5	BL070219
9	1326	1.6	1022.0	1022.4	1022.3	25.04	25.40	25.14	33.41	33.81	33.72	28.65	32.26	30.52	7.06	7.53	7.37	2.99	4.94	4.10	9.46	10.95	10.57	82.6	97.4	95.5	BL070220
10	1338	3.1	1019.9	1021.3	1021.0	26.12	26.25	26.16	30.95	32.72	32.36	1.08	9.96	4.07	6.64	7.04	6.92	2.50	11.78	5.55	4.84	12.84	7.94	62.5	5464.0	796.5	BL070221
11	1351	0.5	1014.6	1015.5	1014.8	24.45	24.95	24.59	23.31	24.47	23.52	51.42	88.71	59.79	6.47	6.51	6.50	13.73	24.97	15.43	0.00	0.04	0.00	276.6	350.0	324.6	BL070222



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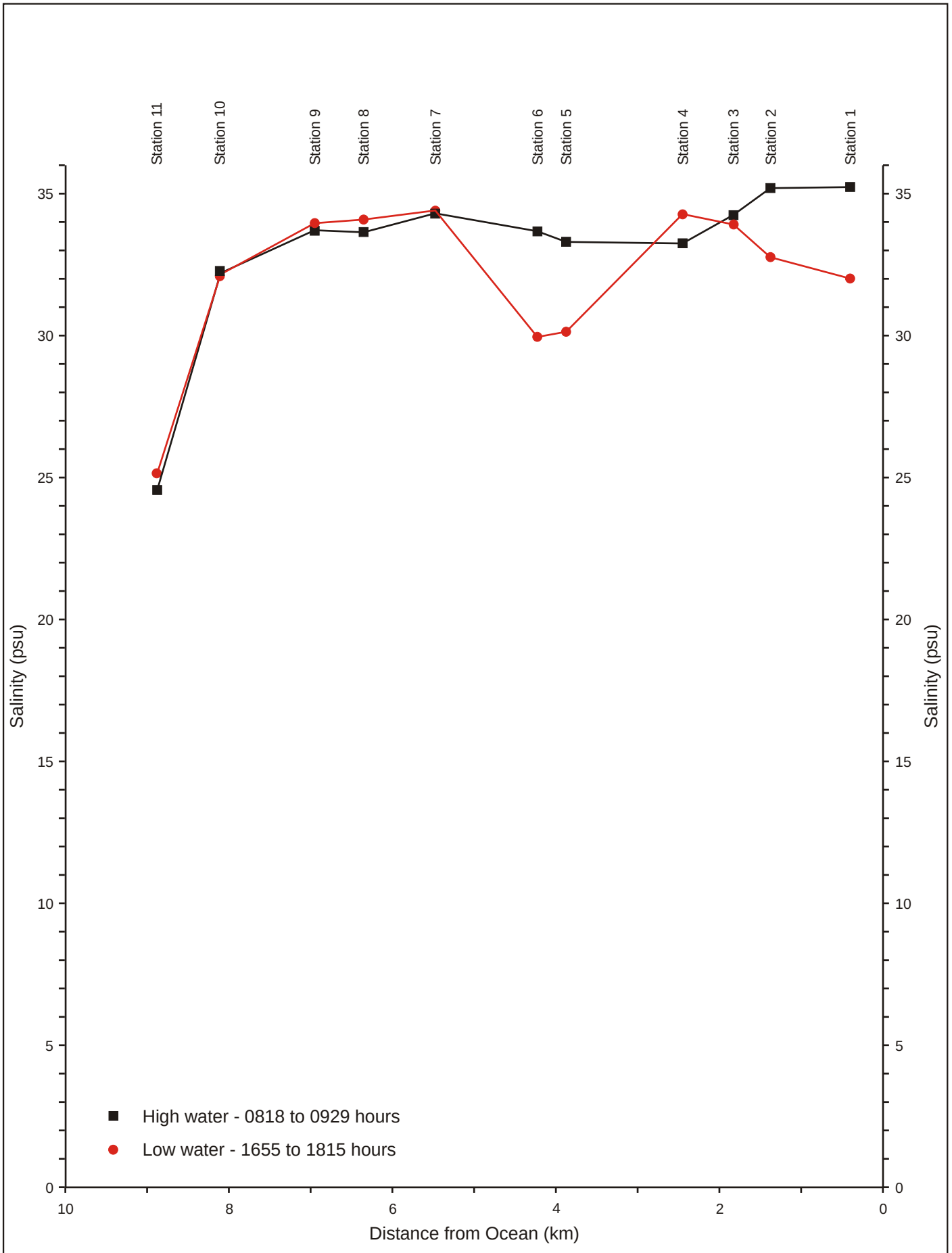
DEEP CREEK

26 APRIL 2002

MHL Report 1812

Figure 89

DRAWING 1812-089.CDR



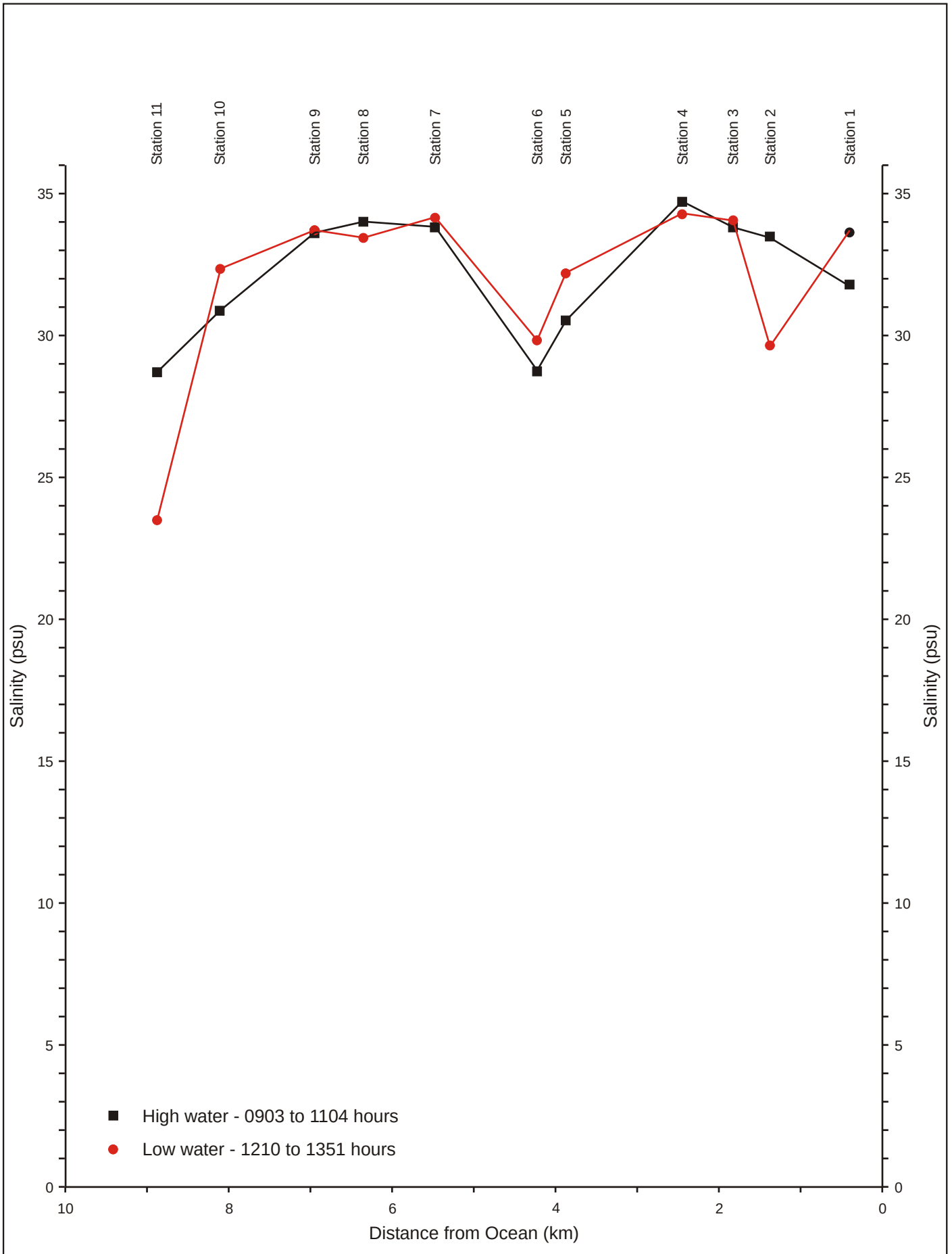
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
DEEP CREEK - HIGH AND LOW WATER
26 APRIL 2002

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Figure 90

DRAWING 1812-090.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
DEEP CREEK - HIGH AND LOW WATER
15 MAY 2002

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Figure 91

DRAWING 1812-091.CDR

Nambucca River Data Summary

Data was collected in the Nambucca River estuary on 27 and 28 September 1999, as detailed in report MHL1025. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 110 to 112. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 113a to 115b. The locations at which these profiles were taken are shown in Figures 92 and 93. Long channel depth-averaged salinity profiles are shown in Figures 94 to 96.

Table 110 Nambucca River - 28 September 1999

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	500875	6609370	0.85	35.29	28.19
2	498855	6607190	3.98	33.55	22.91
3	497205	6605190	6.68	27.50	23.43
4	495605	6602890	9.68	24.30	22.23
5	492405	6603090	13.03	21.87	17.67
6	492245	6606090	16.73	14.74	9.43
7	490555	6607940	20.18	3.42	1.33
8	489065	6607830	23.00	0.08	0.11
9	487245	6608170	26.88	0.06	0.06

Table 111 Taylors Arm - 28 September 1999

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
10	491705	6603590	14.20	18.46	21.74
11	490705	6601850	16.43	11.45	7.81
12	489005	6601370	18.33	6.19	2.86
13	487605	6601090	20.53	1.18	0.76
14	486035	6600610	23.48	0.13	0.13
15	484985	6601850	26.58	0.10	0.10
16	483285	6600690	30.53	0.09	0.08

Table 112 Warrell Creek - 27 September 1999

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
17	500525	6608440	1.825	35.30	29.40
18	498865	6605190	5.700	31.47	16.58
19	498145	6602190	8.850	18.51	9.90
20	498505	6598710	13.375	7.59	2.95
21	497065	6597940	17.025	1.76	0.87
22	494485	6598110	20.300	0.32	0.29
23	492235	6599030	24.050	0.25	0.26
24	491045	6598150	28.600	0.24	0.30

Table 113a Nambucca River - Water Quality Maxima and Minima - Low Water - 28 September 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF	Figure No.
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean		
1	0714	5.4	1018.7	1020.0	1019.5	20.20	20.47	20.30	27.15	28.86	28.18	88.02	93.47	91.55	8.07	8.12	8.10	2.99	3.48	3.20	1.52	2.05	1.75	5.5	139.7	34.1	NA020717	G1
2	0735	2.9	1011.9	1021.0	1015.3	20.60	21.14	21.05	18.41	30.28	22.91	82.78	86.81	85.54	7.88	7.95	7.91	3.97	5.43	4.37	2.08	3.40	2.92	27.7	187.4	69.4	NA020718	G2
3	0746	2.0	1014.1	1016.8	1015.6	21.36	21.67	21.49	21.48	24.99	23.43	77.65	82.01	79.22	7.78	7.89	7.83	3.97	6.41	4.75	1.58	2.88	2.27	51.6	125.6	78.6	NA020719	G3
4	0758	5.9	1007.5	1018.0	1014.7	20.87	21.74	21.53	12.47	26.56	22.22	66.36	80.64	76.74	7.49	7.91	7.66	3.97	8.85	5.79	1.12	6.51	2.57	6.0	5711.0	365.3	NA020720	G4
5	0818	3.5	1006.0	1016.1	1011.3	21.06	21.71	21.43	10.67	24.21	17.67	71.61	77.36	74.49	7.30	7.66	7.42	4.45	7.39	5.42	1.70	5.05	3.46	18.7	376.6	101.3	NA020721	G5
6	0834	2.2	1002.2	1012.8	1005.2	20.38	21.49	20.77	5.42	19.73	9.43	66.75	75.45	73.20	7.14	7.38	7.25	4.94	7.87	6.44	1.82	13.04	3.75	40.9	835.9	139.3	NA020722	G6
7	0847	1.7	999.2	999.7	999.3	19.46	19.55	19.49	1.17	1.85	1.33	75.40	76.60	76.27	7.40	7.50	7.46	25.46	29.85	26.71	2.74	4.15	3.41	14.9	342.3	99.7	NA020723	G7
8	0901	1.8	998.5	998.5	998.5	18.80	18.81	18.81	0.11	0.11	0.11	76.29	76.84	76.59	7.43	7.51	7.46	56.23	71.37	61.82	5.33	5.63	5.43	1.5	305.5	50.9	NA020724	G8
9	0921	2.3	998.5	998.5	998.5	18.68	18.69	18.68	0.06	0.06	0.06	55.10	63.65	60.78	7.14	7.19	7.16	557.81	559.28	558.49	12.09	12.12	12.11	0.1	111.2	15.5	NA020725	G9

Table 113b Nambucca River - Water Quality Maxima and Minima - High Water - 28 September 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF	Figure No.
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean		
1	1131	5.4	1025.0	1025.1	1025.1	19.69	19.78	19.71	35.28	35.32	35.29	97.15	98.34	97.88	8.08	8.09	8.08	1.04	2.01	1.53	0.00	0.00	0.00	327.6	665.6	504.0	NA020726	G10
2	1146	2.7	1021.3	1024.8	1023.6	19.93	20.61	20.15	30.69	35.00	33.55	94.59	98.74	97.40	8.03	8.10	8.07	1.52	3.48	2.39	0.00	0.62	0.34	357.7	3315.0	679.5	NA020727	G11
3	1159	2.8	1016.2	1021.8	1018.8	20.19	21.92	20.91	24.45	31.20	27.50	87.07	92.31	89.86	7.96	8.04	7.98	2.99	3.97	3.46	0.82	3.65	2.74	158.8	759.8	175.5	NA020728	G12
4	1209	6.3	1011.4	1018.4	1016.3	21.17	22.36	21.43	18.18	27.03	24.29	64.03	90.89	81.22	7.79	7.92	7.87	3.97	6.90	4.96	1.06	6.72	3.17	7.8	284.9	92.5	NA020729	G13
5	1224	5.3	1006.4	1017.4	1014.4	21.53	22.65	21.62	11.59	25.80	21.87	70.19	88.01	75.77	7.48	7.81	7.65	3.97	7.87	5.43	1.05	7.34	2.96	14.9	237.1	90.3	NA020730	G14
6	1236	2.5	1004.4	1014.1	1009.0	21.24	21.58	21.46	8.57	21.43	14.74	71.13	84.52	78.77	7.22	7.39	7.29	4.94	6.41	5.40	2.37	12.27	6.89	60.7	461.0	185.5	NA020731	G15
7	1254	3.2	999.1	1003.4	1000.8	19.69	20.45	19.99	1.17	6.94	3.42	68.08	76.98	72.42	7.02	7.54	7.28	9.83	27.41	18.93	1.96	5.60	3.06	1.3	247.8	35.6	NA020732	G16
8	1304	2.8	998.3	998.5	998.4	19.03	20.07	19.29	0.08	0.09	0.08	76.65	79.95	77.25	7.27	7.50	7.33	52.32	75.27	61.47	4.58	5.90	5.39	0.0	1314.0	93.4	NA020733	G17
9	1320	1.8	998.4	998.4	998.4	19.42	19.44	19.42	0.06	0.06	0.06	58.50	63.34	60.08	7.13	7.19	7.15	554.39	554.88	554.68	12.03	12.04	12.03	1.4	92.6	19.3	NA020734	G18

Table 114a Taylors Arm - Water Quality Maxima and Minima - Low Water - 28 September 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF	Figure No.
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean		
10	0841	3.7	1005.0	1017.6	1014.3	20.89	21.62	21.46	9.21	26.14	21.74	72.01	77.81	73.56	7.16	7.88	7.60	9.28	10.74	9.86	-	-	-	-	-	-	NA280901	G19
11	0853	2.8	1001.4	1010.4	1003.9	20.71	21.70	21.02	4.40	16.58	7.81	73.44	80.04	76.98	7.05	7.18	7.12	8.30	9.77	8.71	-	-	-	-	-	-	NA280902	G20
12	0901	2.9	1000.2	1000.5	1000.3	20.36	20.40	20.38	2.72	3.12	2.86	77.04	80.83	77.59	7.11	7.13	7.13	9.77	11.23	10.49	-	-	-	-	-	-	NA280903	G21
13	0908	1.1	998.9	998.9	998.9	19.48	19.49	19.49	0.76	0.76	0.76	74.44	76.27	75.08	7.06	7.07	7.07	10.26	11.72	10.53	-	-	-	-	-	-	NA280904	G22
14	0919	2.8	998.5	998.5	998.5	18.97	18.99	18.97	0.13	0.13	0.13	73.03	78.01	74.04	7.15	7.16	7.16	13.19	15.14	13.57	-	-	-	-	-	-	NA280905	G23
15	0935	3.6	998.5	998.5	998.5	18.98	19.03	18.99	0.10	0.10	0.10	75.47	77.03	76.08	7.12	7.15	7.14	20.02	24.91	21.53	-	-	-	-	-	-	NA280906	G24
16	0954	1.5	998.5	998.5	998.5	18.91	18.91	18.91	0.09	0.09	0.08	77.77	79.36	78.85	7.10	7.12	7.11	38.10	41.03	39.20	-	-	-	-	-	-	NA280907	G25

Note Chlorophyll-a and PAR sensors are not fitted to Sea-Bird SBE 19-03 only to the SBE 25-03

Table 114b Taylors Arm - Water Quality Maxima and Minima - High Water - 28 September 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF	Figure No.
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean		
10	1227	4.9	1006.4	1016.6	1011.8	21.62	22.74	21.81	11.60	24.79	18.46	71.14	86.57	77.15	7.41	7.78	7.56	8.79	11.72	10.38	-	-	-	-	-	-	NA280908	G26
11	1238	1.7	1004.4	1008.1	1006.4	21.75	22.34	21.94	8.94	13.61	11.45	79.12	82.88	80.96	7.27	7.32	7.29	8.79	11.23	9.57	-	-	-	-	-	-	NA280909	G27
12	1248	3.1	1001.3	1005.2	1002.6	21.21	21.42	21.31	4.43	9.56	6.19	78.90	85.02	81.74	7.09	7.17	7.13	9.28	10.74	9.94	-	-	-	-	-	-	NA280910	G28
13	1256	1.9	998.9	999.2	999.1	20.09	20.38	20.19	1.01	1.31	1.18	75.88	77.96	76.66	7.08	7.16	7.11	9.77	11.23	10.37	-	-	-	-	-	-	NA280911	G29
14	1307	2.4	998.4	998.4	998.4	19.41	19.46	19.43	0.13	0.13	0.13	73.61	74.41	73.97	7.16	7.16	7.16	13.68	15.63	14.46	-	-	-	-	-	-	NA280912	G30
15	1320	4.9	998.4	998.4	998.4	19.49	19.54	19.51	0.10	0.10	0.10	76.59	79.59	77.50	7.09	7.12	7.11	23.93	30.77	25.53	-	-	-	-	-	-	NA280913	G31
16	1336	2.0	998.4	998.4	998.4	19.19	19.20	19.19	0.09	0.09	0.09	80.51	81.23	80.84	7.06	7.09	7.08	37.12	51.28	40.27	-	-	-	-	-	-	NA280914	G32

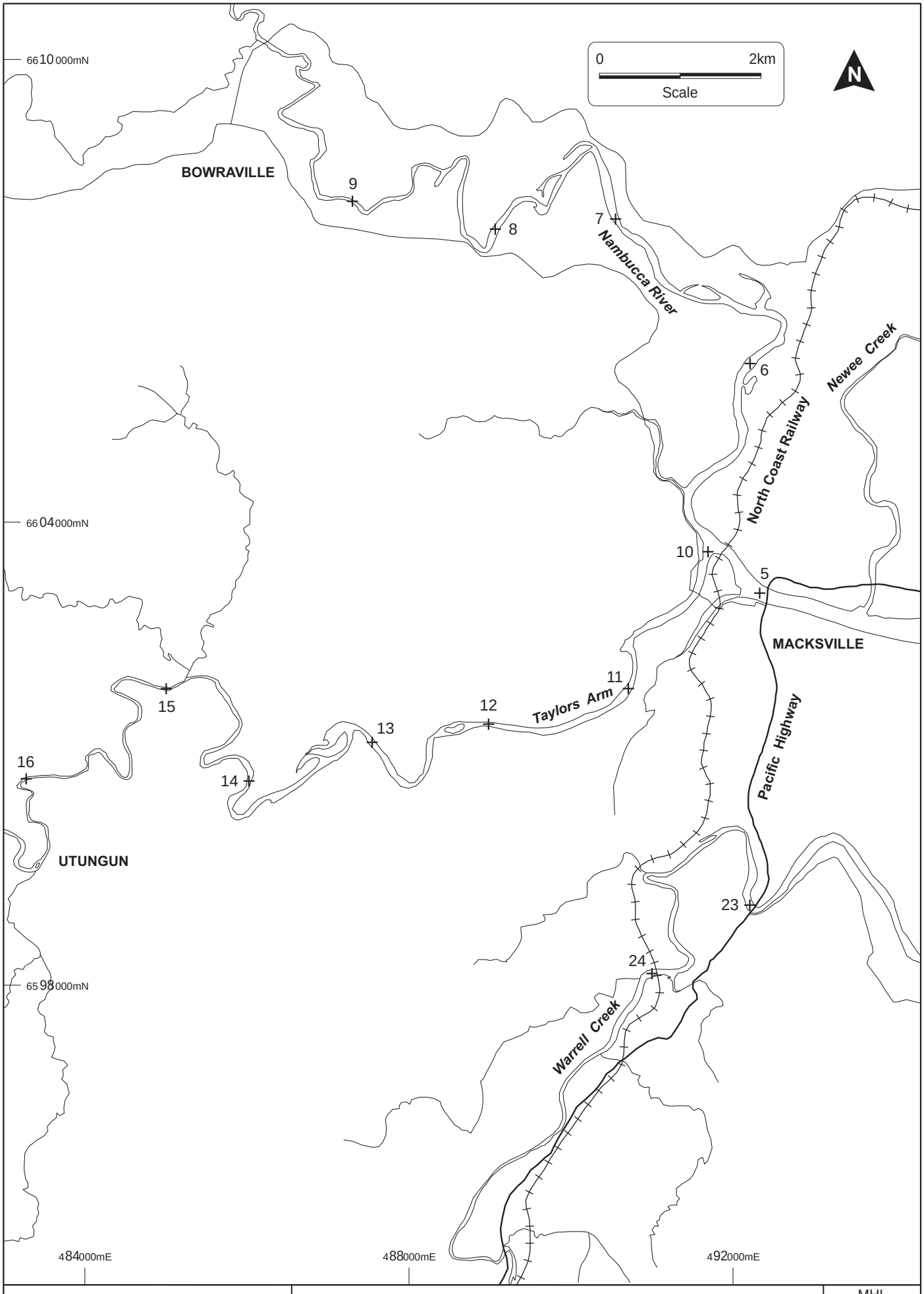
Note Chlorophyll-a and PAR sensors are not fitted to Sea-Bird SBE 19-03 only to the SBE 25-03

Table 115a Warrell Creek - Water Quality Maxima and Minima - Low Water - 27 September 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF	Figure No.
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean		
17	0621	1.8	1020.1	1020.9	1020.3	20.47	20.71	20.65	29.11	30.13	29.40	82.66	83.84	83.38	7.93	8.01	7.97	1.04	2.01	1.49	1.13	1.52	1.32	0.0	0.0	0.0	NA020701	G33
18	0718	1.9	1009.6	1011.8	1010.3	21.79	22.05	21.99	15.73	18.59	16.58	75.66	78.31	77.19	7.79	7.81	7.80	1.52	2.01	1.86	4.05	4.32	4.21	0.0	0.0	0.0	NA020702	G34
19	0742	1.9	1005.0	1005.9	1005.2	22.16	22.20	22.17	9.63	10.78	9.90	75.67	77.01	76.66	7.53	7.55	7.54	2.01	2.99	2.70	3.37	3.94	3.65	142.3	422.1	242.1	NA020703	G35
20	0813	4.5	999.9	1003.0	1000.2	21.31	22.12	21.36	2.56	6.93	2.95	57.42	80.82	72.38	7.24	7.40	7.33	3.48	4.94	4.07	3.39	5.11	4.31	6.5	447.6	77.8	NA020704	G36
21	0829	3.6	998.4	999.5	998.7	20.98	21.22	21.05	0.56	2.01	0.87	64.65	77.10	73.22	7.06	7.33	7.22	3.97	5.43	4.53	5.95	7.93	7.30	14.4	2263.0	159.4	NA020705	G37
22	0842	2.4	998.2	998.3	998.3	20.82	20.92	20.85	0.28	0.29	0.29	76.96	77.77	77.40	7.09	7.12	7.10	5.43	7.87	6.22	7.41	8.51	8.09	46.2	549.9	179.0	NA020706	G38
23	0858	4.4	998.2	998.7	998.4	18.84	20.82	20.04	0.25	0.27	0.26	45.47	76.30	64.29	6.88	7.01	6.94	3.48	4.45	3.73	3.96	7.65	5.23	14.0	3854.0	188.7	NA020707	G39
24	0918	4.5	998.4	1000.3	998.7	16.24	19.82	18.73	0.19	1.74	0.30	6.68	71.13	53.85	6.45	6.83	6.69	3.48	9.83	4.35	1.45	3.52	2.29	14.9	1016.0	231.8	NA020708	G40

Table 115b Warrell Creek - Water Quality Maxima and Minima - High Water - 27 September 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF	Figure No.
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean		
17	1124	2.5	1024.9	1024.9	1024.9	20.24	20.30	20.26	35.29	35.30	35.30	98.36	99.68	98.99	8.04	8.05	8.04	2.01	2.50	2.04	0.00	0.00	0.00	653.5	2296.0	804.2	NA020709	G41
18	1213	2.1	1020.3	1022.1	1021.8	20.98	21.46	21.06	29.67	31.86	31.47	97.03	99.77	97.51	8.04	8.06	8.05	1.52	2.50	1.84	0.00	1.06	0.36	191.6	947.2	274.8	NA020710	G42
19	1228	2.8	1011.2	1011.8	1011.6	22.64	22.68	22.66	18.04	18.77	18.51	81.95	95.08	88.50	7.87	7.89	7.88	2.01	2.50	2.24	5.45	7.90	6.13	46.1	644.0	112.9	NA020711	G43
20	1254	4.5	1002.9	1003.6	1003.3	22.73	22.78	22.76	7.05	7.92	7.59	79.59	80.87	80.23	7.43	7.52	7.45	2.99	5.43	3.52	4.27	5.36	4.92	18.5	2221.0	249.4	NA020712	G44
21	1307	3.5	999.0	999.3	999.2	21.59	21.75	21.67	1.58	1.87	1.76	75.07	77.26	76.40	7.29	7.45	7.36	4.45	8.85	5.03	6.36	7.67	7.06	16.3	1544.0	182.7	NA020713	G45
22	1320	3.0	998.0	998.2	998.1	21.42	21.90	21.67	0.31	0.32	0.32	79.85	83.43	81.88	7.29	7.41	7.32	5.92	7.87	6.50	8.21	9.91	9.16	12.5	1261.0	185.1	NA020714	G46
23	1331	0.8	998.1	998.2	998.2	21.08	21.39	21.13	0.25	0.25	0.25	60.76	136.35	78.67	7.12	7.14	7.13	3.48	3.97	3.84	7.74	9.89	9.26	483.5	1835.0	1036.3	NA020715	G47
24	1348	3.9	998.2	999.2	998.5	16.53	20.70	19.33	0.19	0.48	0.24	22.49	78.58	61.82	6.56	6.85	6.73	3.48	6.90	4.42	1.65	5.70	3.20	11.2	1674.0	248.2	NA020716	G48



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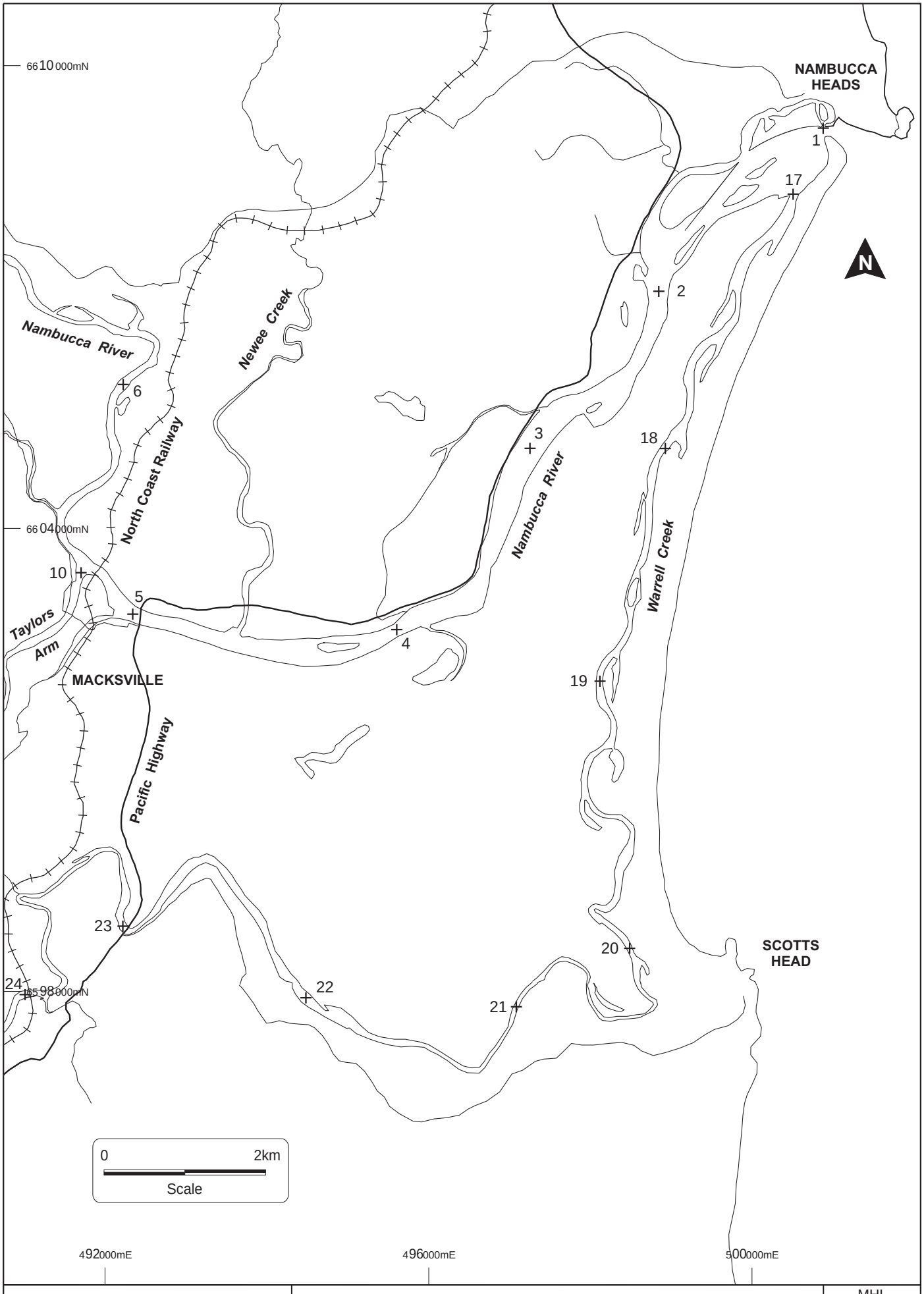
NAMBUCCA RIVER

27 AND 28 SEPTEMBER 1999

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Figure 92

DRAWING 1812-092.CDR



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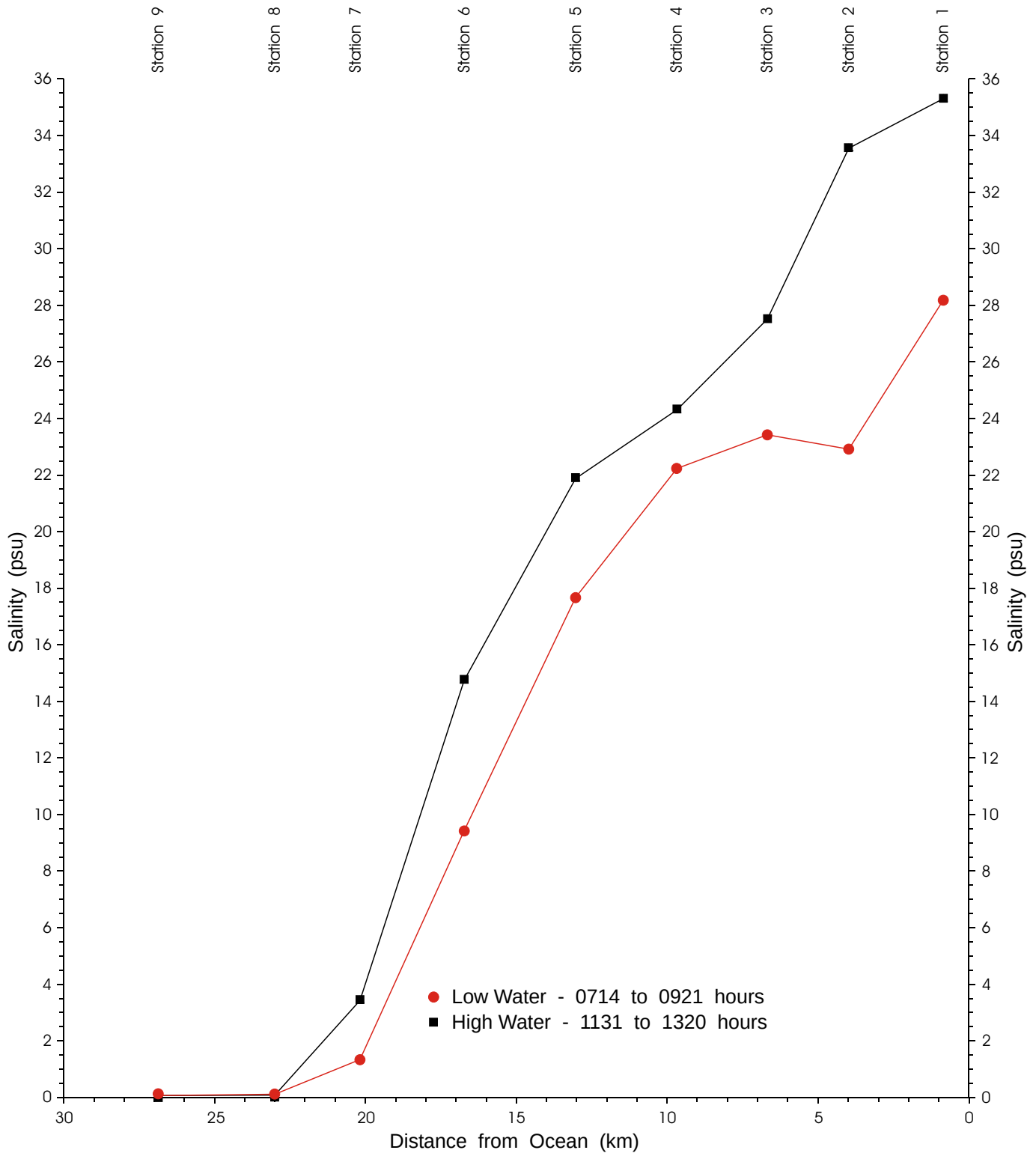
NAMBUCCA RIVER

27 AND 28 SEPTEMBER 1999

MHL Report 1812

Figure 93

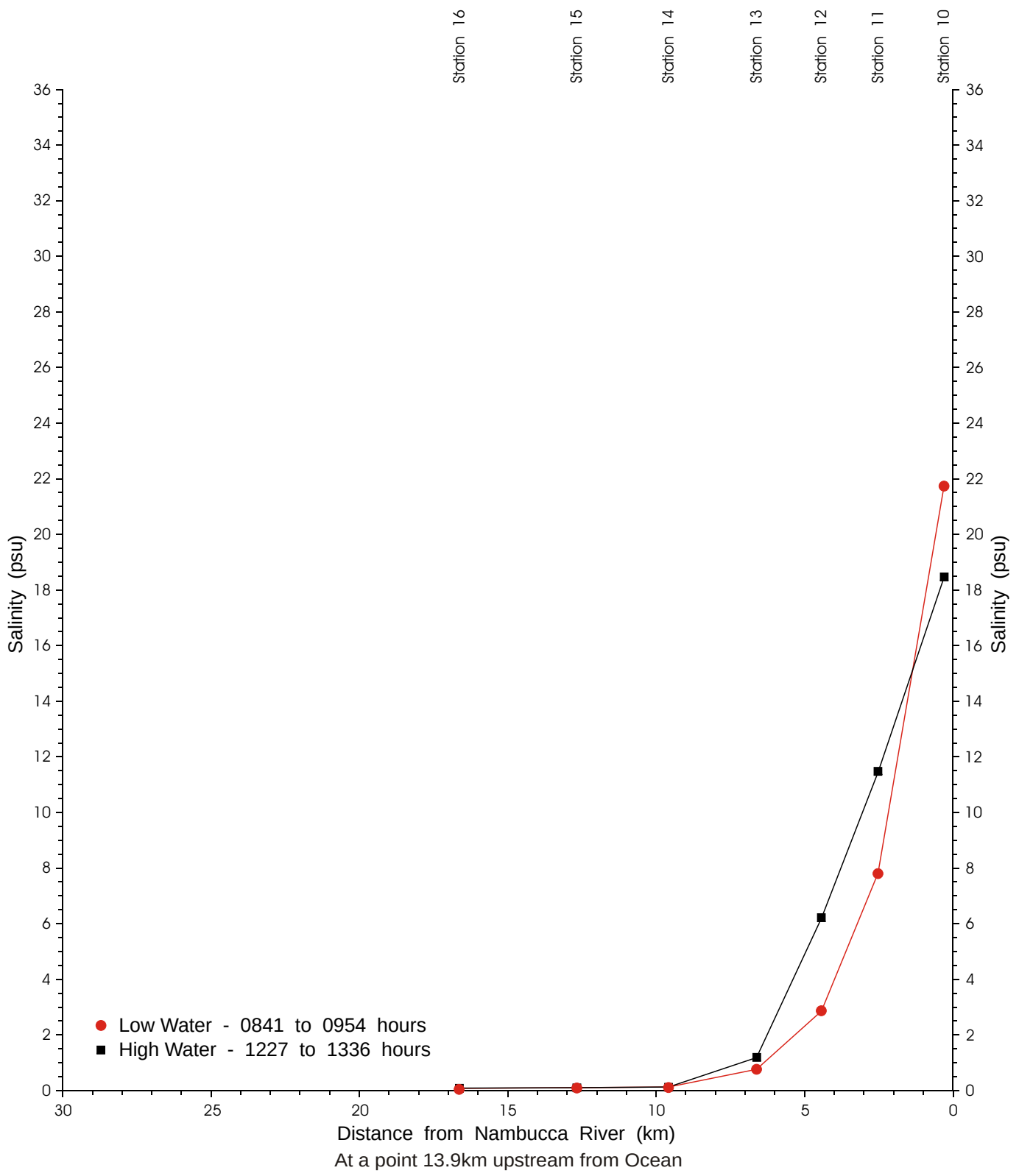
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
NAMBUCCA RIVER - HIGH AND LOW WATER
28 SEPTEMBER 1999

MHL Report 1812
Figure 94
DRAWING 1812-094.CDR



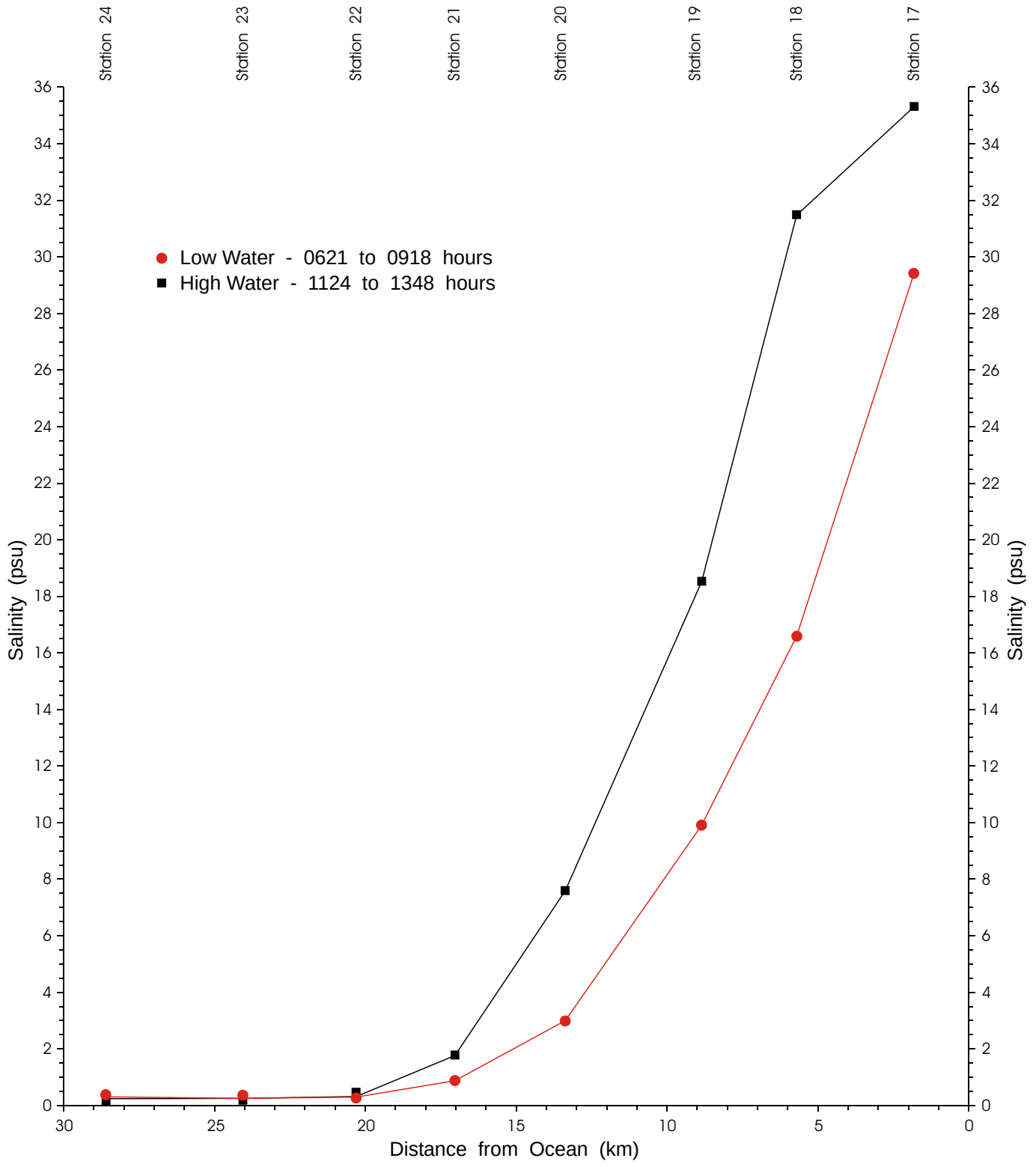
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
TAYLORS ARM - HIGH AND LOW WATER
28 SEPTEMBER 1999

MHL Report 1812

Figure 95

DRAWING 1812-095.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
WARRELL CREEK - HIGH AND LOW WATER
27 SEPTEMBER 1999

MHL Report 1812

Figure 96

DRAWING 1812-096.CDR

Data was also collected in the Nambucca River estuary on 19 January 2003. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 116 and 117. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 118a to 119b. The locations at which these profiles were taken are shown in Figure 97. Long channel depth-averaged salinity profiles are shown in Figures 98 and 99.

Table 116 Nambucca River - 19 January 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
N1	492440	6603062	13.03	35.05	34.26
N2	491694	6603820	14.10	34.81	-
N3	491734	6604653	15.10	34.35	-
N4	492058	6605428	16.05	34.21	-
N5	492490	6606280	17.05	33.88	32.99
N6	492076	6606769	18.05	33.43	-
N7	491139	6607119	19.10	32.97	-
N8	490564	6607899	20.10	32.57	-
N9	490244	6608817	21.10	31.89	29.97
N10	489003	6607585	23.15	29.02	26.23
N11	488136	6608643	25.35	25.69	22.82
N12	487867	6608199	26.05	-	18.23
N13	487554	6608051	26.40	23.81	-
N14	486556	6609101	28.48	16.00	-
N15	486750	6609560	29.15	13.35	-

Note No profiling at Station N12 on high water run
No profiling at Stations N2, N3, N4, N6, N7 and N8 on low water run
Profiling stopped at Station N15 on high water run and Station N12 on low water run due to shoals

Table 117 Taylors Arm - 19 January 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
T1	491691	6603639	14.00	34.62	34.04
T2	489101	6601376	17.00	33.24	31.67
T3	486683	6600628	21.65	30.79	29.58
T4	486116	6600354	22.28	-	28.97
T5	485823	6600956	23.65	28.87	-
T6	485431	6602000	25.75	26.35	-
T7	484494	6601328	27.68	24.13	-
T8	483830	6600715	29.43	21.93	-

Note No profiling at Station T4 on high water run
Profiling stopped at Station T8 on high water run and Station T4 on low water run due to shoals

Table 118a Nambucca River - Water Quality Maxima and Minima - High Water - 19 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
N1	1058	4.6	1022.6	1023.0	1022.8	26.50	27.09	26.75	34.90	35.17	35.05	84.16	89.25	87.05	7.69	7.70	7.69	11.23	15.14	12.54	NAM001
N2	1103	8.0	1022.3	1022.7	1022.6	26.84	27.37	27.07	34.64	34.92	34.81	82.48	87.77	85.19	7.65	7.68	7.66	10.74	14.16	11.84	NAM002
N3	1109	4.4	1021.8	1022.3	1022.2	26.93	27.60	27.15	34.02	34.44	34.35	82.98	92.14	87.12	7.63	7.66	7.64	9.77	15.14	11.76	NAM003
N4	1114	3.6	1021.8	1022.3	1022.1	26.72	27.60	26.97	33.98	34.33	34.21	73.73	89.90	83.53	7.60	7.64	7.62	9.77	17.58	12.37	NAM004
N5	1119	5.4	1021.4	1022.2	1021.8	26.84	27.58	27.27	33.49	34.16	33.88	79.38	92.91	88.61	7.60	7.65	7.62	9.28	12.21	10.60	NAM005
N6	1124	2.5	1021.4	1021.5	1021.5	27.13	27.27	27.23	33.39	33.47	33.43	85.12	88.68	86.76	7.59	7.61	7.60	10.26	13.19	11.57	NAM006
N7	1130	4.1	1020.9	1021.4	1021.1	27.05	27.50	27.27	32.78	33.19	32.97	82.29	87.85	85.07	7.55	7.56	7.55	10.26	12.70	11.20	NAM007
N8	1135	3.0	1020.7	1020.8	1020.8	27.30	27.55	27.45	32.53	32.61	32.57	81.07	86.03	83.93	7.53	7.54	7.54	9.77	11.23	10.42	NAM008
N9	1140	7.6	1019.9	1020.4	1020.2	27.38	27.77	27.48	31.60	32.06	31.89	79.87	83.11	80.73	7.47	7.49	7.48	0.00	15.63	9.60	NAM009
N10	1149	2.3	1017.5	1018.3	1018.0	27.58	27.86	27.65	28.47	29.37	29.02	79.33	81.33	79.99	7.35	7.37	7.36	6.35	9.28	7.05	NAM010
N11	1158	4.5	1015.3	1015.7	1015.5	27.50	27.86	27.65	25.52	25.87	25.69	77.49	82.71	79.25	7.24	7.26	7.25	7.33	16.61	8.01	NAM011
N12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N13	1204	1.7	1014.1	1014.2	1014.1	27.68	27.73	27.70	23.76	23.90	23.81	81.58	82.20	81.80	7.17	7.17	7.17	7.33	7.81	7.43	NAM012
N14	1213	1.5	1008.0	1009.1	1008.5	26.58	27.14	26.93	15.40	16.72	16.00	68.76	74.26	72.19	6.78	6.81	6.79	8.30	11.72	9.16	NAM013
N15	1220	1.1	1006.3	1006.9	1006.5	26.77	26.89	26.84	13.08	13.83	13.35	74.44	76.70	75.59	6.62	6.64	6.63	9.28	10.74	10.54	NAM014

Note No profile at Station N12
Profiling stopped at Station N15 due to shoals

Table 118b Nambucca River - Water Quality Maxima and Minima - Low Water - 19 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
N1	1845	3.7	1021.9	1022.0	1021.9	27.62	27.82	27.77	34.24	34.29	34.26	87.51	93.35	92.31	7.60	7.62	7.62	10.26	13.19	11.12	NAM022
N2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N5	1854	4.9	1020.7	1021.4	1021.0	27.42	27.84	27.72	32.72	33.39	32.99	85.64	94.08	91.85	7.52	7.54	7.53	10.74	14.16	12.09	NAM023
N6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N9	1906	5.8	1017.3	1020.2	1018.7	27.39	28.28	27.91	28.27	31.82	29.97	76.17	89.15	84.51	7.33	7.41	7.36	6.84	11.72	7.99	NAM024
N10	1916	2.2	1015.3	1017.0	1015.8	28.05	28.16	28.13	25.60	27.77	26.23	82.31	89.56	88.37	7.26	7.28	7.26	6.84	8.30	7.20	NAM025
N11	1931	5.1	1011.0	1015.5	1013.3	27.40	28.44	27.76	19.55	25.48	22.82	56.75	89.57	77.06	6.91	7.18	7.02	6.84	11.72	8.39	NAM026
N12	1944	1.2	1010.1	1010.1	1010.1	27.20	27.22	27.21	18.22	18.26	18.23	69.45	70.28	69.95	6.85	6.86	6.85	7.81	8.30	7.87	NAM027

Note No profile at Stations N2, N3, N4, N6, N7 and N8
Profiling stopped at Station N12 due to shoals

Table 119a Taylors Arm - Water Quality Maxima and Minima - High Water - 19 January 2003

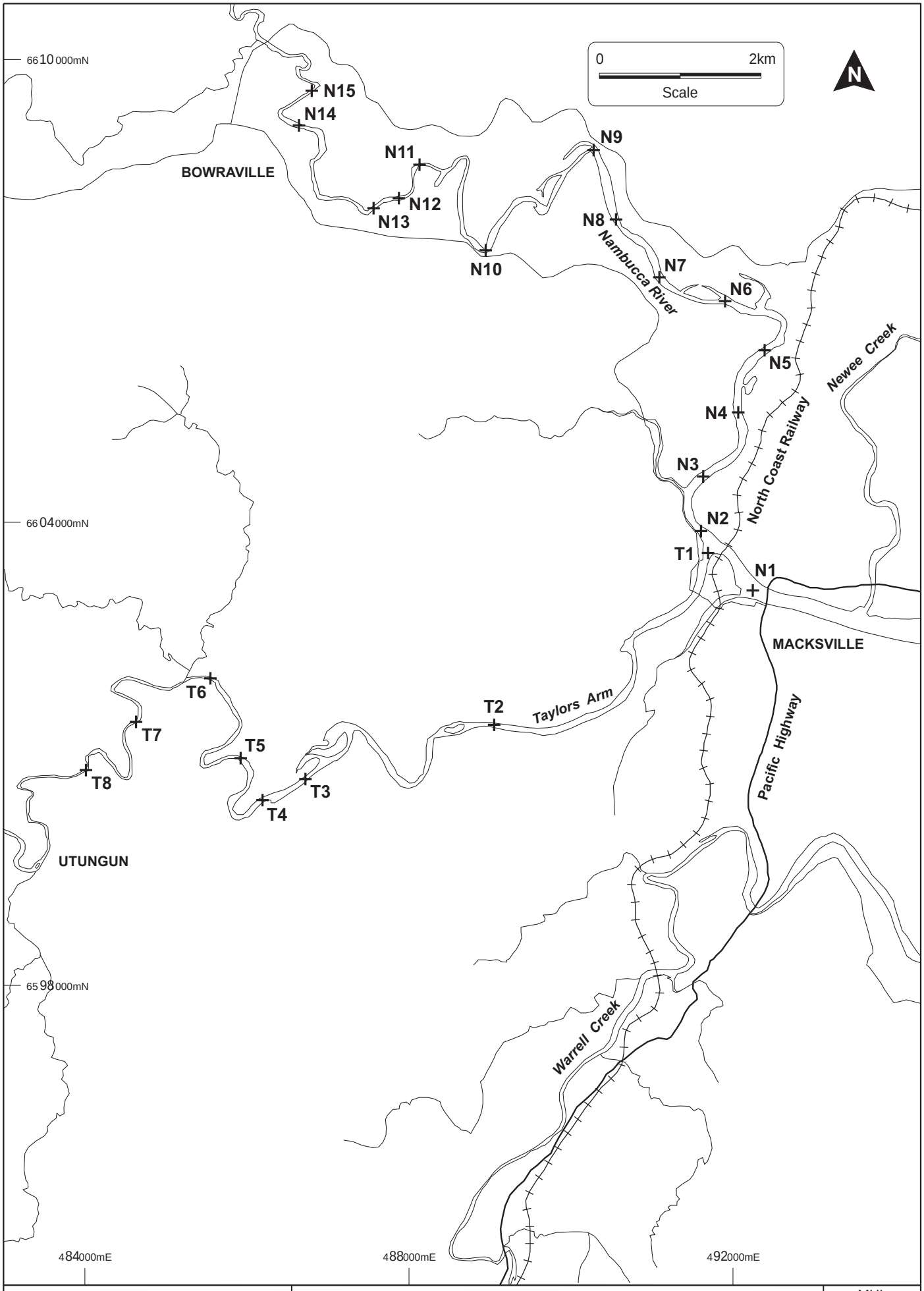
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
T1	1246	2.4	1022.1	1022.2	1022.1	27.79	27.96	27.92	34.61	34.67	34.62	91.78	93.48	92.78	7.69	7.70	7.70	9.77	12.21	11.11	NAM015
T2	1300	1.7	1021.1	1021.2	1021.1	27.82	27.95	27.88	33.21	33.30	33.24	87.57	89.31	88.36	7.56	7.56	7.56	9.28	10.26	9.75	NAM016
T3	1311	1.0	1019.2	1019.2	1019.2	28.09	28.15	28.12	30.77	30.81	30.79	84.66	87.53	85.44	7.38	7.39	7.39	7.33	8.79	7.84	NAM017
T4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T5	1318	3.3	1017.8	1018.0	1017.9	27.54	27.74	27.60	28.75	28.94	28.87	77.72	79.54	78.51	7.26	7.26	7.26	6.35	8.79	6.99	NAM018
T6	1324	2.6	1015.7	1016.4	1016.1	27.35	27.76	27.47	25.98	26.72	26.35	80.28	83.06	80.99	7.19	7.20	7.19	4.88	79.12	13.06	NAM019
T7	1330	1.4	1014.5	1014.6	1014.5	26.98	27.15	27.07	24.06	24.23	24.13	81.82	83.28	82.29	7.09	7.10	7.10	4.88	8.30	5.99	NAM020
T8	1340	1.0	1012.7	1012.8	1012.7	27.59	27.61	27.60	21.90	21.97	21.93	89.85	90.61	90.05	6.99	7.00	6.99	7.81	8.79	8.42	NAM021

Note No profile at Station T4
Profiling stopped at Station T8 due to shoals

Table 119b Taylors Arm - Water Quality Maxima and Minima - Low Water - 19 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
T1	2034	2.9	1021.7	1021.9	1021.8	27.61	27.76	27.69	33.96	34.15	34.04	91.28	97.41	95.66	7.60	7.62	7.62	9.28	11.72	10.29	NAM028
T2	2051	1.6	1020.0	1020.0	1020.0	27.74	27.75	27.75	31.66	31.68	31.67	79.27	80.19	79.70	7.37	7.37	7.37	7.33	7.81	7.41	NAM029
T3	2108	0.8	1018.4	1018.4	1018.4	27.71	27.73	27.72	29.56	29.58	29.58	69.96	72.80	70.77	7.22	7.22	7.22	6.35	6.84	6.80	NAM030
T4	2121	0.9	1018.0	1018.0	1018.0	27.57	27.60	27.58	28.95	28.97	28.97	70.26	70.90	70.72	7.19	7.19	7.19	7.33	10.74	8.09	NAM031

Note Profiling stopped at Station T4 due to shoals



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NAMBUCCA RIVER

19 JANUARY 2003

MHL Report 1812

Figure 97

DRAWING 1812-097.CDR

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
NAMBUCCA RIVER - HIGH AND LOW WATER
19 JANUARY 2003

MHL Report 1812

Figure 98

DRAWING 1812-098.CDR

Public Works
Manly Hydraulics Laboratory

LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
TAYLORS ARM - HIGH AND LOW WATER
19 JANUARY 2003

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Figure 99

DRAWING 1812-099.CDR

Macleay River Data Summary

Data was collected in the Macleay River on 5 December 2002. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 120. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 121a-b. The locations at which these profiles were taken are shown in Figure 100. Long channel depth-averaged salinity profiles are shown in Figure 101.

Table 120 Macleay River - 5 December 2002

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
0	488386	6565966	35.73	-	6.16
1	486365	6564449	38.28	6.97	4.64
2	485551	6562911	39.98	5.70	4.09
3	485099	6561326	41.65	4.43	3.75
4	483859	6560748	43.08	3.88	3.30
5	482940	6562096	45.03	3.52	2.68
6	481301	6563657	47.40	2.46	1.99
7	479701	6562560	49.40	1.94	1.25
8	479406	6561174	50.98	1.13	1.13
9	478857	6560461	52.13	0.84	0.33
10	477668	6560734	53.35	0.28	0.12
11	476445	6560428	54.60	0.10	0.06
12	476056	6560903	55.30	0.09	-
13	475734	6560490	55.93	0.09	-

Note No profiling at Station 0 on high water run
Profiling stopped at Station 13 on high water run at Belgrave Falls
Profiling stopped at Station 11 on low water run due to shoals

Table 121a Macleay River - Water Quality Maxima and Minima - High Water - 5 December 2002

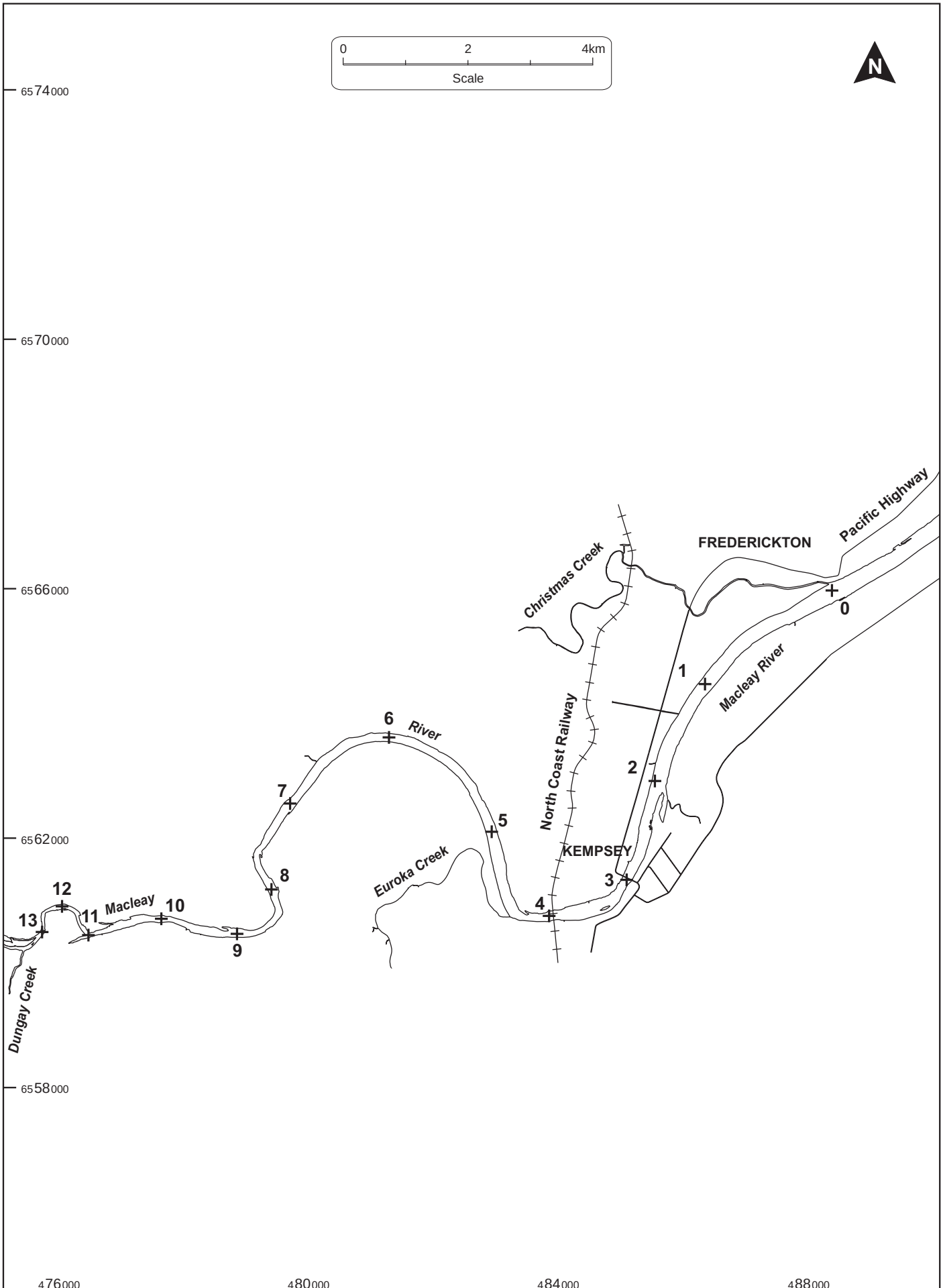
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	1213	4.1	1001.5	1001.9	1001.7	27.04	27.23	27.11	6.73	7.14	6.97	93.66	97.07	95.11	7.43	7.52	7.48	2.50	3.97	3.03	2.43	3.92	3.16	186.7	3621.0	778.2	MC01
2	1222	4.5	1000.5	1000.9	1000.7	27.11	27.31	27.19	5.42	5.86	5.70	97.67	101.05	99.34	7.54	7.64	7.60	2.01	2.99	2.57	1.88	3.63	2.79	151.4	4272.1	632.6	MC02
3	1231	9.8	999.3	1000.1	999.8	27.21	27.41	27.30	3.83	4.85	4.43	100.04	102.62	101.66	7.64	7.76	7.71	0.06	2.99	1.59	1.50	3.05	2.56	11.7	3784.3	346.5	MC03
4	1240	7.1	999.2	999.5	999.3	27.21	27.50	27.35	3.77	4.06	3.88	101.41	104.21	103.08	7.71	7.81	7.77	0.55	2.01	1.18	0.69	1.80	1.24	79.6	4580.9	566.6	MC04
5	1249	3.5	998.8	999.0	999.0	27.50	27.74	27.54	3.37	3.54	3.52	105.19	107.83	105.66	7.88	7.95	7.91	0.06	2.01	1.07	0.16	1.04	0.66	178.7	2462.0	517.2	MC05
6	1258	8.6	998.0	998.4	998.3	27.17	27.65	27.32	2.18	2.60	2.46	102.55	109.87	105.39	7.97	8.31	8.13	0.00	2.99	0.98	0.00	1.30	0.67	33.9	2390.7	391.7	MC06
7	1308	2.4	997.8	997.9	997.8	27.52	27.57	27.55	1.94	1.97	1.94	110.29	112.11	110.57	8.33	8.34	8.33	0.00	18.62	0.96	0.00	0.86	0.02	591.8	4087.8	1433.5	MC07
8	1315	6.9	996.9	997.4	997.3	27.12	27.76	27.32	0.85	1.24	1.13	102.15	110.70	106.13	8.31	8.60	8.45	0.00	3.48	0.48	0.00	0.65	0.08	72.6	4858.3	584.3	MC08
9	1322	3.6	997.0	997.1	997.0	27.45	27.57	27.49	0.81	0.86	0.84	106.83	107.60	107.18	8.52	8.55	8.53	0.00	5.43	0.53	0.00	0.16	0.00	392.2	4752.4	1357.6	MC09
10	1329	1.7	996.5	996.5	996.5	27.70	27.98	27.82	0.25	0.36	0.28	109.13	114.49	110.28	8.66	8.69	8.67	0.00	46.95	2.09	0.00	0.00	0.00	940.2	4614.7	2029.1	MC10
11	1335	4.0	996.2	997.0	996.5	25.67	28.39	27.44	0.10	0.11	0.10	30.34	117.98	93.64	7.59	8.83	8.51	0.55	69.41	6.37	0.00	2.37	0.27	6.9	3477.6	779.4	MC11
12	1342	1.8	996.2	996.3	996.2	28.11	28.52	28.48	0.09	0.09	0.09	103.49	115.54	109.73	8.74	8.78	8.76	0.55	465.99	12.00	0.00	0.05	0.00	514.7	4631.7	1810.9	MC12
13	1352	0.1	995.9	995.9	995.9	29.28	29.29	29.29	0.09	0.09	0.09	101.65	103.37	102.67	8.99	9.00	9.00	1.04	1.52	1.43	0.57	1.16	0.84	1372.7	2462.0	1872.2	MC13

Note No profiling at Station 0 on high water run
Profiling stopped at Station 13 at Belgrave Falls

Table 121b Macleay River - Water Quality Maxima and Minima - Low Water - 5 December 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
0	1856	1.2	1001.0	1001.1	1001.1	27.16	27.23	27.21	6.08	6.22	6.16	104.40	105.12	104.77	7.63	7.64	7.63	2.99	4.46	3.31	4.84	5.54	4.98	0.7	4.5	1.7	mcl00
1	1906	3.1	999.8	1000.0	999.9	27.17	27.28	27.27	4.51	4.77	4.64	106.25	106.85	106.69	7.77	7.79	7.78	2.01	3.48	2.67	3.02	3.44	3.24	0.1	0.7	0.2	mcl01
2	1914	3.3	999.4	999.6	999.5	27.34	27.53	27.39	4.00	4.32	4.09	106.32	109.12	107.21	7.81	7.83	7.81	1.52	2.99	1.77	1.74	2.39	2.02	0.1	0.2	0.1	mcl02
3	1921	6.0	999.0	999.6	999.2	27.35	27.52	27.40	3.53	4.16	3.75	104.57	108.31	106.95	7.80	7.95	7.92	1.04	4.94	1.30	1.17	2.46	1.46	0.1	0.3	0.1	mcl03
4	1929	6.1	998.6	999.2	998.8	27.48	27.75	27.68	3.04	3.72	3.30	106.43	113.07	111.93	8.00	8.12	8.08	0.55	2.01	1.16	0.79	1.61	1.00	0.1	0.1	0.1	mcl04
5	1940	2.2	998.2	998.5	998.4	27.34	27.45	27.43	2.43	2.77	2.68	108.16	109.58	108.69	8.04	8.15	8.09	0.55	52.32	2.00	0.71	2.18	1.10	0.1	0.1	0.1	mcl05
6	1956	5.8	997.8	998.3	997.9	27.31	27.54	27.45	1.87	2.45	1.99	106.94	116.59	114.77	8.15	8.47	8.42	0.06	1.52	0.48	0.00	1.66	0.19	0.0	0.1	0.1	mcl06
7	2025	3.1	997.3	997.7	997.3	27.40	27.56	27.46	1.13	1.70	1.25	108.54	114.23	112.86	8.49	8.55	8.54	0.06	1.04	0.68	0.00	0.28	0.03	0.1	0.1	0.1	mcl07
8	2037	9.0	997.0	997.6	997.3	26.65	27.57	27.26	0.83	1.30	1.13	90.47	115.65	107.27	8.04	8.69	8.43	0.06	1.52	0.46	0.00	1.58	0.19	0.1	0.1	0.1	mcl08
9	2049	2.2	996.6	996.8	996.6	27.40	27.82	27.49	0.26	0.60	0.33	108.78	112.67	110.68	8.73	8.79	8.77	0.55	1.52	1.10	0.01	0.16	0.06	0.1	0.1	0.1	mcl09
10	2107	1.1	996.4	996.4	996.4	27.89	27.91	27.90	0.12	0.15	0.12	114.85	115.25	115.07	8.84	8.87	8.85	1.04	1.52	1.18	0.12	0.34	0.17	0.1	0.1	0.1	mcl10
11	2122	0.1	996.3	996.3	996.3	27.80	27.84	27.83	0.05	0.06	0.06	93.11	93.61	93.44	8.76	8.76	8.76	1.52	1.52	1.52	0.00	0.00	0.00	0.1	0.1	0.1	mcl11

Note Profiling stopped at Station 11 on low water run due to shoals



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MACLEAY RIVER

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Figure 100

DRAWING 1812-100.CDR

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MACLEAY RIVER - HIGH AND LOW WATER
5 DECEMBER 2002

MHL Report 1812

Figure 101

DRAWING 1812-101.CDR

Data was also collected in the Macleay River estuary on 14 to 16 April 2003, as detailed in report MHL1250. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 122 to 126. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 127a to 131b. The locations at which these profiles were taken are shown in Figures 102 to 104. Long channel depth-averaged salinity profiles are shown in Figures 105 to 109.

Table 122 Macleay River - 14 April 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	501700	6583978	0.69	35.06	31.92
2	501458	6583045	1.66	34.99	30.68
3	500720	6579696	5.09	34.59	25.01
4	503092	6578641	8.34	32.40	16.05
5	500965	6576074	11.77	25.10	9.31
6	498746	6575008	14.46	21.52	6.97
7	498550	6572321	17.89	11.98	2.04
8	497119	6569882	21.31	6.68	0.46
9	494638	6567480	25.31	1.80	0.35
10	493451	6569798	28.17	0.39	0.16
11	491704	6568333	31.60	0.19	0.12
12	489027	6566163	35.03	0.13	0.10
13	486305	6564488	38.17	0.11	0.09
14	485096	6561296	41.60	0.09	0.08
15	482957	6562192	44.97	0.08	0.08
16	481124	6563659	47.43	-	0.08
17	479132	6561656	50.29	0.08	0.07
18	477649	6560742	53.31	0.07	-
19	475748	6560743	55.60	0.07	-

Note Chainage is distance upstream from the ocean end of the northern breakwater
No profile at Station 16 on high water run. Profiling stopped at Station 17 on low water run

Table 123 Macleay Arm - 15 April 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
20	501254	6582524	2.37	35.13	29.69
21	500279	6582722	3.40	35.07	28.62
22	499806	6583514	4.37	35.06	28.74
23	499597	6584524	5.40	35.02	28.95
24	499683	6585472	6.43	34.05	28.27
25	500328	6586414	7.57	32.28	25.89
26	500069	6587605	8.89	30.00	25.73
27	499968	6588839	10.14	28.65	-
28	499434	6589489	11.17	28.72	-
29	499813	6590247	12.09	27.12	-
30	499689	6591296	13.17	25.81	-
31	499595	6592347	14.20	25.25	-
32	499536	6592954	15.06	25.18	-

Note Chainage is distance upstream from the ocean end of the northern breakwater
Profiling stopped at Station 26 on low water run

Table 124 Andersons Inlet - 16 April 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
33	499578	6583156	4.70	35.11	24.82
34	499801	6581292	6.70	34.21	21.23
35	498809	6581288	8.13	29.43	19.74
36	499213	6580313	9.21	26.75	18.45
37	499396	6578976	10.59	23.06	17.50
38	498710	6577738	12.13	18.59	17.64
39	497854	6577251	13.16	18.07	17.95
40	496915	6577058	14.19	17.66	18.14
41	496466	6576661	15.04	17.97	15.29

Note Chainage is distance upstream from the ocean end of the northern breakwater

Table 125 Belmore River - 14 April 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
42	494616	6567472	25.30	1.77	0.28
43	494611	6566812	26.04	1.04	0.77
44	495852	6565850	27.93	0.35	1.76
45	496144	6563869	30.56	1.33	2.53
46	496235	6562296	32.10	2.13	2.59
47	497804	6561791	34.61	-	2.18
48	498608	6560453	36.90	-	1.79
49	498641	6558558	39.30	-	1.89
50	497223	6557395	41.53	-	2.21

Note Chainage is distance upstream from the ocean end of the northern breakwater
Access to Stations 47 to 50 blocked by floodgates on high water run

Table 126 Kinchela Creek - 14 April 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
51	498859	6571332	19.20	8.21	0.94
52	498827	6570220	21.14	2.93	1.93
53	499528	6568982	23.31	1.90	1.23
54	499631	6567978	24.69	1.65	1.11
55	499491	6566895	26.11	1.26	1.02
56	499943	6565328	28.23	0.97	1.00
57	498780	6563941	30.34	0.97	0.89
58	498517	6563475	30.91	-	0.78
59	498658	6563288	31.14	0.75	-

Note Chainage is distance upstream from the ocean end of the northern breakwater

Table 127a Macleay River - Water Quality Maxima and Minima - High Water - 14 April 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0638	4.7	1024.0	1024.0	1024.0	22.93	22.95	22.94	35.05	35.07	35.06	92.86	93.41	93.05	8.09	8.10	8.09	-	-	-	0.00	2.01	0.02	15.2	20.6	16.9	MC0414001
2	0712	5.2	1024.0	1024.0	1024.0	22.84	22.86	22.85	34.98	35.00	34.99	89.22	89.72	89.44	8.08	8.09	8.08	-	-	-	0.00	0.82	0.01	14.0	84.1	20.7	MC0414002
3	0729	12.8	1023.6	1023.8	1023.7	22.68	22.77	22.73	34.40	34.70	34.59	87.51	88.07	87.77	8.06	8.07	8.06	-	-	-	0.00	0.64	0.00	2.4	163.0	15.1	MC0414003
4	0744	7.8	1019.6	1023.2	1022.1	22.51	22.65	22.60	29.04	33.84	32.40	82.89	86.37	85.02	7.99	8.05	8.03	-	-	-	0.00	1.10	0.29	3.2	248.7	22.6	MC0414004
5	0801	6.0	1016.2	1016.7	1016.5	22.69	22.76	22.74	24.66	25.29	25.10	77.48	78.04	77.80	7.94	7.96	7.95	-	-	-	0.95	1.28	1.10	8.3	474.7	49.8	MC0414005
6	0813	7.3	1013.7	1013.9	1013.8	22.72	22.75	22.74	21.40	21.59	21.52	75.65	76.02	75.86	7.89	7.90	7.89	-	-	-	0.97	1.69	1.42	4.3	578.9	45.0	MC0414006
7	0825	5.1	1006.5	1006.8	1006.7	22.62	22.64	22.63	11.70	12.16	11.98	74.10	74.37	74.23	7.63	7.65	7.64	-	-	-	1.87	2.15	1.98	14.4	1234.0	116.8	MC0414007
8	0836	5.3	1002.2	1002.8	1002.7	22.52	22.54	22.53	6.05	6.85	6.68	68.55	69.08	68.85	7.38	7.40	7.39	-	-	-	1.73	2.09	1.86	4.9	1333.0	93.1	MC0414008
9	0853	6.8	998.8	999.3	999.1	22.35	22.39	22.37	1.46	2.11	1.80	63.55	65.19	64.35	7.28	7.37	7.32	-	-	-	1.76	2.10	1.92	0.6	1261.5	88.3	MC0414009
10	0904	3.9	998.0	998.1	998.0	22.25	22.28	22.26	0.37	0.42	0.39	65.33	66.45	65.94	7.46	7.50	7.48	-	-	-	1.52	1.78	1.64	17.6	1225.0	161.3	MC0414010
11	0921	4.5	997.8	997.8	997.8	22.42	22.42	22.42	0.19	0.20	0.19	65.40	65.92	65.67	7.54	7.55	7.55	-	-	-	0.65	0.83	0.72	16.3	1163.5	135.2	MC0414011
12	0933	4.0	997.7	997.8	997.7	22.59	22.60	22.59	0.13	0.13	0.13	71.59	72.04	71.82	7.63	7.66	7.64	-	-	-	0.01	0.18	0.08	37.8	1129.8	164.2	MC0414012
13	0944	4.2	997.7	997.7	997.7	22.70	22.71	22.71	0.11	0.11	0.11	75.34	76.49	75.84	7.71	7.74	7.72	-	-	-	0.18	0.34	0.24	35.1	1275.5	162.3	MC0414013
14	0955	14.8	997.7	997.8	997.7	22.70	22.73	22.72	0.09	0.10	0.09	88.00	89.39	88.70	8.05	8.11	8.08	-	-	-	0.00	0.17	0.00	0.2	238.8	28.2	MC0414014
15	1009	3.6	997.6	997.7	997.7	22.81	22.83	22.82	0.08	0.08	0.08	92.32	92.93	92.58	8.29	8.33	8.30	-	-	-	0.00	0.53	0.03	18.0	1584.2	240.6	MC0414015
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	1033	6.1	997.6	997.6	997.6	23.06	23.16	23.10	0.08	0.08	0.08	91.61	92.10	91.91	8.13	8.17	8.14	-	-	-	0.00	0.00	0.00	31.3	1521.5	177.1	MC0414016
18	1046	2.0	997.6	997.6	997.6	22.97	22.99	22.98	0.07	0.07	0.07	82.05	83.90	83.00	7.67	7.73	7.70	-	-	-	0.00	2.96	0.61	47.6	1229.5	236.5	MC0414017
19	1057	0.6	997.5	997.5	997.5	23.42	23.43	23.42	0.07	0.07	0.07	97.52	97.75	97.60	8.30	8.31	8.31	-	-	-	0.00	0.00	0.00	231.9	896.4	456.9	MC0414018

Note Backscatterance data collected was not reliable because the sensor cover was not removed before instrument was deployed
No profile taken at Station 16 on the high water run

Table 127b Macleay River - Water Quality Maxima and Minima - Low Water - 14 April 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1347	3.2	1021.6	1021.7	1021.7	22.75	22.76	22.76	31.89	31.97	31.92	85.04	85.96	85.79	7.84	7.86	7.85	-	-	-	0.69	1.00	0.82	30.2	447.6	85.4	MC0414019
2	1356	4.5	1020.5	1021.2	1020.7	22.75	22.79	22.78	30.41	31.30	30.68	83.14	84.03	83.41	7.81	7.87	7.83	-	-	-	1.35	2.08	1.77	7.9	512.8	60.5	MC0414020
3	1409	5.7	1016.0	1016.9	1016.4	22.80	22.81	22.81	24.50	25.62	25.01	80.26	81.10	80.57	7.86	7.88	7.87	-	-	-	1.39	1.82	1.60	7.8	474.7	61.2	MC0414021
4	1438	9.1	1008.4	1010.0	1009.7	22.75	22.76	22.76	14.28	16.40	16.05	78.50	79.09	78.85	7.74	7.76	7.75	-	-	-	2.31	2.87	2.66	0.5	395.1	25.0	MC0414022
5	1515	4.7	1004.6	1004.7	1004.7	22.64	22.64	22.64	9.19	9.40	9.31	74.74	75.13	74.96	7.52	7.53	7.52	-	-	-	2.22	2.61	2.38	4.1	485.3	49.4	MC0414023
6	1542	7.1	1001.6	1012.4	1002.9	22.59	22.76	22.61	5.20	19.59	6.97	70.02	72.83	71.10	7.35	7.57	7.37	-	-	-	1.25	2.43	2.24	0.3	252.3	13.7	MC0414024
7	1553	7.2	999.1	999.3	999.2	22.47	22.48	22.47	1.92	2.08	2.04	67.81	68.22	68.02	7.31	7.34	7.32	-	-	-	2.06	2.46	2.25	0.2	305.5	16.6	MC0414025
8	1604	4.7	998.0	998.1	998.1	22.36	22.36	22.36	0.46	0.48	0.46	68.00	68.27	68.16	7.46	7.49	7.47	-	-	-	2.02	2.40	2.16	1.2	282.8	25.4	MC0414026
9	1615	5.3	997.8	998.1	997.9	22.44	22.48	22.46	0.22	0.52	0.35	64.60	67.95	66.49	7.33	7.54	7.46	-	-	-	0.87	2.31	1.47	1.3	181.3	16.8	MC0414027
10	1625	6.3	997.8	997.8	997.8	22.59	22.61	22.60	0.16	0.16	0.16	71.22	71.61	71.45	7.59	7.61	7.60	-	-	-	0.38	0.53	0.44	0.3	42.9	3.9	MC0414028
11	1636	3.3	997.7	997.7	997.7	22.68	22.69	22.69	0.12	0.12	0.12	72.07	72.67	72.32	7.61	7.63	7.62	-	-	-	0.22	0.36	0.26	6.1	96.4	14.6	MC0414029
12	1648	2.4	997.7	997.7	997.7	22.79	22.81	22.80	0.10	0.10	0.10	80.25	80.78	80.56	7.78	7.79	7.79	-	-	-	0.27	0.43	0.34	35.5	1333.0	149.2	MC0414030
13	1658	4.1	997.7	997.7	997.7	22.75	22.76	22.76	0.09	0.09	0.09	87.71	88.44	88.09	8.03	8.06	8.05	-	-	-	0.07	0.78	0.16	7.4	219.5	28.8	MC0414031
14	1708	13.5	997.7	997.7	997.7	22.79	22.80	22.80	0.08	0.09	0.08	89.71	91.13	90.58	8.20	8.24	8.23	-	-	-	0.00	0.00	0.00	0.1	177.3	6.9	MC0414032
15	1724	3.0	997.6	997.6	997.6	22.93	22.94	22.94	0.08	0.08	0.08	91.62	92.46	92.09	8.30	8.32	8.31	-	-	-	0.00	0.03	0.00	5.7	62.9	10.2	MC0414033
16	1732	7.5	997.6	997.6	997.6	23.00	23.01	23.01	0.08	0.08	0.08	91.10	92.31	91.66	8.14	8.20	8.17	-	-	-	0.00	0.00	0.00	0.4	40.8	3.2	MC0414034
17	1739	0.9	997.5	997.6	997.5	23.16	23.27	23.24	0.07	0.07	0.07	91.32	94.48	93.16	7.70	7.96	7.89	-	-	-	10.27	11.22	10.77	1.4	7.5	3.3	MC0414035

Note Backscatterance data collected was not reliable because the sensor cover was not removed before instrument was deployed

Table 128a Macleay Arm - Water Quality Maxima and Minima - High Water - 15 April 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
20	0804	3.8	1024.1	1024.2	1024.1	22.64	22.65	22.65	35.13	35.14	35.13	90.66	91.21	90.95	7.84	7.89	7.86	-	-	-	0.00	0.00	0.00	128.8	560.1	292.9	MC0415001
21	0810	4.2	1017.7	1024.1	1024.1	22.65	22.67	22.65	26.57	35.13	35.07	89.48	90.04	89.86	7.95	7.96	7.95	-	-	-	0.00	0.00	0.00	150.3	663.2	338.1	MC0415002
23	0816	3.7	1024.1	1024.1	1024.1	22.52	22.60	22.55	35.03	35.08	35.06	87.63	88.79	88.19	7.96	7.98	7.97	-	-	-	0.00	0.21	0.00	149.8	564.2	260.3	MC0415003
23	0822	3.8	1024.0	1024.1	1024.1	22.58	22.60	22.59	34.96	35.04	35.02	88.34	89.13	88.86	7.98	8.00	7.99	-	-	-	0.00	1.69	0.01	153.7	566.3	286.4	MC0415004
24	0827	3.4	1021.5	1023.9	1023.4	22.17	22.55	22.46	31.42	34.77	34.05	83.58	87.82	86.27	7.88	7.99	7.94	-	-	-	0.00	1.39	0.05	118.8	464.4	204.3	MC0415005
25	0839	1.5	1021.7	1022.2	1022.1	22.11	22.27	22.23	31.73	32.47	32.28	81.97	83.76	83.00	7.91	7.94	7.93	-	-	-	0.00	0.34	0.18	153.1	541.9	202.3	MC0415006
26	0845	1.6	1020.4	1020.4	1020.4	22.04	22.06	22.05	29.95	30.04	30.00	80.52	80.90	80.69	7.86	7.87	7.87	-	-	-	0.31	1.04	0.70	120.1	543.9	182.3	MC0415007
27	0853	1.3	1019.4	1019.4	1019.4	21.87	21.89	21.88	28.62	28.66	28.65	75.29	75.65	75.50	7.77	7.78	7.77	-	-	-	0.66	1.13	0.95	115.0	505.3	191.8	MC0415008
28	0901	3.2	1019.5	1019.5	1019.5	21.88	21.91	21.89	28.71	28.73	28.72	73.29	73.80	73.59	7.73	7.74	7.73	-	-	-	0.83	1.30	1.08	76.7	1504.8	148.4	MC0415009
29	0911	3.1	1017.0	1019.1	1018.3	21.47	21.96	21.66	25.47	28.13	27.12	69.23	72.47	70.65	7.61	7.65	7.63				0.95	1.95	1.44	79.0	587.5	130.8	MC0415010
30	0917	5.3	1016.2	1018.3	1017.2	21.95	22.59	22.27	24.60	27.31	25.81	58.16	73.76	70.45	7.57	7.65	7.62	-	-	-	0.95	2.19	1.57	45.2	4822.7	623.2	MC0415011
31	0923	1.0	1013.5	1017.0	1016.9	21.90	22.07	21.92	20.76	25.41	25.25	74.28	74.63	74.42	7.63	7.64	7.63	-	-	-	1.48	2.32	1.97	92.2	518.5	201.2	MC0415012
32	0937	0.8	1016.9	1016.9	1016.9	21.48	21.50	21.49	25.18	25.18	25.18	50.36	50.71	50.46	7.35	7.35	7.35	-	-	-	2.24	3.29	2.72	102.6	338.6	212.3	MC0415013

Note Backscatterance data collected was not reliable because the sensor cover was not removed before instrument was deployed

Table 128b Macleay Arm - Water Quality Maxima and Minima - Low Water - 15 April 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
20	1432	3.3	1019.8	1020.0	1019.9	23.18	23.22	23.20	29.62	29.81	29.69	83.42	84.02	83.74	7.71	7.73	7.72	-	-	-	1.14	1.60	1.40	62.5	4163.6	169.6	MC0415014
21	1439	3.7	1018.7	1019.3	1019.0	23.25	23.32	23.28	28.25	28.97	28.62	80.97	82.16	81.58	7.67	7.72	7.69	-	-	-	1.38	1.89	1.61	54.9	5152.5	559.2	MC0415015
22	1445	4.8	1016.8	1019.5	1019.1	23.31	23.43	23.36	25.74	29.22	28.74	79.27	85.94	83.84	7.52	7.76	7.70	-	-	-	1.45	3.10	1.81	10.1	4148.3	160.5	MC0415016
23	1451	1.8	1013.7	1019.6	1019.2	23.48	23.64	23.56	21.66	29.49	28.95	86.24	87.76	87.04	7.70	7.75	7.72	-	-	-	1.18	2.18	1.67	82.0	503.5	159.7	MC0415017
24	1458	2.2	1017.8	1019.5	1018.7	23.45	23.64	23.58	27.16	29.29	28.27	82.38	85.78	84.50	7.66	7.70	7.68	-	-	-	1.32	2.58	1.93	40.8	487.1	86.9	MC0415018
25	1601	3.0	1016.9	1016.9	1016.9	23.42	23.44	23.43	25.88	25.91	25.89	85.24	85.64	85.44	7.69	7.69	7.69	-	-	-	2.80	3.81	3.15	56.8	5668.9	653.8	MC0415019
26	1619	1.7	1016.8	1016.9	1016.9	23.24	23.29	23.26	25.70	25.76	25.73	81.96	83.15	82.20	7.67	7.68	7.67	-	-	-	2.98	3.92	3.15	178.7	5209.6	976.1	MC0415020

Note Backscatterance data collected was not reliable because the sensor cover was not removed before instrument was deployed

Table 129a Anderson Inlet - Water Quality Maxima and Minima - High Water - 16 April 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
33	0937	2.7	1023.2	1024.2	1024.1	22.59	22.69	22.66	33.86	35.20	35.11	90.54	92.02	91.44	7.90	7.93	7.92	-	-	-	0.00	0.71	0.00	543.9	3149.2	1064.6	MCL1604001
34	0952	2.1	1023.3	1023.6	1023.5	22.57	22.61	22.58	33.95	34.34	34.21	86.08	88.02	87.16	7.92	7.95	7.93	-	-	-	0.00	0.08	0.00	627.6	5171.4	1820.4	MCL1604002
35	1000	2.0	1013.1	1020.6	1019.9	22.14	22.39	22.21	20.35	30.33	29.43	77.25	80.43	79.85	7.77	7.82	7.80	-	-	-	0.09	0.99	0.51	724.3	5190.5	1666.8	MCL1604003
36	1007	2.4	1011.4	1019.3	1018.0	21.89	22.12	21.94	18.03	28.45	26.75	75.46	77.44	76.46	7.51	7.72	7.58	-	-	-	0.77	1.41	1.11	274.6	5190.5	1310.6	MCL1604004
37	1015	1.5	1014.4	1016.0	1015.2	21.96	22.02	21.98	22.06	24.09	23.06	67.51	70.20	69.02	7.23	7.28	7.24	-	-	-	1.38	2.19	1.79	237.9	3940.3	1603.3	MCL1604005
38	1023	3.1	1010.8	1012.9	1011.8	21.79	22.15	21.94	17.26	19.97	18.59	62.43	70.28	67.38	6.84	6.95	6.87	-	-	-	2.41	3.65	3.06	96.0	1661.7	322.1	MCL1604006
39	1030	3.2	1010.2	1012.2	1011.4	21.74	22.50	21.97	16.66	19.07	18.07	62.73	69.02	65.51	6.78	6.89	6.82	-	-	-	3.18	4.81	3.95	26.7	1723.9	286.0	MCL1604007
40	1037	3.0	1010.5	1011.4	1010.9	22.65	23.18	22.97	17.20	18.39	17.66	56.73	69.42	65.02	6.84	6.86	6.85	-	-	-	4.27	6.62	5.33	89.5	1795.0	353.6	MCL1604008
41	1045	3.1	1010.9	1011.1	1011.0	23.18	23.54	23.36	17.92	18.03	17.97	39.56	46.14	42.93	6.68	6.71	6.69	-	-	-	7.50	10.05	8.91	36.0	5152.5	880.3	MCL1604009

Note Backscatterance data collected was not reliable because the sensor cover was not removed before instrument was deployed

Table 129b Anderson Inlet - Water Quality Maxima and Minima - Low Water - 16 April 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
33	1534	1.3	1016.4	1016.4	1016.4	22.32	22.36	22.34	24.78	24.83	24.82	64.43	67.07	66.16	7.46	7.47	7.47	-	-	-	0.25	0.44	0.33	111.6	706.0	311.0	MCL1604010
34	1546	0.8	1013.6	1013.9	1013.7	22.32	22.36	22.35	21.11	21.48	21.23	97.03	98.77	97.95	6.93	7.46	7.36	-	-	-	0.23	0.25	0.24	132.7	737.8	375.3	MCL1604011
35	1558	1.4	1012.4	1013.0	1012.6	22.23	22.39	22.33	19.51	20.25	19.74	76.33	76.88	76.64	7.12	7.13	7.13	-	-	-	5.23	5.81	5.55	56.4	488.9	168.3	MCL1604012
36	1606	1.3	1011.5	1011.8	1011.6	22.35	22.40	22.36	18.37	18.72	18.45	77.49	78.06	77.93	7.04	7.04	7.04	-	-	-	5.94	6.43	6.23	69.5	572.6	230.7	MCL1604013
37	1614	0.9	1009.7	1010.9	1010.9	22.50	22.51	22.50	16.02	17.61	17.50	75.60	76.15	75.99	6.98	6.99	6.98	-	-	-	7.99	8.70	8.32	111.6	480.0	275.0	MCL1604014
38	1626	1.9	1010.9	1011.0	1010.9	22.58	22.63	22.60	17.58	17.71	17.64	74.31	76.24	75.71	7.00	7.01	7.00	-	-	-	9.05	10.60	9.90	18.0	305.5	75.4	MCL1604015
39	1643	2.4	1010.8	1012.3	1011.1	21.93	22.97	22.71	17.56	19.24	17.95	61.77	79.32	76.38	6.95	7.03	7.02	-	-	-	4.84	10.87	9.78	10.0	259.9	55.5	MCL1604016
40	1649	1.9	1009.6	1012.0	1011.3	21.97	23.05	22.64	15.92	18.79	18.14	60.90	69.20	66.55	6.42	6.87	6.73	-	-	-	5.21	11.32	9.31	14.0	197.3	45.9	MCL1604017
41	1655	1.9	1006.1	1010.7	1009.1	22.52	22.93	22.82	11.17	17.43	15.29	58.34	61.25	59.94	5.86	6.45	6.12	-	-	-	5.32	11.05	8.38	6.0	199.5	45.8	MCL1604018

Note Backscatterance data collected was not reliable because the sensor cover was not removed before instrument was deployed

Table 130a Belmore River - Water Quality Maxima and Minima - High Water - 14 April 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
42	0855	7.2	998.8	999.3	999.0	22.35	22.39	22.37	1.46	2.07	1.77	69.08	70.18	69.48	6.79	6.83	6.81	7.33	9.28	7.64	-	-	-	-	-	-	MCL1670001
43	0904	3.2	998.5	998.5	998.5	22.32	22.33	22.32	1.03	1.06	1.04	69.52	69.80	69.65	6.88	6.89	6.88	7.33	7.81	7.53	-	-	-	-	-	-	MCL1670002
44	0918	2.9	998.0	998.0	998.0	22.23	22.29	22.27	0.34	0.35	0.35	69.08	70.04	69.74	6.88	6.91	6.90	6.84	8.30	7.35	-	-	-	-	-	-	MCL1670003
45	0931	3.0	998.6	998.9	998.7	22.42	22.45	22.43	1.20	1.60	1.33	60.77	83.25	64.88	6.34	6.51	6.46	5.86	7.81	6.51	-	-	-	-	-	-	MCL1670004
46	0939	2.4	999.2	999.5	999.3	22.52	22.55	22.54	2.01	2.49	2.13	54.58	57.75	57.23	6.09	6.25	6.21	6.84	10.74	7.46	-	-	-	-	-	-	MCL1670005

Note Seabird 19 used in Belmore River therefore no chlorophyll or PAR data were collected
On the high water run access to Stations 47 to 50 was blocked by the floodgates

Table 130b Belmore River - Water Quality Maxima and Minima - Low Water - 14 April 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
42	1539	9.7	997.9	998.0	997.9	22.43	22.46	22.45	0.25	0.40	0.28	70.55	97.04	72.06	7.00	7.08	7.06	6.35	7.81	6.62	-	-	-	-	-	-	MCL1670006
43	1607	2.4	998.2	998.3	998.3	22.44	22.45	22.45	0.75	0.78	0.77	66.00	66.68	66.40	6.80	6.81	6.80	7.33	7.81	7.45	-	-	-	-	-	-	MCL1670007
44	1617	2.7	998.9	999.0	999.0	22.52	22.57	22.56	1.64	1.81	1.76	62.16	64.88	63.40	6.42	6.49	6.46	6.84	8.30	7.33	-	-	-	-	-	-	MCL1670008
45	1631	3.0	999.5	999.6	999.5	22.64	22.76	22.71	2.47	2.57	2.53	55.76	64.66	59.69	6.05	6.14	6.10	8.79	11.72	10.17	-	-	-	-	-	-	MCL1670009
46	1641	4.8	999.5	999.6	999.5	22.82	22.84	22.83	2.58	2.59	2.59	43.56	44.68	44.26	5.90	5.92	5.91	8.30	9.28	8.73	-	-	-	-	-	-	MCL1670010
47	1652	3.1	999.3	999.3	999.3	22.54	22.55	22.55	2.18	2.18	2.18	51.66	52.12	51.91	5.82	5.83	5.83	6.35	7.33	6.94	-	-	-	-	-	-	MCL1670011
48	1701	2.5	999.1	999.1	999.1	22.02	22.05	22.04	1.77	1.79	1.79	43.55	44.49	43.83	5.73	5.74	5.73	10.26	11.23	10.56	-	-	-	-	-	-	MCL1670012
49	1710	3.7	999.2	999.2	999.2	21.95	21.97	21.96	1.89	1.91	1.89	53.32	54.89	54.37	5.07	5.08	5.07	10.26	11.23	10.69	-	-	-	-	-	-	MCL1670013
50	1721	1.2	999.3	999.3	999.3	22.61	22.62	22.62	2.21	2.21	2.21	66.33	68.18	67.71	4.12	4.12	4.11	15.14	17.58	15.93	-	-	-	-	-	-	MCL1670014

Note Seabird 19 used in Belmore River therefore no chlorophyll or PAR data were collected

Table 131a Kinchela Creek - Water Quality Maxima and Minima - High Water - 15 April 2003

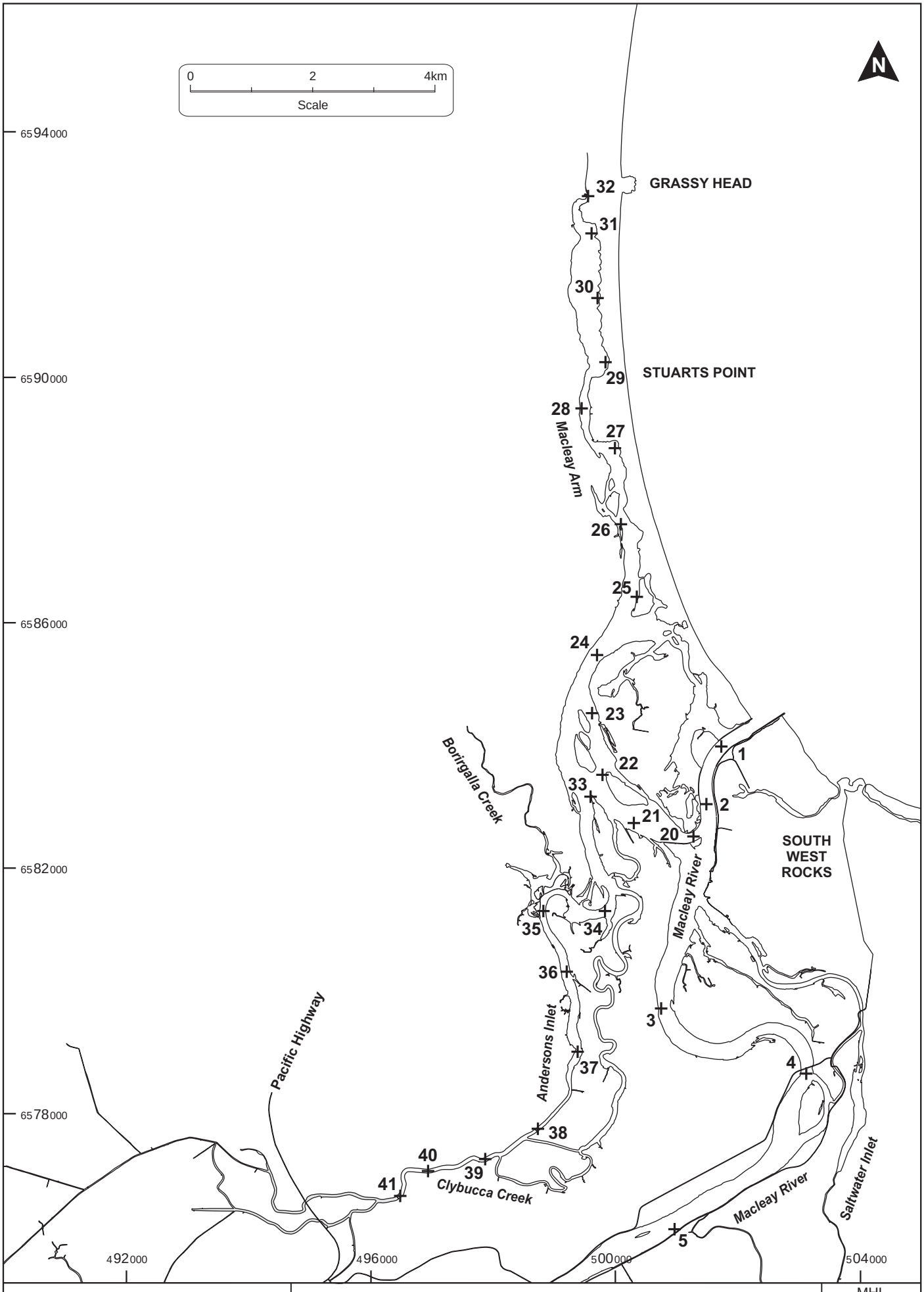
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
51	0903	2.9	1003.9	1004.0	1004.0	22.08	22.10	22.09	8.18	8.22	8.21	79.20	79.88	79.49	7.28	7.29	7.28	6.35	7.81	6.84	-	-	-	-	-	-	MCL1670015
52	0916	2.4	999.7	1000.2	1000.0	22.01	22.20	22.07	2.56	3.14	2.93	71.06	74.51	71.89	7.09	7.12	7.10	5.86	6.84	6.06	-	-	-	-	-	-	MCL1670016
53	0928	2.5	998.9	999.5	999.3	21.73	21.96	21.81	1.53	2.15	1.90	48.33	65.93	58.45	6.70	6.94	6.82	6.35	8.79	7.37	-	-	-	-	-	-	MCL1670017
54	0936	2.0	999.0	999.1	999.0	21.63	22.20	21.95	1.53	1.75	1.65	32.28	50.25	38.32	6.57	6.59	6.58	10.74	11.72	11.17	-	-	-	-	-	-	MCL1670018
55	0946	3.4	998.8	998.8	998.8	21.73	21.75	21.74	1.26	1.27	1.26	20.38	68.10	28.76	6.50	6.50	6.50	10.74	12.21	11.10	-	-	-	-	-	-	MCL1670019
56	1001	2.2	998.6	998.7	998.7	21.23	21.37	21.26	0.96	0.97	0.97	37.21	42.33	39.12	6.58	6.59	6.58	12.21	13.68	12.73	-	-	-	-	-	-	MCL1670020
57	1011	1.6	998.6	998.9	998.8	20.41	21.59	20.61	0.96	0.97	0.97	56.67	67.37	61.48	6.32	6.43	6.36	27.35	30.77	28.47	-	-	-	-	-	-	MCL1670021
58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
59	1023	1.2	998.5	998.7	998.6	20.16	21.14	20.66	0.73	0.76	0.75	106.65	133.29	126.74	6.29	6.50	6.42	47.38	67.89	55.74	-	-	-	-	-	-	MCL1670022

Note Seabird 19 used in Kinchela Creek therefore no chlorophyll or PAR data were collected
On the high water run no profile was done at Station 58

Table 131b Kinchela Creek - Water Quality Maxima and Minima - Low Water - 15 April 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
51	1606	1.7	998.4	998.4	998.4	22.43	22.44	22.44	0.94	0.94	0.94	66.15	75.48	73.69	7.00	7.01	7.01	9.77	10.74	10.24	-	-	-	-	-	-	MCL1670023
52	1616	1.6	999.1	999.1	999.1	22.65	22.74	22.70	1.91	1.98	1.93	33.37	37.52	34.78	6.46	6.46	6.46	11.23	12.70	11.49	-	-	-	-	-	-	MCL1670024
53	1627	1.6	998.5	998.6	998.6	22.68	22.71	22.70	1.23	1.24	1.23	22.55	56.90	26.25	6.37	6.38	6.37	11.72	13.68	12.62	-	-	-	-	-	-	MCL1670025
54	1636	1.8	998.5	998.5	998.5	22.68	22.68	22.68	1.11	1.11	1.11	23.24	35.41	25.66	6.44	6.45	6.45	11.23	15.63	12.70	-	-	-	-	-	-	MCL1670026
55	1650	4.1	998.4	998.5	998.4	22.52	22.56	22.54	1.01	1.04	1.02	32.97	79.87	36.34	6.46	6.48	6.47	10.74	11.23	11.09	-	-	-	-	-	-	MCL1670027
56	1700	0.7	998.2	998.2	998.2	23.45	23.47	23.46	0.99	1.00	1.00	84.56	89.09	87.35	6.71	6.71	6.72	20.02	21.98	20.84	-	-	-	-	-	-	MCL1670028
57	1709	0.9	998.5	998.5	998.5	21.75	21.78	21.76	0.89	0.91	0.89	104.50	108.91	107.94	6.35	6.38	6.37	44.44	77.66	56.54	-	-	-	-	-	-	MCL1670029
58	1719	0.6	998.5	998.5	998.5	21.33	21.34	21.33	0.78	0.78	0.78	66.98	81.84	74.19	6.03	6.03	6.03	45.91	46.40	46.06	-	-	-	-	-	-	MCL1670030
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note Seabird 19 used in Kinchela Creek therefore no chlorophyll or PAR data were collected
On the low water run no profile was done at Station 59 due to restricted access



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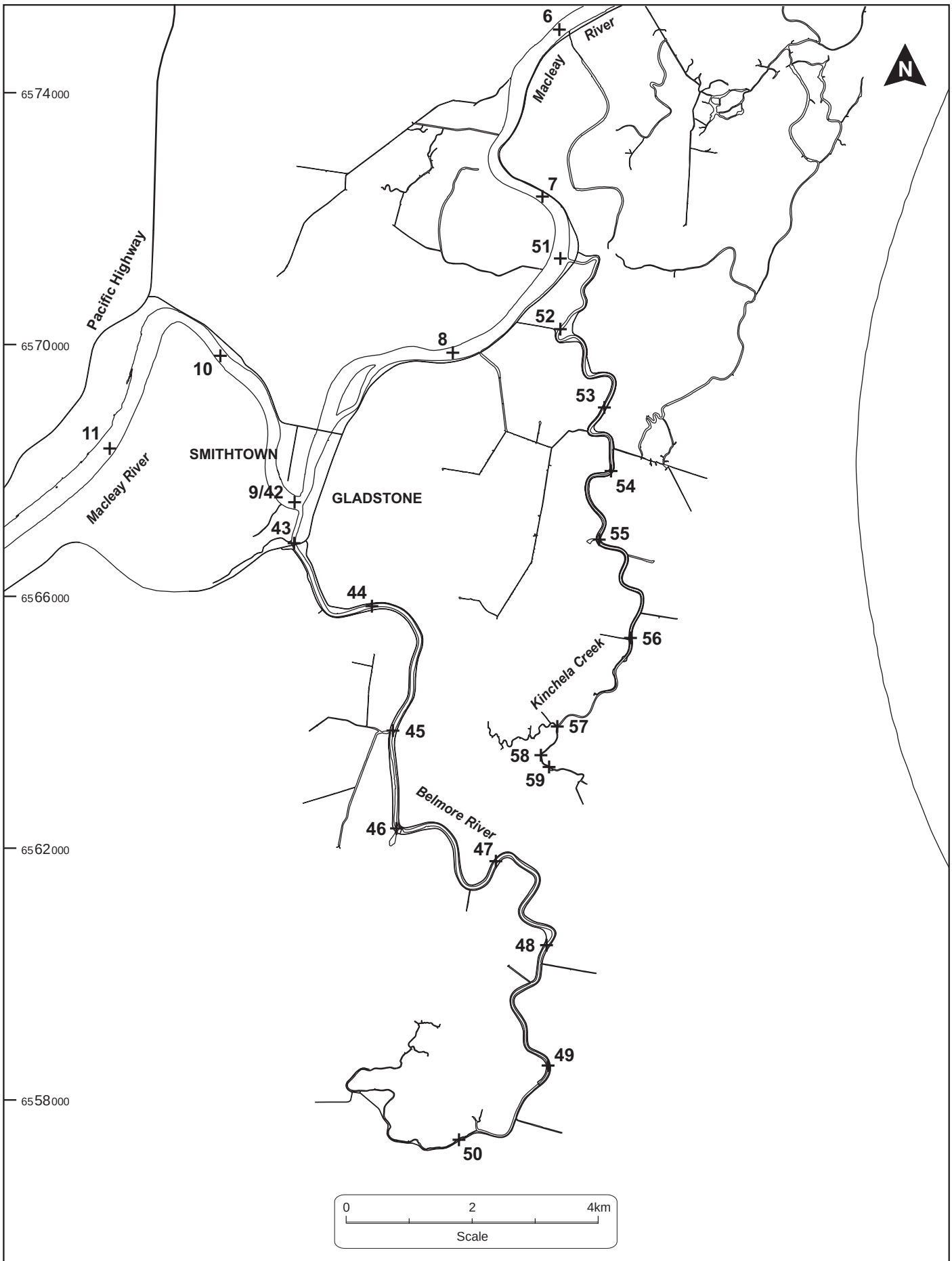
MACLEAY RIVER - NORTHERN SECTION

14 TO 16 APRIL 2003

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Figure 102

DRAWING 1812-102.CDR



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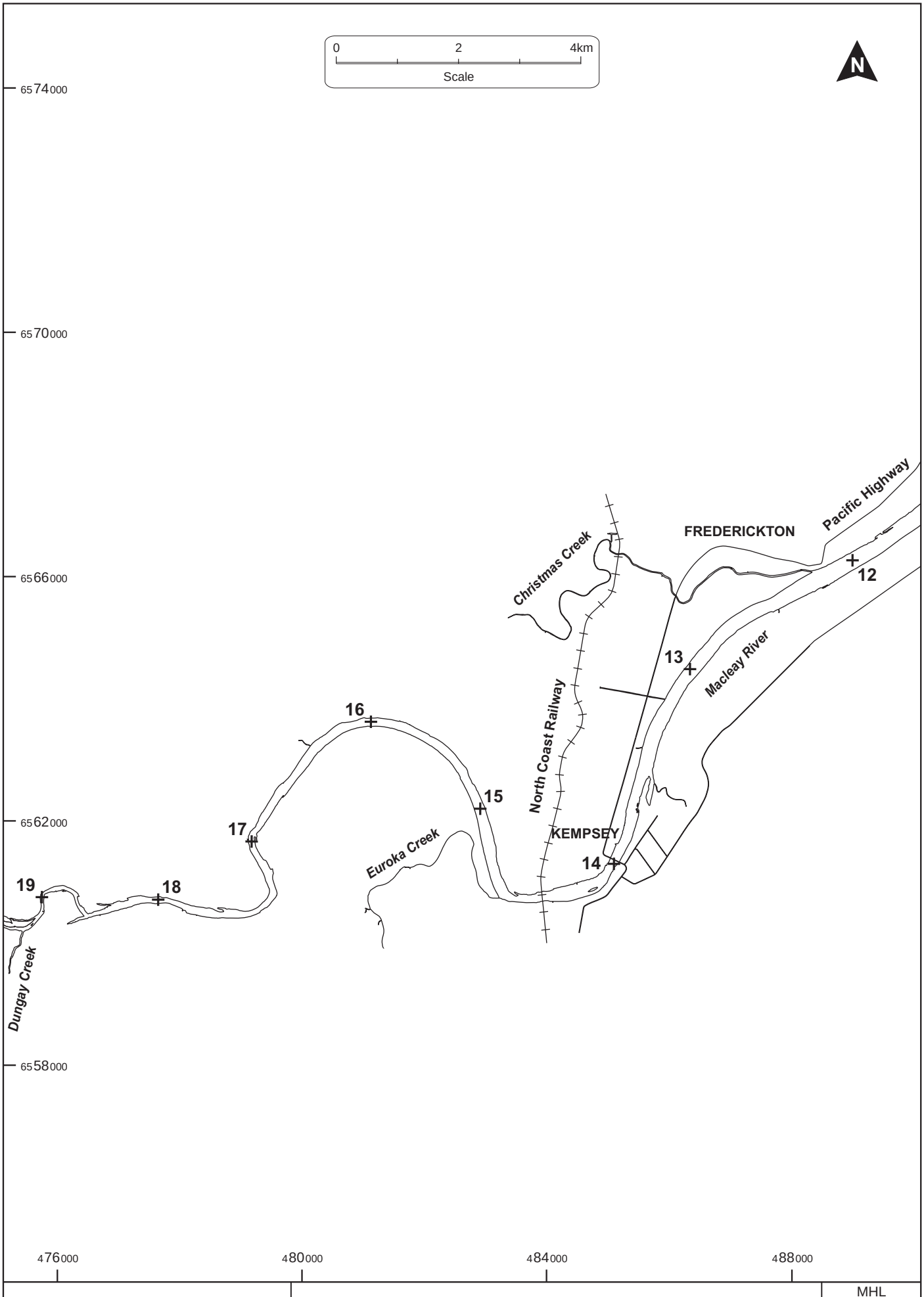
MACLEAY RIVER - MIDDLE SECTION

14 TO 16 APRIL 2003

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Figure 103

DRAWING 1812-103.CDR



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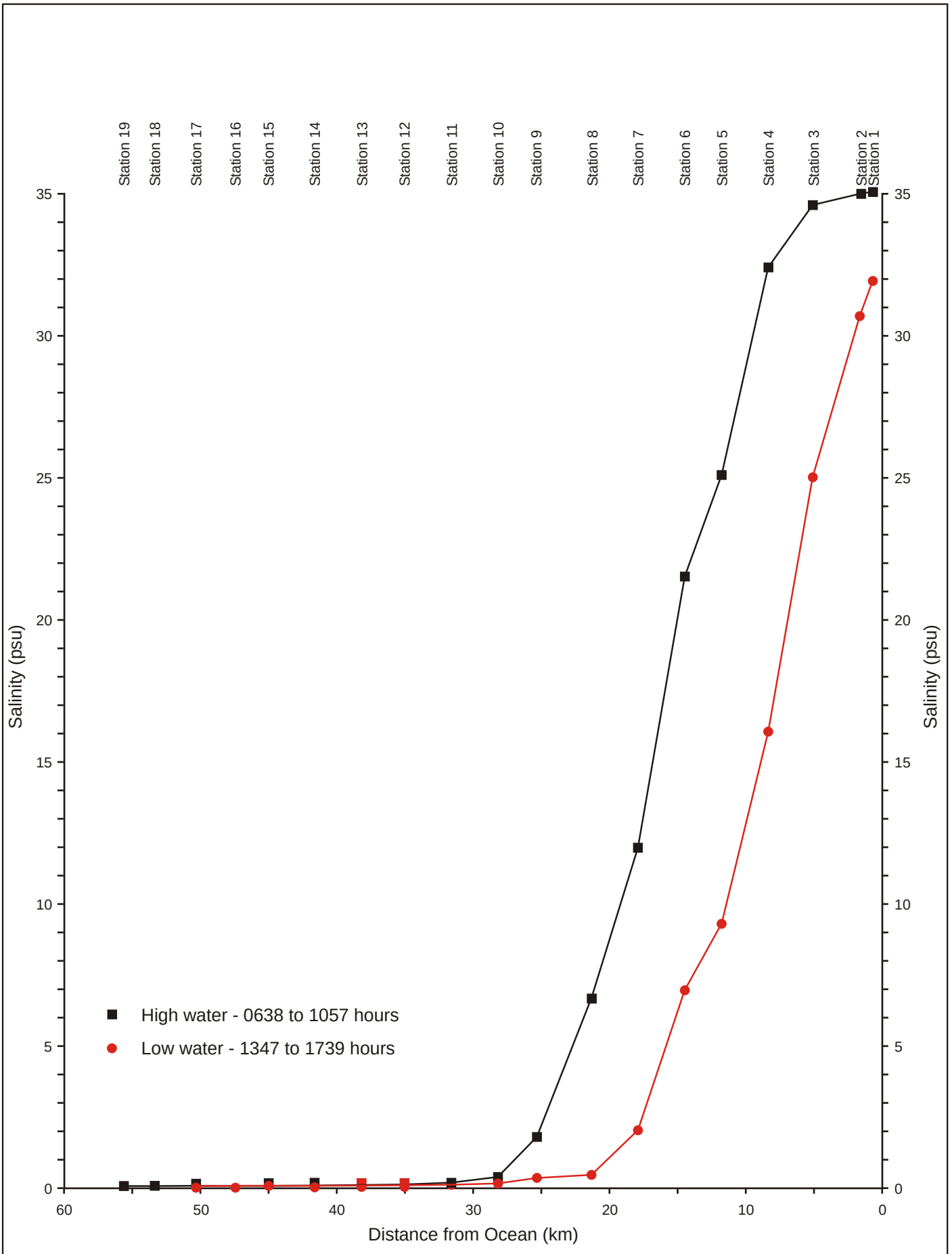
MACLEAY RIVER - WESTERN SECTION

14 TO 16 APRIL 2003

MHL Report 1812

Figure 104

DRAWING 1812-104.CDR



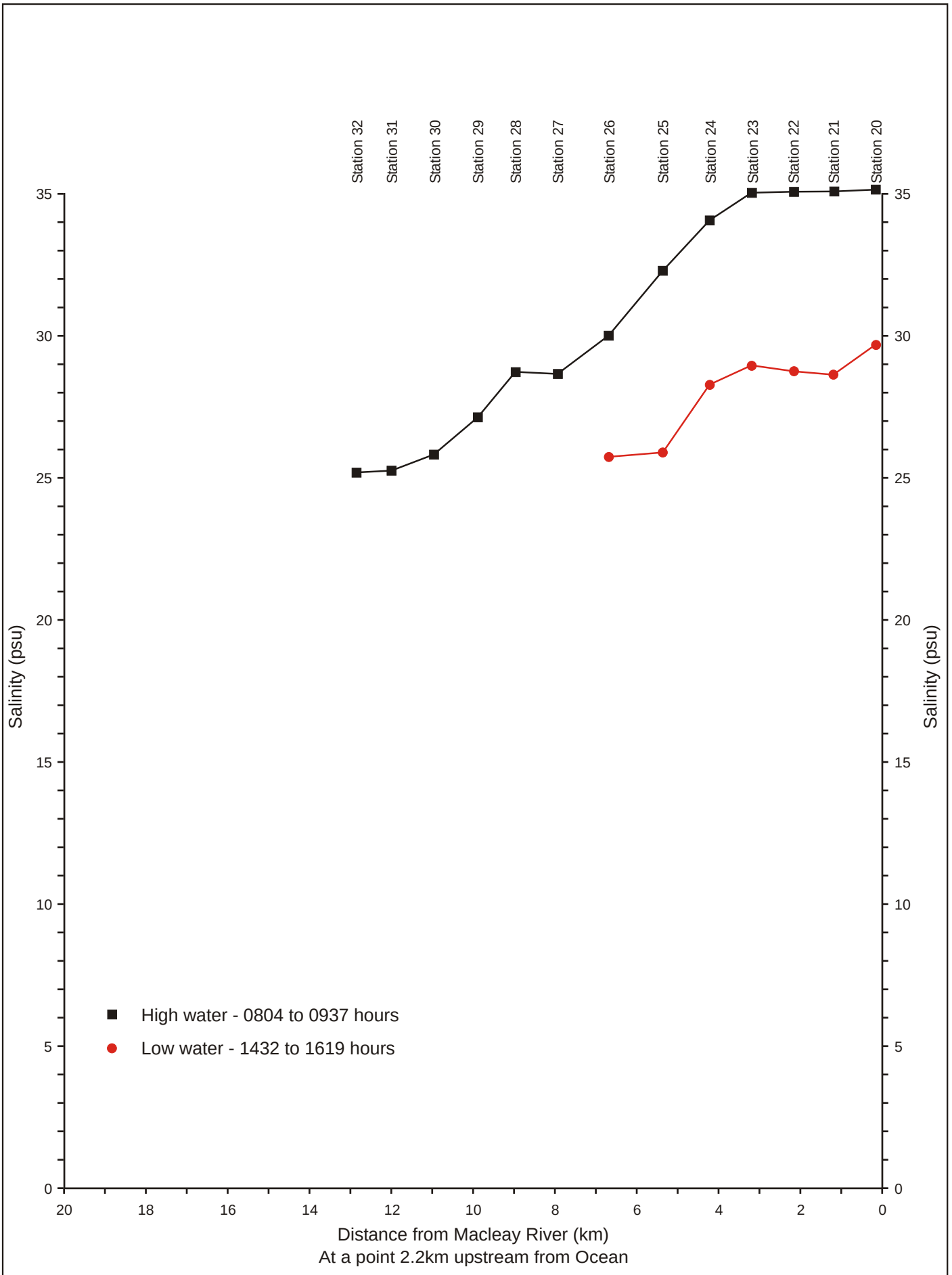
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MACLEAY RIVER - HIGH AND LOW WATER
14 APRIL 2003

MHL Report 1812

Figure 105

DRAWING 1812-105.CDR



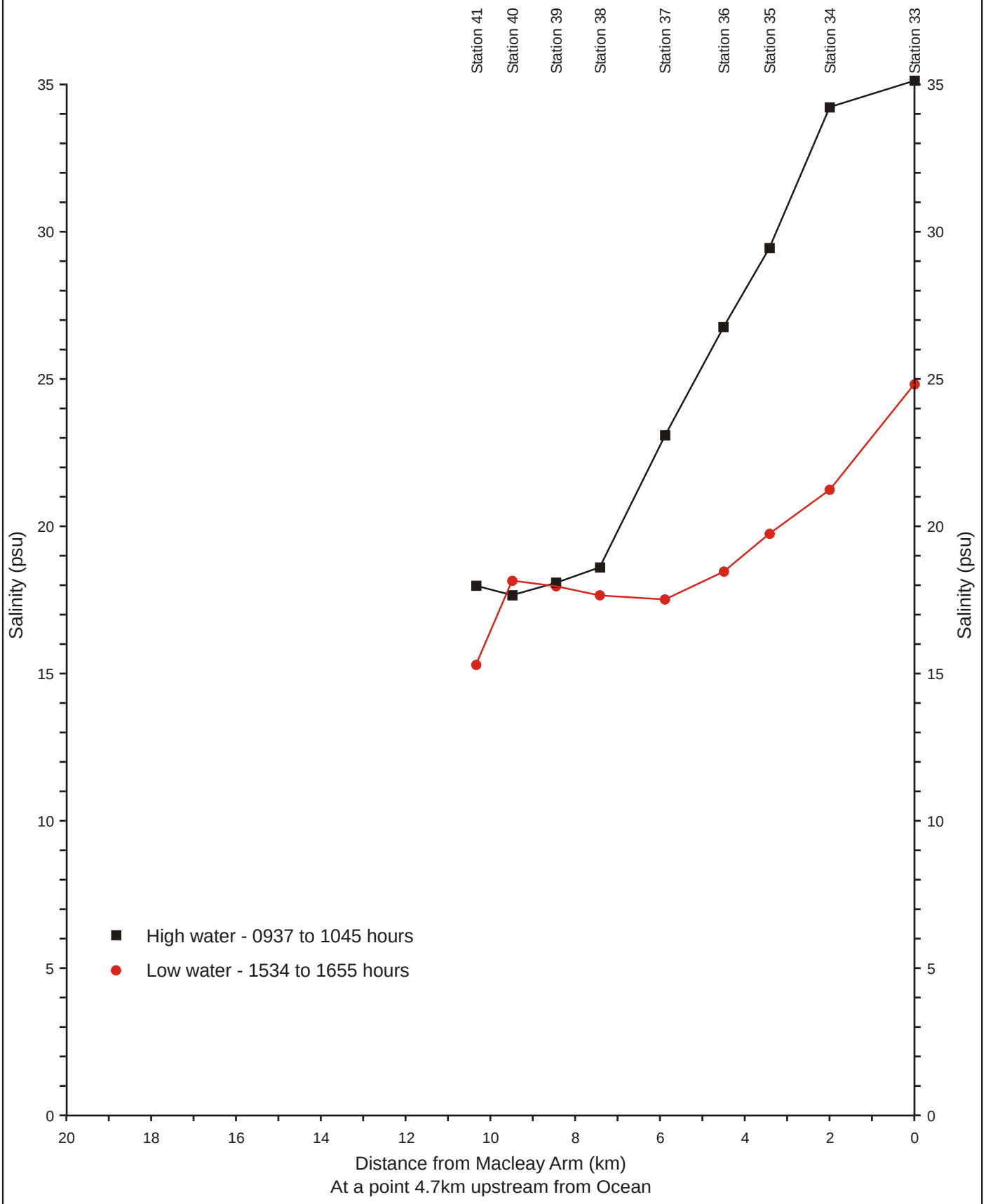
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MACLEAY ARM - HIGH AND LOW WATER
15 APRIL 2003

MHL Report 1812

Figure 106

DRAWING 1812-106.CDR



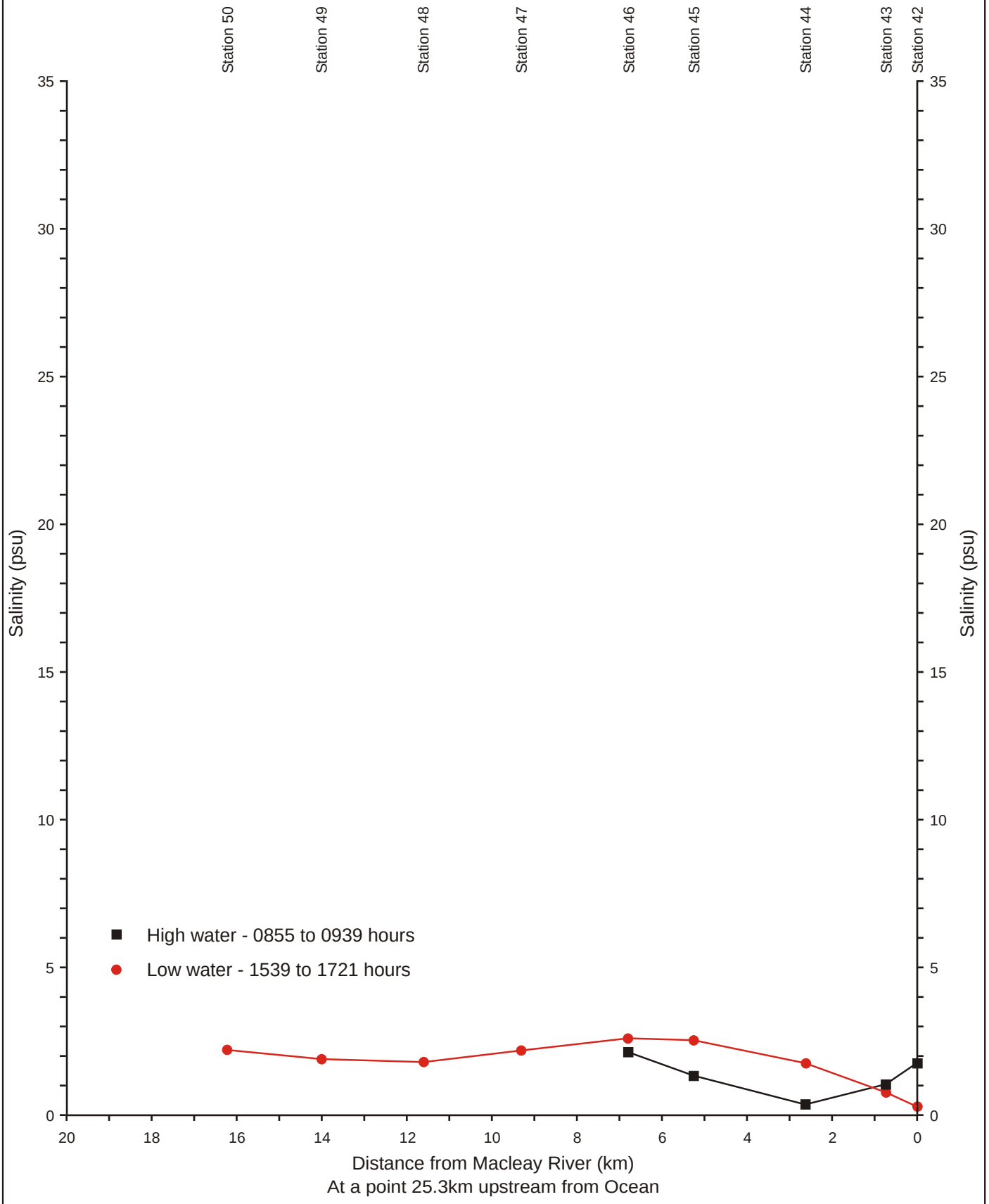
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
ANDERSONS INLET - HIGH AND LOW WATER
16 APRIL 2003

MHL Report 1812

Figure 107

DRAWING 1812-107.CDR



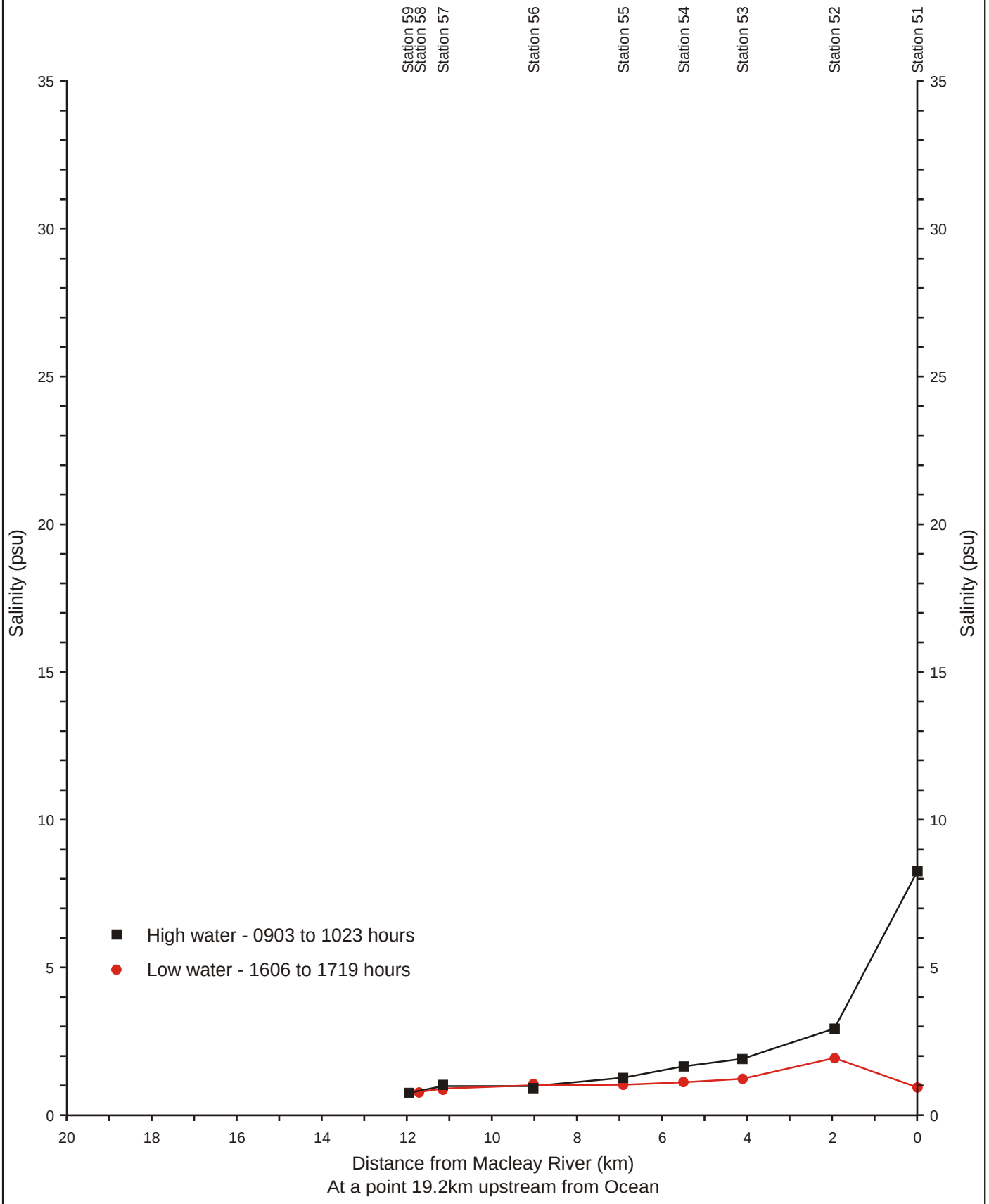
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BELMORE RIVER - HIGH AND LOW WATER
14 APRIL 2003

MHL Report 1812

Figure 108

DRAWING 1812-108.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
KINCHELA CREEK - HIGH AND LOW WATER
15 APRIL 2003

MHL Report 1812

Figure 109

DRAWING 1812-109.CDR

Saltwater Creek Data Summary

Data was collected in Saltwater Creek on 1 May 2001. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 132. Summaries of the minimum and maximum values for all parameters measured on the high and low water runs are shown in Table 133a-b. The locations at which these profiles were taken are shown in Figure 110. Long channel depth-averaged salinity profiles are shown in Figure 111.

Table 132 Saltwater Creek - 1 May 2001

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity (psu)	High Water Salinity (psu)
	Easting	Northing			
1	504155	6583115	0.27	32.32	31.93
2	505190	6582565	1.51	20.74	24.43
3	506170	6582590	2.64	11.70	11.73
4	506030	6581840	3.79	6.53	-

Note No profile at Station 4 on high water run

Table 133a Saltwater Creek - Water Quality Maxima and Minima - Low Water - 1 May 2001

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.POF)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1002	0.86	22.05	22.26	31.59	32.45	45.63	46.94	1021.6	1022.2	5.73	5.83	79.06	81.11	8.01	8.10	2.01	2.99	KC020501
2	1046	0.62	23.84	23.97	20.19	21.03	31.66	32.87	1012.5	1013.1	3.72	5.48	49.70	73.46	6.96	7.18	3.97	4.94	KC020502
3	1102	1.59	20.45	21.05	10.01	12.17	15.52	18.80	1005.7	1007.2	1.81	2.14	21.73	25.38	6.78	6.98	3.48	4.94	KC020503
4	1354	0.26	21.27	21.29	6.51	6.55	10.60	10.66	1002.9	1002.9	4.40	6.14	51.67	72.08	6.63	6.88	5.92	29.36	KC020504

Table 133b Saltwater Creek - Water Quality Maxima and Minima - High Water - 1 May 2001

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.POF)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1611	0.72	22.86	22.92	31.91	31.96	46.88	46.90	1021.6	1021.7	7.18	7.39	100.74	103.62	7.97	8.10	3.48	4.46	KC020505
2	1625	0.47	24.55	24.61	24.24	24.52	37.86	38.27	1015.4	1015.6	6.72	7.34	93.04	101.63	7.59	7.78	4.46	6.41	KC020506
3	1649	1.65	20.96	21.19	10.22	12.28	15.98	19.00	1005.7	1007.2	1.21	2.20	14.61	26.31	6.63	6.72	2.99	3.97	KC020507

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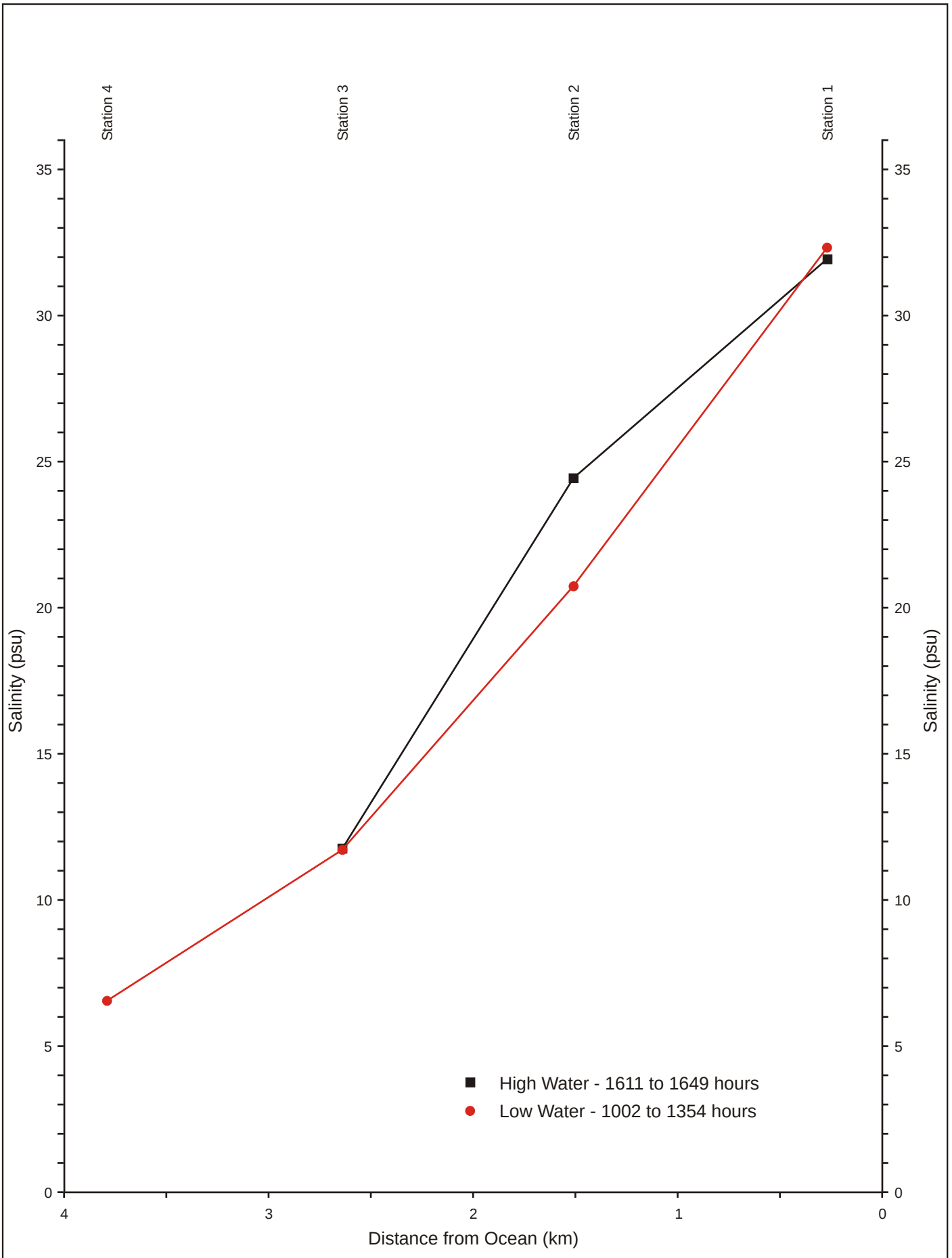
SALTWATER CREEK

1 MAY 2001

MHL Report 1812

Figure 110

DRAWING 1812-110.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
SALTWATER CREEK - HIGH AND LOW WATER
1 MAY 2001

MHL Report 1812

Figure 111

DRAWING 1812-111.CDR

Korogoro Creek Data Summary

Data was collected in Korogoro Creek on 4 May 2004, as detailed in report MHL1343. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 134. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 135a-b. The locations at which these profiles were taken are shown in Figure 112. Long channel depth-averaged salinity profiles are shown in Figure 113.

Table 134 Korogoro Creek - 4 May 2004

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	505375	6564442	0.09	35.49	28.65
2	505439	6564018	0.57	35.49	25.93
3	504913	6564094	1.13	35.45	24.04
4	504531	6564311	1.62	35.40	22.00
5	504215	6564522	2.01	35.32	20.19
6	503987	6564876	2.44	35.16	18.92
7	503597	6565331	3.07	34.47	17.81
8	503232	6565716	3.61	30.69	17.02
9	502981	6566381	4.32	21.69	22.75
10	502852	6566873	4.84	-	16.65
11	502514	6567088	5.29	-	13.47
12	502504	6567088	5.31	-	3.99

Table 135a Korogoro Creek - Water Quality Maxima and Minima - High Water - 4 May 2004

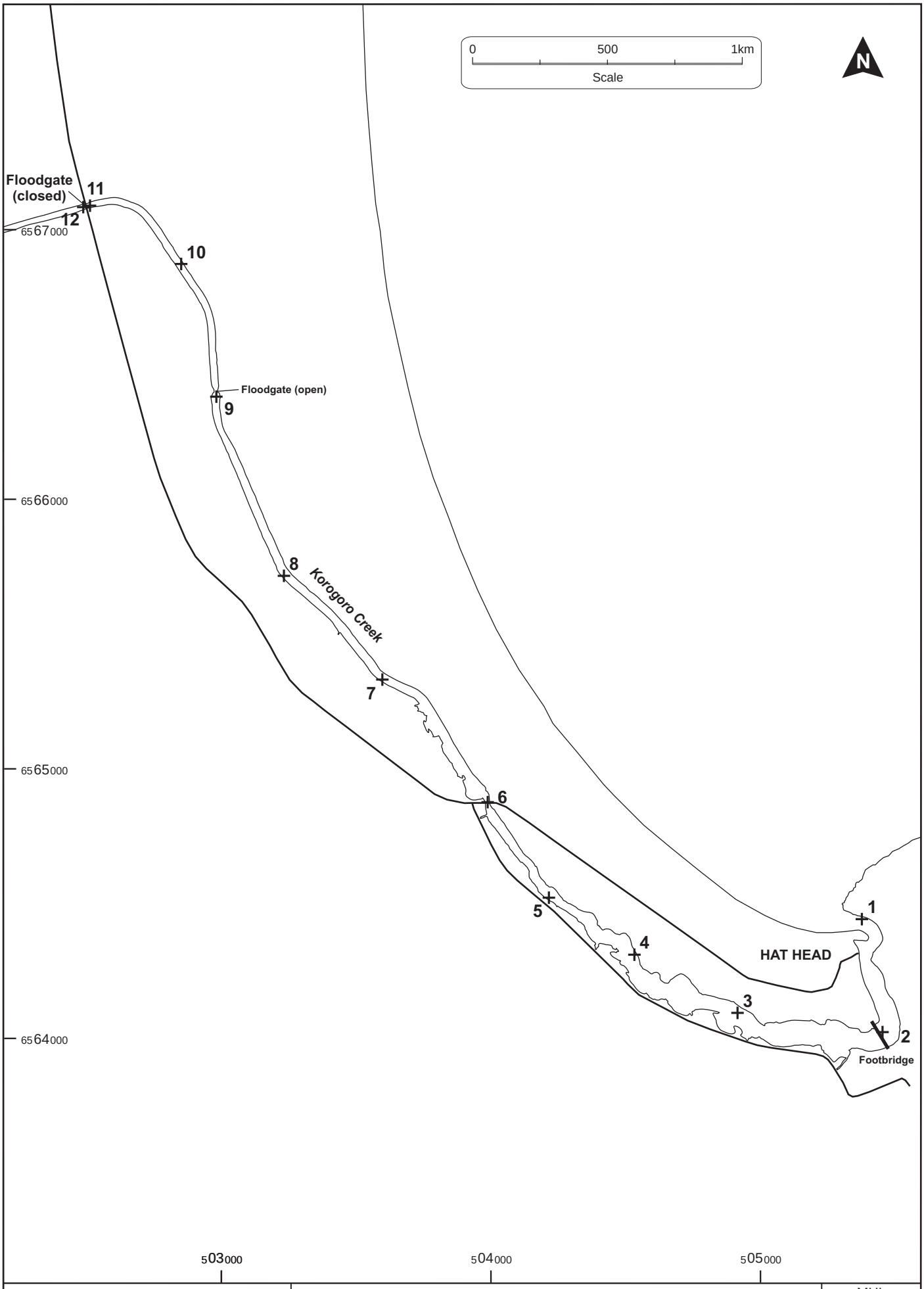
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0733	2.0	1024.9	1024.9	1024.9	20.87	20.90	20.89	35.49	35.50	35.49	96.03	96.51	96.38	7.82	7.84	7.83	0.55	1.52	1.18	0.18	0.71	0.44	75.1	338.6	110.5	DA0506001
2	0743	1.3	1025.0	1025.0	1025.0	20.45	20.48	20.46	35.48	35.50	35.49	94.41	94.70	94.57	7.80	7.81	7.80	1.04	1.52	1.24	0.20	0.51	0.35	58.0	352.5	124.9	DA0506002
3	0750	1.0	1025.0	1025.0	1025.0	20.53	20.55	20.54	35.45	35.46	35.45	92.30	92.49	92.43	7.76	7.77	7.77	1.04	1.52	1.28	0.00	0.35	0.02	539.9	4580.9	1920.5	DA0506003
4	0755	1.8	1024.9	1025.1	1025.0	20.15	20.36	20.23	35.36	35.47	35.40	91.90	92.98	92.44	7.77	7.78	7.78	0.55	1.52	1.07	0.00	0.17	0.01	94.6	429.9	160.0	DA0506004
5	0800	1.2	1025.0	1025.0	1025.0	20.12	20.14	20.13	35.30	35.33	35.32	90.81	91.10	90.97	7.78	7.78	7.78	0.55	2.01	1.28	0.00	0.17	0.00	518.5	4514.1	1635.8	DA0506005
6	0809	1.7	1024.9	1025.0	1024.9	19.79	19.85	19.82	35.14	35.19	35.16	89.38	89.76	89.58	7.76	7.77	7.76	1.04	2.01	1.56	0.00	0.13	0.01	44.5	337.3	101.6	DA0506006
7	0814	1.3	1024.5	1024.6	1024.5	19.27	19.39	19.35	34.39	34.51	34.47	86.20	86.85	86.49	7.71	7.72	7.71	1.52	2.01	1.74	0.20	0.40	0.29	52.4	390.7	137.0	DA0506007
8	0818	1.2	1020.6	1022.6	1021.9	17.70	18.35	18.14	28.74	31.54	30.69	77.26	80.16	78.58	7.40	7.45	7.42	2.50	3.97	3.03	2.17	3.31	2.84	177.3	4256.4	1219.4	DA0506008
9	0824	3.3	1014.1	1018.7	1015.2	17.21	20.05	17.72	20.16	27.07	21.69	59.61	72.06	61.84	6.52	6.60	6.55	3.97	6.41	4.94	5.80	7.51	7.02	0.6	4351.3	309.7	DA0506009

Note No data was collected past Station 9 on the high water run because of the low floodgate that blocked access further upstream

Table 135b Korogoro Creek - Water Quality Maxima and Minima - Low Water - 4 May 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1349	1.0	1019.7	1019.7	1019.7	20.98	20.99	20.99	28.62	28.69	28.65	92.09	92.57	92.42	7.40	7.41	7.41	2.01	2.99	2.34	2.79	3.17	2.89	344.8	4028.2	1872.6	DA0506010
2	1357	0.4	1017.5	1017.9	1017.7	20.52	20.59	20.58	25.63	26.13	25.93	90.61	103.43	101.67	6.73	7.16	6.96	552.93	553.42	553.08	9.78	11.86	10.57	341.1	4497.6	2505.9	DA0506011
3	1409	0.5	1016.3	1016.4	1016.3	20.31	20.31	20.31	24.03	24.05	24.04	71.39	97.28	88.80	6.95	6.97	6.96	549.51	550.00	549.94	8.93	10.70	9.60	265.7	520.4	408.2	DA0506012
4	1425	1.2	1014.7	1014.9	1014.8	20.29	20.30	20.29	21.92	22.09	22.00	75.08	75.26	75.21	6.71	6.71	6.71	3.48	3.97	3.52	6.38	6.59	6.48	157.7	4367.3	1065.4	DA0506013
5	1434	0.5	1010.4	1013.7	1013.5	20.05	20.10	20.07	16.08	20.44	20.19	66.38	68.99	68.10	6.57	6.58	6.57	3.97	7.38	4.86	7.06	9.99	7.95	100.3	4547.4	2577.6	DA0506014
6	1503	0.9	1012.2	1012.5	1012.4	20.45	20.56	20.52	18.65	19.02	18.92	65.83	66.66	66.46	6.48	6.49	6.49	3.48	4.46	3.94	7.38	8.15	7.74	19.6	3219.4	725.5	DA0506015
7	1517	0.2	1011.5	1011.5	1011.5	21.00	21.00	21.00	17.81	17.81	17.81	38.14	38.14	38.14	6.44	6.44	6.44	135.35	135.35	135.35	0.00	0.00	0.00	189.5	198.7	194.1	DA0506016
8	1528	0.5	1010.8	1011.0	1010.9	20.67	20.71	20.69	16.78	17.06	17.02	64.12	68.06	66.46	6.40	6.41	6.40	4.94	5.92	5.45	9.65	22.43	13.68	22.3	3452.2	1091.0	DA0506017
9	1545	3.1	1012.7	1018.1	1015.8	17.35	19.58	18.36	18.83	26.13	22.75	51.80	61.01	57.69	6.43	6.77	6.52	3.97	9.83	6.21	5.60	10.46	7.60	0.2	325.2	25.8	DA0506018
10	1559	0.3	1010.8	1010.8	1010.8	19.98	19.98	19.98	16.65	16.65	16.65	66.40	66.50	66.45	6.23	6.23	6.23	25.94	26.43	26.19	0.04	0.04	0.04	15.5	15.6	15.6	DA0506019
11	1613	1.1	1007.5	1009.3	1008.6	19.24	19.26	19.25	12.10	14.40	13.47	44.74	45.40	45.03	6.09	6.15	6.11	10.32	17.64	12.67	12.13	13.95	12.83	0.6	163.0	39.4	DA0506020
12	1620	0.3	1001.5	1001.5	1001.5	18.57	18.66	18.60	3.97	4.01	3.99	39.41	39.65	39.55	5.63	5.63	5.63	6.41	7.38	6.80	0.66	0.87	0.73	7.8	8.1	7.9	DA0506021

Note: Station 12 was on the upstream side of the floodgates



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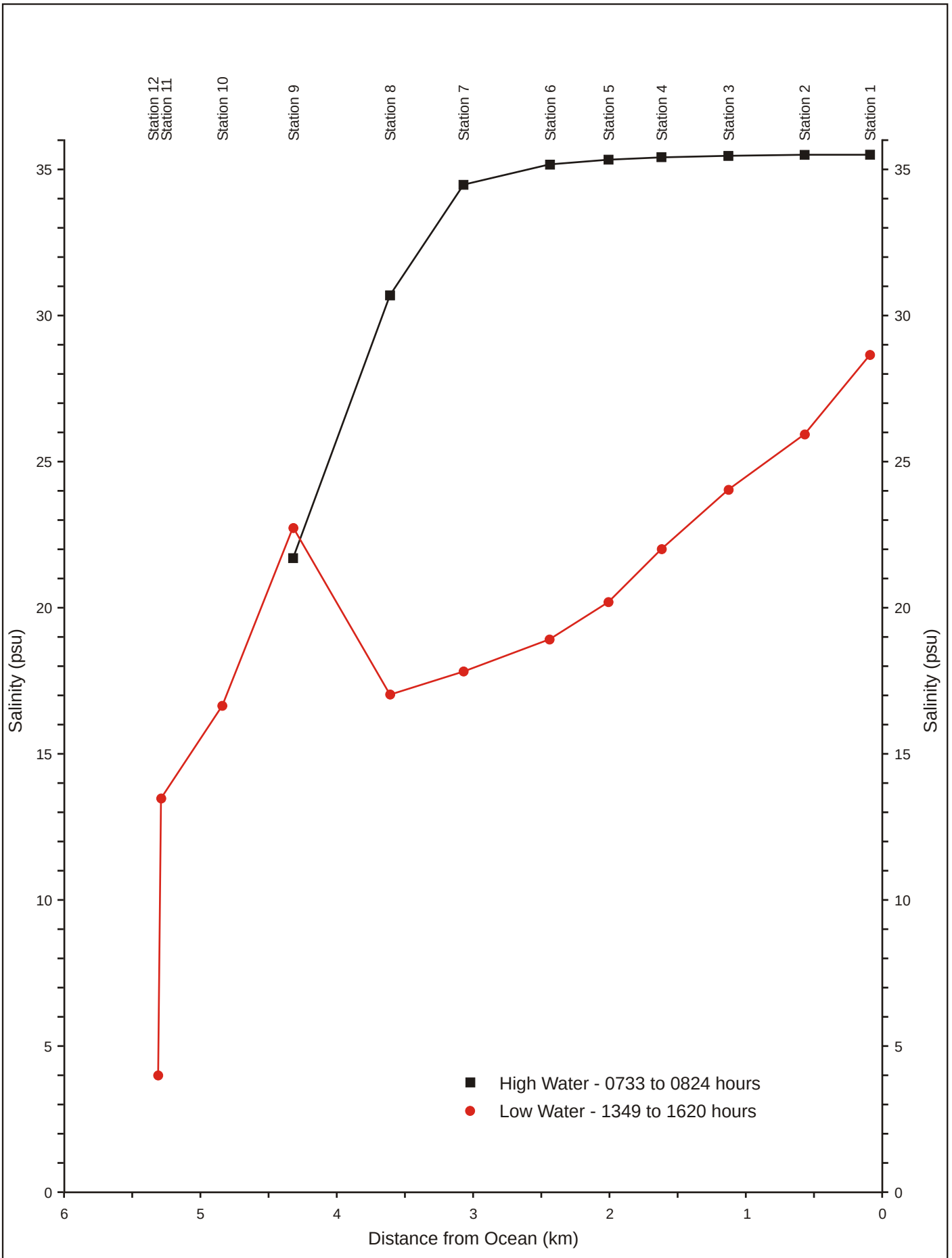
KOROGORO CREEK

4 MAY 2004

MHL Report 1812

Figure 112

DRAWING 1812-112.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
KOROGORO CREEK - HIGH AND LOW WATER
4 MAY 2004

MHL Report 1812

Figure 113

DRAWING 1812-113.CDR

Killick Creek Data Summary

Data was collected in Killick Creek on 2 May 2001. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 136. Summaries of the minimum and maximum values for all parameters measured on the high and low water runs are shown in Tables 137a-b. The locations at which these profiles were taken are shown in Figure 114. Long channel depth-averaged salinity profiles have not been plotted because there was no significant variation in salinity along the creek.

Table 136 Killick Creek - 2 May 2001

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity (psu)	High Water Salinity (psu)
	Easting	Northing			
1	497640	6549780	0.55	30.9	-
2	497420	6550125	0.97	32.5	-
3	497380	6550450	1.40	33.9	-
4	497195	6550675	1.76	35.0	-
5	497150	6550930	2.07	34.5	-
6	496815	6551125	2.50	32.0	-
7	496805	6551125	2.55	4.0	-
8	497930	6549575	0.17	-	35.0

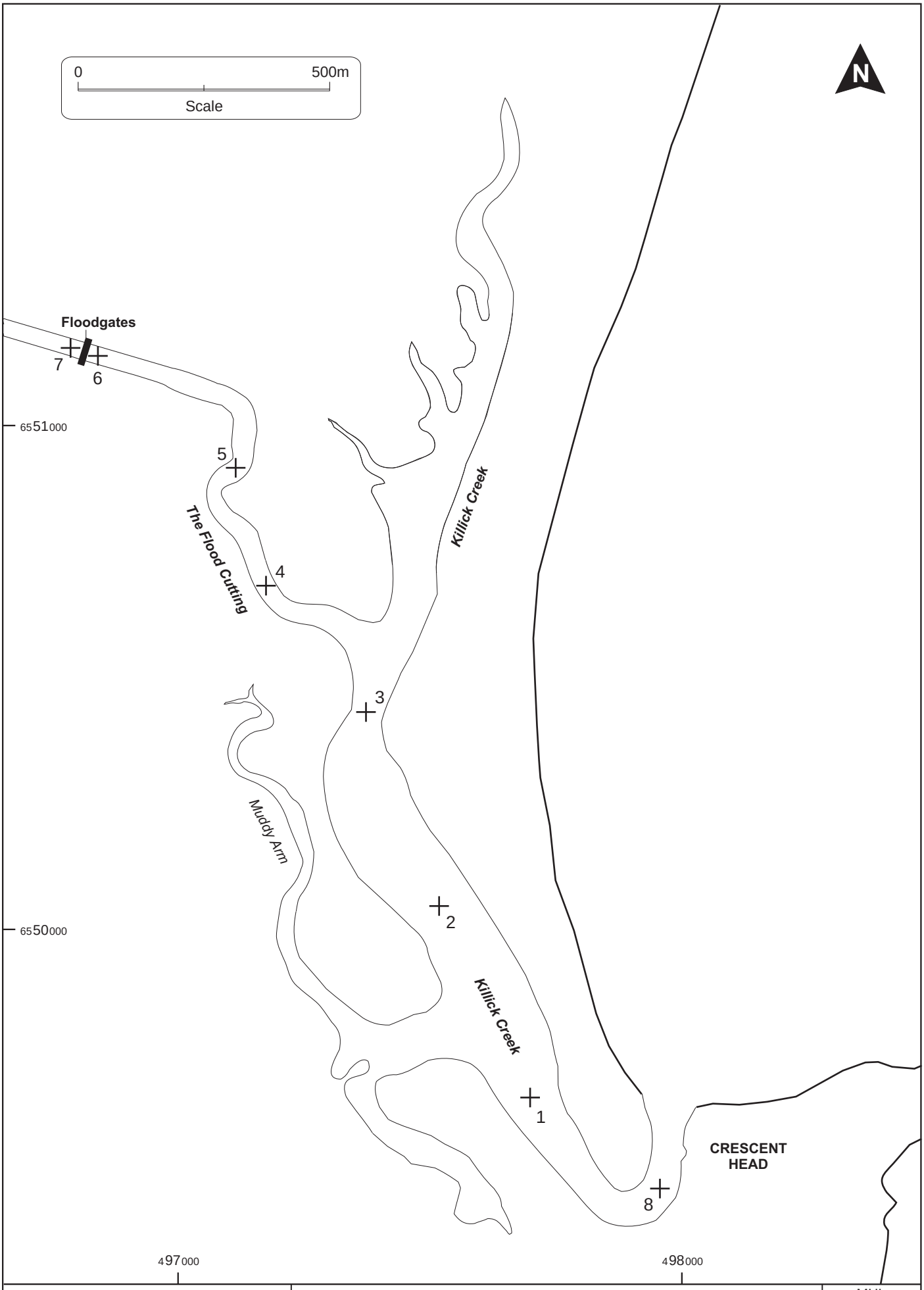
Note Profiling at Station 8 was not done on low water and on high water profiling was only done at Station 8

Table 137a Killick Creek - Water Quality Maxima and Minima - Low Water - 2 May 2001

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		% Sat O_2		pH		Backscatterance (NTU)		Chlorophyll-a (µg/L)		File Name
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1002	0.31	21.3	21.3	30.9	30.9	76	76	7.85	8.00	4.0	5.0	4.0	5.0	No data file
2	1023	1.10	21.8	21.8	32.5	32.5	74	74	8.13	8.13	3.8	6.0	4.0	5.0	No data file
3	1034	1.95	22.1	22.1	33.9	33.9	76	77	8.19	8.20	3.2	11.5	3.0	5.2	No data file
4	1045	1.65	22.2	22.3	34.0	35.0	72	82	8.10	8.20	1.0	3.0	0.0	1.2	No data file
5	1053	1.40	22.1	22.2	34.5	34.5	79	80	7.90	8.10	2.0	4.0	0.0	1.5	No data file
6	1100	0.65	21.2	22.0	28.0	33.9	59	67	7.95	8.10	3.5	11.9	1.5	3.0	No data file
7	1109	0.85	18.2	19.4	0.9	10.2	10	18	6.82	7.34	21.2	22.6	4.5	6.0	No data file

Table 137b Killick Creek - Water Quality Maxima and Minima - High Water - 2 May 2001

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		% Sat O_2		pH		Backscatterance (NTU)		Chlorophyll-a (µg/L)		File Name
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
8	1413	0.27	22.8	22.8	35.0	35.0	89	90	8.30	8.30	2.0	4.5	0.0	0.1	No data file



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KILLICK CREEK

2 MAY 2001

MHL Report 1812

Figure 114

DRAWING 1812-114.CDR

Hastings River Data Summary

Data was collected in the Maria River 24 and 25 August 1994, as detailed in report MHL702. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 138. Summaries of the minimum and maximum values for all parameters measured on the single run are shown in Tables 139a-b. The locations at which these profiles were taken are shown in Figure 115. Long channel depth-averaged salinity profiles are shown in Figure 116.

Table 138 Maria River - 24 and 25 August 1994

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water		High Water	
	Easting	Northing		Min Salinity (psu)	Max Salinity (psu)	Min Salinity (psu)	Max Salinity (psu)
1	486025	6538035	31.90	11.9	12.0	15.9	16.0
2	486385	6540030	34.05	11.3	11.7	13.1	13.3
3	486745	6541180	35.18	10.8	11.3	-	-
4	485925	6541675	36.10	10.5	10.9	11.3	11.5
5	489510	6543545	39.21	9.0	9.1	9.6	9.6
6	490015	6543490	39.75	8.9	9.1	9.3	9.4
7	490985	6543930	40.88	8.3	8.5	8.4	9.0
8	491615	6545425	42.71	7.3	7.3	7.7	7.9
9	492810	6546645	44.59	6.0	6.0	6.7	6.8

Note Station locations transferred from report figure to aerial photo in Department of Lands database

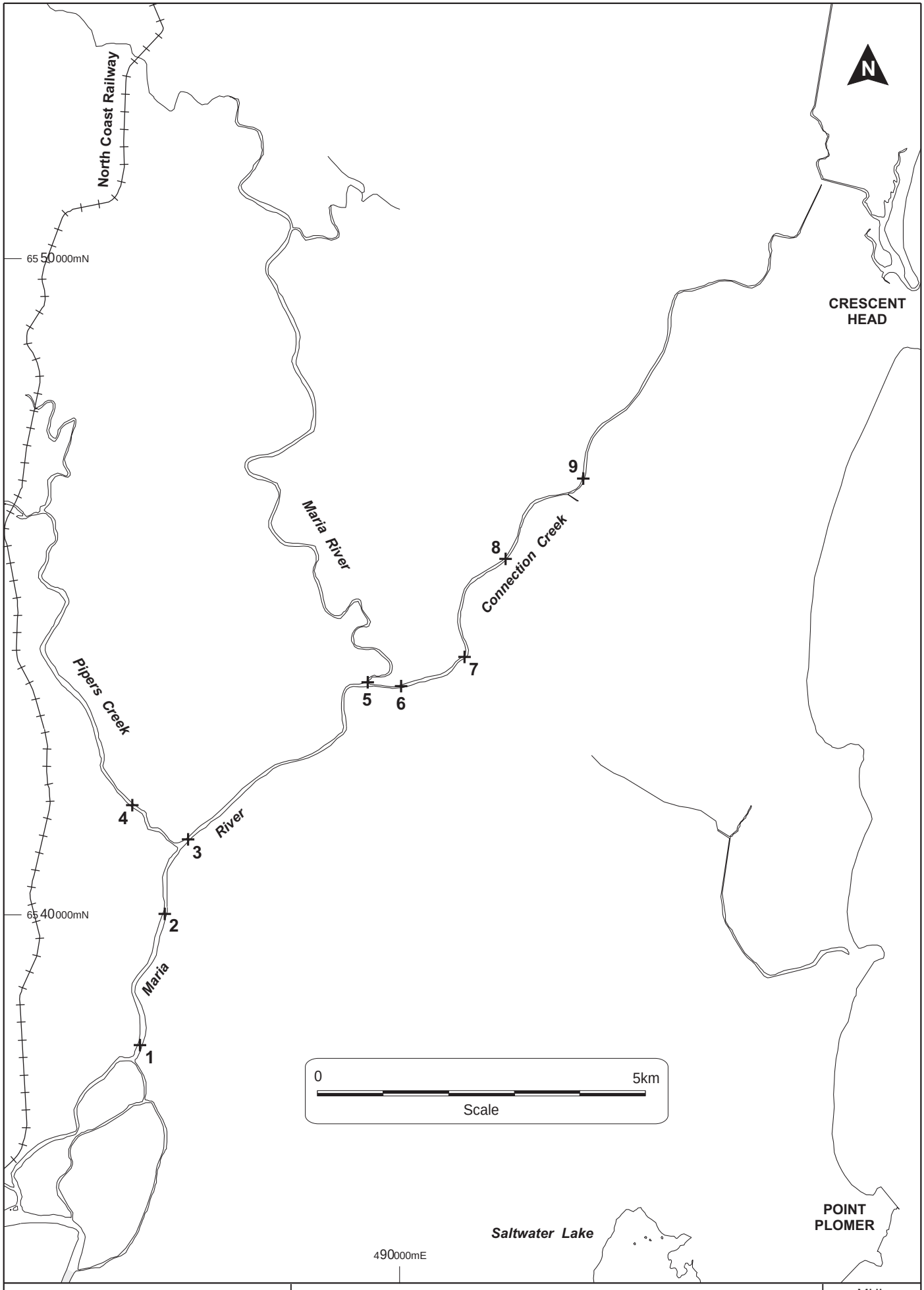
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Table 139a Maria River - Water Quality Maxima and Minima - Low Water - 24 August 1994

Station No.	Mid Time (EST)	Temperature (°C)		Salinity (ppt)		Dissolved O_2 (mg/L)		pH		Redox (mV)	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	0830	13.7	13.8	11.9	12.0	7.6	7.7	7.2	7.3	365	373
2	0854	13.6	13.7	11.3	11.7	7.7	7.7	7.2	7.2	355	367
3	0925	13.6	13.8	10.8	11.3	7.5	7.9	7.1	7.2	342	360
4	0940	13.4	13.6	10.5	10.9	7.6	7.9	7.1	7.1	352	367
5	1030	12.5	12.6	9.0	9.1	7.4	7.6	6.9	7.0	354	361
6	1045	12.6	13.3	8.9	9.1	7.1	7.5	6.9	6.9	357	367
7	1100	12.7	13.1	8.3	8.5	7.4	7.8	6.9	6.9	359	372
8	1135	12.6	12.7	7.3	7.3	8.2	8.4	6.9	6.9	360	371
9	1155	11.9	12.0	6.0	6.0	7.4	7.9	6.9	6.7	363	374

Table 139b Maria River - Water Quality Maxima and Minima - High Water - 25 August 1994

Station No.	Mid Time (EST)	Temperature (°C)		Salinity (ppt)		Dissolved O_2 (mg/L)		pH		Redox (mV)	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	1345	14.9	15.0	15.9	16.0	7.7	7.8	7.4	7.4	339	346
2	1405	14.7	14.8	13.1	13.3	7.8	8.0	7.3	7.3	339	346
3	-	-	-	-	-	-	-	-	-	-	-
4	1420	14.4	15.0	11.3	11.5	7.9	8.1	7.2	7.2	342	350
5	1445	13.8	13.8	9.6	9.6	7.6	7.8	7.0	7.0	349	356
6	1510	13.7	13.8	9.3	9.4	7.5	7.7	7.0	7.0	353	361
7	1520	13.2	14.5	8.4	9.0	7.3	7.9	6.9	7.0	349	359
8	1540	13.1	13.3	7.7	7.9	8.1	8.3	6.9	6.9	354	367
9	1600	12.7	12.8	6.7	6.8	8.2	8.6	6.8	6.8	348	363



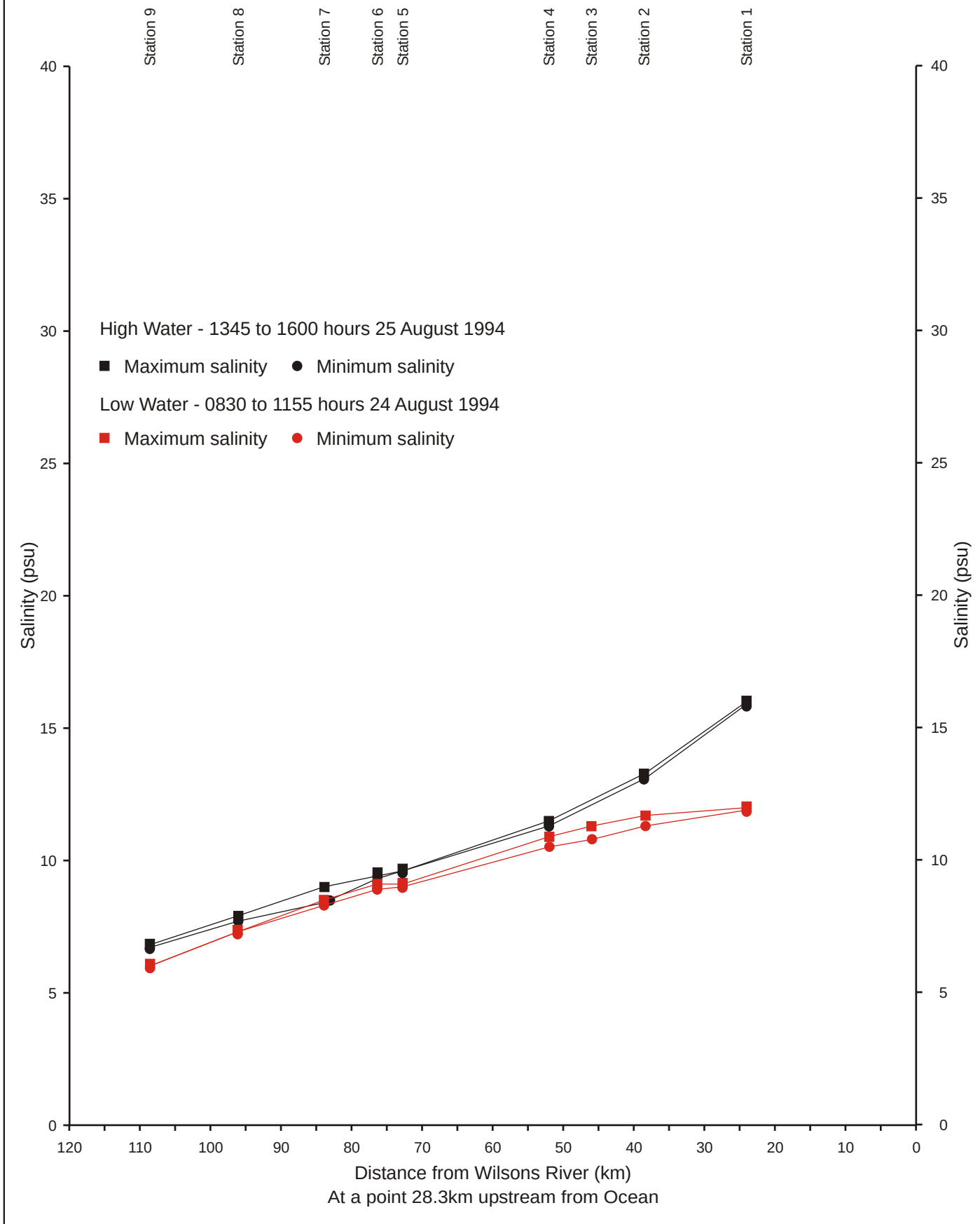
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MARIA RIVER AND CONNECTION CREEK
24 AND 25 AUGUST 1994

MHL Report 1812

Figure 115

DRAWING 1812-115.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MARIA RIVER AND CONNECTION CREEK - HIGH AND LOW WATER
24 AND 25 AUGUST 1994

MHL Report 1812

Figure 116

DRAWING 1812-116.CDR

Data was also collected in the Hastings River estuary on 25 to 28 October 1999, as detailed in report MHL1030. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 140 to 145. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 146a to 151b. The locations at which these profiles were taken are shown in Figure 117 to 119. Long channel depth-averaged salinity profiles are shown in Figures 120 to 122.

Table 140 Hastings River - 26 October 1999

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
H1	491910	6523225	0.45	37.72	29.05
H2	490190	6525215	4.28	37.66	26.42
H3	488360	6523735	6.93	37.31	27.52
H4	486320	6525780	9.73	36.89	17.63
H5	483090	6525025	12.98	27.18	16.37
H6	479490	6522015	17.71	-	3.59
H7	477825	6519355	22.85	3.95	0.82
H8	474115	6520885	27.10	0.25	0.08
H9	471855	6521615	31.55	0.07	0.08

Note No data collected at Station H6 on high water run

Table 141 Munns and Caswell Channels - 28 October 1999

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
MC1	481265	6524625	15.06	20.14	14.54
MC2	478735	6524730	19.61	15.18	13.61
MC3	477095	6522420	24.45	13.35	11.07

Table 142 Maria River and Connection Creek - 26 October 1999

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
M1	486320	6525780	9.70	36.94	22.02
M2	484380	6529115	14.38	25.36	1.94
M3	486615	6530215	18.98	13.78	0.29
M4	484275	6531960	23.75	1.89	0.21
M5	484165	6535405	28.28	0.22	0.28
M6	485970	6537875	31.85	0.20	0.35
M7	486720	6541100	35.60	0.33	0.50
M8	489515	6543470	39.48	0.54	0.60
M9	491695	6545510	42.85	0.71	1.16

Table 143 Limeburners Creek - 25 October 1999

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
L1	490190	6525215	4.30	37.38	27.18
L2	489650	6526315	6.08	37.24	27.39
L3	489220	6528415	8.75	31.11	22.68
L4	490485	6529115	10.38	24.38	-
L5	492475	6530025	13.88	17.71	-
L6	492985	6532180	16.95	11.16	-
L7	493790	6534005	19.73	3.67	-
L8	494115	6534275	20.30	2.82	-

Table 144 Wilsons River - 26 and 27 October 1999

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
W1	480455	6534195	31.90	0.08	0.07
W2	477905	6534220	36.70	0.06	0.06

Table 145 Pipers Creek - 26 and 27 October 1999

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
P1	486155	6541345	36.18	0.35	0.35
P2	484865	6544625	40.10	0.30	0.28
P3	484545	6546100	42.10	0.25	0.22

Table 146a Hastings River - Water Quality Maxima and Minima - Low Water - 26 October 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
H1	0549	4.8	1019.9	1021.3	1020.2	20.00	20.25	20.21	26.90	28.51	27.26	85.50	87.00	85.96	7.94	8.02	7.99	2.01	2.99	2.54	4.11	4.77	4.32	17.2	471.3	116.4	HA020719
H2	0602	5.9	1015.6	1024.6	1018.1	19.45	21.09	20.76	21.91	32.43	24.80	78.46	84.11	81.77	7.88	7.98	7.94	1.52	3.97	2.89	4.26	5.10	4.49	6.2	737.8	126.4	HA020720
H3	0633	6.9	1013.7	1022.7	1018.9	20.03	21.48	20.68	19.62	30.29	25.82	80.55	84.45	82.36	7.76	8.09	7.92	2.01	7.87	2.80	4.21	5.47	4.58	6.9	128.8	61.8	HA020721
H4	0644	2.9	1009.1	1016.5	1011.2	21.36	21.67	21.55	13.99	23.11	16.56	77.32	80.18	78.79	7.58	7.61	7.59	2.50	4.94	3.10	4.11	5.81	4.91	72.6	91.2	78.7	HA020722
H5	0657	4.3	1004.9	1015.9	1010.2	21.54	22.05	21.90	8.83	22.33	15.37	76.48	80.70	77.47	7.43	7.58	7.48	2.01	4.45	2.84	4.09	5.85	4.82	42.3	1142.0	338.6	HA020723
H6	0712	3.5	1000.3	1000.8	1000.5	21.92	21.97	21.94	3.12	3.69	3.37	79.32	80.16	79.76	7.40	7.44	7.42	2.99	15.69	3.42	4.41	6.43	5.19	24.6	485.3	180.4	HA020724
H7	0729	6.5	998.5	998.5	998.5	21.60	21.61	21.60	0.76	0.78	0.77	78.17	79.23	78.72	7.46	7.50	7.48	6.41	7.87	6.95	3.28	3.51	3.37	0.7	785.3	237.7	HA020725
H8	0743	1.9	998.0	998.0	998.0	21.37	21.39	21.38	0.08	0.08	0.08	81.80	81.97	81.88	7.47	7.48	7.48	4.94	5.92	5.46	3.28	3.49	3.33	271.6	618.5	404.2	HA020726
H9	0800	2.3	998.0	998.0	998.0	21.15	21.17	21.16	0.07	0.07	0.07	101.96	102.73	102.47	7.68	7.69	7.69	4.45	5.92	5.04	3.20	3.35	3.26	28.6	496.1	169.3	HA020727

Table 146b Hastings River - Water Quality Maxima and Minima - High Water - 26 October 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
H1	1149	11.0	1027.5	1027.5	1027.5	17.54	17.65	17.61	35.35	35.37	35.36	79.70	82.14	81.40	8.05	8.07	8.06	0.06	3.97	0.80	1.83	2.48	2.04	483.5	5464.0	1012.5	HA020728
H2	1208	7.5	1027.4	1027.5	1027.4	17.59	17.64	17.60	35.28	35.33	35.31	81.56	82.54	82.04	8.04	8.05	8.05	0.55	1.52	1.06	1.76	2.42	1.98	292.3	485.3	406.2	HA020729
H3	1218	7.9	1026.6	1027.3	1027.1	17.58	18.17	17.74	34.45	35.17	34.98	81.19	83.37	81.84	8.05	8.06	8.06	1.04	2.01	1.44	1.94	2.96	2.29	263.7	398.0	347.6	HA020730
H4	1228	5.4	1025.7	1027.1	1026.7	17.79	18.70	18.03	33.53	34.95	34.59	80.88	82.58	81.52	8.03	8.06	8.04	2.01	3.97	2.57	2.40	3.91	2.97	245.9	1164.0	582.3	HA020731
H5	1244	5.6	1016.3	1019.4	1018.5	20.71	21.79	21.12	22.97	26.42	25.51	85.08	90.19	86.95	7.82	7.96	7.89	2.01	3.48	2.61	4.36	5.48	4.97	73.2	182.0	150.0	HA020732
H6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H7	1310	10.4	999.7	1001.1	1000.6	22.56	23.15	22.67	2.72	4.24	3.71	86.85	91.77	88.32	7.47	7.66	7.55	3.48	5.43	4.00	4.52	9.02	5.88	0.3	319.2	75.9	HA020733
H8	1322	2.8	997.8	997.9	997.9	22.30	22.58	22.36	0.22	0.25	0.24	88.63	90.06	88.79	7.54	7.56	7.55	3.97	4.45	4.10	3.93	6.03	4.95	70.3	99.2	86.2	HA020734
H9	1337	3.3	997.6	997.8	997.6	22.30	23.08	22.85	0.07	0.07	0.07	112.61	128.28	120.05	8.21	8.35	8.30	4.45	5.92	5.27	2.90	3.18	3.06	84.1	1016.0	472.7	HA020735

Note No data collected at Station H6 on high water

Table 147a Munns Channel and Caswell Channel - Water Quality Maxima and Minima - Low Water - 28 October 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
MC1	0642	4.6	1008.6	1011.6	1009.5	21.93	22.02	21.99	13.41	17.23	14.54	69.64	72.30	70.61	7.34	7.57	7.39	7.33	204.15	11.62	-	-	-	-	-	-	HA167024
MC2	0657	1.4	1008.7	1008.7	1008.7	22.02	22.02	22.02	13.61	13.61	13.61	64.08	64.76	64.50	7.26	7.27	7.26	13.19	18.07	14.87	-	-	-	-	-	-	HA167026
MC3	0715	1.7	1006.1	1007.2	1006.6	21.90	22.32	22.13	10.32	11.77	11.07	68.41	69.00	68.72	7.21	7.23	7.22	11.72	14.16	12.92	-	-	-	-	-	-	HA167027

Note Chlorophyll-a and PAR sensors are not fitted to Sea-Bird SBE 19-03 only to the SBE 25-03

Table 147b Munns Channel and Caswell Channel - Water Quality Maxima and Minima - High Water - 28 October 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
MC1	1128	3.6	1009.9	1015.7	1014.1	21.25	22.64	21.64	15.28	22.04	20.14	79.51	91.30	82.13	7.72	7.86	7.80	6.35	11.72	8.69	-	-	-	-	-	-	HA167028
MC2	1142	2.6	1009.3	1010.0	1009.8	22.72	22.89	22.79	14.61	15.45	15.18	77.29	80.03	79.16	7.54	7.61	7.58	7.33	9.77	8.58	-	-	-	-	-	-	HA167029
MC3	1200	3.5	1007.7	1008.3	1008.2	22.99	23.34	23.17	12.73	13.42	13.35	75.13	79.94	75.90	7.36	7.37	7.37	7.81	9.28	8.07	-	-	-	-	-	-	HA167030

Note Chlorophyll-a and PAR sensors are not fitted to Sea-Bird SBE 19-03 only to the SBE 25-03

Table 148a Maria River and Connection Creek - Water Quality Maxima and Minima - High Water - 26 October 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
M1	1111	6.3	1025.9	1026.5	1026.3	19.69	19.80	19.73	34.20	34.80	34.64	93.78	95.62	95.06	8.12	8.18	8.16	2.01	4.45	2.52	3.76	5.41	4.67	129.3	1294.0	510.4	HA020701
M2	1128	3.8	1016.5	1017.3	1017.0	21.64	21.95	21.76	23.24	24.09	23.80	88.43	90.37	89.00	7.96	7.97	7.97	3.48	4.94	3.71	4.08	5.23	4.68	81.7	3328.0	668.6	HA020702
M3	1152	4.6	1008.0	1008.3	1008.2	22.09	22.10	22.09	12.73	13.07	12.94	84.77	85.05	84.93	7.54	7.55	7.55	4.45	9.34	5.79	5.64	6.27	5.91	18.0	115.0	61.6	HA020703
M4	1206	3.3	999.0	999.1	999.1	22.48	22.59	22.52	1.70	1.80	1.78	87.10	87.73	87.36	7.43	7.48	7.45	7.87	9.83	8.80	8.78	10.01	9.67	16.5	993.5	251.3	HA020704
M5	1222	2.3	997.7	997.9	997.9	22.21	22.91	22.40	0.20	0.21	0.21	79.21	79.95	79.40	6.89	6.90	6.90	8.85	11.78	9.99	6.92	7.82	7.37	17.2	241.5	77.0	HA020705
M6	1307	3.9	997.8	997.8	997.8	22.44	22.49	22.47	0.19	0.19	0.19	78.19	78.77	78.53	6.69	6.69	6.69	8.85	12.27	9.87	6.59	7.23	6.93	1.8	178.0	41.7	HA020706
M7	1339	3.6	997.9	998.0	997.9	22.37	22.72	22.43	0.31	0.31	0.31	70.40	71.13	70.72	6.29	6.31	6.30	6.41	10.32	7.76	5.71	6.94	6.51	5.3	1737.0	242.7	HA020707
M8	1357	3.0	998.2	998.2	998.2	21.89	21.92	21.91	0.51	0.51	0.51	56.93	57.13	57.02	5.86	5.86	5.86	5.92	7.39	6.65	6.83	8.49	7.03	2.2	86.3	21.3	HA020708
M9	1424	2.9	998.4	998.5	998.4	21.51	21.63	21.58	0.67	0.69	0.67	50.19	50.82	50.58	5.69	5.70	5.69	7.87	8.85	8.38	6.43	6.72	6.57	1.6	96.0	20.0	HA020709

Table 148b Maria River and Connection Creek - Water Quality Maxima and Minima - Low Water - 27 October 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
M1	0603	5.2	1008.4	1021.1	1014.4	21.15	22.13	21.84	13.22	28.64	20.67	83.61	91.32	85.88	6.78	7.97	7.18	2.50	5.92	3.62	4.68	5.67	5.11	1.3	36.5	9.2	HA020710
M2	0634	2.6	999.1	999.2	999.2	22.35	22.37	22.37	1.80	1.85	1.82	84.69	85.11	84.88	7.02	7.03	7.03	8.36	13.25	10.19	7.88	8.34	8.12	0.7	72.9	7.8	HA020711
M3	0700	4.6	997.9	997.9	997.9	22.33	22.35	22.35	0.28	0.28	0.28	80.62	81.27	80.98	6.57	6.58	6.58	10.80	16.18	13.02	7.35	8.31	7.75	0.0	16.8	2.0	HA020712
M4	0716	2.6	997.9	997.9	997.9	22.29	22.29	22.29	0.20	0.20	0.20	77.15	77.64	77.48	6.45	6.49	6.47	8.36	11.29	9.37	6.22	6.87	6.57	1.2	21.6	7.2	HA020713
M5	0735	1.7	997.9	998.0	997.9	22.15	22.18	22.18	0.26	0.27	0.26	71.80	72.20	72.03	6.33	6.37	6.35	7.39	11.29	8.87	5.79	6.29	5.99	4.7	39.3	13.8	HA020714
M6	0751	3.3	998.1	998.1	998.1	21.92	21.93	21.92	0.33	0.33	0.33	60.78	61.26	60.98	5.95	5.97	5.96	6.90	11.29	7.59	5.87	6.33	6.09	0.3	26.3	5.8	HA020715
M7	0814	2.6	998.3	998.3	998.3	21.39	21.46	21.43	0.46	0.48	0.47	52.97	53.93	53.42	5.70	5.73	5.72	5.92	8.85	6.55	5.87	6.58	6.17	1.9	216.3	27.3	HA020716
M8	0832	2.4	998.4	998.4	998.4	21.27	21.28	21.28	0.56	0.57	0.57	48.72	49.35	49.10	5.33	5.33	5.33	7.39	7.87	7.48	5.32	5.74	5.47	1.6	58.7	12.4	HA020717
M9	0857	2.1	998.9	998.9	998.9	20.86	20.88	20.87	1.09	1.10	1.10	43.69	44.09	43.94	5.48	5.49	5.48	6.41	7.39	6.81	5.57	5.91	5.76	8.8	121.9	42.3	HA020718

Table 149a Limeburners Creek - Water Quality Maxima and Minima - High Water - 25 October 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
L1	0935	7.7	1025.4	1026.8	1026.7	19.63	20.06	19.70	33.67	35.18	35.04	85.43	89.78	88.48	8.10	8.17	8.15	5.37	7.81	6.01	-	-	-	-	-	-	HA167001
L2	0949	3.0	1026.2	1026.6	1026.5	19.92	19.97	19.94	34.57	35.02	34.92	89.13	92.15	91.26	8.12	8.16	8.15	5.37	7.81	5.82	-	-	-	-	-	-	HA167002
L3	1009	2.9	1019.6	1022.7	1021.7	20.39	20.80	20.51	26.71	30.43	29.19	79.93	85.18	83.11	7.81	8.06	7.97	6.84	9.28	8.12	-	-	-	-	-	-	HA167003
L4	1048	1.6	1016.4	1016.5	1016.4	21.06	21.17	21.12	22.84	22.93	22.88	77.17	78.04	77.66	7.65	7.66	7.66	9.77	10.26	9.97	-	-	-	-	-	-	HA167004
L5	1124	1.3	1011.5	1011.7	1011.6	20.00	20.12	20.06	16.53	16.77	16.63	65.65	68.01	66.46	7.13	7.15	7.14	10.74	11.23	11.01	-	-	-	-	-	-	HA167005
L6	1140	1.5	1006.5	1006.6	1006.6	20.44	20.56	20.48	10.38	10.52	10.49	58.67	60.16	59.18	6.81	6.81	6.81	9.28	503.05	43.76	-	-	-	-	-	-	HA167006
L7	1206	0.8	1001.2	1001.2	1001.2	19.22	19.23	19.22	3.44	3.46	3.45	52.81	53.24	53.06	6.45	6.46	6.46	7.33	11.72	8.22	-	-	-	-	-	-	HA167007
L8	1214	0.2	999.5	999.5	999.5	23.67	23.67	23.67	2.65	2.65	2.65	73.90	73.90	73.90	7.04	7.04	7.04	0.00	0.00	0.00	-	-	-	-	-	-	HA167008

Note Chlorophyll-a and PAR sensors are not fitted to Sea-Bird SBE 19-03 only to the SBE 25-03

Table 149b Limeburners Creek - Water Quality Maxima and Minima - Low Water - 25 October 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
L1	1556	5.2	1015.2	1022.0	1018.4	20.77	21.98	21.48	21.70	29.64	25.51	79.17	83.63	80.55	7.88	8.05	7.96	7.33	9.28	8.33	-	-	-	-	-	-	HA167009
L2	1644	2.2	1018.1	1018.1	1018.1	23.31	23.32	23.32	25.68	25.71	25.69	88.78	91.91	90.15	7.88	7.89	7.88	9.28	10.74	9.67	-	-	-	-	-	-	HA167010
L3	1706	1.1	1014.4	1014.5	1014.4	23.67	23.68	23.68	21.24	21.32	21.29	81.79	83.67	82.93	7.63	7.64	7.63	13.68	14.65	14.05	-	-	-	-	-	-	HA167011

Note Chlorophyll-a and PAR sensors are not fitted to Sea-Bird SBE 19-03 only to the SBE 25-03

Table 150a Wilson River - Water Quality Maxima and Minima - High Water - 26 October 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
M5	1224	2.6	997.7	997.9	997.9	22.18	22.87	22.34	0.20	0.21	0.21	70.56	71.44	70.84	6.58	6.60	6.59	13.19	16.12	14.58	-	-	-	-	-	-	HA167012
W1	1302	5.5	997.5	997.8	997.7	22.41	23.61	22.81	0.07	0.08	0.07	78.94	79.88	79.43	7.02	7.10	7.08	6.35	6.84	6.67	-	-	-	-	-	-	HA167013
W2	1320	3.6	997.7	998.0	997.9	21.32	22.50	21.82	0.05	0.05	0.05	80.13	82.16	81.31	6.97	7.02	7.00	6.35	6.84	6.52	-	-	-	-	-	-	HA167014

Note Chlorophyll-a and PAR sensors are not fitted to Sea-Bird SBE 19-03 only to the SBE 25-03

Table 150b Wilson River - Water Quality Maxima and Minima - Low Water - 27 October 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
M5	0735	1.9	997.9	998.0	998.0	22.14	22.17	22.16	0.26	0.27	0.26	67.41	69.97	68.33	6.41	6.43	6.42	10.26	673.99	30.98	-	-	-	-	-	-	HA167018
W1	0746	4.4	997.7	997.7	997.7	22.72	22.74	22.73	0.06	0.06	0.06	83.14	83.84	83.56	7.01	7.06	7.03	5.37	5.86	5.70	-	-	-	-	-	-	HA167019
W2	0803	2.8	997.9	998.0	998.0	21.44	21.47	21.46	0.06	0.06	0.06	80.41	81.37	80.95	6.93	6.95	6.94	7.33	7.33	7.33	-	-	-	-	-	-	HA167020

Note Chlorophyll-a and PAR sensors are not fitted to Sea-Bird SBE 19-03 only to the SBE 25-03

Table 151a Pipers Creek - Water Quality Maxima and Minima - High Water - 26 October 1999

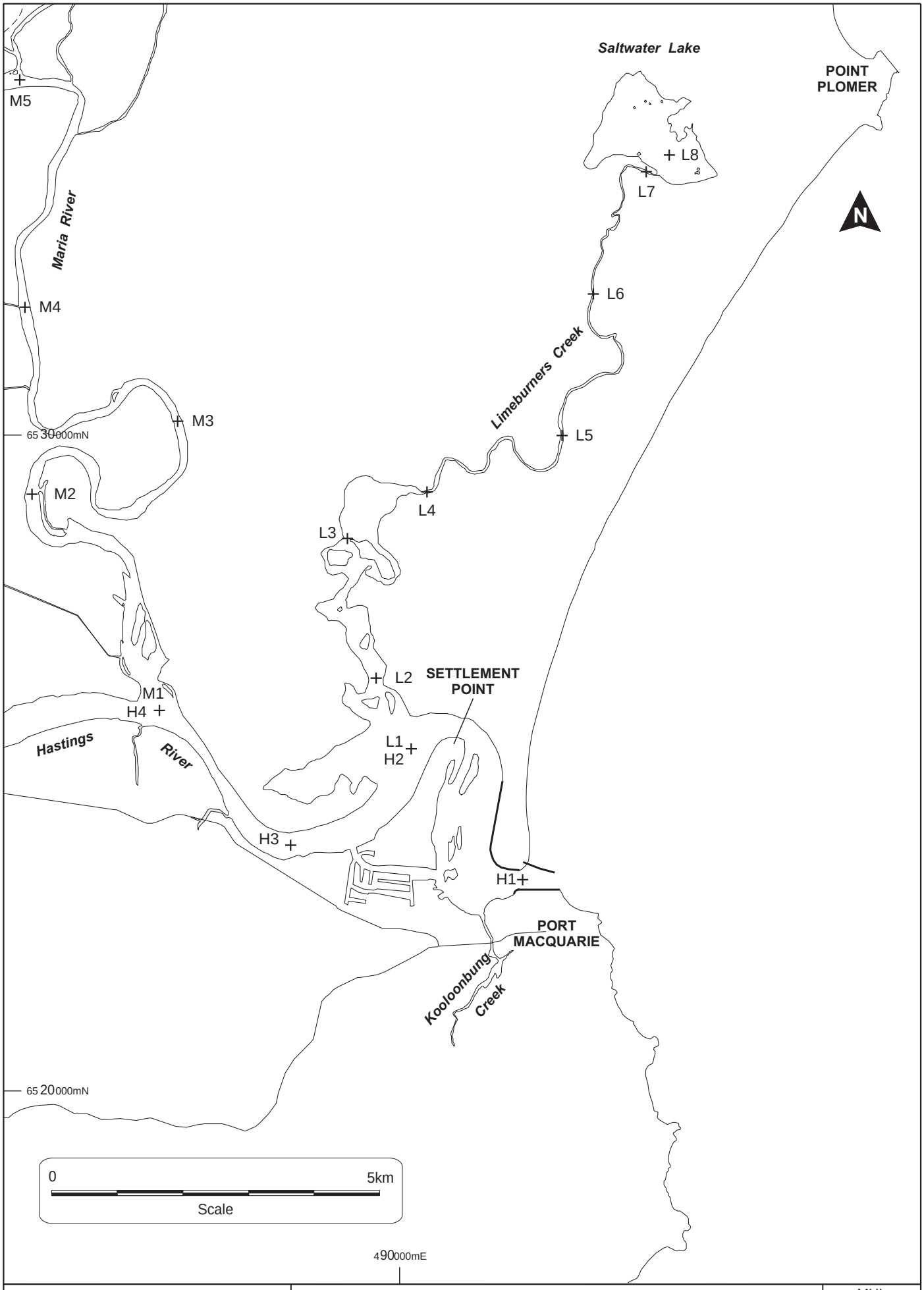
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
P1	1408	4.9	997.9	998.0	998.0	22.33	22.54	22.40	0.33	0.34	0.33	52.07	61.67	60.68	6.02	6.04	6.04	10.26	11.23	10.69	-	-	-	-	-	-	HA167015
P2	1422	4.1	997.9	998.1	998.1	21.49	22.27	21.71	0.28	0.29	0.28	44.53	50.37	46.25	6.28	6.32	6.30	7.81	8.30	8.00	-	-	-	-	-	-	HA167016
P3	1432	1.7	998.1	998.2	998.1	21.17	21.37	21.26	0.23	0.24	0.23	40.74	41.61	41.18	6.45	6.46	6.45	7.33	7.33	7.33	-	-	-	-	-	-	HA167017

Note Chlorophyll-a and PAR sensors are not fitted to Sea-Bird SBE 19-03 only to the SBE 25-03

Table 151b Pipers Creek - Water Quality Maxima and Minima - Low Water - 27 October 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
P1	0851	1.9	998.1	998.1	998.1	21.95	21.96	21.95	0.33	0.33	0.33	49.60	51.16	50.24	5.97	5.98	5.97	9.77	10.74	10.14	-	-	-	-	-	-	HA167021
P2	0904	4.4	998.1	998.1	998.1	21.44	21.49	21.46	0.26	0.27	0.26	42.79	43.36	43.14	6.37	6.39	6.38	7.33	8.30	7.42	-	-	-	-	-	-	HA167022
P3	0913	2.2	998.3	998.3	998.3	20.53	20.55	20.55	0.21	0.21	0.21	35.13	35.67	35.48	6.49	6.50	6.50	7.81	9.77	7.99	-	-	-	-	-	-	HA167023

Note Chlorophyll-a and PAR sensors are not fitted to Sea-Bird SBE 19-03 only to the SBE 25-03



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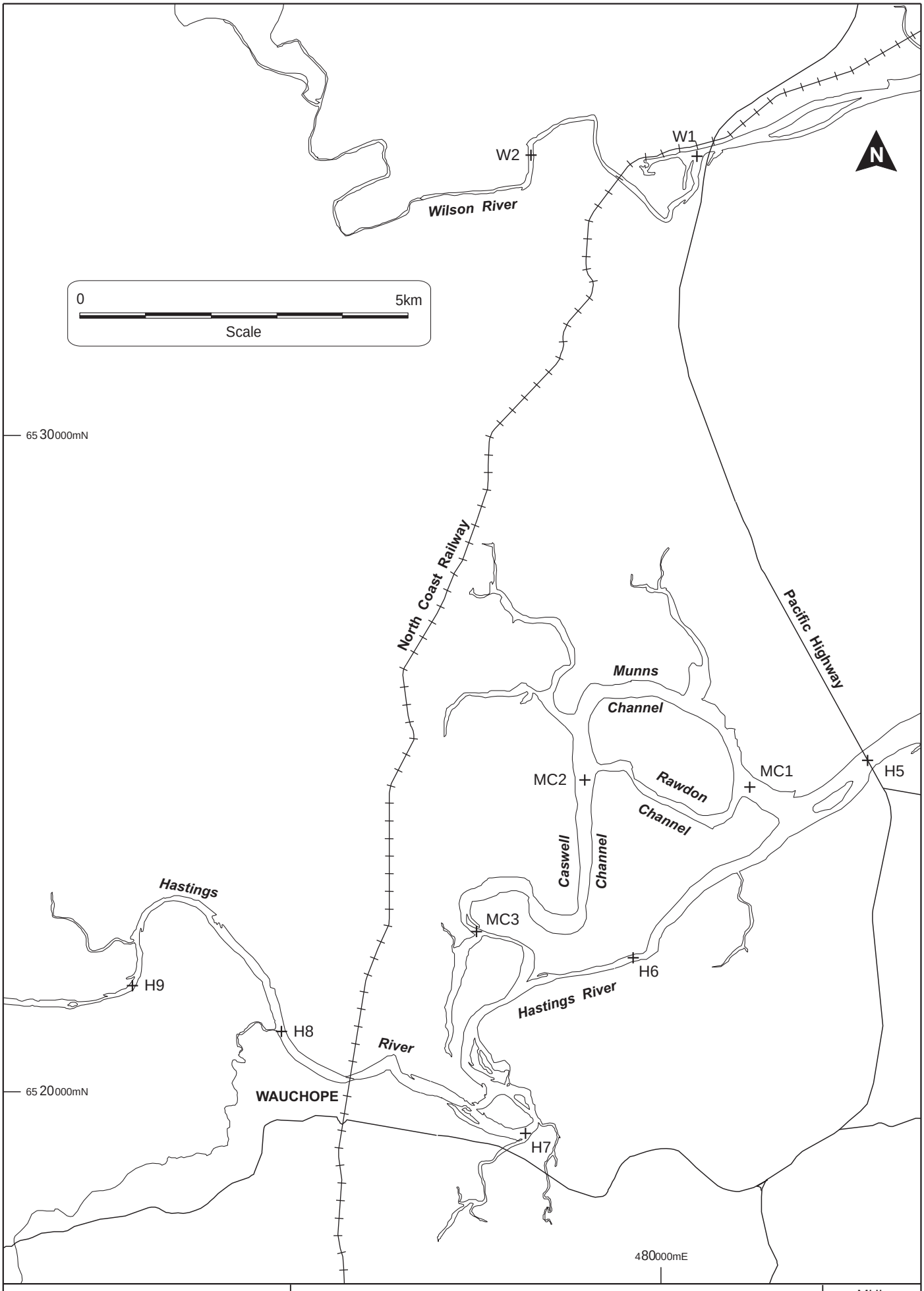
HASTINGS RIVER - EASTERN SECTION

25 TO 28 OCTOBER 1999

MHL Report 1812

Figure 117

DRAWING 1812-117.CDR



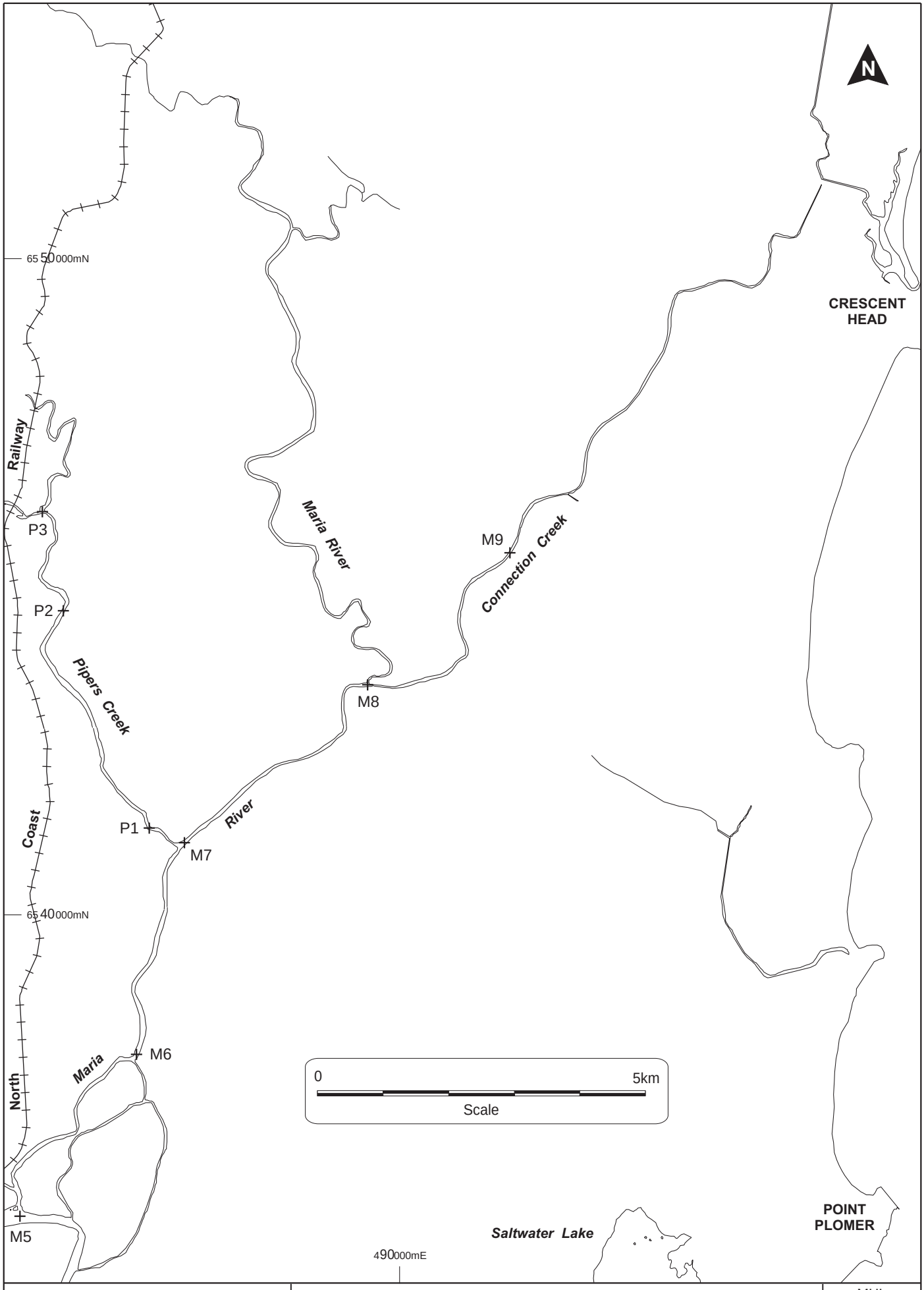
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HASTINGS RIVER - WESTERN SECTION
25 TO 28 OCTOBER 1999

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Figure 118

DRAWING 1812-118.CDR



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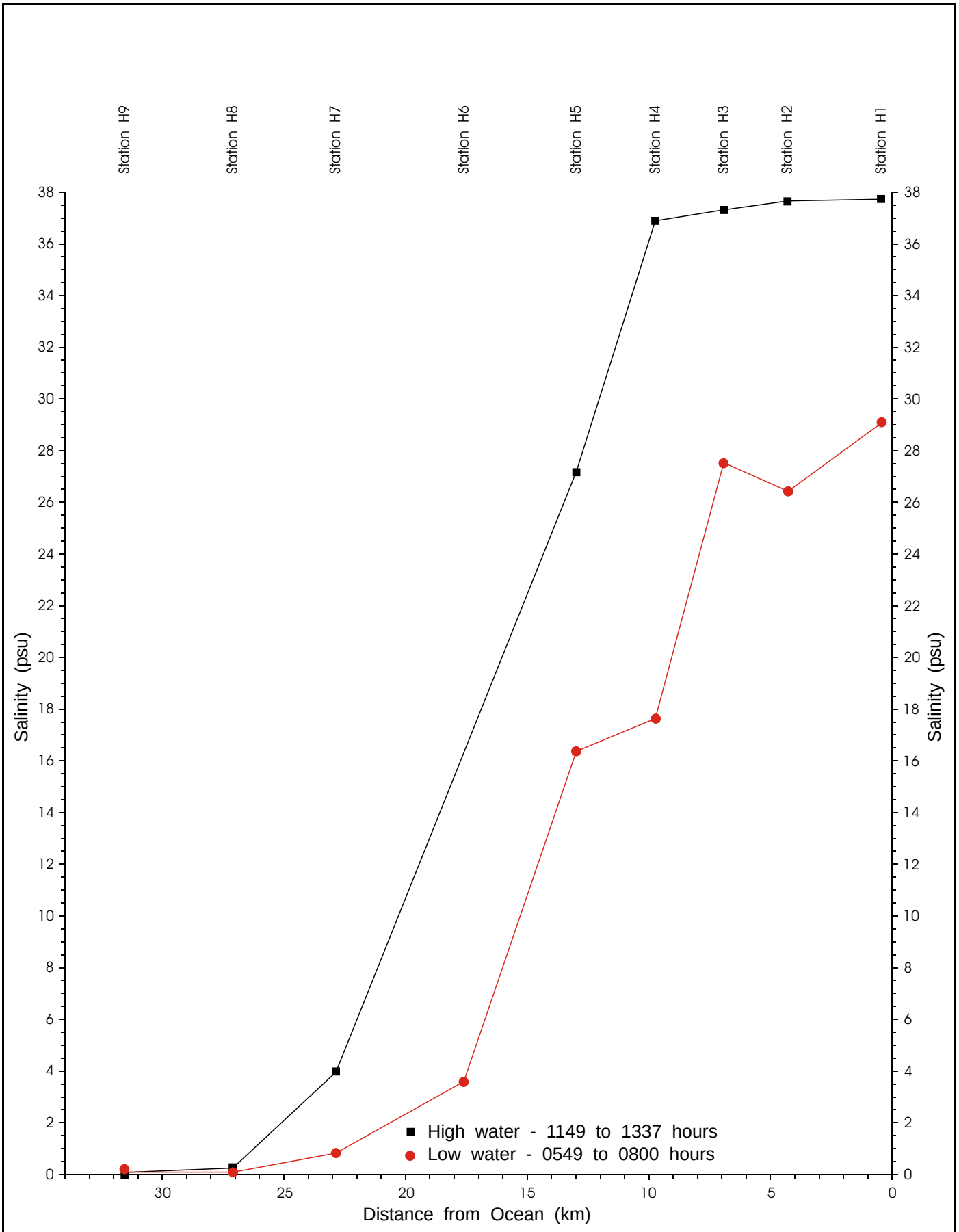
HASTINGS RIVER - NORTHERN SECTION

25 TO 28 OCTOBER 1999

MHL Report 1812

Figure 119

DRAWING 1812-119.CDR



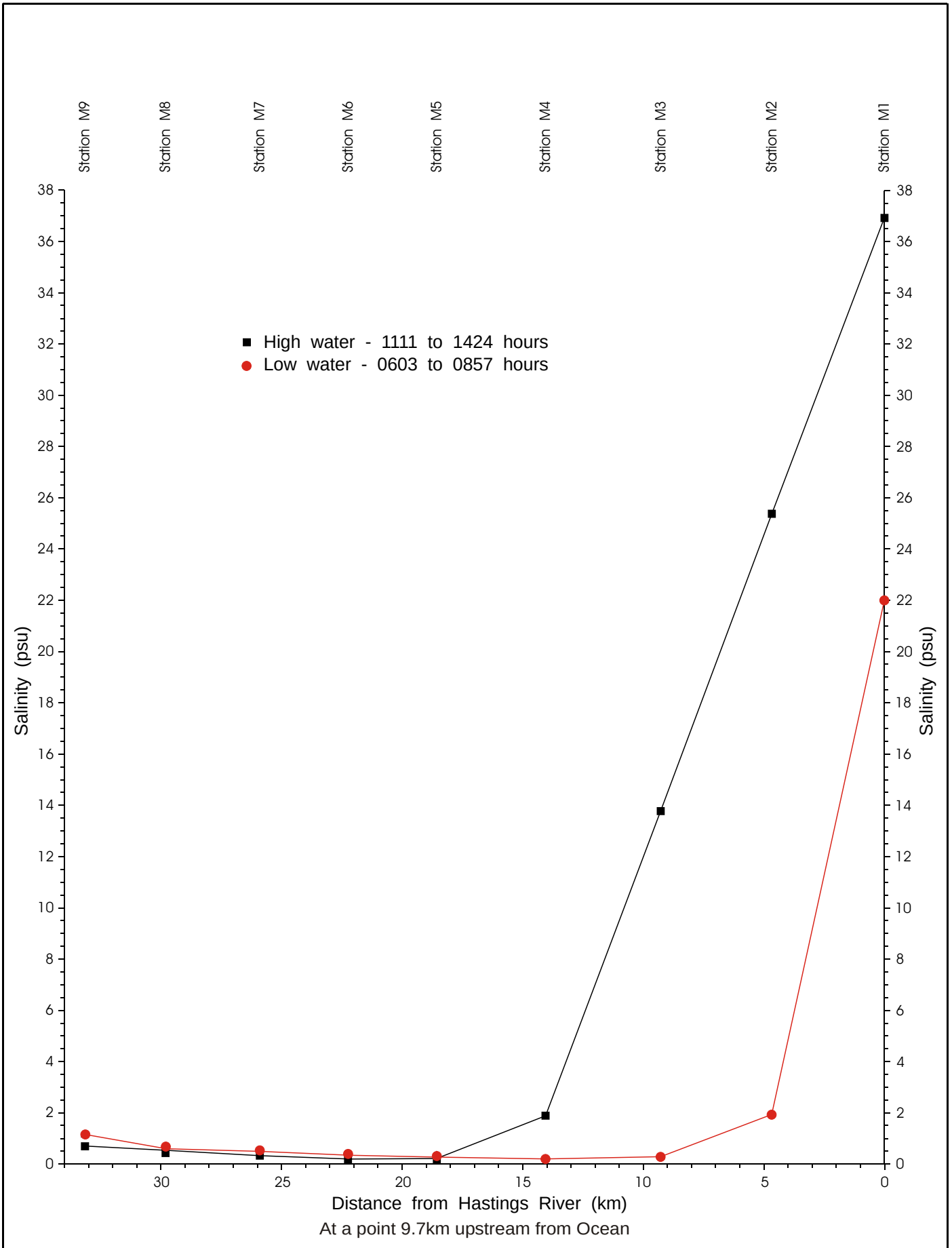
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
HASTINGS RIVER - HIGH AND LOW WATER
26 OCTOBER 1999

MHL Report 1812

Figure 120

DRAWING 1812-120.CDR



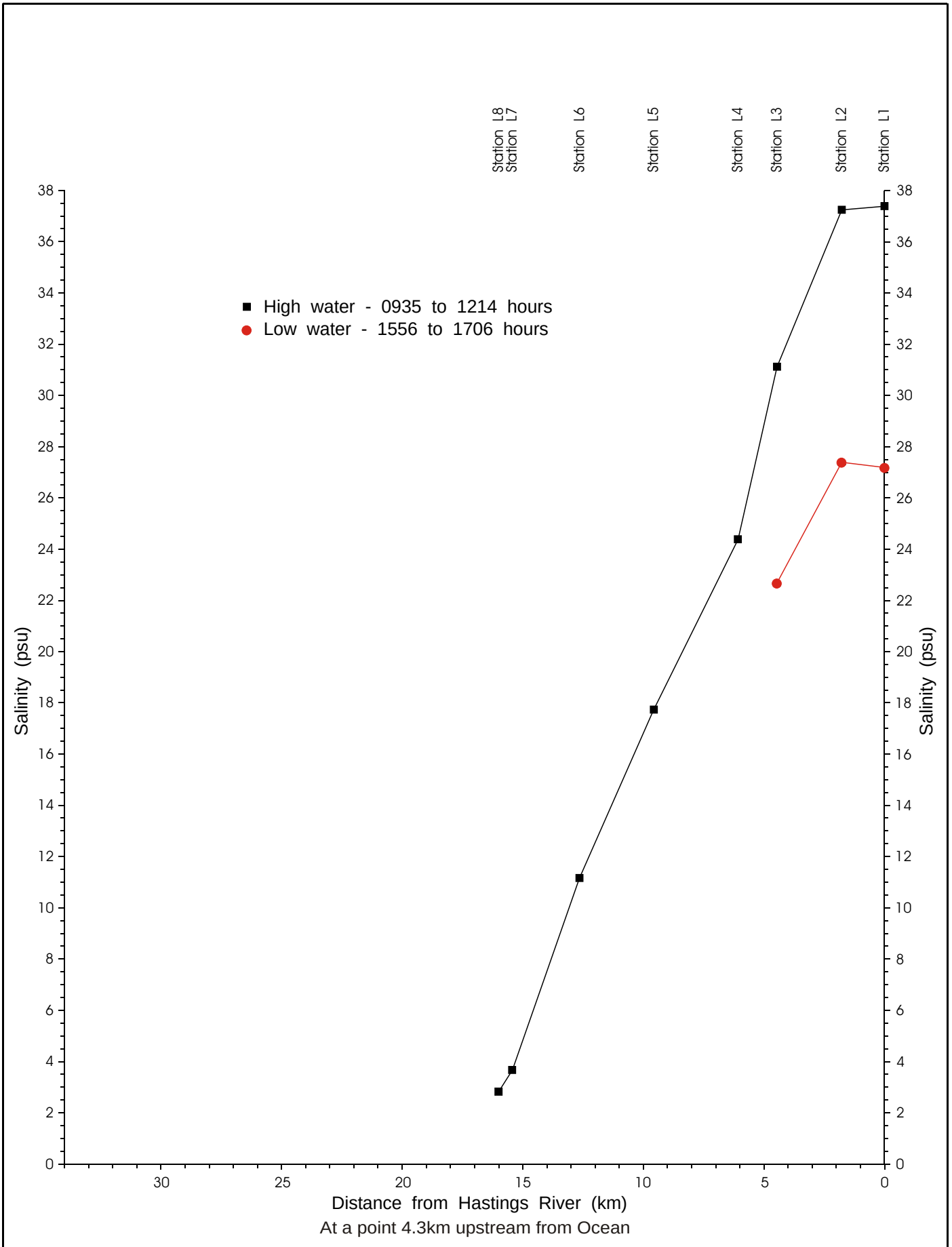
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MARIA RIVER - HIGH AND LOW WATER
26 AND 27 OCTOBER 1999

MHL Report 1812

Figure 121

DRAWING 1812-121.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
LIMEBURNERS CREEK - HIGH AND LOW WATER
25 OCTOBER 1999

MHL Report 1812

Figure 122

DRAWING 1812-122.CDR

Data was also collected in the Hastings River on 5 January 2003. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 152. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 153a-b. The locations at which these profiles were taken are shown in Figure 123. Long channel depth-averaged salinity profiles are shown in Figure 124.

Table 152 Hastings River - 5 January 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	474995	6520243	25.74	20.52	14.65
2	474205	6520968	26.84	18.64	14.26
3	473855	6521915	27.88	18.37	12.57
4	473240	6522553	28.78	16.49	14.01
5	472390	6522952	29.83	14.65	13.26
6	472057	6522071	30.83	14.58	13.12
7	471772	6521494	31.53	9.95	2.25
8	471231	6521380	32.08	9.01	-
9	470865	6521386	32.45	5.29	-
10	470000	6521450	33.33	10.05	-
11	469541	6521760	33.95	0.81	-
12	468751	6521727	34.85	0.09	-
13	468636	6521384	35.23	0.06	-

Note Profiling stopped at Station 13 on the high water run due to shoals
Profiling stopped near Station 7 on the low water run due to shoals

Table 153a Hastings River - Water Quality Maxima and Minima - High Water - 5 January 2003

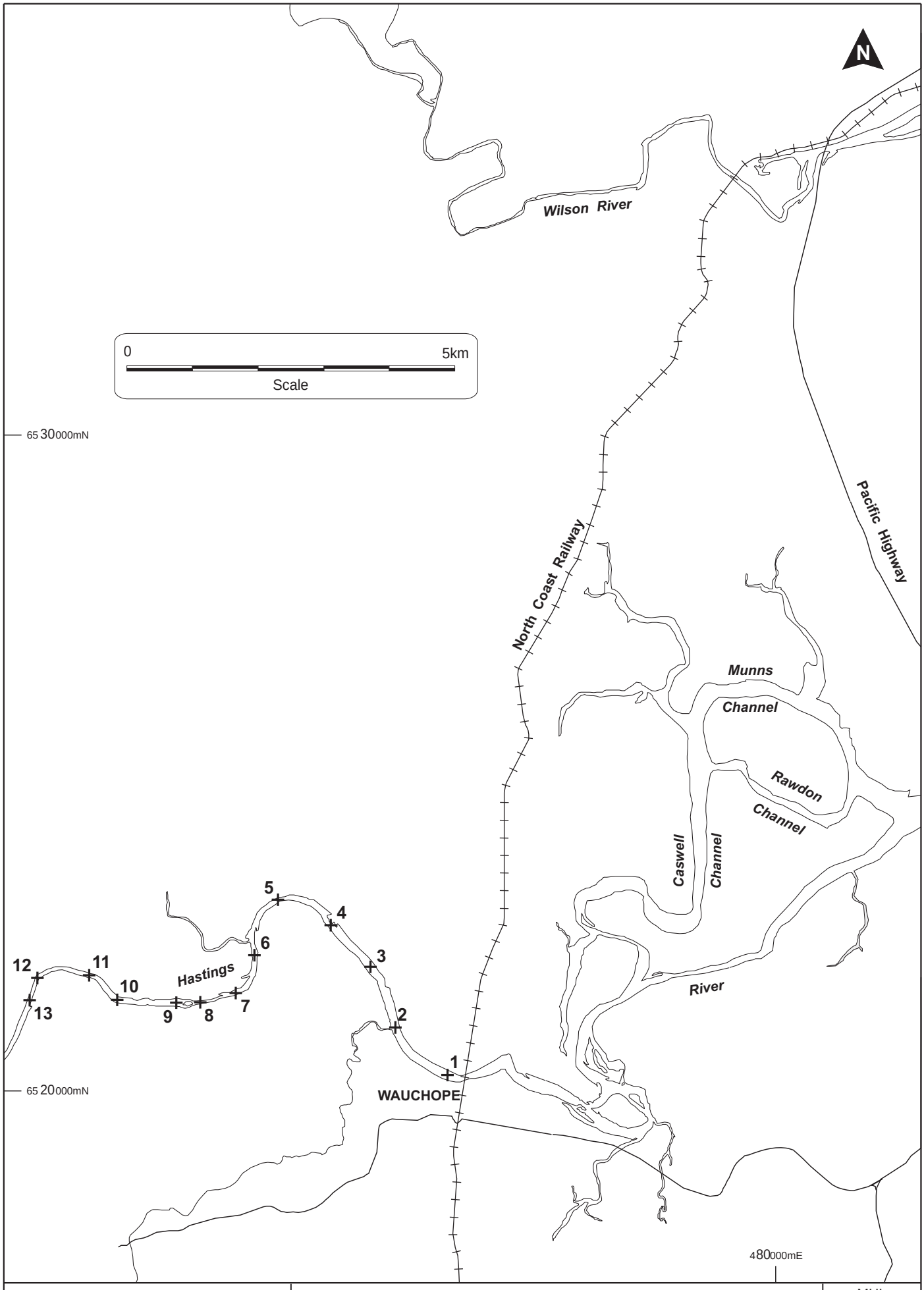
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1217	3.7	1009.4	1012.5	1012.0	26.36	27.09	26.51	17.17	21.11	20.52	74.71	102.72	84.17	7.31	7.67	7.41	63.98	65.45	64.76	HA001
2	1224	3.1	1008.5	1011.8	1010.4	26.65	27.57	27.13	16.24	20.26	18.64	86.53	109.30	101.42	7.38	7.69	7.58	60.07	63.00	61.30	HA002
3	1231	2.9	1008.5	1011.0	1010.2	26.87	27.79	27.20	16.39	19.35	18.37	90.21	106.04	97.40	7.44	7.68	7.55	59.59	60.56	60.09	HA003
4	1237	4.5	1006.4	1009.9	1008.7	27.13	28.23	27.56	13.68	17.92	16.49	88.11	106.78	96.76	7.40	7.69	7.53	59.10	60.56	59.49	HA004
5	1244	4.9	1001.7	1009.3	1007.4	26.84	28.00	27.16	7.20	17.02	14.65	57.41	108.59	87.22	7.05	7.65	7.37	58.12	59.59	58.79	HA005
6	1250	5.1	1002.1	1010.2	1007.4	26.82	27.77	27.10	7.58	18.16	14.58	24.88	105.87	74.80	6.86	7.58	7.19	57.14	61.54	58.53	HA006
7	1255	1.3	998.7	1004.6	1003.9	22.39	27.63	26.99	1.35	11.06	9.95	86.11	110.29	101.07	7.44	7.50	7.48	42.49	100.61	58.12	HA007
8	1305	3.0	1002.0	1004.3	1003.0	27.51	28.12	27.93	7.71	10.65	9.01	100.12	103.83	102.34	7.40	7.48	7.44	55.68	60.07	58.40	HA008
9	1311	1.3	998.5	1003.0	1000.2	27.76	28.01	27.91	3.04	9.02	5.29	96.29	106.05	99.33	7.41	7.58	7.48	51.28	57.14	54.47	HA009
10	1317	4.6	997.1	1008.6	1003.8	26.90	28.21	27.69	1.10	16.11	10.05	6.13	104.14	65.20	6.69	7.71	7.12	49.33	60.56	52.72	HA010
11	1323	1.5	996.8	997.3	996.9	27.48	27.75	27.67	0.66	1.15	0.81	92.81	94.92	93.46	7.51	7.63	7.59	48.84	51.28	49.21	HA011
12	1329	1.4	996.3	996.3	996.3	27.96	28.08	28.02	0.09	0.09	0.09	96.19	99.31	96.87	7.79	7.81	7.80	37.61	52.75	48.44	HA012
13	1334	0.7	996.4	997.4	996.8	23.47	27.63	26.16	0.01	0.09	0.06	86.82	110.83	102.30	7.68	7.94	7.83	37.12	159.71	63.98	HA013

Note Profiling stopped at Station 13due to shoals

Table 153b Hastings River - Water Quality Maxima and Minima - Low Water - 5 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1948	2.5	1003.7	1010.6	1007.3	27.12	27.82	27.51	9.75	18.93	14.65	84.92	113.52	104.38	7.36	7.71	7.55	51.77	54.70	52.52	HA014
2	1955	2.1	1004.2	1010.6	1007.0	27.19	27.91	27.69	10.62	18.84	14.26	87.37	112.92	106.23	7.34	7.57	7.50	51.28	67.89	52.20	HA015
3	2001	1.6	1004.2	1008.4	1005.7	27.57	27.87	27.78	10.59	16.18	12.57	90.19	104.07	100.94	7.33	7.46	7.42	51.28	52.75	51.49	HA016
4	2013	3.0	1002.8	1009.6	1006.9	27.19	27.75	27.48	8.63	17.53	14.01	72.35	104.65	91.96	7.20	7.43	7.31	51.28	66.91	52.04	HA017
5	2030	3.2	1000.4	1009.3	1006.3	26.95	27.97	27.41	5.48	17.10	13.26	59.98	105.49	87.99	7.05	7.51	7.26	50.79	52.26	51.49	HA018
6	2039	4.0	999.0	1010.4	1006.2	26.76	28.14	27.36	3.60	18.41	13.12	16.21	104.61	73.78	6.79	7.57	7.16	51.28	57.14	51.94	HA019
7	2051	0.6	998.1	998.1	998.1	27.32	27.36	27.35	2.25	2.25	2.25	85.23	88.60	86.81	7.35	7.43	7.39	47.38	51.77	48.61	HA020

Note Profiling stopped near Station 7 due to shoals



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HASTINGS RIVER

5 JANUARY 2003

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Figure 123

DRAWING 1812-123.CDR

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
HASTINGS RIVER - HIGH AND LOW WATER
5 JANUARY 2003

MHL Report 1812

Figure 124

DRAWING 1812-124.CDR

Camden Haven River Data Summary

Data was collected in the Camden Haven River Estuary on 18 September 1997, as detailed in report MHL887. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 154. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 155a-b. The locations at which these profiles were taken are shown in Figure 125. Long channel depth-averaged salinity profiles are shown in Figures 126 to 128.

Table 154 Camden River Estuary - 18 September 1997

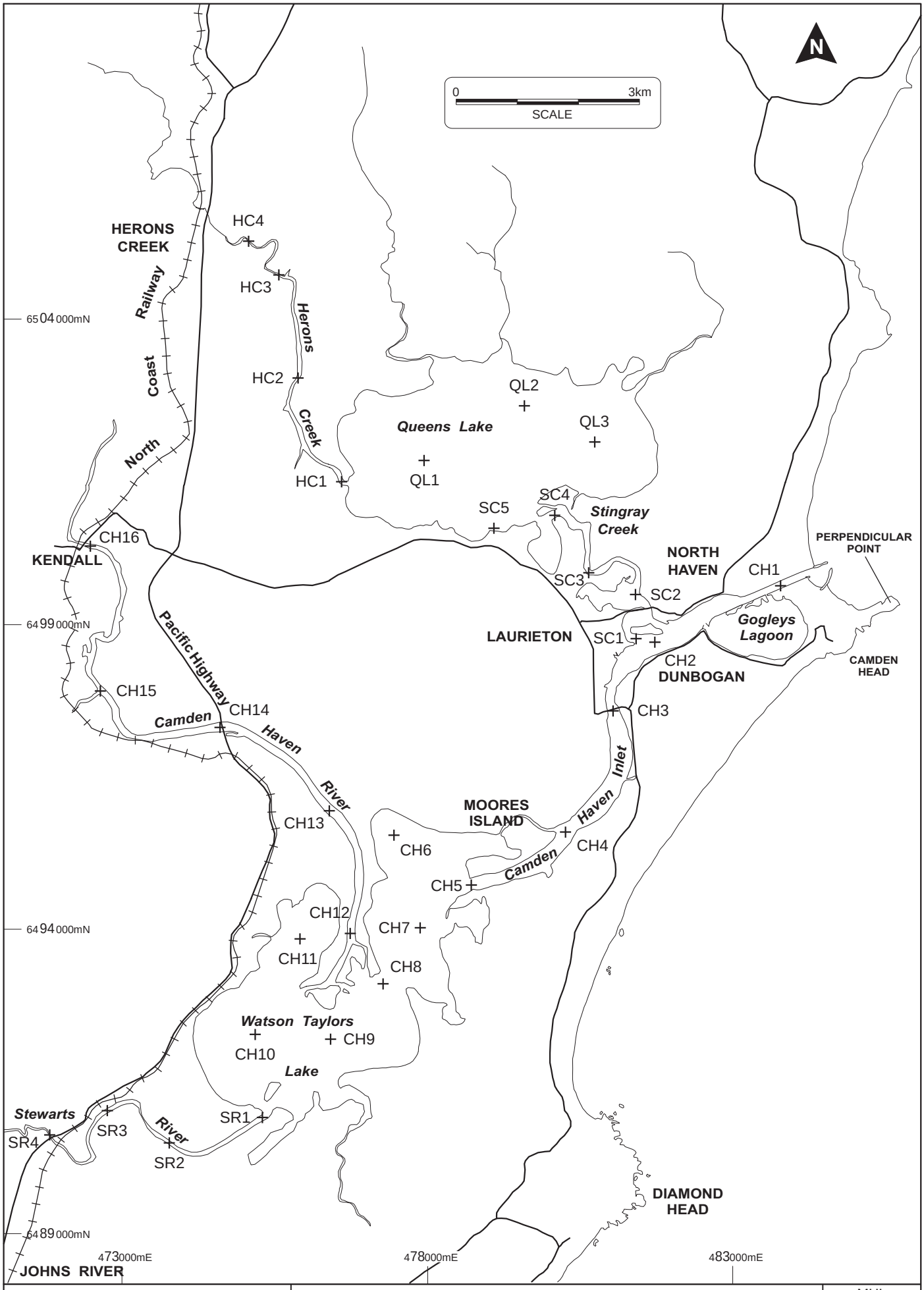
Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity (psu)	High Water Salinity (psu)
	Easting	Northing			
SC1	481401	6498638	3.45	34.512	35.516
SC2	481425	6499490	4.60	34.182	35.024
SC3	480655	6499800	5.95	34.182	35.259
SC4	480105	6500790	7.31	34.205	35.205
SC5	479105	6500580	8.34	34.062	34.725
QL1	477955	6501690	9.95	31.933	33.045
QL2	479605	6502590	9.36	32.660	32.833
QL3	480755	6501990	9.36	32.811	33.472
HC1	476605	6501340	11.36	31.725	31.629
HC2	475905	6503040	13.43	31.638	31.229
HC3	475555	6504690	15.33	30.820	30.951
HC4	475060	6505254	16.65	30.285	30.302
SR1	475305	6490930	13.99	25.666	25.196
SR2	473775	6490490	15.75	25.983	26.281
SR3	472755	6491020	17.16	25.679	25.809
SR4	471824	6490626	19.03	24.480	24.659
CH1	483805	6499635	0.86	34.605	35.573
CH2	481745	6498710	3.14	33.950	35.576
CH3	481045	6497570	4.57	32.292	35.546
CH4	480275	6495590	6.93	29.001	35.369
CH5	478735	6494720	8.80	30.406	35.011
CH6	477465	6495540	10.32	26.769	31.098
CH7	477895	6494020	9.90	30.071	33.684
CH8	477285	6493100	11.00	28.229	31.826
CH9	476425	6492190	12.23	27.150	30.357
CH10	475185	6492270	13.46	25.517	28.402
CH11	475925	6493840	14.53	25.251	26.369
CH12	476745	6493930	12.15	27.448	28.933
CH13	476405	6495940	14.34	26.449	27.015
CH14	474605	6497310	16.70	25.951	25.276
CH15	472645	6497910	19.08	25.330	25.616
CH16	472475	6500250	22.16	24.885	24.917

Table 155a Camden Haven Estuary - Water Quality Maxima and Minima - Low Water - 18 September 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name
			Min	Max	Mean	Min	Max	Mean	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
SC1	0552	3.30	17.919	17.930	17.926	34.494	34.518	34.512	1024.91	1024.94	7.11	7.34	92.4	95.3	8.29	8.32	7	8	178501.CNV
SC2	0601	0.90	17.879	17.895	17.887	34.070	34.294	34.182	1024.59	1024.77	6.71	7.29	86.9	94.5	8.28	8.31	8	9	178502.CNV
SC3	0607	2.20	17.781	17.848	17.821	34.023	34.228	34.182	1024.58	1024.73	4.65	7.29	60.2	94.2	8.30	8.32	8	9	178503.CNV
SC4	0615	2.20	17.739	17.792	17.767	34.178	34.250	34.205	1024.71	1024.76	7.49	7.78	96.7	100.6	8.30	8.32	9	9	178504.CNV
SC5	0625	1.20	17.783	17.794	17.788	34.009	34.079	34.062	1024.57	1024.62	7.95	8.22	102.8	106.2	8.32	8.34	11	12	178505.CNV
QL1	0633	0.70	17.569	17.582	17.575	31.684	32.181	31.933	1022.84	1023.22	4.23	5.06	53.6	64.3	8.75	8.81	2	3	178506.CNV
QL2	0641	1.30	17.854	17.865	17.861	32.588	32.680	32.660	1023.47	1023.54	4.82	4.93	61.8	63.3	8.93	8.98	3	29	178507.CNV
QL3	0647	1.00	17.579	17.612	17.595	32.741	32.882	32.811	1023.65	1023.75	4.10	7.72	52.4	98.6	8.53	8.71	3	4	178508.CNV
HC1	0702	2.70	18.915	19.680	19.173	30.216	32.621	31.725	1021.20	1023.23	8.10	8.57	105.7	112.3	8.51	8.65	3	5	178509.CNV
HC2	0713	2.00	20.469	20.721	20.594	30.649	31.977	31.638	1021.30	1022.33	7.80	8.41	104.9	112.5	8.47	8.54	2	3	178510.CNV
HC3	0723	2.20	21.086	21.473	21.271	29.563	31.359	30.820	1020.34	1021.71	2.61	5.21	35.3	69.7	8.35	8.43	3	4	178511.CNV
HC4	0732	1.70	21.447	21.851	21.657	29.715	30.587	30.285	1020.26	1021.03	3.00	5.67	40.7	76.9	8.01	8.10	3	3	178512.CNV
SR1	0832	1.30	17.592	17.813	17.681	25.157	26.083	25.666	1017.83	1018.51	3.88	7.16	47.7	87.5	7.75	7.80	6	6	178513.CNV
SR2	0845	3.10	19.153	19.698	19.427	25.406	26.680	25.983	1017.56	1018.65	5.67	8.87	71.8	112.3	7.73	7.78	4	6	178514.CNV
SR3	0853	2.90	18.573	19.301	18.777	24.925	25.921	25.679	1017.27	1018.20	3.04	6.96	38.0	87.4	7.41	7.52	3	4	178515.CNV
SR4	0907	0.90	19.422	19.446	19.434	24.425	24.535	24.480	1016.86	1016.94	4.69	5.93	59.1	74.6	7.26	7.41	3	3	178516.CNV
CH1	0555	4.70	18.163	18.214	18.189	34.568	34.618	34.605	1024.90	1024.95	7.33	7.46	95.8	97.4	8.40	8.40	7	8	167001.CNV
CH2	0609	4.20	18.017	18.114	18.042	33.351	34.246	33.950	1023.99	1024.71	7.26	7.35	94.1	95.3	8.34	8.39	8	10	167002.CNV
CH3	0621	3.80	18.001	18.112	18.079	32.151	32.356	32.292	1023.10	1023.24	7.38	7.58	95.0	97.3	8.28	8.30	9	9	167003.CNV
CH4	0631	1.90	17.729	17.789	16.582	30.964	31.096	29.001	1022.25	1022.34	6.61	7.26	83.7	92.1	8.21	8.21	10	11	167004.CNV
CH5	0641	1.50	17.588	17.604	17.599	30.174	30.497	30.406	1021.68	1021.93	7.28	7.37	91.7	92.6	8.16	8.18	11	38	167005.CNV
CH6	0703	0.60	17.034	17.228	17.101	21.353	29.619	26.769	1015.07	1021.34	6.66	7.20	82.4	86.4	8.13	8.17	11	69	167007.CNV
CH7	0729	2.00	17.579	17.584	17.581	29.740	30.302	30.071	1021.35	1021.79	6.30	7.21	79.2	90.6	8.18	8.18	12	26	167008.CNV
CH8	0736	1.30	17.373	17.389	17.386	21.535	29.297	28.229	1015.14	1021.06	7.81	8.65	96.6	107.7	8.12	8.12	10	24	167009.CNV
CH9	0748	0.80	16.875	16.875	16.875	26.930	27.318	27.150	1019.36	1019.66	7.71	8.17	93.8	99.5	8.04	8.05	9	51	167010.CNV
CH10	0755	0.60	16.545	16.552	16.549	24.880	26.154	25.517	1017.87	1018.84	7.47	7.71	89.2	92.7	8.02	8.02	12	130	167011.CNV
CH11	0804	0.40	16.190	16.190	16.190	25.251	25.251	25.251	1018.23	1018.23	6.73	6.73	79.9	79.9	8.03	8.03	174	174	167012.CNV
CH12	0828	1.80	17.631	18.157	17.823	26.726	27.750	27.448	1018.91	1019.82	6.97	7.09	86.8	88.0	8.00	8.04	6	13	167013.CNV
CH13	0841	1.90	18.881	19.436	19.250	24.228	27.719	26.449	1016.73	1019.50	6.60	7.08	84.2	89.1	7.86	8.03	4	6	167014.CNV
CH14	0852	2.30	19.754	20.296	20.045	24.592	26.462	25.951	1016.91	1018.27	5.84	7.42	75.2	93.9	7.79	7.88	3	4	167015.CNV
CH15	0905	2.60	19.884	21.405	20.762	24.105	26.341	25.330	1016.12	1018.21	4.02	5.55	52.5	72.2	7.40	7.71	4	6	167016.CNV
CH16	0920	2.20	21.070	21.844	21.411	22.973	25.441	24.885	1015.17	1017.23	2.24	2.62	29.4	34.3	7.21	7.33	3	4	167017.CNV

Table 155b Camden Haven Estuary - Water Quality Maxima and Minima - High Water - 18 September 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name
			Min	Max	Mean	Min	Max	Mean	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
SC1	1134	1.80	18.663	18.673	18.670	35.380	35.532	35.516	1025.40	1025.52	5.20	5.30	68.8	70.3	8.39	8.40	3	3	178517.CNV
SC2	1141	1.00	18.538	18.621	18.580	34.779	35.268	35.024	1024.97	1025.33	4.84	5.72	63.7	75.6	8.24	8.31	4	4	178518.CNV
SC3	1148	2.50	18.566	18.574	18.569	35.132	35.282	35.259	1025.24	1025.35	4.96	5.40	65.4	71.4	8.20	8.32	3	3	178519.CNV
SC4	1155	2.60	18.558	18.584	18.581	35.023	35.247	35.205	1025.16	1025.32	5.28	5.48	69.6	72.4	8.19	8.31	3	4	178520.CNV
SC5	1203	1.00	18.572	18.574	18.573	34.630	34.821	34.725	1024.85	1025.00	5.15	5.82	67.8	76.7	8.17	8.28	5	6	178521.CNV
QL1	1211	1.00	18.343	18.393	18.376	32.806	33.176	33.045	1023.51	1023.78	4.58	5.48	59.4	71.3	8.21	8.42	3	4	178522.CNV
QL2	1219	1.20	18.103	18.128	18.118	32.796	32.885	32.833	1023.56	1023.63	7.99	8.78	103.2	113.4	8.68	8.78	4	4	178523.CNV
QL3	1224	1.20	17.251	17.371	17.299	33.455	33.506	33.472	1024.25	1024.31	5.01	5.36	63.9	68.3	8.26	8.41	3	4	178524.CNV
HC1	1236	2.70	18.635	18.963	18.797	30.315	32.379	31.629	1021.49	1023.04	4.99	9.64	65.3	124.2	8.43	8.58	4	5	178525.CNV
HC2	1244	1.80	20.313	20.673	20.513	30.056	31.887	31.229	1020.92	1022.22	8.31	8.94	111.0	118.5	8.34	8.49	3	4	178526.CNV
HC3	1252	1.80	21.255	21.624	21.489	30.086	31.473	30.951	1020.61	1021.75	7.59	8.04	103.3	109.3	8.33	8.45	3	4	178527.CNV
HC4	1303	1.60	21.558	22.015	21.793	29.665	30.575	30.302	1020.17	1020.99	5.41	7.05	73.6	96.0	8.11	8.13	3	3	178528.CNV
SR1	1402	1.00	18.682	18.710	18.695	24.407	25.674	25.196	1017.02	1017.99	10.64	11.74	132.0	146.8	7.76	7.94	1	13	178529.CNV
SR2	1418	3.90	18.984	20.087	19.274	25.436	27.068	26.281	1017.47	1018.98	6.88	8.54	87.3	109.5	7.68	7.80	4	8	178530.CNV
SR3	1425	4.60	18.697	19.533	18.898	25.120	26.020	25.809	1017.36	1018.25	4.24	7.73	53.2	97.9	7.48	7.57	4	14	178531.CNV
SR4	1437	1.60	19.492	19.521	19.511	24.485	24.716	24.659	1016.89	1017.06	5.68	7.07	71.7	89.2	7.25	7.45	3	4	178532.CNV
CH1	1140	6.30	18.651	18.659	18.655	35.568	35.586	35.573	1025.55	1025.57	8.16	8.59	108.2	113.8	8.48	8.49	3	4	167018.CNV
CH2	1152	4.30	18.652	18.666	18.658	35.571	35.607	35.576	1025.55	1025.58	8.23	8.35	109.1	110.8	8.48	8.49	3	4	167019.CNV
CH3	1203	4.50	18.635	18.657	18.652	35.498	35.561	35.546	1025.50	1025.56	8.14	8.32	107.9	110.3	8.48	8.48	3	4	167020.CNV
CH4	1213	3.70	18.603	18.625	18.612	35.229	35.454	35.369	1025.30	1025.49	7.68	8.38	101.5	110.8	8.47	8.48	4	5	167021.CNV
CH5	1222	2.80	18.537	18.560	18.547	34.909	35.066	35.011	1025.07	1025.20	7.80	8.12	102.8	107.1	8.43	8.44	5	5	167022.CNV
CH6	1237	0.70	18.222	18.237	18.230	31.088	31.108	31.098	1022.23	1022.24	7.62	7.80	97.6	99.8	8.22	8.22	9	9	167023.CNV
CH7	1249	2.00	18.341	18.468	18.409	33.484	33.883	33.684	1024.00	1024.34	7.56	7.93	98.7	103.4	8.37	8.38	6	7	167024.CNV
CH8	1255	1.40	18.379	18.390	18.383	31.706	31.880	31.826	1022.66	1022.80	7.81	7.93	100.7	102.3	8.28	8.30	9	9	167025.CNV
CH9	1305	0.80	18.174	18.194	18.181	30.147	30.454	30.357	1021.52	1021.76	7.27	7.87	92.5	100.3	8.19	8.21	9	10	167026.CNV
CH10	1311	0.90	17.938	17.993	17.974	28.239	28.452	28.402	1020.12	1020.27	7.11	8.23	89.0	103.3	8.13	8.14	8	11	167027.CNV
CH11	1318	0.70	17.711	17.801	17.742	26.330	26.426	26.369	1018.71	1018.79	7.81	8.78	96.2	108.2	8.16	8.17	7	14	167028.CNV
CH12	1346	1.80	17.929	18.293	17.997	28.251	29.504	28.933	1020.05	1021.09	7.37	8.45	92.8	106.5	8.07	8.12	7	13	167029.CNV
CH13	1355	1.90	18.721	19.488	18.979	25.416	27.672	27.015	1017.71	1019.46	6.95	7.37	88.7	92.7	7.93	8.04	4	7	167030.CNV
CH14	1404	2.50	19.138	20.283	19.889	22.307	26.353	25.276	1015.24	1018.15	6.13	7.26	79.1	90.6	7.68	7.88	4	4	167031.CNV
CH15	1415	2.70	20.052	21.645	20.652	23.892	26.283	25.616	1015.90	1018.13	4.97	5.80	65.1	75.5	7.47	7.73	3	5	167032.CNV
CH16	1428	2.20	21.137	21.884	21.495	23.062	25.474	24.917	1015.23	1017.24	2.68	3.16	35.2	41.5	7.23	7.36	3	4	167033.CNV



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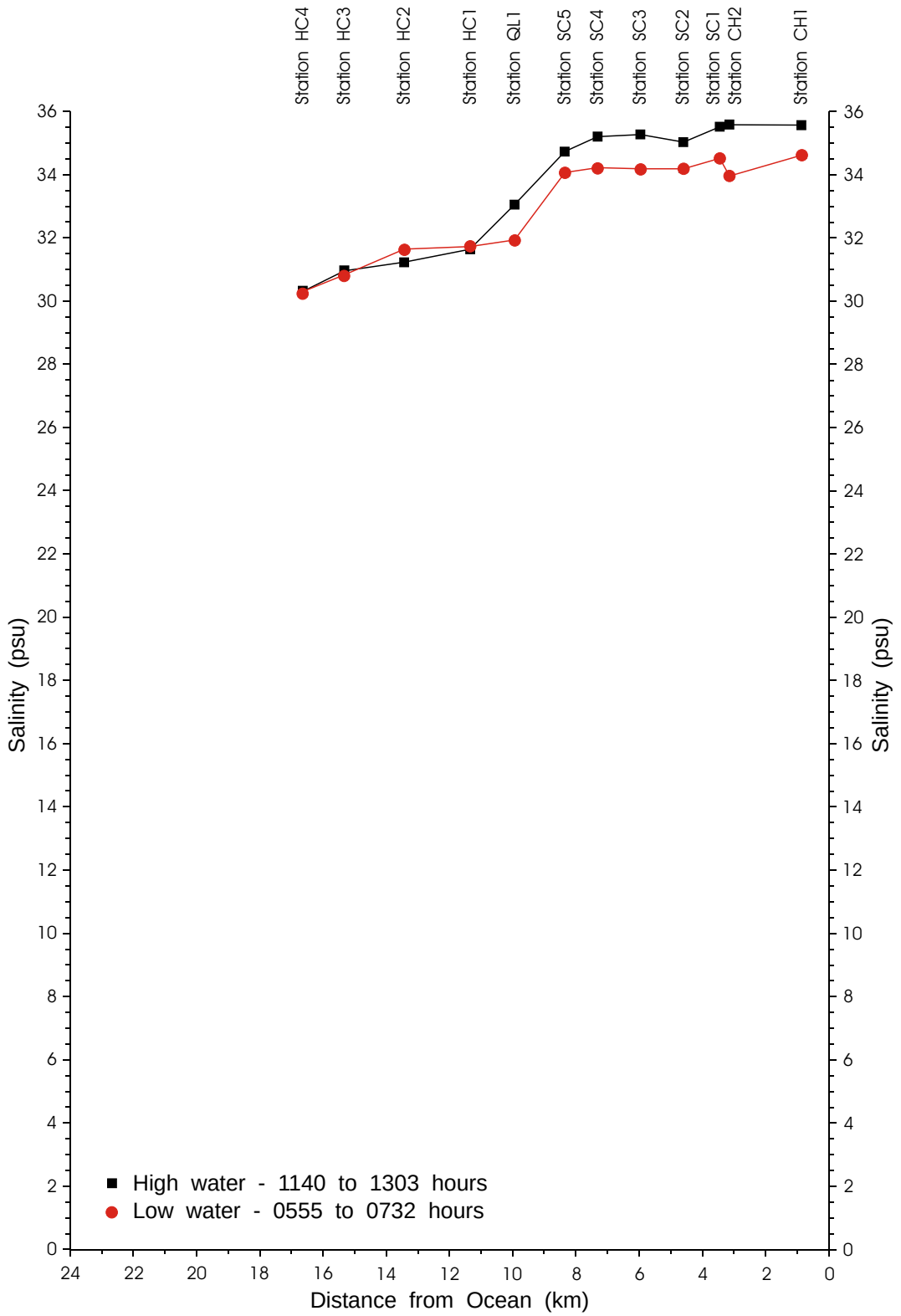
CAMDEN HAVEN RIVER ESTUARY

18 SEPTEMBER 1997

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Figure 125

DRAWING 1812-125.CDR



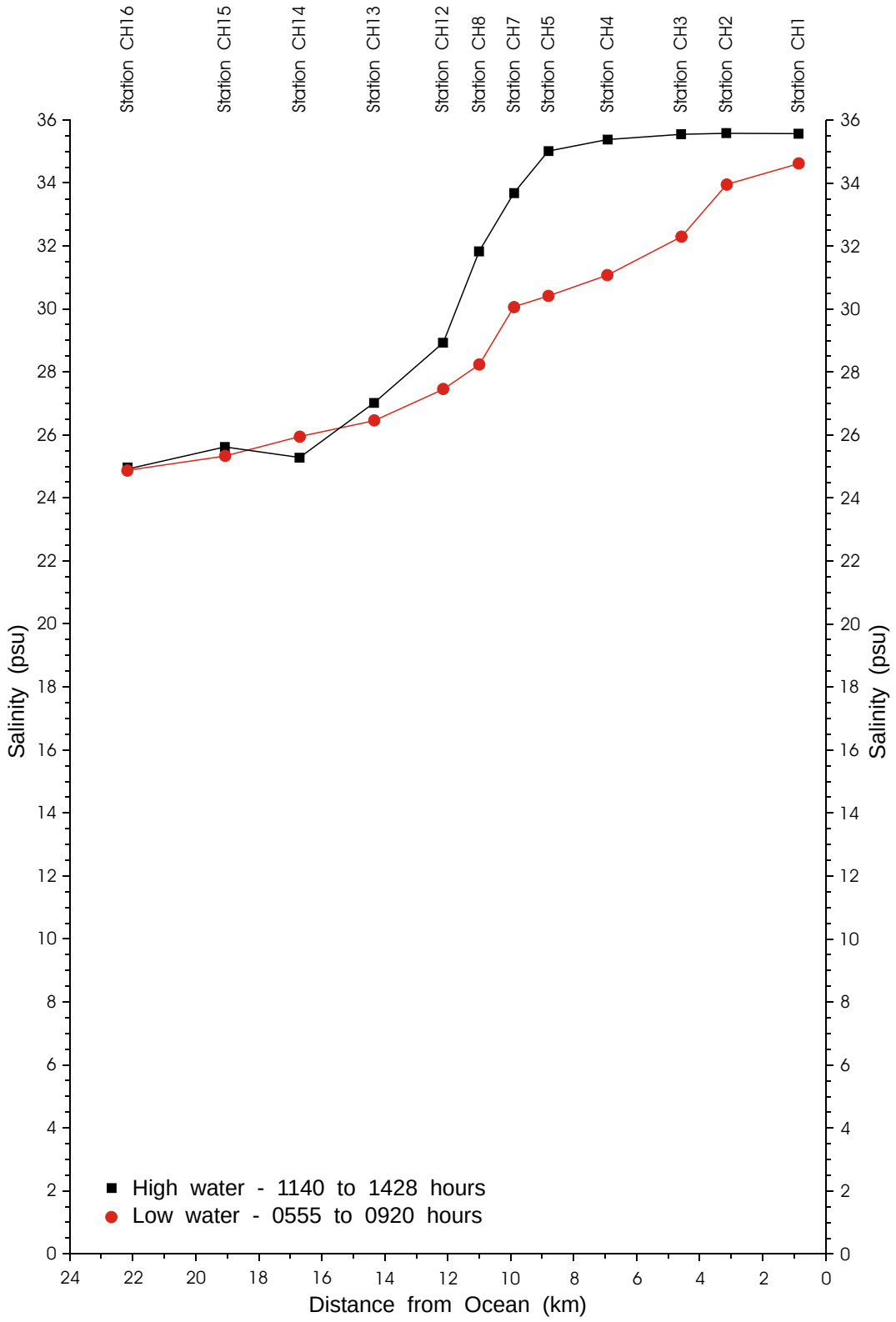
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
HERONS CREEK - HIGH AND LOW WATER
18 SEPTEMBER 1997

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Figure 126

DRAWING 1812-126.CDR



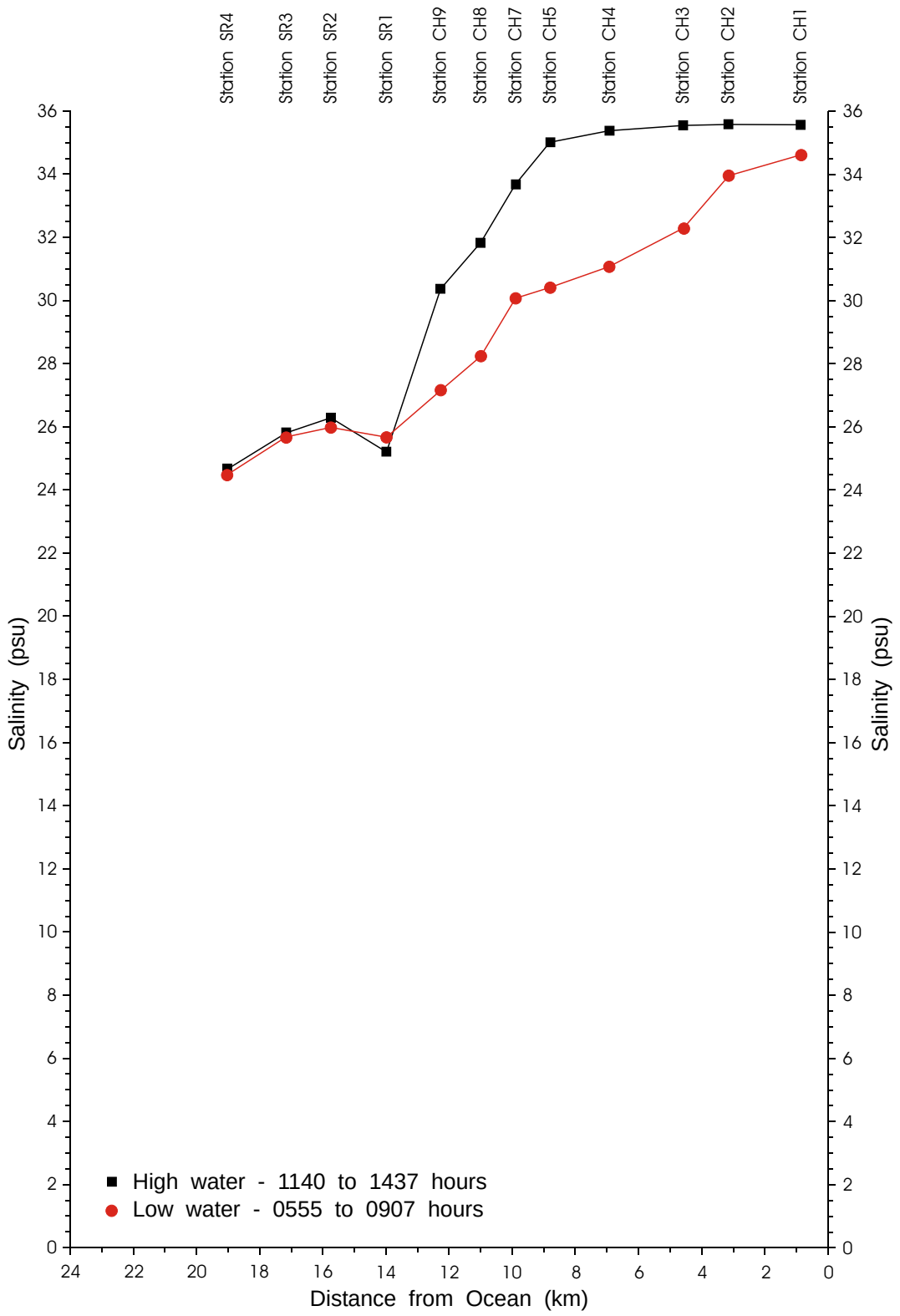
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
CAMDEN HAVEN RIVER - HIGH AND LOW WATER
18 SEPTEMBER 1997

MHL Report 1812

Figure 127

DRAWING 1812-127.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
STEWARTS RIVER - HIGH AND LOW WATER
18 SEPTEMBER 1997

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Figure 128

DRAWING 1812-128.CDR

Manning River Data Summary

Data was collected in the Manning River estuary on 3, 4 and 5 November 1998, as detailed in report MHL968. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 156 to 160. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 161a to 165b. The locations at which these profiles were taken are shown in Figures 129 and 130. Long channel depth-averaged salinity profiles are shown in Figures 131 to 135.

Table 156 Scotts Creek - 3 November 1998

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	462055	6473165	13.20	27.54	24.74
2	461325	6471990	14.67	29.15	28.50
3	461255	6470190	16.58	29.01	30.65
4	461605	6468190	18.64	32.79	32.88
5	463105	6467190	20.77	31.71	30.04
6	463955	6467690	21.73	28.89	29.18
7	463455	6466290	23.57	27.25	27.46

Table 157 Manning River South Channel - 3 November 1998

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
8	462005	6464090	1.46	35.59	30.21
9	461805	6465890	1.40	35.57	31.04
10	458955	6465840	4.41	32.67	32.18
11	456405	6465940	7.28	30.39	29.03
12	455105	6467590	10.00	31.30	29.30
13	454855	6468790	11.32	23.59	21.24

Table 158 Cattai Creek - 4 November 1998

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
14	467855	6479240	16.97	11.91	20.62
15	466655	6478190	14.76	22.03	22.04
16	465505	6476490	12.56	23.39	23.09
17	464805	6474540	10.06	24.57	26.66

Table 159 Lansdowne River - 4 November 1998

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
18	463505	6475290	10.87	25.80	25.62
19	462705	6477940	14.18	23.71	23.65
20	460555	6478640	16.97	22.42	22.37
21	460305	6480990	19.69	21.88	21.82
22	458705	6481590	22.12	21.24	21.30
23	457555	6482090	25.21	20.26	20.16
24	456505	6482690	27.41	18.53	18.39
25	455755	6482540	29.76	16.96	16.98

Table 160 Manning River - 5 November 1998

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
26	470205	6473090	1.47	30.11	35.34
27	467105	6471990	5.29	27.34	34.95
28	464455	6472990	8.31	26.58	31.43
29	463105	6474190	11.25	24.64	28.76
30	460905	6473040	13.97	25.83	26.65
31	458455	6472040	16.84	21.97	25.19
32	457005	6469690	19.78	20.92	22.56
33	454305	6470390	22.79	20.49	19.32
34	451555	6470190	25.81	15.97	18.32
35	448855	6468440	29.12	16.17	16.74
36	446205	6466490	32.43	13.96	14.07
37	445305	6467940	35.37	10.44	11.29
38	446905	6470040	38.31	13.38	8.40
39	444005	6470940	41.40	1.88	1.84
40	443205	6473490	44.19	0.39	0.32
41	440505	6473290	47.65	0.08	0.08
42	441205	6471090	50.44	0.07	0.07

Table 161a Scotts Creek - Water Quality Maxima and Minima - High Water - 3 November 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0725	6.27	18.49	18.86	18.69	25.50	31.19	27.54	1017.90	1022.17	1019.42	87.1	88.6	87.8	5.33	8.00	6.59	38.6	390.7	231.6	MANN0101
2	0733	3.27	18.62	19.88	19.18	24.22	33.00	29.15	1016.88	1023.28	1020.52	80.3	91.9	87.4	5.40	7.57	6.18	164.2	1637.0	320.5	MANN0102
3	0741	3.00	17.64	19.35	18.43	24.80	33.93	29.01	1017.43	1024.14	1020.88	84.6	98.0	90.2	5.18	7.49	6.26	240.6	2769.0	564.1	MANN0103
4	0752	4.58	17.54	18.62	18.20	29.85	34.95	32.79	1021.41	1025.11	1023.54	91.2	99.6	95.9	4.55	7.74	5.87	72.4	2034.0	333.6	MANN0104
5	0801	2.10	17.16	18.34	17.91	29.31	33.54	31.71	1021.11	1024.15	1022.79	87.6	91.9	90.0	4.89	6.26	5.45	281.7	3377.0	597.1	MANN0105
6	0808	2.53	16.38	19.28	17.55	26.73	31.94	28.89	1019.28	1022.71	1020.72	70.6	98.0	92.2	6.05	7.62	6.76	133.2	1538.0	298.3	MANN0106
7	0817	1.14	17.04	17.16	17.08	27.19	27.34	27.25	1019.53	1019.62	1019.56	85.9	87.3	86.5	7.36	15.34	8.69	62.9	1808.0	561.1	MANN0107

Table 161b Scotts Creek - Water Quality Maxima and Minima - Low Water - 3 November 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1404	5.07	19.20	19.44	19.25	23.52	25.41	24.74	1016.17	1017.63	1017.15	90.3	94.2	92.1	5.10	8.21	6.88	121.0	3798	680.4	MANN0114
2	1429	2.96	18.79	19.50	19.12	26.41	33.37	28.50	1018.45	1023.66	1020.04	89.0	95.6	93.4	5.84	10.52	7.57	274.6	3897	719.9	MANN0115
3	1438	2.59	18.85	19.71	19.16	27.74	34.01	30.65	1019.47	1024.16	1021.68	92.8	97.7	95.0	5.23	9.75	6.99	312.3	7067	1914.0	MANN0116
4	1450	3.92	18.48	18.81	18.66	29.88	34.86	32.88	1021.22	1024.98	1023.50	86.7	95.8	93.0	6.43	8.10	7.48	297.7	3013	631.3	MANN0117
5	1503	2.01	18.52	18.93	18.82	29.07	34.79	30.04	1020.54	1024.46	1020.86	102.9	106.8	105.5	6.22	8.63	7.31	698.2	6938	1881.8	MANN0118
6	1510	2.42	18.16	19.45	18.55	27.23	32.71	29.18	1019.73	1023.21	1020.52	89.6	101.5	99.6	6.47	9.61	7.32	551.9	5817	1576.0	MANN0119
7	1518	0.49	19.69	20.01	19.90	27.36	27.55	27.46	1018.97	1019.17	1019.05	64.5	102.8	87.4	3.85	3.94	3.90	999.0	7067	6460.5	MANN0120

Table 162a South Channel - Water Quality Maxima and Minima - High Water - 3 November 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
8	0833	1.33	18.69	18.69	18.69	35.59	35.59	35.59	1025.55	1025.56	1025.56	96.9	97.4	97.1	5.40	6.26	5.83	505.3	2462.0	1053.0	MANN0108
9	0843	0.95	18.80	18.82	18.80	35.56	35.57	35.57	1025.50	1025.51	1025.51	99.0	99.5	99.2	3.70	4.65	4.10	757.0	2304.0	1348.0	MANN0109
10	0902	4.78	18.21	18.63	18.46	26.62	34.25	32.67	1018.74	1024.57	1023.46	90.4	97.0	93.7	4.23	34.60	5.33	65.3	4043.0	874.3	MANN0110
11	0914	3.64	19.05	19.28	19.18	24.19	33.74	30.39	1016.77	1024.02	1021.47	91.8	96.4	94.3	4.36	8.51	6.10	574.7	3542.0	1023.7	MANN0111
12	0924	7.09	19.02	20.38	20.11	22.76	33.51	31.30	1015.69	1023.59	1022.03	66.1	88.7	76.5	5.12	11.96	7.23	21.4	2102.0	246.0	MANN0112
13	0935	2.65	19.18	20.31	19.40	20.87	31.39	23.59	1014.74	1018.81	1015.95	84.6	88.5	87.5	6.43	9.61	8.07	186.0	1911.0	398.5	MANN0113

Table 162b South Channel - Water Quality Maxima and Minima - Low Water - 3 November 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
8	1551	1.94	19.92	19.97	19.97	30.15	30.25	30.21	1021.09	1021.15	1021.13	95.8	96.7	96.2	4.57	5.18	4.81	462.7	5607	1448	MANN0121
9	1618	2.32	19.15	19.77	19.36	27.42	32.80	31.04	1019.05	1023.31	1021.90	93.1	94.3	93.5	5.88	8.99	7.48	313.4	1113	556	MANN0122
10	1655	3.10	18.66	19.89	19.11	24.77	34.61	32.18	1017.02	1024.82	1022.85	86.9	93.6	90.4	6.24	10.05	7.93	96.4	4666	546	MANN0123
11	1705	3.06	19.64	20.19	19.91	23.21	33.56	29.03	1015.85	1023.77	1020.25	83.7	93.2	89.0	8.42	11.74	10.02	74.8	1869	267	MANN0124
12	1714	7.39	19.87	20.40	20.19	22.10	33.50	29.30	1014.98	1023.57	1020.29	61.5	94.0	81.4	6.43	11.28	8.95	4.7	4256	301	MANN0125
13	1731	2.50	19.98	20.24	20.09	16.60	25.16	21.24	1010.79	1017.28	1014.25	78.5	94.4	88.6	9.73	13.75	12.26	44.4	3328	269	MANN0126

Table 163a Cattai Creek - Water Quality Maxima and Minima - High Water - 4 November 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
14	0629	0.74	17.86	19.76	18.52	9.34	17.22	11.91	1005.75	1011.32	1007.36	60.4	66.0	63.0	6.11	16.06	7.76	24.3	66.7	45.9	MANN0127
15	0648	3.10	19.67	20.67	20.12	19.00	22.56	22.03	1012.58	1015.40	1014.98	68.2	75.6	73.3	12.19	36.54	25.34	16.5	433.1	129.0	MANN0128
16	0657	2.24	18.38	19.23	18.96	21.09	24.65	23.39	1014.57	1017.09	1016.16	77.3	82.7	80.6	9.54	12.42	10.96	225.2	4770.0	999.2	MANN0129
17	0705	2.53	18.49	19.00	18.63	20.53	25.59	24.57	1017.15	1017.92	1017.38	78.4	84.0	83.6	6.24	8.04	7.17	195.1	2862.0	295.4	MANN0130

Table 163b Cattai Creek - Water Quality Maxima and Minima - Low Water - 4 November 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
14	1150	2.47	20.90	21.00	20.95	19.40	21.53	20.62	1012.68	1014.17	1013.49	67.4	71.6	69.3	17.75	33.81	26.63	106.0	3661	986	MANN0139
15	1206	3.43	19.49	20.70	19.79	18.88	22.66	22.04	1012.66	1015.51	1015.00	68.6	86.8	81.5	13.03	38.15	22.51	91.9	5229	901	MANN0140
16	1214	3.28	19.23	19.83	19.37	20.58	24.02	23.09	1013.92	1016.60	1015.86	67.6	87.6	85.9	9.06	19.47	12.93	124.2	1117	392	MANN0141
17	1222	2.61	19.37	21.16	19.72	21.92	28.14	26.66	1014.93	1019.64	1018.49	78.2	99.8	92.8	5.52	8.95	6.84	673.0	4118	1039	MANN0142

Table 164a Lansdowne River - Water Quality Maxima and Minima - High Water - 4 November 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
18	0713	3.79	18.77	18.95	18.89	21.02	26.33	25.80	1014.40	1018.43	1018.04	73.1	84.9	83.9	6.05	8.29	7.12	172.2	5306.0	786.3	MANN0131
19	0724	5.63	19.06	19.46	19.08	22.89	23.74	23.71	1015.71	1016.44	1016.41	72.6	83.1	82.5	12.84	30.32	17.92	1.4	5171.0	406.5	MANN0132
20	0735	3.30	19.66	19.68	19.67	20.83	22.44	22.42	1014.08	1015.30	1015.29	73.6	74.9	74.7	17.92	23.06	20.23	12.4	4272.0	284.6	MANN0133
21	0747	3.72	20.09	20.54	20.18	21.53	21.99	21.88	1014.40	1014.82	1014.75	58.5	70.1	68.0	14.24	30.11	19.67	38.2	4416.0	536.9	MANN0134
22	0756	8.64	20.27	20.51	20.40	21.07	21.39	21.24	1014.10	1014.33	1014.22	58.3	65.0	61.7	17.80	26.15	23.72	0.3	5190.0	350.6	MANN0135
23	0807	5.80	20.38	21.05	20.81	19.54	20.68	20.26	1012.92	1013.65	1013.37	44.7	66.2	54.0	31.61	39.19	34.46	2.6	152.5	38.4	MANN0136
24	0816	1.49	20.79	21.61	21.31	17.33	19.22	18.53	1011.13	1012.38	1011.93	31.9	45.9	41.1	23.64	37.79	28.61	578.9	2660.0	929.1	MANN0137
25	0825	4.43	22.45	22.93	22.73	15.27	17.21	16.96	1009.18	1010.63	1010.39	0.0	13.1	0.0	58.49	85.32	71.71	0.2	572.6	36.2	MANN0138

Table 164b Lansdowne River - Water Quality Maxima and Minima - Low Water - 4 November 1998

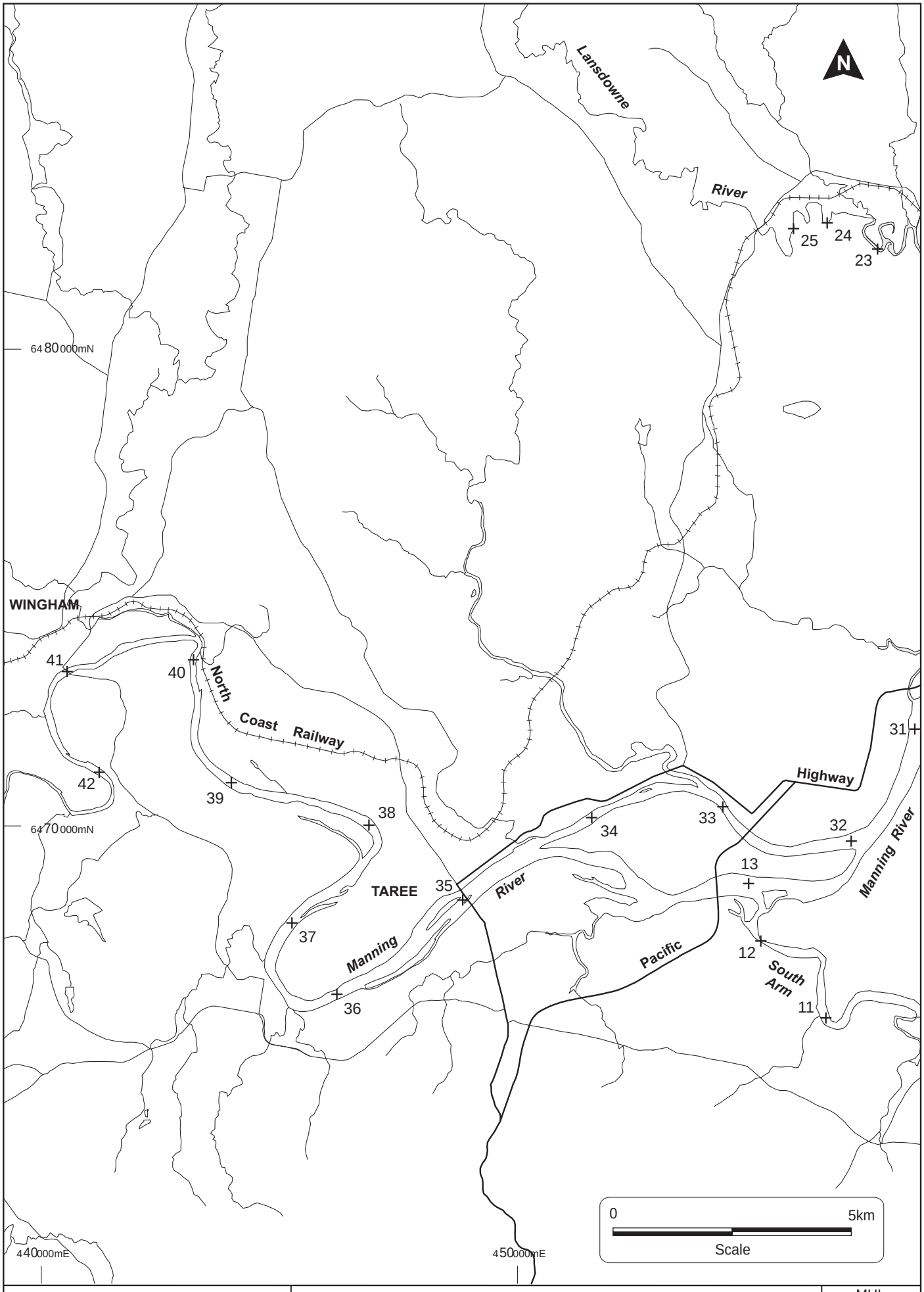
Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
18	1230	4.48	19.11	20.15	19.58	21.32	26.37	25.62	1015.19	1018.38	1017.91	80.0	93.0	90.6	5.92	11.24	8.15	161.2	4840	507	MANN0143
19	1241	5.17	19.30	20.06	19.61	20.66	23.90	23.65	1016.04	1016.51	1016.29	82.9	92.4	89.3	12.48	28.33	19.62	11.2	1155	285	MANN0144
20	1252	2.82	19.81	21.74	20.22	20.02	22.61	22.37	1014.60	1015.39	1015.17	79.4	86.6	82.3	11.79	25.29	19.44	188.1	2937	891	MANN0145
21	1302	3.46	20.28	21.60	20.55	18.17	21.99	21.82	1014.27	1014.82	1014.67	68.1	80.0	73.5	13.31	30.51	22.38	117.5	4948	828	MANN0146
22	1312	6.32	20.54	21.96	20.73	20.69	21.46	21.30	1013.39	1014.36	1014.18	60.4	88.4	69.4	14.60	35.32	29.03	3.8	2873	240	MANN0147
23	1323	4.14	21.03	21.63	21.13	18.65	20.59	20.16	1012.26	1013.57	1013.22	50.9	82.9	64.2	21.86	43.15	35.02	27.3	4367	369	MANN0148
24	1332	1.94	21.85	22.09	21.95	16.83	18.96	18.39	1010.47	1012.12	1011.67	47.1	60.1	54.1	17.73	44.56	30.99	146.5	2679	630	MANN0149
25	1341	2.80	22.60	23.92	23.01	16.48	17.16	16.98	1009.71	1010.57	1010.33	0.0	67.4	26.1	47.06	85.32	73.28	7.4	5210	773	MANN0150

Table 165a Manning River - Water Quality Maxima and Minima - High water - 5 November 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
26	0602	4.41	19.25	19.31	19.27	29.97	30.20	30.11	1021.11	1021.31	1021.23	90.2	90.7	90.4	7.05	8.13	7.48	54.1	1318	152.0	MANN0201
27	0614	3.72	19.39	19.49	19.44	26.60	28.44	27.34	1018.51	1019.91	1019.08	87.5	88.6	88.1	6.41	8.42	7.61	62.5	1172	165.7	MANN0202
28	0626	7.32	19.49	19.67	19.58	25.02	30.97	26.58	1017.29	1021.83	1018.46	84.3	86.9	85.6	6.14	10.45	7.64	11.8	1318	141.0	MANN0203
29	0637	4.03	19.56	19.74	19.70	23.67	25.73	24.64	1016.25	1017.81	1016.96	83.0	84.8	84.3	6.05	8.63	7.27	73.7	1038	174.8	MANN0204
30	0647	8.09	19.51	19.84	19.65	21.57	29.16	25.83	1014.62	1020.47	1017.81	83.9	86.6	85.1	5.90	8.70	7.36	2.3	2498	178.4	MANN0205
31	0658	4.06	19.90	20.10	19.98	19.65	23.13	21.97	1013.12	1015.77	1014.86	81.1	86.9	84.6	7.07	10.85	7.93	40.2	874	105.5	MANN0206
32	0708	2.73	19.87	20.27	20.19	17.39	22.48	20.92	1011.41	1015.19	1014.01	80.2	87.1	83.6	7.81	15.55	9.75	84.7	1461	220.5	MANN0207
33	0718	8.55	20.15	20.47	20.26	17.51	22.11	20.49	1011.36	1014.96	1013.68	80.0	83.8	81.6	9.01	12.61	10.44	0.3	2621	71.3	MANN0208
34	0734	2.52	20.18	20.99	20.72	10.46	18.15	15.97	1006.10	1011.77	1010.10	81.2	89.4	84.8	8.61	13.75	10.68	174.8	1869	382.3	MANN0209
35	0745	5.05	20.55	21.27	20.86	8.87	20.87	16.17	1004.82	1013.85	1010.27	69.8	85.4	77.8	9.50	17.20	12.73	26.2	3315	134.9	MANN0210
36	0757	7.41	20.68	21.30	21.13	6.64	16.88	13.96	1003.07	1010.80	1008.53	59.5	95.7	73.3	9.73	20.76	14.24	4.6	2709	355.5	MANN0211
37	0809	3.40	20.18	21.29	21.00	3.29	15.79	10.44	1000.67	1009.89	1005.83	46.8	99.8	76.7	9.78	20.99	15.72	122.8	2157	619.4	MANN0212
38	0819	4.18	20.21	21.74	21.49	3.36	15.80	13.38	1000.70	1009.80	1007.99	22.5	99.1	45.1	8.25	38.45	14.93	53.1	2498	612.8	MANN0213
39	0830	2.10	19.76	20.72	20.02	0.55	6.15	1.88	998.68	1002.73	999.61	71.2	103.4	97.4	14.88	19.11	17.11	129.8	983	199.4	MANN0214
40	0839	8.52	19.32	20.56	19.49	0.09	3.50	0.39	998.38	1000.78	998.62	10.3	103.9	94.9	5.33	6.71	5.83	9.1	2118	173.4	MANN0215
41	0855	2.83	19.48	19.68	19.53	0.08	0.08	0.08	998.33	998.38	998.37	95.6	96.7	96.2	4.87	5.54	5.19	61.8	4912	956.5	MANN0216
42	0910	0.97	19.68	19.73	19.69	0.07	0.07	0.07	998.32	998.33	998.33	98.8	100.7	99.6	5.29	29.94	8.98	405.4	3315	1054.2	MANN0217

Table 165b Manning River - Water Quality Maxima and Minima - Low Water - 5 November 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
26	1131	5.77	19.51	19.54	19.52	35.34	35.35	35.34	1025.14	1025.18	1025.16	96.9	97.3	97.1	5.04	7.70	6.15	278.7	3149	666.8	MANN0218
27	1144	4.80	19.63	20.61	19.76	33.50	35.20	34.95	1023.46	1025.03	1024.80	94.3	97.8	95.1	4.13	8.17	6.10	415.9	4700	1316.4	MANN0219
28	1156	5.27	19.48	20.44	19.92	28.56	34.66	31.43	1019.76	1024.66	1022.06	92.8	94.8	94.0	5.18	9.54	7.27	268.6	2831	818.1	MANN0220
29	1205	3.88	19.61	20.09	19.83	23.09	29.65	28.76	1019.69	1020.80	1020.18	89.4	93.4	92.0	5.88	11.38	8.05	429.9	6518	1125.0	MANN0221
30	1215	6.87	19.64	20.49	19.90	25.46	27.74	26.65	1017.39	1019.35	1018.43	85.6	90.7	88.5	4.49	10.26	7.53	89.5	2630	672.7	MANN0222
31	1226	4.36	19.85	20.73	20.08	23.77	25.84	25.19	1016.05	1017.85	1017.29	88.0	89.4	88.7	5.48	9.65	7.05	320.4	5152	1358.3	MANN0223
32	1236	3.00	20.09	22.56	20.48	20.17	23.47	22.56	1012.84	1015.97	1015.18	84.5	94.0	87.7	6.16	10.52	8.06	334.9	5003	1068.9	MANN0224
33	1246	9.63	20.16	21.49	20.53	17.72	20.18	19.32	1011.41	1013.46	1012.73	66.9	90.4	86.1	8.10	14.26	10.43	2.0	4531	218.9	MANN0225
34	1258	3.03	20.64	21.85	20.79	15.30	18.84	18.32	1009.38	1012.34	1011.93	84.9	93.7	87.7	8.19	15.07	11.90	214.7	4581	801.6	MANN0226
35	1308	4.15	20.94	22.53	21.42	12.48	20.01	16.74	1007.07	1013.16	1010.47	78.7	94.1	86.9	7.79	15.76	12.34	154.8	5190	865.6	MANN0227
36	1319	7.61	20.97	21.81	21.25	8.30	17.01	14.07	1004.10	1010.90	1008.58	53.3	95.8	75.8	8.36	19.74	12.63	7.6	3196	510.8	MANN0228
37	1330	3.07	21.22	22.42	21.32	4.85	13.06	11.29	1001.34	1007.82	1006.46	74.3	105.7	86.2	7.28	29.24	20.72	150.3	4564	748.3	MANN0229
38	1341	4.10	21.19	22.26	21.69	2.57	13.92	8.40	999.68	1008.34	1004.10	49.2	113.9	91.1	7.41	42.83	18.77	110.0	2883	702.1	MANN0230
39	1352	2.06	20.20	21.65	20.69	0.33	4.63	1.84	998.11	1001.58	999.50	86.7	115.5	105.3	5.08	14.75	6.85	138.6	2800	321.6	MANN0231
40	1401	8.85	19.75	21.52	20.19	0.09	3.90	0.32	997.97	1001.06	998.42	7.7	113.9	103.0	5.50	13.39	7.19	4.1	3784	627.1	MANN0232
41	1417	2.13	20.06	20.30	20.12	0.08	0.08	0.08	998.20	998.26	998.24	102.0	104.9	102.8	4.97	5.18	5.08	123.3	2426	259.3	MANN0233
42	1432	1.16	20.54	20.55	20.55	0.07	0.07	0.07	998.15	998.15	998.15	106.0	106.7	106.3	4.95	7.96	5.33	609.5	4752	2060.7	MANN0234



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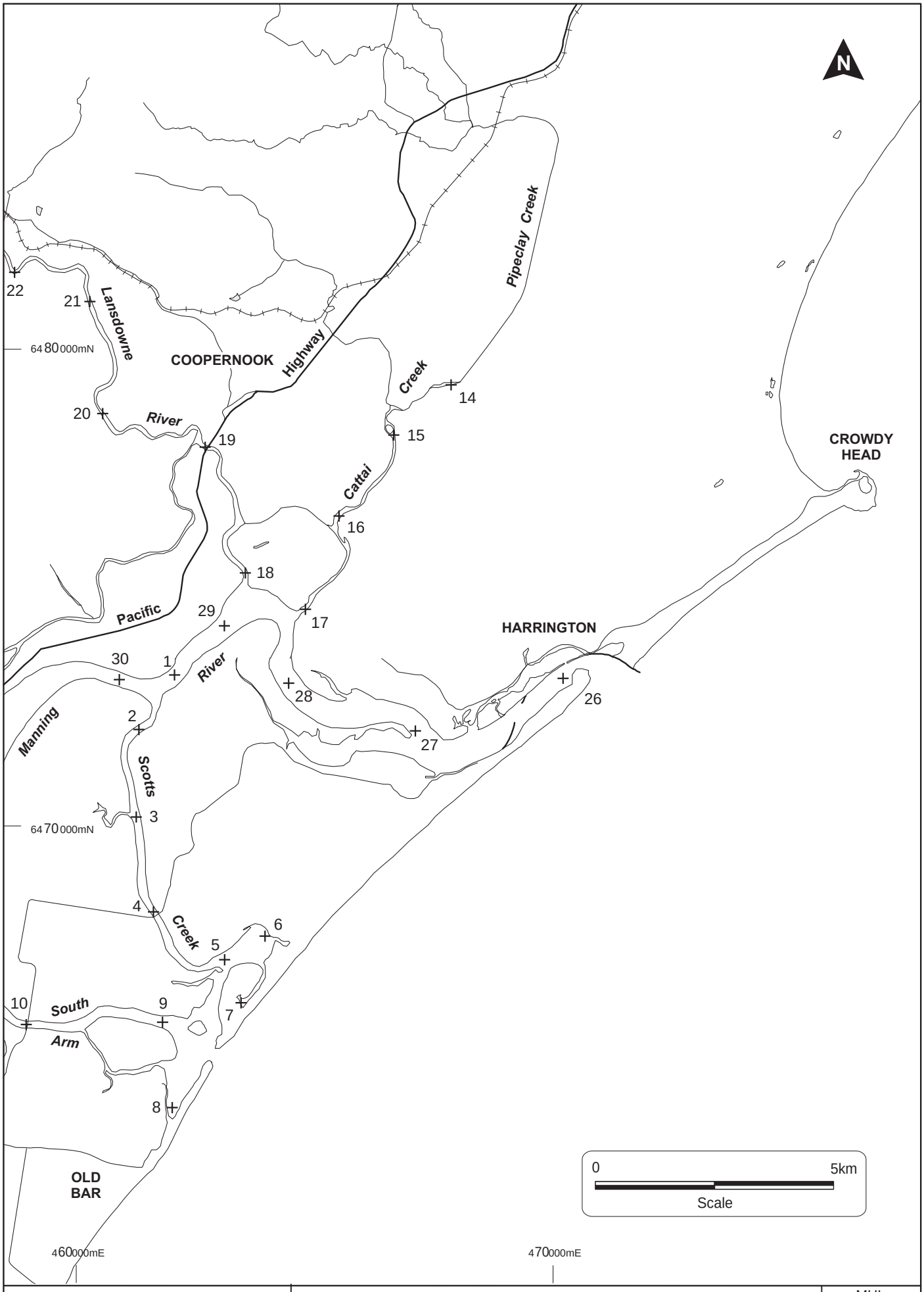
MANNING RIVER - WESTERN SECTION

3 TO 5 NOVEMBER 1998

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Figure 129

DRAWING 1812-129.CDR



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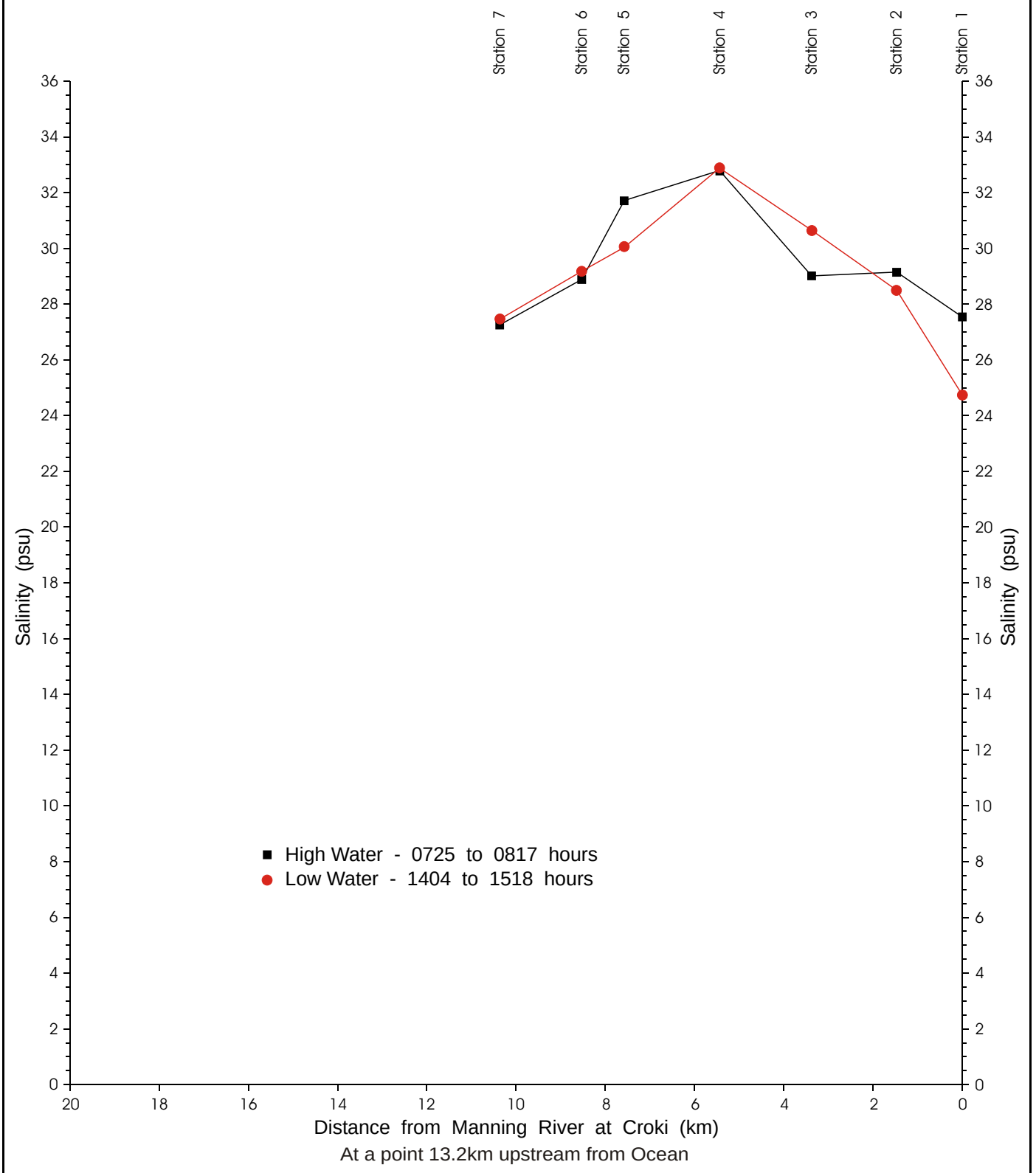
MANNING RIVER - EASTERN SECTION

3 TO 5 NOVEMBER 1998

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Figure 130

DRAWING 1812-130.CDR



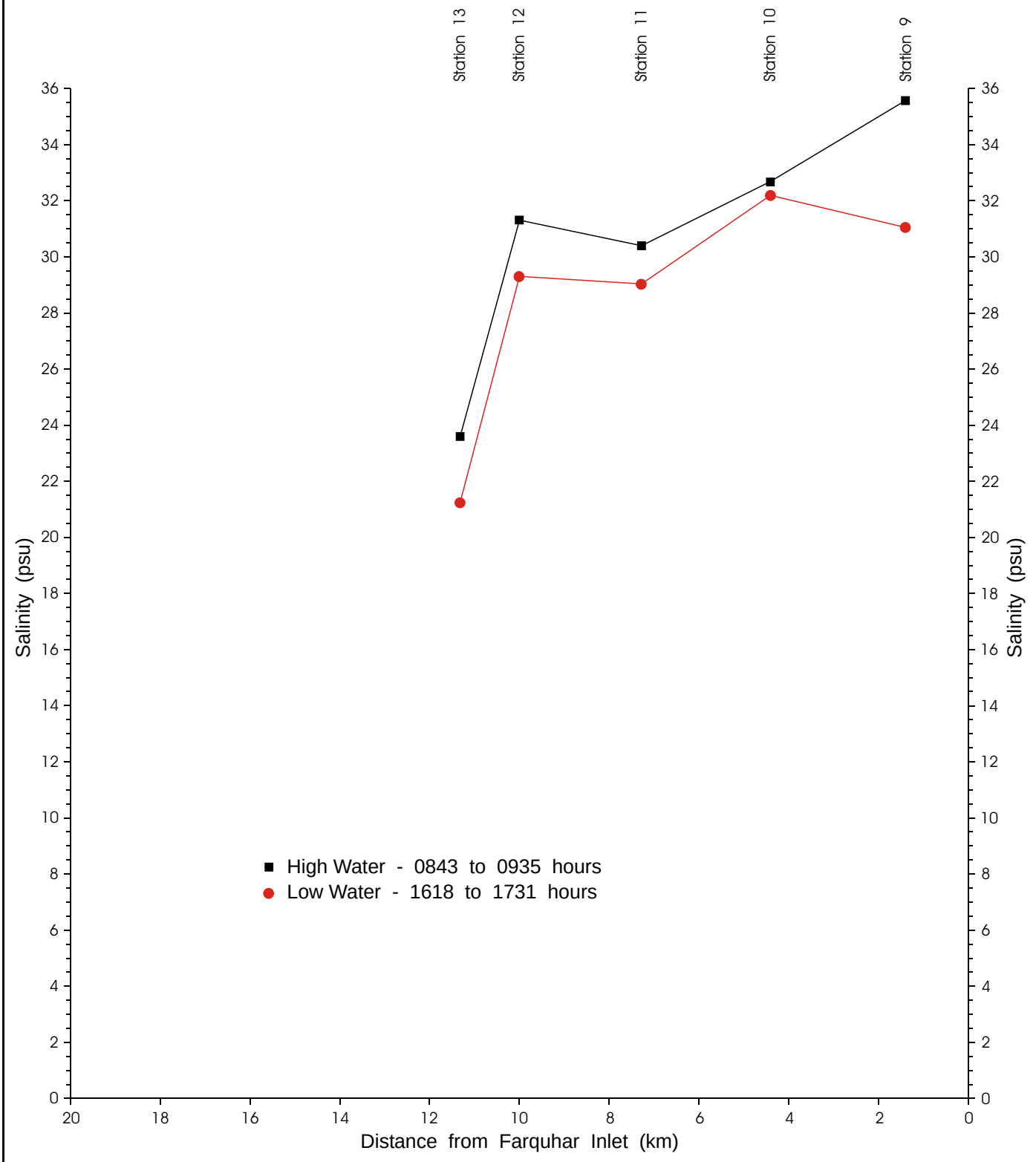
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
SCOTTS CREEK - HIGH AND LOW WATER
3 NOVEMBER 1998

MHL Report 1812

Figure 131

DRAWING 1812-131.CDR



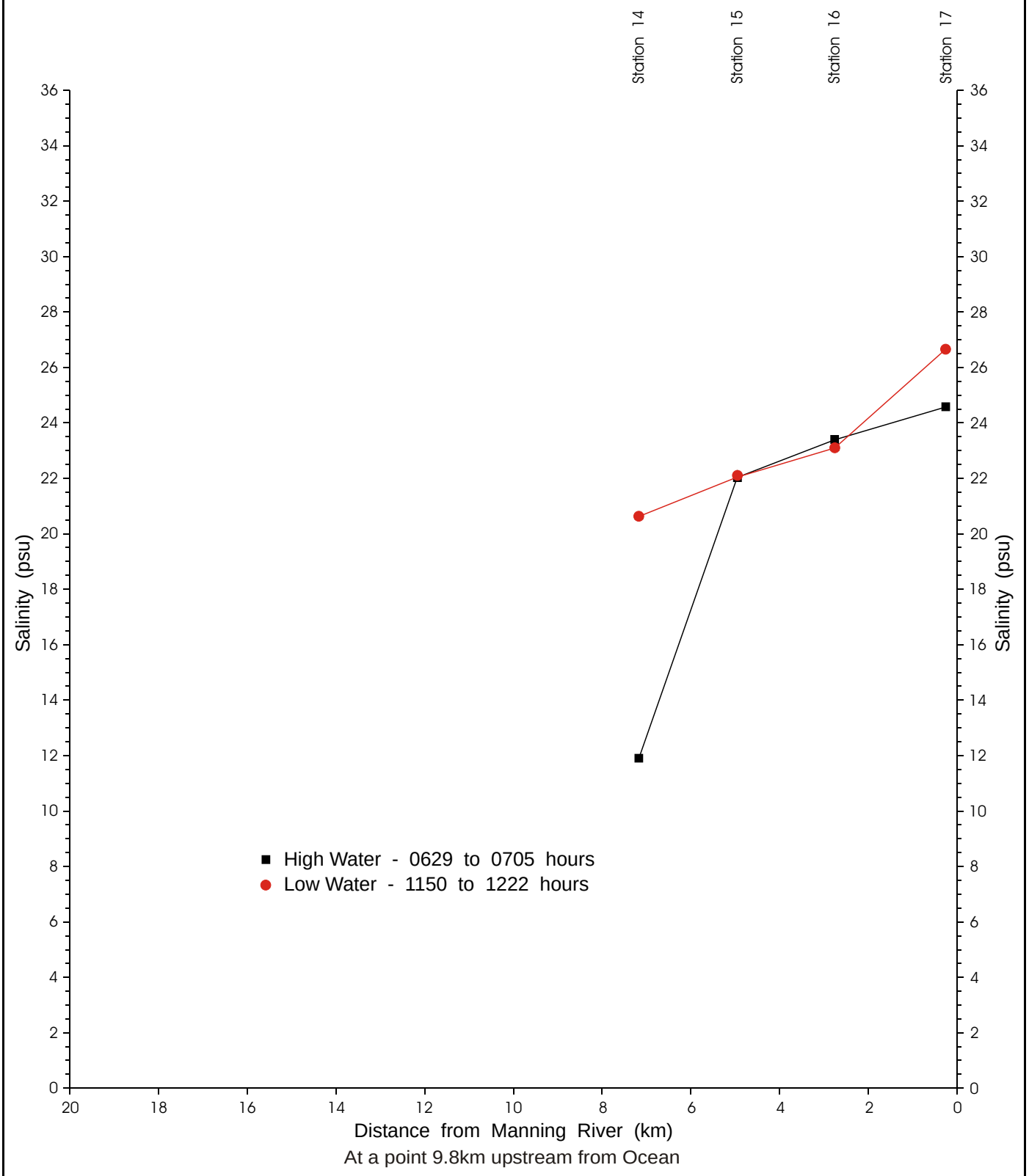
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
SOUTH CHANNEL - HIGH AND LOW WATER
3 NOVEMBER 1998

MHL Report 1812

Figure 132

DRAWING 1812-132.CDR



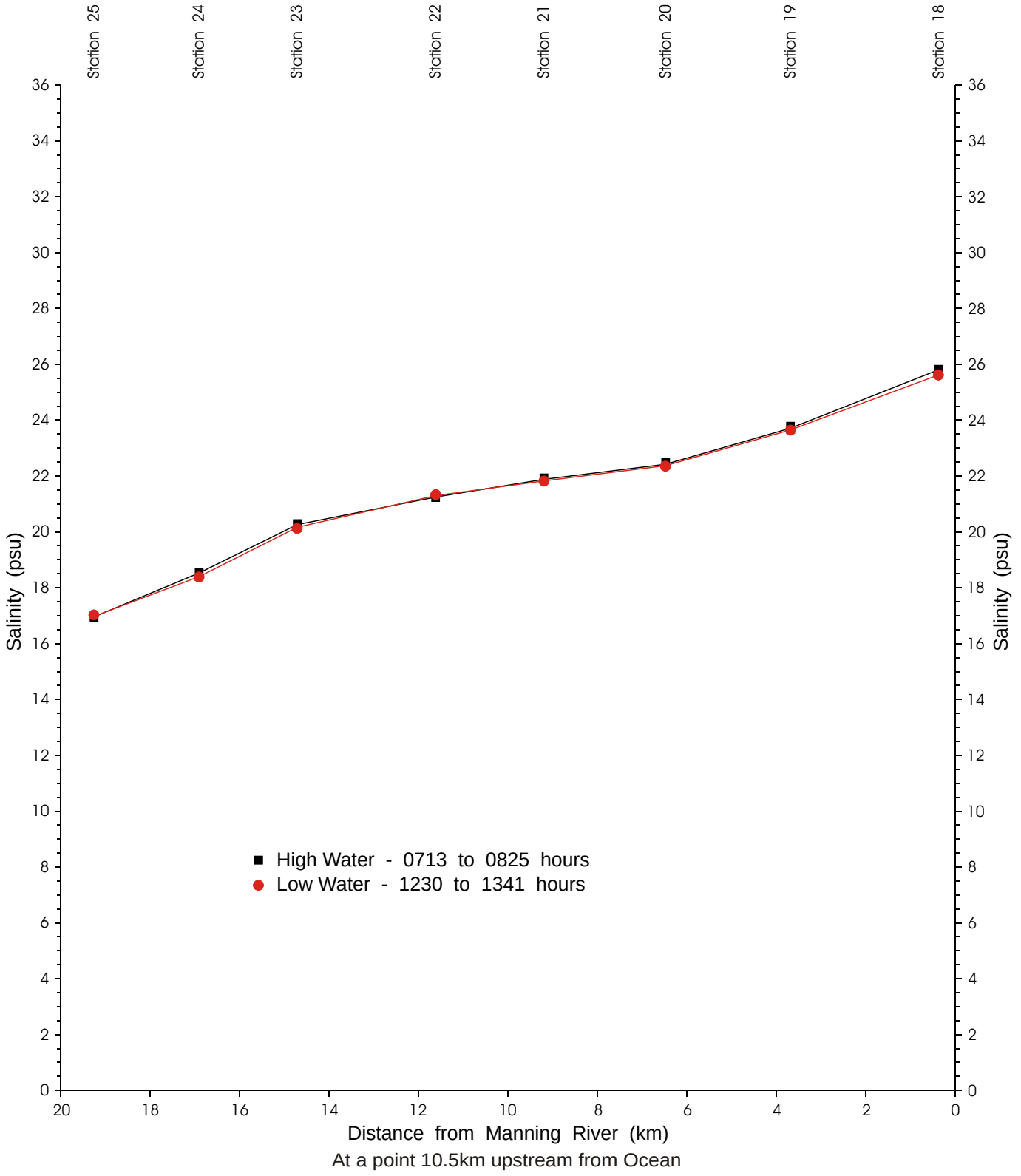
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
CATTAI CREEK - HIGH AND LOW WATER
4 NOVEMBER 1998

MHL Report 1812

Figure 133

DRAWING 1812-133.CDR



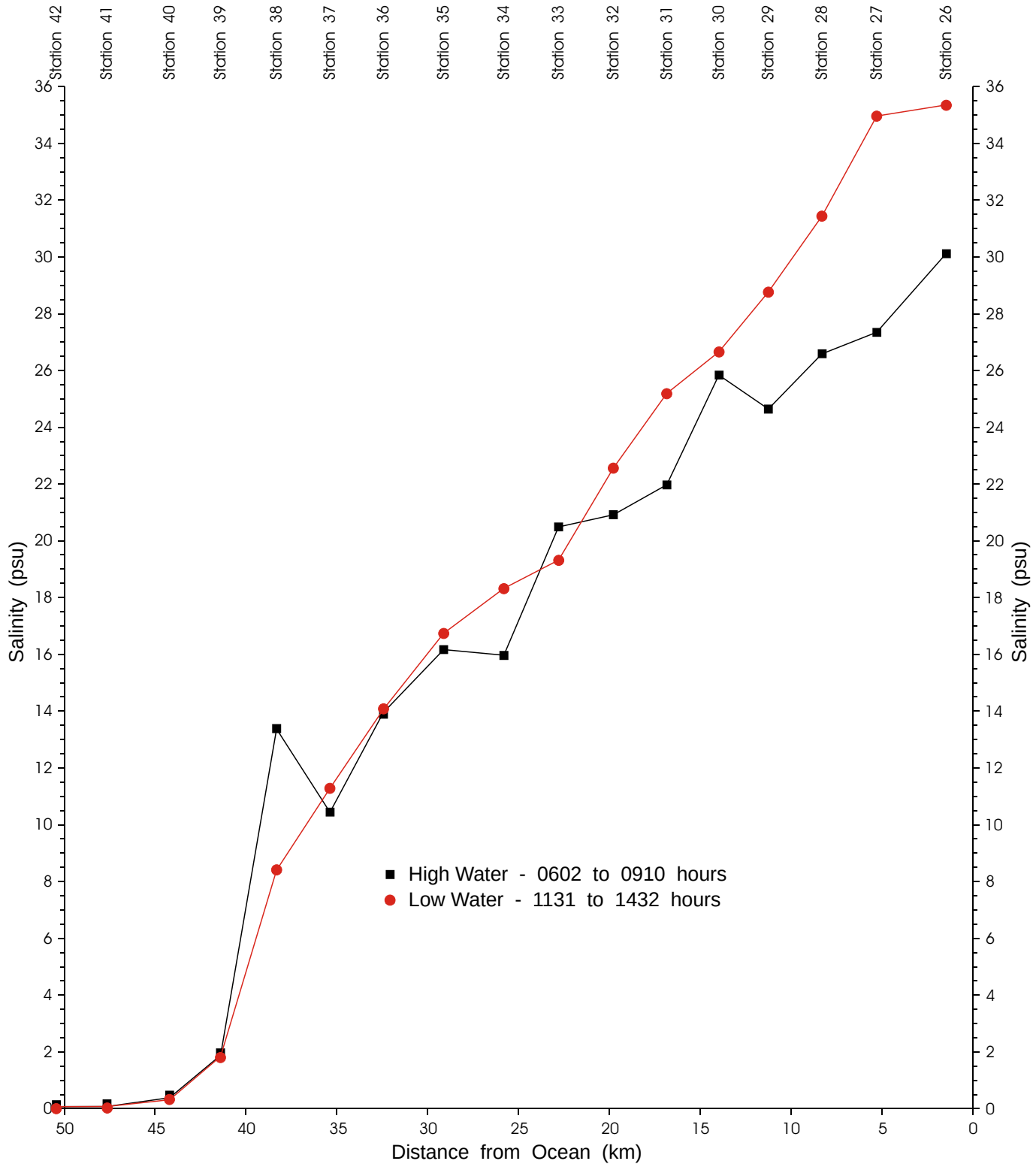
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
LANSDOWNE RIVER - HIGH AND LOW WATER
4 NOVEMBER 1998

MHL Report 1812

Figure 134

DRAWING 1812-134.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MANNING RIVER - HIGH AND LOW WATER
5 NOVEMBER 1998

MHL Report 1812

Figure 135

DRAWING 1812-135.CDR

Data was also collected in the Manning River estuary on 19 March 1999, as detailed in report MHL968. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 166 and 167. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 168 and 169. The locations at which these profiles were taken are shown in Figure 136. Long channel depth-averaged salinity profiles are shown in Figures 137 and 138.

Table 166 Lansdowne River - 19 March 1999

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)
	Easting	Northing		
1	463585	6475240	10.71	18.39
2	462735	6477856	14.08	17.91
3	460734	6478340	16.70	14.45
4	460177	6481690	20.43	17.83
5	458372	6482190	22.91	12.63
6	456747	6482930	27.14	7.92
7	455825	6482535	29.77	0.09

Table 167 Ghinni Ghinni Creek - 19 March 1999

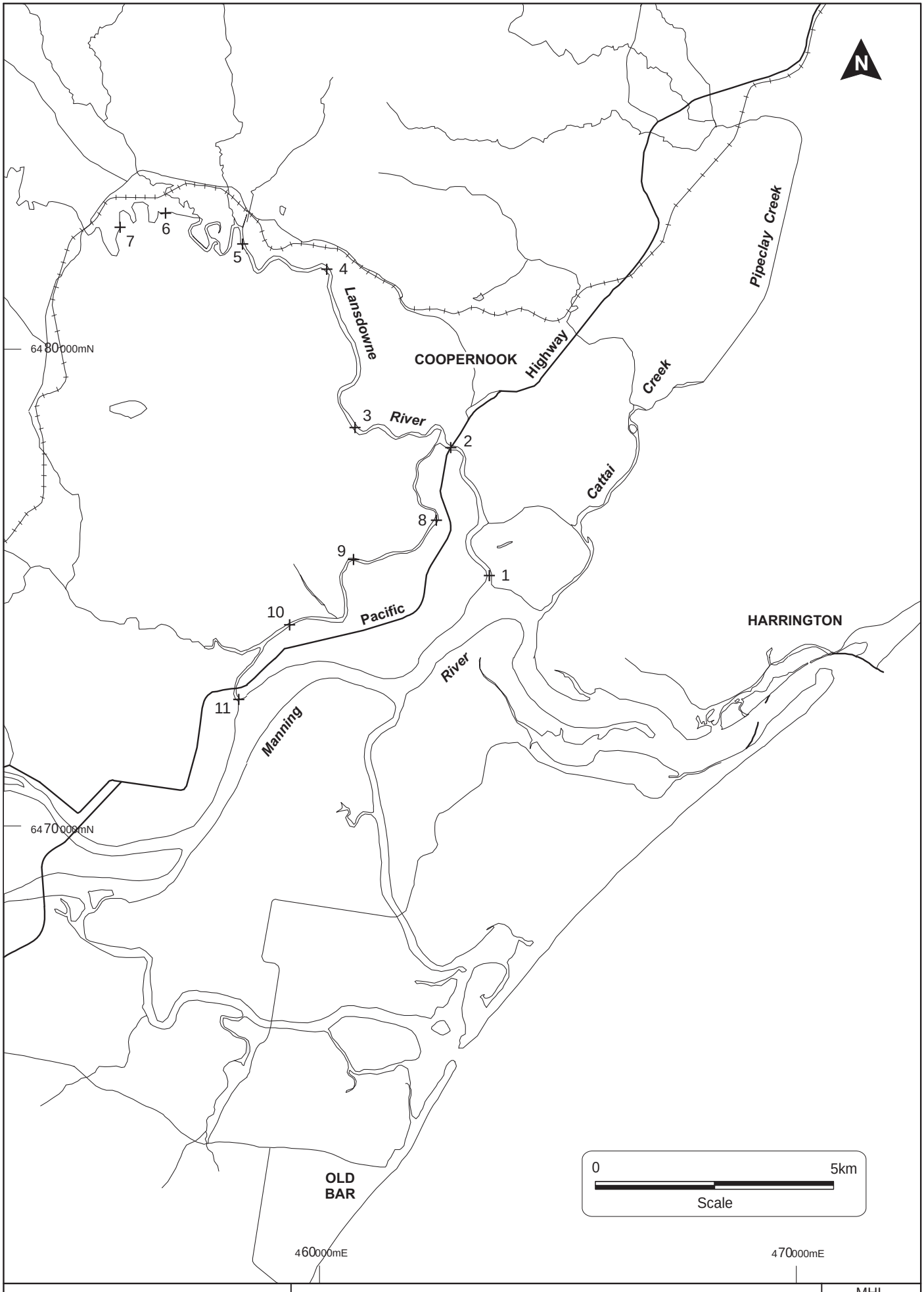
Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)
	Easting	Northing		
8	462463	6476390	16.36	8.20
9	460705	6475490	18.55	9.95
10	459391	6474172	21.25	13.45
11	458301	6472645	23.30	20.00

Table 168 Lansdowne River - Water Quality Maxima and Minima - High Water - 19 March 1999

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0707	3.99	24.13	25.00	24.60	14.18	25.94	19.42	1007.92	1016.60	1011.74	49.1	70.2	60.9	8.06	8.23	8.13	7.33	12.70	9.06	MA167001
2	0718	5.19	24.67	25.01	24.97	11.52	21.13	18.61	1005.78	1012.92	1011.03	30.1	59.3	39.0	7.39	7.98	7.65	7.33	16.12	10.31	MA167002
3	0729	2.43	24.73	25.01	24.92	9.58	19.93	16.05	1004.32	1012.03	1009.12	1.0	65.9	19.2	7.30	7.49	7.37	7.33	8.79	8.15	MA167003
4	0741	3.06	24.52	25.01	24.65	13.71	19.49	18.61	1007.47	1011.77	1011.12	0.0	3.6	0.5	7.22	7.32	7.27	6.35	9.77	7.30	MA167004
5	0750	3.56	22.39	25.01	24.02	2.51	18.39	13.90	999.58	1010.98	1007.74	0.0	44.9	9.6	7.10	7.50	7.23	5.86	12.70	9.17	MA167005
6	0801	1.98	21.32	25.01	22.74	0.38	13.86	10.20	998.22	1007.85	1005.29	2.4	52.8	12.4	6.95	7.68	7.20	9.77	23.44	14.90	MA167006
7	0810	2.46	21.31	25.01	21.31	0.09	0.09	0.09	998.00	998.01	998.00	67.0	67.4	67.2	7.63	7.68	7.66	19.05	21.00	19.31	MA167007

Table 169 Ghinni Ghinni Creek - Water Quality Maxima and Minima - High Water - 19 March 1999

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
8	0852	1.88	24.12	25.01	24.13	8.20	8.21	8.20	1003.44	1003.45	1003.45	36.2	36.6	36.5	6.97	6.97	6.97	11.23	14.16	12.30	MA167008
9	0900	1.31	24.29	25.01	24.37	9.04	10.60	9.65	1003.98	1005.20	1004.46	28.6	37.3	32.1	7.34	7.38	7.37	11.23	294.99	56.01	MA167009
10	0909	1.51	23.98	25.01	24.11	13.07	13.78	13.60	1007.13	1007.61	1007.50	45.0	50.8	47.2	7.60	7.62	7.61	7.33	14.65	10.31	MA167010
11	0917	2.61	24.75	25.01	24.90	13.29	24.99	21.32	1007.09	1015.84	1013.08	48.5	62.2	52.0	8.17	8.25	8.20	6.84	13.68	9.80	MA167011



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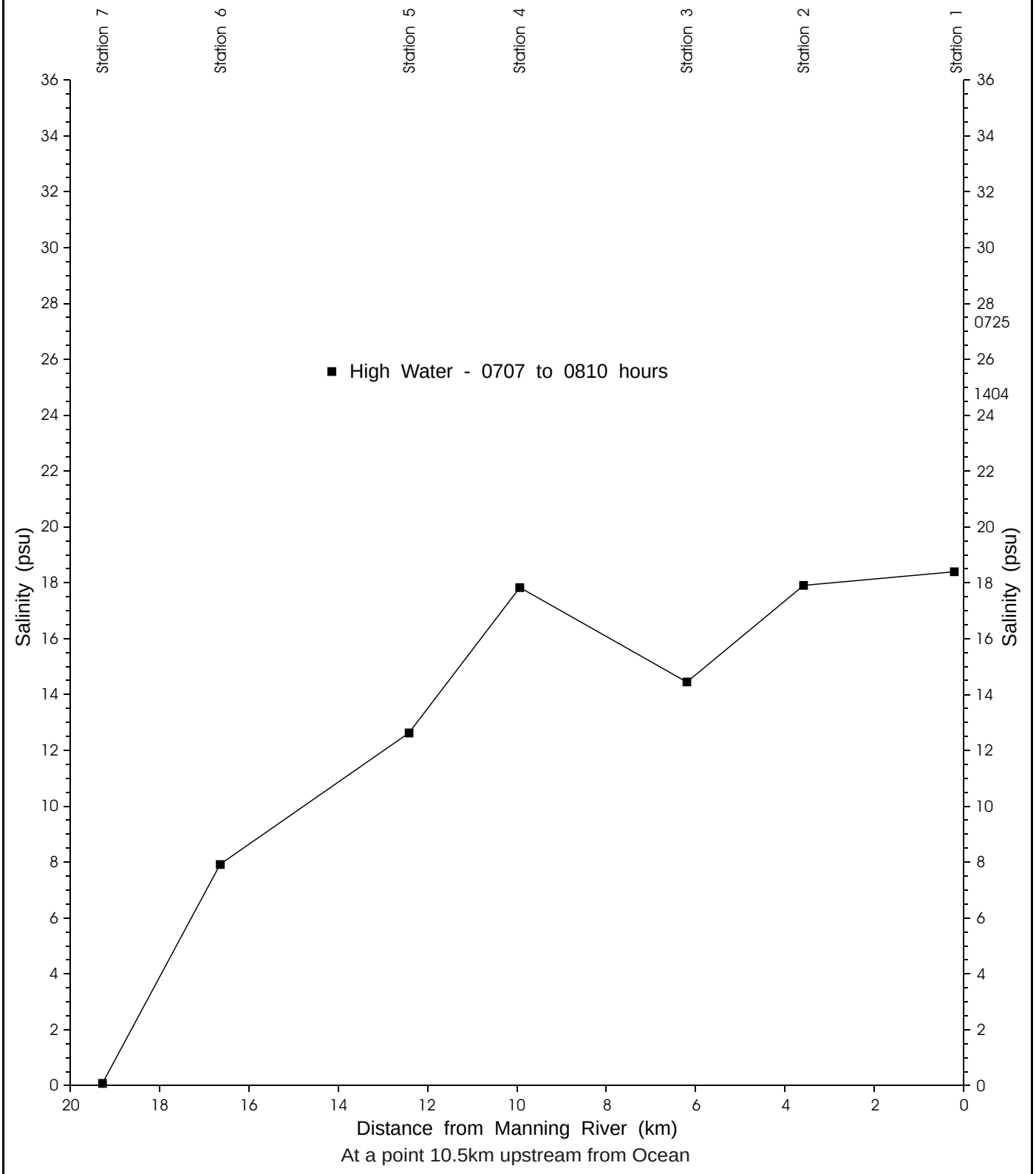
LANSDOWNE RIVER AND GHINNI GHINNI CREEK

19 MARCH 1999

MHL Report 1812

Figure 136

DRAWING 1812-136.CDR



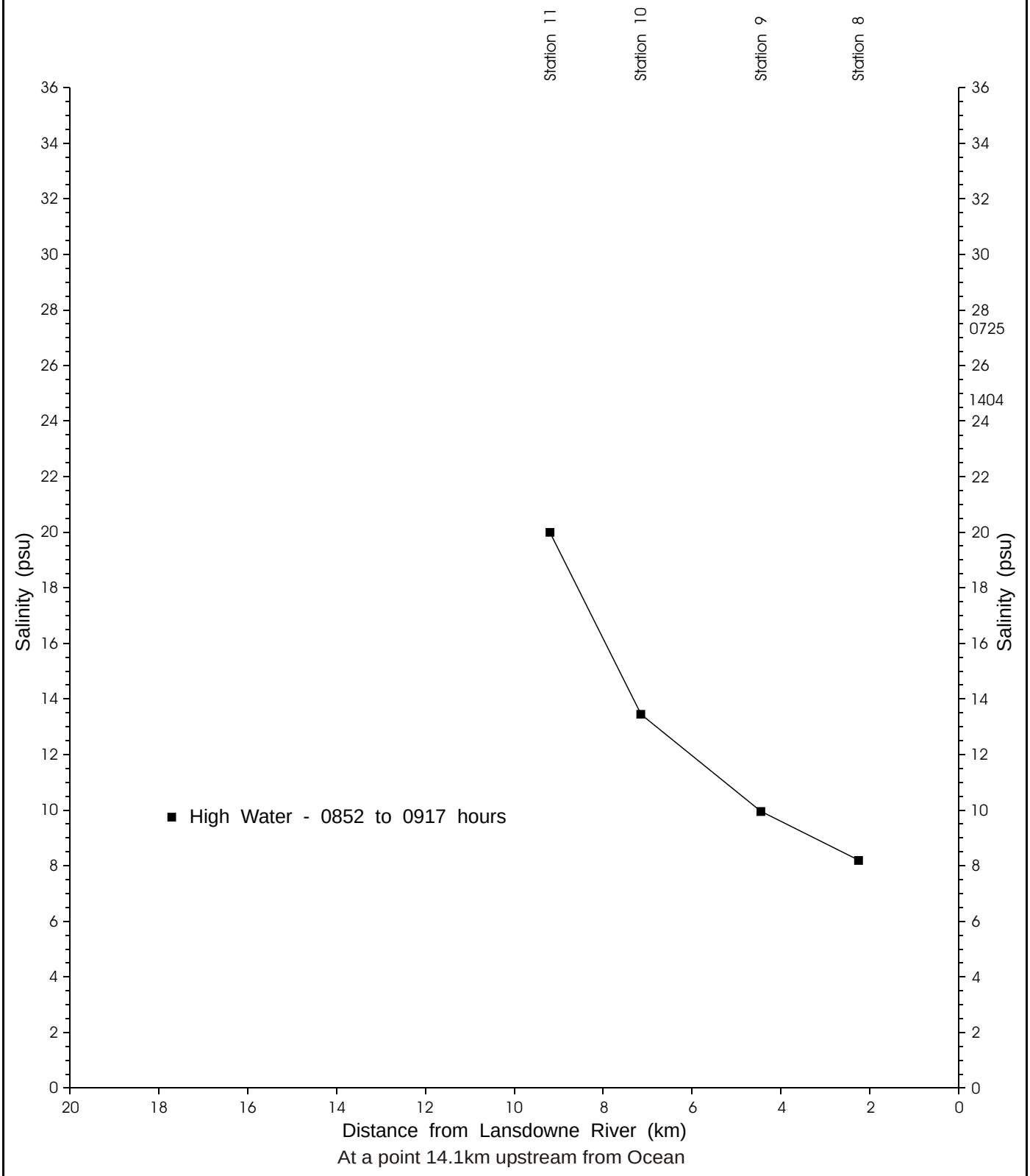
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
LANSDOWNE RIVER - HIGH WATER
19 MARCH 1999

MHL Report 1812

Figure 137

DRAWING 1812-137.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
GHINNI GHINNI CREEK - HIGH WATER
19 MARCH 1999

MHL Report 1812
Figure 138
DRAWING 1812-138.CDR

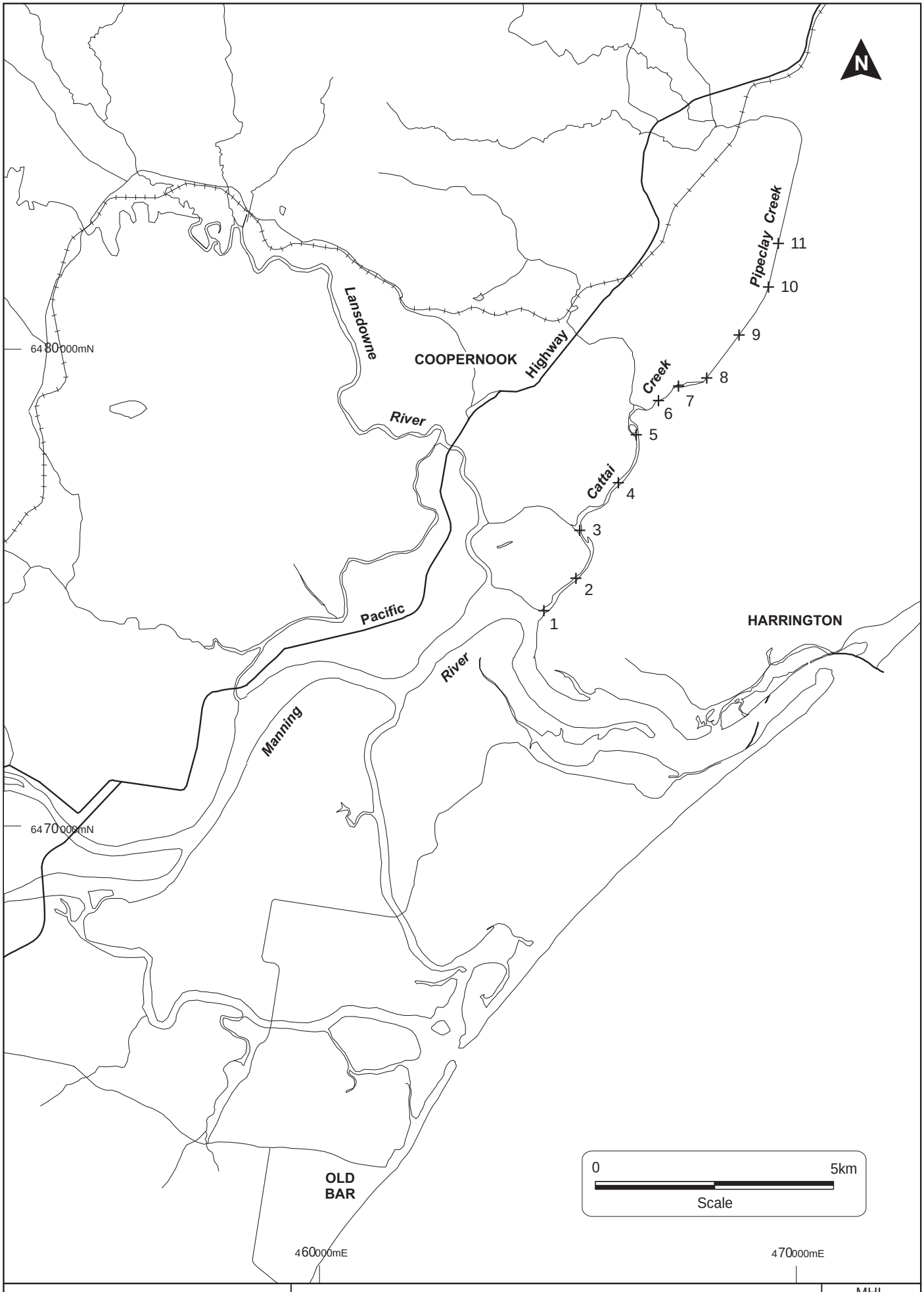
Data was also collected in the Manning River estuary on 13 July 1999, as detailed in report MHL968. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 170. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Table 171. The locations at which these profiles were taken are shown in Figure 139. Long channel depth-averaged salinity profiles are shown in Figure 140.

Table 170 Cattai Creek - 13 July 1999

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)
	Easting	Northing		
1	464705	6474510	9.95	17.32
2	465375	6475190	10.89	12.85
3	465455	6476190	12.06	11.57
4	466265	6477190	13.45	9.06
5	466625	6478190	14.62	9.10
6	467105	6478910	15.86	7.49
7	467525	6479190	16.37	0.48
8	468105	6479400	17.03	0.11
9	468795	6480290	18.12	0.11
10	469425	6481290	19.36	0.10
11	469615	6482210	20.31	0.09

Table 171 Cattai Creek - Water Quality Maxima and Minima - High Water - 13 July 1999

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0857	2.39	14.89	17.90	16.26	2.28	29.02	17.32	1000.87	1020.73	1012.14	64.2	84.3	79.5	6.09	6.99	6.50	8.79	12.21	9.85	NB130701
2	0923	2.01	14.89	17.90	15.62	1.75	22.24	12.85	1000.48	1015.82	1008.85	66.9	81.0	76.1	6.88	7.71	7.10	7.81	12.70	9.61	NB130702
3	0929	2.50	15.00	17.90	15.85	0.79	22.61	11.57	999.71	1016.05	1007.82	59.9	78.6	70.0	5.03	6.07	5.59	7.81	14.16	11.20	NB130703
4	0949	2.61	15.02	17.90	15.43	0.87	17.85	9.06	999.77	1012.61	1005.98	57.3	68.1	62.5	4.89	5.62	5.33	8.79	13.19	11.38	NB130704
5	0956	2.73	14.90	17.90	15.30	0.65	16.50	9.10	999.62	1011.62	1006.04	55.4	59.7	57.1	4.53	5.57	5.09	10.74	13.19	12.08	NB130705
6	1003	3.08	14.72	17.90	15.13	0.29	15.90	7.49	999.37	1011.17	1004.83	47.5	57.2	54.2	4.24	5.23	4.56	10.74	14.65	12.48	NB130706
7	1013	2.52	14.64	17.90	14.65	0.13	10.02	0.48	999.26	1006.85	999.53	49.6	55.9	54.3	4.15	4.16	4.16	11.72	16.12	13.40	NB130707
8	1023	1.23	14.65	17.90	14.65	0.11	0.11	0.11	999.24	999.25	999.25	54.6	54.8	54.7	4.10	4.11	4.10	12.70	14.65	13.52	NB130708
9	1034	2.27	14.83	17.90	14.83	0.11	0.30	0.11	999.21	999.37	999.22	48.4	56.0	55.4	4.18	4.19	4.18	13.19	16.61	15.05	NB130709
10	1043	1.96	14.94	17.90	14.95	0.10	0.10	0.10	999.19	999.20	999.19	55.7	56.0	55.9	4.43	4.45	4.43	15.14	25.89	16.87	NB130710
11	1051	2.27	15.03	17.90	15.03	0.09	0.09	0.09	999.17	999.18	999.18	56.1	56.4	56.3	4.69	4.71	4.69	16.12	20.51	17.21	NB130711



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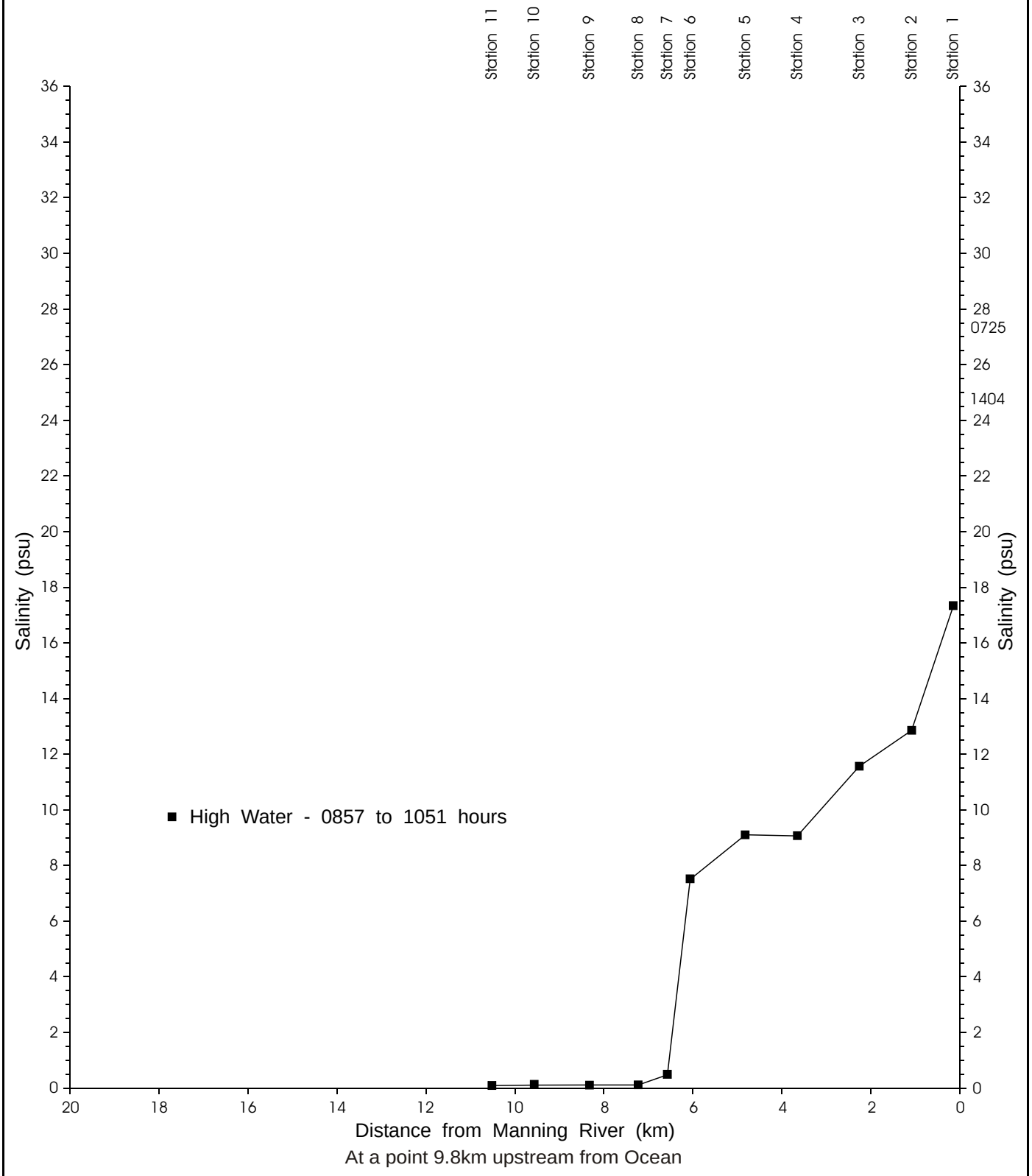
CATTAI CREEK

13 JULY 1999

MHL Report 1812

Figure 139

DRAWING 1812-139.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
CATTAI CREEK - HIGH WATER
13 JULY 1999

MHL Report 1812
Figure 140
DRAWING 1812-140.CDR

Data was also collected in the Manning River on 2 January 2003. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 172. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 173a-b. The locations at which these profiles were taken are shown in Figure 141. Long channel depth-averaged salinity profiles are shown in Figure 142.

Table 172 Manning River - 2 January 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	445843	6466313	32.85	-	16.03
2	444872	6467405	34.63	-	9.89
3	445659	6468418	35.90	-	10.25
4	446599	6469020	36.98	-	10.14
5	446880	6470068	38.25	-	6.39
6	445745	6470505	39.45	8.75	4.90
7	444290	6470815	40.93	6.16	1.28
8	443390	6471483	42.03	5.48	3.77
9	443282	6472805	43.45	3.26	2.81
10	442472	6473912	45.45	0.99	0.33
11	441575	6473627	46.43	0.29	0.15
12	440956	6473311	47.20	-	0.12
13	440505	6473245	47.70	0.14	-
14	440225	6472148	48.88	0.11	-
15	440955	6471266	50.13	0.10	-
16	441400	6470417	51.30	0.10	-
17	440430	6470690	52.55	0.09	-

Note No profiling done at Stations 1 to 5 and 12 on high water run
Profiling stopped at Station 17 on high water run and Station 12 on the low water run due to shoals

Table 173a Manning River - Water Quality Maxima and Minima - High Water - 2 January 2003

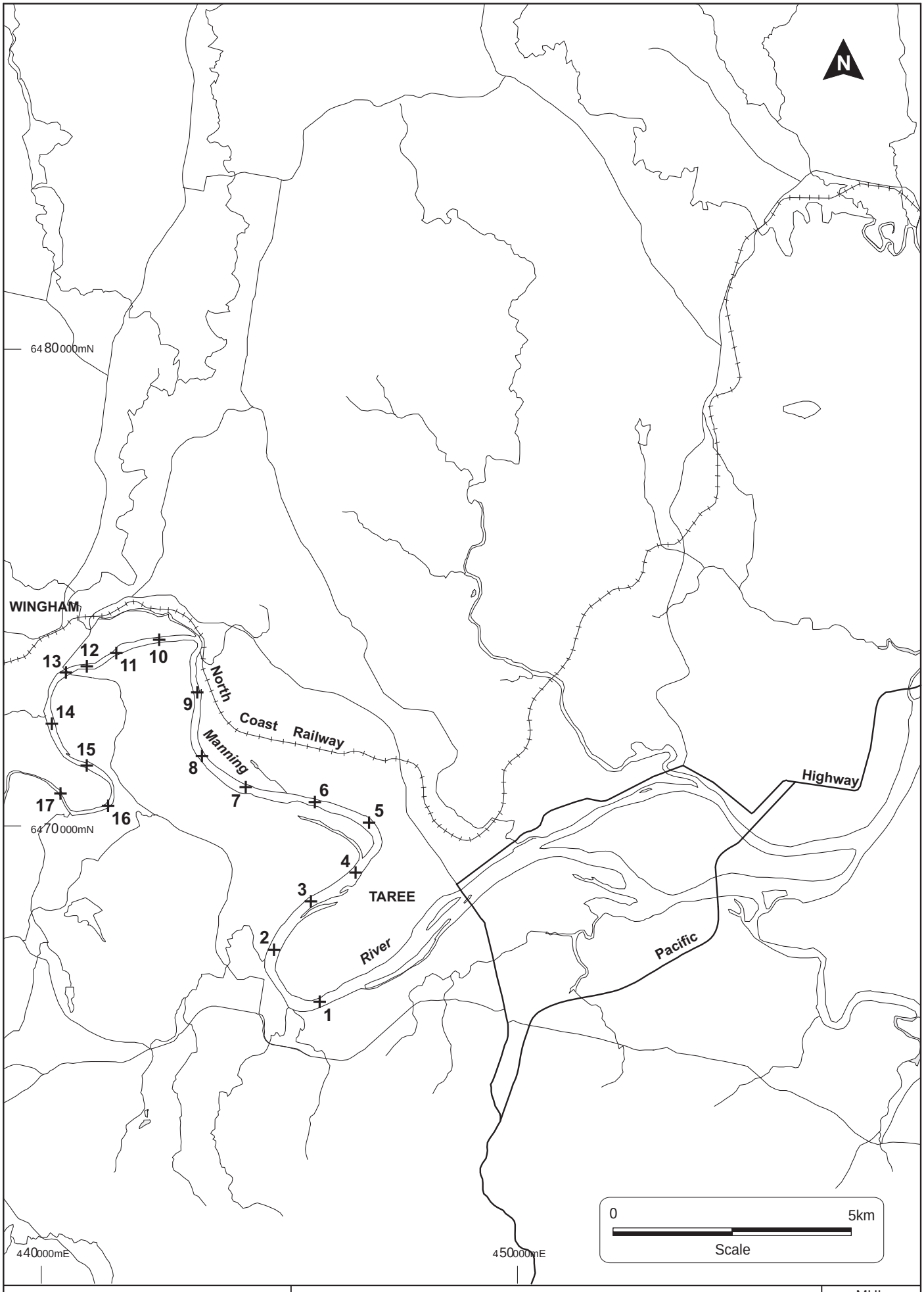
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
6	1128	4.1	1000.1	1005.2	1003.3	26.12	26.51	26.26	4.61	11.23	8.75	30.89	83.89	57.86	7.02	7.53	7.26	6.35	7.81	6.98	MN001
7	1135	2.4	999.0	1004.1	1001.3	26.18	26.48	26.28	3.10	9.85	6.16	55.27	80.50	71.62	7.13	7.54	7.40	6.35	7.33	6.80	MN002
8	1140	3.6	998.3	1003.3	1000.9	25.78	26.19	26.05	2.11	8.68	5.48	42.62	85.04	66.44	6.99	7.57	7.28	6.35	8.30	7.01	MN003
9	1146	3.9	997.3	1001.7	999.3	25.50	26.68	25.85	0.85	6.51	3.26	45.65	85.02	70.16	6.96	7.72	7.37	6.84	12.21	7.36	MN004
10	1153	3.6	996.8	998.9	997.6	25.60	26.59	25.96	0.23	2.67	0.99	64.88	101.86	88.71	7.18	8.28	7.78	6.35	8.79	6.83	MN005
11	1158	3.0	996.9	997.4	997.1	25.46	26.19	25.79	0.18	0.61	0.29	78.49	84.82	81.54	7.33	7.70	7.60	5.86	7.33	6.46	MN006
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	1204	2.1	996.8	997.0	996.9	25.67	26.52	26.08	0.13	0.16	0.14	80.31	85.42	82.59	7.54	7.64	7.61	5.37	6.35	5.91	MN007
14	1209	2.3	996.8	997.0	996.9	25.46	26.36	25.83	0.11	0.12	0.11	77.83	82.02	79.13	7.42	7.47	7.45	3.91	6.35	5.68	MN008
15	1216	1.0	996.7	996.7	996.7	26.66	26.72	26.68	0.10	0.10	0.10	83.96	86.44	85.08	7.56	7.58	7.57	4.88	5.37	4.97	MN009
16	1228	3.9	996.8	997.1	997.0	25.21	26.26	25.63	0.10	0.10	0.10	77.70	81.73	79.15	7.36	7.44	7.40	4.88	5.86	5.36	MN010
17	1237	0.6	996.9	996.9	996.9	25.93	25.97	25.95	0.10	0.10	0.09	88.38	90.80	89.88	7.62	7.64	7.63	4.88	5.37	5.27	MN011

Note No profiling done at Stations 1 to 5 and 12
Profiling stopped at Station 17 due to shoals

Table 173b Manning River - Water Quality Maxima and Minima - Low Water - 2 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1858	8.9	1001.3	1011.2	1008.9	25.41	26.86	25.66	6.21	18.98	16.03	44.58	95.61	57.53	7.29	7.82	7.42	6.84	11.23	8.58	MN012
2	1913	4.6	1000.7	1006.5	1004.1	25.86	26.87	26.22	5.38	12.88	9.89	35.58	92.44	66.18	7.18	7.82	7.44	6.84	9.77	7.32	MN013
3	1923	5.0	1000.2	1006.2	1004.4	25.97	26.75	26.22	4.74	12.53	10.25	29.10	88.03	52.69	7.13	7.74	7.30	6.35	8.30	7.05	MN014
4	1938	6.7	999.6	1007.2	1004.3	25.90	26.80	26.27	3.94	13.77	10.14	11.27	88.48	46.29	7.04	7.71	7.24	5.86	7.33	6.44	MN015
5	1948	2.9	998.8	1005.8	1001.5	26.08	26.58	26.40	2.76	11.99	6.39	45.31	91.27	78.43	7.09	7.76	7.53	6.35	6.84	6.66	MN016
6	1956	3.2	998.0	1004.3	1000.4	26.35	26.56	26.41	1.69	10.18	4.90	53.85	94.60	83.01	7.12	7.88	7.60	6.35	6.84	6.73	MN017
7	2006	1.3	997.6	997.7	997.7	26.18	26.50	26.33	1.09	1.43	1.28	91.77	93.69	92.76	7.81	7.90	7.86	6.35	7.33	6.76	MN018
8	2014	3.2	997.2	1003.7	999.6	26.15	26.46	26.25	0.66	9.34	3.77	44.65	93.44	77.89	6.96	7.86	7.52	6.35	23.44	7.66	MN019
9	2023	3.5	997.1	1001.9	998.9	25.93	26.51	26.18	0.44	6.88	2.81	38.56	88.29	74.16	6.92	7.81	7.44	6.35	11.72	7.62	MN020
10	2034	3.0	996.8	997.7	996.9	25.99	26.51	26.42	0.18	1.14	0.33	74.86	89.43	86.61	7.64	7.88	7.83	5.86	7.81	6.49	MN021
11	2041	2.0	996.8	996.9	996.9	26.09	26.19	26.17	0.14	0.16	0.15	83.58	86.48	84.46	7.75	7.79	7.78	5.37	5.86	5.68	MN022
12	2123	1.2	996.8	996.9	996.8	26.11	26.20	26.18	0.12	0.12	0.12	82.07	83.56	82.59	7.69	7.70	7.69	4.40	4.88	4.50	MN023

Note Profiling stopped at Station 12 due to shoals



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MANNING RIVER

2 JANUARY 2003

MHL Report 1812

Figure 141

DRAWING 1812-141.CDR

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MANNING RIVER - HIGH AND LOW WATER
2 JANUARY 2003

MHL Report 1812

Figure 142

DRAWING 1812-142.CDR

Water quality data collected in the Manning River on the low and high water slack on 19 and 20 May 2011 is summarised in Table 174. Summaries of the minimum, maximum and mean values for all parameters measured on the low and high water run are shown in Tables 175a-b. The locations at which these profiles were taken are shown in Figure 143. Long channel depth-averaged salinity profiles are shown in Figure 144.

Table 174 Manning River - Low and High Water - 19 and 20 May 2011

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity (psu)	High Water Salinity (psu)
	Easting	Northing			
1	448715	6468599	29.17	14.97	16.92
2	446830	6466807	31.59	7.70	10.56
3	445107	6466543	33.90	7.33	9.06
4	445593	6468348	35.09	7.73	7.68
5	447092	6469652	38.25	6.63	6.70
6	445130	6470630	40.25	0.17	5.03
7	443458	6471369	42.03	0.07	0.36
8	443274	6473892	44.56	0.07	0.07
9	441582	6473631	46.67	0.06	0.06
10	440542	6473274	47.70	-	0.06

No profile done at Station 10 on low water run due to shoals

Table 175a Water Quality Maxima and Minima - Manning River - Low Water - 19 May 2011

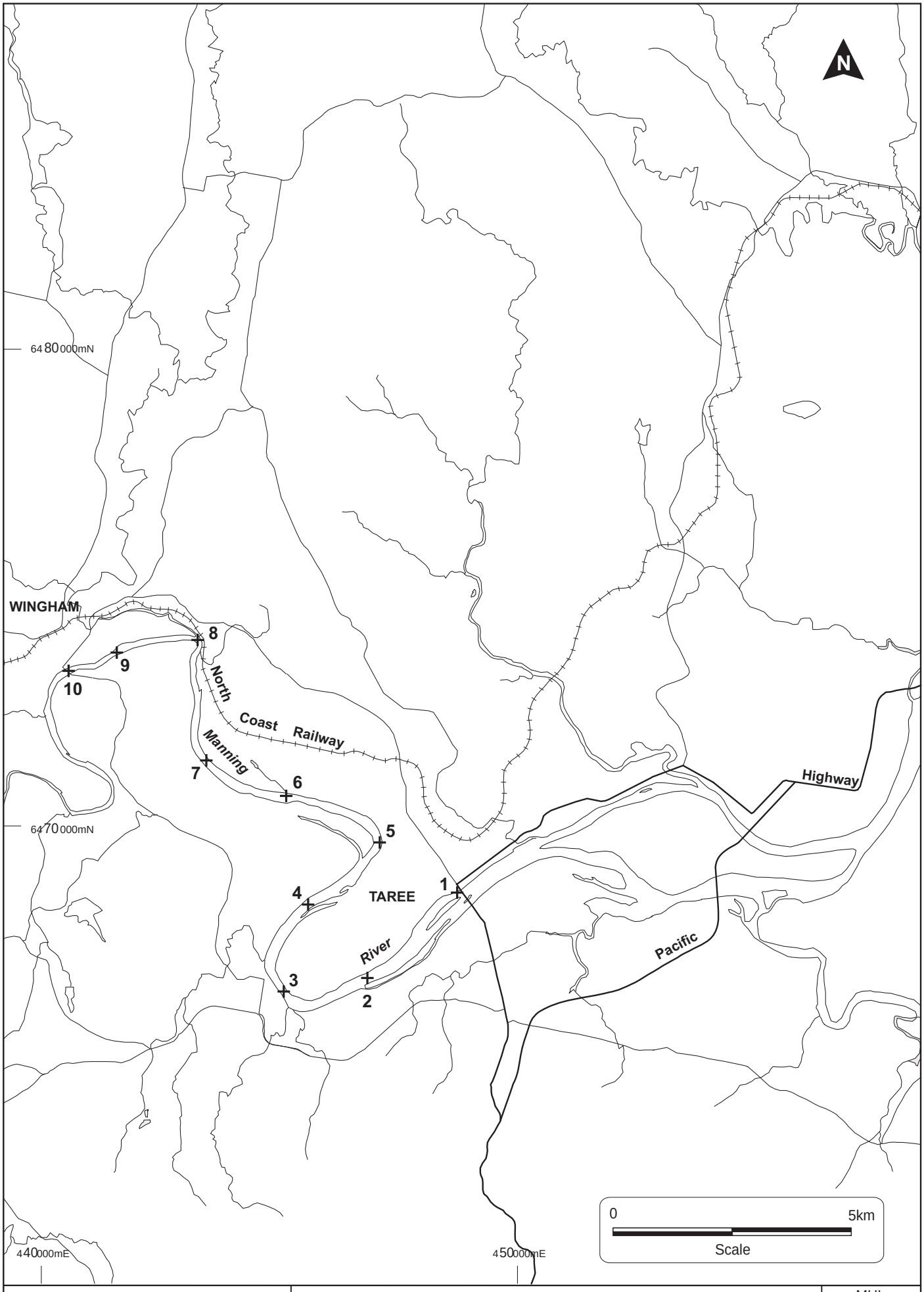
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1900	4.02	1002.9	1013.7	1010.1	16.98	18.13	17.72	5.43	19.90	14.97	WS110520046
2	1912	3.90	1001.0	1007.1	1004.8	15.68	17.01	16.42	2.56	10.84	7.70	WS110520047
3	1921	4.72	1000.4	1007.4	1004.5	14.98	17.11	16.20	1.69	11.29	7.33	WS110520048
4	1931	5.38	1000.2	1007.0	1004.8	14.78	17.08	16.35	1.37	10.78	7.73	WS110520049
5	1940	6.84	999.4	1005.4	1004.0	14.18	16.73	16.10	0.24	8.58	6.63	WS110520050
6	1948	2.11	999.3	999.5	999.4	13.89	13.97	13.92	0.11	0.29	0.17	WS110520051
7	1955	3.54	999.4	999.4	999.4	13.54	13.57	13.55	0.07	0.09	0.07	WS110520052
8	2006	5.10	999.3	999.3	999.3	13.84	13.96	13.89	0.07	0.07	0.07	WS110520053
9	2015	1.95	999.3	999.3	999.3	13.71	13.75	13.73	0.06	0.06	0.06	WS110520054
10	-	-	-	-	-	-	-	-	-	-	-	-

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors
No profile done at Station 10 on low water run due to shoals

Table 175b Water Quality Maxima and Minima - Manning River - High Water - 20 May 2011

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0002	4.93	1005.0	1013.7	1011.5	16.93	18.13	17.81	8.13	19.89	16.92	WS110520055
2	0013	6.07	1003.0	1009.0	1006.9	16.01	17.46	17.03	5.25	13.46	10.56	WS110520056
3	0021	5.42	1003.6	1007.3	1005.8	16.24	17.06	16.76	6.16	11.15	9.06	WS110520057
4	0030	6.35	1001.4	1006.9	1004.8	15.14	17.04	16.35	3.00	10.63	7.68	WS110520058
5	0039	7.11	1000.6	1005.3	1004.1	14.50	16.64	16.11	1.79	8.41	6.70	WS110520059
6	0047	3.02	1000.3	1004.4	1002.9	14.47	16.34	15.56	1.48	7.23	5.03	WS110520060
7	0055	4.71	999.4	999.7	999.5	13.79	14.08	13.96	0.19	0.51	0.36	WS110520061
8	0105	6.86	999.3	999.4	999.4	13.72	13.77	13.75	0.07	0.07	0.07	WS110520062
9	0112	2.84	999.4	999.4	999.4	13.60	13.64	13.63	0.06	0.06	0.06	WS110520063
10	0128	2.61	999.4	999.4	999.4	13.51	13.52	13.52	0.06	0.06	0.06	WS110520064

Note All profiles done with Seabird 19 which does not have chlorophyll or PAR sensors



Public Works
Manly Hydraulics Laboratory

MANNING RIVER

19 MAY 2011

MHL Report 1812

Figure 143

DRAWING 1812-143.CDR

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MANNING RIVER - HIGH AND LOW WATER
19 AND 20 May 2011

MHL Report 1812

Figure 144

DRAWING 1812-144.CDR

Wallis Lake Data Summary

Data was collected in Wallis Lake on 27, 29 and 30 March 1998, as detailed in report MHL927. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 176 to 180. The general aim was to do one set of profiles during high water slack and the other at low water slack. However, due to the complex tidal hydraulics and the size of the estuary this was difficult to achieve in practice. Therefore, although the two sets of data have been referred to as occurring at high and low water, they were actually collected closer to the end of the flood tide and the end of the ebb tide, respectively.

Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 181a to 185b. The locations at which these profiles were taken are shown in Figures 145 to 148. Long channel depth-averaged salinity profiles are shown in Figures 149 to 153.

Table 176 Wallis Lake - 27 and 30 March 1998

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity	Low Water Salinity
	Easting	Northing		(psu)	(psu)
WL1	453600	6439075	0.35	35.47	35.96
WL2	453925	6438175	2.51	35.41	36.02
WL3	452325	6437075	4.47	35.51	36.64
WL4	452875	6435175	6.38	35.54	37.13
WL5	453525	6432900	8.72	37.04	38.45
WL6	449950	6434175	-	35.83	37.82
WL7	451225	6432775	-	37.05	38.08
WL8	448850	6429000	-	38.54	38.59
WL9	451900	6429550	12.42	38.74	38.48
WL10	454150	6429750	-	38.61	38.86
WL11	452650	6427400	14.69	38.71	38.59
WL12	453050	6425050	17.02	38.73	38.88
WL13	452800	6422650	19.40	39.54	39.55
WL14	454375	6422850	-	39.76	39.48

Table 177 Wallingat River - 29 March 1998

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity	Low Water Salinity
	Easting	Northing		(psu)	(psu)
WAR1	442825	6437925	13.78	36.41	36.05
WAR2	442825	6434475	17.41	32.48	33.77
WAR3	443450	6430825	21.45	31.19	31.73
WAR4	443250	6428350	24.31	30.17	30.65
WAR5	443350	6425400	27.31	28.49	28.55
WAR6	443475	6424050	28.78	27.94	28.48
WAR7	443625	6422100	31.01	27.51	27.51

Table 178 Coolongolook River - 29 March 1998

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity	Low Water Salinity
	Easting	Northing		(psu)	(psu)
CR1	451900	6437775	3.31	35.52	35.97
CR2	448600	6436575	7.01	35.71	35.63
CR3	445525	6437025	10.43	36.80	36.25
CR4	442750	6438400	13.64	35.74	35.63
CR5	439000	6438675	17.69	34.83	33.63
CR6	437100	6435875	21.07	34.06	33.64
CR7	437000	6434300	22.67	33.37	32.63

Table 179 Wang Wauk River - 29 March 1998

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity	Low Water Salinity
	Easting	Northing		(psu)	(psu)
WWR1	438550	6438100	18.28	35.47	34.52
WWR2	437600	6439050	19.81	34.77	34.10
WWR3	437325	6440450	21.31	-	32.79

Table 180 Wallamba River - 27 and 30 March 1998

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity	Low Water Salinity
	Easting	Northing		(psu)	(psu)
WR1	452675	6438800	1.92	-	35.61
WR2	450775	6438725	3.84	35.53	35.83
WR3	449875	6439525	5.97	35.51	34.89
WR4	450325	6442600	9.17	35.15	33.12
WR5	450450	6445575	13.29	32.32	30.66
WR6	448000	6447725	17.27	29.86	29.00
WR7	446750	6445600	20.90	28.26	26.68
WR8	444075	6446650	24.80	26.33	26.16
WR9	442650	6446850	28.71	25.76	25.11
WR10	440825	6446550	31.85	23.73	24.17

Table 181a Wallis Lake - Water Quality Maxima and Minima - High Water - 27 March 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
WL1	1016	6.16	22.45	22.47	22.46	34.00	35.49	35.47	1023.36	1024.49	1024.46	-	-	-	8.3	8.3	8.3	4	6	5	927_H001
WL2	1037	2.34	22.58	22.60	22.59	35.22	35.45	35.41	1024.22	1024.41	1024.37	-	-	-	8.3	8.4	8.3	2	3	2	927_H002
WL3	1047	4.06	22.65	22.76	22.68	35.48	35.53	35.51	1024.38	1024.44	1024.42	-	-	-	8.3	8.3	8.3	3	6	4	927_H003
WL4	1058	4.40	22.20	22.43	22.37	35.49	35.64	35.54	1024.48	1024.67	1024.53	-	-	-	8.3	8.3	8.3	2	3	3	927_H004
WL5	1107	2.78	22.01	22.30	22.24	36.85	37.61	37.04	1025.55	1026.19	1025.71	-	-	-	8.3	8.3	8.3	3	5	3	927_H005
WL6	1123	5.45	22.53	22.88	22.71	30.64	36.62	35.83	1020.77	1025.22	1024.66	-	-	-	8.3	8.3	8.3	6	13	9	927_H006
WL7	1135	2.19	23.05	23.05	23.05	36.97	37.12	37.05	1025.42	1025.53	1025.48	-	-	-	9.9	9.9	9.9	7	9	8	927_H007
WL8	1148	2.85	23.00	23.04	23.02	38.51	38.55	38.54	1026.59	1026.64	1026.63	-	-	-	8.3	8.3	8.3	6	9	8	927_H008
WL9	1157	3.20	22.66	22.76	22.74	38.69	38.83	38.74	1026.81	1026.95	1026.86	-	-	-	8.3	9.9	8.9	6	8	6	927_H009
WL10	1205	2.04	23.25	23.27	23.26	38.54	38.64	38.61	1026.54	1026.63	1026.60	-	-	-	8.3	8.3	8.3	2	4	2	927_H010
WL11	1214	2.25	23.16	23.17	23.16	38.70	38.72	38.71	1026.69	1026.72	1026.71	-	-	-	8.3	9.9	8.8	3	7	3	927_H011
WL12	1223	1.42	23.22	23.22	23.22	38.63	38.79	38.73	1026.63	1026.75	1026.71	-	-	-	8.3	8.3	8.3	4	6	5	927_H012
WL13	1230	1.57	23.04	23.05	23.04	39.54	39.55	39.54	1027.37	1027.38	1027.37	-	-	-	8.3	8.3	8.3	3	12	5	927_H013
WL14	1237	1.63	22.99	22.99	22.99	39.75	39.78	39.76	1027.55	1027.57	1027.56	-	-	-	8.3	8.3	8.3	2	5	3	927_H014

Table 181b Wallis Lake - Water Quality Maxima and Minima - Low Water - 30 March 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
WL1	0703	4.99	23.03	23.12	23.08	35.93	35.99	35.96	1024.63	1024.67	1024.65	79.5	83.3	81.6	8.1	8.2	8.1	4	4	4	927_H042
WL2	0723	2.31	23.13	23.16	23.14	36.00	36.05	36.02	1024.66	1024.69	1024.67	77.7	80.7	79.0	8.2	8.2	8.2	3	4	4	927_H043
WL3	0732	4.30	23.56	23.58	23.56	36.63	36.67	36.64	1025.01	1025.04	1025.02	85.1	88.1	86.3	8.2	8.2	8.2	4	6	5	927_H044
WL4	0741	4.27	23.59	23.77	23.74	36.91	37.17	37.13	1025.21	1025.37	1025.35	80.3	88.8	87.3	8.2	8.2	8.2	4	7	5	927_H045
WL5	0749	2.80	23.60	23.67	23.62	38.38	38.64	38.45	1026.32	1026.51	1026.37	79.4	85.3	83.7	7.9	8.2	8.2	5	19	6	927_H046
WL6	0802	6.25	23.58	23.81	23.63	37.26	38.05	37.82	1025.42	1026.11	1025.90	86.9	90.5	88.9	8.2	8.2	8.2	6	9	7	927_H047
WL7	0810	2.82	23.54	23.55	23.55	38.08	38.09	38.08	1026.12	1026.13	1026.12	88.7	93.6	91.0	8.2	8.2	8.2	6	8	6	927_H048
WL8	0821	2.65	23.49	23.52	23.51	38.39	38.60	38.59	1026.37	1026.53	1026.51	94.1	95.1	94.5	8.2	8.2	8.2	6	7	6	927_H049
WL9	0830	3.35	23.50	23.60	23.52	38.46	38.66	38.48	1026.42	1026.55	1026.43	93.7	96.3	94.9	8.2	8.2	8.2	5	8	5	927_H050
WL10	0837	2.00	23.58	23.59	23.59	38.86	38.86	38.86	1026.69	1026.70	1026.70	62.5	65.7	64.1	8.1	8.1	8.1	3	4	3	927_H051
WL11	0845	2.31	23.37	23.43	23.40	38.58	38.60	38.59	1026.53	1026.57	1026.55	88.1	90.8	90.0	8.2	8.2	8.2	4	5	4	927_H052
WL12	0854	1.72	23.74	23.82	23.78	38.87	38.90	38.88	1026.64	1026.67	1026.66	88.5	91.1	89.8	8.2	8.2	8.2	4	4	4	927_H053
WL13	0901	1.59	23.79	23.81	23.80	39.54	39.55	39.55	1027.15	1027.16	1027.15	83.6	88.6	86.3	8.2	8.2	8.2	4	4	4	927_H054
WL14	0908	1.87	23.85	23.88	23.87	39.40	39.48	39.48	1027.03	1027.09	1027.08	84.6	87.9	85.6	8.2	8.2	8.2	4	5	4	927_H055

Table 182a Wallingat River - Water Quality Maxima and Minima - High Water - 29 March 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
WAR1	1240	1.56	24.61	24.62	24.61	36.40	36.43	36.41	1024.52	1024.55	1024.53	-	-	-	7.6	7.6	7.6	12	12	12	927_H015
WAR2	1254	0.97	25.04	25.18	25.09	22.87	33.97	32.48	1014.18	1022.55	1021.42	-	-	-	7.6	7.6	7.6	15	16	15	927_H016
WAR3	1306	2.30	23.84	24.72	24.39	30.88	32.43	31.19	1020.32	1021.76	1020.65	-	-	-	7.6	7.6	7.6	6	15	9	927_H017
WAR4	1315	2.11	23.80	24.68	24.50	30.04	30.77	30.17	1019.70	1020.51	1019.85	-	-	-	7.6	7.6	7.6	8	11	9	927_H018
WAR5	1327	1.86	24.60	24.88	24.81	28.45	28.62	28.49	1018.44	1018.65	1018.49	-	-	-	7.6	7.6	7.6	6	6	6	927_H019
WAR6	1338	2.95	24.20	24.81	24.66	27.75	28.33	27.94	1017.94	1018.38	1018.13	-	-	-	7.6	7.6	7.6	6	8	7	927_H020
WAR7	1348	1.61	24.40	24.62	24.49	27.42	27.57	27.51	1017.74	1017.92	1017.84	-	-	-	7.6	7.6	7.6	4	4	4	927_H021

Table 182b Wallingat River - Water Quality Maxima and Minima - Low Water - 29 March 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
WAR1	0700	1.32	23.65	23.69	23.66	36.03	36.11	36.05	1024.52	1024.58	1024.54	90.5	93.6	92.8	7.8	7.9	7.9	12	15	13	927_H056
WAR2	0711	0.86	23.90	24.07	23.93	33.38	34.44	33.77	1022.44	1023.20	1022.73	86.9	90.3	89.1	8.0	8.0	8.0	8	12	9	927_H057
WAR3	0722	2.03	23.32	23.46	23.39	30.78	33.08	31.73	1020.64	1022.37	1021.35	83.5	96.8	93.6	8.0	8.0	8.0	6	14	7	927_H058
WAR4	0735	1.79	23.55	23.76	23.64	29.91	31.44	30.65	1019.92	1021.05	1020.46	75.1	89.8	85.7	7.9	7.9	7.9	5	9	6	927_H059
WAR5	0745	1.55	23.57	24.07	23.69	28.31	29.22	28.55	1018.71	1019.26	1018.86	72.3	74.7	73.6	7.7	7.7	7.7	4	5	4	927_H060
WAR6	0753	2.38	23.52	24.57	24.03	27.86	28.98	28.48	1018.38	1018.94	1018.71	59.9	66.6	62.9	7.5	7.5	7.5	4	5	4	927_H061
WAR7	0809	1.81	23.71	24.25	24.06	27.22	27.71	27.51	1017.85	1018.21	1017.97	40.4	51.3	45.1	7.4	7.4	7.4	4	5	4	927_H062

Table 183a Coolongolook River - Water Quality Maxima and Minima - High Water - 29 March 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
WL1	1147	5.58	22.72	22.85	22.79	35.52	35.55	35.55	1024.39	1024.46	1024.42	98.3	100.3	99.5	8.3	8.3	8.3	3	4	4	927_H022
CR1	1159	2.19	22.95	22.99	22.97	35.46	35.55	35.52	1024.29	1024.37	1024.34	97.0	99.3	98.3	8.3	8.3	8.3	3	4	4	927_H023
CR2	1214	1.71	23.53	23.71	23.59	35.69	35.72	35.71	1024.25	1024.32	1024.30	99.4	102.1	100.5	8.2	8.2	8.2	6	8	7	927_H024
CR3	1227	1.91	24.21	24.37	24.31	36.70	36.85	36.80	1024.86	1024.95	1024.92	100.5	103.0	101.8	8.1	8.1	8.1	11	12	11	927_H025
CR4	1241	2.24	23.87	25.58	25.05	35.47	36.29	35.74	1023.54	1024.67	1023.89	90.4	105.5	99.9	8.0	8.1	8.1	5	13	8	927_H026
CR5	1254	2.05	24.48	25.35	25.20	34.71	35.43	34.83	1023.02	1023.83	1023.15	83.3	101.3	98.4	8.0	8.0	8.0	5	7	6	927_H027
CR6	1306	1.24	24.61	24.81	24.73	34.04	34.10	34.06	1022.68	1022.78	1022.72	83.2	85.0	84.2	7.9	7.9	7.9	7	8	7	927_H028
CR7	1315	4.33	23.84	25.13	24.49	33.13	33.53	33.37	1021.94	1022.58	1022.27	58.9	77.3	70.4	7.7	7.8	7.8	6	7	6	927_H029

Table 183b Coolongolook River - Water Quality Maxima and Minima - Low Water - 29 March 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
WL1	0546	6.70	22.84	22.88	22.86	35.64	35.76	35.71	1024.47	1024.57	1024.53	-	-	-	8.2	8.2	8.2	9	10	9	927_H063
CR1	0603	1.69	22.93	22.94	22.94	35.42	36.26	35.97	1024.27	1024.91	1024.69	-	-	-	8.2	8.2	8.2	6	7	7	927_H064
CR2	0621	1.25	23.38	23.39	23.39	34.71	36.09	35.63	1023.61	1024.65	1024.30	-	-	-	7.8	7.8	7.8	8	9	9	927_H065
CR3	0636	0.72	23.42	23.44	23.43	36.13	36.35	36.25	1024.67	1024.83	1024.76	-	-	-	7.7	7.8	7.7	13	13	13	927_H066
CR4	0701	3.05	23.72	24.30	23.91	34.44	36.22	35.63	1023.31	1024.66	1024.15	-	-	-	7.8	7.8	7.8	8	16	9	927_H067
CR5	0718	1.84	24.25	24.67	24.41	33.44	33.70	33.63	1022.27	1022.58	1022.49	-	-	-	7.8	7.8	7.8	7	8	8	927_H068
CR6	0734	1.41	23.95	23.96	23.96	33.59	33.70	33.64	1022.59	1022.68	1022.63	-	-	-	7.7	7.7	7.7	9	10	10	927_H069
CR7	0747	1.69	23.69	23.78	23.72	32.61	32.65	32.63	1021.91	1021.95	1021.93	-	-	-	7.8	7.8	7.8	8	9	9	927_H070

Table 184a Wang Wauk River - Water Quality Maxima and Minima - High Water - 29 March 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
WWR1	1331	3.82	24.21	26.16	24.60	34.63	35.94	35.47	1022.81	1024.31	1023.82	50.0	108.9	81.2	7.9	8.1	8.0	5	8	6	927_H030
WWR2	1340	1.93	25.70	25.81	25.75	34.75	34.80	34.77	1022.92	1022.98	1022.94	95.6	99.7	97.9	8.0	8.0	8.0	7	8	8	927_H031

Table 184b Wang Wauk River - Water Quality Maxima and Minima - Low Water - 29 March 1998

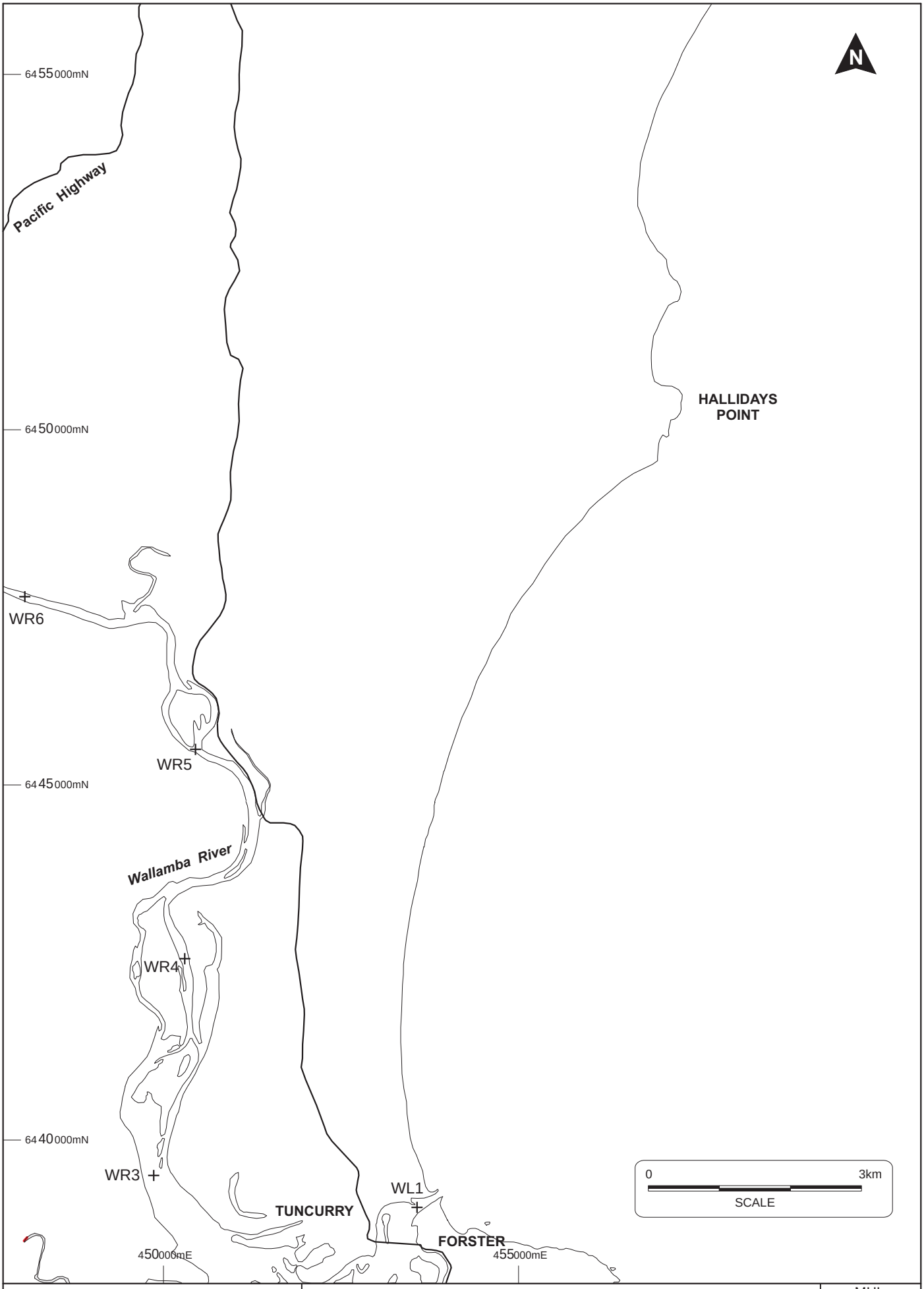
Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
WWR1	0809	2.98	24.22	24.45	24.34	34.12	35.07	34.52	1022.89	1023.64	1023.19	-	-	-	7.8	7.8	7.8	6	9	7	927_H071
WWR2	0821	2.20	24.39	24.56	24.47	33.94	34.21	34.10	1022.71	1022.94	1022.83	-	-	-	7.8	7.8	7.8	9	14	11	927_H072
WWR3	0833	2.88	24.05	24.67	24.54	32.59	32.96	32.79	1021.68	1021.94	1021.81	-	-	-	7.7	7.7	7.7	5	6	5	927_H073

Table 185a Wallamba River - Water Quality Maxima and Minima - High Water - 27 March 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
WR1	1032	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	927_H032
WR2	1041	2.67	22.59	22.64	22.60	35.53	35.54	35.53	1024.44	1024.47	1024.46	104.8	105.7	105.0	8.3	8.3	8.3	4	4	4	927_H033
WR3	1050	2.23	22.37	22.41	22.38	35.51	35.52	35.51	1024.49	1024.51	1024.51	87.0	87.7	87.3	8.2	8.2	8.2	8	11	9	927_H034
WR4	1100	2.02	22.42	22.79	22.54	35.10	35.19	35.15	1024.09	1024.25	1024.19	79.1	81.7	80.1	8.0	8.0	8.0	7	11	9	927_H035
WR5	1113	3.16	23.38	24.02	23.81	32.17	32.68	32.32	1021.50	1022.08	1021.67	71.7	81.2	78.6	7.9	7.9	7.9	6	10	7	927_H036
WR6	1126	2.73	24.54	24.80	24.71	28.94	30.32	29.86	1018.85	1019.91	1019.56	64.7	93.0	71.8	7.8	7.9	7.8	4	6	5	927_H037
WR7	1139	3.26	25.14	25.51	25.42	27.22	28.68	28.26	1017.43	1018.44	1018.14	41.8	63.7	48.6	7.6	7.7	7.6	4	6	5	927_H038
WR8	1150	5.95	25.09	25.94	25.56	21.44	27.17	26.33	1012.88	1017.25	1016.66	18.4	57.6	33.9	7.5	7.7	7.6	0	83	5	927_H039
WR9	1202	2.92	25.00	25.66	25.45	25.01	25.99	25.76	1015.81	1016.38	1016.25	2.1	38.7	14.1	7.5	7.6	7.5	7	13	10	927_H040
WR10	1211	2.38	25.29	25.38	25.33	23.29	24.16	23.73	1014.43	1015.09	1014.76	9.3	50.3	29.9	7.5	7.6	7.5	5	6	5	927_H041

Table 185b Wallamba River - Water Quality Maxima and Minima - Low Water - 30 March 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
WR1	0716	0.82	23.19	23.19	23.19	35.59	35.63	35.61	1024.33	1024.36	1024.35	-	-	-	7.7	7.7	7.7	7	9	8	927_H074
WR2	0723	2.36	23.58	23.59	23.58	35.80	35.88	35.83	1024.37	1024.44	1024.40	-	-	-	7.7	7.7	7.7	9	10	9	927_H075
WR3	0732	1.65	24.04	24.10	24.08	34.87	34.98	34.89	1023.52	1023.60	1023.54	-	-	-	7.7	7.7	7.7	10	13	12	927_H076
WR4	0742	1.73	24.25	24.28	24.27	33.10	33.17	33.12	1022.12	1022.19	1022.15	-	-	-	7.7	7.7	7.7	11	13	12	927_H077
WR5	0756	2.21	24.38	24.55	24.49	30.56	30.83	30.66	1020.15	1020.38	1020.23	-	-	-	7.7	7.7	7.7	8	9	8	927_H078
WR6	0809	3.59	24.98	25.13	25.08	28.80	29.40	29.00	1018.64	1019.14	1018.80	-	-	-	7.7	7.7	7.7	9	12	10	927_H079
WR7	0820	1.69	24.92	25.21	25.04	26.62	26.73	26.68	1016.97	1017.13	1017.06	-	-	-	7.7	7.7	7.7	6	6	6	927_H080
WR8	0832	5.34	25.21	25.59	25.44	25.84	26.71	26.16	1016.27	1016.99	1016.56	-	-	-	7.7	7.7	7.7	5	6	5	927_H081
WR9	0843	3.18	24.88	25.75	25.37	24.87	25.34	25.11	1015.52	1016.10	1015.79	-	-	-	7.7	7.7	7.7	6	7	7	927_H082
WR10	0854	1.50	24.85	24.88	24.86	24.16	24.18	24.17	1015.21	1015.24	1015.22	-	-	-	7.7	7.7	7.7	8	10	9	927_H083



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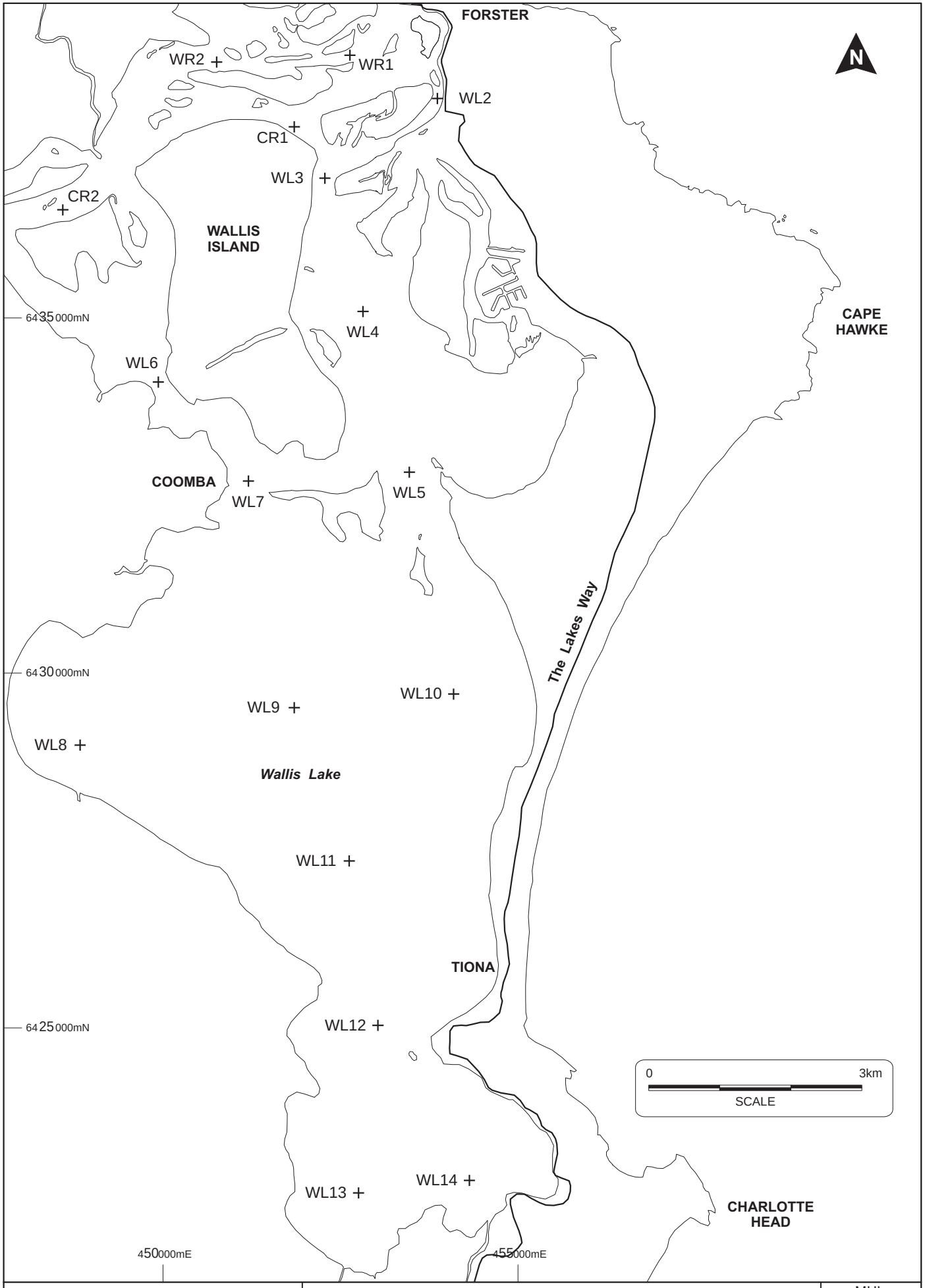
WALLIS LAKE ESTUARY

NORTH EASTERN SECTION - 27 TO 30 MARCH 1998

MHL Report 1812

Figure 145

DRAWING 1812-145.CDR



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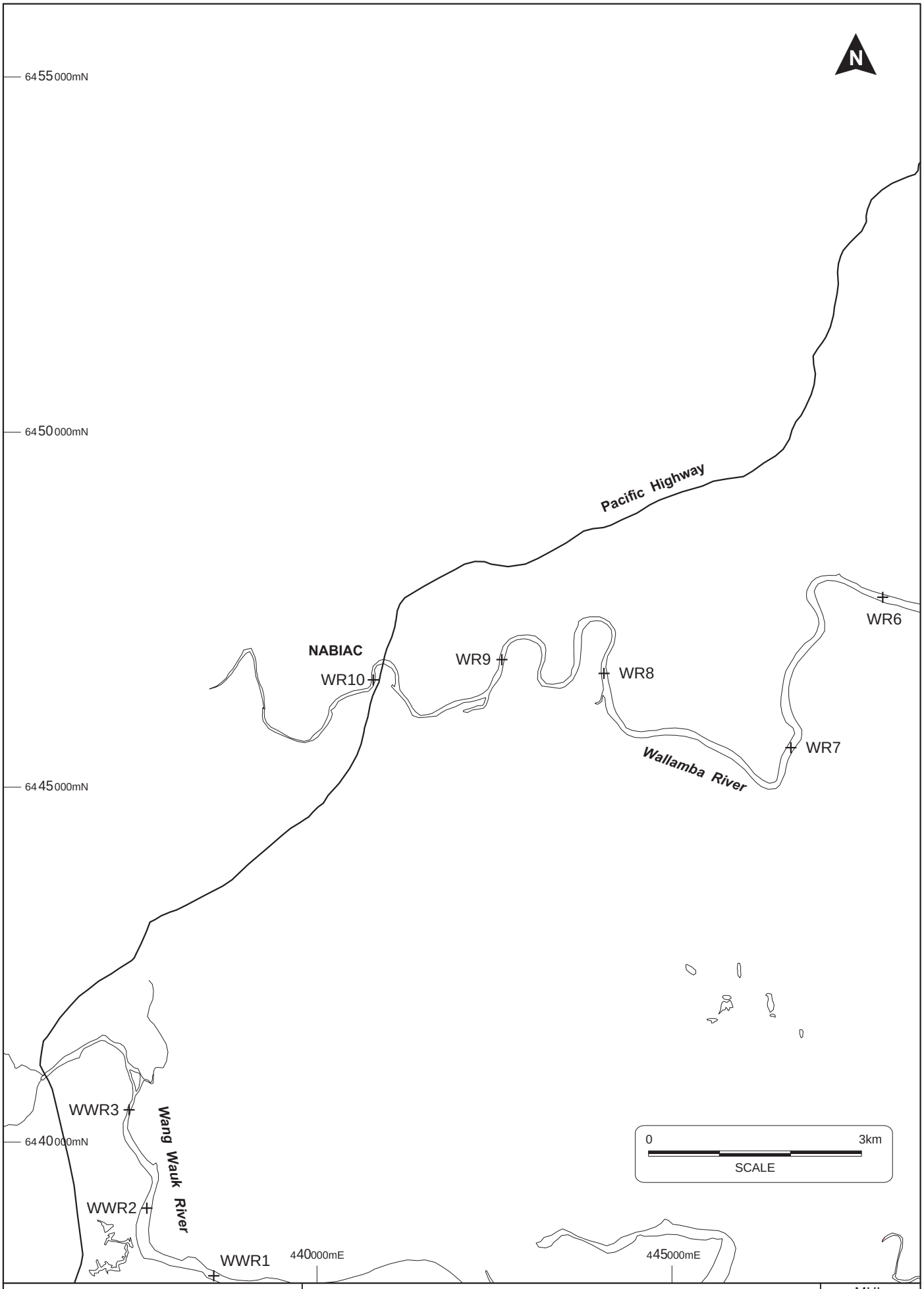
WALLIS LAKE ESTUARY

SOUTH EASTERN SECTION - 27 TO 30 MARCH 1998

MHL Report 1812

Figure 146

DRAWING 1812-146.CDR



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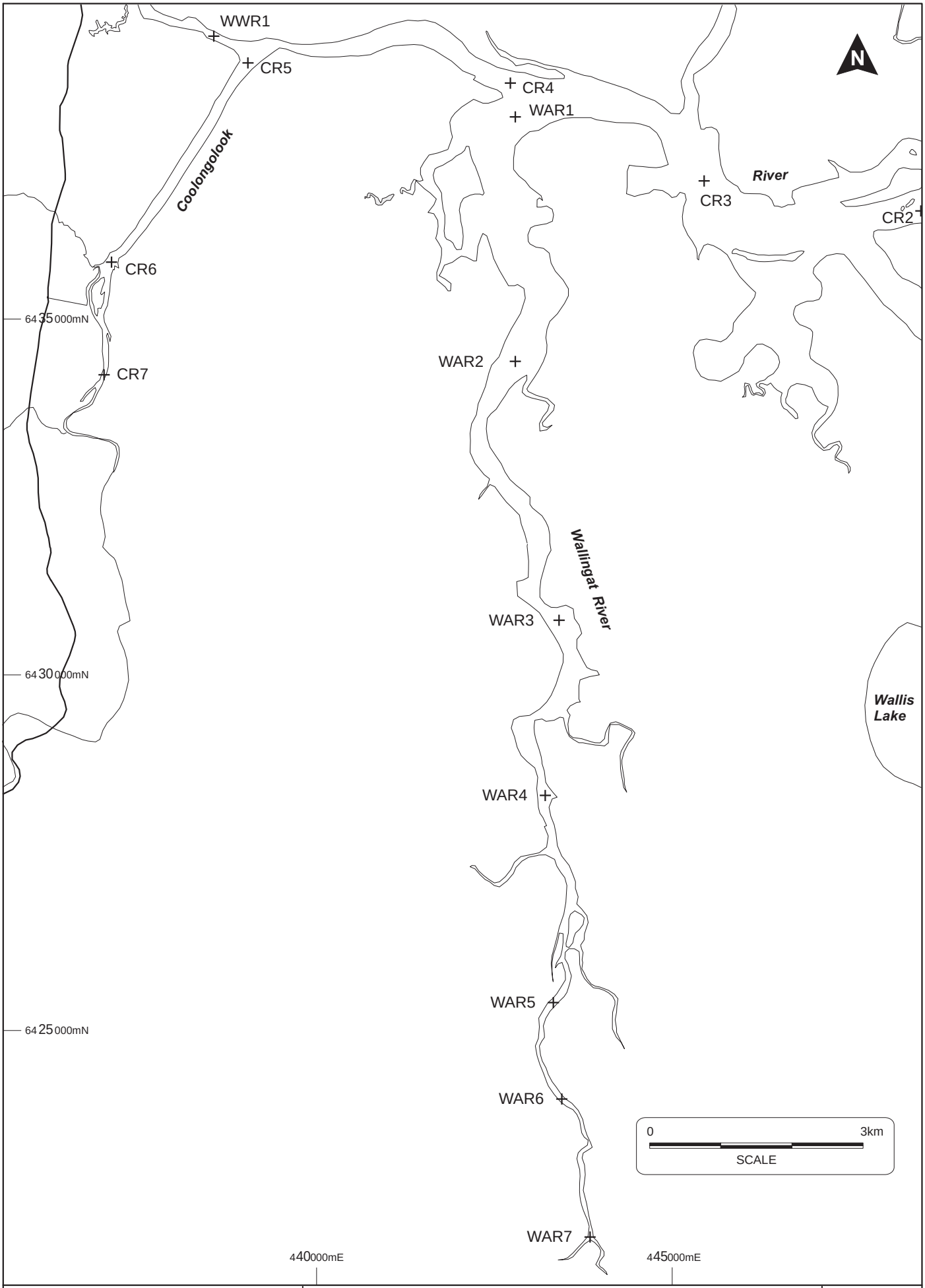
WALLIS LAKE ESTUARY

NORTH WESTERN SECTION - 27 TO 30 MARCH 1998

MHL Report 1812

Figure 147

DRAWING 1812-147.CDR



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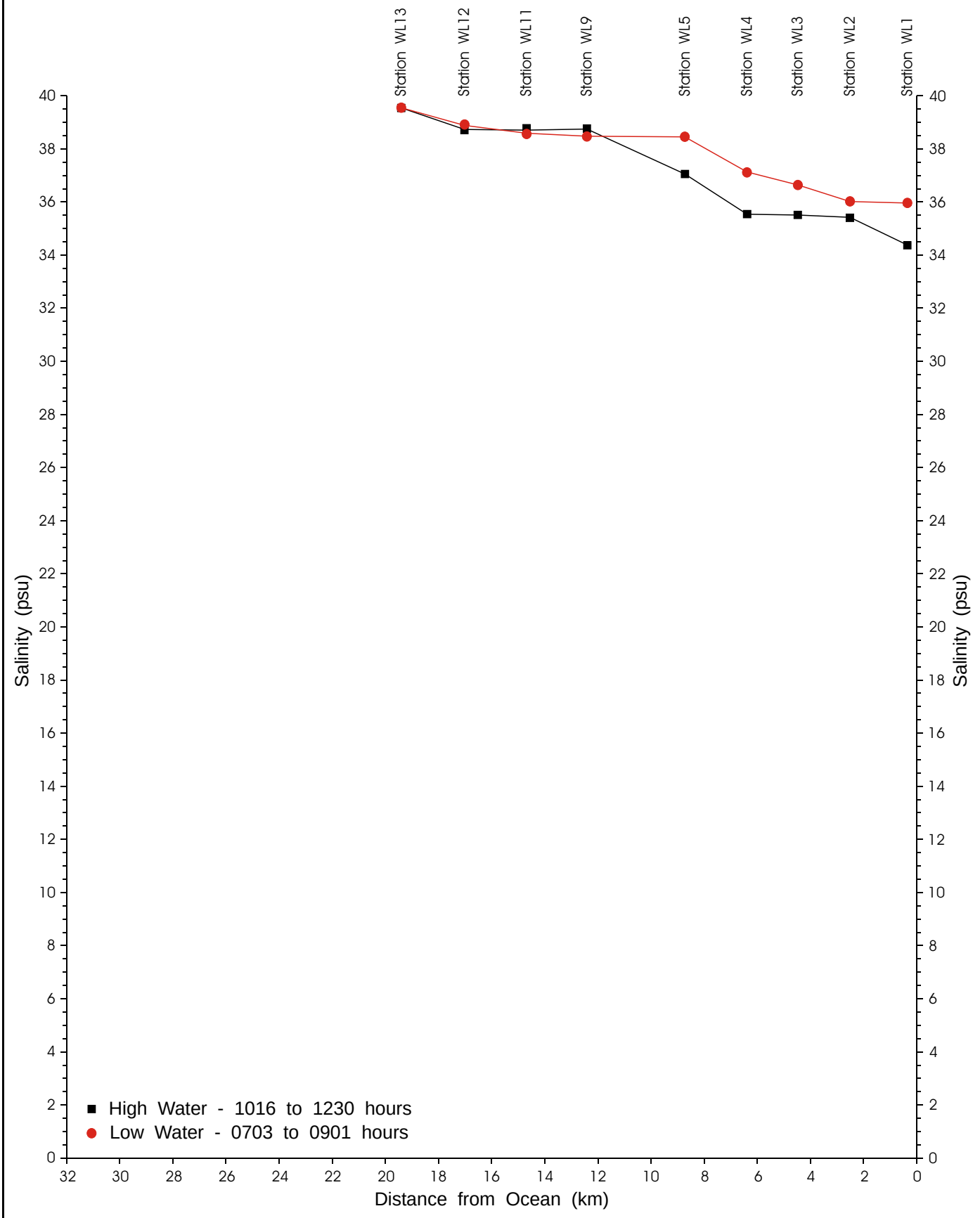
WALLIS LAKE ESTUARY

SOUTH WESTERN SECTION - 27 TO 30 MARCH 1998

MHL Report 1812

Figure 148

DRAWING 1812-148.CDR



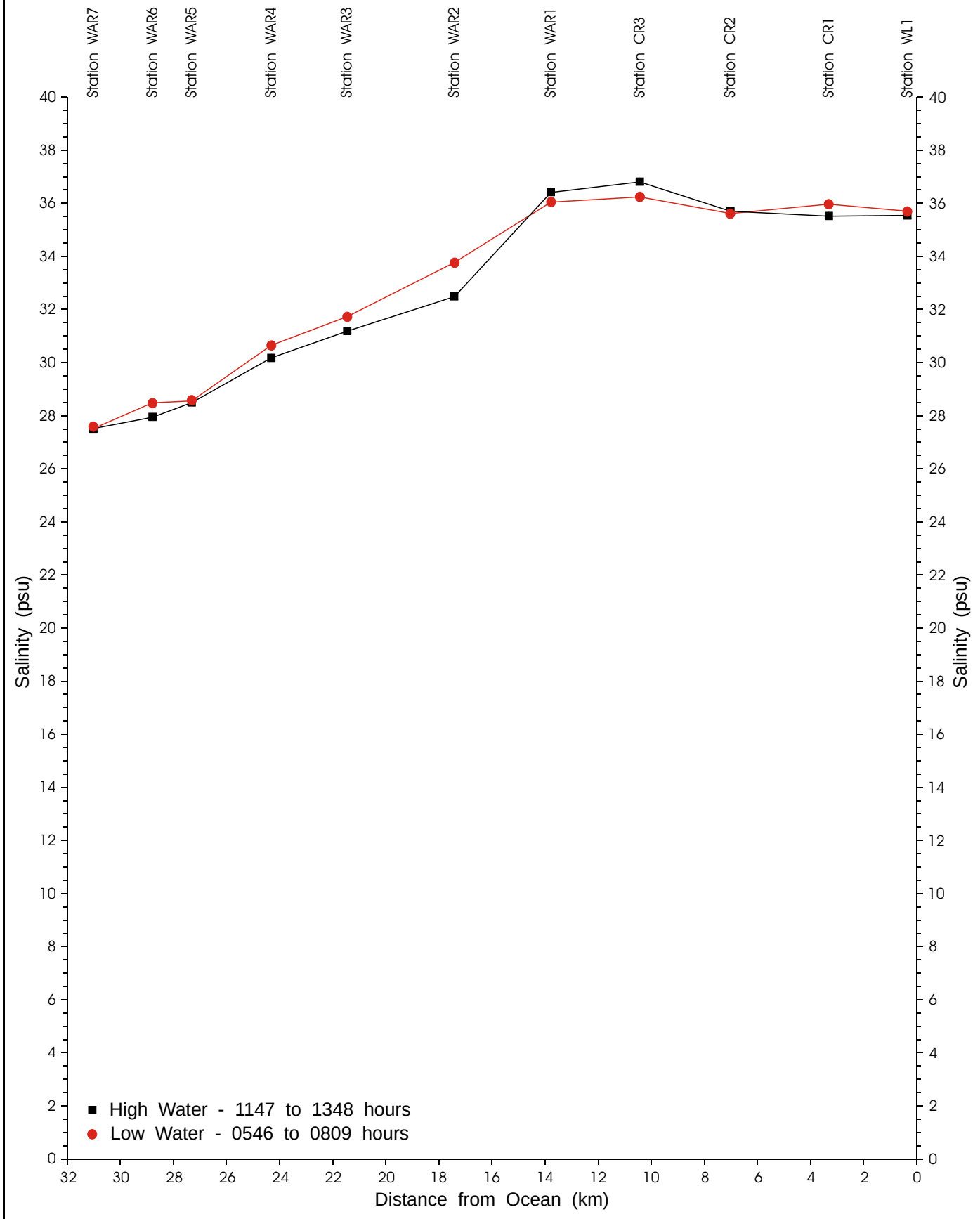
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
THE ENTRANCE TO WALLIS LAKE
FIRST AND SECOND RUN - 27 AND 30 MARCH 1998

MHL Report 1812

Figure 149

DRAWING 1812-149.CDR



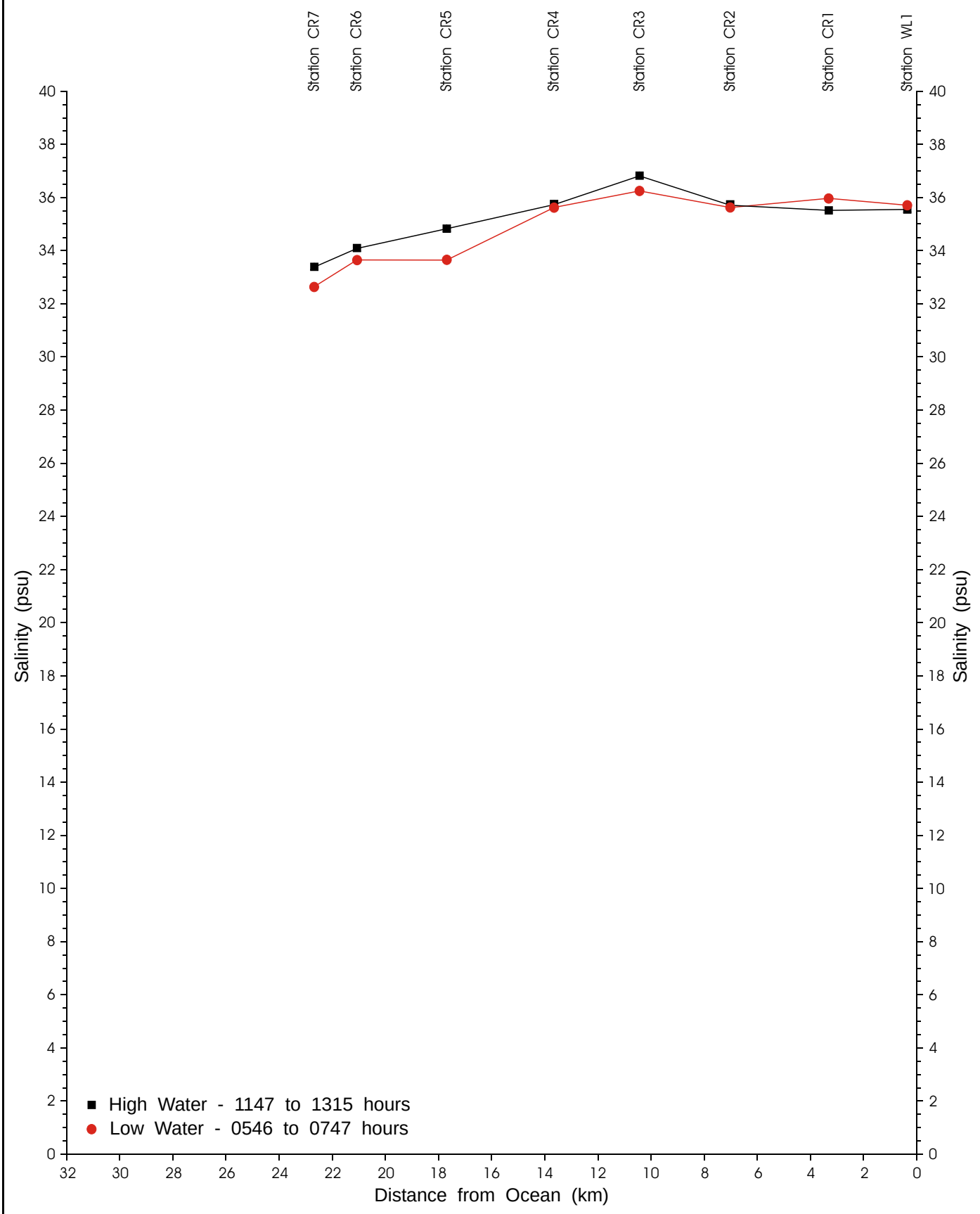
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
THE ENTRANCE TO WALLINGAT RIVER
FIRST AND SECOND RUN - 29 MARCH 1998

MHL Report 1812

Figure 150

DRAWING 1812-150.CDR



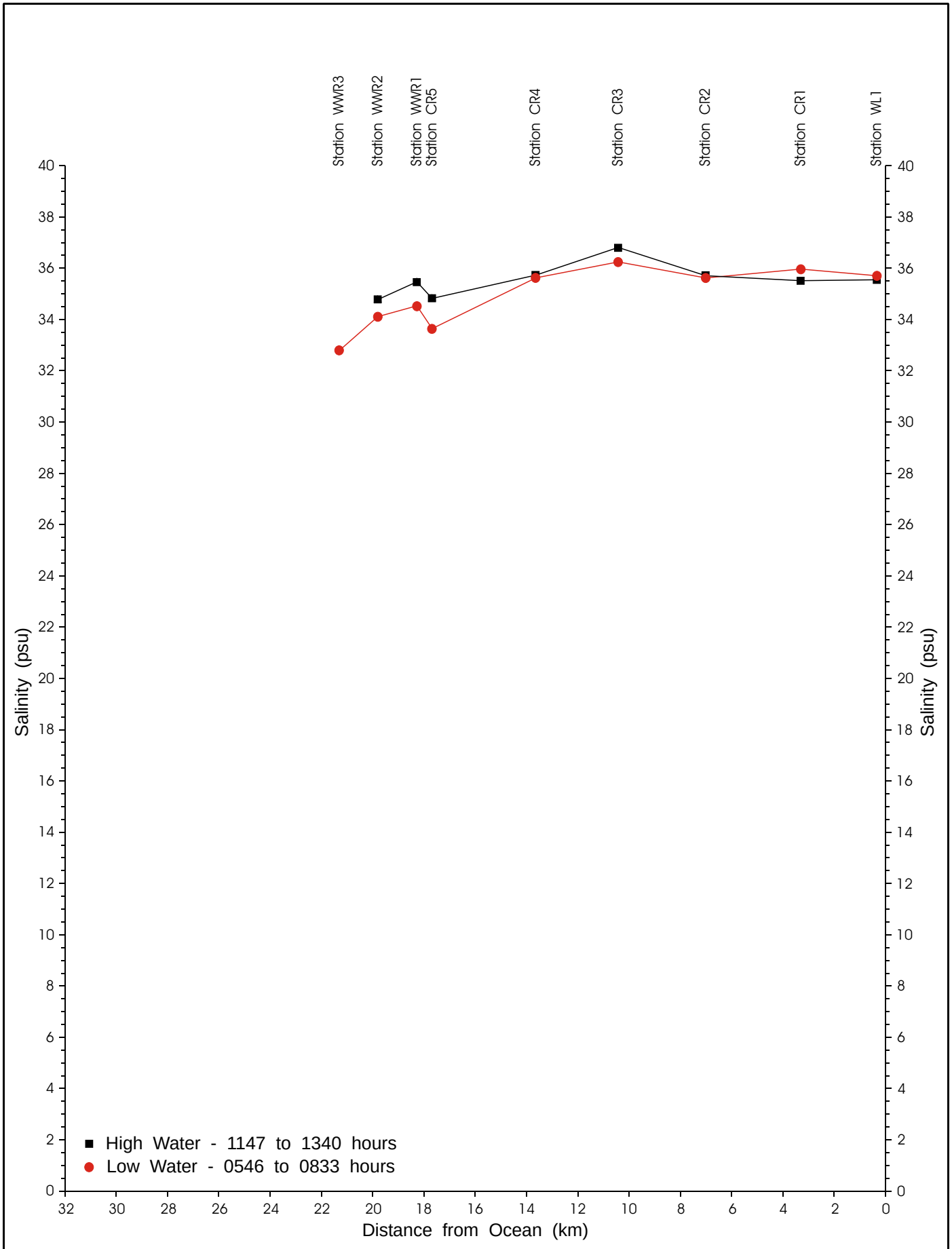
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
THE ENTRANCE TO COOLONGOLOOK RIVER
FIRST AND SECOND RUN - 29 MARCH 1998

MHL Report 1812

Figure 151

DRAWING 1812-151.CDR



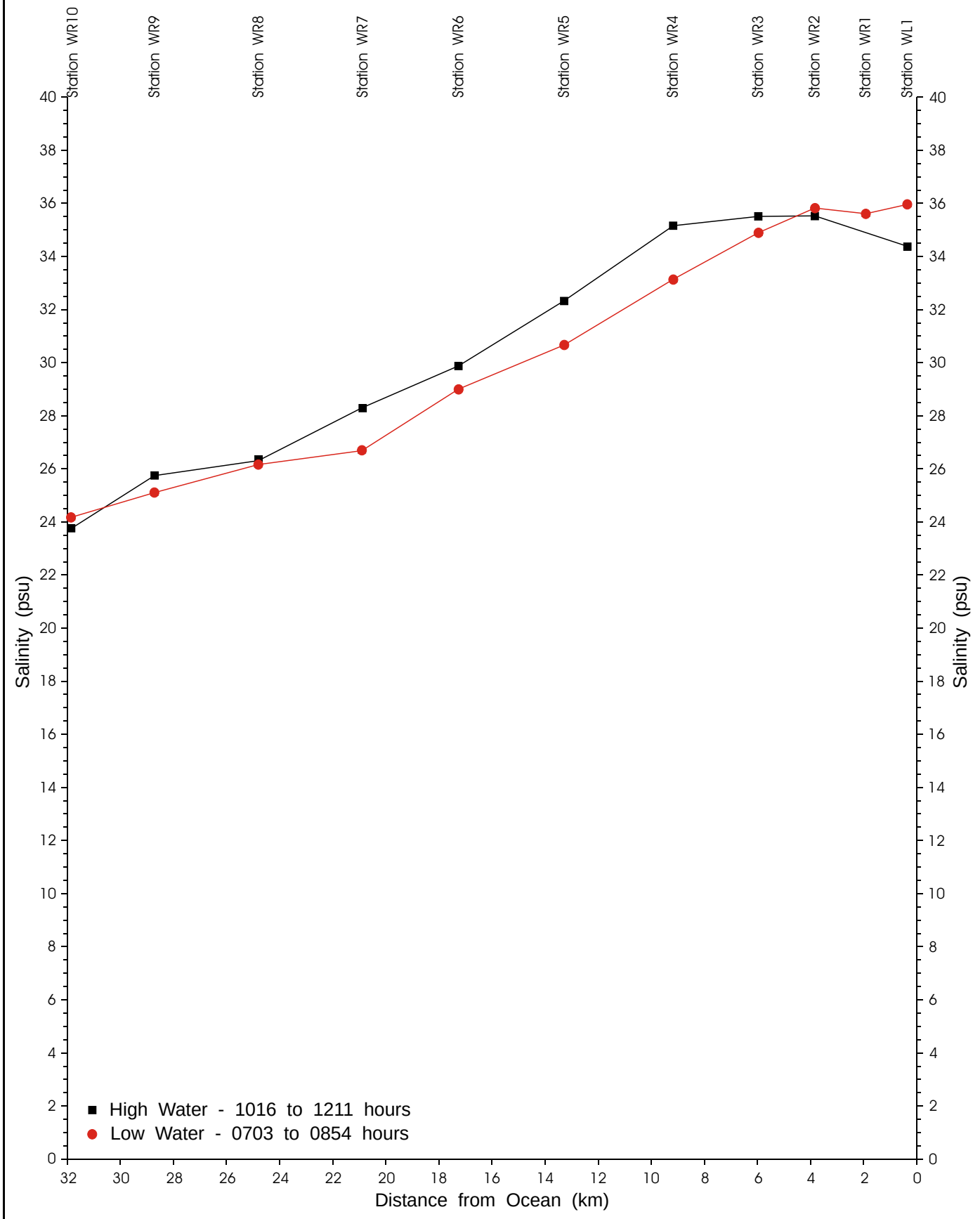
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
THE ENTRANCE TO WANG WAUK RIVER
FIRST AND SECOND RUN - 29 MARCH 1998

MHL Report 1812

Figure 152

DRAWING 1812-152.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
THE ENTRANCE TO WALLAMBA RIVER
FIRST AND SECOND RUN - 27 AND 30 MARCH 1998

MHL Report 1812

Figure 153

DRAWING 1812-153.CDR

Smiths Lake Data Summary

Data was collected in Smiths Lake on 14, 15 and 16 November 1995, as detailed in report MHL753. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 186a-b. Summaries of the minimum, maximum and mean values for all parameters measured on the five separate runs are shown in Tables 187 to 191. The locations at which these profiles were taken are shown in Figure 154.

Long channel depth-averaged salinity profiles have not been plotted from this data because the variations in the minimum and maximum salinity throughout the lake were insignificant on all five runs.

Table 186a Smiths Lake - 14 and 15 November 1995

Station No.		MGA (m) Zone 56		Chainage (km)	First Run Salinity		Second Run Salinity		Third Run Salinity	
					Min (psu)	Max (psu)	Min (psu)	Max (psu)	Min (psu)	Max (psu)
Old	New	Easting	Northing							
001	1	454453	6417411	2.15	24.878	24.892	24.917	24.945	24.806	24.976
002	2	454041	6417068	1.53	24.695	24.924	24.926	24.941	24.849	24.972
003	3	454617	6415949	0.43	24.960	24.973	25.029	25.035	25.023	25.059
004	4	453882	6416153	1.10	24.926	24.933	24.929	24.955	24.955	24.993
005	5	453148	6415848	1.77	24.813	24.895	24.840	24.926	24.822	24.942
006	6	452862	6416146	2.31	23.927	24.882	24.844	24.924	24.633	24.911
007	7	452352	6416570	3.31	24.528	25.012	24.796	24.918	24.794	24.892
008	8	451785	6417476	3.94	24.754	24.852	24.851	24.873	24.543	24.898
08A	9	451496	6417853	4.56	24.839	24.884	24.730	24.865	24.710	24.930
009	10	450874	6418319	5.25	24.834	24.866	24.743	24.872	24.865	24.905
010	11	450896	6417462	4.60	24.828	24.858	24.845	24.874	24.738	24.886
011	12	451290	6416825	4.01	24.837	24.863	24.834	24.870	24.787	24.881
012	13	450908	6416140	4.16	24.834	24.850	24.833	24.899	24.777	24.890
013	14	450415	6415704	4.52	24.838	24.850	24.856	24.897	24.896	24.995
014	15	449885	6416189	5.04	24.841	24.859	24.813	24.876	24.914	25.005
14A	16	449640	6417133	5.85	24.792	24.813	24.822	24.888	24.900	25.073
?	17	450337	6417205	5.88	24.830	24.854	24.803	24.877	24.750	25.340
?	18	449370	6418045	6.97	25.010	25.014	24.996	25.028	25.004	25.519

Station numbers have been modified for this report and therefore are different to the station numbers that were used in MHL753

Table 186b Smiths Lake - 15 and 16 November 1995

Station No.		MGA (m) Zone 56		Chainage (km)	Fourth Run Salinity		Fifth Run Salinity	
					Min (psu)	Max (psu)	Min (psu)	Max (psu)
Old	New	Easting	Northing					
001	1	454453	6417411	2.15	24.823	24.938	24.858	24.915
002	2	454041	6417068	1.53	24.746	24.958	23.250	25.013
003	3	454617	6415949	0.43	25.031	25.031	95.865	96.125
004	4	453882	6416153	1.10	24.966	24.978	25.081	25.105
005	5	453148	6415848	1.77	24.587	24.907	23.823	25.007
006	6	452862	6416146	2.31	24.741	24.920	24.878	24.902
007	7	452352	6416570	3.31	24.737	24.876	24.837	24.878
008	8	451785	6417476	3.94	24.775	24.871	24.837	24.891
08A	9	451496	6417853	4.56	24.876	24.892	24.853	24.909
009	10	450874	6418319	5.25	24.888	24.898	24.877	24.943
010	11	450896	6417462	4.60	24.846	24.883	24.892	24.897
011	12	451290	6416825	4.01	24.628	24.885	24.882	24.891
012	13	450908	6416140	4.16	24.753	24.883	24.862	24.892
013	14	450415	6415704	4.52	24.864	24.872	24.836	24.890
014	15	449885	6416189	5.04	24.870	24.877	24.851	24.898
14A	16	449640	6417133	5.85	24.800	24.906	24.886	24.919
?	17	450337	6417205	5.88	24.682	24.860	24.873	24.111
?	18	449370	6418045	6.97	24.820	25.075	25.107	25.966

Station numbers have been modified for this report and are different to the station numbers used in MHL753

Table 187 Smiths Lake - Water Quality Maxima and Minima - First Run - 14 November 1995

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		Dissolved O_2 (mg/L)		Dissolved O_2 (% sat)		pH		Backscatterance (NTU)		File Name *.POF
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1225	2.00	22.34	22.36	24.878	24.892	1016.46	1016.47	6.0	6.5	80.2	86.9	8.1	8.1	13	16	753A001
2	1232	5.20	22.31	22.36	24.695	24.924	1016.35	1016.52	5.8	6.4	77.2	85.7	8.0	8.0	14	15	753A002
3	1241	0.80	22.30	22.32	24.960	24.973	1016.53	1016.54	5.3	6.7	70.8	89.7	8.1	8.1	21	21	753A003
4	1248	1.40	22.39	22.41	24.926	24.933	1016.48	1016.49	5.9	6.7	78.9	88.9	8.1	8.1	37	39	753A004
5	1254	4.80	22.12	22.61	24.813	24.895	1016.37	1016.55	5.4	6.2	72.8	83.3	7.8	8.0	39	46	753A005
6	1258	4.60	22.24	22.63	23.927	24.882	1015.76	1016.48	4.5	6.2	59.7	83.3	8.0	8.0	39	183	753A006
7	1304	3.60	22.87	22.98	24.528	25.012	1016.03	1016.39	0.8	8.1	10.7	110.0	8.0	8.0	38	43	753A007
8	1311	4.20	22.67	23.15	24.754	24.852	1016.20	1016.35	5.6	6.2	75.1	83.6	8.0	8.0	40	44	753A008
9	1316	2.60	23.17	23.55	24.839	24.884	1016.12	1016.23	6.0	6.7	82.2	91.8	8.0	8.1	41	43	753A009
10	1321	2.60	23.08	23.19	24.834	24.866	1016.21	1016.25	5.6	6.1	76.2	82.8	8.0	8.0	42	43	753A010
11	1327	4.00	22.77	23.04	24.828	24.858	1016.24	1016.33	5.6	6.4	75.0	85.4	8.0	8.0	46	47	753A011
12	1340	4.40	22.76	22.81	24.837	24.863	1016.30	1016.34	5.8	6.5	78.0	87.4	8.0	8.0	52	53	753A012
13	1346	4.80	22.71	22.72	24.834	24.850	1016.33	1016.35	5.5	6.3	73.6	85.1	8.0	8.0	55	64	753A013
14	1353	3.60	22.68	22.68	24.838	24.850	1016.34	1016.36	5.7	6.3	76.3	84.7	8.0	8.0	45	46	753A014
15	1401	3.80	22.74	22.77	24.841	24.859	1016.32	1016.35	5.8	6.4	77.7	86.4	8.0	8.0	50	51	753A015
16	1408	2.80	22.84	22.89	24.792	24.813	1016.25	1016.28	5.7	6.3	77.2	84.5	8.0	8.0	45	45	753A016
17	1413	3.40	22.90	22.98	24.830	24.854	1016.26	1016.29	5.5	6.6	74.6	89.3	8.0	8.0	12	16	753A017
18	1423	1.00	22.82	22.83	25.010	25.014	1016.43	1016.43	4.8	5.1	64.1	68.3	7.6	7.6	8	8	753A018

Table 188 Smiths Lake - Water Quality Maxima and Minima - Second Run - 15 November 1995

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		Dissolved O_2 (mg/L)		Dissolved O_2 (% sat)		pH		Backscatterance (NTU)		File Name *.POF
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	0854	1.40	21.89	22.08	24.917	24.945	1016.57	1016.64	6.1	6.4	80.6	84.9	8.0	8.0	9	9	753A019
2	0858	5.20	21.73	22.00	24.926	24.941	1016.59	1016.69	5.6	6.3	74.4	83.8	8.0	8.0	9	9	753A020
3	0904	0.60	21.38	21.38	25.029	25.035	1016.83	1016.83	5.4	6.0	70.8	78.3	8.1	8.1	8	8	753A021
4	0909	1.00	21.54	21.73	24.929	24.955	1016.67	1016.73	5.3	5.9	69.2	77.4	8.0	8.0	8	8	753A022
5	0913	4.60	21.75	22.34	24.840	24.926	1016.45	1016.67	5.6	6.1	74.6	81.1	8.0	8.0	9	11	753A023
6	0917	4.40	21.72	22.49	24.844	24.924	1016.40	1016.68	5.4	6.1	71.9	80.5	8.0	8.0	9	14	753A024
7	0922	4.20	21.95	22.83	24.796	24.918	1016.30	1016.61	5.5	6.2	73.4	82.5	8.0	8.0	9	18	753A025
8	0928	4.20	22.46	22.84	24.851	24.873	1016.32	1016.44	5.5	6.1	73.6	81.2	8.0	8.0	7	9	753A026
9	0932	2.80	22.56	22.98	24.730	24.865	1016.26	1016.40	5.3	5.9	71.9	79.3	7.4	8.0	10	11	753A027
10	0937	2.20	22.39	22.91	24.743	24.872	1016.21	1016.45	5.3	6.1	70.9	80.8	8.0	8.0	9	11	753A028
11	0942	3.80	22.39	22.77	24.845	24.874	1016.34	1016.46	5.3	6.2	70.7	82.7	8.0	8.0	8	14	753A029
12	0946	4.60	22.31	23.01	24.834	24.870	1016.27	1016.48	5.0	6.3	67.5	83.4	8.0	8.0	8	10	753A030
13	0951	4.40	21.96	22.83	24.833	24.899	1016.32	1016.58	4.9	6.2	66.4	82.4	8.0	8.0	6	12	753A031
14	0955	3.40	22.16	22.49	24.856	24.897	1016.43	1016.53	5.2	6.3	69.7	83.1	8.0	8.0	6	9	753A032
15	1000	3.80	22.22	23.23	24.813	24.876	1016.20	1016.51	5.4	6.2	72.8	83.0	8.0	8.0	7	8	753A033
16	1005	2.80	22.21	22.67	24.822	24.888	1016.37	1016.50	5.2	6.1	70.0	80.6	8.0	8.0	7	9	753A034
17	1009	2.80	22.34	23.08	24.803	24.877	1016.26	1016.47	5.4	6.2	72.6	82.8	8.0	8.0	7	11	753A035
18	1018	1.00	22.10	22.38	24.996	25.028	1016.54	1016.64	3.5	3.9	46.7	51.4	7.3	7.4	7	7	753A037

Table 189 Smiths Lake - Water Quality Maxima and Minima - Third Run - 15 November 1995

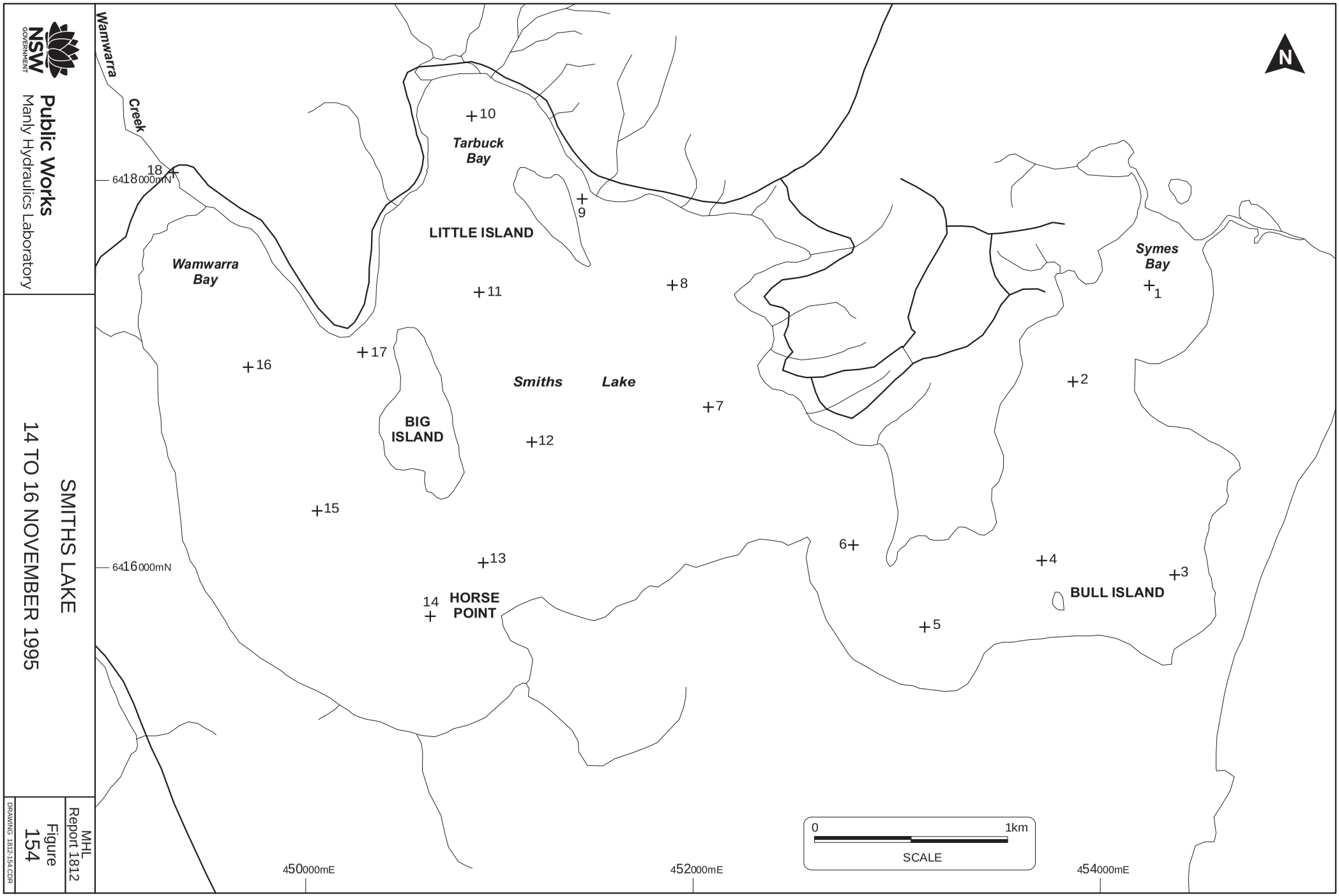
Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		Dissolved O_2 (mg/L)		Dissolved O_2 (% sat)		pH		Backscatterance (NTU)		File Name *.POF
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1218	1.80	22.08	23.22	24.806	24.976	1016.24	1016.57	5.2	6.5	70.2	85.7	8.0	8.1	7	8	753A038
2	1222	5.00	21.72	22.89	24.849	24.972	1016.37	1016.68	5.2	6.3	70.4	82.8	8.0	8.0	7	8	753A039
3	1228	0.60	23.20	23.21	25.023	25.059	1016.34	1016.36	5.4	6.1	73.5	82.0	8.1	8.1	6	6	753A040
4	1232	1.00	22.84	22.85	24.955	24.993	1016.38	1016.41	5.3	6.0	71.3	80.5	8.0	8.0	6	6	753A041
5	1236	4.40	21.89	22.90	24.822	24.942	1016.32	1016.63	5.3	6.1	71.4	81.7	8.0	8.0	8	11	753A042
6	1240	4.20	21.84	23.40	24.633	24.911	1016.12	1016.61	5.5	6.2	74.5	84.0	8.0	8.0	8	13	753A043
7	1245	3.80	22.27	23.44	24.794	24.892	1016.14	1016.47	5.4	6.2	73.1	82.7	8.0	8.0	8	10	753A044
8	1250	4.00	22.46	24.22	24.543	24.898	1015.89	1016.45	5.4	6.1	74.4	81.6	8.0	8.0	9	13	753A045
9	1255	2.40	23.73	24.13	24.710	24.930	1015.94	1016.01	3.9	6.3	53.2	87.2	8.0	8.0	9	9	753A046
10	1259	2.40	23.65	23.80	24.865	24.905	1016.06	1016.11	5.4	6.3	74.6	86.1	8.0	8.0	8	9	753A047
11	1304	3.80	22.52	23.38	24.738	24.886	1016.16	1016.39	5.4	6.2	74.0	84.0	8.0	8.0	7	11	753A048
12	1308	4.80	22.23	23.25	24.787	24.881	1016.20	1016.50	5.5	6.2	74.3	83.8	8.0	8.0	8	12	753A049
13	1313	4.40	22.12	23.10	24.777	24.890	1016.25	1016.54	5.5	6.3	74.5	84.2	8.0	8.0	8	12	753A050
14	1317	3.20	23.28	23.42	24.896	24.995	1016.19	1016.27	7.1	8.6	96.3	116.2	8.0	8.0	5	5	753A051
15	1321	3.80	23.01	23.36	24.914	25.005	1016.22	1016.39	6.8	8.5	92.6	115.3	8.0	8.0	8	8	753A052
16	1326	2.60	22.93	23.33	24.900	25.073	1016.21	1016.46	6.7	7.8	91.5	105.8	8.0	8.0	7	7	753A053
17	1331	3.00	22.47	24.25	24.750	25.340	1015.84	1016.70	6.7	8.3	92.7	110.4	8.0	8.0	7	9	753A054
18	1337	1.00	23.03	24.40	25.004	25.519	1015.98	1016.76	6.7	7.2	93.2	97.6	7.6	7.7	5	6	753A055

Table 190 Smiths Lake - Water Quality Maxima and Minima - Fourth Run - 15 November 1995

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		Dissolved O_2 (mg/L)		Dissolved O_2 (% sat)		pH		Backscatterance (NTU)		File Name *.POF
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1554	1.60	22.15	22.92	24.823	24.938	1016.32	1016.54	5.8	6.6	78.5	87.1	8.1	8.1	6	6	753A056
2	1559	5.20	21.84	23.50	24.746	24.958	1016.16	1016.66	5.4	6.5	73.3	88.5	8.0	8.1	5	8	753A057
3	1604	0.60	24.10	24.10	25.031	25.031	1016.09	1016.09	5.8	6.5	80.3	89.6	8.1	8.1	5	5	753A058
4	1608	1.10	23.57	23.58	24.966	24.978	1016.19	1016.20	5.4	6.2	74.0	84.9	8.0	8.0	5	5	753A059
5	1613	4.60	22.01	23.40	24.587	24.907	1016.17	1016.56	5.3	6.4	72.0	86.2	8.0	8.0	6	9	753A060
6	1617	4.40	21.99	23.96	24.741	24.920	1015.97	1016.59	5.7	6.4	77.6	85.0	8.0	8.0	5	11	753A061
7	1620	4.00	22.36	23.20	24.737	24.876	1016.21	1016.47	5.2	6.3	70.6	83.7	8.0	8.0	9	16	753A062
8	1625	4.20	22.63	23.50	24.775	24.871	1016.13	1016.38	5.4	6.3	73.6	85.7	8.0	8.0	9	16	753A063
9	1629	2.60	24.00	24.13	24.876	24.892	1015.97	1016.01	5.6	6.3	76.8	86.1	8.0	8.0	10	13	753A064
10	1633	2.40	23.98	24.01	24.888	24.898	1016.01	1016.03	5.9	6.6	81.1	91.0	8.0	8.0	9	9	753A065
11	1638	3.80	23.38	23.51	24.846	24.883	1016.14	1016.17	5.7	6.4	77.8	87.0	8.0	8.0	9	9	753A066
12	1642	4.60	22.35	23.37	24.628	24.885	1016.09	1016.48	5.6	6.5	76.4	87.8	8.0	8.0	7	12	753A067
13	1647	4.40	22.35	23.04	24.753	24.883	1016.27	1016.47	5.6	6.4	75.5	86.7	8.0	8.0	8	14	753A068
14	1651	3.40	23.25	23.26	24.864	24.872	1016.20	1016.21	5.7	6.5	77.1	88.2	8.0	8.0	8	8	753A069
15	1656	4.00	23.43	23.45	24.870	24.877	1016.15	1016.17	5.9	6.6	80.2	89.6	8.0	8.0	8	10	753A070
16	1701	2.80	23.60	24.08	24.800	24.906	1015.95	1016.12	5.9	6.7	80.9	91.3	8.0	8.0	7	11	753A071
17	1706	3.00	22.70	23.71	24.682	24.860	1016.00	1016.34	5.6	6.4	77.0	86.5	8.0	8.0	6	7	753A072
18	1711	1.20	23.52	25.41	24.820	25.075	1015.66	1016.11	5.4	5.8	73.7	81.7	7.6	7.8	5	6	753A073

Table 191 Smiths Lake - Water Quality Maxima and Minima - Fifth Run - 16 November 1995

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		Dissolved O_2 (mg/L)		Dissolved O_2 (% sat)		pH		Backscatterance (NTU)		File Name *.POF
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	0808	1.40	22.76	22.86	24.858	24.915	1016.30	1016.38	5.7	6.4	76.3	86.1	8.0	8.0	84	85	753A074
2	0813	5.20	21.87	24.06	23.250	25.013	1014.74	1016.71	5.8	7.6	79.6	100.2	8.0	8.0	84	173	753A075
3	0820	0.70	99.00	99.00	95.865	96.125	1047.48	1047.69	0.9	1.1	43.1	53.6	7.7	7.7	85	85	753A076
4	0825	1.10	22.50	22.51	25.081	25.105	1016.57	1016.59	5.8	5.9	77.4	79.6	8.0	8.1	7	7	753A077
5	0830	4.80	22.29	22.52	23.823	25.007	1015.68	1016.59	5.2	7.0	69.4	92.8	8.0	8.0	11	12	753A078
6	0835	4.40	22.41	22.45	24.878	24.902	1016.43	1016.47	5.0	6.0	66.5	80.5	8.0	8.0	12	15	753A079
7	0845	4.00	22.59	22.60	24.837	24.878	1016.36	1016.41	5.3	6.1	70.8	81.6	8.0	8.0	11	12	753A080
8	0850	4.20	22.91	22.95	24.837	24.891	1016.26	1016.33	5.1	6.2	68.4	83.3	8.0	8.0	11	13	753A081
9	0855	2.40	22.89	23.11	24.853	24.909	1016.23	1016.34	5.1	6.0	69.3	80.7	7.9	7.9	10	10	753A082
10	0900	2.40	23.01	23.27	24.877	24.943	1016.23	1016.31	5.3	5.9	71.8	80.2	7.9	8.0	6	7	753A083
11	0906	3.80	23.03	23.04	24.892	24.897	1016.28	1016.30	5.9	6.2	79.9	84.2	8.0	8.0	8	10	753A084
12	0913	4.80	22.66	22.74	24.882	24.891	1016.36	1016.40	5.9	6.3	79.4	84.0	8.0	8.0	7	8	753A085
13	0922	4.60	22.73	22.97	24.862	24.892	1016.28	1016.38	5.8	6.3	78.2	84.6	8.0	8.0	6	9	753A086
14	0927	3.60	22.89	22.96	24.836	24.890	1016.26	1016.33	5.3	6.2	72.0	83.8	8.0	8.0	9	10	753A087
15	0932	4.00	22.84	22.91	24.851	24.898	1016.29	1016.35	5.3	6.2	71.0	83.4	8.0	8.0	10	11	753A088
16	0932	2.60	23.23	23.25	24.886	24.919	1016.22	1016.25	5.5	6.1	75.0	83.1	8.0	8.0	8	9	753A089
17	0951	3.00	22.99	23.46	24.873	24.966	1016.20	1016.33	5.9	6.1	80.2	82.7	8.0	8.0	5	14	753A091
18	0944	.90	23.54	23.55	25.107	25.111	1016.30	1016.31	4.3	4.5	59.2	60.8	7.5	7.5	7	8	753A090



NSW GOVERNMENT

Public Works
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SMITHS LAKE

14 TO 16 NOVEMBER 1995

MHL Report 1812

Figure 154

DRAWING 1812-154.CDR

Myall River/Lake Data Summary

Data was collected in the Myall River/Lake on five occasions: 18 December 1997, 26 April 1998, 5 and 6 November 2001, 5 September and 25 October 2008.

Data was collected in the Myall River/Lake on 18 December 1997, as detailed in report MHL942. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 192. Summaries of the minimum, maximum and mean values for all parameters measured on the single high water run are shown in Table 193. The locations at which these profiles were taken are shown in Figure 155. Long channel depth-averaged salinity profiles have not been plotted from this data because the variations in salinity throughout the lake system were insignificant.

Table 192 Myall River/Lake - 18 December 1997

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)
	Easting	Northing		
6	438585	6411470	60.11	3.47
7	435615	6407370	52.60	3.40
5	433235	6409145	50.41	3.20
71	433885	6408940	50.82	3.41
72	433895	6405390	46.98	6.23
73	434670	6403405	45.09	6.38
8	433465	6400275	41.25	6.54
74	433070	6398145	39.00	21.52
75	433085	6406925	48.64	4.22

Note Station locations transferred from report figure to digital map, then co-ordinates transferred from Department of Lands TopoView Raster 2006 DVD

Table 193 Myall River/Lake - Water Quality Maxima and Minima - High Water - 18 December 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			OBS3 (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
6	1023	2.87	26.88	27.30	27.08	3.47	3.47	3.47	999.04	999.17	999.10	114.5	123.1	117.8	9.3	9.4	9.3	3	3	3	942_F001
7	1058	1.96	27.08	27.81	27.38	3.40	3.41	3.40	998.84	999.06	998.97	115.0	127.4	119.7	9.5	9.6	9.5	3	15	3	942_F002
5	1129	3.32	24.78	26.98	26.09	3.11	3.27	3.20	998.87	999.58	999.17	4.4	49.5	37.6	7.1	7.2	7.1	3	4	3	942_F003
71	1149	2.39	26.18	29.30	27.34	3.36	3.46	3.41	998.42	999.31	998.98	48.6	108.8	69.6	7.9	8.9	8.2	3	4	3	942_F004
72	1215	3.74	26.14	27.52	26.85	4.96	7.94	6.23	1000.10	1002.71	1001.23	107.3	158.3	121.5	8.8	9.0	8.8	3	4	3	942_F005
73	1231	3.13	26.34	27.89	26.97	5.65	8.53	6.38	1000.54	1003.09	1001.31	95.6	118.3	104.6	8.4	8.7	8.5	3	4	4	942_F006
8	1309	3.07	26.66	27.53	27.31	6.12	10.82	6.54	1000.95	1004.56	1001.33	102.8	149.0	108.9	8.7	8.9	8.9	4	4	4	942_F007
74	1329	4.01	28.05	28.33	28.21	17.71	23.51	21.52	1009.37	1013.78	1012.24	93.0	99.4	95.7	8.2	8.3	8.2	8	14	12	942_F008
75	1450	2.61	27.57	28.81	27.99	4.11	4.31	4.22	999.08	999.60	999.40	126.8	160.2	140.8	9.5	9.8	9.6	3	187	14	942_F009



Public Works
Manly Hydraulics Laboratory

MYALL RIVER AND MYALL LAKE

18 DECEMBER 1997

MHL Report 1812

Figure 155

DRAWING 1812-155.CDR

Data was collected in the Myall River/Lake on 26 April 1998, as detailed in report MHL942. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 194. Summaries of the minimum, maximum and mean values for all parameters measured on the single high water run are shown in Table 195. The locations at which these profiles were taken are shown in Figure 156. Long channel depth-averaged salinity profiles are shown in Figure 157.

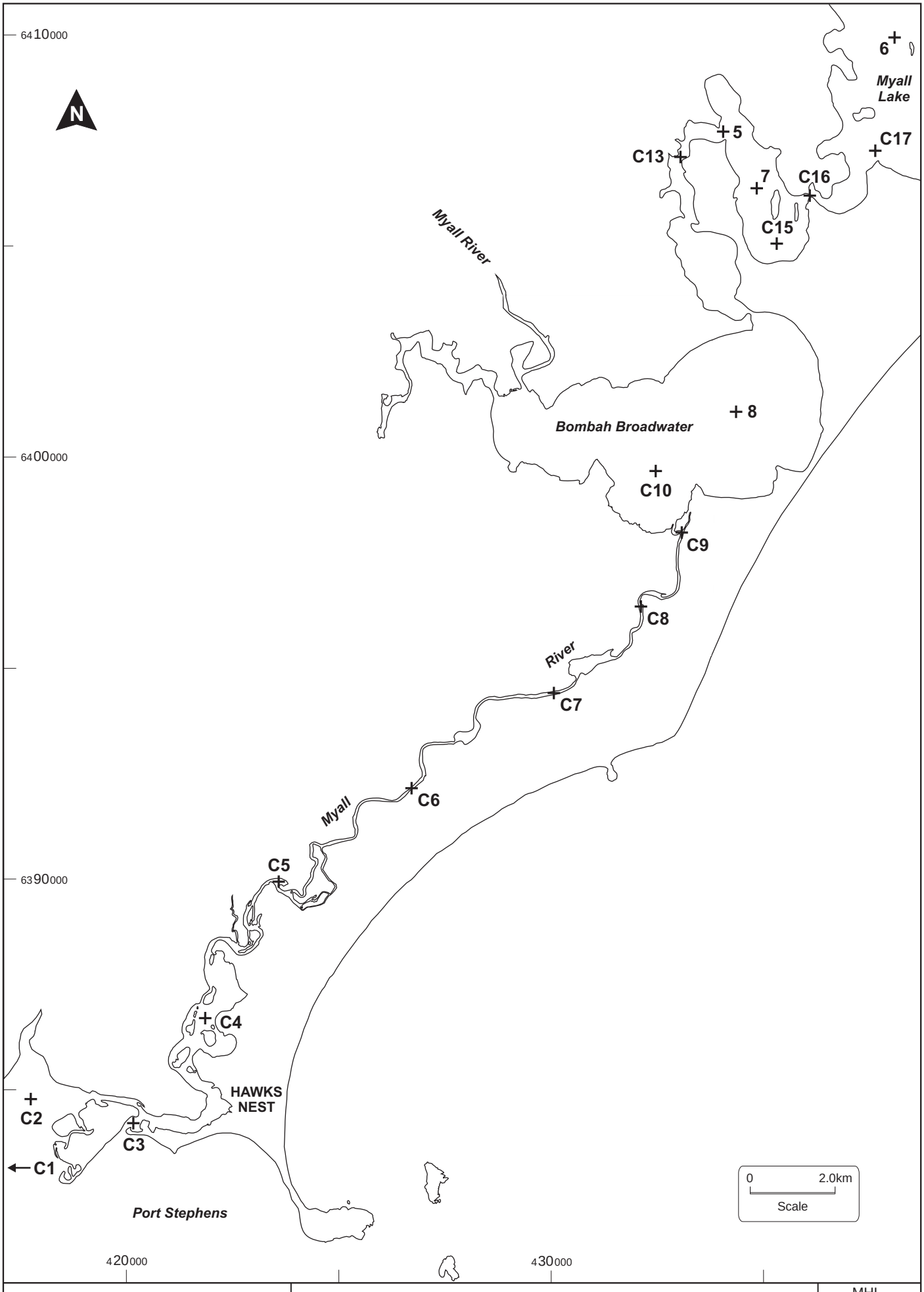
Table 194 Myall River/Lake - 26 April 1998

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)
	Easting	Northing		
C1	415335	6382845	10.92	34.67
C2	417585	6384670	9.92	34.19
C3	420080	6384305	8.40	34.50
C4	421780	6386770	13.45	33.45
C5	423475	6390035	18.66	25.96
C6	426775	6392265	24.71	22.80
C7	429675	6394360	29.75	20.20
C8	432095	6396445	33.19	20.53
C9	433070	6398145	35.88	19.67
C10	432730	6399820	37.98	19.74
8	434135	6400780	40.34	19.55
7	435615	6407370	50.67	17.98
C13	432990	6408390	47.48	19.34
5	433885	6408940	48.91	13.18
C15	435885	6405670	52.18	12.72
C16	436840	6406995	53.87	12.62
C17	438965	6408565	56.47	12.62
6	438585	6411470	59.08	4.87

Note Station locations transferred from report figure to digital map, then co-ordinates transferred from Department of Lands TopoView Raster 2006 DVD
Station C15 estimate only as not shown on original map

Table 195 Myall River/Lake - Water Quality Maxima and Minima - High Water - 26 April 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			OBS3 (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
C1	0704	14.37	20.95	21.01	20.98	34.66	34.68	34.67	1024.26	1024.31	1024.28	88.4	89.8	89.1	8.3	8.3	8.3	4	5	4	942_L001
C2	0722	5.21	20.40	21.28	21.10	32.14	34.72	34.19	1022.48	1024.23	1023.87	83.5	88.1	87.0	8.2	8.3	8.3	3	7	5	942_L002
C3	0734	3.79	21.13	21.16	21.14	34.44	34.51	34.50	1024.05	1024.09	1024.08	86.1	86.9	86.5	8.3	8.3	8.3	3	4	3	942_L003
C4	0908	2.38	20.48	20.77	20.62	32.87	33.80	33.45	1023.01	1023.67	1023.42	81.9	83.9	83.0	8.2	8.3	8.3	4	4	4	942_L004
C5	0931	5.59	20.13	20.16	20.14	25.92	26.01	25.96	1017.84	1017.89	1017.86	71.3	73.1	72.0	7.7	7.8	7.7	4	5	5	942_L005
C6	0958	2.90	20.30	20.35	20.31	22.76	22.82	22.80	1015.37	1015.44	1015.41	56.9	57.6	57.2	7.3	7.3	7.3	3	11	4	942_L006
C7	1016	3.02	20.26	20.28	20.27	20.20	20.21	20.20	1013.45	1013.47	1013.46	48.1	49.4	48.7	7.1	7.1	7.1	3	4	4	942_L007
C8	1029	2.40	20.45	20.46	20.45	20.48	20.54	20.53	1013.62	1013.67	1013.66	61.2	64.5	62.3	7.4	7.5	7.4	4	5	5	942_L008
C9	1038	3.67	20.03	20.07	20.05	19.66	19.67	19.67	1013.09	1013.11	1013.10	91.6	92.9	92.5	8.3	8.3	8.3	4	6	5	942_L009
C10	1052	3.40	20.30	20.52	20.33	19.63	21.17	19.74	1013.00	1014.15	1013.09	90.3	104.4	97.6	8.3	8.4	8.4	3	5	3	942_L010
8	1101	3.59	20.44	20.47	20.45	19.54	19.60	19.55	1012.91	1012.96	1012.92	57.5	62.5	59.8	8.4	8.4	8.4	3	4	3	942_L011
7	1205	4.16	20.90	22.14	21.09	17.79	19.48	17.98	1011.47	1012.46	1011.58	36.8	71.9	50.8	7.4	8.2	7.9	3	23	5	942_L012
C13	1252	3.48	21.56	22.81	22.05	17.21	21.08	19.34	1010.86	1013.50	1012.36	1.5	46.2	27.6	7.2	7.7	7.4	3	52	13	942_L013
5	1305	2.45	18.84	21.69	20.51	0.75	17.66	13.18	999.01	1011.20	1008.07	4.4	44.6	29.5	5.9	7.3	6.9	6	96	25	942_L014
C15	1326	1.83	20.30	20.47	20.32	12.64	14.55	12.72	1007.72	1009.14	1007.78	61.4	62.0	61.7	7.5	7.5	7.5	9	13	9	942_L015
C16	1407	5.41	21.04	21.25	21.10	12.05	13.15	12.62	1007.05	1007.92	1007.53	54.1	78.9	66.9	7.4	7.9	7.6	2	3	3	942_L016
C17	1407	5.41	21.04	21.25	21.10	12.05	13.15	12.62	1007.05	1007.92	1007.53	54.1	78.9	66.9	7.4	7.9	7.6	2	3	3	942_L017
6	1347	3.43	20.74	20.90	20.79	4.80	5.02	4.87	1001.69	1001.84	1001.74	80.8	85.7	81.9	8.5	8.6	8.6	0	269	7	942_L018



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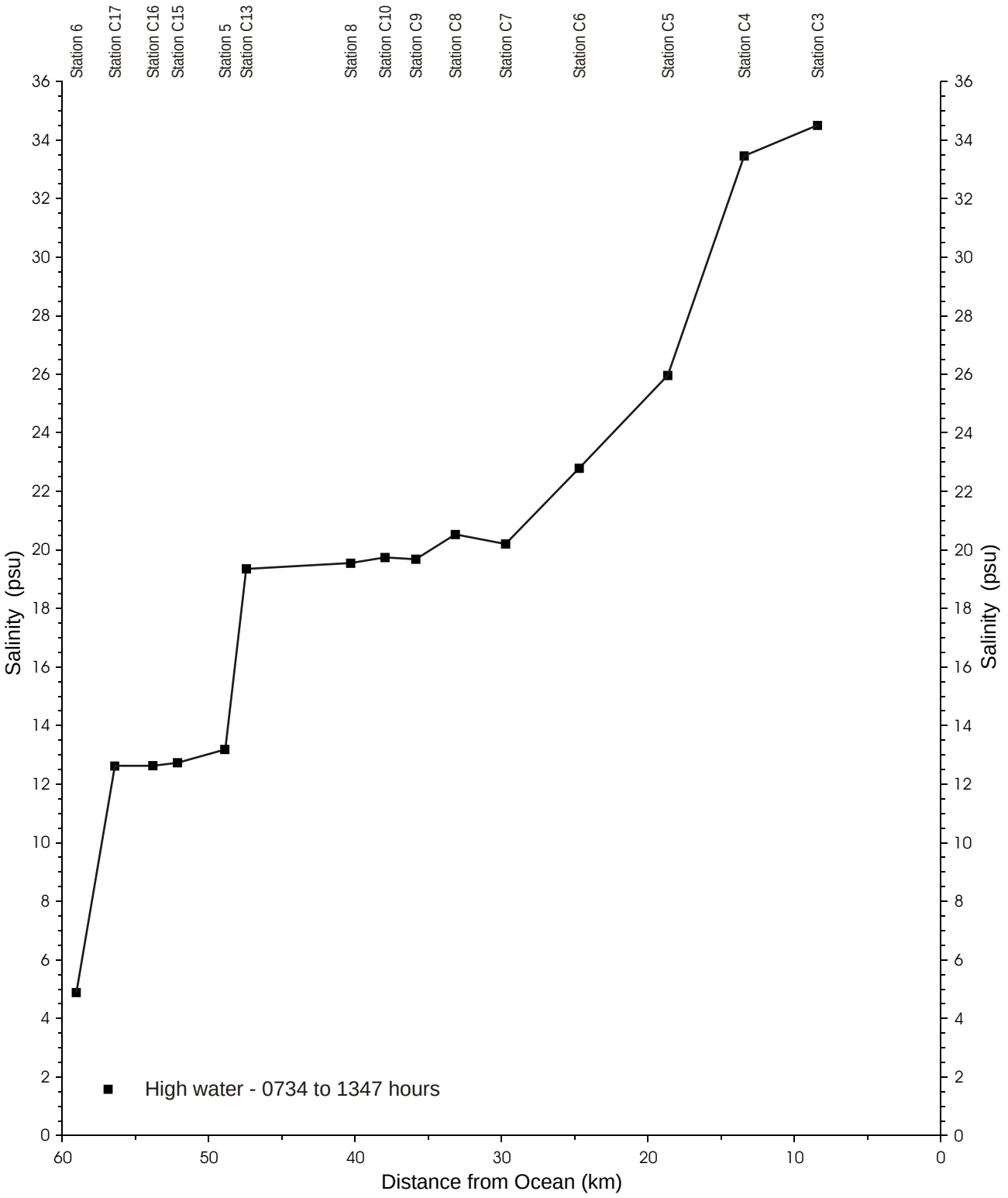
MYALL RIVER AND MYALL LAKE

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Figure 156

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MYALL RIVER
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Figure 157

DRAWING 1812-157.CDR

Data was collected in the Myall River on 5 and 6 November 2001. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 196. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 197a-b. The locations at which these profiles were taken are shown in Figure 158. Long channel depth-averaged salinity profiles are shown in Figure 159.

Table 196 Myall River - 5 and 6 November 2001

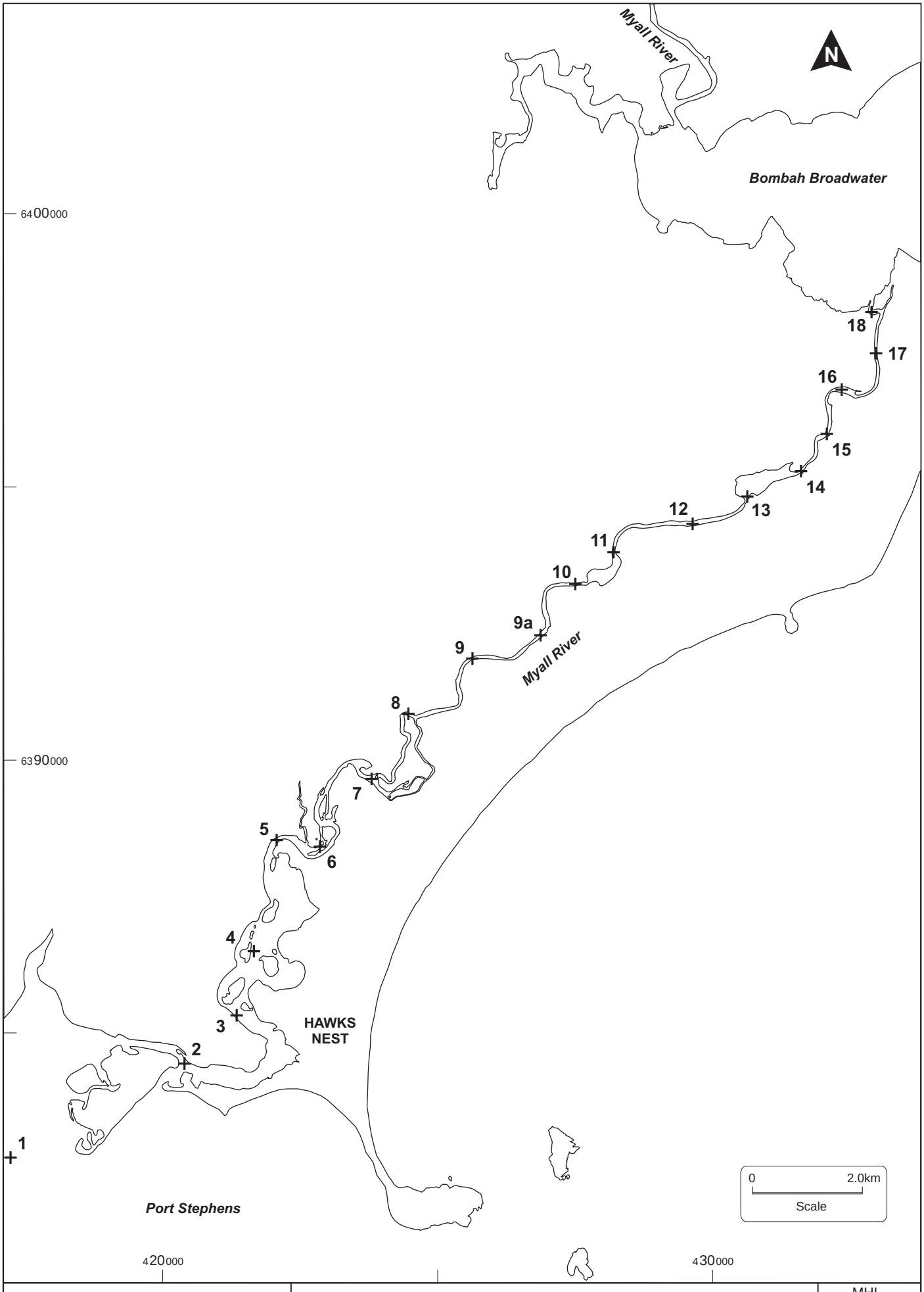
Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	417105	6382790	8.90	35.67	35.68
2	420355	6384565	12.62	35.66	35.41
3	421310	6385445	15.84	35.64	34.64
4	421620	6386610	17.07	35.63	34.04
5	422010	6388650	19.39	35.51	28.69
6	422765	6388650	20.42	35.24	23.76
7	423865	6389830	22.62	34.89	19.90
8	424430	6390930	24.68	34.40	16.39
9	425605	6391935	26.62	33.57	13.25
9a	426860	6392345	28.16	-	11.41
10	427465	6393270	29.65	30.71	9.97
11	428160	6393860	30.75	29.24	8.36
12	429605	6394370	32.55	24.53	6.59
13	430625	6394870	33.78	21.74	5.94
14	431600	6395320	35.00	18.77	5.58
15	432080	6396005	35.97	16.49	5.60
16	432320	6396825	36.94	14.72	5.62
17	432960	6397490	38.29	12.06	5.64
18	432865	6398295	39.26	9.53	5.62

Table 197a Myall River - Water Quality Maxima and Minima - High Water - 5 November 2001

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1102	8.6	1025.2	1025.3	1025.2	19.94	20.43	20.22	35.64	35.69	35.67	89.94	95.54	94.45	8.00	8.03	8.01	2.01	4.94	2.56	0.00	0.03	0.00	86.3	5444.0	733.8	sb25001
2	1200	4.7	1025.1	1025.2	1025.2	20.34	20.63	20.45	35.63	35.70	35.66	94.79	97.65	96.04	7.98	8.04	8.01	0.55	2.01	1.33	0.00	0.00	0.00	487.1	5464.0	1216.2	sb25002
3	1222	6.1	1025.0	1025.2	1025.1	20.44	20.91	20.64	35.53	35.76	35.64	98.26	103.63	100.99	8.01	8.04	8.02	0.55	2.99	1.27	0.00	0.00	0.00	178.7	2621.0	549.8	sb25003
4	1232	3.0	1025.1	1025.1	1025.1	20.56	20.59	20.57	35.63	35.64	35.63	98.77	100.03	99.47	7.98	8.00	7.99	1.04	2.01	1.50	0.00	0.00	0.00	399.4	1842.0	520.2	sb25004
5	1314	4.0	1024.7	1024.8	1024.8	21.40	21.63	21.49	35.47	35.54	35.51	94.53	95.05	94.79	7.79	7.84	7.81	1.52	2.99	1.95	0.35	1.18	0.70	180.6	839.0	426.6	sb25005
6	1324	3.1	1024.2	1024.4	1024.4	21.97	22.39	22.08	35.09	35.29	35.24	93.81	95.11	94.55	7.66	7.70	7.68	1.52	3.97	2.09	0.96	1.31	1.17	129.3	1925.0	383.2	sb25006
7	1416	2.4	1023.9	1024.2	1024.1	22.14	22.51	22.33	34.79	34.99	34.89	89.70	91.10	90.68	7.61	7.63	7.62	1.52	3.48	2.50	1.47	2.76	2.21	434.7	5444.0	1281.0	sb25007
8	1439	3.0	1023.5	1023.7	1023.6	22.55	22.70	22.63	34.32	34.46	34.40	89.00	89.55	89.27	7.48	7.50	7.49	2.01	3.48	2.37	2.56	3.89	2.93	92.5	889.8	199.5	sb25008
9	1446	2.3	1022.8	1023.0	1022.9	22.77	22.85	22.82	33.44	33.66	33.57	87.80	88.67	88.44	7.39	7.39	7.39	2.01	3.48	2.75	2.98	3.92	3.55	82.6	842.1	171.3	sb25009
10	1456	2.3	1020.7	1020.7	1020.7	22.93	22.99	22.97	30.67	30.73	30.71	90.11	90.93	90.69	7.41	7.42	7.41	2.50	3.97	3.01	4.27	5.80	5.08	56.0	779.6	159.1	sb25010
11	1504	3.2	1019.0	1019.7	1019.6	22.80	22.88	22.85	28.36	29.41	29.24	90.89	91.23	91.04	7.40	7.43	7.41	2.50	5.92	3.18	4.57	5.60	5.11	38.8	873.6	154.4	sb25011
12	1518	2.2	1015.3	1016.8	1016.1	22.51	22.59	22.57	23.48	25.41	24.53	91.39	92.97	92.38	7.42	7.46	7.44	2.50	3.97	3.11	5.07	6.68	5.62	26.7	765.4	144.3	sb25012
13	1527	2.4	1013.0	1014.3	1014.1	22.42	22.61	22.47	20.45	22.01	21.74	90.11	93.17	91.40	7.43	7.50	7.44	0.00	4.94	3.82	4.67	6.47	5.44	22.3	1737.0	110.7	sb25013
14	1552	1.7	1010.7	1012.4	1011.7	22.66	23.01	22.79	17.46	19.61	18.77	90.16	94.34	92.15	7.48	7.55	7.51	0.00	8.85	4.05	3.87	5.05	4.57	207.7	3999.0	1136.2	sb25014
15	1557	3.6	1009.8	1010.0	1010.0	23.00	23.06	23.02	16.27	16.59	16.49	93.63	94.20	93.88	7.51	7.52	7.51	3.48	5.43	4.21	4.07	4.61	4.36	9.8	3490.0	442.8	sb25015
16	1603	2.2	1008.0	1008.8	1008.6	23.02	23.08	23.05	13.93	14.99	14.72	93.61	95.23	94.30	7.50	7.53	7.51	3.48	20.57	4.68	3.97	4.54	4.18	39.9	2669.0	544.0	sb25016
17	1609	1.8	1006.6	1006.8	1006.7	22.81	22.92	22.88	11.90	12.25	12.06	93.81	95.01	94.53	7.52	7.54	7.53	2.99	4.46	3.41	3.85	4.37	4.13	38.8	867.2	215.4	sb25017
18	1616	2.0	1004.8	1004.9	1004.9	22.46	22.49	22.47	9.47	9.55	9.53	91.83	92.16	91.99	7.50	7.51	7.50	2.99	4.94	3.74	3.53	4.07	3.82	15.0	3196.0	236.5	sb25018

Table 197b Myall River - Water Quality Maxima and Minima - Low Water - 6 November 2001

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0458	8.3	1025.2	1025.2	1025.2	20.42	20.45	20.43	35.67	35.69	35.68	95.69	96.31	96.08	7.96	7.99	7.98	1.52	5.43	1.93	0.00	0.00	0.00	0.9	71.3	8.1	sb25019
2	0605	3.8	1025.0	1025.0	1025.0	20.24	20.27	20.25	35.41	35.42	35.41	83.15	84.15	83.63	7.73	7.75	7.74	2.01	3.97	2.91	0.83	1.08	0.94	15.4	820.7	128.8	sb25020
3	0647	4.6	1024.2	1024.5	1024.3	20.46	20.86	20.67	34.53	34.76	34.64	79.13	80.06	79.72	7.54	7.60	7.56	1.52	4.46	2.05	1.25	1.82	1.55	17.7	773.9	102.0	sb25021
4	0718	2.2	1023.3	1024.3	1023.8	20.52	21.18	20.81	33.45	34.52	34.04	72.77	74.90	73.88	7.43	7.53	7.46	1.52	3.48	1.94	0.00	0.25	0.02	258.0	5424.0	1638.1	sb25022
5	0837	3.0	1019.0	1020.2	1019.6	21.49	21.77	21.56	28.08	29.55	28.69	76.29	78.61	77.80	7.36	7.38	7.36	1.04	2.50	1.73	1.73	2.84	2.40	195.1	5946.0	897.3	sb25023
6	0900	2.4	1015.5	1016.1	1015.7	21.82	22.04	21.87	23.44	24.17	23.76	80.87	82.27	81.53	7.35	7.36	7.35	1.52	3.48	1.93	2.01	3.37	2.79	274.6	4304.0	920.1	sb25024
7	0920	3.2	1012.7	1012.9	1012.8	21.88	22.02	21.94	19.84	20.05	19.90	77.27	80.03	79.05	7.36	7.39	7.37	1.52	3.48	2.28	2.27	3.63	3.13	39.5	929.9	173.5	sb25025
8	1000	2.7	1009.6	1010.7	1010.1	21.89	22.28	22.05	15.72	17.07	16.39	82.70	84.66	83.64	7.37	7.40	7.38	2.01	2.99	2.28	2.35	3.46	3.10	56.4	3926.0	294.7	sb25026
9	1015	2.5	1007.4	1008.3	1007.8	21.78	22.15	21.90	12.85	13.92	13.25	79.52	105.57	91.28	7.37	7.41	7.39	2.01	2.99	2.49	0.00	0.00	0.00	53.3	1403.0	284.4	sb25027
9a	1023	2.5	1006.2	1006.6	1006.4	21.74	22.03	21.82	11.23	11.60	11.41	85.68	87.02	86.29	7.41	7.44	7.42	2.01	2.99	2.33	2.27	3.66	2.98	217.9	4288.0	836.2	sb25028
10	1030	2.1	1005.1	1005.5	1005.3	21.77	22.15	21.86	9.73	10.16	9.97	84.96	86.60	85.38	7.44	7.45	7.44	2.01	2.99	2.45	2.34	3.80	3.27	104.1	1699.0	380.5	sb25029
11	1040	3.1	1003.5	1005.0	1004.1	21.70	22.44	22.01	7.67	9.50	8.36	85.46	90.41	88.55	7.51	7.61	7.57	2.01	6.90	2.61	2.21	3.45	2.98	79.9	2373.0	490.8	sb25030
12	1047	2.0	1002.4	1004.7	1002.7	21.70	22.35	22.10	6.27	9.12	6.59	89.31	92.36	91.20	7.64	7.67	7.67	2.99	76.25	5.08	2.26	3.22	2.81	116.7	5134.0	1182.3	sb25031
13	1054	2.5	1002.1	1002.4	1002.2	21.86	22.39	22.11	5.71	6.26	5.94	79.19	89.84	85.61	7.58	7.63	7.60	2.50	4.94	3.56	2.58	3.11	2.76	128.8	4632.0	887.2	sb25032
14	1059	2.6	1002.1	1002.2	1002.2	21.16	21.53	21.25	5.58	5.60	5.58	87.95	89.33	88.41	7.44	7.45	7.45	1.52	2.99	2.20	2.14	2.88	2.65	136.1	1769.0	399.7	sb25033
15	1118	4.1	1002.0	1002.2	1002.2	21.20	21.98	21.36	5.59	5.62	5.60	90.20	92.45	90.77	7.50	7.52	7.51	1.52	2.99	2.16	2.08	3.01	2.72	21.5	2238.0	241.4	sb25034
16	1126	2.1	1002.0	1002.1	1002.1	21.78	21.96	21.86	5.61	5.63	5.62	96.50	97.25	96.85	7.66	7.67	7.67	1.52	2.50	2.05	2.34	2.88	2.65	184.0	2640.0	677.7	sb25035
17	1131	1.8	1002.0	1002.0	1002.0	22.07	22.30	22.13	5.63	5.64	5.64	100.21	101.29	100.60	7.81	7.83	7.83	1.04	2.01	1.53	2.12	3.11	2.55	148.7	1828.0	477.3	sb25036
18	1137	2.1	1001.9	1002.0	1002.0	22.17	22.35	22.24	5.61	5.62	5.62	102.87	103.79	103.31	7.91	7.92	7.91	1.04	2.01	1.61	2.41	2.89	2.73	203.2	2915.0	779.5	sb25037



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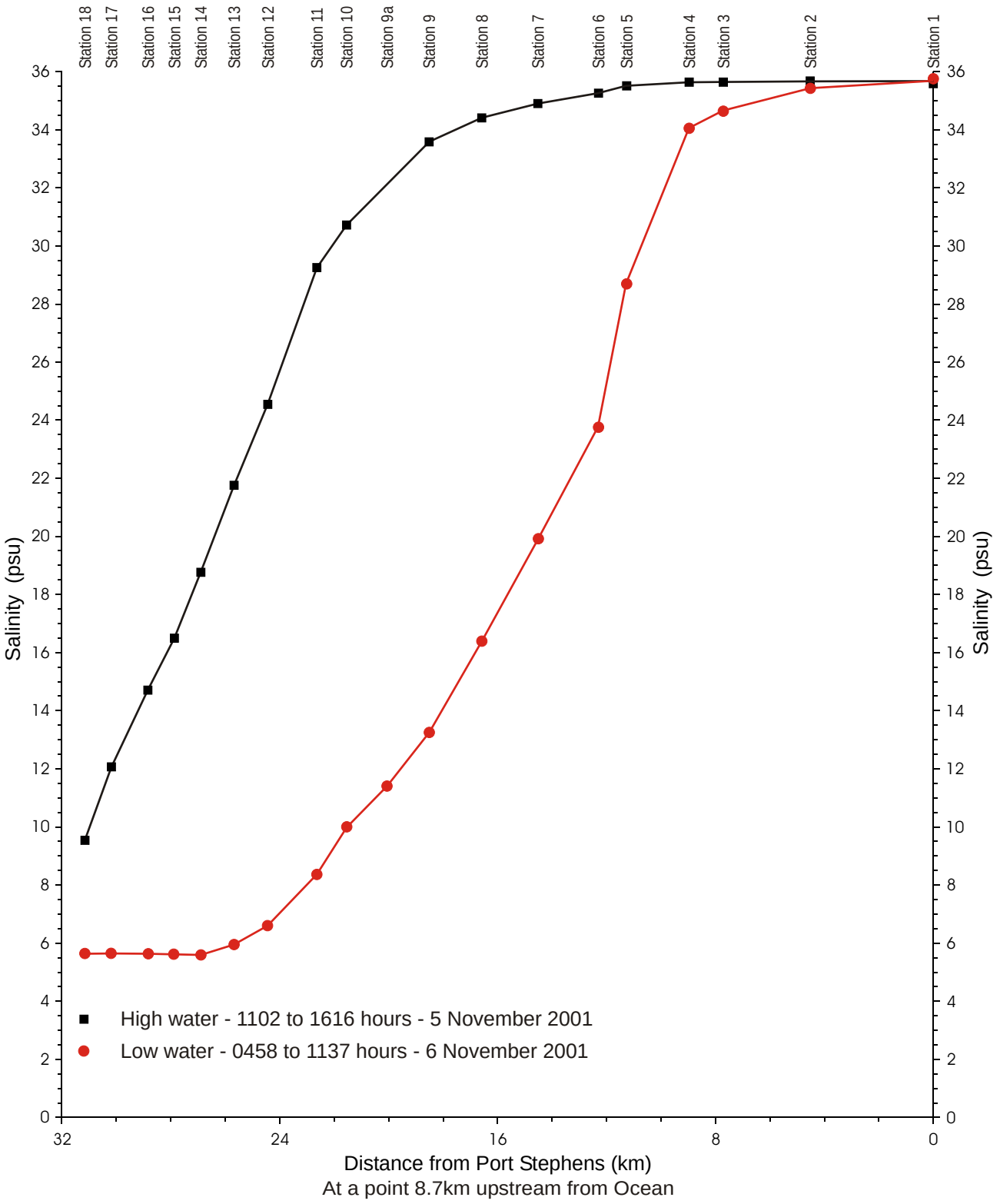
MYALL RIVER

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Figure
158

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MYALL RIVER
5 AND 6 NOVEMBER 2001

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Figure 159

DRAWING 1812-159.CDR

Data was collected the Myall River on 5 September and 25 October 2008, as detailed in report MHL1943. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 198. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 199 and 200. The locations at which these profiles were taken are shown in Figure 160. Long channel depth-averaged salinity profiles are shown in Figure 161.

Table 198 Myall River - 5 September and 25 October 2008

Station No.	MGA (m) Zone 56		Chainage (km)	5/9/08 High Water Salinity (psu)	25/10/08 Low Water Salinity (psu)
	Easting	Northing			
1	419545	6383763	7.40	-	25.42
2	420037	6384418	8.18	34.48	23.53
3	422015	6385075	10.96	31.08	9.65
4	421948	6387431	13.69	8.07	1.34
5	422144	6388698	14.98	1.75	1.12
6	423720	6389760	18.29	1.16	1.13
7	425456	6391840	22.11	-	1.09
8	427204	6393270	24.77	1.25	1.18
9	429032	6394358	27.36	-	1.28
10	431563	6395285	30.27	1.30	1.35
11	432329	6396812	32.28	-	1.35
12	432908	6398357	34.87	1.27	1.35
13	434573	6399413	37.46	1.50	1.35
14	434780	6403350	41.35	-	1.80

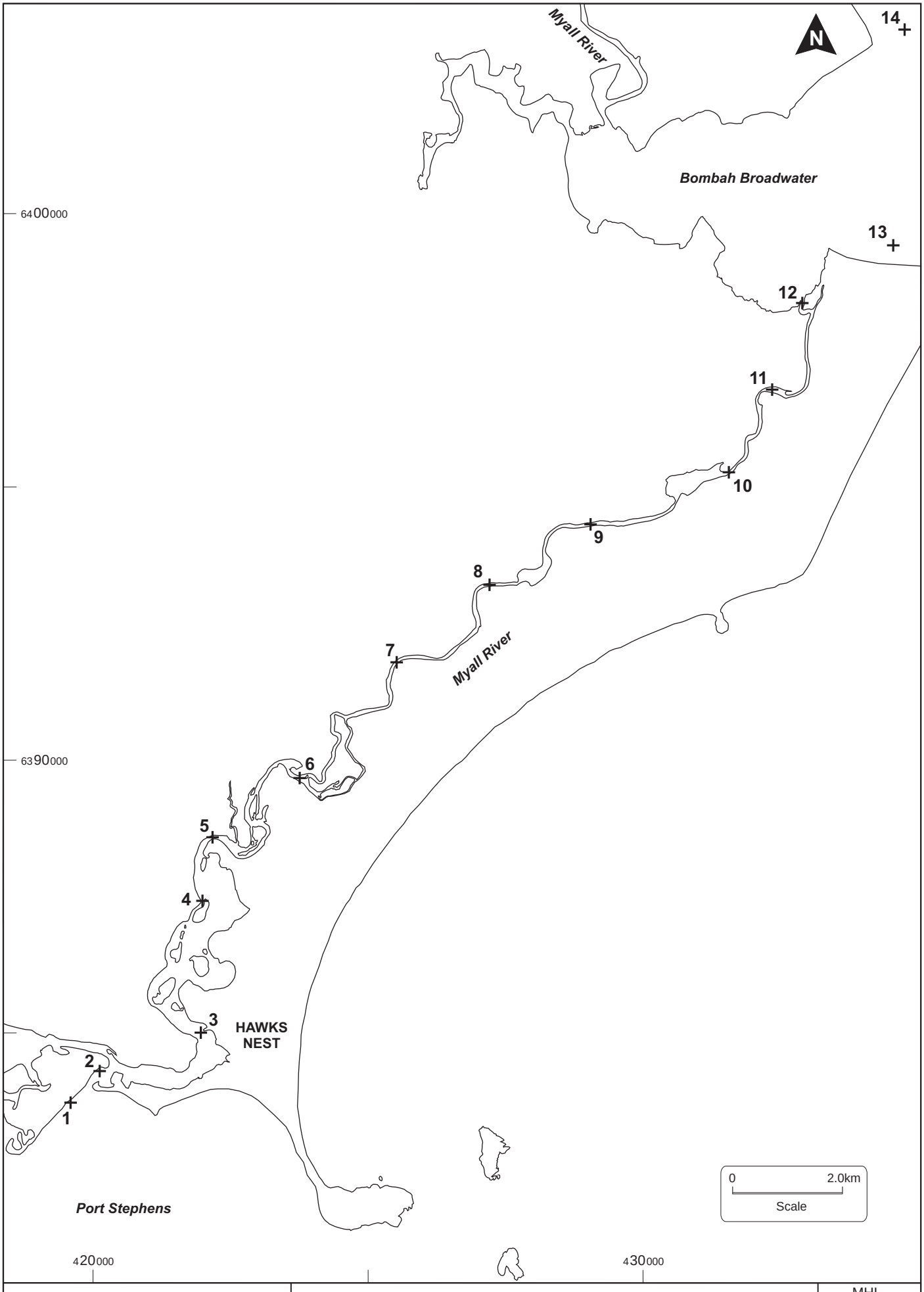
Note Stations 1, 7, 9, 11 and 14 not done on 5 September 2008

Table 199 Myall River - Water Quality Maxima and Minima - High Water - 5 September 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	1231	2.5	1025.1	1025.4	1025.3	16.29	16.32	16.30	34.21	34.61	34.48	101.56	102.20	101.88	8.07	8.08	8.08	0.00	0.90	0.37	0.00	0.00	0.00	133.1	992.9	279.6	ml080905001
3	1245	5.7	1015.4	1023.1	1022.8	15.65	16.03	16.01	21.44	31.59	31.08	97.18	99.12	98.82	8.05	8.14	8.07	0.90	1.87	1.19	0.00	0.65	0.09	4.2	1018.8	72.2	ml080905002
4	1300	4.6	1003.0	1006.5	1005.3	15.00	15.07	15.05	5.03	9.66	8.07	92.26	93.56	93.11	7.31	7.53	7.41	1.87	3.83	2.67	2.58	3.32	2.93	0.1	1150.1	88.0	ml080905003
5	1307	2.9	1000.4	1000.6	1000.5	14.69	14.70	14.70	1.65	1.82	1.75	89.89	90.56	90.28	6.88	6.90	6.88	1.87	2.85	2.46	4.05	4.37	4.18	0.8	702.9	70.8	ml080905004
6	1320	2.3	1000.0	1000.1	1000.0	14.71	14.71	14.71	1.16	1.16	1.16	85.84	86.17	86.00	6.68	6.69	6.68	0.90	26.29	1.35	4.55	5.54	4.72	1.7	539.5	79.4	ml080905005
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	1335	2.2	1000.1	1000.1	1000.1	14.90	14.95	14.92	1.22	1.26	1.25	87.54	87.92	87.73	6.75	6.75	6.75	0.90	1.39	1.07	1.89	6.47	4.36	3.8	516.3	110.9	ml080905006
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	1348	3.0	1000.1	1000.1	1000.1	15.17	15.22	15.20	1.28	1.32	1.30	92.58	93.06	92.82	6.90	6.92	6.90	2.36	4.32	3.21	3.89	4.62	4.18	0.6	465.8	56.5	ml080905007
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	1403	2.1	1000.0	1000.1	1000.0	15.28	15.29	15.29	1.27	1.28	1.27	94.32	94.83	94.59	6.98	7.00	6.99	3.34	4.32	3.69	1.09	5.86	4.50	2.1	492.2	89.9	ml080905008
13	1424	3.8	1000.3	1000.3	1000.3	15.06	15.06	15.06	1.50	1.50	1.50	98.23	98.88	98.55	7.23	7.25	7.24	1.39	2.36	2.02	3.29	4.33	3.53	0.2	494.0	33.5	ml080905009
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 200 Myall River - Water Quality Maxima and Minima - Low Water - 25 October 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1201	1.4	1017.5	1018.0	1017.9	18.32	18.52	18.35	25.01	25.62	25.42	112.14	114.49	112.90	7.71	7.72	7.71	2.36	3.34	2.65	0.43	0.79	0.57	157.6	4040.6	1764.2	ml081025001
2	1211	4.4	1013.0	1020.9	1016.5	17.74	18.60	18.28	19.11	29.18	23.53	113.59	117.63	116.66	7.71	7.76	7.74	1.87	3.83	2.56	0.12	1.45	1.07	15.0	3880.5	372.8	ml081025002
3	1310	2.7	1005.1	1006.1	1005.6	19.83	20.06	19.91	8.98	10.45	9.65	114.97	120.51	116.84	7.31	7.51	7.37	0.90	1.87	1.37	0.68	2.91	2.68	38.4	2798.2	645.5	ml081025003
4	1406	2.7	999.3	999.3	999.3	19.56	19.73	19.63	1.33	1.36	1.34	89.93	90.54	90.23	6.48	6.49	6.49	2.36	9.69	3.02	4.92	6.21	5.09	0.5	2055.2	69.9	ml081025004
5	1415	1.5	999.2	999.2	999.2	19.33	19.37	19.35	1.12	1.12	1.12	86.97	89.08	87.63	6.43	6.44	6.44	2.36	4.80	3.17	4.77	5.12	4.94	69.7	4085.4	1382.2	ml081025005
6	1434	2.5	999.2	999.2	999.2	19.09	19.62	19.41	1.03	1.19	1.13	90.49	93.98	92.29	6.49	6.53	6.51	2.36	4.80	2.96	4.93	5.25	5.04	1.0	829.3	36.1	ml081025006
7	1448	2.2	999.2	999.3	999.3	18.94	19.04	18.99	1.09	1.10	1.09	74.95	82.78	79.04	6.53	6.54	6.53	2.36	3.34	2.84	0.00	0.35	0.06	7.5	3981.6	877.1	ml081025007
8	1455	2.1	999.3	999.3	999.3	19.19	19.23	19.20	1.17	1.18	1.18	91.59	92.73	91.94	6.60	6.61	6.61	2.85	4.32	3.19	4.09	4.49	4.28	13.8	3605.6	907.7	ml081025008
9	1514	2.9	999.1	999.2	999.2	20.09	20.20	20.13	1.28	1.29	1.28	105.57	107.37	106.07	6.87	6.88	6.87	3.34	4.80	3.90	0.75	3.98	3.68	2.0	3645.6	767.2	ml081025009
10	1523	2.1	999.4	999.5	999.4	18.98	19.00	18.99	1.35	1.35	1.35	102.07	103.40	102.95	6.89	6.90	6.90	4.80	5.78	5.32	3.35	3.84	3.49	3.3	3501.2	536.5	ml081025010
11	1531	2.6	999.2	999.2	999.2	20.04	20.19	20.10	1.35	1.35	1.35	113.36	114.79	114.22	7.11	7.13	7.12	5.78	7.25	6.30	3.44	3.93	3.56	1.1	3823.9	549.4	ml081025011
12	1544	1.9	999.4	999.4	999.4	19.26	19.37	19.29	1.35	1.35	1.35	115.57	117.05	116.38	7.32	7.34	7.33	6.27	7.73	6.83	3.52	4.84	3.75	27.7	3952.5	800.7	ml081025012
13	1558	4.2	999.5	999.8	999.6	17.29	18.86	18.32	1.35	1.36	1.35	102.39	117.01	113.91	7.17	7.35	7.31	4.80	14.57	5.57	2.43	8.22	3.78	0.1	471.0	38.5	ml081025013
14	1617	3.3	999.9	1000.0	999.9	18.15	18.54	18.44	1.77	1.89	1.80	106.92	110.46	109.44	7.16	7.21	7.19	1.39	3.34	1.96	2.98	3.70	3.23	2.0	3033.8	141.5	ml081025014



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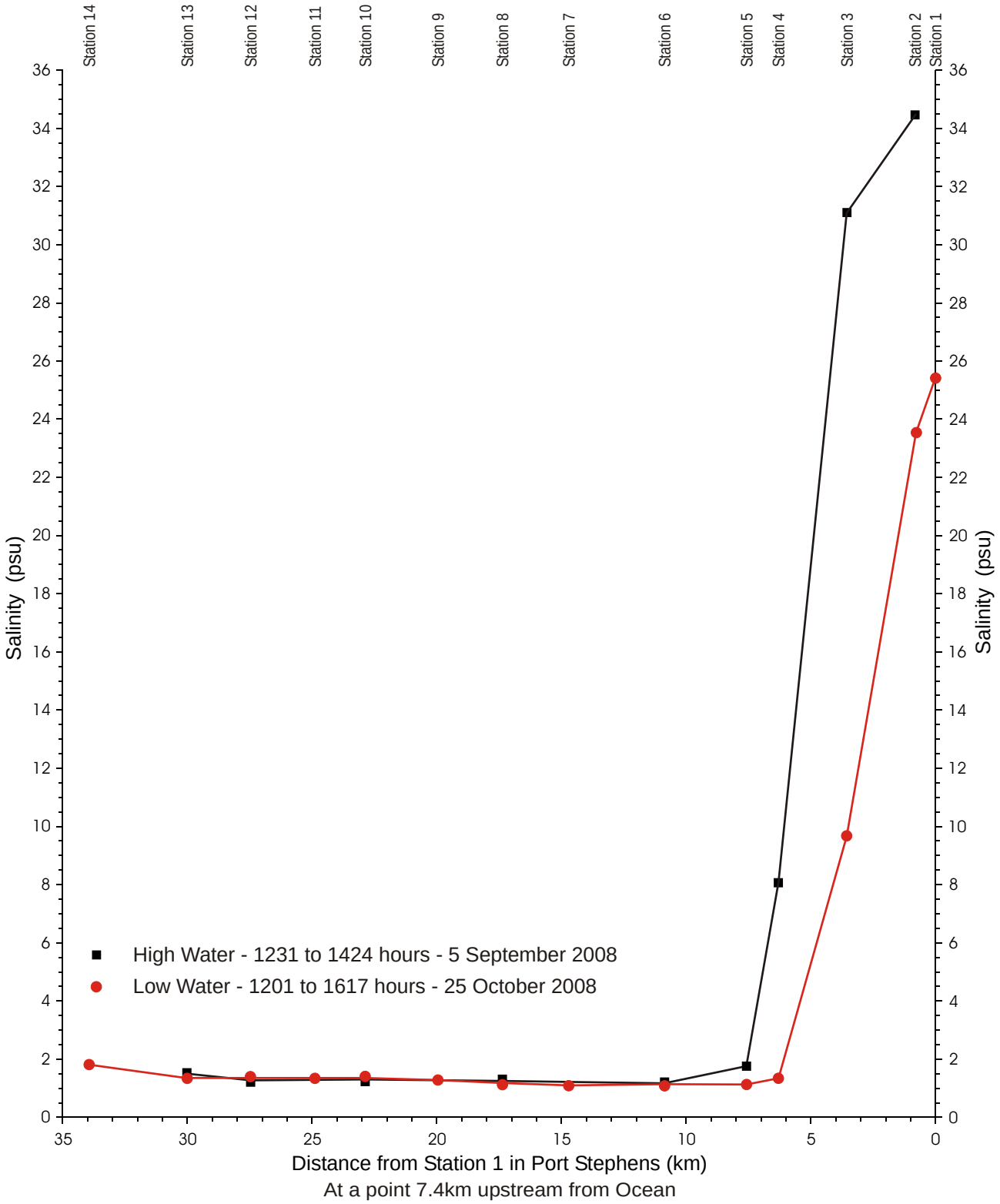
MYALL RIVER

5 SEPTEMBER 2008

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Figure
160

DRAWING 1812-160.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MYALL RIVER
5 SEPTEMBER AND 25 OCTOBER 2008

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Figure 161

DRAWING 1812-161.CDR

Port Stephens Data Summary

Data was collected in Port Stephens on three occasions: 29 and 30 September 1993, 17 December 1997 and 25 April 1998.

Data was collected in Port Stephens on 29 and 30 September 1993, as detailed in report MHL716. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 201. Summaries of the minimum and maximum values for all parameters measured on the profiling runs are shown in Table 202. The locations at which these profiles were taken are shown in Figure 162.

Long channel depth-averaged salinity profiles have not been plotted from this data because the variations in the minimum and maximum salinity were insignificant.

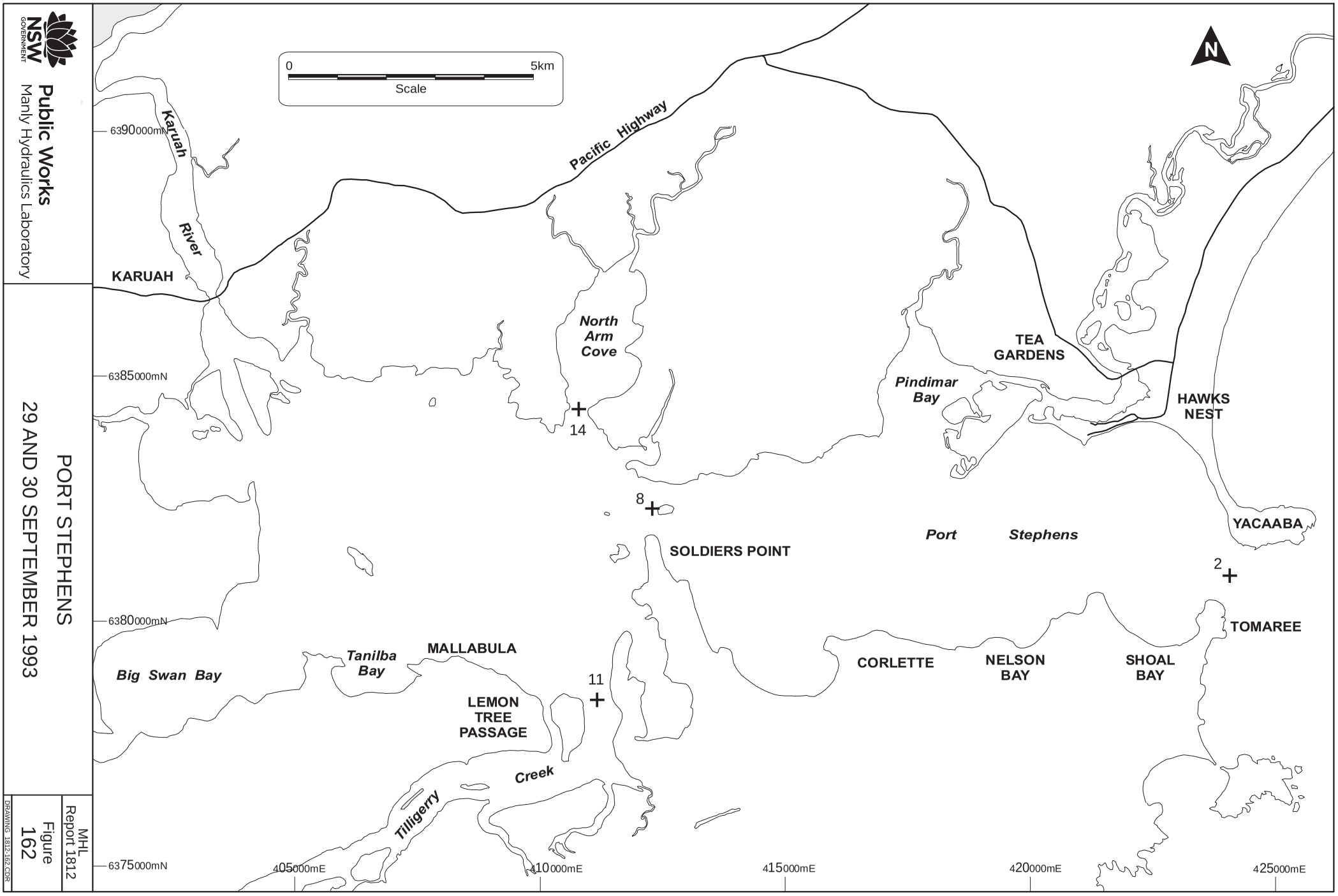
Table 201 Port Stephens - 29 and 30 September 1993

Station No.	MGA (m) Zone 56		Chainage (km)	Min Salinity (psu)	Max Salinity (psu)
	Easting	Northing			
2	424040	6380975	0.00	35.41	35.51
8	412265	6382300	11.85	34.76	35.09
11	411150	6378415	15.89	33.18	34.69
14	410800	6384355	14.36	34.85	35.36

Table 202 Port Stephens - Water Quality Maxima and Minima - 29 and 30 September 1993

Site No.	Profile No.	Date	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		File Name
					Min	Max	Min	Max	
2	1	30/9	1708	15.2	17.55	17.86	35.41	35.51	0201.DAT
8	7	30/9	1124	21.4	17.98	18.36	34.82	34.98	0807.DAT
8	8	30/9	1407	21.3	18.03	18.63	34.76	34.99	0808.DAT
8	1	29/9	0915	23.8	17.56	17.71	34.95	35.04	0801.DAT
8	2	29/9	1103	22.7	17.62	18.07	34.77	35.00	0802.DAT
8	3	29/9	1303	21.8	17.70	18.30	34.77	35.05	0803.DAT
8	4	29/9	1501	20.9	17.69	18.09	34.86	35.06	0804.DAT
8	5	29/9	1713	21.8	17.67	17.97	34.82	35.09	0805.DAT
8	6	29/9	1922	22.2	17.75	17.90	34.94	35.03	0806.DAT
11	1	29/9	0929	7.2	17.73	18.34	33.92	34.69	1101.DAT
11	2	29/9	1133	6.4	18.02	18.72	33.96	34.46	1102.DAT
11	3	29/9	1330	5.1	18.47	19.26	33.31	33.93	1103.DAT
11	4	29/9	1528	5.2	18.31	19.42	33.52	34.34	1104.DAT
11	5	29/9	1737	5.6	18.49	19.09	33.18	34.60	1105.DAT
11	6	29/9	1949	6.2	18.30	18.53	34.47	34.66	1106.DAT
14	1	29/9	0950	8.6	17.51	18.75	34.85	35.23	1401.DAT
14	2	29/9	1154	8.1	17.66	19.28	34.85	35.21	1402.DAT
14	3	29/9	1352	7.6	17.81	19.98	34.89	35.36	1403.DAT
14	4	29/9	1550	6.9	17.93	18.65	34.85	35.02	1404.DAT
14	5	29/9	1758	7.8	17.84	18.01	34.94	34.98	1405.DAT
14	6	29/9	2058	8.5	17.79	18.68	34.92	35.01	1406.DAT

Note The profiles have not been listed in chronological order. The Entrance and Soldiers Point profiles on 30 September are shown first then the rest of the plots from 29 September However, the actual profile numbers are in chronological order
On 29 September Low Water at Tomaree was at 1315 and High Water was at 1930
On 30 September Low Water at Tomaree was at 1345 and High Water was at 2015


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PORT STEPHENS
29 AND 30 SEPTEMBER 1993
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Figure 162
DRAWING 1812.162.CDR
0
5km
Scale
N
6390000mN
6385000mN
6380000mN
6375000mN
405000mE
410000mE
415000mE
420000mE
425000mE
Karuah River
KARUAH
Pacific Highway
North Arm Cove
14
8
11
2
Pindimar Bay
TEA GARDENS
HAWKS NEST
YACAABA
Port Stephens
SOLDIERS POINT
TOMAREE
CORLETTE
NELSON BAY
SHOAL BAY
Tanilba Bay
MALLABULA
Big Swan Bay
LEMON TREE PASSAGE
Tilligerry Creek

Data was collected in Port Stephens on 17 December 1997 and 25 April 1998, as detailed in report MHL942. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 203. Summaries of the minimum and maximum values for all parameters measured on the two high water runs are shown in Tables 204 and 205. The locations at which these profiles were taken are shown in Figure 163.

Long channel depth-averaged salinity profiles have not been plotted from the data collected on 17 December 1997 because the variations in the minimum and maximum salinity were insignificant. Long channel depth-averaged salinity profiles from the data collected on 25 April 1998 are shown in Figure 164.

Table 203 Port Stephens - 17 December 1997 and 25 April 1998

Station No.	MGA (m) Zone 56		Chainage (km)	1997 High Water Salinity (psu)	1998 High Water Salinity (psu)
	Easting	Northing			
10	402720	6389560	26.43	35.64	21.77
11	404425	6379080	20.84	36.74	33.24
12	408150	6382320	16.08	35.78	34.60
13	411155	6385400	15.66	36.33	31.30
14	401530	6377685	24.13	37.26	29.80
15	415445	6379500	9.37	35.63	35.28
16	423005	6379645	1.75	35.54	35.34
17	402565	6383770	21.68	36.03	24.19
18	412385	6378785	15.94	36.11	33.71
19	407860	6376400	21.12	36.19	33.50
21	411880	6382560	12.38	-	34.52
25	421090	6381920	3.22	-	35.26

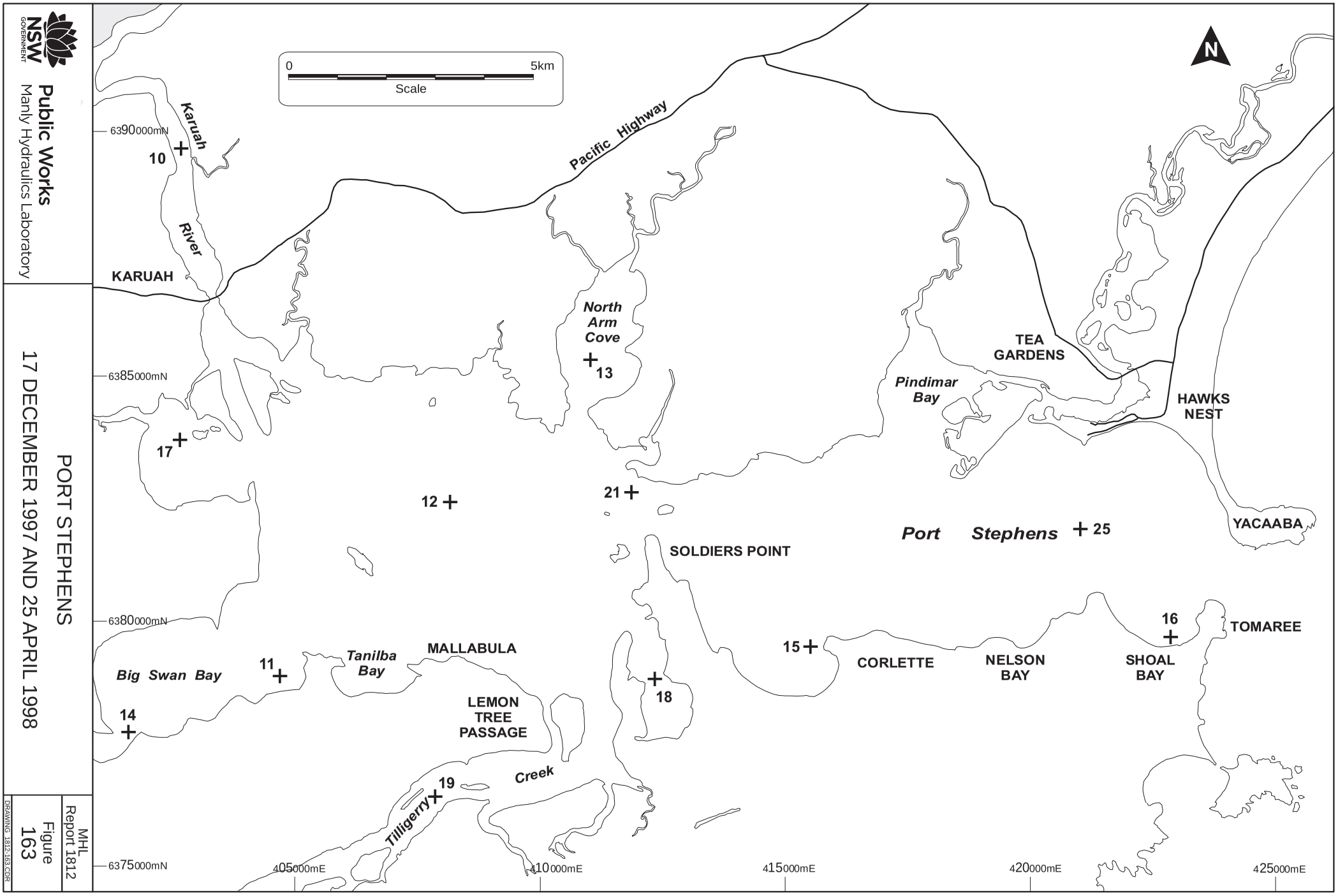
Note Station locations transferred from report figure to digital map, then co-ordinates transferred from Department of Lands TopoView Raster 2006 DVD
No profiling at Stations 21 and 25 on 17 December 1997

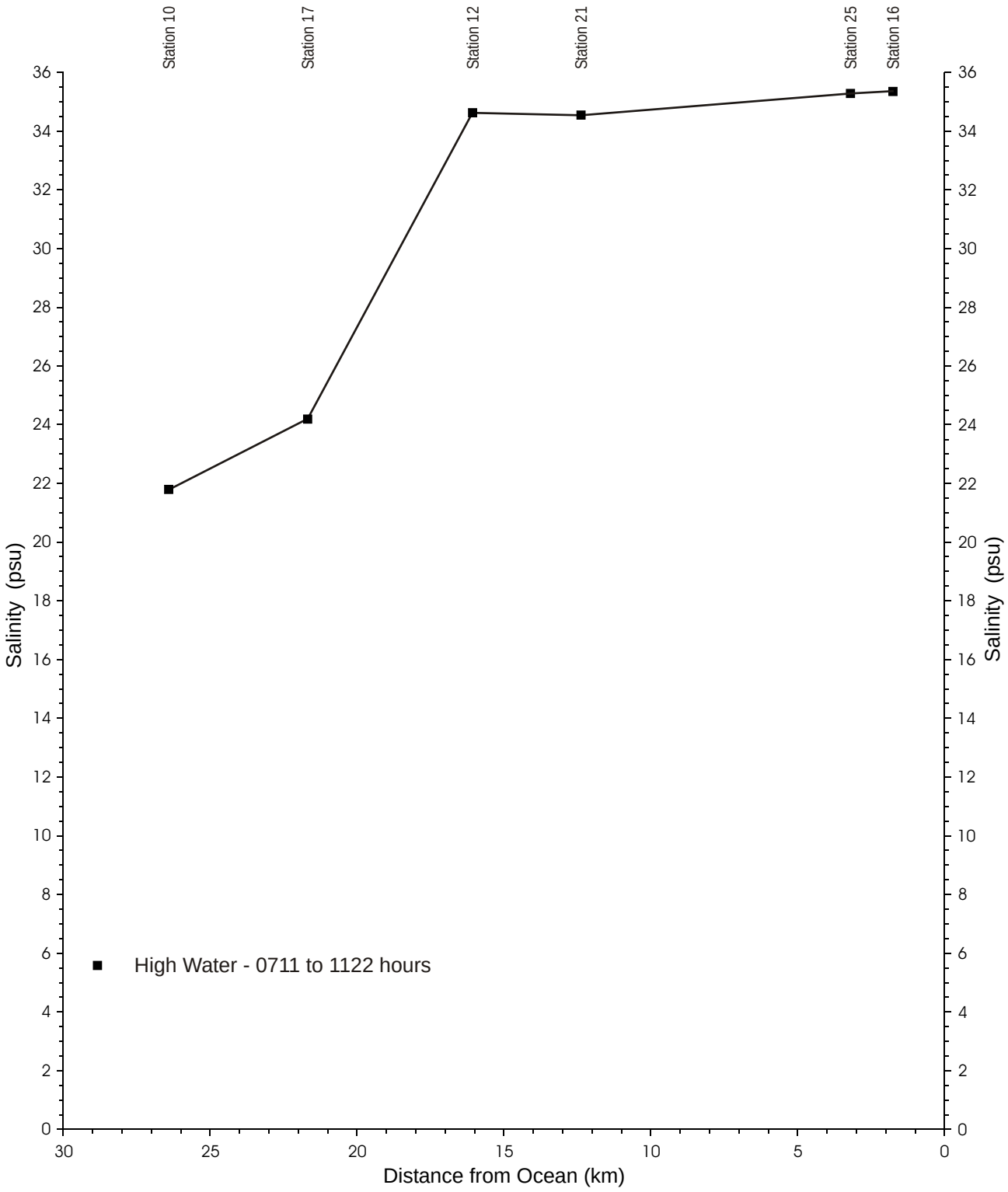
Table 204 Port Stephens - Water Quality Maxima and Minima - High Water - 17 December 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			OBS3 (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
16	0633	4.43	20.95	21.07	21.01	35.52	35.54	35.54	1024.88	1024.94	1024.91	101.5	105.5	103.5	8.4	8.4	8.4	3	20	4.3	942_C001
15	0719	19.31	22.42	22.46	22.44	35.35	35.68	35.63	1024.42	1024.70	1024.61	47.5	101.8	92.2	8.4	8.5	8.4	4	9	4.9	942_C002
18	0823	2.60	24.39	24.45	24.40	36.09	36.12	36.11	1024.33	1024.39	1024.37	92.8	95.7	93.9	8.3	8.4	8.4	9	15	10.8	942_C003
19	0857	6.32	25.23	25.53	25.28	36.17	36.21	36.19	1024.08	1024.21	1024.17	91.7	95.9	92.9	8.3	8.3	8.3	7	22	8.9	942_C004
14	0952	3.66	25.30	25.95	25.53	37.00	37.33	37.26	1024.56	1025.03	1024.90	57.4	85.7	78.2	8.3	8.3	8.3	14	27	18.7	942_C005
11	1035	1.99	25.68	25.97	25.72	36.59	36.78	36.74	1024.25	1024.49	1024.44	92.8	94.3	93.5	8.3	8.3	8.3	15	338	24.6	942_C006
17	1120	1.32	25.79	25.97	25.86	35.94	36.08	36.03	1023.75	1023.92	1023.85	66.7	124.8	81.5	8.3	8.3	8.3	19	28	21.7	942_C007
10	1232	12.71	25.17	26.01	25.65	27.59	36.2	35.64	1017.47	1024.25	1023.65	52.9	160.5	92.7	8.2	8.3	8.2	24	48	26.3	942_C008
12	1355	9.06	23.17	23.44	23.33	35.73	35.88	35.79	1024.37	1024.57	1024.45	70.6	116.9	81.7	8.4	8.4	8.4	55	174	58.2	942_C009
12	1401	9.14	23.17	23.46	23.35	35.68	35.84	35.76	1024.38	1024.52	1024.43	72.1	93.9	80.0	8.4	8.4	8.4	28	32	29.5	942_C010
13	1433	3.22	24.97	26.12	25.70	36.16	36.58	36.33	1023.87	1024.53	1024.14	73.4	85.9	77.8	8.4	8.4	8.4	11	28	12.4	942_C011

Table 205 Port Stephens - Water Quality Maxima and Minima - High Water - 25 April 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			OBS3 (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
16	0711	5.79	22.23	22.32	22.26	35.21	35.40	35.34	1024.29	1024.48	1024.42	89.9	93.7	91.8	8.4	8.4	8.4	2	3	2	942_I001
25	0727	24.80	22.32	22.34	22.33	35.25	35.27	35.26	1024.32	1024.44	1024.37	88.8	90.8	89.8	8.4	8.5	8.5	2	3	2	942_I002
15	0750	13.08	21.54	21.96	21.79	35.23	35.33	35.28	1024.45	1024.60	1024.52	86.2	87.7	87.0	8.4	8.4	8.4	3	4	3	942_I003
18	0821	3.11	20.09	20.57	20.40	32.67	34.17	33.69	1022.94	1024.00	1023.67	84.2	85.7	84.9	8.3	8.3	8.3	4	6	5	942_I004
18	0836	3.01	20.36	20.58	20.51	32.98	34.06	33.73	1023.08	1023.91	1023.67	81.1	83.7	82.7	8.3	8.3	8.3	5	9	6	942_I005
19	0858	6.48	20.38	20.51	20.46	32.78	34.00	33.50	1022.97	1023.91	1023.52	82.2	84.8	83.3	8.1	8.2	8.2	4	6	5	942_I006
11	0927	2.77	19.97	20.29	20.20	31.57	33.67	33.24	1022.15	1023.69	1023.38	86.2	87.9	87.2	8.3	8.3	8.3	5	7	6	942_I007
14	0956	2.77	19.71	19.89	19.86	29.07	30.03	29.80	1020.29	1021.02	1020.84	81.4	84.2	83.3	8.2	8.2	8.2	12	22	15	942_I008
17	1039	1.73	19.72	19.85	19.76	23.91	24.62	24.19	1016.37	1016.94	1016.61	75.3	76.5	75.7	8.0	8.0	8.0	28	46	39	942_I009
10	1122	11.37	20.33	20.37	20.35	18.93	23.39	21.77	1012.47	1015.90	1014.64	68.0	70.7	69.2	7.5	7.6	7.5	19	46	26	942_I010
12	1215	14.14	20.96	21.23	21.08	34.04	35.00	34.60	1023.76	1024.50	1024.19	87.4	90.6	89.0	8.3	8.3	8.3	4	5	5	942_I011
13	1233	3.06	20.63	21.12	20.93	25.19	34.89	31.30	1017.02	1024.40	1021.71	84.1	87.2	85.3	8.2	8.3	8.2	3	9	6	942_I012
21	1309	26.97	21.16	21.26	21.17	31.41	34.89	34.52	1021.70	1024.48	1024.14	86.6	89.2	87.7	8.2	8.3	8.3	4	6	4	942_I013


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Public Works
Manly Hydraulics Laboratory
PORT STEPHENS
17 DECEMBER 1997 AND 25 APRIL 1998
MHL Report 1812
Figure 163
DRAWING 1812.163.CDR
0
5km
Scale
N
Karuah River
Pacific Highway
KARUAH
North Arm Cove
TEA GARDENS
Pindimar Bay
HAWKS NEST
YACAABA
Port Stephens
SOLDIERS POINT
TOMAREE
CORLETTE
NELSON BAY
SHOAL BAY
MALLABULA
Tanilba Bay
Big Swan Bay
LEMON TREE PASSAGE
Tilligerry Creek
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6390000mN
6385000mN
6380000mN
6375000mN
405000mE
410000mE
415000mE
420000mE
425000mE



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MYALL RIVER
25 APRIL 1998

MHL Report 1812

Figure 164

DRAWING 1812-164.CDR

Hunter River Data Summary

Data was collected in the Hunter River estuary on 9, 10 and 11 October 1995, as detailed in report MHL750. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 206 to 208. Summaries of the minimum and maximum values for all parameters measured on the high and low water runs are shown in Tables 209a to 212. The locations at which these profiles were taken are shown in Figure 165. Long channel depth-averaged salinity profiles are shown in Figures 166 to 168.

Table 206 Hunter River - 9 and 11 October 1995

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity		Low Water Salinity	
	Easting	Northing		Min (psu)	Max (psu)	Min (psu)	Max (psu)
1	387210	6357100	1.13	34.98	34.98	33.24	35.56
2	386055	6358985	5.10	34.38	34.38	30.36	31.06
3	385495	6363920	10.20	33.72	33.72	22.94	26.54
4	381050	6365950	15.30	29.32	29.32	13.47	15.11
5	376865	6367685	19.84	18.38	18.38	6.35	12.55
6	377830	6371305	25.08	9.94	9.94	1.51	4.74
7	380555	6373175	28.48	4.95	4.95	1.08	1.20
8	382160	6375305	31.46	1.55	1.55	0.72	0.89
9	380530	6377310	36.42	0.93	0.93	0.41	0.53
10	377420	6378070	39.96	0.36	0.36	0.39	0.60
11	375230	6376595	43.36	0.34	0.34	0.43	0.58
12	372885	6378925	46.76	0.35	0.35	0.28	0.37
13	371025	6378460	48.74	0.31	0.31	0.55	0.65
14	369760	6379310	50.16	0.37	0.37	0.45	0.59
15	368325	6378900	51.58	0.42	0.42	0.52	0.55
16	366735	6377195	55.40	0.44	0.44	-	-
17	364520	6377750	58.38	0.40	0.40	-	-
18	365315	6379715	60.08	0.38	0.38	-	-

Note Co-ordinates transferred from Department of Lands TopoView Raster 2006 DVD

Table 207 Paterson River - 9 October 1995

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity		Low Water Salinity	
	Easting	Northing		Min (psu)	Max (psu)	Min (psu)	Max (psu)
26	373150	6379420	47.78	0.33	0.33	0.21	0.21
27	372010	6380930	50.19	0.32	0.32	0.16	0.17
28	370325	6381800	51.89	0.26	0.26	0.15	0.15
29	369230	6383275	54.59	0.17	0.17	0.15	0.15
30	368245	6385605	57.42	0.15	0.15	0.15	0.15
31	368880	6387405	60.54	0.15	0.15	0.15	0.15
32	368990	6389215	62.80	0.15	0.15	0.15	0.15
33	368875	6390195	64.79	0.15	0.15	0.15	0.15
34	371050	6392365	67.90	0.16	0.16	0.16	0.16
35	370285	6392385	68.61	0.16	0.16	0.16	0.16
36	369765	6393115	69.75	0.16	0.16	0.16	0.16
37	370050	6394985	71.87	0.16	0.16	-	-

Note Co-ordinates transferred from Department of Lands TopoView Raster 2006 DVD

Table 208 Williams River - 10 October 1995

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity		Low Water Salinity	
	Easting	Northing		Min (psu)	Max (psu)	Min (psu)	Max (psu)
19	382490	6375375	31.42	1.82	2.19	0.62	0.63
20	381655	6376875	33.97	0.89	0.90	1.36	1.36
21	382480	6378730	36.80	0.90	1.04	1.55	1.59
22	383025	6380790	39.64	1.54	1.66	1.63	1.65
23	382740	6382750	41.34	1.64	1.78	1.49	1.85
24	381690	6384165	44.17	1.13	2.80	1.17	2.52
25	381295	6385485	46.01	0.91	0.93	0.94	4.08

Note Co-ordinates transferred from Department of Lands TopoView Raster 2006 DVD

Table 209a Hunter River - Water Quality Maxima and Minima - High Water - 9 October 1995

Station No.	Start Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		pH (0-14)		Back-scatterance	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	0916	17.4	17.35	17.42	34.98	35.27	1025.4	1025.7	8.26	8.27	6.82	8.75
2	0928	6.8	17.39	17.69	34.38	34.95	1024.9	1025.4	8.25	8.26	7.33	8.40
3	0940	5.2	17.61	17.70	33.72	33.99	1024.4	1024.6	8.22	8.22	9.49	10.97
4	0957	3.6	18.03	18.18	29.32	29.95	1020.9	1021.4	8.11	8.13	12.14	20.34
5	1025	7.2	18.58	19.18	18.38	22.09	1012.3	1015.3	8.01	8.03	9.72	14.90
6	1042	9.0	18.83	19.22	9.94	11.63	1005.9	1007.3	7.92	7.96	12.05	19.78
7	1052	3.4	18.88	19.29	4.95	6.29	1002.1	1003.2	7.87	7.97	19.07	21.80
8	1117	5.6	18.96	19.20	1.55	1.87	999.6	999.9	7.97	8.07	26.23	44.54
9	1128	7.2	18.83	19.17	0.93	0.96	999.1	999.2	7.98	8.08	36.55	47.07
10	1139	7.2	19.68	19.88	0.36	0.36	998.5	998.6	8.45	8.58	30.09	36.13
11	1153	2.4	19.94	20.07	0.34	0.34	998.5	998.5	8.71	8.74	24.11	28.27
12	1213	4.0	19.90	20.03	0.35	0.37	998.5	998.5	8.69	8.74	24.41	27.51
13	1250	2.2	20.20	20.82	0.31	0.32	998.3	998.4	8.58	8.73	23.79	27.83
14	1258	1.0	20.81	20.83	0.37	0.38	998.3	998.3	8.68	8.70	20.18	21.16
15	1304	2.0	20.66	20.82	0.42	0.44	998.4	998.4	8.60	8.65	18.33	23.89
16	1311	0.4	21.02	21.03	0.44	0.48	998.3	998.4	8.54	8.55	23.59	25.55
17	1317	2.4	19.62	20.11	0.40	0.42	998.5	998.6	8.36	8.41	14.88	18.72
18	1335	0.4	23.14	23.17	0.38	0.39	997.8	997.8	8.65	8.65	17.65	19.79

Table 209b Hunter River - Water Quality Maxima and Minima - Low Water -11 October 1995

Station No.	Start Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		pH (0-14)		Back-scatterance	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	0510	16.2	17.90	18.12	33.24	35.56	1023.9	1025.8	8.09	8.20	7.95	12.28
2	0524	5.4	18.42	18.49	30.36	31.06	1021.6	1022.2	8.06	8.08	13.11	16.30
3	0539	4.2	18.48	18.75	22.94	26.54	1016.0	1018.6	7.97	8.01	11.41	18.17
4	0555	2.8	18.90	19.01	13.47	15.11	1008.7	1009.9	7.86	7.87	13.29	26.21
5	0612	6.4	18.98	19.20	6.35	12.55	1003.2	1007.9	7.81	7.86	17.13	26.20
6	0629	6.2	18.87	19.26	1.51	4.74	999.6	1002.0	7.71	7.97	40.71	173.3
7	0642	2.6	18.86	18.88	1.08	1.20	999.3	999.4	7.96	8.00	45.13	48.67
8	0653	4.0	19.27	19.44	0.72	0.89	998.9	999.0	8.14	8.30	46.84	57.19
9	0708	4.6	19.96	19.97	0.41	0.53	998.5	998.6	8.74	8.81	47.13	59.90
10	0721	6.6	19.60	19.64	0.39	0.60	998.6	998.8	8.68	8.77	43.96	50.81
11	0732	2.2	19.72	19.77	0.43	0.58	998.6	998.7	8.53	8.59	45.08	59.17
12	0744	3.2	19.69	19.73	0.28	0.37	998.5	998.5	8.34	8.42	50.72	51.97
13	0752	1.8	19.64	19.89	0.55	0.65	998.7	998.7	8.41	8.47	52.26	55.63
15	0822	0.6	19.34	19.47	0.52	0.55	998.7	998.7	8.27	8.29	59.72	67.32
14	0831	0.4	20.09	20.09	0.45	0.59	998.5	998.6	8.33	8.34	60.58	68.83

Table 210a Paterson River - Water Quality Maxima and Minima - Low Water - 9 October 1995

Station No.	Start Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		pH (0-14)		Back-scatterance	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
26	0647	3.0	19.24	19.25	0.21	0.21	998.5	998.5	7.77	7.80	59.70	61.33
27	0657	4.6	19.12	19.15	0.16	0.17	998.5	998.5	7.72	7.87	56.11	58.65
28	0707	3.8	19.31	19.34	0.15	0.15	998.5	998.5	7.75	7.78	53.33	54.20
29	0715	2.4	19.52	19.53	0.15	0.15	998.4	998.4	7.77	7.79	51.42	53.47
30	0724	2.6	20.01	20.02	0.15	0.15	998.3	998.3	7.78	7.81	50.31	51.38
31	0734	2.6	20.11	20.16	0.15	0.15	998.3	998.3	7.73	7.75	48.35	49.54
32	0744	2.0	20.24	20.25	0.15	0.15	998.3	998.3	7.73	7.76	47.86	48.53
33	0752	1.8	20.56	20.57	0.15	0.15	998.2	998.2	7.78	7.80	48.47	49.45
34	0802	3.2	19.72	19.76	0.16	0.16	998.4	998.4	7.79	7.82	45.42	45.91
35	0812	2.2	19.37	19.42	0.16	0.16	998.4	998.5	7.80	7.83	38.30	46.53
36	0824	0.6	18.89	18.90	0.16	0.16	998.6	998.6	7.79	7.80	45.04	45.64

Table 210b Paterson River - Water Quality Maxima and Minima - High Water - 9 October 1995

Station No.	Start Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		pH (0-14)		Back-scatterance	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
26	1215	4.0	19.89	20.05	0.33	0.33	998.5	998.5	8.30	8.33	55.82	59.79
27	1223	4.6	19.96	20.17	0.32	0.32	998.4	998.5	8.17	8.21	56.43	59.36
28	1231	4.2	19.91	20.02	0.26	0.26	998.4	998.4	7.97	8.01	56.61	60.07
29	1241	4.0	19.54	19.61	0.17	0.17	998.4	998.5	7.75	7.79	55.63	57.21
30	1251	3.2	19.87	20.04	0.15	0.15	998.3	998.4	7.86	7.93	50.31	52.04
31	1259	3.4	20.35	20.42	0.15	0.15	998.2	998.3	7.89	7.93	48.34	49.56
32	1307	2.8	20.61	20.86	0.15	0.15	998.1	998.2	7.89	7.96	46.22	53.94
33	1314	2.6	20.67	21.30	0.15	0.15	998.0	998.2	7.85	7.89	46.39	47.66
34	1323	3.0	21.33	21.72	0.16	0.16	998.0	998.1	7.94	8.01	44.99	51.81
35	1328	2.2	21.23	21.34	0.16	0.16	998.0	998.1	7.93	7.95	45.68	46.16
36	1332	2.6	21.26	21.27	0.16	0.16	998.1	998.1	7.90	7.91	45.58	45.91
37	1342	1.2	22.23	22.26	0.16	0.16	997.8	997.8	7.99	7.80	45.71	49.39

Table 211a Williams River - Water Quality Maxima and Minima - Low Water - 10 October 1995

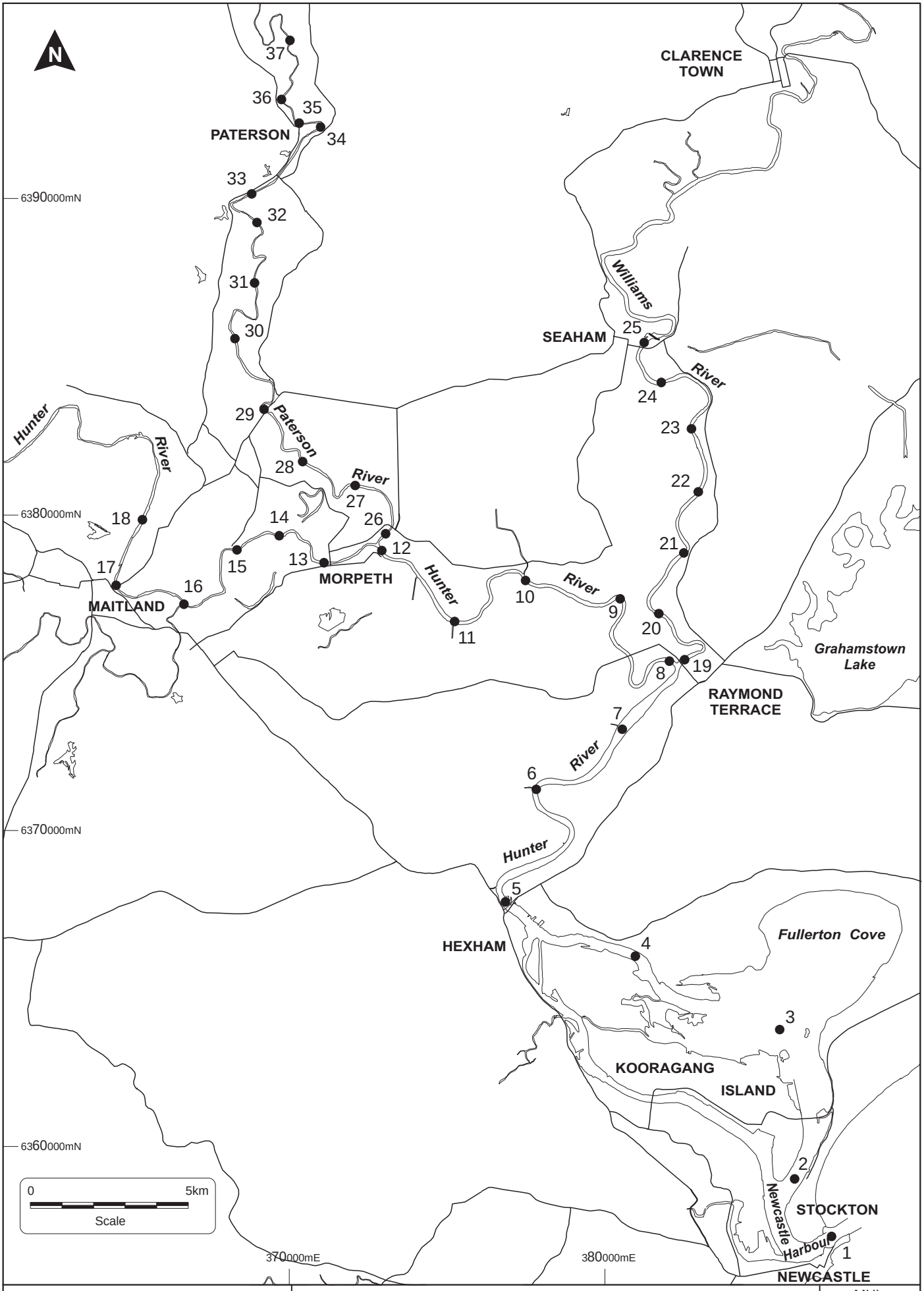
Station No.	Start Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		pH (0-14)		Back-scatterance	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
19	0538	2.8	18.75	18.98	0.62	0.63	998.9	998.9	7.80	7.90	68.73	70.78
20	0547	5.8	18.61	18.62	1.36	1.36	999.5	999.6	7.57	7.59	57.83	60.18
21	0557	2.0	18.27	18.29	1.55	1.59	999.7	999.8	7.39	7.44	53.58	54.02
22	0607	4.6	18.50	18.56	1.63	1.65	999.8	999.8	7.52	7.56	50.21	51.11
23	0617	8.6	18.25	18.87	1.49	1.85	999.6	1000.0	7.33	7.63	49.32	53.67
24	0630	5.8	17.24	18.74	1.17	2.52	999.4	1000.7	7.15	7.68	48.37	50.70
25	0640	6.2	17.01	18.68	0.94	4.08	999.2	1001.9	6.97	7.55	48.84	49.57

Table 211b Williams River - Water Quality Maxima and Minima - High Water - 10 October 1995

Station No.	Start Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		pH (0-14)		Back-scatterance	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
19	1053	4.4	18.99	19.05	1.82	2.19	999.8	1000.1	7.70	7.71	70.22	76.81
20	1106	3.8	18.63	19.36	0.89	0.90	999.0	999.2	7.75	7.85	66.52	73.99
21	1114	3.6	18.92	19.31	0.90	1.04	999.0	999.2	7.65	7.77	61.05	63.22
22	1125	6.2	18.40	18.78	1.54	1.66	999.6	999.8	7.40	7.60	52.16	53.45
23	1134	8.4	18.36	19.77	1.64	1.78	999.5	999.9	7.31	7.93	48.60	55.60
24	1146	9.0	17.03	20.89	1.13	2.80	998.9	1001.0	7.00	8.12	47.08	50.31
25	1157	6.0	17.33	19.42	0.91	0.93	999.0	999.5	7.04	7.66	47.86	48.83

Table 212 Sites 14, 15 and 17 - Water Quality Maxima and Minima - 9 October 1995

Site No.	Temperature (°C)		Salinity (psu)	
	Min	Max	Min	Max
14	18.73	20.10	0.21	0.32
15	19.50	20.70	0.26	0.34
17	19.50	20.70	0.15	0.16



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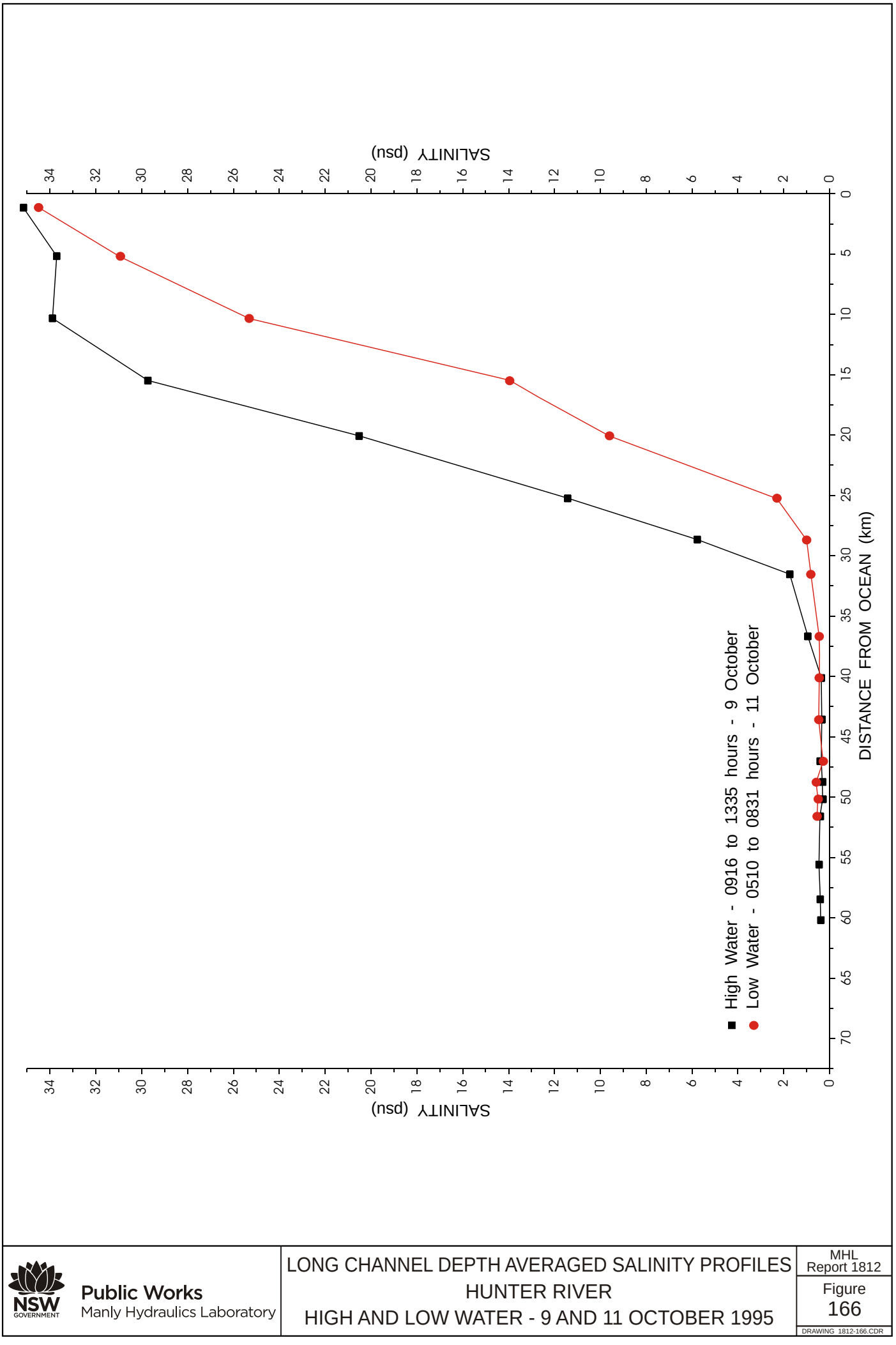
HUNTER RIVER

9 TO 11 OCTOBER 1995

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Figure 165

DRAWING 1812-165.CDR



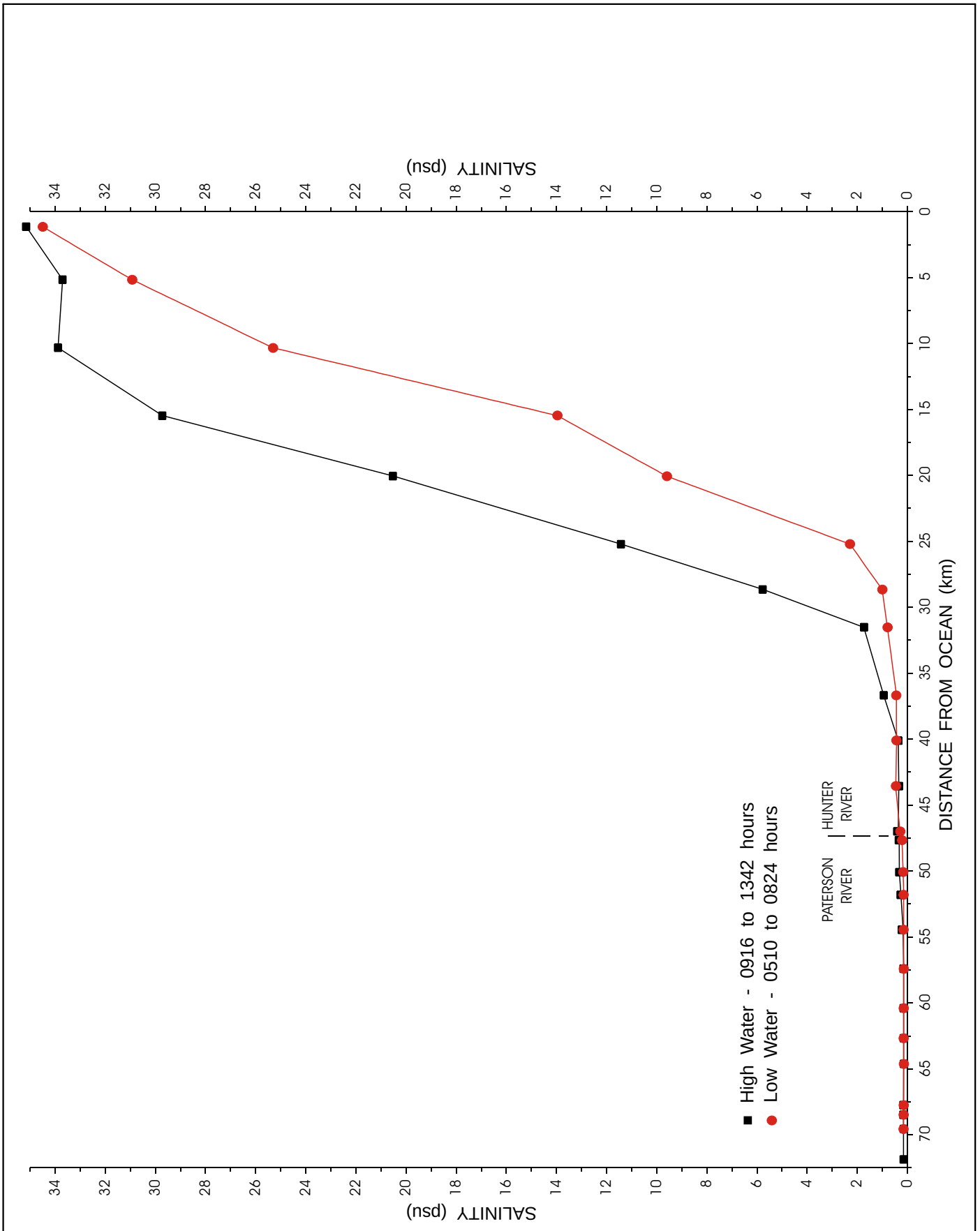
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
HUNTER RIVER
HIGH AND LOW WATER - 9 AND 11 OCTOBER 1995

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Figure 166

DRAWING 1812-166.CDR



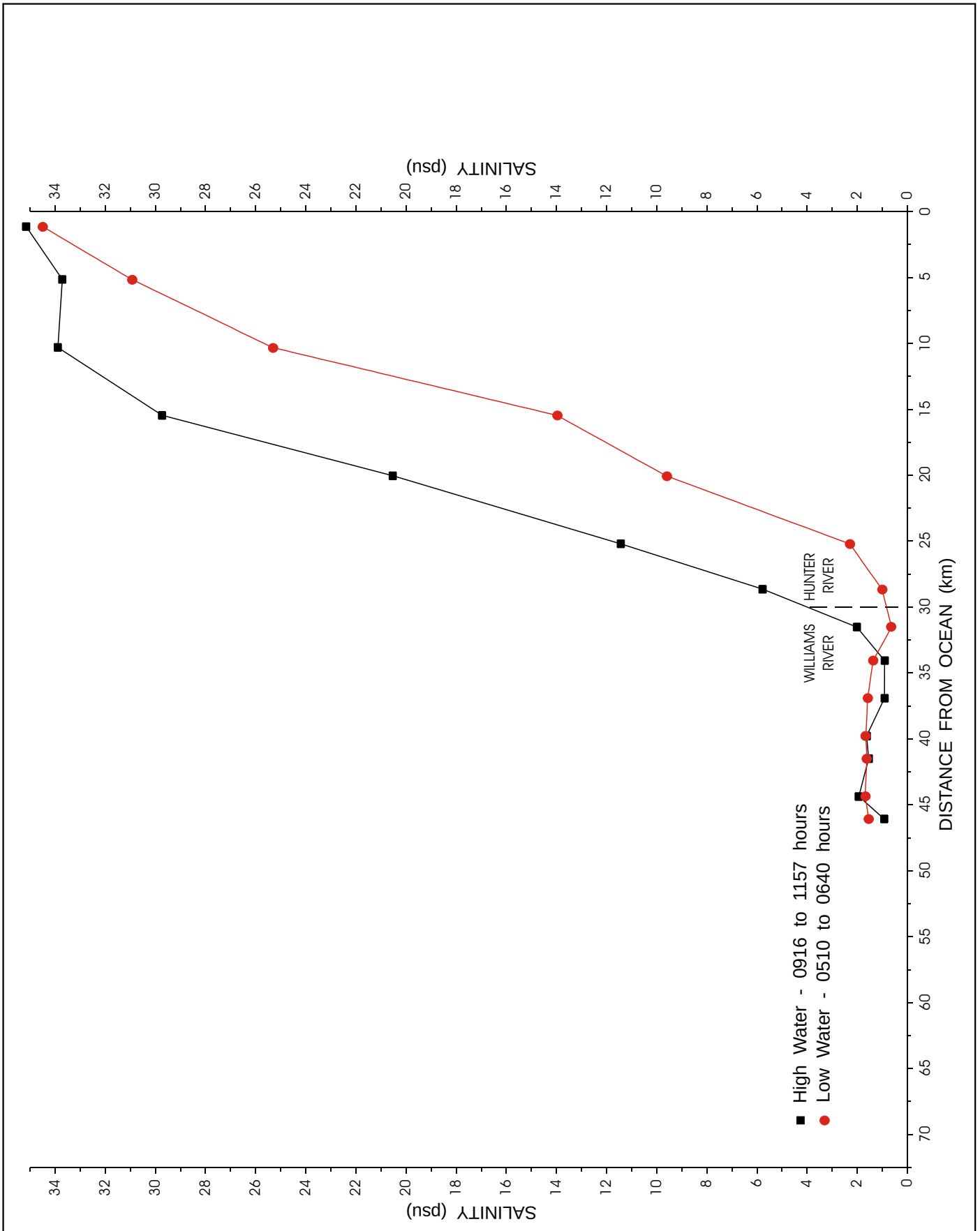
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
HUNTER AND PATERSON RIVERS
HIGH AND LOW WATER - 9 OCTOBER 1995

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Figure 167

DRAWING 1812-167.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
HUNTER AND WILLIAMS RIVERS
HIGH AND LOW WATER - 10 OCTOBER 1995

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Figure 168

DRAWING 1812-168.CDR

Data was also collected in the Hunter River on 2 January 2003. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 213. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 214a-b. The locations at which these profiles were taken are shown in Figure 169. Long channel depth-averaged salinity profiles are shown in Figures 170.

Table 213 Hunter River - 2 January 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	387054	6357038	0.900	-	34.31
2	386393	6360839	6.650	34.77	28.64
3	385712	6363842	9.775	34.58	24.04
4	381080	6366025	15.400	33.61	14.42
5	376916	6367653	20.050	24.28	7.30
6	376801	6368530	21.075	-	6.08
7	377655	6368887	22.100	-	4.56
8	378536	6369312	23.175	-	3.37
9	378508	6370418	24.625	17.08	-
10	377967	6370694	25.250	-	2.83
11	378132	6371571	26.300	-	2.27
12	379958	6372109	28.300	10.95	-
13	380716	6373533	29.900	8.58	-
14	381571	6374237	31.000	5.65	-
15	381202	6374613	33.875	3.50	-
16	380219	6376226	36.125	1.75	-

Note Chainage is distance from the ocean end of the northern breakwater via the north channel
No profiling done at Stations 1, 6, 7, 8, 10 and 11 on high water run
No profiling done at Stations 9 on low water run
Profiling stopped at Station 16 on high water run and Station 12 on the low water run

Table 214a Hunter River - Water Quality Maxima and Minima - High Water - 2 January 2003

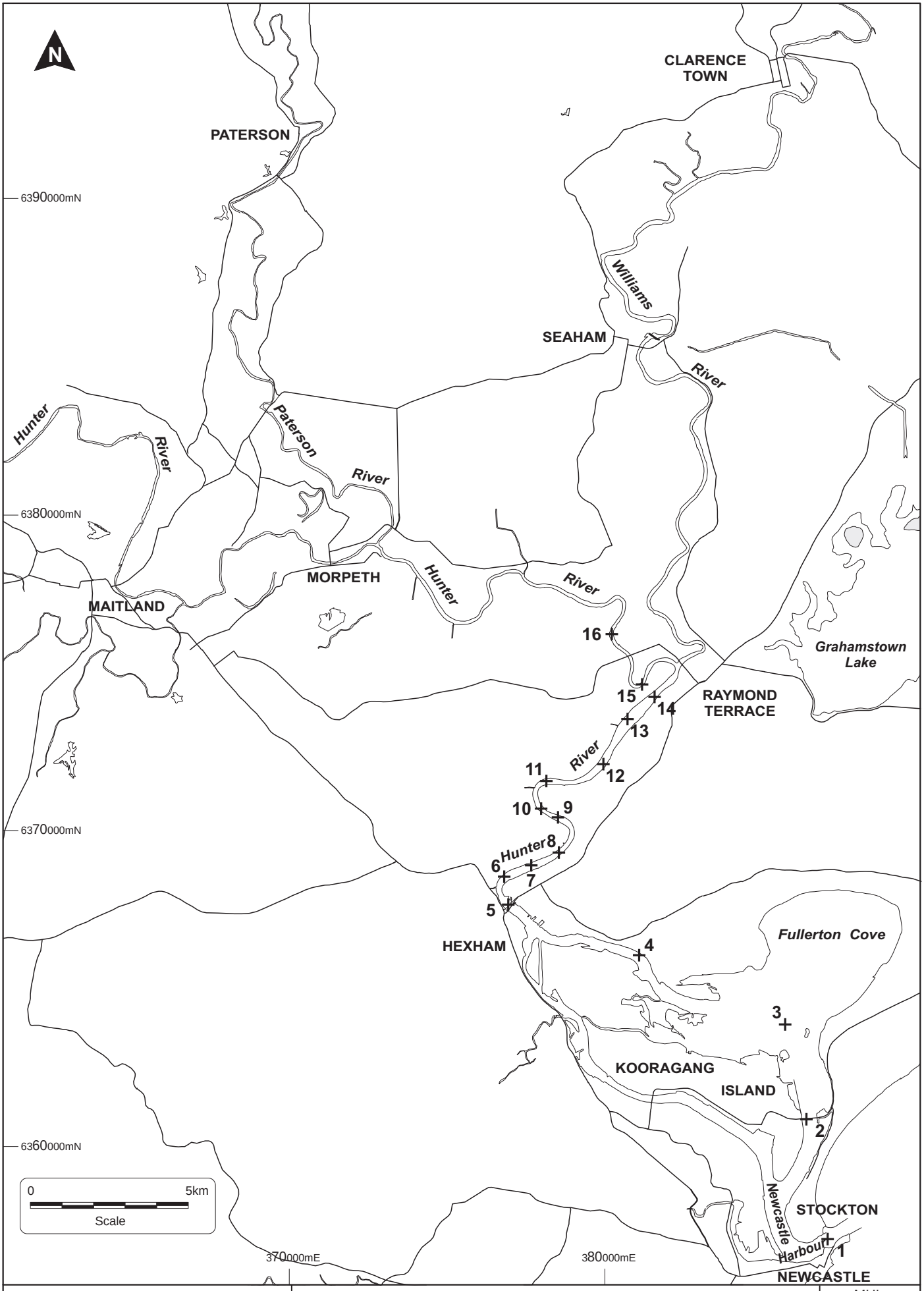
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	0940	8.3	1024.4	1025.2	1024.9	18.50	19.47	18.89	34.31	35.08	34.77	70.71	126.54	98.53	7.87	7.99	7.93	0.97	3.90	2.08	HNTR02
3	0950	5.5	1024.0	1024.8	1024.6	19.08	20.02	19.31	34.06	34.75	34.58	70.17	111.33	90.79	7.83	7.85	7.84	1.46	3.90	2.10	HNTR03
4	1003	6.2	1022.8	1023.8	1023.5	20.32	21.50	20.74	32.96	33.86	33.61	74.93	79.96	76.35	7.82	7.84	7.83	3.42	6.34	4.21	HNTR04
5	1014	4.6	1014.6	1017.4	1015.7	23.09	24.06	23.53	23.02	26.39	24.28	66.01	71.20	68.51	7.63	7.65	7.64	4.88	19.04	8.80	HNTR05
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	1024	3.6	1009.3	1010.9	1010.1	24.00	24.28	24.16	16.12	18.09	17.08	61.12	62.35	62.09	7.44	7.46	7.45	12.21	15.14	14.22	HNTR06
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	1034	4.5	1005.0	1006.0	1005.4	24.33	24.71	24.56	10.45	11.62	10.95	57.59	60.60	59.43	7.37	7.40	7.39	14.65	36.63	20.91	HNTR07
13	1054	3.5	1003.0	1003.8	1003.5	24.56	25.66	24.87	8.13	8.82	8.58	57.92	69.17	61.43	7.37	7.50	7.42	12.21	25.88	18.21	HNTR09
14	1101	3.5	999.8	1002.1	1001.3	24.67	25.22	24.87	3.73	6.60	5.65	57.73	63.81	60.22	7.37	7.51	7.41	17.58	31.74	22.39	HNTR10
15	1111	6.5	999.5	1000.2	999.8	24.49	24.91	24.67	3.21	3.96	3.50	59.35	62.76	60.94	7.42	7.50	7.47	27.84	53.23	34.39	HNTR11
16	1119	4.5	998.4	998.6	998.5	24.32	24.73	24.43	1.68	1.81	1.75	61.67	63.79	62.40	7.55	7.57	7.56	38.58	48.35	42.59	HNTR12

Note No profiling done at Stations 1, 6, 7, 8, 10 and 11
Profiling stopped at Station 16

Table 214b Hunter River - Water Quality Maxima and Minima - Low Water - 2 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1540	16.8	1022.6	1025.9	1024.4	17.02	21.93	19.37	32.84	35.46	34.31	71.85	97.04	82.88	7.68	7.79	7.74	1.46	19.04	4.10	HNTR13
2	1556	7.1	1018.3	1019.9	1019.0	23.32	24.12	23.62	27.97	29.72	28.64	84.46	90.56	86.30	7.71	7.75	7.72	8.30	13.18	10.17	HNTR14
3	1607	2.8	1015.2	1015.6	1015.3	24.09	24.17	24.13	23.82	24.35	24.04	73.67	74.16	73.90	7.55	7.56	7.55	8.30	12.21	9.58	HNTR15
4	1640	2.9	1007.7	1008.2	1007.9	24.71	24.86	24.79	14.13	14.77	14.42	65.79	68.10	66.84	7.38	7.40	7.39	11.23	13.18	11.93	HNTR16
5	1653	3.1	1002.1	1003.2	1002.5	25.21	25.28	25.26	6.82	8.23	7.30	63.09	65.70	64.50	7.37	7.42	7.40	21.00	38.58	27.27	HNTR17
6	1701	4.3	1001.0	1002.8	1001.6	25.16	25.40	25.23	5.29	7.79	6.08	63.82	64.97	64.32	7.39	7.43	7.41	23.44	43.46	30.02	HNTR18
7	1707	2.1	1000.1	1000.6	1000.4	25.10	25.19	25.14	4.14	4.81	4.56	65.32	65.84	65.56	7.45	7.47	7.46	33.21	41.02	37.88	HNTR19
8	1713	3.9	999.5	999.8	999.6	25.03	25.05	25.04	3.26	3.71	3.37	64.75	66.29	65.90	7.47	7.50	7.49	37.11	48.35	43.14	HNTR20
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	1722	4.0	999.1	999.3	999.2	25.10	25.12	25.11	2.79	2.96	2.83	66.23	67.17	66.71	7.52	7.53	7.53	41.02	52.26	47.79	HNTR21
11	1728	3.2	998.7	998.8	998.7	25.02	25.12	25.07	2.13	2.39	2.27	66.76	67.97	67.39	7.55	7.56	7.55	42.98	60.07	53.57	HNTR22

Note No profiling done at Stations 9
Profiling stopped at Station 12



Public Works
Manly Hydraulics Laboratory

HUNTER RIVER

2 JANUARY 2003

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Figure 169

DRAWING 1812-169.CDR

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
HUNTER RIVER
HIGH AND LOW WATER - 2 JANUARY 2003

MHL Report 1812

Figure 170

DRAWING 1812-170.CDR

Swansea Channel / Lake Macquarie Data Summary

Data was collected in Swansea Channel and Lake Macquarie on 16 and 18 April 1996, as detailed in report MHL770. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 215 and 218. Summaries of the minimum and maximum values for all parameters measured on the high and low water runs are shown in Tables 216a-b and Tables 219a-b.

Water quality profiles were also done at six locations across the channel on 16 April 1996, in conjunction with the current metering at Site 10, 825 m upstream from the Pacific Highway bridge. Summaries of the minimum and maximum values for all parameters measured on these profiles are shown in Table 217.

The locations at which all these profiles were taken are shown in Figures 171 and 172.

Long channel depth-averaged salinity profiles have not been plotted from this data because the variations in the minimum and maximum salinity throughout the channel and lake were insignificant on high and low water.

Table 215 Swansea Channel - 16 April 1996

Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity		High Water Salinity	
	Easting	Northing		Min (psu)	Max (psu)	Min (psu)	Max (psu)
1	374925	6380350	0.39	35.49	35.50	35.51	35.51
2	374010	6380705	1.36	35.43	35.50	35.50	35.53
3	373180	6380350	2.27	35.18	35.51	35.31	35.62
4	372870	6381075	3.15	35.42	35.53	35.51	35.55
5	373190	6382000	4.14	35.48	35.49	35.41	35.56
6	373110	6382625	4.78	35.45	35.51	35.54	35.61
7	372810	6383400	5.60	35.45	35.52	35.54	35.54
8	372500	6383885	6.17	35.48	35.49	35.38	35.55
9	372475	6383920	6.22	35.39	35.53	35.38	35.51
10	372460	6383940	6.25	35.42	35.53	35.40	35.54
11	372425	6383975	6.29	-	-	35.42	35.53
12	372335	6384115	6.46	-	-	35.42	35.56

Note Chainage is distance from ocean at end of breakwaters

Table 216a Swansea Channel - Water Quality Maxima and Minima - High Water - 16 April 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	0942	2.80	20.954	20.968	35.510	35.512	48455	48459	1024.89	1024.91	5.05	5.19	69.9	71.7	8.32	8.33	5	5	17850201
2	0947	7.80	20.802	20.926	35.503	35.529	48454	48494	1024.91	1024.98	5.10	5.34	70.5	73.6	8.26	8.30	4	5	17850202
3	0954	4.00	20.542	20.884	35.309	35.618	48241	48621	1024.85	1025.10	4.12	12.01	56.6	165.4	8.24	8.29	4	5	17850203
4	1001	4.40	20.790	20.810	35.509	35.551	48470	48519	1024.96	1024.98	4.04	6.68	55.7	92.1	8.29	8.31	4	9	17850204
5	1007	2.60	20.851	20.890	35.410	35.564	48342	48532	1024.85	1024.98	3.89	9.34	53.7	129.0	8.31	8.32	4	4	17850205
6	1011	2.60	20.868	20.910	35.542	35.605	48501	48579	1024.94	1025.00	4.86	7.49	67.2	103.5	8.32	8.33	4	5	17850206
7	1016	2.40	20.894	20.923	35.535	35.544	48491	48504	1024.93	1024.95	4.13	6.86	57.1	94.8	8.32	8.32	3	5	17850207
8	1022	1.20	20.732	21.011	35.381	35.545	48303	48494	1024.81	1024.91	6.39	6.66	88.0	92.2	8.30	8.31	4	6	17850208
9	1025	7.00	20.161	20.779	35.375	35.505	48314	48465	1024.87	1025.09	4.03	6.00	55.1	82.7	8.28	8.30	4	5	17850209
10	1028	6.00	20.157	20.882	35.401	35.536	48376	48493	1024.90	1025.08	4.07	8.92	55.5	123.2	8.29	8.32	4	5	17850210
11	1032	7.60	20.142	20.942	35.420	35.530	48407	48509	1024.92	1025.10	4.12	6.46	56.3	89.4	8.28	8.30	4	6	17850211
12	1036	10.00	20.147	20.855	35.417	35.556	48407	48520	1024.94	1025.11	4.19	7.08	57.3	97.8	8.28	8.31	4	6	17850212

Table 216b Swansea Channel - Water Quality Maxima and Minima - Low Water - 16 April 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1628	2.40	20.881	20.893	35.486	35.495	48433	48445	1024.90	1024.91	4.58	6.54	63.3	90.2	8.27	8.28	4	5	17850213
2	1633	6.80	20.879	20.999	35.432	35.496	48365	48438	1024.86	1024.90	3.41	14.39	47.2	198.8	8.27	8.28	4	5	17850214
3	1638	4.80	20.810	20.984	35.180	35.506	48054	48465	1024.65	1024.95	3.43	10.95	47.3	151.3	8.26	8.29	4	4	17850215
4	1647	4.00	21.112	21.191	35.418	35.531	48330	48465	1024.79	1024.86	3.98	8.41	55.2	116.7	8.27	8.29	4	4	17850216
5	1653	4.00	20.664	20.698	35.480	35.486	48443	48450	1024.95	1024.97	6.25	6.33	86.0	87.1	8.27	8.27	4	11	17850217
6	1658	3.80	20.610	20.655	35.449	35.514	48408	48489	1024.95	1025.00	4.08	7.42	56.0	101.9	8.26	8.28	3	5	17850218
7	1702	3.60	20.581	20.605	35.451	35.517	48416	48496	1024.96	1025.01	4.56	8.63	62.6	118.5	8.25	8.27	4	22	17850219
8	1708	1.00	20.790	20.796	35.483	35.485	48437	48439	1024.92	1024.92	6.32	6.35	87.1	87.5	8.26	8.26	4	11	17850220
9	1712	6.60	20.468	20.865	35.394	35.528	48336	48521	1024.89	1025.07	4.19	9.93	57.9	136.5	8.25	8.27	4	5	17850221
10	1715	8.40	20.345	20.933	35.423	35.526	48364	48493	1024.86	1025.04	3.97	10.78	54.6	148.6	8.24	8.28	3	5	17850222

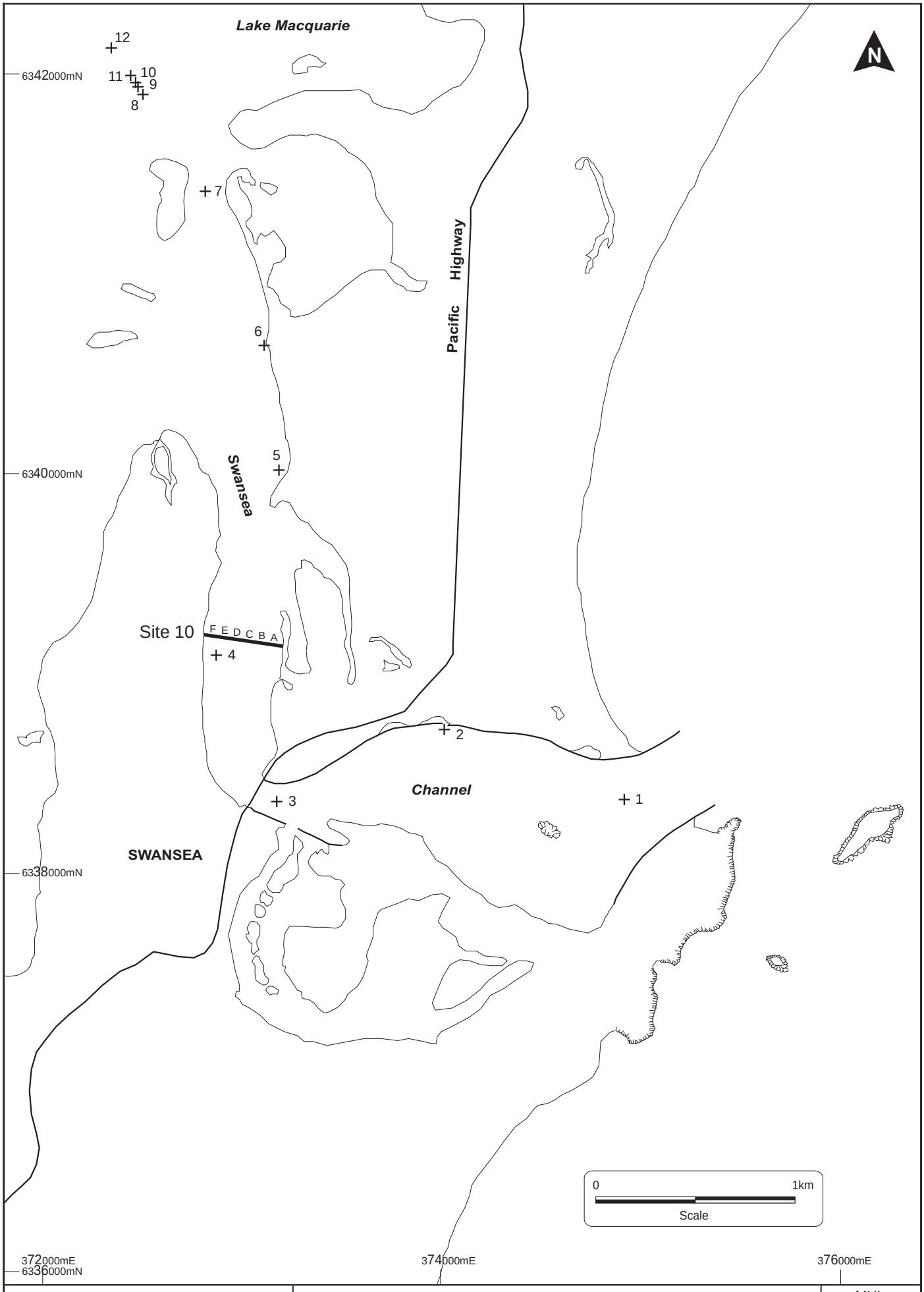
Table 217 Site 10 - Water Quality Maxima and Minima - 16 April 1996

Transect #	Station #	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
				Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	A	0317	1.40	20.125	20.140	35.232	35.420	48185	48415	1024.90	1025.05	4.23	5.18	57.5	70.5	8.19	8.20	44	45	16700101
1	B	0325	2.40	20.155	20.160	35.496	35.500	48505	48511	1025.10	1025.11	5.81	5.83	79.2	79.4	8.20	8.20	43	44	16700102
1	C	0330	2.60	20.226	20.232	35.471	35.473	48468	48472	1025.06	1025.07	5.82	5.90	79.4	80.5	8.19	8.20	43	44	16700103
1	D	0346	1.60	20.190	20.194	35.437	35.445	48429	48440	1025.05	1025.06	5.91	5.97	80.5	81.3	8.19	8.19	43	44	16700104
1	E	0351	3.80	20.312	20.326	35.438	35.446	48421	48432	1025.01	1025.04	5.91	6.02	80.8	82.2	8.18	8.19	44	44	16700105
1	F	0356	5.20	20.249	20.301	35.451	35.472	48439	48469	1025.04	1025.08	5.87	6.05	80.2	82.5	8.17	8.18	43	44	16700106
2	A	0410	1.40	20.094	20.103	35.434	35.438	48435	48439	1025.07	1025.08	5.96	5.99	81.2	81.5	8.19	8.20	43	43	16700107
2	B	0414	3.00	20.115	20.133	35.373	35.462	48358	48467	1025.02	1025.09	6.07	6.16	82.5	83.9	8.20	8.20	43	71	16700108
2	C	0419	2.60	20.206	20.209	35.462	35.469	48459	48469	1025.06	1025.08	6.14	6.27	83.7	85.5	8.20	8.20	42	43	16700109
2	D	0423	2.00	20.175	20.187	35.448	35.459	48445	48458	1025.06	1025.07	6.16	6.25	83.9	85.2	8.19	8.20	43	43	16700110
2	E	0427	3.80	20.219	20.325	35.433	35.458	48418	48455	1025.02	1025.07	6.08	6.25	83.1	85.3	8.19	8.19	43	44	16700111
2	F	0433	5.60	20.279	20.304	35.370	35.480	48340	48478	1024.97	1025.08	4.65	4.99	63.5	68.1	8.18	8.18	43	43	16700112
3	A	0500	1.60	20.041	20.053	35.368	35.405	48358	48403	1025.03	1025.07	5.99	6.02	81.4	81.8	8.20	8.20	43	44	16700113
3	B	0505	3.00	20.112	20.118	35.421	35.437	48417	48438	1025.06	1025.08	6.04	6.13	82.2	83.5	8.20	8.20	43	43	16700114
3	C	0509	2.80	20.134	20.140	35.434	35.445	48431	48445	1025.06	1025.08	6.07	6.18	82.6	84.2	8.20	8.20	42	43	16700115
3	D	0515	2.20	20.191	20.197	35.443	35.454	48437	48451	1025.05	1025.07	5.83	6.03	79.5	82.3	8.18	8.19	42	43	16700116
3	E	0520	4.40	20.171	20.178	35.444	35.460	48440	48461	1025.06	1025.09	5.81	6.12	79.1	83.5	8.19	8.19	42	43	16700117
3	F	0526	6.20	20.149	20.161	35.433	35.463	48428	48466	1025.05	1025.10	5.90	6.18	80.4	84.1	8.18	8.19	43	43	16700118
4	A	0602	1.60	20.086	20.092	35.345	35.359	48327	48345	1025.01	1025.02	6.03	6.04	82.0	82.1	8.21	8.21	43	43	16700119
4	B	0606	3.20	20.173	20.252	35.394	35.485	48379	48484	1025.02	1025.08	5.95	6.32	81.0	86.3	8.20	8.23	43	43	16700120
4	C	0612	2.80	20.360	20.378	35.485	35.491	48475	48482	1025.04	1025.05	6.09	6.20	83.3	84.8	8.21	8.23	43	43	16700121
4	D	0616	2.40	20.379	20.386	35.493	35.502	48483	48495	1025.04	1025.06	5.70	5.98	77.9	81.8	8.21	8.21	42	43	16700122
4	E	0620	5.00	20.424	20.433	35.502	35.511	48490	48502	1025.03	1025.06	5.93	6.09	81.2	83.4	8.20	8.21	42	52	16700123
4	F	0625	6.00	20.482	20.489	35.487	35.513	48470	48500	1025.02	1025.05	6.01	6.16	82.3	84.5	8.21	8.21	42	43	16700124
5	A	0700	1.60	20.686	20.693	35.413	35.433	48360	48385	1024.89	1024.92	6.28	6.29	86.4	86.6	8.24	8.25	43	43	16700125
5	B	0704	3.00	20.746	20.752	35.478	35.492	48434	48452	1024.93	1024.95	6.24	6.33	86.0	87.2	8.23	8.24	42	42	16700126
5	C	0708	3.00	20.783	20.792	35.510	35.519	48470	48482	1024.94	1024.96	6.14	6.32	84.6	87.2	8.23	8.24	42	46	16700127
5	D	0713	2.40	20.807	20.812	35.515	35.521	48475	48482	1024.94	1024.95	6.16	6.27	85.0	86.5	8.22	8.23	42	104	16700128
5	E	0716	4.40	20.775	20.792	35.463	35.534	48413	48500	1024.91	1024.98	5.25	6.04	72.3	83.2	8.22	8.23	42	107	16700129
5	F	0720	6.00	20.782	20.787	35.515	35.539	48478	48506	1024.96	1024.99	5.55	6.16	76.6	84.9	8.21	8.22	42	43	16700130
6	A	0757	1.60	20.748	20.751	35.546	35.549	48517	48521	1024.98	1024.99	6.36	6.38	87.6	87.9	8.23	8.23	41	44	16700131
6	B	0800	3.00	20.775	20.780	35.542	35.548	48510	48519	1024.97	1024.98	6.45	6.64	88.9	91.5	8.22	8.23	42	43	16700132
6	D	0803	2.80	20.823	20.827	35.533	35.540	48494	48504	1024.95	1024.97	6.41	6.49	88.5	89.5	8.21	8.22	46	48	16700133
6	E	0806	2.20	20.811	20.813	35.411	35.533	48348	48497	1024.86	1024.96	4.90	5.67	67.6	78.2	8.20	8.20	42	42	16700134
6	E	0809	3.60	20.770	20.774	35.387	35.541	48322	48510	1024.85	1024.98	5.05	6.06	69.6	83.6	8.20	8.22	44	44	16700135
6	C	0813	3.00	20.817	20.824	35.542	35.548	48506	48514	1024.96	1024.97	6.33	6.44	87.3	88.9	8.22	8.23	43	43	16700136
6	F	0816	5.80	20.760	20.765	35.483	35.544	48440	48517	1024.93	1025.00	5.58	6.25	76.9	86.1	8.19	8.20	63	88	16700137
7	A	0857	1.60	20.778	20.799	35.550	35.558	48518	48529	1024.98	1024.98	6.39	6.45	88.1	89.0	8.24	8.25	46	47	16700138
7	B	0904	2.80	20.829	20.838	35.468	35.531	48416	48492	1024.90	1024.96	4.68	5.44	64.5	75.0	8.24	8.25	45	45	16700139
7	C	0907	2.60	20.853	20.859	35.488	35.551	48438	48516	1024.91	1024.96	5.14	5.83	71.0	80.4	8.23	8.23	42	46	16700140
7	D	0911	2.00	20.772	20.784	35.541	35.544	48509	48512	1024.97	1024.98	6.19	6.35	85.3	87.5	8.21	8.22	41	43	16700141
7	E	0915	3.80	20.746	20.761	35.548	35.553	48520	48526	1024.98	1025.00	6.25	6.38	86.1	87.8	8.20	8.21	42	45	16700142
7	F	0920	4.40	20.755	20.761	35.549	35.551	48520	48524	1024.98	1025.00	6.20	6.34	85.4	87.4	8.20	8.20	42	43	16700143

(continued)

Table 217 Site 10 - Water Quality Maxima and Minima - 16 April 1996 (continued)

Transect #	Station #	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
				Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
8	A	0948	1.60	20.900	20.920	35.463	35.490	48403	48435	1024.87	1024.90	6.56	6.63	90.6	91.6	8.25	8.26	43	43	16700144
8	B	0952	2.80	20.889	20.931	35.506	35.518	48457	48470	1024.91	1024.92	6.44	6.62	88.9	91.5	8.23	8.25	42	42	16700145
8	C	0955	2.60	20.913	20.934	35.504	35.523	48451	48476	1024.90	1024.93	6.41	6.53	88.6	90.2	8.23	8.23	42	42	16700146
8	D	0959	1.80	20.810	20.820	35.519	35.528	48478	48490	1024.94	1024.95	6.31	6.41	87.1	88.4	8.22	8.22	42	42	16700147
8	E	1002	4.00	20.789	20.816	35.529	35.540	48492	48507	1024.96	1024.98	6.18	6.46	85.3	89.0	8.20	8.21	42	42	16700148
8	F	1006	5.20	20.793	20.803	35.531	35.541	48494	48509	1024.95	1024.98	6.26	6.46	86.3	89.0	8.21	8.22	41	42	16700149
9	A	1057	1.40	21.065	21.077	35.453	35.468	48377	48396	1024.82	1024.84	6.66	6.70	92.3	92.8	8.24	8.24	43	43	16700150
9	B	1102	2.60	20.997	21.003	35.488	35.506	48426	48449	1024.87	1024.89	6.52	6.66	90.2	92.1	8.23	8.23	42	43	16700151
9	C	1107	2.80	21.057	21.068	35.526	35.530	48467	48473	1024.88	1024.89	6.42	6.54	89.0	90.6	8.22	8.22	42	43	16700152
9	D	1111	2.00	21.225	21.229	35.525	35.531	48452	48459	1024.84	1024.85	6.35	6.51	88.3	90.5	8.21	8.21	42	49	16700153
9	E	1115	5.00	21.215	21.230	35.513	35.522	48437	48450	1024.83	1024.85	6.15	6.41	85.4	89.0	8.20	8.22	42	83	16700154
9	F	1119	5.00	21.235	21.270	35.532	35.545	48457	48475	1024.83	1024.87	6.36	6.51	88.4	90.4	8.21	8.21	46	48	16700155
10	A	1200	1.20	21.018	21.032	35.552	35.555	48501	48505	1024.91	1024.92	6.64	6.71	92.0	92.9	8.24	8.24	45	48	16700156
10	B	1204	2.60	20.589	20.600	35.501	35.505	48475	48481	1024.99	1025.00	6.50	6.66	89.3	91.4	8.20	8.20	44	44	16700157
10	C	1208	2.80	20.684	20.714	35.491	35.496	48453	48461	1024.95	1024.97	6.45	6.67	88.8	91.8	8.19	8.20	36	52	16700158
10	D	1212	1.60	20.992	21.013	35.495	35.500	48434	48442	1024.87	1024.88	6.67	6.79	92.3	93.9	8.21	8.21	44	46	16700159
10	E	1216	4.20	21.042	21.062	35.166	35.481	48032	48415	1024.63	1024.87	6.48	6.67	89.7	92.2	8.18	8.18	45	46	16700160
10	F	1220	5.00	21.288	21.448	35.334	35.514	48217	48423	1024.69	1024.80	6.74	6.98	93.7	97.3	8.19	8.22	47	48	16700161
11	A	1259	1.00	20.727	20.732	35.370	35.388	48305	48327	1024.85	1024.87	6.69	6.75	92.1	92.9	8.23	8.23	49	49	16700162
11	B	1302	2.20	20.658	20.667	35.440	35.447	48395	48405	1024.92	1024.94	6.55	6.66	90.1	91.6	8.19	8.19	47	47	16700163
11	C	1306	2.20	20.690	20.702	35.450	35.456	48404	48414	1024.92	1024.94	6.51	6.63	89.6	91.2	8.18	8.18	45	45	16700164
11	D	1311	4.20	21.035	21.043	35.042	35.675	47881	48652	1024.53	1025.02	5.99	6.57	82.9	91.0	8.16	8.18	109	208	16700166
11	F	1313	4.80	21.262	21.350	35.452	35.478	48359	48390	1024.76	1024.80	5.91	6.68	82.3	92.9	8.18	8.18	89	144	16700167
12	A	1401	1.20	20.800	20.808	35.473	35.479	48424	48431	1024.91	1024.92	6.70	6.78	92.4	93.4	8.23	8.23	53	53	16700168
12	B	1405	2.20	20.710	20.717	35.482	35.486	48443	48447	1024.94	1024.95	6.54	6.67	90.0	91.8	8.20	8.20	51	52	16700169
12	C	1409	2.40	20.714	20.730	35.472	35.479	48429	48439	1024.93	1024.95	6.55	6.67	90.1	91.7	8.19	8.20	50	57	16700170
12	D	1412	1.80	20.973	20.992	35.473	35.477	48409	48415	1024.86	1024.87	6.42	6.58	88.8	91.0	8.19	8.21	50	58	16700171
12	E	1415	4.80	21.010	21.025	35.460	35.465	48391	48399	1024.85	1024.87	6.13	6.60	84.8	91.4	8.17	8.18	46	57	16700172
12	F	1419	5.20	21.267	21.418	35.454	35.474	48356	48385	1024.73	1024.80	6.41	6.73	89.1	93.6	8.19	8.20	45	84	16700173
13	A	1459	1.20	20.783	20.785	35.435	35.445	48380	48392	1024.89	1024.90	6.74	6.80	92.8	93.7	8.23	8.24	47	48	16700174
13	B	1502	2.20	20.732	20.735	35.464	35.470	48419	48427	1024.92	1024.93	6.68	6.78	92.0	93.4	8.19	8.19	45	46	16700175
13	C	1506	2.80	20.727	20.735	35.471	35.474	48428	48432	1024.93	1024.94	6.53	6.64	89.9	91.4	8.18	8.19	45	49	16700176
13	D	1509	1.80	20.910	20.913	35.463	35.469	48404	48411	1024.88	1024.88	6.59	6.75	91.1	93.2	8.18	8.18	45	45	16700177
13	E	1514	3.80	21.030	21.061	35.465	35.477	48393	48411	1024.84	1024.87	6.59	6.74	91.3	93.2	8.15	8.16	43	51	16700178
13	F	1517	5.20	21.334	21.443	35.450	35.476	48343	48380	1024.72	1024.78	5.20	6.62	72.5	92.2	8.17	8.18	44	44	16700179
14	A	1600	1.40	20.724	20.736	35.500	35.503	48462	48467	1024.95	1024.96	6.72	6.79	92.6	93.5	8.25	8.27	45	46	16700180
14	B	1603	2.40	20.695	20.704	35.487	35.491	48450	48455	1024.95	1024.96	6.68	6.78	91.9	93.2	8.20	8.21	45	45	16700181
14	C	1607	2.40	20.703	20.709	35.471	35.477	48430	48437	1024.94	1024.95	6.59	6.76	90.7	93.0	8.19	8.21	45	45	16700182
14	D	1611	1.80	20.854	20.856	35.468	35.473	48414	48420	1024.89	1024.90	6.66	6.78	91.9	93.5	8.20	8.20	44	44	16700183
14	E	1615	4.20	20.945	20.964	35.471	35.480	48408	48423	1024.87	1024.89	6.60	6.84	91.3	94.6	8.19	8.20	43	47	16700184
14	F	1618	4.40	21.088	21.474	35.457	35.507	48351	48433	1024.72	1024.86	6.96	7.08	96.5	98.7	8.19	8.22	43	45	16700185
15	A	1659	1.80	20.719	20.721	35.404	35.418	48347	48364	1024.88	1024.90	6.78	6.82	93.4	93.8	8.25	8.26	45	46	16700186
15	B	1703	2.60	20.668	20.675	35.450	35.458	48407	48416	1024.93	1024.94	6.74	6.81	92.7	93.7	8.22	8.23	44	44	16700187
15	C	1707	2.60	21.112	21.125	35.463	35.468	48387	48393	1024.82	1024.83	6.85	6.95	94.9	96.4	8.22	8.23	43	44	16700188
15	D	1710	2.20	20.912	20.924	35.476	35.482	48418	48426	1024.88	1024.89	6.77	6.88	93.5	95.0	8.21	8.21	44	46	16700189
15	E	1714	3.40	20.869	20.887	35.573	35.583	48540	48553	1024.97	1024.99	6.71	6.82	92.6	94.2	8.20	8.21	42	43	16700190
15	F	1718	4.60	20.972	20.987	35.485	35.490	48423	48432	1024.87	1024.90	6.54	6.76	90.4	93.5	8.20	8.21	42	43	16700191



Public Works
Manly Hydraulics Laboratory

SWANSEA CHANNEL

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Figure 171

DRAWING 1812-171.CDR

Table 218 Lake Macquarie - 18 April 1996

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity		Low Water Salinity	
	Easting	Northing		Min (psu)	Max (psu)	Min (psu)	Max (psu)
1	371130	6351230	15.94	35.06	35.15	35.06	35.10
2	371660	6350240	14.71	34.39	35.03	35.25	35.30
3	371515	6348975	13.30	34.54	35.25	35.26	35.33
4	371185	6347085	11.55	34.64	35.32	35.31	35.39
5	370950	6346065	10.50	35.08	35.36	35.39	35.46
6	371180	6345165	9.61	34.93	35.41	35.42	35.45
7	371460	6344365	8.79	35.08	35.43	35.44	35.48
8	371720	6343455	7.97	34.89	35.44	35.46	35.49
9	371890	6342770	7.15	34.97	35.49	35.52	35.56
10	371930	6341750	6.22	33.78	35.52	35.51	35.55
11	371750	6340920	6.18	32.03	35.54	35.54	35.57
12	370245	6341965	7.67	28.29	35.51	35.52	35.54
13	369745	6343520	9.42	35.45	35.53	35.54	35.57
14	368530	6344510	10.84	35.52	35.61	35.56	35.61
15	371465	6340190	6.93	35.51	35.53	35.54	35.56
16	371085	6339570	7.75	32.24	35.57	35.45	35.53
17	370805	6338650	8.64	35.44	35.49	29.44	35.54
18	370005	6337670	9.83	35.41	35.44	35.41	35.50
19	368865	6338305	11.10	35.41	35.47	35.43	35.50
20	366890	6338685	13.04	35.33	35.49	35.38	35.50
21	364515	6338610	15.34	35.40	35.44	35.40	35.47
22	362485	6337205	17.95	35.41	35.42	35.44	35.46
23	367250	6336770	13.89	35.40	35.42	31.65	35.46
24	366660	6334540	16.13	35.40	35.42	35.38	35.46
25	364945	6333600	18.10	35.21	35.43	35.36	35.46
26	363615	6332837	19.59	35.45	35.46	35.44	35.46
27	369900	6336190	11.14	35.38	35.44	35.16	35.52
28	369430	6334825	12.70	35.44	35.45	35.36	35.46
29	369180	6333345	13.93	35.34	35.38	35.34	35.44
30	368940	6331830	15.68	35.25	35.27	35.25	35.31

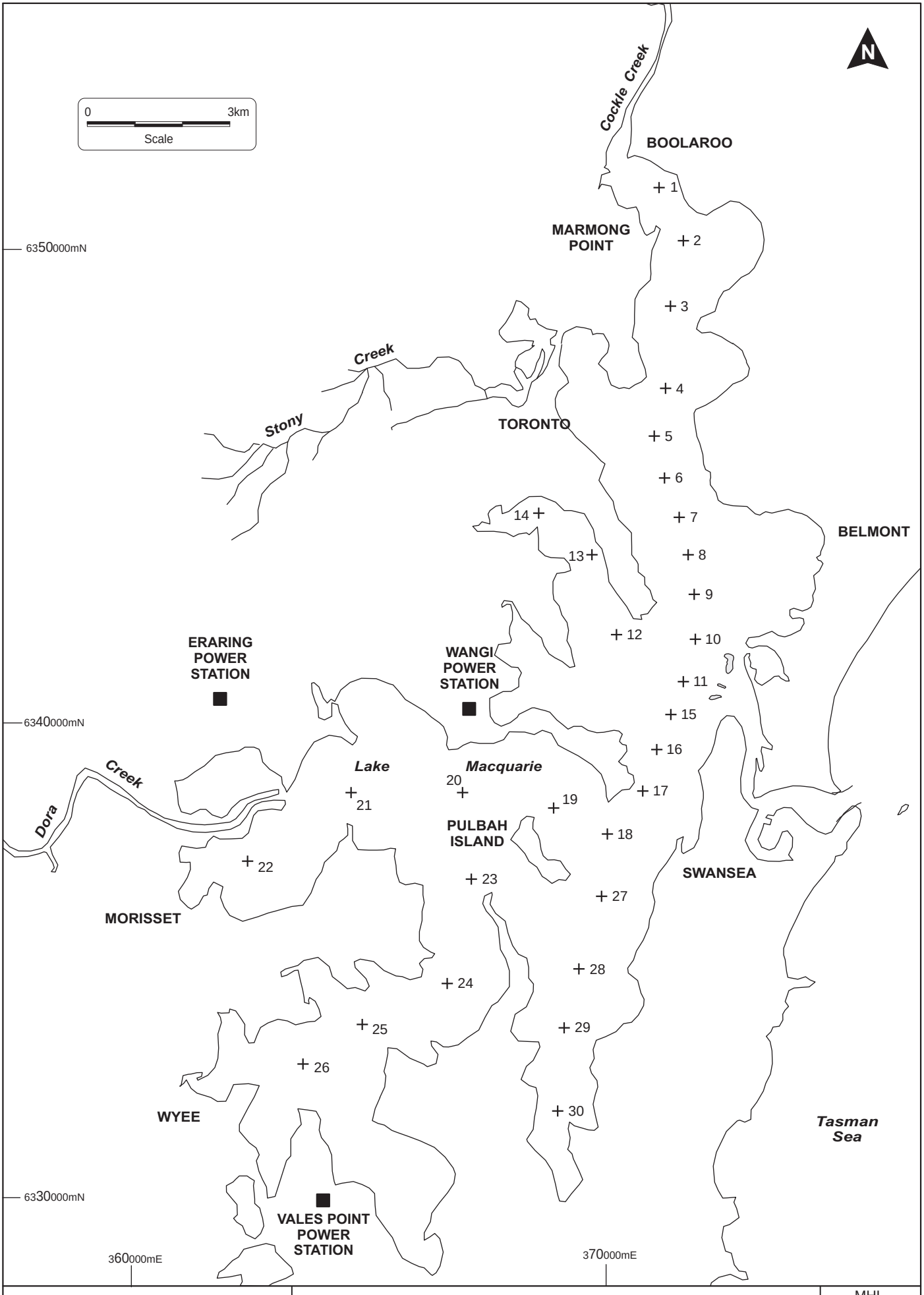
Note Co-ordinates transferred from Department of Lands TopoView Raster 2006 DVD
Chainage is distance from ocean at end of breakwaters

Table 219a Lake Macquarie - Water Quality Maxima and Minima - High Water - 18 April 1996

Transect #	Station #	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
				Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1	0737	4.00	19.170	19.204	35.060	35.146	48052	48157	1025.03	1025.09	9.76	10.73	130.3	143.3	8.27	8.29	8	179	17850113
1	2	0727	5.60	19.356	19.836	34.392	35.026	47188	47995	1024.37	1024.96	6.54	7.84	87.4	105.5	8.26	8.28	4	11	17850112
1	3	0717	6.20	19.531	19.572	34.540	35.252	47389	48259	1024.54	1025.10	5.05	6.69	67.7	90.0	7.80	8.28	6	176	17850111
1	4	0703	8.20	19.730	20.107	34.644	35.316	47500	48323	1024.56	1025.11	3.88	5.31	52.3	71.8	8.27	8.29	6	6	17850110
1	5	0655	9.20	19.706	19.756	35.079	35.360	48033	48378	1024.90	1025.14	4.22	5.01	57.0	67.7	8.18	8.29	6	164	17850109
1	6	0646	9.40	19.776	19.819	34.926	35.410	47840	48432	1024.77	1025.16	4.31	5.26	58.1	71.2	8.28	8.30	5	6	17850108
1	7	0635	9.60	19.828	19.857	35.081	35.433	48025	48458	1024.87	1025.17	4.37	4.85	59.2	65.6	7.92	8.31	5	119	17850107
1	8	0623	9.80	19.769	20.110	34.887	35.443	47794	48473	1024.74	1025.19	4.08	5.31	55.4	71.6	8.24	8.30	5	10	17850106
1	9	0611	10.00	20.060	20.235	34.967	35.490	47869	48506	1024.72	1025.14	3.61	4.92	49.1	66.8	8.30	8.33	4	5	17850105
1	10	0559	10.40	20.120	20.223	33.783	35.520	46402	48537	1023.82	1025.16	5.03	6.49	68.0	88.3	8.29	8.31	5	88	17850104
1	11	0547	10.40	20.210	20.322	32.031	35.540	44234	48553	1022.46	1025.13	4.66	6.17	62.4	84.2	8.30	8.33	5	40	17850103
2	12	0810	9.60	20.024	20.166	28.287	35.509	39607	48532	1019.65	1025.17	8.48	11.71	115.2	159.2	8.30	8.31	5	7	17850114
2	13	0823	8.80	19.983	20.007	35.450	35.529	48462	48562	1025.11	1025.21	9.19	11.30	124.8	153.6	8.28	8.31	6	8	17850115
2	14	0836	5.80	19.542	19.720	35.524	35.614	48582	48687	1025.28	1025.35	9.53	11.04	128.8	148.8	8.29	8.30	6	8	17850116
1/2	15	0535	7.80	20.259	20.302	35.507	35.529	48509	48537	1025.08	1025.11	5.89	5.97	80.5	81.6	8.27	8.30	4	10	17850102
1/2	16	0522	10.00	19.881	20.819	32.243	35.571	44521	48619	1022.71	1025.26	4.32	5.99	57.6	82.1	8.27	8.35	4	31	17850101
2/3	17	0511	10.60	20.393	21.158	35.438	35.486	48357	48470	1024.81	1025.07	5.98	6.47	81.9	89.7	8.19	8.24	40	41	16700101
3/4	18	0520	10.40	20.829	20.890	35.409	35.440	48344	48379	1024.86	1024.91	6.13	6.24	84.6	86.1	8.19	8.21	40	41	16700102
4	19	0623	5.40	20.796	21.092	35.414	35.470	48335	48417	1024.81	1024.93	6.10	6.16	84.3	85.3	8.19	8.21	38	39	16700107
4/5	20	0632	7.80	21.194	22.090	35.331	35.486	48175	48352	1024.53	1024.80	5.91	6.34	82.0	89.4	8.18	8.19	38	39	16700108
4	21	0642	5.20	20.802	20.948	35.401	35.439	48338	48381	1024.85	1024.90	6.10	6.17	84.2	85.2	8.19	8.20	39	39	16700109
4	22	0650	2.60	20.358	20.384	35.414	35.421	48387	48396	1024.98	1024.99	6.01	6.06	82.2	82.9	8.19	8.19	39	39	16700110
5	23	0704	8.40	20.475	20.505	35.401	35.416	48362	48381	1024.95	1024.98	6.02	6.19	82.5	84.8	8.19	8.20	38	39	16700111
5	24	0713	6.40	20.245	20.264	35.404	35.417	48386	48402	1025.01	1025.04	6.08	6.19	82.9	84.5	8.18	8.19	39	39	16700112
5	25	0722	6.20	20.452	20.517	35.213	35.426	48134	48392	1024.82	1024.97	6.09	6.22	83.4	85.2	8.19	8.20	39	39	16700113
5	26	0732	4.40	20.925	20.936	35.452	35.460	48387	48398	1024.86	1024.88	5.99	6.09	82.7	84.2	8.19	8.20	38	38	16700114
3	27	0530	9.80	20.877	20.888	35.375	35.438	48302	48379	1024.85	1024.90	5.74	6.16	79.2	85.1	8.19	8.20	40	40	16700103
3	28	0542	8.60	20.772	20.808	35.436	35.451	48379	48400	1024.88	1024.93	6.01	6.12	82.9	84.4	8.19	8.20	39	40	16700104
3	29	0551	9.60	20.338	20.496	35.335	35.383	48288	48343	1024.92	1024.98	5.94	6.04	81.4	82.6	8.19	8.19	39	40	16700105
3	30	0559	6.60	20.167	20.198	35.249	35.266	48206	48223	1024.92	1024.94	6.10	6.26	83.1	85.2	8.19	8.20	40	40	16700106

Table 219b Lake Macquarie - Water Quality Maxima and Minima - Low Water - 18 April 1996

Transect #	Station #	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
				Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1	1349	3.60	19.103	19.210	35.061	35.103	48061	48106	1025.04	1025.07	6.21	6.44	82.8	86.0	8.21	8.22	42	44	16700127
1	2	1342	4.60	19.415	19.864	35.250	35.303	48244	48315	1025.03	1025.14	6.22	6.34	84.3	85.3	8.19	8.20	40	41	16700126
1	3	1336	5.60	19.571	19.971	35.255	35.325	48240	48312	1024.98	1025.12	6.23	6.35	84.5	85.6	8.19	8.20	40	42	16700125
1	4	1329	7.00	19.569	19.977	35.312	35.389	48325	48403	1025.06	1025.17	6.26	6.36	84.4	86.1	8.20	8.21	40	41	16700124
1	5	1324	8.40	19.776	19.935	35.388	35.463	48395	48499	1025.09	1025.21	6.23	6.39	84.5	86.4	8.21	8.23	40	41	16700123
1	6	1319	9.00	19.779	19.918	35.423	35.450	48438	48483	1025.12	1025.20	6.28	6.45	85.2	87.3	8.21	8.22	39	40	16700122
1	7	1314	8.20	19.779	19.908	35.443	35.475	48463	48501	1025.14	1025.21	6.29	6.41	85.1	86.8	8.21	8.22	40	41	16700121
1	8	1309	8.40	19.717	19.867	35.462	35.486	48489	48532	1025.16	1025.25	6.27	6.39	85.0	86.6	8.22	8.23	39	40	16700120
1	9	1302	8.60	19.686	20.063	35.524	35.559	48558	48623	1025.17	1025.31	6.32	6.52	86.0	88.1	8.23	8.24	39	40	16700119
1	10	1256	9.40	19.618	20.173	35.505	35.553	48515	48621	1025.11	1025.33	6.23	6.56	84.9	88.6	8.22	8.24	39	40	16700118
1	11	1251	9.00	20.133	20.254	35.535	35.570	48550	48601	1025.12	1025.20	6.41	6.54	87.5	89.2	8.23	8.24	39	40	16700117
2	12	1414	8.60	20.003	20.177	35.524	35.541	48543	48570	1025.13	1025.21	6.29	6.36	85.7	86.6	8.22	8.23	40	42	16700128
2	13	1421	8.20	20.022	20.174	35.542	35.568	48560	48596	1025.14	1025.21	6.33	6.47	86.4	88.1	8.22	8.23	39	40	16700129
2	14	1430	5.40	19.634	19.954	35.560	35.607	48608	48664	1025.24	1025.33	6.17	6.41	83.7	86.8	8.22	8.23	39	43	16700130
½	15	1247	6.60	20.193	20.267	35.541	35.556	48550	48578	1025.11	1025.16	6.41	6.54	87.4	89.3	8.23	8.24	39	40	16700116
½	16	1242	9.40	20.120	20.541	35.454	35.531	48440	48553	1025.01	1025.17	6.40	6.48	87.2	88.8	8.19	8.22	38	39	16700115
2/3	17	1242	11.80	20.219	20.734	29.439	35.538	41048	48555	1020.51	1025.16	5.14	7.65	68.0	104.9	7.88	8.31	4	8	17850117
¾	18	1251	12.80	20.626	20.875	35.409	35.500	48354	48453	1024.88	1025.01	6.03	7.92	82.8	109.4	8.28	8.30	4	7	17850118
4	19	1338	6.40	20.787	21.413	35.431	35.504	48366	48459	1024.75	1024.96	6.18	7.29	85.2	100.8	8.23	8.28	4	6	17850123
4/5	20	1347	8.20	21.275	21.883	35.379	35.499	48273	48368	1024.62	1024.79	6.52	8.59	90.6	120.0	8.26	8.29	4	5	17850124
4	21	1356	6.00	20.929	21.241	35.400	35.466	48326	48381	1024.77	1024.86	6.81	9.13	94.1	126.6	8.27	8.29	4	11	17850125
4	22	1409	3.40	20.664	20.693	35.440	35.460	48395	48419	1024.93	1024.94	7.98	9.33	109.7	128.4	8.29	8.30	6	8	17850126
5	23	1423	9.00	20.520	21.183	31.646	35.459	43747	48376	1022.08	1024.95	5.16	8.63	69.4	119.7	8.28	8.29	5	8	17850127
5	24	1434	7.60	20.333	20.389	35.376	35.456	48347	48439	1024.96	1025.02	5.72	7.41	78.2	101.3	7.38	8.29	5	703	17850128
5	25	1454	6.60	20.407	20.521	35.356	35.458	48308	48431	1024.92	1025.00	6.50	7.54	89.1	103.3	8.28	8.30	5	350	17850129
5	26	1505	5.20	20.996	21.034	35.437	35.463	48361	48394	1024.82	1024.87	7.21	8.36	99.7	115.6	8.28	8.29	5	9	17850130
3	27	1259	10.40	19.694	20.766	35.155	35.518	48082	48574	1024.84	1025.28	5.59	10.00	76.2	137.7	8.22	8.28	3	5	17850119
3	28	1308	10.20	20.662	20.788	35.364	35.462	48303	48415	1024.87	1024.96	5.87	8.08	80.7	111.3	8.02	8.29	5	196	17850120
3	29	1314	9.60	20.416	20.513	35.341	35.440	48292	48420	1024.90	1025.03	5.96	6.06	81.6	83.0	8.27	8.28	5	7	17850121
3	30	1322	7.40	20.021	20.101	35.254	35.305	48216	48280	1024.94	1025.02	5.98	6.16	81.3	83.8	8.17	8.24	2	6	17850122



Public Works
Manly Hydraulics Laboratory

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18 APRIL 1996

MHL Report 1812

Figure 172

DRAWING 1812-172.CDR

Brisbane Water Data Summary

Data was collected in Brisbane Water on 5, 6 and 7 April 2004, as detailed in report MHL1319. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 220 to 224. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 225a to 231b. The locations at which these profiles were taken are shown in Figure 173. Long channel depth-averaged salinity profiles are shown in Figures 174 to 178.

Table 220 Brisbane Water - 5 to 7 April 2004

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity 7/4/2004 (psu)	Low Water Salinity 5/4/2004 (psu)	High Water Salinity 6/4/2004 (psu)	Low Water Salinity 6/4/2004 (psu)	High Water Salinity 6/4/2004 (psu)	Low Water Salinity 6/4/2004 (psu)
	Easting	Northing							
BW1	345327	6289645	3.40	34.56	34.56	34.94	34.38	-	-
BW2	346697	6289475	5.34	33.58	33.58	34.93	34.25	-	-
BW3	346470	6291262	7.65	34.02	34.02	34.88	33.84	-	-
BW4	345354	6292617	9.43	34.02	34.02	34.68	33.56	-	-
BW5	345805	6294031	10.94	34.15	34.15	34.47	33.58	-	-
BW6	344316	6294611	13.09	33.81	33.81	-	-	-	-
BW7	344707	6295914	13.12	-	-	34.16	34.01	-	-
BW8	344487	6296624	13.86	-	-	34.05	34.06	33.98	34.03
BW9	346454	6295915	13.95	-	-	33.97	34.16	-	-
BW10	346597	6297489	15.52	-	-	34.02	34.02	-	-
BW11	345252	6297583	15.06	-	-	-	-	33.95	34.06
BW12	347521	6298424	16.83	-	-	32.97	34.19	-	-
BW13	345213	6299706	17.18	-	-	-	-	34.06	33.89

Note The location for the profiles at Stations 4, 5 and 8 varied slightly between high and low water runs and so the locations shown for these stations are the midpoint between high water and low water locations
Chainage is distance from ocean at Box Head

Table 221 Cockle Channel - 5 and 7 April 2004

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
CC1	346446	6291788	8.38	34.73	33.97
CC2	346919	6293177	10.26	34.08	33.51
CC3	348774	6292809	12.35	34.01	33.73
CC4	348793	6293490	13.68	33.84	34.23
CC5	348843	6294575	14.91	33.75	33.79
CC6	349482	6295052	15.71	33.69	33.91

Note Chainage is distance from ocean at Box Head

Table 222 Woy Woy Bay/Inlet - 5 and 7 April 2004

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
WW1	343885	6294033	13.84	33.73	34.04
WW2	342907	6295226	15.44	33.89	33.87
WW3	342403	6294622	15.44	33.85	33.70
WW4	343051	6292979	15.38	33.74	33.63
WW5	342329	6292489	16.30	33.88	33.39
WW6	341623	6292429	17.07	32.11	-

Note Chainage is distance from ocean at Box Head

Table 223 Narara Creek - 6 April 2004

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
NC1	344485	6299508	18.28	33.79	30.65
NC2	343754	6299486	19.05	31.46	32.14
NC3	344009	6300640	19.54	31.55	31.22
NC4	345058	6301429	21.11	29.26	29.35
NC5	345790	6302121	22.25	28.12	30.17
NC6	346259	6302447	23.29	28.35	27.11
NC7	346353	6302665	23.54	0.41	-

Note Chainage is distance from ocean at Box Head

Table 224 Erina Creek - 6 April 2004

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
EC1	347521	6298913	17.40	33.10	33.30
EC2	348191	6299149	18.17	33.30	32.62
EC3	349264	6299201	19.40	32.31	31.30
EC4	349656	6299584	20.63	29.80	29.09
EC5	350299	6299757	21.43	25.77	21.84

Note Chainage is distance from ocean at Box Head

Table 225a Brisbane Water - Water Quality Maxima and Minima - Low Water - 5 April 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
BW1	1602	3.8	1023.6	1023.6	1023.6	22.89	22.89	22.89	34.55	34.56	34.56	87.84	88.23	88.04	7.94	7.95	7.95	2.01	3.48	2.48	0.52	1.16	0.84	17.9	80.8	36.7	BWLW0400001
BW2	1624	5.3	1007.6	1023.5	1022.9	22.87	22.98	22.97	13.32	34.34	33.58	81.07	91.01	90.59	7.94	7.95	7.95	1.52	3.48	2.36	0.69	2.08	0.96	12.2	232.8	41.5	BWLW0400002
BW3	1657	5.1	1023.0	1023.2	1023.2	23.16	23.24	23.18	33.85	34.08	34.02	60.51	87.85	81.18	7.94	7.95	7.94	1.52	2.99	2.03	0.00	2.22	0.24	6.9	106.4	19.5	BWLW0400003
BW4	1636	5.8	1023.1	1023.1	1023.1	23.34	23.37	23.35	34.01	34.03	34.02	100.41	102.72	101.62	7.97	7.97	7.97	7.33	15.63	8.16	-	-	-	-	-	-	BR190406001
BW5	1644	7.8	1023.2	1023.2	1023.2	23.30	23.42	23.35	34.10	34.20	34.15	98.06	99.81	98.85	7.96	7.97	7.97	6.35	14.65	7.34	-	-	-	-	-	-	BR190406002
BW6	1654	3.8	1023.0	1023.0	1023.0	23.19	23.20	23.19	33.79	33.83	33.81	95.19	97.08	95.86	7.96	7.96	7.96	6.84	7.81	7.33	-	-	-	-	-	-	BR190406003

Note A Seabird 19 was used at Stations 4, 5 and 6 and this instrument does not have sensors to measure Chlorophyll-a or PAR

Table 225b Brisbane Water - Water Quality Maxima and Minima - High Water - 7 April 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
BW1	1113	3.4	1024.2	1024.2	1024.2	22.25	22.25	22.25	35.08	35.09	35.09	92.45	92.99	92.71	8.00	8.01	8.01	1.52	2.50	1.81	0.00	0.58	0.07	344.8	2004.2	564.7	BW0407001
BW2	1122	8.5	1024.1	1024.2	1024.2	22.29	22.32	22.30	34.99	35.04	35.02	91.76	92.73	92.43	7.99	8.00	8.00	1.04	2.50	1.64	0.14	1.18	0.38	26.0	961.2	131.5	BW0407002
BW3	1144	5.2	1023.9	1024.1	1024.1	22.30	22.35	22.32	34.75	34.96	34.90	90.61	91.76	91.24	7.97	7.99	7.98	1.52	3.48	2.36	0.23	1.10	0.64	38.9	829.8	137.3	BW0407003
BW4	1152	6.0	1023.7	1023.8	1023.8	22.47	22.52	22.49	34.49	34.62	34.57	100.04	101.90	100.73	7.96	7.98	7.97	7.33	8.79	7.47	-	-	-	-	-	-	BR0407001
BW5	1204	8.8	1023.6	1023.7	1023.6	22.51	22.53	22.52	34.34	34.42	34.38	98.25	99.29	98.77	7.93	7.94	7.94	6.84	7.81	7.28	-	-	-	-	-	-	BR0407002
BW6	1220	5.8	1023.2	1023.2	1023.2	22.62	22.65	22.64	33.88	33.91	33.90	98.49	102.20	99.89	7.93	7.94	7.94	6.84	7.81	7.23	-	-	-	-	-	-	BR0407003

Note A Seabird 19 was used at Stations 4, 5 and 6 and this instrument does not have sensors to measure Chlorophyll-a or PAR

Table 226a Brisbane Water - Water Quality Maxima and Minima - Low Water - 6 April 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
BW1	0441	3.9	1023.5	1023.6	1023.6	22.53	22.56	22.56	34.30	34.40	34.38	65.42	82.69	77.53	7.95	7.96	7.95	2.01	3.48	2.50	0.00	0.25	0.07	0.1	0.1	0.1	BR0406002
BW2	0453	6.4	1023.4	1023.6	1023.5	22.56	22.63	22.59	34.15	34.33	34.25	73.20	82.69	79.87	7.94	7.95	7.94	1.52	3.48	2.28	0.00	0.73	0.25	0.1	0.1	0.1	BR0406003
BW3	0518	3.9	1023.0	1023.2	1023.1	22.72	22.79	22.74	33.73	33.92	33.84	82.04	85.10	83.77	7.91	7.92	7.92	2.01	2.99	2.15	0.27	1.00	0.64	0.1	0.1	0.1	BR0406004
BW4	0526	4.5	1022.6	1022.9	1022.9	22.77	22.80	22.80	33.14	33.57	33.56	82.23	84.08	83.34	7.91	7.92	7.91	2.01	3.48	2.31	0.18	1.39	1.06	0.1	0.1	0.1	BR0406005
BW5	0537	4.3	1022.7	1023.1	1022.9	22.58	22.83	22.76	33.29	33.76	33.58	79.89	85.71	83.93	7.87	7.92	7.91	2.01	2.50	2.20	0.38	1.54	1.17	0.1	0.1	0.1	BR0406006
BW7	0547	2.4	1022.8	1023.2	1023.1	22.70	23.26	23.16	33.55	34.15	34.01	84.15	87.14	86.06	7.91	7.93	7.92	1.52	72.34	5.20	0.07	1.47	0.33	0.1	0.2	0.1	BR0406007
BW8	0554	5.7	1022.7	1023.4	1023.2	22.57	23.27	23.18	33.34	34.31	34.06	82.50	92.28	88.55	7.91	7.93	7.92	1.04	2.50	1.76	0.84	2.21	1.21	0.2	1.3	0.4	BR0406008
BW9	0602	4.9	1022.5	1023.4	1023.2	22.99	23.43	23.34	33.16	34.47	34.16	72.78	88.56	85.03	7.88	7.91	7.90	1.52	3.97	2.25	0.35	4.03	1.55	0.6	15.6	1.7	BR0406009
BW10	0610	4.6	1020.2	1023.4	1023.1	22.68	23.43	23.30	30.13	34.37	34.02	76.45	92.79	88.97	7.87	7.93	7.91	1.04	2.99	1.87	0.78	4.03	1.50	1.9	10.0	4.4	BR0406010
BW12	0619	1.7	1023.2	1023.2	1023.2	23.37	23.41	23.39	34.16	34.20	34.19	72.80	81.53	78.32	7.85	7.87	7.87	3.48	8.36	4.48	2.46	2.93	2.65	9.0	23.3	14.4	BR0406011

Table 226b Brisbane Water - Water Quality Maxima and Minima - High Water - 6 April 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
BW1	1019	4.7	1024.0	1024.1	1024.0	22.51	22.54	22.52	34.92	34.95	34.94	91.55	92.15	91.89	8.00	8.01	8.00	2.01	2.99	2.43	0.00	1.23	0.02	91.9	1841.8	283.6	BR0406017
BW2	1035	8.6	1023.9	1024.1	1024.1	22.45	22.68	22.47	34.84	34.95	34.93	90.24	91.37	91.01	7.99	8.00	8.00	1.52	3.97	2.35	0.00	0.58	0.09	14.7	2926.1	568.7	BR0406018
BW3	1048	4.6	1023.9	1024.0	1024.0	22.48	22.50	22.48	34.81	34.91	34.88	91.04	91.70	91.40	7.98	7.99	7.98	2.01	3.97	2.79	0.00	0.64	0.27	88.9	1532.7	278.9	BR0406019
BW4	1059	4.7	1023.8	1023.9	1023.8	22.51	22.55	22.52	34.68	34.69	34.68	89.76	90.18	89.97	7.96	7.97	7.96	2.01	4.46	2.44	0.00	0.84	0.25	75.9	466.1	215.3	BR0406020
BW5	1108	4.7	1023.6	1023.7	1023.7	22.57	22.62	22.59	34.46	34.48	34.47	88.78	89.07	88.95	7.95	7.96	7.95	5.92	9.34	6.64	0.04	1.01	0.34	147.0	2830.9	568.9	BR0406021
BW7	1119	3.3	1023.3	1023.4	1023.4	22.77	22.85	22.77	34.04	34.16	34.16	85.89	86.56	86.05	7.92	7.92	7.92	1.52	3.97	2.10	0.25	0.65	0.41	229.3	1917.7	388.6	BR0406022
BW8	1128	6.1	1022.8	1023.3	1023.2	22.99	23.38	23.25	33.58	34.18	34.05	86.26	92.12	89.88	7.91	7.94	7.93	0.55	4.46	1.54	0.62	1.95	1.55	69.0	1357.7	233.2	BR0406023
BW9	1138	5.5	1019.5	1023.3	1023.1	22.99	23.48	23.36	29.25	34.35	33.97	83.94	94.69	91.69	7.90	7.94	7.93	1.04	2.99	1.52	0.95	2.61	1.55	122.8	3984.0	599.8	BR0406024
BW10	1147	5.1	1018.4	1023.3	1023.1	23.26	23.55	23.42	27.76	34.32	34.02	75.31	94.56	90.91	7.88	7.94	7.93	1.04	10.32	1.88	0.69	6.30	1.48	90.9	1299.1	215.0	BR0406025
BW12	1156	2.3	1020.8	1023.0	1022.3	23.14	23.68	23.31	31.09	33.91	32.97	90.96	94.52	93.40	7.90	7.95	7.93	1.52	3.48	2.53	0.77	1.75	1.14	247.8	1686.3	462.1	BR0406026

Table 227a Brisbane Water - Water Quality Maxima and Minima - Low Water - 6 April 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
BW8	0537	6.2	1022.8	1023.4	1023.2	22.61	23.27	23.14	33.46	34.34	34.03	87.82	103.49	98.46	7.95	8.00	7.99	6.84	11.23	7.68	-	-	-	-	-	-	BR190406009
BW11	0546	5.1	1023.1	1023.4	1023.2	22.84	23.33	23.12	33.77	34.37	34.06	89.42	101.63	98.43	7.95	7.99	7.98	6.35	8.79	6.52	-	-	-	-	-	-	BR190406010
BW13	0557	3.9	1020.1	1023.3	1023.0	22.29	23.42	23.30	29.69	34.32	33.89	84.69	97.93	93.70	7.77	7.96	7.92	6.84	11.23	8.13	-	-	-	-	-	-	BR190406011

Note A Seabird 19 was used at these stations and this instrument does not have sensors to measure Chlorophyll-a or PAR

Table 227b Brisbane Water - Water Quality Maxima and Minima - High Water - 6 April 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
BW8	1059	6.6	1022.6	1023.3	1023.1	22.96	23.71	23.17	33.43	34.24	33.98	93.63	101.87	98.41	8.04	8.07	8.06	4.88	8.79	6.13	-	-	-	-	-	-	BR190406018
BW11	1110	5.8	1023.0	1023.4	1023.1	23.00	23.37	23.11	33.75	34.33	33.95	89.22	98.91	96.02	8.03	8.06	8.05	5.86	14.16	7.32	-	-	-	-	-	-	BR190406019
BW13	1120	4.7	1022.9	1023.2	1023.1	23.41	23.54	23.47	33.77	34.23	34.06	95.27	98.34	96.89	8.02	8.05	8.04	5.86	9.28	6.68	-	-	-	-	-	-	BR190406020

Note A Seabird 19 was used at these stations and this instrument does not have sensors to measure Chlorophyll-a or PAR

Table 228a Cockle Channel - Water Quality Maxima and Minima - Low Water - 5 April 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
CC1	1705	3.7	1023.0	1023.1	1023.1	23.35	23.37	23.36	33.92	33.98	33.97	86.26	89.55	88.15	7.86	7.88	7.87	2.99	4.94	3.31	0.96	1.66	1.29	6.2	39.6	16.3	BW0400004
CC2	1727	3.0	1022.7	1022.7	1022.7	23.31	23.34	23.33	33.50	33.52	33.51	83.83	84.47	84.17	7.85	7.85	7.85	2.99	4.46	3.52	1.26	1.84	1.44	4.2	20.2	9.5	BW0400005
CC3	1749	2.1	1022.9	1022.9	1022.9	23.35	23.36	23.35	33.72	33.73	33.73	80.08	82.23	81.38	7.85	7.86	7.86	3.48	4.94	3.82	0.08	2.39	0.76	1.4	9.1	2.6	BW0400006
CC4	1802	2.5	1023.2	1023.2	1023.2	23.46	23.50	23.49	34.22	34.24	34.23	80.42	82.29	81.60	7.84	7.85	7.85	2.99	4.94	3.58	0.00	2.04	0.52	0.2	1.5	0.4	BW0400007
CC5	1815	2.8	1022.6	1023.3	1022.9	23.27	23.60	23.40	33.28	34.37	33.79	80.21	84.92	83.97	7.85	7.86	7.85	2.50	7.38	3.59	0.18	3.06	1.96	0.1	0.1	0.1	BW0400008
CC6	1827	1.4	1022.7	1023.1	1022.9	23.37	23.79	23.62	33.59	34.15	33.91	60.98	79.30	76.14	7.83	7.84	7.83	3.48	4.46	3.76	0.00	0.28	0.14	0.1	0.1	0.1	BW0400009

Table 228b Cockle Channel - Water Quality Maxima and Minima - High Water - 7 April 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
CC1	1153	4.1	1023.9	1023.9	1023.9	22.38	22.40	22.39	34.73	34.73	34.73	90.30	90.84	90.68	7.96	7.97	7.97	2.01	2.99	2.27	0.40	1.17	0.58	106.4	1382.9	269.7	BW0407004
CC2	1209	3.3	1023.3	1023.4	1023.3	22.63	22.65	22.64	34.03	34.17	34.08	87.31	89.07	88.70	7.91	7.92	7.91	1.52	2.99	2.26	0.65	1.08	0.86	75.9	1011.9	219.4	BW0407005
CC3	1225	2.6	1023.3	1023.3	1023.3	22.62	22.65	22.64	34.01	34.02	34.01	87.85	88.19	88.08	7.90	7.90	7.90	2.01	2.99	2.19	0.69	1.05	0.87	99.6	711.2	194.9	BW0407006
CC4	1237	2.8	1023.2	1023.2	1023.2	22.61	22.66	22.64	33.84	33.85	33.84	83.83	84.89	84.50	7.85	7.86	7.85	3.48	6.41	4.11	0.99	1.49	1.23	46.0	743.2	164.8	BW0407007
CC5	1246	3.4	1023.0	1023.0	1023.0	22.86	22.88	22.87	33.74	33.75	33.75	83.87	84.33	84.15	7.82	7.83	7.83	3.48	5.43	4.07	1.62	2.30	1.95	24.0	581.0	112.6	BW0407008
CC6	1254	1.8	1023.1	1023.1	1023.1	22.54	22.56	22.55	33.69	33.69	33.69	81.57	82.20	81.97	7.78	7.80	7.79	5.92	8.85	7.28	1.67	2.36	1.91	54.1	627.6	191.9	BW0407009

Table 229a Woy Woy Bay/Inlet - Water Quality Maxima and Minima - Low Water - 5 April 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
WW1	1701	5.8	1023.0	1023.2	1023.1	23.23	23.28	23.25	33.91	34.13	34.04	87.68	98.59	93.30	7.92	7.96	7.94	6.35	9.77	7.59	-	-	-	-	-	-	BR190406004
WW2	1709	5.8	1022.3	1023.2	1023.0	23.24	23.52	23.43	32.90	34.22	33.87	75.67	104.19	97.55	7.86	7.99	7.95	6.84	13.19	7.82	-	-	-	-	-	-	BR190406005
WW3	1715	4.6	1022.2	1023.2	1022.8	23.36	23.57	23.48	32.92	34.22	33.70	88.89	109.55	100.90	7.91	7.97	7.95	7.33	9.77	7.52	-	-	-	-	-	-	BR190406006
WW4	1723	4.4	1022.1	1023.2	1022.8	23.03	23.75	23.42	32.61	34.25	33.63	88.12	106.95	101.14	7.91	7.98	7.96	6.35	11.23	7.26	-	-	-	-	-	-	BR190406007
WW5	1731	2.3	1021.3	1023.1	1022.5	23.40	23.89	23.68	31.69	34.18	33.39	85.63	109.11	100.92	7.91	7.99	7.95	7.33	9.77	8.21	-	-	-	-	-	-	BR190406008
WW6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note1 A Seabird 19 was used at these stations and this instrument does not have sensors to measure Chlorophyll-a or PAR
Note2 Station 6 was not profiled on the low water run

Table 229b Woy Woy Bay/Inlet - Water Quality Maxima and Minima - High Water - 7 April 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
WW1	1228	6.8	1023.0	1023.1	1023.1	22.72	22.75	22.74	33.71	33.77	33.73	95.18	97.76	96.60	7.89	7.90	7.89	6.35	8.79	6.93	-	-	-	-	-	-	BR0407004
WW2	1237	6.2	1023.1	1023.1	1023.1	23.05	23.09	23.08	33.87	33.90	33.89	96.97	97.84	97.51	7.90	7.91	7.91	6.35	7.33	6.49	-	-	-	-	-	-	BR0407005
WW3	1245	4.9	1023.1	1023.1	1023.1	22.95	23.05	23.03	33.82	33.86	33.85	95.50	98.42	97.31	7.89	7.90	7.89	5.37	6.84	5.94	-	-	-	-	-	-	BR0407006
WW4	1257	4.9	1022.9	1023.1	1023.0	23.11	23.25	23.14	33.71	33.92	33.74	89.16	100.59	98.17	7.88	7.91	7.90	6.35	10.74	6.93	-	-	-	-	-	-	BR0407007
WW5	1305	2.8	1022.9	1023.1	1023.0	23.37	23.54	23.41	33.83	34.03	33.88	88.81	96.46	94.41	7.87	7.89	7.88	8.30	11.72	9.39	-	-	-	-	-	-	BR0407008
WW6	1317	0.8	1021.6	1021.7	1021.7	23.25	23.27	23.25	32.08	32.20	32.11	65.59	99.10	77.89	7.50	7.51	7.50	9.77	11.23	10.40	-	-	-	-	-	-	BR0407009

Note1 A Seabird 19 was used at these stations and this instrument does not have sensors to measure Chlorophyll-a or PAR

Table 230a Narara Creek - Water Quality Maxima and Minima - Low Water - 6 April 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
NC1	0608	1.7	1019.3	1021.6	1020.6	22.87	23.12	23.05	28.88	31.99	30.65	59.96	68.83	61.89	7.60	7.75	7.65	8.30	21.49	9.67	-	-	-	-	-	-	BR190406012
NC2	0617	0.9	1021.5	1021.9	1021.7	23.00	23.18	23.09	31.80	32.35	32.14	54.50	62.49	59.91	7.66	7.70	7.68	14.16	18.56	16.43	-	-	-	-	-	-	BR190406013
NC3	0631	3.1	1019.0	1021.7	1021.0	22.92	23.52	23.40	28.41	32.15	31.22	32.99	48.17	37.39	7.35	7.50	7.44	7.81	15.14	9.93	-	-	-	-	-	-	BR190406014
NC4	0641	1.2	1013.1	1021.3	1019.6	21.52	23.96	23.37	20.09	31.94	29.35	14.53	39.52	24.01	7.04	7.35	7.16	9.28	35.65	14.13	-	-	-	-	-	-	BR190406015
NC5	0650	1.6	1016.8	1020.9	1020.0	23.08	24.32	23.94	25.62	31.48	30.17	10.48	17.06	12.70	6.96	7.06	7.01	10.26	31.75	12.60	-	-	-	-	-	-	BR190406016
NC6	0658	1.3	1014.4	1019.0	1017.9	20.87	23.99	23.23	21.93	28.90	27.11	10.76	41.04	16.63	6.75	7.30	6.89	10.74	19.05	12.40	-	-	-	-	-	-	BR190406017

Note1 A Seabird 19 was used at these stations and this instrument does not have sensors to measure Chlorophyll-a or PAR

Table 230b Narara Creek - Water Quality Maxima and Minima - High Water - 6 April 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
NC1	1131	2.1	1022.7	1022.8	1022.8	23.78	23.83	23.79	33.67	33.86	33.79	103.56	106.78	105.23	8.07	8.08	8.08	6.84	8.79	7.19	-	-	-	-	-	-	BR190406021
NC2	1138	1.5	1020.6	1021.9	1021.2	23.17	23.62	23.30	30.64	32.44	31.46	76.09	91.97	88.17	7.89	7.95	7.93	8.79	12.21	9.75	-	-	-	-	-	-	BR190406022
NC3	1148	3.7	1019.4	1022.1	1021.3	22.67	23.15	22.92	28.96	32.54	31.55	70.74	84.76	79.02	7.83	7.96	7.91	10.26	19.54	12.44	-	-	-	-	-	-	BR190406023
NC4	1155	1.8	1016.4	1021.0	1019.6	22.29	23.74	22.97	24.76	31.45	29.26	18.68	59.78	43.52	7.36	7.66	7.57	9.28	14.16	11.04	-	-	-	-	-	-	BR190406024
NC5	1201	2.0	1015.1	1020.7	1018.6	22.70	24.14	23.32	23.20	31.21	28.12	12.58	38.18	26.70	7.21	7.39	7.27	8.79	34.19	13.66	-	-	-	-	-	-	BR190406025
NC6	1210	2.4	1014.5	1020.1	1018.7	22.46	24.88	23.82	22.47	30.65	28.35	1.01	23.53	10.54	7.01	7.31	7.09	10.26	23.93	12.77	-	-	-	-	-	-	BR190406026
NC7	1220	0.9	998.6	998.9	998.7	19.29	19.35	19.31	0.33	0.74	0.41	68.29	96.02	80.27	6.72	6.91	6.80	21.00	155.31	63.36	-	-	-	-	-	-	BR190406027

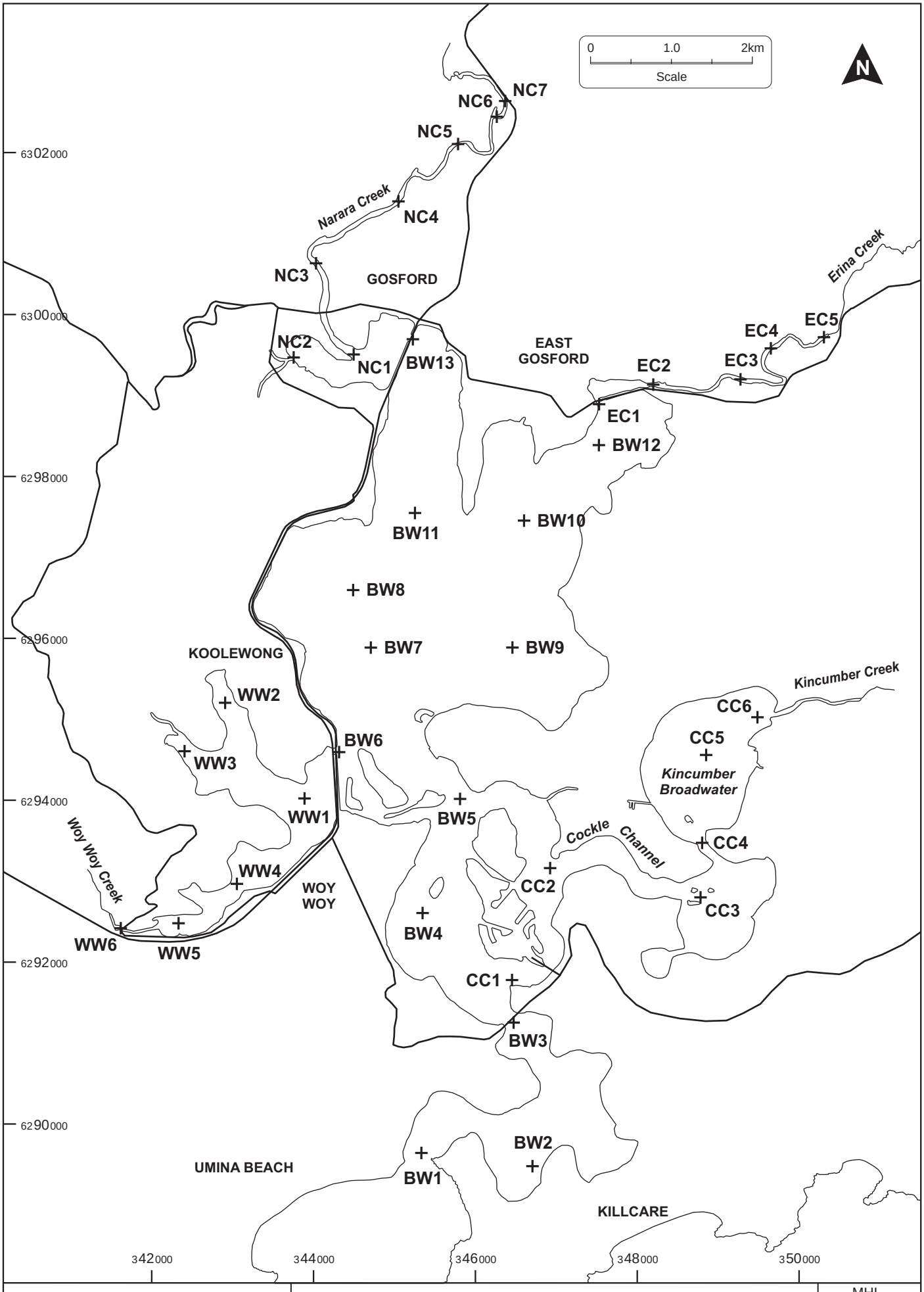
Note1 A Seabird 19 was used at these stations and this instrument does not have sensors to measure Chlorophyll-a or PAR

Table 231a Erina Creek - Water Quality Maxima and Minima - Low Water - 6 April 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
EC1	0627	2.5	1021.7	1022.9	1022.6	22.93	23.27	23.19	32.01	33.67	33.30	64.65	70.90	67.62	7.72	7.80	7.78	8.36	17.15	9.73	0.47	2.49	2.22	0.3	29.7	2.1	BR0406012
EC2	0637	1.9	1021.4	1022.3	1022.1	22.95	23.10	23.08	31.66	32.83	32.62	54.11	64.36	60.95	7.46	7.76	7.66	4.94	12.27	6.93	0.69	0.90	0.76	0.6	30.9	2.7	BR0406013
EC3	0650	1.3	1019.6	1021.8	1021.1	22.75	23.07	22.99	29.14	32.20	31.30	28.10	45.37	34.20	6.59	7.30	6.93	3.97	41.09	13.18	0.32	1.09	0.76	2.3	84.1	19.0	BR0406014
EC4	0703	1.2	1018.8	1019.6	1019.4	23.24	23.55	23.39	28.28	29.39	29.09	8.83	9.97	9.68	6.40	6.92	6.66	4.94	30.34	17.67	0.22	2.49	1.88	5.1	98.9	31.8	BR0406015
EC5	0719	1.4	1012.7	1019.2	1014.2	21.84	22.60	22.31	19.87	28.53	21.84	2.49	3.92	3.54	6.18	6.83	6.43	12.76	40.11	20.07	2.41	2.81	2.61	1.2	81.7	10.7	BR0406016

Table 231b Erina Creek - Water Quality Maxima and Minima - High Water - 6 April 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
EC1	1205	2.5	1021.8	1022.8	1022.5	23.03	23.16	23.13	32.13	33.52	33.10	75.15	78.36	77.67	7.60	7.84	7.79	6.41	20.08	8.11	1.19	1.60	1.36	12.0	1097.1	66.3	BR0406027
EC2	1218	2.0	1021.1	1022.8	1022.6	22.71	23.19	23.13	31.19	33.55	33.30	66.44	71.09	70.09	7.49	7.80	7.74	6.41	36.69	9.81	1.21	2.39	1.54	13.4	1057.5	141.2	BR0406028
EC3	1232	1.8	1021.3	1022.0	1021.9	22.95	23.07	23.04	31.48	32.41	32.31	45.06	51.29	49.74	7.39	7.68	7.61	5.92	13.25	7.03	0.28	1.45	0.51	45.2	578.9	145.6	BR0406029
EC4	1246	1.3	1018.1	1020.5	1020.0	22.65	23.18	23.06	27.11	30.46	29.80	16.32	21.41	18.20	6.87	7.27	7.07	5.92	31.32	12.08	1.23	2.28	1.51	72.1	2197.0	610.7	BR0406030
EC5	1301	1.4	1016.7	1017.2	1017.0	22.76	22.87	22.83	25.36	25.98	25.77	1.19	1.74	1.46	6.53	7.35	6.82	7.87	29.85	13.96	2.23	3.41	2.55	30.2	528.1	141.3	BR0406031



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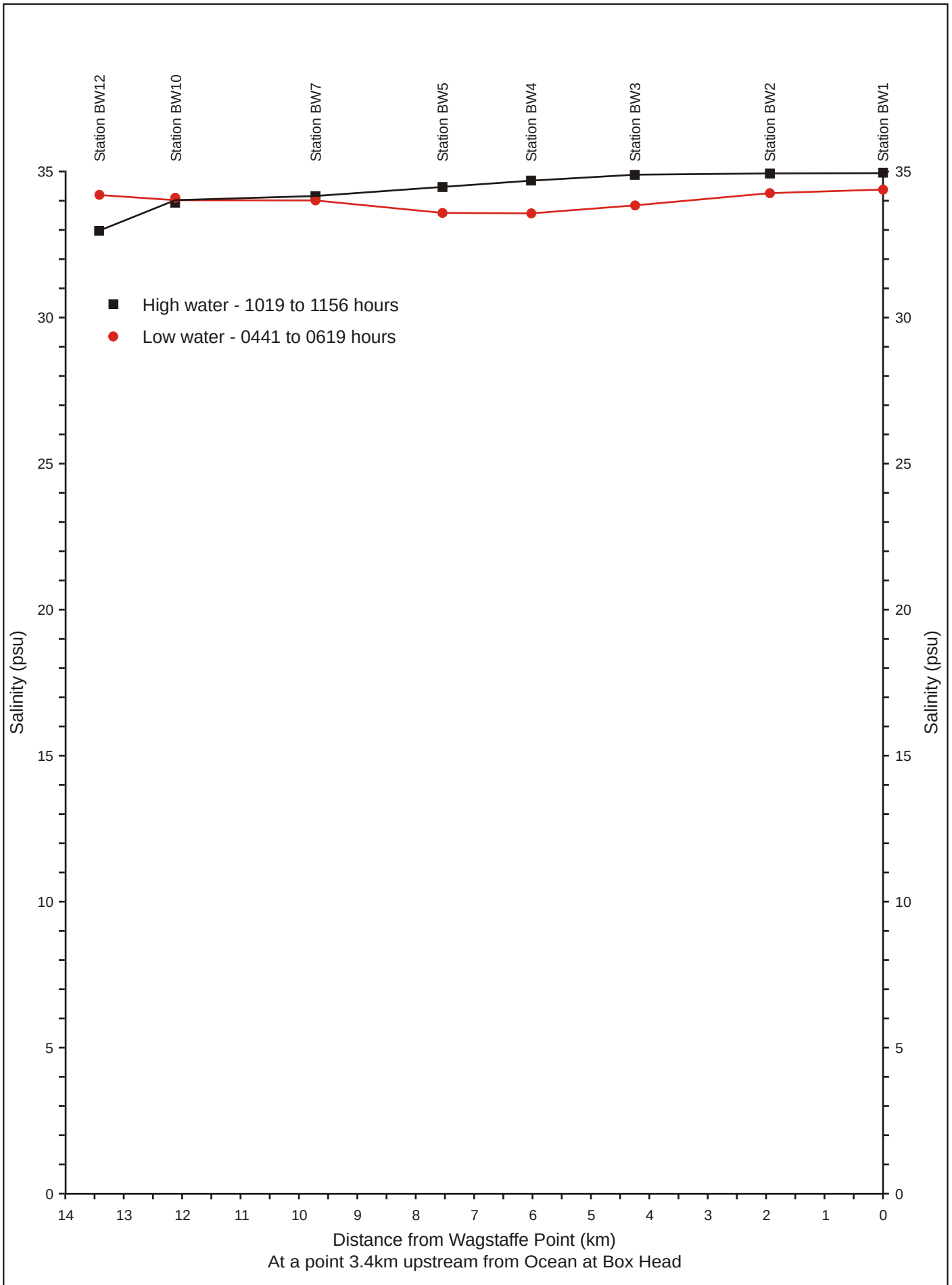
BRISBANE WATER

5 TO 7 APRIL 2004

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Figure 173

DRAWING 1812-173.CDR



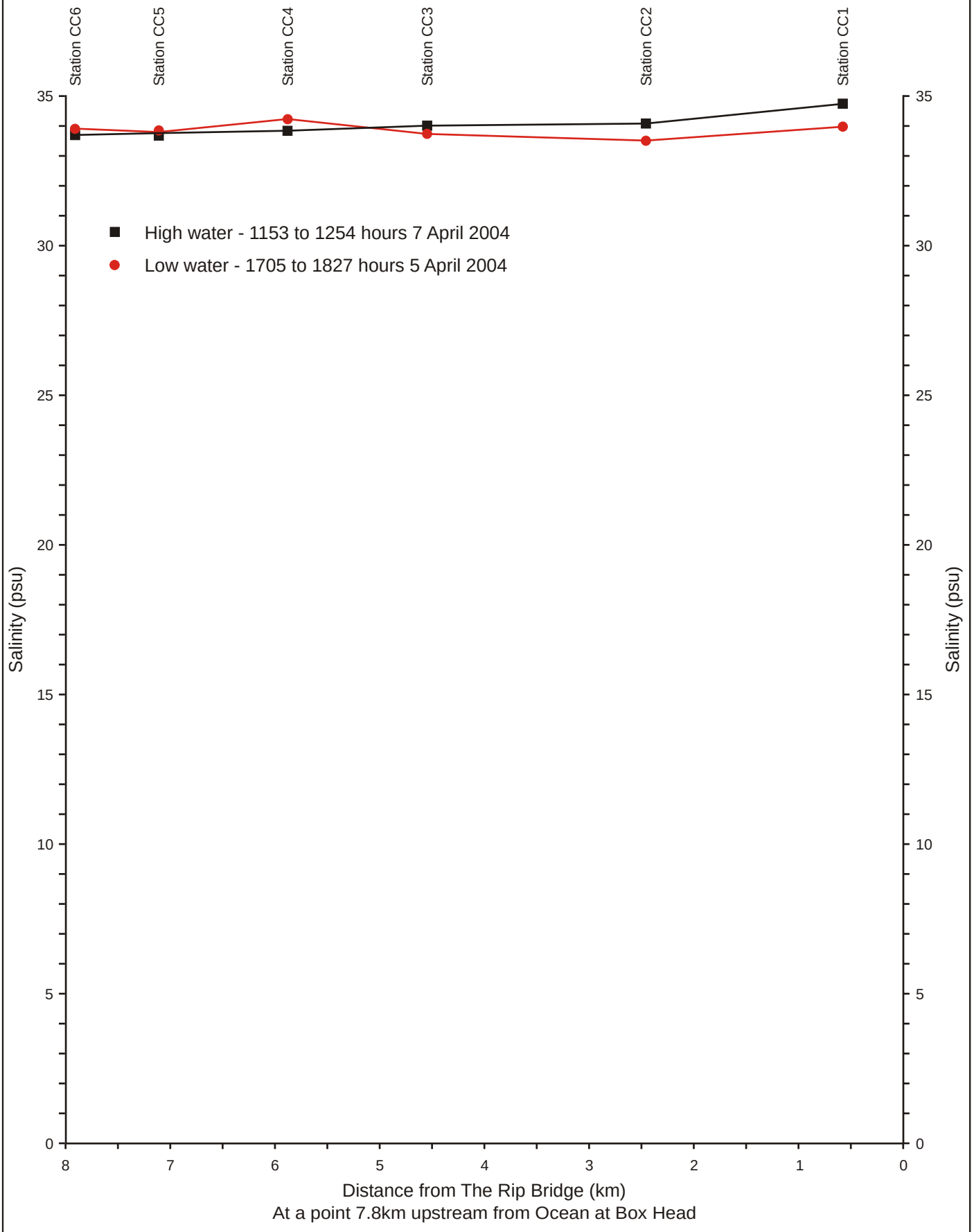
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BRISBANE WATER
LOW AND HIGH WATER - 6 APRIL 2004

MHL Report 1812

Figure 174

DRAWING 1812-174.CDR



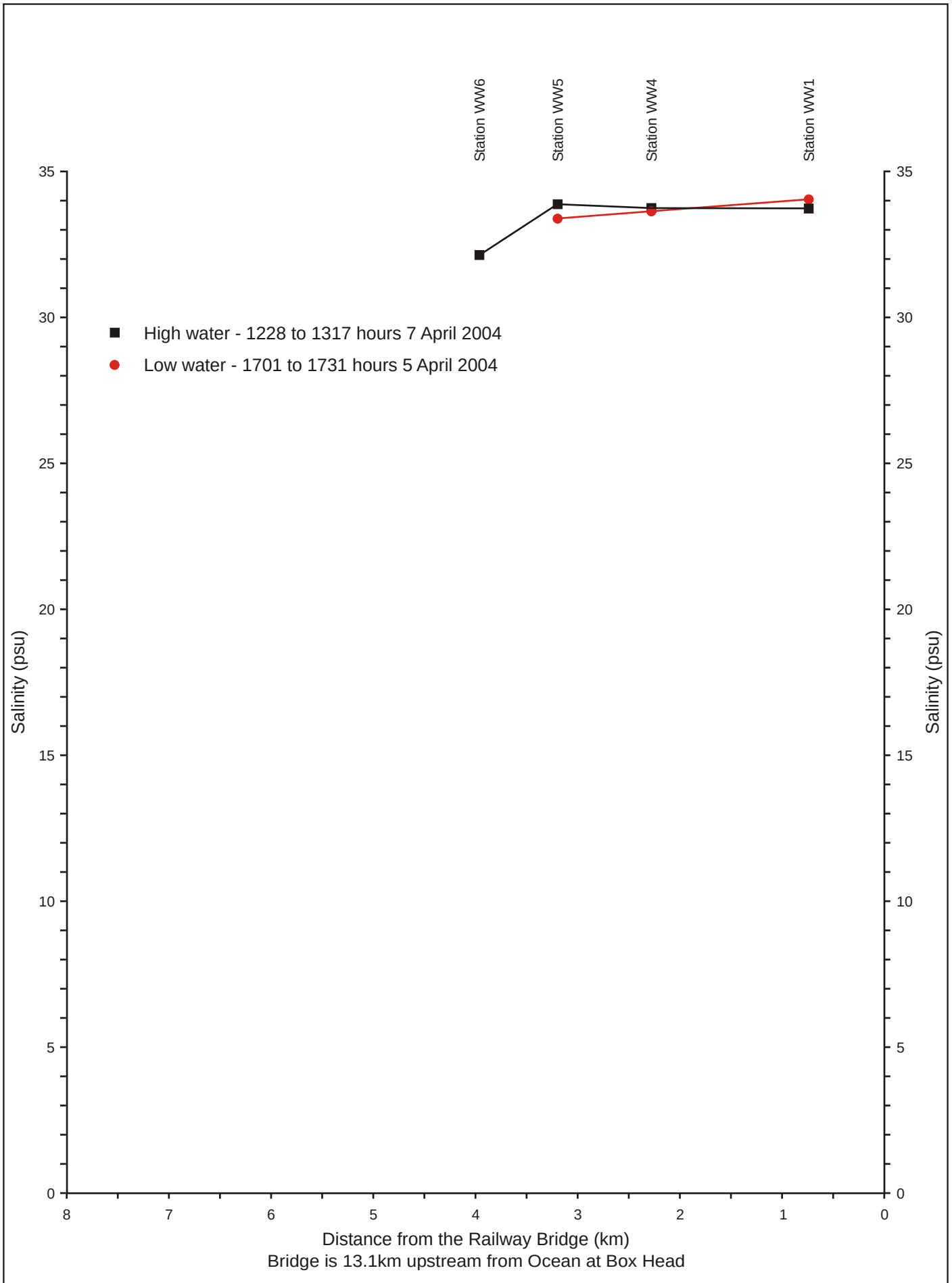
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
COCKLE CREEK
LOW AND HIGH WATER - 5 AND 7 APRIL 2004

MHL Report 1812

Figure 175

DRAWING 1812-175.CDR



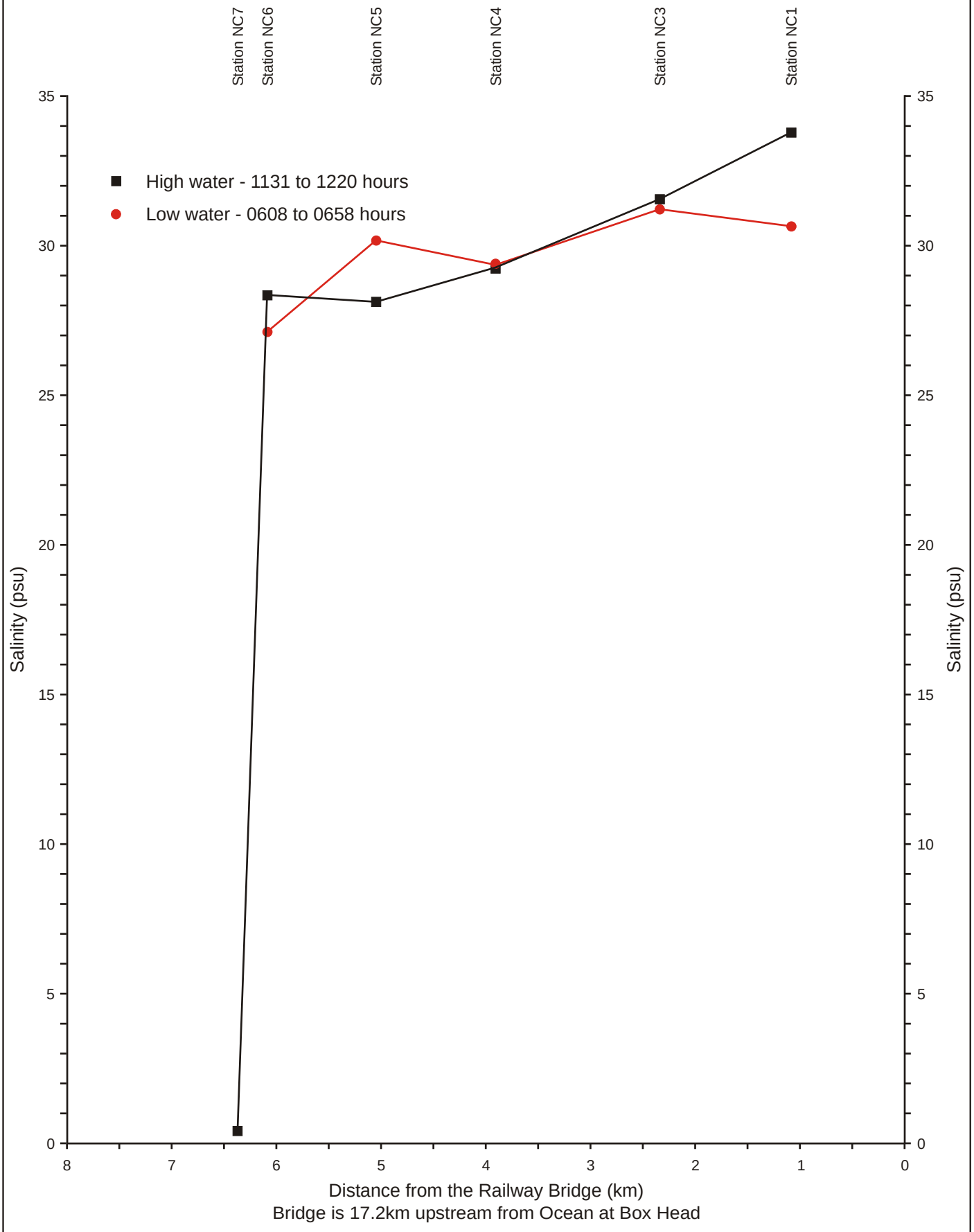
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
WOY WOY BAY
LOW AND HIGH WATER - 5 AND 7 APRIL 2004

MHL Report 1812

Figure 176

DRAWING 1812-176.CDR



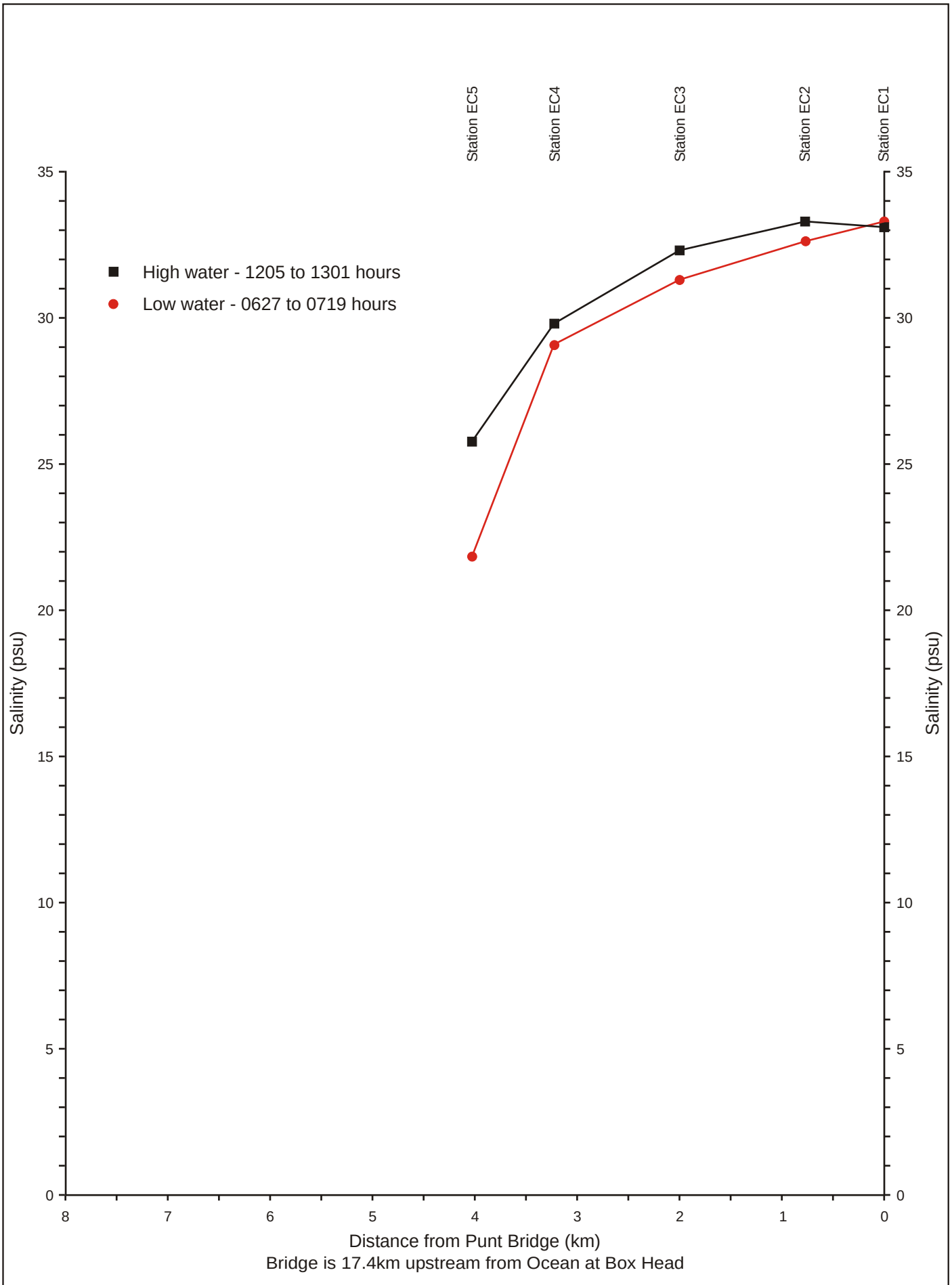
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
NARARA CREEK
LOW AND HIGH WATER - 6 APRIL 2004

MHL Report 1812

Figure 177

DRAWING 1812-177.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
ERINA CREEK
LOW AND HIGH WATER - 6 APRIL 2004

MHL Report 1812

Figure 178

DRAWING 1812-178.CDR

Hawkesbury River Data Summary

Data was collected in the Hawkesbury River estuary, in the vicinity of Wisemans Ferry on three occasions in February 1999; in the vicinity of Brooklyn in October 2001; and in the vicinity of Wisemans Ferry in April 2011.

Data was collected on 11 February 1999. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 232. Summaries of the minimum, maximum and mean values for all parameters measured on the one high water run are shown in Table 232. The locations at which these profiles were taken are shown in Figure 179. Long channel depth-averaged salinity profiles are shown in Figure 180.

Table 232 Hawkesbury River - 11 February 1999

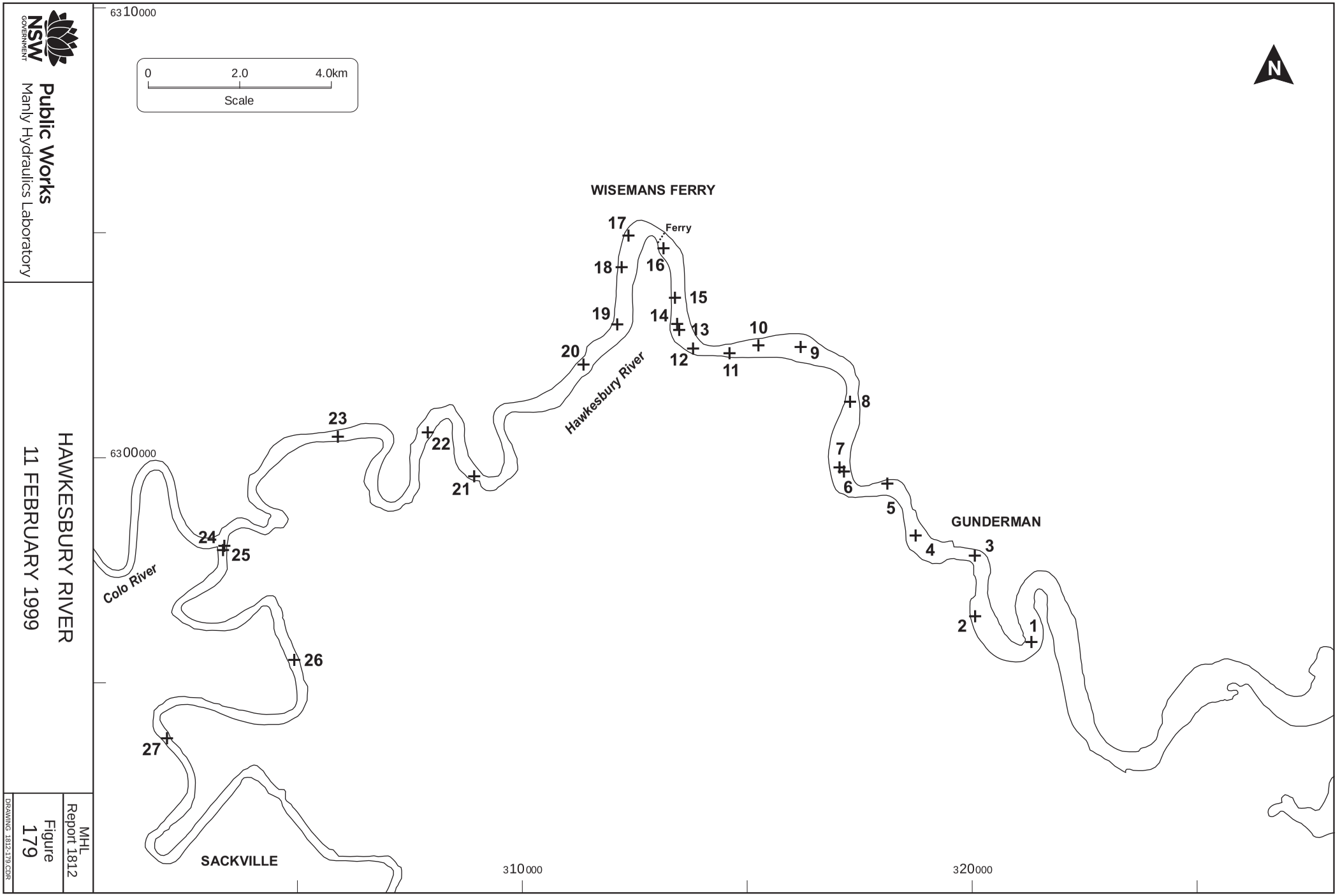
Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)
	Easting	Northing		
1	322078	6295969	44.61	11.85
2	320974	6296480	46.59	10.12
3	320978	6297965	47.96	9.57
4	319654	6298282	49.49	8.39
5	319022	6299436	50.93	9.44
6	318056	6299699	52.23	-
7	317961	6299791	52.38	8.53
8	318194	6301253	53.83	7.25
9	317094	6302475	55.73	5.37
10	316153	6302510	56.69	4.29
11	315507	6302326	57.33	3.97
12	314698	6302437	58.17	2.88
13	314392	6302853	58.70	-
14	314341	6302987	58.86	2.70
15	314296	6303565	59.39	2.00
16	314036	6304672	60.53	1.21
17	313262	6304955	61.79	0.60
18	313108	6304252	62.48	0.41
19	313008	6302974	63.77	0.26
20	312263	6302081	64.91	0.21
21	309827	6299595	69.33	0.18
22	308942	6300454	71.54	-
23	306800	6300341	76.72	0.16
24	304417	6298010	81.83	-
25	304449	6298002	81.98	0.14
26	306074	6295525	87.70	0.16
27	303205	6293840	93.10	0.15

Note Profiling at Stations 24, 22, 13 and 6 was done on the way back downstream

Table 233 Water Quality Maxima and Minima - Hawkesbury River - High Water - 11 February 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0656	14.5	1003.1	1007.7	1005.7	25.67	26.03	25.92	8.23	14.52	11.85	80.33	87.20	83.58	-	-	-	-	-	-	0.00	7.23	1.39	0.0	1294.0	78.3	110201
2	0714	8.6	1002.3	1007.0	1004.4	25.67	26.04	25.87	7.18	13.59	10.12	81.05	88.02	84.52	-	-	-	-	-	-	0.00	6.39	1.50	1.0	503.5	61.4	110202
3	0729	7.7	1001.7	1006.1	1004.0	25.57	26.04	25.91	6.37	12.45	9.57	82.17	90.24	84.68	-	-	-	-	-	-	0.00	13.13	2.03	0.7	198.0	32.9	110203
4	0738	6.8	1001.5	1005.5	1003.1	25.72	26.03	25.86	6.24	11.63	8.39	83.19	90.20	86.88	-	-	-	-	-	-	0.00	9.69	2.85	3.4	155.4	45.7	110204
5	0747	11.2	1001.3	1005.5	1003.9	25.83	26.07	25.98	5.94	11.61	9.44	83.07	90.48	85.58	-	-	-	-	-	-	0.00	5.54	0.92	0.1	149.8	23.3	110205
7	0757	8.7	1001.2	1004.5	1003.2	25.82	26.06	25.98	5.81	10.27	8.53	82.70	90.68	85.84	-	-	-	-	-	-	0.00	5.70	1.14	0.4	210.0	32.3	110207
8	0806	9.4	1000.1	1003.7	1002.3	25.84	26.04	25.97	4.38	9.21	7.25	79.46	97.30	87.74	-	-	-	-	-	-	0.05	3.82	1.20	0.2	675.5	62.9	110208
9	0816	5.0	999.6	1001.7	1000.9	25.84	26.00	25.93	3.73	6.50	5.37	84.14	90.01	87.75	-	-	-	-	-	-	0.19	4.34	2.40	22.0	168.5	90.0	110209
10	0824	5.4	999.0	1001.2	1000.1	25.60	25.96	25.83	2.86	5.82	4.29	86.70	92.46	88.52	-	-	-	-	-	-	1.30	7.04	3.51	9.6	161.2	57.8	110210
11	0833	9.3	998.3	1001.0	999.8	25.84	25.96	25.92	1.94	5.51	3.97	80.33	101.65	89.49	-	-	-	-	-	-	1.82	7.94	3.79	0.1	5881.0	616.0	110211
12	0841	13.3	998.1	999.9	999.0	25.82	25.96	25.89	1.68	4.08	2.88	79.93	98.87	90.71	-	-	-	-	-	-	3.60	8.35	5.71	0.0	359.1	21.3	110212
14	0900	6.3	997.7	999.3	998.9	25.83	25.90	25.88	1.18	3.24	2.70	86.02	93.53	87.50	-	-	-	-	-	-	4.12	9.39	6.01	3.2	258.9	46.9	110214
15	0908	10.6	997.7	999.1	998.3	25.84	25.96	25.91	1.15	3.01	2.00	85.13	92.98	88.23	-	-	-	-	-	-	6.77	13.62	8.17	0.0	147.6	23.7	110215
16	0916	6.0	997.4	998.4	997.7	25.95	26.14	25.99	0.87	2.06	1.21	86.86	95.91	91.65	-	-	-	-	-	-	9.01	13.02	10.60	0.4	1023.0	179.5	110216
17	0926	4.1	997.1	997.3	997.2	25.97	26.25	26.04	0.53	0.65	0.60	93.75	97.92	95.28	-	-	-	-	-	-	7.04	14.06	10.68	5.3	3149.0	800.8	110217
18	0933	5.2	997.1	997.1	997.1	26.02	26.11	26.05	0.40	0.44	0.41	95.14	98.57	97.07	-	-	-	-	-	-	10.46	16.87	13.29	0.7	2408.0	439.8	110218
19	0945	4.9	996.9	997.0	997.0	25.95	26.19	25.98	0.26	0.27	0.26	92.54	106.86	98.50	-	-	-	-	-	-	11.82	21.82	17.03	0.2	1266.0	198.6	110219
20	0955	5.0	996.9	997.0	997.0	25.95	26.01	25.97	0.21	0.21	0.21	98.53	100.78	99.81	-	-	-	-	-	-	15.54	20.18	17.76	0.3	1650.0	329.3	110220
21	1008	10.7	997.0	997.0	997.0	25.86	25.89	25.87	0.18	0.18	0.18	95.63	97.04	96.34	-	-	-	-	-	-	18.32	25.26	21.45	0.0	99.2	9.2	110221
23	1025	5.6	997.0	997.0	997.0	25.63	25.64	25.63	0.16	0.16	0.16	92.47	93.19	92.90	-	-	-	-	-	-	21.38	26.13	23.35	0.0	1378.0	160.0	110223
25	1043	6.7	997.0	997.0	997.0	25.53	25.56	25.54	0.14	0.14	0.14	94.44	99.93	95.29	-	-	-	-	-	-	20.32	24.77	22.48	0.0	1756.0	201.4	110225
26	1059	4.1	997.1	997.1	997.1	25.39	25.41	25.40	0.16	0.16	0.16	82.67	91.63	86.16	-	-	-	-	-	-	14.63	17.94	16.30	0.3	346.1	70.7	110226
27	1112	5.0	997.1	997.1	997.1	25.16	25.24	25.17	0.15	0.15	0.15	76.85	77.83	77.15	-	-	-	-	-	-	11.00	13.73	12.18	0.1	308.9	38.7	110227
24	1144	6.5	997.0	997.0	997.0	25.63	25.73	25.65	0.14	0.14	0.14	94.09	95.86	94.85	-	-	-	-	-	-	19.99	26.00	22.72	0.0	3255.0	196.7	110224
22	1226	3.0	997.0	997.0	997.0	25.78	25.86	25.81	0.17	0.17	0.17	93.38	95.27	94.25	-	-	-	-	-	-	17.26	24.28	21.92	16.8	6494.0	1828.0	110222
13	1259	5.7	996.9	997.0	997.0	26.09	26.22	26.10	0.26	0.30	0.28	96.81	103.67	98.48	-	-	-	-	-	-	12.18	31.84	18.47	0.1	5566.0	385.7	110213
6	1319	7.5	998.2	1001.0	999.6	25.95	26.47	26.07	1.99	5.59	3.70	83.06	95.37	87.32	-	-	-	-	-	-	2.23	9.09	5.39	0.6	2660.0	207.1	110206

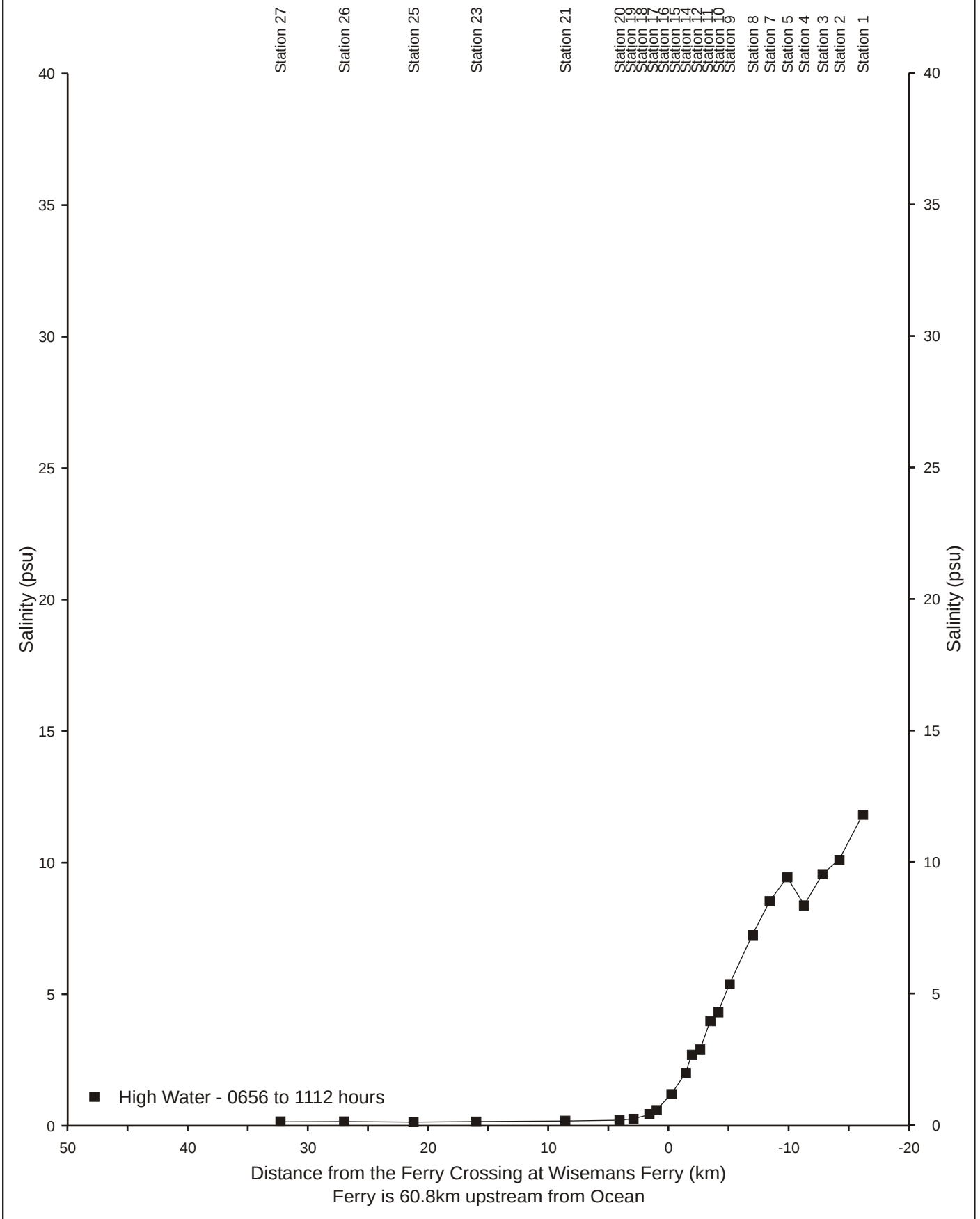
Note Profiling at Stations 24, 22, 13 and 6 was done on the way back downstream



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HAWKESBURY RIVER
11 FEBRUARY 1999

MHL Report 1812
Figure 179
DRAWING 1812-179.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
HAWKESBURY RIVER
11 FEBRUARY 1999

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Figure 180

DRAWING 1812-180.CDR

Data was collected in the Hawkesbury River estuary, in the vicinity of Wisemans Ferry, on 15 February 1999. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 234. Summaries of the minimum, maximum and mean values for all parameters measured on the one high water run are shown in Table 235. The locations at which these profiles were taken are shown in Figure 181. Long channel depth-averaged salinity profiles are shown in Figure 182.

Table 234 Hawkesbury River - 15 February 1999

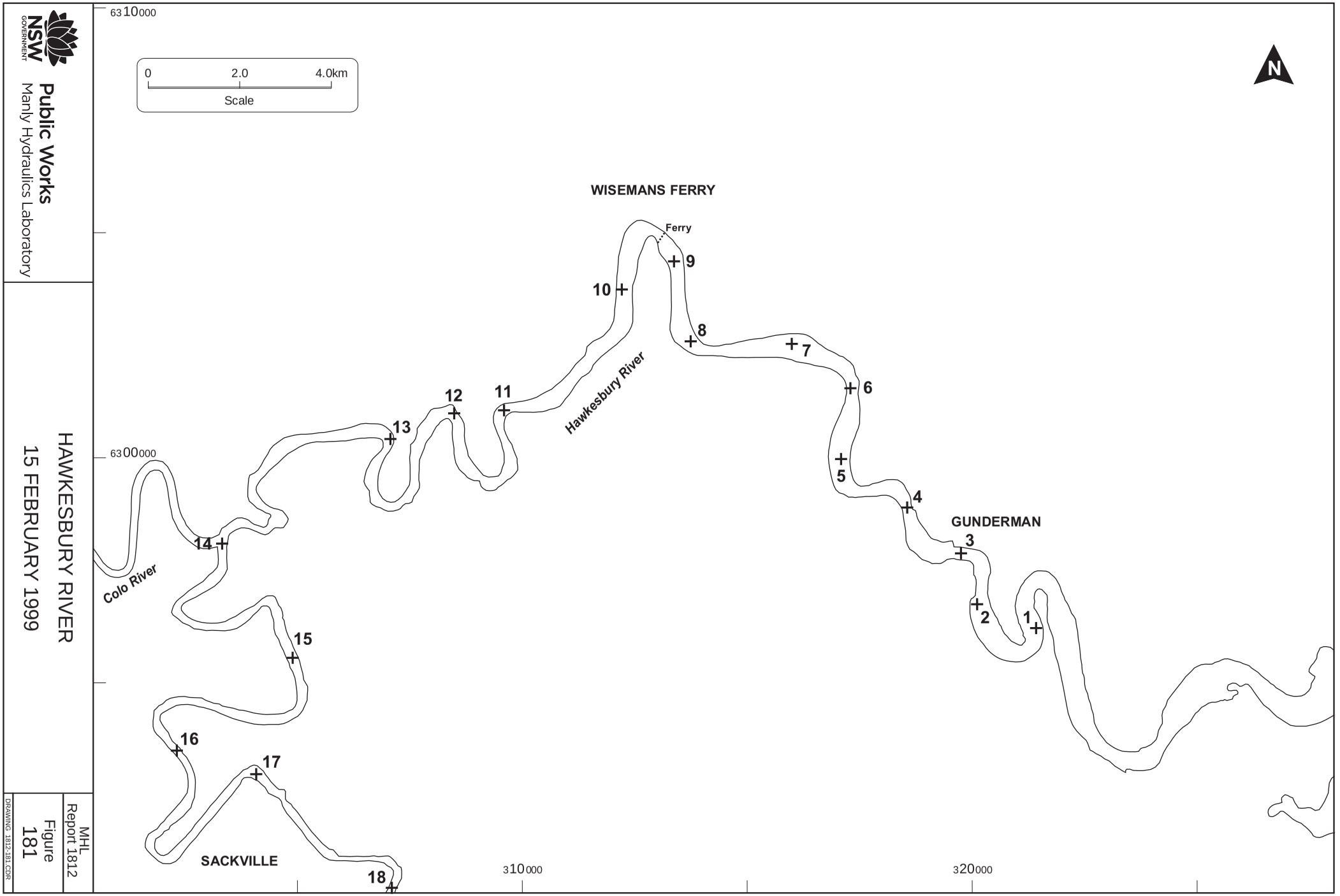
Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)
	Easting	Northing		
1	321321	6296236	44.50	9.96
2	320010	6296760	46.93	8.67
3	319671	6298051	48.38	8.00
4	318518	6298900	50.21	7.09
5	316998	6299989	52.50	5.86
6	317195	6301560	54.02	4.71
7	315898	6302536	55.85	3.80
8	313654	6302611	58.21	2.12
9	313279	6304379	60.04	1.10
10	312118	6303746	62.70	0.42
11	309527	6301010	66.82	0.23
12	306991	6300437	70.63	-
13	303505	6297939	75.28	0.14
14	305060	6295570	81.68	0.13
15	302590	6293471	87.62	0.14
16	304410	6292939	93.10	0.12
17	307193	6290024	99.28	0.09
18	308411	6301006	103.85	0.08

Note Profiling at Station 12 was done on the way back downstream

Table 235 Water Quality Maxima and Minima - Hawkesbury River - High Water - 15 February 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0913	15.0	1003.6	1004.7	1004.2	26.39	26.44	26.42	9.20	10.59	9.96	87.88	88.98	88.38	-	-	-	-	-	-	0.68	4.15	1.83	0.0	0.0	0.0	150201
2	0927	9.7	1003.0	1003.5	1003.2	26.41	26.44	26.42	8.47	9.03	8.67	88.75	90.47	89.71	-	-	-	-	-	-	1.28	6.66	3.44	0.0	0.0	0.0	150202
3	0945	19.2	1002.4	1003.0	1002.7	26.43	26.47	26.44	7.62	8.30	8.00	85.03	94.45	89.68	-	-	-	-	-	-	1.93	4.45	3.12	0.0	0.0	0.0	150203
4	0958	19.6	1001.6	1002.2	1002.0	26.47	26.63	26.51	6.64	7.33	7.09	81.40	105.33	91.24	-	-	-	-	-	-	2.07	5.98	3.36	0.0	993.5	54.3	150204
5	1022	8.6	1001.0	1001.1	1001.1	26.52	26.63	26.54	5.85	5.87	5.86	82.40	107.67	92.32	-	-	-	-	-	-	1.96	4.17	2.88	0.0	5627.0	647.0	150205
6	1030	22.2	999.9	1000.4	1000.2	26.56	26.73	26.60	4.40	4.90	4.71	85.14	108.87	94.19	-	-	-	-	-	-	3.76	6.33	4.55	0.0	1699.0	73.9	150206
7	1040	5.4	999.4	999.5	999.5	26.59	26.70	26.60	3.78	3.80	3.80	94.72	95.89	95.12	-	-	-	-	-	-	5.18	7.20	6.02	0.1	1835.0	339.4	150207
8	1050	6.3	998.0	998.4	998.2	26.59	26.66	26.62	1.91	2.30	2.12	94.80	101.45	97.87	-	-	-	-	-	-	10.13	18.16	11.64	0.0	5464.0	503.9	150208
9	1058	7.1	997.3	997.7	997.5	26.56	26.72	26.61	0.92	1.31	1.10	91.59	114.43	101.20	-	-	-	-	-	-	12.64	16.77	14.11	0.0	5287.0	258.5	150209
10	1115	4.8	996.8	997.0	996.9	26.61	27.03	26.65	0.41	0.42	0.42	100.84	107.28	101.57	-	-	-	-	-	-	14.94	24.69	18.88	0.1	4581.0	479.2	150210
11	1131	16.1	996.8	996.9	996.9	26.41	26.58	26.44	0.23	0.23	0.23	90.20	112.96	101.20	-	-	-	-	-	-	18.29	29.28	24.22	0.0	5545.0	321.7	150211
13	1147	6.1	996.8	996.9	996.8	26.25	26.40	26.28	0.14	0.14	0.14	93.35	110.29	103.93	-	-	-	-	-	-	20.07	26.76	22.93	0.0	2821.0	280.7	150213
14	1202	10.1	996.9	996.9	996.9	25.96	25.98	25.97	0.13	0.13	0.13	87.45	93.03	90.50	-	-	-	-	-	-	15.45	23.32	18.65	0.0	2669.0	146.8	150214
15	1215	4.8	996.9	997.0	997.0	25.67	25.80	25.70	0.14	0.14	0.14	77.35	78.87	78.19	-	-	-	-	-	-	9.91	13.87	11.45	0.1	3840.0	415.4	150215
16	1229	7.8	996.8	997.1	997.0	25.35	26.16	25.49	0.12	0.12	0.12	74.39	77.51	75.34	-	-	-	-	-	-	6.63	12.45	10.45	0.0	5485.0	1148.5	150216
17	1244	3.2	997.1	997.2	997.1	24.88	25.22	24.98	0.09	0.09	0.09	79.65	81.93	80.96	-	-	-	-	-	-	9.06	13.60	11.46	4.4	5711.0	1642.3	150217
18	1257	5.4	997.3	997.4	997.4	24.02	24.13	24.04	0.08	0.08	0.08	78.12	79.82	79.03	-	-	-	-	-	-	7.97	11.60	9.35	0.0	1782.0	189.3	150218
12	1354	17.5	996.7	996.8	996.8	26.54	26.65	26.58	0.15	0.15	0.15	103.77	108.22	105.98	-	-	-	-	-	-	18.81	28.10	23.67	0.0	5424.0	236.7	150212

Note Profiling at Station 12 was done on the way back downstream



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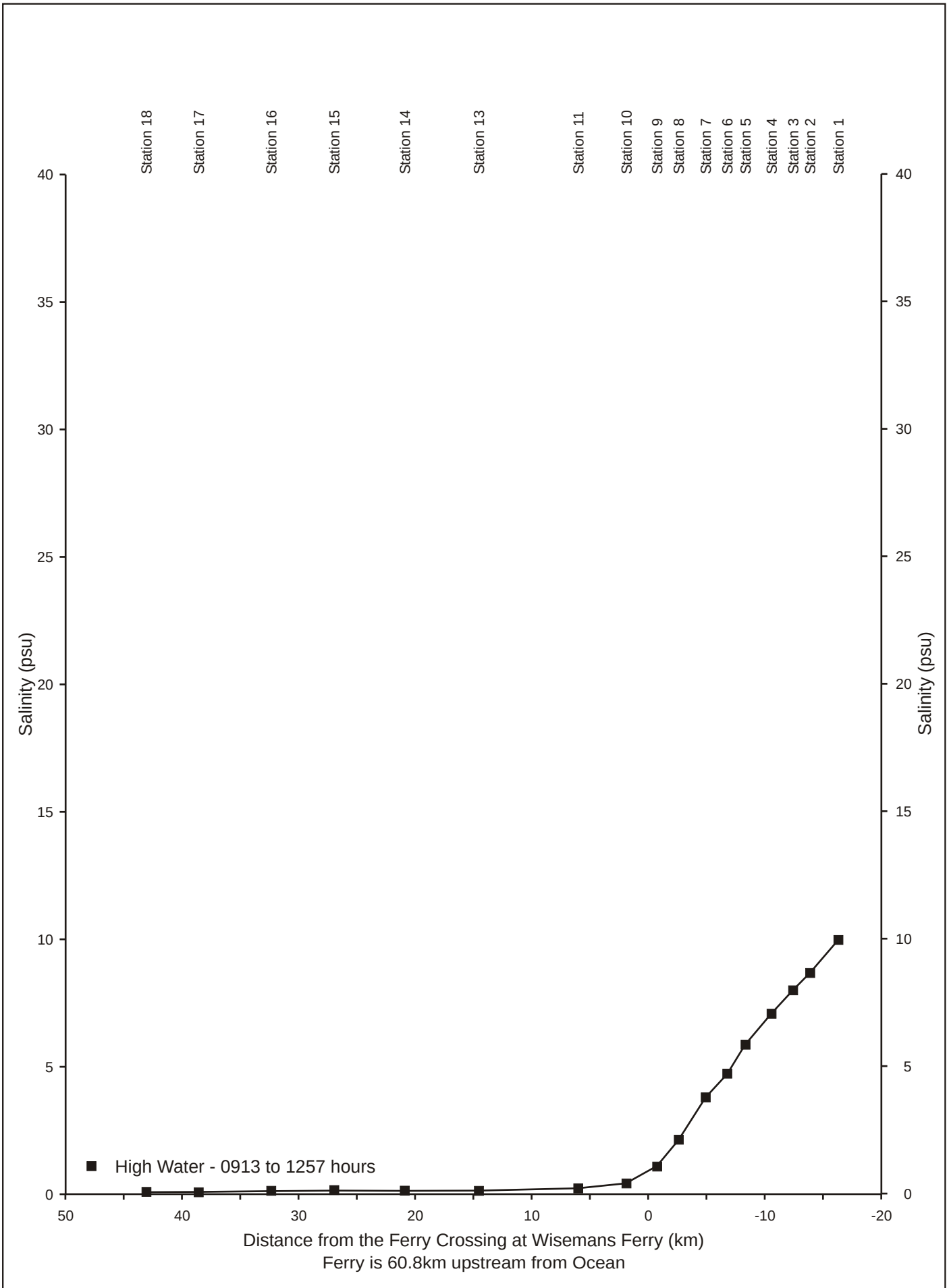
HAWKESBURY RIVER

15 FEBRUARY 1999

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Figure 181

DRAWING 1812-181.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
HAWKESBURY RIVER
15 FEBRUARY 1999

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Figure 182

DRAWING 1812-182.CDR

Data was collected in the Hawkesbury River estuary, in the vicinity of Wisemans Ferry, on 18 February 1999. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 236. Summaries of the minimum, maximum and mean values for all parameters measured on the one high water run are shown in Table 237. The locations at which these profiles were taken are shown in Figure 183. Long channel depth-averaged salinity profiles are shown in Figure 184.

Table 236 Hawkesbury River - 18 February 1999

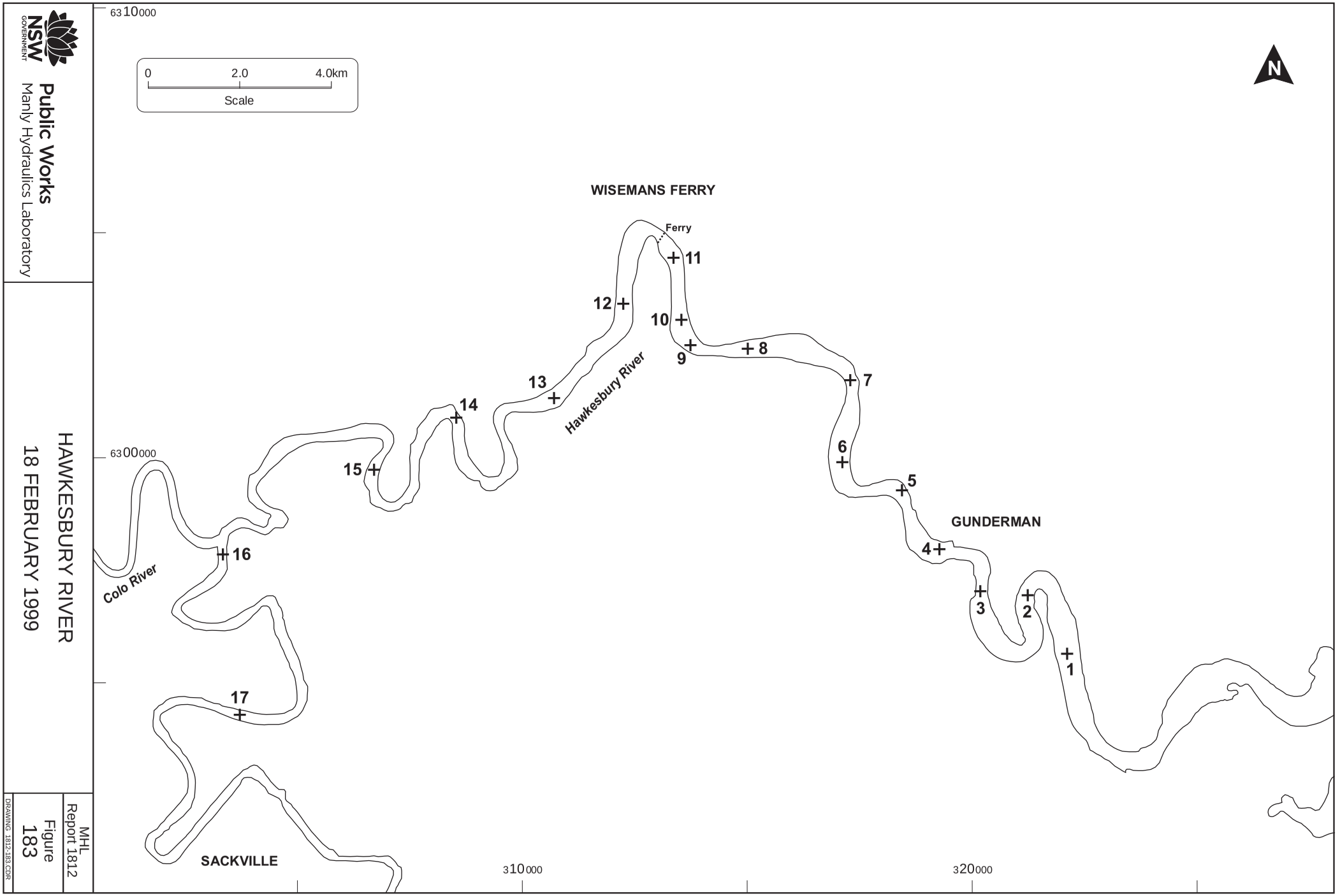
Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)
	Easting	Northing		
1	322006	6295651	41.68	12.12
2	321141	6296951	44.04	10.20
3	320080	6297042	47.47	8.44
4	319195	6298103	49.07	7.27
5	318343	6299283	50.67	6.19
6	317014	6299913	52.57	4.86
7	317187	6301732	54.40	3.62
8	314911	6302430	56.99	2.75
9	313644	6302502	58.13	-
10	313443	6303063	58.74	1.83
11	313267	6304443	60.19	1.18
12	312151	6303425	63.01	0.56
13	310616	6301330	65.60	0.34
14	308448	6300898	70.55	-
15	306788	6299687	74.59	0.15
16	303546	6297700	81.68	0.13
17	303638	6294327	89.90	0.12

Note Profiling at Stations 14 and 9 was done on the way back downstream

Table 237 Water Quality Maxima and Minima - Hawkesbury River - High Water - 18 February 1999

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1039	6.2	1005.2	1005.6	1005.5	27.25	27.30	27.26	11.71	12.27	12.12	86.58	87.88	86.83	-	-	-	-	-	-	0.70	2.12	1.29	0.0	668.1	33.0	180201
2	1050	15.4	1003.7	1004.6	1004.1	27.25	27.30	27.27	9.69	10.85	10.20	85.31	88.65	87.10	-	-	-	-	-	-	1.11	2.64	1.85	0.0	5115.0	288.9	180202
3	1101	14.9	1002.5	1003.1	1002.8	27.27	27.39	27.31	8.06	8.77	8.44	82.40	91.28	89.03	-	-	-	-	-	-	1.74	5.48	3.10	0.0	1472.0	131.1	180203
4	1111	7.8	1001.7	1002.0	1001.9	27.35	27.43	27.37	7.03	7.47	7.27	88.70	90.23	89.17	-	-	-	-	-	-	1.71	2.78	2.16	0.0	1189.0	27.6	180204
5	1121	23.5	1000.2	1001.4	1001.1	27.42	27.60	27.47	5.11	6.58	6.19	89.64	93.23	90.63	-	-	-	-	-	-	3.08	5.87	4.10	0.0	700.8	18.1	180205
6	1132	9.2	999.9	1000.1	1000.0	27.52	27.61	27.53	4.69	4.98	4.86	81.80	92.01	89.32	-	-	-	-	-	-	0.00	7.10	4.77	0.0	695.6	66.3	180206
7	1141	24.8	998.9	999.4	999.1	27.58	27.68	27.62	3.38	3.97	3.62	94.10	95.27	94.83	-	-	-	-	-	-	6.90	9.72	8.47	0.0	40.5	0.5	180207
8	1228	7.8	998.3	998.5	998.4	27.59	27.84	27.66	2.65	2.88	2.75	96.18	99.61	97.09	-	-	-	-	-	-	6.06	11.66	9.37	0.0	275.6	21.0	180208
10	1236	7.9	997.6	997.8	997.7	27.63	27.68	27.64	1.69	1.90	1.83	96.44	98.66	97.01	-	-	-	-	-	-	10.89	16.68	13.39	0.0	591.8	58.2	180211
11	1244	7.8	997.1	997.3	997.2	27.63	27.85	27.70	1.10	1.30	1.18	97.25	100.47	98.38	-	-	-	-	-	-	11.06	19.20	14.26	0.0	5345.0	517.1	180212
12	1258	4.7	996.7	996.8	996.7	27.71	27.80	27.75	0.56	0.57	0.56	97.63	100.29	99.02	-	-	-	-	-	-	16.00	24.06	18.91	0.0	1134.0	131.3	180213
13	1309	5.0	996.6	996.6	996.6	27.64	27.72	27.66	0.34	0.34	0.34	100.30	104.56	102.17	-	-	-	-	-	-	15.54	25.23	21.40	0.1	5464.0	795.2	180215
15	1328	6.7	996.5	996.6	996.6	27.25	27.30	27.26	0.15	0.15	0.15	104.34	105.82	104.77	-	-	-	-	-	-	18.16	24.55	20.99	0.0	1578.0	158.0	180216
16	1345	14.5	996.6	996.7	996.6	27.01	27.07	27.02	0.13	0.13	0.13	94.40	98.66	97.98	-	-	-	-	-	-	17.80	26.74	22.73	0.0	1828.0	87.1	180217
17	1404	6.2	996.7	996.7	996.7	26.78	26.84	26.79	0.12	0.12	0.12	84.75	89.27	85.81	-	-	-	-	-	-	14.85	22.67	17.04	0.0	926.5	112.2	180218
14	1424	3.7	996.8	996.9	996.9	26.02	26.09	26.04	0.09	0.09	0.08	90.39	93.73	93.21	-	-	-	-	-	-	14.17	17.23	15.45	2.2	740.5	167.7	180214
9	1518	22.1	996.6	996.7	996.6	27.26	27.37	27.30	0.18	0.20	0.19	100.97	105.35	102.67	-	-	-	-	-	-	17.12	25.89	21.77	0.0	5022.0	163.5	180209

Note Profiling at Stations 14 and 9 was done on the way back downstream



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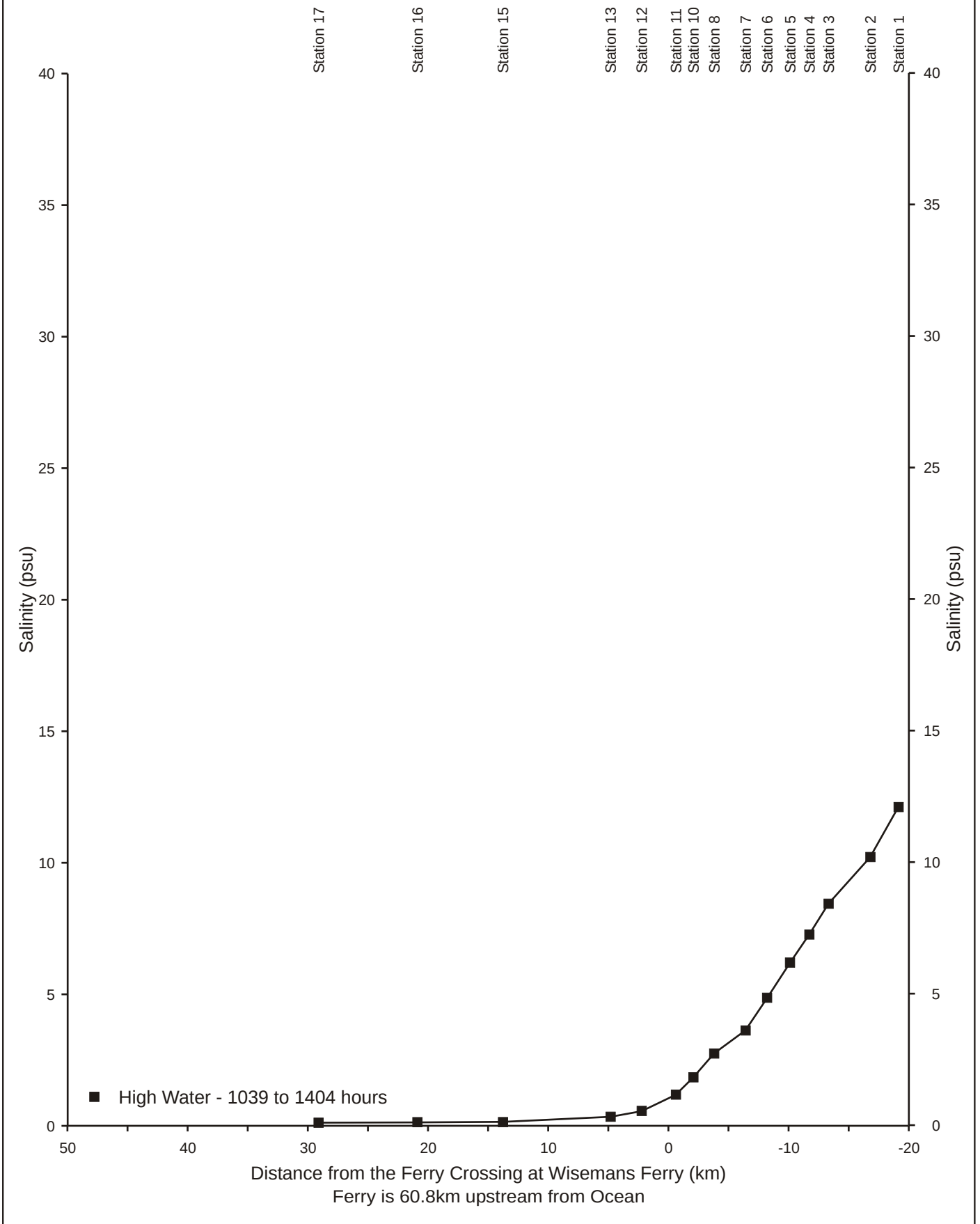
HAWKESBURY RIVER

18 FEBRUARY 1999

MHL Report 1812

Figure 183

DRAWING 1812-183.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
HAWKESBURY RIVER
18 FEBRUARY 1999

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Figure 184

DRAWING 1812-184.CDR

Data was collected in the Hawkesbury River estuary, between Spencer and Sackville, on 19 and 20 April 2011. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 238. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 239a-b. The locations at which these profiles were taken are shown in Figure 185. Long channel depth-averaged salinity profiles are shown in Figure 186.

Table 238 Hawkesbury River - 19 and 20 April 2011

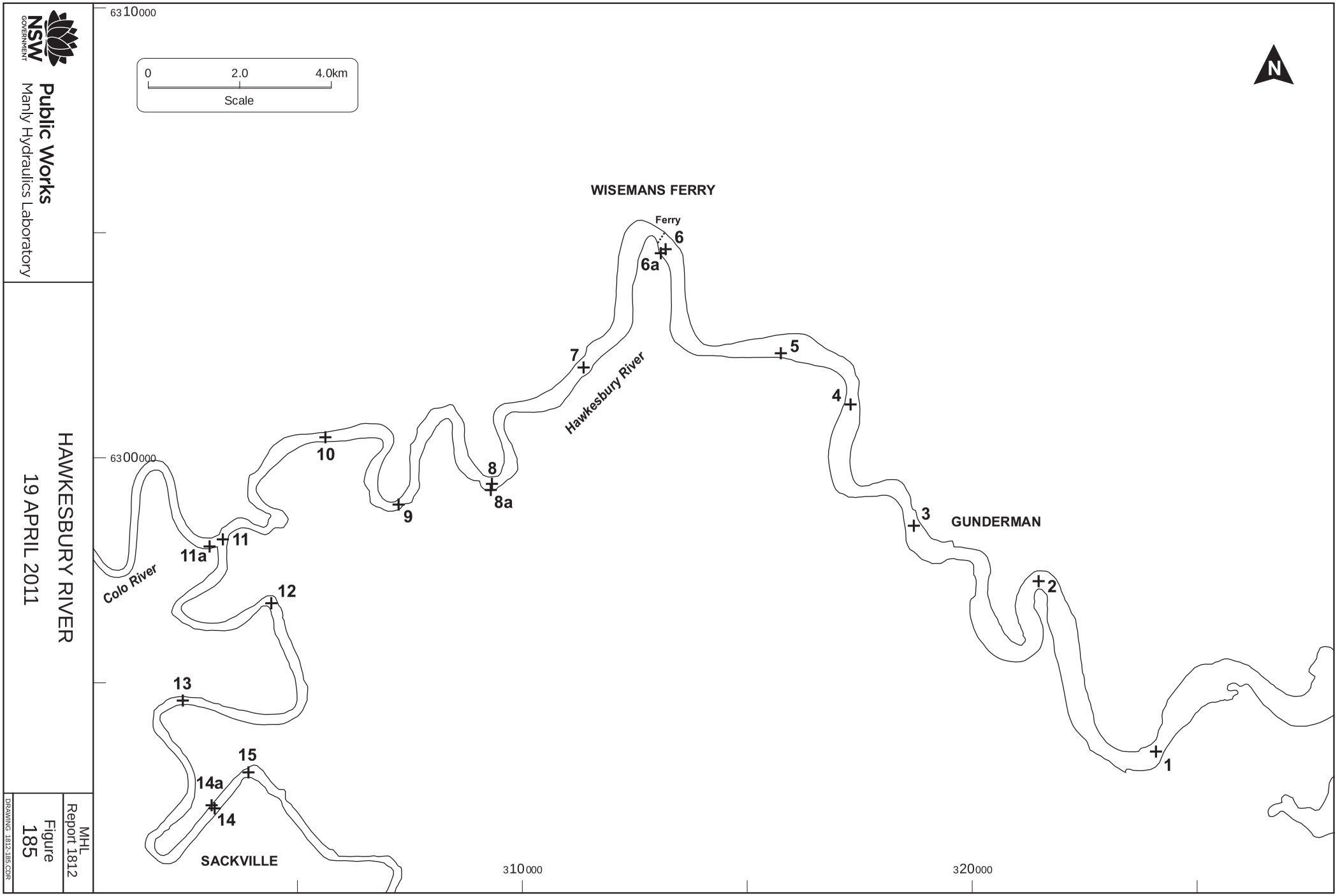
Station No.	MGA (m) Zone 56		Chainage (km)	Low Water Salinity (psu)	High Water Salinity (psu)
	Easting	Northing			
1	323785	6293735	38.17	13.79	19.77
2	321334	6297524	43.58	10.93	16.93
3	318607	6298516	49.83	6.81	13.43
4	317129	6301204	53.49	4.06	10.82
5	315634	6302330	56.00	2.79	8.90
6	313063	6304637	60.35	1.17	5.87
6a	312973	6304571	60.35	1.28	5.51
7	311275	6301988	64.54	0.25	3.25
8	309211	6299411	68.58	0.10	1.43
8a	309189	6299297	68.58	0.10	1.46
9	307179	6298850	73.07	0.08	0.24
10	305520	6300301	76.58	0.08	0.11
11	303573	6298215	81.38	0.08	0.08
11a	303254	6298179	81.68	0.08	0.08
12	304588	6296722	85.95	0.09	0.08
13	302419	6294409	91.13	0.09	0.08
14	303290	6291957	97.45	0.10	0.09
14a	303209	6292015	97.45	0.10	0.08
15	304172	6292978	98.59	0.10	0.08

Table 239a Water Quality Maxima and Minima - Hawkesbury River - Low Water - 19 April 2011

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1725	5.0	1008.2	1008.6	1008.4	21.31	21.36	21.34	13.55	14.16	13.79	HW110420030
2	1746	15.2	1006.0	1006.4	1006.2	21.38	21.42	21.40	10.70	11.18	10.93	HW110420031
3	1804	8.2	1002.7	1003.7	1003.1	21.25	21.38	21.33	6.33	7.67	6.81	HW110420033
4	1815	7.8	1000.8	1001.4	1001.0	21.19	21.25	21.23	3.74	4.48	4.06	HW110420034
5	1825	5.5	999.9	1000.2	1000.1	21.23	21.32	21.29	2.61	2.99	2.79	HW110420035
6	1838	5.1	998.8	998.9	998.9	21.00	21.15	21.10	1.10	1.23	1.17	HW110420036
6a	1844	1.9	999.0	999.0	999.0	21.03	21.04	21.04	1.27	1.29	1.28	HW110420037
7	1857	5.0	998.1	998.2	998.1	21.23	21.28	21.26	0.24	0.26	0.25	HW110420038
8	1910	9.4	998.0	998.1	998.0	21.23	21.27	21.26	0.10	0.10	0.10	HW110420039
8a	1916	1.8	998.0	998.0	998.0	21.20	21.23	21.22	0.10	0.10	0.10	HW110420040
9	1929	13.9	998.1	998.1	998.1	21.00	21.05	21.04	0.08	0.08	0.08	HW110420041
10	1941	8.1	998.1	998.1	998.1	20.98	21.02	21.00	0.08	0.08	0.08	HW110420042
11	1955	9.3	998.1	998.1	998.1	20.85	20.89	20.88	0.08	0.08	0.08	HW110420043
11a	2003	1.6	998.1	998.1	998.1	20.96	20.97	20.96	0.08	0.08	0.08	HW110420044
12	2015	14.8	998.1	998.2	998.1	21.02	21.04	21.03	0.08	0.25	0.09	HW110420045
13	2031	7.4	998.1	998.1	998.1	20.94	20.99	20.98	0.09	0.09	0.09	HW110420047
14	2048	2.5	998.1	998.1	998.1	20.78	20.81	20.80	0.10	0.10	0.10	HW110420048
14a	2053	2.2	998.1	998.1	998.1	20.79	20.80	20.79	0.10	0.10	0.10	HW110420049
15	2059	15.1	998.1	998.2	998.1	20.81	20.85	20.84	0.10	0.11	0.10	HW110420050

Table 239b Water Quality Maxima and Minima - Hawkesbury River - High Water - 19 to 20 April 2011

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	2334	9.9	1011.6	1013.2	1013.1	20.40	20.63	20.62	17.90	19.88	19.77	HW110420051
2	2348	15.2	1010.2	1011.2	1010.8	20.98	21.05	21.02	16.13	17.38	16.93	HW110420052
3	0005	11.2	1007.8	1008.3	1008.1	21.21	21.27	21.26	12.97	13.66	13.43	HW110420053
4	0018	7.7	1006.0	1006.3	1006.2	21.10	21.31	21.19	10.58	11.03	10.82	HW110420054
5	0028	6.6	1004.5	1004.7	1004.7	21.26	21.30	21.29	8.73	8.95	8.90	HW110420055
6	0040	6.3	1002.3	1002.7	1002.4	21.10	21.22	21.14	5.77	6.25	5.87	HW110420056
6a	0046	2.9	1002.0	1002.3	1002.1	21.11	21.16	21.14	5.32	5.65	5.51	HW110420057
7	0058	5.8	1000.4	1000.6	1000.5	21.07	21.14	21.11	3.13	3.46	3.25	HW110420058
8	0109	8.4	999.0	999.2	999.1	20.92	21.07	21.02	1.35	1.51	1.43	HW110420060
8a	0115	3.6	999.1	999.1	999.1	21.04	21.07	21.06	1.41	1.47	1.46	HW110420061
9	0127	14.5	998.1	998.2	998.2	21.13	21.16	21.15	0.23	0.25	0.24	HW110420062
10	0138	9.8	998.1	998.1	998.1	21.11	21.15	21.14	0.11	0.12	0.11	HW110420063
11	0150	11.4	998.1	998.1	998.1	20.84	20.90	20.89	0.08	0.08	0.08	HW110420064
11a	0157	4.2	998.1	998.1	998.1	20.83	20.84	20.83	0.08	0.08	0.08	HW110420065
12	0211	11.7	998.1	998.1	998.1	20.82	20.88	20.87	0.08	0.08	0.08	HW110420066
13	0227	7.4	998.1	998.1	998.1	20.94	20.96	20.95	0.08	0.08	0.08	HW110420067
14	0244	4.0	998.1	998.1	998.1	20.76	20.80	20.79	0.09	0.09	0.09	HW110420068
14a	0250	2.7	998.1	998.1	998.1	20.75	20.77	20.76	0.08	0.08	0.08	HW110420069
15	0256	15.1	998.1	998.1	998.1	20.78	20.84	20.82	0.08	0.08	0.08	HW110420070



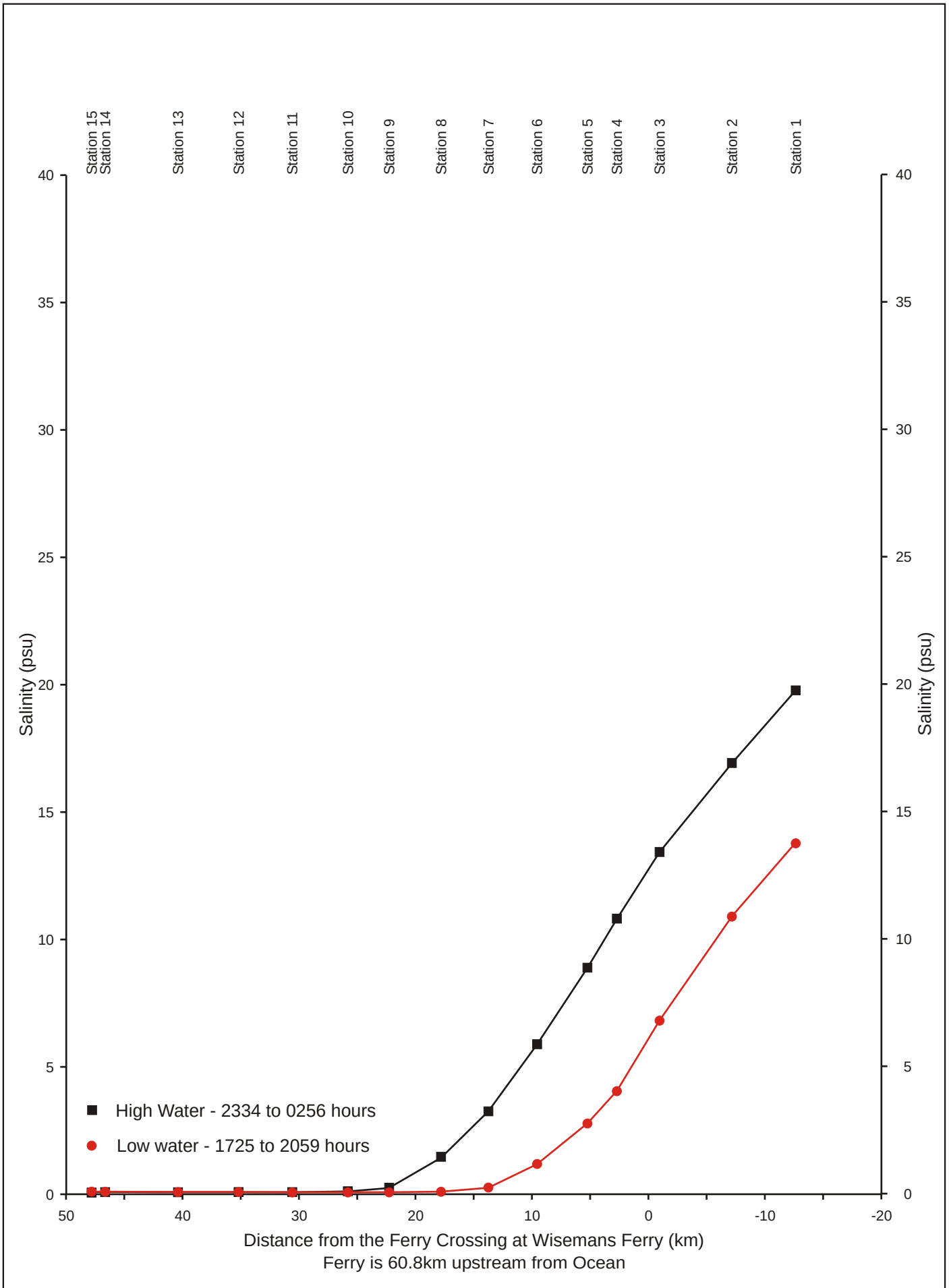
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HAWKESBURY RIVER
19 APRIL 2011

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Figure 185

DRAWING 1812-185.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
HAWKESBURY RIVER
19 AND 20 APRIL 2011

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Figure 186

DRAWING 1812-186.CDR

Data was collected in three creeks in the Hawkesbury River estuary, near Brooklyn, on 16 and 17 October 2001, as detailed in report MHL1158. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 240 to 242. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 243a to 245b. The locations at which these profiles were taken are shown in Figure 187. Long channel depth-averaged salinity profiles are shown in Figures 188 to 190.

Table 240 Mullet Creek - 17 October 2001

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
M1	335650	6287970	15.90	34.25	-
M2	335745	6289450	17.40	33.73	-
M3	336005	6290750	18.70	32.47	-
M4	336855	6291795	20.10	31.62	-
M5	338110	6292525	21.60	31.54	-
M6	338690	6293385	22.65	31.37	-

Table 241 Mooney Mooney Creek - 16 October 2001

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
MM1	332960	6287240	18.80	33.84	30.67
MM2	333345	6289350	21.00	32.71	31.20
MM3	332455	6291325	23.18	31.63	31.09
MM4	332920	6293530	25.60	31.24	30.72
MM5	334505	6294245	27.58	31.15	29.98
MM6	335630	6295480	29.85	30.69	27.45
MM7	336350	6297270	31.98	29.23	26.40
MM8	337180	6298455	34.00	27.91	27.11
MM9	337765	6299680	35.38	25.86	25.63
MM10	336860	6300375	36.75	24.48	24.09
MM10A	336700	6300940	37.46	-	24.44
MM11	336620	6301035	37.58	23.33	-

Table 242 Sandbrook Inlet - 17 October 2001

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
S1	332960	6287240	18.40	34.06	30.94
S2	332950	6286615	19.20	33.13	30.73
S3	334000	6286615	20.28	30.95	30.69
S4	335240	6286560	21.55	30.64	30.73

Table 243a Mullet Creek - Water Quality Maxima and Minima - High Water - 17 October 2001

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
M1	0940	11.9	1024.4	1024.6	1024.5	18.84	19.01	18.94	34.18	34.39	34.25	94.59	95.30	94.94	8.04	8.06	8.04	6.35	26.38	7.57	0.00	1.00	0.48	0.3	2330.0	310.5	BR171028
M2	0949	3.4	1023.2	1024.3	1024.0	18.98	19.65	19.16	32.85	34.08	33.73	91.61	93.60	92.61	7.96	8.03	8.00	8.31	14.66	9.49	0.00	0.75	0.29	82.6	2810.0	803.8	BR171029
M3	0955	2.1	1022.5	1023.2	1023.0	19.41	19.50	19.45	31.87	32.71	32.47	89.25	90.50	90.14	7.86	7.93	7.89	9.28	13.68	10.54	0.17	0.88	0.61	284.9	1990.0	896.2	BR171030
M4	1002	2.8	1022.1	1022.4	1022.3	19.45	20.23	19.76	31.56	31.66	31.62	79.87	93.87	89.34	7.86	7.87	7.86	6.35	13.68	9.56	0.40	2.67	1.80	234.5	2471.0	941.3	BR171031
M5	1009	7.5	1022.0	1022.5	1022.2	18.89	20.33	19.64	31.50	31.62	31.54	58.21	95.32	85.23	7.75	7.93	7.88	4.40	8.31	5.51	0.38	12.92	5.89	8.9	1494.0	451.4	BR171032
M6	1018	2.1	1022.1	1022.3	1022.2	18.75	19.39	19.03	31.33	31.41	31.37	74.80	80.74	77.75	7.77	7.81	7.80	3.91	6.35	4.84	0.00	0.64	0.02	943.7	2408.0	1563.5	BR171033

Table 243b Mullet Creek - Water Quality Maxima and Minima - Low Water - 17 October 2001

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
M1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note No data collected at low water in Mullet Creek due to instrument malfunction after mud fouled sensors

Table 244a Mooney Mooney Creek - Water Quality Maxima and Minima - High Water - 16 October 2001

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
MM1	0853	12.8	1023.5	1024.4	1024.2	18.76	19.20	18.82	33.12	33.98	33.84	88.66	91.92	90.75	7.97	8.02	8.00	9.77	16.12	12.42	0.03	1.76	0.62	0.0	3608.0	160.8	BR171001
MM2	0904	5.1	1022.7	1023.5	1023.3	19.04	19.28	19.11	32.11	32.95	32.71	88.86	90.11	89.78	7.90	7.95	7.93	9.28	16.61	11.21	0.08	1.01	0.50	5.0	2564.0	401.6	BR171002
MM3	0913	5.6	1022.1	1022.6	1022.4	19.22	19.55	19.30	31.32	31.92	31.63	88.22	89.42	88.97	7.87	7.92	7.89	8.79	18.56	10.26	0.18	0.93	0.56	4.4	3883.0	419.1	BR171003
MM4	0925	7.2	1022.0	1022.1	1022.0	19.39	19.57	19.49	31.20	31.29	31.24	87.75	88.57	88.22	7.85	7.88	7.86	9.28	26.87	11.55	0.36	1.25	0.89	0.3	1756.0	226.3	BR171004
MM5	0934	3.8	1021.6	1021.9	1021.8	19.89	20.48	20.09	31.04	31.21	31.15	88.28	90.12	89.02	7.81	7.85	7.83	9.77	12.21	11.03	0.44	1.86	1.34	12.4	2462.0	446.8	BR171005
MM6	0944	3.9	1021.3	1021.5	1021.4	20.16	20.34	20.27	30.62	30.76	30.69	88.49	89.82	89.24	7.77	7.79	7.78	12.21	14.66	13.24	2.43	3.65	3.25	8.3	1953.0	359.5	BR171006
MM7	0954	2.0	1020.3	1020.4	1020.3	20.08	20.15	20.10	29.15	29.27	29.23	85.52	85.76	85.66	7.64	7.66	7.65	14.66	20.52	16.73	3.48	4.18	3.82	106.0	1614.0	474.3	BR171007
MM8	1002	4.5	1018.1	1019.9	1019.4	19.87	20.15	19.91	26.34	28.60	27.91	81.98	83.14	82.51	7.41	7.57	7.49	9.28	20.52	13.63	3.14	4.94	3.49	2.9	1756.0	303.3	BR171008
MM9	1011	4.3	1017.1	1017.9	1017.8	20.11	20.32	20.25	24.92	26.09	25.86	82.83	89.37	85.43	7.40	7.42	7.41	4.89	10.26	7.47	1.62	10.11	4.83	36.9	1775.0	497.2	BR171009
MM10	1021	2.1	1016.5	1016.9	1016.7	20.01	20.31	20.13	24.24	24.75	24.48	90.05	93.22	91.92	7.32	7.42	7.39	3.91	5.38	4.66	6.06	15.33	9.13	514.7	2141.0	1147.5	BR171010
MM11	1034	0.7	1015.5	1015.7	1015.6	20.93	21.05	21.01	23.12	23.42	23.33	77.68	78.88	78.23	7.14	7.16	7.15	3.42	4.40	3.79	1.66	1.88	1.71	535.9	2205.0	1281.0	BR171012

Note No data collected at Station MRP6 on low water

Table 244b Mooney Mooney Creek - Water Quality Maxima and Minima - Low Water - 16 October 2001

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
MM1	1435	12.5	1021.4	1021.7	1021.5	19.76	19.86	19.80	30.50	30.81	30.67	89.46	90.36	89.88	7.89	7.90	7.90	15.14	55.19	23.67	0.78	1.44	1.08	0.1	248.7	20.8	BR171013
MM2	1447	3.3	1021.7	1021.8	1021.7	20.48	20.70	20.57	31.18	31.23	31.20	92.17	93.91	93.20	7.82	7.84	7.83	9.77	20.03	11.07	1.58	2.79	2.30	10.3	396.5	103.0	BR171014
MM3	1456	4.1	1021.6	1021.7	1021.6	20.59	20.74	20.64	31.06	31.12	31.09	91.89	93.72	92.51	7.78	7.81	7.80	9.28	14.17	10.20	1.48	2.72	2.01	4.7	373.9	84.0	BR171015
MM4	1506	5.4	1021.1	1021.3	1021.2	21.11	21.27	21.21	30.67	30.77	30.72	94.72	96.80	95.93	7.76	7.79	7.78	11.24	15.63	12.88	2.40	3.70	3.12	0.3	330.0	49.2	BR171016
MM5	1515	2.9	1020.4	1020.7	1020.6	21.33	21.45	21.40	29.76	30.17	29.98	96.34	98.21	97.57	7.71	7.75	7.72	12.70	32.73	20.57	2.81	4.14	3.28	1.3	224.4	42.9	BR171017
MM6	1524	3.2	1018.6	1018.7	1018.7	21.25	21.31	21.28	27.35	27.51	27.45	95.10	95.98	95.56	7.53	7.57	7.55	14.17	21.00	16.62	3.20	3.98	3.53	1.6	153.7	32.8	BR171018
MM7	1533	1.0	1017.9	1017.9	1017.9	21.07	21.07	21.07	26.40	26.40	26.40	94.90	95.06	94.96	7.46	7.46	7.46	14.66	16.61	15.66	5.80	6.14	5.96	81.4	120.1	100.1	BR171019
MM8	1543	3.2	1017.5	1019.6	1018.7	19.91	20.66	20.11	25.72	28.15	27.11	80.06	91.07	85.62	7.44	7.49	7.46	7.82	10.75	8.77	4.55	9.18	6.15	9.0	151.4	56.2	BR171020
MM9	1554	5.6	1017.0	1017.9	1017.6	20.20	20.53	20.30	24.96	25.99	25.63	78.13	99.08	85.82	7.34	7.47	7.40	5.38	13.19	8.45	6.43	22.99	10.96	0.4	543.9	56.0	BR171021
MM10	1607	0.9	1016.2	1016.3	1016.2	20.98	21.12	21.08	24.05	24.16	24.09	92.64	93.31	92.87	7.33	7.34	7.33	5.87	6.84	6.31	4.41	6.10	4.89	84.1	147.6	102.7	BR171022
MM10a	1616	1.1	1016.4	1016.5	1016.5	20.88	21.15	20.95	24.41	24.47	24.44	73.26	73.98	73.61	7.14	7.15	7.14	8.31	12.70	9.49	24.56	40.86	30.80	65.8	118.4	92.8	BR171023

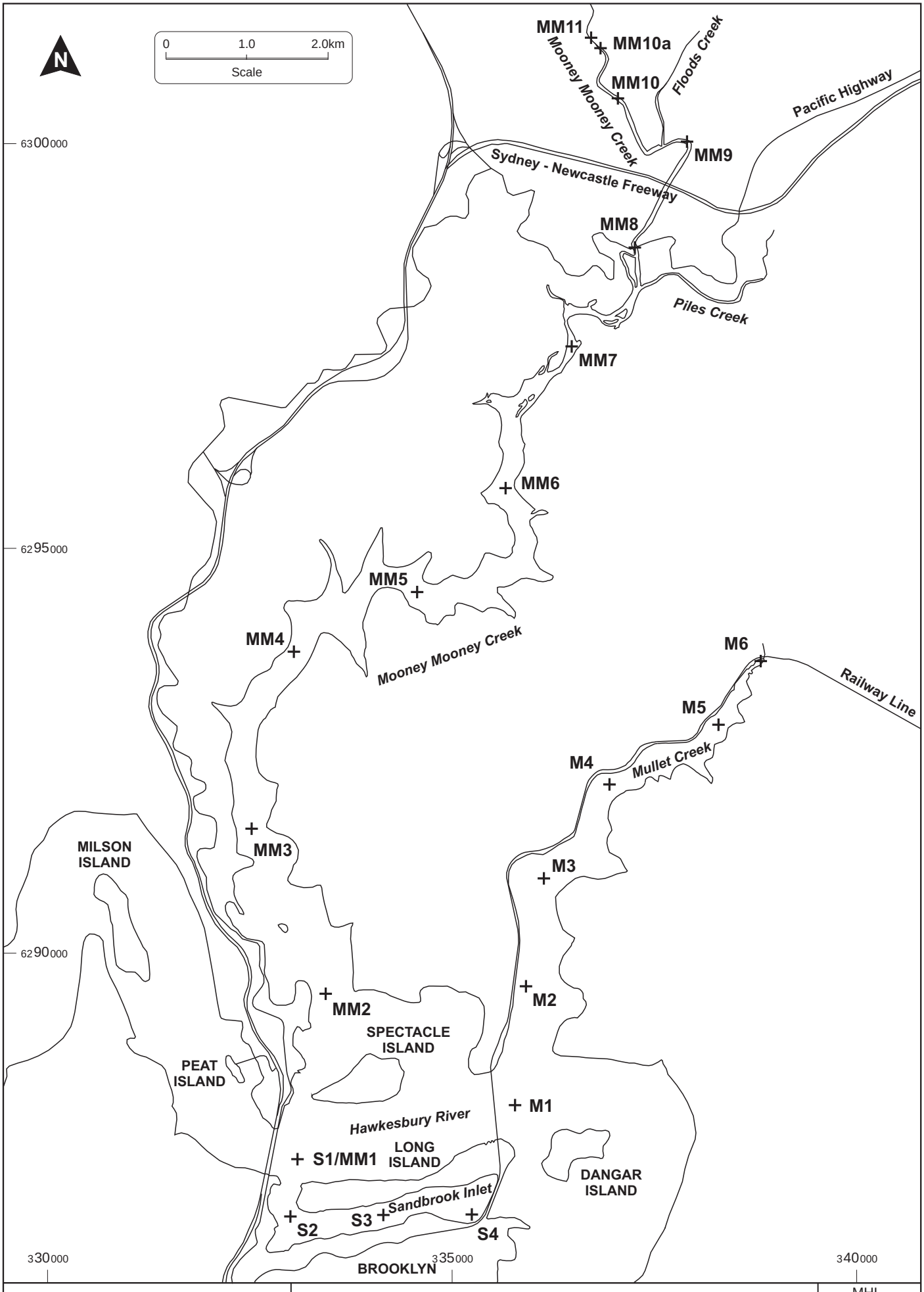
Note No data collected at Station MM11 on low water MM10a used instead

Table 245a Sandbrook Inlet - Water Quality Maxima and Minima - High Water - 17 October 2001

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
S1	0929	16.3	1024.2	1024.4	1024.3	18.98	19.19	19.05	33.98	34.13	34.06	93.10	95.07	94.37	8.02	8.05	8.03	7.33	39.56	9.52	0.00	1.52	0.55	0.1	2611.0	209.2	BR171027
S2	0924	3.4	1022.8	1023.8	1023.5	19.18	19.78	19.32	32.29	33.48	33.13	89.62	91.04	90.28	7.98	8.03	8.01	6.84	37.12	9.47	0.00	0.60	0.24	121.9	2583.0	813.1	BR171026
S3	0914	1.3	1021.5	1021.8	1021.7	19.63	20.12	19.81	30.81	31.01	30.95	82.17	95.24	87.46	7.93	7.94	7.94	7.82	10.26	8.45	0.00	0.55	0.22	1089.0	1662.0	1345.6	BR171025
S4	0901	1.8	1021.3	1021.4	1021.4	20.13	20.47	20.35	30.63	30.66	30.64	82.09	89.60	88.23	7.89	7.91	7.90	10.26	24.42	12.91	1.70	2.85	2.47	346.1	3340.0	1061.6	BR171024

Table 245b Sandbrook Inlet - Water Quality Maxima and Minima - Low Water - 17 October 2001

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
S1	1505	12.3	1021.5	1021.8	1021.7	20.10	20.19	20.14	30.79	31.09	30.94	0.00	284.67	98.23	7.85	7.88	7.87	24.91	77.66	31.50	0.75	1.41	1.03	0.1	211.5	10.4	BR171038
S2	1458	1.7	1021.2	1021.2	1021.2	21.18	21.25	21.20	30.72	30.74	30.73	97.42	97.70	97.54	7.86	7.86	7.86	15.63	18.56	16.79	2.12	2.83	2.46	93.2	1467.0	439.7	BR171037
S3	1448	1.1	1021.0	1021.1	1021.0	21.61	21.67	21.64	30.68	30.70	30.69	95.05	97.16	96.10	7.86	7.87	7.87	17.10	21.00	18.68	0.00	4.27	2.32	60.0	365.7	196.0	BR171036
S4	1436	0.3	1020.5	1020.5	1020.5	23.68	23.69	23.68	30.73	30.74	30.73	103.71	103.89	103.79	7.88	7.88	7.88	33.70	35.66	34.78	3.70	3.92	3.82	158.8	275.6	207.2	BR171035



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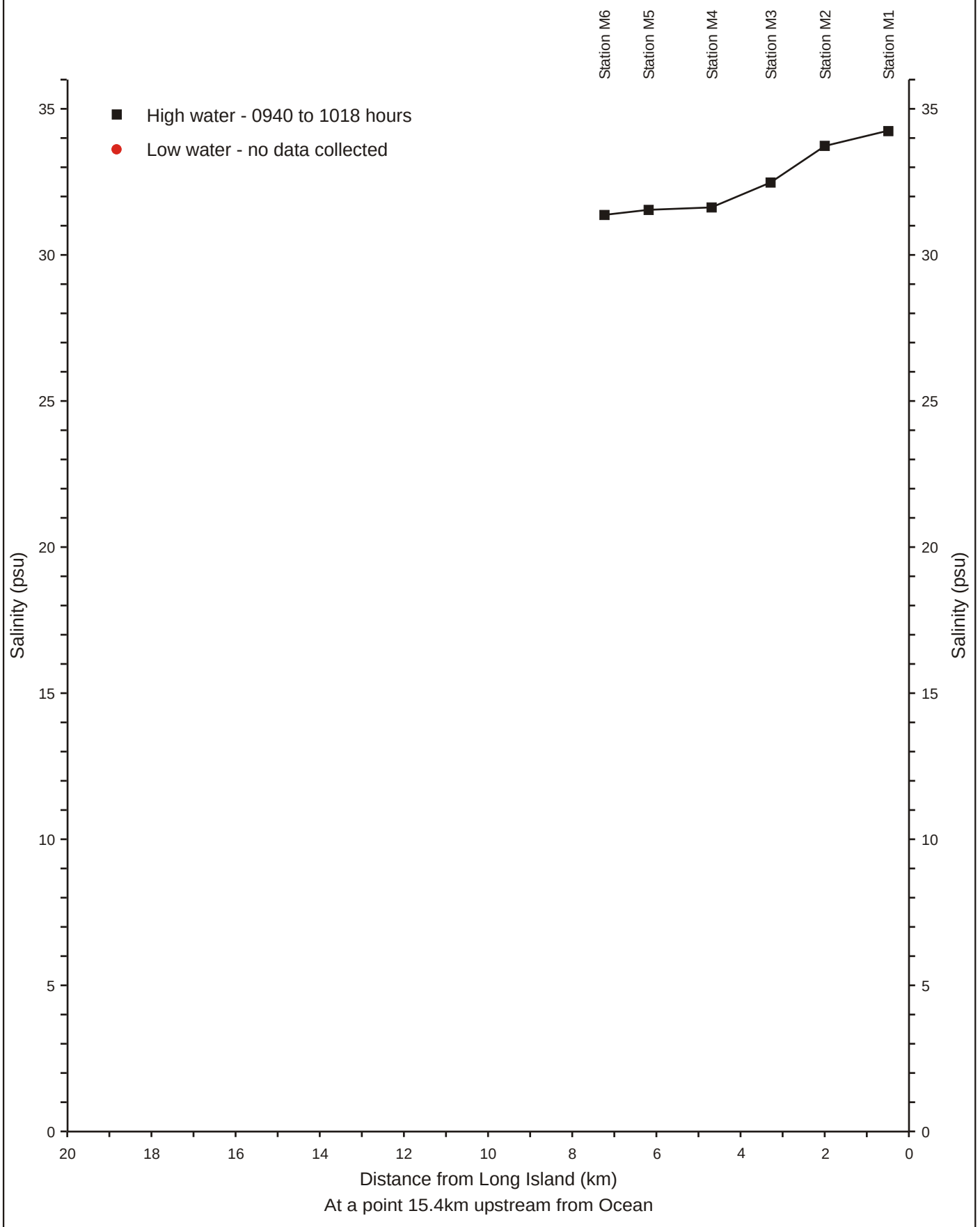
BROOKLYN, MULLET AND MOONEY MOONEY CREEKS

16 AND 17 OCTOBER 2001

MHL Report 1812

Figure 187

DRAWING 1812-187.CDR



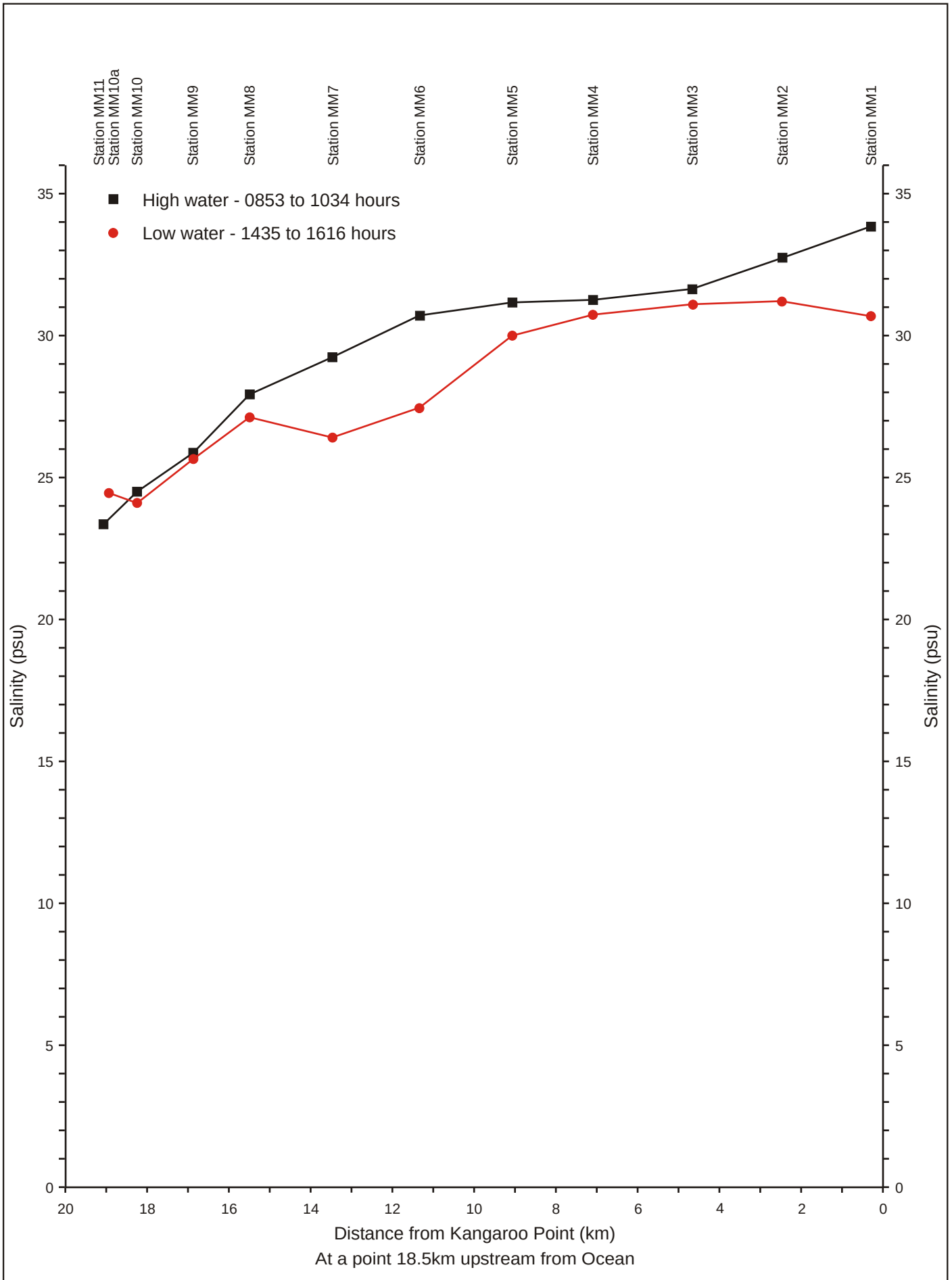
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MULLET CREEK
HIGH WATER - 17 OCTOBER 2001

MHL Report 1812

Figure 188

DRAWING 1812-188.CDR



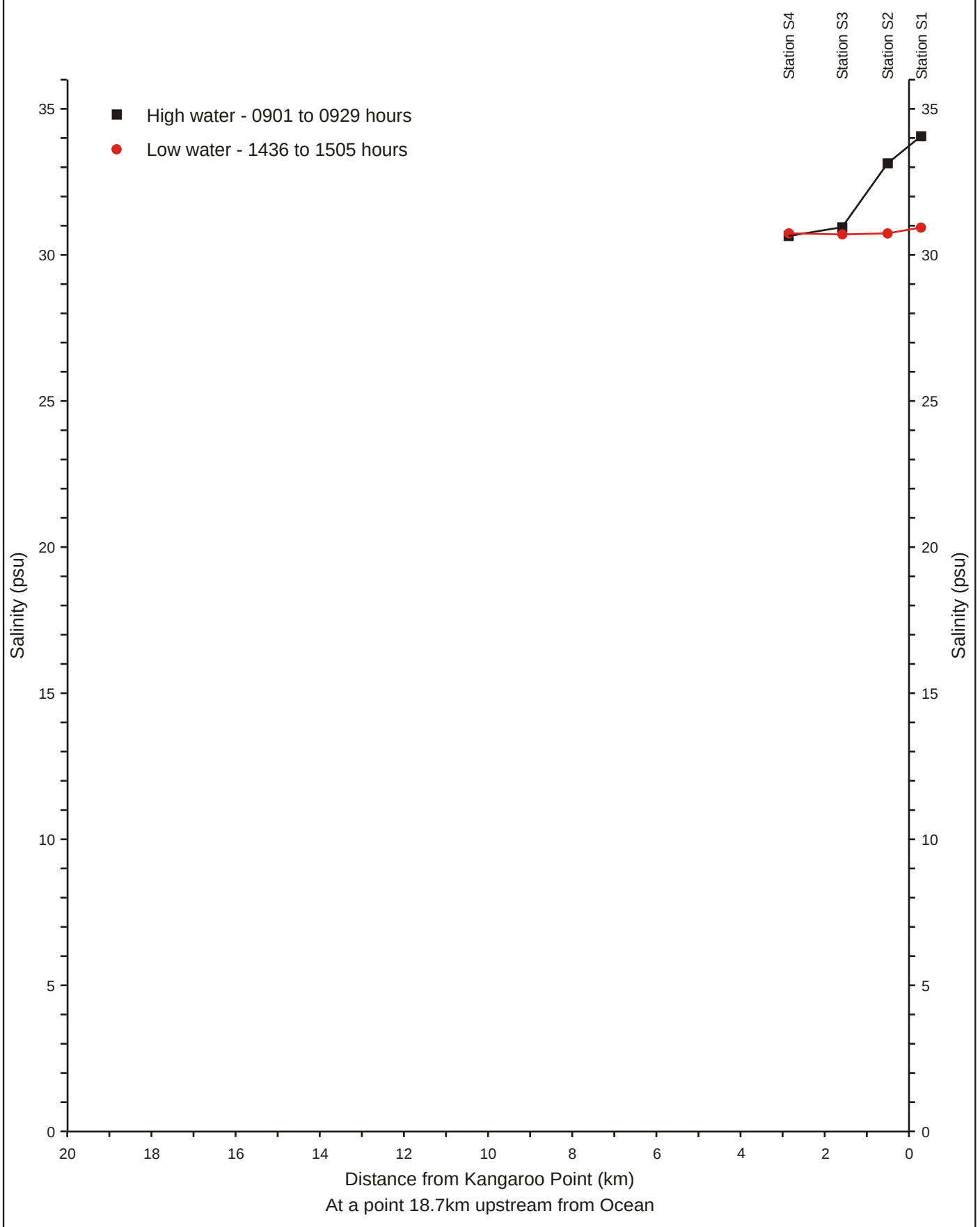
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MOONEY MOONEY CREEK
HIGH AND LOW WATER - 16 OCTOBER 2001

MHL Report 1812

Figure 189

DRAWING 1812-189.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
SANDBROOK INLET
HIGH AND LOW WATER - 17 OCTOBER 2001

MHL Report 1812

Figure 190

DRAWING 1812-190.CDR

Berowra Creek Data Summary

Data has been collected in Berowra Creek on nine occasions between June 1995 and February 1998.

Data was collected in Berowra Creek on 10 June 1995, as detailed in report MHL745. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 246. Summaries of the minimum and maximum values for all parameters measured on the high and low water runs are shown in Tables 247a-b. The locations at which these profiles were taken are shown in Figure 191. Long channel depth-averaged salinity profiles are shown in Figure 192.

Water quality profiles were also done at mid-channel on 10 June 1995, in conjunction with the current metering at Site 4, at Berowra Ferry. Summaries of the minimum and maximum values for all parameters measured on these profiles are shown in Table 248. The locations at which these profiles were taken are shown in Figure 191.

Table 246 Berowra Creek - 10 June 1995

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity		Low Water Salinity	
	Easting	Northing		Min (psu)	Max (psu)	Min (psu)	Max (psu)
1	328575	6288335	26.20	25.8	26.5	22.0	23.5
2	327950	6287360	27.30	24.1	26.4	21.6	22.6
3	328280	6286270	28.51	22.5	24.2	20.9	21.8
4	328535	6285035	29.86	21.6	23.7	20.3	21.0
5	327815	6284080	31.26	20.6	22.3	19.6	19.7
6	326630	6283945	32.47	20.4	22.1	19.3	19.6
7	326615	6282870	33.57	19.3	23.3	19.1	22.2
8	325715	6282215	34.82	19.0	24.0	18.8	24.0
9	325600	6281375	36.17	18.7	23.5	18.7	23.9
10	325925	6279720	38.08	18.8	18.9	19.0	19.6
11	326005	6278430	39.53	18.5	18.6	14.3	14.4
12	325270	6277410	40.74	14.2	18.2	11.0	17.9
13	325045	6277810	41.34	12.7	17.4	10.3	16.6
14	324535	6277355	42.14	11.1	13.5	9.0	9.0
15	324745	6276855	42.79	-	-	7.6	11.8
16	324115	6276320	43.64	-	-	5.0	5.6
17	323840	6275595	44.55	-	-	3.7	3.7
Site 4	325905	6280565	36.90	18.4	20.2	18.2	20.4

Note Station locations transferred from report figure to aerial photo in Department of Lands database

Table 247a Berowra Creek - Water Quality Maxima and Minima - Low Water - 10 June 1995

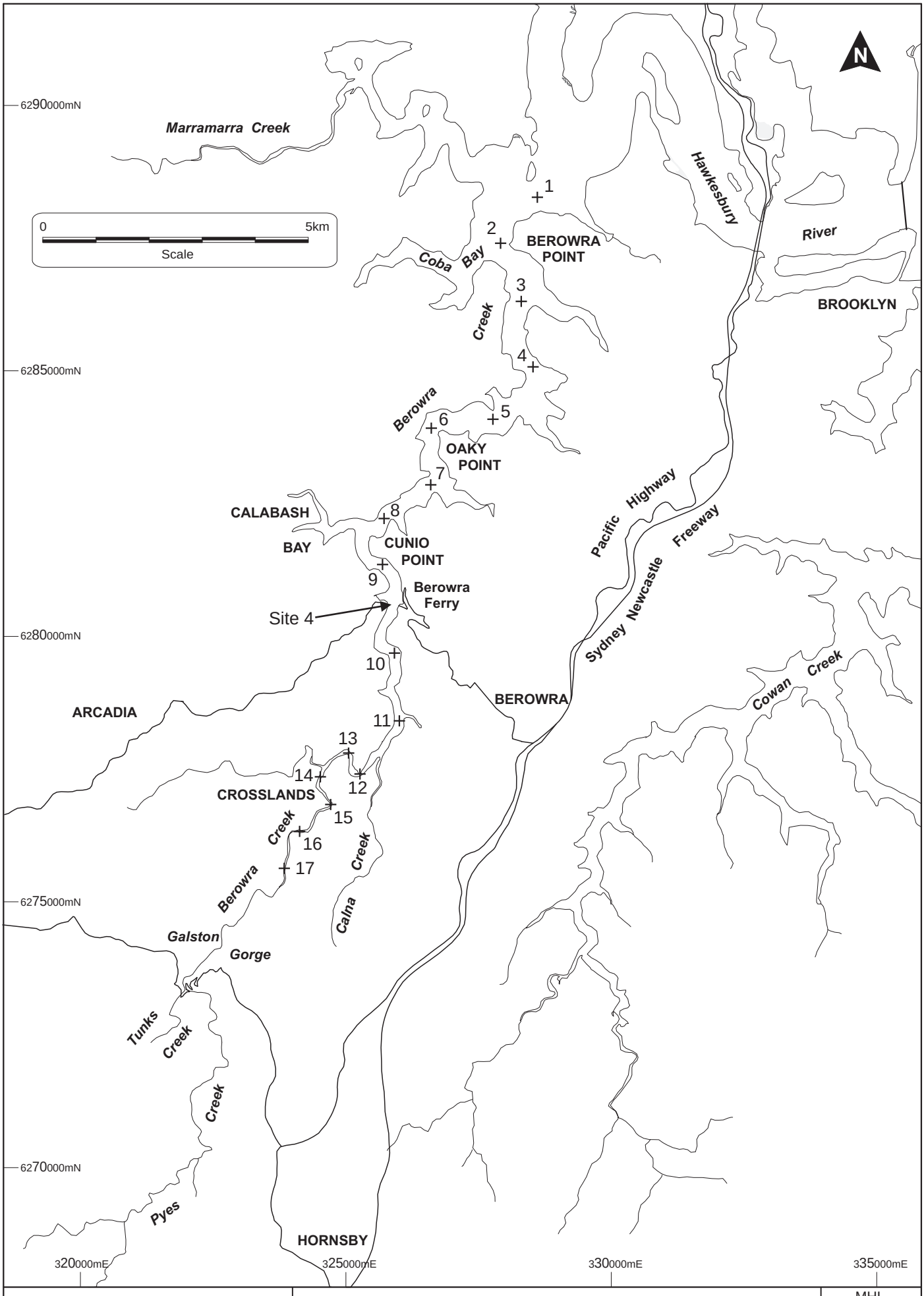
Station No.	Depth (m)	Time (EST)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		Dissolved O_2 (mg/L)		pH (0-14)		Back-scatterance	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	2.6	12:31	16.6	16.8	22.0	23.5	1015.6	1016.8	6.6	6.9	7.9	8.0	12.1	57.7
2	4.6	12:44	16.6	16.7	21.6	22.6	1015.3	1016.1	6.6	6.7	8.0	8.0	13.3	18.4
3	4.2	12:54	16.5	16.7	20.9	21.8	1014.8	1015.5	6.5	7.0	8.0	8.1	13.0	19.2
4	6.0	13:02	16.4	16.5	20.3	21.0	1014.4	1014.9	7.0	7.4	8.1	8.2	12.4	37.3
5	2.6	13:12	16.4	16.5	19.6	19.7	1013.8	1014.0	7.9	8.0	8.2	8.3	12.5	38.1
6	5.8	13:20	16.3	16.4	19.3	19.6	1013.7	1013.9	8.0	8.1	8.2	8.3	9.5	12.8
7	7.6	13:27	16.2	17.3	19.1	22.2	1013.5	1015.7	5.5	8.3	7.8	8.3	8.2	25.2
8	14.8	13:33	16.1	18.6	18.8	24.0	1013.3	1016.8	2.1	8.0	7.4	8.2	8.3	9.8
9	9.4	13:44	16.2	18.6	18.7	23.9	1013.1	1016.7	2.6	7.2	7.4	8.1	8.3	10.7
10	5.8	13:53	16.3	16.4	19.0	19.6	1013.4	1013.9	6.2	6.3	7.9	8.0	9.2	12.0
11	0.4	14:05	16.4	16.4	14.3	14.4	1009.9	1009.9	6.8	7.2	7.9	7.9	12.0	12.6
12	5.0	14:17	15.8	16.4	11.0	17.9	1007.3	1012.6	6.6	8.2	7.8	8.0	8.5	10.3
13	4.0	14:24	15.9	16.1	10.3	16.6	1006.9	1011.6	6.3	7.6	7.7	7.9	9.8	12.4
14	0.4	14:32	15.6	15.7	9.0	9.0	1005.9	1005.9	7.5	7.6	7.8	7.8	9.8	10.4
15	4.0	14:41	15.5	15.6	7.6	11.8	1004.9	1008.1	7.3	8.1	7.7	7.8	9.2	12.0
16	0.8	14:54	15.2	15.2	5.0	5.6	1002.9	1003.4	8.3	8.5	7.8	7.9	14.2	15.8
17	0.4	15:08	15.0	15.0	3.7	3.7	1001.9	1002.0	8.1	8.8	7.8	7.9	12.4	12.9

Table 247b Berowra Creek - Water Quality Maxima and Minima - High Water - 10 June 1995

Station No.	Depth (m)	Time (EST)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		Dissolved O_2 (mg/L)		pH (0-14)		Back-scatterance	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	10.0	19:39	17.0	17.0	25.8	26.5	1018.5	1019.0	6.4	6.5	8.0	8.1	11.9	14.7
2	5.8	19:49	16.9	17.0	24.1	26.4	1017.2	1018.9	6.4	6.5	8.1	8.1	11.9	15.0
3	5.2	19:59	16.8	16.9	22.5	24.2	1016.0	1017.3	6.3	6.4	8.1	8.1	11.7	14.0
4	7.6	20:08	16.7	16.9	21.6	23.7	1015.3	1017.0	6.3	6.6	8.1	8.1	12.6	13.9
5	6.2	20:17	16.5	16.8	20.6	22.3	1014.6	1015.8	6.7	7.1	8.1	8.2	13.2	16.5
6	6.2	20:26	16.5	16.8	20.4	22.1	1014.5	1015.7	6.7	7.0	8.1	8.2	11.4	15.0
7	9.6	20:34	16.3	17.8	19.3	23.3	1013.6	1016.5	3.8	8.2	7.5	8.3	10.2	17.9
8	15.8	20:42	16.3	18.6	19.0	24.0	1013.5	1016.8	2.0	8.2	7.3	8.2	8.8	10.7
9	10.2	20:52	16.1	18.2	18.7	23.5	1013.2	1016.5	3.1	7.6	7.4	8.2	7.8	11.2
10	6.6	21:05	16.3	16.3	18.8	18.9	1013.3	1013.4	6.3	6.5	7.9	8.0	8.6	9.5
11	1.4	21:15	16.3	16.3	18.5	18.6	1013.0	1013.1	6.1	6.2	7.9	7.9	8.3	8.4
12	5.6	21:26	16.2	16.5	14.2	18.2	1009.7	1012.8	6.6	7.1	7.9	7.9	8.7	10.4
13	4.4	21:32	16.1	16.5	12.7	17.4	1008.6	1012.2	6.7	7.3	7.9	7.9	9.3	9.9
14	1.2	21:39	16.0	16.3	11.1	13.5	1007.5	1009.2	7.4	7.5	7.8	7.8	9.7	9.9

Table 248 Site 4 - Water Quality Maxima and Minima - 10 to 11 June 1995

Cast No.	Depth (m)	Time (EST)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		Dissolved O_2 (mg/L)		pH (0-14)		Back-scatterance	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	3.8	14:26	16.3	16.4	18.3	19.8	1012.9	1014.0	6.5	7.2	7.7	7.9	45.9	46.4
2	4.0	14:52	16.3	16.4	18.2	19.8	1012.8	1014.0	6.4	7.3	7.8	7.9	45.6	46.5
3	4.0	15:22	16.3	16.4	18.7	19.8	1013.2	1014.0	6.5	7.4	7.8	7.9	45.9	46.3
4	4.2	15:52	16.3	16.5	18.7	19.9	1013.2	1014.1	6.2	7.1	7.8	7.9	46.7	47.2
5	4.4	16:21	16.3	16.6	18.7	20.0	1013.1	1014.2	6.1	7.3	7.8	7.9	42.0	44.0
6	4.6	16:52	16.3	16.6	18.7	20.1	1013.2	1014.3	6.1	7.6	7.8	8.0	46.7	47.8
7	5.0	17:21	16.2	16.7	18.7	20.2	1013.2	1014.3	5.8	7.5	7.7	8.0	46.9	47.9
8	5.0	17:51	16.2	16.7	18.8	20.2	1013.2	1014.3	5.9	7.6	7.8	8.0	46.9	47.8
9	5.0	18:24	16.2	16.5	18.7	20.1	1013.2	1014.2	6.2	7.8	7.8	8.0	46.9	47.4
10	6.8	18:53	16.3	16.7	18.8	20.4	1013.3	1014.4	5.7	7.9	7.7	8.0	45.1	46.1
11	6.4	19:22	16.2	16.8	18.8	20.4	1013.3	1014.4	5.6	8.0	7.7	8.0	44.0	46.1
12	7.0	19:50	16.2	16.7	18.7	20.4	1013.2	1014.4	5.9	7.6	7.8	8.0	43.5	44.6
13	7.0	20:22	16.2	16.7	18.7	20.3	1013.2	1014.4	5.6	7.7	7.8	8.0	38.2	45.7
14	6.6	20:51	16.3	16.7	18.7	20.2	1013.2	1014.3	5.9	7.7	7.8	8.0	43.0	44.1
15	6.4	21:21	16.3	16.7	18.7	20.2	1013.2	1014.3	6.1	7.7	7.8	8.0	43.3	44.4
16	6.0	21:53	16.3	16.5	18.7	19.9	1013.2	1014.1	6.8	7.9	7.9	8.0	43.0	44.4
17	6.2	22:25	16.3	16.6	18.7	20.1	1013.2	1014.2	6.2	7.7	7.8	8.0	43.0	45.8
18	5.6	22:54	16.2	16.5	18.8	19.9	1013.3	1014.1	6.3	7.2	7.8	8.0	43.5	44.8
19	6.0	23:24	16.2	16.7	18.8	20.2	1013.3	1014.3	5.9	7.1	7.8	7.9	45.9	47.0
20	6.0	23:55	16.2	16.6	18.8	20.1	1013.3	1014.2	6.1	6.9	7.8	7.9	46.1	47.5
21	5.2	00:23	16.2	16.4	18.8	19.8	1013.3	1014.0	6.6	6.9	7.9	7.9	45.9	46.9
22	4.6	00:54	16.2	16.4	18.8	19.8	1013.3	1014.0	6.4	6.7	7.8	7.9	42.0	43.0
23	4.6	01:24	16.1	16.4	18.6	19.6	1013.2	1013.9	6.6	6.6	7.8	7.9	46.5	47.5
24	4.4	01:55	15.9	16.4	18.4	19.8	1013.0	1014.0	7.1	7.4	7.7	7.9	46.0	46.9
25	5.0	02:25	15.9	16.6	18.4	20.1	1013.0	1014.2	6.2	6.8	7.8	7.9	44.0	45.4
26	4.6	02:54	15.9	16.6	18.0	20.1	1012.7	1014.2	6.5	7.1	7.8	7.9	45.4	46.5



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BEROWRA CREEK

10 AND 11 JUNE 1995

MHL Report 1812

Figure 191

DRAWING 1812-191.CDR

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEROWRA CREEK
HIGH AND LOW WATER - 10 JUNE 1995

MHL Report 1812

Figure 192

DRAWING 1812-192.CDR

Data was collected in Berowra Creek on 3 November 1997, as detailed in report MHL917. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 249. Summaries of the minimum, maximum and mean values for all parameters measured on the single high water profiling run are shown in Table 250. The locations at which these profiles were taken are shown in Figure 193. Long channel depth-averaged salinity profiles are shown in Figure 194.

Data was also collected during a continuous deployment and a tow. Summaries of the minimum, maximum and mean values for all parameters measured are shown in Table 251.

Table 249 Berowra Creek - 3 November 1997

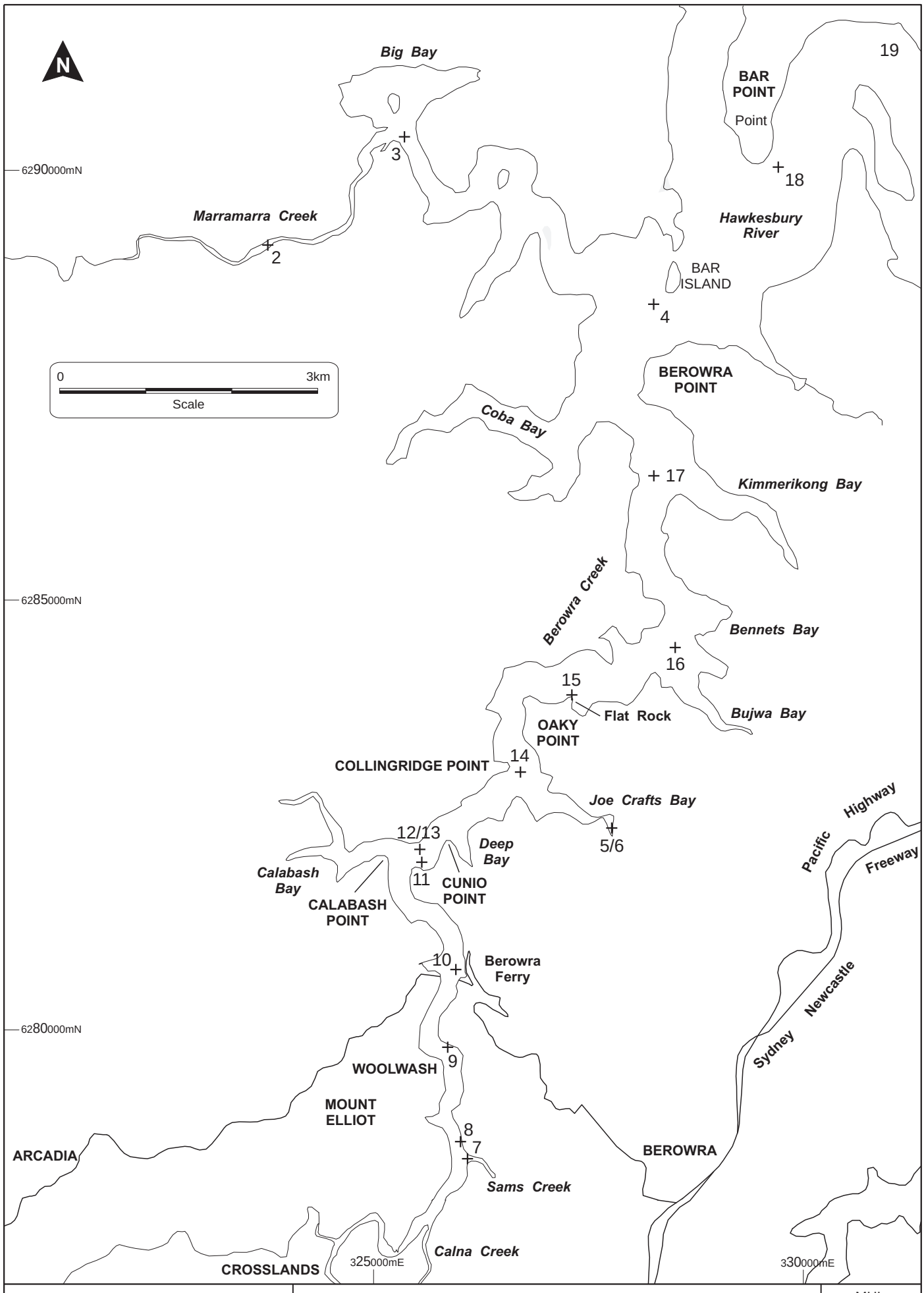
Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)
	Easting	Northing		
1	332440	6278435	NA	33.45
2	323785	6289110	32.92	27.49
3	325355	6290390	30.46	27.77
4	328255	6288440	26.48	28.95
5	327805	6282340	35.27	26.12
6	327805	6282340	35.27	26.13
7	326105	6278490	39.76	25.13
8	326005	6278690	39.56	25.50
9	325855	6279790	38.41	26.28
10	325955	6280690	37.30	26.31
11	325555	6281940	35.53	26.44
12	325535	6282090	35.39	26.04
13	325535	6282090	35.39	26.42
14	326705	6282990	33.91	26.44
15	327305	6283890	32.23	26.58
16	328505	6284440	30.91	26.82
17	328255	6286440	28.78	27.47
18	329705	6290040	24.30	29.11
19	332790	6287575	NA	30.90

Table 250 Berowra Creek - Water Quality Maxima and Minima - High Water - 3 November 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0721	3.04	20.53	20.81	20.63	33.42	33.48	33.45	1023.35	1023.48	1023.42	71.4	81.4	77.2	2.3	3.1	2.7	48	110	67	917_F001
2	0931	1.17	21.74	21.76	21.75	27.48	27.51	27.49	1018.58	1018.61	1018.59	79.1	82.4	79.9	14.4	14.4	14.4	197	266	228	917_F002
3	0943	1.81	21.61	21.70	21.66	27.77	27.79	27.77	1018.82	1018.86	1018.83	84.0	85.9	85.1	7.3	7.9	7.6	8	560	88	917_F003
4	0954	5.00	22.41	22.43	22.41	28.68	29.02	28.95	1019.31	1019.59	1019.52	89.6	91.4	90.3	3.2	4.3	3.5	1	940	73	917_F004
5	1107	2.31	21.41	21.65	21.55	26.02	26.19	26.12	1017.55	1017.65	1017.61	77.1	80.8	79.0	2.3	5.4	3.8	41	378	127	917_F005
6	1111	2.29	21.42	21.69	21.59	25.92	26.24	26.13	1017.48	1017.72	1017.61	72.5	80.5	78.6	2.5	6.1	4.1	38	136	89	917_F006
7	1322	0.57	22.21	22.38	22.31	24.67	25.37	25.13	1016.30	1016.84	1016.65	94.0	98.0	96.6	4.7	6.4	5.9	464	1126	658	917_F007
8	1335	1.04	22.32	22.35	22.33	25.46	25.54	25.50	1016.90	1016.96	1016.93	89.6	90.0	89.8	3.8	4.1	4.0	320	519	404	917_F008
9	1345	3.77	22.28	22.60	22.51	26.09	26.46	26.28	1017.31	1017.68	1017.48	82.4	98.6	93.4	2.9	4.9	3.8	147	2079	523	917_F009
10	1353	6.49	21.49	22.66	22.37	25.95	26.55	26.31	1017.23	1017.97	1017.54	71.4	102.0	94.0	2.8	6.7	4.3	25	1185	197	917_F010
11	1406	12.10	20.60	23.01	22.08	26.00	26.63	26.44	1017.13	1018.27	1017.73	48.3	113.8	84.5	0.8	11.2	4.2	0	451	73	917_F011
12	1411	2.99	22.89	22.96	22.91	25.97	26.21	26.04	1017.11	1017.31	1017.18	108.3	122.7	119.0	6.2	15.3	13.7	105	538	264	917_F012
13	1415	13.57	20.76	22.91	22.03	26.00	26.66	26.42	1017.17	1018.23	1017.73	55.4	120.8	87.1	3.4	16.2	7.0	0	566	81	917_F013
14	1427	7.06	20.94	23.07	22.62	26.25	26.65	26.44	1017.30	1018.16	1017.58	58.1	125.8	102.2	3.4	12.8	8.1	4	428	115	917_F014
15	1436	2.00	22.88	22.91	22.91	26.57	26.58	26.58	1017.58	1017.60	1017.59	96.1	102.1	101.6	7.0	8.2	7.5	59	424	217	917_F015
16	1444	10.95	22.85	22.96	22.94	26.65	27.12	26.82	1017.63	1018.06	1017.78	89.9	102.4	98.0	6.3	8.9	7.8	0	654	50	917_F016
17	1455	3.03	22.61	22.77	22.68	27.31	27.61	27.47	1018.18	1018.46	1018.33	89.2	91.2	89.9	5.7	7.1	6.2	4	410	124	917_F017
18	1506	3.90	22.45	22.46	22.45	29.10	29.12	29.11	1019.62	1019.64	1019.63	90.4	91.0	90.7	3.6	3.8	3.7	0	240	50	917_F018
19	1525	14.79	21.92	22.22	22.04	30.28	31.29	30.90	1020.58	1021.49	1021.13	91.9	93.0	92.7	3.3	3.9	3.6	0	212	13	917_F019

Table 251 Continuous Deployment and Tow - Water Quality Maxima and Minima - 3 November 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
-	0843	0.67	21.59	21.75	21.71	20.13	22.56	21.81	1013.04	1014.87	1014.31	34.1	117.6	62.2	-1.8	25.7	7.8	26	346	74	917_F020
-	1019	1.55	22.59	23.05	22.90	26.07	26.86	26.47	1017.21	1017.82	1017.51	70.9	117.6	105.7	-1.8	14.5	8.2	69	1081	175	917_F021



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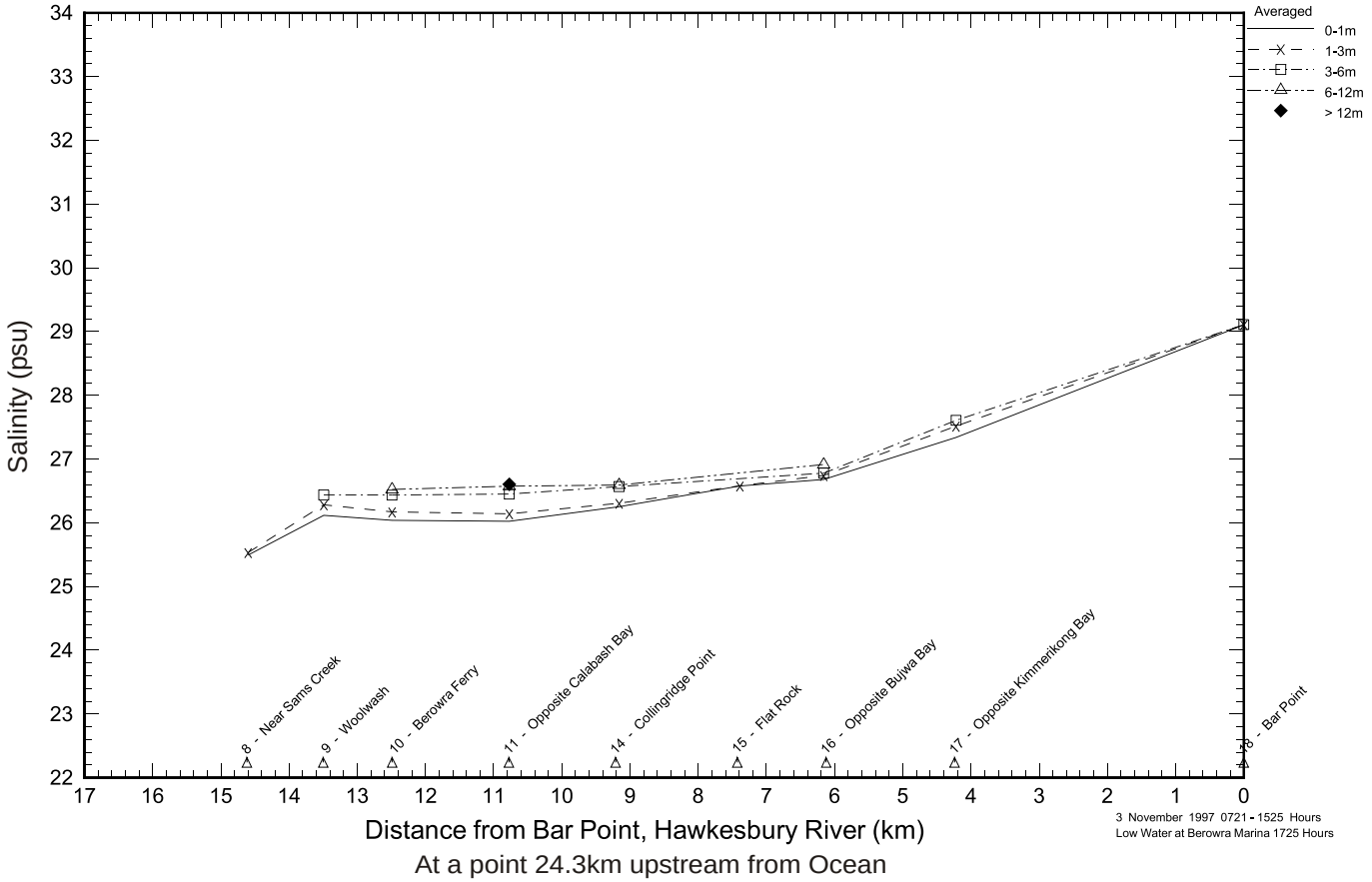
BEROWRA CREEK

3 NOVEMBER 1997

MHL Report 1812

Figure 193

DRAWING 1812-193.CDR



At a point 24.3km upstream from Ocean

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEROWRA CREEK
3 NOVEMBER 1997

MHL Report 1812

Figure 194

DRAWING 1812-194.CDR

Data was collected in Berowra Creek on 2, 10 and 15 December 1997, 5 to 6, 10, 12 to 13 and 16 February 1998, as detailed in report MHL917. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 252 to 254. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 255a to 266b. The locations at which these profiles were taken are shown in Figure 195. Long channel depth-averaged salinity profiles are shown in Figures 196 to 205.

Table 252 Berowra Creek - 2, 10 and 15 December 1997

Station No.	MGA (m) Zone 56		Chainage (km)	2 December		10 December		15 December		
	Easting	Northing		High Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)
1	324500	6277306	41.78	23.79	-	-	-	25.09	-	-
2	325335	6277438	40.35	26.95	-	-	-	28.14	-	-
3	325688	6277831	39.77	27.23	-	-	-	28.29	-	28.06
4	326007	6278661	38.99	27.19	-	-	-	28.36	-	28.41
5	325870	6279284	38.25	27.51	-	-	-	28.45	-	28.54
6	325703	6280035	37.27	27.68	27.23	28.57	28.22	29.10	28.09	28.92
7	325943	6280624	36.74	27.93	27.49	28.82	28.82	28.98	28.87	29.08
8	325624	6281351	35.80	27.99	27.82	28.82	28.91	29.25	28.98	-
9	325256	6281712	35.14	28.16	-	28.84	-	29.36	29.25	-
10	325600	6282048	34.77	28.20	28.26	28.98	28.99	29.39	29.40	-
11	326577	6282809	33.58	28.18	-	28.79	28.82	29.42	29.42	-
12	326523	6283590	32.64	28.64	28.38	29.31	29.08	29.61	29.46	-
13	327269	6283904	31.78	29.46	28.84	29.82	29.31	30.17	-	-
14	328275	6284198	30.67	29.48	28.45	-	29.26	30.33	29.50	-
15	328486	6284940	29.94	29.54	28.77	-	29.41	30.39	29.76	-
16	328260	6286255	28.46	29.90	28.95	-	29.81	30.55	29.20	-
17	327946	6287350	27.33	30.14	29.48	-	30.20	31.03	30.41	-
18	328560	6288553	26.04	30.62	30.28	-	30.69	31.46	31.34	-
19	328850	6290085	24.91	32.11	30.39	-	30.44	32.52	30.65	-
20	327254	6289127	27.68	30.24	-	-	-	-	-	-

Table 253 Berowra Creek - 5, 6 and 10 February 1998

Station No.	MGA (m) Zone 56		Chainage (km)	5 Feb	6 Feb	10 February	
	Easting	Northing		Low Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)	Low Water Salinity (psu)
1	324500	6277306	41.78	-	-	24.20	-
2	325335	6277438	40.35	-	-	-	-
3	325688	6277831	39.77	-	-	28.57	-
4	326007	6278661	38.99	-	-	-	23.05
5	325870	6279284	38.25	-	-	28.65	24.96
6	325703	6280035	37.27	28.43	28.14	-	-
7	325943	6280624	36.74	28.88	28.77	29.27	29.04
8	325624	6281351	35.80	-	29.15	29.16	29.22
9	325256	6281712	35.14	-	-	-	-
10	325600	6282048	34.77	29.37	29.34	29.32	29.28
11	326577	6282809	33.58	27.30	29.41	29.27	29.28
12	326523	6283590	32.64	-	29.46	29.41	29.26
13	327269	6283904	31.78	29.62	29.57	-	29.34
14	328275	6284198	30.67	-	-	29.56	29.33
15	328486	6284940	29.94	-	-	-	-
16	328260	6286255	28.46	29.90	29.88	29.46	29.49
17	327946	6287350	27.33	-	-	-	-
18	328560	6288553	26.04	28.14	30.06	30.16	29.59
19	328850	6290085	24.91	28.70	29.55	31.91	29.65
20	327254	6289127	27.68	-	-	-	-

Table 254 Berowra Creek - 12-13 and 16 February 1998

Station No.	MGA (m) Zone 56		Chainage (km)	12-13 February					16 February	
	Easting	Northing		High Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)
1	324500	6277306	41.78	24.76	-	23.01	-	24.58	-	19.40
2	325335	6277438	40.35	-	-	-	-	-	-	-
3	325688	6277831	39.77	28.44	-	-	-	28.45	-	27.96
4	326007	6278661	38.99	-	-	-	-	-	-	-
5	325870	6279284	38.25	28.86	27.44	28.82	24.43	28.87	23.74	28.47
6	325703	6280035	37.27	-	-	-	-	-	-	-
7	325943	6280624	36.74	29.23	29.11	29.17	28.98	29.21	28.73	29.05
8	325624	6281351	35.80	29.25	29.20	29.22	29.14	29.24	29.10	29.17
9	325256	6281712	35.14	-	-	-	-	-	-	-
10	325600	6282048	34.77	29.17	29.29	29.27	29.26	29.26	29.26	29.29
11	326577	6282809	33.58	29.25	29.23	29.28	29.21	29.23	29.27	29.31
12	326523	6283590	32.64	29.45	29.30	29.29	29.25	29.40	29.30	29.44
13	327269	6283904	31.78	-	-	-	-	-	-	-
14	328275	6284198	30.67	29.52	29.45	29.56	29.36	29.62	29.52	29.66
15	328486	6284940	29.94	-	-	-	-	29.75	-	-
16	328260	6286255	28.46	29.60	29.45	29.40	29.51	-	29.71	29.58
17	327946	6287350	27.33	-	-	-	-	-	-	-
18	328560	6288553	26.04	30.33	29.90	30.06	29.80	30.36	30.45	30.94
19	328850	6290085	24.91	31.88	29.35	31.32	28.07	31.87	30.49	31.41
20	327254	6289127	27.68	-	-	-	-	-	-	-

Table 255a Berowra Creek - Water Quality Maxima and Minima - High Water - 2 December 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0938	2.05	24.46	24.62	24.49	23.67	23.87	23.79	1014.96	1015.11	1015.05	39.9	55.6	51.3	0.8	1.2	1.0	562	4118	1306	917_F022
2	0955	3.80	25.49	25.67	25.58	26.83	27.02	26.95	1017.00	1017.14	1017.11	62.5	64.8	63.1	4.7	5.5	5.0	57	4241	539	917_F023
3	1002	1.25	25.77	25.94	25.87	27.22	27.24	27.23	1017.20	1017.25	1017.22	66.4	68.1	67.4	5.0	7.3	6.1	168	3826	558	917_F024
4	1009	2.99	25.34	25.41	25.36	27.17	27.22	27.19	1017.32	1017.37	1017.35	57.3	59.1	58.2	5.2	6.5	5.7	93	3826	190	917_F025
5	1015	2.59	25.45	26.03	25.70	27.26	27.71	27.51	1017.20	1017.72	1017.49	51.0	73.8	61.8	6.5	8.5	7.5	351	4103	1101	917_F026
6	1024	3.68	24.92	26.12	25.62	27.37	28.04	27.68	1017.25	1018.13	1017.64	30.7	99.3	71.1	5.9	21.8	14.4	129	3452	854	917_F027
7	1046	6.49	25.05	26.03	25.38	27.33	28.16	27.93	1017.25	1018.17	1017.91	43.6	116.0	65.5	6.6	30.1	14.7	10	4319	416	917_F028
8	1113	10.00	25.17	26.52	25.62	27.39	28.30	27.99	1017.15	1018.27	1017.89	55.6	157.5	91.8	8.2	48.4	23.9	0	3608	331	917_F029
9	1121	12.88	25.22	26.55	25.54	27.50	28.33	28.16	1017.22	1018.29	1018.05	59.9	173.8	92.4	8.6	46.2	23.1	0	4683	214	917_F030
10	1139	16.76	25.12	26.36	25.54	27.61	28.55	28.20	1017.36	1018.52	1018.08	60.1	187.7	92.3	10.6	48.9	22.9	0	4615	320	917_F031
11	1152	7.48	25.48	26.25	25.76	27.84	29.06	28.18	1017.57	1018.75	1017.98	92.0	157.0	125.2	21.5	41.8	33.9	1	4840	376	917_F032
12	1204	9.69	25.42	26.21	25.77	28.00	29.45	28.64	1017.70	1019.07	1018.33	89.5	147.4	115.8	12.3	34.8	24.1	0	3184	258	917_F033
13	1214	9.86	25.34	26.04	25.66	29.24	29.70	29.46	1018.68	1019.28	1018.99	86.9	104.3	96.6	9.0	15.1	12.9	0	542	71	917_F034
14	1224	8.92	25.58	26.10	25.96	29.28	29.73	29.48	1018.71	1019.22	1018.91	93.0	107.3	104.6	8.6	15.3	12.5	0	4547	436	917_F035
15	1230	8.48	25.42	26.00	25.81	29.47	29.98	29.54	1018.89	1019.47	1019.00	86.5	102.2	99.8	7.8	13.6	12.4	0	2034	132	917_F036
16	1236	5.17	25.36	26.46	25.63	29.46	30.25	29.90	1018.72	1019.67	1019.31	86.7	109.2	94.0	7.4	10.2	8.9	4	1164	245	917_F037
17	1247	5.60	25.60	26.12	25.93	29.84	30.33	30.14	1019.13	1019.66	1019.40	92.2	102.2	97.4	6.7	9.3	8.4	3	4858	477	917_F038
18	1255	10.30	26.15	26.32	26.22	30.46	30.75	30.62	1019.53	1019.82	1019.69	95.4	101.5	97.9	4.8	8.1	6.7	0	1097	77	917_F039
19	1304	6.40	24.75	25.68	25.11	31.56	32.50	32.11	1020.54	1021.56	1021.13	88.4	93.6	90.5	3.9	5.0	4.5	16	2769	417	917_F040
20	1315	4.19	26.20	26.47	26.29	30.11	30.32	30.24	1019.20	1019.46	1019.37	95.9	98.9	97.0	4.9	7.9	7.2	3	4448	411	917_F041

Table 255b Berowra Creek - Water Quality Maxima and Minima - Low Water - 2 December 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
6	1437	2.39	26.62	27.02	26.77	27.13	27.30	27.23	1016.80	1017.06	1016.96	83.9	89.0	85.9	6.8	12.5	9.5	337	4930	1574	917_F042
7	1445	5.54	25.01	26.82	26.27	27.32	28.09	27.49	1017.00	1018.15	1017.31	35.9	90.1	78.1	8.2	19.7	14.0	9	4448	530	917_F043
8	1455	9.28	25.05	27.16	25.90	27.47	28.22	27.82	1017.01	1018.25	1017.67	43.8	203.4	106.7	6.6	50.2	29.2	0	4448	264	917_F044
10	1508	13.10	25.24	27.00	25.57	27.68	28.65	28.26	1017.22	1018.50	1018.11	62.6	205.6	91.7	10.3	48.2	21.6	0	686	29	917_F045
12	1518	8.61	25.45	26.26	25.87	28.00	29.48	28.38	1017.69	1019.08	1018.11	85.3	148.7	123.3	13.2	45.2	34.7	0	548	35	917_F046
13	1524	9.54	25.56	25.81	25.69	28.65	29.06	28.84	1018.32	1018.73	1018.51	96.8	112.9	104.7	19.7	26.7	23.3	0	84	9	917_F047
14	1532	8.60	26.04	26.26	26.13	28.32	28.55	28.45	1017.93	1018.17	1018.08	128.3	143.3	134.9	27.6	37.8	33.4	0	562	31	917_F048
15	1539	7.14	25.94	26.91	26.10	28.51	28.86	28.77	1017.87	1018.46	1018.32	115.5	144.0	122.1	22.2	31.7	27.0	0	513	18	917_F049
16	1545	2.50	26.33	26.40	26.36	28.93	28.99	28.95	1018.36	1018.39	1018.38	123.5	125.8	124.8	17.4	23.4	19.9	11	4930	953	917_F050
17	1550	3.08	26.32	26.70	26.44	29.39	29.71	29.48	1018.71	1018.85	1018.75	110.8	114.0	112.5	12.4	16.8	15.2	6	538	67	917_F051
18	1554	8.30	26.79	26.84	26.82	30.09	30.34	30.28	1019.09	1019.28	1019.24	65.3	103.3	99.5	8.2	13.5	9.2	0	887	49	917_F052
19	1602	6.78	25.68	25.73	25.70	30.34	30.43	30.39	1019.61	1019.72	1019.67	89.5	90.5	89.9	5.2	6.5	5.7	0	639	15	917_F053

Table 256a Berowra Creek - Water Quality Maxima and Minima - High Water - 10 December 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
13	0730	8.91	24.03	24.07	24.04	29.66	30.03	29.82	1019.59	1019.91	1019.74	83.1	89.6	86.6	5.2	9.8	7.1	0	785	62	917_F054
12	0739	9.70	24.14	24.34	24.26	28.90	29.84	29.31	1018.94	1019.74	1019.29	83.3	96.2	90.8	6.9	15.5	10.5	0	635	47	917_F055
11	0747	7.49	24.33	24.47	24.40	28.68	29.21	28.79	1018.75	1019.19	1018.85	92.2	95.7	94.9	8.2	14.3	12.5	1	803	89	917_F056
10	0755	16.99	24.31	24.91	24.68	28.60	29.21	28.98	1018.70	1019.09	1018.94	71.4	93.3	83.9	7.1	15.8	11.1	0	975	37	917_F057
9	0804	12.70	24.33	24.94	24.70	28.50	29.14	28.84	1018.64	1019.00	1018.81	74.3	82.5	77.2	5.0	16.3	9.5	0	771	37	917_F058
8	0813	10.63	24.23	24.96	24.72	28.44	29.13	28.82	1018.59	1018.98	1018.79	67.9	79.1	71.9	4.6	15.5	9.1	0	947	64	917_F059
7	0825	6.31	24.26	25.01	24.71	28.43	29.10	28.82	1018.59	1018.93	1018.78	57.0	62.6	60.4	3.8	7.7	5.6	2	1194	126	917_F060
6	0840	2.93	24.19	24.32	24.26	28.53	28.59	28.57	1018.69	1018.73	1018.71	48.8	50.1	49.5	4.1	4.8	4.4	46	937	241	917_F061

Table 256b Berowra Creek - Water Quality Maxima and Minima - Low Water - 10 December 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
6	1055	2.40	23.76	24.03	23.97	27.84	28.34	28.22	1018.30	1018.61	1018.53	53.0	57.7	55.0	4.7	5.8	5.3	213	1743	457	917_F066
7	1107	5.59	24.36	25.00	24.65	28.58	29.12	28.82	1018.68	1018.95	1018.79	53.7	65.9	56.7	4.2	5.5	4.7	12	2004	232	917_F067
8	1141	11.99	24.33	24.97	24.78	28.51	29.13	28.91	1018.63	1018.99	1018.84	70.2	83.2	74.8	4.5	19.3	7.7	0	1602	72	917_F068
10	1149	16.71	24.34	24.90	24.57	28.55	29.32	28.99	1018.65	1019.32	1018.97	76.5	87.9	83.2	6.1	18.0	9.1	0	1573	69	917_F069
11	1228	6.70	24.37	24.62	24.56	28.70	29.17	28.82	1018.71	1019.15	1018.83	90.0	96.2	92.1	7.1	19.3	12.6	2	1775	129	917_F070
12	1236	9.47	24.16	24.46	24.38	28.87	29.82	29.08	1018.88	1019.72	1019.08	74.2	105.9	95.9	5.9	19.8	12.2	0	2271	151	917_F071
13	1245	10.01	24.26	24.58	24.36	28.91	29.51	29.31	1018.89	1019.46	1019.25	84.8	105.6	93.0	5.4	19.0	9.8	0	2564	170	917_F072
14	1252	5.38	24.27	24.46	24.37	29.20	29.35	29.26	1019.13	1019.31	1019.21	95.3	104.8	99.7	8.9	13.7	11.1	1	1869	210	917_F073
15	1259	6.27	24.06	24.30	24.18	29.31	29.61	29.41	1019.25	1019.58	1019.38	91.3	102.9	97.6	7.2	16.3	11.6	0	1968	195	917_F074
16	1306	4.20	24.00	24.02	24.01	29.78	29.86	29.81	1019.70	1019.78	1019.73	90.3	93.5	92.2	6.8	9.7	8.4	27	1737	513	917_F075
17	1332	4.62	23.75	23.90	23.83	30.16	30.23	30.20	1020.05	1020.08	1020.07	88.8	92.3	90.5	5.6	6.7	6.1	3	1968	301	917_F076
18	1339	7.53	23.95	24.15	24.10	30.45	31.09	30.69	1020.21	1020.68	1020.37	92.6	94.1	93.4	4.8	6.1	5.5	1	1456	201	917_F077
19	1348	6.78	24.23	24.35	24.28	29.91	30.90	30.44	1019.70	1020.50	1020.13	85.1	90.1	87.5	3.1	6.9	3.9	4	1705	185	917_F078

Table 257 Berowra Creek - Water Quality Maxima and Minima - Time Series - 10 December 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
10	0921	16.48	24.38	24.96	24.80	28.59	29.21	28.99	1018.68	1019.08	1018.90	69.5	88.6	76.8	5.6	17.5	8.4	0	1699	77	917_F062
10	0944	15.97	24.42	24.90	24.72	28.59	29.21	28.93	1018.67	1019.07	1018.87	72.6	88.1	78.6	5.7	17.9	9.8	0	1997	113	917_F063
10	1003	15.98	24.43	24.94	24.73	28.58	29.22	28.97	1018.65	1019.12	1018.90	69.0	87.6	78.3	5.8	17.9	9.4	0	268	25	917_F064
10	1017	16.41	24.33	24.95	24.73	28.57	29.42	29.06	1018.67	1019.40	1018.98	46.0	85.8	72.4	5.4	17.3	9.0	0	319	22	917_F065

Table 258a Berowra Creek - Water Quality Maxima and Minima - High Water - 15 December 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0906	1.45	24.20	24.41	24.28	24.43	25.57	25.09	1015.55	1016.46	1016.08	64.3	65.9	65.3	4.8	5.6	5.2	0	0	0	917_F079
2	0928	5.85	24.88	24.99	24.93	28.05	28.20	28.14	1018.12	1018.25	1018.20	77.1	80.6	78.9	6.6	9.6	7.7	10	601	140	917_F080
3	0941	1.35	25.08	25.30	25.15	28.28	28.32	28.29	1018.19	1018.26	1018.24	84.9	87.6	85.9	7.0	9.9	8.6	701	3826	2022	917_F081
4	0956	2.94	24.75	25.02	24.85	28.32	28.41	28.36	1018.33	1018.42	1018.38	74.3	80.3	77.2	7.5	9.7	8.6	111	4256	946	917_F082
5	1012	1.87	24.91	25.57	25.38	28.31	28.84	28.45	1018.14	1018.73	1018.29	64.9	107.2	96.9	5.1	11.6	9.5	79	2347	203	917_F083
6	1030	4.50	24.45	25.54	24.82	28.48	29.24	29.10	1018.26	1019.17	1018.95	39.2	120.3	71.6	6.1	22.6	14.2	36	4581	1010	917_F084
7	1038	6.70	24.59	25.60	25.09	28.48	29.32	28.98	1018.25	1019.20	1018.79	49.6	129.2	93.7	6.0	30.9	15.6	8	4912	727	917_F085
8	1109	10.00	24.67	25.80	24.93	28.47	29.47	29.25	1018.18	1019.31	1019.05	48.9	158.5	82.2	5.6	34.1	13.8	1	4304	287	917_F086
9	1123	14.54	24.51	26.26	25.01	28.56	29.66	29.36	1018.11	1019.52	1019.11	48.7	173.8	86.7	6.1	35.4	13.3	0	1147	110	917_F087
10	1136	14.40	24.84	26.07	25.01	28.75	29.53	29.39	1018.30	1019.31	1019.14	59.3	169.2	81.6	7.6	30.7	12.9	0	473	54	917_F088
11	1156	7.24	24.86	25.69	25.25	29.07	30.21	29.42	1018.66	1019.79	1019.07	67.9	134.9	112.4	9.8	23.9	18.6	4	3115	333	917_F089
12	1208	5.52	25.15	25.78	25.64	29.40	30.13	29.61	1018.90	1019.65	1019.09	94.8	120.3	113.5	10.1	17.6	14.3	8	4564	742	917_F090
13	1228	3.03	25.07	25.32	25.15	30.03	30.34	30.17	1019.50	1019.79	1019.66	91.3	97.6	93.4	7.2	11.5	9.7	107	2330	698	917_F091
14	1236	11.72	24.82	25.50	25.32	30.14	30.78	30.33	1019.54	1020.26	1019.75	83.8	101.1	96.2	5.8	12.0	10.1	0	1089	71	917_F092
15	1251	0.65	25.90	25.93	25.91	30.38	30.41	30.39	1019.58	1019.60	1019.59	96.0	97.2	96.7	7.3	8.4	7.9	224	651	470	917_F093
16	1301	2.77	25.48	25.67	25.53	30.48	30.57	30.55	1019.74	1019.87	1019.83	94.2	97.8	95.2	6.1	8.5	7.3	65	4118	891	917_F094
17	1311	3.20	25.52	25.92	25.68	30.99	31.10	31.03	1020.08	1020.18	1020.15	89.2	91.6	90.1	4.4	5.9	5.2	9	2246	218	917_F095
18	1321	8.06	25.73	25.92	25.79	31.14	31.51	31.46	1020.15	1020.50	1020.45	90.2	93.1	90.8	3.6	4.9	4.1	0	797	64	917_F096
19	1333	2.94	24.75	24.79	24.76	32.49	32.54	32.52	1021.51	1021.57	1021.55	86.4	88.9	87.6	2.6	3.4	3.0	85	4598	820	917_F097

Table 258b Berowra Creek - Water Quality Maxima and Minima - Low Water - 15 December 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
6	1457	2.40	25.94	26.54	26.17	27.52	28.39	28.09	1017.24	1018.08	1017.79	92.9	105.6	97.6	6.7	9.9	8.4	139	1042	429	917_F098
7	1521	5.48	24.56	26.39	25.41	28.31	29.33	28.87	1017.88	1019.21	1018.61	50.8	110.4	90.3	12.0	26.4	17.5	7	414	67	917_F099
8	1545	8.09	24.59	26.40	25.37	28.56	29.33	28.98	1018.07	1019.22	1018.71	49.5	139.9	94.5	7.3	34.0	19.0	1	132	44	917_F100
9	1554	10.76	24.66	26.88	25.00	28.53	29.43	29.25	1017.90	1019.27	1019.03	48.4	191.3	84.9	7.4	42.0	18.1	0	114	18	917_F101
10	1600	10.81	24.79	26.47	25.08	28.81	29.80	29.40	1018.23	1019.49	1019.12	64.2	179.3	89.4	8.7	28.1	16.3	0	5229	235	917_F102
11	1642	6.07	25.06	26.51	25.50	29.09	29.58	29.42	1018.42	1019.26	1018.99	91.9	151.6	111.7	15.9	22.8	19.0	3	309	50	917_F103
12	1647	7.67	25.17	26.60	25.78	29.14	29.73	29.46	1018.49	1019.35	1018.95	96.3	147.7	119.9	17.4	24.4	20.4	0	430	20	917_F104
14	1701	3.48	25.79	26.07	25.89	29.31	29.56	29.50	1018.73	1019.01	1018.94	109.9	142.1	126.2	1.3	1.3	1.3	7	4028	409	917_F105
15	1708	4.66	25.61	26.08	25.79	29.55	29.87	29.76	1018.91	1019.30	1019.16	91.0	146.8	128.4	1.1	1.2	1.2	0	40	8	917_F106
16	1716	1.33	25.94	26.39	26.25	28.53	29.96	29.20	1018.05	1019.26	1018.59	96.5	119.6	110.9	1.0	1.1	1.0	212	4432	1041	917_F107
17	1736	3.42	25.88	26.08	25.96	29.83	30.65	30.41	1019.17	1019.75	1019.60	89.7	108.7	98.9	1.0	1.1	1.0	5	4615	371	917_F108
18	1746	4.81	25.77	26.12	25.87	31.14	31.44	31.34	1020.11	1020.43	1020.33	86.5	142.2	121.6	1.0	1.1	1.1	0	287	18	917_F109
19	1753	7.31	25.25	25.31	25.29	29.69	30.91	30.65	1019.26	1020.19	1019.98	72.3	151.4	113.8	1.0	1.1	1.0	0	3402	106	917_F110

Table 258c Berowra Creek - Water Quality Maxima and Minima - High Water - 15 December 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
3	2139	1.01	25.18	25.25	25.23	27.77	28.26	28.06	1017.83	1018.19	1018.04	105.8	112.3	109.6	1.0	1.1	1.1	0	0	0	917_F111
4	2150	2.88	25.08	25.18	25.13	27.84	28.57	28.41	1017.91	1018.48	1018.34	103.1	129.3	116.3	1.1	1.1	1.1	0	0	0	917_F112
5	2200	2.39	25.11	25.29	25.21	27.99	28.91	28.54	1017.98	1018.73	1018.41	93.1	124.4	112.8	1.1	1.2	1.1	0	0	0	917_F113
6	2207	3.70	24.66	25.61	24.95	27.52	29.42	28.92	1017.52	1019.25	1018.78	75.8	128.4	110.2	1.1	1.3	1.2	0	0	0	917_F114
7	2216	6.73	24.70	25.23	24.87	27.89	29.43	29.08	1017.93	1019.25	1018.93	68.1	124.2	89.8	1.1	1.2	1.1	0	0	0	917_F115

Table 259 Berowra Creek - Water Quality Maxima and Minima - Low Water - 5 February 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
6	0850	2.60	27.76	27.86	27.82	28.03	28.71	28.43	1017.22	1017.76	1017.53	54.0	63.3	60.7	9.8	12.9	11.1	0	0	0	917_F116
7	0921	5.55	27.25	28.04	27.80	28.48	29.37	28.88	1017.51	1018.43	1017.88	23.6	73.7	55.4	7.6	16.4	13.8	0	0	0	917_F117
10	0942	12.90	26.99	28.79	27.55	28.98	29.50	29.37	1017.62	1018.64	1018.34	11.2	132.4	54.2	-	-	-	0	0	0	917_F118
11	1008	6.73	27.17	28.75	27.97	1.37	29.67	27.30	997.05	1018.57	1016.65	47.4	120.4	93.8	-	-	-	0	0	0	917_F119
13	1032	5.61	28.34	28.46	28.40	29.21	29.76	29.62	1017.91	1018.37	1018.24	83.5	94.1	88.6	-	-	-	0	1429	109	917_F120
16	1039	4.43	28.25	28.38	28.30	29.83	29.97	29.90	1018.40	1018.55	1018.48	67.6	87.7	79.7	-	-	-	1	1266	155	917_F121
18	1104	7.54	27.91	28.21	27.99	1.84	30.26	28.14	997.57	1018.89	1017.27	71.5	93.8	81.5	-	-	-	0	1220	78	917_F122
19	1111	4.33	27.12	27.83	27.82	8.76	29.82	28.70	1002.83	1018.58	1017.74	69.4	91.1	78.9	-	-	-	9	1280	205	917_F123

Table 260 Berowra Creek - Water Quality Maxima and Minima - Low Water - 6 February 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
6	1102	2.04	27.47	27.57	27.51	27.83	28.52	28.14	1017.18	1017.68	1017.41	41.1	50.5	47.6	7.6	12.2	9.5	125	1348	328	917_F124
7	1112	5.38	27.46	27.78	27.62	28.31	29.35	28.77	1017.52	1018.35	1017.85	22.8	65.0	46.6	6.8	15.2	9.9	19	1644	213	917_F125
8	1120	9.78	27.20	28.17	27.80	28.50	29.42	29.15	1017.58	1018.50	1018.08	14.1	112.9	63.8	5.8	50.2	17.8	0	1705	117	917_F126
10	1129	13.97	27.06	28.01	27.48	28.89	29.47	29.34	1017.81	1018.60	1018.34	4.9	120.7	39.5	3.8	43.1	10.5	0	2263	82	917_F127
11	1218	7.36	27.09	28.41	27.91	29.04	29.51	29.41	1017.79	1018.57	1018.24	10.5	136.7	72.2	4.5	34.0	14.0	1	1822	105	917_F128
12	1225	8.28	27.88	28.45	27.97	29.23	29.53	29.46	1017.92	1018.36	1018.26	57.4	123.2	73.8	8.5	24.2	11.9	0	2197	115	917_F129
13	1233	3.67	28.15	28.31	28.26	29.51	29.65	29.57	1018.18	1018.32	1018.24	96.4	100.0	99.0	15.9	21.3	17.5	18	5903	733	917_F130
16	1239	4.29	27.58	28.18	27.87	29.85	29.95	29.88	1018.47	1018.75	1018.60	77.5	87.7	79.8	9.5	14.7	10.6	1	2149	217	917_F131
18	1312	5.66	27.63	27.94	27.72	29.94	30.23	30.06	1018.61	1018.96	1018.79	78.3	87.5	82.6	5.8	9.0	7.3	6	3826	498	917_F132
19	1318	7.41	27.49	27.84	27.66	28.61	30.65	29.55	1017.65	1019.32	1018.43	78.4	81.5	79.4	3.9	5.7	4.7	1	2408	224	917_F133

Table 261a Berowra Creek - Water Quality Maxima and Minima - High Water - 10 February 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0906	1.44	25.17	25.50	25.30	23.19	25.39	24.20	1014.40	1015.96	1015.12	43.0	46.2	44.7	5.4	6.4	6.0	170	1085	424	917_F134
3	0920	1.41	26.81	26.86	26.84	28.52	28.60	28.57	1017.90	1017.96	1017.93	38.9	41.1	40.3	4.9	5.4	5.2	222	896	400	917_F135
5	0928	1.03	26.98	27.01	27.00	28.64	28.66	28.65	1017.94	1017.96	1017.95	41.7	42.5	42.1	6.9	7.4	7.1	421	1477	862	917_F136
7	0939	7.88	27.13	27.85	27.61	28.62	29.43	29.27	1017.83	1018.37	1018.24	14.1	70.9	35.6	6.2	23.8	12.5	2	1243	84	917_F137
8	1000	11.17	26.70	27.69	27.31	28.60	29.44	29.16	1017.95	1018.46	1018.25	4.9	84.3	49.5	4.8	31.3	16.2	0	3092	138	917_F138
10	1011	16.29	27.00	27.48	27.22	28.92	29.43	29.32	1018.11	1018.58	1018.42	32.1	100.1	67.2	8.4	39.8	15.7	0	2165	67	917_F139
11	1033	7.20	27.02	27.30	27.18	29.18	29.36	29.27	1018.25	1018.50	1018.37	81.8	92.6	84.8	14.8	30.8	19.3	0	2064	111	917_F140
12	1042	10.43	26.30	27.37	26.92	29.24	29.62	29.41	1018.27	1018.92	1018.57	77.9	96.7	84.7	10.3	27.5	17.1	0	1378	32	917_F141
14	1050	6.80	26.49	26.85	26.64	29.51	29.64	29.56	1018.65	1018.84	1018.76	88.1	101.2	94.0	11.0	17.2	14.0	0	2133	126	917_F142
16	1059	4.87	26.32	26.58	26.37	29.41	29.48	29.46	1018.65	1018.79	1018.76	80.6	87.9	82.5	8.8	11.0	9.6	0	1429	139	917_F143
18	1108	8.44	26.58	26.60	26.59	30.06	30.28	30.16	1019.14	1019.32	1019.22	81.6	84.2	82.7	4.9	6.9	5.7	0	2110	90	917_F144
19	1115	7.37	25.91	26.31	26.14	31.55	32.32	31.91	1020.35	1021.07	1020.68	81.1	84.6	83.0	3.4	5.4	4.2	1	1668	84	917_F145

Table 261b Berowra Creek - Water Quality Maxima and Minima - Low Water - 10 February 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
4	1342	1.38	25.81	26.03	25.91	22.40	23.45	23.05	1013.61	1014.35	1014.07	64.6	66.2	65.3	6.7	7.3	6.9	324	1982	718	917_F146
5	1350	3.72	26.13	26.37	26.25	24.40	25.61	24.96	1015.02	1015.87	1015.42	59.2	61.1	60.3	7.3	8.2	7.7	46	1842	323	917_F147
7	1404	5.99	27.11	27.76	27.47	28.55	29.43	29.04	1017.83	1018.38	1018.10	13.3	54.4	37.9	6.7	14.9	11.9	7	1822	198	917_F148
8	1412	9.60	27.39	27.79	27.61	28.77	29.44	29.22	1017.91	1018.43	1018.20	6.1	103.6	48.0	5.6	47.8	20.7	0	1031	56	917_F149
10	1420	14.50	26.81	27.53	27.19	28.72	29.49	29.28	1018.01	1018.70	1018.38	22.2	115.6	56.3	7.2	50.2	15.1	0	1338	41	917_F150
11	1429	6.55	26.75	27.46	27.26	29.02	29.50	29.28	1018.15	1018.69	1018.35	39.9	109.8	68.2	9.8	41.4	20.4	1	824	50	917_F151
12	1436	8.65	27.14	27.28	27.20	29.05	29.32	29.26	1018.17	1018.43	1018.36	80.3	107.5	86.6	15.9	39.8	22.0	0	524	24	917_F152
13	1443	5.31	27.03	27.05	27.04	29.34	29.35	29.34	1018.45	1018.47	1018.46	87.0	89.8	88.3	18.8	24.9	20.0	0	836	61	917_F153
14	1451	8.60	26.99	27.24	27.08	29.26	29.37	29.33	1018.34	1018.52	1018.45	91.9	101.9	95.4	20.6	30.1	22.9	0	1243	73	917_F154
16	1459	4.01	26.72	26.87	26.75	29.42	29.51	29.49	1018.56	1018.69	1018.66	87.8	98.9	89.7	15.2	20.4	16.7	2	1304	134	917_F155
18	1506	7.59	26.22	26.38	26.31	29.54	29.66	29.59	1018.81	1018.97	1018.88	88.7	91.0	90.5	12.9	15.2	13.8	0	642	25	917_F156
19	1514	6.56	26.56	26.69	26.64	29.10	30.19	29.65	1018.38	1019.26	1018.82	78.9	80.2	79.4	4.1	5.4	4.4	0	138	94	917_F157

Table 262 Berowra Creek - Water Quality Maxima and Minima - Time Series - 10 February 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
10	0826	15.97	27.16	27.49	27.35	29.10	29.44	29.28	1018.20	1018.45	1018.34	36.1	87.4	68.1	10.5	29.7	17.7	0	2365	80	917_F158
10	1011	16.00	27.00	27.48	27.22	28.92	29.43	29.32	1018.11	1018.57	1018.42	32.1	100.1	67.1	8.4	39.8	15.7	0	2165	68	917_F159
10	1132	16.68	26.99	27.50	27.30	29.01	29.43	29.34	1018.17	1018.59	1018.40	16.6	89.1	48.6	6.2	30.8	12.4	0	2356	49	917_F160
10	1316	15.50	26.97	27.58	27.24	28.73	29.44	29.32	1018.01	1018.60	1018.41	28.3	106.9	56.7	8.2	46.6	15.0	0	1294	22	917_F161
10	1420	14.70	26.72	27.53	27.19	28.72	29.52	29.28	1018.01	1018.75	1018.39	22.2	115.6	56.4	7.2	50.2	15.0	0	1338	40	917_F162
10	1531	15.00	26.73	27.48	27.19	28.82	29.52	29.28	1018.06	1018.75	1018.39	24.6	108.6	58.1	7.6	50.2	16.7	0	1181	53	917_F163

Table 263a Berowra Creek - Water Quality Maxima and Minima - High Water - 12 February 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0937	1.00	26.14	26.27	26.25	24.27	24.89	24.76	1014.92	1015.35	1015.26	48.1	49.8	49.1	5.7	6.3	5.9	326	1424	561	917_F164
3	0950	1.35	27.50	27.52	27.50	28.43	28.44	28.44	1017.62	1017.64	1017.63	41.9	42.9	42.4	6.8	7.9	7.5	1290	5365	2134	917_F165
5	1001	2.19	27.65	27.86	27.69	28.55	28.92	28.86	1017.60	1017.95	1017.89	37.0	54.8	42.5	8.2	15.5	12.1	155	1835	435	917_F166
7	1018	7.89	27.02	27.97	27.42	28.80	29.40	29.23	1017.75	1018.51	1018.26	33.8	107.8	61.2	7.5	45.5	22.9	0	2102	163	917_F167
8	1031	11.29	26.67	28.10	27.12	28.82	29.35	29.25	1017.72	1018.62	1018.38	48.2	126.5	66.3	9.4	47.1	18.7	0	2650	163	917_F168
10	1040	17.99	26.44	27.92	26.98	24.05	29.34	29.17	1014.75	1018.63	1018.38	43.0	132.4	71.3	8.6	38.6	15.0	0	4858	118	917_F169
11	1050	7.80	26.86	27.74	27.12	29.06	29.42	29.25	1018.02	1018.59	1018.37	82.2	126.2	96.5	13.3	31.9	20.4	0	594	34	917_F170
12	1059	10.10	26.80	28.02	26.95	29.14	29.53	29.45	1017.99	1018.71	1018.58	83.9	120.5	90.4	13.2	25.3	16.1	0	2356	215	917_F171
14	1109	6.43	27.04	27.95	27.28	29.46	29.58	29.52	1018.28	1018.61	1018.52	91.0	100.8	94.0	12.2	17.3	15.4	4	6101	598	917_F172
16	1120	5.20	26.60	27.02	26.71	29.44	29.82	29.60	1018.54	1018.97	1018.76	79.1	88.3	83.2	9.0	11.5	10.5	9	785	141	917_F173
18	1134	10.46	26.93	27.47	27.32	30.18	30.59	30.33	1018.95	1019.47	1019.13	83.7	89.9	87.2	7.9	9.2	8.6	0	3634	176	917_F174
19	1145	7.95	26.03	27.31	26.35	31.11	32.40	31.88	1019.69	1021.10	1020.59	82.8	91.6	85.2	6.3	13.4	7.7	3	4210	353	917_F175

Table 263b Berowra Creek - Water Quality Maxima and Minima - Low Water - 12 February 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
5	1425	1.15	29.02	29.53	29.43	26.49	27.70	27.44	1015.68	1016.42	1016.26	78.7	86.9	84.8	8.8	11.3	9.8	1194	5022	2437	917_F176
7	1501	6.18	27.03	28.78	27.69	28.54	29.38	29.11	1017.29	1018.51	1018.09	37.4	79.2	51.9	8.7	36.5	19.9	1	785	48	917_F177
8	1521	9.93	26.84	29.00	27.52	28.60	29.36	29.20	1017.27	1018.56	1018.22	40.3	153.1	68.0	8.6	50.2	25.6	0	6566	281	917_F178
10	1528	15.69	26.72	28.89	27.01	28.85	29.34	29.29	1017.50	1018.62	1018.46	50.4	163.2	66.8	8.5	39.6	13.3	0	1207	39	917_F179
11	1626	6.18	26.85	28.64	27.33	29.05	29.32	29.23	1017.74	1018.52	1018.29	61.2	148.2	90.6	10.8	39.0	21.2	1	4581	296	917_F180
12	1632	6.18	27.06	29.00	27.26	29.18	29.45	29.30	1017.71	1018.47	1018.36	81.9	121.1	90.3	12.9	29.1	18.6	0	1456	80	917_F181
14	1647	4.22	27.34	28.03	27.64	29.44	29.48	29.45	1018.21	1018.46	1018.35	91.0	106.9	98.7	12.4	15.7	13.6	2	4967	427	917_F182
16	1650	4.22	27.34	28.03	27.64	29.44	29.48	29.45	1018.21	1018.46	1018.35	91.0	106.9	98.7	12.4	15.7	13.6	2	4967	411	917_F183
18	1717	8.60	28.19	28.35	28.32	29.79	30.04	29.90	1018.40	1018.59	1018.48	101.6	106.3	103.9	11.9	13.0	12.4	0	494	22	917_F184
19	1724	6.91	27.08	27.22	27.14	28.56	29.86	29.35	1017.81	1018.86	1018.44	80.6	83.0	81.9	5.0	5.9	5.5	0	5607	306	917_F185

Table 263c Berowra Creek - Water Quality Maxima and Minima - High Water - 12 to 13 February 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	2209	1.46	27.68	27.78	27.72	22.74	23.45	23.01	1013.30	1013.81	1013.50	62.3	66.0	63.8	9.3	9.9	9.6	0	0	0	917_F186
5	2242	2.49	27.95	28.02	27.98	28.69	28.88	28.82	1017.67	1017.82	1017.77	47.2	61.1	52.1	12.8	21.9	16.6	0	0	0	917_F187
7	2300	7.59	27.13	28.23	27.50	28.66	29.36	29.17	1017.56	1018.47	1018.19	32.5	116.9	60.9	8.2	46.4	22.3	0	0	0	917_F188
8	2310	11.18	26.81	28.44	27.23	28.77	29.34	29.22	1017.58	1018.57	1018.32	39.9	152.9	69.8	7.2	41.2	17.4	0	0	0	917_F189
10	2319	15.40	26.84	28.12	27.15	28.92	29.38	29.27	1017.79	1018.60	1018.39	58.6	143.9	80.3	8.7	31.3	13.6	0	0	0	917_F190
11	2328	7.90	27.02	27.63	27.39	29.20	29.33	29.28	1018.18	1018.48	1018.31	76.9	108.8	95.0	12.3	15.0	13.6	0	0	0	917_F191
12	2337	8.20	27.52	27.57	27.55	29.27	29.34	29.29	1018.24	1018.32	1018.27	96.4	105.7	101.2	12.2	13.3	12.7	0	0	0	917_F192
14	2347	9.14	27.44	27.48	27.46	29.55	29.57	29.56	1018.48	1018.52	1018.50	93.6	95.7	94.8	10.4	11.4	10.9	0	0	0	917_F193
16	2359	5.03	27.28	27.34	27.32	29.38	29.42	29.40	1018.40	1018.43	1018.42	87.7	88.9	88.4	8.2	9.0	8.6	0	0	0	917_F194
18	0008	4.90	26.81	26.99	26.84	29.73	30.19	30.06	1018.76	1019.18	1019.07	76.7	85.0	79.1	4.5	6.8	5.1	0	0	0	917_F195
19	0017	8.15	26.71	26.79	26.76	31.15	31.51	31.32	1019.91	1020.21	1020.04	83.6	87.3	85.6	4.9	7.6	5.5	0	0	0	917_F196

Table 263d Berowra Creek - Water Quality Maxima and Minima - Low Water - 13 February 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
5	0333	1.60	26.64	26.75	26.70	24.40	24.63	24.43	1014.84	1015.05	1014.88	54.1	56.2	55.0	8.0	8.3	8.1	0	0	0	917_F197
7	0355	6.10	27.14	27.82	27.55	28.52	29.36	28.98	1017.66	1018.45	1018.04	29.1	94.6	63.4	9.1	38.6	24.7	0	0	0	917_F198
8	0406	10.09	26.89	28.01	27.43	28.72	29.35	29.14	1017.69	1018.54	1018.20	35.7	116.0	65.4	6.8	45.1	22.2	0	1	0	917_F199
10	0417	15.70	26.80	27.71	27.02	28.92	29.34	29.26	1017.93	1018.59	1018.43	47.7	124.6	65.2	6.8	27.4	11.3	0	0	0	917_F200
11	0427	6.59	26.90	27.55	27.32	29.05	29.34	29.21	1018.08	1018.52	1018.28	60.6	117.1	91.9	9.1	21.2	15.0	0	0	0	917_F201
12	0436	7.00	27.22	27.35	27.29	29.19	29.30	29.25	1018.25	1018.39	1018.32	75.8	102.7	92.2	11.7	14.0	13.1	0	0	0	917_F202
14	0457	6.19	27.25	27.29	27.28	29.35	29.37	29.36	1018.39	1018.42	1018.41	87.7	90.1	88.8	10.2	11.2	10.8	0	0	0	917_F203
16	0508	4.23	26.96	27.14	27.05	29.49	29.53	29.51	1018.54	1018.63	1018.58	83.6	89.7	86.2	8.7	10.0	9.4	0	2	0	917_F204
18	0520	7.11	26.62	26.90	26.80	29.61	30.32	29.80	1018.71	1019.35	1018.89	79.9	84.5	82.8	5.7	7.6	6.9	0	27	1	917_F205
19	0545	7.99	26.85	27.06	27.02	27.72	28.55	28.07	1017.25	1017.95	1017.52	77.2	80.7	78.8	4.4	4.8	4.6	0	139	9	917_F206

Table 263e Berowra Creek - Water Quality Maxima and Minima - High Water - 13 February 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1046	1.18	26.42	26.50	26.48	23.64	25.76	24.58	1014.34	1015.93	1015.06	57.7	59.8	58.6	6.8	7.5	7.2	299	1363	580	917_F216
3	1057	1.18	27.57	27.59	27.58	28.40	28.51	28.45	1017.58	1017.66	1017.62	60.7	63.9	61.9	8.3	9.5	9.1	358	1343	506	917_F217
5	1104	3.63	27.39	27.69	27.57	28.77	29.03	28.87	1017.82	1018.12	1017.94	40.7	57.7	51.1	9.6	14.1	11.5	49	2173	302	917_F218
7	1117	7.38	26.89	27.58	27.16	28.63	29.34	29.21	1017.75	1018.52	1018.33	38.4	97.7	54.6	7.0	29.7	16.2	2	1533	92	917_F219
8	1128	11.42	26.81	27.90	27.10	28.84	29.34	29.24	1017.80	1018.56	1018.38	37.8	109.4	61.5	6.4	42.0	14.1	0	5059	79	917_F220
10	1136	16.24	26.84	28.02	27.10	28.95	29.33	29.26	1017.86	1018.57	1018.41	47.8	128.6	70.7	6.7	34.6	11.2	0	2699	93	917_F221
11	1144	7.78	27.13	27.59	27.29	29.11	29.30	29.23	1018.10	1018.43	1018.30	81.0	116.1	95.4	9.9	24.0	15.5	0	3013	209	917_F222
12	1152	10.48	27.02	27.71	27.24	29.20	29.53	29.40	1018.14	1018.65	1018.45	82.4	107.3	91.0	7.8	15.9	11.0	0	1862	104	917_F223
14	1200	11.58	26.87	27.48	27.04	29.56	29.64	29.62	1018.49	1018.76	1018.68	82.0	97.5	89.2	6.5	16.8	9.5	0	2173	126	917_F224
15	1210	5.29	26.74	27.18	26.93	29.61	29.98	29.75	1018.61	1019.05	1018.80	81.2	91.2	86.5	5.3	9.6	7.8	2	2165	216	917_F225
18	1220	7.64	27.18	27.30	27.26	30.15	30.52	30.36	1018.99	1019.33	1019.16	85.3	90.7	88.2	5.2	7.7	6.0	0	2991	217	917_F226
19	1228	7.73	26.38	26.96	26.53	31.35	32.16	31.87	1019.98	1020.80	1020.53	83.3	91.5	86.5	4.2	15.0	5.9	3	2592	184	917_F227

Table 264 Berowra Creek - Water Quality Maxima and Minima - Time Series 1 - 12 to 13 February 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
10	2121	15.80	26.87	28.12	27.16	29.08	29.36	29.28	1017.92	1018.58	1018.40	65.4	134.5	80.5	9.3	20.1	12.6	0	0	0	917_F207
10	2319	15.00	26.84	28.12	27.16	28.92	29.36	29.27	1017.79	1018.59	1018.39	61.1	143.9	80.7	8.7	31.3	13.7	0	0	0	917_F208
10	0037	14.50	26.79	28.01	27.11	28.91	29.33	29.25	1017.83	1018.59	1018.39	49.3	141.4	73.3	7.0	30.1	12.5	0	0	0	917_F209
10	0246	16.29	26.79	27.85	27.04	28.91	29.33	29.26	1017.88	1018.59	1018.43	47.2	124.8	65.2	7.0	30.1	12.2	0	0	0	917_F210
10	0417	15.20	26.81	27.71	27.02	28.92	29.34	29.26	1017.93	1018.58	1018.43	49.6	124.6	65.7	6.8	27.4	11.4	0	0	0	917_F211

Table 265 Berowra Creek - Water Quality Maxima and Minima - Time Series 2 - 13 February 1998

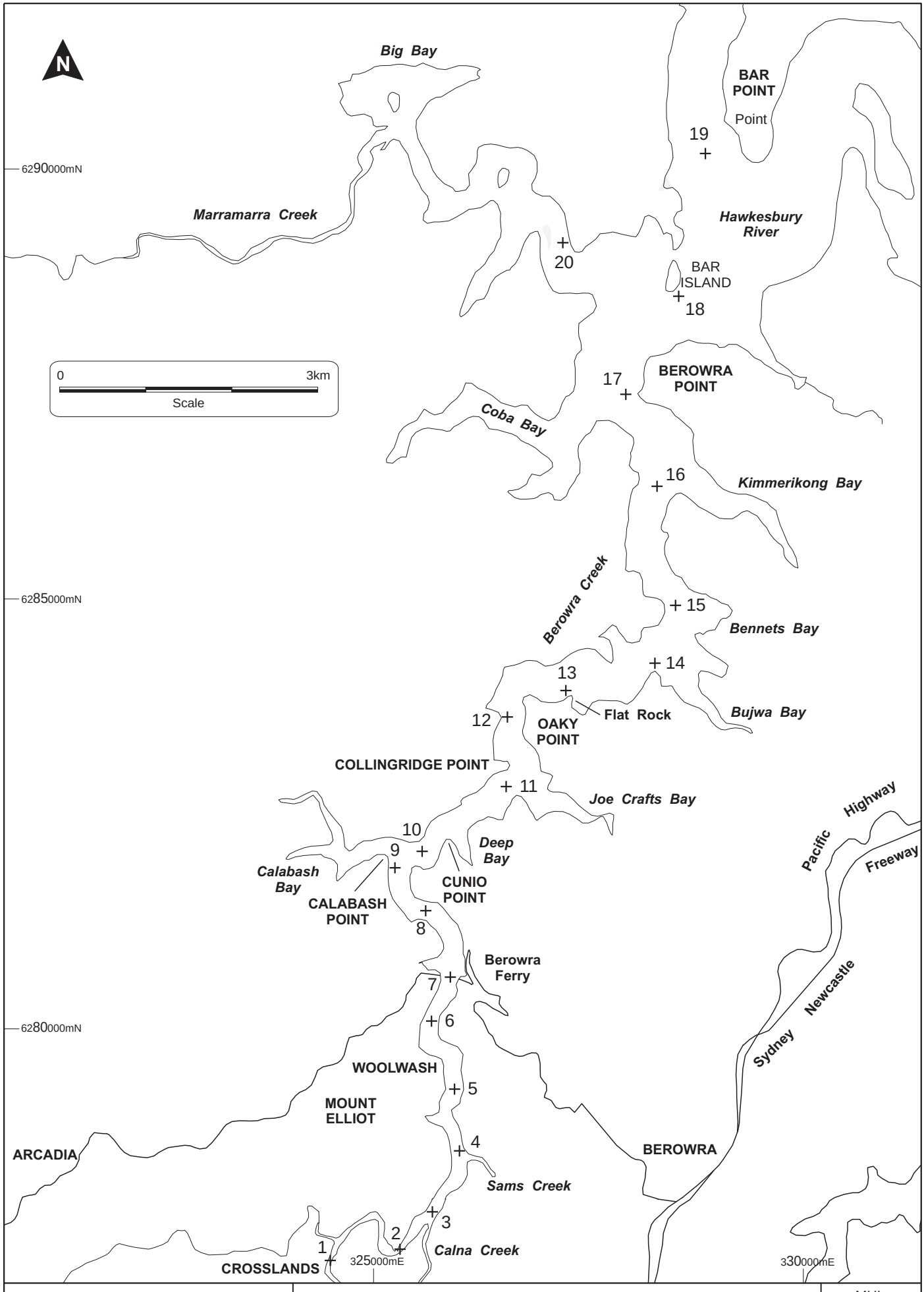
Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
10	0607	13.89	26.83	27.58	27.14	28.94	29.34	29.23	1017.99	1018.57	1018.37	52.4	113.6	75.0	6.8	30.7	13.9	0	356	10	917_F212
9/1	0619	8.29	26.87	27.49	27.28	28.90	29.36	29.10	1017.98	1018.55	1018.21	16.6	110.5	72.1	7.0	24.3	17.2	0	1159	45	917_F213
9/2	0626	7.54	27.02	27.62	27.31	28.85	29.30	29.09	1017.91	1018.45	1018.19	48.6	107.8	77.4	9.1	31.0	20.2	0	1353	39	917_F214
9/3	0632	1.20	27.43	27.48	27.47	28.90	28.91	28.91	1017.98	1018.00	1017.99	99.8	108.0	105.0	18.2	24.7	22.5	48	544	183	917_F215

Table 266a Berowra Creek - Water Quality Maxima and Minima - Low Water - 16 February 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
5	0548	0.99	26.71	27.06	26.92	22.74	26.57	23.74	1013.50	1016.47	1014.29	55.7	69.2	66.0	8.3	8.5	8.4	1	6	2	917_F228
7	0626	6.38	27.17	28.19	27.64	27.78	29.28	28.73	1017.11	1018.39	1017.82	35.9	94.4	65.0	8.0	18.3	11.9	0	153	20	917_F229
8	0639	9.98	27.02	28.32	27.62	28.58	29.31	29.10	1017.53	1018.47	1018.10	25.0	108.9	67.6	6.4	22.1	13.6	0	398	21	917_F230
10	0648	15.48	27.03	28.21	27.36	28.93	29.33	29.26	1017.78	1018.49	1018.32	28.4	108.6	54.5	5.0	14.3	7.7	0	498	18	917_F231
11	0803	7.10	27.21	28.04	27.65	29.08	29.35	29.27	1017.94	1018.42	1018.22	43.2	103.5	77.7	4.9	15.7	8.7	0	566	39	917_F232
12	0809	8.39	27.69	27.80	27.75	29.22	29.36	29.30	1018.13	1018.29	1018.21	73.1	91.6	83.3	6.1	8.4	7.6	0	422	26	917_F233
14	0816	6.09	27.59	27.62	27.62	29.52	29.53	29.52	1018.40	1018.44	1018.42	80.9	81.6	81.2	7.7	8.2	7.9	0	296	40	917_F234
16	0823	4.59	27.59	27.59	27.59	29.70	29.72	29.71	1018.55	1018.58	1018.57	80.9	84.2	83.3	6.6	7.4	6.9	0	355	52	917_F235
18	0845	9.60	27.39	27.42	27.40	30.24	30.57	30.45	1019.01	1019.30	1019.19	85.0	87.0	85.8	4.2	5.0	4.6	0	616	34	917_F236
19	0851	6.57	27.38	27.41	27.40	30.23	30.61	30.49	1019.01	1019.31	1019.22	85.1	86.4	85.6	4.2	5.5	4.6	1	1314	115	917_F237

Table 266b Berowra Creek - Water Quality Maxima and Minima - High Water - 16 February 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1104	1.40	26.96	27.07	27.02	17.16	20.49	19.40	1009.33	1011.83	1011.01	70.2	74.7	72.1	8.4	11.8	9.8	413	2759	845	917_F238
3	1114	1.09	28.00	28.01	28.00	27.95	27.96	27.96	1017.11	1017.12	1017.11	65.9	67.5	66.5	8.1	9.2	8.7	111	1795	532	917_F239
5	1122	3.29	28.10	28.16	28.12	28.37	28.49	28.47	1017.37	1017.49	1017.46	66.6	71.5	68.0	9.4	11.5	10.5	88	903	231	917_F240
7	1134	6.30	27.19	28.49	27.72	28.49	29.30	29.05	1017.35	1018.39	1018.03	40.1	100.0	70.2	6.1	23.6	14.0	10	3999	418	917_F241
8	1143	10.09	27.07	28.57	27.54	28.64	29.32	29.17	1017.44	1018.45	1018.19	31.2	125.4	64.8	5.2	34.5	12.0	0	6146	285	917_F242
10	1152	15.59	27.05	28.69	27.53	29.06	29.35	29.29	1017.71	1018.49	1018.29	28.7	117.6	62.8	4.5	21.4	6.9	0	4858	119	917_F243
11	1159	7.78	27.46	28.50	27.75	29.17	29.35	29.31	1017.86	1018.35	1018.22	57.1	116.6	80.3	5.1	27.2	13.0	0	3013	193	917_F244
12	1205	9.59	27.71	28.13	27.80	29.33	29.53	29.44	1018.10	1018.41	1018.30	70.1	82.3	79.2	6.7	10.4	7.4	0	716	70	917_F245
14	1212	7.86	27.64	27.84	27.73	29.63	29.68	29.66	1018.41	1018.55	1018.49	85.9	89.1	87.6	6.3	10.1	8.2	0	2699	245	917_F246
16	1219	4.77	27.47	27.72	27.62	29.48	29.95	29.58	1018.34	1018.79	1018.46	84.1	89.7	88.3	5.0	6.4	5.9	49	1494	377	917_F247
18	1225	10.10	27.50	27.61	27.53	30.75	31.15	30.94	1019.32	1019.71	1019.52	87.5	89.1	88.3	4.2	5.5	4.8	0	4272	288	917_F248
19	1230	7.35	27.19	27.59	27.35	30.80	31.94	31.41	1019.38	1020.38	1019.92	85.2	91.4	88.4	4.0	5.7	4.6	2	4948	445	917_F249



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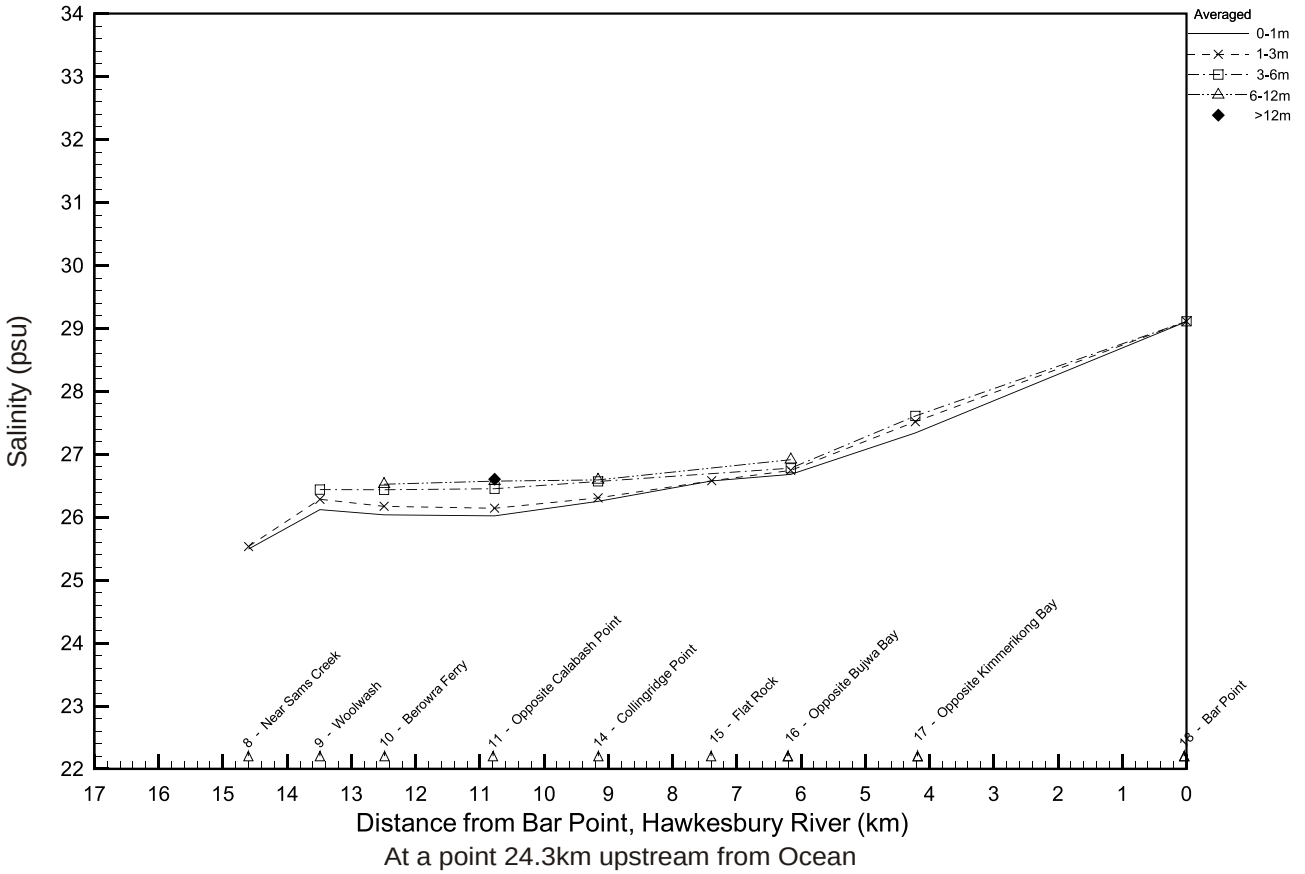
BEROWRA CREEK

2 DECEMBER 1997 TO 16 FEBRUARY 1998

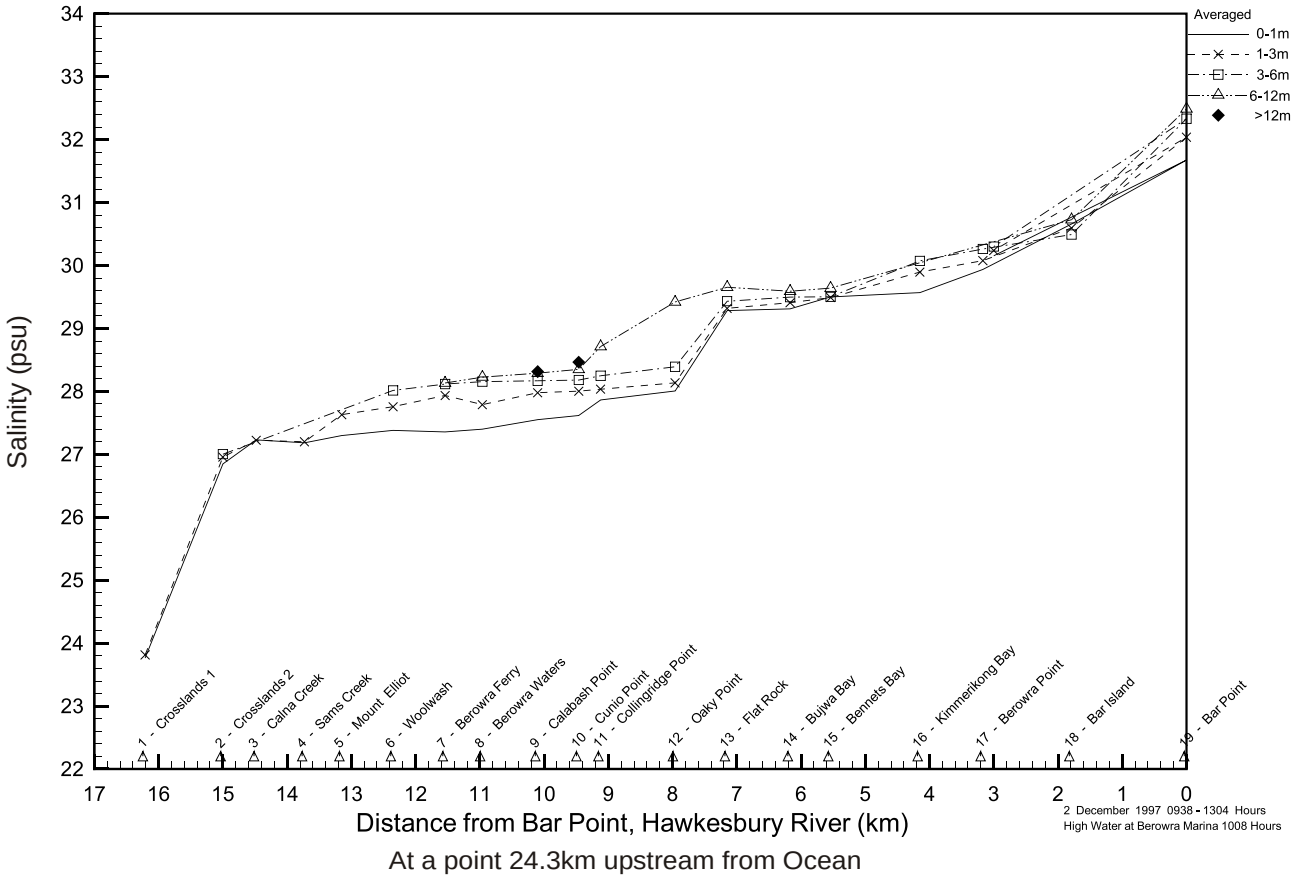
MHL Report 1812

Figure 195

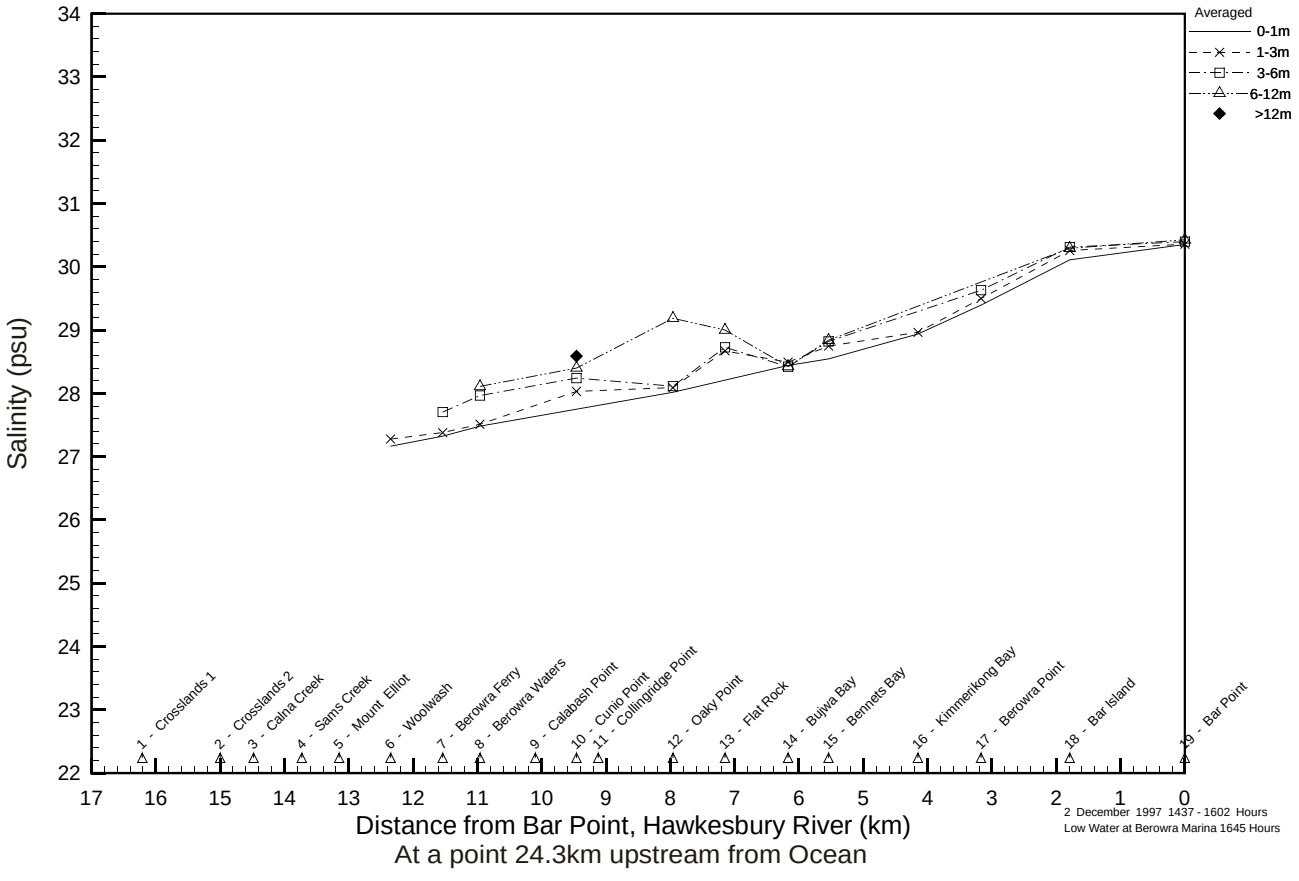
DRAWING 1812-195.CDR



NSW GOVERNMENT Public Works Manly Hydraulics Laboratory	LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES BEROWRA CREEK 3 NOVEMBER 1997	MHL Report 1812 Figure 196 DRAWING 1812-196.CDR



At a point 24.3km upstream from Ocean



At a point 24.3km upstream from Ocean

NSW GOVERNMENT

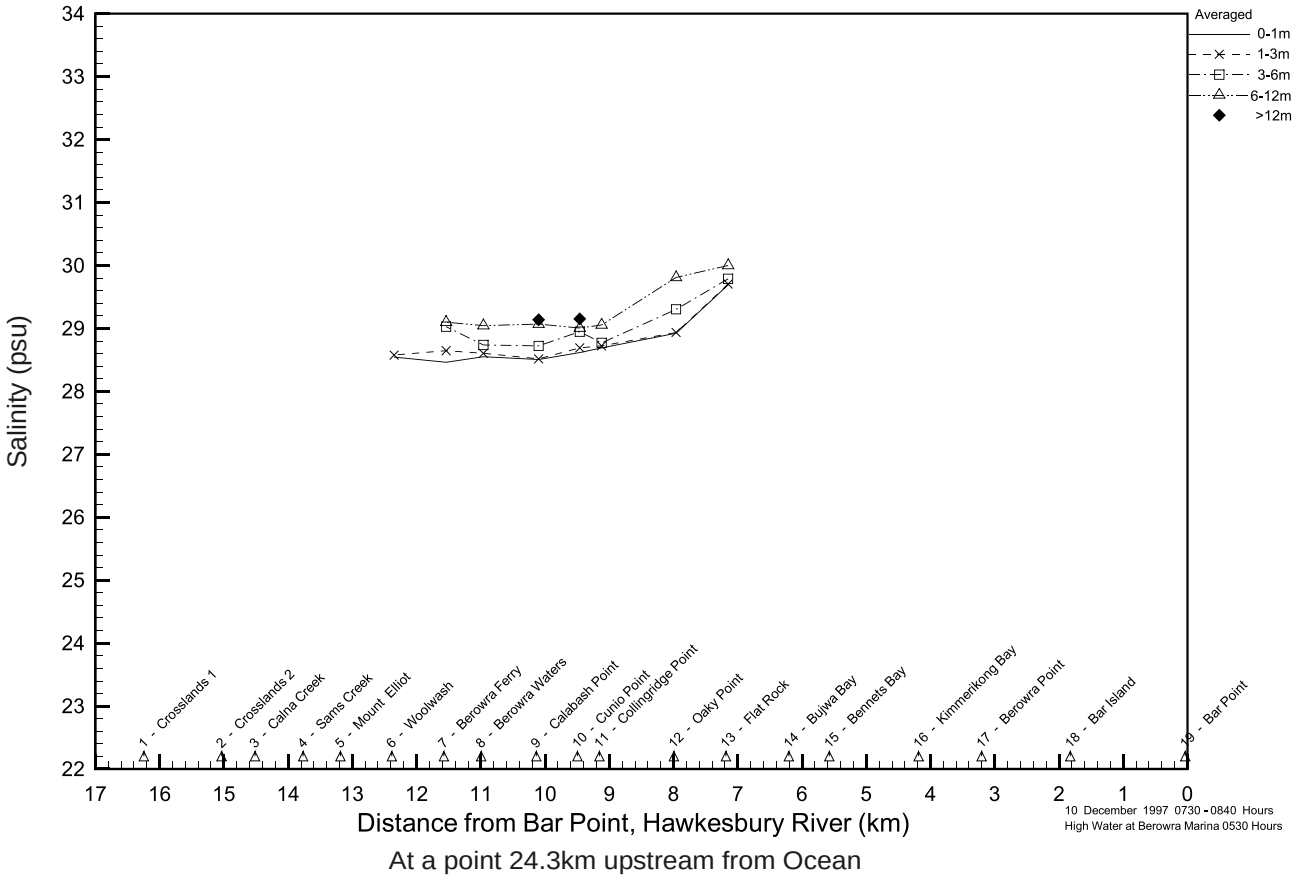
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEROWRA CREEK
2 DECEMBER 1997

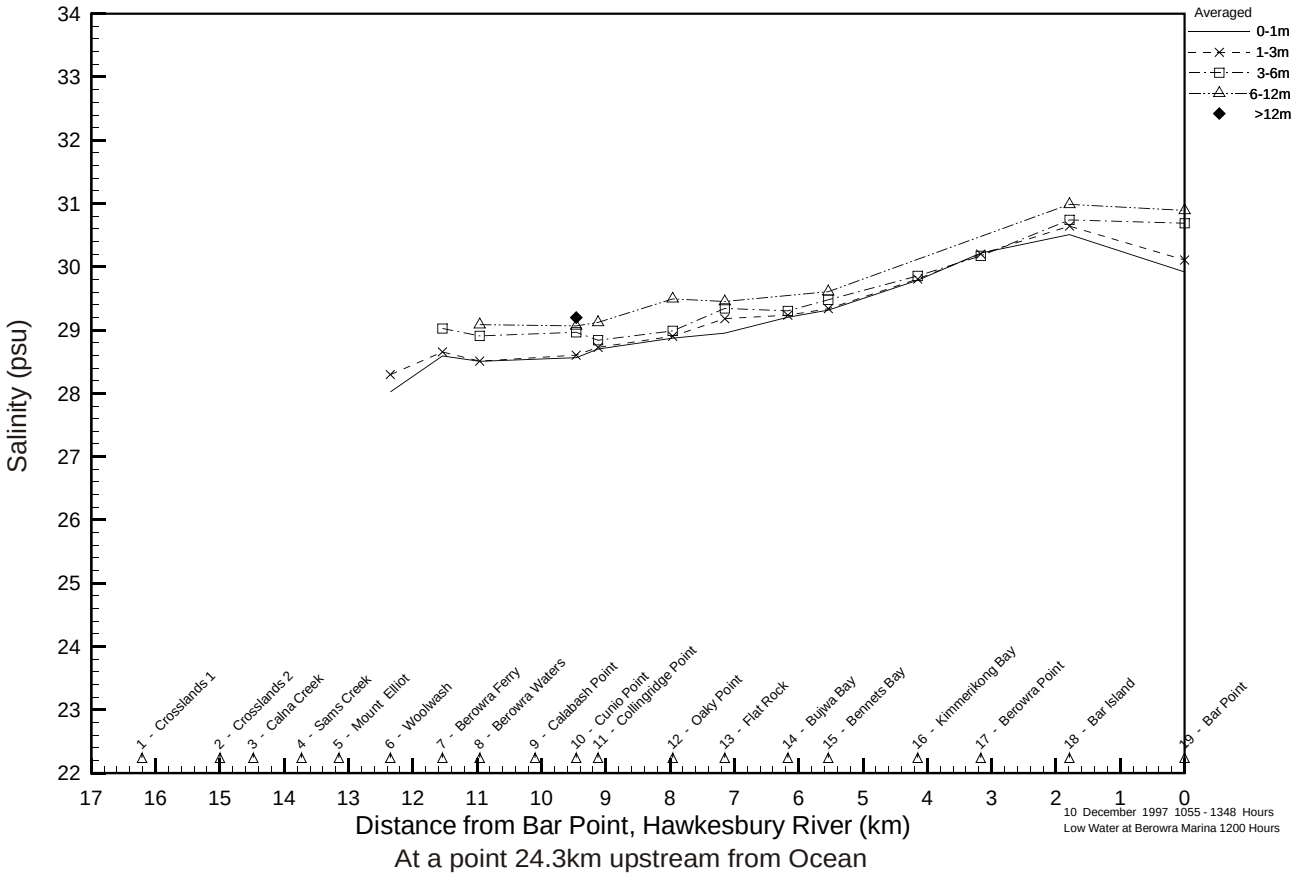
MHL Report 1812

Figure 197

DRAWING 1812-197.CDR



At a point 24.3km upstream from Ocean



At a point 24.3km upstream from Ocean

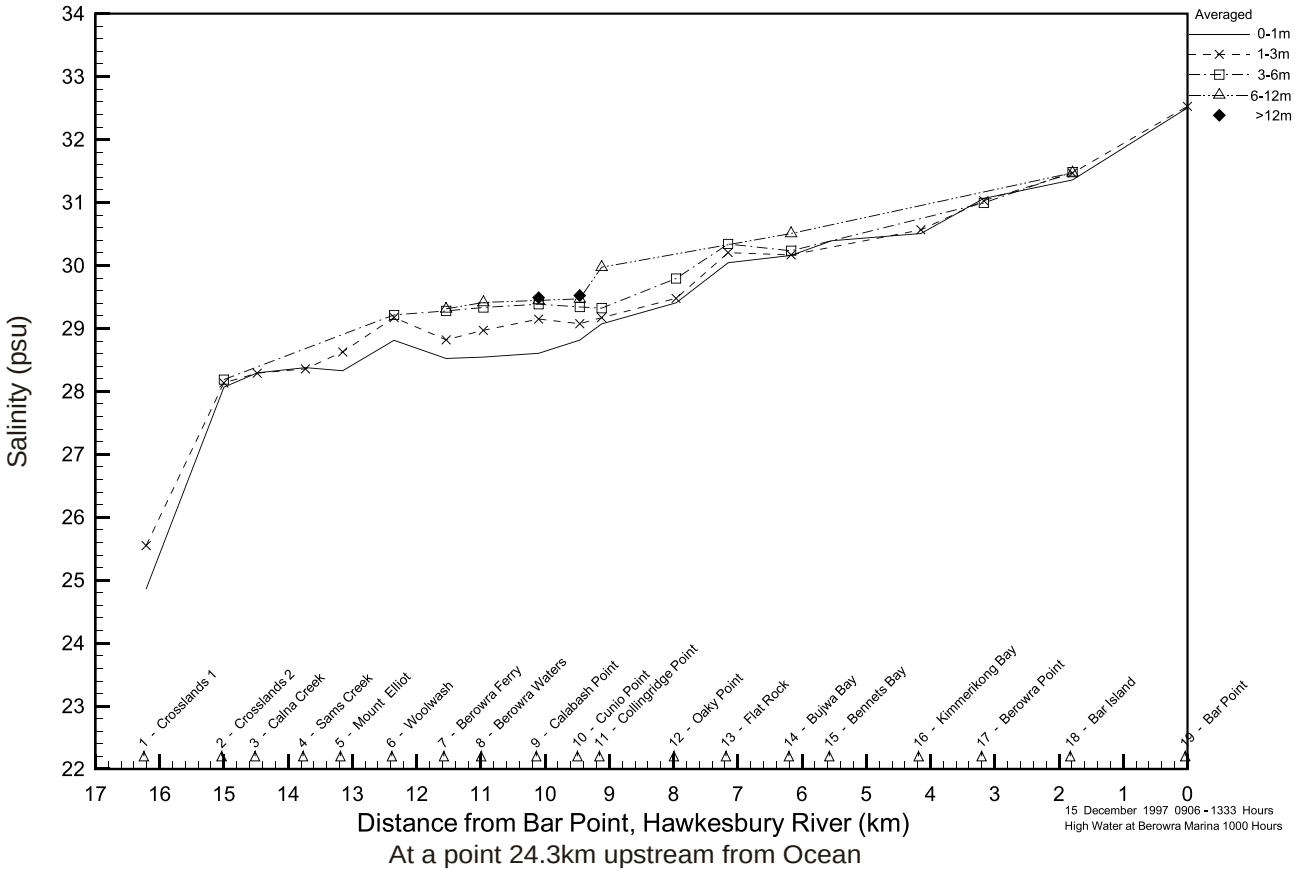
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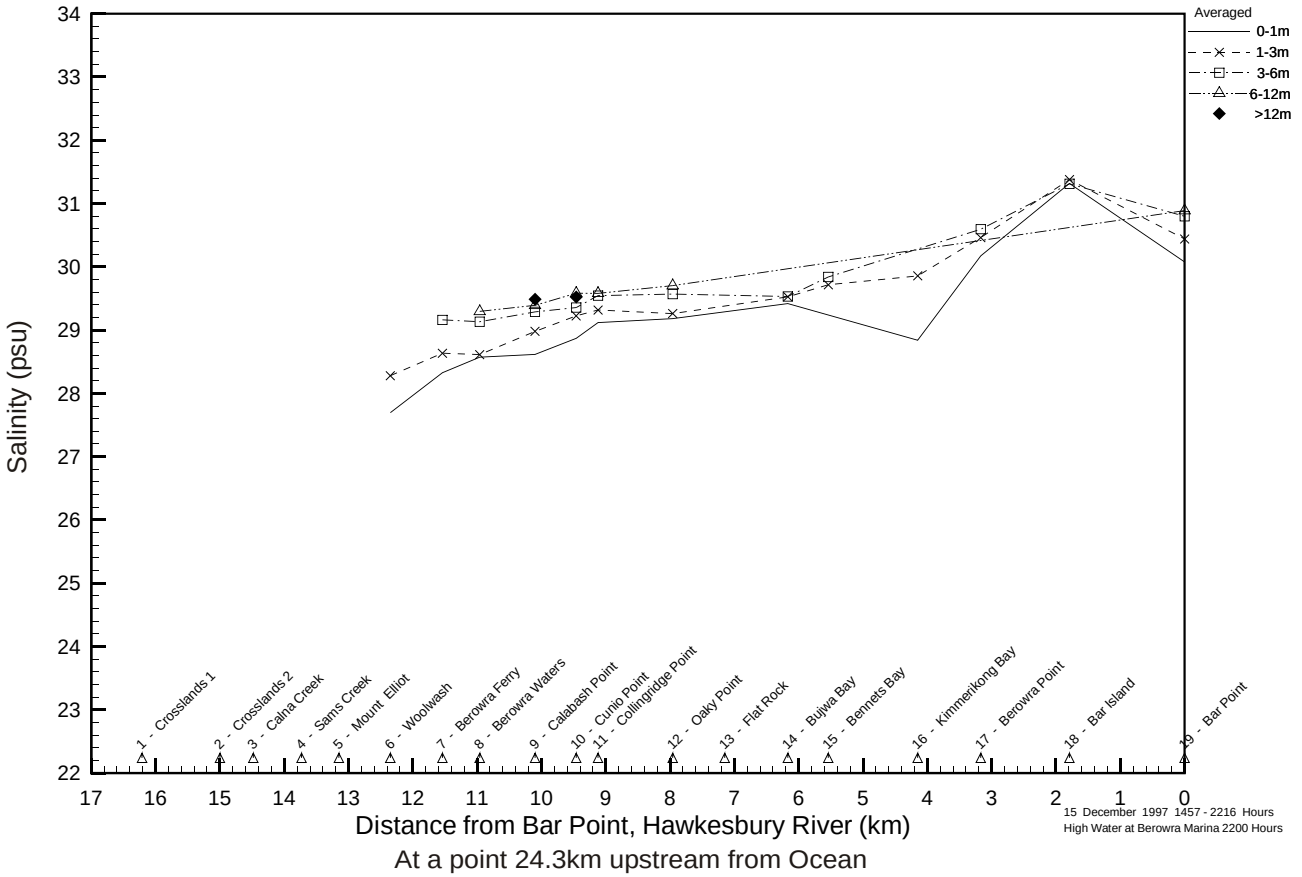
LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEROWRA CREEK
10 DECEMBER 1997

MHL Report 1812

Figure 198

DRAWING 1812-198.CDR





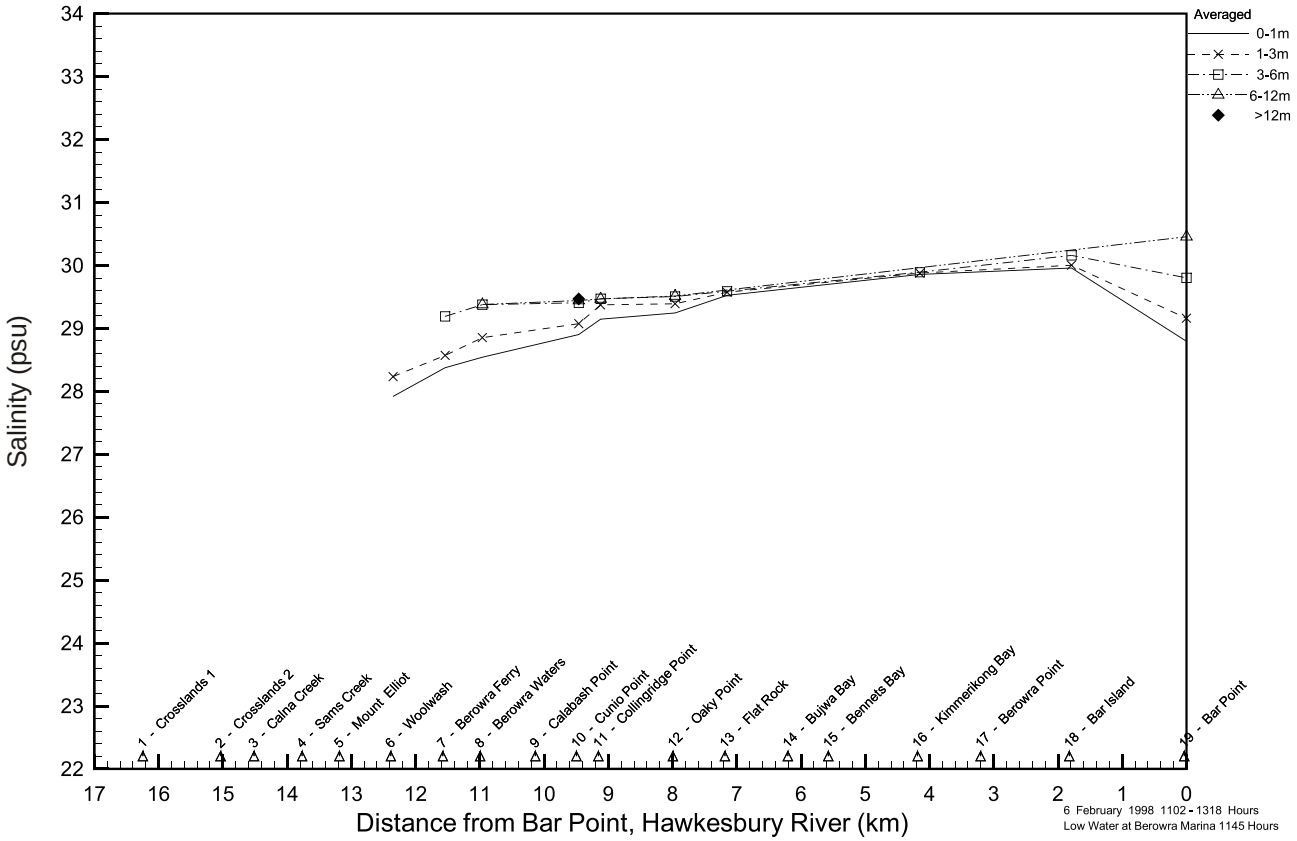
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEROWRA CREEK
15 DECEMBER 1997

MHL Report 1812

Figure 199

DRAWING 1812-199.CDR



At a point 24.3km upstream from Ocean

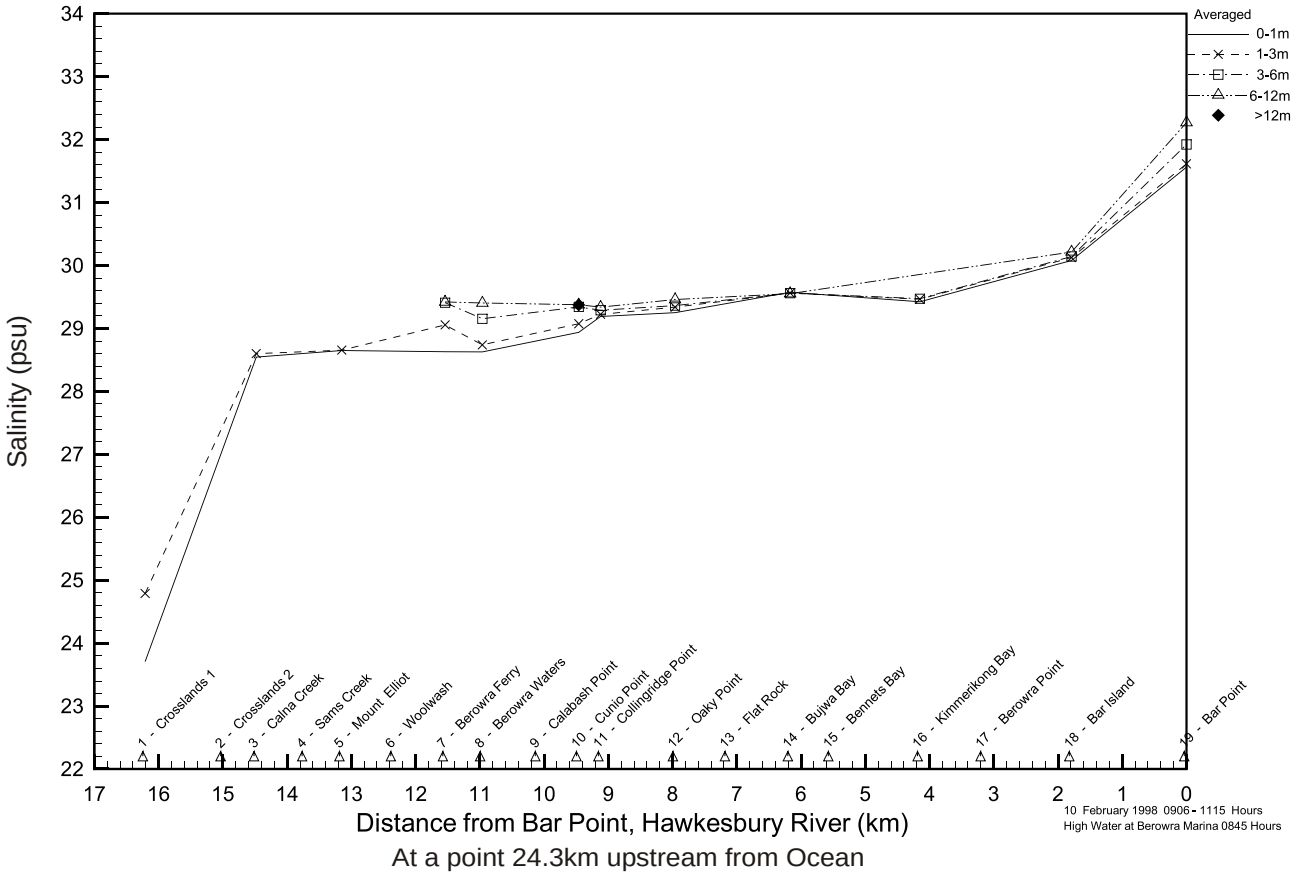
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEROWRA CREEK
6 FEBRUARY 1998

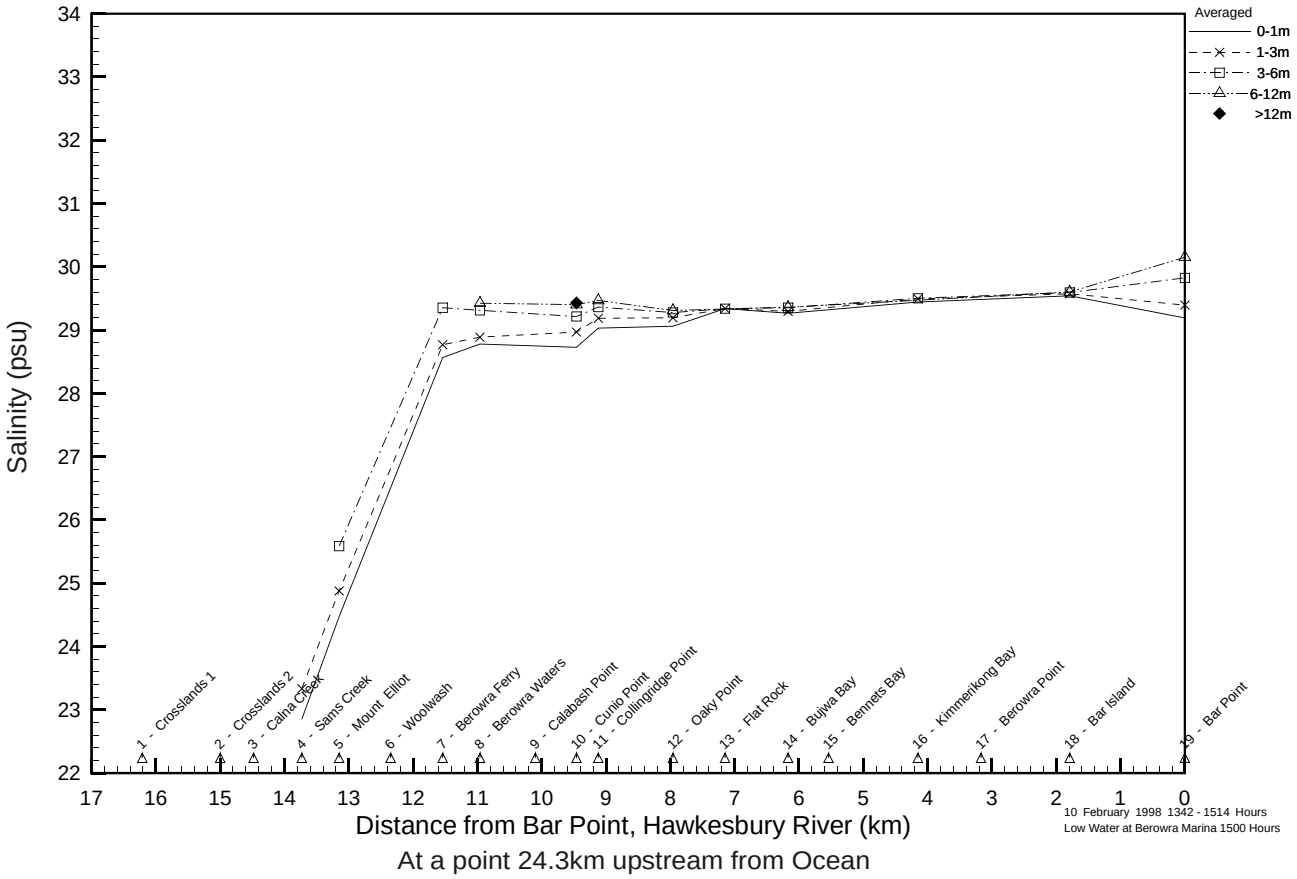
MHL Report 1812

Figure 200

DRAWING 1812-200.CDR



At a point 24.3km upstream from Ocean



At a point 24.3km upstream from Ocean

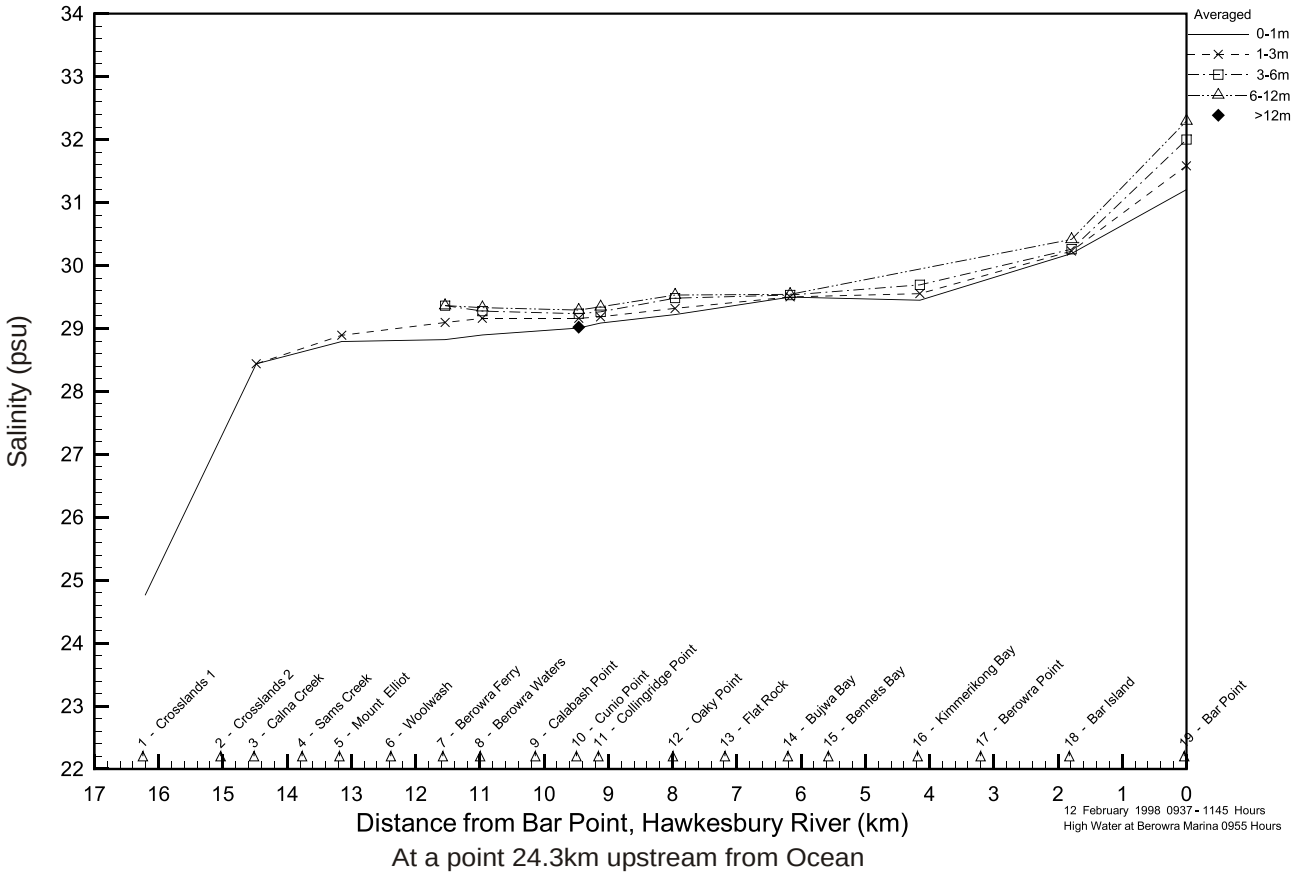
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEROWRA CREEK
10 FEBRUARY 1998

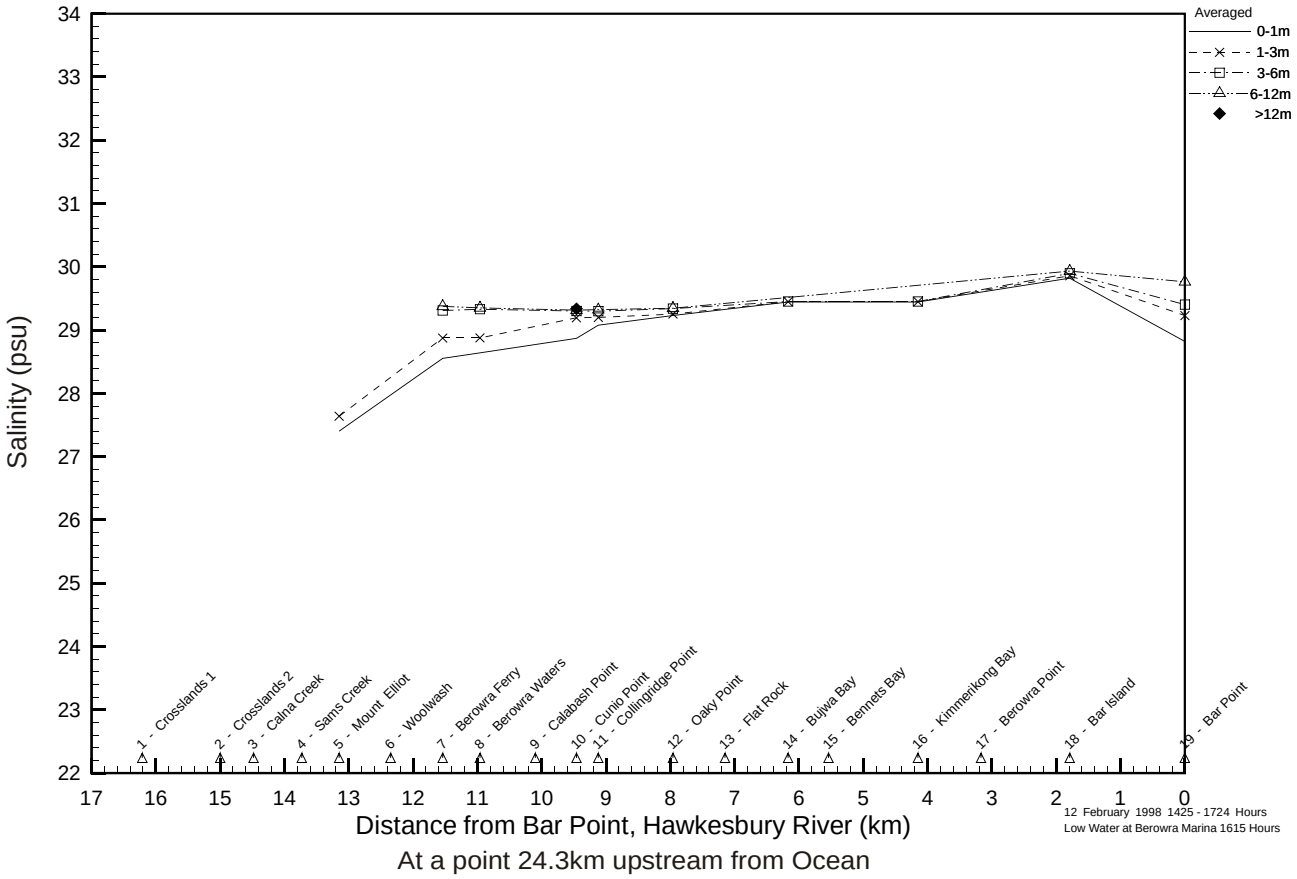
MHL Report 1812

Figure 201

DRAWING 1812-201.CDR



At a point 24.3km upstream from Ocean



At a point 24.3km upstream from Ocean

NSW GOVERNMENT

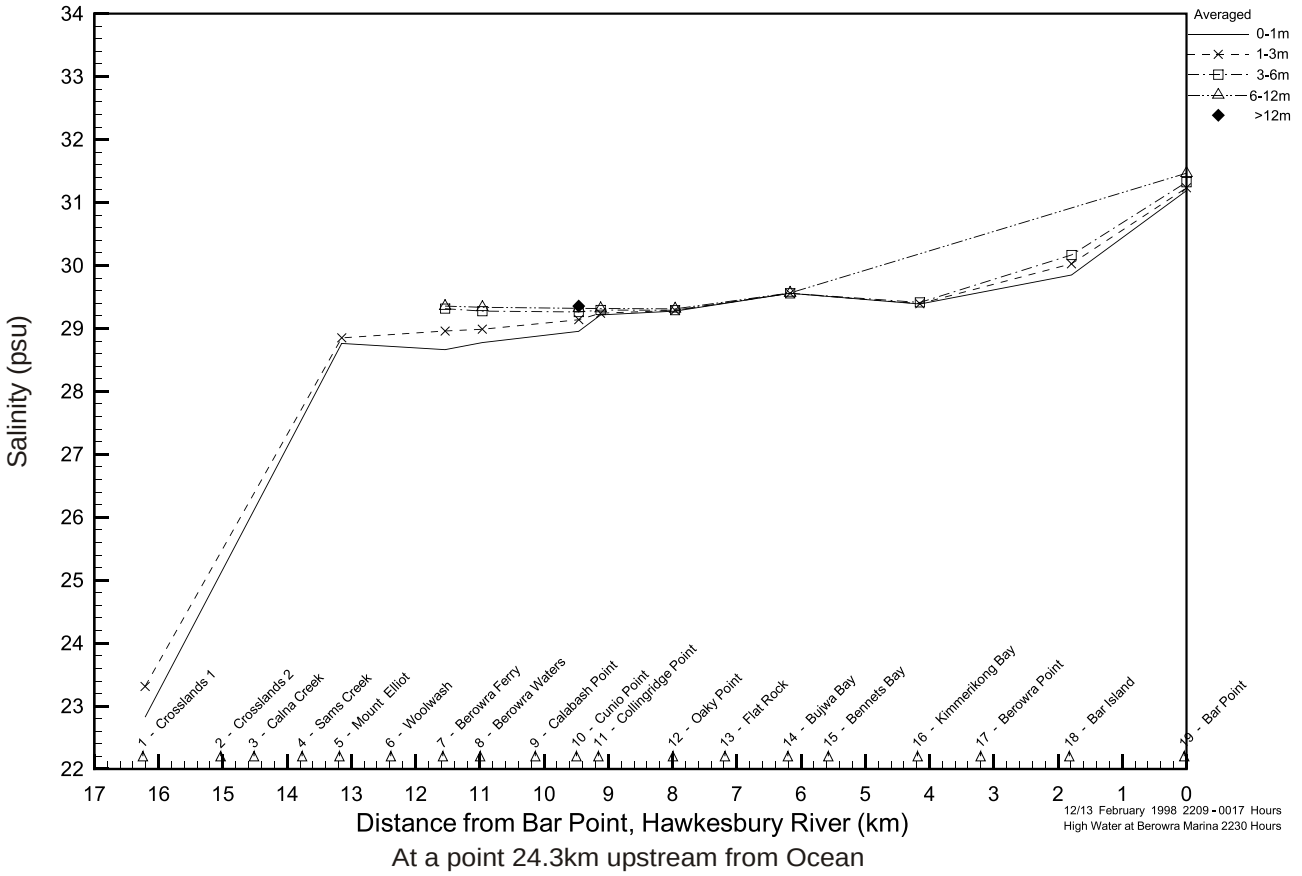
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEROWRA CREEK
12 FEBRUARY 1998

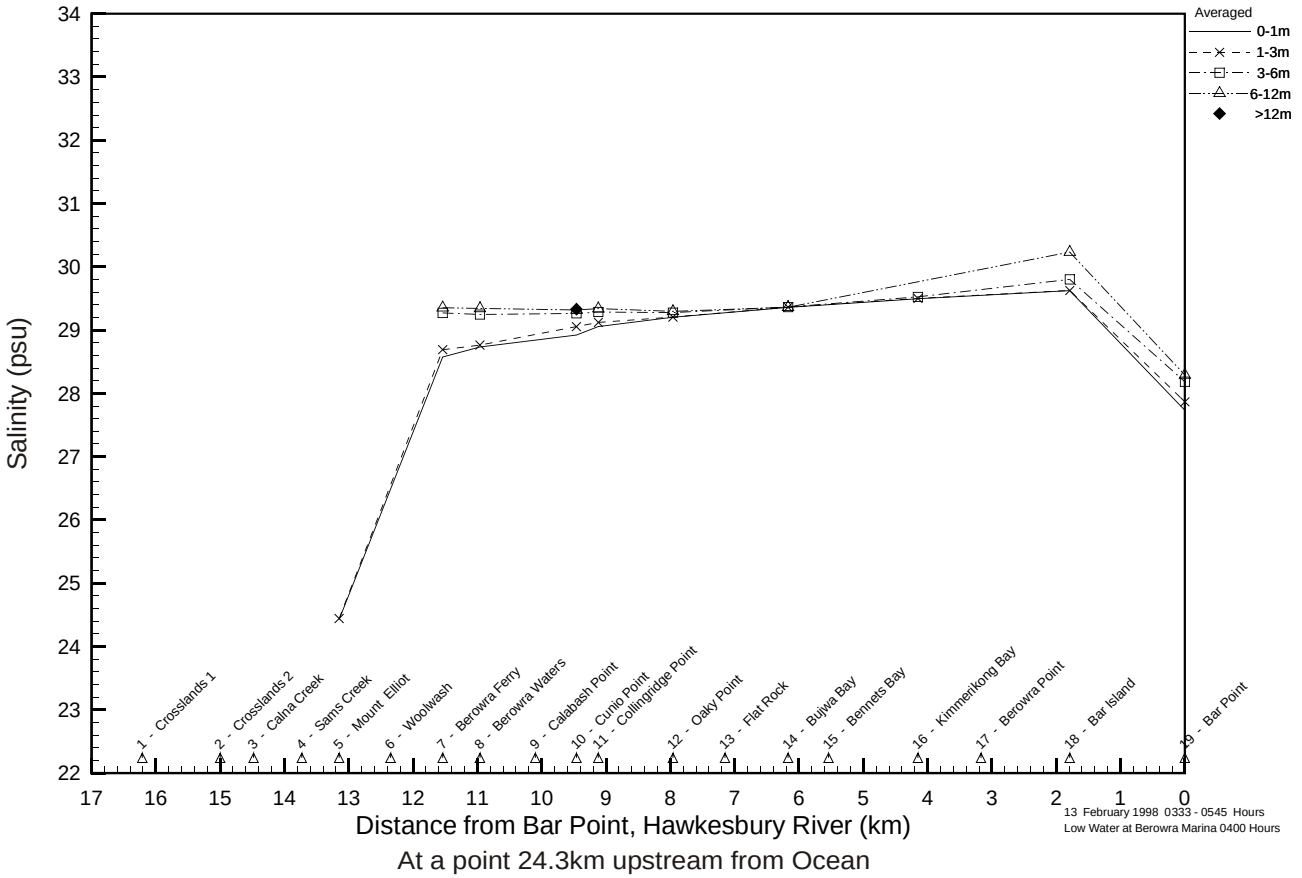
MHL Report 1812

Figure 202

DRAWING 1812-202.CDR



At a point 24.3km upstream from Ocean



At a point 24.3km upstream from Ocean

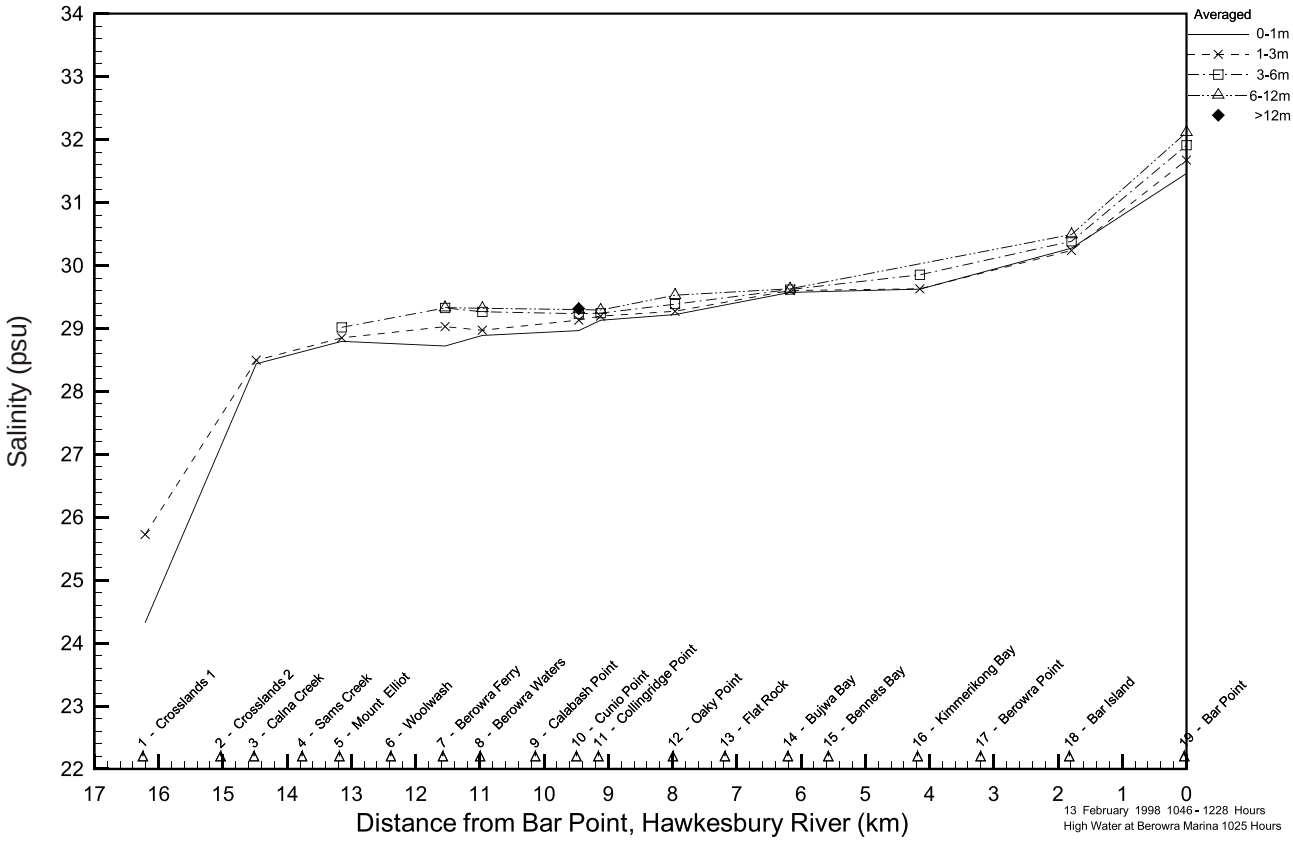
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEROWRA CREEK
12-13 FEBRUARY 1998

MHL Report 1812

Figure 203

DRAWING 1812-203.CDR



At a point 24.3km upstream from Ocean

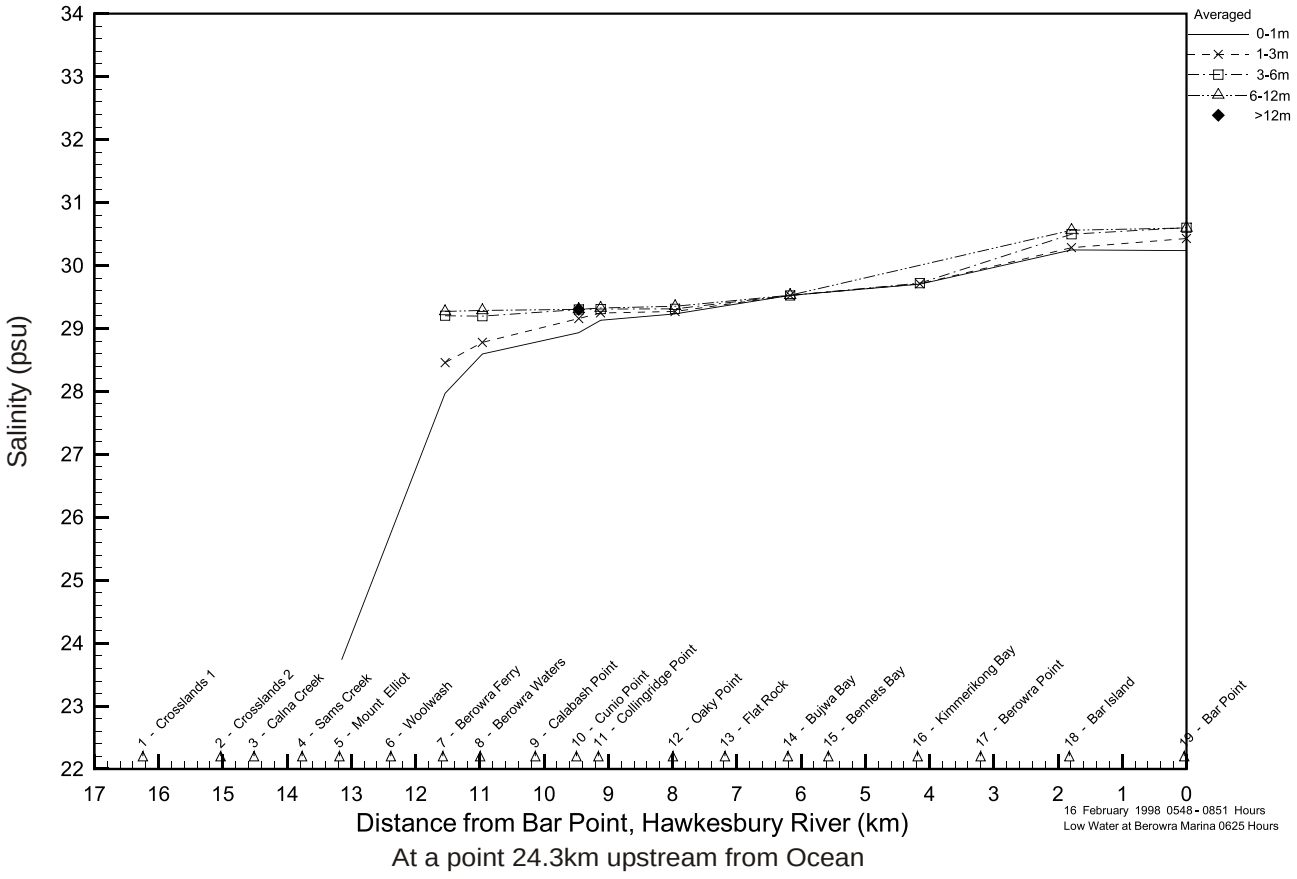
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEROWRA CREEK
13 FEBRUARY 1998

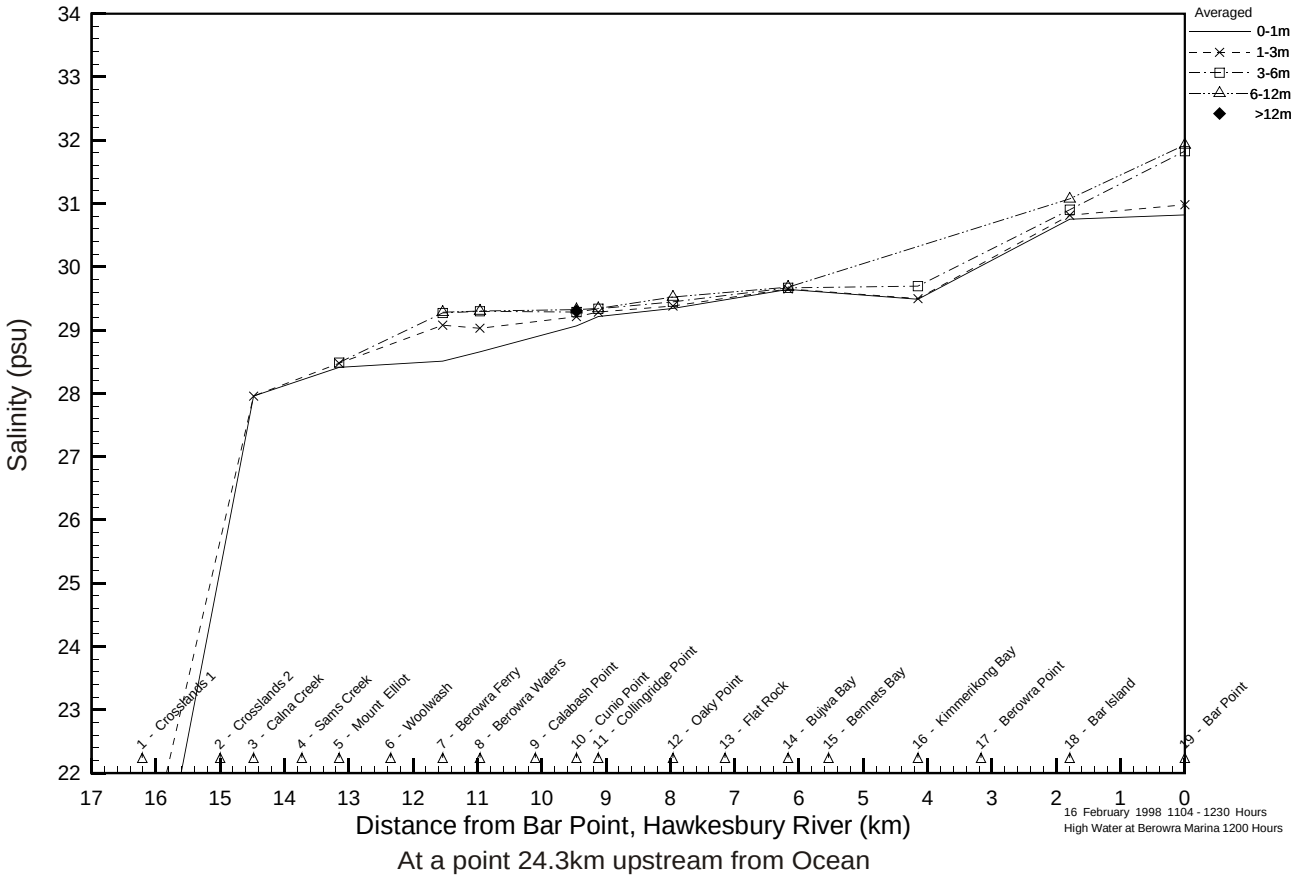
MHL Report 1812

Figure 204

DRAWING 1812-204.CDR



At a point 24.3km upstream from Ocean



At a point 24.3km upstream from Ocean

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEROWRA CREEK
16 FEBRUARY 1998

MHL Report 1812

Figure 205

DRAWING 1812-205.CDR

Port Jackson Data Summary

Data was collected in Port Jackson on 25 and 27 May and 2 and 4 June 1998, as detailed in report MHL943. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 267 to 269. Summaries of the minimum and maximum values for all parameters measured on the profiling runs are shown in Tables 270 to 275. The locations at which these profiles were taken are shown in Figures 206 to 208.

Long channel depth-averaged salinity profiles have not been plotted from this data because the variations in the minimum and maximum salinity were insignificant.

Table 267 Port Jackson - 25 May and 2 June 1998

Station No.	MGA (m) Zone 56		Chainage (km)	May Salinity (psu)	June Salinity (psu)
	Easting	Northing			
1	331675	6251217	2.53	31.99	33.41
2	331943	6251362	4.55	32.10	33.39
3	332138	6251556	6.93	31.67	33.33
4	332727	6251655	9.03	31.53	33.41
5	333363	6252537	10.36	32.35	33.58
6	335468	6252474	10.81	33.33	34.23
7	337972	6252300	11.10	34.08	34.40
8	339019	6253816	11.46	34.03	34.59

Table 268 Middle Harbour - 25 May and 2 June 1998

Station No.	MGA (m) Zone 56		Chainage (km)	May AM Salinity (psu)	May PM Salinity (psu)	June AM Salinity (psu)	June PM Salinity (psu)
	Easting	Northing					
9	339363	6256207	2.35	-	34.01	-	34.32
10	338545	6256728	3.38	-	33.41	-	34.21
11	338353	6257096	3.80	-	32.90	-	33.86
12	338219	6257296	4.04	-	33.69	-	33.96
13	337935	6258115	4.90	-	33.43	-	33.92
14	337370	6257994	5.76	-	33.11	-	33.32
15	336567	6257553	6.71	32.87	32.99	33.39	33.36
16	336576	6257043	7.24	-	33.06	33.41	33.42
17	336187	6256929	7.65	32.57	32.98	33.36	33.40
18	335790	6256700	8.12	32.29	33.00	33.38	33.45
19	335547	6256644	8.38	32.08	33.01	33.37	33.37
20	335390	6256580	8.55	30.94	32.51	33.14	33.26
21	336288	6258195	6.95	33.17	-	33.43	-
22	335616	6258136	7.64	32.92	-	33.38	-
23	335432	6257997	7.88	32.62	-	33.23	-
24	335327	6257940	8.01	-	-	33.23	-
51	335461	6256611	8.47	31.76	-	-	33.37
52	335363	6257952	7.96	32.15	-	-	33.06

Table 269 Spring Cove - 27 May and 4 June 1998

Station No.	MGA (m) Zone 56		Chainage (km)	May Salinity (psu)	June Salinity (psu)
	Easting	Northing			
31	341332	6257072	2.10	33.85	34.42
32	341423	6257175	2.20	33.88	34.27
33	341437	6257304	2.26	33.83	34.28
34	341482	6257398	2.35	33.88	34.19
35	341572	6257547	2.51	33.90	34.14
36	341585	6257611	2.57	33.95	34.24
37	341593	6257667	2.61	34.00	34.39
38	341645	6257751	2.71	33.74	34.18
39	341569	6257741	2.65	33.75	34.12
40	341546	6257685	2.60	33.78	34.06
41	341516	6257657	2.56	33.77	34.14
42	341423	6257637	2.48	34.03	34.05
43	341414	6257702	2.53	33.90	34.03
44	341413	6257775	2.60	33.86	33.91
45	341344	6257793	2.58	33.90	33.94
46	341322	6257673	2.46	34.12	34.07
47	341280	6257468	2.26	34.32	34.09
48	341632	6257585	2.58	33.94	34.05
49	341654	6257640	2.64	34.08	34.00
50	341700	6257707	2.72	33.76	33.73

Table 270 Port Jackson - Water Quality Maxima and Minima - 25 May 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1333	11.34	19.07	19.78	19.34	31.11	33.62	31.99	1022.03	1023.82	1022.66	68.1	78.2	74.7	8.1	8.1	8.1	3	12	4	943_C011
2	1401	12.90	18.76	19.86	19.23	30.82	33.79	32.10	1021.89	1023.94	1022.77	69.5	82.6	78.0	8.1	8.1	8.1	3	7	4	943_C012
3	1409	12.52	18.38	19.96	19.08	29.98	33.78	31.67	1021.35	1023.91	1022.48	72.9	83.1	79.5	8.1	8.1	8.1	3	7	4	943_C013
4	1425	13.30	18.50	20.01	19.05	30.23	33.79	31.53	1021.51	1023.91	1022.38	76.9	86.5	82.6	8.1	8.1	8.1	3	9	4	943_C014
5	1437	13.29	18.65	20.01	19.41	30.29	33.79	32.35	1021.52	1023.90	1022.92	81.8	85.9	83.8	8.1	8.2	8.1	3	5	4	943_C015
6	1450	10.89	19.17	20.21	19.77	31.81	34.21	33.33	1022.55	1024.16	1023.57	84.4	86.6	85.6	8.1	8.2	8.2	3	4	3	943_C016
7	1505	22.91	19.65	20.21	19.97	33.28	34.83	34.08	1023.55	1024.68	1024.12	86.4	88.0	87.4	8.2	8.2	8.2	2	4	3	943_C017
8	1519	23.33	19.53	20.16	19.78	33.55	34.72	34.03	1023.78	1024.61	1024.13	87.8	89.5	89.1	8.2	8.2	8.2	2	4	3	943_C018

Table 271 Middle Harbour - Water Quality Maxima and Minima - 25 May 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
20	0823	2.81	18.46	20.14	19.52	30.10	31.88	30.94	1021.41	1022.36	1021.80	13.2	52.1	41.2	7.6	7.8	7.7	2	22	7	943_C001
51	0914	4.54	18.79	20.18	19.72	30.53	32.46	31.76	1021.61	1022.80	1022.38	12.1	56.3	34.7	7.6	7.9	7.8	3	24	7	943_C002
19	0923	7.61	18.65	20.26	19.81	30.34	32.91	32.08	1021.52	1023.14	1022.60	30.0	68.0	56.2	7.8	8.1	7.9	2	5	3	943_C003
18	0933	11.77	18.15	20.20	19.60	30.09	33.31	32.29	1021.48	1023.47	1022.82	52.3	72.5	64.8	7.9	8.1	8.0	2	4	2	943_C004
17	0958	13.79	17.74	20.23	19.69	29.75	33.54	32.57	1021.32	1023.65	1023.02	45.6	75.2	66.3	7.9	8.1	8.0	2	4	2	943_C005
15	1036	19.61	18.47	20.40	19.76	30.28	33.94	32.87	1021.55	1023.95	1023.24	50.5	79.7	69.0	8.0	8.1	8.1	2	4	3	943_C006
52	1147	6.85	18.68	20.03	19.52	31.03	33.17	32.15	1022.07	1023.40	1022.73	61.3	77.4	71.5	8.0	8.1	8.0	3	4	3	943_C007
23	1211	11.18	18.73	20.06	19.77	30.96	33.35	32.62	1021.99	1023.54	1023.03	62.0	79.4	70.2	8.0	8.1	8.0	2	3	3	943_C008
22	1223	17.69	18.79	20.18	19.84	31.06	33.77	32.92	1022.07	1023.85	1023.26	55.1	78.2	68.7	8.0	8.1	8.0	2	4	3	943_C009
21	1241	23.63	18.54	20.52	19.90	29.89	33.97	33.17	1021.23	1024.02	1023.45	51.1	81.4	65.9	8.0	8.1	8.0	2	4	2	943_C010
9	1534	9.87	19.33	20.32	19.59	33.51	35.06	34.01	1023.81	1024.80	1024.14	89.8	92.5	91.0	8.2	8.2	8.2	2	4	2	943_C019
10	1545	10.65	18.98	19.87	19.52	32.08	34.11	33.41	1022.79	1024.17	1023.70	85.2	89.9	88.2	8.1	8.2	8.1	2	3	2	943_C020
11	1555	9.99	18.96	19.57	19.42	32.11	33.29	32.90	1022.82	1023.62	1023.33	80.2	87.3	84.9	8.1	8.2	8.1	2	3	2	943_C021
12	1605	25.24	19.07	19.91	19.65	32.26	34.22	33.69	1022.92	1024.30	1023.92	82.5	88.7	87.0	8.1	8.2	8.2	2	10	3	943_C022
13	1616	22.90	19.04	19.77	19.57	32.06	33.98	33.43	1022.77	1024.15	1023.73	81.0	84.9	83.4	8.1	8.2	8.1	2	5	3	943_C023
14	1628	22.81	18.45	20.36	19.74	30.56	33.93	33.11	1021.77	1023.96	1023.44	51.6	84.3	68.7	8.0	8.1	8.0	2	4	3	943_C024
15	1639	19.41	19.23	20.22	19.78	31.59	33.80	32.99	1022.37	1023.88	1023.33	47.4	78.1	68.3	7.9	8.1	8.0	2	4	3	943_C025
16	1648	17.08	19.50	20.25	19.95	31.61	33.91	33.06	1022.30	1023.94	1023.34	46.9	74.0	64.1	7.9	8.0	8.0	2	6	3	943_C026
17	1656	14.50	19.69	20.20	19.97	31.61	33.79	32.98	1022.24	1023.86	1023.26	42.1	69.3	59.1	7.9	8.0	8.0	2	6	3	943_C027
18	1705	11.33	19.65	20.21	19.98	32.05	33.59	33.00	1022.61	1023.69	1023.27	41.1	68.9	61.1	7.7	8.0	8.0	0	47	3	943_C028
19	1712	7.81	19.91	20.23	20.14	31.69	33.34	33.01	1022.22	1023.47	1023.23	42.0	67.2	54.8	7.9	8.0	7.9	2	4	3	943_C029
20	1719	2.56	19.99	20.16	20.03	32.24	33.02	32.51	1022.66	1023.23	1022.86	44.2	57.0	50.7	7.8	8.0	7.9	3	9	6	943_C030

Table 272 Spring Cove - Water Quality Maxima and Minima - 27 May 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
31	0818	4.60	18.50	18.67	18.63	33.80	33.87	33.85	1024.23	1024.28	1024.25	92.5	95.5	94.4	8.1	8.1	8.1	3	3	3	943_C031
32	0826	3.01	18.56	18.70	18.65	33.85	33.90	33.88	1024.24	1024.29	1024.26	93.2	94.7	94.1	8.2	8.2	8.2	2	3	3	943_C032
33	0845	4.18	18.55	18.61	18.58	33.81	33.86	33.83	1024.24	1024.26	1024.25	94.6	96.6	95.4	8.2	8.2	8.2	3	3	3	943_C033
34	0905	7.17	18.51	19.14	18.60	33.82	34.31	33.88	1024.25	1024.51	1024.28	93.3	95.4	94.4	8.2	8.2	8.2	3	4	3	943_C034
35	0913	7.75	18.52	19.28	18.65	33.81	34.40	33.90	1024.22	1024.60	1024.28	93.7	96.3	94.7	8.2	8.2	8.2	2	3	3	943_C035
36	0920	10.14	18.52	19.79	18.76	33.79	34.47	33.95	1024.22	1024.52	1024.30	90.1	94.1	92.0	8.2	8.2	8.2	2	4	3	943_C036
37	0936	10.85	18.32	20.29	18.75	33.73	35.02	34.00	1024.21	1024.77	1024.34	71.2	95.4	92.5	8.2	8.2	8.2	2	6	3	943_C037
38	1004	5.04	17.78	18.47	18.38	33.45	33.78	33.74	1024.12	1024.31	1024.23	90.4	95.8	93.8	8.2	8.2	8.2	3	3	3	943_C038
39	1018	6.15	17.98	18.65	18.31	33.63	33.84	33.75	1024.18	1024.38	1024.26	89.1	94.1	91.8	8.1	8.2	8.1	3	5	4	943_C039
40	1039	2.92	18.22	18.76	18.59	33.61	33.84	33.78	1024.12	1024.24	1024.20	85.1	95.9	94.1	8.2	8.2	8.2	2	3	3	943_C040
41	1104	5.07	18.21	18.64	18.44	33.69	34.06	33.77	1024.18	1024.44	1024.24	89.0	94.5	91.6	8.1	8.2	8.2	2	4	3	943_C041
42	1128	6.31	18.80	19.92	19.06	33.85	34.71	34.03	1024.17	1024.59	1024.28	93.9	96.0	95.0	8.1	8.2	8.2	2	3	3	943_C042
43	1149	4.93	18.81	19.07	18.94	33.82	34.09	33.90	1024.13	1024.34	1024.21	92.1	98.4	95.8	8.2	8.2	8.2	2	3	3	943_C043
44	1210	3.67	18.89	19.11	19.00	33.82	34.01	33.86	1024.10	1024.31	1024.16	95.5	103.0	98.7	8.2	8.2	8.2	2	3	2	943_C044
45	1220	4.75	18.56	19.20	18.94	33.68	34.16	33.90	1024.09	1024.48	1024.21	93.1	97.8	94.5	8.1	8.2	8.1	2	3	3	943_C045
46	1233	8.12	18.71	20.43	19.27	33.78	34.90	34.12	1024.09	1024.71	1024.30	91.8	95.1	93.5	8.2	8.2	8.2	2	4	3	943_C046
47	1245	9.90	18.45	21.11	19.52	33.71	35.25	34.32	1024.11	1024.72	1024.39	93.3	105.3	95.4	8.2	8.2	8.2	2	3	3	943_C047
48	1312	4.89	18.74	19.74	18.95	33.73	34.54	33.94	1024.10	1024.60	1024.24	95.8	99.3	97.8	8.1	8.2	8.2	3	4	3	943_C048
49	1322	6.56	18.40	20.14	19.14	33.61	34.69	34.08	1024.07	1024.56	1024.30	92.8	99.4	96.0	8.1	8.2	8.1	2	4	3	943_C049
50	1331	1.97	18.72	18.95	18.86	33.57	33.88	33.76	1023.95	1024.25	1024.12	98.6	109.7	105.0	8.2	8.2	8.2	2	3	3	943_C050

Table 273 Port Jackson - Water Quality Maxima and Minima - 2 June 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1041	12.56	19.00	19.64	19.39	32.53	34.01	33.41	1023.14	1024.16	1023.74	72.6	108.0	83.6	8.1	8.2	8.1	2	9	5	943_C061
2	1057	13.18	18.95	19.74	19.36	32.46	34.18	33.39	1023.09	1024.27	1023.73	76.4	109.5	87.6	8.1	8.2	8.1	3	6	4	943_C062
3	1104	13.23	18.90	19.73	19.32	32.34	34.21	33.33	1023.02	1024.30	1023.70	78.1	109.8	90.1	8.1	8.2	8.1	3	6	4	943_C063
4	1125	12.70	18.73	19.77	19.35	31.59	34.27	33.41	1022.49	1024.34	1023.75	77.5	108.3	85.7	8.1	8.2	8.1	3	9	4	943_C064
5	1136	13.59	18.87	19.81	19.41	32.41	34.29	33.58	1023.08	1024.36	1023.87	82.6	90.7	85.9	8.1	8.1	8.1	3	4	3	943_C065
6	1146	18.13	19.36	20.09	19.74	33.69	34.76	34.23	1023.94	1024.64	1024.28	82.6	89.7	85.4	8.1	8.1	8.1	3	5	3	943_C066
7	1157	24.18	19.37	20.14	19.78	33.60	34.98	34.40	1023.87	1024.82	1024.41	85.6	90.4	87.8	8.1	8.2	8.1	2	3	3	943_C067
8	1208	28.92	19.36	20.18	19.86	33.75	35.19	34.59	1023.98	1024.99	1024.55	81.0	92.3	87.4	8.1	8.2	8.1	2	5	3	943_C068

Table 274 Middle Harbour - Water Quality Maxima and Minima - 2 June 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
20	0751	1.61	19.76	19.81	19.79	33.05	33.23	33.14	1023.34	1023.47	1023.40	45.9	49.0	47.5	7.8	7.8	7.8	4	4	4	943_C051
19	0809	7.45	19.54	19.85	19.71	32.69	33.50	33.37	1023.16	1023.77	1023.62	37.8	65.8	49.7	7.8	7.9	7.9	3	5	4	943_C052
18	0817	10.18	19.30	19.71	19.53	32.94	33.51	33.38	1023.36	1023.84	1023.67	54.4	74.5	61.8	7.9	8.0	7.9	2	5	3	943_C053
17	0838	13.69	19.22	19.43	19.32	32.87	33.54	33.36	1023.33	1023.91	1023.72	66.5	74.5	71.0	8.0	8.0	8.0	2	4	3	943_C054
16	0846	18.54	19.13	19.42	19.25	32.78	33.60	33.41	1023.28	1023.98	1023.79	67.7	80.5	75.2	8.0	8.1	8.0	2	4	3	943_C055
15	0904	13.09	19.17	19.33	19.23	33.23	33.54	33.39	1023.61	1023.91	1023.76	69.8	77.4	73.9	8.0	8.1	8.0	2	3	2	943_C056
24	0916	6.28	18.73	19.38	19.13	33.05	33.40	33.23	1023.56	1023.74	1023.65	59.8	78.4	71.0	8.0	8.0	8.0	2	3	3	943_C057
23	0931	5.38	18.90	19.37	19.17	33.08	33.37	33.23	1023.58	1023.71	1023.64	67.0	81.9	75.2	8.0	8.0	8.0	2	3	2	943_C058
22	0939	13.65	19.01	19.41	19.29	33.11	33.58	33.38	1023.58	1023.89	1023.74	68.5	83.2	73.4	8.0	8.0	8.0	2	3	2	943_C059
21	0956	20.81	19.01	19.40	19.23	32.95	33.67	33.43	1023.45	1024.03	1023.81	72.8	88.6	79.2	8.0	8.1	8.0	2	3	2	943_C060
9	1222	9.70	19.46	20.30	19.68	34.01	35.14	34.32	1024.16	1024.83	1024.35	83.0	90.9	89.3	8.1	8.1	8.1	3	3	3	943_C069
10	1230	4.52	19.38	19.88	19.62	33.88	34.52	34.21	1024.08	1024.45	1024.27	88.2	89.5	88.7	8.1	8.1	8.1	3	3	3	943_C070
11	1236	4.05	19.25	19.51	19.42	33.49	34.05	33.86	1023.81	1024.18	1024.05	83.9	87.9	86.3	8.1	8.1	8.1	3	3	3	943_C071
12	1241	22.95	19.24	19.66	19.48	33.48	34.25	33.96	1023.81	1024.38	1024.15	82.1	85.8	83.9	8.0	8.1	8.1	3	6	3	943_C072
13	1253	23.03	19.19	19.54	19.45	33.35	34.12	33.92	1023.72	1024.31	1024.13	81.0	85.0	83.4	8.0	8.1	8.1	3	6	3	943_C073
14	1305	13.85	19.13	19.31	19.22	33.02	33.48	33.32	1023.48	1023.87	1023.71	71.5	88.4	79.6	8.0	8.1	8.0	3	4	3	943_C074
15	1313	12.91	19.18	19.40	19.26	33.02	33.54	33.36	1023.45	1023.90	1023.74	69.0	77.0	73.1	8.0	8.0	8.0	3	4	3	943_C075
16	1321	17.80	19.13	19.35	19.25	32.73	33.57	33.42	1023.23	1023.95	1023.79	68.0	85.7	73.6	8.0	8.1	8.0	3	4	3	943_C076
17	1329	14.61	19.20	19.51	19.32	31.96	33.57	33.40	1022.64	1023.94	1023.75	61.1	76.1	70.8	8.0	8.1	8.0	3	5	3	943_C077
18	1337	10.17	19.29	19.75	19.52	32.98	33.51	33.45	1023.35	1023.86	1023.73	55.5	70.3	60.9	7.9	8.0	8.0	3	7	4	943_C078
19	1343	7.42	19.42	19.78	19.66	32.89	33.50	33.37	1023.24	1023.80	1023.63	44.7	59.7	54.4	7.9	8.0	7.9	3	5	4	943_C079
20	1353	2.33	19.68	19.85	19.82	32.78	33.39	33.26	1023.16	1023.58	1023.49	42.4	56.3	51.0	7.9	7.9	7.9	4	7	5	943_C080
51	1358	3.72	19.76	19.88	19.82	32.77	33.49	33.37	1023.13	1023.67	1023.57	30.9	45.6	38.0	7.8	7.9	7.8	4	6	4	943_C081
52	1442	7.00	18.91	19.12	19.04	32.82	33.16	33.06	1023.38	1023.62	1023.55	75.5	83.6	80.2	8.0	8.0	8.0	3	3	3	943_C082

Table 275 Spring Cove - Water Quality Maxima and Minima - 4 June 1998

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
31	0916	8.11	19.08	20.07	19.36	34.19	35.13	34.42	1024.39	1024.93	1024.50	86.9	91.2	89.9	8.1	8.1	8.1	3	5	3	943_C083
32	0927	4.41	19.10	19.45	19.23	34.18	34.40	34.27	1024.38	1024.47	1024.42	88.3	89.8	89.3	8.2	8.2	8.2	3	3	3	943_C084
33	0945	4.84	19.14	19.47	19.27	34.20	34.40	34.28	1024.37	1024.48	1024.42	88.8	91.6	90.6	8.2	8.2	8.2	3	3	3	943_C085
34	1001	6.99	19.04	19.31	19.12	34.11	34.37	34.19	1024.32	1024.49	1024.39	90.0	92.0	91.1	8.1	8.2	8.2	3	3	3	943_C086
35	1008	7.00	18.94	19.62	19.06	33.90	34.63	34.14	1024.19	1024.72	1024.37	87.9	91.9	90.1	8.1	8.2	8.1	3	4	3	943_C087
36	1017	8.35	18.88	19.94	19.17	33.83	34.86	34.24	1024.16	1024.73	1024.42	86.8	91.7	90.2	8.1	8.2	8.1	3	3	3	943_C088
37	1024	10.10	18.91	20.15	19.36	33.91	35.04	34.39	1024.21	1024.84	1024.49	83.2	92.0	89.8	8.1	8.2	8.1	3	9	3	943_C089
38	1038	7.34	18.90	19.42	19.16	33.96	34.43	34.18	1024.24	1024.52	1024.38	89.2	92.0	91.0	8.1	8.2	8.2	3	4	3	943_C090
39	1045	4.93	18.87	19.27	19.15	33.51	34.27	34.12	1023.90	1024.43	1024.32	89.6	91.4	90.5	8.1	8.2	8.1	3	5	3	943_C091
40	1057	4.45	18.86	19.19	19.05	33.77	34.23	34.06	1024.12	1024.41	1024.31	90.5	91.4	90.8	8.1	8.2	8.1	3	3	3	943_C092
41	1121	5.53	18.99	19.18	19.10	34.02	34.22	34.14	1024.28	1024.41	1024.35	91.4	92.6	91.9	8.1	8.2	8.2	3	4	3	943_C093
42	1146	4.59	18.82	19.09	18.96	33.88	34.17	34.05	1024.22	1024.38	1024.32	92.2	93.9	93.1	8.2	8.2	8.2	3	3	3	943_C094
43	1209	7.01	18.83	19.14	18.94	33.88	34.19	34.03	1024.22	1024.42	1024.31	92.7	95.7	95.0	8.2	8.2	8.2	3	4	3	943_C095
44	1228	4.01	18.79	19.05	18.90	33.68	34.12	33.91	1024.07	1024.35	1024.23	91.5	95.4	93.9	8.1	8.2	8.2	3	4	3	943_C096
45	1234	4.99	18.73	19.05	18.91	33.54	34.14	33.94	1023.98	1024.37	1024.25	93.8	95.4	94.7	8.1	8.2	8.1	3	50	4	943_C097
46	1253	8.80	18.99	19.10	19.01	34.05	34.22	34.07	1024.31	1024.45	1024.33	92.2	96.7	96.1	8.2	8.2	8.2	3	3	3	943_C098
47	1302	10.36	19.01	19.28	19.03	34.07	34.44	34.09	1024.31	1024.58	1024.35	94.3	95.8	95.3	8.2	8.2	8.2	3	4	3	943_C099
48	1325	6.33	18.89	19.16	18.99	33.82	34.24	34.05	1024.15	1024.44	1024.32	92.8	96.6	95.6	8.2	8.2	8.2	3	3	3	943_C100
49	1331	5.78	18.92	19.24	18.98	33.70	34.24	34.00	1024.04	1024.43	1024.28	91.4	95.6	94.6	8.1	8.2	8.1	3	5	3	943_C101
50	1337	2.36	18.97	19.04	19.00	33.42	33.98	33.73	1023.81	1024.25	1024.06	91.5	92.4	91.9	8.1	8.1	8.1	3	4	3	943_C102

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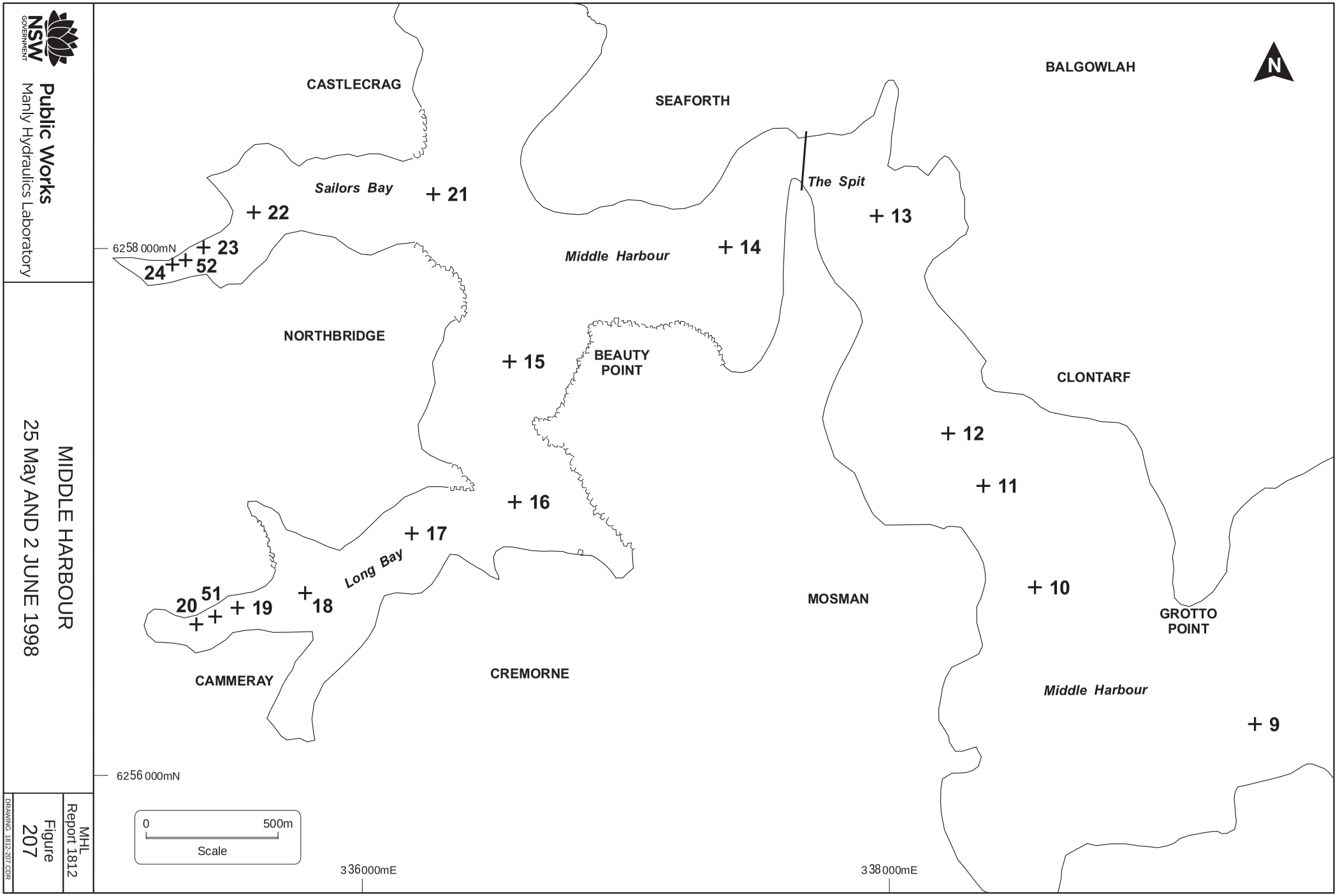
PORT JACKSON

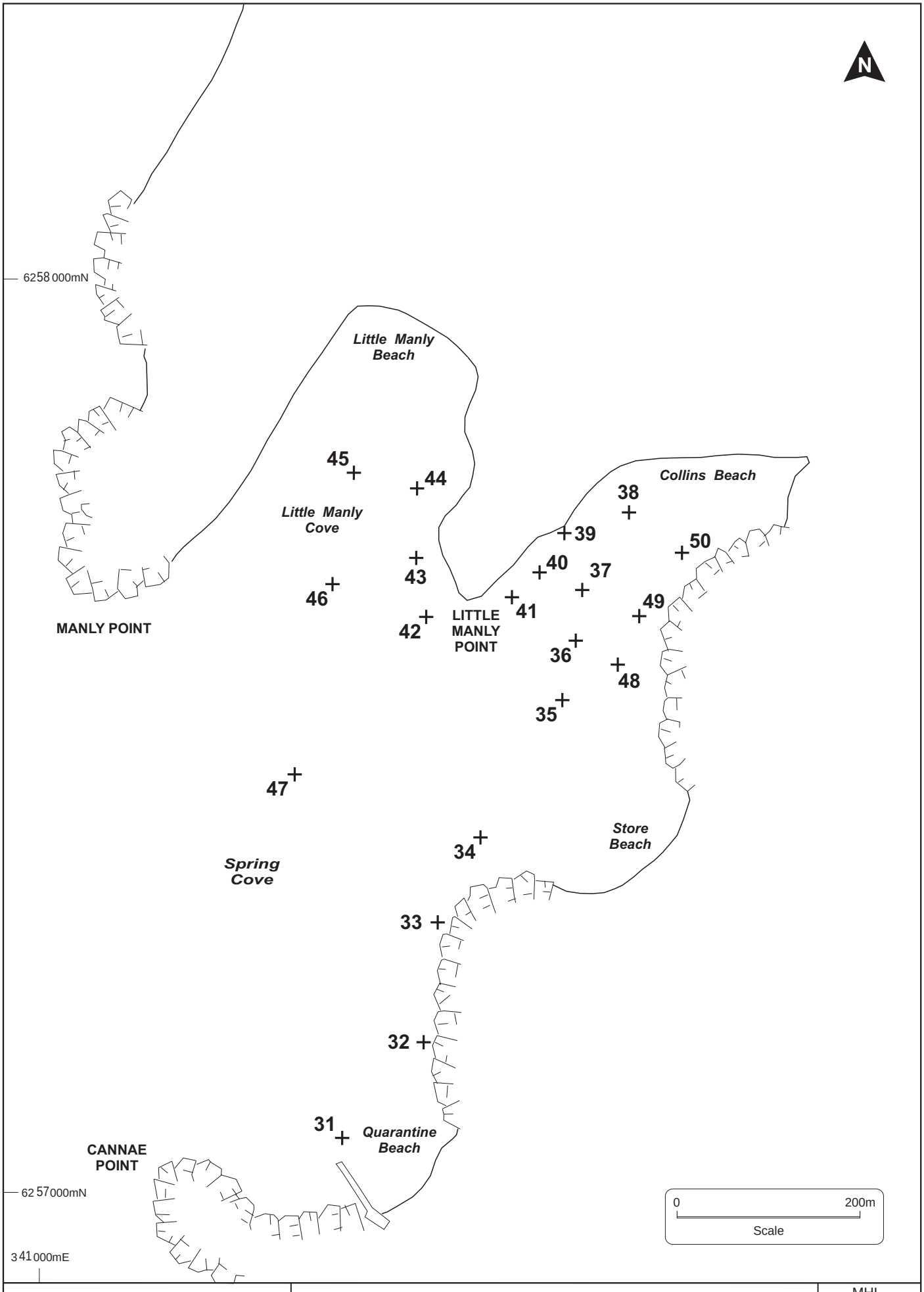
25 MAY AND 2 JUNE 1998

MHL Report 1812

Figure 206

DRAWING 1812-206.CDR


NSW GOVERNMENT
Public Works
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MIDDLE HARBOUR
25 May AND 2 JUNE 1998
MHL Report 1812
Figure 207
DRAWING 1812-207.CDR
CASTLECRAG
SEAFORTH
BALGOWLAH
N
Sailors Bay
The Spit
+ 21
+ 22
+ 13
6258 000mN
+ 23
+ 52
24
Middle Harbour
+ 14
NORTHBRIDGE
+ 15
BEAUTY POINT
CLONTARF
+ 12
+ 11
+ 16
+ 17
Long Bay
20
51
+ 19
+ 18
MOSMAN
+ 10
GROTTO POINT
CAMMERAY
CREMORNE
Middle Harbour
+ 9
6256 000mN
0
500m
Scale
336000mE
338000mE



NSW GOVERNMENT
Public Works
Manly Hydraulics Laboratory

SPRING COVE

27 May AND 4 JUNE 1998

MHL Report 1812

Figure 208

DRAWING 1812-208.CDR

Hewitts Creek Data Summary

Data was collected in Hewitts Creek on 28 January 2005, when the entrance to the lake was closed. The water level was not surveyed. A summary of the location of the single profile and the corresponding depth-averaged salinity is shown below in Table 276. Summaries of the minimum, maximum and mean values for all parameters measured on the single profile are shown in Table 277. The location at which the profile was taken is shown in Figure 209.

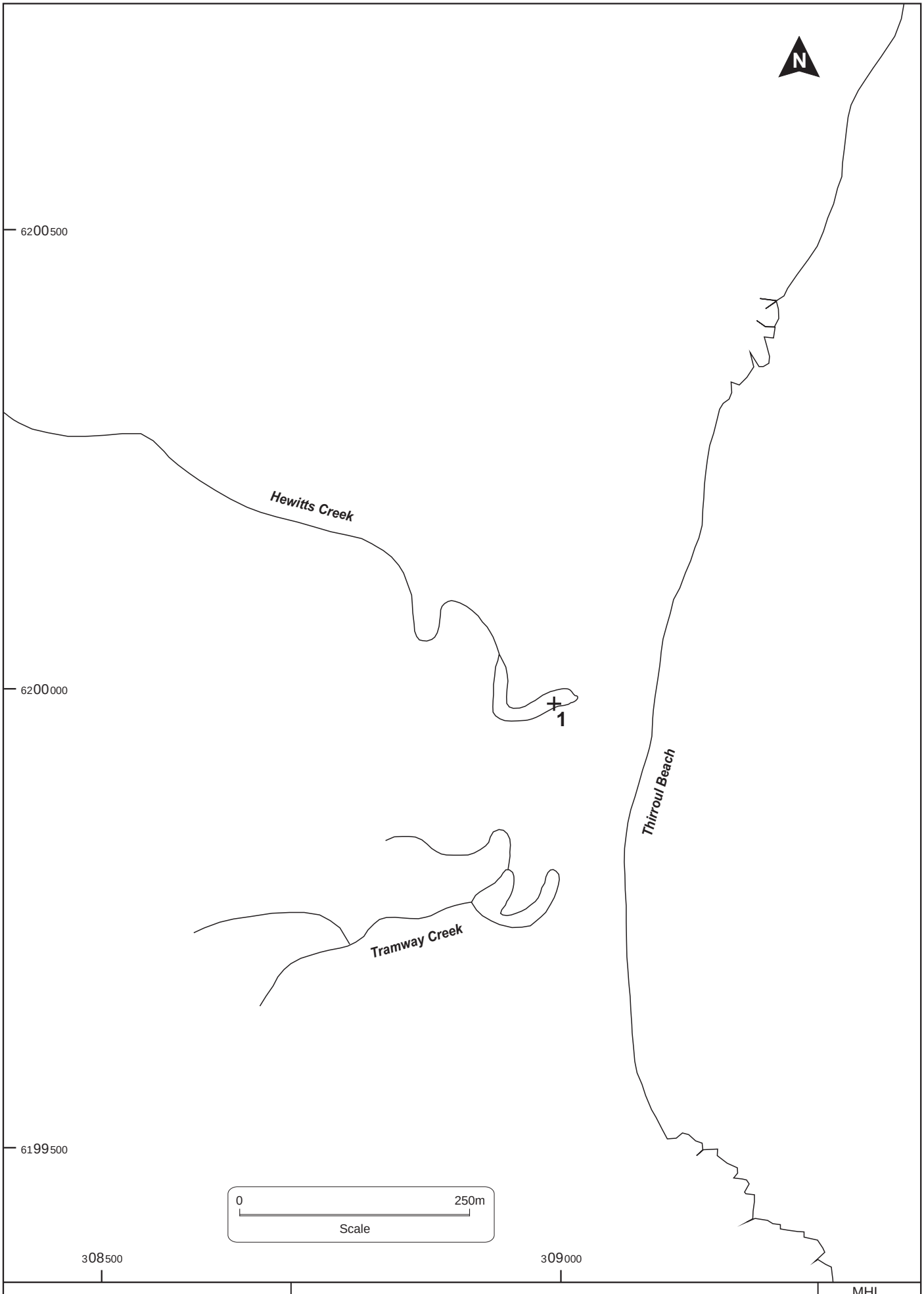
Table 276 Hewitts Creek - 28 January 2005

Station No.	MGA (m) Zone 56		Chainage (km)	Salinity (psu)
	Easting	Northing		
1	308997	6199985	0.11	28.58

Note Chainage is distance from ocean (if entrance had been open)

Table 277 Hewitts Creek - Water Quality Maxima and Minima - 28 January 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1353	0.5	1016.3	1018.0	1017.5	27.87	28.94	28.23	27.18	29.11	28.58	1.76	9.53	6.54	6.76	6.90	6.84	8.38	13.76	10.56	3.09	7.28	4.00	4648.8	5286.7	5183.5	fc050228018



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HEWITTS CREEK

28 JANUARY 2005

MHL Report 1812

Figure 209

DRAWING 1812-209.CDR

Towradgi Creek Data Summary

Data was collected in Towradgi Creek on 28 January 2005, when the entrance to the creek was closed. The water level was not surveyed. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 278. Summaries of the minimum, maximum and mean values for all parameters measured on the single profiling run are shown in Table 279. The locations at which these profiles were taken are shown in Figure 210. Long channel depth-averaged salinity profiles are shown in Figure 211.

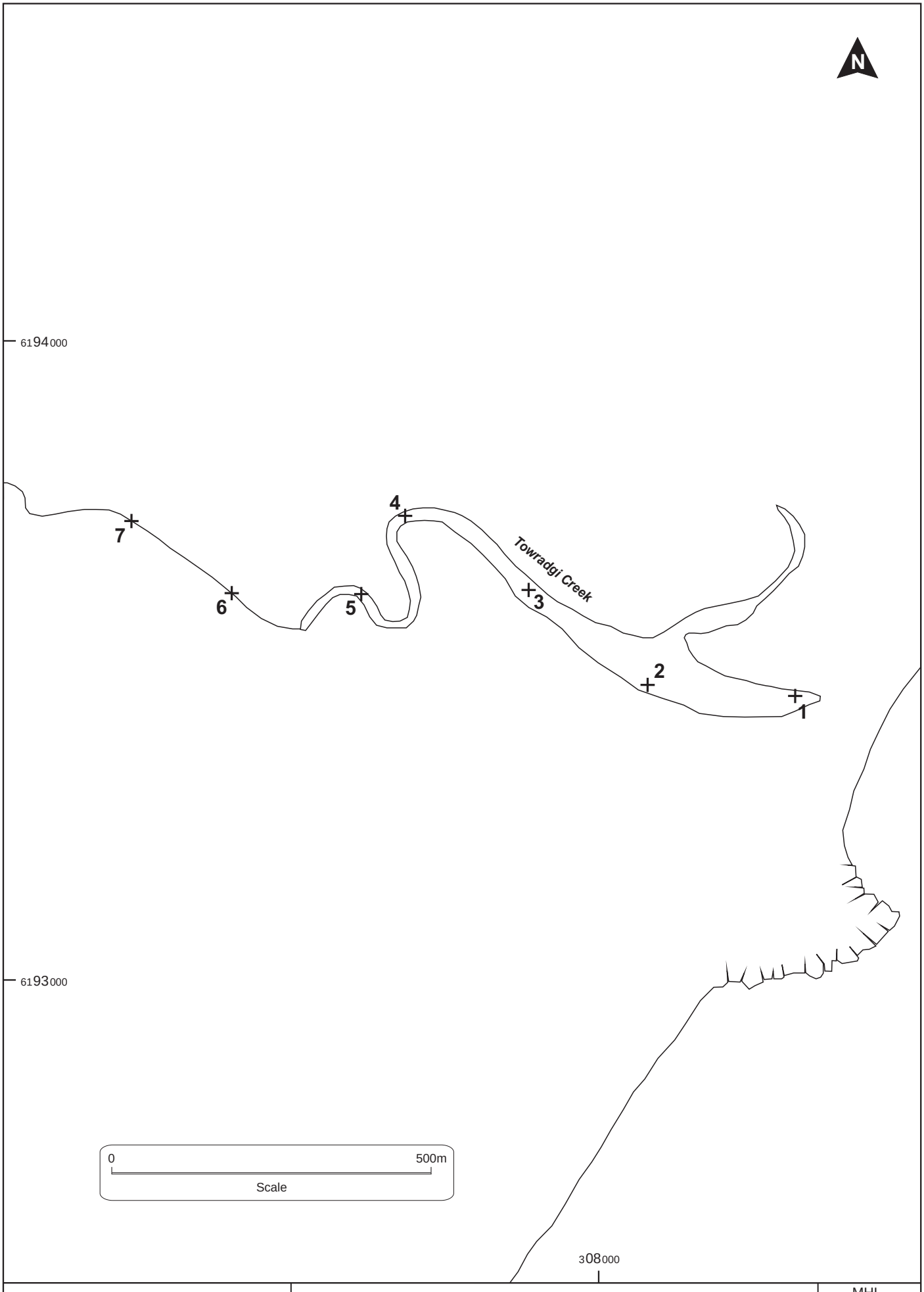
Table 278 Towradgi Creek - 28 January 2005

Station No.	MGA (m) Zone 56		Chainage (km)	Salinity (psu)
	Easting	Northing		
1	308308	6193452	0.16	24.96
2	308077	6193461	0.39	29.07
3	307891	6193609	0.63	27.86
4	307690	6193744	0.87	28.57
5	307635	6193611	1.16	24.86
6	307424	6193600	1.42	27.36
7	307268	6193717	1.61	26.54

Note Chainage is distance from ocean (if entrance had been open)

Table 279 Towradgi Creek - Water Quality Maxima and Minima - 28 January 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1210	0.7	1015.2	1016.4	1015.8	24.32	25.23	24.80	23.95	25.91	24.96	54.17	58.48	57.54	6.97	6.98	6.98	6.43	7.90	6.96	3.23	4.29	4.00	1125.7	3303.3	2048.8	fc050228011
2	1218	1.1	1017.1	1018.3	1018.1	26.80	27.66	27.55	27.47	29.42	29.07	26.03	56.88	44.09	6.88	6.99	6.91	3.99	8.87	6.61	3.33	9.30	6.21	1053.7	2444.0	1416.7	fc050228012
3	1223	1.1	1013.4	1019.0	1017.3	24.17	28.63	27.22	21.56	30.73	27.86	51.36	63.83	58.12	6.75	7.08	6.96	3.50	4.97	4.15	1.97	5.71	2.99	1026.9	3291.1	1523.1	fc050228013
4	1228	1.7	1012.9	1020.5	1018.0	23.76	27.49	26.58	20.82	31.61	28.57	30.61	75.11	57.46	6.60	7.06	6.90	3.99	12.29	7.45	2.06	7.15	2.93	327.6	1974.9	1017.3	fc050228014
5	1233	1.0	1013.1	1018.8	1015.2	25.05	27.61	26.56	21.43	30.10	24.86	48.34	55.66	52.93	6.82	6.92	6.88	4.97	5.94	5.16	2.66	3.62	2.92	1193.9	4464.6	2115.7	fc050228015
6	1241	0.9	1014.4	1017.6	1016.7	27.45	27.98	27.76	24.26	28.34	27.36	24.43	31.80	27.56	6.52	6.64	6.60	4.48	5.46	5.26	4.02	5.42	4.38	1081.1	2841.3	1618.7	fc050228016
7	1249	0.9	1016.0	1016.2	1016.2	27.55	27.63	27.60	26.29	26.61	26.54	34.05	41.18	38.02	6.35	6.46	6.42	4.48	12.78	8.01	3.59	7.90	4.58	93.2	476.5	202.6	fc050228017



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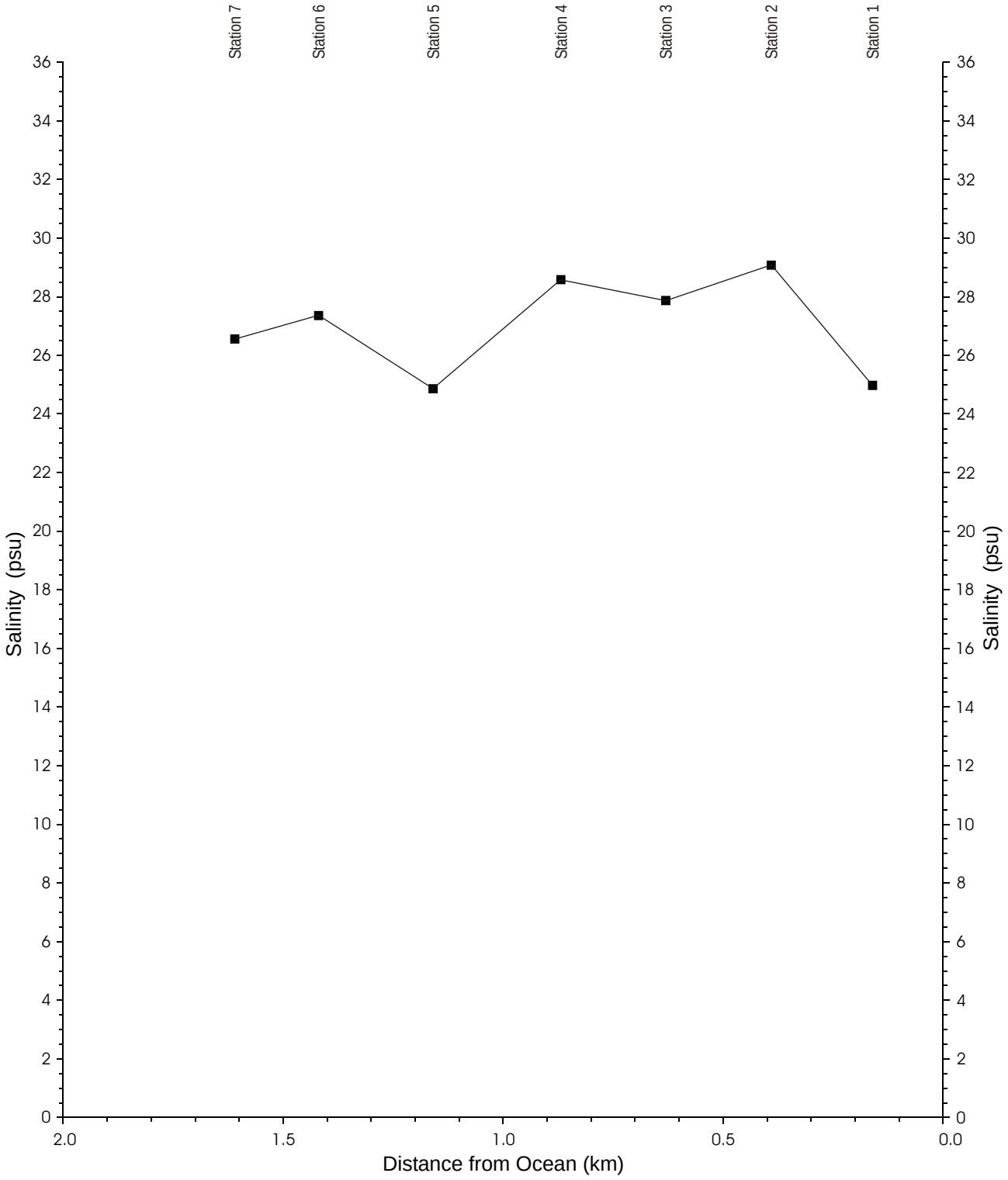
TOWRADGI CREEK

28 JANUARY 2005

MHL Report 1812

Figure 210

DRAWING 1812-210.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
TOWRADGI CREEK
28 JANUARY 2005

MHL Report 1812

Figure 211

DRAWING 1812-211.CDR

Fairy Creek Data Summary

Data was collected in Fairy Creek on 28 January 2005, when the entrance to the creek was closed. The water level was not surveyed. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 280. Summaries of the minimum, maximum and mean values for all parameters measured on the single profiling run are shown in Table 281. The locations at which these profiles were taken are shown in Figure 212. Long channel depth-averaged salinity profiles are shown in Figure 213.

Table 280 Fairy Creek - 28 January 2005

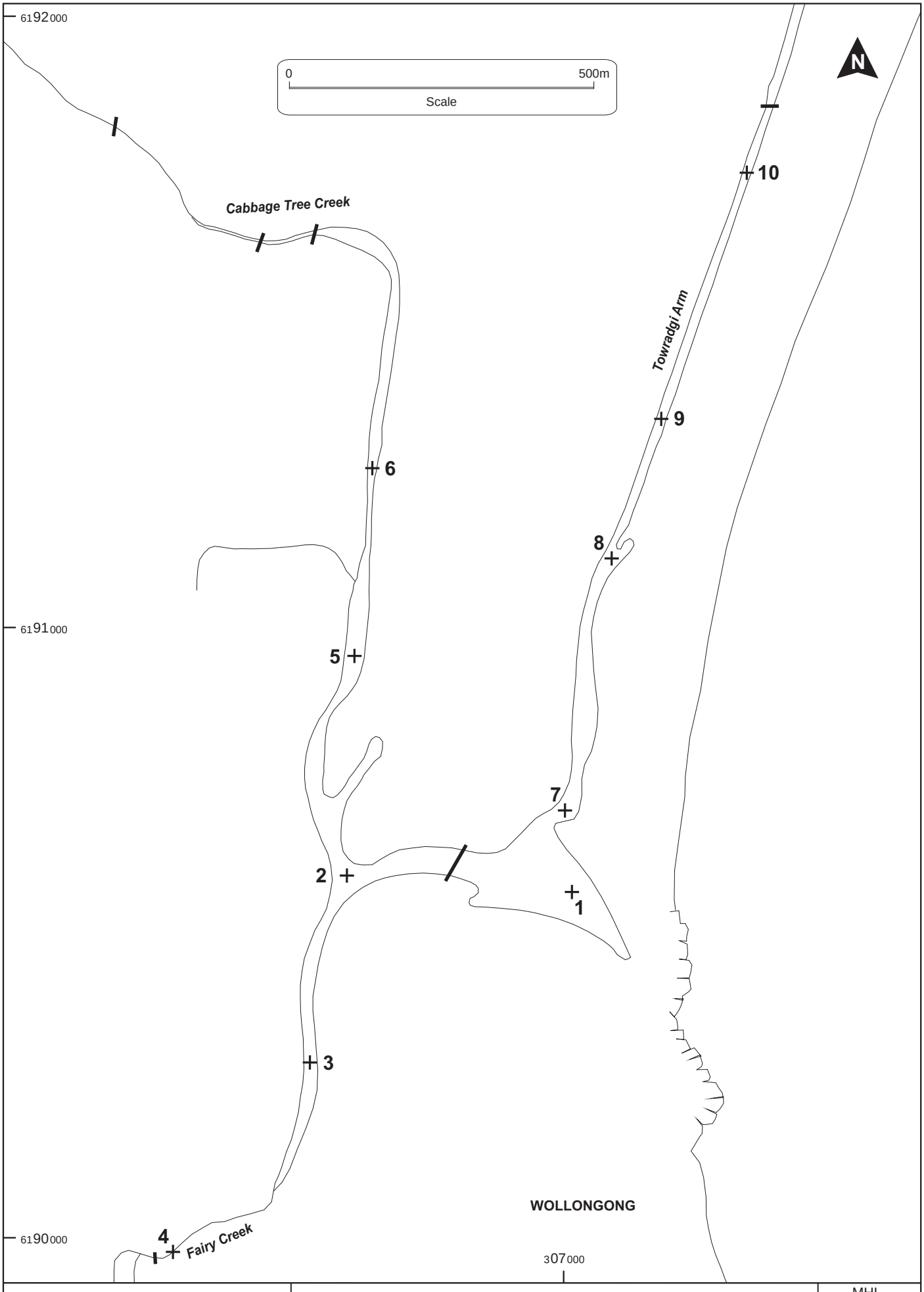
Station No.	MGA (m) Zone 56		Chainage (km)	Salinity (psu)
	Easting	Northing		
1	307014	6190566	0.25	26.98
2	306643	6190612	0.63	29.80
3	306584	6190287	0.94	27.38
4	306361	6189973	1.36	23.84
5	306646	6190952	1.01	21.57
6	306653	6191260	1.32	-
7	306959	6190710	0.42	23.01
8	307055	6191092	0.84	21.87
9	307136	6191342	1.08	20.02
10	307271	6191744	1.51	21.04

Note Chainage is distance from ocean (if entrance had been open)

Table 281 Fairy Creek - Water Quality Maxima and Minima - 28 January 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0857	1.1	1014.2	1020.0	1017.3	23.17	26.34	25.07	22.23	31.13	26.98	10.10	49.57	32.37	6.82	7.00	6.95	5.46	8.87	6.33	3.72	7.42	5.18	549.9	2689.0	1320.7	fc050228001
2	0904	1.7	1014.6	1022.2	1019.2	24.34	26.58	25.57	23.17	33.20	29.80	28.04	47.40	37.15	6.86	7.01	6.92	4.97	8.38	6.30	3.83	7.22	5.62	164.8	2064.0	716.6	fc050228002
3	0911	0.7	1015.1	1017.4	1016.9	26.79	27.26	27.23	25.02	28.02	27.38	1.42	28.94	21.25	6.63	6.74	6.72	4.97	7.41	5.75	5.02	6.64	6.00	290.1	1252.3	833.5	fc050228003
4	0923	0.8	1013.6	1015.2	1014.7	25.10	25.88	25.74	22.10	24.41	23.84	3.77	16.30	7.65	6.56	6.58	6.57	4.48	5.46	5.03	3.98	5.38	4.71	245.9	668.1	351.6	fc050228004
5	0940	0.3	1013.2	1013.5	1013.3	24.44	24.81	24.61	21.34	21.86	21.57	55.46	59.22	57.52	7.00	7.03	7.01	8.38	13.27	9.97	4.02	6.53	5.80	551.9	3160.8	1567.3	fc050228005
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	1004	0.8	1012.9	1014.9	1014.5	24.00	24.47	24.26	20.81	23.52	23.01	43.16	50.48	48.02	6.96	7.00	6.98	5.94	20.59	9.85	3.61	20.20	11.11	94.6	4514.1	963.6	fc050228007
8	1013	1.0	1013.5	1014.0	1013.9	23.29	23.73	23.54	21.35	22.10	21.87	40.77	43.06	42.32	6.85	6.88	6.86	7.90	9.85	8.96	4.90	6.93	5.36	829.8	3172.4	1169.4	fc050228008
9	1019	0.5	1012.3	1012.7	1012.6	23.03	23.52	23.22	19.84	20.12	20.02	45.29	46.99	45.57	6.61	6.63	6.61	4.48	7.41	6.66	0.08	0.22	0.16	5040.1	5545.3	5284.3	fc050228009
10	1027	1.3	1012.3	1013.8	1012.9	23.67	26.45	24.76	19.79	22.82	21.04	43.22	59.09	54.72	6.67	6.73	6.71	8.38	12.29	11.02	12.41	15.75	13.60	402.4	3184.1	960.0	fc050228010

Note No data from the profile at Station 6 due to instrument malfunction



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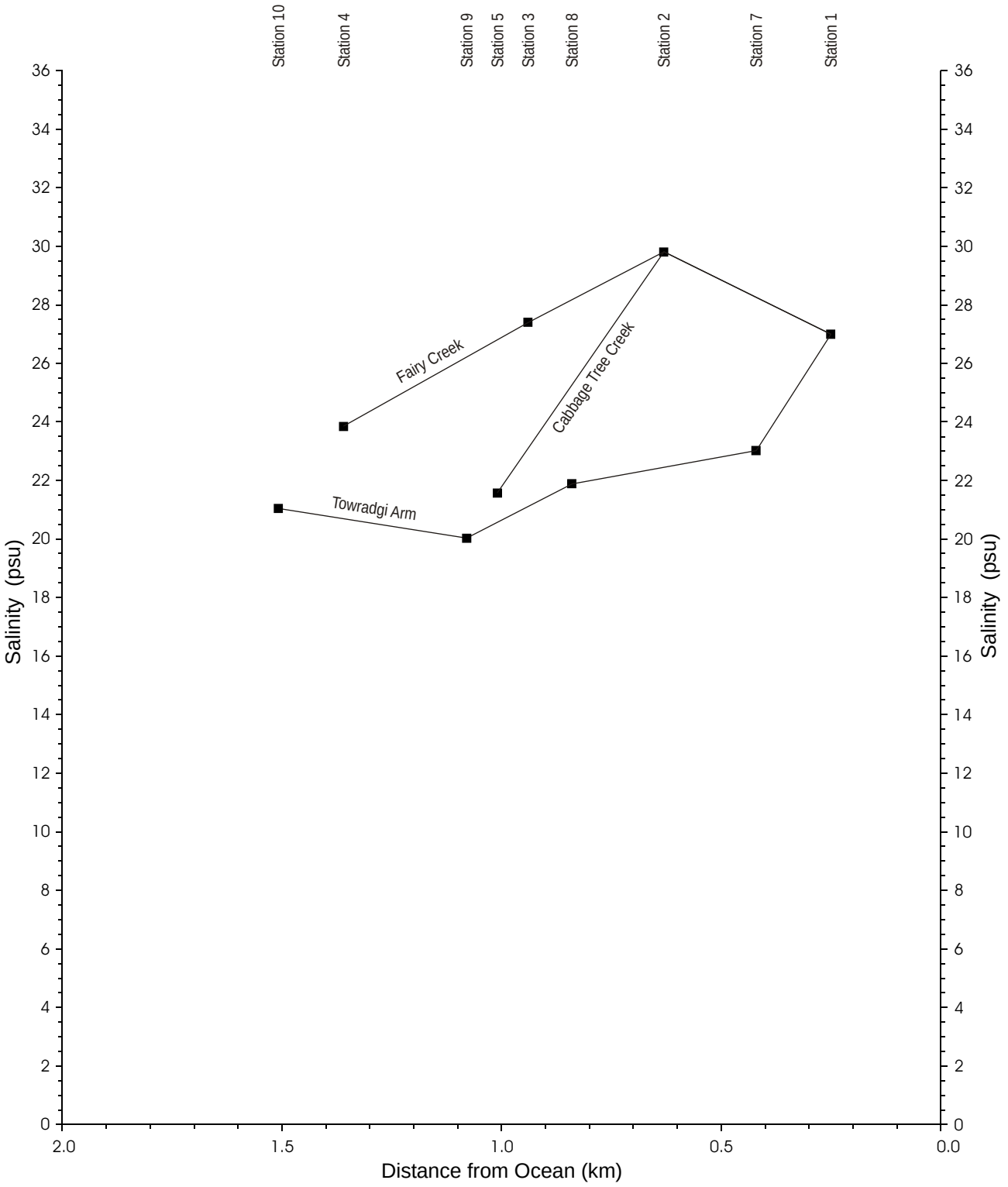
FAIRY CREEK

28 JANUARY 2005

MHL Report 1812

Figure 212

DRAWING 1812-212.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
TOWRADGI ARM, CABBAGE TREE CREEK AND FAIRY CREEK
28 JANUARY 2005

MHL Report 1812

Figure 213

DRAWING 1812-213.CDR

Lake Illawarra Data Summary

Data has been collected in Lake Illawarra on two occasions, in February/March 1994 and in March 2008.

Data was collected in Lake Illawarra on from 16 February to 1 March 1994, as detailed in report AWACS94/10. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 282a-b. Summaries of the minimum, maximum and mean values for all parameters measured at each of the profiling stations are shown in Tables 283 to 285. The locations at which these profiles were taken are shown in Figure 214. Long channel depth-averaged salinity profiles have not been plotted.

Table282a Lake Illawarra - 16 February to 1 March 1994

Station No.	MGA (m) Zone 56		Chainage (km)
	Easting	Northing	
1	302080	6181525	7.60
4	301505	6177385	4.52
8	299910	6174980	7.17

Table282b Lake Illawarra - 16 February to 1 March 1994

Date	Salinity (psu)		
	Station 1	Station 4	Station 8
16/2/94	34.33	34.35	34.15
17/2/94	34.04	34.40	33.34
18/2/94	28.45	34.22	33.86
19/2/94	22.17	-	-
20/2/94	-	-	-
21/2/94	33.99	34.66	34.49
22/2/94	-	-	-
23/2/94	34.50	34.70	28.97
24/2/94	32.51	-	26.24
25/2/94	34.64	34.67	-
26/2/94	34.74	26.79	27.94
27/2/94	30.57	31.67	31.72
28/2/94	-	-	-
1/3/94	33.10	31.71	32.43

Note No salinity data collected at Station 1 on 20, 22 and 28 February, or at Station 4 on 19, 20, 22, 24 and 28 February, or at Station 8 on 19, 20, 22, 25 and 28 February 1994

Table 283 Lake Illawarra - Water Quality Maxima and Minima - Station 1 - 16 February to 1 March 1994

Date	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Dissolved O_2 (mg/L)			pH			Turbidity (NTU)			Water Quality File Name *.DAT	Turbidity File Name *.DAT
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean		
16/2	0942	1.9	25.37	25.78	25.60	34.06	34.47	34.33	5.6	6.6	6.0	7.09	7.72	7.47	7.7	15.3	9.3	01	01T
17/2	0851	1.8	24.95	25.29	25.16	33.10	34.32	34.04	7.3	7.6	7.4	7.50	7.59	7.57	9.5	13.3	11.7	02	02T
18/2	0814	1.8	24.90	25.06	24.99	27.09	28.75	28.45	8.0	8.7	8.2	7.18	7.58	7.49	12.7	16.9	14.5	03	03T
19/2	0816	2.0	22.39	23.36	23.19	21.65	24.89	22.17	7.9	9.0	8.7	7.35	7.52	7.49	18.1	19.9	18.6	04	04T
20/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21/2	0824	1.8	21.14	21.30	21.22	33.81	34.15	33.99	8.4	9.2	8.5	7.26	7.58	7.52	-	-	-	05	05T
22/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23/2	0810	1.4	22.28	22.49	22.37	34.43	34.58	34.50	8.6	8.8	8.6	7.40	7.58	7.54	-	-	-	06	06T
24/2	0810	1.6	23.31	23.41	23.34	30.19	34.59	32.51	8.3	8.7	8.4	7.48	7.56	7.54	5.4	12.0	8.4	07	07T
25/2	1032	1.7	24.29	24.42	24.39	34.60	34.66	34.64	8.7	8.8	8.7	7.49	7.53	7.52	7.8	13.0	9.7	08	08T
26/2	1105	1.9	24.76	25.01	24.88	34.69	34.78	34.74	8.4	8.6	8.5	7.48	7.50	7.50	8.7	13.2	9.8	09	09T
27/2	1050	1.8	24.87	25.38	25.25	29.27	31.01	30.57	7.9	8.2	8.1	7.52	7.56	7.54	7.1	18.4	9.6	10	10T
28/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/3	0812	1.2	19.91	19.96	19.93	32.93	33.34	33.10	7.1	7.9	7.2	7.47	7.58	7.56	17.1	19.9	19.1	12	12T

Note No water quality data collected at Station 1 on 20, 22 and 28 February 1994. No turbidity data collected at Station 1 on 20, 22, 23 and 28 February 1994.

Table 284 Lake Illawarra - Water Quality Maxima and Minima - Station 4 - 16 February to 1 March 1994

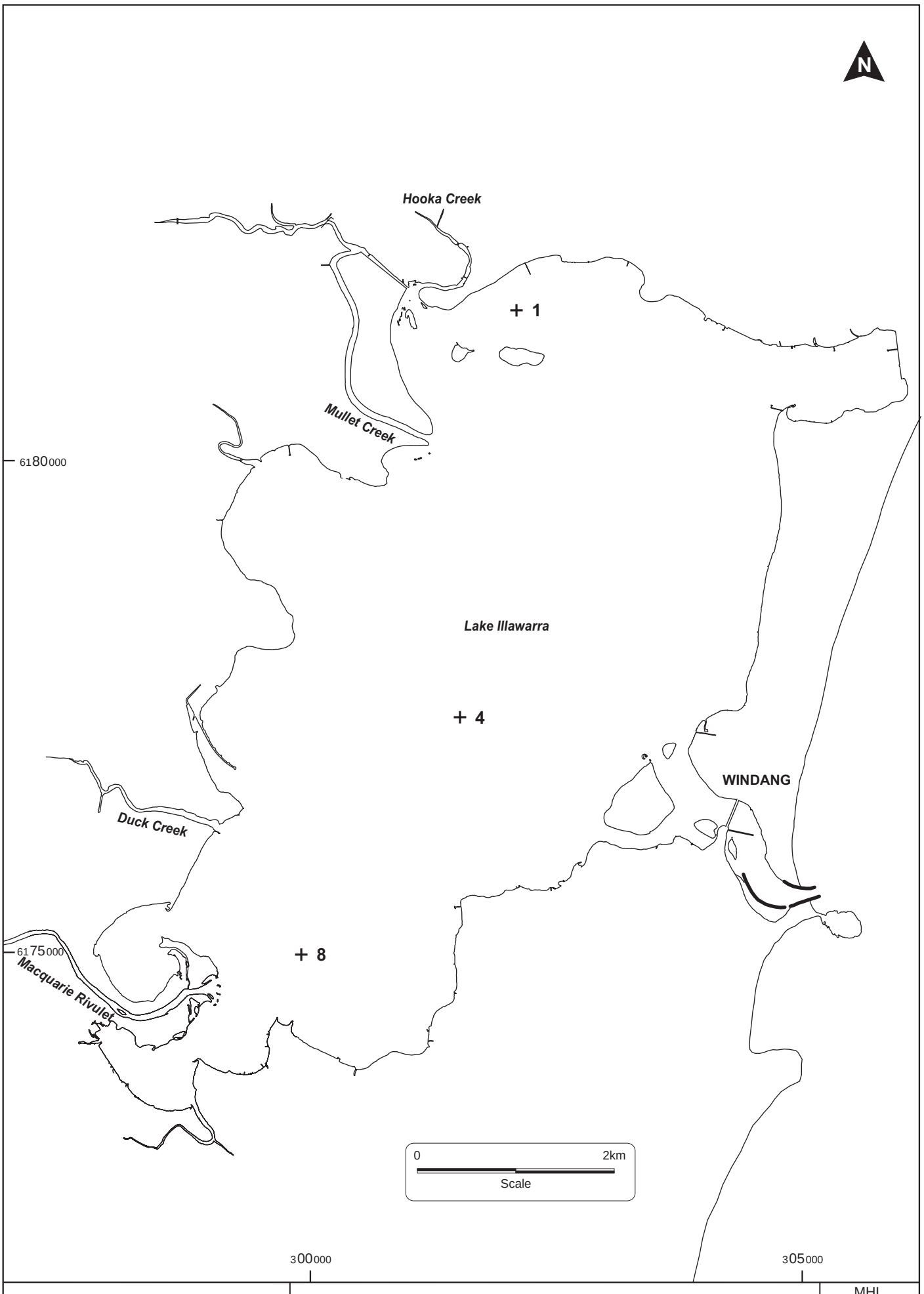
Date	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Dissolved O_2 (mg/L)			pH			Turbidity (NTU)			Water Quality File Name *.DAT	Turbidity File Name *.DAT
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean		
16/2	1044	2.8	25.34	26.33	25.68	33.92	34.60	34.35	5.6	7.1	6.5	7.72	7.93	7.85	10.0	13.0	11.6	01	01T
17/2	0926	3.4	25.37	25.68	25.53	34.36	34.43	34.40	7.2	8.0	7.5	7.64	7.85	7.83	16.6	25.8	18.0	02	02T
18/2	0844	3.8	25.27	25.34	25.31	34.04	34.32	34.22	7.4	8.1	7.9	7.76	7.87	7.85	15.9	27.9	17.4	03	03T
19/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21/2	0840	2.9	21.41	21.65	21.53	34.49	34.72	34.66	8.5	9.0	8.6	7.66	7.78	7.77	-	-	-	04	-
22/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23/2	0831	3.0	22.74	23.11	22.81	34.59	34.74	34.70	8.0	8.7	8.3	7.74	7.86	7.82	-	-	-	05	-
24/2	0825	2.8	23.48	23.77	23.61	-	-	-	8.5	9.3	8.8	7.86	7.91	7.88	7.1	9.6	8.5	06	06T
25/2	1105	2.9	24.35	24.72	24.66	34.61	34.80	34.67	8.6	8.9	8.7	7.79	7.93	7.92	8.5	9.8	9.1	07	07T
26/2	1120	3.2	24.80	25.86	25.43	24.41	28.06	26.79	6.9	9.3	8.3	7.46	7.95	7.84	8.0	16.5	9.2	08	08T
27/2	1105	3.2	25.09	25.97	25.52	30.16	32.03	31.67	6.6	8.8	7.8	7.75	8.01	7.94	7.6	11.5	8.5	09	09T
28/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/3	0840	2.0	20.63	20.89	20.72	31.57	31.88	31.71	7.1	8.1	7.2	7.69	7.73	7.70	21.2	25.7	22.2	11	11T

Note No water quality data collected at Station 4 on 19, 20, 22 and 28 February 1994. No salinity data collected at Station 4 on 24 February 1994. No turbidity data collected at Station 1 on 19-23 and 28 February 1994

Table 285 Lake Illawarra - Water Quality Maxima and Minima - Station 8 - 16 February to 1 March 1994

Date	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Dissolved O_2 (mg/L)			pH			Turbidity (NTU)			Water Quality File Name *.DAT	Turbidity File Name *.DAT
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean		
16/2	1111	3.0	25.05	26.84	25.74	33.56	34.54	34.15	4.9	7.2	6.3	7.65	7.97	7.88	9.1	12.8	10.9	01	01T
17/2	0952	3.4	25.60	26.01	25.75	30.28	34.37	33.34	7.3	7.9	7.5	7.84	7.92	7.90	13.4	24.8	15.4	02	02T
18/2	0909	3.6	25.77	25.91	25.85	31.43	34.09	33.86	6.9	8.0	7.7	7.68	7.87	7.84	13.3	15.4	14.6	03	03T
19/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21/2	0854	2.6	21.76	22.14	21.90	34.43	34.59	34.49	8.3	8.8	8.5	7.77	7.81	7.80	-	-	-	04	
22/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23/2	0850	2.8	22.90	23.08	22.93	28.86	29.07	28.97	8.0	9.1	8.6	7.39	7.50	7.40	-	-	-	05	-
24/2	0840	2.6	23.79	24.07	23.96	25.97	28.03	26.24	8.8	9.4	9.2	7.92	7.94	7.93	8.9	11.6	10.2	06	06T
25/2	-	2.6	-	-	-	-	-	-	-	-	-	-	-	-	12.5	15.2	13.2	-	07T
26/2	1130	3.2	24.89	25.89	25.56	26.96	28.08	27.94	3.5	9.2	8.0	7.47	7.82	7.74	8.6	17.1	10.8	08	08T
27/2	1120	3.4	25.26	25.79	25.67	31.05	31.83	31.72	3.0	8.7	7.7	7.72	7.94	7.91	8.8	18.0	10.2	09	09T
28/2	0921	2.2	-	-	-	-	-	-	-	-	-	-	-	-	18.2	22.9	20.1	-	10T
1/3	0929	2.0	22.08	22.11	22.10	32.38	32.46	32.43	7.1	7.8	7.2	7.93	7.95	7.94	9.4	11.8	10.3	11	11T

Note No water quality data collected at Station 8 on 19, 20, 22, 25 and 28 February 1994. No turbidity data collected at Station 1 on 19-23 February 1994



Public Works
Manly Hydraulics Laboratory

LAKE ILLAWARRA

16 FEBRUARY TO 1 MARCH 1994

MHL Report 1812

Figure 214

DRAWING 1812-214.CDR

Data was collected in Lake Illawarra on 19 February and 11 March 2008, as detailed in report MHL1826. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 286. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 287a to 288b. The locations at which these profiles were taken are shown in Figure 215. Long channel depth-averaged salinity profiles have not been plotted.

Table 286 Lake Illawarra - 19 February and 11 March 2008

Station No.	MGA (m) Zone 56		Chainage (km)	19 February 2008		11 March 2008	
	Easting	Northing		High Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)	Low Water Salinity (psu)
1	305000	6175590	0.15	34.80	24.00	34.82	30.17
2	304244	6176523	1.57	34.94	23.89	34.98	30.24
3	303285	6177600	2.99	23.46	23.53	33.34	29.58
4	305250	6180850	7.54	23.47	22.35	29.37	30.38
5	303000	6181000	6.38	25.15	27.31	29.85	30.23
6	301432	6180875	6.73	22.57	22.03	29.12	29.85
7	302355	6179300	4.96	26.15	25.86	30.38	30.22
8	300090	6179617	6.78	22.62	22.47	29.01	29.01
9	301410	6177710	4.89	26.03	23.69	29.80	29.92
10	300355	6176140	6.28	24.31	23.59	29.09	29.06
11	300760	6174495	6.99	25.02	23.43	29.38	29.50
12	299252	6174696	7.97	23.14	23.43	28.49	28.89

Table 287a Lake Illawarra - Water Quality Maxima and Minima - High Water - 19 February 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1035	3.1	1023.8	1023.9	1023.9	22.60	22.64	22.61	34.72	34.82	34.80	97.19	98.19	97.81	7.97	7.98	7.97	4.46	5.92	5.10	0.00	0.00	0.00	329.8	1916.6	576.4	LI080219001
2	1048	2.3	1024.0	1024.0	1024.0	22.67	22.68	22.68	34.93	34.96	34.94	97.14	97.90	97.62	7.98	8.00	7.99	4.46	5.92	4.94	0.00	0.00	0.00	287.9	1548.8	510.6	LI080219002
3	1105	1.5	1015.3	1015.4	1015.4	22.46	22.48	22.46	23.45	23.47	23.46	93.14	93.60	93.44	8.27	8.28	8.27	6.41	6.90	6.89	3.46	5.05	4.22	236.1	2609.5	708.3	LI080219003
4	1123	1.5	1013.7	1017.9	1015.4	21.93	22.94	22.49	21.28	26.96	23.47	45.49	85.37	77.58	7.81	8.37	8.24	7.38	11.29	8.91	1.79	10.44	6.53	101.0	1407.7	463.1	LI080219004
5	1132	2.8	1014.7	1020.7	1016.7	21.88	22.54	22.22	22.53	30.57	25.15	32.09	96.00	80.29	7.43	8.31	8.06	5.92	9.83	7.07	3.63	8.17	5.03	50.4	1482.0	282.5	LI080219005
6	1144	0.9	1014.5	1014.6	1014.6	22.83	22.91	22.87	22.52	22.58	22.57	82.89	83.35	83.14	8.14	8.15	8.15	11.29	14.71	13.30	3.20	3.92	3.60	338.4	1526.2	882.0	LI080219006
7	1155	2.8	1014.8	1021.4	1017.4	22.25	22.60	22.41	22.79	31.39	26.15	56.59	93.15	82.32	7.71	8.30	8.11	6.90	11.78	7.99	0.17	6.60	3.60	76.4	1995.6	355.2	LI080219007
8	1206	1.7	1014.3	1016.1	1014.6	22.61	23.07	22.79	22.24	24.69	22.62	57.79	92.16	87.32	7.81	8.30	8.22	7.87	11.29	8.95	3.13	4.54	3.78	94.2	1366.9	433.5	LI080219008
9	1214	2.7	1015.0	1021.6	1017.3	22.26	23.03	22.63	23.24	31.62	26.03	56.16	94.08	85.94	7.60	8.23	8.09	6.90	9.34	7.66	2.69	6.33	4.82	50.6	1342.0	243.7	LI080219009
10	1222	2.5	1014.9	1019.9	1015.8	22.82	23.22	23.07	23.13	29.70	24.31	44.77	92.88	85.11	7.50	8.20	8.07	6.90	13.25	8.60	1.76	6.63	4.68	89.8	1060.8	269.7	LI080219010
11	1230	2.3	1015.0	1018.5	1016.4	22.72	23.46	23.15	23.37	27.70	25.02	42.12	87.95	73.91	7.62	8.13	7.96	7.38	11.29	8.45	1.09	6.88	5.03	75.9	1053.0	274.2	LI080219011
12	1241	1.3	1014.6	1014.9	1014.8	23.61	23.98	23.71	22.99	23.22	23.14	77.89	86.86	83.56	7.96	8.12	8.05	8.85	21.06	13.54	2.39	3.87	3.55	188.7	1088.4	465.1	LI080219013

Table 287b Lake Illawarra - Water Quality Maxima and Minima - Low Water - 19 February 2008

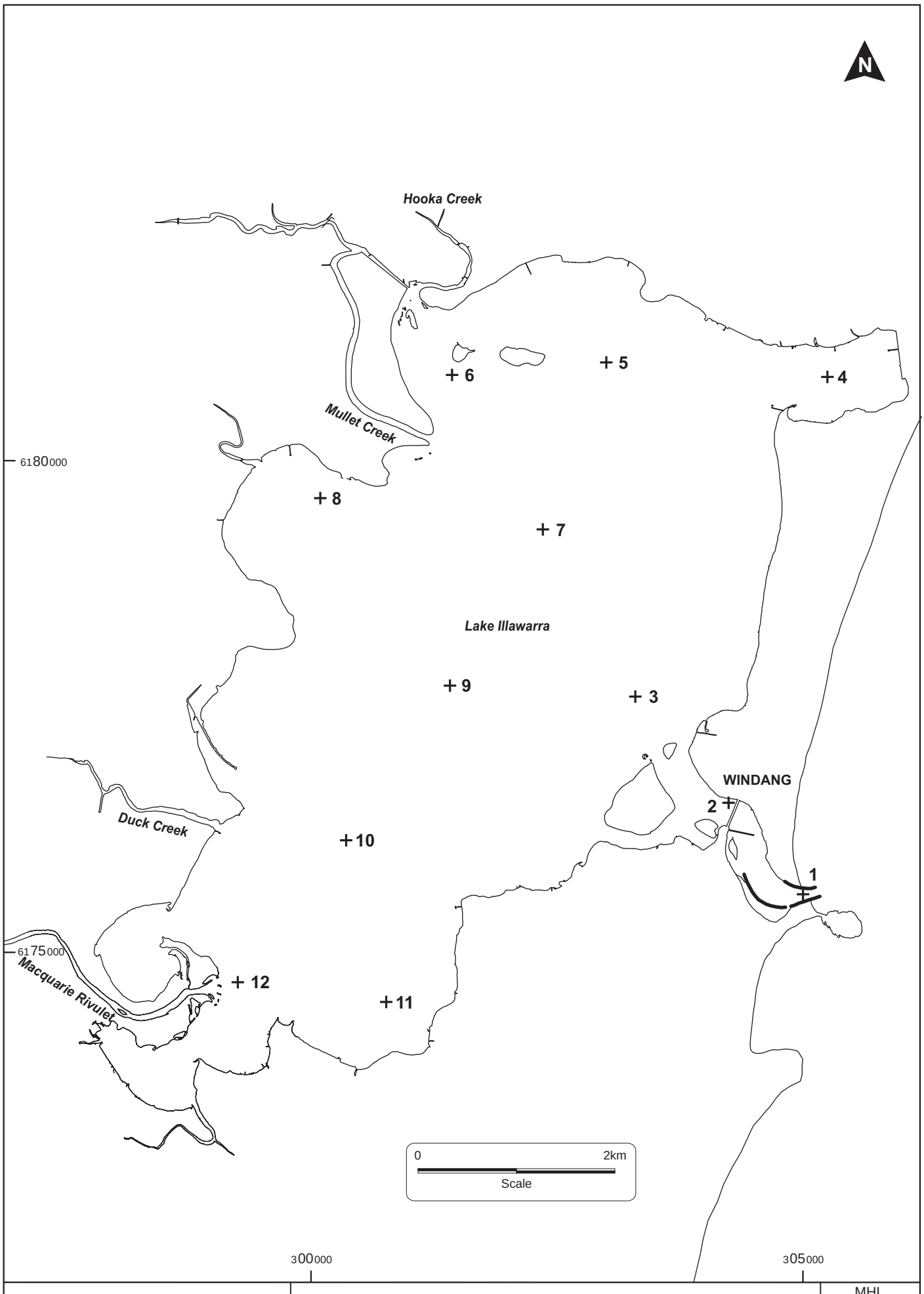
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1636	3.5	1015.2	1015.4	1015.3	23.99	24.21	24.15	23.75	24.09	24.00	100.45	102.08	101.16	8.17	8.20	8.18	6.90	8.36	7.57	3.11	4.09	3.55	13.9	506.9	70.0	LI080219014
2	1648	2.2	1015.3	1015.3	1015.3	23.83	23.88	23.86	23.82	23.96	23.89	100.33	101.22	100.81	8.22	8.23	8.23	6.90	8.36	7.40	3.40	4.57	4.03	127.8	4646.0	950.8	LI080219015
3	1659	1.1	1015.1	1015.1	1015.1	23.55	23.56	23.56	23.53	23.53	23.53	96.98	97.43	97.30	8.21	8.22	8.22	6.41	7.38	6.88	3.29	4.38	3.83	514.4	5111.7	2044.9	LI080219016
4	1715	1.3	1013.2	1016.9	1014.1	23.11	24.42	24.05	21.26	25.77	22.35	65.13	97.20	93.48	7.79	8.35	8.26	7.87	8.36	8.05	0.88	9.82	6.61	146.4	692.7	317.9	LI080219017
5	1724	2.6	1014.6	1021.0	1018.2	22.46	23.33	22.83	22.78	30.94	27.31	35.21	89.77	73.19	7.29	8.14	7.84	6.90	12.27	7.92	0.48	6.62	4.32	44.2	418.7	107.1	LI080219018
6	1732	0.7	1013.4	1013.4	1013.4	25.62	25.64	25.63	22.01	22.05	22.03	81.24	89.43	86.33	8.11	8.12	8.11	25.46	67.95	30.90	0.26	11.31	4.73	121.0	479.7	319.3	LI080219019
7	1745	2.7	1014.9	1021.0	1017.0	22.49	23.36	23.05	23.14	30.97	25.86	43.85	89.65	78.13	7.39	8.18	7.94	7.38	14.22	8.07	0.49	4.41	3.88	18.8	531.7	127.6	LI080219020
8	1754	1.7	1014.2	1014.3	1014.2	23.93	23.97	23.95	22.45	22.58	22.47	91.08	92.66	92.38	8.17	8.20	8.20	8.85	12.27	9.50	4.37	5.37	4.83	21.7	889.3	175.7	LI080219021
9	1803	2.0	1015.1	1015.5	1015.2	23.61	23.73	23.72	23.64	24.08	23.69	87.88	88.68	88.39	8.12	8.14	8.13	8.85	9.83	9.30	2.50	4.97	4.27	17.8	850.9	141.6	LI080219022
10	1812	2.1	1015.0	1015.2	1015.1	23.86	23.91	23.91	23.56	23.79	23.59	88.19	89.19	88.82	8.10	8.12	8.11	6.90	8.36	7.50	4.75	5.54	5.09	10.0	241.3	59.9	LI080219023
11	1822	2.2	1014.8	1014.9	1014.8	24.25	24.31	24.30	23.39	23.48	23.43	92.46	93.41	92.74	8.09	8.10	8.09	9.83	13.73	10.64	0.56	5.53	1.52	3.6	165.9	38.0	LI080219024
12	1830	1.2	1014.7	1014.7	1014.7	24.67	24.70	24.69	23.43	23.44	23.43	63.99	64.50	64.20	7.48	7.50	7.49	30.34	35.22	31.47	3.31	4.84	4.50	2.7	128.3	39.9	LI080219025

Table 288a Lake Illawarra - Water Quality Maxima and Minima - Low Water - 11 March 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0804	3.8	1020.3	1020.4	1020.4	22.63	22.74	22.66	30.06	30.23	30.17	85.56	87.94	86.64	7.98	8.01	8.00	5.43	7.87	6.17	1.87	2.31	2.01	81.9	4511.4	669.2	LI080311001
2	0816	2.9	1020.3	1020.5	1020.4	22.70	22.79	22.73	30.09	30.34	30.24	82.49	85.58	84.04	8.01	8.02	8.02	4.94	6.90	5.45	1.65	2.05	1.86	201.6	3938.0	831.8	LI080311002
3	0828	1.5	1019.7	1019.8	1019.8	23.28	23.29	23.29	29.57	29.59	29.58	97.10	97.61	97.41	8.08	8.09	8.08	4.94	5.43	5.37	0.66	2.93	2.55	677.6	5074.3	1889.9	LI080311003
4	0844	1.6	1019.0	1022.3	1020.4	22.65	23.42	23.01	28.46	32.93	30.38	60.73	91.41	85.95	7.71	8.06	7.97	5.92	8.36	6.76	1.86	7.16	2.91	57.0	529.7	158.7	LI080311004
5	0852	2.8	1019.6	1022.6	1020.3	22.69	23.32	22.98	29.37	33.23	30.23	75.92	99.59	95.33	7.73	8.11	8.03	4.94	13.25	6.21	1.80	6.26	3.81	291.1	5037.1	972.2	LI080311005
6	0859	1.0	1019.6	1019.7	1019.7	24.20	24.23	24.21	29.79	29.89	29.85	74.37	74.94	74.55	7.83	7.84	7.83	13.25	136.32	88.70	10.13	20.50	14.64	805.3	4161.1	2511.5	LI080311006
7	0908	3.0	1019.6	1022.5	1020.2	23.31	23.64	23.44	29.49	33.27	30.22	65.17	98.22	94.67	7.69	8.10	8.04	4.94	11.29	5.94	2.00	5.94	3.77	285.8	4663.1	1006.6	LI080311007
8	0918	1.8	1019.1	1019.2	1019.1	23.92	24.11	23.96	28.96	29.20	29.01	71.79	86.48	81.42	7.79	7.96	7.89	5.92	7.87	6.24	0.18	3.28	1.27	660.4	4963.6	1696.6	LI080311008
9	0927	2.7	1018.8	1022.6	1020.0	22.83	23.97	23.48	28.62	33.22	29.92	81.15	98.28	95.36	7.95	8.12	8.07	5.43	17.15	6.83	2.23	5.23	4.16	244.0	4253.9	917.0	LI080311009
10	0935	2.6	1018.6	1020.1	1019.2	23.63	24.10	23.82	28.36	30.21	29.06	78.67	91.04	87.44	7.87	8.00	7.93	5.92	17.64	7.41	5.29	8.43	7.13	279.5	4380.8	1099.8	LI080311010
11	0943	2.4	1019.0	1019.8	1019.5	23.87	24.30	24.12	28.95	30.00	29.50	90.56	99.45	95.30	8.04	8.10	8.07	5.92	10.32	6.76	4.13	7.41	6.32	420.3	5074.3	1272.1	LI080311011
12	0950	1.4	1018.6	1018.9	1018.8	24.79	24.97	24.84	28.64	29.06	28.89	58.27	59.35	58.77	7.57	7.63	7.61	9.83	15.20	11.36	0.44	0.91	0.63	946.6	5187.4	2291.3	LI080311012

Table 288b Lake Illawarra - Water Quality Maxima and Minima - High Water - 11 March 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1309	3.5	1023.8	1024.0	1023.9	22.67	22.79	22.71	34.74	34.89	34.82	100.38	100.84	100.65	8.05	8.07	8.06	3.97	4.94	4.53	0.00	0.00	0.00	790.6	5037.1	1480.4	LI080311013
2	1321	2.8	1023.9	1024.0	1024.0	22.77	23.02	22.83	34.95	34.99	34.98	99.96	101.43	100.45	8.08	8.09	8.08	3.97	4.94	4.56	0.00	0.00	0.00	740.0	4544.7	1597.7	LI080311014
3	1333	1.5	1020.6	1024.0	1022.5	22.94	24.33	23.56	31.09	35.02	33.34	101.05	108.78	104.82	8.10	8.10	8.10	4.46	5.92	4.99	0.00	1.32	0.65	375.0	3000.5	895.8	LI080311015
4	1347	1.4	1018.3	1020.6	1019.3	23.36	25.16	24.19	28.39	30.74	29.37	97.29	109.42	103.40	7.95	8.10	8.04	5.92	54.76	9.76	1.69	4.14	2.60	216.9	3424.8	524.6	LI080311016
5	1355	2.6	1019.4	1022.4	1019.7	23.48	24.44	24.12	29.54	33.11	29.85	85.28	105.18	103.50	7.76	8.08	8.05	4.94	17.64	6.22	1.73	6.98	2.87	499.5	4837.6	1208.1	LI080311017
6	1402	1.3	1018.7	1018.7	1018.7	25.71	25.78	25.75	29.11	29.15	29.12	104.34	105.03	104.56	8.02	8.03	8.02	7.38	8.85	8.02	3.72	4.68	4.18	936.2	5074.3	2240.9	LI080311018
7	1413	2.8	1019.3	1022.4	1020.1	23.73	24.78	24.29	29.43	33.25	30.38	61.82	108.79	100.16	7.55	8.11	8.01	5.43	13.73	6.97	2.37	10.30	4.40	373.6	5074.3	1137.4	LI080311019
8	1421	2.0	1018.7	1018.8	1018.7	25.24	25.31	25.28	28.97	29.06	29.01	102.36	102.78	102.58	7.99	8.01	8.00	5.92	9.34	6.35	3.33	4.29	3.84	140.6	805.3	228.4	LI080311020
9	1431	2.7	1018.9	1022.3	1019.6	23.42	24.84	24.38	29.10	32.97	29.80	83.36	110.16	105.45	7.84	8.11	8.07	4.94	12.27	6.42	3.23	9.99	5.20	402.1	5225.6	1106.6	LI080311021
10	1439	2.7	1018.5	1020.0	1018.9	24.23	25.23	24.92	28.67	30.29	29.09	94.09	109.68	107.52	8.03	8.10	8.05	5.92	13.25	7.20	6.21	10.46	8.20	116.2	892.6	224.2	LI080311022
11	1447	2.5	1018.8	1019.8	1019.0	24.45	25.53	25.20	29.18	30.05	29.38	92.36	113.73	108.71	7.98	8.13	8.08	5.43	14.22	7.08	5.01	8.64	6.72	114.9	3362.5	311.3	LI080311023
12	1455	1.6	1018.0	1018.2	1018.0	25.94	26.40	26.29	28.41	28.59	28.49	101.57	105.97	104.63	7.84	7.97	7.96	6.90	10.32	7.20	1.19	7.50	4.44	148.0	932.8	303.2	LI080311024



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LAKE ILLAWARRA

19 FEBRUARY AND 11 MARCH 2008

MHL Report 1812

Figure 215

DRAWING 1812-215.CDR

Elliot Lake Data Summary

Data was collected in Elliot Lake on 12 September 2002. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 289. Summaries of the minimum, maximum and mean values for all parameters measured on the low and high water runs are shown in Tables 290a-b. The locations at which these profiles were taken are shown in Figure 216. Long channel depth-averaged salinity profiles are shown in Figure 217.

Table 289 Elliot Lake - 12 September 2002

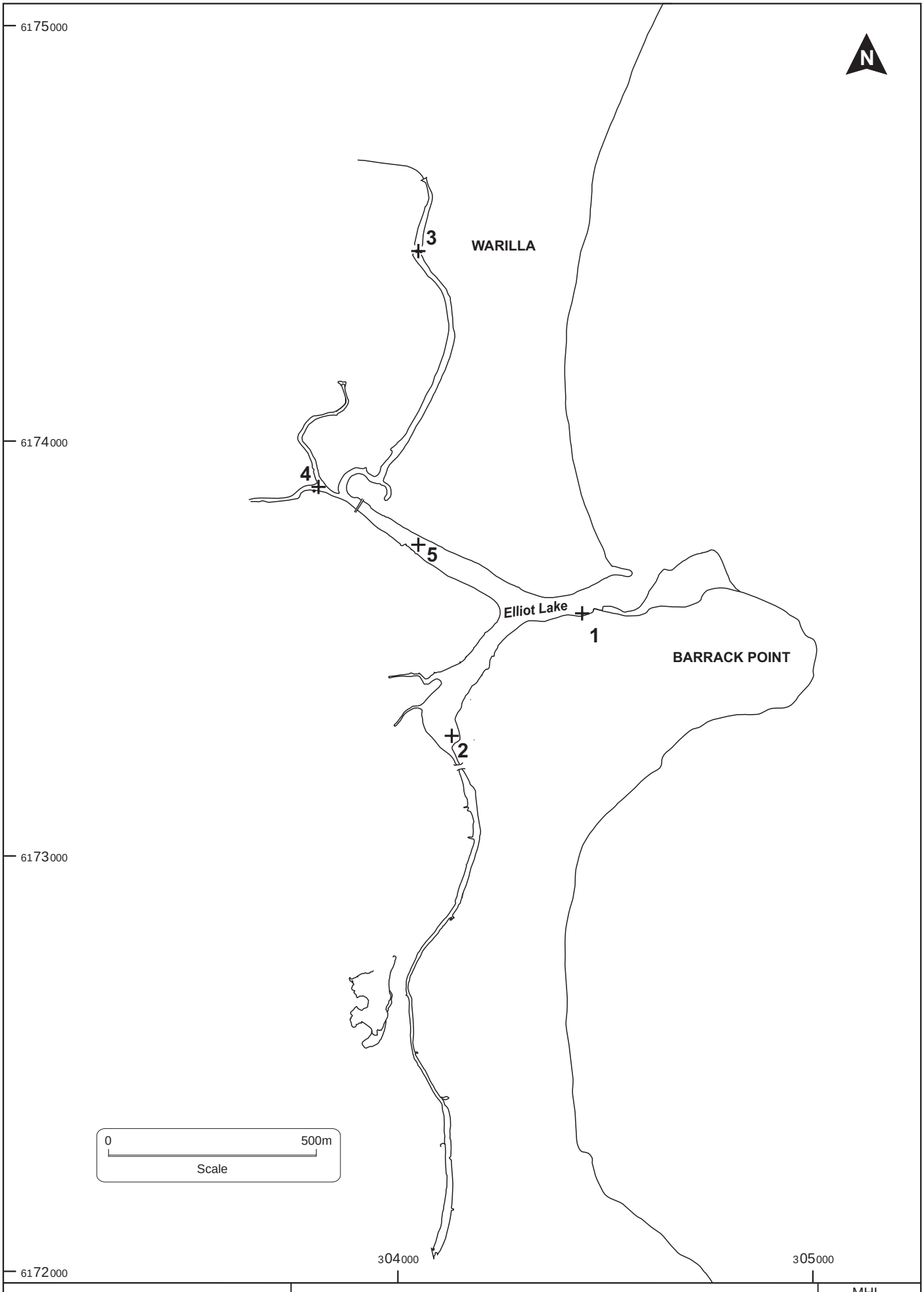
Station No.	MGA (m) Zone 56		Chainage (km)	High Salinity (psu)	Low Salinity (psu)
	Easting	Northing			
1	304439	6173594	0.192	35.32	-
2	304125	6173298	0.742	27.13	32.47
5	304052	6173752	0.639	35.46	34.59
4	303795	6173891	0.920	34.73	35.33
3	304041	6174471	1.683	35.51	27.38

Table 290a Elliot Lake - Water Quality Maxima and Minima - Low Water - 12 September 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	0641	0.1	1017.1	1025.5	1024.5	12.21	12.59	12.45	22.78	33.69	32.47	56.70	72.03	65.02	7.68	7.80	7.74	54.76	127.04	88.94	0.03	0.10	0.07	3.4	19.2	10.1	WL110807
5	0752	0.3	1026.0	1026.2	1026.1	12.78	12.95	12.85	34.50	34.68	34.59	48.26	54.59	49.76	7.26	7.27	7.27	47.92	146.09	89.21	0.48	1.64	1.13	277.6	576.8	449.4	WL110810
4	0741	0.4	1026.9	1026.9	1026.9	11.75	11.78	11.76	35.32	35.34	35.33	34.03	37.63	35.46	7.25	7.27	7.26	12.27	18.62	15.79	0.09	5.79	0.61	18.6	21.2	20.0	WL110809
3	0713	0.3	1020.6	1020.7	1020.6	12.32	12.42	12.37	27.36	27.41	27.38	21.20	22.51	21.81	7.12	7.18	7.16	42.55	64.04	53.34	5.01	6.75	5.55	18.1	8714.0	37.6	WL110808

Table 290b Elliot Lake - Water Quality Maxima and Minima - High Water - 12 September 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1238	0.5	1025.5	1025.6	1025.6	17.79	17.90	17.86	35.27	35.36	35.32	99.64	172.18	102.52	7.99	8.02	8.00	14.22	68.44	37.42	0.38	3.57	1.97	364.4	1147.0	608.5	WL110811
2	1253	0.2	1017.9	1018.1	1018.0	22.84	23.14	22.94	27.05	27.20	27.13	100.37	123.26	118.79	7.81	7.83	7.82	25.94	144.63	28.81	5.53	9.95	5.99	22.4	51.4	35.3	WL110812
5	1349	0.6	1025.6	1025.6	1025.6	18.09	18.09	18.09	35.46	35.46	35.46	103.36	103.36	103.36	8.08	8.08	8.08	0.55	0.55	0.55	0.04	0.04	0.04	2545.0	2545.0	2545.0	WL110815
4	1321	0.6	1025.3	1025.4	1025.3	16.75	16.92	16.83	34.68	34.80	34.73	67.54	71.30	68.91	7.44	7.45	7.44	12.27	26.92	21.93	0.12	0.27	0.20	423.6	1323.0	738.1	WL110814
3	1309	0.3	1025.7	1025.9	1025.8	17.40	17.71	17.57	35.44	35.67	35.51	103.86	105.38	104.37	7.99	8.01	8.00	13.73	73.81	24.39	0.93	7.46	2.04	31.8	184.0	69.5	WL110813



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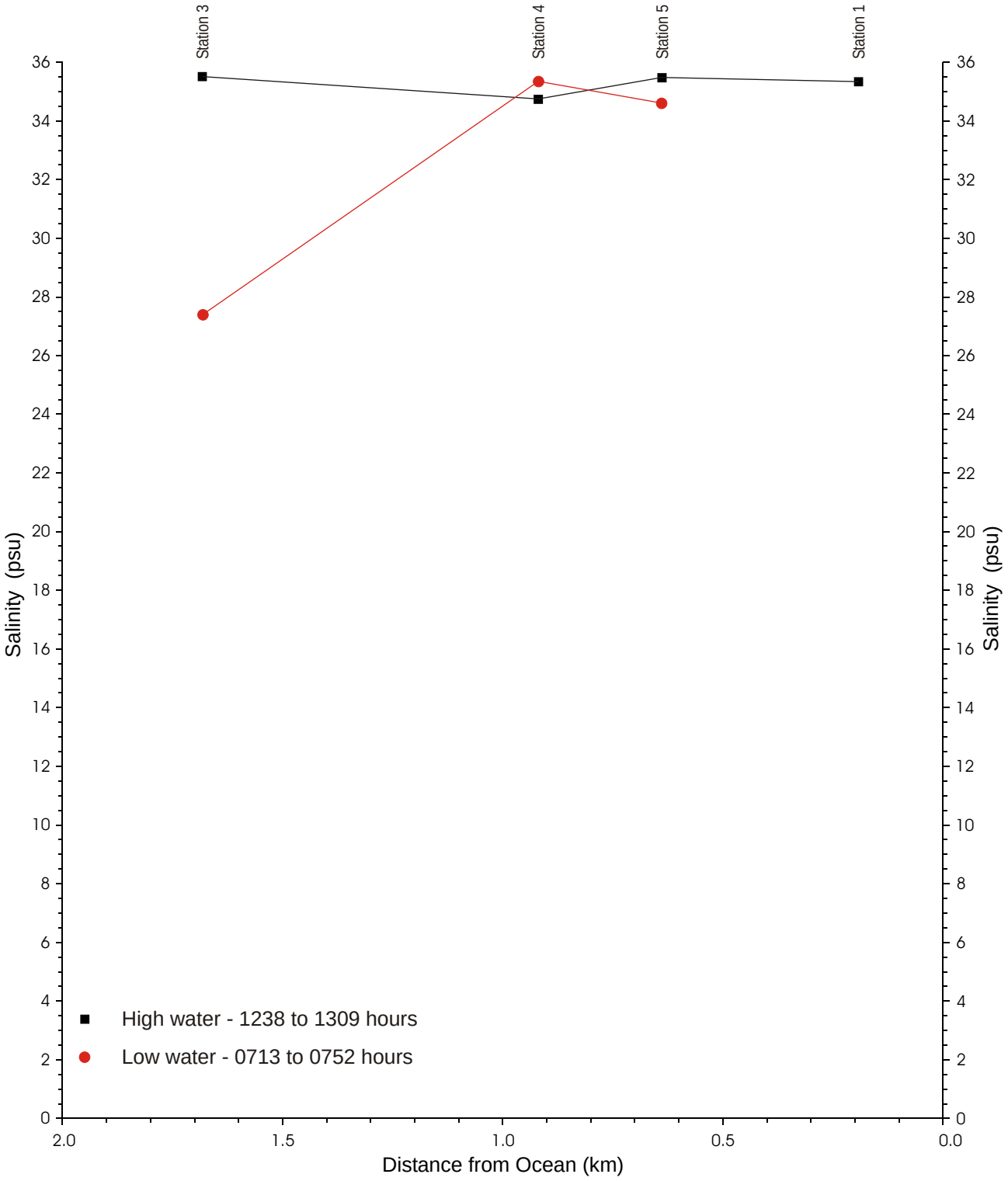
ELLIOT LAKE

12 SEPTEMBER 2002

MHL Report 1812

Figure 216

DRAWING 1812-216.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
ELLIOT CREEK
12 SEPTEMBER 2002

MHL Report 1812

Figure 217

DRAWING 1812-217.CDR

Minnamurra River Data Summary

Data was collected in Minnamurra River on 21 February 1992, as detailed in report MHL614. Water quality profiles were taken in conjunction with the current metering lines at three locations. In addition two S4 current meters, which also measure temperature and salinity, were deployed at a fixed height above the bed, at the entrance and Line 3. A summary of the three profile locations and the corresponding depth-averaged salinity is shown below in Table 291. Summaries of the minimum and maximum values for all parameters measured are shown in Table 292. The locations at which these profiles were taken are shown in Figure 218. Long channel depth-averaged salinity profiles are shown in Figure 219.

Table 291 Minnamurra River - 21 February 1992

Station No.	MGA (m) Zone 56		Chainage (km)	Min Salinity (ppt)	Max Salinity (ppt)
	Easting	Northing			
Entrance	303830	6166085	0.00	22.0	35.0
Line 1	303555	6166340	0.43	15.3	33.4
Line 2	302880	6165690	3.40	2.9	34.1
Line 3	301555	6165480	6.29	0.2	2.3

Note Profiling was done continuously at the four locations. Therefore, only minimum and maximum values are shown

Table 292 Minnamurra River - Water Quality Maxima and Minima - 21 February 1992

Line No.	Temperature (°C)				Salinity (psu)				Dissolved O_2 (mg/L)			
	Time	Min	Time	Max	Time	Min	Time	Max	Time	Min	Time	Max
1	0645	20.5	1500	22.6	1729	15.3	1105	33.4	0543	5.1	1215	8.8
2	0626	20.7	0557	22.4	1733	2.9	1125	34.1	1512	4.8	0642	8.6
3	0745	20.2	1140	20.8	1415	0.2	1145	2.3	0740	3.9	1335	8.0

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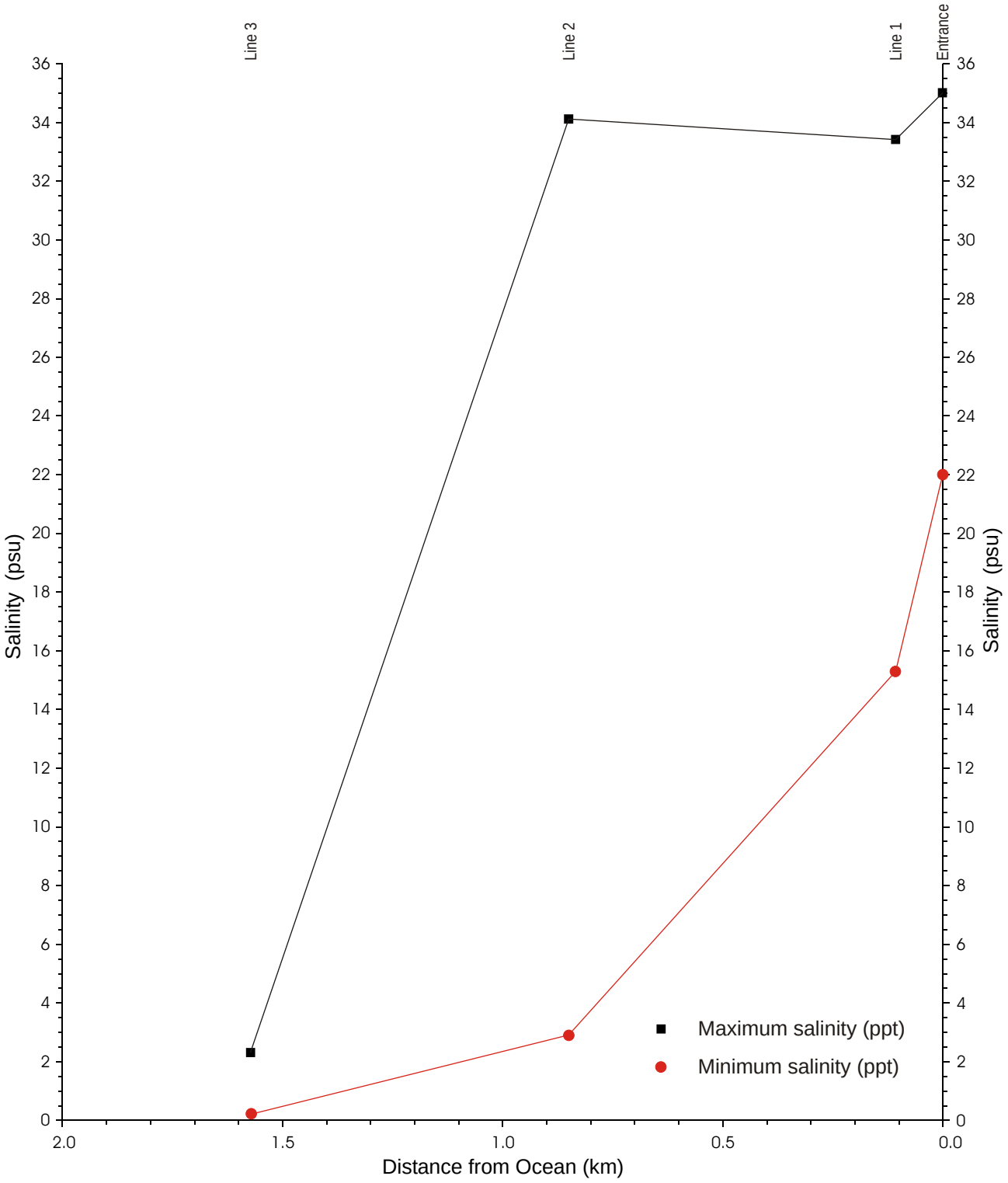
MINNAMURRA RIVER

21 FEBRUARY 1992

MHL Report 1812

Figure 218

DRAWING 1812-218.CDR



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LONG CHANNEL MIN/MAX SALINITY PROFILES
MINNAMURRA RIVER
21 FEBRUARY 1992

MHL Report 1812
Figure 219
DRAWING 1812-219.CDR

Werri Lagoon Data Summary

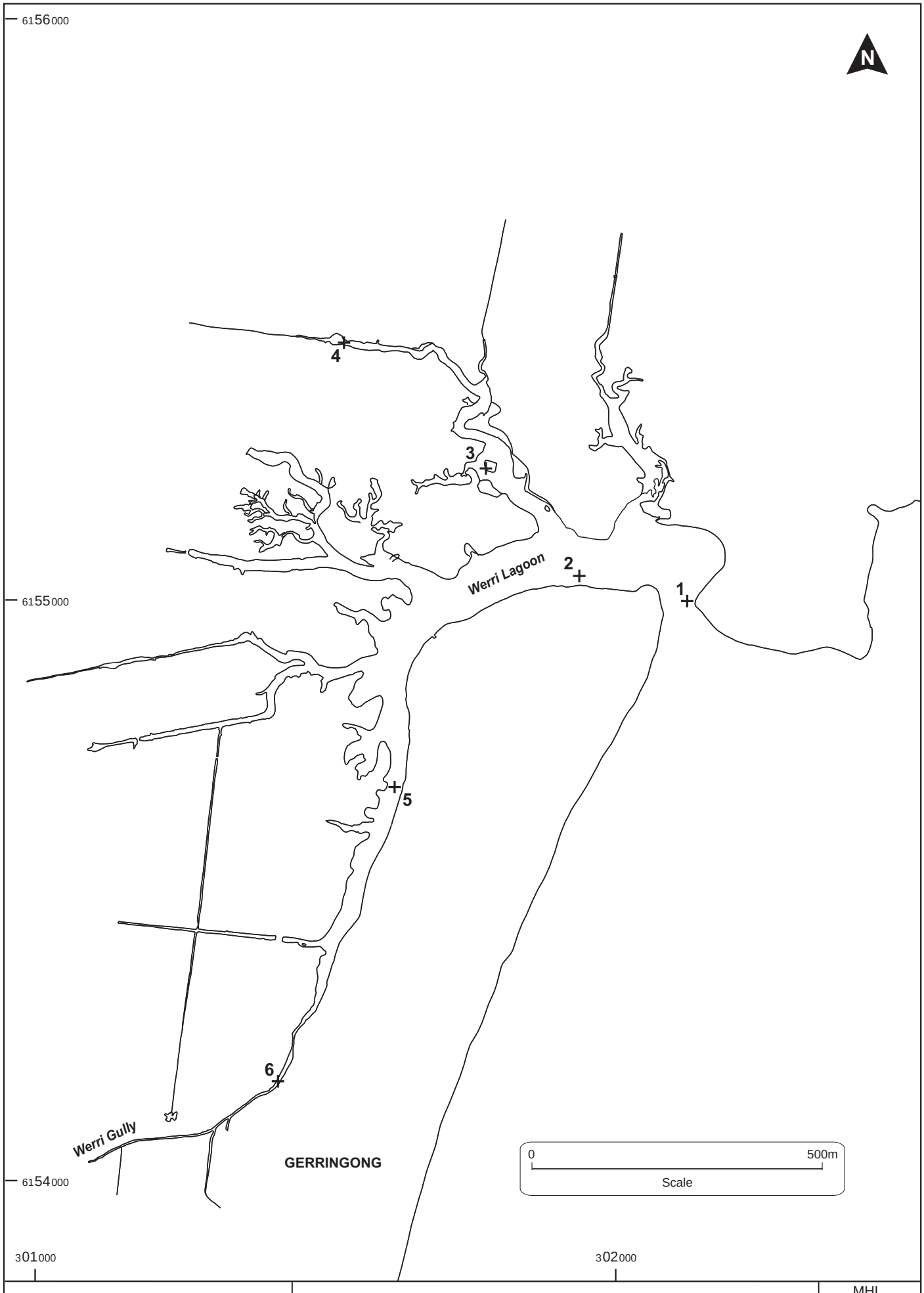
Data was collected in Werri Lagoon on 11 September 2002, when the entrance to the lake was essentially closed, with limited tidal exchange. The water level was not surveyed. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 293. Summaries of the minimum, maximum and mean values for all parameters measured on the single run are shown in Table 294. The locations at which these profiles were taken are shown in Figure 220. Long channel depth-averaged salinity profiles are shown in Figure 221.

Table 293 Werri Lagoon - 11 September 2002

Station No.	MGA (m) Zone 56		Chainage (km)	Salinity (psu)
	Easting	Northing		
1	302118	6154999	0.037	18.17
2	301933	6155042	0.379	18.21
3	301773	6155228	0.634	17.73
4	301529	6155436	1.114	17.64
5	301605	6154678	0.944	17.92
6	301430	6154165	1.498	17.67

Table 294 Werri Lagoon - Water Quality Maxima and Minima - Low Water - 11 September 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1156	0.6	1012.9	1013.0	1013.0	15.13	15.33	15.19	18.11	18.20	18.17	67.35	92.17	73.03	7.73	7.84	7.75	0.55	7.87	1.67	0.00	1.61	0.10	1023.0	5345.0	2315.8	WL110801
2	1205	2.1	1012.9	1013.1	1013.0	15.17	15.75	15.56	18.19	18.25	18.21	82.49	84.88	83.59	7.62	7.67	7.66	1.52	2.01	1.95	1.70	2.72	2.22	641.6	2602.0	1162.2	WL110802
3	1216	0.1	1012.3	1012.5	1012.4	16.60	16.87	16.79	17.70	17.82	17.73	83.03	93.77	85.52	7.46	7.54	7.48	0.00	53.78	19.28	0.05	2.43	1.96	867.2	5505.0	1768.1	WL110803
4	1227	0.6	1012.3	1012.3	1012.3	16.73	16.76	16.75	17.63	17.65	17.64	80.36	81.32	81.02	7.48	7.49	7.48	3.48	3.97	3.56	0.01	2.85	2.24	481.8	3715.0	1332.4	WL110804
5	1242	0.8	1012.7	1012.7	1012.7	15.90	15.90	15.90	17.92	17.92	17.92	78.81	78.81	78.81	7.45	7.45	7.45	2.50	2.50	2.50	1.93	1.93	1.93	1939.0	1939.0	1939.0	WL110805
6	1256	0.9	1012.6	1012.6	1012.6	15.48	15.52	15.51	17.67	17.68	17.67	59.98	62.79	60.76	7.10	7.12	7.11	2.01	3.97	2.99	1.27	1.56	1.39	39.5	47.8	45.5	WL110806



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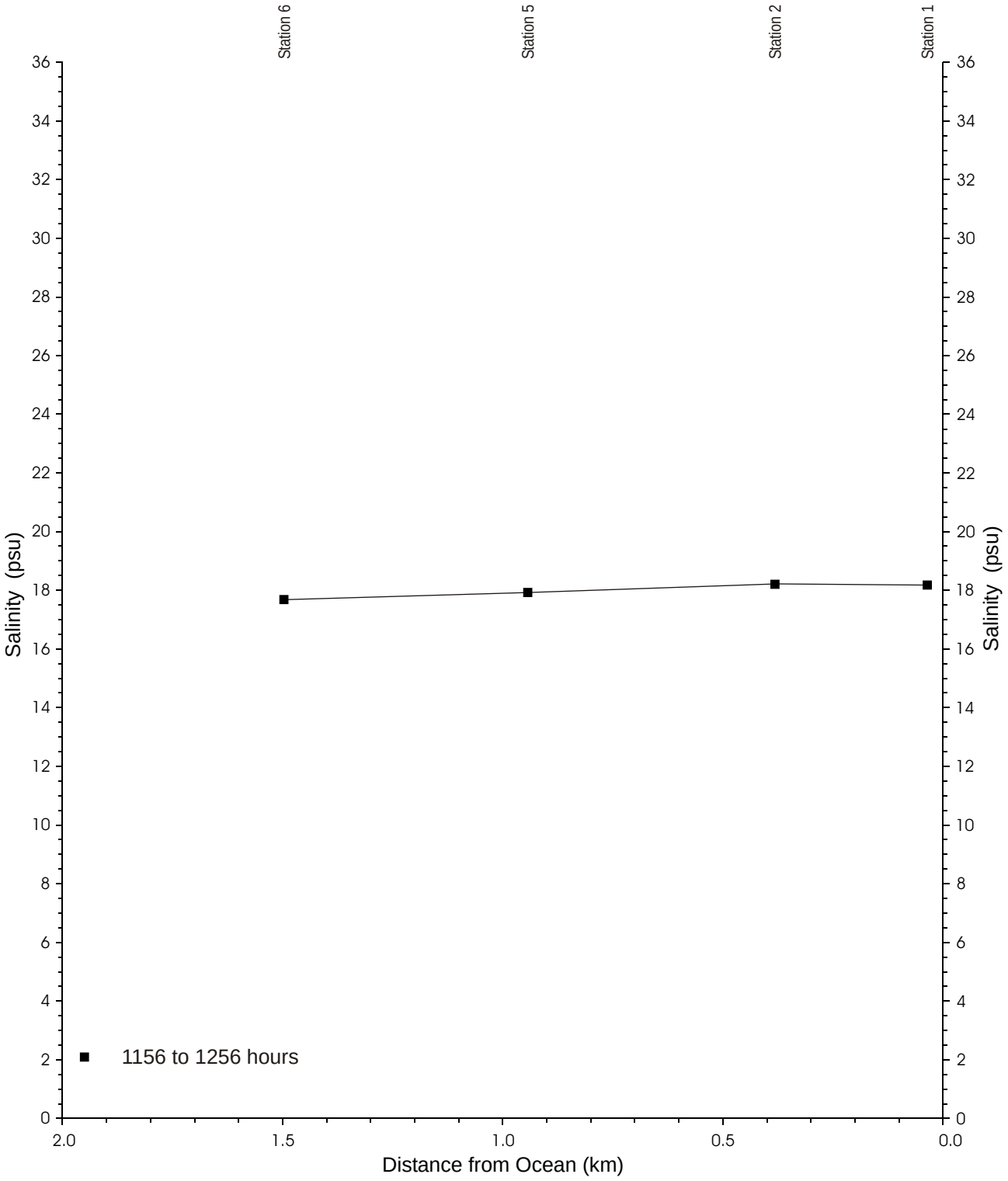
WERRI LAGOON

11 SEPTEMBER 2002

MHL Report 1812

Figure 220

DRAWING 1812-220.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
WERRI LAGOON
11 SEPTEMBER 2002

MHL Report 1812

Figure 221

DRAWING 1812-221.CDR

Shoalhaven River Data Summary

Data has been collected in the Shoalhaven River on four occasions between June 1993 and September 2005.

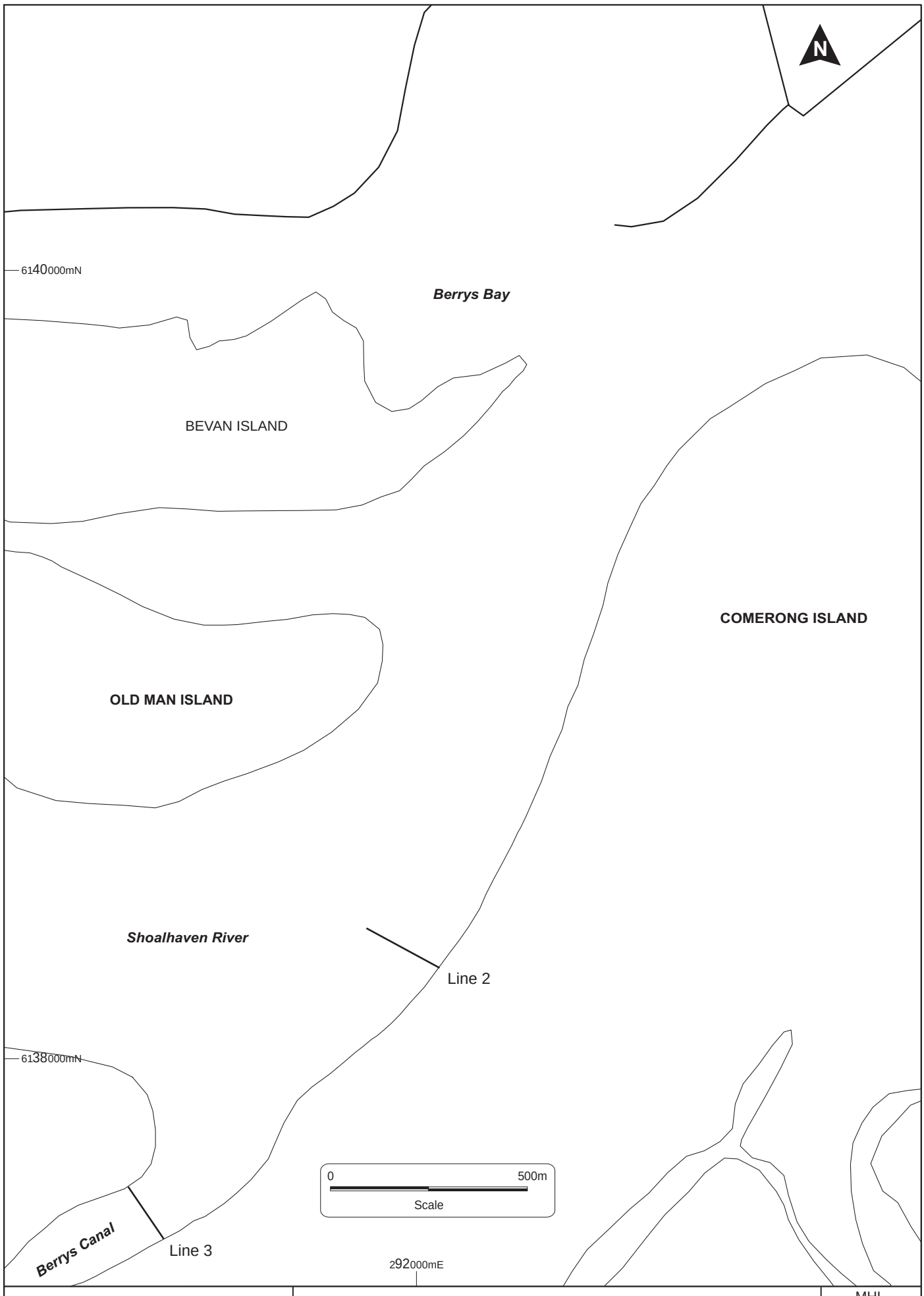
Data was collected in the Shoalhaven River on 2 June 1993, as detailed in report MHL661. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 295. Summaries of the minimum and maximum values for all parameters measured at Line 2 are shown in Table 296. The locations at which these profiles were taken are shown in Figure 222. Long channel depth-averaged salinity profiles have not been plotted.

Table 295 Shoalhaven River - 2 June 1993

Line No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
2	292000	6138250	7.67	35.0	29.2
3	291320	6137610	6.54	30.5	29.5

Table 296 Shoalhaven River - Water Quality Maxima and Minima - 2 June 1993

Cast No.	Line Number	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Dissolved O_2 (mg/L)	
				Min	Max	Min	Max	Min	Max
1	2	1044	5.6	16.4	17.2	32.0	35.0	6.7	7.0
2	2	1215	5.2	16.5	17.3	31.0	35.0	6.8	7.0
3	3	1240	7.4	16.5	16.5	29.5	30.5	6.3	7.2
4	2	1345	4.8	16.6	17.4	29.2	35.0	6.8	7.1
5	2	1646	5.8	16.6	17.4	29.5	35.0	6.8	7.1



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SHOALHAVEN RIVER

2 JUNE 1993

MHL Report 1812

Figure 222

DRAWING 1812-222.CDR

Data was collected in the Shoalhaven River on 28 August 1996, as detailed in report MHL786. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 297. Summaries of the minimum and maximum values for all parameters measured on the profiling runs are shown in Table 298. The locations at which these profiles were taken are shown in Figure 223. Long channel depth-averaged salinity profiles are shown in Figures 224 to 226.

Table 297 Shoalhaven River - 28 August 1996

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
Long 1	291730	6137970	6.79	34.43	29.49
Long 2	291920	6138090	7.02	33.95	30.57
Long 3	292145	6138390	7.39	33.55	-
Long 4	292310	6138735	7.77	32.75	29.86
Long 5	292445	6139150	8.20	31.85	28.48
Long 6	292620	6139685	8.75	30.94	29.72
Long 7	292885	6139925	9.11	30.89	30.60
Cross 1	292310	6138735	0.01	32.11	29.35
Cross 2	292265	6138745	0.06	31.67	29.07
Cross 3	292230	6138770	0.11	31.57	28.82
Cross 4	292190	6138785	0.15	31.59	28.93

Note Chainage on longitudinal profiles is distance from ocean at Crookhaven Lighthouse
Chainage of cross-sectional profiles was 7.8km from ocean. Chainage shown is distance from Comerong Island

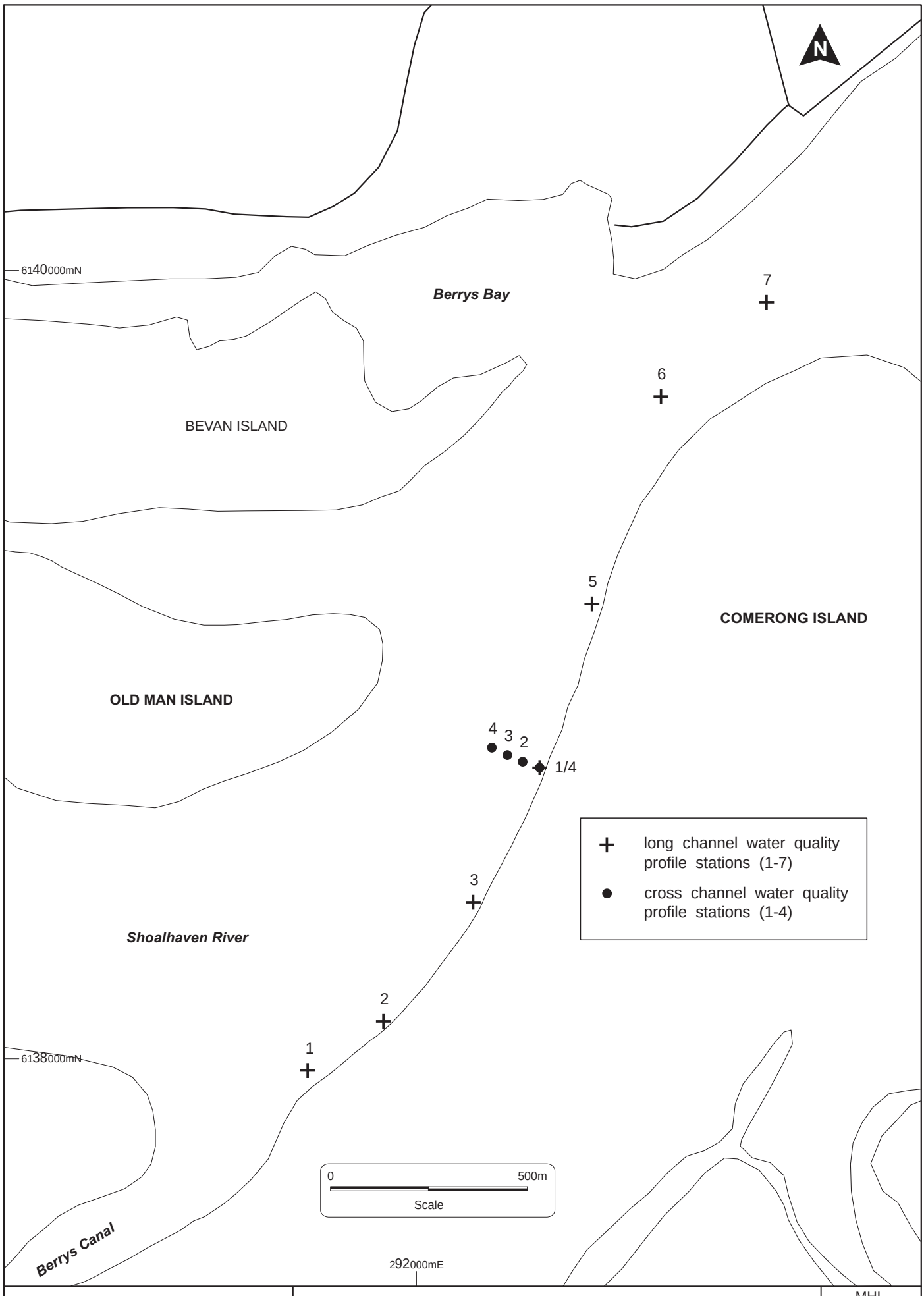
Table 298 Shoalhaven River - Water Quality Maxima and Minima - Long Channel Transects - 28 August 1996

Transect #	Station #	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		pH		Backscatterance (NTU)		File Name (*.CNV)
				Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1	0905	8.45	13.719	13.822	33.826	34.568	46986	47919	1025.32	1025.94	8.29	8.30	4	85	SHH10005
	2	0909	5.28	13.746	13.951	32.511	34.319	45333	47608	1024.28	1025.74	8.29	8.30	4	5	SHH10006
	3	0913	6.63	13.782	13.994	30.963	34.211	43386	47457	1023.07	1025.62	8.28	8.30	3	6	SHH10007
	4	0916	5.34	13.966	14.105	30.075	34.304	42266	47557	1022.39	1025.65	8.28	8.29	3	7	SHH10008
	5	0920	5.13	13.953	14.117	28.500	34.371	40269	47640	1021.18	1025.70	8.27	8.32	3	10	SHH10009
	6	0924	4.05	13.964	14.138	28.115	34.019	39775	47200	1020.88	1025.42	8.28	8.30	3	5	SHH10010
	7	0929	4.16	13.956	14.161	27.736	34.234	39291	47463	1020.59	1025.58	8.25	8.37	3	4	SHH10011
2	1	1006	9.17	13.699	14.083	31.045	34.827	43482	48245	1023.12	1026.16	8.28	8.31	3	5	SHH10016
	2	1010	5.58	13.734	14.106	28.796	34.640	40634	48009	1021.38	1025.99	8.28	8.30	3	4	SHH10017
	3	1013	6.50	13.755	14.103	27.941	34.336	39546	47629	1020.73	1025.75	8.28	8.33	3	6	SHH10018
	4	1018	5.20	13.967	14.259	27.947	34.270	39550	47517	1020.70	1025.63	8.28	8.37	3	4	SHH10019
	5	1022	5.02	14.019	14.167	28.256	34.227	39944	47456	1020.96	1025.58	8.27	8.33	3	4	SHH10020
	6	1026	3.97	14.015	14.183	27.697	34.334	39234	47586	1020.54	1025.65	8.27	8.37	3	4	SHH10021
	7	1030	3.44	13.943	14.159	27.349	32.996	38788	45923	1020.27	1024.62	8.27	8.37	3	4	SHH10022
3	1	1105	7.19	13.817	14.373	28.069	33.696	39690	46828	1020.77	1025.25	8.29	8.33	3	6	SHH10027
	2	1110	3.49	14.104	14.650	27.890	32.010	39442	44693	1020.58	1023.87	8.28	8.31	3	4	SHH10028
	3	1114	6.59	13.749	14.637	27.752	34.363	39268	47663	1020.48	1025.77	8.28	8.34	3	4	SHH10029
	4	1119	4.90	14.028	14.433	27.854	34.312	39410	47563	1020.59	1025.65	8.28	8.34	3	4	SHH10030
	5	1123	4.61	14.114	14.548	27.639	34.292	39127	47534	1020.40	1025.62	8.28	8.36	3	5	SHH10031
	6	1127	3.58	14.105	14.271	27.866	34.082	39436	47275	1020.63	1025.46	8.28	8.35	3	3	SHH10032
	7	1132	3.47	14.134	14.443	27.421	33.773	38856	46878	1020.25	1025.19	8.28	8.38	3	3	SHH10033
4	1	1208	7.22	13.801	14.550	29.129	34.229	41030	47488	1021.56	1025.66	8.30	8.32	3	388	SHH10038
	2	1212	5.61	13.788	14.858	27.872	34.425	39406	47737	1020.53	1025.81	8.29	8.34	3	5	SHH10039
	3	1216	6.24	13.969	14.676	27.787	34.162	39306	47385	1020.49	1025.55	8.28	8.34	3	4	SHH10040
	4	1221	4.76	14.079	14.639	27.623	34.083	39100	47277	1020.37	1025.47	8.29	8.36	3	3	SHH10041
	5	1226	4.60	14.171	14.673	27.554	34.308	39010	47546	1020.31	1025.62	8.29	8.37	3	3	SHH10042
	6	1230	2.85	14.163	14.625	28.309	32.884	39976	45778	1020.90	1024.52	8.30	8.33	3	4	SHH10043
	7	1234	3.53	14.184	14.519	27.746	33.388	39265	46402	1020.49	1024.90	8.29	8.37	3	3	SHH10044
5	1	1305	7.19	13.902	14.912	28.395	34.208	40069	47457	1020.92	1025.63	8.30	8.34	3	18	SHH10049
	2	1309	5.64	13.915	15.134	27.900	34.304	39440	47574	1020.55	1025.69	8.29	8.35	3	4	SHH10050
	3	1313	5.82	14.128	14.943	27.749	34.199	39239	47424	1020.40	1025.57	8.29	8.35	3	4	SHH10051
	4	1318	4.53	14.107	14.762	27.716	34.099	39210	47295	1020.42	1025.48	8.30	8.36	3	4	SHH10052
	5	1322	4.35	14.250	14.797	27.727	34.245	39221	47468	1020.42	1025.57	8.28	8.34	3	4	SHH10053
	6	1327	2.68	14.427	14.882	28.636	32.213	40373	44921	1021.10	1023.96	8.32	8.33	4	4	SHH10054
	7	1331	1.66	14.652	14.940	27.719	28.922	39201	40754	1020.38	1021.37	8.39	8.42	3	3	SHH10055
6	1	1412	4.32	14.143	14.991	28.728	33.308	40481	46313	1021.15	1024.87	8.28	8.33	3	5	SHH10060
	2	1416	5.75	14.144	14.950	28.126	34.041	39719	47226	1020.69	1025.44	8.29	8.34	3	4	SHH10061
	3	1420	5.62	14.193	15.163	27.849	34.044	39352	47225	1020.43	1025.43	8.30	8.35	3	4	SHH10062
	4	1425	4.43	14.220	14.991	28.054	34.061	39625	47240	1020.63	1025.43	8.30	8.35	3	5	SHH10063
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	1435	3.22	14.334	14.997	28.065	33.264	39639	46234	1020.64	1024.78	8.30	8.40	3	28	SHH10064
	7	1439	3.27	14.441	15.061	27.962	33.537	39503	46572	1020.55	1024.98	8.28	8.40	3	8	SHH10065

(continued)

Table 298 Shoalhaven River - Water Quality Maxima and Minima - Long Channel Transects - 28 August 1996 (continued)

Transect #	Station #	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		pH		Backscatterance (NTU)		File Name (*.CNV)
				Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
7	1	1530	4.63	14.267	14.844	27.845	33.297	39374	46289	1020.51	1024.84	8.29	8.31	3	153	SHH10070
	2	1534	4.89	14.229	15.006	28.303	33.452	39944	46482	1020.83	1024.96	8.28	8.31	3	42	SHH10071
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	1543	4.30	14.303	15.094	28.223	33.726	39837	46818	1020.75	1025.16	8.30	8.35	2	5	SHH10072
	5	1548	4.22	14.387	15.215	28.107	34.068	39679	47237	1020.63	1025.41	8.31	8.36	0	482	SHH10073
	6	1553	3.32	14.506	15.254	28.436	33.070	40100	45982	1020.89	1024.60	8.31	8.38	3	4	SHH10074
	7	1556	3.41	14.537	15.242	27.944	33.520	39467	46542	1020.49	1024.95	8.32	8.44	2	193	SHH10075
8	1	1748	7.24	12.915	14.594	29.418	33.515	41387	46687	1021.76	1025.29	8.30	8.31	3	74	SHH20005
	2	1754	4.97	14.445	14.547	28.724	30.465	40517	42722	1021.26	1022.61	8.30	8.31	3	4	SHH20006
	3	1758	6.34	14.332	14.562	28.656	34.001	40425	47160	1021.19	1025.37	8.30	8.31	3	4	SHH20007
	4	1803	4.76	14.396	14.548	28.892	33.567	40728	46613	1021.38	1025.02	8.31	8.31	3	49	SHH20008
	5	1807	4.98	14.402	14.600	28.277	33.854	39943	46970	1020.90	1025.24	8.31	8.33	3	253	SHH20009
	6	1812	3.94	14.433	15.046	28.112	33.473	39723	46493	1020.74	1024.93	8.30	8.34	3	5	SHH20010
	7	1817	3.76	14.575	15.008	28.334	33.059	39987	45965	1020.86	1024.58	8.33	8.37	3	37	SHH20011
9	1	1847	7.12	14.602	14.618	31.250	31.461	43695	43964	1023.16	1023.36	8.30	8.31	4	5	SHH20016
	2	1852	6.20	14.304	14.606	30.308	33.816	42517	46932	1022.46	1025.24	8.30	8.31	4	4	SHH20017
	3	1856	6.24	14.353	14.606	30.092	33.824	42247	46938	1022.30	1025.23	8.31	8.32	3	5	SHH20018
	4	1902	4.90	14.451	14.547	29.677	31.940	41722	44577	1021.98	1023.75	8.31	8.31	3	5	SHH20019
	5	1906	5.02	14.399	14.528	29.072	33.741	40959	46829	1021.52	1025.15	8.31	8.32	3	5	SHH20020
	6	1910	4.30	14.266	14.707	28.647	34.338	40400	47583	1021.14	1025.64	8.29	8.34	3	4	SHH20021
	7	1915	4.23	14.393	14.979	28.260	33.705	39896	46777	1020.81	1025.11	8.31	8.35	3	4	SHH20022
10	1	1954	7.39	13.935	14.051	34.507	34.938	47810	48358	1025.80	1026.18	8.32	8.33	4	224	SHH20027
	2	1958	6.58	14.042	14.188	34.326	34.764	47573	48132	1025.63	1026.02	8.33	8.33	4	21	SHH20028
	3	2003	6.75	14.117	14.451	31.812	34.595	44420	47916	1023.65	1025.88	8.32	8.33	4	418	SHH20029
	4	2009	5.42	14.224	14.562	30.379	34.292	42612	47530	1022.53	1025.62	8.31	8.33	4	19	SHH20030
	5	2015	5.40	14.368	14.653	29.107	33.476	40988	46503	1021.51	1024.96	8.31	8.33	3	4	SHH20031
	6	2021	4.17	14.435	14.765	28.514	32.018	40226	44676	1021.03	1023.81	8.32	8.35	3	4	SHH20032
	7	2026	3.99	14.393	14.856	28.299	31.343	39946	43833	1020.84	1023.30	8.32	8.37	3	6	SHH20033
11	1	2053	7.56	13.585	13.816	34.794	35.161	48190	48669	1026.07	1026.43	8.32	8.33	3	4	SHH20038
	2	2058	6.50	13.736	13.805	35.048	35.133	48505	48620	1026.27	1026.38	8.32	8.33	4	4	SHH20039
	3	2102	6.79	13.753	14.330	30.945	35.116	43335	48595	1022.99	1026.35	8.31	8.34	3	4	SHH20040
	4	2106	5.51	13.855	14.374	29.968	34.995	42108	48437	1022.25	1026.24	8.29	8.31	3	4	SHH20041
	5	2111	5.45	14.011	14.711	28.846	34.773	40654	48147	1021.30	1026.03	8.31	8.34	3	5	SHH20042
	6	2116	4.47	14.278	14.673	28.348	33.773	40025	46880	1020.93	1025.20	8.32	8.34	3	4	SHH20043
	7	2120	3.96	14.388	14.829	28.225	33.073	39860	45998	1020.81	1024.63	8.30	8.35	3	4	SHH20044



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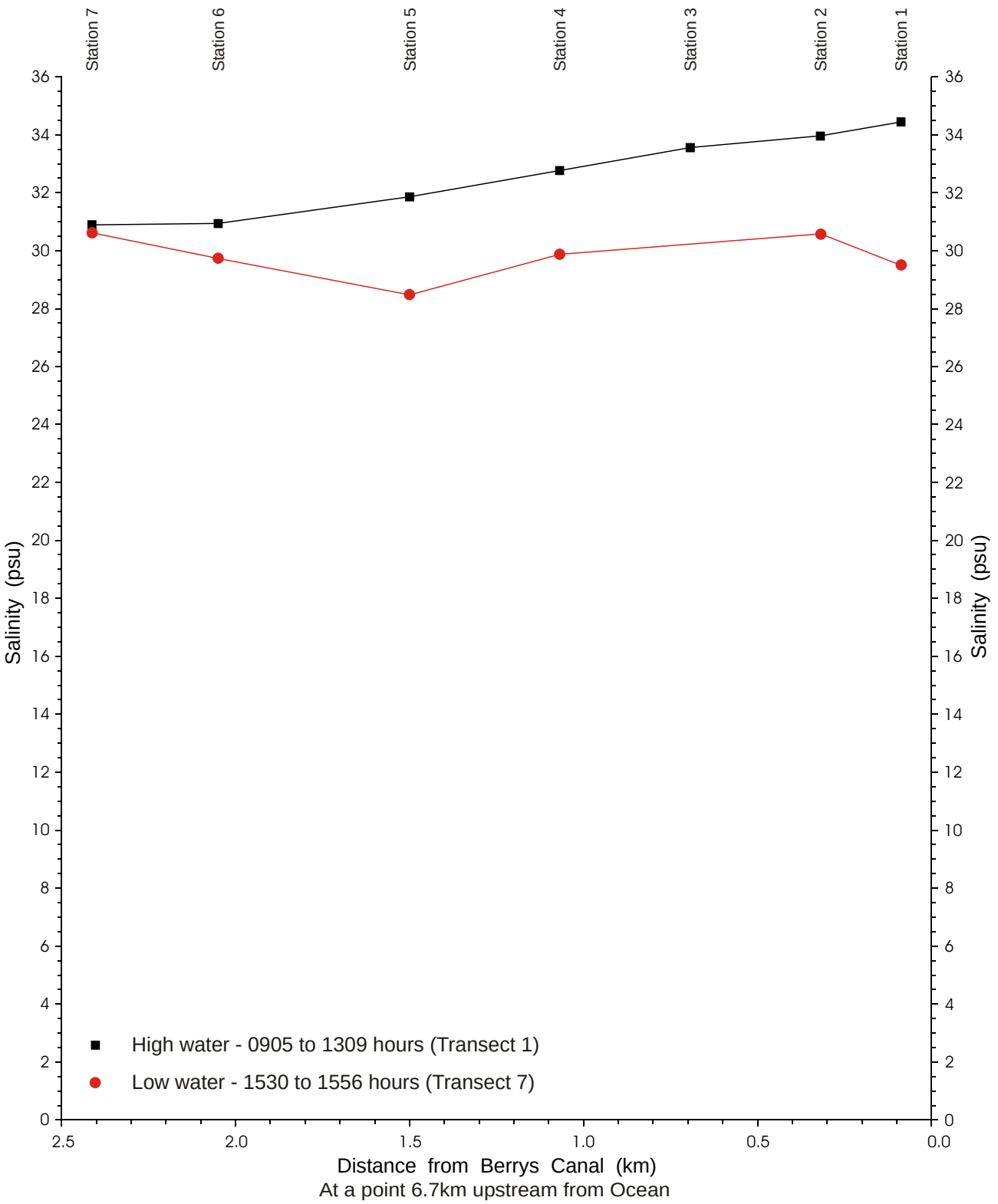
SHOALHAVEN RIVER

28 AUGUST 1996

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Figure 223

DRAWING 1812-223.CDR



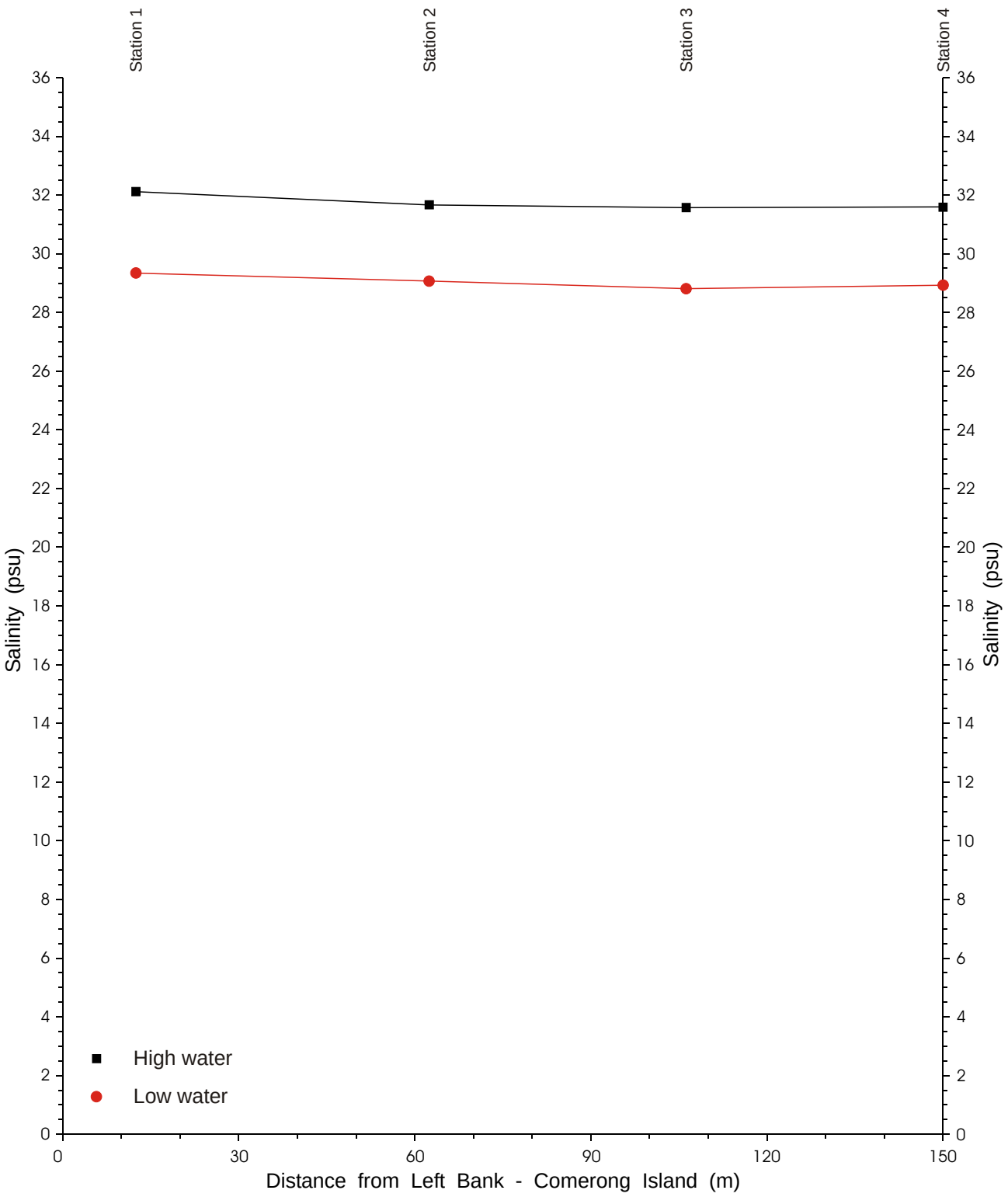
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
SHOALHAVEN RIVER
HIGH AND LOW WATER - 28 AUGUST 1996

MHL Report 1812

Figure 224

DRAWING 1812-224.CDR



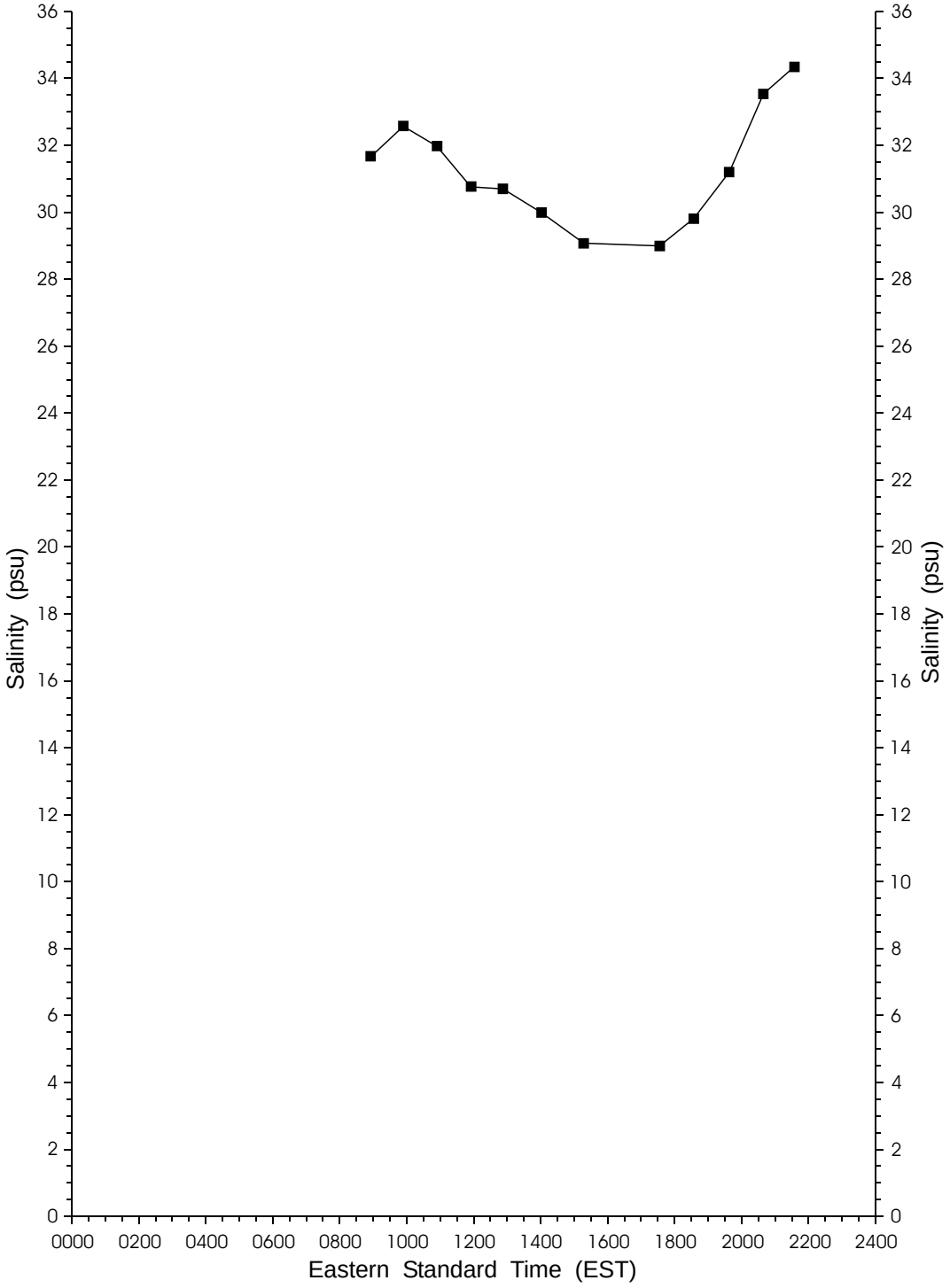
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CROSS CHANNEL DEPTH AVERAGED SALINITY PROFILES
SHOALHAVEN RIVER
HIGH AND LOW WATER - 28 AUGUST 1996

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Figure 225

DRAWING 1812-225.CDR



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TIME SERIES DEPTH AVERAGED SALINITY PROFILES
SHOALHAVEN RIVER
CROSS SECTION STATION 2 - 28 AUGUST 1996

MHL Report 1812

Figure 226

DRAWING 1812-226.CDR

Data was collected in the Shoalhaven River on 3 January 2003. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 299. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Table 300a-b. The locations at which these profiles were taken are shown in Figure 227. Long channel depth-averaged salinity profiles are shown in Figure 228.

Table 299 Shoalhaven River - 3 January 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	295685	6135535	0.800	35.32	34.72
2	292058	6136445	5.000	35.32	33.88
3	291162	6138156	8.000	35.29	32.76
4	287272	6140724	12.650	34.42	30.28
5	280842	6139472	19.400	30.50	27.42
6	277924	6138198	23.775	27.37	26.06
7	276188	6139378	28.900	24.54	23.04
8	273016	6139507	33.925	22.03	17.42
9	272681	6137288	38.825	17.11	15.36
10	270744	6136233	43.575	14.49	11.70
11	268455	6137663	48.725	9.46	9.22
12	267818	6138907	50.175	7.54	-

Note Chainage is distance from ocean at Crookhaven Lighthouse.
Profiling stopped at Station 12 on high water run and Station 11 on low water run due to shoals

Table 300a Shoalhaven River - Water Quality Maxima and Minima - High Water - 3 January 2003

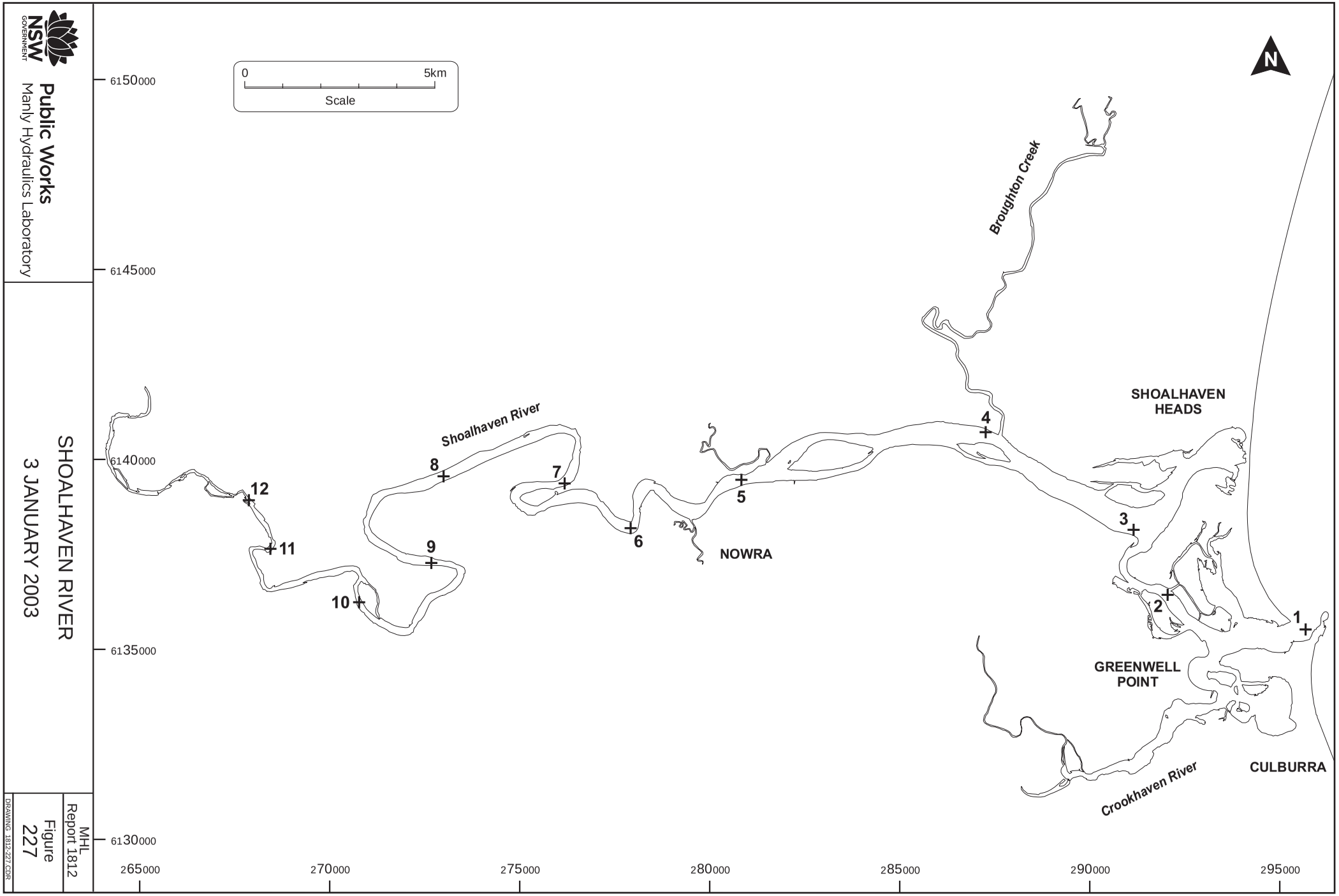
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0949	6.9	1025.2	1025.8	1025.7	17.05	18.17	17.42	34.99	35.48	35.32	87.43	90.99	88.68	7.82	7.86	7.84	0.00	0.00	0.00	SHHV01
2	1028	5.1	1025.6	1025.7	1025.7	17.24	17.41	17.30	35.29	35.34	35.32	82.79	85.25	83.45	7.83	7.85	7.84	0.00	0.00	0.00	SHHV02
3	1042	4.5	1025.7	1025.7	1025.7	17.15	17.20	17.16	35.27	35.30	35.29	78.96	80.49	79.64	7.81	7.82	7.81	0.00	0.48	0.01	SHHV03
4	1109	6.5	1024.2	1024.6	1024.4	19.47	20.09	19.76	34.27	34.54	34.42	86.38	87.94	87.09	7.77	7.78	7.78	0.00	0.97	0.16	SHHV04
5	1127	10.0	1019.8	1020.6	1020.4	23.46	23.97	23.59	29.95	30.70	30.50	72.72	74.96	73.39	7.53	7.54	7.53	0.00	3.42	0.25	SHHV05
6	1140	16.3	1017.5	1018.1	1017.9	24.05	24.42	24.15	27.07	27.64	27.37	67.17	70.58	68.47	7.36	7.38	7.37	0.00	0.00	0.00	SHHV06
7	1154	3.4	1015.5	1015.6	1015.5	24.72	24.84	24.78	24.48	24.65	24.54	77.69	78.11	77.94	7.36	7.36	7.36	0.00	0.00	0.00	SHHV07
8	1205	3.2	1013.4	1013.6	1013.5	25.22	25.26	25.24	21.95	22.13	22.03	82.01	82.62	82.37	7.35	7.35	7.35	0.00	0.00	0.00	SHHV08
9	1216	3.7	1009.4	1010.1	1009.8	25.04	25.32	25.21	16.58	17.39	17.11	81.61	82.66	82.08	7.22	7.24	7.23	0.00	0.00	0.00	SHHV09
10	1227	3.1	1007.7	1008.0	1007.9	24.92	25.49	25.12	14.33	14.56	14.49	79.04	81.35	79.66	7.09	7.11	7.10	0.00	0.48	0.04	SHHV10
11	1240	7.2	1003.8	1004.5	1004.2	24.80	25.54	25.03	9.14	9.79	9.46	77.86	84.99	81.40	6.93	7.01	6.98	0.00	0.48	0.02	SHHV11
12	1250	1.5	1002.1	1002.7	1002.4	26.12	26.63	26.32	7.31	7.88	7.54	87.15	90.59	88.14	6.94	6.98	6.96	0.00	0.00	0.00	SHHV12

Note Profiling stopped at Station 12 due to shoals

Table 300b Shoalhaven River - Water Quality Maxima and Minima - Low Water - 3 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1707	8.3	1024.4	1024.5	1024.5	20.29	20.42	20.35	34.70	34.75	34.72	100.39	101.98	101.24	7.79	7.81	7.80	0.00	0.48	0.01	SHHV13
2	1748	4.5	1023.5	1023.5	1023.5	21.53	21.56	21.54	33.87	33.89	33.88	95.97	96.83	96.54	7.76	7.77	7.76	0.00	0.00	0.00	SHHV14
3	1800	3.2	1022.2	1022.9	1022.3	22.30	22.77	22.71	32.67	33.35	32.76	88.00	89.76	89.38	7.69	7.71	7.69	0.00	0.00	0.00	SHHV15
4	1813	5.5	1019.8	1020.2	1020.0	24.14	24.26	24.21	29.99	30.53	30.28	81.03	83.97	82.73	7.53	7.58	7.56	0.00	0.00	0.00	SHHV16
5	1838	2.2	1017.6	1017.9	1017.7	24.57	24.62	24.60	27.23	27.55	27.42	78.08	80.39	79.52	7.42	7.43	7.43	0.00	0.00	0.00	SHHV17
6	1859	14.6	1015.7	1018.2	1016.7	24.05	25.13	24.75	24.82	27.75	26.06	67.41	87.51	80.59	7.33	7.43	7.39	0.00	4.39	0.02	SHHV18
7	1912	11.3	1013.3	1016.0	1014.2	24.64	25.77	25.40	21.96	25.01	23.04	76.91	88.57	85.16	7.33	7.40	7.37	0.00	0.00	0.00	SHHV19
8	1930	1.9	1010.1	1010.1	1010.1	25.16	25.23	25.20	17.42	17.43	17.42	85.19	85.53	85.35	7.28	7.28	7.28	0.00	0.00	0.00	SHHV20
9	1943	2.7	1008.3	1008.8	1008.5	25.02	25.36	25.27	15.07	15.71	15.36	82.06	85.38	84.37	7.15	7.16	7.16	0.00	0.00	0.00	SHHV21
10	1959	1.9	1005.3	1005.9	1005.6	25.60	25.95	25.83	11.22	12.14	11.70	86.63	89.91	88.84	7.09	7.13	7.11	0.00	0.00	0.00	SHHV22
11	2029	6.0	1003.0	1004.4	1003.9	24.85	26.03	25.35	8.28	9.70	9.22	78.99	94.41	88.12	6.93	7.04	7.00	0.00	0.48	0.00	SHHV23
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note Profiling stopped at Station 11 due to shoals


NSW GOVERNMENT
Public Works
Manly Hydraulics Laboratory
SHOALHAVEN RIVER
3 JANUARY 2003
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Figure 227
DRAWING 1812-227.CDR
0
5km
Scale
N
6150000
6145000
6140000
6135000
6130000
265000
270000
275000
280000
285000
290000
295000
Broughton Creek
Shoalhaven River
SHOALHAVEN HEADS
NOWRA
GREENWELL POINT
CULBURRA
Crookhaven River
1
2
3
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11
12

Public Works
Manly Hydraulics Laboratory

LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
SHOALHAVEN RIVER
3 JANUARY 2003

MHL Report 1812

Figure 228

DRAWING 1812-228.CDR

Data was collected in the Shoalhaven River on 19, 20 and 22 September and 2 November 2005, as detailed in report MHL1450. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 301 to 303. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 304a to 306b. The locations at which these profiles were taken are shown in Figures 229 and 230. Long channel depth-averaged salinity profiles are shown in Figures 231 to 233.

Table 301 Broughton Creek - 19 September 2005

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
B1	287676	6140705	12.69	31.63	26.86
B2	286796	6142135	14.72	27.39	25.35
B3	285640	6143689	16.84	26.11	23.37
B4	286640	6143239	18.78	23.91	21.46
B5	287584	6144337	20.62	21.95	19.27
B6	288504	6145588	22.42	19.90	19.08
B7	288805	6146943	23.94	18.94	18.65
B8	289303	6147795	24.95	18.06	18.19
B9	290355	6148227	26.38	17.10	16.06
B10	290563	6148813	26.93	-	16.18
B11	290478	6149098	27.48	14.49	-
B12	290161	6148417	26.93	-	16.10
B13	290006	6148313	27.16	16.05	-

Note Chainage is distance from ocean at Crookhaven Lighthouse
Profiles were not done at Stations 10 and 12 on the high water run. Shoals in the creek prevented access upstream from Stations 10 and 12 on the low water run
Stations B12 and B13 were in Broughton Mill Creek

Table 302 Shoalhaven River - 20 September 2005

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
S1	295685	6135535	0.80	35.51	34.28
S2	292058	6136445	5.00	35.46	32.72
S3	291464	6137621	7.30	35.33	31.28
S4	287272	6140724	12.65	32.04	26.40
S5	280842	6139472	19.40	24.88	22.06
S6	277924	6138198	23.78	21.82	20.24
S7	276188	6139378	28.90	17.98	16.22
S8	273016	6139507	33.93	13.55	9.01
S9	272681	6137288	38.83	8.21	6.87
S10	270667	6137076	44.40	3.94	2.79
S11	268515	6136530	46.67	1.81	2.84
S12	267818	6138907	50.18	0.07	-

Note Chainage is distance upstream from Crookhaven Lighthouse
On the low water run shoals in the river prevented access upstream from Station 11

Table 303 Crookhaven River/Creek - 22 September and 2 November 2005

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
C1	293291	6134845	2.80	34.88	33.22
C2	293534	6133516	4.60	34.35	33.98
C3	292777	6133417	5.38	34.35	33.86
C4	291768	6132538	6.81	32.14	33.63
C5	289465	6131576	9.34	30.36	30.27
C6	288779	6132833	10.96	29.23	23.43
C7	288066	6132670	12.34	28.32	19.47
C8	287478	6134113	14.37	-	16.13

Note Chainage is distance upstream from Crookhaven Lighthouse
On the low water run debris in the creek prevented access upstream from Station 8. On the high water run a water pipe across the creek prevented access upstream from Station 7

Table 304a Broughton Creek - Water Quality Maxima and Minima - High Water - 19 September 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1053	3.7	1022.6	1024.0	1023.4	14.99	15.21	15.04	30.70	32.41	31.63	86.17	89.79	87.64	7.81	7.95	7.87	3.99	5.46	4.43	0.00	0.41	0.03	399.4	4178.9	1109.8	SH050919001
2	1100	4.7	1019.9	1020.2	1020.1	14.98	15.48	15.15	27.24	27.47	27.39	77.47	78.91	78.05	7.73	7.75	7.74	3.01	4.97	3.99	0.00	0.00	0.00	195.1	4464.6	980.2	SH050919002
3	1108	3.5	1018.6	1019.3	1019.1	15.12	15.64	15.22	25.55	26.31	26.11	83.75	85.71	84.20	7.75	7.77	7.76	3.50	4.97	4.32	0.00	1.16	0.53	398.0	4948.4	1419.2	SH050919003
4	1115	2.5	1017.1	1017.7	1017.4	15.21	15.56	15.33	23.61	24.26	23.91	87.20	88.58	87.78	7.63	7.67	7.65	3.01	4.48	3.59	0.00	1.45	0.96	690.6	5545.3	1645.0	SH050919004
5	1123	2.7	1015.4	1016.1	1015.8	15.30	15.83	15.49	21.41	22.26	21.95	88.26	89.95	89.11	7.67	7.71	7.69	3.01	4.48	3.21	0.00	1.53	0.69	602.8	5404.5	1667.1	SH050919005
6	1130	4.2	1012.2	1014.6	1014.3	15.52	16.10	15.65	17.33	20.30	19.90	88.87	91.67	89.72	7.52	7.61	7.58	2.52	3.50	3.10	0.18	1.74	1.03	268.6	4717.6	1083.1	SH050919006
7	1136	3.3	1010.6	1013.8	1013.5	15.45	16.06	15.93	15.15	19.44	18.94	90.29	92.26	91.45	7.44	7.56	7.51	3.01	3.50	3.20	0.55	2.36	1.84	382.2	4648.8	1115.3	SH050919007
8	1142	3.6	1010.7	1013.3	1012.7	15.91	16.54	16.31	15.34	18.77	18.06	90.98	93.50	91.90	7.42	7.51	7.48	3.01	3.50	3.14	1.09	3.19	2.18	302.1	4700.3	1089.4	SH050919008
9	1151	2.2	1010.5	1012.2	1011.8	16.94	17.29	17.08	15.42	17.60	17.10	89.69	91.34	90.16	7.41	7.55	7.49	3.01	3.50	3.26	1.58	4.35	2.78	754.2	5752.9	1925.7	SH050919009
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	1207	0.9	1008.8	1009.7	1009.5	18.39	18.88	18.79	13.51	14.82	14.49	72.38	78.59	74.95	7.07	7.40	7.14	3.99	4.97	4.44	6.08	9.42	7.90	600.6	2056.4	1347.0	SH050919010
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	1223	1.9	1010.4	1010.9	1010.7	18.47	18.56	18.50	15.68	16.28	16.05	77.06	79.27	77.72	7.22	7.26	7.24	4.97	5.94	5.45	6.73	9.09	8.39	262.8	2601.5	927.9	SH050919011

Note Profiles were not done at Stations 10 and 12 on the high water run

Table 304b Broughton Creek - Water Quality Maxima and Minima - Low Water - 19 September 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1650	2.7	1019.2	1020.2	1019.6	15.38	15.69	15.56	26.44	27.54	26.86	78.63	82.23	81.00	7.95	7.97	7.95	3.50	4.48	4.08	0.00	0.88	0.42	56.8	757.0	188.7	SH050919012
2	1658	4.2	1017.8	1019.4	1018.4	15.36	15.72	15.55	24.55	26.58	25.35	83.21	88.34	86.66	7.93	7.94	7.93	3.01	4.48	3.75	0.90	2.87	2.17	23.9	591.8	91.2	SH050919013
3	1708	4.1	1016.1	1018.1	1016.9	15.57	15.99	15.84	22.36	24.95	23.37	86.42	90.32	89.36	7.87	7.91	7.88	3.01	4.97	3.87	1.73	2.43	2.02	12.3	425.2	67.1	SH050919014
4	1716	2.9	1013.9	1016.2	1015.4	15.53	16.25	15.73	19.60	22.41	21.46	88.48	91.63	89.62	7.78	7.85	7.80	3.01	8.87	3.29	1.62	2.50	2.05	10.6	2381.9	192.1	SH050919015
5	1724	1.9	1012.2	1014.7	1013.7	15.73	16.44	16.03	17.49	20.53	19.27	85.20	93.56	91.59	7.70	7.75	7.72	3.01	3.99	3.43	2.36	4.76	3.32	21.2	251.4	68.6	SH050919016
6	1732	2.5	1012.1	1014.1	1013.5	15.90	16.72	16.19	17.39	19.73	19.08	91.31	94.70	92.17	7.70	7.75	7.72	3.01	3.99	3.21	2.80	4.59	3.55	11.8	618.5	91.8	SH050919017
7	1738	2.1	1011.4	1013.6	1013.1	16.32	17.35	16.57	16.57	19.18	18.65	93.24	96.25	94.05	7.70	7.75	7.72	2.52	3.99	3.08	2.22	4.62	3.64	7.3	90.5	22.8	SH050919018
8	1744	2.6	1011.2	1013.5	1012.7	16.31	17.41	16.81	16.38	19.03	18.19	92.09	95.87	93.87	7.70	7.75	7.72	2.52	3.50	3.10	2.58	7.26	4.99	3.2	46.9	12.0	SH050919019
9	1755	1.0	1010.2	1011.8	1010.8	17.41	18.16	17.94	15.24	17.16	16.06	85.73	87.97	87.25	7.38	7.43	7.39	3.99	4.97	4.45	8.63	11.95	10.98	3.0	16.5	8.9	SH050919020
10	1803	0.9	1010.6	1011.3	1010.9	17.82	18.17	18.01	15.79	16.57	16.18	83.33	84.70	83.75	7.36	7.41	7.37	4.48	5.94	4.98	5.95	7.98	7.13	0.4	1.8	1.0	SH050919021
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	1815	0.6	1010.5	1011.0	1010.8	18.04	18.21	18.14	15.65	16.36	16.10	82.33	82.90	82.64	7.31	7.50	7.36	4.48	5.94	5.47	7.60	8.51	8.15	0.1	0.2	0.2	SH050919022
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note Shoals in the creek prevented access upstream from Stations 10 and 12 on the low water run

Table 305a Shoalhaven River - Water Quality Maxima and Minima - Low Water - 20 September 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0421	6.2	1025.3	1025.3	1025.3	15.54	15.55	15.55	34.26	34.29	34.28	93.62	94.42	93.98	8.20	8.26	8.23	3.01	5.94	3.60	0.95	2.72	1.30	0.0	0.0	0.0	SH050920001
2	0513	5.5	1024.1	1024.2	1024.2	15.30	15.32	15.32	32.66	32.80	32.72	87.39	88.89	88.16	8.04	8.08	8.05	3.01	9.85	3.21	0.12	3.59	0.35	0.0	0.1	0.0	SH050920002
3	0524	5.1	1022.7	1023.5	1023.1	15.09	15.16	15.12	30.74	31.79	31.28	80.40	85.75	82.60	7.93	8.01	7.97	2.52	3.99	3.08	0.00	0.41	0.05	0.0	0.5	0.1	SH050920003
4	0542	5.8	1019.0	1019.7	1019.4	15.07	15.10	15.09	26.02	26.81	26.40	69.65	70.67	70.10	7.60	7.65	7.62	3.01	4.48	3.34	0.00	0.00	0.00	0.3	19.3	2.3	SH050920004
5	0603	8.0	1015.8	1016.4	1016.0	15.24	15.35	15.29	21.88	22.62	22.06	68.21	69.80	69.33	7.46	7.48	7.47	2.04	3.01	2.62	0.00	0.07	0.00	1.1	814.7	39.2	SH050920005
6	0618	13.6	1013.2	1016.3	1014.6	15.35	15.51	15.45	18.48	22.46	20.24	68.08	78.51	74.93	7.42	7.52	7.48	2.04	3.01	2.63	0.00	0.69	0.29	0.1	239.7	15.4	SH050920006
7	0635	10.8	1009.8	1013.2	1011.5	15.40	15.72	15.59	14.01	18.45	16.22	80.36	85.20	83.40	7.48	7.56	7.52	2.04	3.01	2.64	0.45	1.02	0.79	0.3	253.3	14.9	SH050920007
8	0650	2.4	1005.9	1006.0	1006.0	15.32	15.36	15.35	8.95	9.05	9.01	86.90	87.62	87.31	7.53	7.54	7.53	0.00	4.97	2.90	0.70	1.06	0.82	90.2	3607.8	579.9	SH050920008
9	0702	2.6	1003.9	1004.6	1004.3	15.24	15.64	15.51	6.27	7.22	6.87	87.00	88.63	88.16	7.46	7.49	7.48	2.52	3.50	3.00	0.86	1.12	0.97	14.2	368.4	65.1	SH050920009
10	0718	7.1	1000.5	1002.4	1001.2	14.98	15.66	15.26	1.75	4.39	2.79	86.82	89.99	88.43	7.30	7.45	7.39	2.52	3.99	3.27	0.79	1.38	1.04	0.4	310.0	23.3	SH050920010
11	0728	12.2	999.8	1006.5	1001.2	14.97	15.63	15.46	0.95	9.72	2.84	36.03	90.65	85.81	6.87	7.37	7.29	0.00	50.88	4.27	0.30	1.80	1.16	0.0	4648.8	168.2	SH050920011
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note Shoals in the river prevented access upstream from Station 11 on the low water run

Table 305b Shoalhaven River - Water Quality Maxima and Minima - High Water - 20 September 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1022	5.8	1026.1	1026.1	1026.1	16.15	16.19	16.16	35.51	35.52	35.51	95.88	98.39	97.40	7.57	7.60	7.58	0.00	3.99	3.14	0.30	3.58	1.37	338.6	4303.6	1035.9	SH050920012
2	1056	6.3	1026.1	1026.1	1026.1	16.14	16.18	16.15	35.45	35.47	35.46	95.72	98.50	97.31	7.84	7.86	7.85	2.52	3.50	3.09	0.49	4.05	1.86	258.0	5058.7	1018.3	SH050920013
3	1104	11.4	1025.9	1026.1	1026.0	15.99	16.03	16.01	35.18	35.38	35.33	96.89	99.48	98.29	7.88	7.90	7.89	0.00	49.90	3.58	0.20	6.47	2.16	16.7	4272.1	650.5	SH050920014
4	1118	6.6	1023.0	1023.9	1023.6	15.51	15.77	15.57	31.30	32.48	32.04	85.75	89.30	87.44	7.71	7.78	7.75	3.01	4.97	3.45	0.00	0.60	0.10	28.1	1225.0	169.0	SH050920015
5	1137	5.1	1018.0	1018.3	1018.1	15.46	15.55	15.51	24.75	25.13	24.88	68.63	69.63	69.12	7.32	7.33	7.32	3.01	4.97	3.22	0.00	0.68	0.00	43.1	1176.4	188.0	SH050920016
6	1151	13.4	1015.3	1016.0	1015.8	15.48	15.65	15.54	21.26	22.05	21.82	70.19	73.07	71.40	7.22	7.25	7.22	2.04	3.99	2.70	0.00	0.51	0.08	1.7	1393.1	107.3	SH050920017
7	1205	10.3	1011.9	1013.0	1012.8	15.66	16.04	15.73	16.92	18.21	17.98	81.58	85.23	82.48	7.25	7.31	7.27	2.52	3.99	3.03	0.66	2.89	1.10	2.4	1053.7	94.8	SH050920018
8	1220	3.8	1009.3	1009.4	1009.3	15.91	15.92	15.92	13.48	13.56	13.55	88.88	89.48	89.18	7.31	7.33	7.32	2.52	3.50	2.93	1.18	1.44	1.29	36.9	1000.8	193.7	SH050920019
9	1232	3.4	1005.2	1005.3	1005.3	15.82	15.85	15.83	8.11	8.28	8.21	91.96	92.80	92.46	7.30	7.31	7.30	3.01	3.99	3.35	0.57	1.65	1.06	84.4	1996.8	446.2	SH050920020
10	1246	5.9	1001.7	1002.1	1002.0	15.67	15.69	15.68	3.54	4.01	3.94	90.84	92.24	91.64	7.20	7.22	7.21	3.01	3.99	3.21	1.12	1.44	1.24	6.8	1318.4	155.1	SH050920021
11	1255	7.0	999.9	1000.8	1000.4	15.39	15.89	15.51	1.18	2.22	1.81	91.31	93.79	92.25	7.13	7.23	7.15	3.01	3.99	3.53	1.00	1.70	1.29	1.5	1828.3	152.0	SH050920022
12	1307	1.0	999.0	999.0	999.0	15.68	16.24	16.02	0.06	0.08	0.07	92.30	94.86	93.68	7.29	7.33	7.31	5.46	5.94	5.63	2.04	2.56	2.21	305.5	1455.8	829.9	SH050920023

Table 306a Crookhaven River/Creek - Water Quality Maxima and Minima - Low Water - 22 September 2005

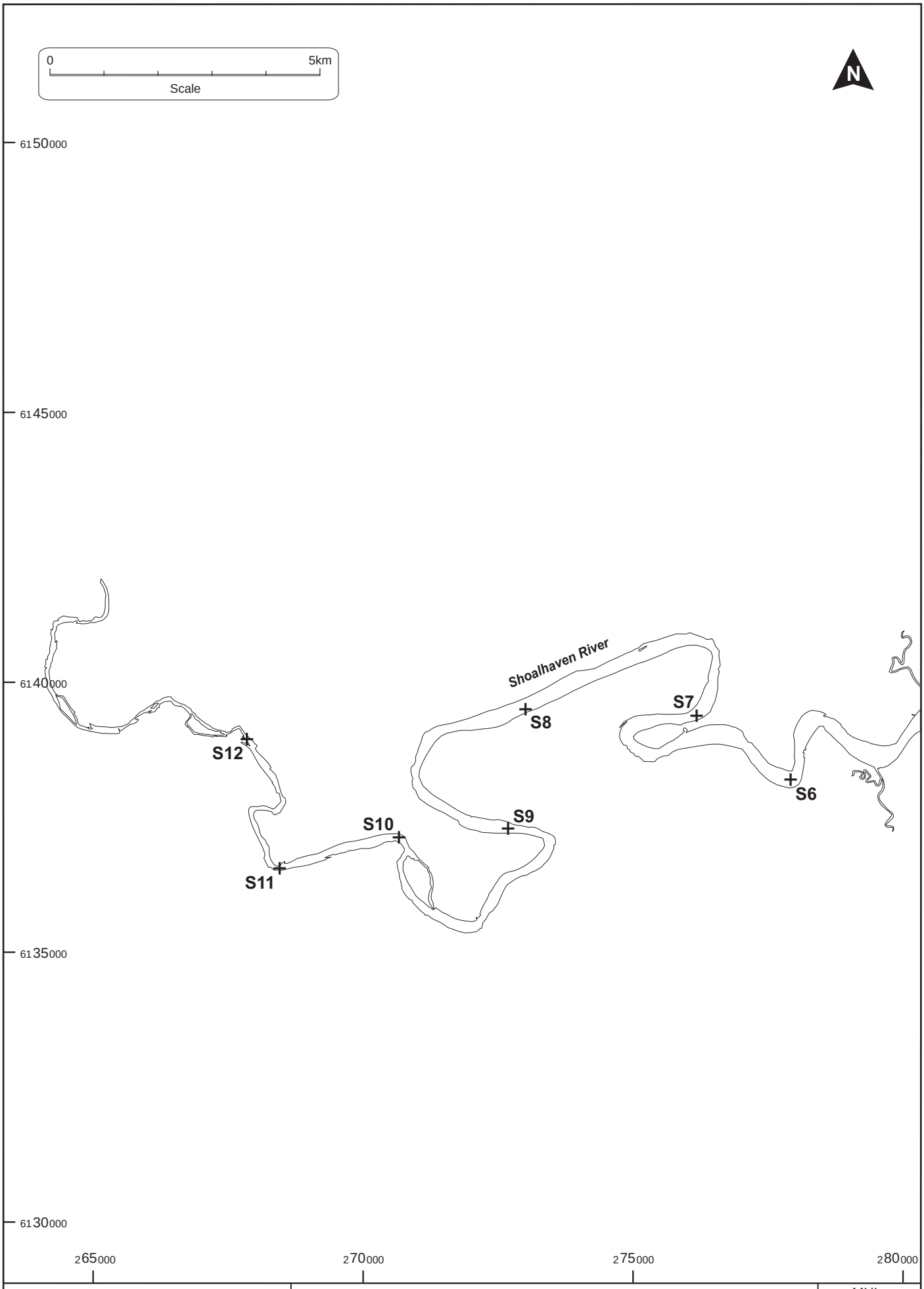
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0705	2.2	1024.1	1024.7	1024.4	15.94	16.23	16.10	32.87	33.62	33.22	81.60	86.74	84.45	7.59	7.67	7.63	0.00	24.50	3.65	0.00	0.03	0.00	110.8	2601.5	457.9	SH050921001
2	0715	0.7	1025.0	1025.1	1025.1	15.56	15.64	15.57	33.94	34.00	33.98	67.25	68.22	67.90	7.49	7.49	7.49	0.00	29.39	6.32	0.44	23.89	1.56	2698.9	3126.1	2941.0	SH050921002
3	0733	1.4	1024.9	1024.9	1024.9	15.98	16.00	15.98	33.86	33.87	33.86	75.09	75.72	75.42	7.57	7.59	7.58	4.97	7.90	5.75	0.49	0.75	0.60	115.4	1982.2	367.9	SH050921003
4	0754	1.0	1024.7	1024.8	1024.7	15.79	15.82	15.79	33.62	33.64	33.63	76.96	77.81	77.47	7.58	7.59	7.59	7.41	10.83	8.57	0.65	2.46	1.10	986.2	4102.9	2796.0	SH050921004
5	0803	1.5	1021.7	1024.0	1022.5	14.23	14.94	14.45	29.26	32.36	30.27	67.33	69.23	68.04	7.14	7.17	7.15	7.41	8.87	7.76	1.44	2.24	2.01	99.6	3389.3	1107.8	SH050921005
6	0822	1.1	1016.9	1017.9	1017.3	13.96	14.35	14.09	23.00	24.33	23.43	62.20	63.25	62.68	7.04	7.05	7.04	8.38	16.20	9.57	2.50	3.31	2.75	175.4	589.6	385.8	SH050921006
7	0836	1.2	1014.3	1014.4	1014.4	13.26	13.35	13.29	19.41	19.52	19.47	56.67	57.21	56.94	7.00	7.01	7.01	8.38	8.87	8.41	2.74	3.15	3.06	50.3	467.8	211.3	SH050921007
8	0856	0.6	1011.7	1011.9	1011.8	13.03	13.08	13.05	16.04	16.19	16.13	42.84	45.82	44.50	7.04	7.04	7.04	14.25	95.32	28.35	8.81	20.61	11.12	3243.1	3503.3	3395.2	SH050921008

Note Debris in the creek prevented access upstream from Station 8 on the low water run.

Table 306b Crookhaven River/Creek - Water Quality Maxima and Minima - High Water - 2 November 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0933	3.1	1025.3	1025.4	1025.3	17.23	17.47	17.33	34.85	34.91	34.88	104.42	105.78	105.04	8.00	8.01	8.00	0.00	61.62	3.94	0.00	2.61	0.54	746.0	4876.2	1702.3	SH051102001
2	0947	1.2	1024.2	1024.7	1024.6	18.53	19.26	18.70	33.99	34.45	34.35	105.44	111.05	107.66	8.06	8.07	8.06	3.99	4.48	4.03	0.00	2.53	0.74	982.6	4805.1	2740.6	SH051102002
3	0956	1.8	1024.5	1024.6	1024.6	18.86	18.95	18.91	34.32	34.38	34.35	101.55	102.50	102.17	8.12	8.13	8.12	0.00	6.43	2.96	0.00	0.21	0.00	857.7	4787.4	1862.5	SH051102003
4	1004	1.7	1022.1	1022.3	1022.2	21.48	21.66	21.57	32.07	32.22	32.14	88.11	90.58	90.14	8.02	8.03	8.02	0.00	20.11	5.29	0.00	0.55	0.21	982.6	4351.3	1980.5	SH051102004
5	1014	2.0	1020.3	1020.5	1020.4	22.87	23.25	23.09	30.31	30.43	30.36	83.20	85.24	84.60	7.85	7.86	7.86	7.90	16.20	12.64	4.06	6.93	5.80	136.1	5040.1	1414.1	SH051102005
6	1026	2.0	1019.6	1019.7	1019.6	22.69	22.81	22.77	29.21	29.24	29.23	70.78	71.48	71.25	7.58	7.59	7.58	16.69	21.08	18.48	5.93	6.81	6.16	100.7	4351.3	1317.1	SH051102006
7	1039	2.0	1018.9	1019.1	1019.0	22.42	22.57	22.49	28.16	28.39	28.32	45.72	47.05	46.46	7.19	7.20	7.19	10.83	19.62	15.25	3.46	4.46	3.86	160.6	4383.4	1445.1	SH051102007
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note Motor problems prevented the high water run from being done on 21 September 2005. A pipeline across the creek prevented access upstream from Station 7 on the high water run



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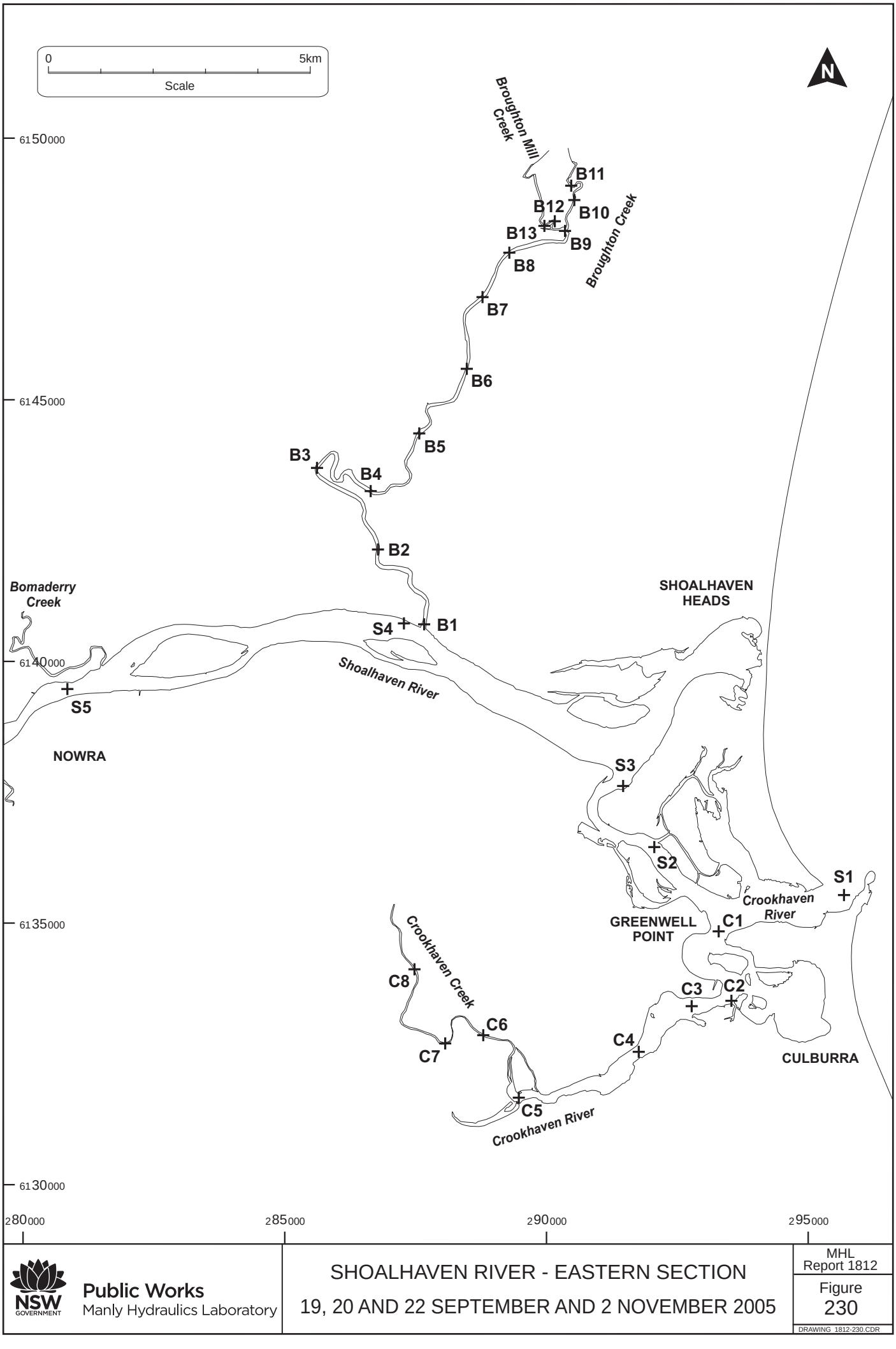
SHOALHAVEN RIVER - WESTERN SECTION

19, 20 AND 22 SEPTEMBER AND 2 NOVEMBER 2005

MHL Report 1812

Figure 229

DRAWING 1812-229.CDR



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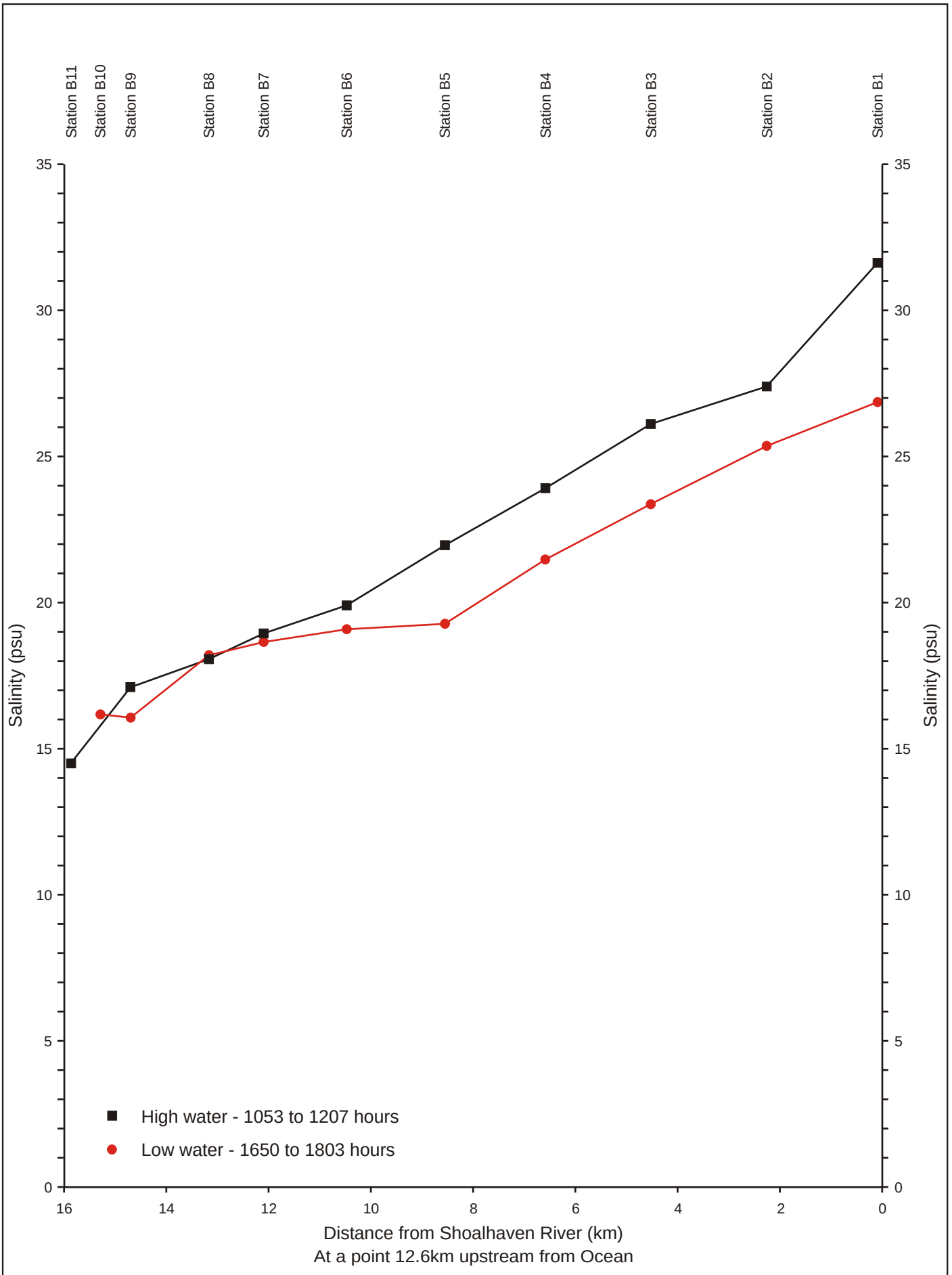
SHOALHAVEN RIVER - EASTERN SECTION

19, 20 AND 22 SEPTEMBER AND 2 NOVEMBER 2005

MHL Report 1812

Figure 230

DRAWING 1812-230.CDR



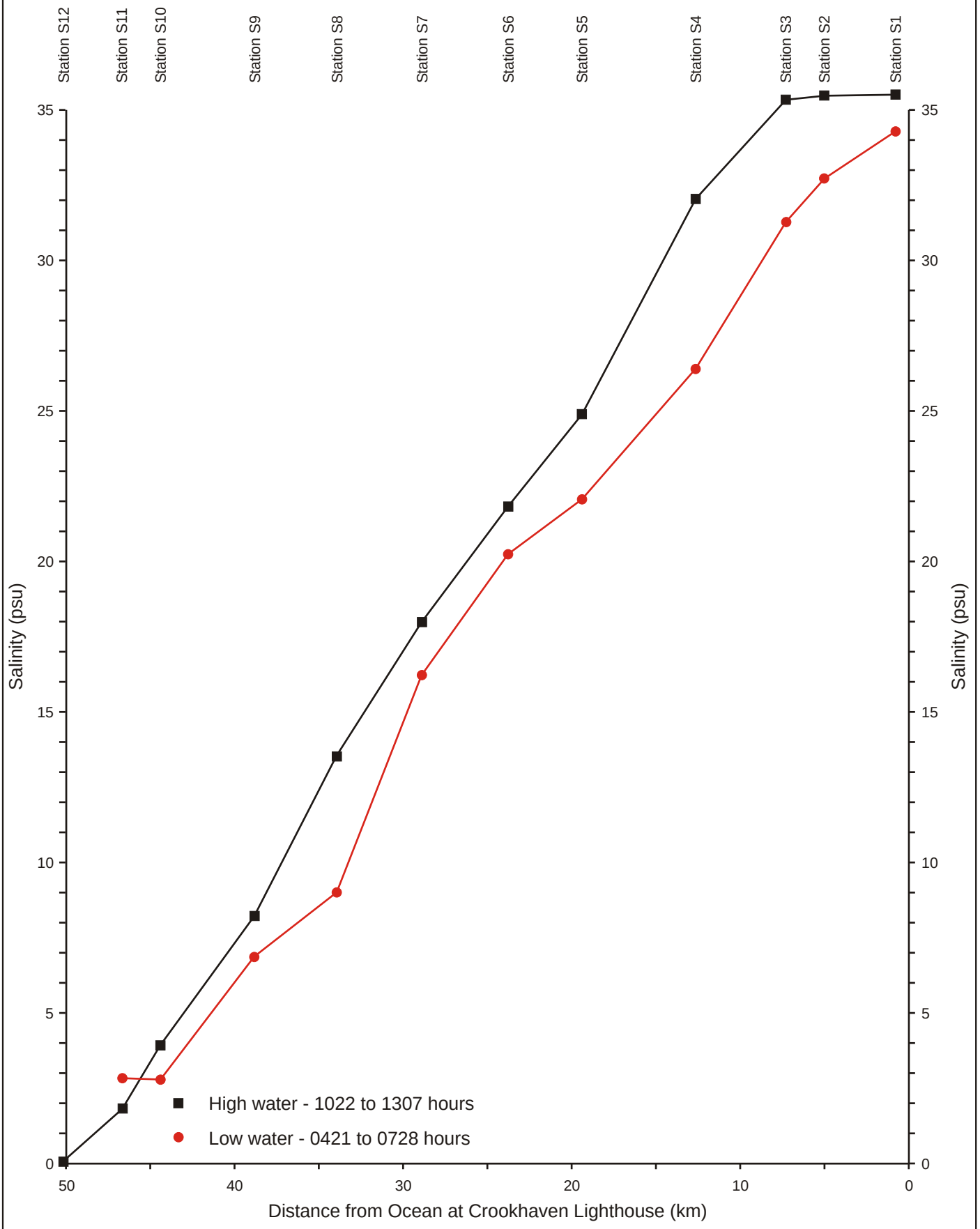
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BROUGHTON CREEK
HIGH AND LOW WATER - 19 SEPTEMBER 2005

MHL Report 1812

Figure 231

DRAWING 1812-231.CDR



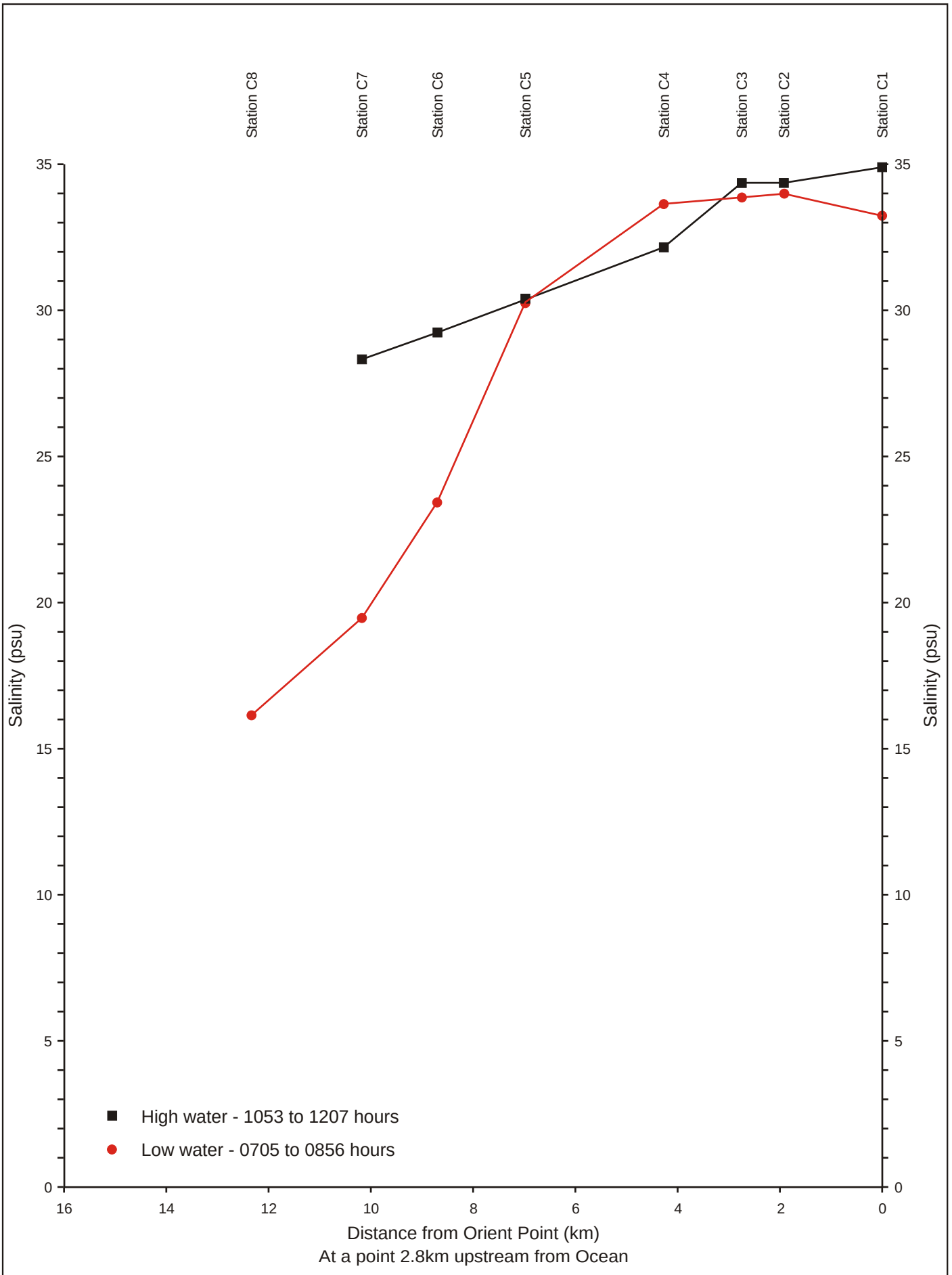
Public Works
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
SHOALHAVEN RIVER
20 SEPTEMBER 2005

MHL Report 1812

Figure 232

DRAWING 1812-232.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
CROOKHAVEN RIVER/CREEK - LOW AND HIGH WATER
22 SEPTEMBER AND 2 NOVEMBER 2005

MHL Report 1812

Figure 233

DRAWING 1812-233.CDR

Conjola Lake Data Summary

Data was collected in Conjola Lake on 30 October 1992, as detailed in report MHL637. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 307. Summaries of the minimum and maximum values for all parameters measured on the single high water run are shown in Table 308. The locations at which these profiles were taken are shown in Figure 234. Long channel depth-averaged salinity profiles are shown in Figure 235.

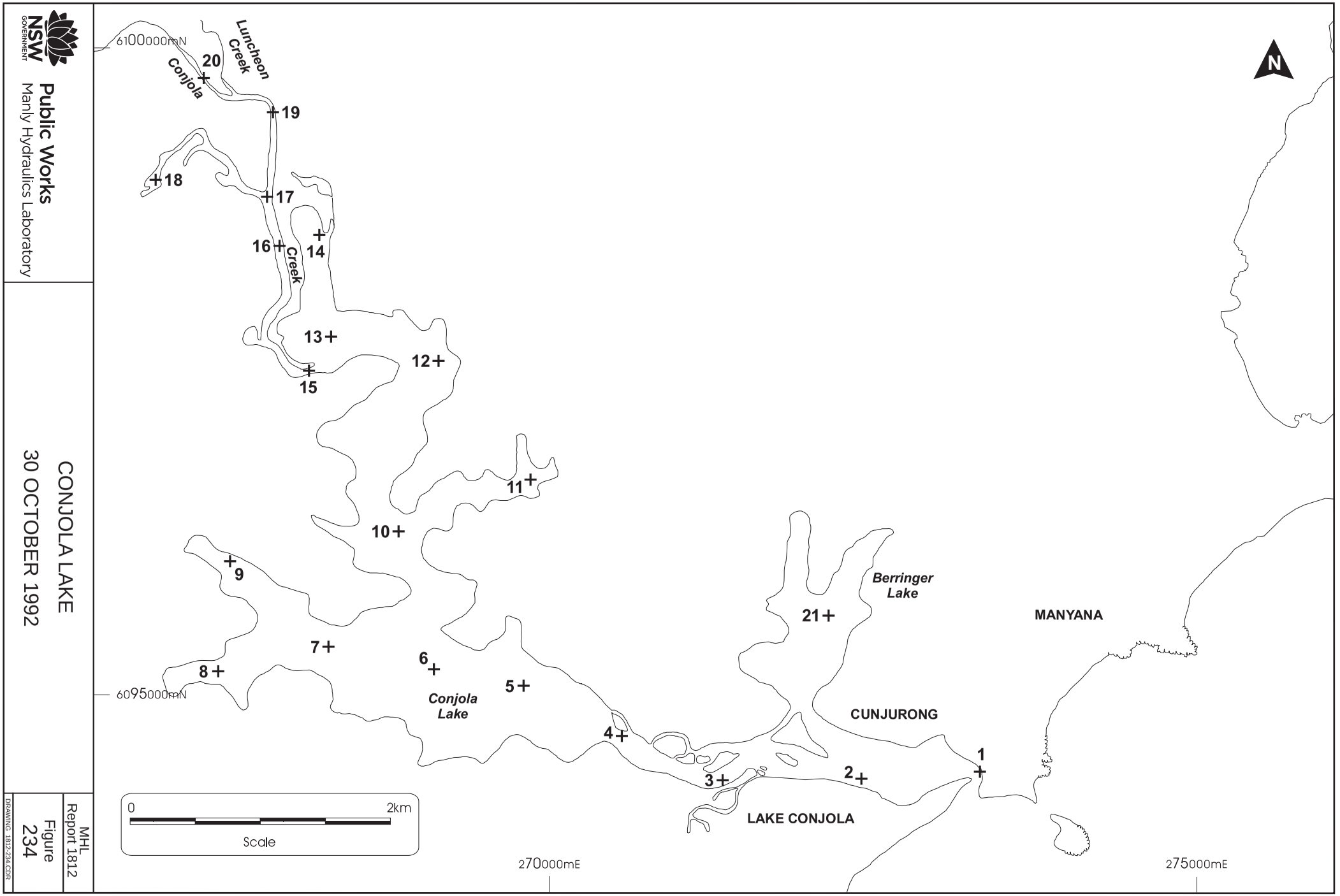
Table 307 Conjola Lake - 30 October 1992

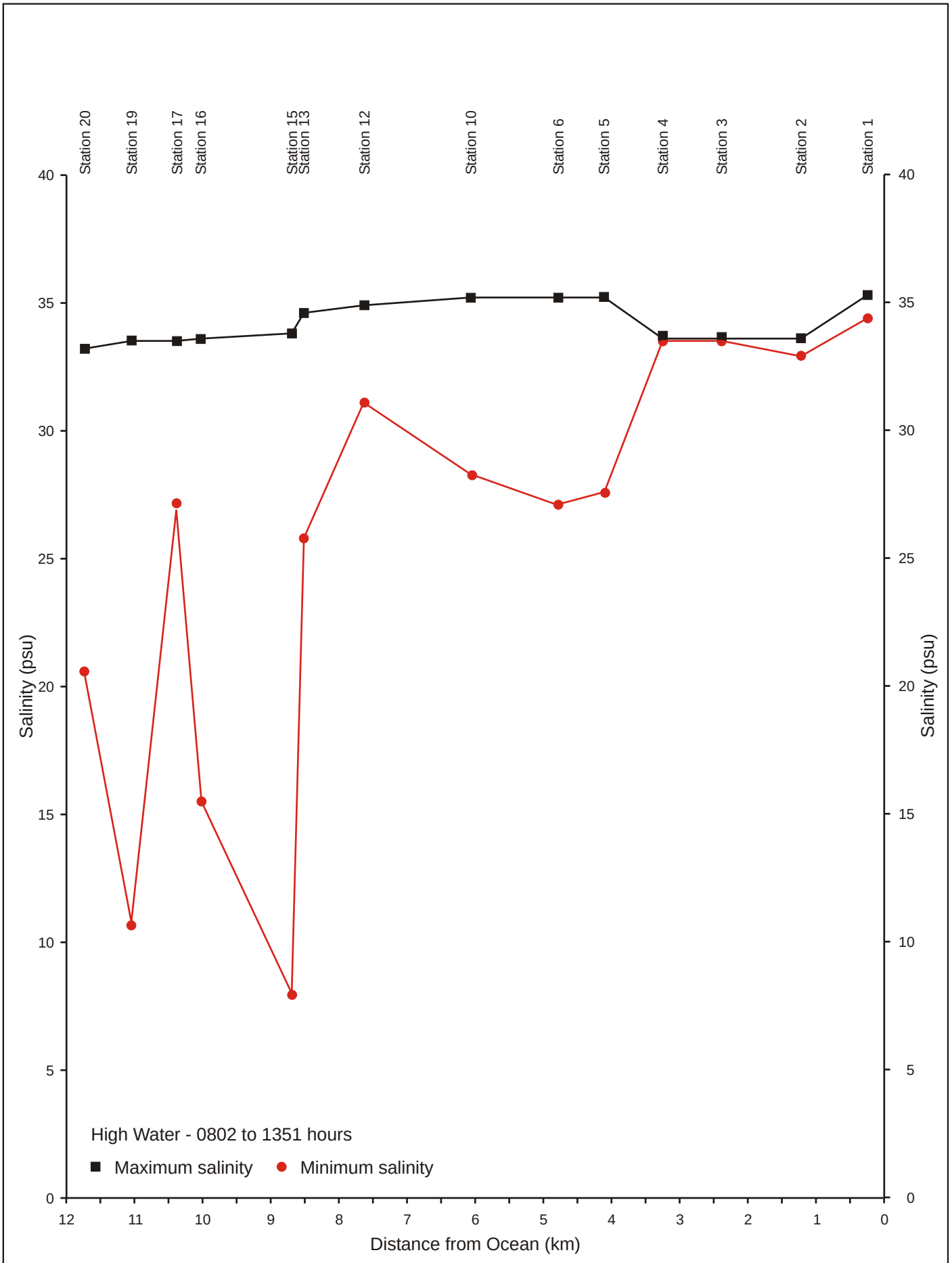
Station No.	MGA (m) Zone 56		Chainage (km)	Min Salinity (psu)	Max Salinity (psu)
	Easting	Northing			
1	273340	6094425	0.24	34.4	35.3
2	272405	6094355	1.22	32.9	33.6
3	271335	6094325	2.38	33.5	33.6
4	270555	6094685	3.25	33.5	33.6
5	269795	6095075	4.10	27.6	35.2
6	269105	6095200	4.80	27.1	35.2
7	268290	6095375	5.65	26.4	30.1
8	267440	6095185	6.52	20.6	34.9
9	267530	6096035	6.64	33.4	35.0
10	268830	6096265	6.07	28.3	35.2
11	269850	6096665	7.21	32.9	35.1
12	269140	6097580	7.63	31.1	34.9
13	268310	6097770	8.51	25.8	34.6
14	268220	6098555	9.27	32.4	34.3
15	268140	6097505	8.69	8.0	33.8
16	267945	6098475	10.01	15.5	33.6
17	267860	6098860	10.38	26.9	33.5
18	267005	6098975	11.68	21.9	32.4
19	267900	6099500	11.04	10.8	33.5
20	267365	6099790	11.73	20.6	33.2
21	272150	6095615	3.15	32.8	34.8

Note Station locations transferred from report figure to aerial photo in Department of Lands database
Profiling run was done on a flood tide, therefore profiles did not coincide with either a high or low water slack

Table 308 Conjola Lake - Water Quality Maxima and Minima - High Water - 30 October 1992

Station No.	Time (EST)	Temperature (°C)		Salinity (psu)		Dissolved O_2 (mg/L)	
		Min	Max	Min	Max	Min	Max
1	0802	18.1	18.9	34.4	35.3	8.0	8.1
2	0817	19.1	19.2	32.9	33.6	7.4	8.0
3	0857	19.5	19.5	33.5	33.6	7.6	7.9
4	0908	19.5	19.6	33.5	33.6	7.7	7.9
5	0918	18.0	19.8	27.6	35.2	5.6	8.0
6	0925	17.7	19.5	27.1	35.2	5.1	8.1
7	0931	17.9	19.9	26.4	30.1	6.6	8.3
8	0936	18.7	20.0	20.6	34.9	7.7	8.4
9	0955	18.5	20.1	33.4	35.0	6.8	8.1
10	1003	17.9	20.1	28.3	35.2	6.1	8.0
11	1009	18.8	20.3	32.9	35.1	7.0	7.8
12	1018	19.4	21.2	31.1	34.9	6.9	7.5
13	1024	20.5	23.0	25.8	34.6	5.5	7.2
14	1029	22.0	22.3	32.4	34.3	6.4	7.2
15	1102	21.6	22.3	8.0	33.8	5.6	8.7
16	1110	21.7	23.4	15.5	33.6	5.2	8.2
17	1115	21.9	23.6	26.9	33.5	4.4	7.4
18	1123	23.7	26.9	21.9	32.4	3.1	7.8
19	1135	23.4	24.1	10.8	33.5	2.9	8.3
20	1141	21.4	23.7	20.6	33.2	1.8	8.3
21	1351	20.1	20.2	32.8	34.8	6.9	7.9


NSW GOVERNMENT
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CONJOLA LAKE
30 OCTOBER 1992
MHL Report 1812
Figure 234
DRAWING 1812-234.CDR
6100000mN
6095000mN
270000mE
275000mE
Luncheon Creek
Conjola Creek
Conjola Lake
Berringer Lake
LAKE CONJOLA
CUNJURONG
MANYANA
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
N
0
2km
Scale



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LONG CHANNEL MAX AND MIN OF SALINITY PROFILES
CONJOLA LAKE
30 OCTOBER 1992

MHL Report 1812

Figure 235

DRAWING 1812-235.CDR

Data was collected in Conjola Lake on 16 and 17 September 2008, as detailed in report MHL1929. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 309. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 310a-b. The locations at which these profiles were taken are shown in Figure 236. Long channel depth-averaged salinity profiles are shown in Figure 237.

Table 309 Conjola Lake - 16 and 17 September 2008

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	273260	6094524	0.40	35.50	35.03
2	271560	6094483	2.28	35.51	34.60
3	270154	6094726	3.85	35.28	34.56
4	269912	6095031	4.24	34.55	34.59
5	268812	6095214	5.33	34.60	34.62
6	267509	6096060	6.87	34.64	34.57
7	268849	6096283	6.60	34.55	34.55
8	269127	6097618	8.12	34.39	34.41
9	268219	6098461	9.60	34.39	34.40
10	268256	6097578	9.05	34.18	34.34
11	267927	6098570	10.48	33.52	33.86
12	267675	6099640	11.70	33.32	33.48
13	272140	6095613	3.21	34.89	34.94
14	271062	6093600	3.58	33.64	33.45

Table 310a Conjola Lake - Water Quality Maxima and Minima - High Water - 16 September 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1030	2.1	1026.5	1026.5	1026.5	14.47	14.53	14.50	35.49	35.52	35.50	91.65	92.68	92.07	7.98	7.99	7.98	0.00	1.39	0.22	0.00	1.30	0.06	847.8	5055.7	1750.6	CO080916001
2	1050	2.1	1026.5	1026.5	1026.5	14.52	14.58	14.53	35.50	35.51	35.51	92.02	92.95	92.36	7.90	7.91	7.90	0.00	0.41	0.05	0.00	0.62	0.01	383.4	3823.9	1604.0	CO080916002
3	1102	1.6	1026.4	1026.4	1026.4	14.01	14.03	14.01	35.26	35.30	35.28	93.75	94.34	94.08	7.84	7.86	7.85	0.00	1.39	0.04	0.00	0.10	0.00	899.1	3795.9	2152.6	CO080916003
4	1108	9.3	1025.5	1025.9	1025.6	14.49	15.63	15.25	34.48	34.77	34.55	92.55	96.37	94.91	7.83	7.86	7.85	0.00	0.90	0.05	0.00	0.00	0.00	90.5	3632.2	279.7	CO080916004
5	1116	9.4	1025.4	1026.0	1025.6	14.90	15.74	15.41	34.47	34.96	34.60	88.40	94.91	92.84	7.81	7.88	7.86	0.00	0.41	0.04	0.00	1.50	0.30	65.5	3699.6	291.7	CO080916005
6	1125	5.4	1025.6	1025.8	1025.7	14.93	15.44	15.12	34.61	34.81	34.64	89.73	91.36	90.46	7.77	7.80	7.78	0.00	0.41	0.04	0.00	0.00	0.00	138.1	3553.0	377.3	CO080916006
7	1135	7.7	1025.4	1025.9	1025.6	14.93	15.70	15.41	34.42	34.90	34.55	86.23	94.20	92.54	7.71	7.79	7.77	0.00	4.32	0.53	0.00	2.83	0.29	82.5	3952.5	665.2	CO080916007
8	1146	3.5	1025.4	1025.5	1025.4	14.95	15.59	15.44	34.34	34.44	34.39	90.16	92.18	91.69	7.71	7.75	7.73	0.41	1.39	0.90	0.00	0.00	0.00	165.3	2139.9	486.4	CO080916008
9	1156	1.5	1025.2	1025.3	1025.3	15.89	16.04	15.90	34.27	34.40	34.39	93.90	95.77	94.59	7.76	7.78	7.77	0.00	1.39	0.52	0.00	0.00	0.00	762.1	3592.4	1772.6	CO080916009
10	1204	1.4	1024.7	1025.3	1025.1	15.77	16.38	15.92	33.69	34.34	34.18	93.78	98.53	95.44	7.69	7.77	7.73	0.41	1.39	0.95	0.00	0.00	0.00	157.0	1000.2	384.8	CO080916010
11	1215	2.5	1023.8	1024.4	1024.2	17.51	18.74	17.79	33.28	33.86	33.52	88.44	95.43	91.04	7.70	7.78	7.72	0.00	6.27	0.95	0.38	2.22	0.93	611.3	3605.6	1372.8	CO080916011
12	1227	1.2	1023.7	1023.8	1023.7	18.87	19.17	19.01	33.23	33.42	33.32	79.78	81.69	80.95	7.62	7.64	7.64	0.90	1.87	1.21	2.54	3.40	3.04	841.6	3645.6	2096.8	CO080916012
13	1340	4.6	1025.5	1025.5	1025.5	16.73	16.80	16.74	34.86	34.91	34.89	107.79	110.44	109.30	8.13	8.14	8.13	0.00	0.00	0.00	0.00	0.00	0.00	286.8	3713.2	717.8	CO080916013
14	1431	0.1	1023.5	1023.5	1023.5	21.02	21.02	21.02	33.64	33.64	33.64	115.27	115.27	115.27	7.91	7.91	7.91	41.43	41.92	41.68	5.01	5.67	5.34	869.9	915.8	892.8	CO080916014

Table 310b Conjola Lake - Water Quality Maxima and Minima - Low Water - 17 September 2008

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0626	1.0	1026.1	1026.2	1026.1	14.23	14.46	14.33	34.97	35.07	35.03	88.33	89.54	88.92	7.93	7.96	7.94	0.00	0.00	0.00	0.00	0.00	0.00	60.0	64.1	62.3	CO080916015
2	0644	2.1	1025.7	1025.7	1025.7	14.96	14.97	14.97	34.60	34.61	34.60	91.08	91.64	91.37	7.74	7.75	7.75	0.00	0.00	0.00	0.00	0.00	0.00	85.3	368.2	155.0	CO080916016
3	0658	1.6	1025.6	1025.6	1025.6	15.31	15.35	15.33	34.55	34.56	34.56	93.83	94.72	94.21	7.75	7.76	7.75	0.00	0.00	0.00	0.00	0.00	0.00	373.6	3809.9	1090.8	CO080916017
4	0703	9.4	1025.5	1026.0	1025.6	15.17	15.42	15.35	34.54	35.01	34.59	91.67	96.67	95.61	7.67	7.73	7.71	0.00	0.00	0.00	0.00	1.39	0.28	16.0	1053.0	100.3	CO080916018
5	0710	9.5	1025.5	1025.9	1025.6	15.06	15.50	15.35	34.53	34.84	34.62	85.07	97.56	95.37	7.60	7.74	7.71	0.00	3.83	0.15	0.00	2.36	0.35	13.1	1548.8	133.1	CO080916019
6	0719	5.7	1025.6	1025.7	1025.6	15.24	15.31	15.29	34.53	34.69	34.57	96.36	97.36	97.07	7.68	7.74	7.73	0.00	0.00	0.00	0.00	0.03	0.00	53.1	773.4	133.3	CO080916020
7	0729	7.8	1025.4	1025.9	1025.5	15.10	15.56	15.42	34.38	34.86	34.55	88.43	97.71	95.89	7.57	7.73	7.70	0.00	5.78	0.14	0.00	1.99	0.39	21.8	745.5	106.0	CO080916021
8	0736	2.6	1025.2	1025.5	1025.4	15.50	15.81	15.68	34.20	34.56	34.41	92.73	95.24	94.15	7.64	7.71	7.70	0.00	7.01	0.27	0.00	0.20	0.03	115.7	866.7	263.5	CO080916022
9	0746	1.8	1025.2	1025.4	1025.3	15.75	15.98	15.76	34.26	34.41	34.40	99.25	99.77	99.42	7.72	7.73	7.72	0.41	1.87	1.07	0.00	0.00	0.00	209.1	1444.3	524.1	CO080916023
10	0755	1.4	1025.2	1025.3	1025.3	15.86	15.91	15.87	34.32	34.36	34.34	94.91	96.28	95.28	7.68	7.69	7.68	0.90	4.80	2.10	0.00	0.00	0.00	432.8	2220.0	1066.1	CO080916024
11	0804	2.5	1024.2	1025.1	1024.6	16.39	17.75	17.25	33.52	34.20	33.86	88.75	92.98	91.86	7.59	7.69	7.64	0.00	1.87	0.74	1.32	2.84	2.43	89.5	905.8	206.6	CO080916025
12	0815	1.3	1023.9	1024.1	1024.1	18.18	18.43	18.25	33.36	33.54	33.48	82.17	86.47	84.28	7.53	7.57	7.55	0.00	0.90	0.64	2.39	3.29	2.72	576.4	3182.2	1443.9	CO080916026
13	0904	4.7	1025.6	1025.9	1025.6	15.91	16.41	16.34	34.91	35.14	34.94	115.60	117.46	116.77	7.80	7.97	7.95	0.00	0.00	0.00	0.00	0.00	0.00	193.6	3374.9	510.4	CO080916027
14	1035	0.3	1024.4	1024.4	1024.4	16.66	16.67	16.67	33.44	33.46	33.45	86.61	86.61	86.61	7.53	7.53	7.53	228.98	228.98	228.98	5.82	5.98	5.90	459.0	602.4	530.7	CO080916028

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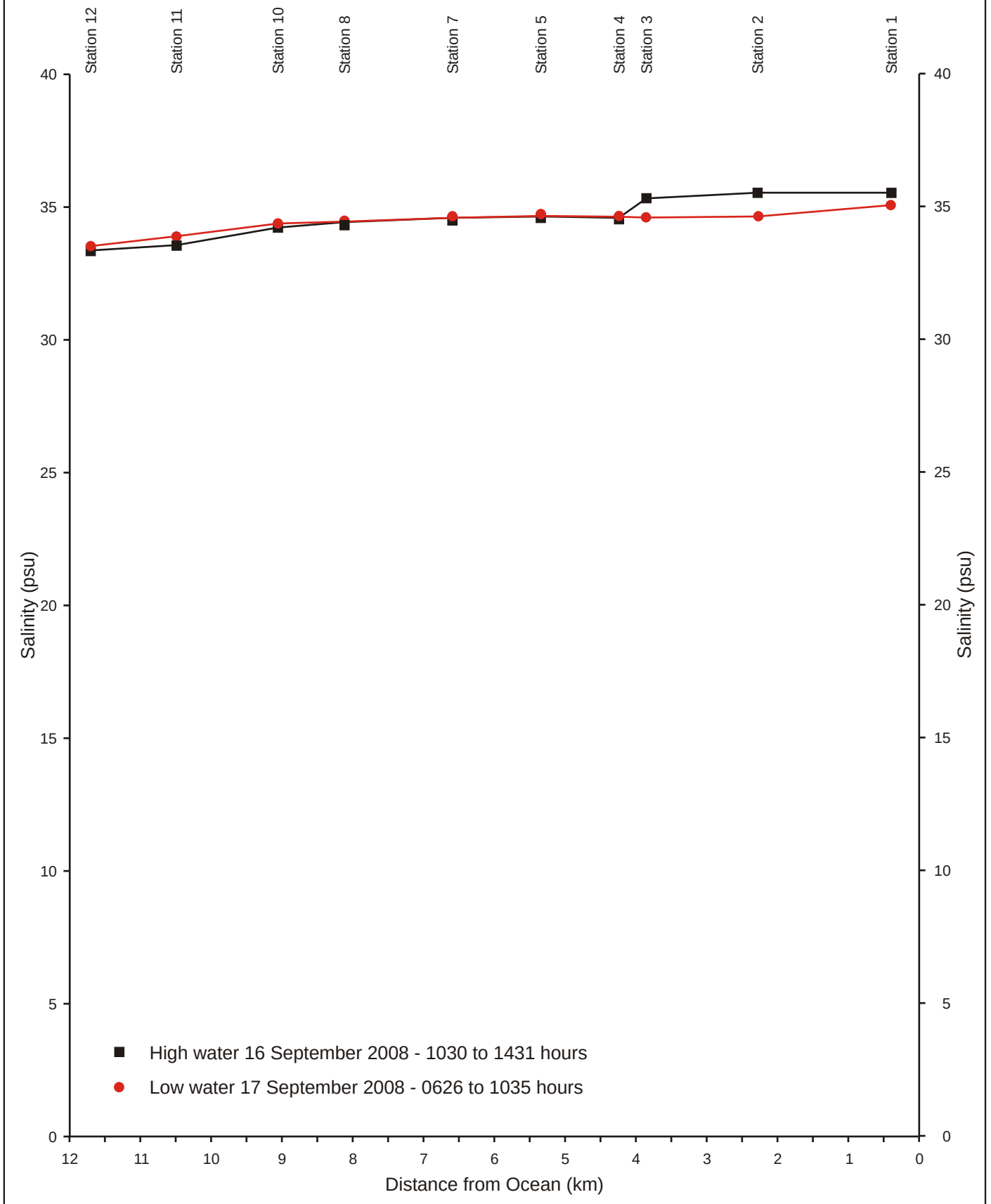
CONJOLA LAKE

16 AND 17 SEPTEMBER 2008

MHL Report 1812

Figure 236

DRAWING 1812-236.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
CONJOLA LAKE
16 AND 17 SEPTEMBER 2008

MHL Report 1812

Figure 237

DRAWING 1812-237.CDR

Narrawallee Creek Data Summary

Data was collected in Narrawallee Creek on 30 September 1993, as detailed in report MHL666. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 311. Summaries of the minimum and maximum values for all parameters measured on the high and low water runs are shown in Tables 312a-b. The locations at which these profiles were taken are shown in Figure 238. Long channel depth-averaged salinity profiles are shown in Figure 239.

Table 311 Narrawallee Creek - 30 September 1993

Station No.	MGA (m) Zone 56		Chainage (km)	High Water		Low Water	
	Easting	Northing		Min Salinity (psu)	Max Salinity (psu)	Min Salinity (psu)	Max Salinity (psu)
0	270285	6090415	0.20	-	-	32.4	32.9
1	269740	6090635	0.88	35.2	35.4	29.4	35.0
2	269165	6090325	1.52	35.2	35.3	27.1	35.5
3	268685	6091040	2.38	32.4	34.9	24.1	34.7
4	269100	6091360	3.06	32.6	33.4	22.0	22.5
5	268705	6091640	3.58	28.5	31.2	19.9	31.1
6	268445	6092040	4.08	27.4	28.6	-	-
7	268255	6092340	4.52	22.4	26.6	-	-
8	268230	6092630	4.86	17.8	24.4	-	-
9	267925	6092670	5.23	13.0	19.6	-	-
10	268220	6091690	4.14	24.0	27.9	16.1	17.7
11	267730	6091515	4.92	20.9	22.9	-	-
12	267485	6091750	5.39	14.1	19.5	-	-
13	267220	6092005	5.86	5.8	13.4	-	-
14	266855	6091555	6.45	0.7	3.1	-	-
15	266825	6091545	6.52	0.0	0.0	-	-

Note Station locations transferred from report figure to aerial photo in Department of Lands database
No profile at Station 0 on high water run. No profiles upstream from Station 10 on low water run

Table 312a Narrawallee Creek - Water Quality Maxima and Minima - High Water - 30 September 1993

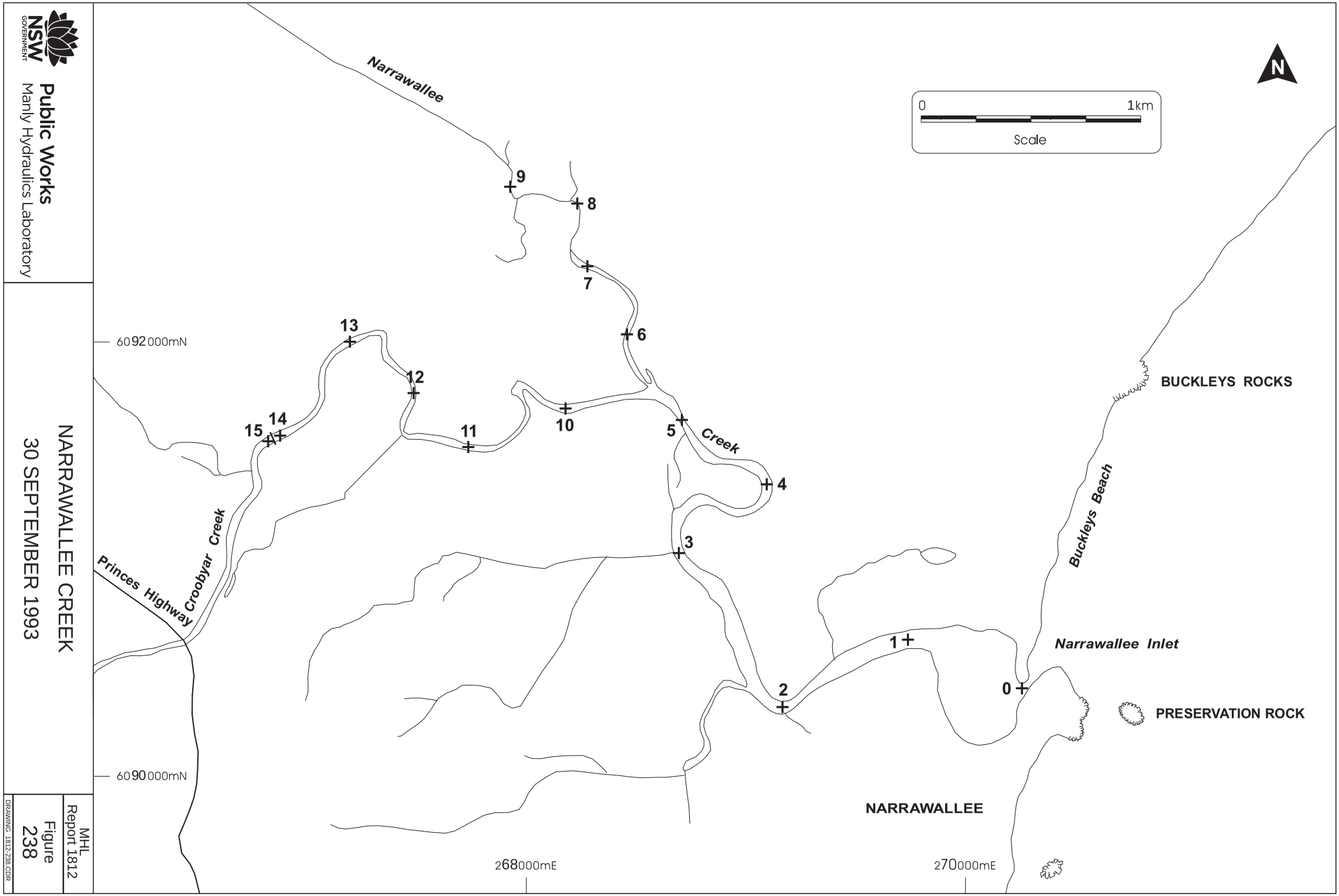
Station No.	Time (EST)	Temperature (°C)		Salinity (psu)		Dissolved O_2 (mg/L)	
		Min	Max	Min	Max	Min	Max
0	-	-	-	-	-	-	-
1	0817	16.2	16.3	35.2	35.4	10.4	10.9
2	0822	16.1	16.3	35.2	35.3	10.5	10.7
3	0827	16.5	17.7	32.4	34.9	9.4	10.3
4	0836	17.3	17.8	32.6	33.4	9.0	10.3
5	0841	18.0	18.2	28.5	31.2	6.4	9.1
6	0846	18.4	18.8	27.4	28.6	6.7	8.5
7	0852	18.4	18.5	22.4	26.6	6.1	7.3
8	0858	18.5	18.7	17.8	24.4	6.0	7.7
9	0904	17.9	18.9	13.0	19.6	7.1	8.9
10	0913	18.5	18.8	24.0	27.9	7.8	9.7
11	0919	18.6	18.8	20.9	22.9	7.6	10.2
12	0927	18.1	18.5	14.1	19.5	7.9	11.1
13	0935	17.5	17.8	5.8	13.4	7.7	9.8
14	0950	16.6	17.1	0.7	3.1	8.1	11.1
15	0955	15.6	15.9	0.0	0.0	8.6	10.9

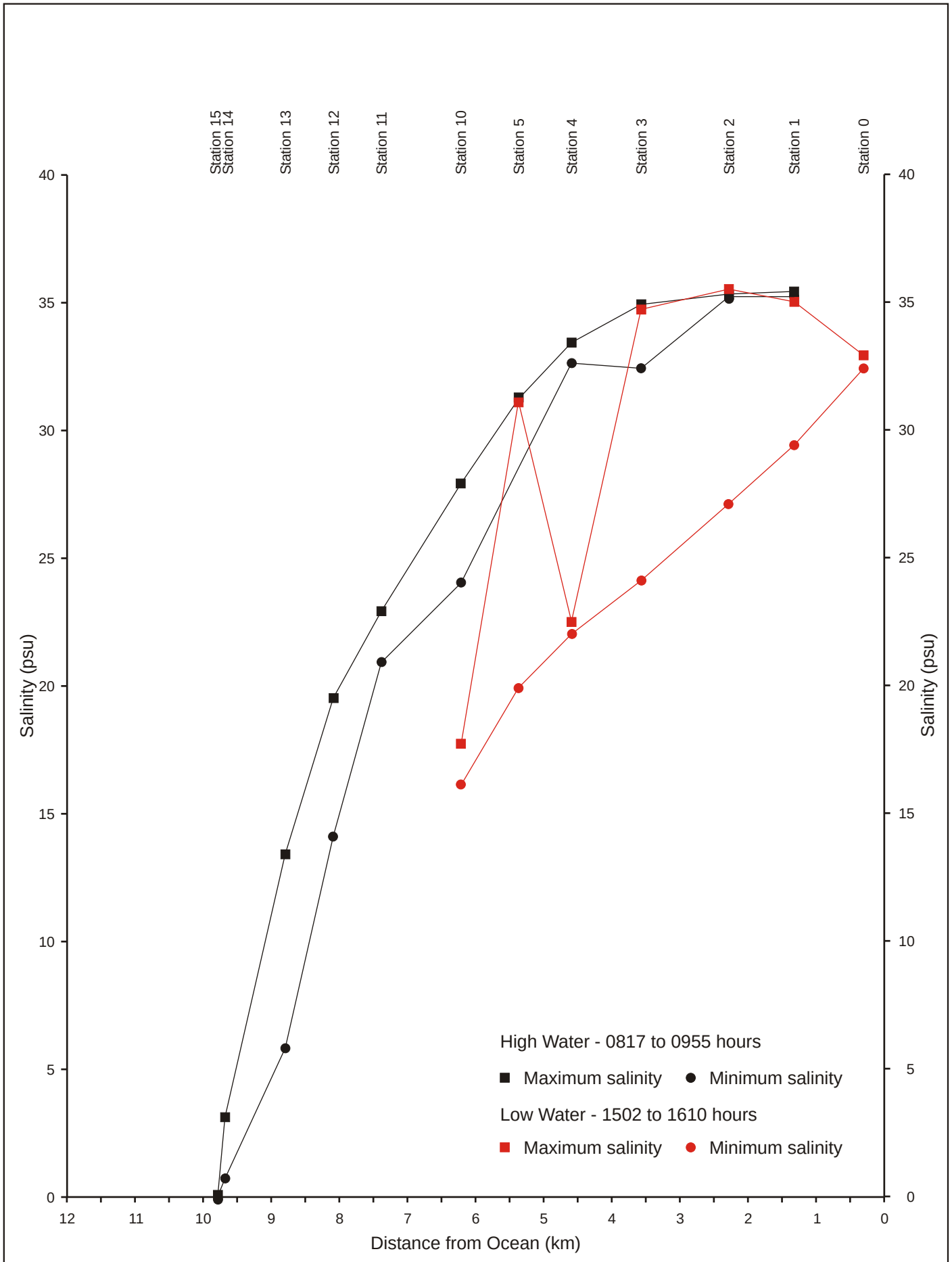
Note No profile at Station 0 on high water run

Table 312b Narrawallee Creek - Water Quality Maxima and Minima - Low Water - 30 September 1993

Station No.	Time (EST)	Temperature (°C)		Salinity (psu)		Dissolved O_2 (mg/L)	
		Min	Max	Min	Max	Min	Max
0	1502	19.9	20.0	32.4	32.9	9.4	10.0
1	1513	17.3	20.6	29.4	35.0	9.3	10.6
2	1524	16.4	21.2	27.1	35.5	9.1	10.9
3	1533	17.0	21.3	24.1	34.7	9.2	10.2
4	1540	21.2	21.3	22.0	22.5	7.4	8.0
5	1557	18.6	20.9	19.9	31.1	5.8	10.7
10	1610	21.0	21.2	16.1	17.7	9.4	11.0

Note No profiles upstream from Station 10 on low water run


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NARRAWALLEE CREEK
30 SEPTEMBER 1993
MHL Report 1812
Figure 238
DRAWING 1812-238.CDR
Narrawallee
Princes Highway
Croobyar Creek
Creek
Buckleys Beach
Narrawallee Inlet
BUCKLEYS ROCKS
PRESERVATION ROCK
NARRAWALLEE
0
1km
Scale
N
6092000mN
6090000mN
268000mE
270000mE
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15



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LONG CHANNEL MAX AND MIN OF SALINITY PROFILES
NARRAWALLEE CREEK - HIGH AND LOW WATER
30 SEPTEMBER 1993

MHL Report 1812

Figure 239

DRAWING 1812-239.CDR

Burrill Lake Data Summary

Data was collected in Burrill Lake on 16 March 2001, as detailed in report MHL1106. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 313. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 314a-b. The locations at which these profiles were taken are shown in Figure 240. Long channel depth-averaged salinity profiles are shown in Figures 241 and 242.

Table 313 Burrill Lake - 16 March 2001

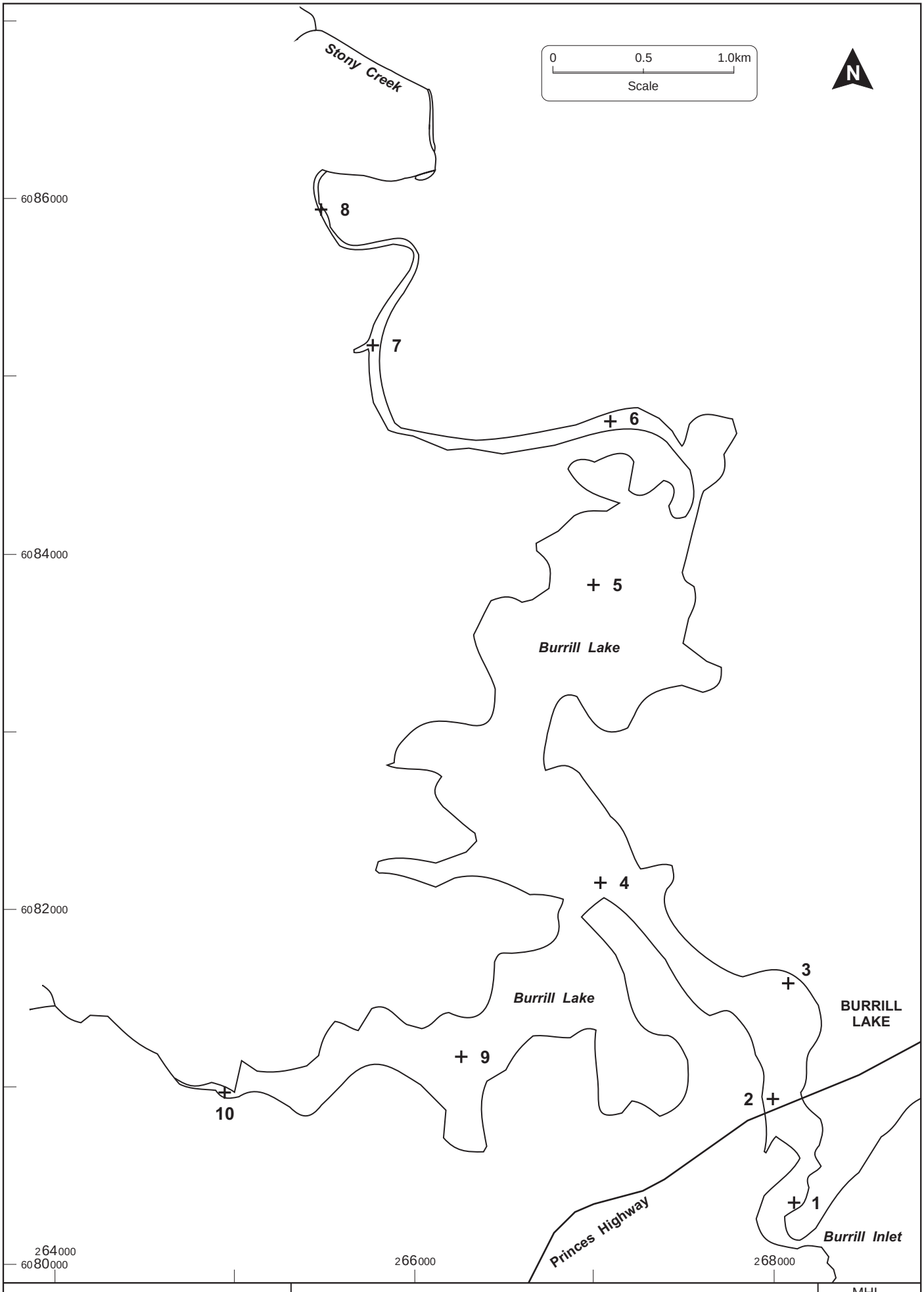
Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	268155	6080355	0.34	34.22	35.29
2	267970	6080915	1.10	33.82	35.17
3	268045	6081650	1.88	33.62	34.62
4	267025	6082195	3.18	33.56	33.47
5	266985	6083820	5.20	33.56	33.63
6	267075	6084720	6.72	33.07	33.09
7	265780	6085150	8.46	29.68	28.24
8	265495	6085860	9.67	27.46	30.07
9	266240	6081185	4.50	33.67	33.68
10	264970	6080985	5.90	33.71	33.74

Table 314a Burrill Lake - Water Quality Maxima and Minima - Low Water - 16 March 2001

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0503	1.0	1024.9	1024.9	1024.9	20.22	20.24	20.23	35.29	35.30	35.29	86.40	88.35	87.85	7.72	7.78	7.75	1.52	2.50	1.97	1.84	5.44	2.41	0.0	0.0	0.0	BL160301
2	0514	3.2	1024.4	1024.9	1024.8	20.15	20.27	20.24	34.53	35.28	35.17	76.04	79.18	77.35	7.80	7.86	7.83	0.00	576.86	229.87	0.00	12.19	5.45	0.0	0.0	0.0	BL160302
3	0526	0.7	1024.2	1024.4	1024.3	20.63	20.73	20.72	34.55	34.80	34.62	63.17	67.64	66.44	7.79	7.80	7.80	1.52	2.50	1.70	0.00	0.00	0.00	0.0	0.0	0.0	BL160303
4	0534	6.2	1021.7	1022.8	1022.6	23.53	23.78	23.74	32.35	33.72	33.47	67.08	89.76	80.34	7.76	7.85	7.82	0.00	574.91	119.62	0.00	12.17	4.17	0.0	0.3	0.1	BL160304
5	0542	5.5	1022.6	1022.9	1022.7	23.56	23.90	23.70	33.52	33.86	33.63	45.53	78.55	70.35	7.77	7.84	7.82	1.52	2.99	1.95	1.53	5.27	2.60	0.1	1.5	0.2	BL160305
6	0551	1.4	1021.3	1022.2	1022.0	24.36	25.21	24.75	32.37	33.27	33.09	61.50	84.11	72.59	7.73	7.79	7.76	0.00	554.39	261.99	0.00	26.63	12.64	0.7	9.2	1.6	BL160306
7	0602	0.6	1017.5	1018.1	1017.9	25.98	26.42	26.19	27.79	28.49	28.24	53.58	64.57	57.33	7.46	7.48	7.47	4.94	4.94	4.94	0.00	3.28	1.26	3.3	31.2	11.4	BL160307
8	0611	0.7	1018.7	1019.1	1019.0	27.04	27.15	27.09	29.71	30.30	30.07	7.38	9.30	8.61	6.90	6.96	6.94	14.22	15.69	15.05	4.37	46.36	38.98	1.4	48.8	29.7	BL160308
9	0633	7.1	1022.6	1022.8	1022.6	24.13	24.33	24.23	33.65	33.97	33.68	22.74	76.35	68.72	7.77	7.84	7.83	1.04	5.92	1.74	2.67	8.56	3.40	1.6	429.9	23.2	BL160309
10	0641	2.6	1022.5	1022.7	1022.6	24.07	24.52	24.43	33.73	33.81	33.74	51.71	72.00	66.55	7.78	7.81	7.80	1.52	2.50	2.05	4.22	30.17	5.92	21.8	452.6	47.2	BL160310

Table 314b Burrill Lake - Water Quality Maxima and Minima - High Water - 16 March 2001

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1002	0.6	1023.4	1023.4	1023.4	22.70	22.71	22.71	34.20	34.24	34.22	79.19	79.96	79.60	8.00	8.01	8.00	0.00	2.01	1.15	0.00	0.00	0.00	242.4	278.7	261.3	BL160311
2	1007	3.3	1022.9	1023.0	1022.9	23.36	23.51	23.44	33.79	33.84	33.82	89.05	91.08	90.35	7.98	8.00	7.99	0.00	2.99	1.41	0.00	0.79	0.29	241.5	4272.0	1004.1	BL160312
3	1015	0.5	1022.6	1022.6	1022.6	23.92	23.93	23.92	33.61	33.62	33.62	81.71	86.61	84.30	7.98	7.98	7.98	1.52	2.99	2.18	0.08	0.35	0.19	553.9	771.0	673.8	BL160313
4	1023	3.2	1022.1	1022.7	1022.6	23.70	23.99	23.80	33.02	33.60	33.56	79.35	80.38	79.76	7.96	7.98	7.97	0.00	559.77	222.03	0.00	11.80	6.28	220.3	2189.0	768.0	BL160314
5	1028	5.4	1022.1	1022.8	1022.6	23.68	23.96	23.86	32.89	33.76	33.56	52.04	78.00	72.04	7.89	7.92	7.90	0.00	563.67	161.35	0.00	11.82	6.04	114.1	408.3	207.8	BL160315
6	1035	2.2	1021.1	1022.4	1022.1	24.00	25.25	24.45	32.19	33.38	33.07	59.75	77.57	64.22	7.85	7.89	7.87	0.00	562.21	366.49	0.00	41.03	15.94	403.9	4632.0	1117.8	BL160316
7	1041	0.7	1018.2	1019.2	1018.7	26.94	27.26	27.10	29.14	30.34	29.68	60.63	76.29	69.02	7.62	7.67	7.63	539.25	539.74	539.29	11.80	11.82	11.81	65.0	406.8	150.2	BL160317
8	1048	0.7	1016.6	1017.9	1017.0	27.16	27.35	27.30	27.01	28.75	27.46	35.61	39.60	37.50	7.30	7.34	7.33	61.60	81.62	68.12	0.00	2.61	0.29	292.3	4700.0	1953.4	BL160318
9	1112	6.7	1022.5	1022.7	1022.5	24.06	24.60	24.36	33.64	33.86	33.67	30.25	77.14	70.48	7.87	7.93	7.92	0.55	6.90	1.37	1.78	7.60	4.17	59.6	5485.0	713.1	BL160319
10	1119	2.2	1022.3	1022.3	1022.3	25.14	25.16	25.14	33.70	33.71	33.71	81.17	84.09	82.56	7.90	7.91	7.91	0.00	559.28	280.80	0.00	11.73	7.66	743.2	4272.0	1351.8	BL160320



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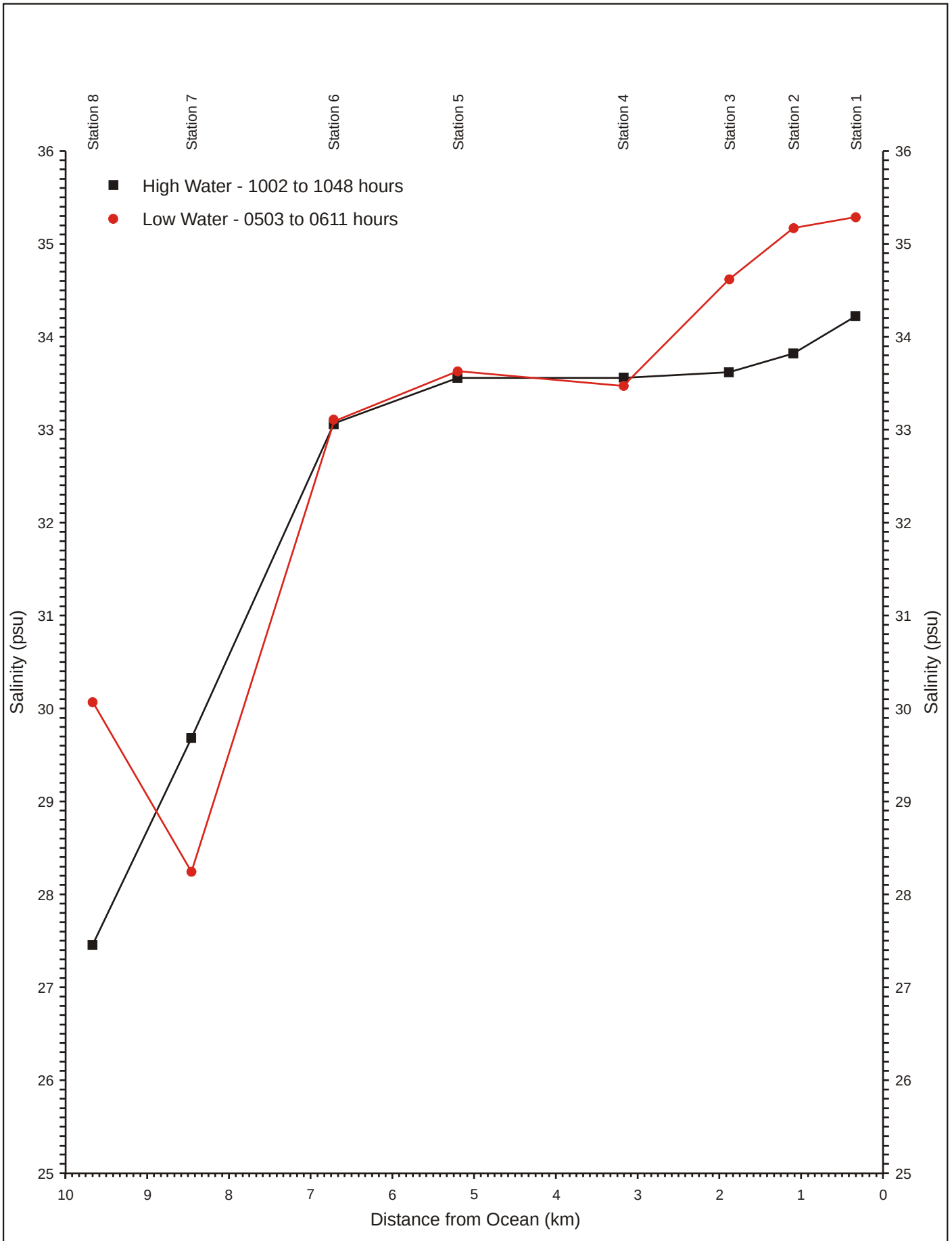
BURRILL LAKE

16 MARCH 2001

MHL Report 1812

Figure 240

DRAWING 1812-240.CDR



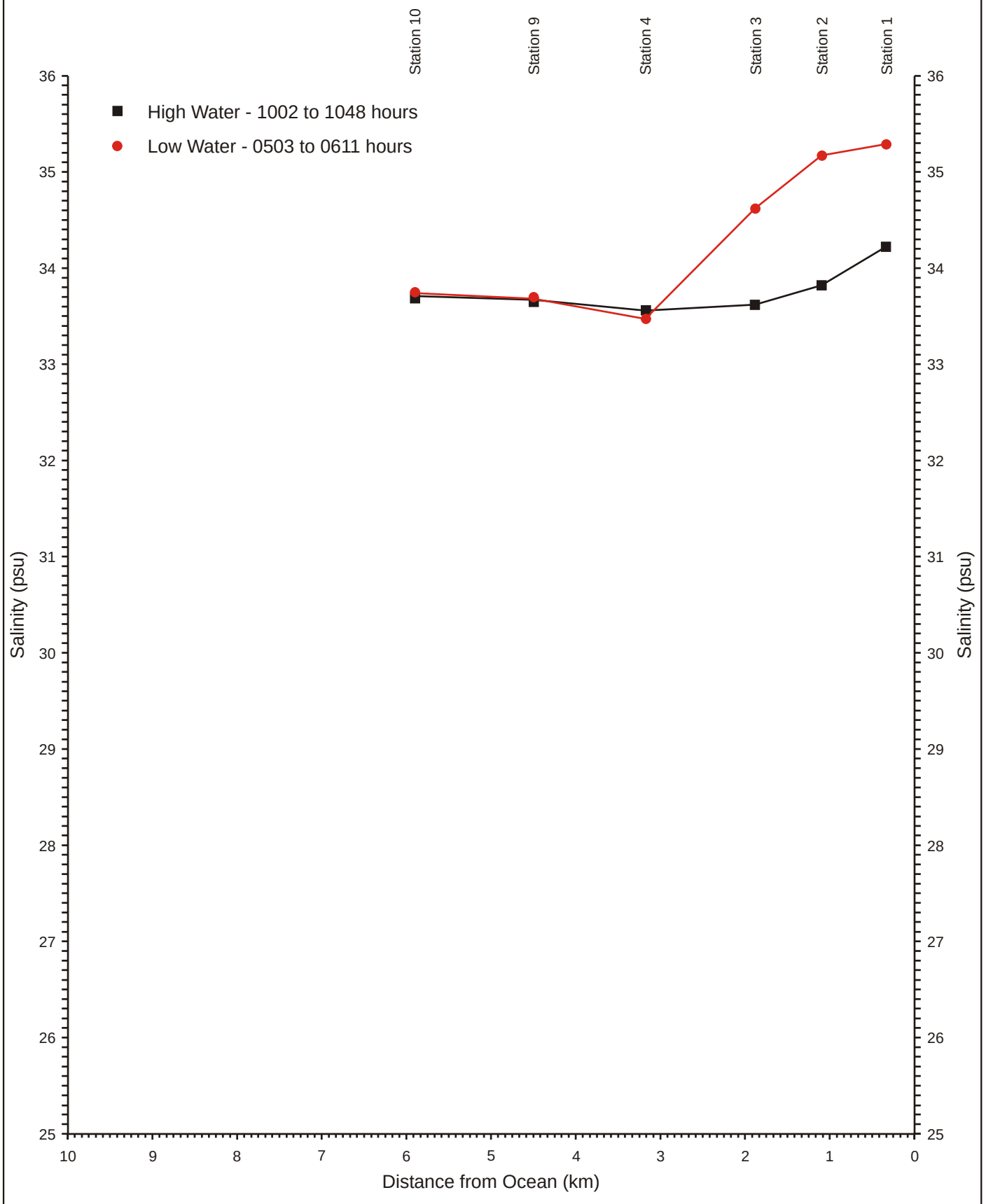
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BURRILL LAKE NORTH - HIGH AND LOW WATER
16 MARCH 2001

MHL Report 1812

Figure 241

DRAWING 1812-241.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BURRILL LAKE SOUTH - HIGH AND LOW WATER
16 MARCH 2001

MHL Report 1812

Figure 242

DRAWING 1812-242.CDR

Willinga Lake Data Summary

Data was collected in Willinga Lake on 22 August 2002, when the entrance to the lake was closed. The water level was surveyed at 1.44 m AHD. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 315. Summaries of the minimum, maximum and mean values for all parameters measured on the first and second runs are shown in Tables 316a-b. The locations at which these profiles were taken are shown in Figure 243. Long channel depth-averaged salinity profiles are shown in Figures 244.

Table 315 Willinga Lake - 22 August 2002

Station No.	MGA (m) Zone 56		Chainage (km)	First Salinity (psu)	Second Salinity (psu)
	Easting	Northing			
1	263300	6068141	0.144	8.09	8.18
2	262863	6067933	1.059	7.99	7.99
3	262212	6067813	1.745	8.00	8.07
4	261933	6067515	2.168	8.05	8.08
5	261690	6067424	2.439	8.12	8.13
6	262160	6067230	NA	8.12	8.14
7	261438	6067097	2.947	12.56	8.10

Table 316a Willinga Lake - Water Quality Maxima and Minima - First Run - 22 August 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0730	1.5	1005.7	1005.8	1005.8	11.92	12.30	12.15	8.06	8.14	8.09	84.89	101.36	87.29	7.26	7.32	7.30	458.67	483.58	475.81	0.49	8.91	0.97	4.5	19.6	9.1	HN020726
2	0738	1.0	1005.7	1005.7	1005.7	12.10	12.12	12.11	7.99	7.99	7.99	78.34	88.45	86.33	6.81	6.92	6.83	478.20	494.32	481.52	0.35	6.32	5.12	17.1	19.2	17.8	HN020727
3	0745	1.5	1005.7	1005.7	1005.7	11.76	11.76	11.76	8.00	8.00	8.00	68.97	82.81	72.50	6.86	6.89	6.89	462.57	479.67	473.49	0.23	6.51	1.56	7.7	17.9	12.2	HN020728
4	0755	1.0	1005.8	1005.8	1005.8	11.92	11.97	11.96	8.05	8.06	8.05	78.20	88.01	80.83	6.93	7.00	6.98	447.43	470.39	464.41	0.28	7.45	2.09	23.4	28.4	26.6	HN020729
5	0802	1.0	1005.7	1005.7	1005.7	12.55	12.56	12.56	8.12	8.13	8.12	94.63	106.11	100.18	7.47	7.50	7.49	473.32	489.44	482.35	0.14	8.63	4.37	15.9	24.5	20.1	HN020730
6	0810	1.0	1005.8	1005.8	1005.8	12.06	12.10	12.07	8.11	8.13	8.12	89.78	99.27	92.31	7.36	7.36	7.36	364.89	399.08	388.34	0.18	8.12	2.18	30.0	32.6	31.3	HN020731
7	0818	1.1	1005.8	1012.5	1009.1	12.77	12.84	12.80	8.31	16.95	12.56	7.34	19.77	14.72	6.61	6.65	6.64	262.82	300.43	282.27	0.21	45.28	22.77	15.0	17.1	16.2	HN020732

Table 316b Willinga Lake - Water Quality Maxima and Minima - Second Run - 22 August 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1305	1.4	1005.6	1005.9	1005.8	12.19	12.84	12.44	8.06	8.26	8.18	81.90	106.30	89.91	6.92	7.21	7.14	446.95	477.23	454.82	0.21	9.16	2.70	181.3	751.5	389.3	HN020733
2	1312	1.0	1005.6	1005.6	1005.6	12.43	12.43	12.43	7.99	7.99	7.99	93.95	94.13	94.04	7.00	7.00	7.00	589.07	589.07	589.07	6.12	6.16	6.14	466.1	757.0	611.5	HN020734
3	1317	1.2	1005.7	1005.8	1005.8	11.68	12.13	11.80	8.00	8.11	8.07	72.94	86.16	78.63	6.91	6.92	6.91	218.37	272.59	244.61	0.08	6.91	2.49	166.6	779.6	333.1	HN020735
4	1324	0.9	1005.6	1005.7	1005.7	12.51	12.98	12.74	8.03	8.14	8.08	94.58	99.00	96.63	7.17	7.18	7.18	584.19	595.42	588.17	0.07	0.45	0.23	526.2	4787.0	1898.5	HN020736
5	1332	0.9	1005.5	1005.7	1005.6	13.11	13.82	13.53	8.07	8.22	8.13	101.38	103.12	102.26	7.43	7.44	7.44	553.42	577.84	559.93	0.00	1.32	0.28	462.7	4823.0	2147.8	HN020737
6	1337	0.9	1005.7	1005.8	1005.7	12.45	12.80	12.56	8.12	8.15	8.14	98.44	100.88	99.46	7.27	7.27	7.27	587.12	614.96	600.01	16.43	26.88	19.85	466.1	627.6	524.7	HN020738
7	1343	1.1	1005.6	1005.8	1005.7	12.13	12.75	12.45	8.01	8.24	8.10	16.72	18.98	17.95	6.64	6.67	6.65	549.02	595.42	582.28	0.66	5.16	1.41	23.3	566.3	195.2	HN020739

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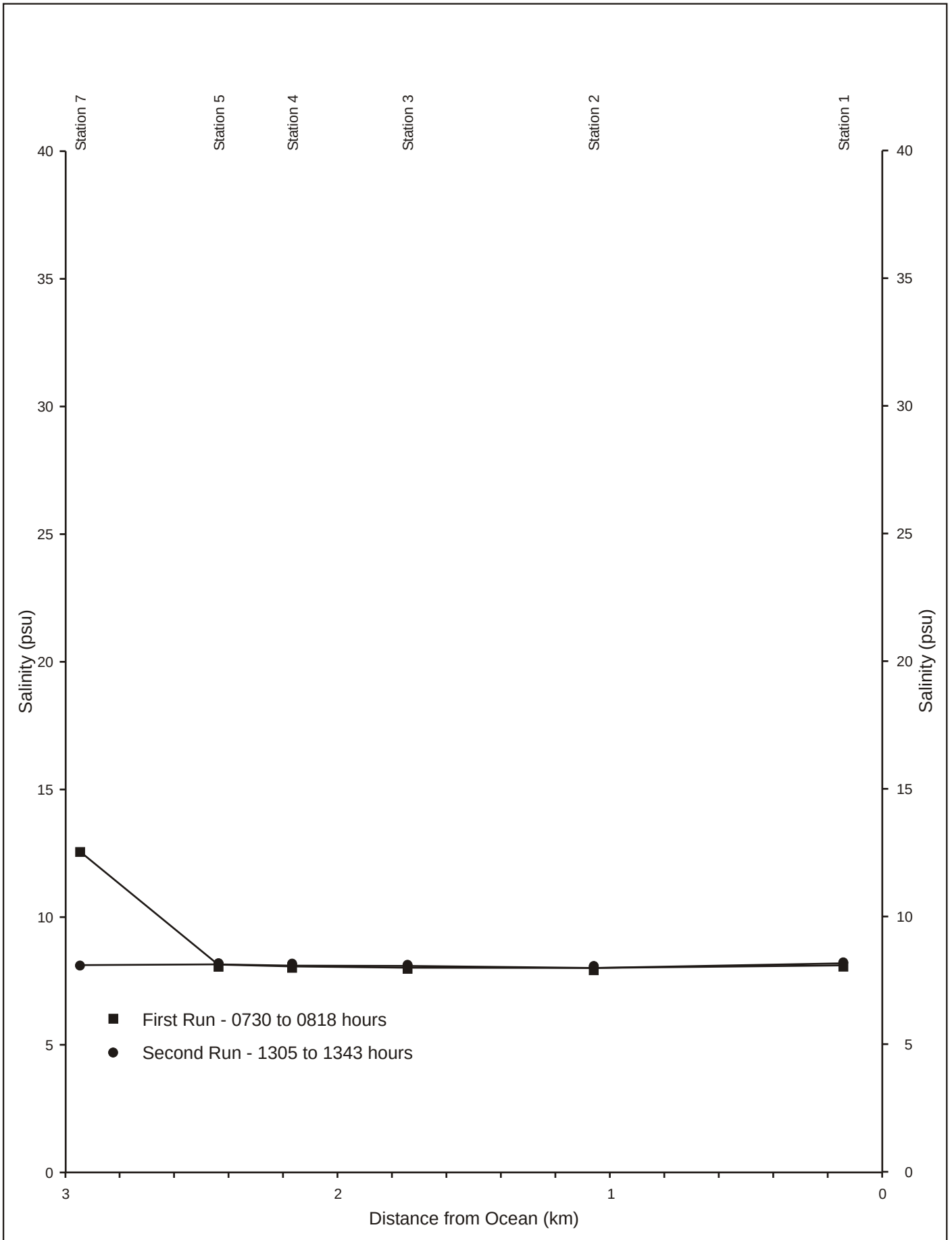
WILLINGA LAKE

22 AUGUST 2002

MHL Report 1812

Figure 243

DRAWING 1812-243.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
WILLINGA LAKE - FIRST AND SECOND RUN
22 AUGUST 2002

MHL Report 1812

Figure 244

DRAWING 1812-244.CDR

Durras Lake Data Summary

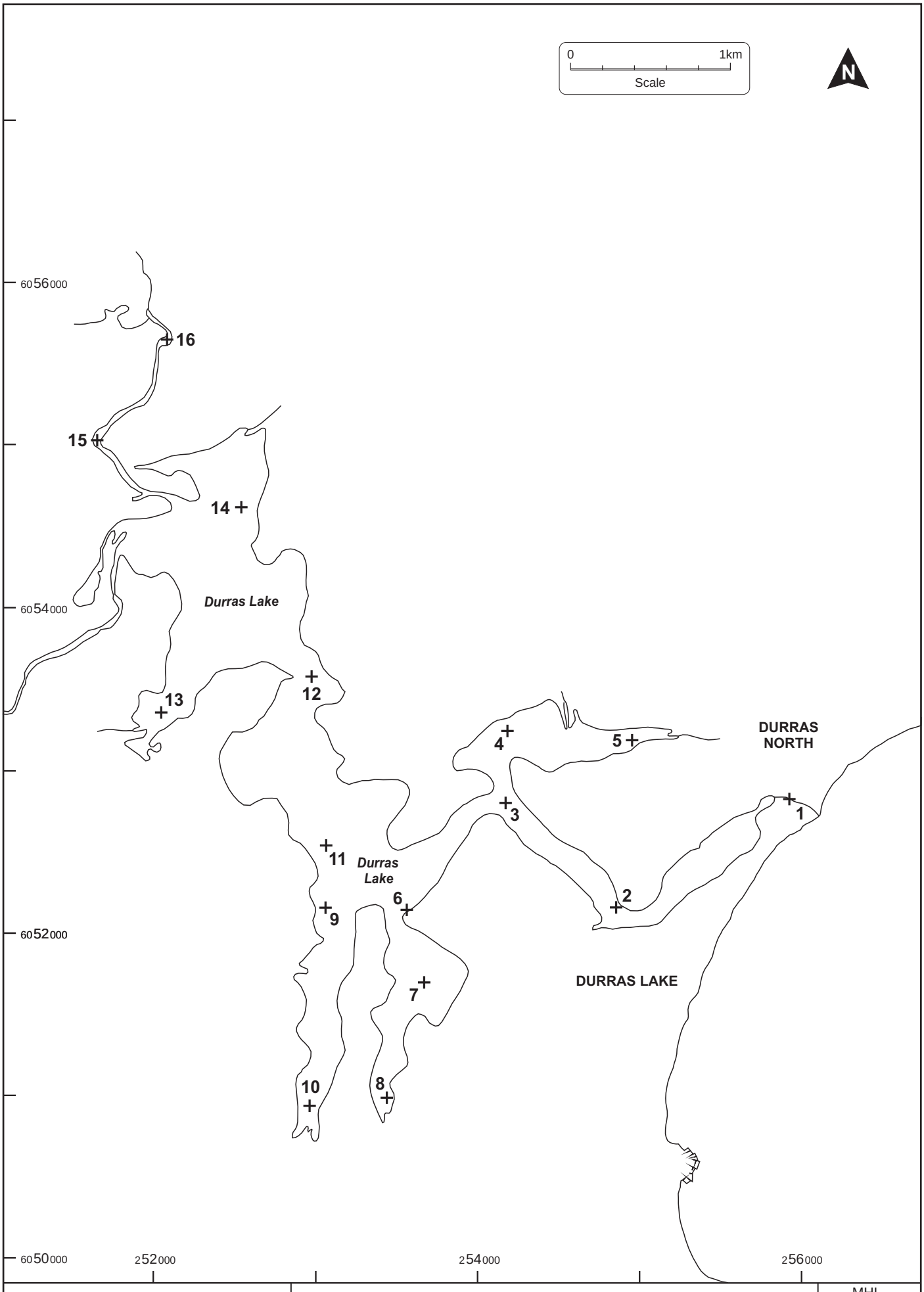
Data was collected in Durras Lake on 10 June 2004, when the entrance to the lake was closed. The average water level was 0.5 m AHD. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 317. Summaries of the minimum, maximum and mean values for all parameters measured on the single run are shown in Table 318. The locations at which these profiles were taken are shown in Figure 245. Long channel depth-averaged salinity profiles are shown in Figure 246.

Table 317 Durras Lake - 10 June 2004

Station No.	MGA (m) Zone 56		Chainage (km)	Salinity (psu)
	Easting	Northing		
1	255908	6052824	0.22	36.33
2	254848	6052161	1.65	36.91
3	254166	6052801	2.60	37.42
4	254176	6053242	3.04	37.23
5	254959	6053157	3.80	37.17
6	253557	6052143	3.54	37.45
7	253651	6051720	4.10	38.11
8	253435	6050989	4.86	38.08
9	253058	6052158	4.06	37.83
10	252960	6050940	5.32	37.87
11	253062	6052541	4.17	37.77
12	252973	6053578	5.27	37.74
13	252046	6053357	6.51	37.77
14	252539	6054619	6.49	37.63
15	251682	6054996	7.58	37.12
16	252132	6055691	8.38	36.87

Table 318 Durras Lake - Water Quality Maxima and Minima - 10 June 2004

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1035	1.2	1026.9	1027.9	1027.3	13.10	13.94	13.42	35.77	37.15	36.33	95.99	108.83	98.96	8.03	8.04	8.04	2.01	2.50	2.14	0.55	1.79	1.26	148.1	660.8	270.4	DU001
2	1046	2.1	1027.5	1028.3	1027.9	12.80	13.27	13.02	36.53	37.40	36.91	100.22	103.97	102.48	7.99	8.04	8.03	2.01	2.50	2.19	1.76	3.05	2.66	144.9	873.6	254.9	DU002
3	1053	1.1	1028.0	1028.6	1028.3	12.73	12.84	12.77	37.07	37.74	37.42	95.06	97.19	96.07	7.92	7.96	7.94	2.01	2.50	2.26	0.73	1.91	1.23	224.3	986.2	401.1	DU003
4	1100	1.1	1028.2	1028.2	1028.2	12.47	12.51	12.48	37.22	37.25	37.23	81.11	81.54	81.33	7.65	7.66	7.65	7.87	11.29	9.68	3.55	4.54	3.84	135.6	746.0	308.4	DU004
5	1105	0.7	1028.1	1028.1	1028.1	12.97	12.98	12.97	37.17	37.18	37.17	81.78	85.29	85.05	7.66	7.67	7.66	4.46	7.38	5.96	1.86	7.07	2.56	147.0	719.0	474.7	DU005
6	1117	0.9	1028.1	1028.5	1028.3	12.82	13.22	12.99	37.14	37.72	37.45	95.02	97.43	96.38	7.95	7.97	7.96	2.01	2.99	2.35	0.13	0.31	0.20	276.6	1081.1	544.1	DU006
7	1125	1.6	1028.8	1028.9	1028.9	12.81	12.84	12.81	38.10	38.13	38.11	94.67	95.11	94.94	7.86	7.87	7.86	3.48	4.46	3.73	0.74	1.58	1.13	210.8	1655.6	474.9	DU007
8	1132	0.8	1028.7	1028.7	1028.7	13.30	13.32	13.31	38.07	38.09	38.08	84.05	85.71	85.05	7.78	7.80	7.79	2.99	7.87	4.42	0.00	0.14	0.02	695.6	2064.0	1346.8	DU008
9	1146	1.9	1028.6	1028.7	1028.7	12.65	12.73	12.67	37.81	37.84	37.83	94.90	100.35	98.62	7.85	7.88	7.87	2.50	5.43	3.25	1.84	5.85	3.05	444.4	3516.2	1116.8	DU009
10	1153	1.1	1028.6	1028.6	1028.6	13.08	13.11	13.09	37.86	37.88	37.87	93.16	94.16	93.56	7.83	7.84	7.83	3.97	10.32	5.84	1.26	3.17	2.23	196.6	1266.1	478.5	DU010
11	1208	2.1	1028.6	1028.7	1028.7	12.25	12.56	12.29	37.70	37.79	37.77	95.33	97.81	96.61	7.80	7.81	7.80	2.01	3.48	2.75	1.02	1.75	1.24	242.3	1848.6	523.1	DU011
12	1216	1.9	1028.6	1028.8	1028.7	12.12	12.33	12.22	37.70	37.81	37.74	97.90	98.41	98.16	7.79	7.80	7.79	2.50	3.48	3.02	0.34	1.96	1.09	232.8	2086.8	481.2	DU012
13	1223	1.1	1028.6	1028.6	1028.6	12.65	12.68	12.66	37.76	37.78	37.77	93.05	93.53	93.25	7.76	7.78	7.77	2.99	4.94	3.83	0.01	0.39	0.17	259.9	1176.4	489.1	DU013
14	1230	1.1	1028.7	1028.7	1028.7	11.73	11.76	11.74	37.61	37.64	37.63	95.10	95.47	95.33	7.74	7.75	7.75	1.52	2.99	2.25	0.00	0.00	0.00	545.9	3069.2	1406.8	DU014
15	1240	2.4	1028.2	1028.4	1028.4	10.92	11.36	11.21	36.84	37.20	37.12	74.22	78.78	76.38	7.52	7.62	7.57	1.52	3.48	2.23	0.00	0.60	0.21	210.0	1686.3	476.6	DU015
16	1252	1.7	1028.0	1028.0	1028.0	12.15	12.26	12.16	36.82	36.88	36.87	49.82	51.03	50.65	7.37	7.40	7.38	2.01	2.50	2.38	0.39	2.17	0.91	40.2	280.7	71.1	DU016



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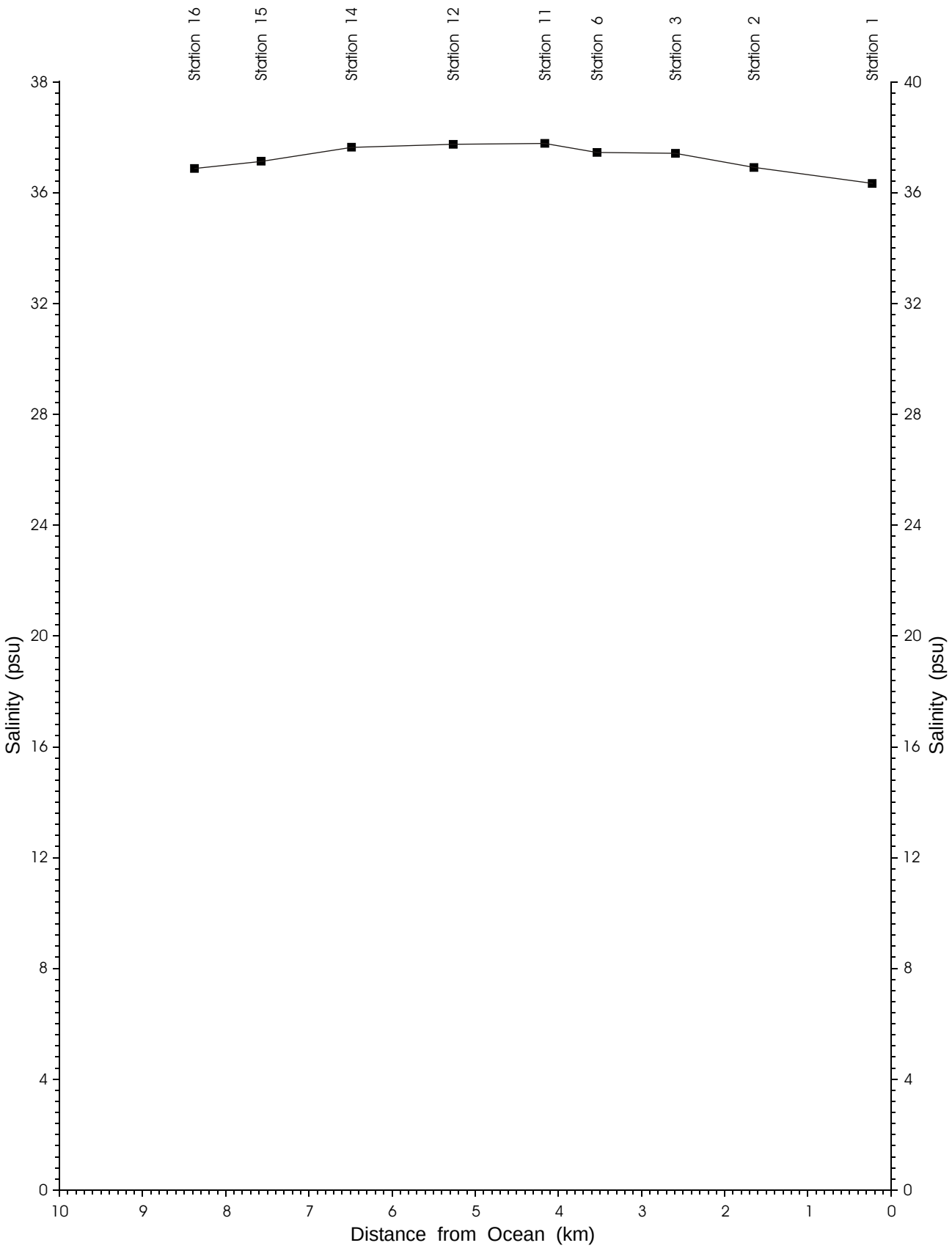
DURRAS LAKE

10 JUNE 2004

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Figure 245

DRAWING 1812-245.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
DURRAS LAKE
10 JUNE 2004

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Figure 246

DRAWING 1812-246.CDR

Clyde River Data Summary

Data was collected in the Clyde River on 26 September 1996, as detailed in report MHL792. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 319. Summaries of the minimum and maximum values for all parameters measured on the high and low water runs are shown in Tables 320a-b. Summaries of the minimum and maximum values for all parameters measured at Sites 2 and 14 are shown in Tables 321 and 322. The locations at which these profiles were taken are shown in Figure 247. Long channel depth-averaged salinity profiles are shown in Figure 248.

Table 319 Clyde River - 26 September 1996

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	244683	6045458	9.54	34.87	30.80
2	244105	6046228	10.54	-	30.35
3	242742	6045919	12.06	34.45	28.35
4	241522	6044897	13.75	33.55	26.88
5	240918	6044790	-	-	-
6	239905	6046190	-	-	-
7	240101	6046747	15.75	30.87	23.32
8	239735	6048183	18.00	28.06	21.79
9	241653	6048682	20.15	25.58	19.81
10	241056	6050257	22.40	22.70	17.31
11	241027	6051875	24.39	20.97	16.76
12	240932	6053175	25.54	19.88	15.82
13	242232	6054593	30.24	15.94	13.85
14	242199	6056488	33.21	13.73	11.14
15	242635	6058394	37.04	11.05	8.74
16	243834	6059484	38.65	9.53	6.47
17	244429	6061135	40.75	7.60	6.12
18	244205	6062758	43.47	5.00	4.41
19	245425	6063564	45.90	2.51	-
Site 2	244683	6045458	9.54	NA	NA
Site 14	240932	6053175	25.54	NA	NA

Note Chainage is distance from ocean at Tollgate Islands
Profiles not done at Stations 2, 5 and 6 on high water run and mean salinity not calculated from profiles at Stations 5 and 6 on the low water run
Station 1 was at Site 2 and Station 12 was at Site 14
Data at Site 2 and Site 14 was collected in conjunction with current metering at these locations

Table 320a Clyde River - Water Quality Maxima and Minima - High Water - 26 September 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	0655	9.00	13.923	13.986	34.804	34.894	48185	48304	1026.04	1026.16	7.49	7.57	90.1	91.2	8.38	8.40	6	8	CL167001
3	0711	7.20	14.152	14.210	33.969	34.555	47127	47862	1025.35	1025.84	7.42	7.91	89.5	95.5	8.39	8.41	6	8	CL167002
4	0720	7.00	14.531	14.747	32.919	33.794	45773	46884	1024.42	1025.17	7.30	8.46	88.2	102.4	8.38	8.40	5	8	CL167003
7	0735	3.00	15.255	15.479	30.479	31.098	42659	43443	1022.39	1022.90	5.65	8.78	68.4	106.4	8.36	8.36	4	6	CL167004
8	0744	3.40	15.863	15.930	27.781	28.223	39217	39778	1020.24	1020.58	7.02	7.07	84.3	84.7	8.33	8.33	4	5	CL167005
9	0754	8.80	16.175	16.274	24.757	25.969	35318	36884	1017.84	1018.82	7.06	7.20	84.2	85.3	8.31	8.32	3	6	CL167006
10	0806	5.00	16.354	16.376	22.575	22.827	32476	32808	1016.14	1016.35	7.19	7.21	84.3	84.8	8.27	8.27	3	4	CL167007
11	0815	6.80	16.384	16.433	20.720	21.085	30039	30523	1014.71	1015.02	7.28	7.33	84.5	85.2	8.23	8.24	3	4	CL167008
12	0826	5.20	16.455	16.512	19.471	20.066	28385	29175	1013.75	1014.23	7.29	7.37	84.4	85.0	8.19	8.20	3	3	CL167009
13	0839	5.00	16.442	16.494	15.716	15.984	23339	23706	1010.88	1011.11	7.13	7.30	80.5	82.4	7.99	8.00	3	4	CL167010
14	0855	3.80	16.367	16.458	13.396	13.857	20161	20799	1009.12	1009.50	7.12	7.19	79.2	79.9	7.87	7.90	2	2	CL167011
15	0910	7.40	16.240	16.349	10.252	11.328	15763	17284	1006.74	1007.60	7.16	7.29	78.4	79.4	7.73	7.82	1	2	CL167012
16	0919	6.20	16.253	16.463	9.175	9.842	14225	15181	1005.90	1006.46	7.22	7.36	78.4	79.8	7.68	7.77	1	2	CL167013
17	0928	7.00	16.277	16.386	6.976	7.784	11036	12221	1004.23	1004.90	7.32	7.43	78.4	79.4	7.60	7.73	1	2	CL167014
18	0939	4.40	16.328	16.405	4.534	5.272	7390	8506	1002.37	1002.95	6.96	7.64	73.5	80.3	7.54	7.72	1	2	CL167015
19	0949	2.00	16.328	16.467	2.028	2.743	3470	4615	1000.43	1001.01	8.07	8.33	84.0	86.7	7.76	7.93	1	2	CL167016

Table 320b Clyde River - Water Quality Maxima and Minima - Low Water - 26 September 1996

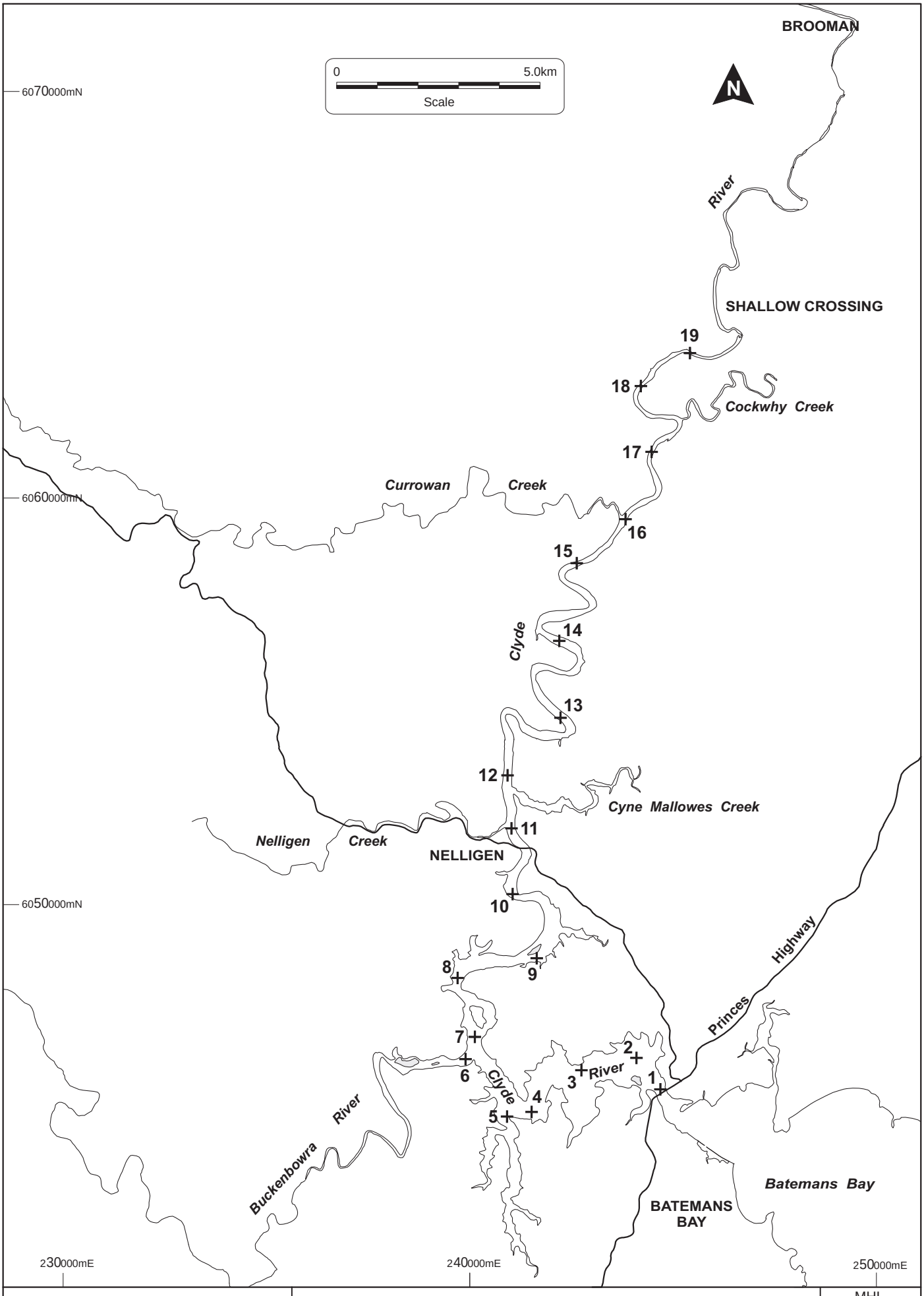
Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1331	6.40	16.049	16.077	30.508	31.106	42651	43403	1022.28	1022.77	7.32	7.39	89.6	90.6	8.39	8.40	4	5	CL167017
2	1340	3.00	16.286	16.787	30.154	30.628	42190	42773	1021.96	1022.30	5.94	9.12	73.2	112.6	8.40	8.41	4	26	CL167018
3	1347	8.00	16.374	16.584	28.094	28.573	39568	40191	1020.32	1020.76	7.05	7.34	85.8	89.5	8.37	8.38	3	4	CL167019
4	1356	5.80	16.243	17.085	25.794	28.462	36622	40058	1018.53	1020.70	5.68	8.16	68.8	99.1	8.35	8.38	3	4	CL167020
5	1402	1.80	17.034	17.191	25.649	26.219	36420	37141	1018.35	1018.75	7.68	7.71	93.3	93.7	8.38	8.39	3	3	CL167021
6	1417	4.60	17.299	18.041	23.796	27.260	33978	38463	1016.71	1019.54	8.16	9.56	100.3	116.8	8.47	8.55	3	4	CL167022
7	1421	1.40	16.808	16.836	23.167	23.445	33224	33587	1016.49	1016.72	7.34	7.36	87.3	87.5	8.32	8.32	3	3	CL167023
8	1428	3.80	16.770	16.968	21.219	22.441	30672	32282	1014.98	1015.97	7.33	7.65	86.7	90.5	8.28	8.29	3	10	CL167024
9	1436	8.40	16.939	17.026	19.145	21.022	27930	30417	1013.40	1014.87	6.32	7.53	74.4	87.9	8.21	8.24	3	4	CL167025
10	1446	3.40	16.990	17.369	17.076	17.420	25149	25623	1011.74	1012.08	6.73	7.62	77.5	87.6	8.10	8.11	3	3	CL167026
11	1454	4.80	16.721	17.185	15.683	17.322	23275	25504	1010.73	1012.08	7.28	7.42	83.3	84.8	8.02	8.06	3	4	CL167027
12	1501	3.80	16.667	17.065	15.093	16.456	22473	24338	1010.29	1011.42	7.17	7.34	81.6	83.5	7.97	8.00	2	3	CL167028
13	1515	3.40	16.518	17.011	13.195	14.196	19868	21262	1008.85	1009.73	6.25	7.24	70.2	81.3	7.85	7.87	2	3	CL167029
14	1525	3.40	16.612	17.125	10.588	11.957	16223	18157	1006.85	1008.00	7.16	7.40	79.2	82.2	7.73	7.77	2	53	CL167030
15	1540	6.20	16.433	17.715	7.012	10.368	11074	15926	1004.01	1006.83	6.90	7.83	75.3	86.0	7.68	7.87	1	2	CL167031
16	1549	2.40	17.242	17.488	6.154	6.705	9811	10628	1003.40	1003.87	7.50	7.75	81.4	84.3	7.60	7.64	2	2	CL167032
17	1557	4.40	16.458	17.333	4.716	6.899	7658	10924	1002.33	1004.18	7.51	7.85	80.3	84.4	7.66	7.84	1	2	CL167033
18	1609	3.20	16.451	18.306	1.092	5.289	1950	8531	999.38	1002.94	7.65	8.97	81.0	96.3	7.67	8.05	1	1	CL167034

Table 321 Clyde River - Water Quality Maxima and Minima - Site 2 - 26 September 1996

Site No.	Profile No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
				Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
2	1	0809	9.60	13.938	14.002	34.839	34.935	48226	48356	1026.07	1026.19	-	-	-	-	8.37	8.40	7	9	CL178501
2	2	0911	9.20	14.029	14.067	34.807	34.839	48185	48225	1026.04	1026.08	-	-	-	-	8.37	8.38	7	13	CL178502
2	3	1001	9.60	14.314	14.417	34.249	34.376	47461	47623	1025.56	1025.64	-	-	-	-	8.38	8.39	8	12	CL178503
2	4	1054	8.80	14.620	14.645	33.898	33.939	47002	47056	1025.21	1025.27	-	-	-	-	8.37	8.38	8	10	CL178504
2	5	1206	9.00	15.519	15.595	31.821	32.539	44333	45239	1023.40	1024.00	-	-	-	-	8.35	8.36	7	8	CL178505
2	6	1457	9.00	15.979	16.149	30.461	31.298	42586	43651	1022.23	1022.94	-	-	-	-	8.34	8.35	6	7	CL178506
2	7	1552	9.00	15.774	15.845	31.798	32.462	44285	45120	1023.33	1023.88	-	-	-	-	8.35	8.35	5	13	CL178507
2	8	1656	9.40	14.867	15.153	34.201	34.379	47332	47578	1025.34	1025.56	-	-	-	-	8.37	8.38	9	17	CL178508
2	9	1751	9.40	14.417	15.143	34.348	34.912	47514	48281	1025.44	1026.07	-	-	-	-	8.36	8.39	6	13	CL178509
2	10	1901	9.80	13.895	14.667	34.697	35.082	47990	48542	1025.82	1026.32	-	-	-	-	8.38	8.39	7	13	CL178510
2	11	1959	9.60	13.933	14.271	34.889	35.036	48271	48481	1026.07	1026.27	-	-	-	-	8.38	8.39	6	8	CL178511

Table 322 Clyde River - Water Quality Maxima and Minima - Site 14 - 26 September 1996

Site No.	Profile No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name
				Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
14	1	0809	5.13	16.0	16.1	2.07	2.15	33100	34400	1018.95	1019.94	8.60	9.30	88.7	95.9	7.77	7.96	0	1	0809.DAT
14	2	0940	6.30	16.3	16.8	1.78	2.09	28800	33500	1015.48	1019.08	9.39	9.68	97.5	100.2	7.87	7.91	0	4	0940.DAT
14	3	1053	6.12	16.3	16.6	1.81	2.01	29300	33000	1015.95	1018.73	9.40	9.50	97.2	98.5	7.85	7.91	0	2	1053.DAT
14	4	1305	5.50	16.4	16.9	1.65	1.92	26900	30800	1014.10	1017.13	9.00	9.40	93.3	98.3	7.71	7.78	0	0	1305.DAT
14	5	1348	3.15	16.6	17.0	1.63	1.83	26600	29500	1013.84	1016.09	9.00	9.50	93.6	99.5	7.74	7.88	0	0	1348.DAT
14	6	1502	5.22	16.7	17.0	1.63	1.74	26600	27700	1013.84	1014.78	9.10	9.54	97.9	99.8	7.53	7.73	0	0	1502.DAT
14	7	1605	5.40	16.9	17.2	1.68	1.80	27300	28900	1014.19	1015.48	9.54	9.74	100.4	102.3	7.55	7.75	0	1	1605.DAT
14	8	1707	5.76	16.8	16.8	1.83	1.86	29500	30100	1015.96	1016.37	9.48	9.63	99.0	100.6	7.76	7.86	0	0	1707.DAT
14	9	1821	5.94	16.7	16.7	1.96	1.97	31500	31600	1017.41	1017.48	9.47	9.68	98.8	101.0	7.89	7.93	0	0	1821.DAT
14	10	1922	6.12	16.6	16.7	2.04	2.09	32700	33300	1018.24	1018.72	8.90	9.86	92.9	102.9	7.97	7.98	0	0	1922.DAT
14	11	2033	6.03	16.5	16.6	2.17	2.21	34600	35100	1019.63	1020.05	9.01	9.75	93.9	101.4	7.99	8.02	0	0	2033.DAT



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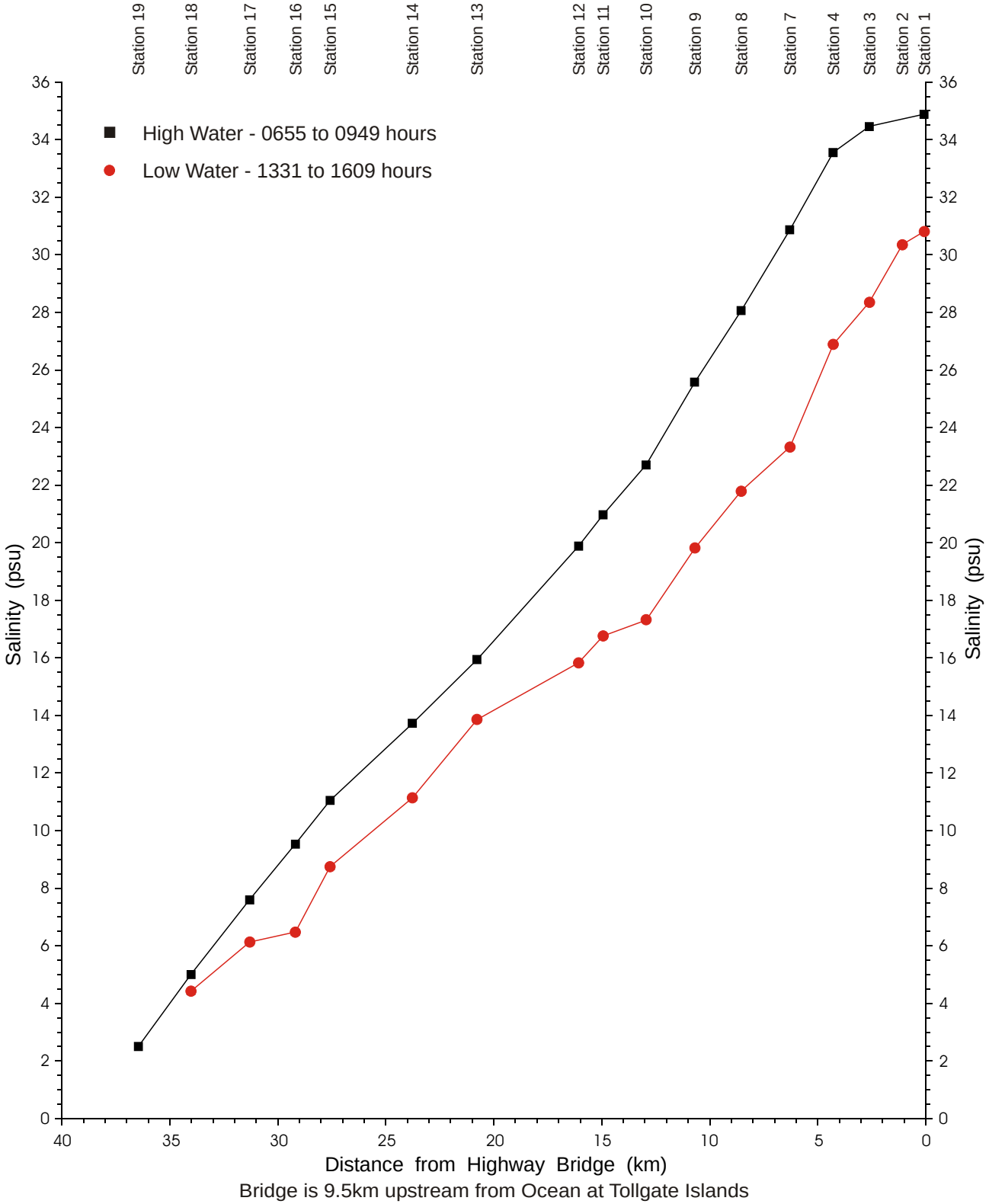
CLYDE RIVER

26 SEPTEMBER 1996

MHL Report 1812

Figure 247

DRAWING 1812-247.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
CLYDE RIVER - HIGH AND LOW WATER
26 SEPTEMBER 1996

MHL Report 1812

Figure 248

DRAWING 1812-248.CDR

Data was also collected in the Clyde River on 4 January 2003. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 323. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 324a-b. The locations at which these profiles were taken are shown in Figure 249. Long channel depth-averaged salinity profiles are shown in Figures 250.

Table 323 Clyde River - 4 January 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	241296	6051442	23.90	35.2	31.91
2	242402	6054204	28.80	34.0	30.27
3	241912	6057031	33.80	32.0	28.15
4	244099	6059785	38.80	28.0	26.22
5	244344	6062867	43.80	25.0	24.34
6	246080	6063465	45.80	23.0	-
7	246055	6064630	47.80	22.4	-

Note Chainage is distance from ocean at Tollgate Islands
Profiling stopped at Station 7 on high water run at Shallow Crossing
Profiling stopped at Station 5 on low water run due to shoals

Table 324a Clyde River - Water Quality Maxima and Minima - High Water - 4 January 2003

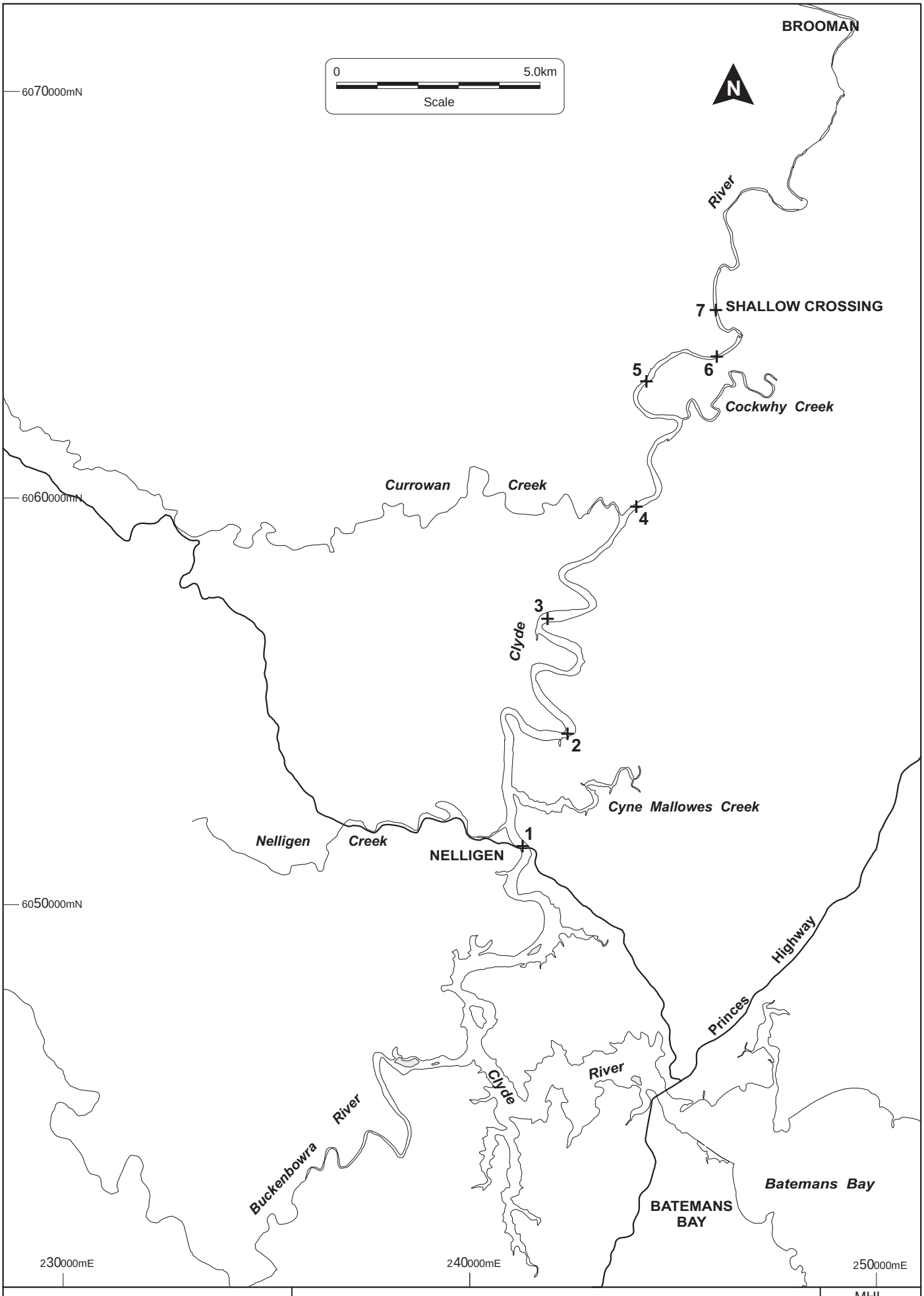
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	-	1.0	-	-	-	-	-	-	-	-	35.2	-	-	-	-	-	-	-	-	-	-
2	-	1.0	-	-	-	-	-	-	-	-	34.0	-	-	-	-	-	-	-	-	-	-
3	-	1.0	-	-	-	-	-	-	-	-	32.0	-	-	-	-	-	-	-	-	-	-
4	-	1.0	-	-	-	-	-	-	-	-	28.0	-	-	-	-	-	-	-	-	-	-
5	-	1.0	-	-	-	-	-	-	-	-	25.0	-	-	-	-	-	-	-	-	-	-
6	-	1.0	-	-	-	-	-	-	-	-	23.0	-	-	-	-	-	-	-	-	-	-
7	-	1.0	-	-	-	-	-	-	-	-	22.4	-	-	-	-	-	-	-	-	-	-

Note On the high water run the Seabird 19 was not used to profile - readings shown are at 1.0m depth from the Horiba - no other data was recorded
Readings stopped at Station 7 at Shallow Crossing

Table 324b Clyde River - Water Quality Maxima and Minima - Low Water - 4 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1633	7.1	1020.9	1021.0	1020.9	25.34	25.39	25.37	31.88	31.94	31.91	87.62	88.77	88.18	7.52	7.52	7.52	0.00	0.48	0.01	CLYD01
2	1646	12.3	1019.6	1019.8	1019.6	25.48	25.51	25.50	30.23	30.38	30.27	82.19	82.73	82.46	7.47	7.48	7.48	0.00	0.00	0.00	CLYD02
3	1659	3.1	1018.0	1018.0	1018.0	25.50	25.52	25.51	28.14	28.16	28.15	78.80	79.07	78.92	7.39	7.40	7.40	0.00	0.00	0.00	CLYD03
4	1711	2.5	1016.5	1016.7	1016.6	25.57	25.61	25.59	26.15	26.36	26.22	77.45	78.16	77.95	7.32	7.32	7.32	0.00	0.00	0.00	CLYD04
5	1724	3.4	1014.8	1015.8	1015.1	25.53	25.99	25.72	23.81	25.22	24.34	77.00	82.70	80.47	7.28	7.31	7.30	0.00	0.00	0.00	CLYD05

Note Profiling stopped at Station 5 on low water run due to shoals



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CLYDE RIVER

4 JANUARY 2003

MHL Report 1812

Figure 249

DRAWING 1812-249.CDR

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
CLYDE RIVER - HIGH AND LOW WATER
4 JANUARY 2003

MHL Report 1812

Figure 250

DRAWING 1812-250.CDR

Tomaga River Data Summary

Data was collected in the Tomaga River on 16 and 17 September 1996, as detailed in report MHL789. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 325. Summaries of the minimum and maximum values for all parameters measured on the high and low water runs are shown in Tables 326a-b. The locations at which these profiles were taken are shown in Figure 251. Long channel depth-averaged salinity profiles are shown in Figure 252.

Table 325 Tomaga River - 16 and 17 September 1996

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	245880	6030465	0.000	35.31	32.69
2	245460	6030365	0.325	35.27	32.09
3	245870	6031420	1.625	35.19	29.28
4	245160	6031690	2.350	-	-
5	245150	6031675	2.350	34.97	27.95
6	244800	6032905	3.750	34.24	26.30
7	243910	6033215	4.700	30.57	25.49
8	242845	6032755	5.975	26.58	26.57
9	242270	6033855	-	-	-
10	242340	6033955	7.275	24.39	23.50
11	242665	6034485	8.375	22.87	22.07
12	242750	6035045	9.100	20.79	-
13	243325	6034680	9.950	17.71	-

Note Co-ordinates transferred from Department of Lands TopoView Raster 2006 DVD

Table 326a Tomaga River - Water Quality Maxima and Minima - High Water - 16 September 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	11:18	2.30	13.992	14.041	35.297	35.318	48790	48818	1026.42	1026.44	7.26	7.55	87.8	91.3	8.36	8.37	3	4	TM167001
2	11:30	2.70	14.182	14.219	35.255	35.282	48721	48754	1026.35	1026.37	7.09	7.46	85.9	90.5	8.37	8.38	3	4	TM167002
3	11:44	2.80	14.462	14.482	35.184	35.197	48608	48625	1026.23	1026.25	7.10	7.24	86.5	88.3	8.36	8.37	3	4	TM167003
4	11:50	1.20	14.586	14.889	34.425	35.085	47632	48476	1025.56	1026.13	7.13	7.64	87.2	93.3	8.39	8.40	3	3	TM167004
5	11:54	2.00	14.643	14.787	34.647	35.150	47916	48551	1025.75	1026.18	7.41	7.58	90.6	92.7	8.39	8.40	3	3	TM167005
6	12:02	2.20	14.727	14.806	34.078	34.373	47209	47582	1025.31	1025.56	7.32	7.42	89.2	90.5	8.38	8.38	3	3	TM167006
7	12:10	1.60	15.407	15.973	29.570	31.309	41477	43706	1021.58	1023.05	7.09	7.36	86.1	89.3	8.37	8.39	3	45	TM167007
8	12:17	4.40	15.152	15.589	25.143	27.593	35853	39022	1018.27	1020.24	7.07	7.24	83.2	84.9	8.32	8.35	4	4	TM167008
9	12:28	0.70	15.838	15.982	23.536	23.627	33749	33874	1016.96	1017.05	7.16	7.49	83.8	87.5	8.27	8.27	4	5	TM167010
10	12:35	1.80	15.173	15.424	24.015	24.619	34402	35201	1017.44	1017.96	6.79	7.00	78.8	81.2	8.27	8.29	4	4	TM167011
11	12:43	1.80	14.994	15.800	21.550	23.216	31162	33387	1015.47	1016.92	6.68	6.88	76.9	78.9	8.14	8.24	4	4	TM167012
12	12:49	1.50	15.208	15.799	20.178	21.256	29352	30804	1014.43	1015.37	5.92	6.23	67.6	70.8	7.99	8.06	3	4	TM167013
13	12:59	1.80	15.023	15.455	15.910	18.293	23639	26872	1011.23	1013.13	4.23	4.55	47.1	50.3	7.61	7.70	3	4	TM167014

Table 326b Tomaga River - Water Quality Maxima and Minima - Low Water - 17 September 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	06:35	1.40	14.610	14.697	31.995	33.336	44621	46314	1023.74	1024.78	5.80	6.49	70.0	78.2	8.25	8.26	3	4	TM167015
2	06:41	1.70	14.724	14.799	31.949	32.224	44557	44908	1023.67	1023.90	6.06	6.20	73.0	74.6	8.26	8.26	3	3	TM167016
3	06:50	2.10	15.139	15.177	29.191	29.436	41056	41369	1021.47	1021.67	6.19	6.33	73.9	75.5	8.25	8.26	3	4	TM167017
4	06:53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	06:56	1.30	15.260	15.283	27.509	28.969	38910	40768	1020.15	1021.28	6.21	6.43	74.0	76.2	8.25	8.26	4	4	TM167018
6	07:04	1.70	15.319	15.374	26.250	26.349	37294	37419	1019.17	1019.25	4.89	6.48	57.5	76.2	8.23	8.24	3	4	TM167019
7	07:22	0.60	15.243	15.282	25.077	25.943	35786	36905	1018.28	1018.96	6.54	6.72	76.6	78.3	8.22	8.23	3	4	TM167020
8	07:28	3.50	15.081	15.987	23.139	28.316	33282	39890	1016.84	1020.63	3.62	6.60	42.6	78.2	8.13	8.29	3	10	TM167021
9	07:44	0.80	15.027	15.655	21.817	23.791	31552	34098	1015.83	1017.22	5.74	6.49	66.8	73.7	8.03	8.06	3	4	TM167022
10	07:49	1.50	14.923	15.814	21.612	25.039	31289	35706	1015.70	1018.15	6.47	6.69	74.1	78.2	8.04	8.19	3	3	TM167023
11	07:56	1.20	14.876	15.528	20.034	23.476	29203	33697	1014.49	1017.01	5.69	6.36	63.8	73.7	7.82	8.09	3	3	TM167024



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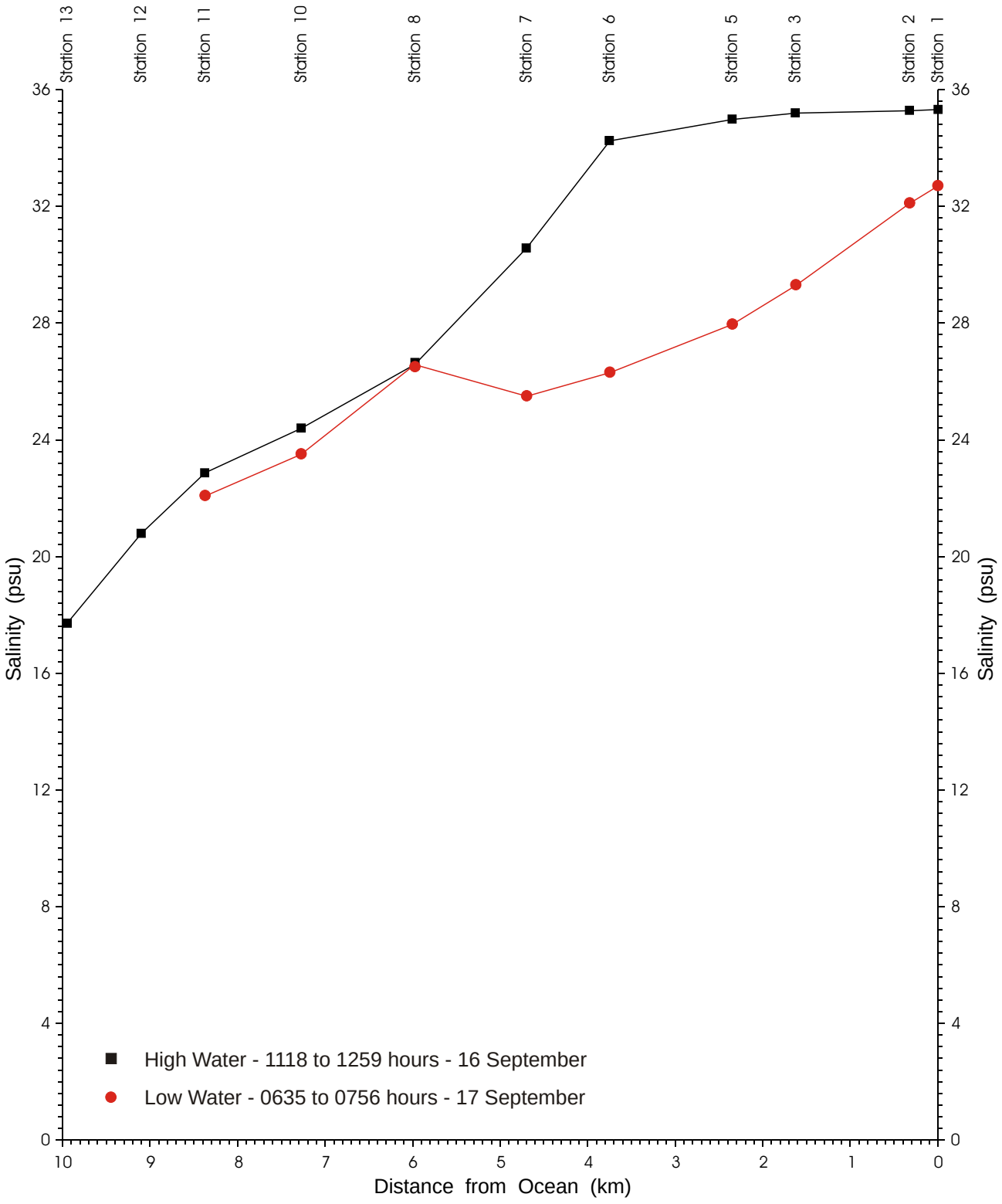
TOMAGA RIVER

16 AND 17 SEPTEMBER 1996

MHL Report 1812

Figure 251

DRAWING 1812-251.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
TOMAGA RIVER - HIGH AND LOW WATER
16 AND 17 SEPTEMBER 1996

MHL Report 1812

Figure 252

DRAWING 1812-252.CDR

Moruya River Data Summary

Data has been collected in the Moruya River on two occasions, in April 2000 as detailed in report MHL1059, and January 2003.

Data was collected in the Moruya River on 4, 5 and 6 April 2000. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Tables 327 and 328. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 329a to 331b. The locations at which these profiles were taken are shown in Figure 253. Long channel depth-averaged salinity profiles are shown in Figures 254 and 255.

Table 327 Moruya River - 5 April 2000

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
MRP1	243305	6022790	0.07	35.33	30.51
MRP2	241265	6022140	2.25	35.25	27.76
MRP3	239525	6022715	4.11	34.42	27.86
MRP4	236630	6022540	7.05	27.78	14.03
MRP5	234465	6023215	11.56	13.97	8.87
MRP6	233325	6020420	18.14	0.21	-

Table 328 Malabar Creek - 6 April 2000

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
ML1	239005	6022990	4.80	-	-
ML2	238955	6023100	4.93	29.88	30.20
ML3	238555	6023840	5.82	28.11	28.54
ML4	238085	6024470	7.08	27.38	26.92
ML5	237365	6025220	8.24	21.99	22.08

Table 329a Moruya River - Water Quality Maxima and Minima - High Water - 5 April 2000

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
MRP1	0922	5.1	1024.8	1024.8	1024.8	20.89	20.90	20.90	35.32	35.33	35.33	93.58	94.72	94.38	8.11	8.19	8.17	0.55	1.52	1.17	0.00	0.00	0.00	0.0	0.0	0.0	MO020706
MRP2	0934	3.9	1024.7	1024.8	1024.7	20.83	20.87	20.85	35.19	35.27	35.25	94.06	95.13	94.59	8.17	8.21	8.19	0.55	2.01	1.15	0.00	0.00	0.00	153.1	839.0	215.1	MO020707
MRP3	1001	8.4	1023.2	1024.6	1024.1	20.81	20.88	20.86	33.20	35.00	34.42	89.08	93.93	92.09	8.15	8.21	8.18	1.04	2.50	1.52	0.00	0.00	0.00	24.7	259.9	66.3	MO020708
MRP4	1014	3.4	1018.5	1018.8	1018.8	21.85	21.88	21.85	27.45	27.84	27.78	81.18	82.91	81.65	8.07	8.08	8.07	1.52	2.99	1.82	0.62	1.73	0.82	20.4	43.3	31.6	MO020709
MRP5	1031	3.0	1007.7	1009.5	1008.3	21.93	22.07	21.99	13.06	15.60	13.97	82.58	84.48	83.74	7.86	7.87	7.87	2.01	3.48	2.51	1.60	2.19	2.01	11.7	28.2	17.2	MO020710
MRP6	1052	2.4	998.2	998.2	998.2	20.68	20.68	20.68	0.21	0.21	0.21	82.11	82.33	82.21	7.84	7.96	7.86	2.01	2.99	2.42	0.39	0.97	0.52	18.5	39.2	27.1	MO020711

Table 329b Moruya River - Water Quality Maxima and Minima - Low Water - 5 April 2000

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
MRP1	1531	4.6	1020.8	1021.8	1021.1	21.02	21.17	21.12	30.14	31.39	30.51	88.36	89.49	88.76	7.99	8.05	8.02	0.55	1.52	1.19	0.84	2.00	1.17	15.1	36.5	25.3	MO020712
MRP2	1541	2.4	1018.6	1019.1	1018.9	21.53	21.59	21.55	27.49	28.13	27.76	85.37	85.85	85.66	8.01	8.03	8.02	1.52	2.01	1.81	1.91	2.22	2.00	28.2	40.2	33.2	MO020713
MRP3	1549	6.2	1013.5	1021.4	1018.9	21.35	21.70	21.53	20.75	31.07	27.86	83.27	87.51	84.47	7.94	8.01	7.98	2.01	4.94	3.11	0.69	2.88	1.70	2.1	176.7	21.7	MO020714
MRP4	1603	2.4	1008.3	1008.5	1008.4	21.83	21.84	21.84	13.89	14.16	14.03	87.20	87.72	87.55	7.86	7.87	7.87	2.01	2.50	2.18	2.70	3.00	2.90	23.4	44.6	30.6	MO020715
MRP5	1629	3.0	1001.6	1010.8	1004.5	21.49	22.12	21.78	4.86	17.34	8.87	82.41	88.48	86.11	7.48	7.70	7.62	2.01	2.99	2.75	1.56	2.82	2.35	8.6	127.9	26.2	MO020716
MRP6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note No data collected at Station MRP6 on low water

Table 330 Malabar Creek - Water Quality Maxima and Minima - High Water - 4 April 2000

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
ML1	1044	0.8	1022.3	1022.3	1022.3	21.51	21.52	21.51	32.23	32.28	32.26	88.68	88.75	88.71	7.65	7.66	7.65	529.97	530.46	530.22	0.00	0.00	0.00	364.4	371.1	367.8	MO020701
ML2	1105	1.1	1021.8	1021.8	1021.8	21.87	21.91	21.88	31.73	31.79	31.76	83.06	84.23	83.43	8.07	8.07	8.07	4.46	6.41	5.32	0.00	0.32	0.01	695.7	5607.0	2615.1	MO020702
ML3	1114	0.4	1019.5	1019.5	1019.5	23.20	23.20	23.20	29.24	29.24	29.24	65.73	65.73	65.73	7.87	7.87	7.87	14.22	14.22	14.22	0.00	0.00	0.00	999.0	5059.0	5059.0	MO020703
ML4	1122	0.9	1016.6	1017.6	1017.3	22.78	23.57	23.33	25.23	26.84	26.35	58.98	90.21	60.82	7.52	7.57	7.54	4.94	16.67	9.61	9.59	15.03	12.65	474.7	3516.0	1899.1	MO020704
ML5	1139	0.5	1013.1	1013.1	1013.1	22.85	22.95	22.92	20.61	20.65	20.64	5.52	5.80	5.71	7.01	7.02	7.01	12.27	17.15	14.85	0.71	10.74	7.54	999.0	4581.0	4535.4	MO020705

Table 331a Malabar Creek - Water Quality Maxima and Minima - High Water - 6 April 2000

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
ML1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ML2	0731	2.0	1020.9	1021.5	1021.2	18.36	18.93	18.55	29.47	30.35	29.88	76.47	79.73	78.11	7.81	7.87	7.85	4.94	6.41	5.56	0.73	1.38	1.17	37.4	65.8	52.2	MO020717
ML3	0738	0.7	1019.6	1019.6	1019.6	19.57	19.60	19.58	28.11	28.12	28.11	44.40	44.56	44.48	7.39	7.39	7.39	9.34	9.83	9.58	3.52	3.59	3.55	101.1	106.8	104.0	MO020718
ML4	0748	1.2	1018.2	1018.3	1018.3	22.57	22.58	22.57	27.31	27.46	27.38	10.32	15.43	10.94	7.11	7.16	7.12	5.43	5.92	5.83	4.89	7.39	5.23	19.9	22.6	21.5	MO020719
ML5	0803	0.9	1014.2	1014.3	1014.3	22.32	22.39	22.37	21.90	22.04	21.99	0.00	0.21	0.07	6.89	6.94	6.91	16.18	17.15	16.42	9.34	13.80	12.04	30.2	60.0	42.2	MO020720

Note No data collected at Station ML1 on 6 April 2000

Table 331b Malabar Creek - Water Quality Maxima and Minima - Low Water - 6 April 2000

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
ML1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ML2	1246	2.0	1017.9	1021.3	1021.2	19.71	19.83	19.74	25.93	30.29	30.20	84.11	88.70	87.83	8.00	8.03	8.02	3.48	5.92	4.13	0.00	0.30	0.08	171.6	1472.0	1061.0	MO020722
ML3	1252	0.8	1019.8	1019.9	1019.9	19.71	20.00	19.78	28.49	28.56	28.54	66.03	69.30	68.31	7.60	7.66	7.62	11.29	19.11	13.15	8.87	10.66	9.55	188.8	198.0	193.0	MO020723
ML4	1259	1.3	1017.8	1018.3	1018.1	21.20	22.64	22.06	26.39	27.47	26.92	16.02	25.72	17.70	7.09	7.19	7.11	7.39	7.87	7.61	5.64	6.42	5.92	245.9	713.8	385.3	MO020724
ML5	1311	0.9	1014.3	1014.3	1014.3	22.47	22.49	22.48	22.05	22.10	22.08	0.00	0.68	0.39	6.96	6.98	6.97	13.25	15.69	14.22	6.80	9.26	7.68	14.3	18.3	16.8	MO020725

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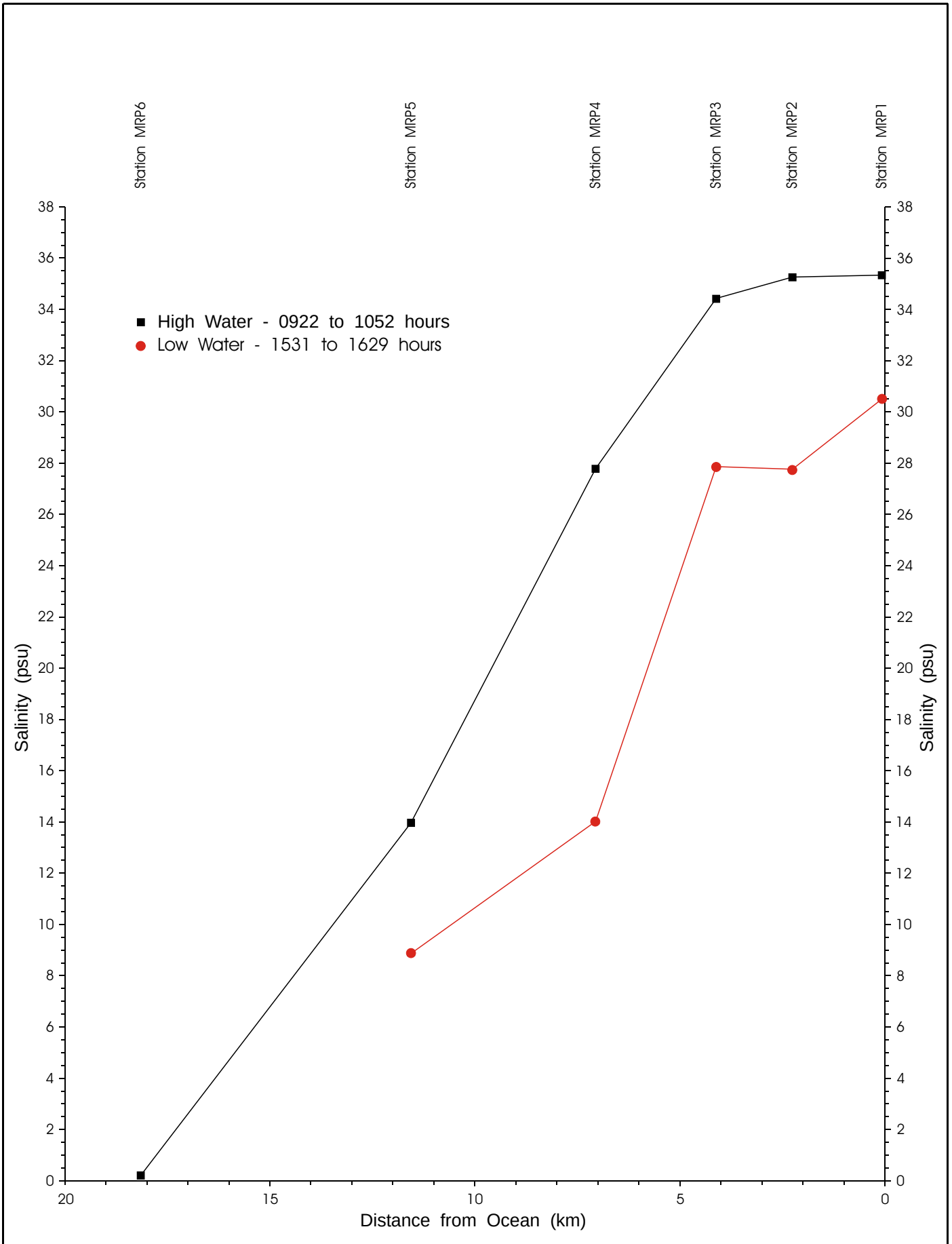
MORUYA RIVER

4, 5 AND 6 APRIL 2000

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Figure 253

DRAWING 1812-253.CDR



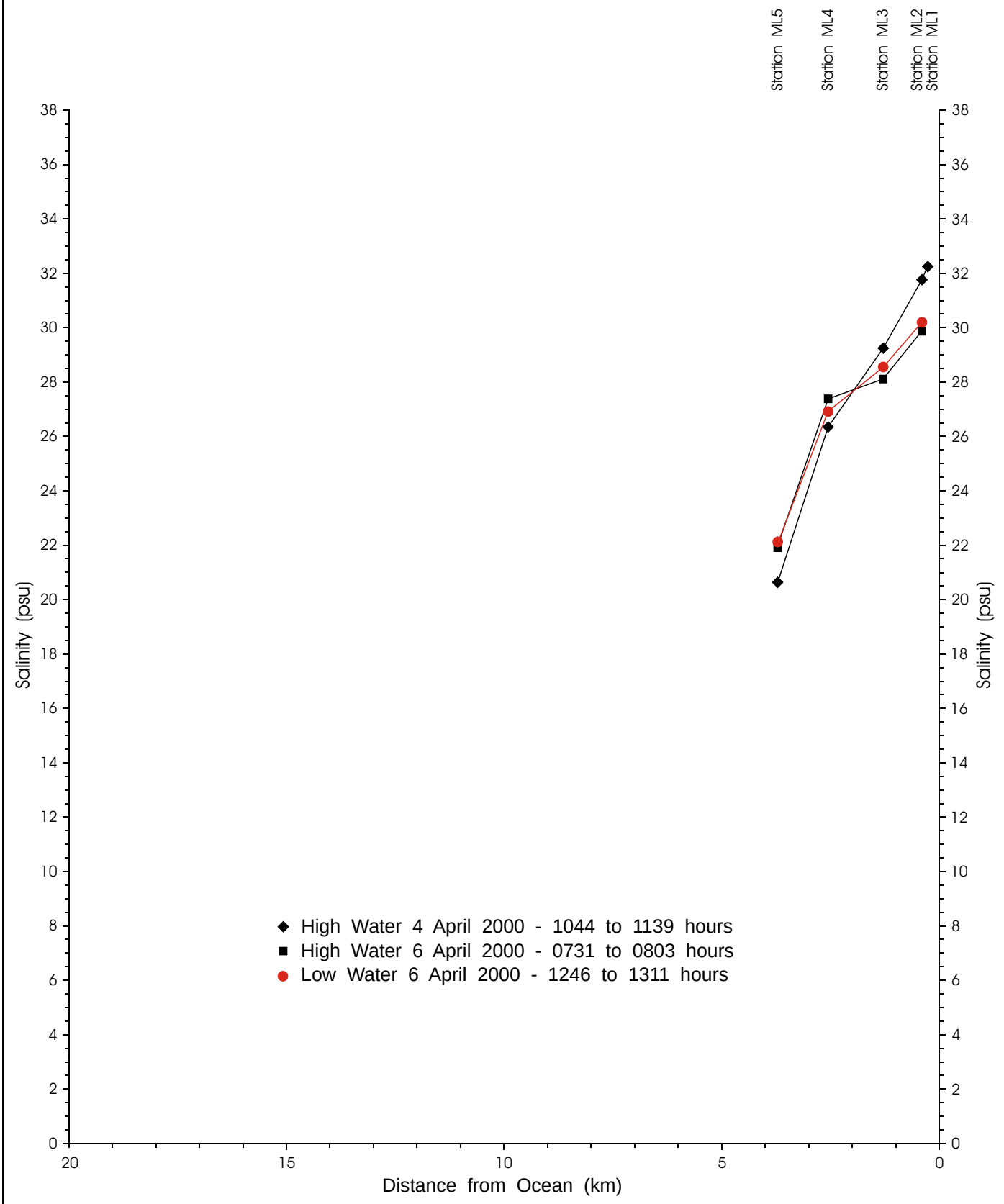
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MORUYA RIVER - HIGH AND LOW WATER
5 APRIL 2000

MHL Report 1812

Figure 254

DRAWING 1812-254.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MALABAR CREEK - HIGH AND LOW WATER
4 AND 6 APRIL 2000

MHL Report 1812

Figure 255

DRAWING 1812-255.CDR

Data was collected in the Moruya River on 5 January 2003. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 332. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 333a-b. The locations at which these profiles were taken are shown in Figure 256. Long channel depth-averaged salinity profiles are shown in Figure 257.

Table 332 Moruya River - 5 January 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	242581	6022597	0.825	35.38	35.35
2	238876	6022666	4.575	35.39	34.96
3	235342	6023292	8.525	35.21	33.43
4	233593	6023019	12.375	33.52	30.95
5	233697	6021389	16.325	30.45	-
6	233498	6020088	18.250	27.46	-

Note Chainage is distance from ocean end of northern breakwater at Moruya Heads
Profiling stopped at Station 6 on high water run and Station 4 on low water run due to shoals

Table 333a Moruya River - Water Quality Maxima and Minima - High Water - 5 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1042	3.7	1025.4	1025.5	1025.5	18.29	18.48	18.36	35.34	35.40	35.38	113.32	114.23	113.88	8.02	8.04	8.03	0.00	0.00	0.00	MORUY01
2	1053	1.4	1025.3	1025.3	1025.3	19.16	19.25	19.21	35.37	35.41	35.39	97.25	98.15	97.66	7.96	7.97	7.97	0.00	0.00	0.00	MORUY02
3	1107	2.0	1024.0	1024.1	1024.1	23.00	23.07	23.04	35.17	35.27	35.21	82.00	82.44	82.20	7.76	7.78	7.77	0.00	0.00	0.00	MORUY03
4	1119	2.2	1022.5	1022.5	1022.5	24.06	24.09	24.07	33.46	33.56	33.52	77.82	78.88	78.22	7.62	7.63	7.63	0.00	0.00	0.00	MORUY04
5	1132	2.2	1020.0	1020.2	1020.1	24.32	24.37	24.34	30.38	30.50	30.45	72.77	73.67	73.13	7.44	7.45	7.45	0.00	0.00	0.00	MORUY05
6	1144	1.8	1017.9	1018.1	1018.0	23.80	23.81	23.80	27.34	27.57	27.46	61.84	63.25	62.31	7.07	7.09	7.08	0.00	0.00	0.00	MORUY06

Note Profiling stopped at Station 6 due to shoals

Table 333b Moruya River - Water Quality Maxima and Minima - Low Water - 5 January 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1756	2.6	1024.8	1024.9	1024.9	20.47	20.86	20.69	35.28	35.39	35.35	98.53	101.59	99.59	7.86	7.89	7.88	0.00	0.00	0.00	MORUY07
2	1807	1.4	1023.8	1023.9	1023.8	23.11	23.31	23.27	34.94	35.02	34.96	84.23	85.49	85.15	7.70	7.70	7.70	1.46	3.42	1.79	MORUY08
3	1841	1.1	1022.4	1022.4	1022.4	24.02	24.03	24.03	33.42	33.43	33.43	82.95	83.28	83.15	7.61	7.62	7.61	0.00	0.00	0.00	MORUY09
4	1851	1.6	1020.5	1020.5	1020.5	24.20	24.21	24.21	30.92	30.97	30.95	75.45	75.78	75.65	7.46	7.47	7.47	0.00	0.00	0.00	MORUY10

Note Profiling stopped at Station 4 due to shoals

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MORUYA RIVER

5 JANUARY 2003

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Figure 256

DRAWING 1812-256.CDR

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MORUYA RIVER - HIGH AND LOW WATER
5 JANUARY 2003

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Figure 257

DRAWING 1812-257.CDR

Coila Lake Data Summary

Data was collected in Coila Lake on 2 February 1994, when the entrance to the lake was closed, as detailed in report MHL684. The water level was not surveyed. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 334. Summaries of the minimum and maximum values for all parameters measured on the single run are shown in Table 335. The locations at which these profiles were taken are shown in Figure 258.

Long channel depth-averaged salinity profiles have not been plotted from this data because the variations in the minimum and maximum salinity throughout the lake were insignificant.

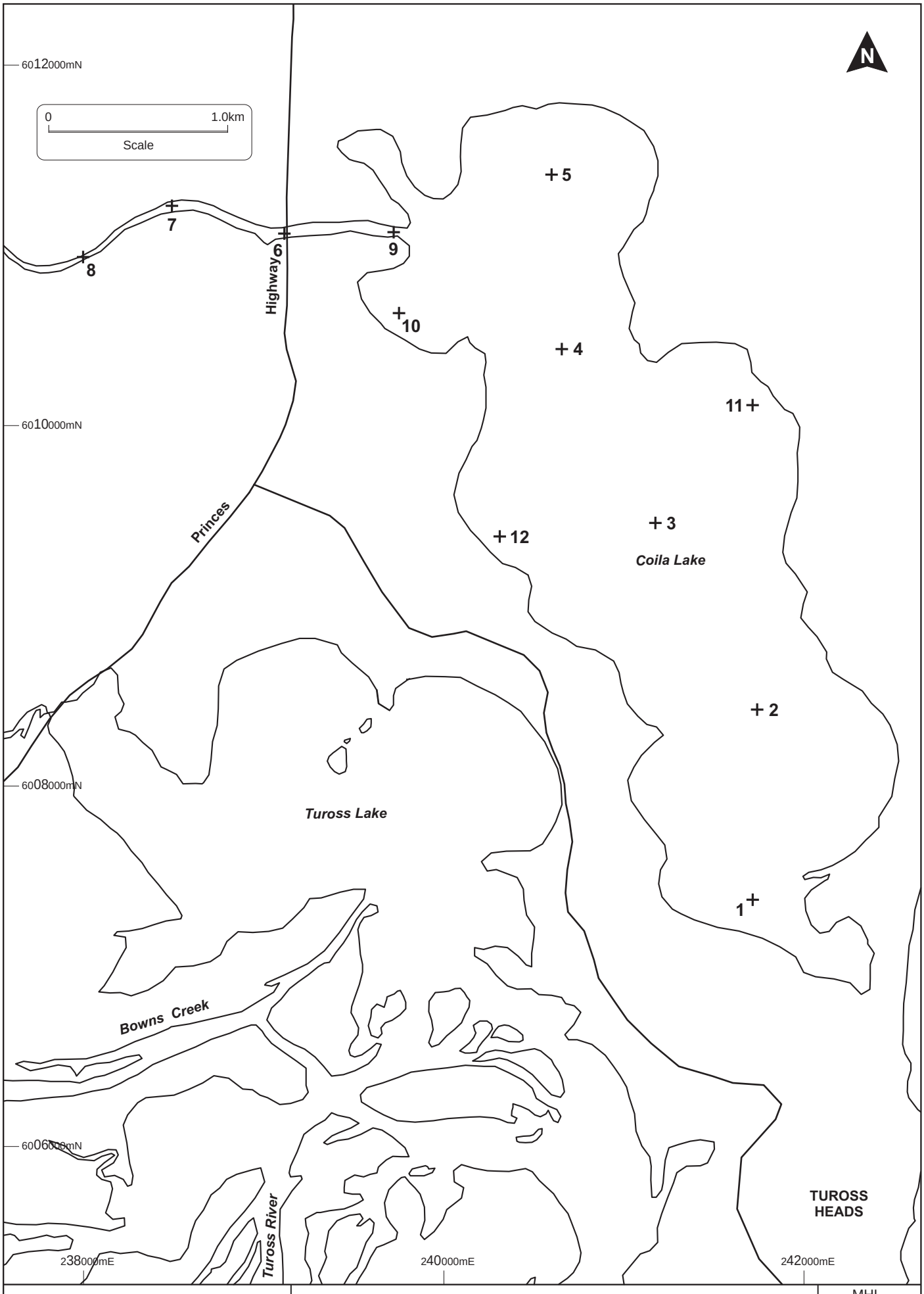
Table 334 Coila Lake - 2 February 1994

Station No.	MGA (m) Zone 56		Chainage (km)	Min Salinity (psu)	Max Salinity (psu)
	Easting	Northing			
1	241715	6007370	1.03	33.6	33.6
2	241740	6008425	2.08	33.5	33.5
3	241175	6009460	3.26	33.4	33.5
4	240655	6010425	4.35	33.4	33.4
5	240600	6011395	5.32	33.5	33.6
6	239115	6011065	6.10	35.6	35.6
7	238490	6011220	6.76	34.9	35.0
8	237995	6010945	7.32	34.7	34.8
9	239720	6011065	5.51	34.8	34.9
10	239750	6010625	5.32	34.4	34.5
11	241715	6010115	3.78	33.5	33.5
12	240310	6009385	3.83	33.7	33.7

Note Station locations transferred from report figure to aerial photo in Department of Lands database

Table 335 Coila Lake - Water Quality Maxima and Minima - 2 February 1994

Station No.	Start Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)	
			Min	Max	Min	Max
1	0927	1.1	22.8	22.9	33.6	33.6
2	0932	3.5	22.2	22.9	33.5	33.5
3	0940	3.3	22.8	22.8	33.4	33.5
4	0945	2.5	22.7	22.7	33.4	33.4
5	0949	1.6	22.9	23.0	33.5	33.6
6	0957	2.3	23.4	24.4	35.6	35.6
7	1004	1.3	23.1	23.4	34.9	35.0
8	1009	1.0	23.0	23.6	34.7	34.8
9	1017	1.0	23.0	23.1	34.8	34.9
10	1025	1.0	23.3	23.4	34.4	34.5
11	1032	2.0	22.7	22.8	33.5	33.5
12	1038	2.0	23.1	23.2	33.7	33.7



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COILA LAKE
2 FEBRUARY 1994

MHL
Report 1812

Figure
258

DRAWING 1812-258.CDR

Tuross River Data Summary

Data was collected in the Tuross River estuary on 1 February 1994, as detailed in report MHL684. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 336. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 337a-b. The locations at which these profiles were taken are shown in Figure 259. Long channel depth-averaged salinity profiles are shown in Figure 260.

Table 336 Tuross River - 1 February 1994

Station No.	MGA (m) Zone 56		Chainage (km)	High Water		Low Water	
	Easting	Northing		Min Salinity (ppt)	Max Salinity (ppt)	Min Salinity (ppt)	Max Salinity (ppt)
1	241665	6004770	0.38	35.8	35.9	35.2	35.5
2	240900	6005265	1.53	35.6	35.9	35.0	35.5
3	240275	6006865	3.38	35.3	35.6	35.5	35.8
4	239945	6007835	4.45	35.2	35.7	35.5	35.7
4a	239945	6007835	4.45	-	-	35.6	36.0
5	238405	6007840	6.00	35.7	36.3	35.9	35.9
6	237820	6008390	6.80	35.4	35.9	35.5	36.1
7	238860	6006700	5.09	34.4	34.6	35.5	35.8
8	237855	6006315	6.21	34.5	35.8	-	-
9	236930	6006215	7.12	35.1	35.6	-	-
10	236865	6006190	7.23	32.0	36.3	-	-
11	239005	6005865	5.03	35.0	35.5	32.7	34.3
12	238250	6004660	6.69	34.2	34.4	33.0	34.2
13	238070	6004890	6.94	32.4	34.2	30.4	31.3
14	236250	6004710	8.72	28.7	29.3	27.3	28.1
15	234320	6004660	10.69	26.0	30.3	24.3	30.1
16	233355	6005465	12.22	23.4	27.3	21.1	28.0
17	233155	6005510	12.38	24.5	24.6	-	-
18	232390	6005450	13.34	24.0	24.3	-	-
19	232145	6004750	14.14	24.2	24.8	-	-
20	231820	6006035	14.25	22.1	25.2	-	-
21	231555	6006605	14.84	21.8	24.9	-	-
22	230655	6006830	16.19	16.6	21.9	-	-
23	233190	6004250	13.59	-	-	15.9	16.1
24	233315	6003105	14.84	-	-	12.2	25.9
25	232570	6003835	16.00	-	-	10.6	21.9
26	231395	6003725	17.19	-	-	8.7	19.8

Note Station locations transferred from report figure to aerial photo in Department of Lands database
Profiling not done at Stations 4a, 23 to 26 on high water run
Profiling not done at Stations 8 to 10 and 17 to 22 on low water run

Table 337a Tuross River - Water Quality Maxima and Minima - Low Water - 1 February 1994

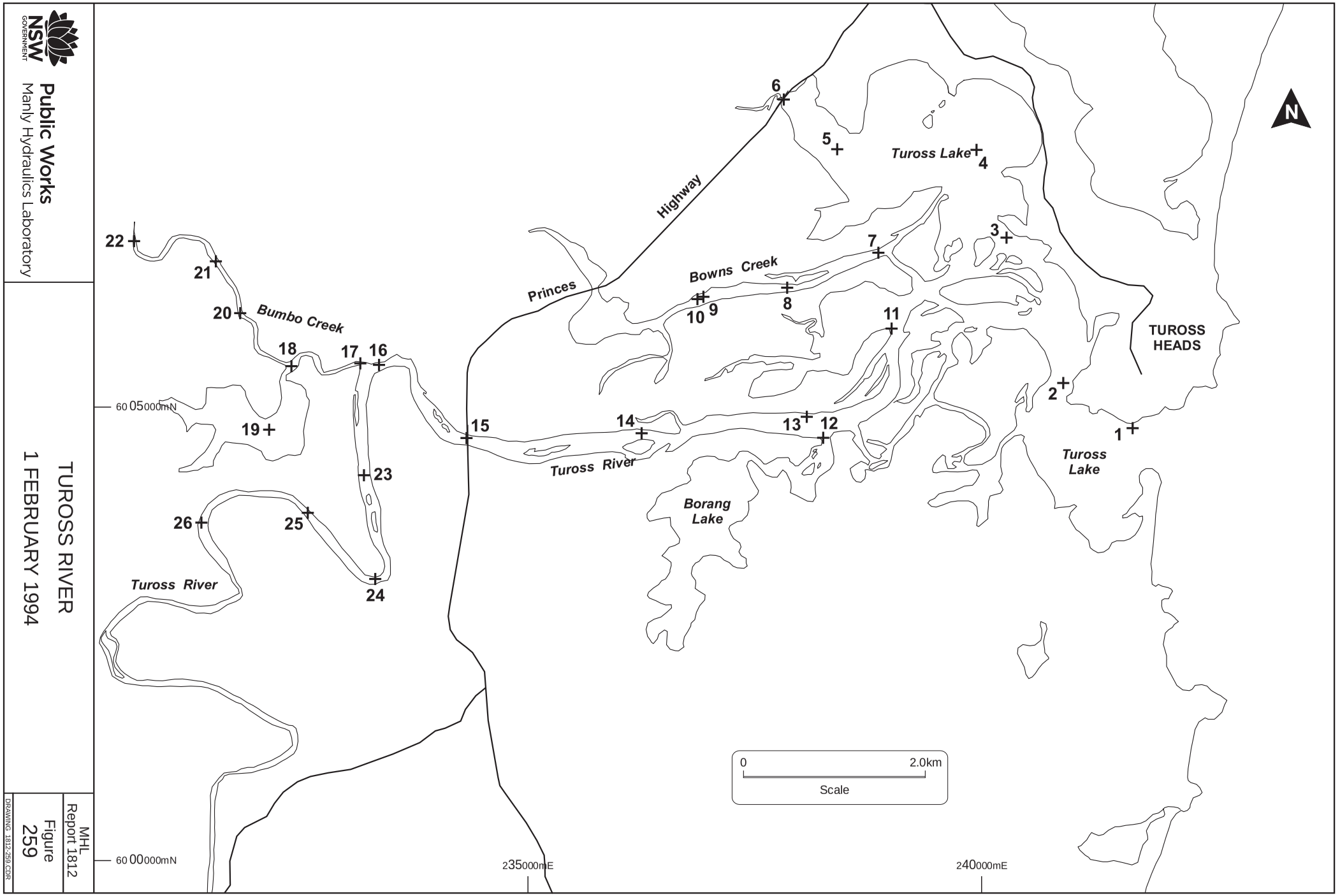
Station No.	Start Time (EST)	Depth (m)	Temperature (°C)		Salinity (ppt)		Dissolved O_2 (mg/L)		pH		Redox (mV)	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	0723	4.2	22.6	22.9	35.2	35.5	6.4	6.7	7.9	8.0	457	478
2	0739	6.4	22.9	23.1	35.0	35.5	6.3	6.4	7.9	7.9	431	436
3	0749	1.7	23.2	23.3	35.5	35.8	6.3	6.4	8.0	8.0	433	435
4	0800	1.2	23.3	23.6	35.5	35.7	6.2	6.3	8.0	8.0	435	436
4a	0805	1.1	23.1	23.4	35.6	36.0	6.3	6.4	8.0	8.0	427	427
5	0810	0.7	24.7	24.8	35.9	35.9	6.1	6.2	7.9	7.9	419	419
6	0832	1.0	24.3	24.7	35.5	36.1	6.2	6.3	7.9	7.9	435	437
7	0930	0.8	24.5	24.5	35.5	35.8	6.0	6.6	7.6	7.9	480	487
8	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-
11	0950	3.1	24.2	24.5	32.7	34.3	5.7	6.5	7.7	7.8	449	451
12	0955	1.6	24.4	24.7	33.0	34.2	5.9	6.4	7.7	7.7	449	451
13	1005	0.9	25.0	25.1	30.4	31.3	6.1	6.6	7.7	7.7	454	454
14	1014	0.8	25.0	25.4	27.3	28.1	6.4	6.7	7.6	7.7	445	447
15	1025	5.1	25.1	25.3	24.3	30.1	5.4	6.8	7.6	7.7	446	453
16	1038	4.9	24.9	25.4	21.1	28.0	5.6	6.9	7.6	7.7	464	469
17	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-
23	1108	0.3	26.2	26.4	15.9	16.1	7.0	7.3	7.6	7.9	468	470
24	1130	7.2	24.8	26.6	12.2	25.9	5.8	7.2	7.5	7.6	445	462
25	1147	3.0	25.1	27.1	10.6	21.9	6.5	7.3	7.0	7.5	464	479
26	1157	3.1	25.5	27.2	8.7	19.8	5.9	7.0	6.8	7.4	458	477

Note Profiling not done at Stations 8 to 10 and 17 to 22 on low water run

Table 337b Tuross River - Water Quality Maxima and Minima - High Water - 1 February 1994

Station No.	Start Time (EST)	Depth (m)	Temperature (°C)		Salinity (ppt)		Dissolved O_2 (mg/L)		pH		Redox (mV)	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	1433	5.2	21.3	21.4	35.8	35.9	6.6	6.9	8.0	8.0	397	407
2	1450	7.7	21.2	21.5	35.6	35.9	6.7	6.9	8.0	8.0	430	435
3	1507	4.1	23.1	23.9	35.3	35.6	6.3	6.5	8.0	8.0	432	433
4	1515	1.9	22.7	23.7	35.2	35.7	6.4	6.6	7.9	8.0	422	424
5	1529	1.8	25.2	25.9	35.7	36.3	6.1	6.3	7.9	8.0	428	430
6	1542	1.4	25.9	26.4	35.4	35.9	6.1	6.3	7.9	8.0	425	426
7	1558	0.9	25.3	25.5	34.4	34.6	6.1	6.3	7.9	7.9	436	438
8	1609	1.0	24.9	26.3	34.5	35.8	6.1	6.6	7.8	7.8	432	436
9	1617	0.6	27.1	27.7	35.1	35.6	6.0	6.4	7.9	8.0	439	441
10	1623	1.0	27.0	27.2	32.0	36.3	6.1	6.4	7.9	7.9	426	429
11	1648	3.4	22.9	23.6	35.0	35.5	6.3	6.7	8.0	8.0	437	439
12	1710	2.8	25.2	25.4	34.2	34.4	5.8	6.3	7.9	7.9	419	427
13	1719	0.9	24.8	25.5	32.4	34.2	6.2	6.4	7.8	7.9	418	420
14	1733	1.3	25.6	26.0	28.7	29.3	6.3	6.4	7.8	7.8	426	431
15	1747	5.9	25.6	26.2	26.0	30.3	5.9	6.6	7.7	7.8	434	442
16	1802	5.7	26.1	26.3	23.4	27.3	5.8	6.7	7.7	7.8	433	442
17	1820	2.9	26.0	26.2	24.5	24.6	6.3	6.5	7.8	7.8	423	427
18	1832	1.1	26.1	26.2	24.0	24.3	6.4	6.6	7.9	7.9	413	415
19	1840	0.3	25.5	26.1	24.2	24.8	6.5	6.7	7.8	7.8	411	416
20	1859	1.7	25.1	26.6	22.1	25.2	6.3	6.7	7.7	7.8	408	414
21	1907	1.7	25.8	27.1	21.8	24.9	6.1	6.7	7.6	7.9	412	419
22	1920	0.7	25.5	28.3	16.6	21.9	6.1	6.8	7.0	7.1	406	422
23	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-

Note Profiling not done at Stations 23 to 26 on high water run


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1 FEBRUARY 1994
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Figure 259
DRAWING 1812-259.CDR
N
Highway
Princes
Bowns Creek
Bumbo Creek
Tuross River
Tuross Lake
Borang Lake
TUROSS HEADS
1
2
3
4
5
6
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8
9
10
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12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
6005000mN
6000000mN
235000mE
240000mE
0
2.0km
Scale

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
TUROSS RIVER - HIGH AND LOW WATER
1 FEBRUARY 1994

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Figure 260

DRAWING 1812-260.CDR

Data was also collected in the Tuross River on 27 November 2003. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 338. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 339a-b. The locations at which these profiles were taken are shown in Figure 261. Long channel depth-averaged salinity profiles are shown in Figure 262.

Table 338 Tuross River - 27 November 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	241611	6004793	0.43	35.43	33.17
2	240924	6005361	1.68	34.95	34.44
3	240114	6005993	2.80	32.88	31.81
4	239021	6005834	4.15	30.67	29.73
5	238403	6004831	5.50	31.34	28.56
6	236303	6004711	7.65	27.30	26.48
7	234298	6004658	9.70	26.91	27.77
8	233335	6005458	11.15	23.91	26.68
9	233223	6004190	12.53	2.87	1.42
10	233422	6003124	13.68	20.26	18.86
11	232681	6003692	14.70	8.83	4.83
12	231464	6003870	16.10	12.39	12.88
13	231502	6002775	17.58	0.17	5.12
14	230298	6002506	18.98	0.08	0.07
15	231194	6001981	20.18	0.06	-
16	232414	6001498	21.53	0.06	-

Note Profiling stopped at Station 14 on low water run due to shoals

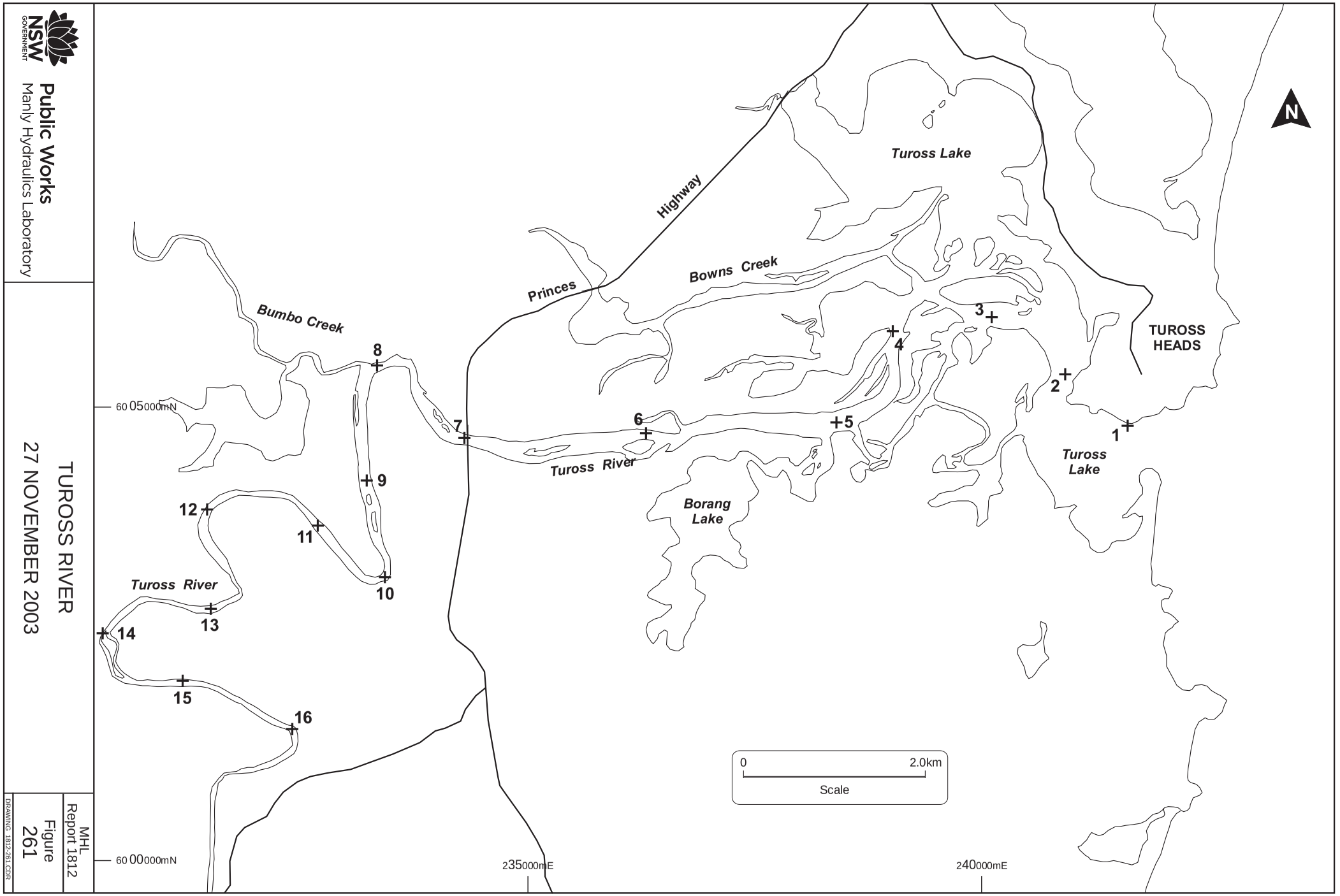
Table 339a Tuross River - Water Quality Maxima and Minima - High Water - 27 November 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1116	3.9	1025.3	1025.4	1025.4	18.83	19.05	18.91	35.38	35.47	35.43	106.94	108.81	107.53	7.95	7.96	7.95	0.00	15.63	5.51	TUR001
2	1203	10.6	1023.2	1025.3	1025.0	18.59	20.16	19.03	33.01	35.16	34.95	99.97	109.73	104.34	7.91	7.95	7.93	5.37	8.30	5.95	TUR002
3	1226	2.9	1022.5	1023.6	1023.0	20.28	20.86	20.59	32.28	33.59	32.88	101.84	105.61	103.45	7.88	7.91	7.90	5.86	6.35	6.06	TUR003
4	1252	2.9	1016.1	1022.7	1021.2	20.74	21.18	20.90	24.06	32.52	30.67	99.24	104.36	101.62	7.81	7.88	7.84	5.37	6.84	5.95	TUR004
5	1332	1.7	1020.8	1022.1	1021.5	21.81	21.95	21.87	30.51	32.15	31.34	101.64	104.03	102.99	7.84	7.86	7.85	5.86	6.35	5.88	TUR005
6	1344	2.1	1009.1	1020.6	1018.1	22.58	23.18	22.97	15.28	30.68	27.30	94.21	101.25	97.79	7.72	7.88	7.78	4.88	6.35	5.20	TUR006
7	1400	5.4	1005.2	1020.9	1017.8	22.52	23.77	23.25	10.39	30.79	26.91	28.14	104.21	74.92	7.32	7.72	7.57	4.88	7.81	5.81	TUR007
8	1409	4.0	1001.9	1019.2	1015.4	22.76	23.83	23.56	5.69	28.99	23.91	66.27	104.63	89.95	7.32	7.65	7.53	5.37	9.28	6.40	TUR008
9	1419	1.0	999.0	1000.7	999.7	22.96	23.02	23.01	1.95	4.17	2.87	103.90	106.55	104.50	7.48	7.61	7.55	4.40	7.81	5.17	TUR009
10	1431	10.4	998.6	1016.6	1012.9	20.14	24.99	22.72	1.20	24.28	20.26	0.34	133.79	37.21	6.80	7.58	7.08	4.40	6.84	5.27	TUR010
11	1458	2.4	998.3	1010.1	1004.2	21.11	25.47	23.00	0.69	17.55	8.83	81.73	113.65	99.26	6.76	7.27	7.06	4.88	7.33	6.11	TUR011
12	1507	3.8	997.9	1011.7	1006.4	21.08	26.70	24.62	0.29	20.02	12.39	7.99	125.07	76.55	6.63	7.29	7.02	4.88	7.33	5.48	TUR012
13	1516	1.6	997.7	998.1	997.8	21.46	22.81	22.28	0.13	0.25	0.17	87.59	92.58	89.92	7.21	7.32	7.28	4.40	4.88	4.82	TUR013
14	1524	2.0	997.8	997.8	997.8	22.06	22.09	22.08	0.08	0.08	0.08	93.25	93.50	93.38	7.25	7.25	7.25	4.88	5.37	5.32	TUR014
15	1536	1.0	998.1	998.1	998.1	20.93	20.95	20.94	0.06	0.06	0.06	94.37	94.82	94.58	7.24	7.28	7.26	3.42	6.84	5.03	TUR015
16	1544	6.7	998.1	998.5	998.4	18.81	20.81	19.59	0.04	0.10	0.06	82.14	101.68	91.35	7.09	7.31	7.22	5.37	26.86	6.51	TUR016

Table 339b Tuross River - Water Quality Maxima and Minima - Low Water - 27 November 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1953	3.1	1023.2	1023.4	1023.2	20.49	20.54	20.50	33.13	33.31	33.17	106.11	106.79	106.41	7.96	7.96	7.96	5.86	7.33	6.50	TUR017
2	2031	9.4	1021.8	1025.2	1024.4	18.93	21.40	19.72	31.54	35.23	34.44	100.42	110.51	105.42	7.90	7.98	7.96	5.37	7.33	5.72	TUR018
3	2051	2.8	1018.4	1023.3	1022.0	20.79	22.52	21.44	27.46	33.33	31.81	100.00	108.73	103.17	7.88	7.92	7.90	5.37	5.86	5.42	TUR019
4	2125	2.4	1017.4	1022.1	1020.1	21.48	22.93	22.45	26.27	32.02	29.73	96.38	103.57	101.51	7.85	7.88	7.87	5.37	7.81	5.79	TUR020
5	2154	2.1	1010.7	1021.5	1019.1	22.57	23.37	23.00	17.54	31.57	28.56	101.85	105.28	103.22	7.82	7.91	7.86	5.37	5.86	5.45	TUR021
6	2213	2.1	1006.0	1020.7	1017.4	22.94	23.99	23.42	11.39	30.67	26.48	90.67	97.36	93.66	7.58	7.89	7.74	4.88	7.81	5.41	TUR022
7	2229	5.4	1001.3	1020.9	1018.4	22.55	24.20	23.29	4.92	30.77	27.77	18.15	106.18	68.09	7.25	7.80	7.54	4.88	9.77	6.20	TUR023
8	2242	6.3	1000.4	1019.9	1017.5	22.26	24.07	23.51	3.56	29.68	26.68	27.17	96.34	61.16	7.29	7.89	7.47	4.40	13.19	6.04	TUR024
9	2256	1.0	999.0	999.0	999.0	21.36	21.37	21.36	1.42	1.43	1.42	87.72	88.01	87.82	7.25	7.25	7.25	4.88	5.86	5.37	TUR025
10	2313	6.4	998.5	1015.7	1011.6	21.40	24.98	23.68	0.82	23.97	18.86	0.81	125.23	50.50	6.75	7.55	7.07	3.42	6.35	4.84	TUR026
11	2328	1.9	998.2	1009.0	1001.4	21.39	24.95	22.08	0.40	15.84	4.83	90.53	110.43	96.34	6.63	7.29	7.10	4.88	6.84	5.34	TUR027
12	2339	3.9	998.3	1011.9	1006.8	21.62	26.76	24.63	0.52	20.29	12.88	3.29	119.79	66.31	6.64	7.24	6.97	4.40	6.84	5.40	TUR028
13	2352	2.6	998.1	1008.2	1001.5	21.12	26.67	22.49	0.24	15.33	5.12	34.11	96.81	80.92	6.42	7.25	6.97	4.88	6.84	5.41	TUR029
14	0003	1.8	998.3	998.3	998.3	19.83	19.84	19.84	0.07	0.07	0.07	91.06	91.50	91.28	7.27	7.31	7.28	4.88	5.37	4.90	TUR030

Note Profiling stopped at Station 14 due to shoals


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27 NOVEMBER 2003
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Figure 261
DRAWING 1812-261.CDR
Tuross Lake
Highway
Princes
Bowns Creek
Bumbo Creek
TUROSS HEADS
Tuross River
Borang Lake
Tuross Lake
Tuross River
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
N
0
2.0km
Scale
6005000mN
6000000mN
235000mE
240000mE

Public Works
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
TUROSS RIVER - HIGH AND LOW WATER
27 NOVEMBER 2003

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Figure 262

DRAWING 1812-262.CDR

Kianga Lake Data Summary

Data was collected in Kianga Lake on 21 August 2002, when the entrance to the lake was closed. The water level was surveyed at 1.26 m AHD. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 340. Summaries of the minimum, maximum and mean values for all parameters measured on the first and second runs are shown in Tables 341a-b. The locations at which these profiles were taken are shown in Figure 263. Long channel depth-averaged salinity profiles are shown in Figure 264.

Table 340 Kianga Lake - 21 August 2002

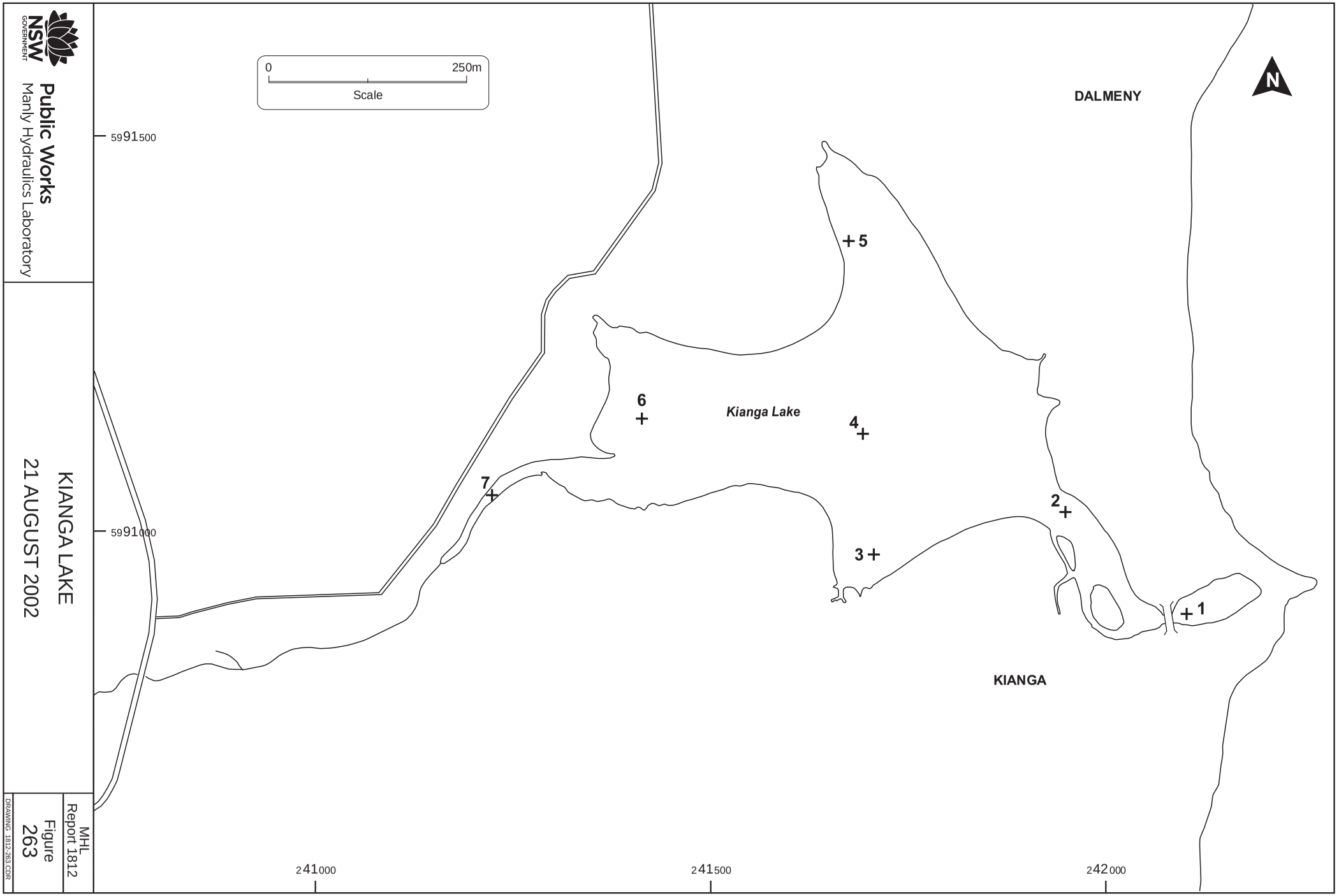
Station No.	MGA (m) Zone 56		Chainage (km)	First Salinity (psu)	Second Salinity (psu)
	Easting	Northing			
1	242103	5990895	0.12	3.19	3.22
2	241949	5991023	0.35	3.19	3.19
3	241707	5990970	NA	3.19	3.19
4	241693	5991122	0.63	3.19	3.18
5	241675	5991365	NA	3.19	3.19
6	241413	5991141	0.90	3.18	3.17
7	241220	5991049	1.12	3.06	3.08

Table 341a Kianga Lake - Water Quality Maxima and Minima - First Run - 21 August 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0707	1.2	1001.9	1001.9	1001.9	12.63	12.67	12.66	3.19	3.19	3.19	96.00	103.93	97.82	8.19	8.26	8.25	512.39	518.25	516.01	2.83	3.67	3.21	61.1	112.9	83.1	HN020712
2	0714	0.7	1001.9	1001.9	1001.9	12.63	12.66	12.64	3.19	3.19	3.19	81.51	83.46	82.54	7.85	7.87	7.86	510.44	522.65	513.68	0.14	5.77	2.70	47.8	273.6	162.4	HN020713
3	0721	0.9	1001.9	1001.9	1001.9	12.76	12.77	12.77	3.19	3.19	3.19	85.64	88.12	86.49	7.86	7.89	7.87	505.07	517.76	513.05	0.18	8.82	2.68	181.3	2926.0	1440.5	HN020714
4	0727	1.0	1001.8	1001.9	1001.9	12.84	13.03	12.87	3.18	3.19	3.19	82.29	92.13	88.43	7.77	7.86	7.81	444.01	455.25	447.53	0.27	6.21	4.39	117.1	141.7	127.5	HN020715
5	0734	0.8	1001.9	1001.9	1001.9	12.86	12.98	12.87	3.19	3.20	3.19	83.55	85.79	85.16	7.71	7.75	7.73	505.07	520.21	509.17	5.50	16.09	9.28	59.8	439.5	216.5	HN020716
6	0741	0.9	1001.9	1001.9	1001.9	12.63	12.63	12.63	3.18	3.18	3.18	89.05	89.05	89.05	7.89	7.89	7.89	493.34	493.34	493.34	12.52	12.52	12.52	153.1	153.1	153.1	HN020717
7	0748	0.8	1001.8	1001.8	1001.8	12.56	12.61	12.59	3.05	3.07	3.06	78.17	78.45	78.31	7.38	7.40	7.39	487.97	498.72	493.52	2.21	3.63	2.85	76.7	454.3	262.0	HN020718

Table 341b Kianga Lake - Water Quality Maxima and Minima - Second Run - 21 August 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1308	1.4	1001.8	1001.9	1001.8	13.07	13.74	13.37	3.19	3.25	3.22	95.98	114.74	99.36	8.30	8.33	8.31	433.27	487.00	458.86	0.00	2.75	0.38	263.7	602.8	394.3	HN020719
2	1313	0.8	1001.7	1001.7	1001.7	13.81	13.81	13.81	3.19	3.19	3.19	122.34	122.34	122.34	8.17	8.17	8.17	468.44	468.44	468.44	3.40	3.40	3.40	289.1	289.1	289.1	HN020720
3	1318	0.8	1001.7	1001.7	1001.7	14.20	14.22	14.21	3.19	3.19	3.19	92.72	94.41	93.34	7.86	7.88	7.87	340.47	356.10	349.02	0.51	49.03	5.73	572.6	3826.0	1666.4	HN020721
4	1324	0.9	1001.6	1001.7	1001.7	14.36	14.40	14.38	3.17	3.19	3.18	103.68	104.20	104.00	7.92	7.93	7.93	468.92	470.88	469.90	5.86	6.03	5.98	961.2	1323.0	1116.6	HN020722
5	1333	0.8	1001.7	1001.7	1001.7	13.79	13.80	13.79	3.19	3.19	3.19	78.38	80.39	79.65	7.90	7.92	7.92	471.85	480.64	475.02	0.09	0.47	0.21	1073.0	4930.0	3080.8	HN020723
6	1337	0.8	1001.7	1001.7	1001.7	14.18	14.18	14.18	3.17	3.17	3.17	97.47	101.62	100.22	8.07	8.09	8.08	376.13	405.43	387.62	1.99	14.50	3.50	387.9	3869.0	2276.9	HN020724
7	1343	1.0	1001.8	1001.8	1001.8	12.72	12.77	12.75	3.08	3.08	3.08	76.45	76.73	76.54	7.13	7.14	7.14	507.02	512.39	510.11	2.89	3.22	3.07	26.0	27.9	27.0	HN020725

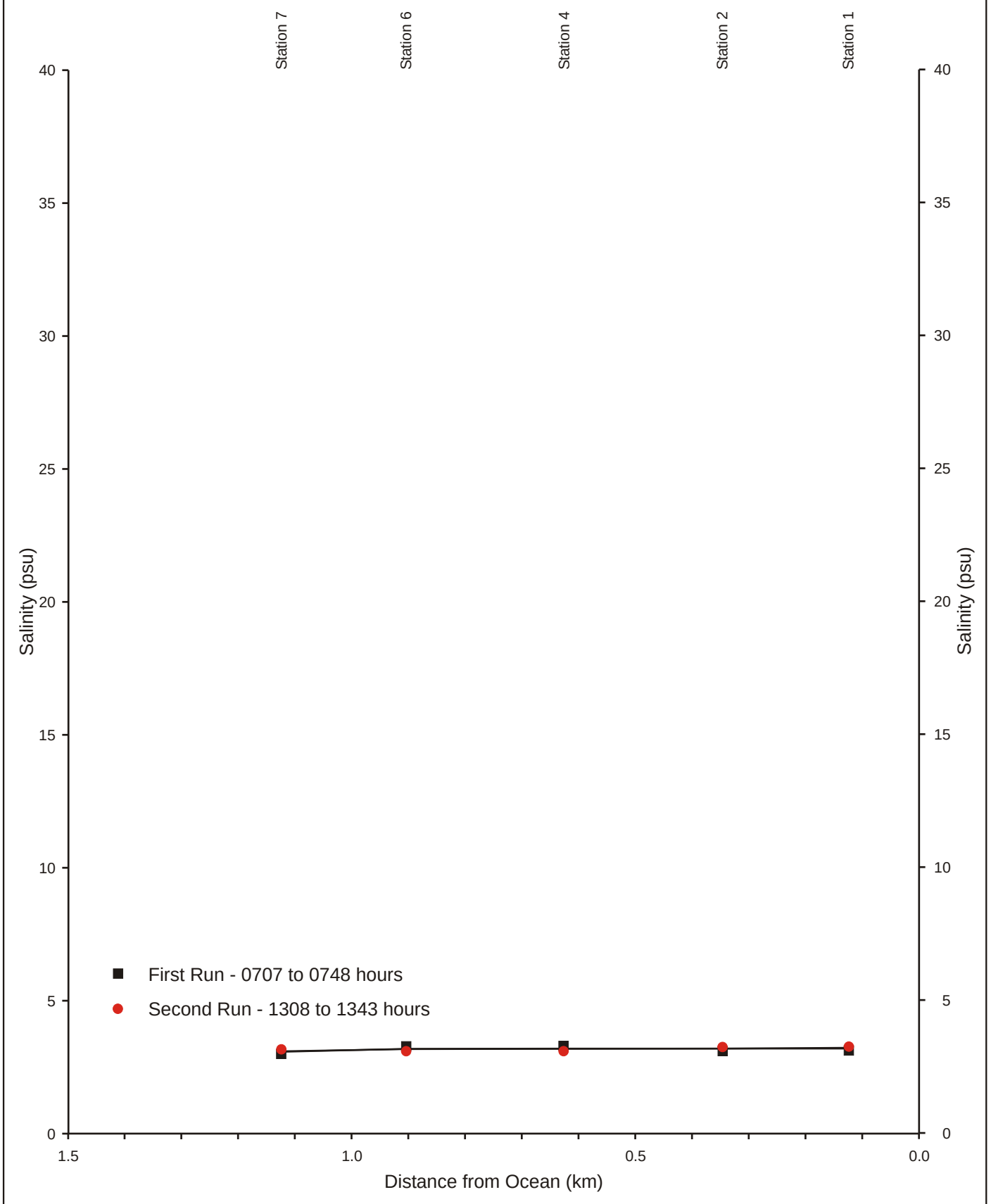


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KIANGA LAKE
21 AUGUST 2002

MHL Report 1812
Figure 263

DRAWING 1812-263.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
KIANGA LAKE - FIRST AND SECOND RUN
21 AUGUST 2002

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Figure 264

DRAWING 1812-264.CDR

Wagonga Inlet Data Summary

Data was collected in Wagonga Inlet on 29 May 1997, as detailed in report MHL 1011. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 342. Summaries of the minimum and maximum values for all parameters measured on the first and second runs are shown in Tables 343a-b. The locations at which these profiles were taken are shown in Figure 265. Long channel depth-averaged salinity profiles have not been plotted due to insignificant variation along the estuary.

Table 342 Wagonga Inlet - 29 May 1997

Station No.	MGA (m) Zone 56		Chainage (km)	First Run		Second Run	
	Easting	Northing		Min Salinity (psu)	Max Salinity (psu)	Min Salinity (psu)	Max Salinity (psu)
1	242265	5988920	0.19	35.540	35.561	35.586	35.602
2	242105	5988385	0.98	35.534	35.556	35.578	35.596
3	241290	5988990	2.21	35.535	35.547	35.580	35.584
4	240700	5988595	2.91	35.532	35.550	35.580	35.589
5	240105	5988210	3.62	35.522	35.581	35.545	35.584
6	239710	5988815	4.16	35.516	35.551	35.548	35.623
7	239150	5989220	4.86	35.519	35.590	35.529	35.598
8	239420	5987710	4.48	35.155	35.679	35.567	35.621
9	240965	5987440	3.81	35.540	35.583	35.504	35.614
10	241440	5987560	3.84	35.504	35.617	35.556	35.619
11	240360	5986800	4.77	35.484	35.574	35.483	35.602
12	238430	5987140	5.62	35.424	35.574	35.293	35.586
13	237115	5987045	6.92	35.319	35.575	35.360	35.546
14	236350	5987885	8.08	35.194	35.307	35.359	35.409
15	236165	5988605	8.83	35.039	35.087	35.108	35.151
16	235860	5989200	9.50	34.769	34.820	34.920	34.975

Note Station locations transferred from report figure

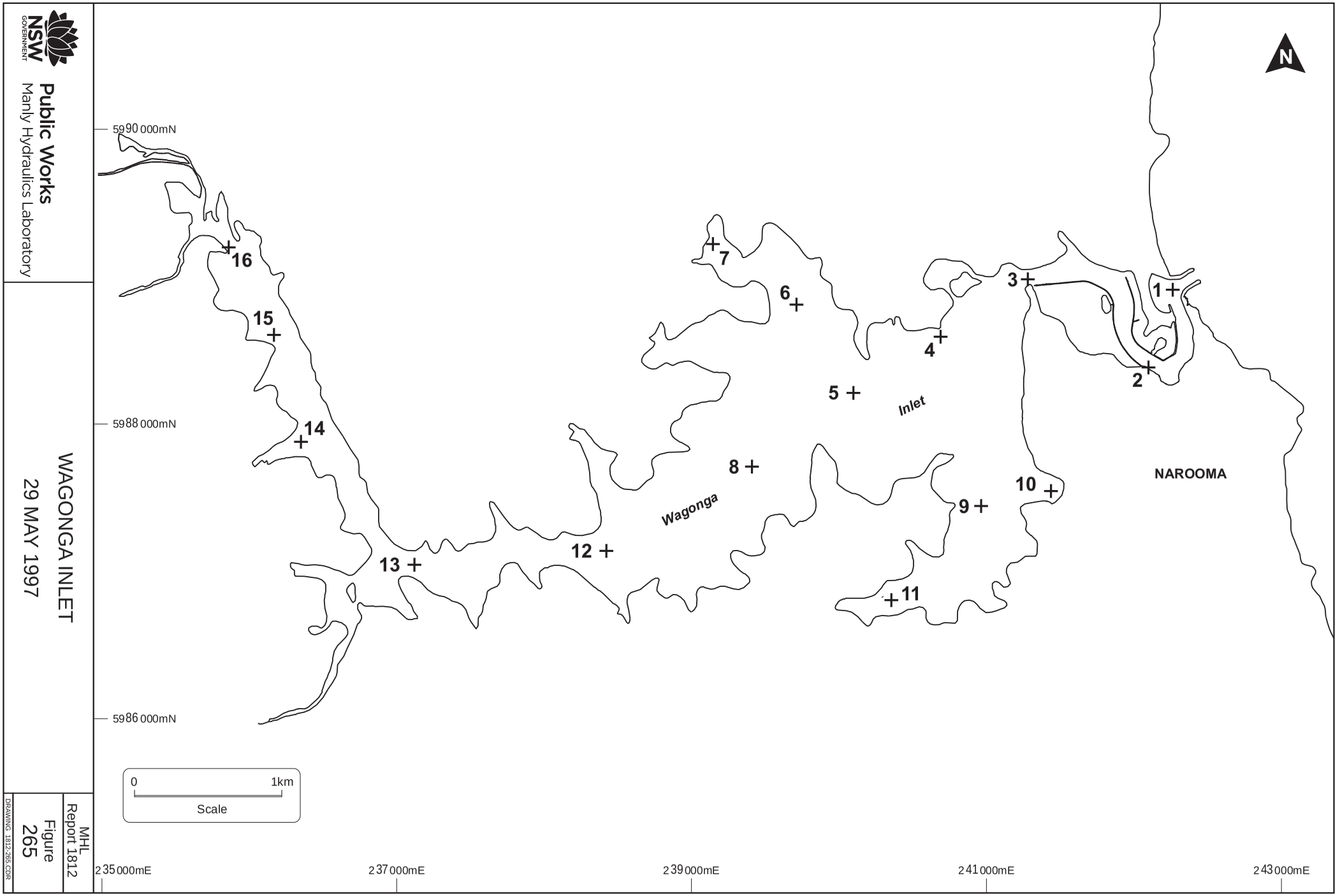
Table 343a Wagonga Inlet - Water Quality Maxima and Minima - First Run - 29 May 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1014	4.80	16.696	16.707	35.540	35.561	48845	48871	1026.01	1026.03	6.78	6.95	86.6	88.7	8.84	8.87	2	3	WB167001
2	1027	3.80	16.705	16.777	35.534	35.556	48836	48866	1025.99	1026.03	6.98	7.02	89.3	89.7	8.83	8.84	2	3	WB167002
3	1039	3.20	16.795	16.797	35.535	35.547	48830	48845	1025.98	1025.99	6.98	7.08	89.3	90.6	8.80	8.82	2	3	WB167003
4	1047	3.60	16.784	16.827	35.532	35.550	48824	48851	1025.97	1026.00	7.10	7.27	90.9	93.1	8.81	8.83	2	3	WB167004
5	1059	12.80	16.586	16.859	35.522	35.581	48812	48882	1025.96	1026.10	6.80	7.17	86.7	91.8	8.82	8.85	2	3	WB167005
6	1130	5.00	16.352	16.578	35.516	35.551	48848	48886	1026.03	1026.10	6.92	7.25	87.8	92.4	8.82	8.84	2	3	WB167006
7	1138	11.20	16.563	16.929	35.519	35.590	48803	48891	1025.93	1026.10	6.95	7.23	88.5	92.7	8.77	8.83	2	3	WB167007
8	1156	12.40	15.881	16.397	35.155	35.679	48449	49041	1025.95	1026.25	5.96	7.25	74.7	91.7	8.77	8.84	2	5	WB167008
9	1222	5.20	16.257	16.568	35.540	35.583	48856	48939	1026.04	1026.16	6.35	6.84	80.5	87.1	8.80	8.82	2	3	WB167009
10	1232	6.60	15.785	16.375	35.504	35.617	48872	48990	1026.13	1026.24	7.08	7.34	89.5	92.0	8.81	8.82	2	2	WB167010
11	1252	11.80	16.384	16.963	35.484	35.574	48758	48903	1025.91	1026.13	6.64	7.16	84.3	91.5	8.80	8.83	2	4	WB167011
12	1303	7.60	15.687	16.683	35.424	35.574	48795	48940	1026.01	1026.23	6.88	7.14	86.0	91.1	8.79	8.81	2	3	WB167012
13	1316	3.00	14.418	15.637	35.319	35.575	48735	48993	1026.19	1026.39	6.82	7.13	83.8	89.1	8.73	8.78	3	4	WB167013
14	1327	2.00	13.708	13.973	35.194	35.307	48694	48810	1026.40	1026.44	6.94	7.04	83.6	84.7	8.66	8.67	3	4	WB167014
15	1337	0.80	13.255	13.422	35.039	35.087	48530	48606	1026.34	1026.41	7.19	7.24	85.4	86.4	8.59	8.61	4	4	WB167015
16	1344	1.40	12.697	13.286	34.769	34.820	48208	48327	1026.16	1026.32	7.02	7.10	82.9	83.6	8.47	8.53	3	3	WB167016

Table 343b Wagonga Inlet - Water Quality Maxima and Minima - Second Run - 29 May 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Electric Conductivity (µS/cm)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Backscatterance (NTU)		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1623	5.80	18.410	18.499	35.586	35.602	48754	48775	1025.61	1025.65	6.84	6.99	90.3	92.4	8.86	8.87	2	3	WB167017
2	1635	6.60	18.449	18.510	35.578	35.596	48744	48767	1025.60	1025.63	6.79	6.91	89.7	91.4	8.84	8.86	2	2	WB167018
3	1645	2.60	18.524	18.528	35.580	35.584	48740	48746	1025.59	1025.60	6.81	6.86	90.1	90.7	8.82	8.84	2	2	WB167019
4	1656	4.00	18.460	18.490	35.580	35.589	48744	48757	1025.60	1025.63	6.80	6.83	89.9	90.3	8.84	8.88	2	2	WB167021
5	1703	12.80	16.457	17.289	35.545	35.584	48819	48912	1025.90	1026.13	6.53	7.03	83.0	90.8	8.77	8.80	3	4	WB167022
6	1718	5.80	16.737	16.893	35.548	35.623	48847	48932	1026.00	1026.05	6.98	7.34	89.3	94.0	8.76	8.82	2	3	WB167024
7	1712	11.60	16.474	16.821	35.529	35.598	48849	48914	1026.02	1026.10	6.67	7.27	84.8	93.0	8.78	8.82	3	3	WB167023
8	1727	12.40	16.004	16.706	35.567	35.621	48882	49009	1026.03	1026.27	6.74	7.34	85.0	93.6	8.78	8.81	2	5	WB167025
9	1734	5.40	16.059	16.635	35.504	35.614	48835	48977	1026.08	1026.22	6.22	7.17	78.5	91.4	8.75	8.80	2	4	WB167026
10	1742	6.80	16.222	16.468	35.556	35.619	48909	48963	1026.11	1026.17	7.20	7.69	91.4	97.8	8.79	8.82	3	3	WB167027
11	1756	11.60	16.176	17.406	35.483	35.602	48719	48935	1025.81	1026.20	6.96	7.19	87.9	91.9	8.80	8.83	2	5	WB167028
12	1804	8.00	15.800	16.641	35.293	35.586	48606	48908	1026.00	1026.09	6.88	7.25	86.1	92.5	8.79	8.82	2	3	WB167029
13	1812	2.80	15.125	15.905	35.360	35.546	48717	48926	1026.12	1026.26	6.94	7.31	85.8	91.9	8.73	8.79	3	3	WB167030
14	1820	1.80	14.626	14.746	35.359	35.409	48802	48862	1026.32	1026.35	7.01	7.09	85.9	87.0	8.73	8.74	3	3	WB167031
15	1829	0.80	14.073	14.096	35.108	35.151	48552	48603	1026.26	1026.29	7.39	7.49	89.4	90.6	8.64	8.65	6	11	WB167032
16	1836	1.20	13.470	13.527	34.920	34.975	48378	48440	1026.24	1026.27	7.39	7.48	88.3	89.2	8.60	8.61	4	4	WB167033

Note Stations 6 and 7 done in reverse order on second profiling run


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WAGONGA INLET
29 MAY 1997
MHL Report 1812
Figure 265
DRAWING 1812-265.CDR
N
5990 000mN
5988 000mN
5986 000mN
235 000mE
237 000mE
239 000mE
241 000mE
243 000mE
1
2
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Inlet
Wagonga
NAROOMA
0
1km
Scale

Nangudga Lake Data Summary

Data was collected in Nangudga Lake on 20 August 2002, when the entrance to the lake was closed. The water level was surveyed at 0.50 m AHD. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 344. Summaries of the minimum, maximum and mean values for all parameters measured on the first and second runs are shown in Tables 345a-b. The locations at which these profiles were taken are shown in Figure 266. Long channel depth-averaged salinity profiles are shown in Figure 267.

Table 344 Nangudga Lake - 20 August 2002

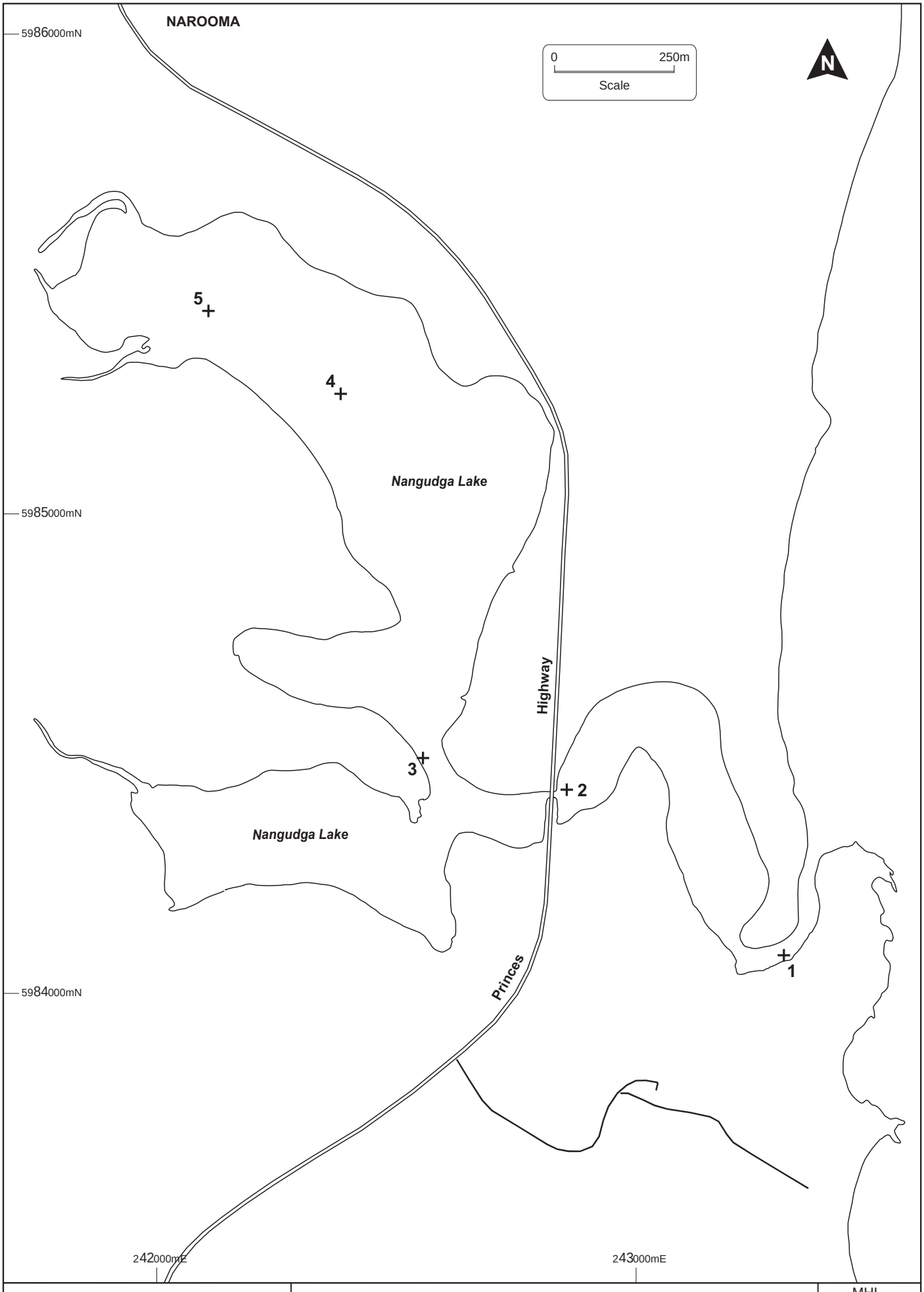
Station No.	MGA (m) Zone 56		Chainage (km)	First Salinity (psu)	Second Salinity (psu)
	Easting	Northing			
1	243288	5984068	0.260	35.90	35.89
2	242841	5984416	1.144	35.92	35.98
3	242551	5984483	1.476	36.36	36.33
4	242374	5985246	2.316	36.58	36.63
5	242101	5985419	2.640	36.64	36.65

Table 345a Nangudga Lake - Water Quality Maxima and Minima - First Run - 20 August 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0748	1.0	1027.2	1027.2	1027.2	12.48	12.51	12.50	35.88	35.90	35.90	102.59	103.29	103.05	8.06	8.07	8.07	119.72	501.65	475.57	0.00	0.09	0.01	301.0	3955.0	1362.1	HN020701
2	0801	1.8	1027.2	1027.3	1027.3	12.18	12.37	12.31	35.88	35.97	35.92	83.44	86.58	86.12	7.89	7.94	7.93	486.02	496.76	489.38	0.00	0.00	0.00	158.8	501.6	320.1	HN020702
3	0900	0.7	1027.5	1027.5	1027.5	12.67	12.68	12.68	36.36	36.37	36.36	85.74	85.90	85.83	8.03	8.04	8.03	118.74	128.51	124.18	0.00	0.00	0.00	318.1	1262.0	924.7	HN020704
4	0924	1.0	1027.1	1027.7	1027.7	12.64	13.13	12.70	35.98	36.63	36.58	89.92	92.77	91.83	8.18	8.18	8.18	490.90	504.09	498.84	0.71	5.20	2.17	964.7	5287.0	2716.2	HN020705
5	0933	1.0	1027.8	1027.8	1027.8	12.47	12.50	12.48	36.64	36.65	36.64	100.52	101.14	100.97	8.00	8.03	8.02	500.67	507.02	504.89	0.07	1.49	0.41	975.4	1435.0	1191.9	HN020706

Table 345b Nangudga Lake - Water Quality Maxima and Minima - Second Run - 20 August 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1256	0.9	1026.6	1026.6	1026.6	15.14	15.18	15.16	35.88	35.90	35.89	112.40	113.20	112.85	8.17	8.18	8.17	518.25	530.95	525.99	0.00	0.00	0.00	1383.0	4666.0	2668.9	HN020707
2	1309	2.2	1027.1	1027.3	1027.2	12.52	12.84	12.58	35.91	36.03	35.98	84.64	89.55	85.95	7.92	7.96	7.94	479.67	537.30	528.16	0.00	0.00	0.00	271.6	2365.0	837.0	HN020708
3	1317	0.6	1026.8	1026.9	1026.8	15.70	15.73	15.71	36.32	36.35	36.33	102.17	103.48	102.80	8.03	8.04	8.03	120.69	579.79	248.11	0.00	1.14	0.07	706.0	4581.0	3304.2	HN020709
4	1334	1.0	1027.4	1027.5	1027.4	14.03	14.08	14.05	36.61	36.64	36.63	98.86	101.04	100.04	8.19	8.20	8.20	511.90	519.23	515.05	0.00	0.00	0.00	1089.0	2141.0	1440.1	HN020710
5	1340	1.0	1027.4	1027.4	1027.4	14.28	14.29	14.28	36.64	36.65	36.65	101.00	105.63	103.38	8.12	8.12	8.12	389.80	421.55	404.45	0.00	1.65	0.76	880.1	5153.0	2305.1	HN020711



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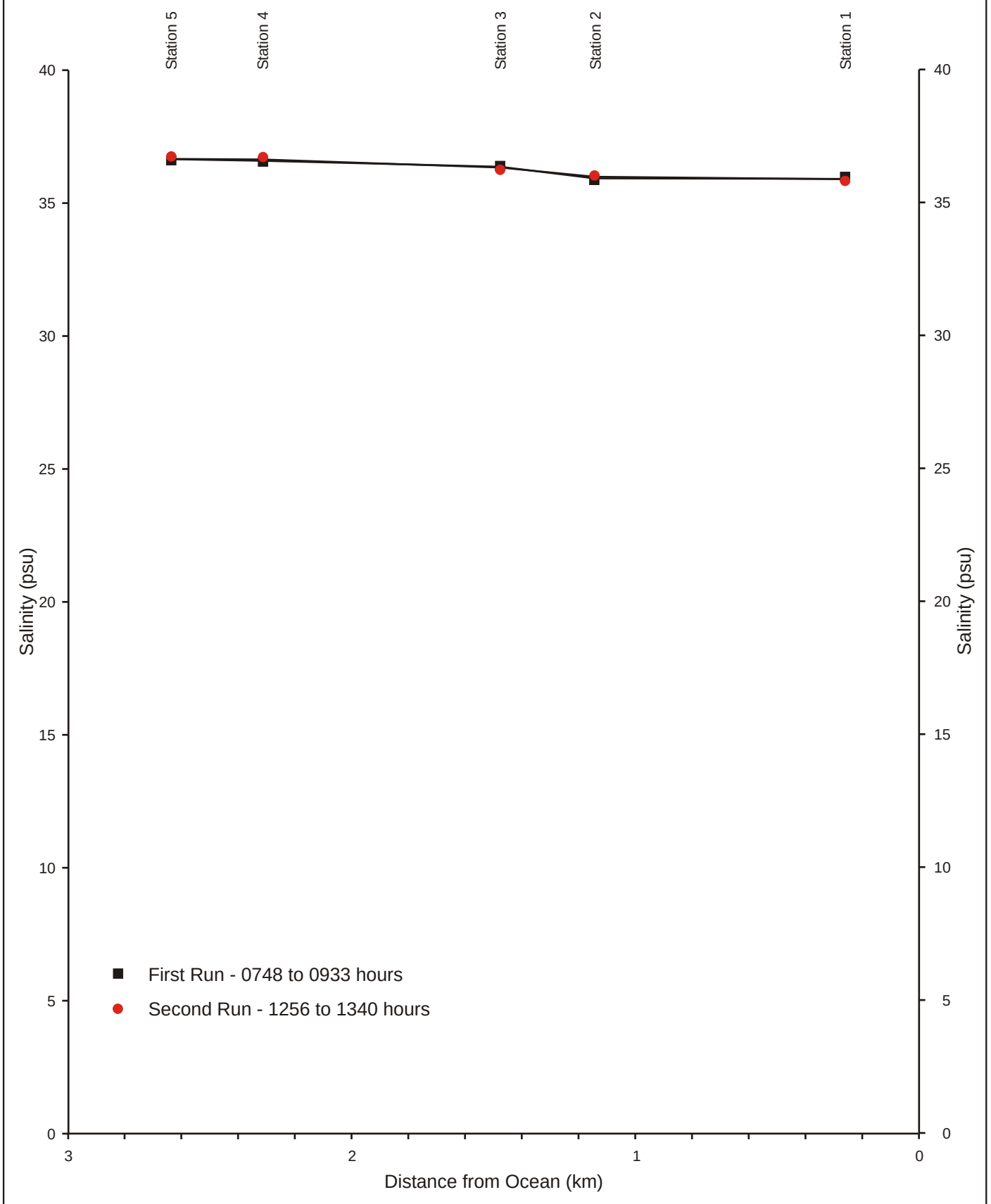
NANGUDGA LAKE

20 AUGUST 2002

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Figure 266

DRAWING 1812-266.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
NANGUDGA LAKE - FIRST AND SECOND RUN
20 AUGUST 2002

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Figure 267

DRAWING 1812-267.CDR

Wallaga Lake Data Summary

Data was collected in Wallaga Lake on 29 March 1995, as detailed in report MHL725. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 346. Summaries of the minimum and maximum values for all parameters measured on the high and low water runs are shown in Tables 347a-b. The locations at which these profiles were taken are shown in Figure 268. Long channel depth-averaged salinity profiles are shown in Figures 269. Water quality profiles were also done mid-channel on 29 March 1995, in conjunction with the current metering at Site 3, 70 m upstream from the road bridge. Summaries of the minimum and maximum values for all parameters measured on these profiles are shown in Table 348.

Table 346 Wallaga Lake - 29 March 1995

Station No.	MGA (m) Zone 56		Chainage (km)	High Water		Low Water	
	Easting	Northing		Min Salinity (psu)	Max Salinity (psu)	Min Salinity (psu)	Max Salinity (psu)
1	237605	5972280	1.54	33.35	35.03	32.77	35.07
2	237330	5972325	1.79	32.76	34.65	33.07	33.16
3	237080	5972265	2.08	32.93	33.48	33.16	33.25
4	236600	5972080	2.55	33.12	33.49	33.11	33.68
5	236405	5972300	2.83	33.08	33.77	33.01	33.64
6	236300	5972580	3.19	33.17	33.72	33.11	33.63
7	235770	5973020	3.81	33.02	33.24	33.06	33.25
8	235455	5973620	4.54	32.87	32.95	32.70	33.49
9	236275	5971675	3.05	32.93	33.60	32.82	33.67
10	235440	5971825	3.88	33.03	33.59	32.93	33.59
11	235010	5972390	4.65	32.74	33.49	32.70	33.09
12	234285	5972925	5.60	31.89	33.31	31.94	32.44
13	233750	5972960	6.34	32.24	32.72	-	-
14	233130	5972055	7.01	29.36	30.50	-	-
15	232505	5971510	7.85	29.78	32.20	-	-
16	231230	5971330	9.12	30.95	31.79	-	-
17	236085	5970945	3.75	26.41	33.42	32.96	33.47
18	236155	5970295	4.40	33.09	33.26	33.17	33.64
19	236515	5969750	5.06	33.22	33.36	33.11	33.65
20	236905	5969795	5.45	32.99	33.32	33.04	33.31
21	236645	5969380	5.45	32.98	33.16	32.95	33.52
22	235575	5969825	5.17	32.83	32.86	32.38	32.39
23	235360	5969640	5.44	32.73	32.78	32.54	32.84
24	235835	5969030	6.19	32.35	32.96	32.19	32.61
25	235620	5969355	5.77	32.22	32.61	32.45	32.91
26	235315	5969035	6.21	32.66	33.34	-	-
27	235070	5969275	6.26	31.49	31.61	-	-
28	234925	5968620	6.95	30.98	32.65	-	-
29	235180	5968295	7.41	30.39	30.54	-	-
30	234670	5968215	7.48	30.25	30.79	-	-
31	234250	5968685	7.67	30.94	31.64	-	-
Site 3	237605	5972280	1.54	32.68	35.27	33.18	35.32

Note Station locations transferred from report figure to aerial photo in Department of Lands database

Table 347a Wallaga Lake - Water Quality Maxima and Minima - High Water - 29 March 1995

Station No.	Depth (m)	Time (EST)	Temperature (°C)		Salinity (psu)		Dissolved O_2 (mg/L)		pH (0-14)	
			Min	Max	Min	Max	Min	Max	Min	Max
1	3.00	1016	18.45	19.51	33.35	35.03	5.57	6.15	8.13	8.18
2	2.40	1024	18.68	20.41	32.76	34.65	4.29	5.54	8.22	8.24
3	5.20	1029	19.81	20.45	32.93	33.48	4.98	6.06	8.25	8.27
4	9.20	1033	19.21	20.47	33.12	33.49	5.74	5.91	8.25	8.30
5	7.80	1038	19.99	20.63	33.08	33.77	5.18	5.83	8.26	8.30
6	7.00	1042	20.39	20.66	33.17	33.72	4.41	5.54	8.22	8.31
7	5.60	1046	20.32	20.76	33.02	33.24	4.92	5.54	8.29	8.30
8	2.40	1052	19.69	19.92	32.87	32.95	5.78	5.84	8.30	8.32
9	8.40	1104	19.68	20.68	32.93	33.60	5.25	5.61	8.26	8.31
10	7.20	1110	20.35	20.63	33.03	33.59	4.45	5.95	8.19	8.32
10	7.00	1118	20.35	20.64	33.08	33.58	4.47	5.33	8.19	8.33
11	4.40	1125	19.97	20.78	32.74	33.49	4.49	6.41	8.17	8.31
12	1.80	1130	18.61	20.74	31.89	33.31	5.20	6.19	8.22	8.32
13	2.00	1134	19.79	20.68	32.24	32.72	4.87	5.77	8.36	8.38
14	0.40	1142	19.19	19.26	29.36	30.50	5.27	5.91	8.32	8.34
15	1.00	1146	20.31	21.23	29.78	32.20	4.74	5.73	8.31	8.35
16	2.60	1152	22.36	23.03	30.95	31.79	4.97	5.77	8.24	8.32
17	7.00	1212	19.82	20.92	26.41	33.42	5.06	5.62	8.28	8.30
18	4.80	1217	19.68	20.65	33.09	33.26	5.50	5.67	8.28	8.33
19	3.80	1221	19.85	20.12	33.22	33.36	5.60	5.86	8.30	8.32
20	3.40	1225	19.28	20.06	32.99	33.32	5.76	6.15	8.30	8.34
21	3.00	1229	19.49	20.33	32.98	33.16	5.00	6.25	8.32	8.34
22	0.40	1235	20.61	20.68	32.83	32.86	4.98	5.00	8.32	8.32
23	0.40	1240	19.71	19.77	32.73	32.78	-	-	8.32	8.36
24	1.20	1246	17.89	18.66	32.35	32.96	4.99	5.00	8.49	8.53
25	1.00	1249	18.19	19.24	32.22	32.61	6.70	6.75	8.51	8.53
26	1.20	1253	17.85	18.69	32.66	33.34	6.37	6.47	8.47	8.51
27	0.40	1258	18.91	19.28	31.49	31.61	5.12	5.18	8.33	8.34
28	2.20	1302	19.24	20.24	30.98	32.65	5.18	5.91	8.21	8.30
29	0.40	1309	18.66	18.86	30.39	30.54	-	-	8.30	8.34
30	0.60	1316	18.44	19.11	30.25	30.79	4.78	4.78	8.28	8.30
31	0.60	1324	21.02	21.36	30.94	31.64	5.08	5.50	8.34	8.34

Note - indicates insufficient data to derive dissolved oxygen

Table 347b Wallaga Lake - Water Quality Maxima and Minima - Low Water - 29 March 1995

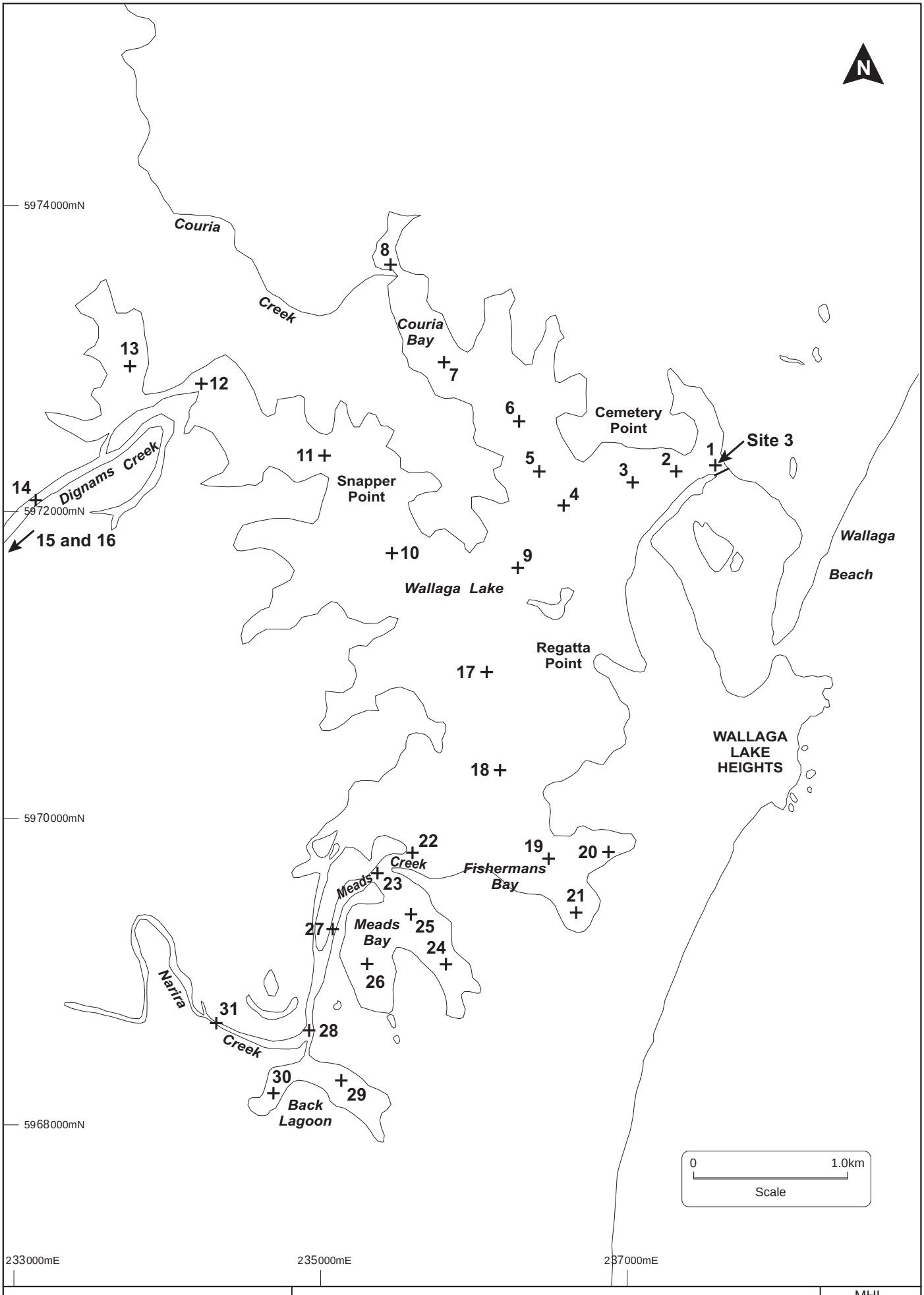
Station No.	Depth (m)	Time (EST)	Temperature (°C)		Salinity (psu)		Dissolved O_2 (mg/L)		pH (0-14)	
			Min	Max	Min	Max	Min	Max	Min	Max
1	3.20	1630	19.58	20.47	32.77	35.07	6.22	6.42	8.31	8.34
2	1.60	1634	20.39	20.40	33.07	33.16	4.63	5.85	8.33	8.33
3	5.80	1636	20.29	20.42	33.16	33.25	5.48	6.18	8.29	8.30
4	9.00	1640	19.65	20.68	33.11	33.68	4.78	5.90	8.22	8.34
5	7.80	1644	19.87	21.02	33.01	33.64	5.56	6.33	8.23	8.33
6	6.80	1647	20.13	20.70	33.11	33.63	5.39	6.09	8.24	8.33
7	5.60	1651	20.27	20.75	33.06	33.25	5.83	6.21	8.28	8.33
8	2.20	1655	19.92	20.89	32.70	33.49	5.68	5.82	8.31	8.35
9	8.40	1701	19.97	20.58	32.82	33.67	5.01	6.07	8.19	8.31
10	7.00	1708	20.37	20.60	32.93	33.59	4.63	6.42	8.15	8.33
11	4.20	1712	20.19	20.55	32.70	33.09	5.17	5.94	8.21	8.32
12	1.80	1717	20.06	20.71	31.94	32.44	5.31	5.67	8.22	8.37
13	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-
17	6.40	1725	19.85	20.53	32.96	33.47	4.96	5.63	8.26	8.30
18	4.60	1730	19.79	20.43	33.17	33.64	5.16	5.98	8.30	8.33
19	3.80	1733	19.50	20.16	33.11	33.65	4.99	6.23	8.28	8.34
20	3.40	1738	19.30	19.63	33.04	33.31	5.43	6.13	8.26	8.34
21	2.80	1741	19.66	20.35	32.95	33.52	5.51	5.74	8.30	8.33
23	0.40	1748	19.78	19.79	32.38	32.39	5.84	5.95	8.50	8.53
24	1.20	1751	18.26	18.63	32.54	32.84	5.79	5.96	8.52	8.57
26	1.20	1755	18.63	19.17	32.19	32.61	5.24	5.56	8.53	8.56
25	1.00	1758	18.56	19.14	32.45	32.91	5.59	5.77	8.52	8.56

Note Profiles not done at Stations 13 to 16 on low water run

Table 348 Wallaga Lake - Water Quality Maxima and Minima - Site 3 - 29 March 1995

Profile #	Depth (m)	Time (EST)	Temperature (°C)		Salinity (psu)		Dissolved O_2 (mg/L)		pH (0-14)	
			Min	Max	Min	Max	Min	Max	Min	Max
1	5.20	1050	18.54	19.70	33.39	35.25	6.06	6.54	8.18	8.22
2	5.20	1121	18.45	19.62	33.41	35.17	6.04	6.71	8.15	8.20
3	5.00	1150	18.74	19.97	33.35	35.23	6.11	6.66	8.16	8.20
4	5.40	1220	18.85	20.29	33.31	35.23	6.18	6.58	8.16	8.19
5	5.00	1250	18.84	20.17	33.33	35.31	6.16	6.66	8.14	8.18
6	5.40	1320	18.98	20.62	33.21	35.30	6.34	6.91	8.13	8.18
7	5.40	1348	18.98	20.40	33.30	35.30	6.37	6.80	8.16	8.19
8	4.40	1407	18.79	20.73	33.18	34.97	6.16	6.45	8.15	8.18
9	5.20	1426	19.21	20.26	33.39	35.27	6.46	6.86	8.14	8.17
10	5.20	1449	19.25	20.57	33.26	35.27	6.53	6.93	8.16	8.19
11	5.60	1523	19.38	20.57	33.27	35.30	6.40	6.99	8.15	8.18
12	5.40	1548	19.32	20.66	33.27	35.24	6.61	7.03	8.16	8.19
13	4.80	1620	19.63	20.49	33.27	35.22	6.73	7.26	8.14	8.17
14	5.40	1649	19.40	20.55	33.27	35.32	6.51	7.09	8.16	8.19
15	5.60	1720	19.62	20.54	33.25	35.25	6.53	7.03	8.16	8.18
16	5.20	1748	19.62	20.51	33.24	35.26	6.54	7.04	8.17	8.20
17	5.20	1818	19.50	20.34	33.30	35.24	6.67	7.00	8.17	8.20
18	5.20	1848	19.51	20.29	33.31	35.27	6.75	7.12	8.17	8.20
19	5.40	1918	19.82	20.22	33.32	35.24	6.64	6.97	8.18	8.20
20*	2.20	1949	19.93	20.01	33.50	34.23	6.90	7.19	8.20	8.22
21*	3.60	2021	19.89	20.14	33.40	34.77	6.61	6.80	8.18	8.19
22	5.60	2036	19.89	20.16	32.68	35.23	4.89	6.86	8.17	8.20
23	5.40	2120	19.76	20.12	33.46	35.24	6.59	6.86	8.17	8.20
24	5.60	2148	19.65	20.10	33.22	35.23	6.37	6.85	8.18	8.21
25	5.60	2218	19.68	20.09	33.36	35.23	5.76	6.98	8.17	8.21
26	5.40	2249	19.44	20.17	32.84	35.23	5.00	7.07	8.18	8.21
27	5.60	2307	19.51	20.11	33.24	35.23	6.37	6.79	8.18	8.22

Note * vessel drifted off station during profile



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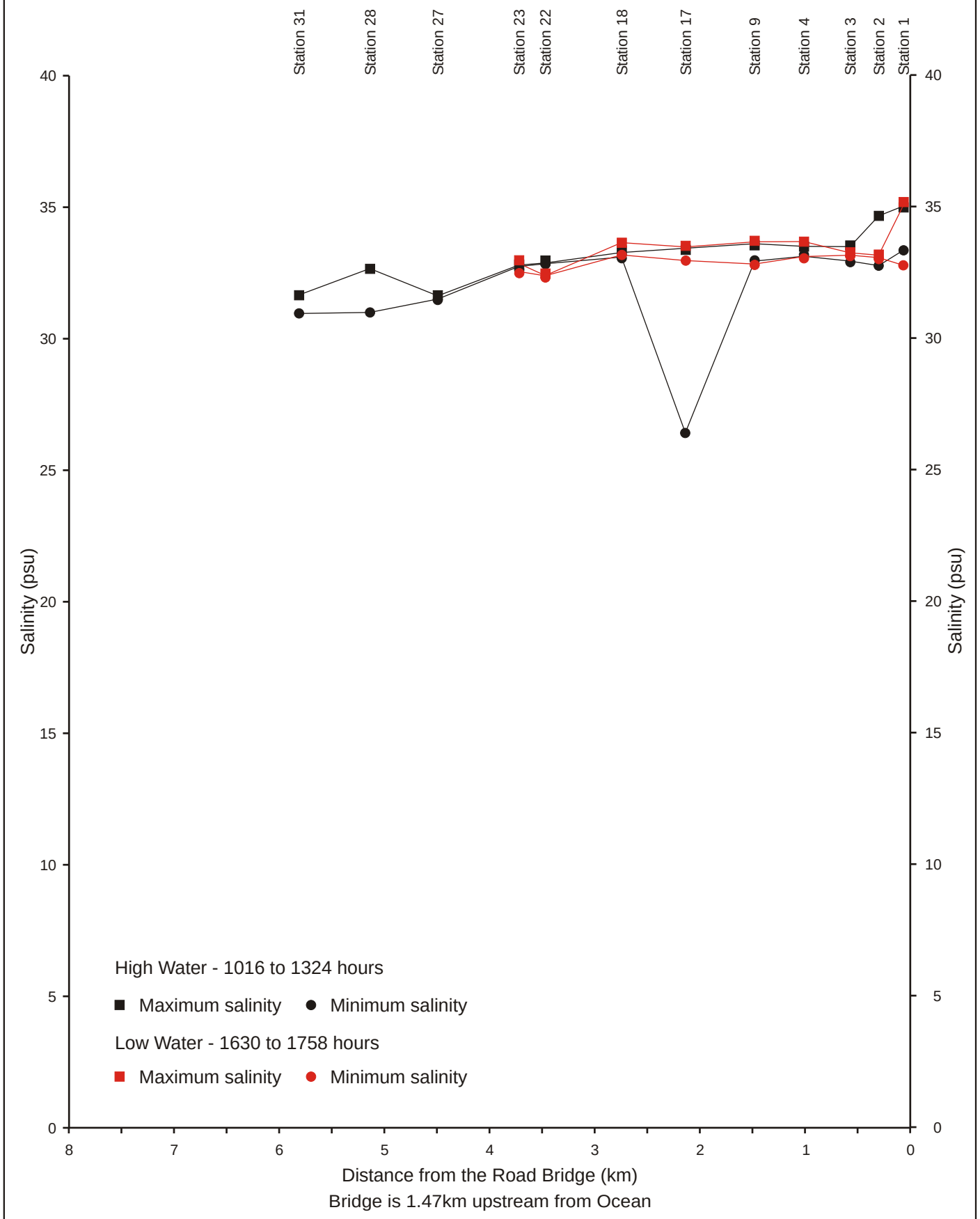
WALLAGA LAKE

29 MARCH 1995

MHL Report 1812

Figure 268

DRAWING 1812-268.CDR



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LONG CHANNEL MAX AND MIN OF SALINITY PROFILES
WALLAGA LAKE - HIGH AND LOW WATER
29 MARCH 1995

MHL Report 1812

Figure 269

DRAWING 1812-269.CDR

Bermagui River Data Summary

Data was collected in the Bermagui River on 26 November 2003. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 349. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 350a-b. The locations at which these profiles were taken are shown in Figure 270. Long channel depth-averaged salinity profiles are shown in Figure 271.

Table 349 Bermagui River - 26 November 2003

Station No.	MGA (m) Zone 56		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	237571	5965051	0.20	35.52	35.05
2	236888	5964945	0.95	35.47	34.83
3a	236125	5965377	2.08	35.48	-
3b	236190	5965263	2.08	-	34.56
4	235654	5964593	3.00	35.43	34.20
5	235039	5965072	3.93	35.45	32.72
6	234344	5965308	4.85	35.37	31.04
7	233611	5965230	5.80	34.94	29.38
8	233101	5965581	6.60	-	24.19
9	232993	5965677	6.75	32.93	-
10	232342	5965631	7.68	29.67	-
11	231693	5965281	8.73	24.87	-
12	231606	5965097	9.50	19.90	-
13	231436	5964957	9.83	16.84	-

Note Chainage is distance from ocean end of western breakwater
On high water run profiling not done at Station 8 and profiling stopped at Station 13 due to logs
On low water run profiling stopped at Station 8 due to shoals

Table 350a Bermagui River - Water Quality Maxima and Minima - High Water - 26 November 2003

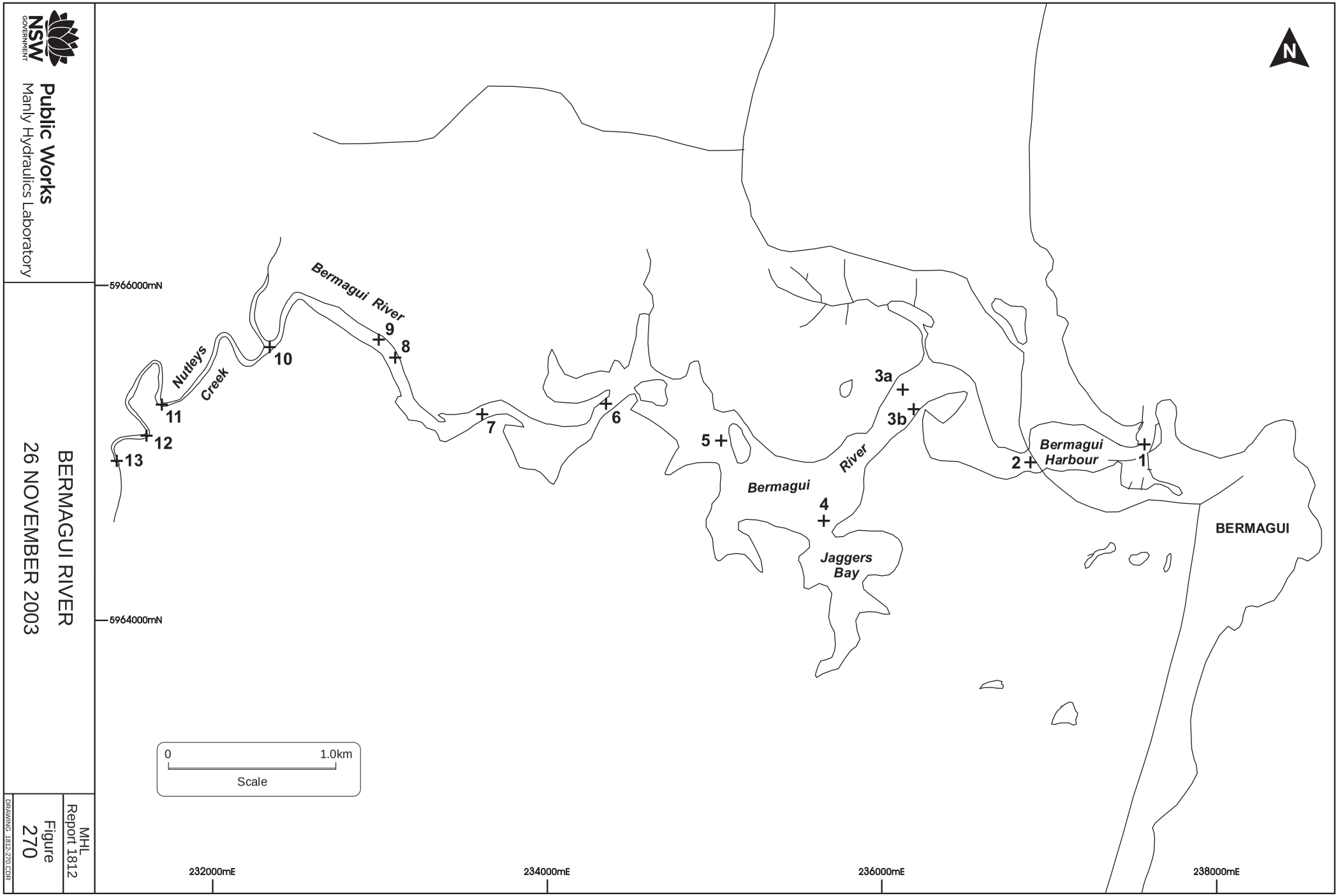
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0945	6.2	1025.7	1026.0	1025.7	17.60	17.84	17.76	35.44	35.74	35.52	73.98	129.02	104.14	8.03	8.04	8.03	5.86	6.84	6.35	BERM001
2	0956	3.2	1025.7	1025.7	1025.7	17.83	17.84	17.83	35.46	35.47	35.47	102.43	112.48	104.23	8.02	8.02	8.01	5.37	5.86	5.65	BERM002
3a	1006	1.2	1025.7	1025.7	1025.7	17.94	17.94	17.94	35.48	35.48	35.48	104.33	105.69	105.25	8.02	8.02	8.02	5.37	5.37	5.37	BERM003
4	1013	1.9	1025.6	1025.6	1025.6	17.98	18.01	17.99	35.39	35.45	35.43	100.95	111.94	106.15	8.02	8.02	8.02	5.37	5.86	5.69	BERM004
5	1019	1.7	1025.6	1025.6	1025.6	18.01	18.03	18.02	35.44	35.46	35.45	102.29	119.48	106.70	8.02	8.02	8.02	5.37	6.84	5.89	BERM005
6	1032	3.1	1025.5	1025.6	1025.5	18.05	18.06	18.06	35.36	35.38	35.37	105.75	108.17	106.69	8.02	8.02	8.02	41.03	46.40	43.05	BERM006
7	1048	2.4	1025.1	1025.2	1025.2	18.12	18.16	18.14	34.87	34.98	34.94	100.96	102.44	101.92	7.95	7.96	7.96	27.35	28.82	28.07	BERM007
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	1100	1.0	1023.4	1023.4	1023.4	19.27	19.29	19.28	32.92	32.95	32.93	95.37	96.39	95.88	7.83	7.83	7.83	21.00	34.68	22.60	BERM008
10	1110	1.6	1020.7	1021.0	1020.8	19.58	19.60	19.59	29.57	29.90	29.67	94.85	96.08	95.83	7.74	7.74	7.74	21.98	25.89	25.13	BERM009
11	1120	2.6	1016.6	1017.0	1016.9	20.73	20.89	20.81	24.59	25.11	24.87	87.91	92.76	91.43	7.53	7.59	7.57	17.58	18.56	18.05	BERM010
12	1153	1.7	1012.1	1013.8	1012.5	22.77	24.27	23.04	19.23	21.97	19.90	90.73	96.75	92.78	7.28	7.31	7.31	14.65	16.12	14.79	BERM011
13	1202	1.1	1009.9	1010.0	1010.0	23.91	24.08	24.00	16.68	16.94	16.84	95.26	98.05	96.78	7.09	7.10	7.09	14.16	17.09	14.48	BERM012

Note Profiling not done at Station 8 on high water run
Profiling stopped at Station 13 due to logs

Table 350b Bermagui River - Water Quality Maxima and Minima - Low Water - 26 November 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1645	3.6	1024.7	1024.9	1024.8	19.95	20.28	20.11	34.97	35.12	35.05	83.67	131.94	110.84	8.02	8.02	8.02	7.33	7.81	7.43	BERM013
2	1717	1.9	1024.5	1024.5	1024.5	20.37	20.38	20.37	34.82	34.83	34.83	110.86	115.83	113.94	8.01	8.02	8.01	48.84	52.75	50.64	BERM014
3b	1805	1.5	1024.3	1024.4	1024.4	20.14	20.19	20.15	34.48	34.58	34.56	107.23	112.57	110.07	7.98	7.98	7.98	32.72	34.19	33.50	BERM015
4	1835	0.8	1024.0	1024.0	1024.0	20.46	20.47	20.46	34.18	34.21	34.20	104.34	116.39	108.25	7.95	7.95	7.95	16.61	17.09	17.04	BERM016
5	1857	1.1	1022.5	1022.8	1022.6	21.45	21.55	21.52	32.53	32.91	32.72	102.59	109.38	107.16	7.89	7.89	7.89	17.09	17.58	17.28	BERM017
6	1910	1.9	1021.1	1021.4	1021.3	21.69	21.79	21.75	30.76	31.24	31.04	98.98	109.79	107.43	7.86	7.86	7.86	21.98	22.95	22.34	BERM018
7	1923	1.2	1019.8	1020.1	1019.9	22.01	22.20	22.08	29.20	29.55	29.38	100.17	111.15	106.94	7.83	7.83	7.83	21.00	21.49	21.12	BERM019
8	2131	0.4	1016.4	1016.6	1016.5	20.04	20.16	20.10	24.06	24.28	24.19	91.37	115.29	101.95	7.67	7.67	7.67	21.00	59.59	31.61	BERM020

Note Profiling stopped at Station 8 due to shoals.


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BERMAGUI RIVER
26 NOVEMBER 2003
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Figure 270
DRAWING 1812-270.CDR
5966000mN
5964000mN
232000mE
234000mE
236000mE
238000mE
Bermagui River
Nutleys Creek
Bermagui River
Bermagui Harbour
Bermagui
Jaggers Bay
BERMAGUI
1
2
3a
3b
4
5
6
7
8
9
10
11
12
13
N
0
1.0km
Scale

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BERMAGUI RIVER - HIGH AND LOW WATER
26 NOVEMBER 2003

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Figure 271

DRAWING 1812-271.CDR

Middle Lagoon Data Summary

Data was collected in Middle Lagoon on 25 September 2002, when the entrance to the lake was closed. The water level was not surveyed. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 351. Summaries of the minimum, maximum and mean values for all parameters measured on the first and second runs are shown in Tables 352a-b. The locations at which these profiles were taken are shown in Figure 272. Long channel depth-averaged salinity profiles are shown in Figure 273.

Table 351 Middle Lagoon - 25 September 2002

Station No.	MGA (m) Zone 55		Chainage (km)	First Salinity (psu)	Second Salinity (psu)
	Easting	Northing			
1	768480	5939517	0.429	29.54	29.59
2	768860	5939722	0.893	29.59	29.57
3	768883	5940234	1.429	29.60	29.60
4	768288	5940589	2.143	29.33	29.31
5	767078	5940909	3.661	28.37	28.44
6	767035	5940631	4.018	28.21	27.64
7	766904	5941152	4.250	27.56	27.31

Table 352a Middle Lagoon - Water Quality Maxima and Minima - First Run - 25 September 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0932	0.1	1021.2	1021.2	1021.2	17.57	17.58	17.58	29.54	29.55	29.54	69.24	78.42	71.60	8.57	8.58	8.58	2.50	2.99	2.78	0.01	0.04	0.03	1172.0	2019.0	1573.6	BI240927
2	0940	0.6	1021.3	1021.4	1021.3	17.09	17.17	17.14	29.57	29.63	29.59	93.70	95.75	94.35	8.59	8.60	8.59	2.01	3.97	2.75	7.65	11.04	8.98	383.6	4210.0	1479.5	BI240928
3	0947	0.8	1021.4	1021.4	1021.4	17.07	17.09	17.08	29.60	29.61	29.60	101.62	103.78	102.52	8.62	8.63	8.62	2.01	2.99	2.25	4.83	11.77	6.33	452.6	4118.0	1685.5	BI240929
4	0955	0.4	1021.1	1021.1	1021.1	17.48	17.50	17.49	29.33	29.34	29.33	93.57	93.96	93.76	8.49	8.49	8.49	2.01	2.50	2.13	2.97	3.20	3.05	1185.0	1855.0	1486.5	BI240930
5	1004	1.4	1019.9	1020.4	1020.2	17.30	18.20	17.83	27.96	28.58	28.37	96.01	104.75	101.63	8.29	8.35	8.32	2.01	2.99	2.24	4.59	17.20	9.10	680.5	2545.0	1155.3	BI240931
6	1013	0.9	1019.6	1019.7	1019.6	19.75	19.88	19.82	28.18	28.25	28.21	69.40	71.75	70.39	8.09	8.10	8.10	2.99	3.48	3.34	12.10	19.02	13.78	729.7	1918.0	1443.2	BI240932
7	1043	0.5	1019.0	1019.0	1019.0	20.29	20.30	20.30	27.55	27.57	27.56	70.64	71.36	71.00	8.17	8.19	8.18	3.48	3.97	3.72	0.14	0.25	0.20	889.8	2034.0	1461.9	BI240933

Table 352b Middle Lagoon - Water Quality Maxima and Minima - Second Run - 25 September 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1239	0.2	1020.8	1020.8	1020.8	19.32	19.33	19.32	29.58	29.59	29.59	117.92	118.21	118.03	8.62	8.62	8.62	3.97	4.46	4.13	9.94	10.82	10.38	222.7	239.7	230.6	BI240934
2	1243	0.6	1021.0	1021.0	1021.0	18.33	18.43	18.39	29.56	29.58	29.57	119.75	121.06	120.23	8.62	8.63	8.62	2.50	3.97	3.29	11.16	23.09	13.83	176.0	2056.0	1037.0	BI240935
3	1249	0.5	1021.0	1021.0	1021.0	18.51	18.52	18.51	29.59	29.61	29.60	105.00	105.71	105.43	8.66	8.66	8.66	2.50	7.87	5.19	49.03	49.03	49.03	1835.0	2382.0	1978.5	BI240936
4	1254	0.5	1020.7	1020.7	1020.7	18.95	18.96	18.95	29.31	29.32	29.31	84.78	91.49	89.00	8.50	8.51	8.51	2.50	8.85	3.16	0.62	0.82	0.67	128.8	226.8	174.0	BI240937
5	1300	1.7	1019.5	1020.4	1020.1	17.75	19.72	18.55	28.00	28.71	28.44	96.92	106.88	102.85	8.32	8.38	8.34	2.01	4.94	3.01	7.96	22.74	14.73	82.3	3812.0	180.5	BI240938
6	1309	0.5	1019.0	1019.3	1019.2	19.91	19.96	19.94	27.35	27.82	27.64	65.10	65.58	65.28	7.98	8.00	7.99	2.99	38.64	5.34	19.07	22.01	20.33	277.6	2034.0	943.9	BI240939
7	1323	0.5	1018.5	1018.6	1018.5	21.39	21.44	21.42	27.30	27.33	27.31	82.30	83.61	82.88	8.24	8.25	8.25	4.46	9.34	7.26	0.00	0.00	0.00	91.9	111.6	102.4	BI240940

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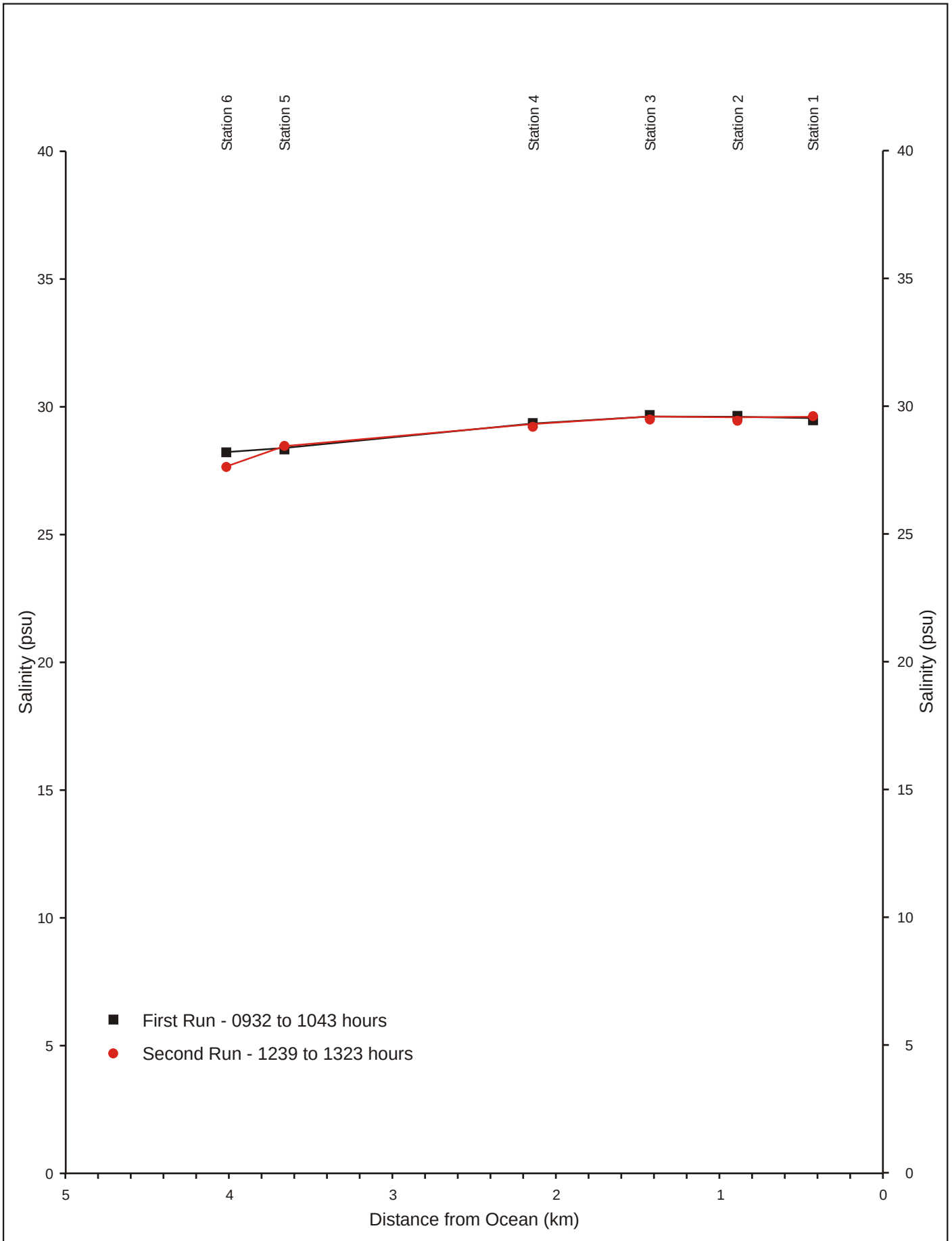
MIDDLE LAGOON

25 SEPTEMBER 2002

MHL Report 1812

Figure 272

DRAWING 1812-272.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MIDDLE LAGOON - FIRST AND SECOND RUN
25 SEPTEMBER 2002

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Figure 273

DRAWING 1812-273.CDR

Bega River Data Summary

Data was collected in the Bega River on 24 and 26 September 2002. The river entrance was closed at the time of the profiling and had been closed since 29 June 2002. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 353. Summaries of the minimum, maximum and mean values for all parameters measured on the three runs are shown in Tables 354a-c. The locations at which these profiles were taken are shown in Figure 274. Long channel depth-averaged salinity profiles are shown in Figure 275.

Table 353 Bega River - 24 and 26 September 2002

Station No.	MGA (m) Zone 55		Chainage (km)	First Salinity (psu)	Second Salinity (psu)	Third Salinity (psu)
	Easting	Northing				
1	766475	5934303	0.130	23.71	23.74	23.85
2	764920	5934269	1.925	23.95	23.52	23.47
3	763465	5933624	3.556	29.49	29.51	30.01
4	764520	5933008	5.122	23.10	22.66	22.83
5	763362	5932418	6.851	22.44	22.18	-
6	761745	5932163	8.580	22.52	22.35	-
7	759808	5932906	10.766	20.84	20.48	-
8	759328	5933412	11.973	19.94	19.64	-
9	758316	5933529	13.082	19.10	18.10	-
10	757601	5933459	13.898	17.40	17.61	-
11	756982	5934048	14.713	0.14	0.14	-
12	763375	5931849	7.569	22.29	22.27	-
13	762672	5931291	8.548	22.28	22.28	-

Note Stations 12 and 13 were in Blackfellows Lagoon not the main river
Only four profiles done on third run

Table 354a Bega River - Water Quality Maxima and Minima - First Run - 24 September 2002

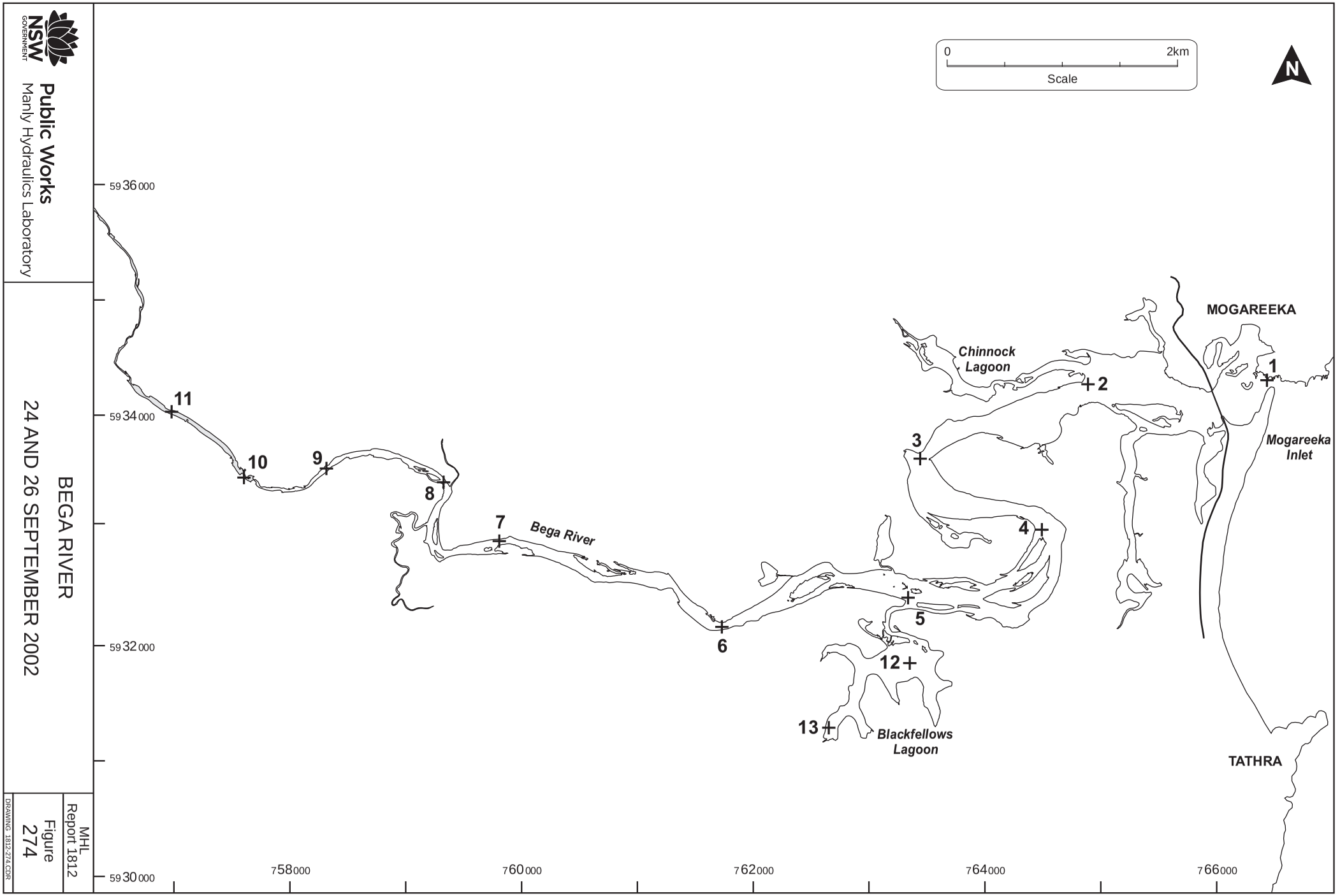
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0826	1.3	1017.1	1017.3	1017.2	15.15	15.64	15.34	23.63	23.79	23.71	85.49	97.04	87.48	7.79	7.81	7.80	1.04	1.52	1.42	0.43	0.86	0.62	106.8	510.9	203.2	BI240901
2	0836	4.8	1016.4	1019.5	1017.1	16.26	18.68	16.77	23.15	27.63	23.95	67.66	85.73	72.96	7.72	7.82	7.78	1.04	3.48	1.69	0.00	0.17	0.00	31.5	625.3	127.2	BI240902
3	0845	11.7	1016.2	1025.0	1021.1	15.91	19.81	17.85	22.86	34.18	29.49	3.15	81.22	44.58	7.26	7.77	7.54	0.06	3.48	1.41	0.00	18.89	3.76	1.0	498.0	42.5	BI240903
4	0855	2.3	1016.0	1016.9	1016.4	16.40	17.45	17.01	22.38	23.87	23.10	64.93	85.60	77.46	7.69	7.71	7.70	1.52	2.50	1.89	1.28	3.87	2.05	75.1	620.8	187.7	BI240904
5	0905	1.5	1014.8	1016.5	1015.9	16.34	17.50	16.94	20.81	23.36	22.44	75.46	80.36	78.08	7.60	7.64	7.61	1.52	2.99	2.10	1.12	2.56	1.61	113.7	675.5	264.9	BI240905
6	0914	6.0	1012.1	1019.7	1015.9	16.44	17.50	17.21	17.33	27.41	22.52	26.08	81.41	64.96	7.36	7.60	7.54	1.52	3.97	2.19	1.34	4.59	2.55	11.7	551.9	76.2	BI240906
7	0924	2.2	1010.0	1015.4	1014.6	16.61	17.77	17.51	14.59	21.85	20.84	63.82	77.83	68.54	7.39	7.49	7.42	1.52	2.50	1.96	1.54	6.20	3.51	117.1	1294.0	291.7	BI240907
8	0932	0.8	1012.6	1014.6	1013.8	17.85	18.26	18.09	18.42	20.91	19.94	59.76	70.10	64.77	7.31	7.41	7.34	2.01	2.99	2.50	5.88	10.72	8.15	205.4	1172.0	610.4	BI240908
9	0940	1.5	1012.1	1013.2	1012.9	18.86	19.09	18.94	18.06	19.36	19.10	44.03	53.10	47.90	7.10	7.19	7.14	2.99	3.97	3.38	4.64	10.64	8.39	101.5	721.7	236.0	BI240909
10	0952	1.1	1010.6	1011.9	1011.5	19.04	19.51	19.41	16.04	17.92	17.40	20.91	32.81	25.52	6.88	7.24	6.93	3.48	35.71	5.96	1.28	17.63	9.94	188.8	1674.0	709.3	BI240910
11	1010	0.2	999.3	999.3	999.3	14.28	14.30	14.29	0.14	0.14	0.14	44.85	46.16	45.50	7.47	7.48	7.47	4.94	4.94	4.94	0.00	0.00	0.00	142.8	163.0	152.9	BI240911
12	1110	1.5	1015.7	1015.9	1015.8	16.72	17.31	16.95	22.25	22.32	22.29	76.43	79.69	78.24	7.48	7.50	7.49	4.94	11.29	7.55	2.67	6.30	4.50	284.9	2288.0	943.5	BI240912
13	1117	1.9	1015.7	1015.8	1015.8	16.90	17.23	16.98	22.27	22.29	22.28	70.27	76.05	74.72	7.36	7.41	7.40	5.92	11.29	6.73	3.96	7.07	5.58	140.7	1638.0	410.3	BI240913

Table 354b Bega River - Water Quality Maxima and Minima - Second Run - 24 September2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1244	2.3	1017.0	1017.4	1017.1	15.59	16.36	15.93	23.68	24.08	23.74	88.71	93.41	90.09	7.88	7.89	7.89	0.55	1.52	1.12	0.10	3.09	0.86	396.5	1849.0	687.8	BI240914
2	1251	2.4	1016.5	1016.9	1016.8	16.51	17.11	16.71	23.30	23.66	23.52	81.01	83.73	82.48	7.77	7.78	7.78	1.04	2.01	1.60	0.07	1.58	0.52	344.8	1897.0	543.0	BI240915
3	1257	12.2	1016.0	1025.0	1021.2	16.49	19.83	17.72	22.54	34.17	29.51	4.44	90.83	46.56	7.26	7.79	7.56	0.06	3.48	1.38	0.00	16.85	6.61	4.2	3291.0	332.6	BI240916
4	1304	1.5	1015.6	1016.8	1016.1	16.53	17.58	16.94	21.97	23.77	22.66	75.01	87.92	81.69	7.67	7.71	7.69	1.52	3.48	2.03	0.12	2.08	0.80	336.1	2296.0	700.7	BI240917
5	1312	1.5	1014.3	1016.4	1015.6	16.87	17.83	17.28	20.51	23.33	22.18	80.10	83.57	81.88	7.61	7.68	7.64	1.52	2.99	2.11	0.39	1.88	1.01	450.9	2545.0	941.7	BI240918
6	1318	5.3	1012.4	1017.2	1015.7	16.81	17.72	17.58	17.97	24.09	22.35	55.05	80.37	70.55	7.53	7.61	7.56	1.52	3.97	2.80	1.28	4.06	2.87	27.4	2536.0	460.6	BI240919
7	1335	1.7	1009.3	1015.4	1014.2	17.62	18.70	17.88	14.31	21.90	20.48	72.03	81.44	76.69	7.50	7.55	7.52	1.52	9.34	2.35	1.32	12.98	5.85	233.6	1997.0	641.5	BI240920
8	1340	0.8	1011.0	1014.6	1013.5	18.03	18.62	18.38	16.44	21.05	19.64	72.01	83.97	76.45	7.47	7.56	7.49	2.01	2.99	2.67	7.33	24.00	17.46	291.2	1718.0	877.3	BI240921
9	1348	0.7	1010.6	1013.2	1012.1	19.14	19.63	19.40	16.16	19.48	18.10	69.21	75.59	71.43	7.16	7.44	7.27	2.50	4.46	3.29	11.07	34.49	23.99	190.9	1058.0	582.3	BI240922
10	1354	1.0	1011.1	1011.8	1011.6	19.58	19.89	19.68	17.01	17.82	17.61	26.25	43.26	32.60	7.00	7.03	7.01	3.48	3.97	3.61	3.77	22.31	14.91	36.9	412.9	118.3	BI240923
11	1407	0.1	999.1	999.1	999.1	15.65	15.65	15.65	0.14	0.14	0.14	70.20	70.20	70.20	7.52	7.52	7.52	3.48	3.48	3.48	1.05	1.05	1.05	331.2	331.2	331.2	BI240924
12	1459	1.4	1015.6	1015.8	1015.7	17.10	17.88	17.25	22.26	22.33	22.27	81.30	83.78	82.54	7.49	7.51	7.50	3.48	11.29	6.27	2.50	9.42	5.17	292.3	2915.0	513.2	BI240925
13	1505	1.8	1015.6	1015.8	1015.6	17.04	17.99	17.69	22.26	22.30	22.28	49.29	80.21	74.05	7.24	7.41	7.37	4.94	36.69	6.89	4.33	8.08	5.82	118.4	1711.0	378.4	BI240926

Table 354c Bega River - Water Quality Maxima and Minima - Third Run - 26 September 2002

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0839	2.3	1017.1	1017.4	1017.3	15.32	15.94	15.46	23.71	23.98	23.85	72.25	74.23	73.42	7.86	7.88	7.87	0.06	1.52	0.89	0.00	0.25	0.01	190.9	3969.0	404.0	BI240941
2	0848	2.3	1016.6	1016.9	1016.7	16.87	17.25	16.95	23.36	23.71	23.47	78.68	82.87	81.95	7.80	7.82	7.81	0.00	189.56	4.05	0.00	1.36	0.28	683.0	5627.0	1983.9	BI240942
3	0856	12.2	1016.2	1025.0	1021.5	16.78	19.94	17.95	22.87	34.16	30.01	3.35	85.75	41.15	7.27	7.80	7.54	0.00	3.48	1.16	0.00	16.85	4.78	3.8	5424.0	587.6	BI240943
4	0904	1.8	1015.9	1016.5	1016.1	17.10	18.21	17.36	22.52	23.59	22.83	74.10	85.73	81.43	7.71	7.76	7.74	1.04	86.51	2.44	0.00	1.31	0.36	206.9	4073.0	542.8	BI240944



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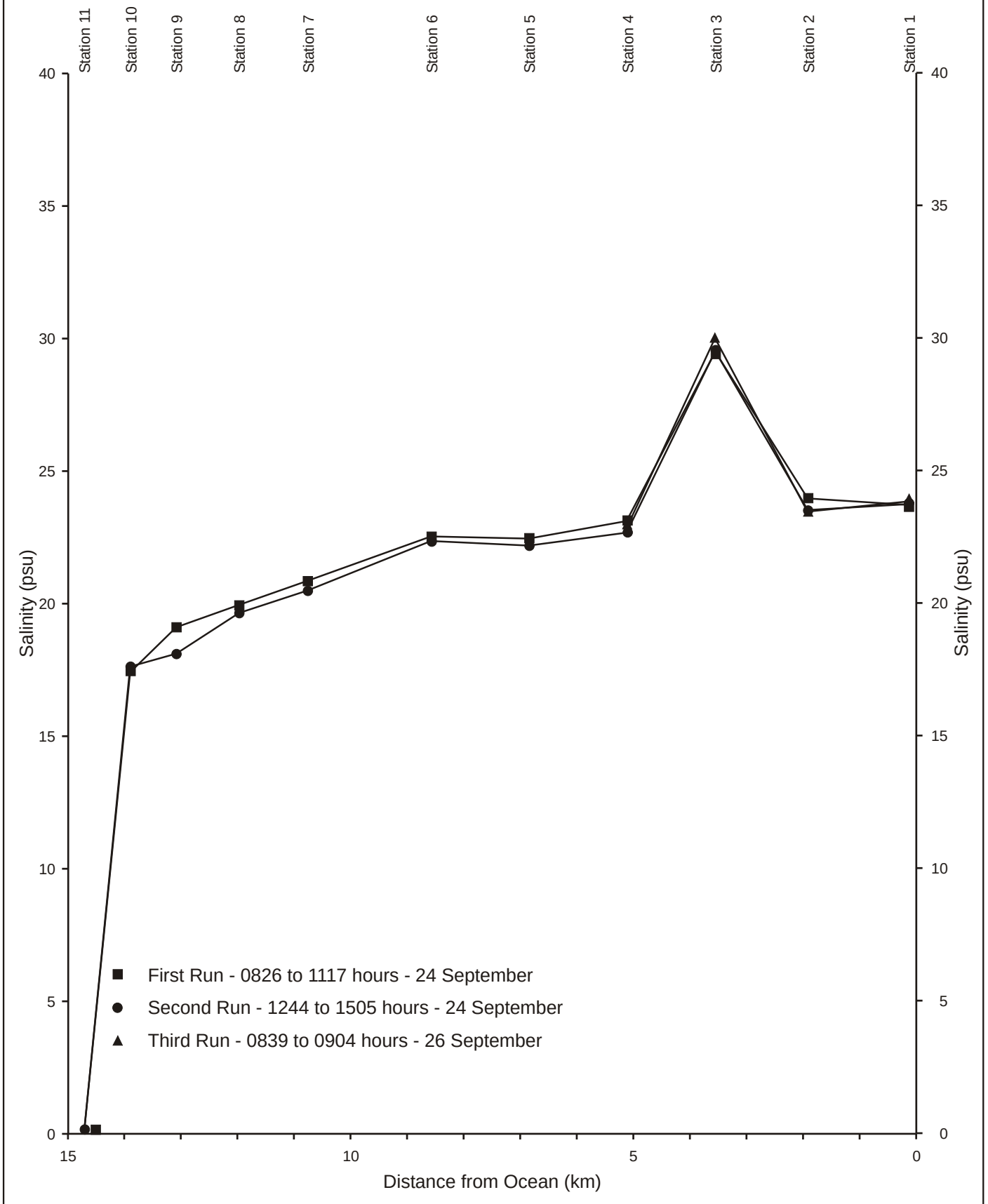
BEGA RIVER

24 AND 26 SEPTEMBER 2002

MHL Report 1812

Figure 274

DRAWING 1812-274.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEGA RIVER - FIRST< SECOND AND THIRD RUNS
24 AND 26 SEPTEMBER 2002

MHL Report 1812

Figure 275

DRAWING 1812-275.CDR

Data was collected in the Bega River on 9 February, 18 and 30 November 2005, as detailed in report MHL1460. The river entrance was open at the time of the profiling. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 355. Summaries of the minimum, maximum and mean values for all parameters measured on the three runs are shown in Tables 356a to 358b. The locations at which these profiles were taken are shown in Figure 276. Long channel depth-averaged salinity profiles are shown in Figures 277 to 282.

Table 355 Bega River - 9 February, 18 and 30 November 2005

Station No.	MGA (m) Zone 55		Chainage (km)	9 February 2005		18 November 2005		30 November 2005	
	Easting	Northing		High Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)	Low Water Salinity (psu)	High Water Salinity (psu)	Low Water Salinity (psu)
1	766540	5934290	0.13	35.45	29.97	35.43	29.38	35.40	17.46
2	764918	5934277	1.93	16.60	34.89	34.10	32.36	33.38	31.36
3	763455	5933640	3.56	9.06	33.81	32.73	32.59	33.01	30.55
4	764534	5932994	5.12	8.86	32.30	31.20	28.69	28.25	17.65
5	763353	5932411	6.85	8.38	31.87	24.38	11.62	14.19	3.27
6	761753	5932156	8.58	7.07	28.80	10.20	11.59	18.72	14.75
7	759804	5932906	10.77	5.26	23.17	0.65	0.41	0.14	0.13
8	759335	5933416	11.97	3.22	9.47	0.26	0.26	0.11	0.09
9	758319	5933512	13.08	0.06	0.13	0.11	-	0.10	0.09
10	757765	5933379	13.69	-	0.12	-	-	-	-
11	757567	5933495	13.90	0.04	-	0.09	-	-	-
12	756989	5934044	14.76	0.19	-	-	-	-	-
13	763383	5931855	7.57	4.82	20.56	17.61	14.01	16.10	16.31
14	762678	5931292	8.55	4.21	22.56	12.02	14.03	14.71	14.91

Table 356a Bega River - Water Quality Maxima and Minima - High Water - 9 February 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1031	1.6	1025.3	1025.3	1025.3	19.17	19.20	19.18	35.45	35.46	35.45	98.65	98.97	98.84	7.67	7.68	7.67	1.06	2.04	1.62	0.00	0.00	0.00	848.3	2969.4	1157.7	BR0209001
2	1040	3.0	1010.0	1011.4	1010.9	19.25	20.02	19.63	15.61	17.16	16.60	101.31	121.83	111.05	7.63	7.71	7.68	1.55	2.52	2.06	0.00	0.00	0.00	298.8	2270.8	557.1	BR0209002
3	1050	11.8	1003.9	1005.2	1005.0	19.97	22.75	20.39	8.34	9.24	9.06	63.50	146.99	106.63	7.50	7.64	7.62	2.04	6.43	3.36	0.00	3.93	0.50	0.9	1398.2	93.1	BR0209003
4	1101	1.8	1004.3	1004.6	1004.5	21.62	22.38	21.75	8.75	8.89	8.86	98.03	107.80	103.44	7.48	7.54	7.52	3.01	3.99	3.51	0.18	4.11	1.00	217.9	1584.2	439.4	BR0209004
5	1110	1.2	1003.4	1003.5	1003.5	24.46	24.70	24.59	8.33	8.44	8.38	92.78	97.67	95.57	7.37	7.44	7.39	3.99	6.43	5.12	0.17	1.30	0.44	164.8	1000.8	302.9	BR0209005
6	1118	5.0	1001.1	1002.6	1001.8	26.05	27.61	27.07	6.35	7.68	7.07	97.55	132.69	114.22	7.11	7.34	7.15	3.01	5.94	4.07	0.18	9.12	4.29	8.3	1342.8	111.5	BR0209006
7	1127	1.9	999.9	1000.7	1000.2	26.98	28.33	27.88	5.02	5.58	5.26	95.83	104.84	100.61	7.07	7.52	7.13	3.01	5.46	3.84	0.22	9.11	3.94	101.8	1461.2	288.4	BR0209007
8	1135	1.0	998.7	999.1	998.8	26.50	27.83	27.47	3.21	3.24	3.22	97.17	100.50	99.08	6.87	7.12	6.99	3.99	4.97	4.46	0.08	0.25	0.17	271.6	1692.5	485.6	BR0209008
9	1145	1.0	997.8	997.9	997.8	21.88	21.90	21.89	0.06	0.06	0.06	99.34	102.91	101.58	7.42	7.44	7.42	3.01	3.50	3.19	0.07	0.31	0.15	188.1	1038.3	329.3	BR0209009
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	1158	0.5	998.0	998.0	998.0	21.14	21.29	21.17	0.04	0.04	0.04	98.70	99.32	99.14	7.35	7.36	7.35	3.01	4.48	3.68	0.14	0.22	0.18	553.9	1989.5	1034.3	BR0209010
12	1219	0.3	997.9	997.9	997.9	21.89	21.89	21.89	0.19	0.19	0.19	85.53	95.20	90.66	7.33	7.34	7.33	3.50	4.48	4.07	2.22	7.10	4.70	270.6	439.5	359.8	BR0209011
13	1259	1.0	1000.4	1000.9	1000.8	24.13	25.42	24.61	4.65	4.88	4.82	95.51	99.42	97.63	7.26	7.36	7.33	4.48	5.94	4.95	0.22	5.01	2.66	315.7	1989.5	792.5	BR0209012
14	1306	1.3	1000.0	1000.4	1000.1	24.45	25.73	25.32	4.18	4.26	4.21	96.84	102.15	99.54	7.02	7.36	7.24	4.97	8.87	6.99	4.83	8.38	7.54	86.3	851.4	210.1	BR0209013

Note No profiling was done at Station 10 on high water run

Table 356b Bega River - Water Quality Maxima and Minima - Low Water - 9 February 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1907	1.9	1020.5	1020.6	1020.6	21.43	21.45	21.44	29.95	30.02	29.97	86.71	87.07	86.90	7.36	7.37	7.37	2.04	3.01	2.52	1.31	1.48	1.39	0.4	3.2	0.8	BR0209014
2	1916	5.1	1022.9	1025.0	1024.8	19.30	21.98	19.58	33.20	35.10	34.89	76.67	94.10	88.41	7.36	7.57	7.51	1.06	3.50	2.21	0.41	3.18	1.06	0.1	0.4	0.2	BR0209015
3	1923	11.8	1021.1	1024.1	1023.9	19.70	23.36	20.00	31.34	33.95	33.81	68.76	82.83	78.88	7.32	7.53	7.50	1.55	3.99	2.48	0.60	4.50	1.49	0.0	0.1	0.1	BR0209016
4	1932	0.9	1018.5	1022.2	1021.5	24.20	24.88	24.44	28.58	33.16	32.30	62.99	73.20	69.66	7.24	7.33	7.27	4.48	5.94	4.74	5.09	5.64	5.38	0.1	0.1	0.1	BR0209017
5	1939	0.8	1019.5	1021.6	1021.0	25.05	25.21	25.10	30.05	32.70	31.87	53.59	63.27	60.06	7.22	7.31	7.25	4.48	5.94	4.94	4.96	6.25	5.82	0.1	0.1	0.1	BR0209018
6	1949	6.1	1015.5	1018.7	1018.1	26.65	27.83	26.87	25.79	29.52	28.80	35.76	42.17	37.76	6.98	7.12	7.07	2.52	3.99	3.24	2.01	6.62	3.40	0.1	0.1	0.1	BR0209019
7	1959	1.6	1012.4	1013.7	1013.4	28.31	28.42	28.38	21.77	23.54	23.17	37.03	49.09	43.33	6.69	6.87	6.76	3.01	4.48	3.50	5.42	12.71	7.72	0.1	0.1	0.1	BR0209020
8	2007	0.4	1003.6	1004.1	1003.8	26.00	26.31	26.18	9.14	9.74	9.47	25.32	39.71	32.81	6.80	7.13	7.06	4.48	16.69	9.78	6.50	10.75	8.65	0.1	3.4	1.2	BR0209021
9	2024	0.6	998.0	998.1	998.0	21.20	21.22	21.22	0.13	0.13	0.13	65.75	77.81	73.05	7.30	7.32	7.31	3.99	4.97	4.14	3.11	11.55	4.15	0.1	0.8	0.3	BR0209022
10	2045	0.6	998.1	998.1	998.1	20.77	20.79	20.77	0.12	0.12	0.12	63.02	65.57	65.01	7.13	7.16	7.15	3.99	4.97	4.21	1.52	5.27	3.48	0.0	0.2	0.1	BR0209023
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	2128	0.9	1011.4	1014.0	1012.5	24.15	25.36	24.84	19.01	22.70	20.56	44.65	47.66	46.98	7.23	7.28	7.26	3.99	5.94	5.04	0.88	1.16	1.06	0.2	2.9	0.8	BR0209024
14	2135	1.2	1012.7	1015.2	1013.9	25.17	25.30	25.25	20.98	24.23	22.56	50.29	53.12	52.54	7.04	7.08	7.05	4.97	7.41	6.25	0.66	1.00	0.87	0.3	0.9	0.5	BR0209025

Note No profiling was done at Stations 11 and 12 on low water run due to shoals

Table 357a Bega River - Water Quality Maxima and Minima - High Water - 18 November 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1118	1.9	1025.4	1025.5	1025.5	18.41	18.70	18.53	35.41	35.46	35.43	93.57	94.24	93.86	8.40	8.41	8.41	1.55	3.01	2.74	0.00	0.00	0.00	771.0	3954.8	1962.0	BEGA1105001
2	1127	5.7	1020.8	1025.0	1024.4	18.57	20.57	18.82	29.97	34.78	34.10	88.36	99.03	92.91	8.55	8.60	8.59	2.52	5.46	2.90	0.00	0.39	0.00	290.1	4133.1	834.1	BEGA1105002
3	1135	8.5	1011.0	1024.7	1023.4	17.44	21.92	18.58	17.54	33.98	32.73	83.53	94.48	86.87	8.52	8.61	8.58	2.52	3.50	3.05	1.06	1.89	1.54	58.7	2480.2	504.3	BEGA1105003
4	1144	2.0	1013.9	1022.9	1021.9	19.56	21.54	19.86	21.23	32.42	31.20	89.92	99.62	91.81	8.54	8.64	8.57	3.01	3.99	3.58	0.62	2.22	1.60	693.1	4383.4	1158.8	BEGA1105004
5	1151	1.3	1015.7	1016.9	1016.2	21.84	22.09	22.00	23.81	25.26	24.38	92.87	93.56	93.32	8.51	8.53	8.52	3.50	4.97	4.14	0.82	1.73	1.21	587.5	3729.1	1492.9	BEGA1105005
6	1159	3.6	1000.2	1012.4	1005.7	20.08	22.36	21.01	3.30	18.75	10.20	46.45	98.69	79.35	7.78	8.46	8.18	3.99	6.92	5.18	1.99	11.48	6.51	48.8	1000.8	352.2	BEGA1105006
7	1208	2.0	998.2	998.8	998.5	19.85	22.13	21.00	0.63	0.72	0.65	76.34	89.99	84.84	8.07	8.13	8.12	3.01	4.97	3.74	3.07	15.13	6.32	112.9	4013.4	1100.9	BEGA1105007
8	1215	1.7	998.0	998.6	998.3	19.36	21.62	20.74	0.23	0.40	0.26	85.82	93.79	90.73	7.97	7.98	7.98	2.52	3.99	2.86	0.58	1.14	0.81	553.9	4087.8	1672.3	BEGA1105008
9	1232	1.1	997.9	997.9	997.9	21.76	21.86	21.79	0.11	0.11	0.11	86.67	87.13	86.92	7.93	7.95	7.94	1.06	4.97	2.86	0.82	0.91	0.87	746.0	4351.3	2006.4	BEGA1105009
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	1252	1.3	997.7	997.7	997.7	22.68	22.80	22.76	0.09	0.09	0.09	84.93	85.31	85.13	7.89	7.92	7.90	2.52	3.50	2.84	0.12	2.06	0.89	576.8	3969.4	1747.3	BEGA1105010
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	1332	0.9	1006.8	1014.7	1010.7	23.00	24.29	23.48	12.72	22.72	17.61	90.13	97.64	93.76	8.30	8.32	8.31	9.36	14.25	11.26	4.22	6.49	5.28	947.2	3784.3	2292.3	BEGA1105011
14	1337	1.2	1005.7	1009.6	1006.5	23.09	23.87	23.59	11.13	16.13	12.02	93.33	97.35	96.20	8.32	8.34	8.33	8.38	8.87	8.40	4.71	5.88	5.30	194.4	3607.8	1218.0	BEGA1105012

Note Profiles were not done at Stations 10 and 12 on the high water run

Table 357b Bega River - Water Quality Maxima and Minima - Low Water - 18 November 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1850	2.8	1020.3	1020.5	1020.4	21.21	21.25	21.22	29.61	29.80	29.73	95.28	95.72	95.52	8.08	8.09	8.09	3.01	5.94	3.29	1.50	1.71	1.59	1.9	36.4	8.5	BEGA1105013
1	1915	2.9	1020.1	1020.2	1020.2	21.18	21.18	21.18	29.34	29.39	29.38	95.69	96.48	96.20	8.09	8.11	8.10	2.52	3.50	2.86	1.78	2.34	1.85	0.1	0.7	0.2	BEGA1105014
2	1944	4.9	1011.9	1025.0	1022.9	18.74	23.00	19.62	19.06	34.84	32.36	89.12	100.64	93.65	8.07	8.18	8.12	2.04	4.48	3.17	1.87	3.76	2.62	0.0	0.1	0.0	BEGA1105015
3	1952	11.7	1009.0	1024.7	1023.3	17.42	24.02	18.69	15.49	33.97	32.59	84.31	102.92	90.56	7.95	8.19	8.04	2.04	4.48	2.90	1.02	4.29	2.30	0.0	0.1	0.0	BEGA1105016
4	2006	3.6	1006.5	1022.9	1019.7	19.42	24.41	20.90	12.17	32.39	28.69	89.02	105.41	95.11	8.04	8.19	8.10	3.01	6.92	4.58	3.06	6.16	4.68	0.0	0.0	0.0	BEGA1105017
5	2029	0.7	1003.8	1008.1	1006.2	22.78	23.53	23.21	8.28	14.26	11.62	81.66	88.51	87.68	8.12	8.15	8.13	10.34	14.73	12.02	7.24	9.55	7.61	0.0	0.0	0.0	BEGA1105018
6	2044	4.1	998.4	1013.8	1006.7	19.92	22.34	21.19	0.90	20.59	11.59	46.82	93.13	73.99	7.39	7.91	7.65	3.50	6.92	4.80	1.99	27.51	8.68	0.0	4.9	0.1	BEGA1105019
7	2103	1.3	997.8	997.9	997.9	22.89	23.02	22.95	0.40	0.42	0.41	85.76	86.13	85.96	7.74	7.77	7.75	3.01	3.99	3.12	2.34	2.48	2.40	0.0	0.0	0.0	BEGA1105020
8	2119	0.6	997.8	997.8	997.8	22.62	22.64	22.63	0.25	0.26	0.26	64.71	66.60	66.32	7.59	7.61	7.60	2.52	3.50	2.83	1.01	1.22	1.14	0.0	0.0	0.0	BEGA1105021
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	2200	0.6	1008.1	1008.1	1008.1	22.91	22.95	22.92	14.00	14.03	14.01	73.74	77.00	76.08	8.13	8.18	8.16	8.87	220.35	140.55	0.17	0.35	0.27	0.0	1.6	0.6	BEGA1105022
14	2208	0.9	1008.0	1008.0	1008.0	23.41	23.41	23.41	14.01	14.07	14.03	68.53	74.94	73.28	8.12	8.13	8.13	10.34	57.23	25.05	7.26	8.11	7.66	0.0	2.0	0.2	BEGA1105023

Note Station 1 was profiled twice and shoals in the river prevented access upstream from Station 8 on the low water run

Table 358a Bega River - Water Quality Maxima and Minima - High Water - 30 November 2005

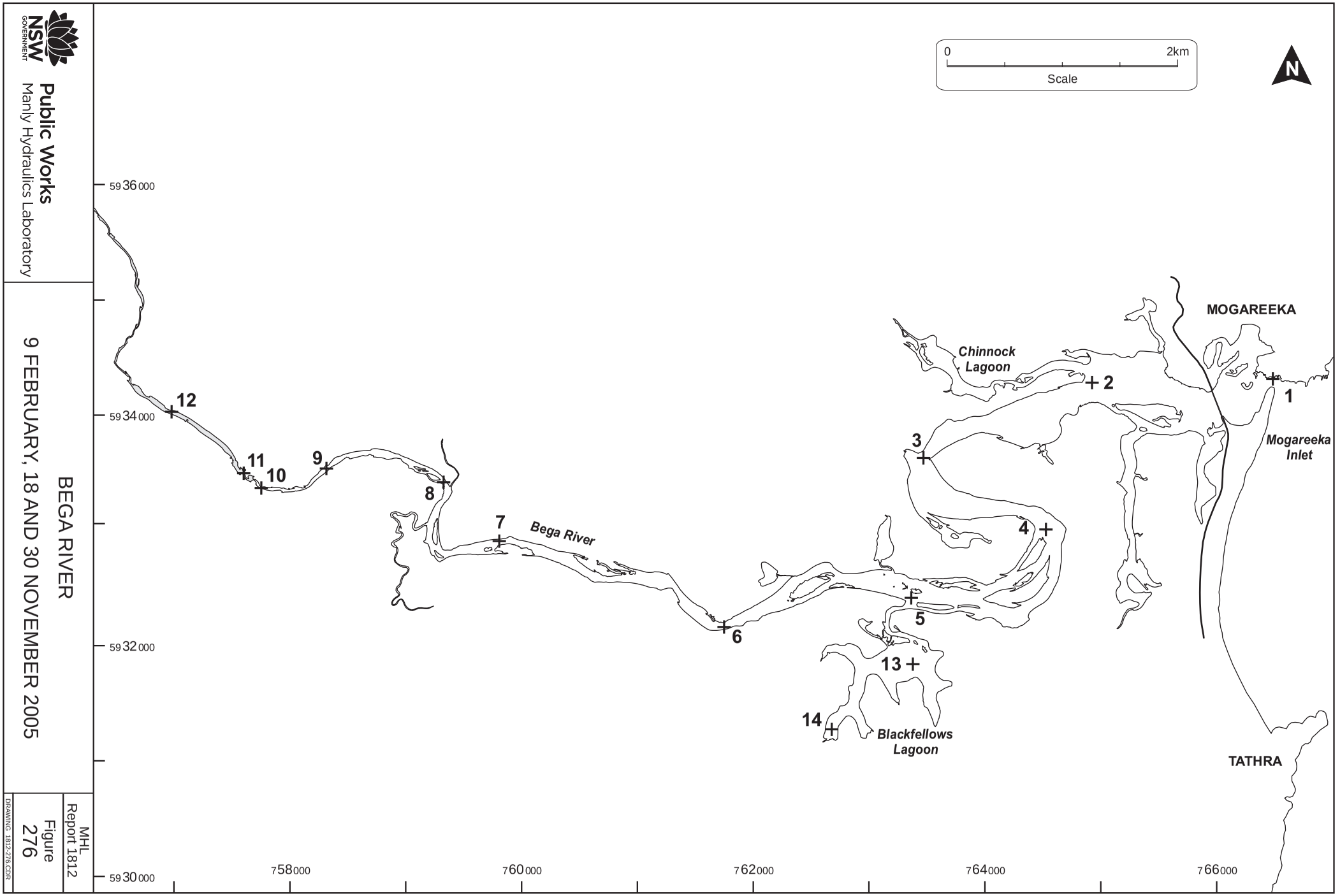
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0831	3.3	1025.7	1025.8	1025.8	17.29	17.33	17.31	35.31	35.41	35.40	97.48	98.17	97.88	8.41	8.42	8.41	0.00	39.64	4.49	0.00	0.78	0.37	492.5	4894.1	1109.6	BR301105001
2	0848	4.6	1016.6	1025.5	1024.2	17.02	19.37	17.53	24.07	34.93	33.38	84.91	91.03	88.70	8.24	8.39	8.34	2.52	3.99	3.09	0.43	3.15	1.16	193.7	3137.6	470.2	BR301105002
3	0857	11.9	1009.5	1024.8	1023.9	16.95	20.75	17.44	15.14	34.04	33.01	82.48	93.88	84.63	8.21	8.31	8.28	2.04	4.48	2.96	0.23	2.15	0.97	11.5	2669.3	179.1	BR301105003
4	0906	2.6	1003.5	1023.7	1019.8	18.75	20.58	19.24	6.95	33.15	28.25	81.40	91.17	85.26	8.07	8.37	8.22	3.01	9.36	4.17	1.41	2.63	1.82	426.8	4930.2	1420.9	BR301105004
5	0915	1.2	1002.1	1015.9	1008.9	19.77	20.73	20.31	5.03	23.55	14.19	72.80	79.58	76.32	7.73	7.93	7.80	4.97	11.32	9.52	3.29	7.82	5.25	979.0	5325.7	2600.6	BR301105005
6	0922	5.7	998.7	1019.0	1012.5	19.09	20.41	19.78	0.46	27.28	18.72	43.27	72.42	61.35	7.30	7.97	7.82	0.00	20.11	7.14	1.17	20.25	3.80	3.7	5040.1	428.4	BR301105006
7	0931	2.0	998.5	998.6	998.6	18.73	18.88	18.79	0.13	0.14	0.14	74.92	75.43	75.13	7.87	7.93	7.89	15.71	17.18	16.18	3.55	4.47	3.75	29.4	2799.9	687.2	BR301105007
8	0955	1.4	998.5	998.5	998.5	18.71	18.85	18.78	0.11	0.11	0.11	76.91	77.20	77.05	7.81	7.84	7.82	15.71	18.15	16.29	3.67	3.94	3.80	50.1	1869.0	629.8	BR301105008
9	1003	1.7	998.6	998.6	998.6	18.44	18.45	18.44	0.10	0.10	0.10	76.85	77.27	77.11	7.72	7.74	7.72	15.71	24.01	16.71	3.83	4.07	3.92	42.8	3339.9	854.5	BR301105009
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	1025	1.1	1007.5	1012.6	1010.2	20.15	21.20	20.72	12.25	19.41	16.10	85.54	90.92	88.33	8.11	8.15	8.13	6.43	9.85	7.60	2.97	6.84	3.73	450.9	3607.8	1696.1	BR301105010
14	1031	1.3	1007.6	1012.4	1009.2	20.63	21.13	20.85	12.59	19.06	14.71	90.69	92.73	91.73	8.16	8.19	8.17	5.94	7.90	6.34	2.61	4.57	2.89	576.8	3267.1	1555.9	BR301105011

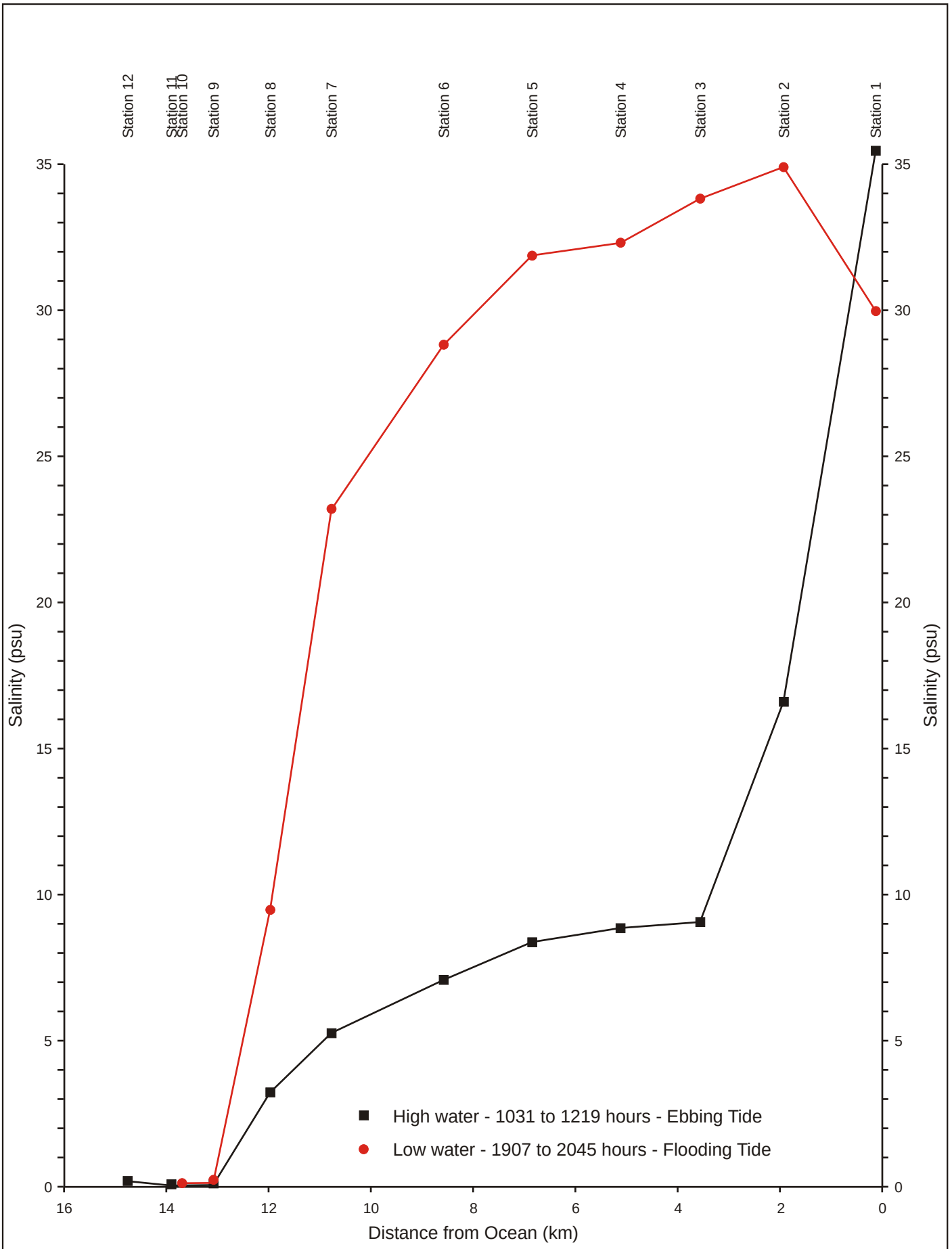
Note Profiles were not done upstream from Station 9 on the high water run due to strong freshwater flow

Table 358b Bega River - Water Quality Maxima and Minima - Low Water - 30 November 2005

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1730	2.7	1010.9	1011.3	1011.2	21.16	21.18	21.17	17.08	17.59	17.46	96.72	97.33	97.08	8.25	8.27	8.26	4.48	5.94	4.92	5.05	5.81	5.36	24.7	596.2	127.9	BR301105012
2	1748	3.8	1004.3	1025.4	1022.4	17.19	21.73	18.35	8.54	34.84	31.36	83.63	95.73	87.94	8.03	8.27	8.20	2.04	8.38	3.55	0.60	7.03	2.69	31.1	3854.4	293.0	BR301105013
3	1756	10.1	1001.5	1024.8	1022.0	16.99	21.26	17.83	4.70	34.02	30.55	75.02	84.71	82.39	7.71	8.23	8.13	2.04	15.22	3.78	0.23	8.42	1.74	0.4	587.5	29.7	BR301105014
4	1803	2.1	1000.9	1023.6	1011.6	18.72	21.19	20.12	3.76	33.07	17.65	73.78	82.14	79.19	7.68	8.16	7.82	3.50	13.76	10.23	2.02	8.10	4.91	9.2	1889.8	248.9	BR301105015
5	1811	0.8	999.6	1003.8	1000.7	19.87	21.19	20.14	1.80	7.74	3.27	75.80	83.02	76.73	7.73	7.91	7.81	12.78	14.73	13.78	3.87	5.95	4.31	34.4	314.6	172.6	BR301105016
6	1818	3.7	998.5	1018.1	1009.4	19.49	20.45	19.85	0.28	26.20	14.75	52.01	78.26	66.90	7.09	7.87	7.66	3.01	14.25	9.01	1.62	9.22	4.26	0.2	153.1	16.5	BR301105017
7	1827	1.6	998.4	998.4	998.4	19.35	19.36	19.36	0.13	0.13	0.13	75.01	75.39	75.24	7.77	7.82	7.78	13.76	15.71	14.47	3.93	4.24	4.04	2.5	169.1	46.4	BR301105018
8	1835	1.5	998.4	998.4	998.4	19.43	19.44	19.44	0.09	0.09	0.09	77.81	78.03	77.92	7.71	7.74	7.72	14.73	15.71	15.34	3.70	4.00	3.77	5.3	207.7	69.9	BR301105019
9	1845	1.6	998.4	998.4	998.4	19.48	19.49	19.49	0.09	0.09	0.09	74.61	74.97	74.78	7.67	7.71	7.68	13.27	15.71	13.80	0.22	0.56	0.35	1.5	70.5	19.0	BR301105020
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	1909	0.8	1008.3	1011.3	1010.1	21.72	22.09	21.84	13.91	17.82	16.31	94.14	96.91	96.11	8.19	8.25	8.21	6.92	7.90	7.55	7.25	16.41	11.68	1.8	9.8	5.8	BR301105021
14	1914	1.1	1005.6	1011.3	1009.1	21.52	22.10	21.80	10.46	17.82	14.91	88.81	94.51	92.83	8.09	8.19	8.16	9.85	11.80	10.87	9.86	18.60	13.04	0.5	3.6	1.6	BR301105022

Note Profiles were not done upstream from Station 9 on the low water run due to strong freshwater flow


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BEGA RIVER
9 FEBRUARY, 18 AND 30 NOVEMBER 2005
MHL Report 1812
Figure 276
DRAWING 1812-276.CDR
0
2km
Scale
N
MOGAREEKA
Chinnock Lagoon
Mogareeka Inlet
Bega River
Blackfellows Lagoon
TATHRA
1
2
3
4
5
6
7
8
9
10
11
12
13
14
5936000
5934000
5932000
5930000
758000
760000
762000
764000
766000



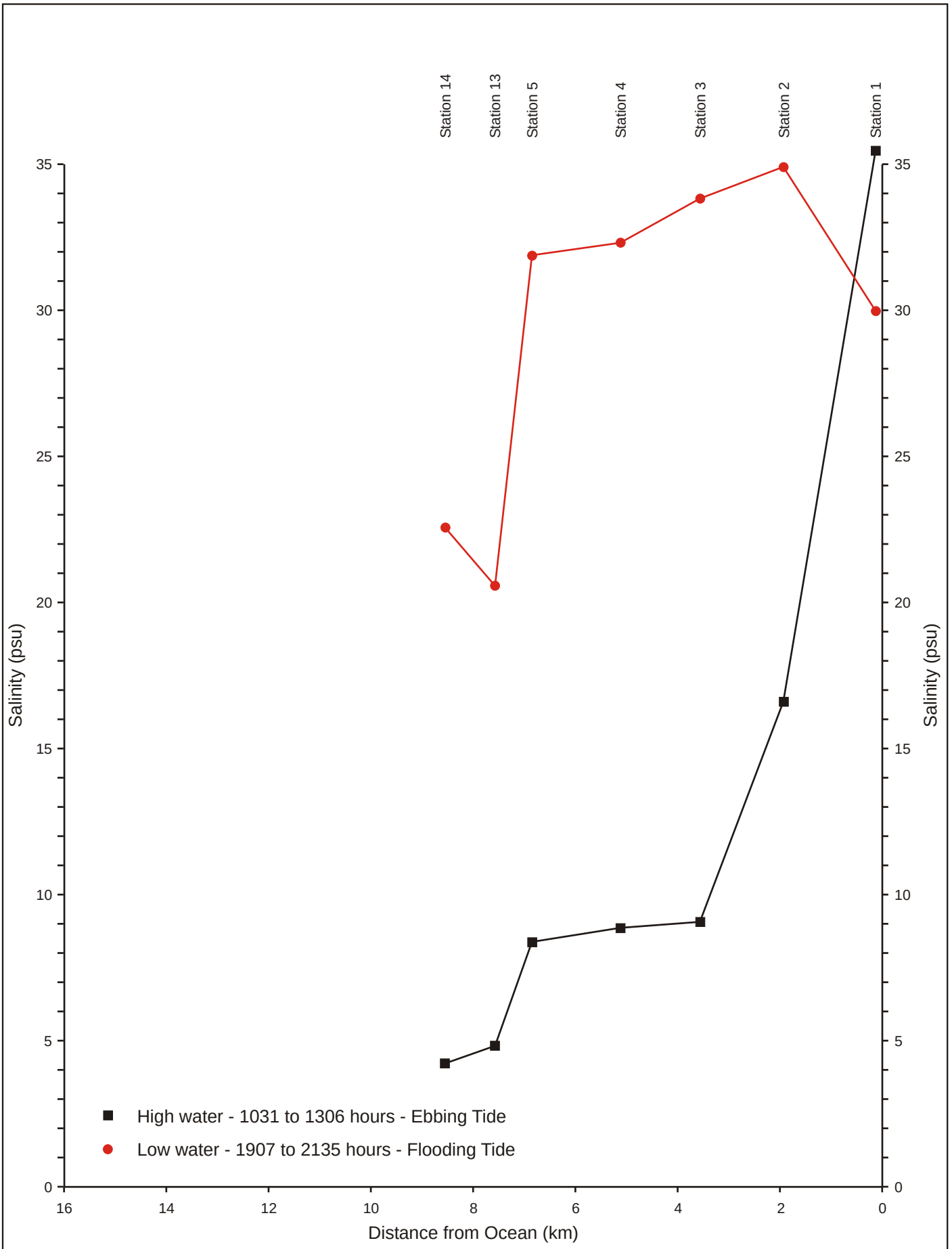
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEGA RIVER - HIGH AND LOW WATER
9 FEBRUARY 2005

MHL Report 1812

Figure 277

DRAWING 1812-277.CDR



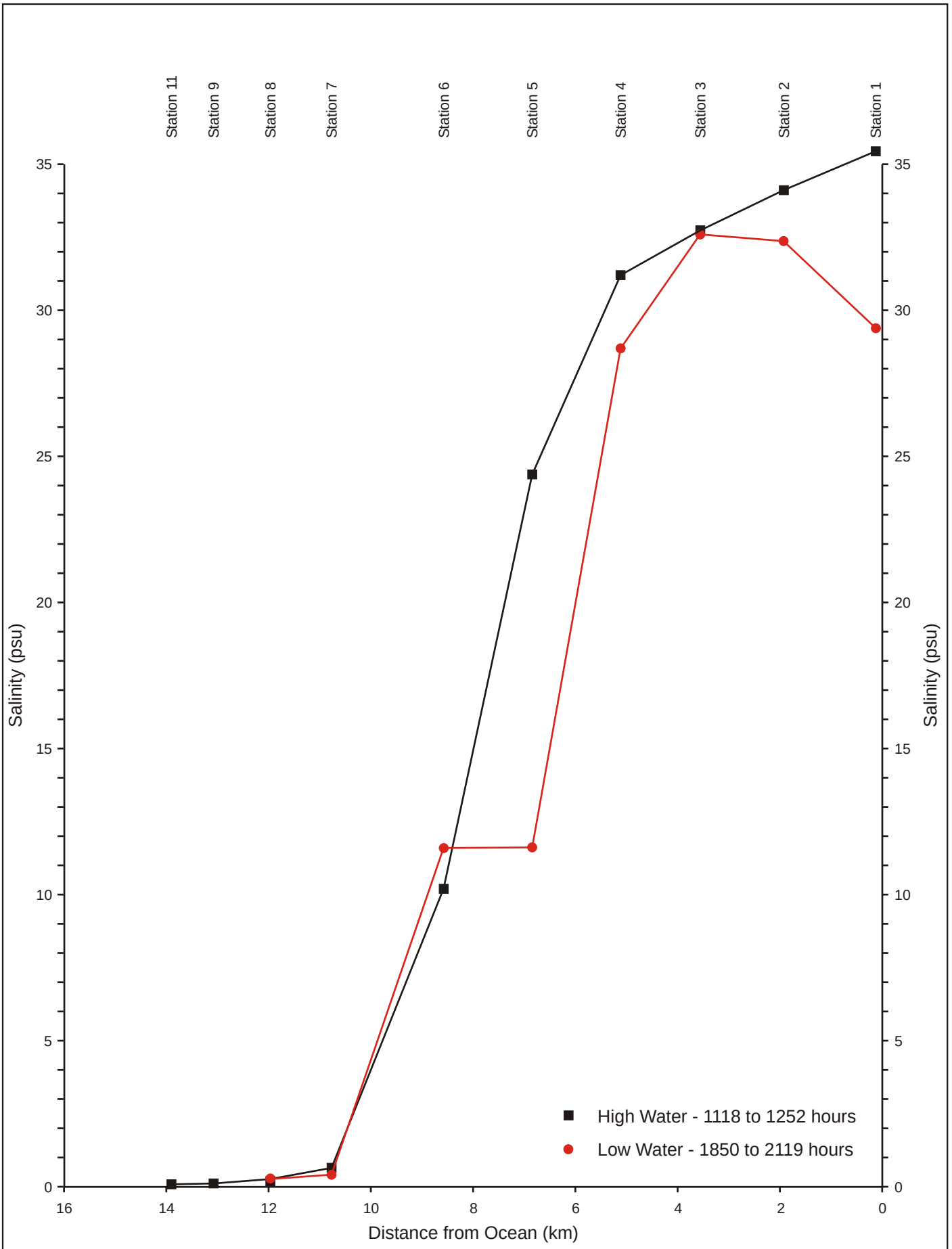
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BLACKFELLOWS LAGOON - HIGH AND LOW WATER
9 FEBRUARY 2005

MHL Report 1812

Figure 278

DRAWING 1812-278.CDR



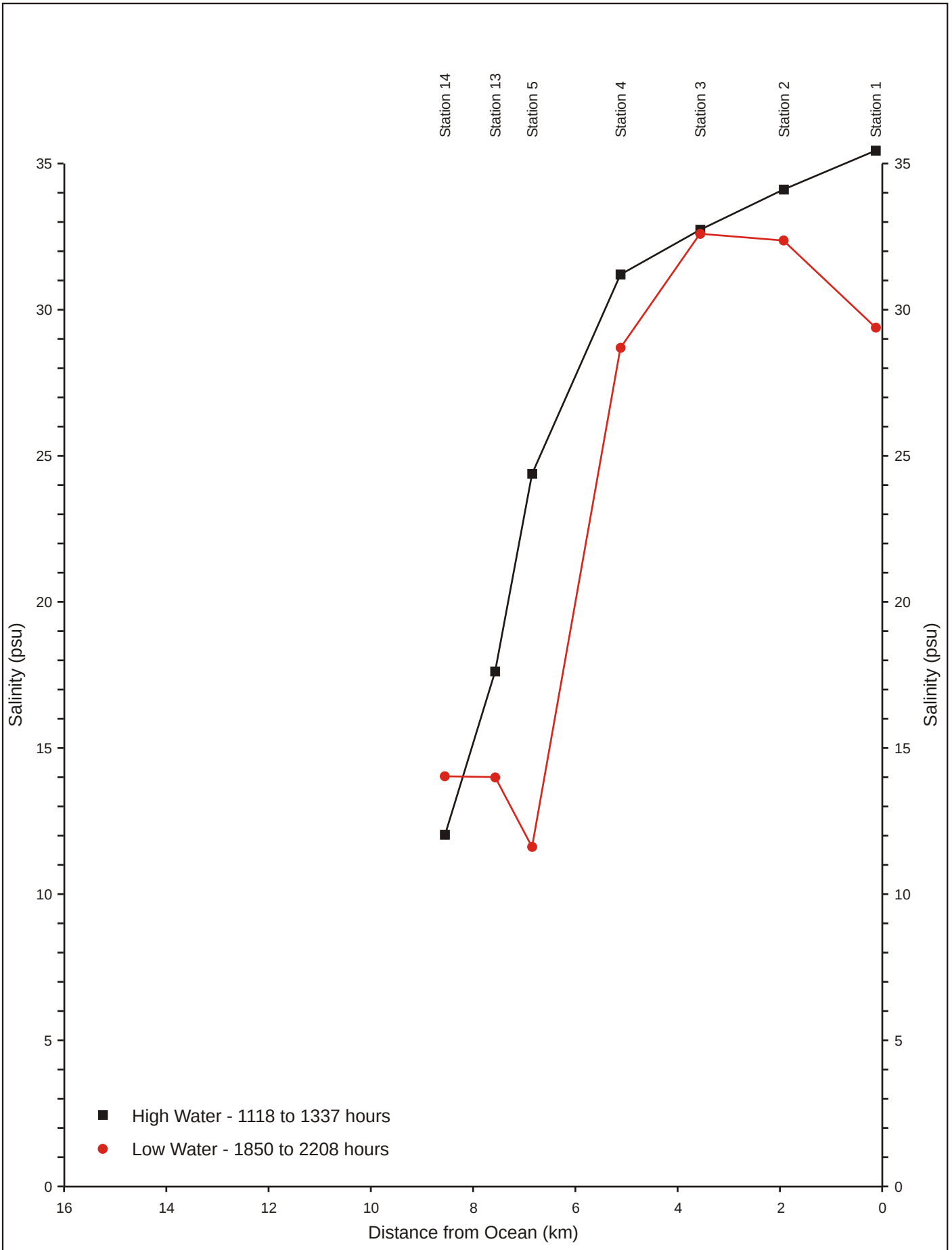
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEGA RIVER - HIGH AND LOW WATER
18 NOVEMBER 2005

MHL Report 1812

Figure 279

DRAWING 1812-279.CDR



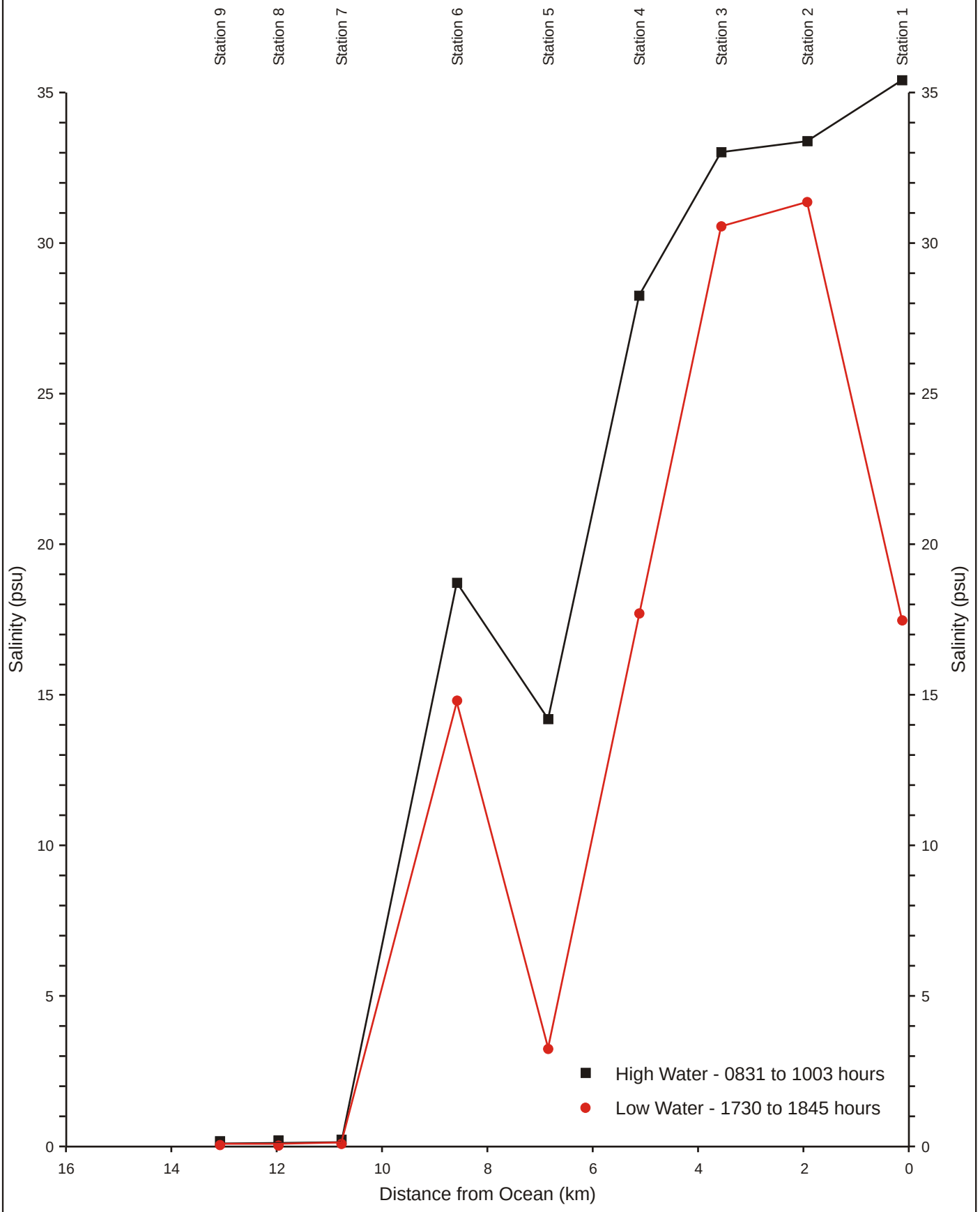
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BLACKFELLOWS LAGOON - HIGH AND LOW WATER
18 NOVEMBER 2005

MHL Report 1812

Figure 280

DRAWING 1812-280.CDR



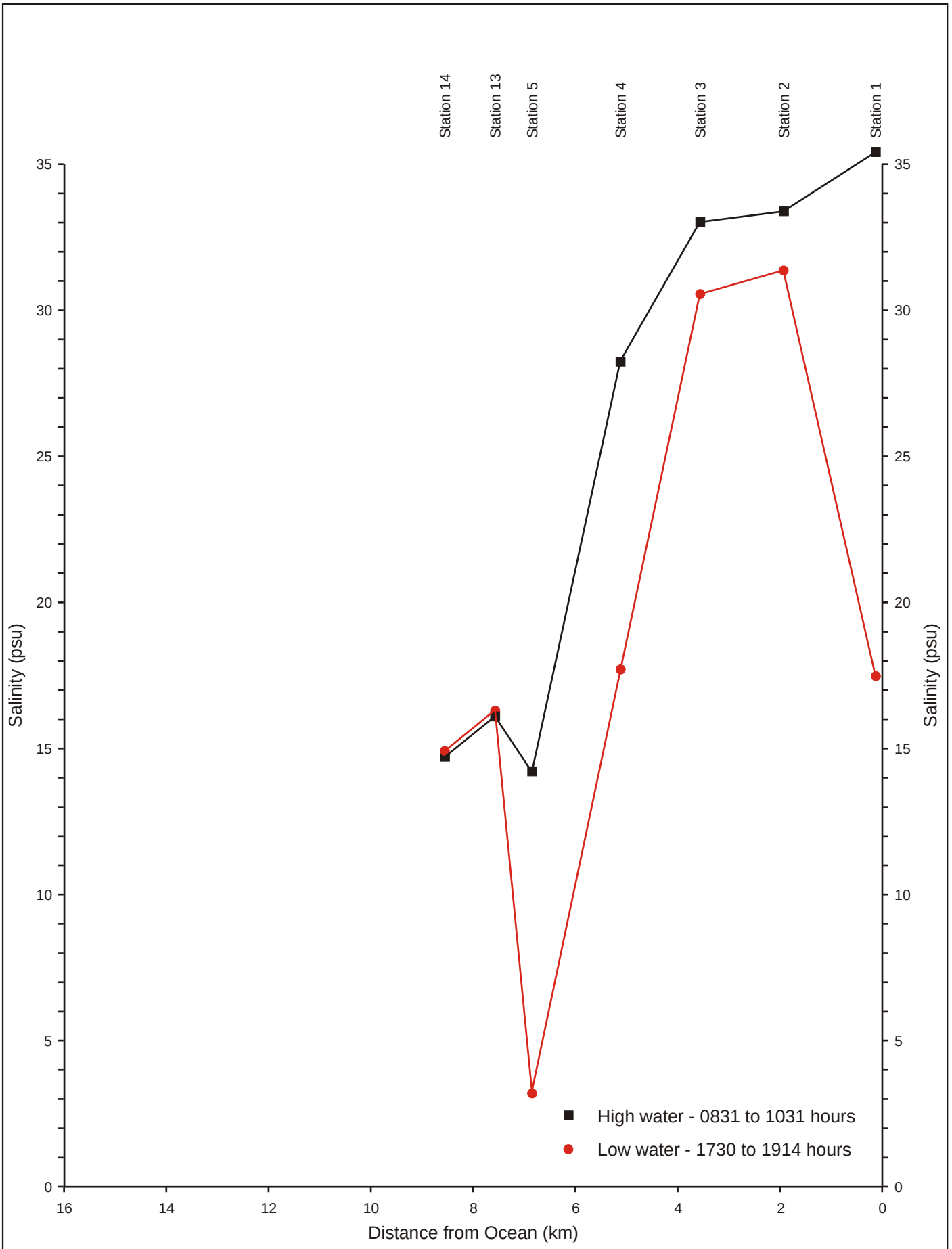
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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BEGA RIVER - HIGH AND LOW WATER
30 NOVEMBER 2005

MHL Report 1812

Figure 281

DRAWING 1812-281.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BLACKFELLOWS LAGOON - HIGH AND LOW WATER
30 NOVEMBER 2005

MHL Report 1812

Figure 282

DRAWING 1812-282.CDR

Back Lagoon Data Summary

Data was collected in Back Lagoon on 26 October 2003, when the entrance to the lake was closed, as detailed in report MHL1290. The water level was not surveyed. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 359. Summaries of the minimum, maximum and mean values for all parameters measured on the single profiling run are shown in Table 360. The locations at which these profiles were taken are shown in Figure 283. Long channel depth-averaged salinity profiles are shown in Figure 284.

Table 359 Back Lagoon - 26 October 2003

Station No.	MGA (m) Zone 55		Chainage (km)	Mean Salinity (psu)
	Easting	Northing		
1	761071	5914010	0.06	21.61
2	760917	5914146	0.36	21.79
3	760816	5914501	0.73	21.90
4	760548	5914199	1.13	21.75
5	760123	5914078	1.64	22.24
6	759781	5914048	2.00	22.79
7	759755	5914371	2.30	22.30
8	759565	5913993	3.03	22.12

Table 360 Back Lagoon - Water Quality Maxima and Minima - 26 October 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0807	0.6	1015.3	1015.3	1015.3	16.77	16.92	16.83	21.58	21.65	21.61	87.76	88.33	88.06	7.37	7.39	7.38	3.48	3.97	3.53	0.47	0.92	0.61	556.0	1499.3	1308.1	MPB0101
2	0813	1.3	1015.3	1015.4	1015.3	17.55	17.81	17.59	21.75	22.03	21.79	77.59	78.01	77.81	7.33	7.35	7.34	2.99	4.46	3.77	0.35	0.73	0.55	315.7	2033.8	716.1	MPB0102
3	0820	1.9	1015.1	1015.3	1015.3	17.68	18.04	17.82	21.71	21.95	21.90	77.29	77.92	77.59	7.34	7.35	7.34	3.48	5.43	4.04	0.68	0.95	0.82	174.1	1418.9	405.2	MPB0103
4	0827	0.8	1015.1	1015.3	1015.2	17.94	18.03	17.96	21.67	21.95	21.75	76.98	77.49	77.17	7.33	7.34	7.33	3.97	4.94	4.55	1.41	2.09	1.77	123.3	616.2	296.6	MPB0104
5	0833	1.1	1014.8	1015.3	1015.2	19.10	19.27	19.21	21.72	22.36	22.24	70.10	72.52	71.41	7.23	7.26	7.24	3.48	4.94	3.95	1.26	1.61	1.39	71.3	530.0	200.4	MPB0105
6	0839	5.0	1015.2	1016.5	1015.8	17.59	19.80	18.85	22.25	23.39	22.79	1.45	67.55	43.51	6.95	7.23	7.15	2.01	7.38	3.34	1.00	4.33	2.10	$6.7	560.1	$53.4	MPB0106
7	0846	1.7	1014.5	1015.2	1015.0	20.15	20.89	20.37	21.83	22.47	22.30	56.55	62.88	59.93	7.08	7.14	7.12	2.50	4.94	3.46	1.06	1.74	1.33	101.8	541.9	167.9	MPB0107
8	0855	1.0	1014.4	1014.5	1014.4	22.05	22.20	22.12	22.05	22.19	22.12	26.53	29.11	27.98	6.81	6.82	6.81	2.01	2.99	2.70	1.93	2.36	2.16	112.9	729.7	293.0	MPB0108

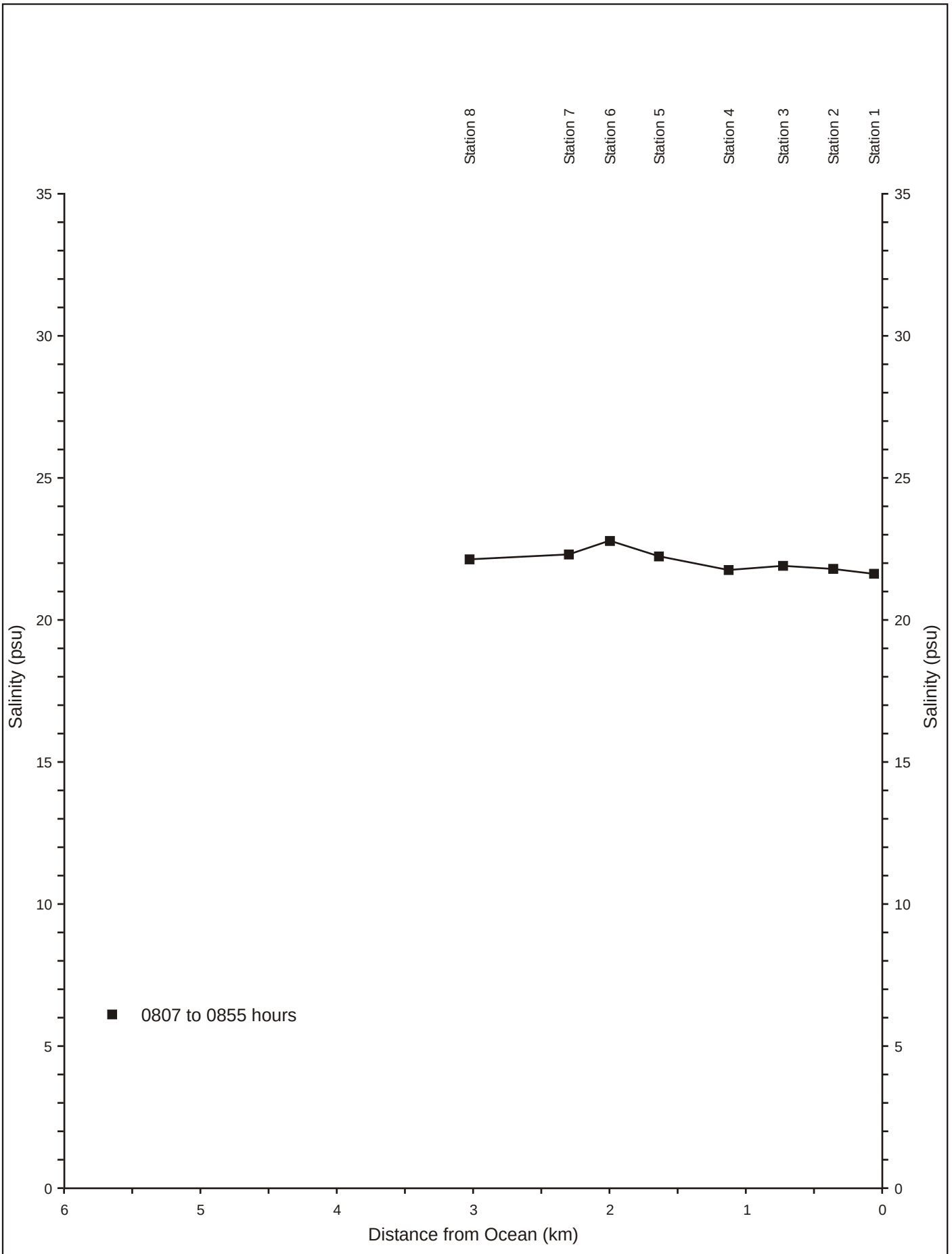
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BACK LAGOON
26 OCTOBER 2003

MHL Report 1812

Figure 283

DRAWING 1812-283.CDR



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
BACK LAGOON
26 OCTOBER 2003

MHL Report 1812

Figure 284

DRAWING 1812-284.CDR

Merimbula Lake Data Summary

Data was collected in Merimbula Lake on 27 and 30 October 2003, as detailed in report MHL1290. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 361. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 362a to 363. The locations at which these profiles were taken are shown in Figure 285. Long channel depth-averaged salinity profiles are shown in Figure 286.

Table 361 Merimbula Lake - 27 and 30 October 2003

Station No.	MGA (m) Zone 55		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	760481	5912973	0.19	-	35.33
2	759861	5913520	1.05	35.31	35.57
3	759178	5912821	2.06	35.31	35.67
4	758543	5912488	2.75	35.33	35.60
5	758048	5912470	3.29	35.32	35.37
6	757542	5912694	3.96	35.32	35.45
7	757174	5912831	4.35	35.67	35.59
8	756782	5913726	5.32	-	35.17
9	757667	5913044	1.86	35.67	-
10	757522	5913361	2.28	35.28	-
11	757215	5913439	2.61	35.24	-
12	756745	5913779	3.43	35.34	-
13	756024	5914153	4.40	35.60	-
14	756362	5913258	4.14	34.06	-
15	756385	5912900	4.51	30.29	-
16	756544	5912441	5.01	24.03	-
17	756598	5912040	5.45	22.93	-
18	756890	5911700	5.92	22.72	-
19	757440	5911700	6.53	21.34	-
20	757540	5912135	3.80	21.89	-
21	757771	5911532	6.95	21.28	-
22	757478	5911136	7.43	18.31	-
23	757331	5910659	7.94	11.62	-
24	757620	5910343	8.36	18.35	-
25	757906	5910593	8.75	18.45	-
26	757779	5910977	9.15	18.51	-
27	757813	5911237	9.43	19.13	-
28	757895	5911616	9.82	19.65	-
29	758139	5912034	10.30	20.40	-

Note 1 Distance for Stations 1 to 8 and 20 is measured from the entrance at Merimbula Bay
Note 2 Stations 1 and 8 not profiled on high water run
Note 3 Stations 9 to 27 were located around the perimeter of Merimbula Lake and only profiled on high water run - distance measured along shoreline from bridge

Table 362a Merimbula Lake - Water Quality Maxima and Minima - High Water - 27 October 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	1055	3.1	1026.2	1026.3	1026.2	14.87	14.90	14.88	35.30	35.32	35.31	97.73	98.02	97.89	7.88	7.89	7.89	1.04	2.50	1.65	0.00	0.21	0.00	414.4	4514.1	718.8	MPB0110
3	1101	3.2	1026.2	1026.2	1026.2	15.06	15.11	15.07	35.31	35.33	35.31	97.89	98.90	98.38	7.88	7.88	7.88	1.04	2.50	1.78	0.00	0.00	0.00	378.0	1362.7	533.2	MPB0111
4	1108	5.5	1026.2	1026.2	1026.2	15.23	15.25	15.24	35.32	35.33	35.33	101.08	101.38	101.20	7.82	7.85	7.84	1.04	2.01	1.55	0.00	0.00	0.00	516.6	4912.2	1477.3	MPB0112
5	1114	3.2	1026.1	1026.2	1026.1	15.31	15.51	15.36	35.19	35.37	35.32	102.63	103.85	103.08	7.87	7.87	7.87	1.04	2.50	1.69	0.00	0.00	0.00	288.0	1113.4	342.5	MPB0113
6	1119	1.3	1026.1	1026.1	1026.1	15.36	15.39	15.37	35.31	35.33	35.32	104.31	105.43	104.63	7.88	7.88	7.88	1.04	2.01	1.61	0.00	0.00	0.00	823.7	3267.1	1722.9	MPB0114
7	1123	1.3	1025.9	1026.2	1025.9	16.50	17.79	17.42	35.46	35.81	35.67	90.42	93.36	91.46	7.83	7.84	7.84	1.52	2.50	1.75	0.00	0.00	0.00	174.1	651.1	247.9	MPB0115

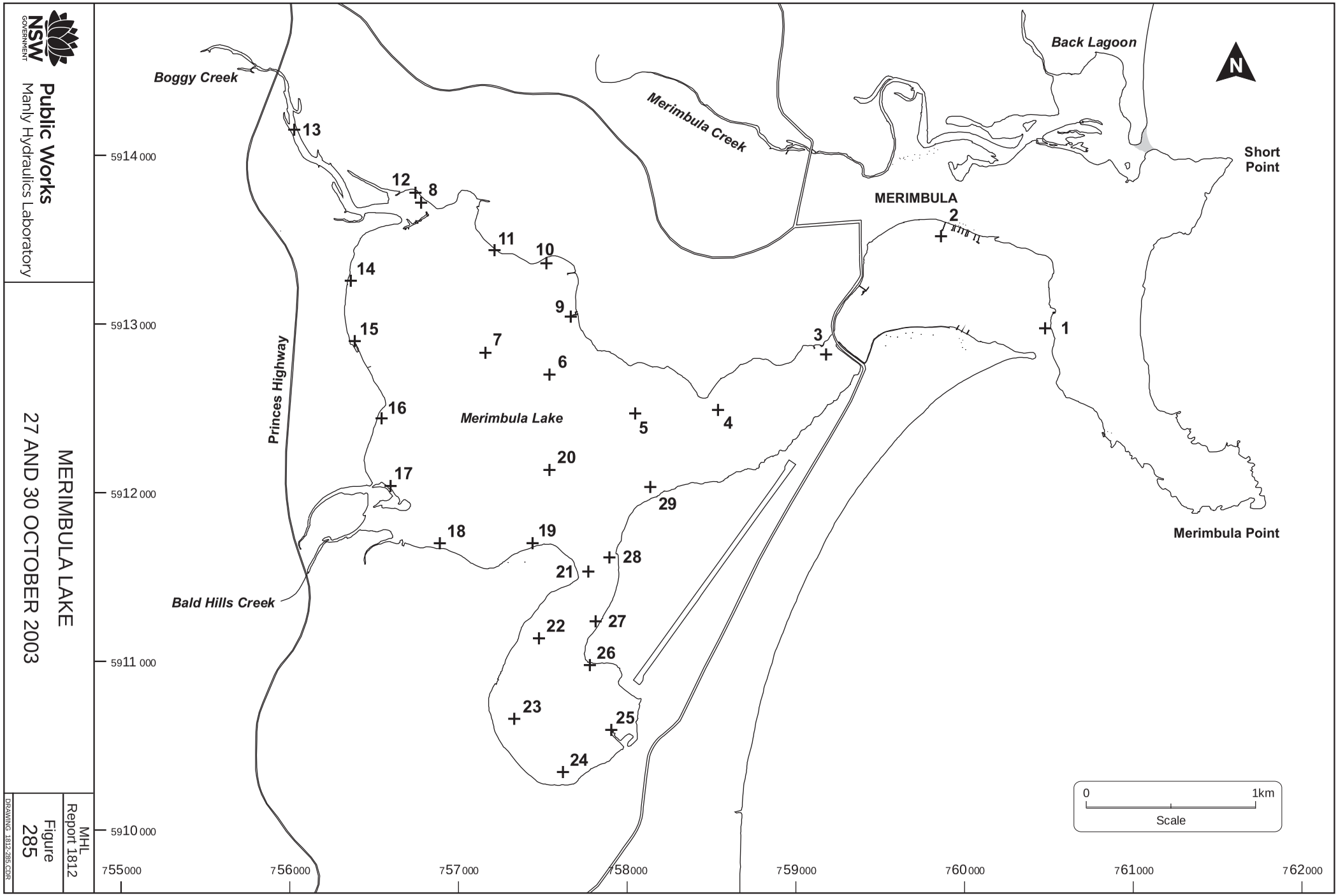
Note No data collected at Station 1 and Station 8 was not profiled on high water run

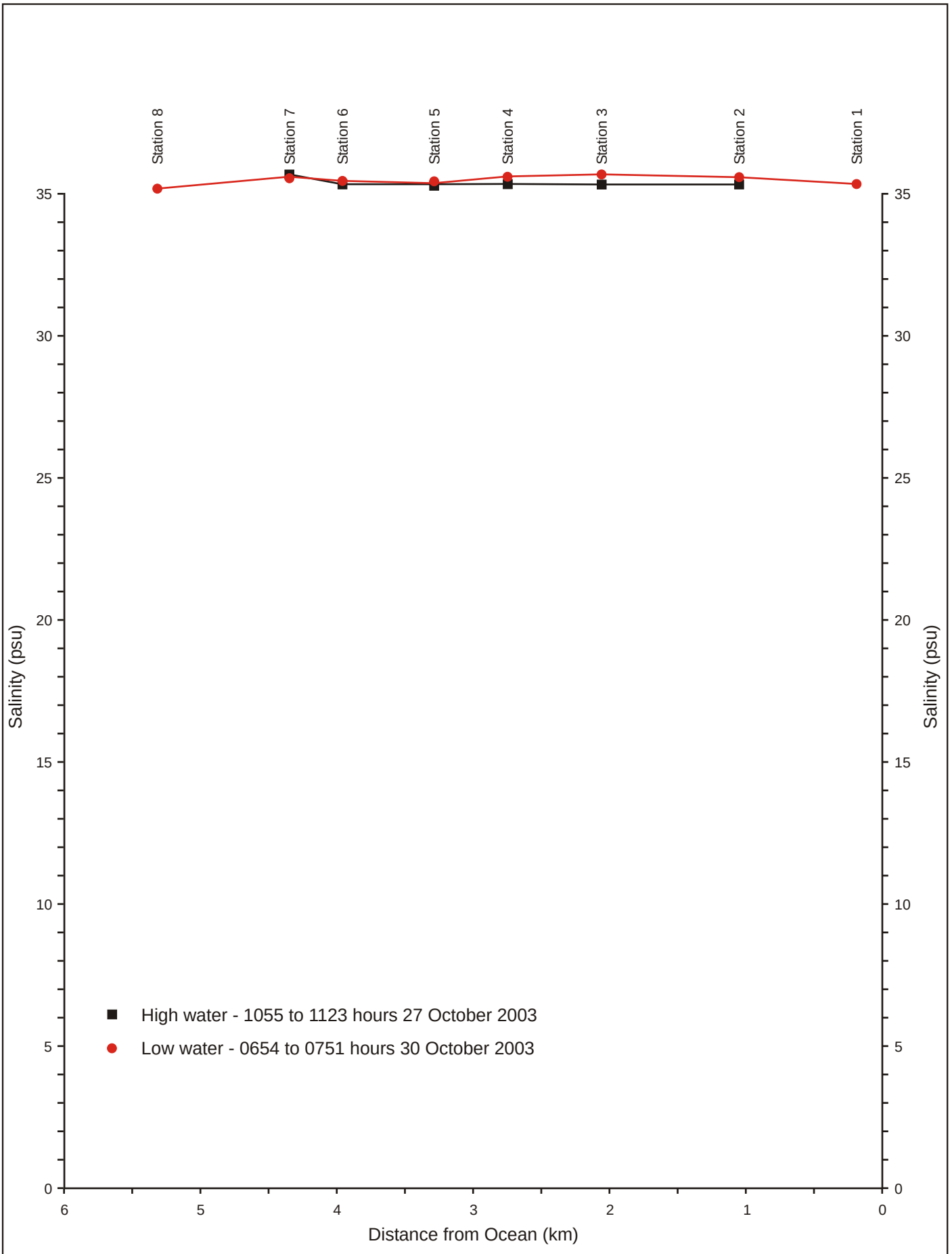
Table 362b Merimbula Lake - Water Quality Maxima and Minima - Low Water - 30 October 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	0654	2.5	1026.3	1026.5	1026.4	14.22	14.44	14.36	35.20	35.51	35.33	61.92	70.29	64.84	7.75	7.76	7.75	0.55	2.01	1.31	0.00	0.14	0.00	369.8	4717.6	873.7	MPB0213
2	0659	2.9	1026.4	1026.6	1026.5	14.62	14.71	14.67	35.52	35.65	35.57	51.86	54.84	53.26	7.62	7.63	7.62	0.06	2.01	1.20	0.00	0.82	0.01	122.8	683.0	225.5	MPB0214
3	0705	5.1	1026.2	1026.8	1026.5	14.75	15.31	15.09	35.40	35.95	35.67	51.08	58.39	55.29	7.63	7.65	7.64	0.06	2.01	0.89	0.00	0.35	0.00	216.3	5444.4	652.5	MPB0215
4	0711	2.4	1026.1	1026.5	1026.3	15.33	15.70	15.47	35.38	35.75	35.60	58.59	61.22	59.97	7.67	7.69	7.68	0.55	1.52	1.05	0.00	0.00	0.00	101.1	568.4	153.8	MPB0216
5	0725	0.8	1025.9	1026.0	1025.9	16.40	16.42	16.41	35.36	35.38	35.37	57.45	59.19	58.62	7.73	7.74	7.74	0.55	2.01	1.24	0.00	0.03	0.00	512.8	4303.6	1592.6	MPB0217
6	0729	0.7	1026.0	1026.0	1026.0	16.41	16.43	16.42	35.44	35.46	35.45	63.54	63.89	63.71	7.70	7.71	7.70	1.52	2.50	2.09	0.00	0.66	0.14	129.8	627.6	319.8	MPB0218
7	0737	6.8	1025.9	1026.2	1026.1	16.29	16.55	16.42	35.37	35.71	35.59	58.38	70.34	64.52	7.70	7.72	7.71	1.04	2.99	1.51	0.28	2.08	1.02	88.2	5077.3	613.4	MPB0219
8	0751	0.5	1025.8	1026.1	1026.1	15.02	15.24	15.17	34.78	35.22	35.17	80.14	90.08	82.14	7.43	7.46	7.44	0.00	20.57	7.37	4.35	8.02	6.23	50.9	3911.5	1378.1	MPB0220

Table 363 Merimbula Lake - Water Quality Maxima and Minima - Perimeter - High Water - 27 October 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
9	1129	7.2	1025.8	1026.2	1026.0	16.01	18.15	17.06	35.50	35.79	35.67	84.84	88.74	87.65	7.79	7.83	7.82	1.04	2.50	1.66	0.00	2.58	0.90	192.3	3634.4	273.3	MPB0116
10	1136	0.6	1025.6	1025.7	1025.7	17.21	17.30	17.28	35.23	35.32	35.28	89.69	91.95	90.40	7.83	7.84	7.83	0.06	2.50	1.58	0.00	0.00	0.00	765.4	2862.3	1672.5	MPB0117
11	1141	0.6	1025.5	1025.5	1025.5	17.98	18.00	17.99	35.23	35.24	35.24	105.31	105.48	105.38	7.89	7.90	7.90	2.01	2.99	2.45	0.00	0.00	0.00	297.7	1049.8	655.3	MPB0118
12	1146	0.8	1025.5	1025.7	1025.6	17.60	17.78	17.68	35.26	35.38	35.34	102.94	104.28	103.58	7.88	7.89	7.88	2.01	15.20	6.70	0.00	0.20	0.09	200.2	903.0	382.1	MPB0119
13	1153	0.5	1025.6	1025.6	1025.6	18.69	18.70	18.69	35.60	35.62	35.60	89.30	90.30	89.51	7.79	7.80	7.79	3.48	10.32	5.27	0.22	2.88	0.67	461.0	4876.2	3845.8	MPB0120
14	1201	0.4	1024.2	1024.3	1024.3	19.01	19.16	19.04	33.95	34.10	34.06	71.92	74.88	73.69	7.58	7.60	7.59	8.85	66.97	17.52	0.20	0.23	0.22	1788.4	5021.6	4578.5	MPB0121
15	1214	0.7	1020.2	1022.3	1021.5	18.79	18.85	18.83	28.57	31.37	30.29	52.62	72.32	65.27	7.81	7.82	7.82	7.87	111.90	27.63	3.96	6.73	6.01	2141.2	2980.3	2511.9	MPB0122
16	1220	0.5	1016.7	1016.7	1016.7	18.99	19.01	19.00	24.01	24.05	24.03	49.27	50.62	50.10	7.83	7.84	7.83	0.00	37.18	8.13	7.29	11.58	10.35	1939.0	5267.3	4058.0	MPB0123
17	1227	0.5	1015.8	1015.9	1015.8	19.12	19.15	19.13	22.92	23.01	22.93	38.15	38.51	38.27	7.84	7.84	7.84	4.46	25.94	10.56	4.54	7.60	5.39	1261.5	4178.9	2692.7	MPB0124
18	1234	0.5	1015.5	1015.7	1015.7	18.98	19.00	19.00	22.53	22.82	22.72	42.04	43.08	42.43	7.84	7.84	7.84	0.00	42.06	12.60	2.28	3.50	2.85	1387.9	4464.6	2796.3	MPB0125
19	1242	0.5	1014.6	1014.6	1014.6	19.15	19.17	19.16	21.33	21.35	21.34	37.93	38.69	38.22	7.84	7.85	7.85	0.00	36.69	13.06	1.57	8.50	4.13	1146.6	5424.4	4142.9	MPB0126
20	1249	0.5	1015.2	1015.3	1015.2	18.05	18.06	18.06	21.87	21.90	21.89	37.91	38.26	38.10	7.88	7.88	7.88	0.00	62.58	9.77	0.03	0.84	0.37	2435.0	5565.8	4261.5	MPB0127
21	1256	0.7	1014.9	1014.9	1014.9	17.37	17.38	17.38	21.27	21.29	21.28	37.26	37.72	37.50	7.84	7.85	7.85	1.52	2.01	1.56	0.07	0.55	0.21	279.7	4564.1	863.2	MPB0128
22	1302	0.5	1012.5	1012.6	1012.6	17.85	17.86	17.85	18.25	18.41	18.31	36.54	37.84	37.26	7.94	7.95	7.94	1.52	2.01	1.97	0.00	0.00	0.00	721.7	1996.8	1228.8	MPB0129
23	1306	0.4	1006.9	1008.4	1007.4	18.07	18.10	18.08	10.94	12.94	11.62	45.07	45.33	45.22	7.94	7.95	7.94	0.00	124.11	39.03	0.00	0.58	0.13	2480.2	5606.8	3675.6	MPB0130
24	1310	0.5	1012.2	1012.3	1012.3	19.38	19.40	19.39	18.30	18.41	18.35	37.59	37.74	37.69	7.87	7.88	7.87	7.87	9.83	8.97	2.32	3.98	2.93	217.1	1129.8	749.1	MPB0131
25	1314	0.5	1012.3	1012.4	1012.4	19.12	19.15	19.13	18.40	18.52	18.45	34.18	34.35	34.31	7.88	7.89	7.89	2.50	52.81	27.53	3.20	4.63	4.08	1855.4	4351.3	2733.0	MPB0132
26	1320	0.3	1012.9	1012.9	1012.9	16.86	16.86	16.86	18.51	18.51	18.51	48.43	48.43	48.43	7.83	7.83	7.83	19.11	19.11	19.11	2.66	2.66	2.66	1896.7	1896.7	1896.7	MPB0133
27	1328	0.6	1013.1	1013.3	1013.1	18.04	18.06	18.05	19.01	19.32	19.13	40.14	49.08	47.96	7.95	7.95	7.95	0.00	148.53	20.71	0.30	0.66	0.46	1561.1	5190.5	3689.1	MPB0134
28	1334	0.3	1013.1	1013.8	1013.5	18.24	18.26	18.25	19.15	20.05	19.65	53.04	54.06	53.46	7.90	7.90	7.90	1.04	3.48	2.08	0.86	0.93	0.90	383.6	4735.0	2077.0	MPB0135
29	1341	0.3	1013.7	1013.9	1013.9	19.18	19.23	19.19	20.25	20.53	20.40	44.88	49.42	48.27	7.96	7.97	7.97	3.48	6.90	4.94	0.44	0.55	0.47	514.7	2947.7	988.9	MPB0136


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MERIMBULA LAKE
27 AND 30 OCTOBER 2003
MHL Report 1812
Figure 285
DRAWING 1812-285.CDR
Boggy Creek
Merimbula Creek
Back Lagoon
Short Point
MERIMBULA
Princes Highway
Merimbula Lake
Bald Hills Creek
Merimbula Point
N
0
1km
Scale
5914 000
5913 000
5912 000
5911 000
5910 000
755000
756000
757000
758000
759000
760000
761000
762000



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
MERIMBULA LAKE - HIGH AND LOW WATER
27 AND 30 OCTOBER 2003

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Figure 286

DRAWING 1812-286.CDR

Pambula Lake Data Summary

Data was collected in Pambula Lake on 27 and 28 October 2003, as detailed in report MHL1290. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 364. Summaries of the minimum, maximum and mean values for all parameters measured on the high and low water runs are shown in Tables 365a-b. The locations at which these profiles were taken are shown in Figure 287. Long channel depth-averaged salinity profiles are shown in Figure 288.

Table 364 Pambula Lake - 27 and 28 October 2003

Station No.	MGA (m) Zone 55		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	759667	5906802	0.28	35.32	35.14
2	758246	5906103	1.97	35.24	35.11
3	757444	5905222	3.81	35.27	35.04
4	758103	5904171	5.19	35.22	35.14
5	758889	5904195	5.99	35.08	35.13
6	756943	5904625	6.46	35.05	31.85
7	756653	5905748	7.64	35.11	35.02
8	756727	5906464	8.46	34.59	-
9	756044	5907366	9.77	33.33	-
10	755744	5905951	8.97	31.77	-
11	755227	5905000	10.13	28.90	-
12	755564	5904457	10.99	21.12	-

Note Stations 8 to 12 not profiled on low water run

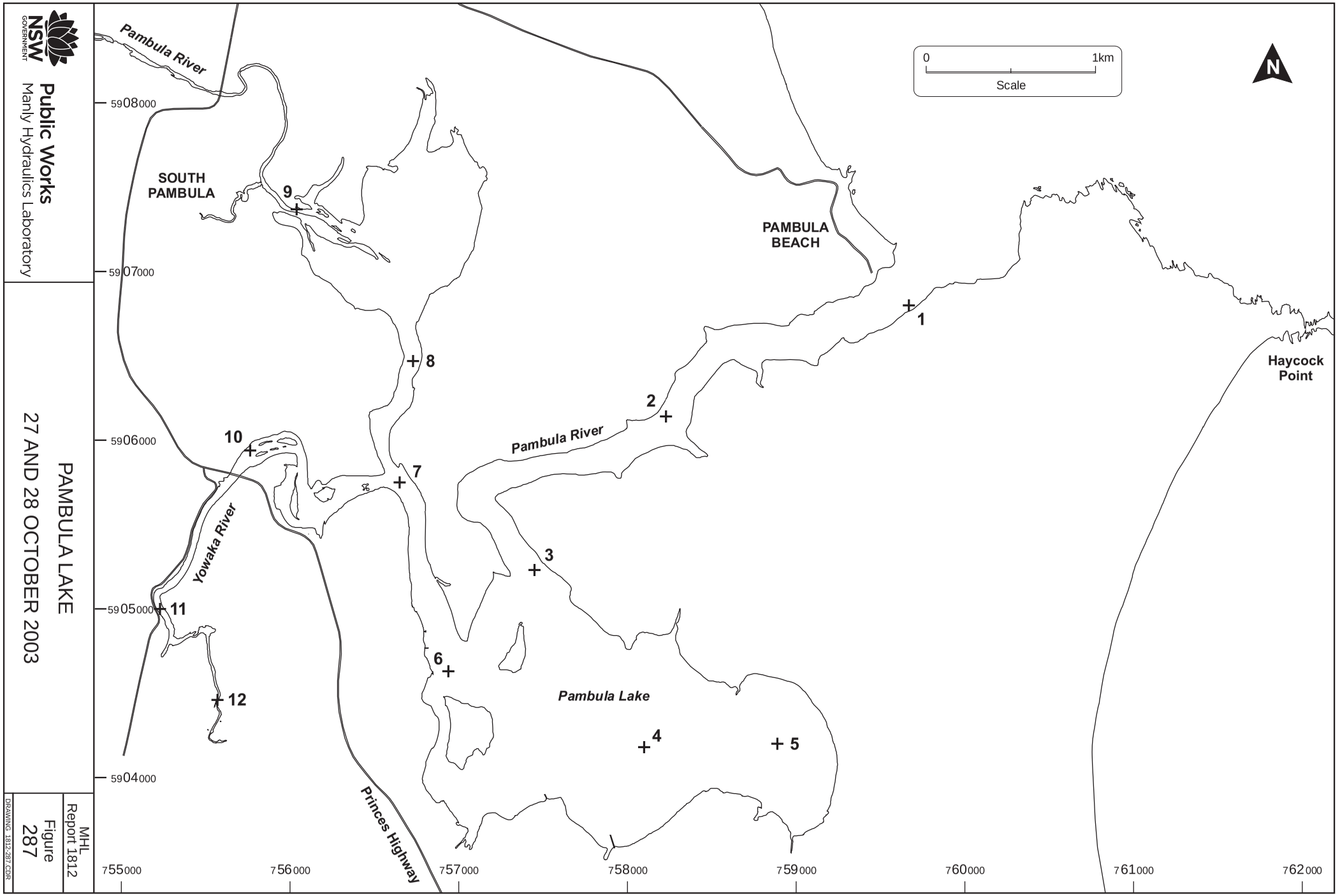
Table 365a Pambula Lake - Water Quality Maxima and Minima - High Water - 28 October 2003

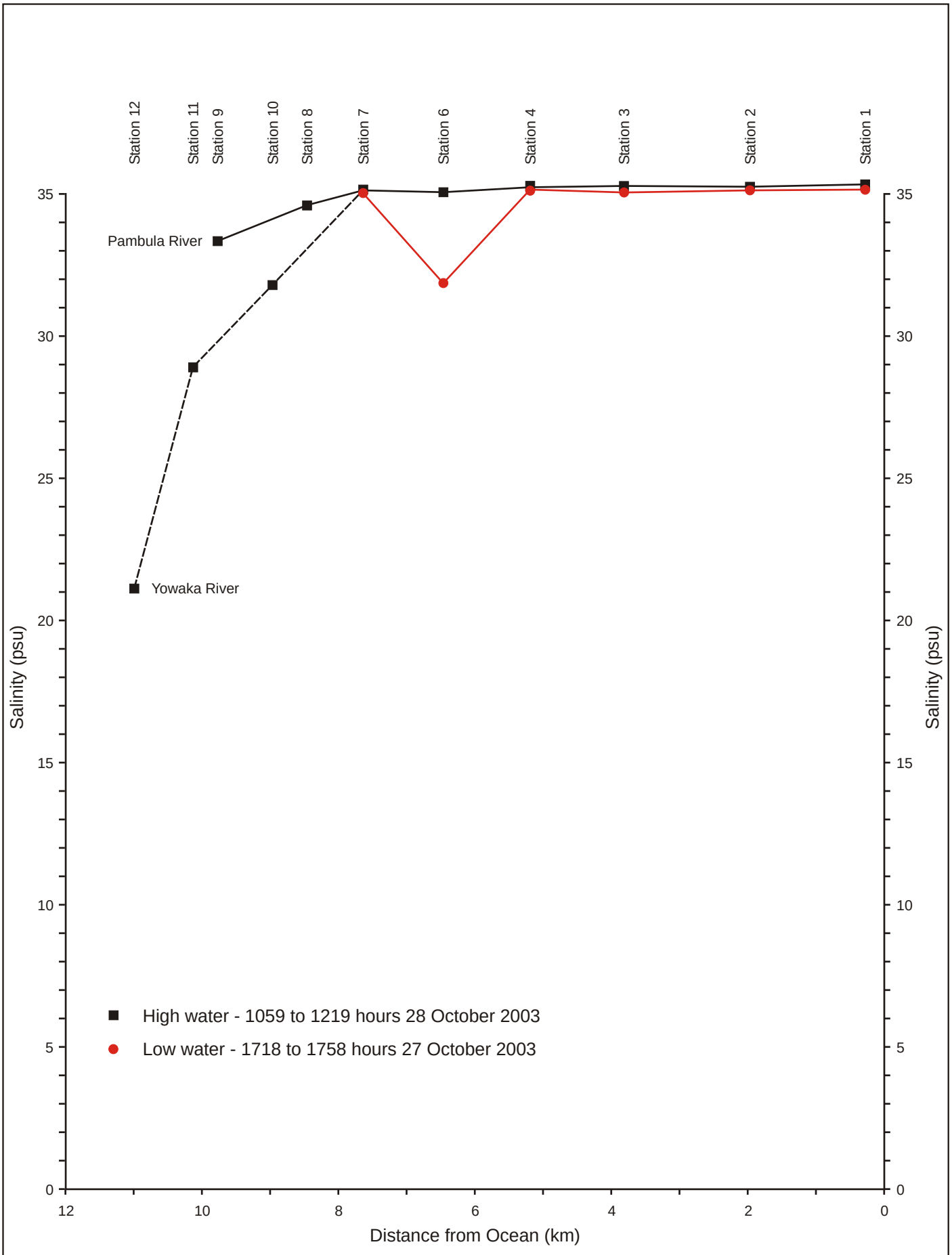
Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1059	4.7	1026.2	1026.3	1026.2	14.99	15.04	15.02	35.29	35.35	35.32	72.56	79.99	74.46	7.91	7.91	7.91	0.55	2.01	1.08	0.00	3.37	0.40	365.7	644.0	420.4	MPB0201
2	1106	2.7	1026.1	1026.2	1026.2	14.90	15.00	14.95	35.19	35.28	35.24	66.73	76.43	73.48	7.89	7.90	7.90	1.04	2.01	1.26	0.00	8.34	0.95	242.3	1270.8	312.3	MPB0202
3	1113	8.5	1026.1	1026.2	1026.2	14.98	14.99	14.99	35.17	35.31	35.27	73.60	78.99	76.40	7.88	7.89	7.89	0.55	2.01	1.05	0.00	5.23	0.48	103.0	1193.9	200.6	MPB0203
4	1121	5.8	1025.7	1026.2	1026.0	15.57	16.06	15.82	35.01	35.40	35.22	67.32	72.45	70.80	7.84	7.86	7.85	2.50	6.90	4.18	0.00	4.00	0.25	14.4	1049.8	119.1	MPB0204
5	1126	5.1	1025.5	1026.1	1025.7	15.95	16.50	16.30	34.79	35.38	35.08	66.62	75.43	70.61	7.85	7.87	7.86	2.01	2.99	2.21	0.00	2.21	0.53	64.6	933.3	152.0	MPB0205
6	1134	1.8	1025.8	1026.1	1025.9	15.45	15.77	15.66	34.98	35.22	35.05	67.69	73.53	69.51	7.85	7.88	7.86	1.52	2.01	1.57	0.00	1.58	0.12	180.6	727.0	236.2	MPB0206
7	1140	7.2	1025.6	1026.0	1025.9	15.69	16.11	15.83	34.80	35.22	35.11	66.65	72.64	69.94	7.84	7.87	7.86	1.04	3.97	1.77	0.00	3.06	0.15	38.5	743.2	126.6	MPB0207
8	1146	1.8	1025.3	1025.4	1025.3	16.36	16.40	16.39	34.58	34.60	34.59	61.70	64.23	62.50	7.82	7.83	7.82	2.01	2.50	2.10	0.00	0.71	0.11	167.8	737.8	211.1	MPB0208
9	1154	0.7	1024.2	1024.2	1024.2	17.32	17.34	17.33	33.32	33.34	33.33	58.62	59.25	59.00	7.79	7.79	7.79	2.01	2.50	2.25	0.41	0.70	0.54	178.7	594.0	278.2	MPB0209
10	1205	1.3	1022.8	1023.0	1022.9	17.49	17.70	17.58	31.65	31.87	31.77	60.16	61.93	61.06	7.75	7.79	7.76	1.52	2.50	2.02	0.86	1.83	1.30	191.6	854.6	288.2	MPB0210
11	1211	2.0	1019.5	1021.2	1020.3	18.25	20.49	19.46	28.24	29.77	28.90	59.40	63.10	60.74	7.69	7.74	7.73	1.52	2.50	1.72	1.08	2.09	1.41	109.2	693.1	178.9	MPB0211
12	1219	0.6	1014.0	1014.0	1014.0	20.78	20.91	20.83	21.07	21.16	21.12	54.60	55.45	55.06	6.96	7.54	7.24	1.52	2.99	2.01	2.89	4.14	3.32	166.0	600.6	364.4	MPB0212

Table 365b Pambula Lake - Water Quality Maxima and Minima - Low Water - 27 October 2003

Station No.	Time (EST)	Depth (m)	Density (kg/m^3)			Temperature (°C)			Salinity (psu)			Dissolved O_2 (% sat)			pH			Backscatterance (NTU)			Chlorophyll-a (µg/L)			PAR			File Name *.POF
			Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	
1	1718	3.1	1025.8	1025.8	1025.8	16.30	16.32	16.31	35.13	35.14	35.14	99.45	99.86	99.65	7.88	7.88	7.88	1.52	3.48	2.20	0.09	0.73	0.30	82.6	281.8	145.3	MPB0139
2	1725	1.4	1025.8	1025.8	1025.8	16.28	16.30	16.29	35.11	35.11	35.11	98.12	98.93	98.81	7.86	7.87	7.86	2.01	2.99	2.33	0.08	0.48	0.22	74.8	255.1	88.4	MPB0140
3	1732	5.8	1025.6	1025.8	1025.7	16.41	16.66	16.52	34.95	35.12	35.04	97.15	98.77	98.02	7.86	7.87	7.86	1.52	3.48	2.26	0.22	1.74	0.41	16.3	3149.2	139.7	MPB0141
4	1739	4.4	1025.5	1026.1	1025.8	15.23	17.22	16.32	35.00	35.26	35.14	91.65	98.55	95.68	7.86	7.88	7.87	2.01	3.97	3.00	0.69	2.37	1.02	20.0	2718.8	139.0	MPB0142
5	1745	3.7	1025.4	1026.0	1025.9	15.55	16.82	15.91	34.38	35.23	35.13	86.66	94.75	91.88	7.84	7.87	7.85	2.50	11.29	4.31	0.96	3.02	1.44	17.8	315.7	41.2	MPB0143
6	1752	0.7	1022.6	1022.6	1022.6	18.97	18.97	18.97	31.85	31.85	31.85	86.90	86.91	86.91	7.80	7.80	7.80	2.99	2.99	2.99	0.61	0.64	0.62	60.7	61.3	61.0	MPB0144
7	1758	3.5	1024.0	1026.1	1025.5	16.43	18.95	17.26	33.64	35.58	35.02	64.09	67.97	66.35	7.80	7.84	7.83	1.52	2.50	2.14	6.62	8.86	7.75	15.8	80.8	34.6	MPB0145
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note No data collected at Station 8 due to instrument memory being full and no profiling done at Stations 9 to 12 on low water run


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PAMBULA LAKE
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Figure 287
DRAWING 1812-287.CDR
Pambula River
SOUTH PAMBULA
PAMBULA BEACH
Haycock Point
Pambula River
Yowaka River
Pambula Lake
Princes Highway
Scale
0
1km
N
1
2
3
4
5
6
7
8
9
10
11
12
5908000
5907000
5906000
5905000
5904000
755000
756000
757000
758000
759000
760000
761000
762000



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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
PAMBULA LAKE - HIGH AND LOW WATER
27 AND 28 OCTOBER 2003

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Figure 288

DRAWING 1812-288.CDR

Curalo Lagoon Data Summary

Data was collected in Curalo Lagoon on 11 December 1996, as detailed in report MHL920. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 366. Summaries of the minimum and maximum values for all parameters measured on the first and second runs are shown in Tables 367a-b. The locations at which these profiles were taken are shown in Figure 289. Long channel depth-averaged salinity profiles have not been plotted from the data collected on 11 December 1996 because the variations in the minimum and maximum salinity were insignificant.

Table 366 Curalo Lagoon - 11 December 1996

Station No.	MGA (m) Zone 55		Chainage (km)	Low Water		High Water	
	Easting	Northing		Min Salinity (psu)	Max Salinity (psu)	Min Salinity (psu)	Max Salinity (psu)
1	759700	5896005	0.22	35.323	35.326	34.794	34.822
2	759140	5895725	0.81	35.297	35.338	34.710	34.780
3	758830	5895590	1.17	35.331	35.337	34.652	34.682
4	758720	5895295	1.40	34.542	35.281	34.515	35.179
5	758860	5895160	1.57	34.650	34.693	34.693	34.906
6	758585	5895535	1.40	34.676	35.227	34.495	35.124
7	758455	5895780	1.70	34.768	34.778	-	-
8	758685	5895885	1.28	34.671	34.693	-	-
9	758630	5896150	1.50	34.731	34.747	-	-
10	758285	5896120	1.74	-	-	-	-

Note Station locations transferred from report figure to digital map, then co-ordinates transferred from Department of Lands TopoView Raster 2006 DVD
No data recorded at Station 10 on low water run and profiling stopped at Station 6 on high water run

Table 367a Curalo Lagoon - Water Quality Maxima and Minima - Low Water - 11 December 1996

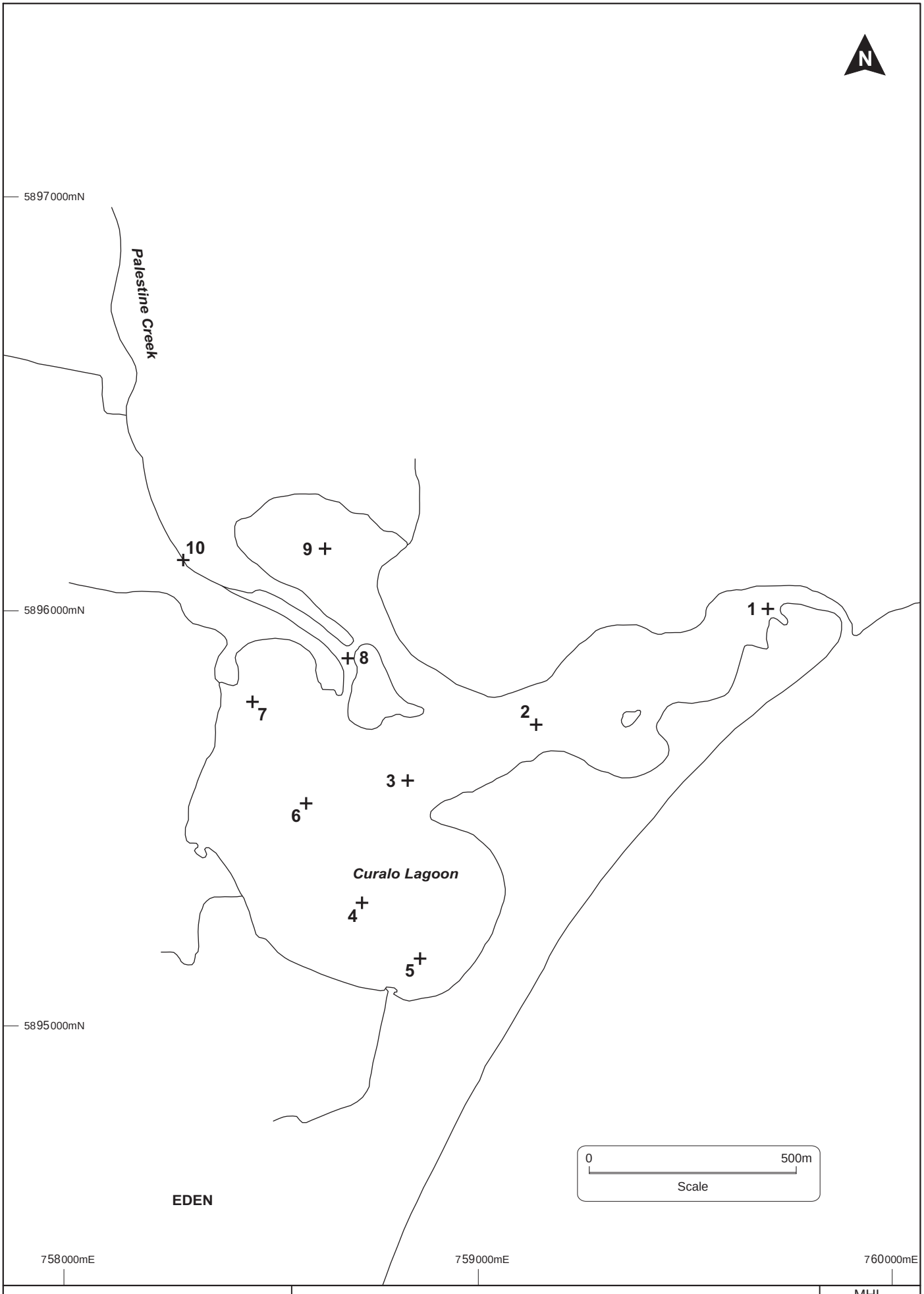
Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Back scatterance		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	0925	0.68	16.949	16.952	35.323	35.326	1025.78	1025.78	7.90	7.92	101.2	101.5	8.78	8.78	2	2	CU167003
2	0937	0.53	17.149	17.174	35.297	35.338	1025.70	1025.74	7.28	7.96	93.6	102.4	8.79	8.79	3	3	CU167004
3	0944	0.30	17.270	17.274	35.331	35.337	1025.70	1025.71	7.88	7.94	101.7	102.4	8.78	8.78	2	3	CU167005
4	0950	1.84	17.692	19.683	34.542	35.281	1024.56	1025.57	6.64	7.14	87.3	93.1	8.65	8.73	6	10	CU167006
5	0956	1.02	19.452	19.577	34.650	34.693	1024.62	1024.68	6.86	6.88	91.8	92.3	8.66	8.68	6	8	CU167007
6	1003	1.70	17.666	19.564	34.676	35.227	1024.67	1025.54	6.16	6.94	82.6	90.2	8.64	8.75	5	7	CU167008
7	1010	0.37	20.048	20.059	34.768	34.778	1024.57	1024.58	5.97	6.00	80.8	81.2	8.62	8.63	10	15	CU167009
8	1018	0.28	19.844	19.877	34.671	34.693	1024.55	1024.57	6.01	6.19	81.1	83.5	8.64	8.64	7	8	CU167010
9	1026	0.27	19.761	19.804	34.731	34.747	1024.61	1024.63	5.43	5.74	73.1	77.2	8.63	8.63	5	6	CU167011
10	1036	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note No data recorded at Station 10

Table 367b Curalo Lagoon - Water Quality Maxima and Minima - High Water - 11 December 1996

Station No.	Time (EST)	Depth (m)	Temperature (°C)		Salinity (psu)		Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		pH		Back scatterance		File Name (*.CNV)
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1700	0.54	20.271	20.315	34.794	34.822	1024.53	1024.56	7.30	7.32	99.3	99.6	8.57	8.57	3	3	CU167013
2	1717	0.33	20.514	20.526	34.710	34.780	1024.40	1024.46	6.35	6.99	86.6	95.5	8.54	8.54	10	19	CU167014
3	1728	0.15	20.480	20.494	34.652	34.682	1024.37	1024.39	7.30	7.46	99.6	101.7	8.56	8.56	7	7	CU167015
4	1734	1.52	18.258	20.057	34.515	35.179	1024.39	1025.35	7.11	7.30	95.0	96.8	8.61	8.69	5	8	CU167016
5	1739	0.52	19.174	19.859	34.693	34.906	1024.57	1024.90	6.63	7.13	89.5	95.5	8.61	8.61	4	4	CU167017
6	1745	1.31	18.516	20.081	34.495	35.124	1024.46	1025.25	7.05	7.38	94.6	97.3	8.61	8.71	6	10	CU167018

Note Profiling stopped at Station 6



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CURALO LAGOON

11 DECEMBER 1996

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Figure 289

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Wonboyn River Data Summary

Data was collected in Wonboyn River Estuary on 15 October 1997, as detailed in report MHL893. A summary of the location of each profile and the corresponding depth-averaged salinity is shown below in Table 368. Summaries of the minimum, maximum and mean values for all parameters measured on the first and second runs are shown in Tables 369a-b. The locations at which these profiles were taken are shown in Figure 290. Long channel depth-averaged salinity profiles are shown in Figure 291.

Table 368 Wonboyn River Estuary - 15 October 1997

Station No.	MGA (m) Zone 55		Chainage (km)	High Water Salinity (psu)	Low Water Salinity (psu)
	Easting	Northing			
1	763030	5873515	0.25	35.469	34.459
2	761330	5873890	2.28	34.627	34.627
3	759705	5874440	4.39	30.188	30.188
4	759430	5873415	4.68	30.116	30.143
5	759880	5874740	4.75	28.734	28.144
6	759780	5876065	6.46	29.146	29.419
7	758605	5875815	8.72	29.315	29.969
8	758105	5874940	9.59	30.664	30.346
9	757055	5874115	10.92	28.323	28.265

Table 369a Wonboyn Lake - Water Quality Maxima and Minima - High Water - 15 October 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		Total Chlorophyll (µg/L)		PAR		File Name (*.CNV)
			Min	Max	Mean	Min	Max	Mean	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	0950	1.29	15.867	15.895	15.878	35.465	35.477	35.469	1026.14	1026.14	8.35	8.38	104.9	105.2	2.17	2.32	984.8	1938.0	WB020701
2	1010	2.29	15.080	15.275	15.140	34.236	34.853	34.627	1025.34	1025.83	8.14	8.34	100.0	102.8	2.37	2.78	736.7	1804.0	WB020702
3	1020	1.49	16.382	17.097	16.598	29.425	30.493	30.188	1021.22	1022.20	7.83	7.99	96.3	99.0	4.10	4.50	999.0	1320.0	WB020703
4	1029	5.27	17.196	18.813	17.980	28.763	31.907	30.116	1020.59	1022.73	4.67	7.98	60.8	99.5	3.92	24.96	223.9	1640.0	WB020704
5	1037	3.88	17.067	18.190	17.454	27.042	30.926	28.734	1019.19	1022.13	7.43	7.86	94.9	97.8	4.86	6.22	107.5	225.1	WB020705
6	1044	5.07	17.923	19.411	18.546	26.123	31.654	29.146	1018.32	1022.75	4.51	7.78	57.6	99.7	4.28	13.89	145.8	1709.0	WB020706
7	1205	4.08	18.721	19.885	19.414	27.453	30.773	29.315	1019.05	1021.88	5.44	7.58	70.2	98.2	5.06	30.86	279.8	1250.0	WB020707
8	1212	7.36	16.343	19.965	18.169	27.507	31.892	30.664	1019.09	1023.30	2.69	7.57	33.3	98.0	5.47	21.29	31.7	1042.0	WB020708
9	1230	1.89	21.567	21.779	21.692	28.048	28.421	28.323	1019.01	1019.35	5.24	5.86	70.3	78.7	9.24	14.57	414.2	966.3	WB020709

Table 369b Wonboyn Lake - Water Quality Maxima and Minima - Low Water - 15 October 1997

Station No.	Time (EST)	Depth (m)	Temperature (°C)			Salinity (psu)			Density (kg/m^3)		Dissolved O_2 (mg/L)		% Sat O_2		Total Chlorophyll (µg/L)		PAR		File Name (*.CNV)
			Min	Max	Mean	Min	Max	Mean	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	1658	1.19	18.174	18.193	18.182	32.418	34.975	34.459	1023.25	1025.21	8.63	8.69	111.3	113.8	7.57	11.20	133.4	170.0	WB020710
2	1708	2.09	16.107	17.317	16.345	33.120	34.604	34.194	1024.00	1025.42	8.20	8.56	103.0	107.6	4.63	5.63	55.6	91.9	WB020711
3	1718	1.00	18.257	18.261	18.259	29.156	29.316	29.236	1020.74	1020.87	8.00	8.03	101.3	101.7	5.70	5.80	57.6	61.8	WB020712
4	1724	4.97	17.690	18.987	18.397	28.814	31.900	30.143	1020.48	1022.68	5.46	8.11	71.3	102.4	6.17	30.13	14.5	61.5	WB020713
5	1733	3.58	18.015	19.440	18.798	26.601	29.986	28.144	1018.52	1021.41	7.43	8.09	94.4	103.3	5.94	47.66	10.7	61.3	WB020714
6	1740	4.38	18.190	20.031	18.684	27.595	31.385	29.419	1019.12	1022.48	5.39	8.06	69.2	104.6	6.36	16.70	4.5	23.8	WB020715
7	1810	6.17	17.743	20.287	19.129	27.390	31.609	29.969	1018.93	1022.76	3.04	7.89	38.8	102.5	5.73	28.78	0.3	4.3	WB020716
8	1817	7.96	16.332	20.710	18.290	24.644	31.871	30.346	1016.99	1023.30	2.19	7.95	27.2	101.7	5.55	26.02	0.0	1.6	WB020717
9	1828	1.39	21.771	21.859	21.810	28.191	28.317	28.265	1019.10	1019.22	5.61	5.94	75.5	80.0	13.12	14.32	0.1	0.1	WB020718

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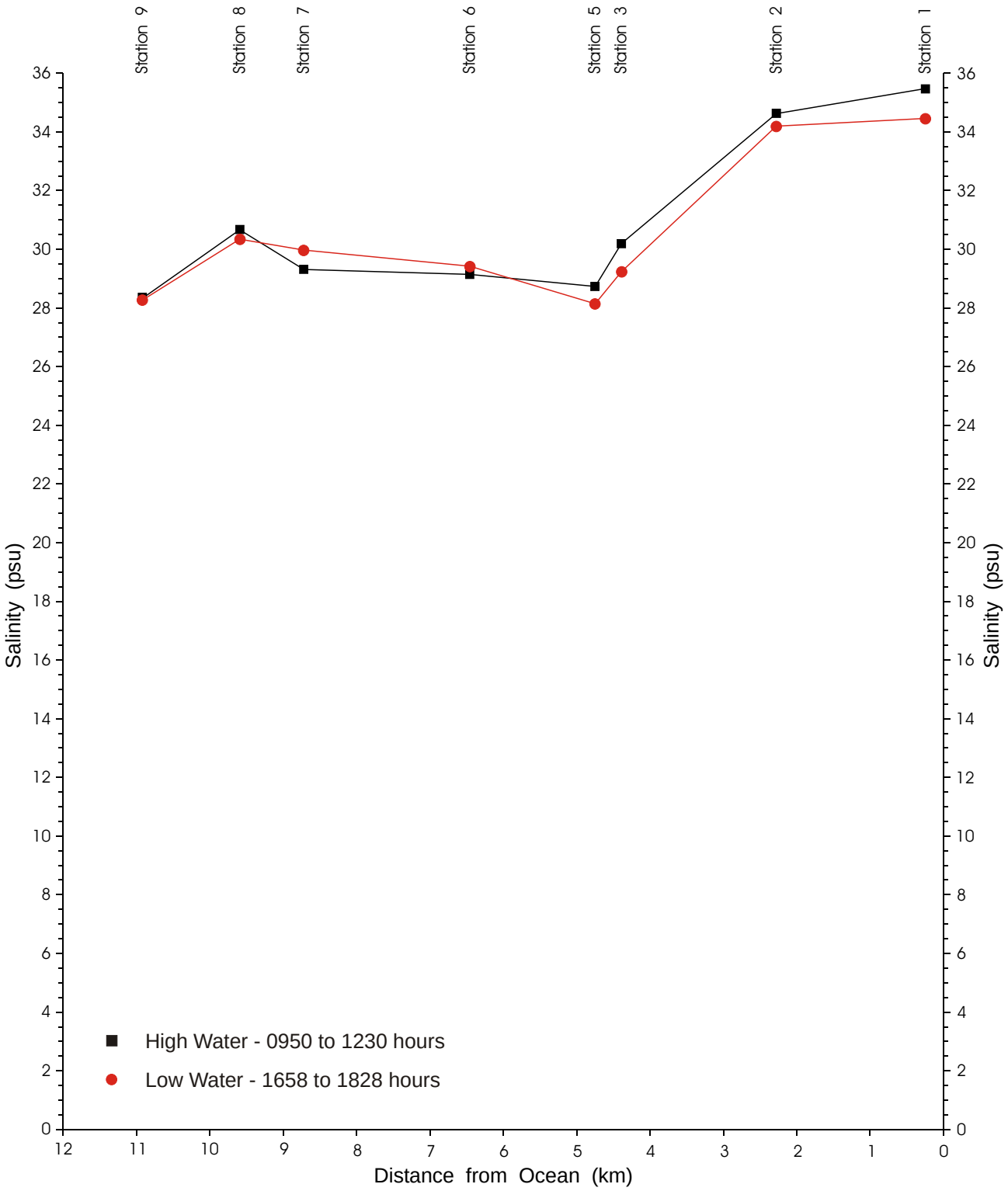
WONBOYN RIVER

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Figure 290

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LONG CHANNEL DEPTH AVERAGED SALINITY PROFILES
WONBOYN RIVER - HIGH AND LOW WATER
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Figure 291

DRAWING 1812-291.CDR

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