

Corrib Gas Pipeline Environmental Report	Period Ending:	31 st August 2011
Compiled By:	Siobhan Sheridan & Carmel Carey	
Approved By:	Aoife Reynolds	

1 Monitoring Data

1.1 Monitoring Equipment

Noise	One noise monitoring location currently being used- AN2. The sound meter records in the 1/3 octave band.
Vibration	There is a single vibration monitoring point being used- V3
Weather Station	The data used for this reporting period was taken from the Terminal Site meteorological station.
TSS	The TSS analyser was operational during the reporting period
Sonde	The results are displayed graphically.
Discharge pipe flow	The results are displayed graphically.

1.2 Rainfall Data

Date	Rainfall mm	Date	Rainfall mm	Date	Rainfall mm
01/08/2011	0.4	12/08/2011	6.0	23/08/2011	7.8
02/08/2011	0.0	13/08/2011	4.4	24/08/2011	4.4
03/08/2011	0.0	14/08/2011	4.4	25/08/2011	1.6
04/08/2011	0.6	15/08/2011	8.4	26/08/2011	2.4
05/08/2011	0.2	16/08/2011	3.0	27/08/2011	5.2
06/08/2011	16.0	17/08/2011	0.2	28/08/2011	2.6
07/08/2011	0.2	18/08/2011	0.0	29/08/2011	0.0
08/08/2011	1.6	19/08/2011	6.2	30/08/2011	0.0
09/08/2011	1.8	20/08/2011	0.2	31/08/2011	0.0
10/08/2011	14.4	21/08/2011	2.0		
11/08/2011	19.6	22/08/2011	0.0		
Total Rainfall 113.6mm					

1.3 Summary

Environment	Comments
Vibration	There was a power failure during the reporting period which resulted in the loss of data on the 2 nd and 3 rd of August. On the 19 th and 22 nd of August there was interference with the monitor giving elevated results. Interference with the meter should be reduced due to implementation of further protection measures.
Weather	There was a total of 113.6mm of rainfall during the reporting period, with a temperature range of 5.6°C to 19.5°C
Noise	On the 17 th of August construction works were undertaken in close proximity to the noise monitoring point. A tracked excavator was operational within

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Environment	Comments
	7m. from the meter which gave rise to an elevated reading. There were no noise results for August 29 th and 31 st as there was a technical issue with the meter and as such no measurements were recorded.
Surface Water	All composite sample results were within agreed ranges and therefore all surface water discharges were in compliance with the EMP as per the look up table requirements.
Groundwater Monitoring	The sonde in GW1 was installed on the 11/08/2011 and GW2 on the 17/08/2011. The time delay in the installation of GW2 was due to a technical fault with the sonde upon receipt which required the return to the Manufacturer.

Note: All laboratory data generated on site should be considered indicative only.

2 Environmental Exceedances / Incidents / Complaint

There was four numbers of complaints during the reporting period detailed below.

Date	Nature of complaint	Actions taken as a result of the complaint
24/08/2011	Complaint about noise from Shell compound at Aughoose exceeding the limit imposed by an Bord Pleanala at house in Rossport between 0.7.00 and 09.00 Friday 19th August 2011.	Complainant informed that if they can provide information that will enable SEPIL to investigate their complaint to please forward same. Complainant informed that noise monitoring has been undertaken in accordance with the consent conditions.
24/08/2011	Complaint about a low flying helicopter in Rossport area on 23rd August 2011 disturbing animals	SEPIL had no scheduled helicopter flights in the area on this date.
24/08/2011	Complaint about works having commenced in Aughoose prior to condition 57 being complied with.	SEPIL in compliance in relation to condition 57, copy of compliance on display in permits & consents folder in SEPIL's Public Information Office.
26/08/2011	Complaint about traffic disruption due to protestor activity and traffic rerouting by Gardai.	It's not within SEPIL's remit to interfere with traffic re-routing by Gardai due to protestor activity.

Surface Water Monitoring Results - Accredited Laboratory

	Date	Cond.	Turbidity	DO %	pH	TSS	Orthophosphate as PO4	Extractable HC/ DRO (C8-C40) total and dissolved	PRO (C5-C12) total and dissolved	TOC	DIN (TON as N + Ammonia as N)	COD
		µS/cm	NTU	mg/l		mg/l	mg/l	ug/l	ug/l	mg/l	mg/l	mg/l
Action Limits		400	150		<3.5 or >7.5							
Target Limits		500	200		<3 or >8.5	50						
Composites												
SB1	23/08/2011	471	9.6	65.4	7.2	2	0.036	<500	<100	10.8	0.22	30
SB2	23/08/2011	468	0.8	66.3	8.5	18	0.072	<200	<100	13.3	<0.1	28
SB1	24/08/2011	459	1.1	66.3	7.5	2	<0.03	<300	<100	12.9	0.01	16
SB2	24/08/2011	437	3.9	65.4	8.2	2	<0.03	<500	<100	15.6	0.01	22
SB1	25/08/2011	435	1.8	54.9	7.6	6	<0.03	<200	<100	12.4	0.01	21
SB1	26/08/2011	457	0.9	63.5	7.8	2	<0.03	<200	<100	13.4	0.01	24
SB2	26/08/2011	486	2.6	64.5	8.1	2	<0.03	<200	<100	16.1	<0.1	21
SB1	27/08/2011	525	1.5	67.5	9.5	2	<0.03	<100	<100	19.0	<0.1	29
SB2	27/08/2011	537	2.2	65.3	9.7	4	<0.03	<200	<100	21.4	<0.1	38
SB1	28/08/2011	515	1.5	67.4	9.5	2	<0.03	<100	<100	20.5	<0.1	35
SB2	28/08/2011	538	2.4	64.7	9.8	14	<0.03	<200	<100	23.1	<0.1	44
SB1	29/08/2011	469	3.3	84.1	8.8	2	0.512	<200	<100	1.28	<0.1	34
SB2	29/08/2011	589	2.6	83.6	10	7	<0.03	<200	<100	25.5	0.01	39
SB1	30/08/2011	474	2.4	84.5	9	4	<0.03	<100	<100	18.6	<0.1	36
SB2	30/08/2011	589	3.3	85.2	10	8	0.037	<100	<100	25.3	0.02	43
SB1	31/08/2011	543	1.8	86.5	9.4	2	<0.03	<200	<100	19.0	<0.1	38
Grab Samples DL2												
DL2	11/08/2011	90	12	61.4	6	59	<0.03	131	<100	26.6	0.03	104
DL2	12/08/2011	98	29.9	49	4.9	471	0.074	165	<100	73.6	<0.1	212
DL2	15/08/2011	111	23.3	43.9	4.7	965	0.071	287	<100	64.2	<0.1	151
DL2	16/08/2011	92	6.0	59.5	4.6	4	0.067	<100	<100	33.9	0.02	94
DL2	17/08/2011	94.0	3.9	62.2	4.8	26	0.024	<100	<100	34.4	0.01	201
DL2	18/08/2011	92.5	1.6	44.5	5.1	8	<0.03	<100	<100	23.5	0.03	182
DL2	19/08/2011	96	6.9	46.2	4.8	18	<0.03	<100	<100	61.1	0.42	203
DL2	22/08/2011	94.5	1.5	46.3	4.6	2	<0.03	<100	<100	23.8	0.04	111
DL2	23/08/2012	No sample available										
DL2	24/08/2011	107	0.6	64.6	4.6	2	<0.03	<100	<100	21.0	<0.1	95
DL2	25/08/2011	125.0	0.3	63.9	4.4	2	<0.03	<100	<100	19.3	<0.1	84
DL2	26/08/2011	122.0	0.5	64.5	5.0	2	<0.03	<100	<100	18.6	0.03	107
DL2	29/08/2011	112	0.6	66.3	4.5	2	<0.03	<100	<100	19.4	0.02	127
DL2	30/08/2011	116.0	0.6	65.3	5.2	2	<0.03	<100	<100	19.5	<0.1	78
DL2	31/08/2011	120	0.6	85.4	4.6	2	<0.03	<100	<100	18.7	0.02	59
Sruwaddaon Bay												
SBay1	18/08/2011	51600	0.4		8.1	2	<0.03	<100	<100	21.6	0.07	2440
SBay3	18/08/2011	21600	0.9		8.0	3	<0.03	<100	<100	21.4	0.04	1860
SBay4	18/08/2011	20400	1.8		7.7	21	<0.03	<100	<100	21.6	0.02	940
SBay6	18/08/2011	21500	0.4		7.5	<2	0.064	<100	<100	21.2	0.04	1675
I.P.	= In Progress											
< LOD	= Below Limit of Detection											
> LOD	= Above Limit of Detection											
On site laboratory results included in Appendix 1												
Grey shaded areas denote parameters that cannot or were not analysed on-site or the lab.												

Groundwater Monitoring Results - Accredited Laboratory

Location	Date	DO	Temp	Cond.	pH	TDS	BOD	Suspended Solids	Turbidity	Orthophosphate as PO4 -P	Ammonia as NH3-N	Total Phosphorus as P	Nitrate as NO ₃	Nitrite as NO ₂	Phosphate as PO4	COD	Copper
		% Sat	°C	uS/cm	pH Units	mg/l	mg/l	mg/l	N.T.U	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l
GW1	09/08/2011	28	13.2	427	6.3	227	4	52	82.3	0.971	0.26	0.80	<0.44	<0.017	2.98	19	2
GW2	09/08/2011	29	11.5	467	6.3	252	13	658	228.0	0.112	2.39	0.90	<0.44	<0.017	0.34	36	7
GW3	09/08/2011	35	11.5	368	6.0	195	11	112	48.7	0.242	3.20	0.34	<0.44	<0.017	0.74	43	2
GW4	09/08/2011	32	13.0	411	6.3	220	4	65	24.1	0.202	0.69	0.36	<0.44	<0.017	0.62	31	7
Location	Date	Arsenic, total	Chromium, total	Lead, total	Cadmium, total	Tin, total	Iron, total	Mercury	TOC	Total Hardness	Zinc	Extractable HC/ DRO (C8-C40) total and dissolved	PRO (C5 - C12) total and dissolved	Total Phosphorus as P	Manganese	Chloride	Water Level
		ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	ug/l	ug/l	ug/l	mg/l	ug/l	mg/l	m
GW1	09/08/2011	13	1	0.7	<0.5	<0.5	17130	<0.05	6.22					0.80	2876	54.4	4.0
GW2	09/08/2011	3	6	29	<0.5	<0.5	24910	<0.05	9.12					0.90	3348	65.0	3.4
GW3	09/08/2011	5	3	0.9	<0.5	<0.5	44570	<0.05	3.45					0.34	263	59.5	2.0
GW4	09/08/2011	4	2	<0.5	<0.5	1.0	36320	<0.05	4.04					0.36	1059	62.1	2.6

Grey shaded areas denote parameters that cannot or were not analysed on-site or at the lab.

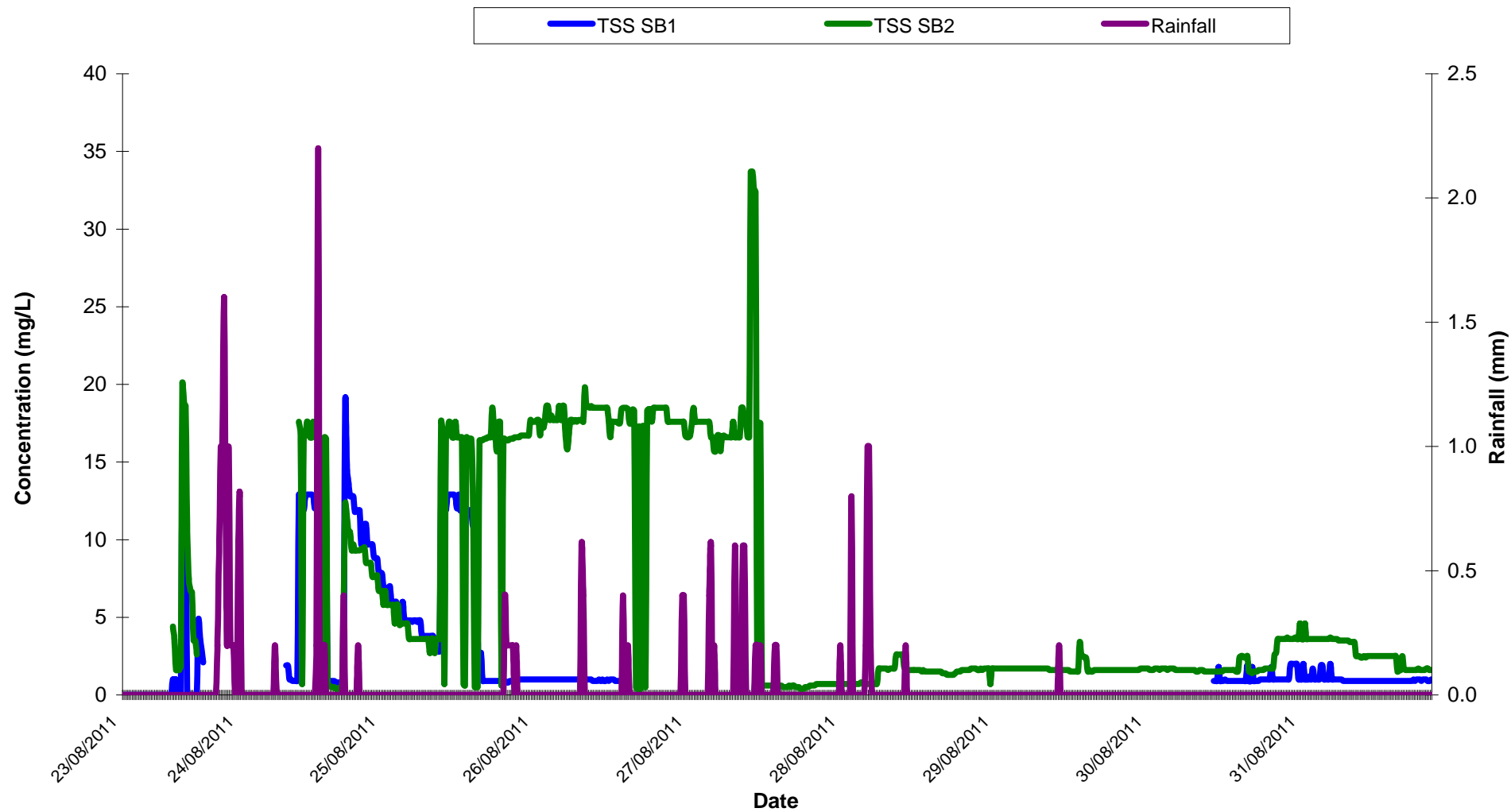
Day Time Noise Monitoring Record Sheet											
Determinant Results											
Location	Air Temp. (Min)	Air Temp. (Max)	Start Date	Time	Duration	Wind		Results dB			*Comments
						Speed (m/s)*	Direction (Degrees)	L _{Aeq}	L _{Amax}	L _{Amin}	
Action Limit											
Target Limit											
AN2	7.1	17.8	02/08/2011	10:47:00	01:00	1.6	198.4	47.5	74.4	26.3	
AN2	5.3	19.5	03/08/2011	12:36:00	01:00	2.1	162.5	54.8	81.4	30.7	
AN2	11.4	16.5	04/08/2011	11:06:00	01:00	3.1	279.1	53.6	83.2	34.5	
AN2	11.0	15.6	05/08/2011	10:28:00	01:00	2.3	232.6	52.4	78.7	30.4	
AN2	11.3	15.2	08/08/2011	16:02:00	01:00	4.8	332.4	21.4	49.4	20.4	
AN3	10.7	15.9	09/08/2011	15:33:00	01:00	2.9	283.1	48.1	80.7	33.5	
AN4	12.4	15.6	10/08/2011	11:31:00	01:00	7.2	214.4	52.3	81.8	39.9	
AN5	13.3	16.1	11/08/2011	15:42:00	01:00	2.4	264.6	34.7	34	29.2	
AN6	12.4	15.4	12/08/2011	15:48:00	01:00	3.9	209.1	43.7	46.6	41.5	
AN7	10.4	15.6	15/08/2011	15:20:00	01:00	2.2	210.9	60	80.1	34	
AN8	10.5	15.3	16/08/2011	11:20:00	01:00	3.9	275.5	59.8	81.6	40.4	
AN9	7.3	15.7	17/08/2011	11:26:00	01:00	1.4	245.7	69.5	86.6	43.8	Excavator working within 7m of the noise meter at AN2
AN10	8.6	16.9	18/08/2011	14:46:00	01:00	1.6	260.2	53.7	80.7	32.2	
AN11	7.9	16.0	19/08/2011	10:53:00	01:00	4.3	197.0	56.8	85.3	35.7	
AN12	10.3	17.4	22/08/2011	13:35:00	01:00	1.2	230.1	57.7	83.3	26.3	
AN13	8.5	17.7	23/08/2011	09:45:00	01:00	1.9	181.5	57.5	83.4	25.7	
AN14	6.9	15.2	24/08/2011	16:17:00	01:00	2.3	190.2	55.1	86.1	40	
AN15	8.7	12.6	25/08/2011	15:12:00	01:00	1.9	106.9	53.8	73.1	31.7	
AN16	7.5	11.2	26/08/2011	11:20:00	01:00	3.8	316.9	54.4	8.6	33.6	
AN17	10.3	13.9	29/08/2011		01:00	3.4	329.9				No results - Technical error with noise meter
AN18	8.2	11.6	30/08/2011	14:22:00	01:00	1.2	228.8	59.6	86.5	30.9	
AN19	5.9	17.2	31/08/2011		01:00	0.8	167.0				No results - Technical error with noise meter

* Wind speeds in excess of 5 m/s negatively impact noise readings (as per EPA Guidance Note on Noise Measurement).

Vibration Monitoring Record Sheet

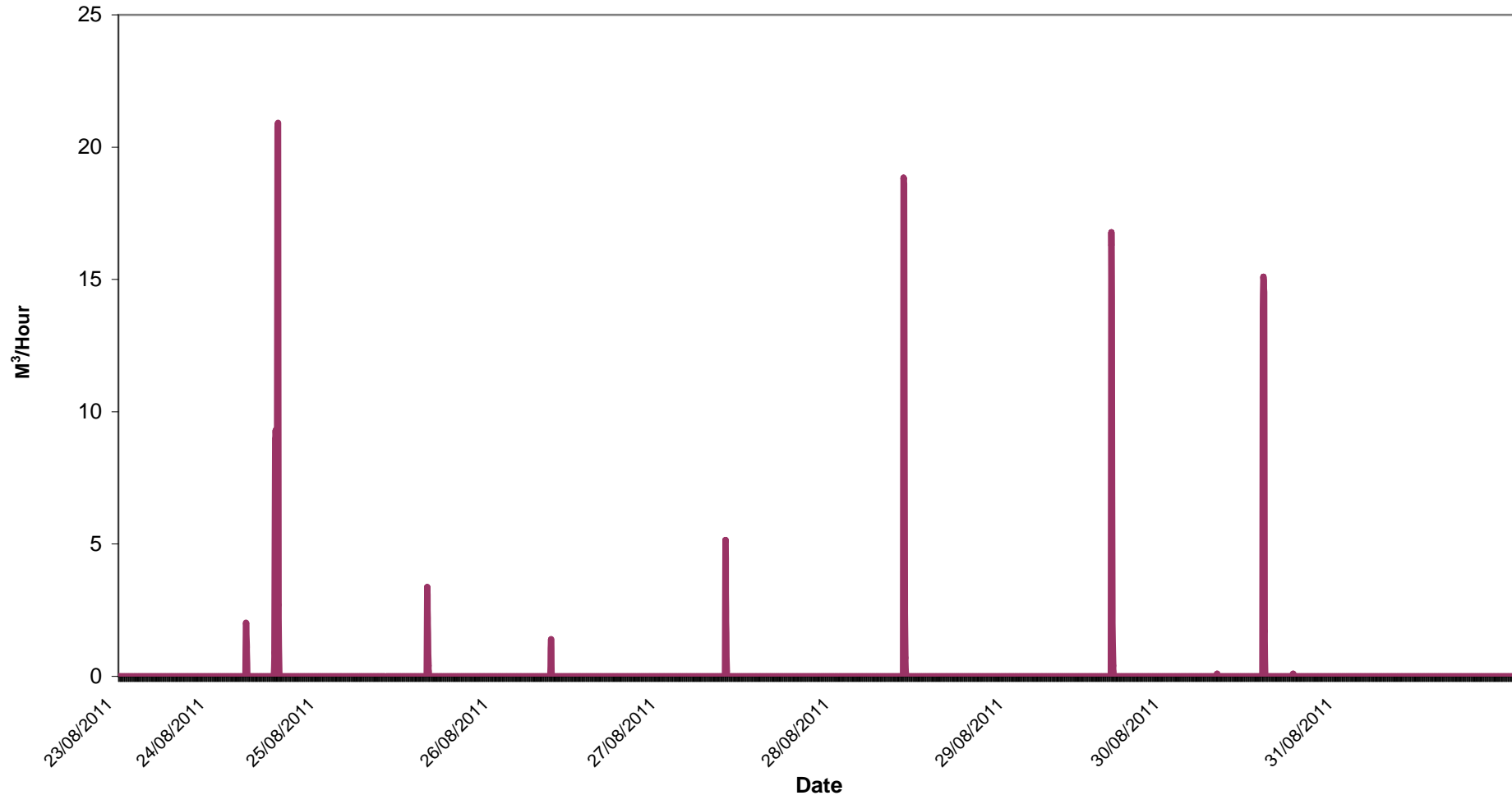
Location	Date	PPV max (mm/s)	Comment
Minimum Criterion 8mm/s			
V3	02/08/2011	No Data	Power supply failure resulted in loss of data
V3	03/08/2011	No Data	Power supply failure resulted in loss of data
V3	04/08/2011	0.16	
V3	05/08/2011	3.70	
V3	06/08/2011	0.80	
V3	08/08/2011	0.64	
V3	09/08/2011	0.96	
V3	10/08/2011	1.69	
V3	11/08/2011	1.52	
V3	12/08/2011	1.61	
V3	13/08/2011	1.45	
V3	15/08/2011	1.45	
V3	16/08/2011	1.45	
V3	17/08/2011	1.69	
V3	18/08/2011	1.52	
V3	19/08/2011	20.00	Intereference with geo-phone gave elevated result
V3	20/08/2011	1.37	
V3	22/08/2011	20.00	Intereference with geo-phone gave elevated result
V3	23/8/2011	1.37	
V3	24/8/2011	1.37	
V3	25/8/2011	1.37	
V3	26/8/2011	1.45	
V3	27/8/2011	0.80	
V3	29/8/2011	0.80	
V3	30/8/2011	0.40	
V3	31/8/2011	3.29	

Total Suspended Solids August 2011

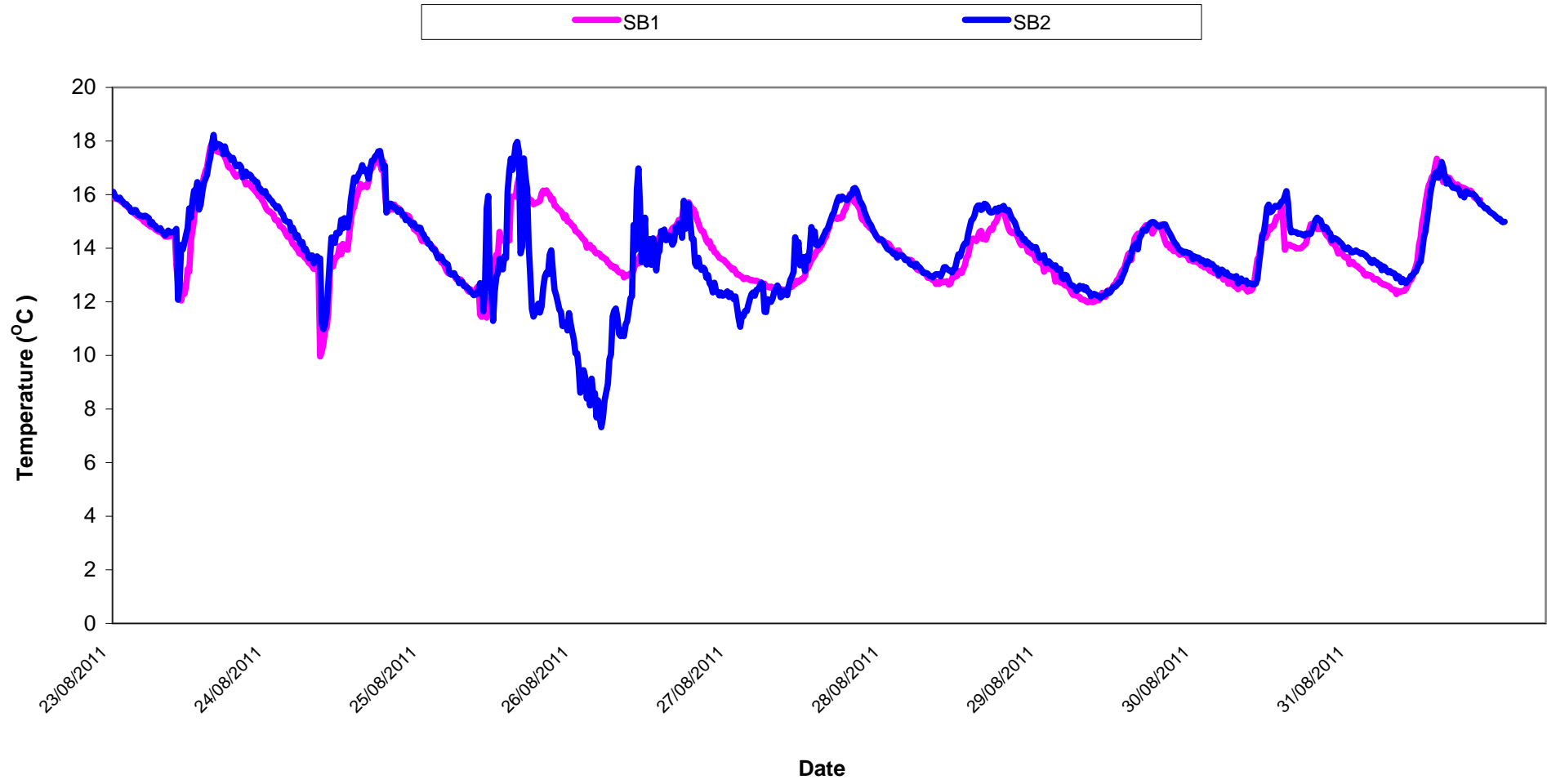


Surface Water Discharge August 2011

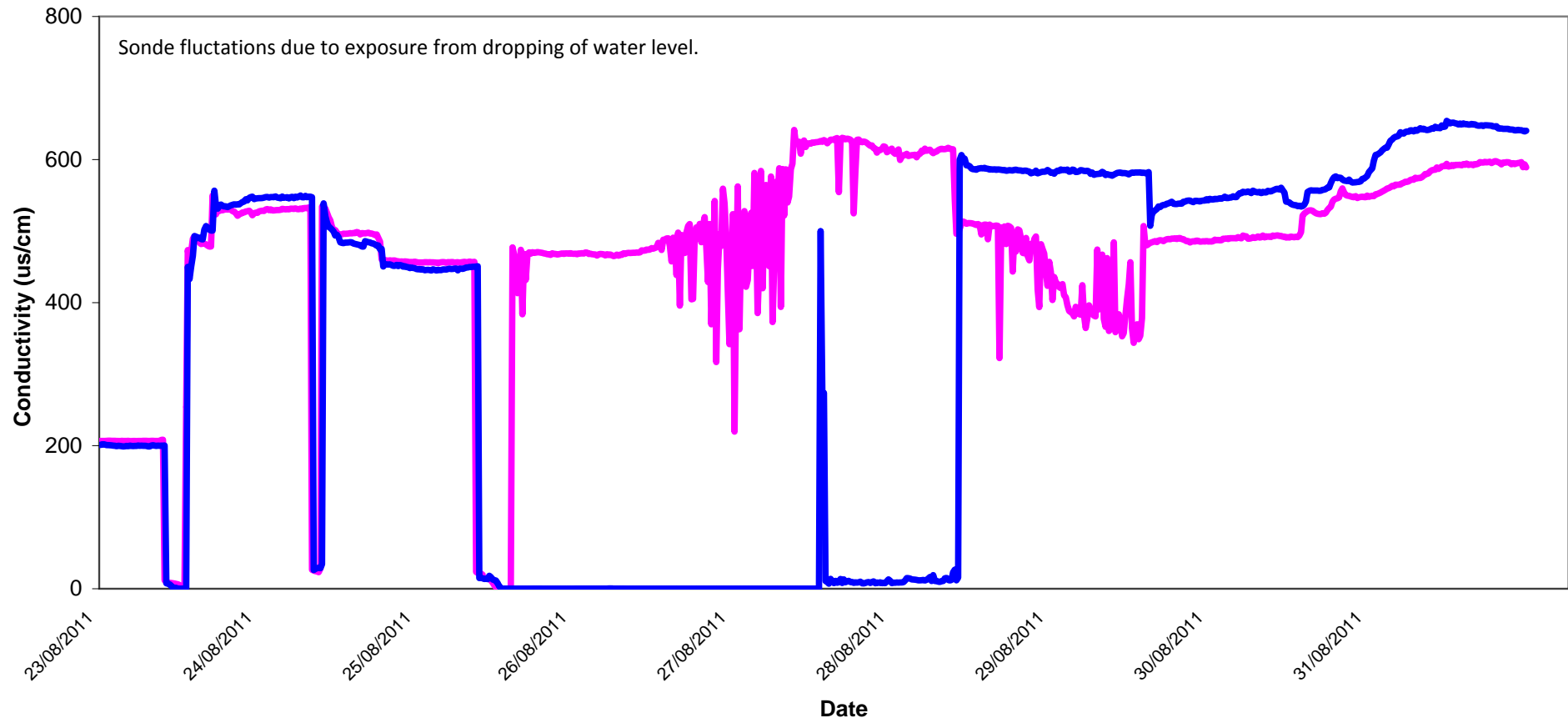
Water Discharge



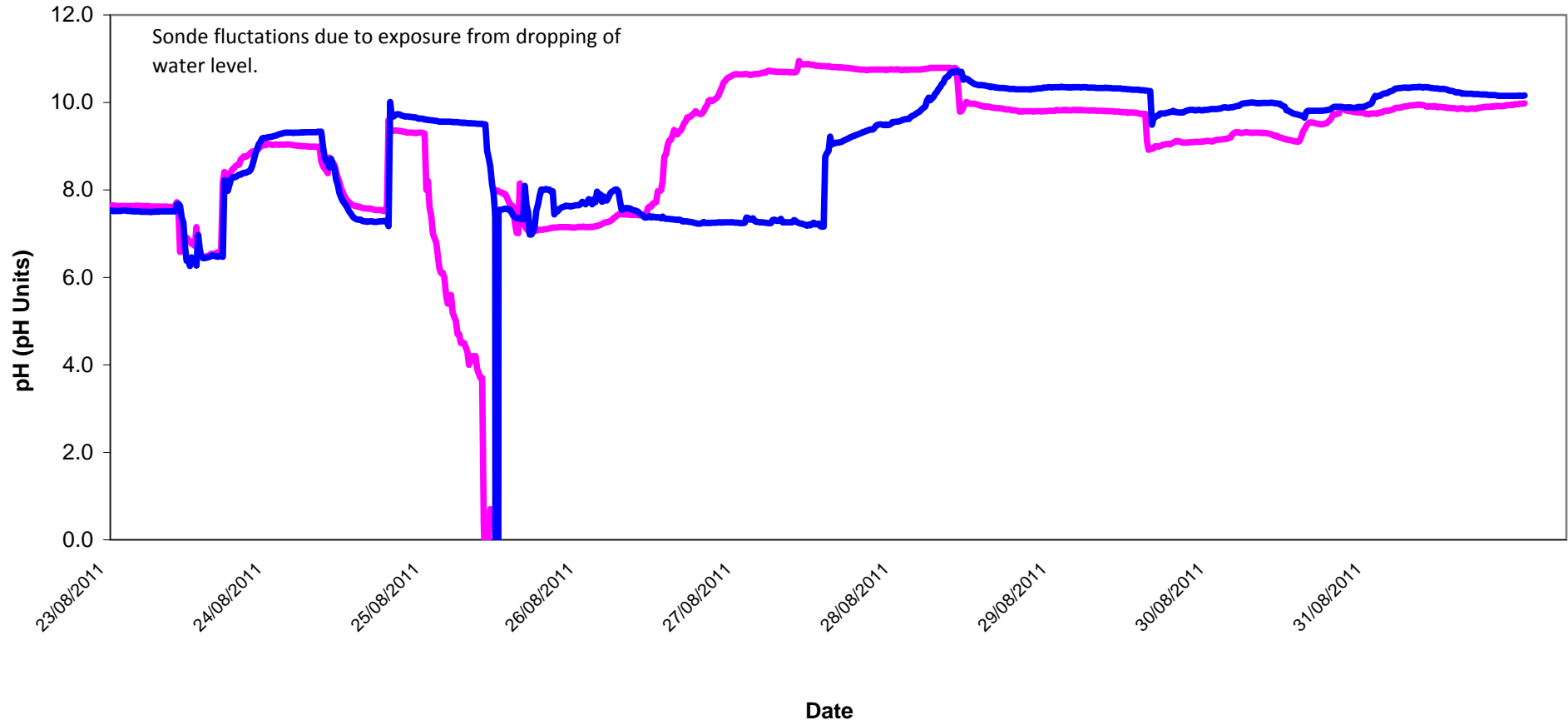
Temperature - Surface Water Discharge August 2011



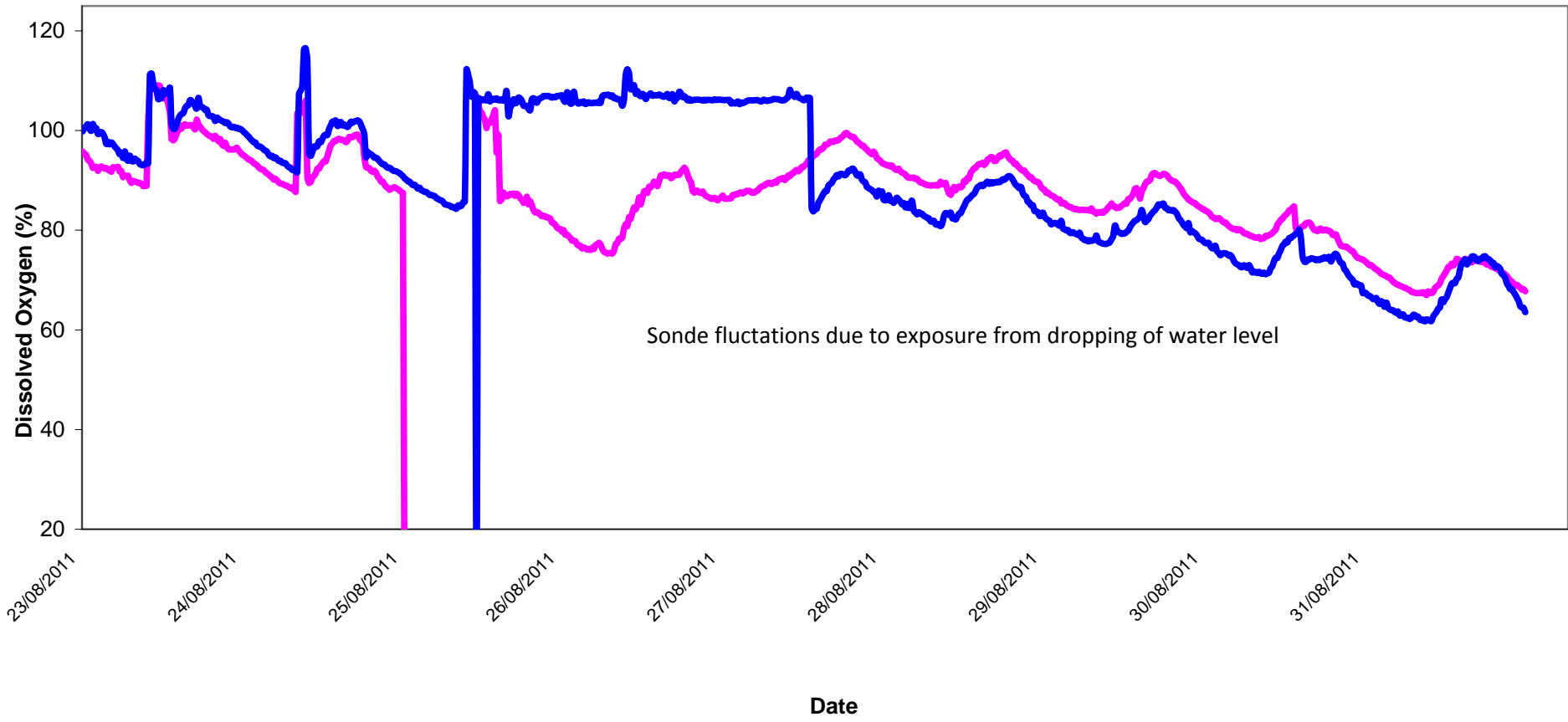
Conductivity - Surface Water Discharge August 2011



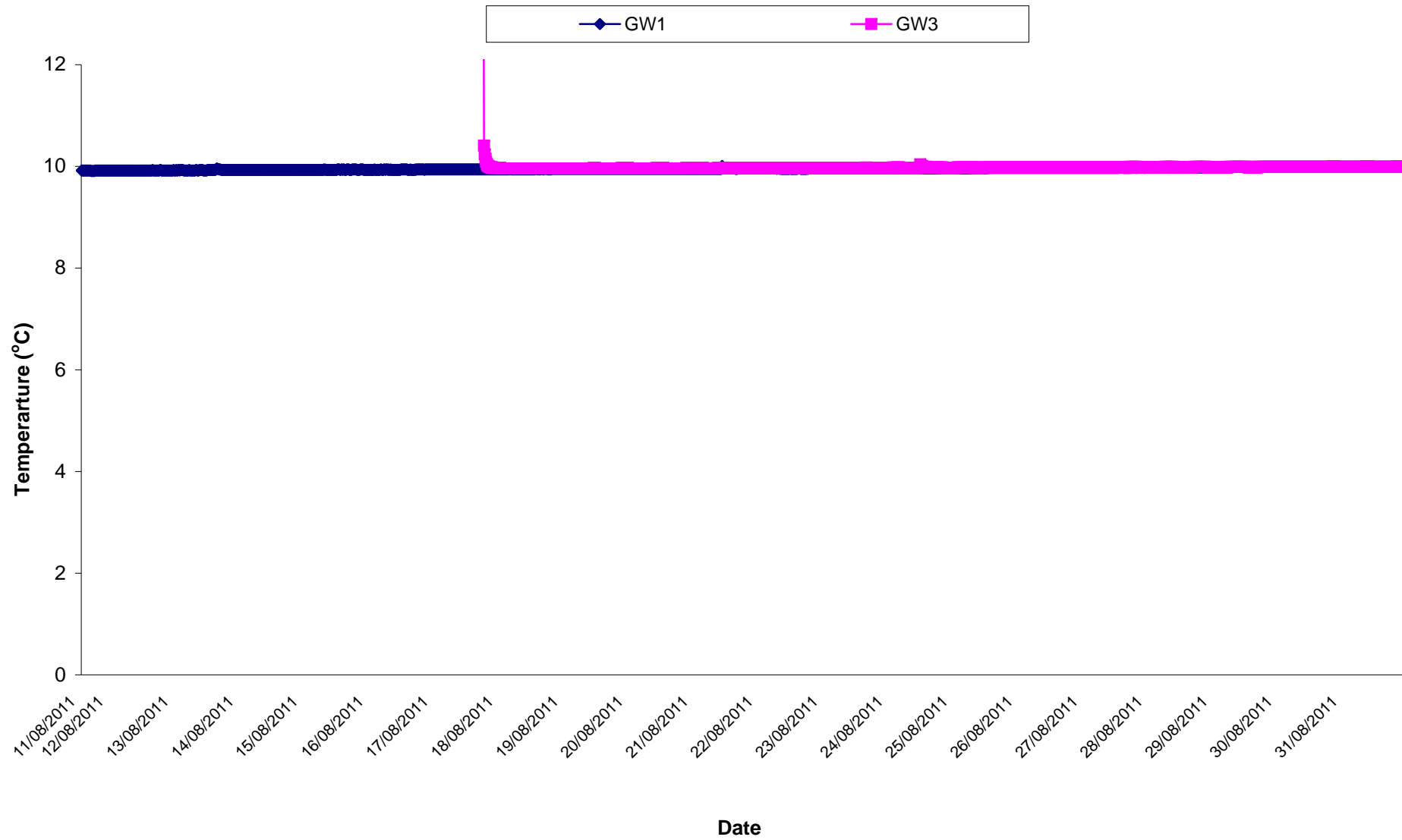
pH - Surface Water Discharge August 2011



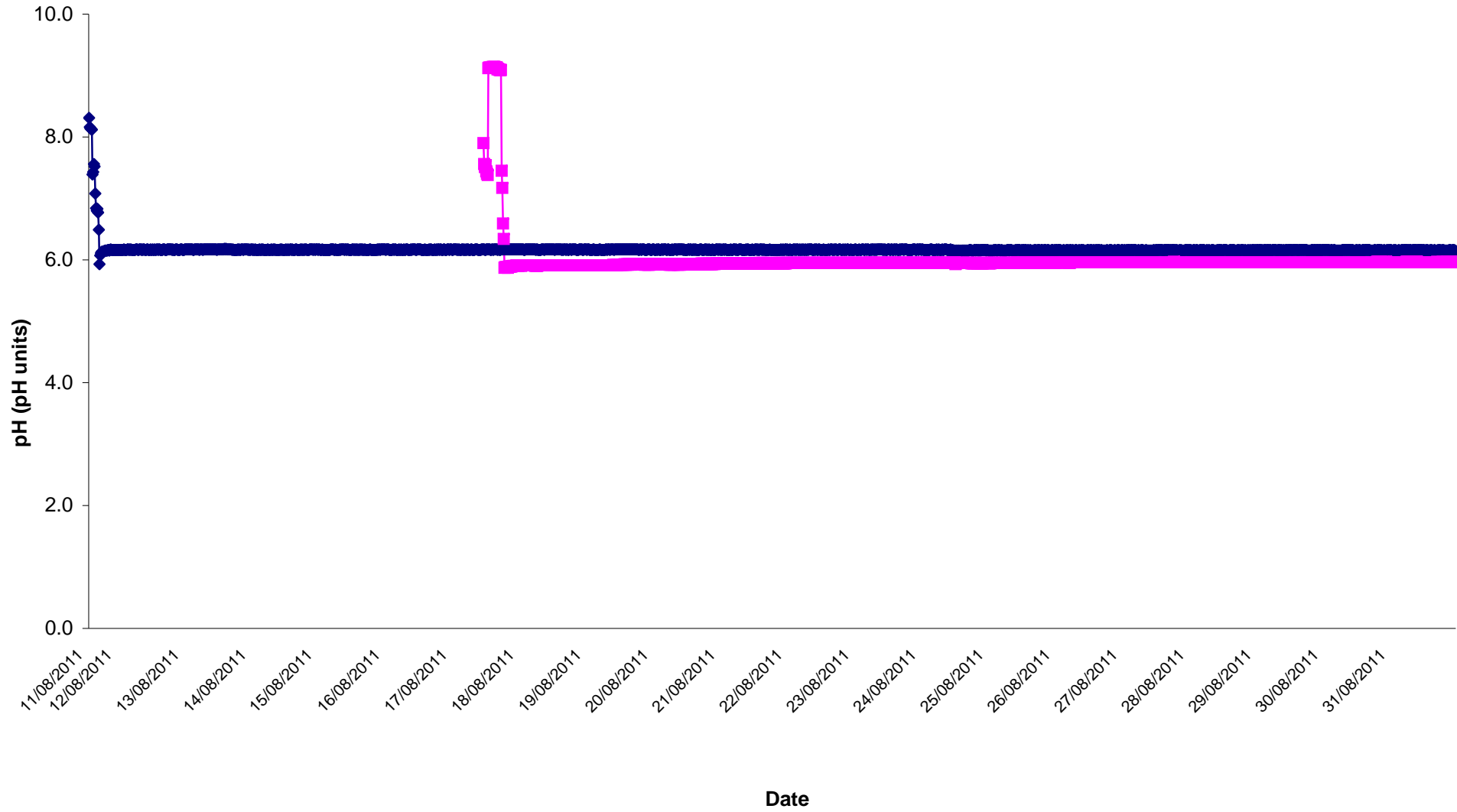
Dissolved Oxygen - Surface Water Discharge August 2011



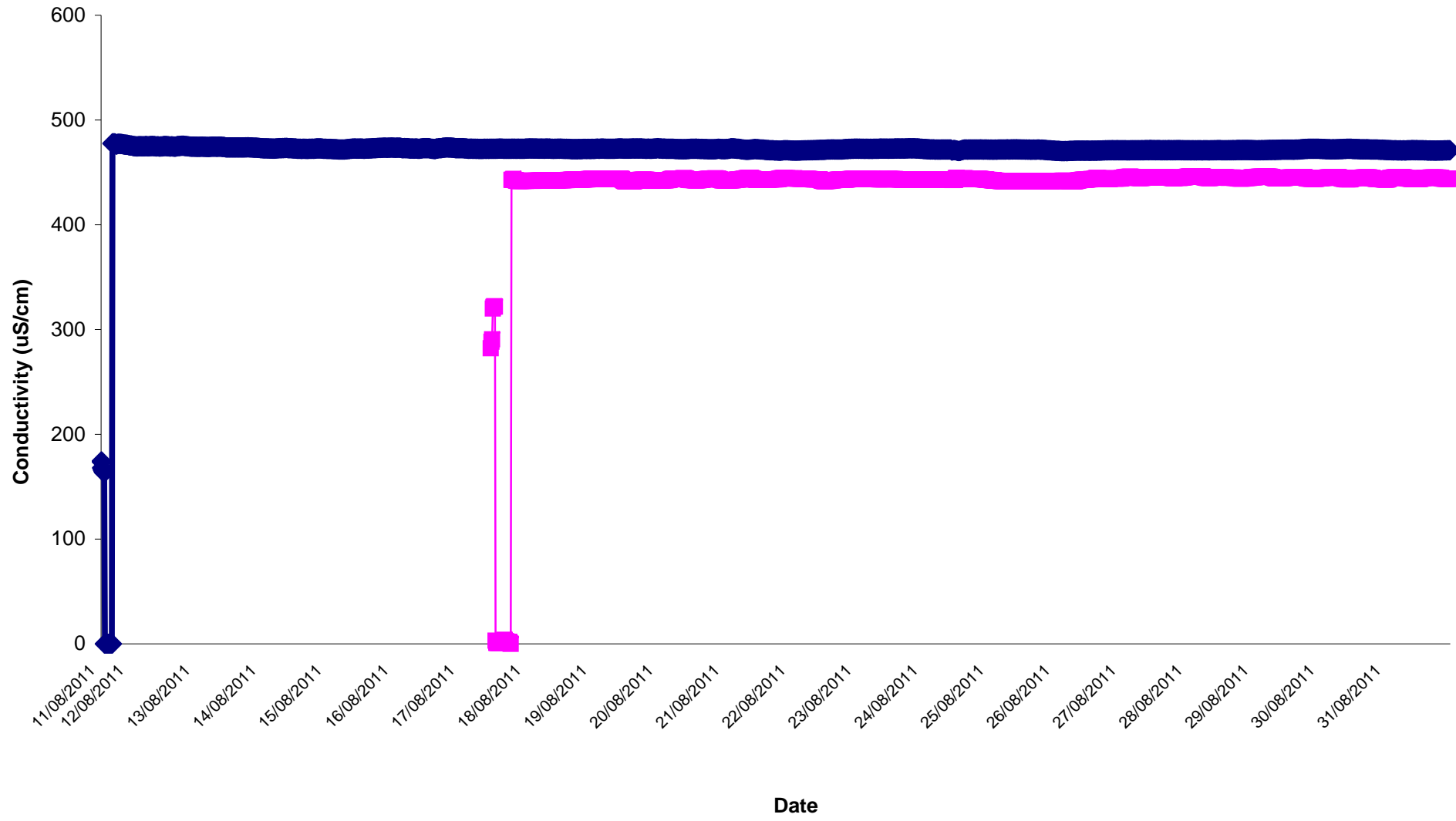
Temperature - Groundwaters August 2011



pH - Groundwaters August 2011



Conductivity - Groundwaters August 2011



Appendix 1

Appendix 1: Surface Water Monitoring Record Sheet- Onsite Monitoring

	Date	Temp	DO	Cond.	Turbidity	pH	Total dissolved solids
		oC	% Sat	µS/cm	NTU		mg/l
Grab samples							
DL 2	11/08/2011	13.6	82.4	126	51.7	4.98	74.1
DL 2	12/08/2011	14.1	79.6	123	492.0	4.15	73.9
DL 2	15/08/2011	15.6	71.9	146	485.0	4.29	85.2
DL 2	16/08/2011	14.7	83.4	116	18.6	5.24	66.7
DL 2	17/08/2011	13.6	80.3	133	18.3	6.01	68.6
DL 2	18/08/2011	18.8	100.6	220	17.5	5.47	131.0
DL 2	19/08/2011	12.6	78.8	169	35.0	4.58	93.5
DL 2	22/08/2011	14.8	96.4	135	6.0	4.94	77.6
DL 2	24/08/2011	13.5	84.0	137	3.1	5.56	80.7
DL 2	25/08/2011	13.4	78.5	156	3.2	6.30	90.8
DL 2	26/08/2011	14.2	83.0	159	1.9	4.56	90.3
DL 2	29/08/2011	12.9	82.8	147	3.5	4.56	86.1
DL 2	30/08/2011	15.2	83.5	161	5.7	5.01	88.1
Sruwaddacon Bay							
SBAY1	18/08/2011	13.9	10.5		6.4	7.96	
SBAY3	18/08/2011	14.1	10.3		4.8	8.09	
SBAY4	18/08/2011	14.8	9.6		7.6	7.87	
SBAY6	18/08/2011	13.9	9.0		2.4	8.03	
Composites							
Composite SB1	23/08/2011			464	17.9	6.16	302.0
Composite SB2	23/08/2011			484	15.8	6.62	329.0
Composite SB1	24/08/2011			481	11.9	6.69	335.0
Composite SB2	24/08/2011			448	11.9	7.07	309.0
Composite SB1	25/08/2011			458	17.1	7.03	317.0
Composite SB1	26/08/2011			474	5.1	6.99	329.0
Composite SB2	26/08/2011			498	7.7	7.34	347.0
Composite SB1	27/08/2011			551	6.4	9.50	384.0
Composite SB2	27/08/2011			546	4.0	9.55	376.0
Composite SB1	28/08/2011			519	10.0	9.30	361.0
Composite SB2	28/08/2011			540	6.6	9.55	374.0
Composite SB1	29/08/2011			506	4.9	7.67	340.0
Composite SB2	29/08/2011			641	8.7	9.43	430.0
Composite SB1	30/08/2011			515	5.6	8.47	346.0
Composite SB2	30/08/2011			630	13.0	9.56	423.0
Composite SB1	31/08/2011			594	13.9	9.25	397.0
Composite SB2	31/08/2011			561	6.5	9.26	376.0
Treatment Unit monitoring							
Pre	11/08/2011			117	>LOD	5.39	68.6
Post	24/08/2011			503	6.1	6.39	341.0
Grey shaded areas denote parameters that cannot or were not analysed on-site							
= Indicative Only							

Appendix 2

Ecological Monitoring

1. MONITORING PERIOD

This summary report relates to:

- Monitoring during construction at Aughooose up to the end of August 2011.

2. HABITATS /VEGETATION

2.1 *July/August – Aughooose*

- In addition to monitoring, plant material was collected from the peat storage areas for propagation.

3. BIRDS

3.1 *July/August – Aughooose/Sruwaddacon Bay*

Weekly low water and high water counts have continued in the Sruwaddacon Bay area as scheduled, to summarise:

- July is typically the periods with least species diversity and abundance within the bay. An increase in bird numbers from mid-July of birds using the secondary high water roost (Count Section 4), which had been almost deserted for much of the previous winter and spring, was noted. Generally the findings from July and August have been typical, ie. a gradual return of species such as Redshank, Greenshank and a marked increase in the number of Oystercatcher and Curlew.
- Notably less Sandwich Tern present in 2011 than at same time previous year, with one sighting of a Little Tern at Glengad (the first in this area for almost a decade).
- Some casual observations of passerines rarely recorded during this and previous years - Twite and Tree Sparrow both observed near the ruined church at Aughooose.
- No avoidance or disturbance events recorded from vicinity of works. Flocks of Dunlin and Redshank feeding in usual areas and Black-headed Gulls and Mallard observed roosting at low water close to the foreshore below the works area.

3.2 *Sand Martin monitoring*

There has been monitoring of the colonies throughout the 2011 breeding season. These are distant from Aughooose.

- The original colony at Glengad (Col A) was still active (as of 29th August) whereas all activity had ceased at this location on August 28th in 2010.
- Colony B was inactive in 2010 and recent survey visits have confirmed this situation.
- Activity at Rinroe was mostly in the new burrows in the muddy/sandy cliff between the strand and the pier. The burrows in the sand were almost all predated by a canid (probably a Fox).

4. NON-AVIAN FAUNA

4.1 July/August - Aughoose

- Some frog translocations were undertaken during site set up.

5. SITE INSPECTIONS

Site inspections were undertaken by the project ecologist on 10th and 18th August in order to:

- Check the condition of habitat / surface vegetation in the context of storage for reinstatement.
- Check the erection of the palisade security fence in relation to required mitigation measures.