

<b>Corrib Gas Pipeline Environmental Report</b>	Period Ending:	31 <sup>st</sup> May 2012
Compiled By:	Carmel Carey and Bronagh O Reilly	
Approved By:	Aoife Reynolds	
	Ref: COR-01-SH-MCC-MHLY-ENV-005	

## 1 Monitoring Data

### 1.1 Monitoring Equipment

Noise	Eight noise monitoring locations are currently being used – NSR1 & NSR2 (compliance monitoring points) and AN1, AN2, AN3, GN1, GN2 and RN1 (information purposes). The noise meters records in the 1/3 octave band.
Vibration	There are two vibration monitoring points being used- V2 and V3
Weather Station	The data used for this reporting period was taken from the Aughoose and Glengad construction site meteorological stations.
TSS	There are TSS meters (SB3 line 1 and SB3 line 2) on the each of discharges on the Silbuster.
Sonde	The results are displayed graphically for dissolved oxygen, conductivity, pH, turbidity and temperature.
Discharge pipe flow	The results are displayed graphically.

### 1.2 Rainfall Data

Aughoose					
Date	Rainfall mm	Date	Rainfall mm	Date	Rainfall mm
01/05/2012	0.0	12/05/2012	0.2	23/05/2012	0.2
02/05/2012	0.0	13/05/2012	15.0	24/05/2012	0.2
03/05/2012	0.0	14/05/2012	4.4	25/05/2012	0.0
04/05/2012	0.8	15/05/2012	2.2	26/05/2012	0.0
05/05/2012	0.0	16/05/2012	4.8	27/05/2012	0.0
06/05/2012	0.0	17/05/2012	9.8	28/05/2012	0.0
07/05/2012	7.0	18/05/2012	0.0	29/05/2012	0.4
08/05/2012	2.8	19/05/2012	0.0	30/05/2012	1.6
09/05/2012	0.0	20/05/2012	0.0	31/05/2012	5.8
10/05/2012	8.2	21/05/2012	0.8		
11/05/2012	0.4	22/05/2012	0.2	Total 64.8mm	
Glengad					
Date	Rainfall mm	Date	Rainfall mm	Date	Rainfall mm
01/05/2012	0.0	12/05/2012	0.2	23/05/2012	0.0
02/05/2012	0.0	13/05/2012	4.6	24/05/2012	0.0
03/05/2012	0.0	14/05/2012	4.2	25/05/2012	0.0
04/05/2012	1.2	15/05/2012	3.8	26/05/2012	0.0
05/05/2012	0.0	16/05/2012	4.6	27/05/2012	0.0
06/05/2012	0.0	17/05/2012	8.0	28/05/2012	0.0
07/05/2012	4.6	18/05/2012	0.0	29/05/2012	0.4
08/05/2012	1.8	19/05/2012	0.0	30/05/2012	1.0
09/05/2012	0.2	20/05/2012	0.0	31/05/2012	3.6
10/05/2012	5.6	21/05/2012	0.0		
11/05/2012	0.8	22/05/2012	0.2	Total 44.8mm	

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### 1.3 Summary

Environment	Comments				
Vibration	There were no vibration exceedances during the reporting period				
Weather	There was a total of 64.8mm of rainfall during the reporting period measured at the Aughooose weather station and a total of 44.8mm at the Glengad weather station, with a temperature range of -0.5°C to 27.0°C in Aughooose and 1.9°C and 25.8°C in Glengad.				
Noise	<p><b><u>Elevated Levels of Noise</u></b></p> <p>There were periods of elevated noise on the following dates at:</p> <table><tr><th>NSR1</th><th>NSR2</th></tr><tr><td><ul style="list-style-type: none"><li>04/05/2012</li><li>14/05/2012</li><li>17/05/2012</li><li>26/05/2012</li></ul></td><td><ul style="list-style-type: none"><li>04/05/2012</li></ul></td></tr></table> <p>The noise results were reviewed as per the noise monitoring protocol. The following is the outcome of the investigation into the elevated noise levels:</p> <p><u>May 4<sup>th</sup></u> Elevated noise levels were recorded at NSR1 on 04/05/12 at 14:00 and NSR2 on 04/05/12 between 10:00 and 15:00 during periods of high wind speeds. The noise results were issued to the noise consultants and it was confirmed that comparison with the site boundary noise monitors AN1 and GN2 shows that these noise elevations were not due to site activity.</p> <p><u>May 14<sup>th</sup></u> Elevated noise levels were recorded at NSR1 on 14/05/12 at 07:00. Comparison with the site boundary noise monitors AN1 and AN2 shows that these noise elevations were not due to site activity.</p> <p><u>May 17<sup>th</sup></u> Elevated noise levels were recorded at NSR1 on 17/05/12 at 07:00. Comparison with the site boundary noise monitors AN1 (56.8dB Laeq) and AN2 (49dB Laeq) shows that these noise elevations were not due to site activity.</p> <p><u>May 26<sup>th</sup></u> Elevated noise levels were recorded at NSR1 on 26/05/12 at 13:00. Comparison with the site boundary noise monitors AN1 (64.6 dB Laeq) and AN2 (59.4 dB Laeq) shows that these noise elevations were not due to site activity.</p> <p><b><u>Loss of data</u></b></p> <p>There was a loss of data on the following occasions:</p> <ul style="list-style-type: none"><li>Technical issues with the noise meter at NSR1 caused a loss of data</li></ul>	NSR1	NSR2	<ul style="list-style-type: none"><li>04/05/2012</li><li>14/05/2012</li><li>17/05/2012</li><li>26/05/2012</li></ul>	<ul style="list-style-type: none"><li>04/05/2012</li></ul>
NSR1	NSR2				
<ul style="list-style-type: none"><li>04/05/2012</li><li>14/05/2012</li><li>17/05/2012</li><li>26/05/2012</li></ul>	<ul style="list-style-type: none"><li>04/05/2012</li></ul>				

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Environment	Comments
	<p>between 11:00 on 03/05/12 and 10:00 on 04/05/12.</p> <ul style="list-style-type: none"> <li>• There was loss of data at NSR2 on 15<sup>th</sup> and 16<sup>th</sup> May between 18:00 on 15/05/12 and 16:00 on 16/05/12.</li> <li>• There was loss of data at GN2 and AN2 on 21/05/12</li> <li>• There was a loss of data at NSR1 on the afternoon of the 28<sup>th</sup> and the morning of the 29<sup>th</sup> May.</li> </ul> <p>Technical assistance is currently being sought to determine the cause for these occasions of loss of data.</p>
Surface Water - Aughoose	There were no identified surface water exceedences during the reporting period. Surface water treatment ongoing.
Surface Water - Glengad	No surface water discharge was available at SW01 for sample collection.
Groundwater Monitoring	Monitoring of groundwater undertaken during the reporting period were within the anticipated results range.

## 2 Environmental Exceedances / Incidents / Complaints / Highlights

### 2.1 Complaints

Date & time of complaint	Nature of complaint	Actions taken as a result of the complaint
May 3 <sup>rd</sup> 2012	Complaint about damage to lay – by outside property being damaged by SEPIL lorries along Tallagh Haul Route	Complaint reported to Mayo County Council.

### 2.2 Exceedance

There were no identified environmental exceedances during this reporting period.

### 2.3 Incidents

There were no incidents during the reporting period.

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## 2.4 Environmental Highlights

Environment	Comments
Training	Environmental Management Plan training with contractors continued throughout reporting period.
Noise	The noise meter at NSR2 was repositioned on Monday 14 <sup>th</sup> May.

	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	ug/l	ug/l	mg/l	mg/l	mg/l
<b>Composites</b>												
SB3	01/05/2012	470	3.70	68.5	7.6	4	<0.03	<100	<100	3.7	0.80	23
SB3	02/05/2012	464	0.70	78.5	7.6	2	<0.03	<100	<100	3.17	1.45	<10
SB3	03/05/2012	435	1.10	79.9	7.4	2	<0.03	<100	<100	2.79	0.73	<10
SB3	04/05/2012	430	1.10	82.9	7.4	2	<0.03	<100	<100	2.76	0.75	13
SB3	05/05/2012	430	1.10	80.3	7.2	2	<0.03	173	<100	2.76	0.77	<10
SB3	06/05/2012	471	1.10	79.1	7.1	2	<0.03	<100	<100	3.02	0.69	<10
SB3	07/05/2012	480	1.20	74.8	7.5	2	<0.03	151	<100	3.29	0.74	15
SB3	08/05/2012	498	1.10	74.9	7.5	2	<0.03	167	<100	3.37	0.62	25
SB3	09/05/2012	448	1.10	75.6	7.5	3	<0.03	<100	<100	3.06	0.50	14
SB3	10/05/2012	433	1.60	76.1	7.3	4	<0.03	140	<100	2.88	0.26	<10
SB3	11/05/2012	430	1.60	73.6	7.2	2	0.09	<100	<100	4.17	0.26	12
SB3	12/05/2012	433	1.50	75.2	7.3	2	<0.03	168	<100	3.09	0.26	12
SB3	13/05/2012	435	1.60	74.1	7.3	2	<0.03	157	<100	5.38	0.26	11
SB3	14/05/2012	432	1.40	75.4	7.7	2	<0.03	126	<100	4.26	0.30	23
SB3	15/05/2012	425	2.10	76.5	7.4	2	<0.03	<100	<100	4.34	0.28	39
SB3	16/05/2012	436	2.60	82.5	7.4	2	<0.03	287	<100	3.97	0.33	10
SB3	17/05/2012	477	3.50	94.2	7.6	4	<0.03	287	<100	5.28	0.33	<10
SB3	18/05/2012	489	3.80	82.2	7.3	4	<0.03	245	<100	5.67	0.29	<10
SB3	19/05/2012	488	1.80	83.2	7.4	2	<0.03	258	<100	5.71	0.21	<10
SB3	20/05/2012	487	1.80	79.7	7.4	2	<0.03	<100	<100	6.37	0.18	<10
SB3	21/05/2012	499	1.60	75.9	7.3	5	<0.03	277	<100	5.35	0.42	33
SB3	22/05/2012	520	1.60	75.4	7	3	<0.03	285	<100	5.21	0.72	<10
SB3	23/05/2012	519	1.40	74.2	7.6	3	<0.03	<100	<100	5.08	0.69	<10
SB3	24/05/2012	506	1.50	75.9	7.5	4	<0.03	<100	<100	4.3	0.74	<10
SB3	25/05/2012	482	1.10	76.3	7.2	2	<0.03	<100	<100	4.43	0.29	<10
SB3	26/05/2012	476	1.10	75.6	7.7	2	<0.03	<100	<100	4.39	0.20	<10
SB3	27/05/2012	477	1.10	75.8	7.6	2	<0.03	<100	<100	4.48	0.72	<10
SB3	28/05/2012	461	1.90	68.1	7.8	2	<0.03	<100	<100	4.2	0.50	<10
SB3	29/05/2012	475	1.00	65.3	7.8	4	<0.03	<100	<100	4.7	0.60	<10
SB3	30/05/2012	473	0.70	76.1	8	3	<0.03	<100	<100	4.22	0.38	35
SB3	31/05/2012	456	0.80	80.7	7.8							

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 NO3	Nitrite as NO2	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	10/05/2012	100.0	10.0	491	6.3	245	<1	89	44.4	0.955	0.30	2.93	<0.44	<0.017	2.93	<10	19.0
GW2	10/05/2012	62.0	9.6	467	6.4	269	<1	266	6.4	0.347	2.43	1.13	<0.44	<0.017	1.07	33	5.0
GW3	10/05/2012	13.0	9.7	412	6.3	232	<1	47	18.7	0.274	3.02	0.40	<0.44	<0.017	0.84	16	2.0
GW4	10/05/2012	5.0	10.1	396	6.3	223	<1	9	4.8	0.310	0.36	0.37	<0.44	<0.017	0.95	<10	2.0

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	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	m
GW1	10/05/2012	11	2.0	6.0	2.0	<0.5	23200	<0.05	7.72	154	10	<100	<100	1.260	2839	3.910
GW2	10/05/2012	2	5.0	21.0	<0.5	<0.5	28310	<0.05	11.80	183	8	<100	<100	1.130	490	3.240
GW3	10/05/2012	6	2.0	1.0	<0.5	<0.5	64080	<0.05	5.03	61	7	<100	<100	0.400	216	3.750
GW4	10/05/2012	2	0.6	<0.5	<0.5	<0.5	24920	<0.05	4.62	106	<5	<100	<100	0.370	377	3.970

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

Graphs provided for GW1 - GW4: Temperature, Conductivity, and pH.

## Dust Monitoring Record Sheet

	Date Positioned	Date Removed	Ref. Number	Date Dispatched	Date Returned	Weight (mg/m <sup>2</sup> /day)
<b>Target (Consent) Limit: 350 mg m<sup>2</sup> d<sup>-1</sup> on as a 30 day average</b>						
AD1	13/04/2012	14/05/2012	374649	16/05/2012	30/05/2012	256
AD2	13/04/2012	14/05/2012	374650	16/05/2012	30/05/2012	91
AD3	13/04/2012	14/05/2012	374651	16/05/2012	30/05/2012	113
AD4	13/04/2012	14/05/2012	374652	16/05/2012	30/05/2012	45
GD1	13/04/2012	14/05/2012	374653	16/05/2012	30/05/2012	149
GD2	13/04/2012	14/05/2012	374654	16/05/2012	30/05/2012	254
		NDP = No Determination Possible				
Monitoring Results will be presented monthly						

**Vibration Monitoring Record Sheet**

Minimum Criterion 8mm/s					
Date	Location	PPV max (mm/s)	Location*	PPV max (mm/s)	Comments
01/05/2012	V2	1.12	V3	0.40	
02/05/2012	V2	0.80	V3	-	Corrupted data
03/05/2012	V2	1.04	V3	4.74	
04/05/2012	V2	1.53	V3	0.40	
05/05/2012	V2	0.24	V3	0.40	
07/05/2012	V2	0.40	V3	0.40	
08/05/2012	V2	5.54	V3	0.40	
09/05/2012	V2	0.64	V3	0.40	
10/05/2012	V2	1.77	V3	0.32	
11/05/2012	V2	0.80	V3	0.40	
12/05/2012	V2	0.40	V3	0.40	
14/05/2012	V2	0.56	V3	1.21	
15/05/2012	V2	4.26	V3	0.48	
16/05/2012	V2	0.80	V3	0.72	
17/05/2012	V2	0.88	V3	0.48	
18/05/2012	V2	0.32	V3	0.40	
19/05/2012	V2	0.40	V3	0.40	
21/05/2012	V2	0.72	V3	0.40	
22/05/2012	V2	4.42	V3	0.40	
23/05/2012	V2	1.77	V3	0.40	
24/05/2012	V2	0.96	V3	1.21	
25/05/2012	V2	0.56	V3	1.53	
26/05/2012	V2	0.32	V3	0.88	
28/05/2012	V2	5.06	V3	0.48	
29/05/2012	V2	0.88	V3	0.32	
30/05/2012	V2	0.64	V3	0.40	
31/05/2012	V2	0.96	V3	0.88	

\*Vibration events due to personnel activity in and around cage in which V2 is located have been excluded from this data



Day Time Noise Monitoring / Max Hourly or above 60dB L <sub>Aeq</sub> Record Sheet										
Determinant Results										
Location	Air Temp. (Min)	Air Temp. (Max)	Start Date and Time	Duration	Wind		Results dB			*Comments
					Speed (m/s)*	Direction (Degrees)	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	
Action Limit							60.0			
Target Limit							65.0			
NSR1	8.8	16.3	01/05/2012 11:00	1:00:00	6.8	32.5	63.0	80.4	43.4	Wind dominates noise data
			01/05/2012 12:00	1:00:00	7.6	35.3	65.8	79.7	45.5	
			01/05/2012 13:00	1:00:00	5.3	48.5	60.6	78.9	40.6	
			01/05/2012 14:00	1:00:00	6.8	32.5	62.3	80.1	40.6	
NSR2			01/05/2012 12:00	1:00:00	8.7	5.0	58.3	73.4	43.4	
NSR1	7.6	15.4	02/05/2012 15:00	1:00:00	3.8	41.3	55.1	76.2	37.5	
NSR2			02/05/2012 15:00	1:00:00	4.5	90.5	58.4	77.8	39.9	
NSR1	8.8	12.7	03/05/2012 09:00	1:00:00	2.7	266.5	53.7	73.9	36.7	
NSR2			03/05/2012 13:00	1:00:00	5.7	339.3	64.5	89.8	44.3	
NSR1			04/05/2012 11:00	1:00:00	5.5	27.3	61.5	86.7	44.3	
			04/05/2012 12:00	1:00:00	4.3	106.3	64.8	86.3	43.2	
			04/05/2012 13:00	1:00:00	7.0	103.8	64.0	84.4	44.1	
			04/05/2012 14:00	1:00:00	6.0	114.8	65.1	84.6	42.9	Outside measurement parameters but may not be wind dominated. Comparrissions with site meters show that elevation is not due to site.
			04/05/2012 15:00	1:00:00	6.9	98.5	63.8	88.6	41.7	
			04/05/2012 16:00	1:00:00	5.2	187.5	62.6	87.1	42.4	
			04/05/2012 17:00	1:00:00	4.4	18.5	61.7	83.2	41.7	
			04/05/2012 18:00	1:00:00	5.8	185.8	60.1	80.1	40.4	
			04/05/2012 08:00	1:00:00	5.4	342.5	60.8	79.0	46.5	
			04/05/2012 09:00	1:00:00	5.7	340.8	62.9	76.5	46.5	
NSR2			04/05/2012 10:00	1:00:00	6.9	339.3	65.1	79.4	48.6	Outside measurement parameters but may not be wind dominated. Comparrissions with site meters show that elevation is not due to site.
			04/05/2012 11:00	1:00:00	6.7	342.0	65.2	79.1	49.6	Outside measurement parameters but may not be wind dominated. Comparrissions with site meters show that elevation is not due to site.
			04/05/2012 12:00	1:00:00	6.6	340.8	65.9	80.3	50.1	Outside measurement parameters but may not be wind dominated. Comparrissions with site meters show that elevation is not due to site.
			04/05/2012 13:00	1:00:00	7.7	346.5	66.9	80.8	50.0	Wind dominates wind data
			04/05/2012 14:00	1:00:00	8.0	346.0	66.9	80.5	49.6	Wind dominates wind data
			04/05/2012 15:00	1:00:00	7.5	346.8	65.8	78.7	49.0	Wind dominates wind data
			04/05/2012 16:00	1:00:00	6.9	345.0	64.0	77.7	48.9	
			04/05/2012 17:00	1:00:00	6.7	262.3	63.4	75.1	47.6	
			04/05/2012 18:00	1:00:00	6.6	352.0	63.4	76.5	47.2	
			NSR1	3.9	9.0	05/05/2012 14:00	1:00:00	3.0	105.0	49.6
NSR2	05/05/2012 18:00	1:00:00	4.5			93.0	60.6	79.9	38.3	
NSR1	5.1	11.8	07/05/2012 07:00	1:00:00	7.7	20.0	59.4	77.7	39.6	
NSR2			07/05/2012 07:00	1:00:00	7.7	20.0	58.5	77.5	45.7	
NSR1	6.3	10.6	08/05/2012 19:00	1:00:00	3.5	249.5	57.3	88.9	33.9	
NSR2			08/05/2012 07:00	1:00:00	4.8	284.3	60.9	77.5	45.5	
NSR1	1.9	11.3	09/05/2012 16:00	1:00:00	2.2	187.8	57.0	75.6	44.6	
NSR2			09/05/2012 17:00	1:00:00	5.9	267.3	61.4	78.1	42.0	
NSR1	6.8	9.3	10/05/2012 10:00	1:00:00	3.6	183.5	61.4	83.8	43.7	
NSR2			10/05/2012 11:00	0:00:12	3.3	104.0	61.4	72.3	50.3	
			10/05/2012 07:00	1:00:00	8.0	89.0	62.8	76.1	45.1	
			10/05/2012 08:00	1:00:00	7.0	179.3	61.7	75.6	46.1	
			10/05/2012 09:00	1:00:00	6.9	349.3	64.9	79.5	46.8	
			10/05/2012 18:00	1:00:00	4.1	334.3	60.5	77.3	46.6	
	10/05/2012 19:00	1:00:00	4.5	320.0	60.4	76.6	46.7			
NSR1	4.3	11.9	11/05/2012 07:00	1:00:00	5.3	333.5	52.7	73.9	34.3	
NSR2			11/05/2012 09:00	1:00:00	6.4	289.7	61.0	79.3	44.2	
NSR1	3.6	13.9	12/05/2012 12:00	1:00:00	5.2	236.8	53.1	74.5	34.9	
NSR2			12/05/2012 12:00	1:00:00	3.9	223.0	60.0	81.4	39.6	
			12/05/2012 13:00	1:00:00	4.5	210.0	61.1	86.0	37.0	
* Wind dominates noise data with wind speeds in excess of 7 m/s										
**Allowance of +/- 1.5dB accuracy of sound level meter (ref: IEC 61672 (2002-2005))										
The results show Laeq(1hr) for maximum daily values or values over 60dB for each day of monitoring										
NSR1										

Determinant Results										
Location	Air Temp. (Min)	Air Temp. (Max)	Start Date and Time	Duration	Wind		Results dB			*Comments
					Speed (m/s)*	Direction (Degrees)	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	
Action Limit							60.0			
Target Limit							65.0			
NSR2										
NSR1	5.8	11.1	15/05/2012 09:00	1:00:00	4.6	330.8	53.1	70.9	33.5	
NSR2			15/05/2012 17:00		4.4	264.3	59.4	77.6	42.2	
NSR1	4.8	12.0	16/05/2012 11:00	1:00:00	3.1	217.8	58.4	94.3	34.1	
NSR2			16/05/2012 17:00	1:00:00	5.4	185.3	50.2	74.1	37.2	
NSR1	6.3	10.9	17/05/2012 07:00	1:00:00	1.7	164.3	69.4	95.5	33.4	Comparisons with site meters confirm that elevation is not due to noise from construction site.
NSR2			17/05/2012 09:00	1:00:00	2.3	144.5	51.6	78.8	33.0	
NSR1	3.2	12.2	18/05/2012 17:00	1:00:00	6.0	100.5	58.3	78.1	39.7	
NSR2			18/05/2012 15:00	1:00:00	3.7	26.3	54.4	78.4	42.6	
NSR1	8.2	12.9	19/05/2012 14:00	1:00:00	2.4	46.3	54.0	72.2	32.6	
NSR2			19/05/2012 08:00	1:00:00	2.5	45.5	52.4	76.1	31.4	
NSR1	10.6	17.3	21/05/2012 11:00	1:00:00	3.6	183.3	54.7	74.2	36.3	
NSR2			21/05/2012 08:00	1:00:00	3.3	186.0	58.4	80.5	28.2	
NSR1	12.9	20.2	22/05/2012 08:00	1:00:00	2.4	92.3	53.2	73.4	41.7	
NSR2			22/05/2012 19:00	1:00:00	3.7	174.0	54.1	89.5	28.5	
NSR1	12.6	21.2	23/05/2012 11:00	1:00:00	3.5	121.8	57.7	74.7	42.2	
NSR2			23/05/2012 14:00	1:00:00	3.5	146.8	56.6	77.6	36.1	
NSR1	10.5	22.7	24/05/2012 19:00	1:00:00	2.7	320.8	52.6	79.2	33.9	
NSR2			24/05/2012 10:00	1:00:00	2.1	76.0	60.1	82.2	27.2	
NSR1	9.3	27.0	25/05/2012 16:00	1:00:00	5.8	113.5	58.0	75.8	37.4	
NSR2			25/05/2012 17:00	1:00:00	7.2	27.8	64.6	75.8	37.3	
NSR1	14.3	26.8	26/05/2012 11:00	1:00:00	2.8	204.5	60.5	77.7	37.1	
			26/05/2012 12:00	1:00:00	3.2	111.5	64.5	78.9	38.4	
			26/05/2012 13:00	1:00:00	2.9	148.5	65.0	80.3	37.4	Comparison with site boundary noise monitors confirm noise is not sourced from construction activity
			26/05/2012 14:00	1:00:00	2.2	199.0	63.1	80.7	38.1	
			26/05/2012 15:00	1:00:00	2.7	105.3	62.5	81.2	37.0	
			26/05/2012 17:00	1:00:00	4.0	116.8	60.4	76.1	37.7	
NSR2			26/05/2012 13:00	1:00:00	8.0	36.3	50.3	72.9	32.9	
NSR1	12.4	24.8	28/05/2012 15:00	1:00:00	1.4	143.8	54.8	74.8	39.1	
NSR2			28/05/2012 09:00	1:00:00	2.0	98.0	60.7	79.2	29.6	
NSR1	6.8	31.1	29/05/2012 07:00	1:00:00	0.4	98.8	52.1	74.9	37.0	
NSR2			29/05/2012 19:00	1:00:00	2.9	29.8	53.3	77.8	28.8	
NSR1	12.6	18.3	30/05/2012 12:00	1:00:00	2.0	217.0	50.4	79.9	35.0	
NSR2			30/05/2012 11:00	1:00:00	3.2	191.5	51.5	87.9	29.6	
* Wind dominates noise data with wind speeds in excess of 7 m/s										
**Allowance of +/- 1.5dB accuracy of sound level meter (ref: IEC 61672 (2002-2005))										
The results show Laeq(1hr) for maximum daily values or values over 60dB for each day of monitoring										
NSR1										
NSR2										



Day Time Noise Monitoring / Max Hourly or above 60dB L <sub>Aeq</sub> Record Sheet										
Determinant Results										
Location	Air Temp. (Min)	Air Temp. (Max)	Start Date and Time	Duration	Wind		Results dB			
					Speed (m/s)*	Direction (Degrees)	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	
Action Limit							60.0			
Target Limit							65.0			
AN1	3.9	9.0	05/05/2012 08:00	1:00:00	4.3	45.0	43.4	64.6	26.6	
AN2			05/05/2012 10:00	1:00:00	1.0	139.3	43.9	71.3	24.2	
AN3			05/05/2012 14:00	1:00:00	3.0	105.0	47.1	67.8	25.6	
GN1			05/05/2012 18:00	1:00:00	4.5	93.0	57.9	94.7	32.0	
GN2			05/05/2012 08:00	1:00:00	5.1	6.3	53.8	72.3	50.6	
RN1			05/05/2012 08:00	1:00:00	3.0	34.5	50.6	81.6	28.1	
AN1	5.1	11.8	07/05/2012 08:00	1:00:00	7.0	21.3	59.2	76.1	41.4	
AN2			07/05/2012 07:00	1:00:00	7.7	20.0	53.6	74.8	35.0	
AN3			07/05/2012 07:00	1:00:00	7.7	20.0	57.3	73.5	42.3	
GN1			07/05/2012 08:00	1:00:00	7.0	21.3	52.9	72.2	39.1	
GN2			07/05/2012 08:00	1:00:00	7.0	21.3	60.8	79.0	51.3	
RN1			07/05/2012 07:00	1:00:00	7.7	20.0	56.9	69.0	45.4	
AN1	6.3	10.6	08/05/2012 08:00	1:00:00	5.9	271.8	65.3	91.4	49.2	
			08/05/2012 09:00	1:00:00	6.2	269.5	68.7	92.2	49.2	
			08/05/2012 10:00	1:00:00	5.0	265.8	65.4	92.8	45.7	
			08/05/2012 11:00	1:00:00	4.8	260.0	70.6	93.3	45.9	
			08/05/2012 12:00	1:00:00	5.6	254.8	71.9	94.0	48.5	
			08/05/2012 13:00	1:00:00	4.6	253.5	63.0	86.1	45.0	
			08/05/2012 14:00	1:00:00	3.7	233.3	61.0	87.0	45.9	
			08/05/2012 15:00	1:00:00	5.0	249.0	64.6	90.1	46.4	
			08/05/2012 16:00	1:00:00	4.1	239.5	71.4	93.4	50.8	
			08/05/2012 17:00	1:00:00	4.6	246.8	67.9	93.0	47.1	
			08/05/2012 18:00	1:00:00	4.4	248.0	65.9	91.4	34.3	
			AN2	08/05/2012 11:00	1:00:00	4.8	260.0	59.5	75.9	44.7
			AN3	08/05/2012 13:00	1:00:00	4.6	253.5	54.2	70.4	25.5
			GN1	08/05/2012 19:00	1:00:00	3.5	249.5	53.5	82.6	32.8
GN2	08/05/2012 07:00	1:00:00	4.8	284.3	62.8	80.8	52.9			
	08/05/2012 08:00	1:00:00	5.9	271.8	67.0	87.1	53.9			
	08/05/2012 09:00	1:00:00	6.2	269.5	66.1	95.9	55.4			
	08/05/2012 10:00	1:00:00	5.0	265.8	69.8	85.8	52.6			
	08/05/2012 11:00	1:00:00	4.8	260.0	63.9	84.6	53.4			
	08/05/2012 12:00	1:00:00	5.6	254.8	63.7	80.7	51.9			
	08/05/2012 13:00	1:00:00	4.6	253.5	64.9	86.1	53.2			
	08/05/2012 14:00	1:00:00	3.7	233.3	60.0	79.7	50.5			
	08/05/2012 15:00	1:00:00	5.0	249.0	65.3	92.8	51.4			
	08/05/2012 16:00	1:00:00	4.1	239.5	66.4	99.5	50.9			
	RN1	08/05/2012 15:00	1:00:00	5.0	249.0	62.9	89.9	27.3		
	AN1	1.9	11.3	09/05/2012 07:00	1:00:00	0.3	225.8	70.2	91.4	37.6
				09/05/2012 08:00	1:00:00	0.3	178.5	67.5	91.6	47.7
				09/05/2012 09:00	1:00:00	1.6	53.8	65.8	88.7	46.6
09/05/2012 10:00				1:00:00	2.9	44.0	61.2	88.8	39.9	
09/05/2012 11:00				1:00:00	3.0	60.8	66.0	90.3	46.1	
09/05/2012 12:00				1:00:00	3.5	108.5	63.1	87.6	42.9	
09/05/2012 13:00				1:00:00	3.9	114.0	64.7	89.8	43.0	
09/05/2012 15:00				1:00:00	5.1	25.5	64.5	88.7	43.8	
09/05/2012 16:00				1:00:00	2.2	187.8	64.8	87.9	46.6	
09/05/2012 17:00				1:00:00	3.5	125.8	67.2	90.8	46.2	
AN2				09/05/2012 18:00	1:00:00	4.1	28.0	54.9	73.6	35.4
AN3				09/05/2012 17:00	1:00:00	3.5	125.8	49.6	68.0	34.7
GN1				09/05/2012 17:00	1:00:00	5.9	267.3	57.8	93.1	34.9
GN2				09/05/2012 08:00	1:00:00	1.8	39.3	67.4	90.6	51.0
	09/05/2012 09:00	1:00:00	2.0	48.8	65.9	93.4	50.7			
	09/05/2012 10:00	1:00:00	4.0	15.8	68.1	99.3	49.8			
	09/05/2012 11:00	1:00:00	5.6	93.8	68.3	92.7	49.2			
	09/05/2012 12:00	1:00:00	5.7	91.5	65.5	87.4	48.4			
	09/05/2012 13:00	1:00:00	6.1	3.3	65.5	88.2	50.7			
	09/05/2012 14:00	1:00:00	5.8	261.8	62.6	86.1	49.5			
	09/05/2012 15:00	1:00:00	5.6	266.3	64.1	87.0	50.9			
	09/05/2012 16:00	1:00:00	5.7	348.0	61.0	86.0	50.2			
	RN1	09/05/2012 18:00	1:00:00	4.1	28.0	55.9	79.5	34.3		
	AN1	6.8	9.3	10/05/2012 08:00	1:00:00	3.3	194.8	69.9	94.4	47.8
				10/05/2012 09:00	1:00:00	3.2	188.3	66.6	91.7	50.4
				10/05/2012 10:00	1:00:00	3.6	183.5	69.1	93.8	46.4
				10/05/2012 11:00	1:00:00	3.3	104.0	67.4	92.1	46.9
10/05/2012 12:00				1:00:00	5.3	99.0	62.6	80.7	47.1	
10/05/2012 13:00				1:00:00	5.0	99.3	64.4	87.4	47.1	
10/05/2012 14:00				1:00:00	2.4	173.8	64.1	91.6	40.7	
10/05/2012 15:00				1:00:00	3.0	39.5	65.1	87.8	46.1	
10/05/2012 16:00				1:00:00	2.6	21.0	63.1	87.0	44.4	
10/05/2012 17:00				1:00:00	3.5	245.5	62.7	83.6	44.0	
AN2				10/05/2012 11:00	1:00:00	3.3	104.0	57.2	73.5	45.3
AN3				10/05/2012 09:00	1:00:00	3.2	188.3	54.5	72.1	40.7
GN1				10/05/2012 09:00	1:00:00	6.9	349.3	62.6	82.0	43.7
GN2				10/05/2012 10:00	1:00:00	7.4	264.0	61.5	77.1	42.9
	10/05/2012 08:00	1:00:00	7.0	179.3	65.4	87.2	51.2			
	10/05/2012 09:00	1:00:00	6.9	349.3	68.4	91.9	52.6			
	10/05/2012 11:00	1:00:00	6.9	265.0	65.6	85.6	52.1			
	10/05/2012 12:00	1:00:00	6.6	346.3	67.6	89.5	51.7			
	10/05/2012 13:00	1:00:00	5.4	343.3	68.4	91.7	51.9			
	10/05/2012 14:00	1:00:00	4.9	340.5	70.8	96.7	51.2			
	10/05/2012 15:00	1:00:00	5.7	343.5	70.9	95.5	53.0			
	10/05/2012 16:00	1:00:00			70.6	94.1	52.7			
	10/05/2012 19:00	1:00:00	4.5	320.0	60.1	76.3	51.3			
	RN1	10/05/2012 09:00	1:00:00	6.9	349.3	60.6	80.4	43.3		
	10/05/2012 18:00	1:00:00	4.1	334.3	61.6	84.5	38.7			
	AN1	4.3	11.9	11/05/2012 07:00	1:00:00	5.3	333.5	63.4	88.4	33.3
				11/05/2012 08:00	1:00:00	3.8	339.3	65.6	89.1	47.6
11/05/2012 09:00				1:00:00	3.7	311.8	65.0	87.6	45.3	
11/05/2012 10:00				1:00:00	4.1	237.5	63.3	86.0	45.0	
11/05/2012 11:00				1:00:00	5.1	311.5	67.1	89.6	53.0	
11/05/2012 12:00				1:00:00	5.9	330.0	61.2	93.5	50.0	
11/05/2012 13:00				1:00:00	4.1	321.0	64.7	88.8	47.1	
11/05/2012 14:00				1:00:00	4.7	330.0	62.1	88.7	42.8	
AN2				11/05/2012 08:00	1:00:00	3.8	339.3	56.1	75.5	44.9
AN3				11/05/2012 10:00	1:00:00	4.1	237.5	51.2	71.2	28.4
GN1				11/05/2012 09:00	1:00:00	6.4	289.7	52.4	88.6	37.9
GN2				11/05/2012 07:00	1:00:00	6.3	303.3	60.1	78.1	50.8
				11/05/2012 08:00	1:00:00	6.5	291.3	70.5	94.5	51.9
				11/05/2012 09:00	1:00:00	6.4	289.7	64.6	89.0	51.9
	11/05/2012 10:00	1:00:00	4.6	288.5	63.8	88.2	52.2			
	11/05/2012 11:00	1:00:00	5.3	275.0	67.8	91.2	51.1			
	11/05/2012 12:00	1:00:00	5.5	284.0	67.2	91.2	52.4			
	11/05/2012 13:00	1:00:00	4.9	280.0	69.7	86.1	52.1			
	11/05/2012 14:00	1:00:00	5.2	289.0	67.3	86.0	50.0			
	11/05/2012 15:00	1:00:00	5.0	288.0	70.2	95.1	52.2			
	11/05/2012 16:00	1:00:00	4.0	263.7	64.2	83.5	51.4			
	RN1	11/05/2012 17:00	1:00:00	3.9	262.3	61.8	88.0	49.0		
	11/05/2012 08:00	1:00:00	6.5	291.3	64.8	90.7	29.3			
	* Wind dominates noise data with wind speeds in excess of 7 m/s									
	**Allowance of +/- 1.5dB accuracy of sound level meter (ref: IEC 61672 (2002-2005))									
The results show LAeq(1hr) for maximum daily values or values over 60dB for each day of monitoring										
	AN1		AN2		AN3		GN1		RN1	
	GN2	*Air temperature taken from Aughose weather station.								

Day Time Noise Monitoring / Max Hourly or above 60dB L <sub>Aeq</sub> Record Sheet												
Determinant Results												
Location	Air Temp. (Min)	Air Temp. (Max)	Start Date and Time	Duration	Wind		Results dB					
					Speed (m/s)*	Direction (Degrees)	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>			
Action Limit							60.0					
Target Limit							65.0					
AN1	3.6	13.9	12/05/2012 16:00	1:00:00	3.9	234.3	53.1	79.2	33.0			
AN2			12/05/2012 16:00	1:00:00	3.9	234.3	51.2	70.0	32.6			
AN3			12/05/2012 17:00	1:00:00	5.5	226.3	52.1	74.0	33.4			
GN1			12/05/2012 16:00	1:00:00	5.5	207.0	54.6	75.1	36.2			
GN2			12/05/2012 14:00	1:00:00	5.2	211.7	58.9	74.8	50.1			
RN1			12/05/2012 15:00	1:00:00	5.1	208.0	61.2	83.8	34.8			
AN1	5.2	11.7	14/05/2012 07:00	1:00:00	2.7	253.0	64.5	86.3	38.5			
			14/05/2012 08:00	1:00:00	3.3	266.3	68.2	88.2	49.8			
			14/05/2012 09:00	1:00:00	4.5	255.0	65.8	89.2	49.8			
			14/05/2012 10:00	1:00:00	3.1	279.0	63.4	88.0	46.4			
			14/05/2012 11:00	1:00:00	5.8	281.8	67.6	87.1	49.9			
			14/05/2012 12:00	1:00:00	2.2	260.3	67.6	87.0	53.0			
			14/05/2012 13:00	1:00:00	4.2	288.3	66.2	86.9	48.1			
			14/05/2012 14:00	1:00:00	4.1	282.5	64.0	86.4	47.3			
			14/05/2012 15:00	1:00:00	5.9	300.3	66.5	88.3	51.1			
			14/05/2012 16:00	1:00:00	6.3	291.0	67.7	88.8	54.3			
			14/05/2012 17:00	1:00:00	4.2	273.8	67.0	87.3	49.9			
			14/05/2012 18:00	1:00:00	6.0	284.0	62.6	89.8	41.3			
			14/05/2012 19:00	1:00:00	4.8	289.5	60.0	80.2	37.7			
			AN2	14/05/2012 17:00	1:00:00	4.2	273.8	59.2	86.2	43.8		
			GN2	14/05/2012 07:00	1:00:00	6.3	215.7	64.6	80.1	53.3		
14/05/2012 08:00				1:00:00	5.5	234.7	68.0	91.0	53.8			
14/05/2012 09:00				1:00:00	6.2	228.0	68.6	84.4	55.9			
14/05/2012 10:00				1:00:00	6.8	232.0	67.3	81.6	54.8			
14/05/2012 11:00				1:00:00	6.9	239.7	68.3	85.7	56.4			
14/05/2012 12:00				1:00:00	4.9	248.3	66.1	86.9	56.1			
14/05/2012 13:00				1:00:00	5.9	256.5	70.0	93.1	58.2			
14/05/2012 14:00				1:00:00	6.4	251.3	70.2	85.1	59.8			
14/05/2012 15:00				1:00:00	6.3	255.8	69.3	100.0	57.7			
14/05/2012 16:00				1:00:00	6.6	253.0	67.9	101.4	57.1			
14/05/2012 17:00				1:00:00	6.5	254.5	67.5	86.8	55.2			
14/05/2012 18:00				1:00:00	6.3	256.8	63.2	87.0	53.8			
14/05/2012 19:00				1:00:00	7.1	258.0	66.6	80.0	53.5			
RN1			14/05/2012 09:00	1:00:00	6.2	228.0	53.0	82.1	35.5			
AN1			5.8	11.1	15/05/2012 07:00	1:00:00	2.2	332.3	65.3	91.1	35.3	
	15/05/2012 08:00	1:00:00			3.4	330.8	64.3	88.1	48.6			
	15/05/2012 09:00	1:00:00			4.6	330.8	66.0	89.3	45.1			
	15/05/2012 10:00	1:00:00			4.0	311.5	61.5	81.7	39.6			
	15/05/2012 11:00	1:00:00			4.6	324.5	66.1	92.8	41.4			
	15/05/2012 12:00	1:00:00			3.7	322.8	66.1	87.7	40.6			
	15/05/2012 13:00	1:00:00			4.5	307.8	66.1	89.2	47.0			
	15/05/2012 14:00	1:00:00			3.3	309.5	62.6	90.3	42.1			
	15/05/2012 15:00	1:00:00			3.8	318.3	65.2	86.9	47.2			
	15/05/2012 16:00	1:00:00			3.9	289.3	63.7	88.4	52.4			
	15/05/2012 17:00	1:00:00			3.5	304.5	60.5	82.8	44.2			
	15/05/2012 18:00	1:00:00			3.6	311.8	57.0	73.7	32.4			
	AN2	15/05/2012 08:00			1:00:00	3.4	330.8	49.3	71.5	27.9		
	AN3	15/05/2012 09:00			1:00:00	2.9	267.5	54.2	84.9	39.2		
	GN1	15/05/2012 08:00			1:00:00	3.5	264.3	70.2	92.5	52.2		
GN2	15/05/2012 09:00	1:00:00			2.9	267.5	65.7	84.7	53.8			
	15/05/2012 10:00	1:00:00			4.8	284.5	63.1	97.4	53.6			
	15/05/2012 11:00	1:00:00			5.4	290.3	65.0	89.4	53.5			
	15/05/2012 12:00	1:00:00			5.0	287.0	63.0	84.4	53.1			
	15/05/2012 13:00	1:00:00			4.7	265.7	63.1	87.6	52.9			
	15/05/2012 14:00	1:00:00			5.1	269.3	63.9	81.8	52.9			
	15/05/2012 15:00	1:00:00			4.0	268.5	63.7	98.2	53.7			
	15/05/2012 16:00	1:00:00			4.1	262.0	66.2	90.4	54.3			
	RN1	15/05/2012 08:00			1:00:00	3.5	264.3	58.2	86.1	25.8		
	AN1	4.8			12.0	16/05/2012 07:00	1:00:00	1.0	247.0	65.2	87.0	31.2
			16/05/2012 08:00	1:00:00		1.7	207.8	67.5	86.9	51.4		
			16/05/2012 09:00	1:00:00		2.2	220.5	67.1	85.6	51.2		
			16/05/2012 10:00	1:00:00		3.1	217.8	61.4	88.5	48.8		
16/05/2012 11:00			1:00:00	3.1		217.8	67.4	87.8	51.0			
16/05/2012 12:00			1:00:00	4.3		205.5	67.3	90.9	51.6			
16/05/2012 13:00			1:00:00	4.0		209.8	63.6	90.0	51.3			
16/05/2012 14:00			1:00:00	3.6		212.8	64.5	88.7	48.3			
16/05/2012 15:00			1:00:00	3.8		184.8	66.8	85.3	51.4			
16/05/2012 16:00			1:00:00	5.3		199.8	65.9	86.9	52.4			
16/05/2012 17:00			1:00:00	3.7		205.5	67.1	88.2	54.5			
16/05/2012 18:00			1:00:00	3.0		194.5	63.6	86.0	34.8			
AN2			16/05/2012 18:00	1:00:00		3.0	194.5	56.1	75.3	32.1		
AN3			16/05/2012 14:00	1:00:00		3.6	212.8	49.6	69.4	29.5		
GN1			16/05/2012 17:00	1:00:00		5.4	185.3	55.1	86.2	36.2		
GN2	16/05/2012 08:00		1:00:00	2.2		188.5	64.6	94.2	50.9			
	16/05/2012 09:00		1:00:00	3.5		208.0	64.0	85.8	52.8			
	16/05/2012 11:00		1:00:00	4.5		182.3	61.0	84.5	52.7			
	16/05/2012 12:00		1:00:00	5.5		191.7	62.8	86.9	52.7			
	16/05/2012 14:00		1:00:00	6.0		185.3	60.8	75.7	50.6			
	16/05/2012 15:00		1:00:00	6.2		187.3	62.7	87.7	52.3			
	16/05/2012 16:00		1:00:00	6.0		188.3	62.8	84.6	51.2			
	RN1		16/05/2012 09:00	1:00:00		3.5	208.0	58.1	85.3	29.0		
	AN1		6.3	10.9		17/05/2012 08:00	1:00:00	2.5	138.3	64.9	87.6	48.8
		17/05/2012 09:00			1:00:00	2.3	144.5	64.7	85.2	51.3		
		17/05/2012 10:00			1:00:00	1.8	188.3	63.4	87.2	44.6		
		17/05/2012 11:00			1:00:00	2.2	166.3	68.8	88.1	48.6		
		17/05/2012 12:00			1:00:00	1.7	204.8	68.0	86.0	52.9		
17/05/2012 13:00		1:00:00			2.2	275.8	65.3	85.5	46.0			
17/05/2012 15:00		1:00:00			1.9	104.5	64.0	86.4	44.7			
17/05/2012 16:00		1:00:00			1.5	190.0	67.0	84.7	44.9			
17/05/2012 17:00		1:00:00			1.5	23.0	60.8	85.8	43.3			
AN2		17/05/2012 18:00			1:00:00	1.4	111.3	53.8	74.1	31.4		
AN3		17/05/2012 08:00			1:00:00	2.5	138.3	50.3	79.7	26.8		
GN1		17/05/2012 17:00			1:00:00	1.7	263.5	48.2	81.1	35.4		
GN2		17/05/2012 08:00			1:00:00	1.5	133.3	67.4	86.1	49.7		
		17/05/2012 09:00			1:00:00	2.0	115.8	69.1	89.0	54.7		
		17/05/2012 10:00			1:00:00	1.7	129.8	61.7	81.2	50.1		
	17/05/2012 11:00	1:00:00			1.7	187.0	72.0	91.6	51.5			
	17/05/2012 12:00	1:00:00			2.3	204.5	62.4	88.0	52.8			
	17/05/2012 13:00	1:00:00			1.8	246.3	63.5	86.6	52.1			
	17/05/2012 14:00	1:00:00			2.1	262.8	65.1	94.5	52.0			
	17/05/2012 15:00	1:00:00			1.2	291.3	63.4	86.9	52.8			
	17/05/2012 16:00	1:00:00			1.7	178.0	63.8	89.2	52.1			
	RN1	17/05/2012 18:00			1:00:00	1.4	111.3	55.8	82.9	23.5		
	* Wind dominates noise data with wind speeds in excess of 7 m/s											
	**Allowance of +/- 1.5dB accuracy of sound level meter (ref: IEC 61672 (2002-2005))											
	The results show Laeq(1hr) for maximum daily values or values over 60dB for each day of monitoring											
	AN1		AN2		AN3		GN1		RN1			
	GN2	*Air temperature taken from Aughooose weather station.										

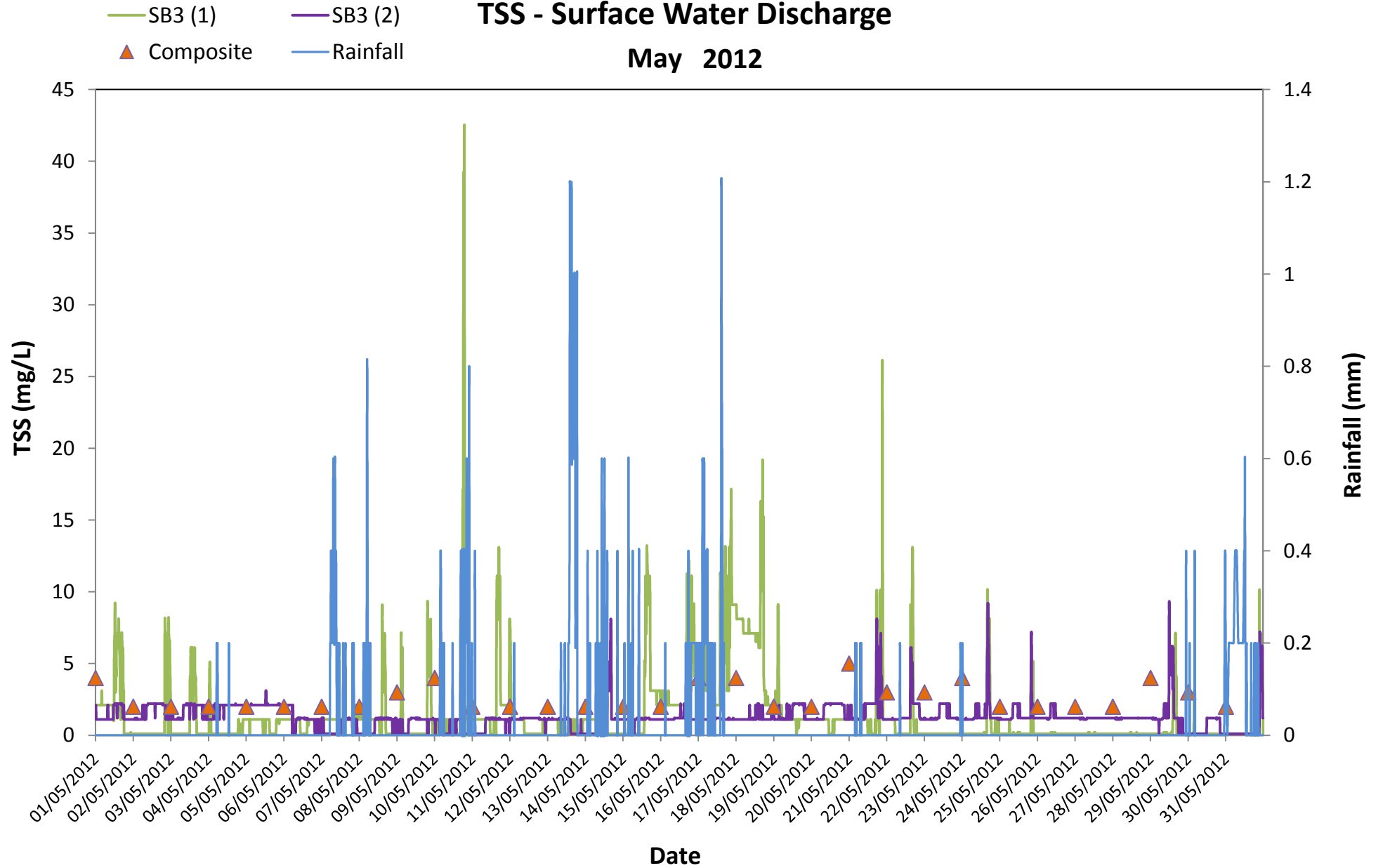


Day Time Noise Monitoring / Max Hourly or above 60dB L <sub>aeq</sub> Record Sheet									
Determinant Results									
Location	Air Temp. (Min)	Air Temp. (Max)	Start Date and Time	Duration	Wind		Results dB		
					Speed (m/s)*	Direction (Degrees)	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>
Action Limit							60.0		
Target Limit							65.0		
AN1	3.2	12.2	18/05/2012 07:00	1:00:00	0.2	206.0	63.7	85.6	37.9
			18/05/2012 08:00	1:00:00	1.1	107.3	64.4	85.7	46.5
			18/05/2012 09:00	1:00:00	2.1	37.0	64.2	86.7	46.6
			18/05/2012 10:00	1:00:00	3.2	106.0	62.5	85.4	37.9
			18/05/2012 11:00	1:00:00	3.3	91.8	64.8	85.3	45.6
			18/05/2012 12:00	1:00:00	4.4	35.3	61.5	86.1	46.2
			18/05/2012 16:00	1:00:00	3.7	178.3	60.6	79.2	40.8
AN2			18/05/2012 16:00	1:00:00	3.7	178.3	57.5	96.1	40.7
AN3			18/05/2012 16:00	1:00:00	3.7	178.3	51.3	67.1	38.0
GN1			18/05/2012 18:00	1:00:00	5.8	92.3	58.1	77.3	41.5
GN2			18/05/2012 08:00	1:00:00	1.9	14.8	67.1	95.4	51.3
			18/05/2012 09:00	1:00:00	3.0	19.5	71.2	107.4	51.4
			18/05/2012 10:00	1:00:00	4.2	23.3	63.3	87.8	51.3
			18/05/2012 11:00	1:00:00	4.7	27.8	64.8	91.8	52.2
			18/05/2012 12:00	1:00:00	5.2	21.5	63.8	86.3	56.0
			18/05/2012 13:00	1:00:00	4.8	20.0	65.2	88.1	51.3
			18/05/2012 14:00	1:00:00	4.4	4.3	65.4	83.5	51.6
			18/05/2012 15:00	1:00:00	5.2	12.8	66.4	87.7	52.9
			18/05/2012 16:00	1:00:00	5.6	92.5	65.8	89.4	52.3
RN1			18/05/2012 09:00	1:00:00	2.1	37.0	57.1	87.3	26.9
AN1			8.2	12.9	19/05/2012 12:00	1:00:00	3.2	26.3	41.5
AN2	19/05/2012 07:00	1:00:00			3.3	35.3	43.4	66.5	29.0
AN3	19/05/2012 07:00	1:00:00			3.3	35.3	51.3	75.3	23.5
GN1	19/05/2012 18:00	1:00:00			2.9	15.3	58.0	91.0	29.4
GN2	19/05/2012 08:00	1:00:00			4.1	24.5	64.1	82.7	50.1
	19/05/2012 09:00	1:00:00			4.1	28.8	65.3	86.3	56.4
	19/05/2012 10:00	1:00:00			4.4	26.0	63.3	89.5	50.1
	19/05/2012 11:00	1:00:00			3.8	17.8	67.4	91.8	50.8
	19/05/2012 12:00	1:00:00			3.6	105.0	67.5	82.4	54.4
	19/05/2012 14:00	1:00:00			2.4	46.3	56.8	83.4	25.4
AN1	10.6	17.3	21/05/2012 07:00	1:00:00	3.6	183.3	65.2	87.3	35.0
			21/05/2012 08:00	1:00:00	3.3	186.0	64.5	85.9	51.6
			21/05/2012 09:00	1:00:00	2.9	185.8	65.8	86.4	53.5
			21/05/2012 10:00	1:00:00	2.7	187.8	64.9	88.3	50.1
			21/05/2012 11:00	1:00:00	3.6	183.3	68.8	87.7	53.4
			21/05/2012 12:00	1:00:00	5.0	194.5	67.3	88.2	52.5
			21/05/2012 13:00	1:00:00	2.2	191.5	67.7	92.5	52.3
			21/05/2012 14:00	1:00:00	3.1	163.5	63.5	85.6	46.8
			21/05/2012 15:00	1:00:00	3.0	168.5	68.2	88.1	48.7
			21/05/2012 16:00	1:00:00	3.2	165.5	66.8	90.3	50.9
			21/05/2012 17:00	1:00:00	2.2	186.0	66.3	92.1	51.9
			21/05/2012 18:00	1:00:00	4.5	202.3	62.9	88.6	35.1
AN3			21/05/2012 07:00	1:00:00	3.6	183.3	46.5	75.9	29.1
GN1			21/05/2012 14:00	1:00:00	2.7	147.8	56.7	94.2	28.2
RN1			21/05/2012 08:00	1:00:00	3.3	186.0	58.1	84.9	30.2
AN1	12.9	20.2	22/05/2012 07:00	1:00:00	1.7	132.8	60.4	81.9	34.8
			22/05/2012 08:00	1:00:00	2.4	92.3	65.6	85.6	54.0
			22/05/2012 09:00	1:00:00	2.7	145.5	65.4	89.2	49.0
			22/05/2012 10:00	1:00:00	3.5	158.8	63.5	88.1	49.2
			22/05/2012 12:00	1:00:00	4.6	174.5	68.7	91.8	56.2
			22/05/2012 13:00	1:00:00	3.2	173.0	67.2	89.8	51.8
			22/05/2012 14:00	1:00:00	3.7	164.8	63.6	90.2	49.8
			22/05/2012 15:00	1:00:00	3.7	165.0	65.0	86.3	53.3
			22/05/2012 16:00	1:00:00	3.2	160.3	68.8	93.4	54.4
			22/05/2012 17:00	1:00:00	2.4	160.0	67.7	88.2	53.3
			22/05/2012 18:00	1:00:00	3.5	194.5	66.3	83.3	36.5
AN2			22/05/2012 13:00	1:00:00	3.2	173.0	53.6	81.0	35.0
AN3			22/05/2012 18:00	1:00:00	3.5	194.5	43.8	63.3	26.6
GN1			22/05/2012 18:00	1:00:00	5.4	192.0	47.6	75.0	28.3
GN2			22/05/2012 08:00	1:00:00	3.1	126.5	67.0	89.7	48.7
			22/05/2012 09:00	1:00:00	3.6	120.0	63.4	92.4	52.2
			22/05/2012 10:00	1:00:00	4.4	130.3	60.8	85.6	47.7
			22/05/2012 11:00	1:00:00	5.3	132.5	62.0	81.2	51.3
			22/05/2012 12:00	1:00:00	4.0	132.8	63.6	90.8	49.0
			22/05/2012 13:00	1:00:00	4.6	125.8	67.4	97.8	48.5
			22/05/2012 15:00	1:00:00	4.7	126.3	60.1	86.5	47.7
			22/05/2012 16:00	1:00:00	4.4	119.5	62.4	89.1	48.7
RN1			22/05/2012 10:00	1:00:00	3.5	158.8	50.1	76.6	35.2
AN1	12.6	21.2	23/05/2012 07:00	1:00:00	2.8	134.0	63.9	86.4	46.9
			23/05/2012 08:00	1:00:00	2.4	141.7	65.7	85.3	52.2
			23/05/2012 09:00	1:00:00	2.9	136.3	66.8	84.7	49.6
			23/05/2012 10:00	1:00:00	3.1	173.5	64.0	88.5	47.8
			23/05/2012 11:00	1:00:00	3.5	121.8	65.8	93.3	49.9
			23/05/2012 12:00	1:00:00	4.1	136.5	66.8	87.7	52.6
			23/05/2012 13:00	1:00:00	4.6	148.0	65.6	90.5	50.9
			23/05/2012 14:00	1:00:00	3.5	146.8	65.5	91.2	48.4
			23/05/2012 15:00	1:00:00	4.9	155.3	67.3	89.0	48.2
			23/05/2012 16:00	1:00:00	4.3	134.3	67.7	89.1	53.9
			23/05/2012 17:00	1:00:00	3.9	183.8	65.1	84.6	51.9
AN2			23/05/2012 18:00	1:00:00	4.1	206.3	56.3	73.4	30.8
AN3			23/05/2012 09:00	1:00:00	2.9	136.3	52.8	81.9	30.4
GN1			23/05/2012 15:00	1:00:00	6.1	126.0	53.1	83.7	33.8
GN2			23/05/2012 08:00	1:00:00	4.5	119.5	62.1	91.0	48.9
			23/05/2012 09:00	1:00:00	4.8	108.3	67.0	87.0	49.3
			23/05/2012 11:00	1:00:00	5.3	122.0	64.0	77.2	54.0
			23/05/2012 12:00	1:00:00	5.7	123.3	62.6	75.6	52.4
			23/05/2012 13:00	1:00:00	5.4	111.3	63.5	86.3	49.3
			23/05/2012 14:00	1:00:00	5.7	127.8	60.0	84.3	49.9
			23/05/2012 15:00	1:00:00	6.1	126.0	65.2	88.9	49.1
			23/05/2012 16:00	1:00:00	5.6	132.8	64.7	91.8	47.3
RN1			23/05/2012 14:00	1:00:00	3.5	146.8	53.0	73.3	41.8
AN1	10.5	22.7	24/05/2012 08:00	1:00:00	1.2	50.0	65.6	89.4	43.9
			24/05/2012 09:00	1:00:00	0.6	161.3	64.7	86.8	45.2
			24/05/2012 10:00	1:00:00	1.0	185.0	61.8	84.6	42.7
			24/05/2012 11:00	1:00:00	1.7	150.5	65.2	90.5	48.4
			24/05/2012 12:00	1:00:00	2.1	161.3	64.8	87.5	48.9
			24/05/2012 13:00	1:00:00	2.3	152.0	63.8	85.3	48.2
			24/05/2012 14:00	1:00:00	3.2	205.8	63.3	82.6	40.9
			24/05/2012 15:00	1:00:00	2.3	251.8	65.2	87.0	45.0
			24/05/2012 16:00	1:00:00	2.4	297.3	65.9	83.9	49.0
			24/05/2012 17:00	1:00:00	1.7	284.0	64.0	85.6	45.9
			24/05/2012 18:00	1:00:00	2.9	308.3	55.2	72.0	31.4
AN2			24/05/2012 07:00	1:00:00	0.7	146.5	49.9	80.4	23.2
AN3			24/05/2012 09:00	1:00:00	2.5	92.5	46.8	65.6	28.3
GN1			24/05/2012 08:00	1:00:00	2.5	80.0	73.5	103.8	47.2
GN2			24/05/2012 10:00	1:00:00	2.1	76.0	62.5	94.4	50.3
			24/05/2012 11:00	1:00:00	1.9	92.5	63.4	91.6	54.0
			24/05/2012 12:00	1:00:00	2.2	109.0	64.3	84.9	56.4
			24/05/2012 13:00	1:00:00	1.8	141.0	60.0	77.6	50.5
			24/05/2012 14:00	1:00:00	1.8	236.3	63.3	90.8	50.3
		24/05/2012 15:00	1:00:00	2.2	218.5	69.2	90.7	49.6	
	24/05/2012 16:00	1:00:00	2.8	218.5	67.9	92.7	49.6		
RN1	24/05/2012 14:00	1:00:00	3.2	205.8	49.9	81.9	27.5		
* Wind dominates noise data with wind speeds in excess of 7 m/s									
**Allowance of +/- 1.5dB accuracy of sound level meter (ref: IEC 61672 (2002-2005))									
The results show Laeq(1hr) for maximum daily values or values over 60dB for each day of monitoring									
	AN1		AN2		AN3		GN1		RN1
	GN2	*Air temperature taken from Aughoose weather station.							



# TSS - Surface Water Discharge

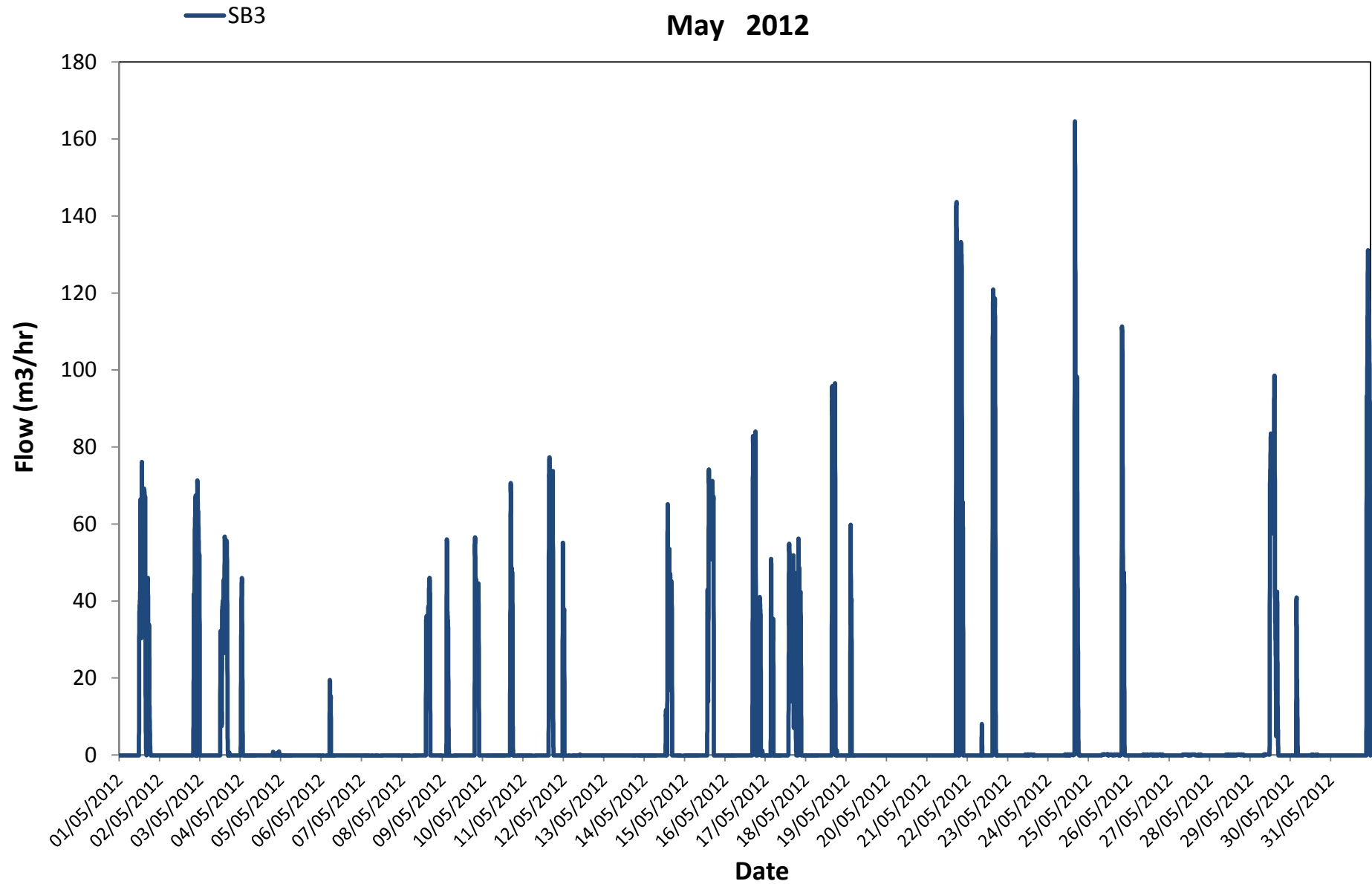
## May 2012





# Flow - Surface Water Discharge

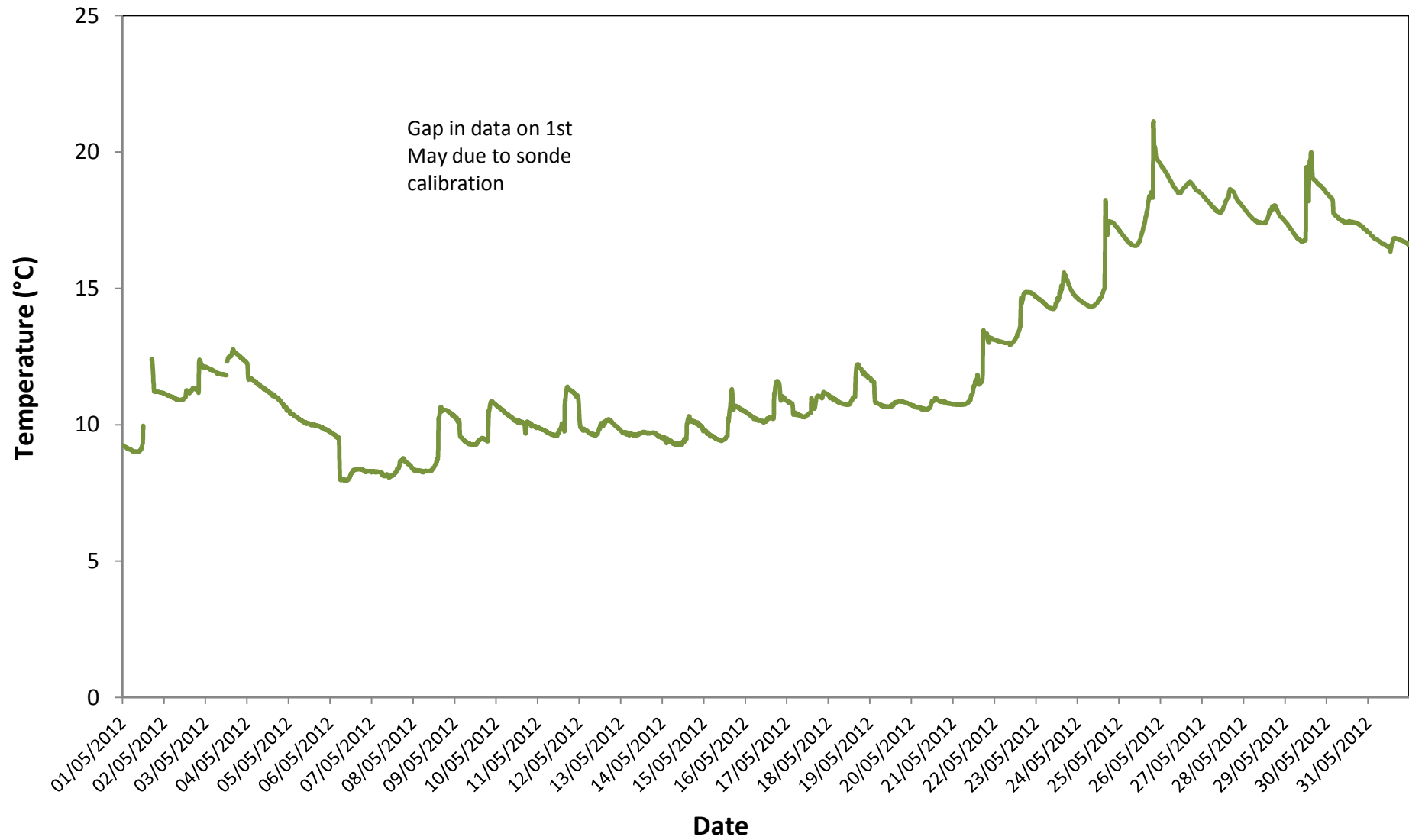
## May 2012



# Temperature - Surface Water Discharge

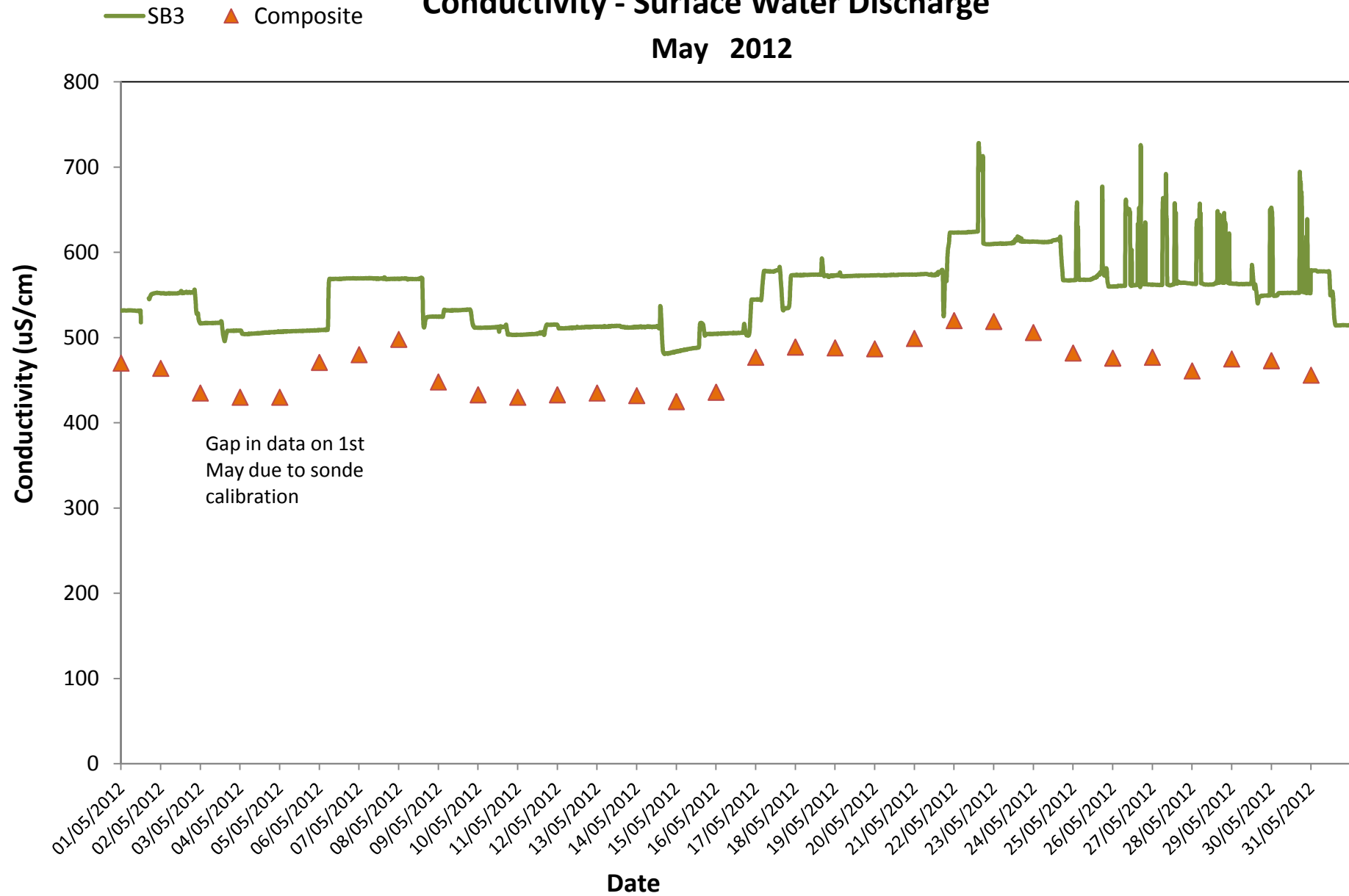
## May 2012

— SB3



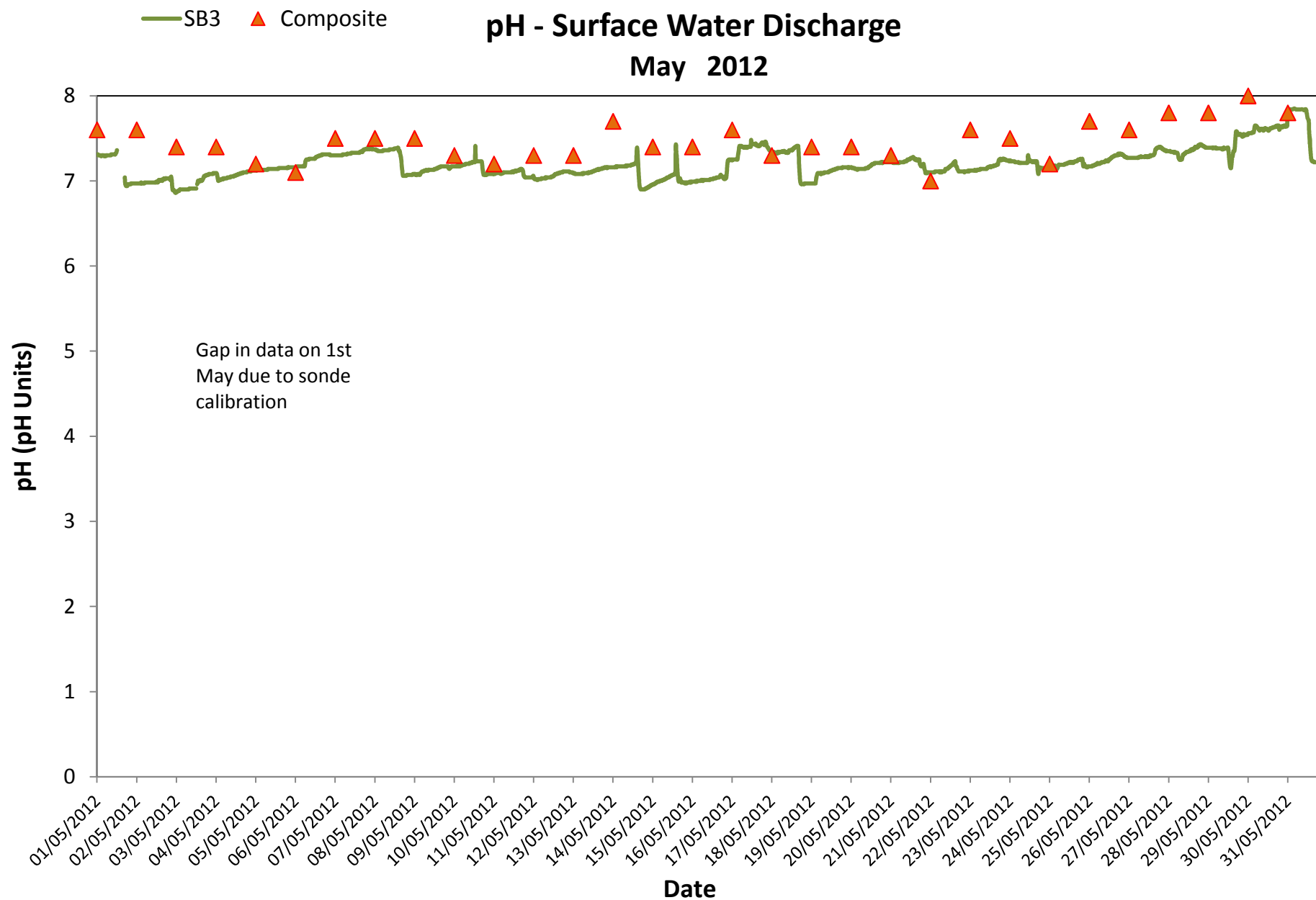
# Conductivity - Surface Water Discharge

## May 2012



# pH - Surface Water Discharge

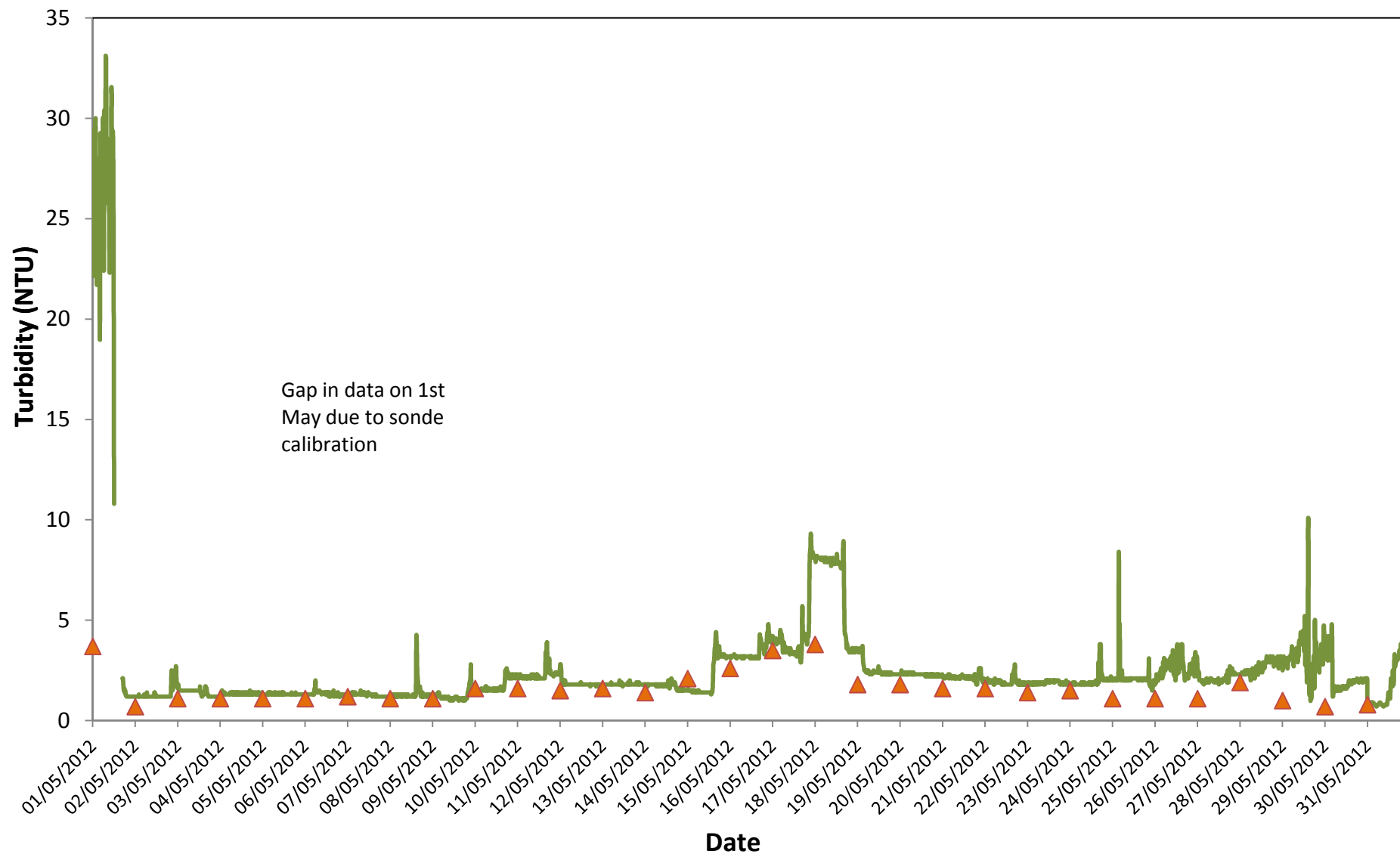
## May 2012



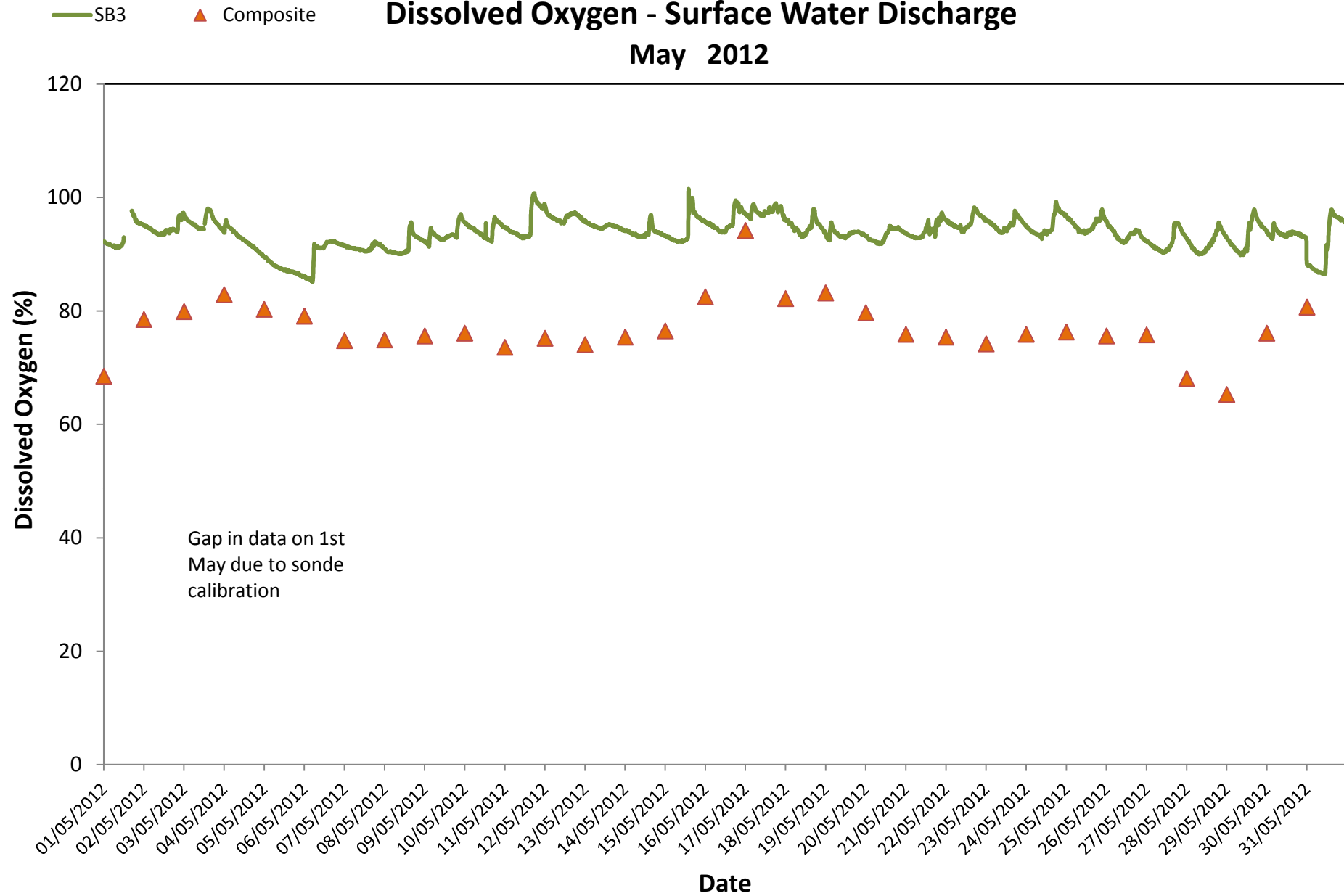
— SB3    ▲ Composite

## Turbidity - Surface Water Discharge

May 2012

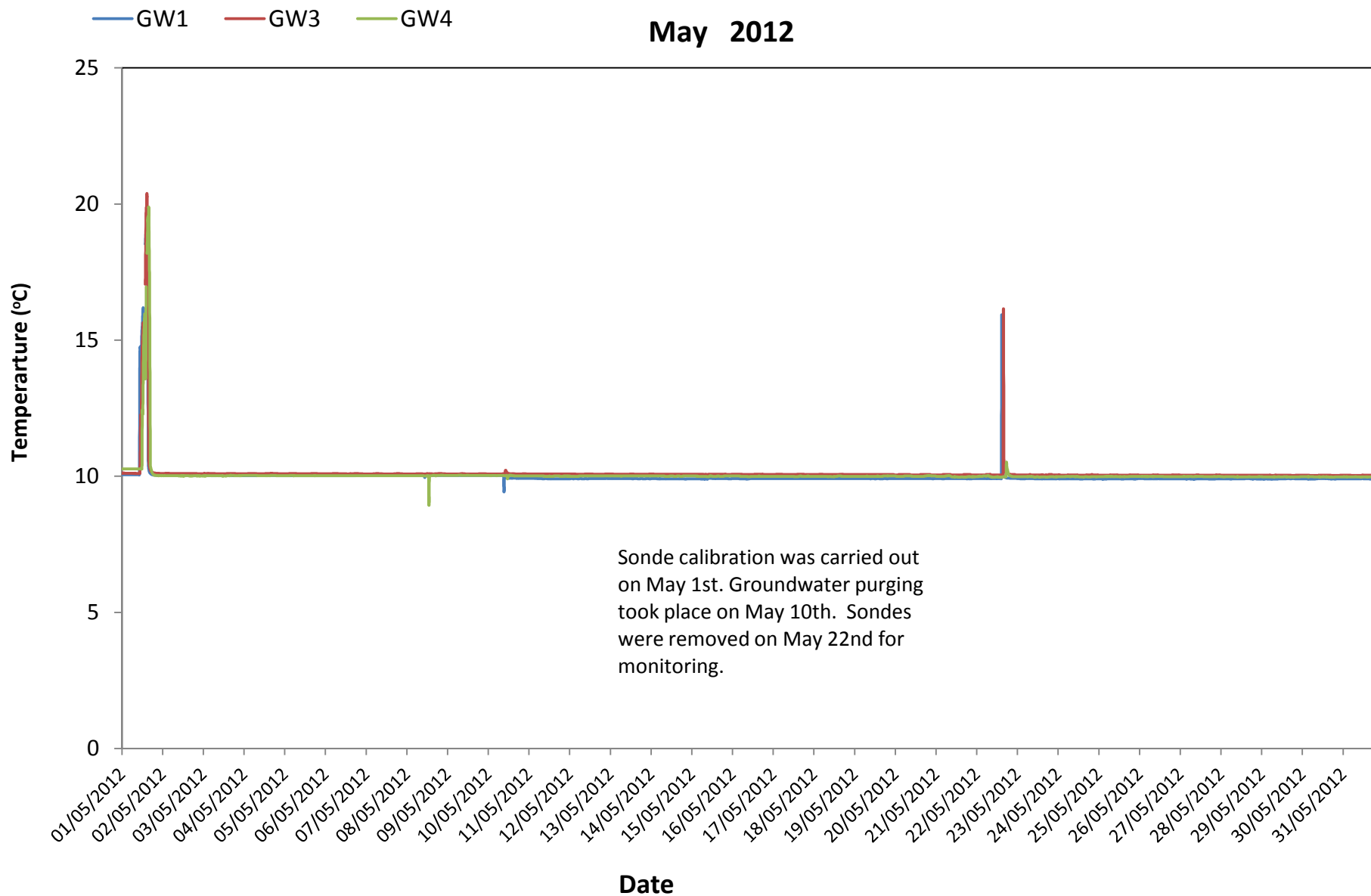


## Dissolved Oxygen - Surface Water Discharge May 2012

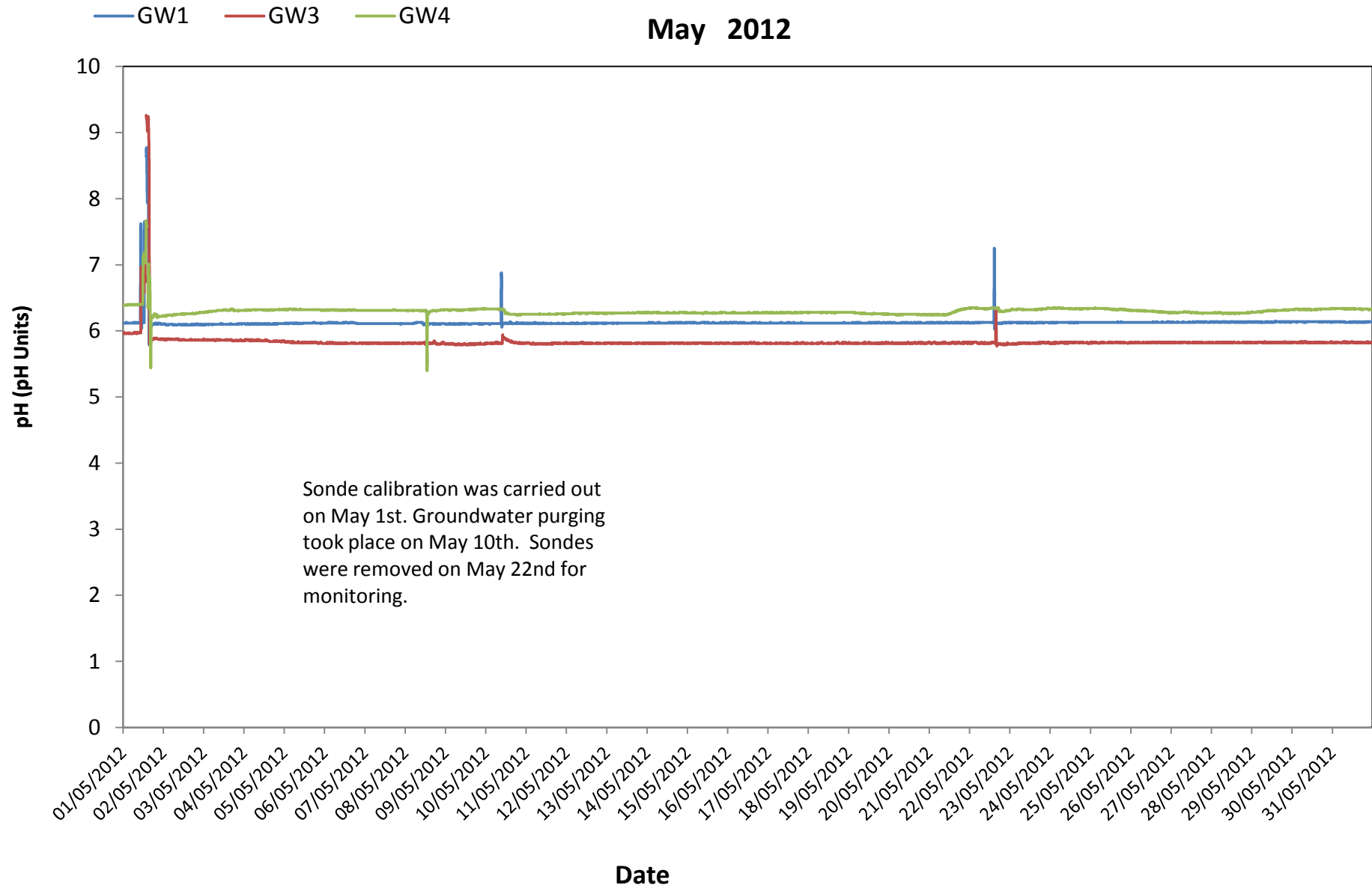


# Temperature - Groundwater

May 2012



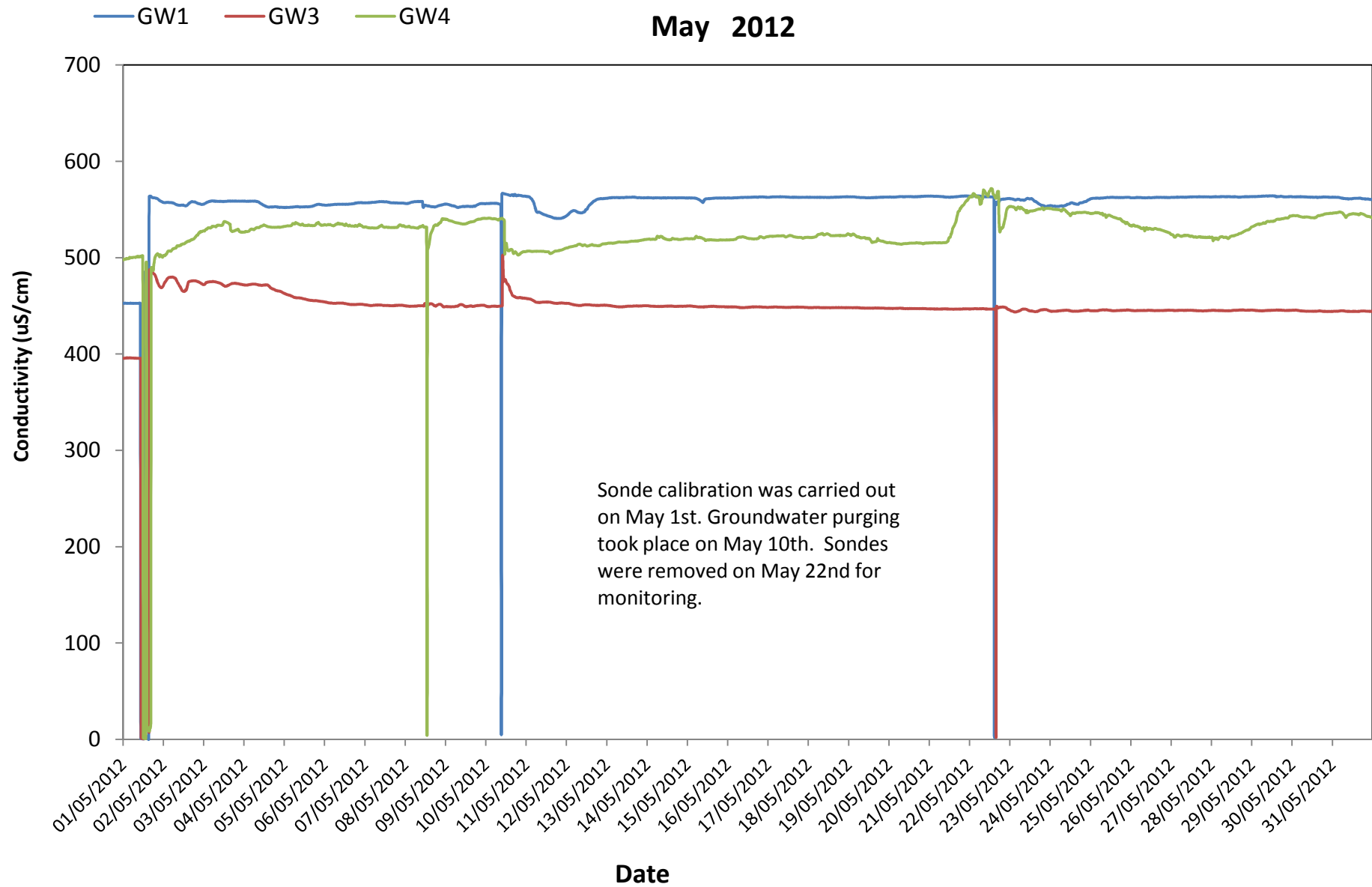
## pH - Groundwater May 2012





# Conductivity - Groundwater

May 2012



## **Appendix 1**

**Appendix 1: Surface Water Monitoring Record Sheet- Onsite Monitoring**

	Date	Temp	DO	Cond.	Turbidity	pH
		oC	% Sat	µS/cm	NTU	
<b>Grab samples</b>						
DL 2	01/05/2012	10.9	65.1	522	3.2	6.9
DL 2	02/05/2012	11.9	64.0	515	3.0	6.8
DL 2	03/05/2012	13.3	85.0	497	4.0	6.2
DL 2	04/05/2012	11.5	63.2	483	2.0	6.4
DL 2	07/05/2012	Bank Holiday				
DL 2	08/05/2012	11.6	79.6	505	3.0	7.1
DL 2	09/05/2012	10.7	74.3	503	5.0	7.0
DL 2	10/05/2012	10.2	69.1	485	2.0	6.6
DL 2	11/05/2012	10.8	70.0	482	3.6	7.4
DL 2	14/05/2012	11.4	91.8	477	3.0	6.6
DL 2	15/05/2012	9.8	59.5	312	2.7	7.0
DL 2	16/05/2012	10.4	58.8	348	4.0	6.5
DL 2	17/05/2012	11.0	90.4	484	6.0	6.6
DL 2	18/05/2012	10.1	52.3	247	5.0	6.4
DL 2	21/05/2012	20.1	92.3	429	4.0	6.1
DL 2	22/05/2012	19.9	97.2	522	2.2	7.6
DL 2	23/05/2012	14.4	54.6	593	2.0	7.6
DL 2	24/05/2012	18.8	94.9	592	3.0	7.9
DL 2	25/05/2012	17.4	56.6	528	2.0	6.8
DL 2	28/05/2012	19.0	62.1	542	4.0	6.7
DL 2	29/05/2012	20.7	92.3	530	7.0	7.8
DL 2	30/05/2012	17.3	53.4	506	2.0	6.6
DL 2	31/05/2012	16.9	71.2	506	2.0	6.8
<b>Sruwaddacon Bay</b>						
Sbay 1	14/03/2012	9.6	100.9	>LOD	2.6	7.1
Sbay 3	14/03/2012	9.5	97.6	>LOD	5.3	7.6
Sbay 4	14/03/2012	9.6	96.7	>LOD	6.1	7.8
Sbay 6	14/03/2012	9.6	100.6	>LOD	8.4	7.9
	= Indicative Only					
I.P.	= In Progress					
< LOD	= Below Limit of Detection					
> LOD	= Above Limit of Detection					

## **Appendix 2**

## 1. MONITORING PERIOD

This report is in respect of ecological monitoring activities undertaken during May 2012, which included:

- Site inspections at the Aughooose and Glengad construction compounds;
- Site inspection of the pipeline route south of RDX1;
- Ongoing weekly bird monitoring of the Sruwaddacon Bay area and onshore pipeline area in general;
- Ongoing non-avian faunal checks at known burrows at Glengad;
- Commencement of next phase of faunal monitoring surveys
- Walkover of lands at SC2 Glengad prior to mowing.

## 2. AUGHOOSE SITE INSPECTIONS

A detailed walkover inspection of the compound (interior and exterior) on 9<sup>th</sup> May was undertaken by the Project Ecologist, in the company of SEPIL's site Environmental Advisor. Further site walkover inspections were undertaken on behalf of the project ecologist by associate specialists on 22<sup>nd</sup> and 30<sup>th</sup> May. On each occasion, the implementation and effectiveness of ecological mitigation was examined and notes made for comparison with previous site visits. The main purpose during May was to:

- Inspect the condition of the stored surface vegetation layer in the peat storage areas, in particular to assess the need for watering during dry weather.
- Check the avian and non-avian mitigation measures, including: fencing, screening and wildlife proofing on the perimeter security fence; and others such as the status of covers on the settlement ponds / silt traps etc.

In addition to the site inspections, weekly inspections of the exterior of the perimeter fence were made during the weekly bird survey visits in May with regard to faunal (avian and non-avian) mitigation measures.

The findings of site inspections were discussed with site Environmental Advisers.

### 2.1 Peat storage areas - vegetation layer

As would be expected with blanket bog species, plant growth increased during May, with *Molinia caerulea* (Purple Moor-grass) in particular showing significant growth. The peat storage areas were watered on a daily basis from Friday May 25<sup>th</sup>, the effect of the watering being immediately apparent with more abundant fresh growth in evidence.

### 3. GLENGAD SITE INSPECTIONS

A detailed walkover inspection of the compound (interior and exterior) on 9<sup>th</sup> May was undertaken by the Project Ecologist, in the company of SEPIL's site Environmental Advisor. Further site walkover inspections were undertaken on behalf of the project ecologist by associate specialists as follows:

- May 22<sup>nd</sup> – check of mammal proofing on southern unscreened section of compound fencing and gates including recording of any mammal observations, tracks and signs
- May 31<sup>st</sup> – Check of all known mammal burrows at Glengad
- May 23<sup>rd</sup> – walkover of Moran's field and preliminary inspection of land drain
- Mammal gate check (casual weekly at the time of bird surveys)

The purpose of the site walkovers was to:

- Check the condition of the soil stock piles;
- Check that faunal (avian and non-avian) mitigation measures were being correctly implemented;
- Conduct a general site inspection in relation to the condition of adjacent SAC habitats to the north of, compound
- Check known faunal burrows in the wider vicinity of the compounds for evidence of activity.

In addition to these, a walkover of lands to check for the presence of ground nesting birds prior to the mowing of lands at SC2 was undertaken by associate specialist ornithologists on 23<sup>rd</sup> May. (See 4.3 below)

#### 3.1 SAC Habitats at Glengad

No change in habitat quality or condition was noted in respect of adjacent SAC habitats during the site inspection visits.

### 4. ONSHORE PIPELINE

A walkover inspection was undertaken on May 9th by the Project Ecologist in the company of a SEPIL Environmental Adviser during the setting out of the bog mat road.

It was noted that the area had been appropriately cleared of vegetation, and that surface water management mitigation measures were in place, including at the crossing of a head stream of the Leenamore River.

## 5. BIRDS

### 5.1 Sruwaddacon Bay area – water birds and waders

Weekly low water and high water counts have continued in the Sruwaddacon Bay area as scheduled. To summarise the findings of bird monitoring during May:

- Brent Geese persisted in the area until May for the first time in recent years. Brent Geese were present at Glengad on May 2<sup>nd</sup>, and 11 Brent Geese were observed at nearby Trá Kirtaun, near Barnatra, on the morning of May 10<sup>th</sup> 2012.
- Bar-tailed Godwits were present in small numbers throughout the month.
- Sandwich Terns which had been first recorded in the study area for 2012 on the 10<sup>th</sup> April were regularly observed during May with a peak of 43 individuals noted on May 30<sup>th</sup> 2012. The numbers of this species typically increases to more than 100 individuals during the later summer.
- A single Comic Tern was observed at Rinroe Strand on May 10<sup>th</sup>. Sightings on Common/Arctic Terns have been very infrequent in the study area during intensive field surveys of recent years with the first recent record occurring in April 2012.
- Black Guillemots and Ringed Plover were observed in small numbers on a few occasions during the month. A small number of Whimbrels were observed on two dates in May – these birds are typically on passage to their taiga/tundra breeding grounds at this time of year.
- Large feeding groups of Shag and some Cormorants were occasionally observed between Glengad and Rinroe Pier. On May 10<sup>th</sup> a peak of 40 Shag was recorded.

### 5.2 Sand Martin Monitoring

Sand Martins were first recorded on site in 2012 on April 19<sup>th</sup>. This was the latest return date recorded for this site in recent years. Weekly surveys of the colonies at Glengad have shown little breeding activity.

- A small number of burrows (<5) have been consistently active at Colony A; and Colony B has been inactive, as was the case in 2011.
- Colony C at Rinroe is considerably more active and it is estimated that there are currently 62 viable nest burrows in this colony. 12 of these burrows are freshly excavated in the sandy cliffs at Rinroe Strand.
- Feeding flocks of Sand Martins have been observed elsewhere within the Sruwaddacon Bay area during May 2012 and this is probably related to active burrows at Colonies D & E. These colonies are scheduled to be visited in early June when breeding activity will be assessed, and at the same time all suitable bank-side habitats will be scanned to record any newly established nesting areas.

### 5.3 Glengad – walkover of lands at SC 2

A walkover of a field at the location of site compound 2 (SC2, tunnel reception pit compound) was undertaken again on 23rd May in advance of mowing. The purpose of this was to check for the

presence of ground nesting birds. In the absence of any ground nesting birds, clearance was given for mowing to be done.

## **6. NON-AVIAN FAUNA**

The current phase of 'during construction' and 'pre-construction' faunal surveys commenced in May 2012, having been delayed from an anticipated April start owing to a number of factors. This current phase of faunal survey of the Bay area will continue through June, with completion by July and are being undertaken by the project ecologist's faunal specialist. The surveys conducted on 10<sup>th</sup> and 11<sup>th</sup> May included:

- The shoreline in the vicinity of the compounds at Aughooose and Glengad
- The Leenamore River
- Terrestrial habitat in close proximity to the site compounds.

Otter activity is being monitored on a regular basis throughout the Bay area by means of a search for otter spraints (droppings) and other signs, including checks on otter or other mammal activity at known burrows and continued search for additional or new burrows. Other mammalian and amphibian/reptile species of interest are also monitored in the course of these surveys. Particular attention is being paid to the areas in the vicinity of the construction compounds at Aughooose and Glengad, with sites of known interest re-inspected.

### **6.1 Aughooose and vicinity**

The survey area extended from the Leenamore River towards the church ruins, to the west of the construction compound at Aughooose, approximately 1.3km in length. The findings for this survey section of may be summarised as follows:

- Otter activity on the Leenamore River was noted as very high (relative to previous surveys), with numerous fresh otter signs present.
- Otter activity was also present along the shorelines close to the Aughooose compound, at sites known to be regularly used by otters.
- Other mammal signs in these areas included Irish hare and fox.

These observations suggest that works on site at Aughooose have not deterred otters from utilising the shore areas at Aughooose and at the Leenamore River. In fact, as noted above, otter activity at the Leenamore River was adjudged to be higher than has been observed at previous surveys.

### **6.2 Glengad and vicinity**

The area surveyed in May included an area from approximately 300m west of the Glengad compound area to approximately 350m east of the compound, including part of the dune system and other



terrestrial habitats to the north and east of the site compound. It is noted that the compound has been constructed since the previous full mammal survey, which ended in January. In the interim and throughout the intervening months, as reported, there have been regular checks on, and observations of, mammal activity by members of the ecological team in connection with site inspections, weekly bird surveys etc. These included: known burrows, signs of faunal activity in general as well as direct observations. To summarise the findings of the mammal survey in May:

- Otter and badger activity was observed in this area:
  - Otter spraints were noted in the gully to the west of the compound;
  - A badger latrine some distance to the north-east of the compound was also active.
  - There are several known mammal burrows in this area. These burrows were open, but signs on site suggested no recent activity by otters or badgers (certainly over the few days prior to the survey).
- Other mammal signs in these areas included Irish hare and fox.

These observations suggest that works at Glengad have not deterred otters and badgers from using the area at Glengad shorelines. Continued regular monitoring of mammal utilisation of burrows will remain a priority as to evaluation of mammal activity in this area. A further inspection will take place in June 2012. It should be noted that prior observations over a long period of time have concluded that mammal activity at these burrows has been intermittent.

In addition to the regular site inspections detailed at section 3 above, faunal mitigation measures in relation to the site fencing at Glengad were reviewed by an inspection of the outside of the compound during the faunal survey in May.

### 6.3 Casual Observations

#### 6.3.1 Mammals

Casual observations of mammals, including sightings, their tracks and signs, were made during weekly bird surveys in May, and included:

- Fox tracks were observed on the shore at Glengad on May 2nd and again on May 31st.
- An Irish Hare (*Lepus timidus hibernicus*) was recorded just outside the palisade fence at Glengad on 22nd May (Plate 1 below).

*Note:* there have been several sightings of Irish Hare at Glengad since the site compound was set up, indicating that they have not been deterred by the presence of the works in the area.

#### 6.3.2 Other species of fauna

During the site inspection at Aughoose on 9<sup>th</sup> May, the bog beetle, *Carabus clatratus*, was observed on the pedestrian walkway on the exterior of the site compound 9th May (Plate 2 below). In

accordance with best practice, this species record has been provided to the National Biodiversity Data Centre (NBDC) and to NPWS's invertebrate specialist.

## 7. PHOTOGRAPHS



Plates 1a and 1b: Irish Hare at Glengad 22 May 2012



Plate 2a: *Carabus clatratus* on the surface of the pedestrian walkway 9<sup>th</sup> May 2012

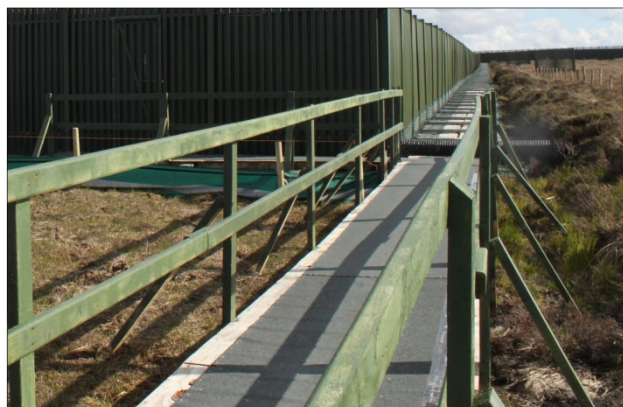


Plate 2b: Pedestrian walkway at Aughooose (JN)

## **Appendix 3**

**Corrib Onshore Pipeline**  
Monthly Archaeological Report

**Aughoose, Glengad and pipeline investigations**

DAHG Licence Reference: 11E0214  
DAHG Metal Detection Licence Reference: 11R0090

Director: James Kyle

Month Ending: 31<sup>st</sup> May 2012

**COURTNEYDEERY**   
Heritage Consultancy

**IAC** Irish Archaeological  
Consultancy

## **1.0 General Review of Works**

### **1.1 Works**

Works commenced Monday the 25<sup>th</sup> of July 2011 at the Aughoose Compound.

Works commenced Monday the 6<sup>th</sup> of February 2012 at the Glengad Compound.

Works commenced Monday the 23<sup>rd</sup> April for the site investigation phase of the pipeline in Bellagelly townland.

## **2.0 Staffing Levels**

The following licenced archaeologists are present to monitor all ground breaking and excavation:

Site Director: James Kyle,  
Archaeologist: David Bayley.

## **3.0 Areas Investigated**

### **3.1 Aughoose**

Construction works were carried out at several areas of the Aughoose site, these were monitored under strict archaeological supervision. These works (Figure 1) comprised:

- Bulk excavation of mineral soil (3m below present ground level) from the filter press area (Plate 1) located between IR 3 and IR 4 and along the margins of IR 1 was completed.
- Bulk excavation of the peat stone matrix and mineral soil (2.8m below present ground level) from the generator bank area (Plate 2) located to the immediate north of IR 4 commenced.
- Monitoring of core piling was undertaken within the tunnel compound area on site. Piles were drilled to between 11m and 14m deep. The monitoring of the piling was limited to inspection of the excavated material as it was deposited into a series of skips (Plate 3) within the compound area.
- Bulk excavation facilitating the construction of a storm water drain beneath the line of IR 1 and IR 2. This involved the excavation of the overlying compacted backfilled stone and 0.5m of the underlying peat stone matrix employed as part of the construction of the internal roads in this area (Plate 4).

In addition to the above; all construction works which had any impact on the peat or the underlying residual ground substrate were monitored and nothing of archaeological significance was revealed.

### 3.2 *Glengad*

Construction works were carried out at several areas of the Glengad site; these were monitored under strict archaeological supervision. These works (Figure 2) comprised:

- The adjustment and excavation of the backfilled material from the area around the offshore pipeline pulling head (Plate 5).
- The excavation of topsoil (0.4-0.5m in depth) and subsoil to a depth of 2.5m below present ground level from an area measuring 16m x 12m, in the corner of the southern fence line and the site access road to facilitate the construction of a settlement pond in this location (Plate 6).
- The excavation of a v-ditch along the northern site perimeter, running east from the northern settlement lagoon (0.8- 1m in depth) (Plate 7).
- The excavation of a 0.3m wide ditch to a depth of 0.5m -0.8m below existing ground level around the topsoil storage area.
- The excavation of a services trench (0.5m wide x 1m deep) (Plate 8) for power cable ducting along the western and southern sides of the site access road.
- No further excavation or construction works of any kind were carried at the southern end of the access road in the vicinity of the enclosure site (MA004-015) this month. Archaeological monitoring has taken place on two separate occasions in the vicinity of this site, (Frazer 2002 and Kieran 2009)<sup>1</sup>. No archaeological features or finds were revealed.

In addition to the above; all construction works which had any impact on the underlying residual ground substrate were monitored and nothing of archaeological significance was revealed.

### 3.3 *Site investigations*

Preparation for site investigation works commenced at Sc2 in Glengad townland. The works comprise a series of rotary holes, trial pits. All works are confined to the proposed location for the tunnel reception pit in Glengad townland. All excavation works are being monitored under archaeological supervision. These works for the month of May comprised:

- 5 trial pits were excavated at Sc2 (Plate 9) and these have been monitored to completion. Excavation of these pits revealed topsoil to a depth of 0.7m, with natural geology beneath this level.
- 6 rotary holes (Plate 10), 2 of which have been completed to date.

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<sup>1</sup> Monitoring of topsoil removal Glengad (Licence Ref. 02E0568, W. Frazer) Margaret Gowen Ltd.  
Archaeological monitoring of construction works associated with the Corrib Gas Pipeline at Broadhaven Bay (Licence Ref. 09E176 and 09E177, E. Kieran) Moore Marine.

No archaeological features, sites or material were revealed as a result of investigations to date.

### **3.4 Pipeline wayleave**

Preparation for site investigation works commenced along the pipeline in Bellagelly South townland. The works comprise a series of boreholes, test pits and other investigative works (shear vanes and hand probes). All works are confined to a working corridor in a plantation forested area in Bellagelly South townland. All excavation works are being monitored under archaeological supervision. These works for the month of May comprised:

- All test pits within the wayleave (Plate 10) have been monitored to completion, with those along the existing stone road showing deposition of stone to a depth of 3.5m, with an intact peat horizon beneath this. Other site investigation works are ongoing.
- Pre-commencement drainage works for the pipeline wayleave began Monday 28<sup>th</sup> May at the terminal site.

### **4.0 Projected Future Work and Staff**

Archaeological monitoring, and where deemed necessary metal detection, will be undertaken during the construction phase of the project to determine the presence (if any) of below ground archaeological features or the presence of artefacts of an archaeological nature. This will be conducted by two licenced archaeologists, James Kyle and David Bayley, on a rotational basis between Aughoose, Glengad and Bellagelly townlands.

### **5.0 Reporting**

The monthly report records the extent of works requiring archaeological monitoring and metal detection. In the event of archaeological material being revealed, archaeologists will record, photograph and map any new discovery. As part of the licensing requirement a final report will be completed upon the cessation of ground breaking and excavation works. This report will describe in detail the results of the archaeological monitoring programme and will be sent to the statutory authorities in accordance to the licensing agreement.

### **6.0 Location of Artefacts and Samples**

To date no artefacts or samples have been retrieved from Aughoose, Glengad or Bellagelly townlands where investigations have occurred.

### **7.0 Information any Unforeseen Difficulties**

N/A

## **8.0 Health and Safety Issues**

Both on-site archaeologists have been inducted after receiving the requisite conflict management training and manual handling training.

### **Summary**

Nothing of an archaeological significance has been uncovered as a result of monitoring or metal detection of materials excavated from construction works for the Corrib on-shore pipeline to date.





Plate 3 Aughooose: Excavated material from core piling from compound, facing south.

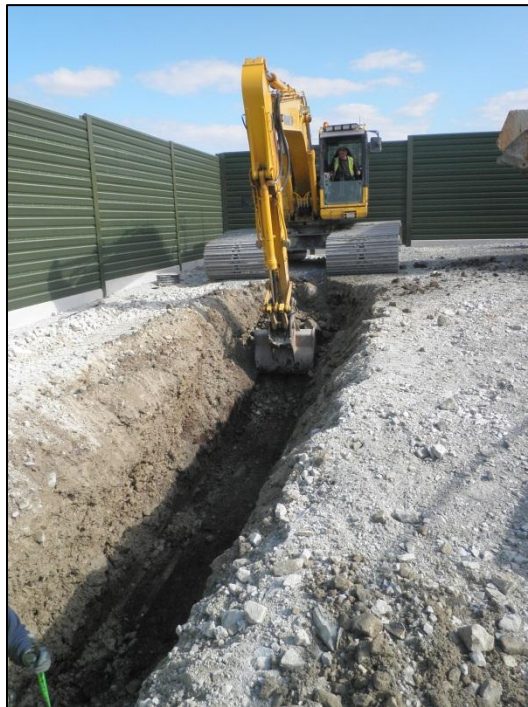


Plate 4 Aughooose: Excavation of material from storm water drainage.



Plate 5 Glengad: Adjustment of pipeline pulling head excavation, facing northeast.



Plate 6 Glengad: Topsoil removal from settlement pond, facing northeast.





Plate 7 Glengad: V-Ditch excavation along northern site perimeter, facing east.



Plate 8 Glengad: Excavation of services ducting, facing northeast.



Plate 9: Glengad Sc2 Site investigations Trial pit 302, facing south.



Plate 10 Pipeline investigations: TP SR 8.

