

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 Siltbuster.
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
01/07/2012	3.8	12/07/2012	0.0	23/07/2012	18.4
02/07/2012	1.0	13/07/2012	0.0	24/07/2012	2.8
03/07/2012	4.6	14/07/2012	0.2	25/07/2012	0.0
04/07/2012	0.0	15/07/2012	1.0	26/07/2012	0.6
05/07/2012	0.0	16/07/2012	1.2	27/07/2012	3.2
06/07/2012	1.0	17/07/2012	22.2	28/07/2012	5.8
07/07/2012	0.2	18/07/2012	1.6	29/07/2012	1.6
08/07/2012	1.0	19/07/2012	0.0	30/07/2012	0.0
09/07/2012	6.0	20/07/2012	0.0	31/07/2012	0.0
10/07/2012	5.6	21/07/2012	0.2		
11/07/2012	3.2	22/07/2012	7.8	Total 93.0mm	
Glengad					
Date	Rainfall mm	Date	Rainfall mm	Date	Rainfall mm
01/07/2012	3.4	12/07/2012	0.0	23/07/2012	18.0
02/07/2012	0.6	13/07/2012	0.0	24/07/2012	1.8
03/07/2012	2.8	14/07/2012	0.0	25/07/2012	0.0
04/07/2012	0.2	15/07/2012	0.2	26/07/2012	0.0
05/07/2012	0.0	16/07/2012	0.8	27/07/2012	2.2
06/07/2012	1.4	17/07/2012	15.4	28/07/2012	4.2
07/07/2012	0.0	18/07/2012	0.6	29/07/2012	0.6
08/07/2012	1.4	19/07/2012	0.0	30/07/2012	0.0
09/07/2012	4.4	20/07/2012	0.0	31/07/2012	0.0
10/07/2012	5.4	21/07/2012	0.2		
11/07/2012	2.2	22/07/2012	2.2	Total 68.0mm	

1.3 Summary

Environment	Comments
Vibration	There were no vibration exceedances during the reporting period.
Weather	There was a total of 93.0mm of rainfall during the reporting period measured at the Aughoose weather station and a total of 68.0 at the Glengad weather station, with a temperature range of 5.9°C to 18.5°C in Aughoose and 8.0°C to 18.8°C in Glengad.
Noise	<p>The noise results were reviewed as per the noise monitoring protocol.</p> <ul style="list-style-type: none">On 4th 5th and 6th July meters at NSR1, AN1, AN2 and GN2 were in advertently set to log data at 5-hour intervals instead of 5-minute intervals. SEPILS noise consultants reviewed the noise data and commented as follows: 'By considering the measured $L_{Aeq,5hour}$ levels at NSR1, the highest <i>possible</i> $L_{Aeq,1hour}$ value during this period would have been 61.5dB, assuming low levels for the remainder of the period. No exceedances of the 65dB limit could therefore have occurred. Data from the site monitor at AN1 supports this conclusion, with no significantly high levels of site noise measured on 4th July.'<p>Construction works at Glengad are currently minimal, comprising drainage works and site maintenance.</p><ul style="list-style-type: none">Elevated noise levels were recorded at NSR2 at 14:00 and 15:00 on the 14/07/12, however there was no construction taking place on that day. The noise levels were compared to the noise levels recorded at GN2 for the same period, and the results were as follows: GN2 at 14:00 (14/07/12) – 54.7 L_{Aeq} dB(A) GN2 at 15:00 (14/07/12) – 56.9 L_{Aeq} dB(A)There was a loss of noise monitoring data at RN1 on the 23/07/12. Although no power outages were reported at this location it is believed that a minor power glitch or temporary fault caused shutdown and delayed restart of the automated noise monitoring equipment. This was rectified on the 24th July.There was an elevated noise level at NSR1 on 30/07/12 at 13:00 of 70.2dB(A) L_{Aeq}. Following a review as per the noise monitoring protocol, it was found that the result was not site related. The noise level at AN1 at this time was 58.32dB(A) L_{Aeq}.
Surface Water - Aughoose	There were no identified surface water exceedances during the reporting period. Surface water treatment ongoing through the use of siltbuster.
Surface Water - Glengad	No surface water discharge was available at SW01 for sample collection.

2 Environmental Exceedances / Incidents / Complaints / Highlights

2.1 Complaints

Date & time of complaint	Nature of complaint	Actions taken as a result of the complaint
31 st July 2012 15.56 p.m.	Complaint about traffic disruption caused as a result of TBM incident and road blockage	Apology issued to complainant.
31 st July 2012 17.46 p.m.	Complaint about misleading information supplied by SEPIL to media in relation to traffic deviations during TBM incident	Complaint currently under review.
31 st July 2012 23.40 p.m.	Complaint about the effect of traffic disruption caused as a result of TBM incident was having on complainants business	Apology issued to complainant.

2.2 Incidents

There were no incidents during the reporting period.

Day Time Noise Monitoring / Max Hourly or above 60dB L _{aeq} 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 _{Aeq}	L _{Amax}	L _{Amin}	
Action Limit							60.0			
Target Limit							65.0			
NSR1	13.2	18.5	02/07/2012 07:00	01:00:00	1.1	144.3	50.3	70.6	27.1	
NSR2			02/07/2012 17:00	01:00:00	2.4	233.0	52.4	74.6	29.6	
NSR1	12.5	18.5	03/07/2012 14:00	01:00:00	1.5	123.3	51.6	73.9	34.1	
NSR2			03/07/2012 16:00	01:00:00	3.8	173.0	60.9	80.0	30.2	
NSR1	11.0	18.3	04/07/2012 07:00	01:00:00	1.8	83.0	51.2	71.3	33.3	
NSR2			04/07/2012 10:00	01:00:00	2.6	74.5	61.0	82.1	26.2	
NSR2	14.5	14.9	05/07/2012 10:00	01:00:00	3.0	15.8	61.2	79.4	28.3	
NSR1	13.5	17.3	06/07/2012 15:00	01:00:00	2.9	254.0	57.7	83.9	35.7	
NSR2			06/07/2012 13:00	01:00:00	4.1	351.8	60.2	85.5	37.0	
			06/07/2012 14:00	01:00:00	3.9	349.5	60.7	81.3	35.3	
NSR1	12.8	15.7	07/07/2012 17:00	01:00:00	4.7	171.8	59.7	76.4	37.4	
NSR2			07/07/2012 07:00	01:00:00	5.1	347.3	63.9	80.7	39.9	
			07/07/2012 08:00	01:00:00	5.2	179.8	60.8	81.4	40.1	
			07/07/2012 10:00	01:00:00	5.5	4.3	60.8	79.8	39.3	
			07/07/2012 12:00	01:00:00	5.7	89.3	60.7	74.1	38.7	
			07/07/2012 15:00	01:00:00	4.5	262.0	61.5	85.4	36.3	
			07/07/2012 16:00	01:00:00	5.2	352.5	61.4	74.5	39.3	
			07/07/2012 17:00	01:00:00	4.9	352.5	60.8	78.8	38.1	
NSR1	10.8	12.3	09/07/2012 12:00	01:00:00	2.8	182.0	56.1	73.1	38.9	
NSR2			09/07/2012 12:00	01:00:00	3.8	338.3	61.0	70.2	43.1	
			09/07/2012 15:00	01:00:00	4.0	316.0	60.6	82.7	40.0	
NSR1	14.5	17.2	10/07/2012 17:00	01:00:00	4.8	299.3	54.9	78.7	32.2	
NSR2			10/07/2012 11:00	01:00:00	4.7	254.8	61.1	79.2	41.7	
			10/07/2012 17:00	01:00:00	5.2	250.3	62.5	86.7	40.3	
NSR1	15.4	17.4	11/07/2012 17:00	01:00:00	3.9	296.8	54.8	77.3	33.9	
NSR2			11/07/2012 12:00	01:00:00	4.6	257.5	60.2	80.2	41.0	
			11/07/2012 13:00	01:00:00	4.9	260.8	61.1	84.2	40.5	
NSR1	6.1	15.8	12/07/2012 16:00	01:00:00	5.8	18.5	60.6	74.6	40.8	
			12/07/2012 17:00	01:00:00	4.4	33.0	60.8	74.5	39.8	
			12/07/2012 18:00	01:00:00	3.1	99.0	60.5	74.4	36.1	
NSR2			12/07/2012 16:00	01:00:00	9.5	15.8	60.8	78.9	39.6	
NSR1	11.4	15.8	13/07/2012 17:00	01:00:00	3.0	340.5	56.0	78.5	34.6	
NSR2			13/07/2012 13:00	01:00:00	5.6	93.0	61.6	89.7	32.6	
NSR1	7.6	15.2	14/07/2012 17:00	01:00:00	3.0	288.8	54.6	81.6	32.6	No Construction taking place
NSR2			14/07/2012 09:00	01:00:00	6.7	274.0	60.5	79.6	33.1	No Construction taking place
			14/07/2012 14:00	01:00:00	5.7	259.5	71.5	84.5	38.6	Elevated noise level at NSR2 however there was no Construction taking place.
	14/07/2012 15:00	01:00:00	6.3	257.5	73.1	87.6	36.4	Elevated noise level at NSR2 however there was no Construction taking place.		
	NSR1	12.8	17.3	16/07/2012 07:00	01:00:00	2.1	185.0	52.3	73.1	31.2
NSR2			16/07/2012 16:00	01:00:00	6.8	215.8	55.6	73.5	33.2	
NSR1	13.1	16.3	17/07/2012 14:00	01:00:00	4.2	195.5	56.9	79.7	35.8	
NSR2			17/07/2012 08:00	01:00:00	6.8	215.8	60.2	79.6	36.5	
			17/07/2012 15:00	01:00:00	6.8	215.8	62.9	78.5	37.9	
			17/07/2012 16:00	01:00:00	6.8	215.8	61.5	75.6	35.0	
NSR1	12.7	17.3	18/07/2012 17:00	01:00:00	3.1	287.8	54.7	75.3	33.5	
NSR2			18/07/2012 13:00	01:00:00	7.8	233.3	56.5	76.3	39.5	
NSR1	11.2	15.8	19/07/2012 12:00	01:00:00	2.6	302.0	61.0	68.1	34.7	
NSR2			19/07/2012 09:00	01:00:00	3.8	266.8	58.3	75.1	36.8	
NSR1	7.2	16.8	20/07/2012 07:00	01:00:00	1.3	286.8	52.7	72.2	26.7	
NSR2			20/07/2012 14:00	01:00:00	2.1	257.0	57.6	77.0	30.6	
NSR1	7.0	16.9	21/07/2012 17:00	01:00:00	3.9	178.8	55.1	75.1	36.6	
NSR2			21/07/2012 11:00	01:00:00	4.3	176.5	57.1	74.2	26.8	
NSR1	13.7	17.9	23/07/2012 08:00	01:00:00	2.6	201.0	53.9	70.6	39.0	
NSR2			23/07/2012 07:00	01:00:00	4.7	186.0	55.6	72.8	42.4	
NSR1	11.5	17.5	24/07/2012 16:00	01:00:00	2.1	234.8	55.1	77.8	32.5	
NSR2			24/07/2012 13:00	01:00:00	3.1	189.3	59.4	86.5	35.2	
NSR1	7.4	18.0	25/07/2012 17:00	01:00:00	3.3	26.3	52.9	73.2	33.7	
NSR2			25/07/2012 11:00	01:00:00	2.1	256.0	57.5	79.1	39.0	
NSR1	8.3	18.1	26/07/2012 12:00	01:00:00	3.7	312.3	53.7	79.1	27.9	
NSR2			26/07/2012 11:00	01:00:00	1.3	253.8	55.2	65.2	41.0	
NSR1	10.7	16.8	27/07/2012 13:00	01:00:00	3.3	295.5	56.7	75.3	32.2	
NSR2			27/07/2012 11:00	01:00:00	5.3	249.3	57.1	77.7	44.3	
NSR1	10.3	14.9	28/07/2012 17:00	01:00:00	4.4	318.3	54.9	73.2	34.3	
NSR2			28/07/2012 19:00	01:00:00	5.2	265.0	62.1	80.8	41.1	
NSR1	7.1	17.5	30/07/2012 17:00	00:55:00	1.0	316.8	70.2	92.2	26.7	Noise reviewed as per noise monitoring protocol. Noise level not site related.
			30/07/2012 19:00	01:00:00	1.9	99.5	50.9	70.2	27.6	
			NSR2	30/07/2012 10:00	01:00:00	2.3	225.8	54.7	78.2	34.0
30/07/2012 19:00	01:00:00	1.5		268.5	54.6	76.9	32.2			
NSR1	7.8	15.7	31/07/2012 15:00	01:00:00	3.8	177.3	56.8	72.1	40.2	
NSR2			31/07/2012 19:00	01:00:00	2.3	115.5	54.7	72.0	43.1	
			31/07/2012 15:00	01:00:00	3.3	160.8	58.6	78.6	37.3	
			31/07/2012 19:00	01:00:00	2.1	91.5	54.5	76.8	38.7	
* Wind speeds in excess of 7 m/s negatively impact noise readings										
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 _{aeq} 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 _{Aeq}	L _{Amax}	L _{Amin}		
Action Limit							60.0				
Target Limit							65.0				
AN1	13.2	18.5	02/07/2012 08:00	01:00:00	0.9	158.8	62.0	78.6	42.2		
			02/07/2012 10:00	01:00:00	0.7	156.5	60.8	73.4	40.9		
			02/07/2012 11:00	01:00:00	1.4	178.3	61.6	94.5	43.0		
			02/07/2012 18:00	01:00:00	2.5	297.5	54.5	73.5	27.1		
			02/07/2012 10:00	01:00:00	0.7	156.5	55.9	78.7	29.2		
			02/07/2012 11:00	01:00:00	1.8	234.0	52.5	81.3	27.0		
			02/07/2012 08:00	01:00:00	0.9	158.8	47.4	81.6	23.4		
AN1	12.5	18.5	03/07/2012 08:00	01:00:00	1.7	171.5	61.6	90.7	51.8		
			03/07/2012 09:00	01:00:00	1.6	151.0	60.2	79.5	44.8		
			03/07/2012 15:00	01:00:00	1.6	172.0	63.1	96.2	46.8		
			03/07/2012 16:00	01:00:00	3.3	187.0	60.1	88.0	48.9		
			03/07/2012 17:00	01:00:00	2.7	201.8	61.8	85.2	48.5		
AN2			03/07/2012 11:00	01:00:00	1.8	141.3	66.5	33.2	46.3		
			03/07/2012 12:00	01:00:00	1.6	153.3	70.5	32.3	46.2		
			03/07/2012 13:00	01:00:00	1.5	136.3	73.8	30.5	47.8		
			03/07/2012 14:00	01:00:00	1.5	123.3	73.8	30.0	52.4		
			03/07/2012 15:00	01:00:00	1.6	172.0	73.4	34.2	52.5		
AN2			03/07/2012 16:00	01:00:00	3.3	187.0	68.3	33.9	48.7		
			03/07/2012 17:00	01:00:00	2.7	201.8	66.9	31.9	48.4		
			03/07/2012 18:00	01:00:00	4.0	179.3	74.0	29.3	54.8		
			03/07/2012 09:00	01:00:00	1.6	151.0	48.8	70.5	29.2		
			03/07/2012 16:00	01:00:00	3.8	173.0	50.0	77.9	30.2		
GN1			03/07/2012 11:00	01:00:00	1.8	141.3	52.0	79.3	35.7		
AN1	11.0	18.3	04/07/2012 18:00	01:00:00	3.4	122.5	60.1	98.1	41.3		
AN2			04/07/2012 07:00	01:00:00	1.8	83.0	65.4	29.5	47.9		
			04/07/2012 08:00	01:00:00	0.9	125.8	76.8	31.5	48.2		
			04/07/2012 09:00	01:00:00	1.2	86.0	75.6	28.6	48.1		
			04/07/2012 10:00	01:00:00	1.4	176.8	68.7	30.7	46.8		
			04/07/2012 11:00	01:00:00	0.9	103.0	66.3	32.5	44.9		
AN3			04/07/2012 09:00	01:00:00	1.2	86.0	44.4	67.0	29.1		
GN1					04/07/2012 15:00	01:00:00	5.0	20.5	59.9	94.1	31.7
RN1			04/07/2012 16:00	01:00:00	4.7	38.8	46.0	64.7	35.4		
AN3	14.5	14.9	05/07/2012 08:00	01:00:00	1.7	250.8	53.4	72.4	29.1		
GN1			05/07/2012 08:00	01:00:00	2.2	349.8	46.1	72.0	30.3		
RN1			05/07/2012 13:00	01:00:00	2.7	185.0	43.8	75.7	28.9		
AN1	13.5	17.3	06/07/2012 13:00	01:00:00	2.3	269.3	62.0	85.9	43.0		
			06/07/2012 14:00	01:00:00	2.8	89.0	66.1	87.3	38.5		
			06/07/2012 16:00	01:00:00	3.3	179.8	61.1	73.6	41.6		
			06/07/2012 17:00	01:00:00	3.2	349.3	55.0	73.8	35.4		
			06/07/2012 07:00	01:00:00	1.1	96.8	58.4	78.8	28.9		
GN1			06/07/2012 18:00	01:00:00	3.6	179.3	50.4	74.7	35.3		
GN2			06/07/2012 12:00	01:00:00	3.1	96.8	65.2	86.9	49.4		
			06/07/2012 13:00	01:00:00	4.1	351.8	60.8	79.2	48.4		
			06/07/2012 14:00	01:00:00	3.9	349.5	61.2	79.6	48.4		
			06/07/2012 15:00	01:00:00	3.3	268.3	62.5	78.3	50.7		
			06/07/2012 16:00	01:00:00	4.3	344.8	63.0	78.3	48.5		
RN1			06/07/2012 14:00	01:00:00	2.8	89.0	48.6	74.7	29.3		
AN1	12.8	15.7	07/07/2012 12:00	01:00:00	3.7	187.0	63.4	79.1	42.1		
			07/07/2012 13:00	01:00:00	3.7	27.8	61.0	76.6	40.4		
			07/07/2012 14:00	01:00:00	3.0	263.8	61.9	74.9	41.2		
			07/07/2012 15:00	01:00:00	3.3	180.8	62.6	77.3	40.7		
			07/07/2012 16:00	01:00:00	3.7	90.8	64.3	78.3	41.4		
			07/07/2012 17:00	01:00:00	4.7	171.8	65.3	77.5	41.7		
			07/07/2012 18:00	01:00:00	4.3	175.0	62.8	74.7	41.4		
			07/07/2012 19:00	01:00:00	4.3	257.0	63.2	75.9	42.9		
			07/07/2012 11:00	01:00:00	4.7	108.5	54.7	72.6	37.9		
			07/07/2012 07:00	01:00:00	2.7	9.8	46.6	72.3	29.7		
AN2			07/07/2012 11:00	01:00:00	4.7	108.5	54.7	72.6	37.9		
AN3			07/07/2012 07:00	01:00:00	2.7	9.8	46.6	72.3	29.7		
GN1			07/07/2012 14:00	01:00:00	4.6	270.8	58.2	95.2	34.5		
GN2			07/07/2012 15:00	01:00:00	4.5	262.0	64.3	90.7	48.2		
RN1			07/07/2012 13:00	01:00:00	3.7	27.8	53.8	76.9	39.1		
* Wind speeds in excess of 7 m/s negatively impact noise readings											
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										

Location	Air Temp. (Min)	Air Temp. (Max)	Start Date and Time	Duration	Wind		Results dB				
					Speed (m/s)*	Direction (Degrees)	L _{Aeq}	L _{Amax}	L _{Amin}		
Action Limit							60.0				
Target Limit							65.0				
AN1	10.8	12.3	09/07/2012 07:00	01:00:00	3.5	255.8	65.0	87.1	41.4		
			09/07/2012 08:00	01:00:00	3.6	336.3	69.5	88.3	42.7		
			09/07/2012 09:00	01:00:00	3.6	259.3	69.3	79.2	44.3		
			09/07/2012 10:00	01:00:00	3.6	185.5	68.9	86.2	43.0		
			09/07/2012 11:00	01:00:00	3.1	253.0	69.4	88.9	40.8		
			09/07/2012 12:00	01:00:00	2.8	182.0	70.5	88.0	45.5		
			09/07/2012 13:00	01:00:00	2.8	247.8	70.2	88.4	43.6		
			09/07/2012 14:00	01:00:00			69.7	84.5	42.3		
			09/07/2012 15:00	01:00:00			68.1	86.8	44.5		
			09/07/2012 16:00	01:00:00			71.7	88.9	43.6		
09/07/2012 17:00			01:00:00	2.4	256.3	69.6	88.8	45.3			
09/07/2012 18:00			01:00:00	3.1	257.5	70.1	89.9	39.7			
AN2			09/07/2012 11:00	01:00:00	3.1	253.0	57.1	74.0	41.4		
AN3			09/07/2012 19:00	01:00:00	2.7	335.8	46.4	60.7	31.7		
GN1			09/07/2012 18:00	01:00:00	3.1	257.5	44.3	64.3	30.2		
GN2			09/07/2012 09:00	01:00:00	3.7	318.3	58.7	93.7	37.0		
			09/07/2012 06:00	01:00:00	3.9	305.5	60.6	78.7	49.3		
			09/07/2012 08:00	01:00:00	3.7	302.5	66.9	85.6	49.7		
			09/07/2012 09:00	01:00:00	3.7	318.3	64.3	83.1	50.3		
			09/07/2012 10:00	01:00:00	3.9	320.5	69.4	86.7	50.1		
			09/07/2012 11:00	01:00:00	3.6	333.3	63.9	79.5	50.6		
			09/07/2012 12:00	01:00:00	3.8	338.3	61.9	75.5	51.4		
			09/07/2012 13:00	01:00:00	3.9	342.5	62.8	84.0	49.4		
			09/07/2012 14:00	01:00:00	3.7	322.8	64.7	83.2	48.8		
			09/07/2012 15:00	01:00:00	4.0	316.0	69.5	89.6	51.0		
RN1			09/07/2012 16:00	01:00:00	3.9	313.8	65.6	81.3	49.2		
			09/07/2012 12:00	01:00:00	2.8	182.0	51.1	68.9	34.3		
AN1	14.5	17.2	10/07/2012 07:00	01:00:00	2.9	299.0	64.2	78.5	41.6		
			10/07/2012 08:00	01:00:00	3.6	302.0	67.7	87.1	45.5		
			10/07/2012 09:00	01:00:00	3.5	296.3	72.0	89.0	46.4		
			10/07/2012 10:00	01:00:00	2.8	294.8	63.8	77.7	44.8		
			10/07/2012 11:00	01:00:00	3.3	301.5	71.7	87.0	46.7		
			10/07/2012 12:00	01:00:00	4.1	309.8	72.5	91.8	46.7		
			10/07/2012 13:00	01:00:00	4.4	309.8	68.4	88.6	45.7		
			10/07/2012 14:00	01:00:00	4.3	303.5	71.6	94.1	45.8		
			10/07/2012 15:00	01:00:00	3.7	301.5	68.4	87.3	46.5		
			10/07/2012 16:00	01:00:00	3.6	294.3	70.8	88.0	51.8		
10/07/2012 17:00			01:00:00	4.8	299.3	75.6	94.2	49.5			
10/07/2012 18:00			01:00:00	3.5	299.0	65.8	79.5	42.0			
AN2			10/07/2012 18:00	01:00:00	3.5	299.0	62.0	75.8	35.3		
AN3			10/07/2012 11:00	01:00:00	3.3	301.5	46.0	63.8	33.0		
GN1			10/07/2012 09:00	01:00:00	4.6	259.0	52.6	92.7	37.2		
GN2			10/07/2012 06:00	01:00:00	4.1	266.8	61.8	80.5	49.5		
			10/07/2012 07:00	01:00:00	4.1	265.8	61.7	73.4	49.6		
			10/07/2012 08:00	01:00:00	4.5	263.5	70.6	88.9	52.0		
			10/07/2012 09:00	01:00:00	4.6	259.0	70.5	88.9	52.3		
			10/07/2012 10:00	01:00:00	4.9	256.0	67.2	82.4	52.3		
			10/07/2012 12:00	01:00:00	4.5	262.0	70.6	89.8	51.9		
			10/07/2012 13:00	01:00:00	4.5	263.3	70.1	87.2	51.8		
			10/07/2012 14:00	01:00:00	4.6	256.3	68.0	85.0	51.4		
			10/07/2012 15:00	01:00:00	5.1	251.3	68.2	87.5	52.3		
			10/07/2012 16:00	01:00:00	5.1	250.3	67.3	82.8	51.5		
RN1			10/07/2012 17:00	01:00:00	5.2	250.3	61.1	69.8	51.0		
			10/07/2012 10:00	01:00:00	2.8	294.8	42.4	58.3	27.6		
AN1			15.4	17.4	11/07/2012 07:00	01:00:00	3.0	312.0	66.9	87.8	42.0
					11/07/2012 08:00	01:00:00	2.4	292.0	67.8	86.8	46.1
					11/07/2012 09:00	01:00:00	3.4	304.3	72.0	88.1	47.2
					11/07/2012 10:00	01:00:00	4.6	284.8	64.7	77.8	44.8
	11/07/2012 11:00	01:00:00			3.6	293.3	69.6	86.0	44.6		
	11/07/2012 12:00	01:00:00			3.7	293.5	70.5	87.3	48.4		
	11/07/2012 13:00	01:00:00			4.3	284.3	70.0	88.2	49.5		
	11/07/2012 14:00	01:00:00			4.4	293.8	69.8	89.0	45.9		
	11/07/2012 15:00	01:00:00			4.9	296.0	68.6	78.0	48.4		
	11/07/2012 16:00	01:00:00			3.4	309.5	67.4	86.0	48.6		
11/07/2012 17:00	01:00:00	3.9			296.8	69.7	85.6	48.5			
11/07/2012 18:00	01:00:00	2.7			293.0	67.1	87.2	43.9			
AN2	11/07/2012 15:00	01:00:00			4.9	296.0	69.6	90.0	41.2		
AN3	11/07/2012 18:00	01:00:00			2.7	293.0	61.4	77.9	32.8		
GN1	11/07/2012 14:00	01:00:00			4.4	293.8	50.0	69.0	34.4		
GN2	11/07/2012 17:00	01:00:00			5.6	253.5	58.7	89.4	39.3		
	11/07/2012 08:00	01:00:00			4.7	260.0	67.0	89.3	50.6		
	11/07/2012 09:00	01:00:00			5.0	259.3	61.5	77.7	51.6		
	11/07/2012 10:00	01:00:00			4.4	255.3	64.2	79.7	50.7		
	11/07/2012 11:00	01:00:00			4.5	245.0	66.4	83.5	51.3		
	11/07/2012 12:00	01:00:00			4.6	257.5	68.6	85.2	50.8		
	11/07/2012 13:00	01:00:00			4.9	260.8	66.3	81.7	51.1		
	11/07/2012 14:00	01:00:00			5.1	255.5	61.4	80.2	50.8		
	11/07/2012 15:00	01:00:00			5.7	256.3	64.7	77.3	50.6		
	11/07/2012 16:00	01:00:00			5.5	255.0	63.8	81.9	51.2		
RN1	11/07/2012 17:00	01:00:00			5.6	253.5	61.4	74.7	51.0		
	11/07/2012 18:00	01:00:00			5.4	249.8	61.1	68.6	51.1		
	11/07/2012 06:00	01:00:00			2.1	295.5	44.4	73.4	21.7		
* Wind speeds in excess of 7 m/s negatively impact noise readings											
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										

Location	Air Temp. (Min)	Air Temp. (Max)	Start Date and Time	Duration	Wind		Results dB		
					Speed (m/s)*	Direction (Degrees)	L _{Aeq}	L _{Amax}	L _{Amin}
Action Limit							60.0		
Target Limit							65.0		
AN1 AN2 AN3 GN1 <									

Location	Air Temp. (Min)	Air Temp. (Max)	Start Date and Time	Duration	Wind		Results dB				
					Speed (m/s)*	Direction (Degrees)	L _{Aeq}	L _{Amax}	L _{Amin}		
Action Limit							60.0				
Target Limit							65.0				
AN1	13.1	16.3	17/07/2012 07:00	01:00:00	3.6	185.8	67.7	83.3	46.5		
			17/07/2012 08:00	01:00:00	4.9	199.8	66.8	83.0	50.2		
			17/07/2012 09:00	01:00:00	3.8	209.3	68.3	81.1	50.9		
			17/07/2012 10:00	01:00:00	2.9	202.5	66.7	79.0	49.3		
			17/07/2012 11:00	01:00:00	3.1	195.8	67.6	81.0	51.8		
			17/07/2012 12:00	01:00:00	2.7	212.8	73.7	90.0	51.1		
			17/07/2012 13:00	01:00:00	5.5	208.8	73.5	90.3	50.8		
			17/07/2012 14:00	01:00:00	4.2	195.5	64.4	80.6	49.6		
			17/07/2012 15:00	01:00:00	6.1	191.3	68.1	79.8	52.2		
			17/07/2012 16:00	01:00:00	3.3	180.5	66.0	91.5	53.0		
17/07/2012 17:00			01:00:00	3.0	204.3	62.6	79.8	49.2			
AN2			17/07/2012 10:00	01:00:00	2.9	202.5	61.0	82.0	36.0		
			17/07/2012 11:00	01:00:00	3.1	195.8	62.6	80.8	35.9		
			17/07/2012 12:00	01:00:00	2.7	212.8	62.7	81.2	34.5		
AN3			17/07/2012 16:00	01:00:00	3.3	180.5	68.4	95.0	37.3		
GN1			17/07/2012 10:00	01:00:00	10.7	188.8	43.2	62.0	30.4		
GN2			17/07/2012 08:00	01:00:00	10.5	180.8	55.0	71.4	34.4		
			17/07/2012 08:00	01:00:00	10.5	180.8	68.5	85.0	49.1		
			17/07/2012 09:00	01:00:00	10.4	186.5	68.5	86.2	48.3		
			17/07/2012 10:00	01:00:00	10.7	188.8	62.5	79.4	49.8		
			17/07/2012 11:00	01:00:00	9.3	189.5	65.4	86.2	50.2		
			17/07/2012 12:00	01:00:00	9.5	185.8	73.4	100.1	50.2		
			17/07/2012 13:00	01:00:00	10.0	185.3	70.9	96.4	49.6		
			17/07/2012 14:00	01:00:00	10.3	182.8	62.0	79.5	49.5		
			17/07/2012 15:00	00:58:12	10.3	180.8	65.2	83.5	49.2		
			17/07/2012 16:00	01:00:00	9.9	184.3	65.2	81.5	48.4		
RN1			17/07/2012 15:00	01:00:00	6.1	191.3	51.7	82.1	41.3		
AN1	12.7	17.3	18/07/2012 08:00	01:00:00	3.7	239.8	62.1	86.8	51.8		
			18/07/2012 09:00	01:00:00	2.0	247.3	62.7	78.2	50.2		
			18/07/2012 10:00	01:00:00	2.8	254.0	63.2	81.8	48.3		
			18/07/2012 11:00	01:00:00	3.9	250.0	72.0	93.8	48.9		
			18/07/2012 12:00	01:00:00	4.7	267.3	60.2	78.8	48.7		
18/07/2012 13:00			01:00:00	3.5	270.3	60.2	76.9	47.0			
AN2			18/07/2012 08:00	01:00:00	3.7	239.8	59.4	81.8	38.3		
AN3			18/07/2012 14:00	01:00:00	8.1	234.0	43.3	60.5	31.2		
GN1			18/07/2012 19:00	01:00:00	6.9	284.5	55.9	91.0	32.8		
GN2			18/07/2012 08:00	01:00:00	7.1	208.8	61.1	74.5	50.3		
			18/07/2012 09:00	01:00:00	7.1	215.0	68.2	83.8	49.4		
			18/07/2012 10:00	01:00:00	8.3	213.8	61.3	83.8	50.0		
			18/07/2012 11:00	01:00:00	7.6	227.0	68.4	81.6	51.2		
			18/07/2012 12:00	01:00:00	7.5	229.5	62.7	80.9	48.8		
			18/07/2012 13:00	01:00:00	7.8	233.3	63.9	80.4	51.3		
			18/07/2012 14:00	01:00:00	8.1	234.0	61.9	77.7	50.6		
			18/07/2012 15:00	01:00:00	7.5	238.0	70.5	90.7	51.4		
			18/07/2012 16:00	01:00:00	7.3	234.3	68.8	94.2	48.9		
			RN1	18/07/2012 16:00	01:00:00	4.9	276.5	52.4	77.4	32.2	
AN1			11.2	15.8	19/07/2012 10:00	01:00:00	2.7	303.5	61.0	86.9	43.3
19/07/2012 12:00					01:00:00	2.6	302.0	64.4	86.9	45.4	
AN2					19/07/2012 13:00	01:00:00	3.1	312.8	60.3	83.7	43.7
AN3					19/07/2012 12:00	01:00:00	2.6	302.0	58.7	73.1	41.8
GN1					19/07/2012 07:00	01:00:00	2.6	324.0	43.0	61.9	29.1
GN2					19/07/2012 12:00	01:00:00	3.4	263.3	52.6	90.4	31.1
					19/07/2012 08:00	01:00:00	3.4	276.8	65.2	87.1	47.2
					19/07/2012 09:00	01:00:00	3.8	266.8	64.4	82.4	45.7
	19/07/2012 10:00	01:00:00			3.1	257.0	60.3	73.4	48.0		
	19/07/2012 12:00	01:00:00			3.4	263.3	64.2	79.6	49.3		
	19/07/2012 13:00	01:00:00			3.7	272.0	63.3	85.9	49.5		
	19/07/2012 15:00	01:00:00			2.9	341.5	72.9	95.6	49.0		
	19/07/2012 16:00	01:00:00			2.7	280.3	64.5	82.8	49.0		
	RN1	19/07/2012 10:00			01:00:00	2.7	303.5	46.6	71.1	27.2	
AN1	7.2	16.8	20/07/2012 11:00	01:00:00	3.1	102.5	61.8	91.7	46.0		
AN2			20/07/2012 12:00	01:00:00	2.5	89.3	62.0	87.0	42.1		
AN3			20/07/2012 11:00	01:00:00	3.1	102.5	66.9	83.8	33.3		
GN1			20/07/2012 07:00	01:00:00	1.3	286.8	47.7	76.9	28.5		
GN2			20/07/2012 16:00	01:00:00	2.1	251.8	49.3	81.6	27.4		
			20/07/2012 08:00	01:00:00	2.3	309.5	72.3	93.2	48.3		
			20/07/2012 10:00	01:00:00	2.3	258.3	63.1	79.9	45.7		
			20/07/2012 11:00	01:00:00	2.2	237.3	65.1	85.4	48.5		
			20/07/2012 12:00	01:00:00	2.1	333.5	72.5	92.9	48.1		
			20/07/2012 13:00	01:00:00	2.1	320.8	67.8	89.9	47.9		
			RN1	20/07/2012 07:00	01:00:00	1.3	286.8	49.4	82.1	22.2	
AN1			7.0	16.9	21/07/2012 12:00	01:00:00	3.4	189.8	60.3	77.9	47.5
	21/07/2012 13:00	01:00:00			3.5	204.0	61.2	80.0	47.7		
	21/07/2012 15:00	01:00:00			4.2	188.3	60.7	80.5	47.6		
	21/07/2012 16:00	01:00:00			5.2	181.3	63.3	82.2	47.2		
	21/07/2012 17:00	01:00:00			3.9	178.8	66.1	82.0	47.7		
	21/07/2012 18:00	01:00:00			4.0	190.0	61.4	81.9	47.7		
	21/07/2012 19:00	01:00:00			4.0	189.8	63.2	81.2	47.5		
	AN2	21/07/2012 17:00			01:00:00	3.9	178.8	50.2	65.5	35.2	
	AN3	21/07/2012 14:00			01:00:00	4.0	193.3	53.6	78.1	28.3	
	GN1	21/07/2012 15:00			01:00:00	4.4	185.3	52.4	82.0	28.3	
GN2	21/07/2012 18:00	01:00:00			3.9	185.5	57.5	80.6	47.6		
RN1	21/07/2012 07:00	01:00:00			0.9	150.5	51.7	78.9	28.0		
* Wind speeds in excess of 7 m/s negatively impact noise readings											
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										

Location	Air Temp. (Min)	Air Temp. (Max)	Start Date and Time	Duration	Wind		Results dB		
					Speed (m/s)*	Direction (Degrees)	L _{Aeq}	L _{Amax}	L _{Amin}
Action Limit							60.0		
Target Limit							65.0		
AN1	13.7	17.9	23/07/2012 08:00	01:00:00	2.6	201.0	63.1	84.2	52.8
			23/07/2012 10:00	01:00:00	2.4	227.0	60.7	87.7	45.9
			23/07/2012 11:00	01:00:00	2.1	220.3	61.6	76.1	48.7
			23/07/2012 12:00	01:00:00	2.0	220.8	63.1	79.3	50.6
			23/07/2012 16:00	01:00:00	2.8	238.8	63.3	78.2	48.6
			23/07/2012 17:00	01:00:00	2.8	225.5	60.0	79.1	46.6
			23/07/2012 18:00	01:00:00	1.6	230.8	56.2	73.9	28.9
			23/07/2012 08:00	01:00:00	2.6	201.0	42.6	69.2	34.7
			23/07/2012 14:00	01:00:00	4.6	189.8	57.4	94.4	39.4
			23/07/2012 10:00	01:00:00	3.0	198.3	72.4	91.0	52.3
AN1	11.5	17.5	24/07/2012 08:00	01:00:00	1.8	179.0	60.3	76.6	49.5
			24/07/2012 09:00	01:00:00	1.7	198.5	61.8	77.6	47.2
			24/07/2012 11:00	01:00:00	2.0	207.0	60.8	77.3	47.6
			24/07/2012 12:00	01:00:00	2.0	177.5	60.0	79.0	47.3
			24/07/2012 18:00	01:00:00	1.0	202.5	56.1	74.5	27.1
			24/07/2012 08:00	01:00:00	1.8	179.0	47.0	75.2	29.1
			24/07/2012 18:00	01:00:00	1.9	192.5	56.5	80.1	31.8
			24/07/2012 10:00	01:00:00	3.3	189.0	66.8	94.0	48.4
			24/07/2012 15:00	01:00:00	3.7	191.3	65.5	90.6	49.8
			24/07/2012 16:00	01:00:00	2.9	188.8	67.9	90.9	49.9
AN1	7.4	18.0	25/07/2012 10:00	01:00:00	1.6	113.5	63.3	93.8	42.1
			25/07/2012 11:00	01:00:00	2.2	16.5	65.3	88.9	41.9
			25/07/2012 12:00	01:00:00	2.1	19.0	68.9	93.0	41.6
			25/07/2012 12:00	01:00:00	2.1	19.0	73.7	100.3	28.9
			25/07/2012 10:00	01:00:00	1.6	113.5	52.8	69.0	29.1
			25/07/2012 12:00	01:00:00	1.9	338.8	48.2	82.6	34.6
			25/07/2012 10:00	01:00:00	1.8	307.3	63.8	79.8	47.9
			25/07/2012 11:00	01:00:00	2.1	256.0	60.3	73.2	47.7
			25/07/2012 08:00	01:00:00	0.9	243.0	42.4	74.9	23.5
			AN1	8.3	18.1	26/07/2012 11:00	01:00:00	1.7	307.0
26/07/2012 12:00	00:37:57	3.7				312.3	63.0	85.9	46.0
26/07/2012 13:00	01:00:00	3.4				318.0	63.1	89.0	43.4
26/07/2012 15:00	01:00:00	2.2				242.3	62.9	79.1	48.1
26/07/2012 16:00	01:00:00	3.7				231.0	61.0	81.5	47.6
26/07/2012 17:00	01:00:00	3.9				228.3	61.8	78.4	49.2
26/07/2012 08:00	01:00:00	0.5				261.3	69.6	93.5	27.1
26/07/2012 09:00	01:00:00	1.2				295.3	61.0	87.1	29.5
26/07/2012 07:00	01:00:00	0.4				136.0	48.3	72.5	29.1
26/07/2012 09:00	01:00:00	1.4				242.0	59.9	95.8	30.4
AN1	10.7	16.8	27/07/2012 10:00	01:00:00	3.9	279.5	61.6	75.7	44.8
			27/07/2012 08:00	01:00:00	3.8	285.8	64.0	78.2	47.5
			27/07/2012 09:00	01:00:00	2.9	289.5	63.6	78.5	46.6
			27/07/2012 10:00	01:00:00	2.9	278.5	63.4	79.5	46.5
			27/07/2012 11:00	01:00:00	3.7	290.8	65.6	78.9	47.5
			27/07/2012 12:00	01:00:00	5.7	283.0	67.9	82.1	48.0
			27/07/2012 13:00	01:00:00	3.3	295.5	64.4	81.0	46.2
			27/07/2012 14:00	01:00:00	5.4	287.5	70.2	93.3	46.2
			27/07/2012 15:00	01:00:00	4.2	282.3	70.0	82.4	47.5
			27/07/2012 16:00	01:00:00	4.1	293.8	69.0	80.6	46.8
AN2	10.7	16.8	27/07/2012 17:00	01:00:00	4.6	297.5	68.0	79.1	46.0
			27/07/2012 18:00	01:00:00	2.4	285.3	67.7	83.7	46.0
			27/07/2012 19:00	01:00:00	4.4	294.0	60.7	81.8	43.9
			27/07/2012 14:00	01:00:00	5.4	287.5	61.1	77.3	40.5
			27/07/2012 15:00	01:00:00	4.2	282.3	61.2	79.9	41.7
			27/07/2012 15:00	01:00:00	5.7	243.0	49.6	70.3	36.1
			27/07/2012 16:00	01:00:00	5.8	247.0	54.0	77.0	43.0
			27/07/2012 07:00	01:00:00	5.3	245.0	64.2	72.8	51.9
			27/07/2012 08:00	01:00:00	5.4	247.0	67.7	86.1	52.8
			27/07/2012 09:00	01:00:00	5.3	248.0	63.1	75.2	52.6
GN2	10.7	16.8	27/07/2012 10:00	01:00:00	5.0	246.3	62.1	70.1	53.5
			27/07/2012 11:00	01:00:00	5.3	249.3	63.6	70.5	53.9
			27/07/2012 12:00	01:00:00	5.7	248.5	64.1	72.0	54.3
			27/07/2012 13:00	01:00:00	4.7	257.3	64.3	73.9	53.4
			27/07/2012 14:00	01:00:00	5.8	250.0	71.1	80.6	54.5
			27/07/2012 15:00	01:00:00	5.7	243.0	71.5	79.8	56.9
			27/07/2012 16:00	01:00:00	5.8	247.0	68.8	78.3	54.8
			27/07/2012 17:00	01:00:00	5.5	245.8	64.9	71.5	53.9
			27/07/2012 18:00	01:00:00	5.7	247.5	66.0	74.9	53.5
			27/07/2012 19:00	01:00:00	5.0	241.3	69.1	79.7	52.3
RN1			27/07/2012 13:00	01:00:00	3.3	295.5	44.0	66.4	28.5
* Wind speeds in excess of 7 m/s negatively impact noise readings									
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								

Location	Air Temp. (Min)	Air Temp. (Max)	Start Date and Time	Duration	Wind		Results dB				
					Speed (m/s)*	Direction (Degrees)	L _{Aeq}	L _{Amax}	L _{Amin}		
Action Limit							60.0				
Target Limit							65.0				
AN1	10.3	14.9	28/07/2012 08:00	01:00:00	2.5	301.8	65.9	94.1	44.6		
			28/07/2012 09:00	01:00:00	3.1	296.0	66.1	80.2	45.1		
			28/07/2012 10:00	01:00:00	5.8	283.8	67.9	79.6	45.7		
			28/07/2012 11:00	01:00:00	4.0	299.8	68.6	82.7	45.7		
			28/07/2012 12:00	01:00:00	3.5	291.5	64.0	78.9	46.3		
			28/07/2012 13:00	01:00:00	5.1	304.8	62.4	79.0	46.5		
			28/07/2012 14:00	01:00:00	4.1	302.8	65.6	79.9	46.5		
			28/07/2012 15:00	01:00:00	4.3	315.5	64.3	77.9	46.0		
			28/07/2012 16:00	01:00:00	4.5	320.8	64.0	82.6	45.7		
			28/07/2012 17:00	01:00:00	4.4	318.3	63.5	78.9	45.6		
28/07/2012 18:00			01:00:00	4.5	302.8	62.6	75.1	45.0			
AN2			28/07/2012 13:00	01:00:00	5.1	304.8	63.5	80.0	37.1		
			28/07/2012 14:00	01:00:00	4.1	302.8	65.7	82.3	36.7		
			28/07/2012 15:00	01:00:00	4.3	315.5	66.9	81.4	35.8		
			28/07/2012 16:00	01:00:00	4.5	320.8	66.8	89.5	36.9		
			28/07/2012 17:00	01:00:00	4.4	318.3	65.9	79.6	35.1		
AN3			28/07/2012 18:00	01:00:00	4.5	302.8	64.2	78.3	36.2		
GN1			28/07/2012 11:00	01:00:00	5.7	251.5	49.0	68.0	35.5		
GN2			28/07/2012 11:00	01:00:00	5.7	251.5	51.0	70.6	42.0		
			28/07/2012 07:00	01:00:00	4.8	264.0	65.6	79.2	51.8		
			28/07/2012 08:00	01:00:00	4.8	260.3	65.2	76.3	51.9		
			28/07/2012 09:00	01:00:00	5.6	257.0	65.0	73.6	52.5		
			28/07/2012 10:00	01:00:00	6.1	250.0	65.7	72.3	54.4		
			28/07/2012 11:00	01:00:00	5.7	251.5	69.3	81.8	55.2		
			28/07/2012 12:00	01:00:00	5.1	246.8	69.1	79.5	54.6		
			28/07/2012 13:00	01:00:00	5.3	254.8	68.4	79.3	54.2		
			28/07/2012 14:00	01:00:00	5.4	270.3	68.0	79.1	54.5		
			28/07/2012 15:00	01:00:00	5.2	265.3	66.3	82.0	54.1		
			28/07/2012 16:00	01:00:00	4.9	264.3	67.2	76.8	52.5		
			28/07/2012 17:00	01:00:00	6.1	265.3	69.1	80.8	53.8		
			28/07/2012 18:00	01:00:00	5.7	268.0	68.0	76.1	53.3		
			28/07/2012 19:00	01:00:00	5.2	265.0	66.4	76.7	52.0		
			RN1	28/07/2012 16:00	01:00:00	4.5	320.8	46.6	68.7	29.8	
AN1	7.1	17.5	30/07/2012 08:00	01:00:00	1.2	178.0	63.3	79.0	49.9		
			30/07/2012 09:00	01:00:00	1.6	210.0	61.6	80.3	47.1		
			30/07/2012 15:00	01:00:00	3.9	299.0	64.1	91.2	45.9		
30/07/2012 19:00			01:00:00	1.9	99.5	48.3	56.9	43.2			
AN2			30/07/2012 18:00	01:00:00	1.5	327.5	55.2	72.8	29.4		
			30/07/2012 19:00	01:00:00	1.9	99.5	46.2	71.8	27.6		
AN3			30/07/2012 07:00	01:00:00	1.7	219.0	44.0	69.1	28.5		
			30/07/2012 19:00	01:00:00	1.5	268.5	41.7	59.0	28.4		
GN1			30/07/2012 07:00	01:00:00	1.7	219.0	48.4	74.6	30.3		
			30/07/2012 19:00	01:00:00	1.5	268.5	39.3	65.4	29.1		
GN2			30/07/2012 13:00	01:00:00	2.8	264.5	62.3	81.2	49.2		
			30/07/2012 19:00	01:00:00	1.5	268.5	53.8	79.2	48.6		
RN1			30/07/2012 12:00	01:00:00	1.9	240.8	44.3	75.0	25.7		
			30/07/2012 19:00	01:00:00	1.9	99.5	32.5	55.5	24.2		
AN1	7.8	15.7	31/07/2012 11:00	01:00:00	2.8	154.0	71.1	93.3	46.9		
			31/07/2012 12:00	01:00:00	2.6	125.3	63.2	86.8	49.8		
			31/07/2012 15:00	01:00:00	3.8	177.3	63.4	85.2	48.9		
31/07/2012 19:00			01:00:00	2.3	115.5	51.6	71.6	46.9			
AN2			31/07/2012 13:00	01:00:00	2.0	139.8	54.1	71.2	33.4		
			31/07/2012 19:00	01:00:00	2.3	115.5	52.2	66.8	39.7		
AN3			31/07/2012 10:00	01:00:00	4.2	75.0	56.2	76.0	29.3		
			31/07/2012 19:00	01:00:00	2.1	91.5	41.2	60.9	35.1		
GN1			31/07/2012 13:00	01:00:00	3.0	83.0	58.2	94.2	35.9		
			31/07/2012 19:00	01:00:00	2.1	91.5	45.9	68.0	38.4		
GN2			31/07/2012 15:00	01:00:00	3.3	160.8	58.3	73.4	48.7		
			31/07/2012 19:00	01:00:00	2.1	91.5	52.1	59.8	49.2		
RN1			31/07/2012 12:00	01:00:00	2.6	125.3	52.0	70.0	44.2		
			31/07/2012 19:00	01:00:00	2.3	115.5	47.6	67.3	42.6		
* Wind speeds in excess of 7 m/s negatively impact noise readings											
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										

	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	%	pH units	mg/l	mg/l	ug/l	ug/l	mg/l	mg/l	mg/l
Composites - Aughooose												
SB3	01/07/2012	290	11.2	81.3	6.9	2	<0.03	176	<100	6.28	0.300	43
SB3	02/07/2012	315	3.8	67.3	7.4	3	<0.03	<100	<100	6.64	0.889	20
SB3	03/07/2012	339	3.9	69.6	7.5	3	<0.03	<100	<100	7.24	0.282	28
SB3	04/07/2012	477	1.4	84.1	6.4	2	<0.03	<200	<100	4.62	0.700	<10
SB3	05/07/2012	440	1.5	75.1	6.5	2	<0.03	<100	<100	4.14	1.020	<10
SB3	06/07/2012	429	1.5	78.2	6.5	2	<0.03	<200	<100	4.49	0.862	<10
SB3	07/07/2012	424	1.5	87.2	6.6	2	<0.03	<100	<100	4.06	0.858	<10
SB3	08/07/2012	394	1.3	73.7	6.4	2	<0.03	<100	<100	3.28	1.040	<10
SB3	09/07/2012	401	1.0	74.6	7.5	2	<0.03	<200	<100	3.84	0.936	19
SB3	10/07/2012	395	1.3	75.2	7.5	2	<0.03	<200	<100	4.11	0.903	32
SB3	11/07/2012	390	1.7	74.2	6.7	2	<0.03	171	<100	4.61	1.090	<10
SB3	12/07/2012	396	1.2	74.2	6.9	2	<0.03	118	<100	4.39	1.190	19
SB3	13/07/2012	397	1.4	74.3	6.9	15	<0.03	<100	<100	3.77	1.020	<10
SB3	14/07/2012	385	0.9	70.3	6.9	2	<0.03	<100	<100	2.71	0.539	<10
SB3	15/07/2012	380	0.9	69.5	6.8	2	<0.03	<100	<100	2.79	0.714	<10
SB3	16/07/2012	385	0.7	70.2	7.2	2	0.06	<100	<100	3.81	0.742	<10
SB3	17/07/2012	371	3.6	69.5	7.1	2	<0.03	<100	<100	2.62	0.758	<10
SB3	18/07/2012	352	3.1	75.1	7.3	2	<0.03	<100	<100	4.27	0.663	10
SB3	19/07/2012	399	1.0	74.8	7.3	2	<0.03	<100	<100	3.26	0.901	11
SB3	20/07/2012	406	2.2	74.5	6.9	2	<0.03	<100	<100	3.12	0.757	<10
SB3	21/07/2012	396	0.8	73.8	6.9	2	<0.03	<100	<100	2.86	0.853	<10
SB3	22/07/2012	383	0.8	72.1	6.9	2	<0.03	<100	<100	3.11	0.878	<10
SB3	23/07/2012	386	1.4	74.5	6.8	2	<0.03	<100	<100	3.57	0.921	<10
SB3	24/07/2012	375	3.4	73.2	6.4	3	<0.03	<100	<100	3.04	0.803	<10
SB3	25/07/2012	396	1.3	74.1	6.9	2	<0.03	<100	<100	3.49	0.767	<10
SB3	26/07/2012	400	1.3	74.5	7.0	2	<0.03	<100	<100	2.79	0.790	<10
SB3	27/07/2012	395	0.7	74.5	6.3	3	<0.03	<100	<100	2.38	0.777	19
SB3	28/07/2012	404	2.8	72.5	6.3	2	<0.03	<100	<100	2.85	0.846	<10
SB3	29/07/2012	444	6.5	74.5	6.3	9	<0.3	<100	<100	3.93	0.856	36
SB3	30/07/2012	407	1.0	71.2	6.2	2	<0.03	107	<100	2.96	0.709	39
SB3	31/07/2012	372	3.3	72.3	6.1	5	<0.03	131	<100</			

< LOD	= Below Limit of Detection
-------	----------------------------

> LOD	= Above Limit of Detection
-------	----------------------------

On site laboratory results included in A

Grey shaded areas denote parameters

[illegible]

	Date	Cond.	Turbidity	DO	pH	TSS	Orthophos phate 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	%	pH units	mg/l	mg/l	ug/l	ug/l	mg/l	mg/l	mg/l
Grab Samples DL2												
DL2	04/07/2012	512	0.9	74.6	7.2	7	<0.03	145	<100	4.7	1.400	18
DL2	10/07/2012	389	2.4	71.6	7.2	2	<0.03	294	<100	3.5	0.733	34
DL2	11/07/2012	305	0.4	73.5	6.6	2	<0.03	<100	<100	6.4	0.419	26
DL2	17/07/2012	381	0.6	71.2	7.0	2	<0.03	<100	<100	2.6	0.576	<10
DL2	23/07/2012	318	0.8	68.5	5.8	2	<0.03	<100	<100	1.6	0.650	<10
DL2	26/07/2012	398	0.6	72.9	6.9	2	<0.03	<100	<100	2.8	0.708	<10
Grab Samples DL6												
DL6 Post	03/07/2012	378	1.8	72.5	6.8	2	<0.03	<100	<100	3.6	0.317	<10
DL6 Post	04/07/2012	423	1.0	65.2	7.2	2	<0.03	150	<100	3.8	0.477	10
DL6 Post	05/07/2012	433	2.2	64.7	7.4	3	<0.03	<100	<100	4.04	0.646	<10
DL6 Post	06/07/2012	433	2.0	72.6	7.5	2	<0.03	<100	<100	3.65	0.740	20
DL6 Post	07/07/2012	413	0.8	74.6	7.1	2	<0.03	<100	<100	3.61	0.447	36
DL6 Post	08/07/2012	404	0.5	73.1	7.7	2	<0.03	<100	<100	3.44	0.459	25
DL6 Post	09/07/2012	405	0.8	76.5	6.9	2	<0.03	<100	<100	3.89	0.186	24
DL6 Post	10/07/2012	408	2.4	71.3	7.0	2	<0.03	<100	<100	3.82	0.493	35
DL6 Post	11/07/2012	431	1.0	74.9	6.4	10	<0.03	<100	<100	4.31	1.120	22
DL6 Post	12/07/2012	419	0.3	70.6	6.8	2	<0.03	<100	<100	3.79	0.386	<10
DL6 Post	13/07/2012	428	0.3	73.5	6.8	15	<0.03	<100	<100	3.67	0.443	18
DL6 Post	14/07/2012	431	0.6	75.6	7.0	2	<0.03	<100	<100	3.29	0.424	<10
DL6 Post	16/07/2012	432	3.9	74.5	6.9	4	<0.03	<100	<100	4.66	0.499	<10
DL6 Post	17/07/2012	413	11.9	72.6	6.7	21	<0.03	<100	<100	4.99	0.300	23
DL6 Post	18/07/2012	409	1.2	72.5	6.8	4	<0.03	248	<100	4.49	0.532	409
DL6 Post	19/07/2012	440	1.2	75.8	6.8	5	<0.03	<100	<100	3.88	0.512	<10
DL6 Post	20/07/2012	503	0.8	71.2	6.7	7	<0.03	<100	<100	3.62	0.985	12
DL6 Post	21/07/2012	467	1.0	69.5	6.0	3	<0.03	220	<100	2.09	0.615	<10
DL6 Post	22/07/2012	431	1.2	68.5	5.7	2	<0.03	<100	<100	2.47	0.462	<10
DL6 Post	23/07/2012	402	1.9	68.5	5.4	6	<0.03	<100	<100	2.07	0.346	<10
DL6 Post	24/07/2012	412	1.1	69.5	5.8	2	<0.03	<100	<100	1.47	0.445	<10
DL6 Post	26/07/2012	463	0.6	74.5	7.1	2	<0.03	<100	<100	3.30	0.865	12
DL6 Post	27/07/2012	453	3.0	73.5	7.1	4	<0.03	192	<100	3.56	0.636	18
DL6 Post	28/07/2012	465	1.2	74.2	6.0	2	<0.03	<100	<100	3.72	0.807	12
DL6 Post	29/07/2012	455										

> LOD	= Above Limit of Detection
-------	----------------------------

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

Surface Water Monitoring Results - Accredited Laboratory												
	Date	Cond.	Turbidity	DO	pH	TSS	Orthophos phate 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	%	pH units	mg/l	mg/l	ug/l	ug/l	mg/l	mg/l	mg/l
Sruwaddacon Bay												
SBay1	17/07/2012	46500	0.4	78.6	8.0	<2	0.03	<100	<100	2.03	2.030	60
SBay3	17/07/2012	34100	0.7	78.5	8.0	<2	0.02	<100	<100	4.79	4.790	40
SBay4	17/07/2012	37100	0.7	75.1	8.1	4	0.01	<100	<100	4.18	4.180	20
SBay6	17/07/2012	41400	0.3	71.6	8.1	<2	0.02	<100	<100	3.29	3.290	40
Baseline Monitoring - Pipeline Wayleave												
SW 09	03/07/2012	203	10.1	63.0	6.2	5	0.16	191	<100	34.1	0.051	433
SW 10	03/07/2012	120	49.0	49.3	6.1	70	0.70	158	<100	29.9	0.276	418
SW 11	05/07/2012	174	1.4	66.3	5.8	<2	0.07	111	<100	32.8	0.457	107
SW 12	05/07/2012	270	4.3	63.9	6.9	<2	0.05	<100	<100	22.7	0.205	66
SW 09	10/07/2012	137	8.5	73.9	6.4	88	0.07	<200	<100	26.5	<0.005	199
SW 10	10/07/2012	99	3.2	74.1	5.9	6	0.05	<200	<100	22.4	0.045	89
SW 11	11/07/2012	161	1.3	74.1	5.4	<2	0.11	<100	<100	33.5	0.027	172
SW 12	11/07/2012	161	1.5	75.6	5.4	<2	0.06	<100	<100	34.2	0.006	170
SW 12	17/07/2012	356	4.5	74.1	6.8	11	<0.03	<100	<100	9.5	0.087	29
SW 09	19/07/2012	198	6.4	71.2	6.0	18	0.44	<100	<100	9.0	0.340	300
SW 11	19/07/2012	208	6.5	70.3	6.4	5	0.15	<100	<100	31.2	0.040	191
SW 12	19/07/2012	152	1.7	71.2	6.1	<2	0.08	<100	<100	35.2	<0.005	128
SW 12	23/07/2012	177	28.0	65.8	4.9	<2	<0.03	<100	<100	5.2	<0.005	122
SW 09	25/07/2012	196	18.4	64.1	5.8	12	0.49	127	<100	57.9	0.290	265
SW 10	25/07/2012	196	4.5	62.5	6.1	<2	0.13	<100	<100	30.8	0.064	148
SW 11	31/07/2012	184	6.3	74.5	6.3	<2	0.12	<100	<100	32.3	0.054	120
SW 12	31/07/2012	391	2.8	74.5	6.9	9	<0.03	<100	<100	12.5	0.854	54
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 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	04/07/2012	18.0	10.4	420	6.3	213	2	52	185	0.13	0.26	0.25	<0.44	<0.017	0.10	16	12
GW2	04/07/2012	57.0	10.6	451	6.3	224	4	186	295	0.20	1.95	0.34	<0.44	<0.017	0.30	13	5
GW3	04/07/2012	10.0	10.7	406	6.2	174	2	140	453	<0.01	2.56	0.17	<0.44	<0.017	<0.03	22	3
GW4	04/07/2012	1.0	10.7	407	6.4	204	6	57	234	<0.01	0.30	0.14	<0.44	<0.017	<0.03	<10	16

Location	Date	Arsenic, total	Chromium, total	Lead, total	Cadmium, total	Tin, total	Iron, total	Mercury	TOC	Total Hardness	Zinc	Extractable HCl 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	04/07/2012	10	1.0	4	1.0	<0.5	19220	<0.05	7.7	138	8	<100	<100	0.25	2896	4.07	
GW2	04/07/2012	2	4.0	18	<0.5	<0.5	22060	<0.05	12.6	157	6	<100	<100	0.34	552	2.86	
GW3	04/07/2012	6	2.0	3	<0.5	<0.5	59190	<0.05	9.6	47	<5	<100	<100	0.17	269	1.00	
GW4	04/07/2012	2	0.9	1	<0.5	<0.5	18270	<0.05	5.2	127	<5	<100	<100	0.14	1539	3.16	

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

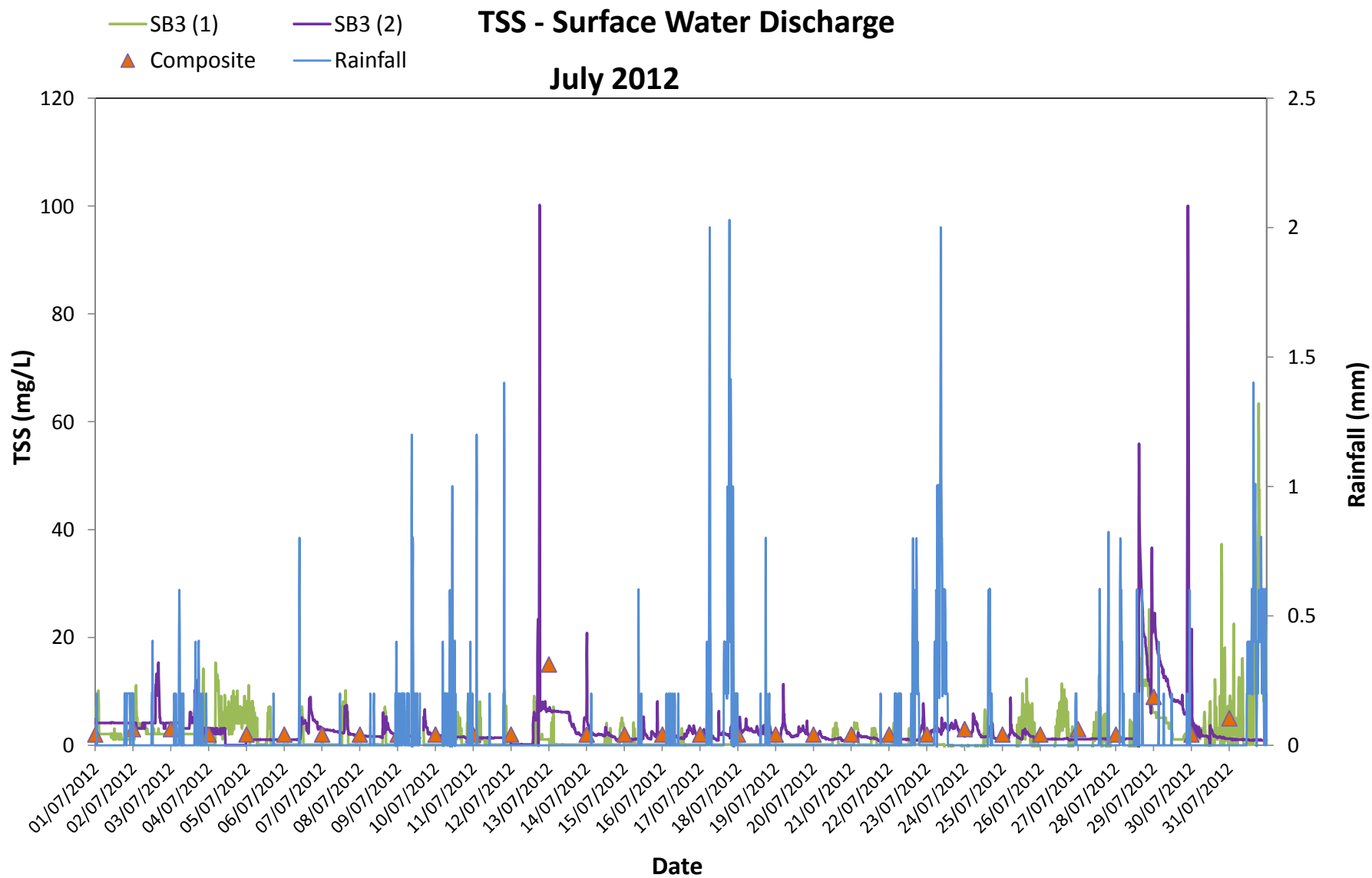
Graphs provided for GW1 - GW4: Temperature, Conductivity, and pH.

Dust Monitoring Record Sheet							
	Date Positioned	Date Removed	Ref. Number	Date Dispatched	Date Returned	Weight (mg/m ² /day)	Comment
Target (Consent) Limit:		350 mg m ² d ⁻¹ on as a 30 day average					
Dust Deposition - Aughooose							
AD1	15/06/2012	18/07/2012	386769	18/07/2012	20/07/2012	159	
AD2	15/06/2012	18/07/2012	386770	18/07/2012	20/07/2012	98	
AD3	15/06/2012	18/07/2012	386771	18/07/2012	20/07/2012	61	
AD4	15/06/2012	18/07/2012	386772	18/07/2012	20/07/2012	73	
Dust Deposition - Glengad							
GD1	15/06/2012	18/07/2012	386773	18/07/2012	20/07/2012	25	
GD2	15/06/2012	18/07/2012	386774	18/07/2012	20/07/2012	228	
NDP = No Determination Possible							
Monitoring Results will be presented monthly							

Vibration Monitoring Record Sheet

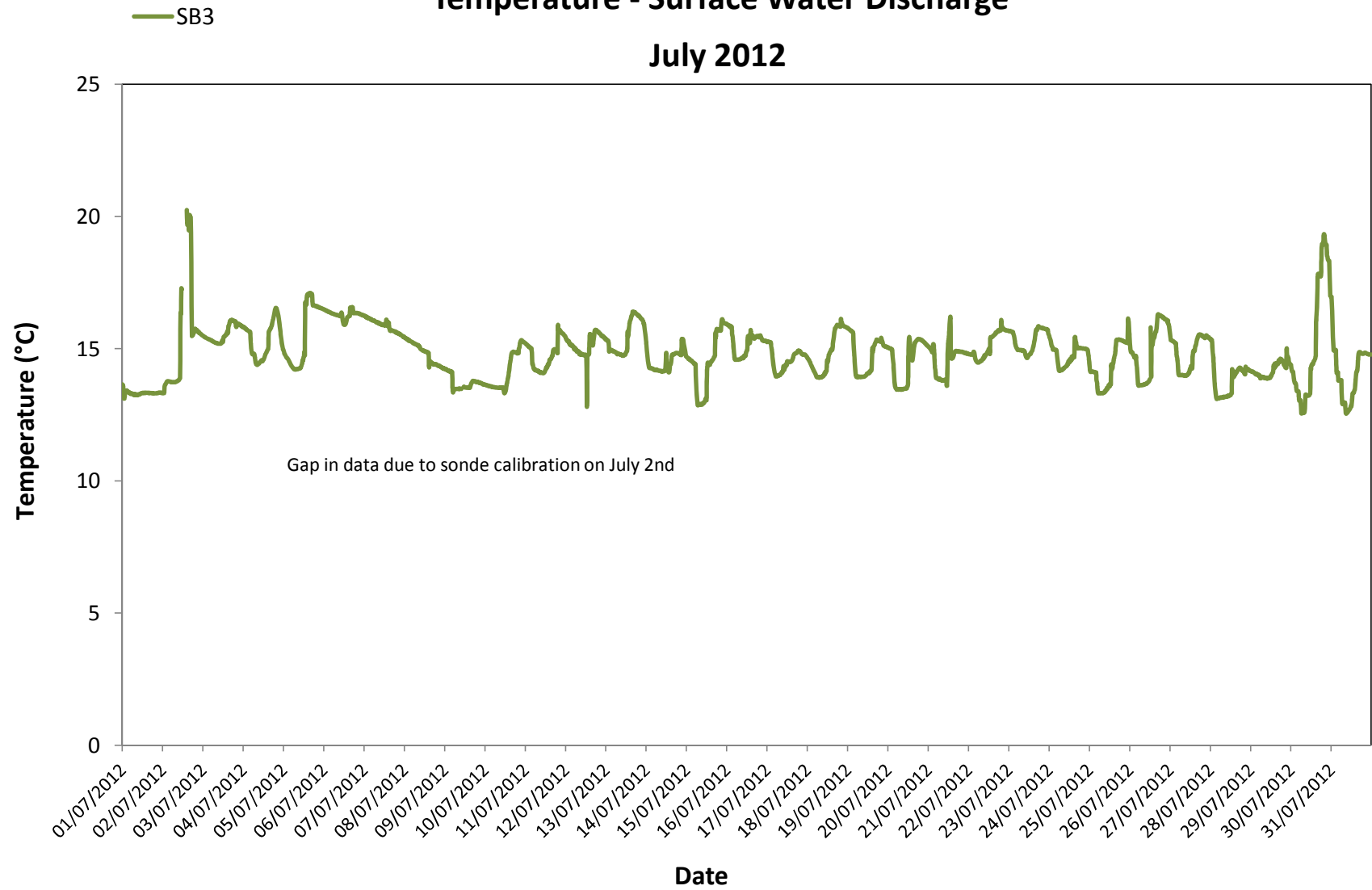
Minimum Criterion 8mm/s					
Date	Location	PPV max (mm/s)	Location*	PPV max (mm/s)	Comment
02/07/2012	V2	4.177	V3	-	Technical error. Unable to retrieve data
03/07/2012	V2	1.124	V3	0.402	
04/07/2012	V2	3.855	V3	0.402	
05/07/2012	V2	1.285	V3	0.402	
06/07/2012	V2	0.884	V3	0.402	
07/07/2012	V2	0.402	V3	0.723	
09/07/2012	V2	1.044	V3	0.321	
10/07/2012	V2	4.257	V3	0.402	
11/07/2012	V2	0.964	V3	0.402	
12/07/2012	V2	3.373	V3	0.402	
13/07/2012	V2	0.482	V3	0.402	
14/07/2012	V2	0.321	V3	0.402	
16/07/2012	V2	1.928	V3	0.402	
17/07/2012	V2	0.723	V3	0.402	
18/07/2012	V2	6.104	V3	0.402	
19/07/2012	V2	2.892	V3	0.402	
20/07/2012	V2	1.285	V3	0.482	
21/07/2012	V2	0.241	V3	0.402	
23/07/2012	V2	2.570	V3	0.402	
24/07/2012	V2	1.205	V3	0.402	
25/07/2012	V2	5.221	V3	0.402	
26/07/2012	V2	-	V3	0.402	Technical error. Unable to retrieve data
27/07/2012	V2	1.767	V3	0.482	
28/07/2012	V2	0.643	V3	0.402	
30/07/2012	V2	2.329	V3	0.402	
31/07/2012	V2	3.936	V3	0.402	

*Vibration events due to personnel activity in and around cage at V3 have been excluded from this data

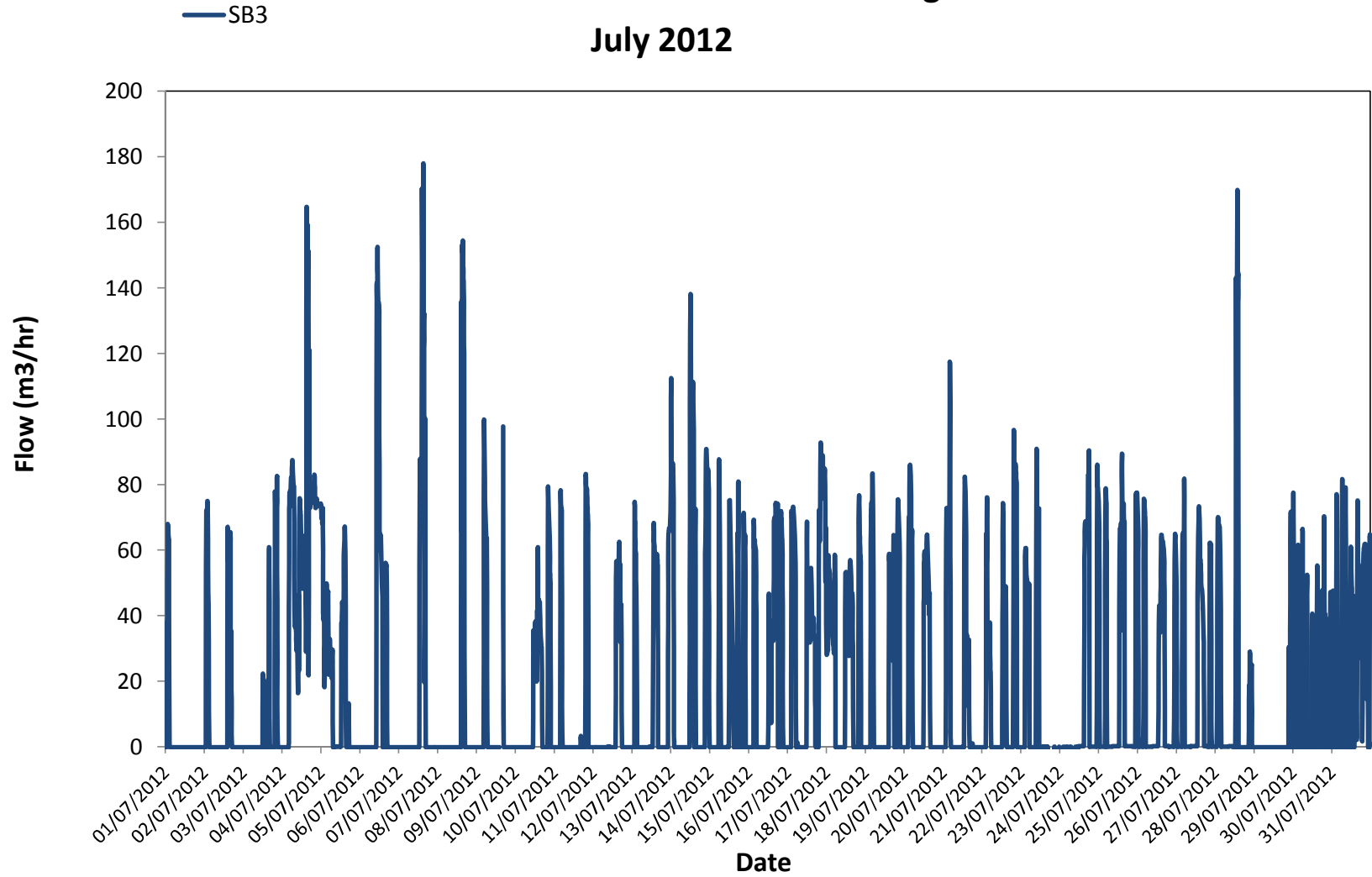


Temperature - Surface Water Discharge

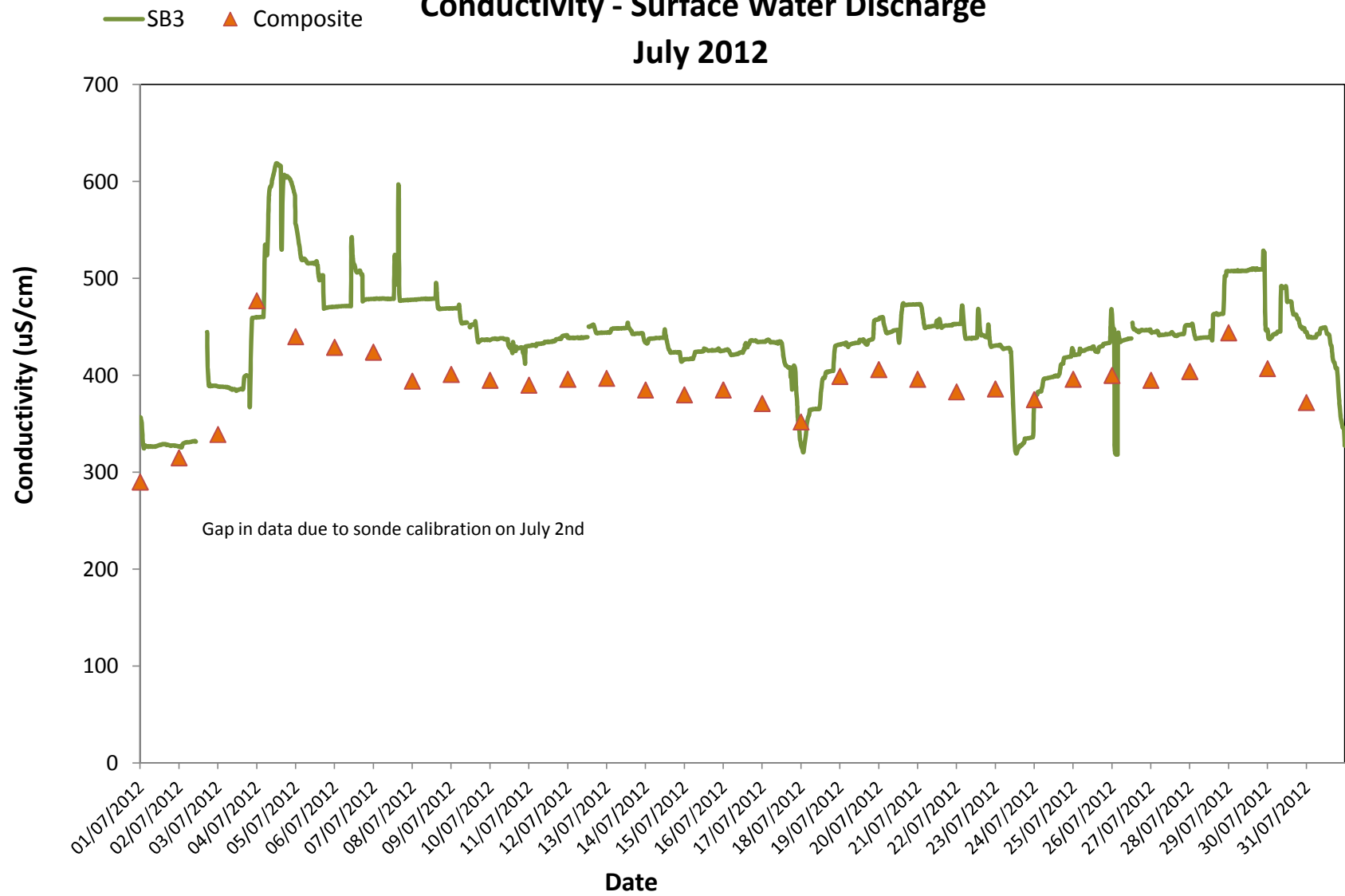
July 2012

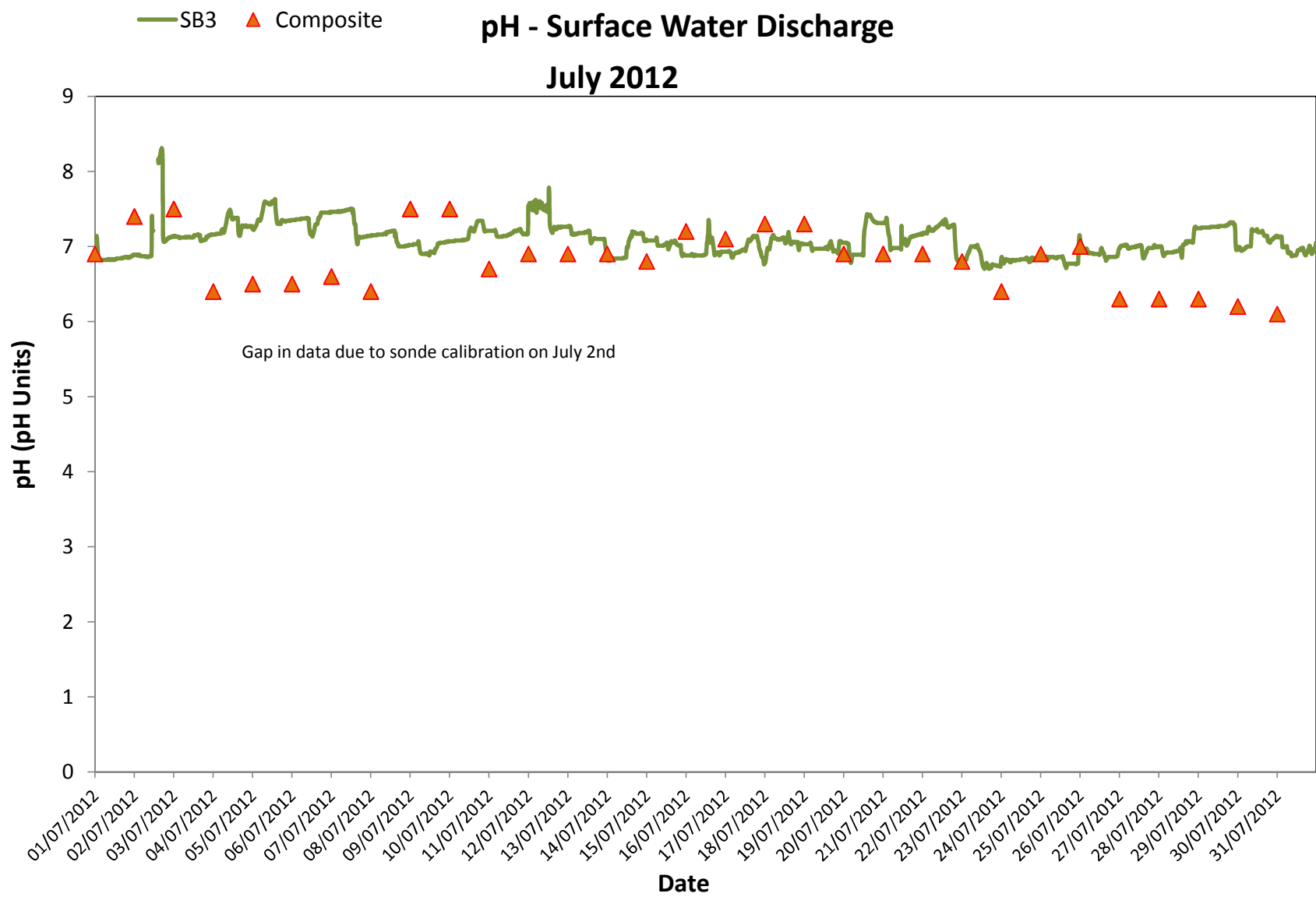


Flow - Surface Water Discharge July 2012



Conductivity - Surface Water Discharge July 2012

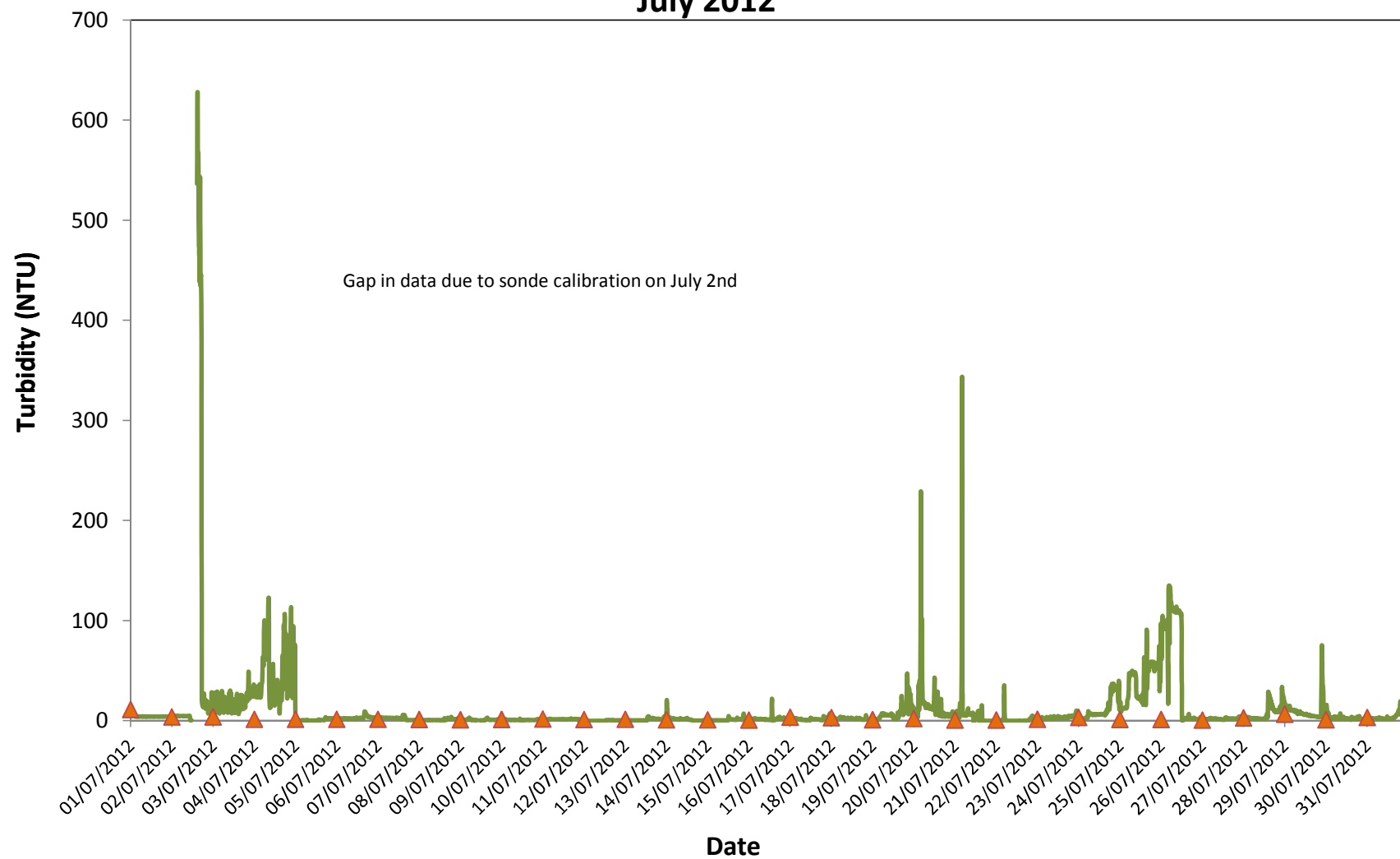


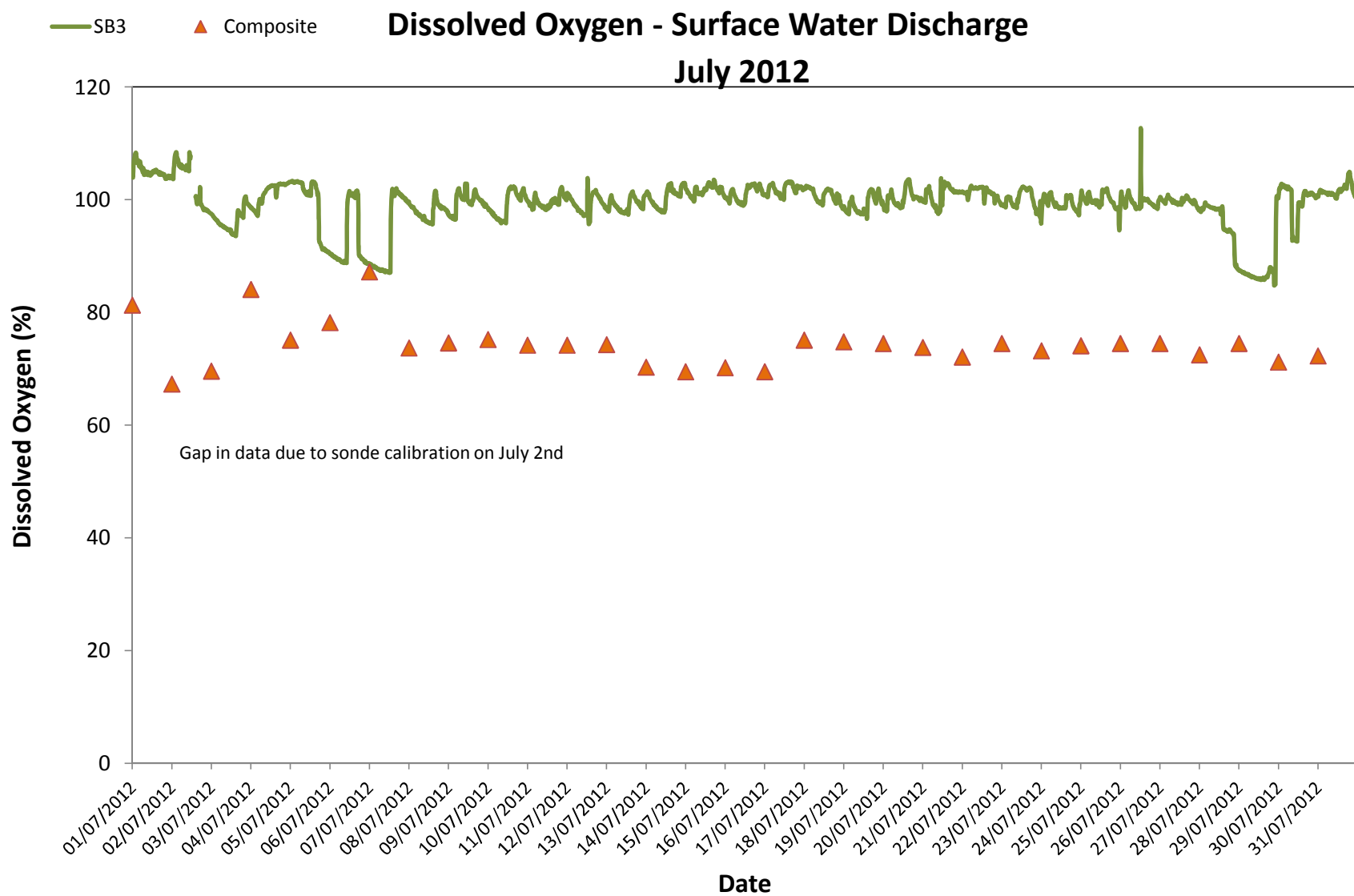


SB3 Composite

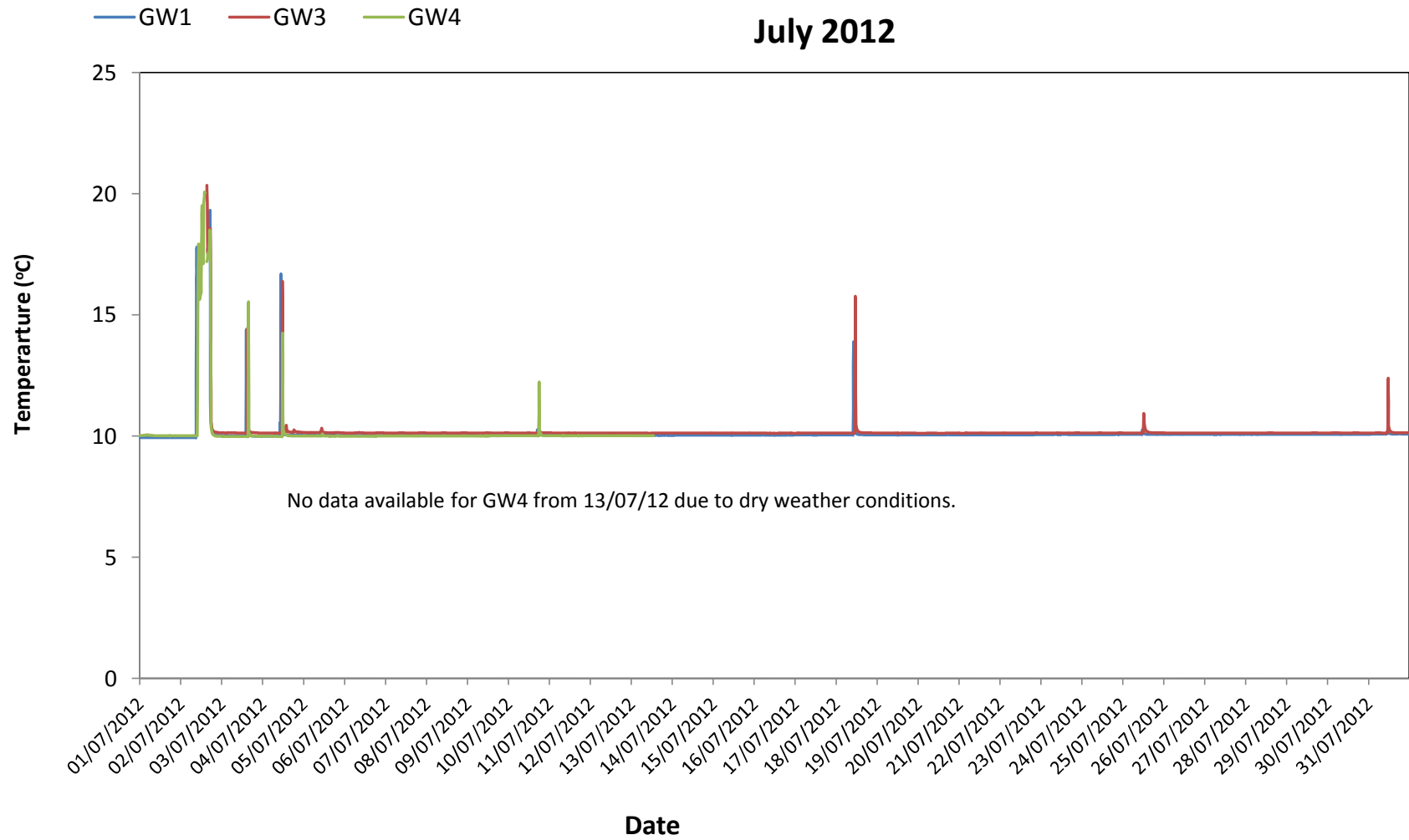
Turbidity - Surface Water Discharge

July 2012



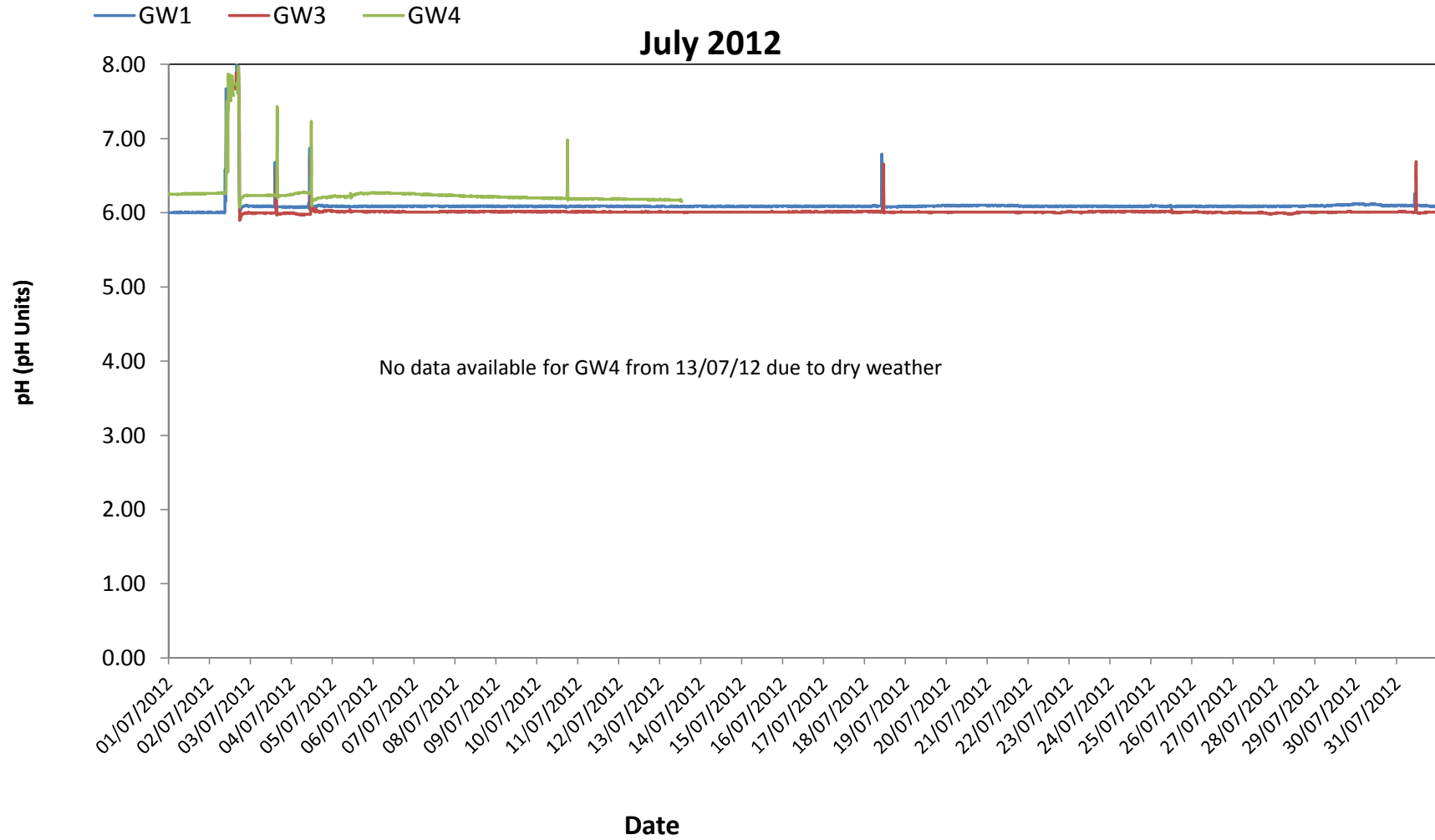


Temperature - Groundwater July 2012



pH - Groundwater

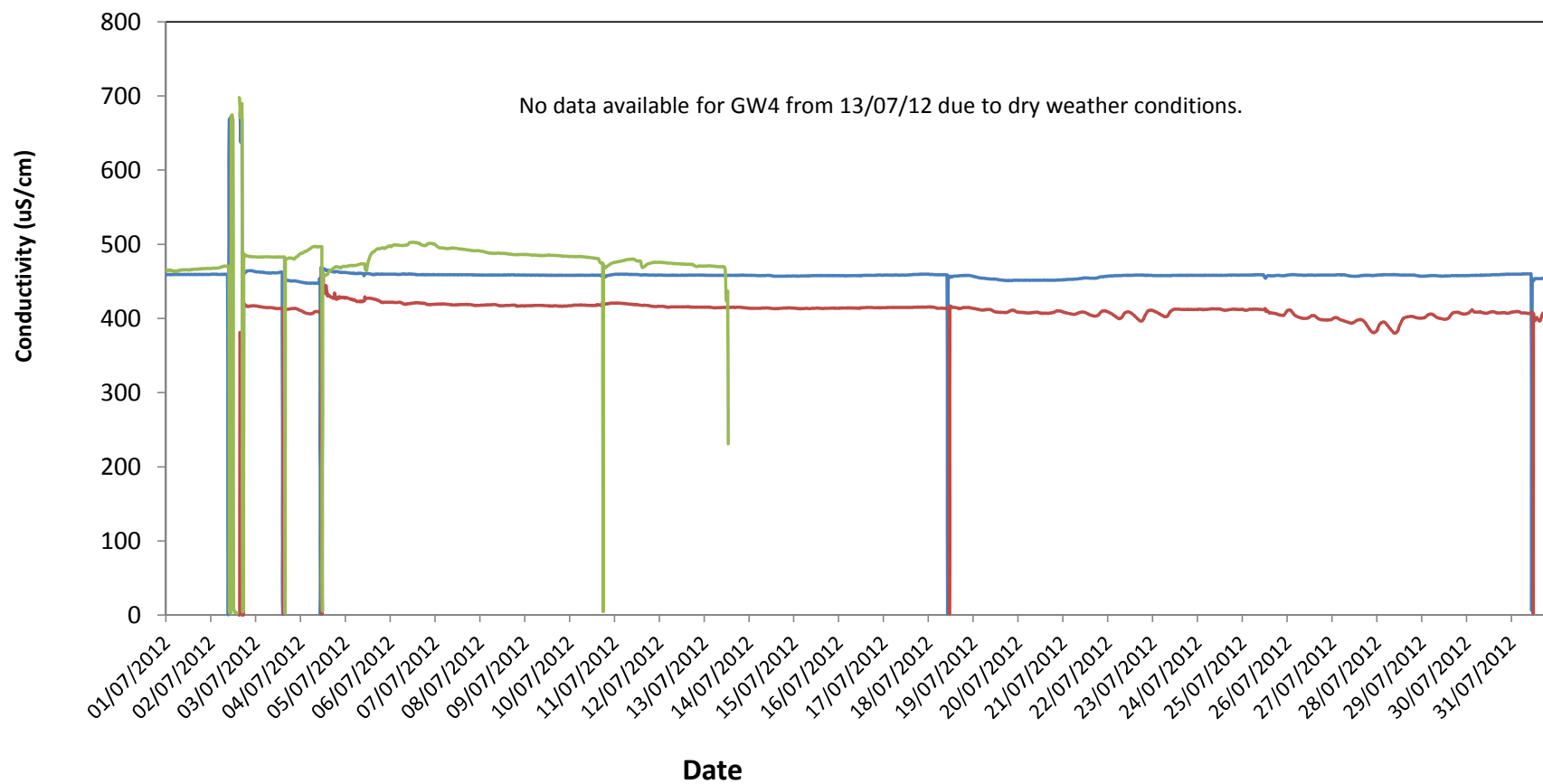
July 2012



Conductivity - Groundwater

— GW1 — GW3 — GW4

July 2012



Appendix 1

Appendix 1: Surface Water Monitoring Record Sheet- Onsite Monitoring						
	Date	Temp	DO	Cond.	Turbidity	pH
		oC	% Sat	µS/cm	NTU	pH units
Grab samples						
DL 2	02/07/2012	21.3	99.7	355	3.4	7.5
DL 2	03/07/2012	16.1	99.2	483	5.9	7.7
DL 2	04/07/2012	15.7	92.9	576	7.0	7.6
DL 2	05/07/2012	15.7	26.9	492	2.9	7.6
DL 2	06/07/2012	16.2	93.3	522	3.0	7.5
DL 2	09/07/2012	13.5	90.4	505	9.0	7.0
DL 2	10/07/2012	13.6	91.5	517	1.5	7.4
DL 2	11/07/2012	13.5	47.9	410	1.0	7.0
DL 2	12/07/2012	13.9	33.9	384	3.0	7.0
DL 2	13/07/2012	16.2	92.4	510	4.0	6.9
DL 2	16/07/2012	20.6	103.6	497	5.0	8.0
DL 2	17/07/2012	19.8	95.8	459	5.0	7.5
DL 2	18/07/2012	16.6	69.2	485	3.4	6.9
DL 2	19/07/2012	20.8	99.4	409	1.1	6.9
DL 2	20/07/2012	15.7	92.1	454	4.0	7.1
DL 2	23/07/2012	15.5	90.2	379	2.0	7.1
DL 2	24/07/2012	15.4	39.6	361	3.1	7.0
DL 2	25/07/2012	15.5	93.4	453	5.0	7.2
DL 2	26/07/2012	16.4	90.1	467	3.0	7.6
DL 2	27/07/2012	14.8	58.8	461	3.0	6.7
DL 2	30/07/2012	19.9	97.9	492	5.0	7.6
DL 2	31/07/2012	19.1	103.1	483	3.0	6.6
DL6	19/07/2012	20.5	98.4	520.0	3.0	6.9
DL6	20/07/2012	18.4	96.0	579.0	6.5	7.1
DL6	23/07/2012	16.1	95.9	477.0	11.0	6.4
DL6	24/07/2012	21.7	102.7	500.0	13.8	6.8
DL6	25/07/2012	22.5	101.9	509.0	4.0	6.9
Sruwaddaon Bay						
Sbay 1	17/07/2012	20.3	98.4	>LOD	6.00	8.06
Sbay 3	17/07/2012	20.2	96.9	>LOD	6.00	7.84
Sbay 4	17/07/2012	20.1	96.5	>LOD	5.00	7.92
Sbay 6	17/07/2012	20.1	96.6	>LOD	4.00	8.04
	= 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 July 2012. These included:

- Site inspections at the Aughooose and Glengad construction compounds;
- Site inspections of the pipeline route to the north and south of RDX1;
- Visual inspection of the “190m” at Aughooose
- Ongoing weekly bird monitoring of the Sruwaddacon Bay area and Sand Martin colonies.
- Terrestrial bird monitoring of the onshore pipeline area in general;
- Faunal monitoring surveys
- Ongoing checks at known faunal burrows at Glengad;

2 AUGHOOOSE SITE INSPECTIONS

A walkover inspection of the Aughooose compound was undertaken by the Project Ecologist and her associate ornithological specialist, in the company of SEPIL's site Environmental Advisor on 17th July. The implementation and effectiveness of ecological mitigation was examined and discussed with the Environmental Advisor. The inspection included checks on:

- The condition of the stored surface vegetation layer in the peat storage areas.
- The condition of remaining surface vegetation in the pipe stringing area.
- Avian and non-avian mitigation measures, including: fencing, screening and wildlife proofing on the inside of the perimeter security fence, settlement ponds and silt traps covers.
- The condition of habitats at and around DL2.
- The external perimeter fenceline, bog mats and vegetation growth at the eastern section of the fence.

The site was also visited on 18th July with DCENR's consultant's ecologist.

Inspections of the exterior of the perimeter fence in respect of faunal (avian and non-avian) mitigation measures were also undertaken during the weekly bird survey visits.

Peat storage areas - vegetation layer

During the site inspection on 17th July it was noted that vegetation growth appeared to be normal for the time of year and that the turves on top of the peat storage areas were generally in good condition.

3 GLENGAD SITE INSPECTIONS

A walkover inspection of the temporary working areas (TWAs) at Glengad and the exterior of the fence at SC1 was undertaken by the Project Ecologist in the company of SEPIL's Environmental Advisor on 11th July, with a further visit being undertaken with her associate ornithological specialist and SEPIL's site Environmental Advisor on 17th July. The purpose of the site inspections was to:

- Check the condition of the soil stock piles and advise on the timing for removal of the mesh cover;
- Check that faunal (avian and non-avian) mitigation measures were being correctly implemented; identify any additional measures that might be required;
- Conduct a general inspection in relation to the condition of SAC grassland habitat adjacent to the fenceline on the northern side of the TWA;
- Check known faunal burrows in the vicinity.

The site was also visited on 18th July with DCENR's consultant's ecologist.

Additional site inspections were undertaken on behalf of the project ecologist by her associate specialists as follows, including those undertaken during weekly bird surveys:

- Check on the exterior of the compound fencing – faunal mitigation;
- Observations of faunal, tracks and signs;
- Weekly check on known mammal burrows at Glengad;
- Regular check that mammal gates are kept open.

3.1 SAC Habitats at Glengad

No overall change in habitat quality or condition was noted in respect of adjacent SAC habitats during the site inspection on 17th July, though grazing by sheep was observed to be less intensive than had been the case in May and June.

A visual inspection of the condition of coastal cSAC habitats to the north and south of the landfall (soft cliffs and shorelines) was undertaken on 17th /18th July.

3.2 Non-avian fauna

On 17th July required wildlife mitigation measures in relation to the settlement ponds and manhole covers etc were reviewed and discussed on site with SEPIL's Environmental Advisor. The mammal burrows at the gully to the west of the TWA were inspected. Continued regular monitoring of mammal utilisation of these burrows remains a priority. It should be noted that observations to date have concluded that mammal activity at these burrows has been intermittent. (See also, 6.3 below)

In addition to the inspections of the burrows at Glengad during the July faunal monitoring surveys, they were also checked on the following dates in July: 4th, 9th, 17th, 18th, 23rd and 30th.

4 ONSHORE PIPELINE INSPECTION

A walkover inspection of the pipeline wayleave route to the north and south of RDX1 was undertaken by the Project Ecologist in the company of her ornithological specialist associate and a SEPIL Environmental Advisor on 17th July. Measures in relation to non-avian fauna, birds, cut *Rhododendron*, and surface water management were inspected and discussed. The '190m' was visually inspected from the western end of the bog mat road and it was noted to be in good condition.

The pipeline wayleave was also walked on 18th July with DCENR's consultant's ecologist.

Walkovers of the pipeline wayleave were also undertaken during bird surveys and are noted below.

5 BIRDS

5.1 Surveys

The following bird surveys were undertaken in July:

- Bay Area (HW & LW Surveys)
 - 04/05 July 2012
 - 09/10 July 2012
 - 18/19 July 2012
 - 23/24 July 2012
 - 30/31 July 2012 – (Note: LW counts were hampered by protestors/road closures)
- Sand Martin Surveys
 - July 4th – Colony A & B
 - July 9th – Colony A & B
 - July 18th – Colony A & B and Colony C at Rinroe
 - July 23rd – Colony A & B
 - July 30th – Colony A & B and Colony C at Rinroe
- Bellanaboy Surveys (Breeding Birds) and surveys of the Import Line
 - July 10th 2012
 - July 17th - 19th 2012

5.2 Sruwaddacon Bay area – water birds and waders

The findings of the weekly low water and high water counts during July are summarised as follows:

- An algal bloom (red tide) event occurred during July off the west coast, and was reported by the Marine Institute to extend from Donegal to as far south as Co. Clare. This led to the mortality of macro-invertebrates that were observed on the local beaches in early July, having been washed in by the tide. This presented a feeding opportunity for Gulls resulting in a marked increase in the numbers of gull species recorded in the area in early to mid-July. For instance, a peak of five Common Gulls was recorded during the last survey in June and this increased to 138 individuals by July 4th.
- A pair of Shelduck were present in Sruwaddacon Bay in early July but were not recorded for the rest of the month.
- Other birds clearly on passage were also recorded during July: Whimbrel, Dunlin and Manx Shearwater.
- Sandwich Tern numbers have remained somewhat lower than in some previous years with peak counts of 50-60 individuals recorded in the study area throughout the month.
- A pair of Common Sandpipers that had been heard calling from the grassy shore below Pollatomish Graveyard on June 28th was again recorded on July 4th. These birds may have bred locally or were early passage migrants. In 2010, a pair of Common Sandpiper bred in Count Section 6.
- The number of wading birds present in the study area began to increase in July with the return of a small number of Redshank and Greenshank to the area and a moderate increase in the number of Curlew and Oystercatcher during the month.
- Iceland Gull was recorded on two occasions during July. There had been a number of observations of this species over recent months, including in the wider locality.

5.3 Sand Martin Monitoring

Sand Martin activity was fairly consistent throughout the month of July.

- A monthly peak of 9 active burrows at Colony A at Glengad was recorded on July 18th.
- Nesting continued at Colony B which became active in June, after a year in which no nesting took place. A peak number of 4 burrows (of 17 viable) were active at this colony during the month.

6 NON-AVIAN FAUNA

6.1 Surveys

The current phase of faunal monitoring surveys which commenced in May 2012 was completed in late July 2012. The next phase of faunal monitoring of the Bay area is scheduled to commence in September 2012.

Particular attention is being paid to areas in the vicinity of the construction compounds at Aughooose and Glengad, with sites of known interest re-inspected. Otter activity is monitored by searching for spraints (faeces) and other signs, including checks on otter and/or other mammal activity at known burrows; and a continued search for additional or new burrows. While emphasis has been on otter activity, other non-avian faunal species of interest are also monitored in the course of these surveys. Otter surveys of the Bay area in July included:

- The shoreline at Glengad, and portions of terrestrial areas there, eastwards to the cliffs west of Pollatomish pier (early July). Survey area length c. 2.5 km.
- Repeat survey of the shoreline at Glengad and terrestrial areas in late July. The dune area at Glengad was also included in survey. Survey area length c. 3.5 km.
- The shoreline along the southern shores of the Bay, from the cliffs west of Pollatomish pier to Aughooose, the Leenamore River area and eastwards to the Glenamoy River. Survey area length c. 7.0 km. Part of the shoreline in the Aughooose area was surveyed twice in July.
- The eastern section of the north shore of the Bay, from the Glenamoy River area westwards to approximately opposite Aughooose. Survey area length c. 3.3 km.
- The north shore from the cliffs east of Rossport to inner Rossport Bay. Survey area length c. 2.5 km.

6.2 Summary of findings

Otter:

Otter activity in July was found to be as observed in previous surveys of these areas, with frequent signs present at the cliff areas, and relatively few signs along much of the central portion of the northern shore. Several 'new' sites of high otter activity were observed, e.g. to the east of the Leenamore inlet, and along the southern shore in the east Pollatomish area. These observations may indicate new otter holts being established with, perhaps, females with cubs concentrating their activity in these areas at this time of year. Some changes in otter activity are to be expected as the territorial activity of otters in the Bay area fluctuates naturally. These ongoing long-term studies enable such natural fluctuations to be observed.

Otter diet, as adjudged by brief examination of spraints, continued to be mainly of crab and marine fish. Samples of otter spraints have been collected and have been frozen for further analysis.

Other species:

Fox and Irish Hare signs were frequent along the shores, as has been observed in previous surveys. Badger signs were present at the Glenamoy River area and at the Glengad area, as before. No signs of badgers were observed in the Rossport section of the study area in the July surveys. As had been noted in previous reports; badger surveys in mid-summer tend to reveal fewer signs than those conducted in winter or early spring.

6.3 Mammal activity in vicinity of the Glengad and Aughooose temporary working areas

- The mammal-proof fencing, and other wildlife mitigation measures, at the SC1 site compound at Glengad were reviewed. The provisions for mammal-proof fencing have been completed. It is understood that no Irish hares have been observed within the SC1 compound area, since completion of the mammal exclusion fencing.
- The mammal burrows at the gully just to the west of the TWA at Glengad were inspected. Prior observations have concluded that badger activity at these burrows has been intermittent (studies conducted in 2011). In July, the entrances remained open, but suggested no recent activity by badgers or otters. However, badgers and otters remain active in the vicinity, with fresh badger latrines to the north-east of the TWA , and fresh otter spraints along the shoreline at Glengad. Regular monitoring of these burrows will continue. (See also, 3.2 above).
- Otter activity in the vicinity of the Aughooose temporary working areas has continued much as observed in previous surveys, but with fewer signs along the Leenamore River. Such variation in otter activity at the Leenamore River has been observed previously and is considered to be seasonal.
- No otter holts or badger setts are present in the vicinity of the construction activities at Aughooose.

6.4 Casual Observations

The following observations were made during bird surveys:

- Fox tracks were regularly recorded on the shore at Glengad during July.
- A fresh Badger latrine was observed in the marram grass bordering the sheep grazed farmland at Glengad on July 18th.
- Signs of Otter feeding (crab carapace etc.) were recorded on the shore close to Rinroe Pier on the evening of July 18th.

Appendix 3

Corrib Onshore Pipeline
Monthly Archaeological Report

Aughoose, Glengad and pipeline wayleave

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

Director: James Kyle

Month Ending: 31stth July 2012

COURTNEYDEERY 
Heritage Consultancy

IAC Irish Archaeological
Consultancy

1.0 General Review of Works

1.1 Works

Works commenced Monday the 25th of July 2011 at the Aughoose Compound.

Works commenced Monday the 6th of February 2012 at the Glengad Compound.

Works commenced Monday the 23rd April 2012 for the site investigation phase of the pipeline in Bellanaboy and Bellagelly townlands. Pre-construction work for the pipeline wayleave commenced on the 28th May 2012.

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, all of which were monitored under archaeological supervision. These works (Figure 1) comprised:

- Removal of a small amount of peat turves (Plate 1) was undertaken from the stringing area to facilitate the construction of an extension to Peat Storage Area B.
- The enlargement of the Gate 1 access and the expansion of the internal roadway from the gate, to accommodate the transport of larger loads to and from site were undertaken. This involved the removal of a section of the previously installed footpath and v-drain with a small portion of previously undisturbed peat (0.6mw x 0.6md x 20ml) being removed (Plate 2).
- Monitoring of the drilling of rock and mineral soil cores was undertaken within the tunnel starter pit on site. These cores were drilled to between 11m and 14m deep. The monitoring of the core drilling was limited to inspection of the excavated material as it was deposited into a dumper (Plate 3) and transported to series of skips within the tunnelling compound area. This activity was undertaken to weaken the substrate in advance of the excavation of the tunnel starter pit.
- Bulk excavation of material from the tunnel starter pit (Plate 4) commenced during July. This involved the removal of bulk materials to bedrock levels (9m below present ground level).

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; all of which were monitored under archaeological supervision. These works (Figure 2) comprised:

- The excavation of a v-ditch, within the site access way, parallel to the western site perimeter fence, adjacent to the site access road, running south upslope from the silt pond (0.8- 1m in depth) (Plate 5).
- The removal of topsoil and overburden (Plate 6) to a depth of 0.3m from a strip 5m in width to facilitate the expansion of the site access road below the second internal gate as far as the proposed site of the wheel wash. These works were not carried at the southern end of the access road in the vicinity of the enclosure site (MA004-015).
- The excavation for and subsequent installation of a petrol interceptor (6m x 3m x 3.3m in depth) and manhole (4m x 4m x 3.3m in depth) (Plate 7), adjacent to the main silt lagoon in the LVI Compound, as part of the on-going drainage works.
- 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)¹. 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

All site investigation works at Site Compound 2 (Sc2) were completed on Wednesday 20th of June 2012, in Glengad townland.

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

¹ 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.

3.4 Pipeline wayleave

Pre-construction works along the pipeline wayleave commenced 28th May 2012. All works are confined to a working corridor in a plantation forested area in Bellagelly South and Bellanaboy townlands. All excavation works were archaeologically monitored. These works for the month of July comprised:

- The excavation of two parallel v-ditches; at the western edge of the existing stone road to a depth of 0.6m in the stone road material and to the east of the stone road, to a depth of 0.7m in peat (Plate 8) was completed.
- The expansion of the bulk excavation of an area of peat at the end of the existing stone road to measure 55m north-south x 20m east-west (Plate 9) to a depth of 5.7m, with the subsequent construction of peat stone matrix, prior to backfilling.
- The sheet piling and subsequent excavation of a silt lagoon (25m x 10m) at the break of slope adjacent to the eastern side of the existing stone road before excavation to a depth of 3.5m. This involved the removal of 0.6m of stacked peat (Plate10).

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 Aughooose, Glengad, Bellanaboy 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 Aughooose, Glengad, Ballinaboy 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 project to date.



Plate 1 Aughoose: Turving of the stringing area, facing south.



Plate 2 Aughoose: Enlargement of site access road, facing north.



Plate 3 Aughoose: Excavation material from core drilling within the starter pit, facing north.



Plate 4 Aughoose: Bulk excavation of material from the tunnel starter pit, facing south.

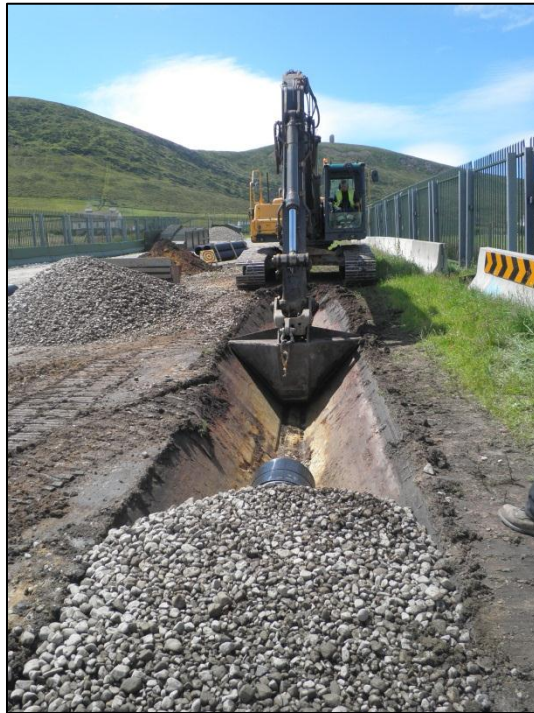


Plate 5 Glengad: Excavation of v-ditch along site access road, facing south.



Plate 6 Glengad: Excavation for the expansion of site access road, facing south.



Plate 7 Glengad: Manhole and petrol interceptor, facing west.

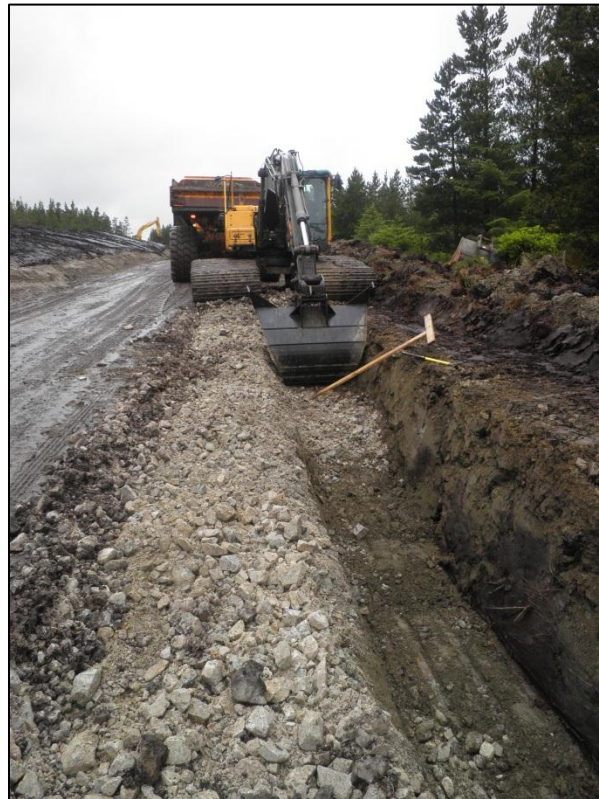


Plate 8: Pipeline wayleave: western V-ditch, facing south.



Plate 9 Pipeline wayleave: Bulk excavation of peat, facing south.



Plate 10 Pipeline wayleave: Excavation of peat from silt lagoon, facing south.

