

Final Environmental ReportPeriod Ending: 16th April 2008

Compiled By: Siobhan Quinn, Aoife Reynolds & Mairtin Naughton

Approved By: Tony Doyle

1 Monitoring Data

1.1 Monitoring Equipment

Axonics	– Axonics plant operated as required during the reporting period.
PO ₄	– The PO ₄ analyser was operational for the majority of the reporting period. The laboratory (CLS) has been requested to carry out analysis for orthophosphate on the composite samples from the 11 th of April to date.
TSS	– The TSS analyser was operational during the reporting period. – The composite sampler is in place to cover any shortfalls in the TSS analyser.
Composite	– The composite sampler was operational during the reporting period.
Noise	– There is a single noise monitoring location currently being used – N1. – The other location is visible from off-site and because of current protestor action it cannot be guaranteed that the equipment remains undisturbed.
Vibration	– There is a single vibration monitoring location currently being used – V1. – The other location is visible from off-site and because of current protestor action it cannot be guaranteed that the equipment remains undisturbed.
Sondes	– The results are displayed graphically. o Any unusual values are explained on the relevant graph.
Weather Station	– The majority of the data used for this reporting period was taken from the on-site meteorological station. Information from the 11 th to the 14 th of April inclusive was taken from the Belmullet meteorological station due to power failure.
Weirs	– Data displayed in the enclosed report.

1.2 Rainfall Data

03/04/08	0.2	10/04/08	2.6
04/04/08	1.0	11/04/08	5.9
05/04/08	2.8	12/04/08	8.0
06/04/08	5.4	13/04/08	1.3
07/04/08	9.0	14/04/08	0.6
08/04/08	4.0	15/04/08	0.2
09/04/08	3.6	16/04/08	0.0
Total Rainfall 44.6mm			

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1.3 Summary

Environment	Comments
Surface Water	There was no exceedance during the reporting period.
Groundwater	The groundwater data (Sonde) is within anticipated ranges. Groundwater monitoring was carried out during the reporting period.
Dust	Dust results returned were in exceedance however this is under investigation.
Weather	There was a total of 44.6mm of rainfall during the reporting period, with a temperature range of 0.3°C to 13.5°C
Noise	The noise meter suffered a complete failure during the monitoring period and therefore the data was not retrievable. A replacement noise meter has since been put in place.
Vibration	No vibration exceedances were recorded during the reporting period, based on the available results

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

2 Environmental Exceedences / Incidents / Complaints

There was 1 no exceedance during the reporting period.

Date	21 st April 2008
Location	Exceedance for dust deposition at the dust monitoring locations
Nature of Incident	<p>The four dust deposition samples which were sent to our external laboratory for testing in February for the period the 25th February 2008 to the 25th of March 2008 were returned with the following results;</p> <p>D1: 1191 mg/m2/day D2: 362mg/m2/day D3: 2047 mg/m2/day D4: 938 mg/m2/day</p> <p>All of these results are in exceedance of the agreed dust deposition limit of 350 mg/m2/day but the values do not appear to be representative of site dust levels for the following reasons;</p> <ul style="list-style-type: none">• The samples were visually inspected prior to despatch to the lab and were observed to be generally clear with little dust deposition evident.• The lab. reported that white flaky residue and black particles were present in the samples which is unusual as any potential dust from the site is unlikely to take this form.• There was approx. 180 mm rainfall over the

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	<p>monitoring period which would prevent the generation of airborne dust on site.</p> <ul style="list-style-type: none">• The sampling duration was also characterised by periods of high winds which would ensure the dispersion of any airborne dust. <p>Values of this nature have not been seen on site previously even during the earthworks phase when large quantities of fill material were being transported around the site.</p>
Actions Taken	<ol style="list-style-type: none">1. The current means of sampling and analysing for dust deposition is being independently assessed by an air quality specialist and the recommendations will be reviewed for implementation.2. Duplicate dust deposition sampling is being carried out adjacent to the existing four monitoring locations for comparative purposes.3. Dust deposition pots will continue to be visually inspected prior to dispatch to the external laboratory for analysis.4. Dust control measures, i.e sweep trucks, bowsters etc. will continue to be applied throughout the construction site.
Category	Environmental Exceedance
Status	Open

Surface Water Monitoring Record Sheet																	
	Date	Cond.	Temp	Turbidity	DO	pH	TSS	Ortho-phosphate as P	Nitrate as N	Nitrate as NO ₃	Total Phosphorus as P	Ammonia as NH ₃ -N	Nitrite as NO ₂	Aluminium (dissolved)	Aluminium (total)	Phosphate as PO ₄ -P	TDS
		µS/cm	°C	NTU	% Sat	pH units	mg l ⁻¹	µg l ⁻¹	mg l ⁻¹	mg l ⁻¹	mg l ⁻¹	mg l ⁻¹	mg l ⁻¹	µg l ⁻¹	µg l ⁻¹	mg l ⁻¹	mg l ⁻¹
Action Limits		400		150		<3.5 or >7.5	25	40	1.5	4.0		0.2	0.025	100	135		
Target Limits		500		200		<3 or >8	35	70	2.6	6.0		0.5	0.05	150	200		
Settlement Pond Monitoring																	
SP1	03/04/2008	345	10.1	30.9	109.1	7.0			0.4			<LOD		27	163	0.09	215
SP1	04/04/2008	352	10.8	18.5	109.2	6.9			<LOD			0.100		29	106	0.08	226
SP1	07/04/2008	339	7.4	11.3	103.8	7.3			0.1			<LOD		15	164	0.12	218
SP1	08/04/2008	349	7.9	9.8	100.0	7.8			0.3			0.730		35	144	0.22	225
SP1	09/04/2008	342	8.5	8.8	103.4	6.7			<LOD			<LOD		20	35	0.35	231
SP1	10/04/2008	359	8.3	9.8	101.5	7.8			0.3			0.020		29	182	0.07	292
SP1	11/04/2008	357	8.7	8.6	101.8	7.3			0.3			0.600		14	88	0.01	237
SP1	14/04/2008	368	9.8	11.6	107.4	6.9			0.1			<LOD		13	67	0.03	283
SP1	15/04/2008	374	9.7	9.7	101.3	7.8			0.1			0.410		41	102	0.02	276
SP1	16/04/2008	374	9.7	5.5	101.3	7.2			<LOD			0.200		23	118	0.01	302
SP3	03/04/2008	381	10.8	12.8	106.2	6.8			0.4			<LOD		21		<LOD	243
SP3	04/04/2008	380	10.3	10.4	111.8	6.8			0.4			0.060		<LOD		0.03	244
SP3	07/04/2008	379	7.7	14.2	104.7	7.3			0.1			<LOD		14		0.04	245
SP3	08/04/2008	390	9.3	18.0	98.0	7.7			0.3			0.220		16		0.08	249
SP3	09/04/2008	393	9.3	11.1	104.1	6.5			0.7			0.030		14		<LOD	256
SP3	10/04/2008	384	8.7	12.9	103.4	7.8			0.5			0.080		30		0.05	265
SP3	11/04/2008	404	8.6	7.4	105.6	7.0			0.6			1.040		22		0.04	268
SP3	14/04/2008	400	9.6	4.9	109.9	6.8			0.4			0.060		7		0.02	272
SP3	15/04/2008	392	9.3	4.9	107.9	7.7			0.2			0.380		5		0.02	275
SP3	16/04/2008	397	9.3	4.0	105.1	7.2			<LOD			0.340		13		<LOD	268
SP1	03/04/2008	237		15.9		7.7	29	13		1.80	0.05	0.013	<0.017	37	353	0.04	162
SP3	03/04/2008	240		8.5		7.2	5	12		2.74	0.02	0.044	<0.017	<20	167	0.04	181
SP1	08/04/2008	241		5.5		7.2	5	10		0.77	0.03	0.009	0.027	21	118	0.03	161
SP3	08/04/2008	245		12.9		7.2	7	21		1.34	0.02	0.070	0.040	<20	218	0.07	184
SP1	14/04/2008	237		4.8		7.4	4	<10		1.09	0.03	0.014	<0.017	<20	32	<0.03	169
SP3	14/04/2008	242		2.3		7.3	2	<10		1.58	0.02	0.036	<0.017	<20	107	<0.03	190
Additional Monitoring																	
D22	04/04/2008	304	8.8	4.1	93.4	6.4			0.1			0.380		37		0.35	199
D62	04/04/2008	264	8.9	2.5	78.8	4.7			0.1			0.120		20		0.13	172
D22	08/04/2008	302	6.8	3.1	93.0	6.8			<LOD			0.050		28		0.10	191
D62	08/04/2008	249	6.4	1.2	91.0	6.4			0.9			0.060		26		0.16	163
D22	08/04/2008	240		2.4		6.7	7	19		<0.44	0.07	0.009	0.020	38	57	0.06	141
D62	08/04/2008	222		0.3		4.5	<2	<10		<0.44	<0.01	0.064	0.022	<20	24	<0.03	120
Axonics Monitoring																	
Pre	03/04/2008	374		212.0		6.6			<LOD			>LOD		259		0.01	240
Post	03/04/2008	408		3.1		6.6			0.7			0.270		1	421	0.02	262
Pre	04/04/2008	374		83.9		6.7			<LOD			1.630		93		0.10	241
Post	04/04/2008	438		4.0		6.4			0.3			0.300		1	156	0.18	284
Pre	07/04/2008	397		>1000		7.1			<LOD			>LOD		>3500		0.56	259
Post	07/04/2008	405		7.2		6.8			0.5			<LOD		42	414	0.09	262
Pre	08/04/2008	394		24.0		6.5			<LOD			0.920		1580		<LOD	257
Post	08/04/2008	424		2.0		6.8			0.4			0.820		31	216	0.06	275
Pre	09/04/2008	388		126.0		6.6			<LOD			0.240		128		0.05	251
Post	09/04/2008	409		1.4		6.4			0.5			0.220		<LOD	82	0.06	266
Pre	10/04/2008	421		>1000		7.0			<LOD			1.810		6140		0.23	285
Post	10/04/2008	404		1.8		6.9			0.2			0.130		18	184	0.04	277
Pre	11/04/2008	420		114.0		7.0			<LOD			0.530		391		<LOD	280
Post	11/04/2008	435		4.6		6.8			0.2			0.680		19	164	0.02	290
Pre	14/04/2008	384		321.0		6.8			<LOD			0.320		236		0.04	261
Post	14/04/2008	409		3.3		6.3			0.2			0.580		20	170	0.05	279
Pre	15/04/2008	390		61.0		7.8			<LOD			0.790		2590		0.03	269
Post	15/04/2008	409		3.9		6.8			<LOD			0.330		21	201	0.07	283
Pre	16/04/2008	390		61.2		7.7			<LOD			0.900		1210		0.63	260
Post	16/04/2008	411		2.5		7.0			0.6			0.410		20	226	0.10	275
Pre Axonics	03/04/2008	236		56.2		7.4	2834	33		1.56	0.13	0.243	<0.017	48	3800	0.10	177
Post Axonics	03/04/2008	239		1.1		6.3	10	12		1.42	0.06	0.300	0.049	<20	90	0.04	193
Pre Axonics	08/04/2008	246		169.0		7.0	8021	<10		1.15	0.03	0.183	0.047	20	8366	<0.03	187
Post Axonics	08/04/2008	269		0.6		6.4	4	<10		0.98	<0.01	0.304	0.047	<20	126	<0.03	202
Pre Axonics	14/04/2008	239		176.0		7.3	274	<10		1.21	I.P.	0.124	0.033	59	6449	<0.03	184
Post Axonics	14/04/2008	241		0.7		6.4	2	<10		1.23	0.03	0.146	0.036	<20	45	<0.03	195

I.P. = In Progress
 Italics = Indicative Only
 < LOD = Below Limit of Detection
 > LOD = Above Limit of Detection
 Grey shaded areas denote parameters that cannot or were not analysed on-site or the lab.
 On-Site Analysis

Groundwater Monitoring Record Sheet

Conducted by													Approved by															
Name:						Signed									Name													
Location	Date	DO	Temp	Cond.	pH	TDS	Nitrate as NO ₃	Ammonia	Aluminium	BOD	TSS	Orthophosphate as P	Total Hardness	Nitrite as NO ₂	Arsenic	Mercury	Lead	Zinc	Chromium	Copper	Cadmium	Iron	Tin					
		% Sat	oC	uS/cm		mg l ⁻¹	mg l ⁻¹	mg l ⁻¹	ug l ⁻¹	mg l ⁻¹	mg l ⁻¹	ug l ⁻¹	mg/l CaCO ₃	mg l ⁻¹	ug l ⁻¹	ug l ⁻¹	ug l ⁻¹	ug l ⁻¹	ug l ⁻¹	ug l ⁻¹	ug l ⁻¹	ug l ⁻¹	ug l ⁻¹					
MP 1	03/04/2008	17	10.6	270	5.9	156	<0.44	2.98	48	19	58		72.4	<0.017	5.0	<0.05	2.0	16	<0.5	4	<0.5	21700	<0.5					
MP 2	03/04/2008	19	10.7	248	6.2	155	<0.44	2.07	483	8	73		86.8	<0.017	4.0	<0.05	1.0	12	0.9	2	<0.5	48770	<0.5					
MP 3	03/04/2008	20	10.7	270	5.2	232	<0.44	3.05	323	15	58		81.6	<0.017	<0.5	<0.05	<0.5	7	<0.5	<1	<0.5	2527	<0.5					
MP 4	03/04/2008	28	10.7	254	6.0	213	<0.44	0.51	587	15	233		81.6	<0.017	0.8	<0.05	2.0	10	2.0	3	<0.5	12300	<0.5					
MP 5	03/04/2008	19	10.8	250	5.7	178	<0.44	1.58	544	11	20		78.3	<0.017	<0.5	<0.05	0.8	9	2.0	1	<0.5	12840	<0.5					
MP 6	03/04/2008	14	10.5	252	6.3	217	<0.44	1.83	50	14	22		100.5	<0.017	<0.5	<0.05	<0.5	<5	2.0	<1	<0.5	19	<0.5					
MP 7	03/04/2008	48	11.0	252	5.9	169	<0.44	2.75	50	14	4		48.5	<0.017	<0.5	<0.05	<0.5	<5	<0.5	<1	<0.5	43000	<0.5					
MP 8	03/04/2008	14	10.4	176	5.3	100	<0.44	1.34	52	20	143		54.7	<0.017	<0.5	<0.05	<0.5	7	0.9	<1	<0.5	8847	<0.5					
MP 9																												
MP 10a	03/04/2008	33	12.6	361	5.9	204	<0.44	0.38	20	5	54		1569.0	<0.017	<0.5	<0.05	<0.5	34	<0.5	<1	<0.5	13	<0.5					
MP 11	03/04/2008	16	10.8	192	5.5	101	<0.44	0.02	97	6	13		39.8	<0.017	<0.5	<0.05	13.0	23	<0.5	2	<0.5	182	<0.5					

Graphs provided for MP1, MP2,MP4, MP6 and MP7 for: Temperature, Conductivity, and pH.

Dust Monitoring Record Sheet				no... 1 of 1			
Conducted by			Approved by				
Name:		Signed		Name:		Signed	
Determinant Results							
	Date Positioned	Date Removed	Ref. Number	Date Dispatched	Date Returned	Weight (mg/sq.m/day)	Comments
Target (Consent) Limit: 350 mg m² d⁻¹ on as a 30 day average							
D1	12/07/2007	13/08/2007	140364	13/08/2007	17/08/2007	863	
D2	12/07/2007	13/08/2007	140365	13/08/2007	17/08/2007	410	
D3	12/07/2007	13/08/2007	140366	13/08/2007	17/08/2007	406	
D4	12/07/2007	13/08/2007	140367	13/08/2007	17/08/2007	246	
D1	13/08/2007	13/09/2007	143627	14/09/2007	20/09/2007	No Result	Unable to analyse due to excess CuSO4
D2	13/08/2007	13/09/2007	143628	14/09/2007	20/09/2007	No Result	Unable to analyse due to excess CuSO4
D3	13/08/2007	13/09/2007	143629	14/09/2007	20/09/2007	No Result	Unable to analyse due to excess CuSO4
D4	13/08/2007	13/09/2007	143630	14/09/2007	20/09/2007	No Result	Unable to analyse due to excess CuSO4
D1	13/09/2007	15/10/2007	147427	17/10/2007	24/10/2007	242	
D2	13/09/2007	15/10/2007	147428	17/10/2007	24/10/2007	328	
D3	13/09/2007	15/10/2007	147429	17/10/2007	24/10/2007	320	
D4	13/09/2007	15/10/2007	147430	17/10/2007	24/10/2007	184	
D1	15/10/2007	23/11/2007	153945	26/11/2007	19/12/2007	142	
D2	15/10/2007	23/11/2007	153946	26/11/2007	19/12/2007	225	
D3	15/10/2007	23/11/2007	153947	26/11/2007	19/12/2007	530	Heavily Contaminated with peat, possibly vandalised. See Report
D4	15/10/2007	23/11/2007	153948	26/11/2007	19/12/2007	127	
D1	23/11/2007	23/12/2007	157412	04/01/2008	22/01/2008	68	
D2	23/11/2007	23/12/2007	157413	04/01/2008	22/01/2008	24	
D3	23/11/2007	23/12/2007	157414	04/01/2008	22/01/2008	214	
D4	23/11/2007	23/12/2007	157415	04/01/2008	22/01/2008	169	
D1	23/12/2007	23/01/2008	158975	25/01/2008	18/02/2008	280	
D2	23/12/2007	23/01/2008	158976	25/01/2008	18/02/2008	355	
D3	23/12/2007	23/01/2008	158977	25/01/2008	18/02/2008	295	
D4	23/12/2007	23/01/2008	158978	25/01/2008	18/02/2008	300	
D1	23/01/2008	25/02/2008	163401	25/02/2008	20/03/2008	471	
D2	23/01/2008	25/02/2008	163402	25/02/2008	20/03/2008	426	
D3	23/01/2008	25/02/2008	163403	25/02/2008	20/03/2008	765	
D4	23/01/2008	25/02/2008	163404	25/02/2008	20/03/2008	398	
D1	25/02/2008	25/03/2008	165880	28/03/2008	14/04/2008	1191	Refer to section 2 detailing exceedance.
D2	25/02/2008	25/03/2008	165881	28/03/2008	14/04/2008	362	Refer to section 2 detailing exceedance.
D3	25/02/2008	25/03/2008	165882	28/03/2008	14/04/2008	2047	Refer to section 2 detailing exceedance.
D4	25/02/2008	25/03/2008	165883	28/03/2008	14/04/2008	938	Refer to section 2 detailing exceedance.

NDP = No Determination Possible

Monitoring Points are numbered clockwise through the Cardinal Marks (N, E, S, W)

Monitoring Results will be presented monthly

Noise Monitoring Record Sheet										no... 1 of 1		
Conducted by								Approved by				
Name: Siobhan Quinn						Signed		Name:			Signed	
Determinant Results												
Location	Air Temp. (Max)	Air Temp. (Min)	Start Date	Time	Duration	Serial No.	Wind		Results dB			*Comments
							Speed (m/s)*	Direction (Degrees)	L _{Aeq}	L _{Amin}	L _{Amax}	
Action Limit									60			
Target Limit									65			
N1	13.5	9.5	03/04/2008				2.2	35.0				Due to a technical fault no noise data is available
N1	11.6	6.1	04/04/2008				3.0	93.3				
N1	7.9	0.3	07/04/2008				3.3	184.7				
N1	11.3	3.4	08/04/2008				1.8	173.4				
N1	9.9	1.3	09/04/2008				1.5	85.9				
N1	8.1	2.8	10/04/2008				2.5	109.5				
N1	9.0	2.5	11/04/2008				2.4					Weather Station Failure
N1	11.6	2.3	14/04/2008				1.9					
N1	12.1	1.1	15/04/2008				0.6	97.7				
N1	12.9	1.6	16/04/2008				4.0	279.1				

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

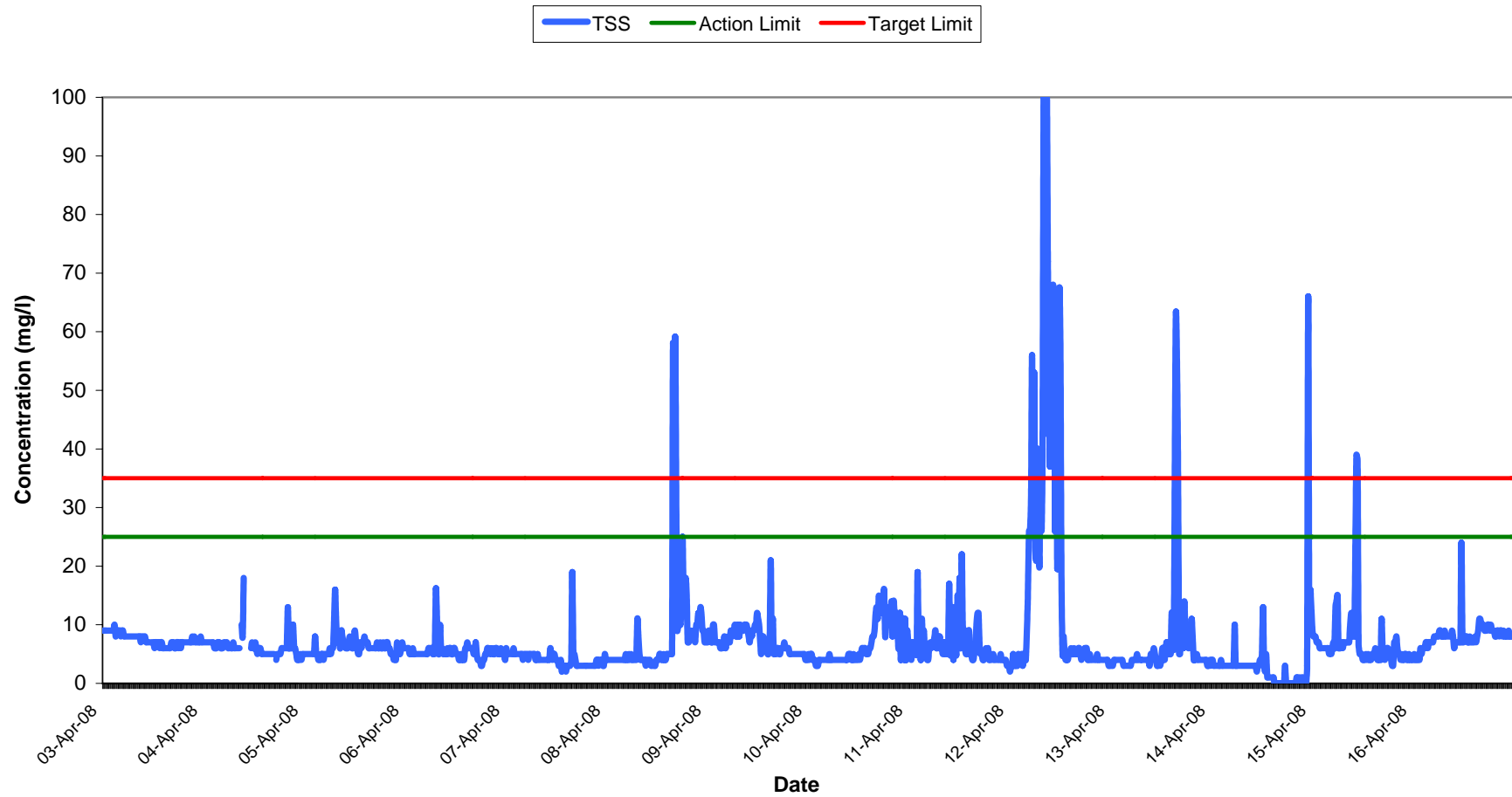
Flow Weir Record Sheet							
Conducted by			Approved by				
Name:	Signed		Name:				
Determinant Results							
Date	SP1			SP3			Comment
	Max (l/s)	Min (l/s)	Avg (l/s)	Max (l/s)	Min (l/s)	Avg (l/s)	
03/04/08	20.9	10.7	15.3	6.0	0.6	3.3	
04/04/08	20.4	10.2	12.3	3.5	1.4	2.6	
05/04/08	13.5	9.5	10.8	3.5	1.6	2.4	
06/04/08	17.5	10.0	12.2	6.0	2.1	3.4	
07/04/08	33.9	17.0	28.7	8.5	4.9	7.4	
08/04/08	36.9	20.6	27.4	8.8	6.7	7.7	
09/04/08	26.6	19.3	21.2	9.8	6.0	7.3	
10/04/08	22.3	18.5	20.4	7.5	6.0	6.7	
11/04/08	18.5	13.5	16.4	6.3	2.4	4.4	
12/04/08	35.4	16.5	26.6	9.3	4.7	6.6	
13/04/08	22.0	17.2	18.9	6.5	4.7	5.8	
14/04/08	64.0	2.7	11.9	5.8	2.9	4.7	
15/04/08	66.2	8.5	17.5	4.7	1.6	3.4	
16/04/08	15.3	8.3	11.4	3.1	1.3	2.6	

Vibration Monitoring Record Sheet		no...		1 of 1	
Conducted by			Approved by		
Name:		Signed	Name:		Signed

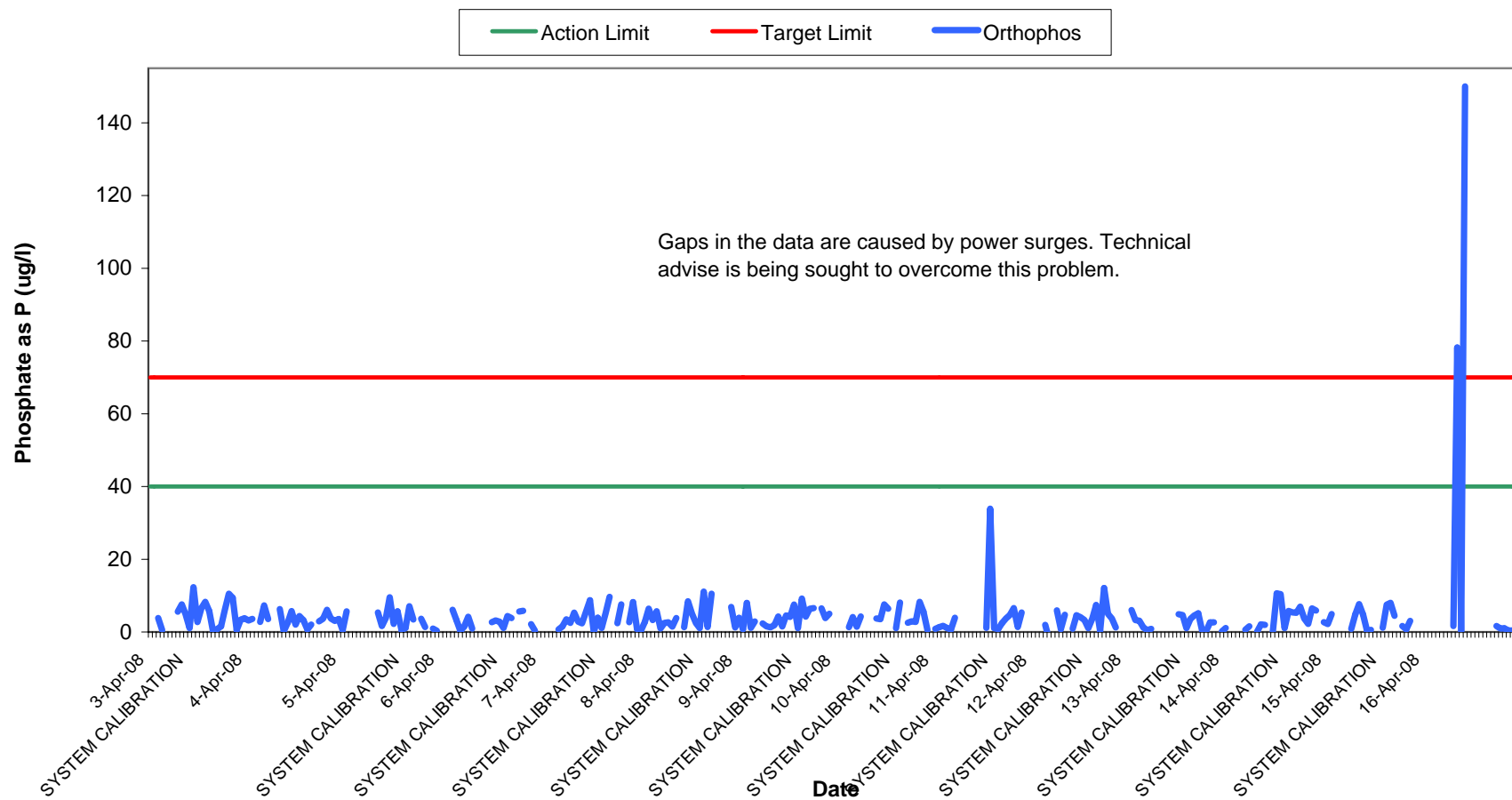
Determinant Results									
Location	Date Positioned	Date Removed	Event Date	Event Time	Peak Vector Sum	Tran PPV	Vert PPV	Long PPV	Comments
V1	03-Apr-08			16:06					Monitor Started
			06-Apr-08	23:16	17.1	14.1	14.6	4.19	Sensor check
		17-Apr-08		10:22					Monitor Stopped

Vibration meter was located at V1 only.

**Total Suspended Solids Results at SP1
Week 15-16, 2008**

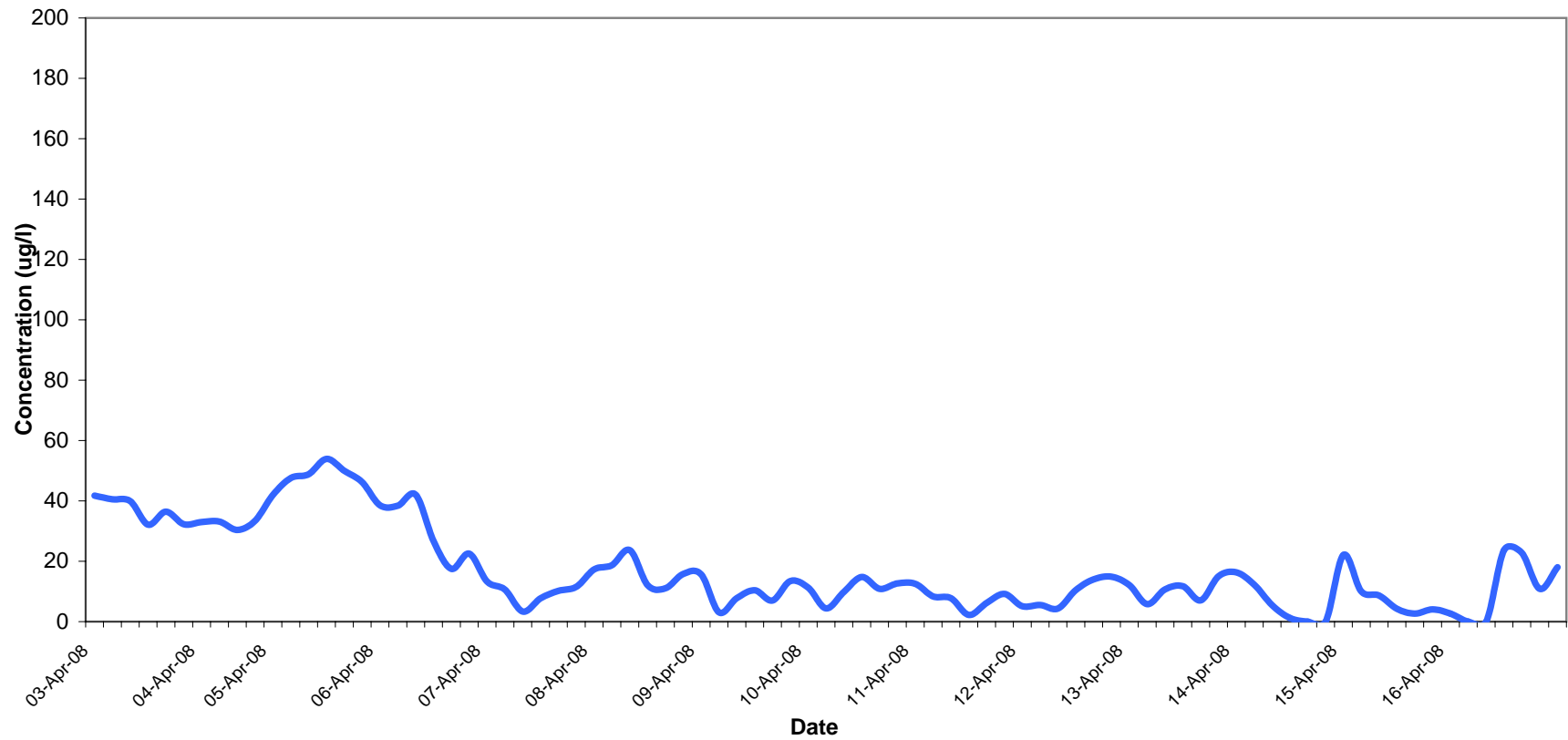


Orthophosphate Results at SP1 Week 15-16, 2008

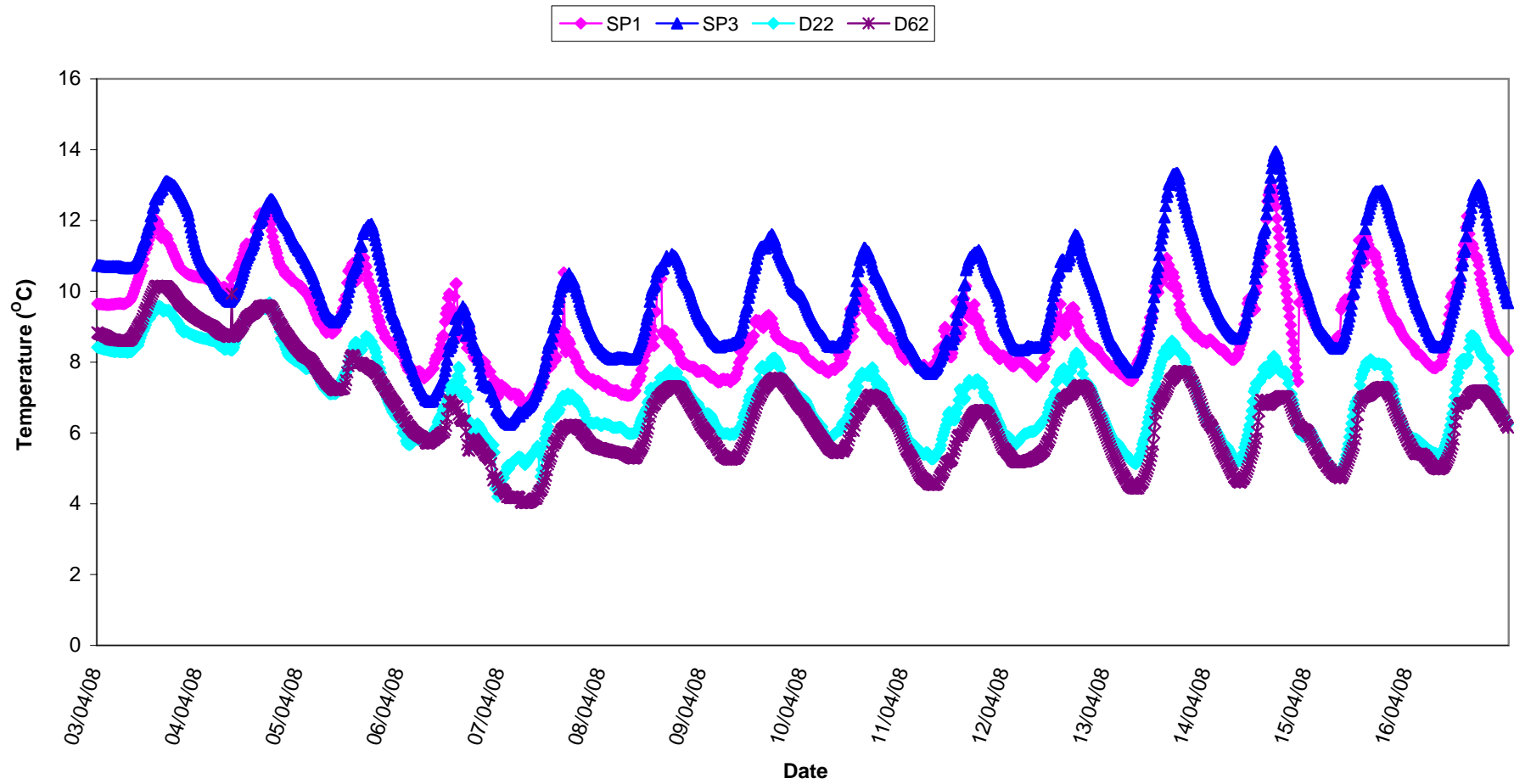


**Aluminium Concentration at SP1
Week 15-16, 2008**

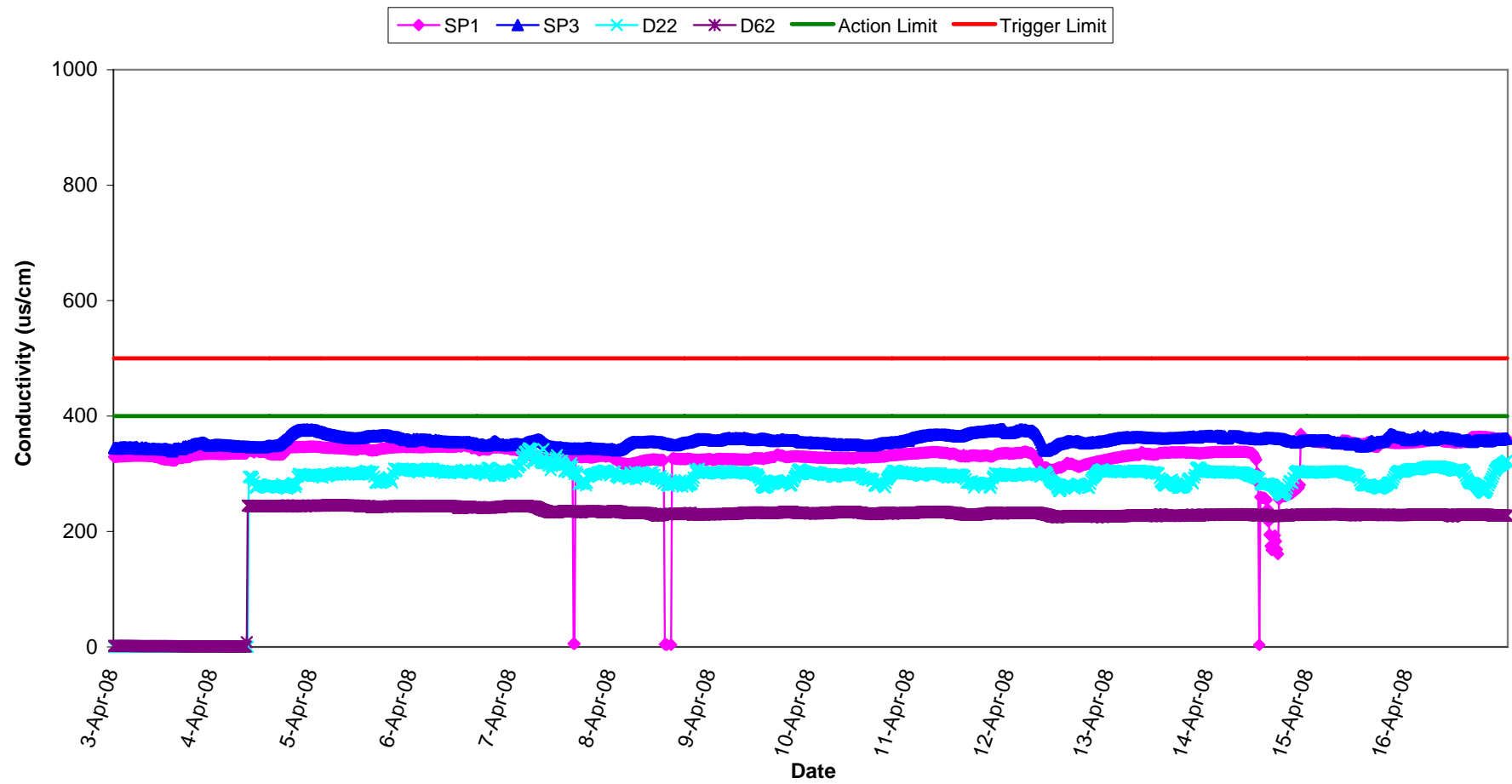
Aluminium



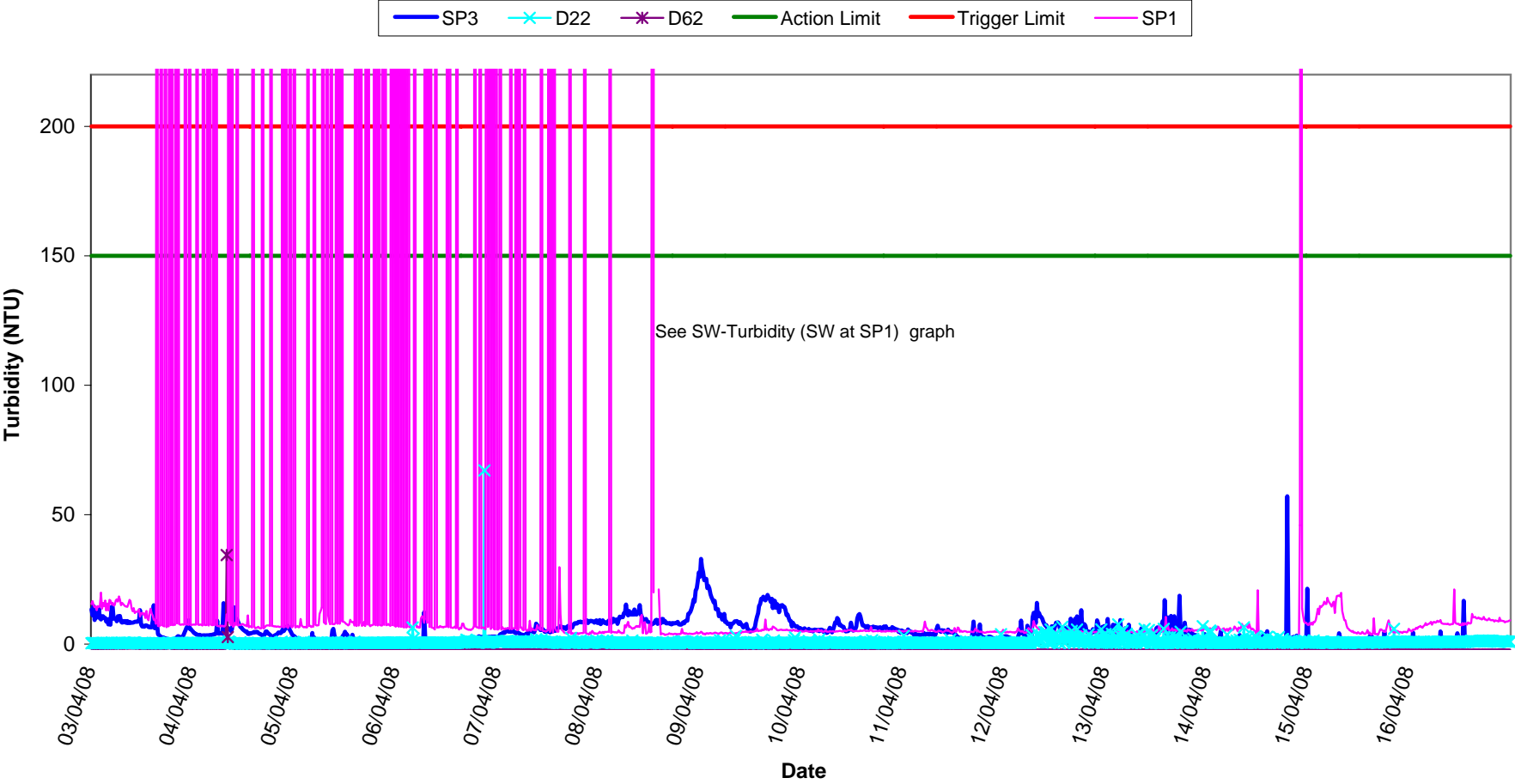
Temperature - Surface Waters,
Week 15-16, 2008



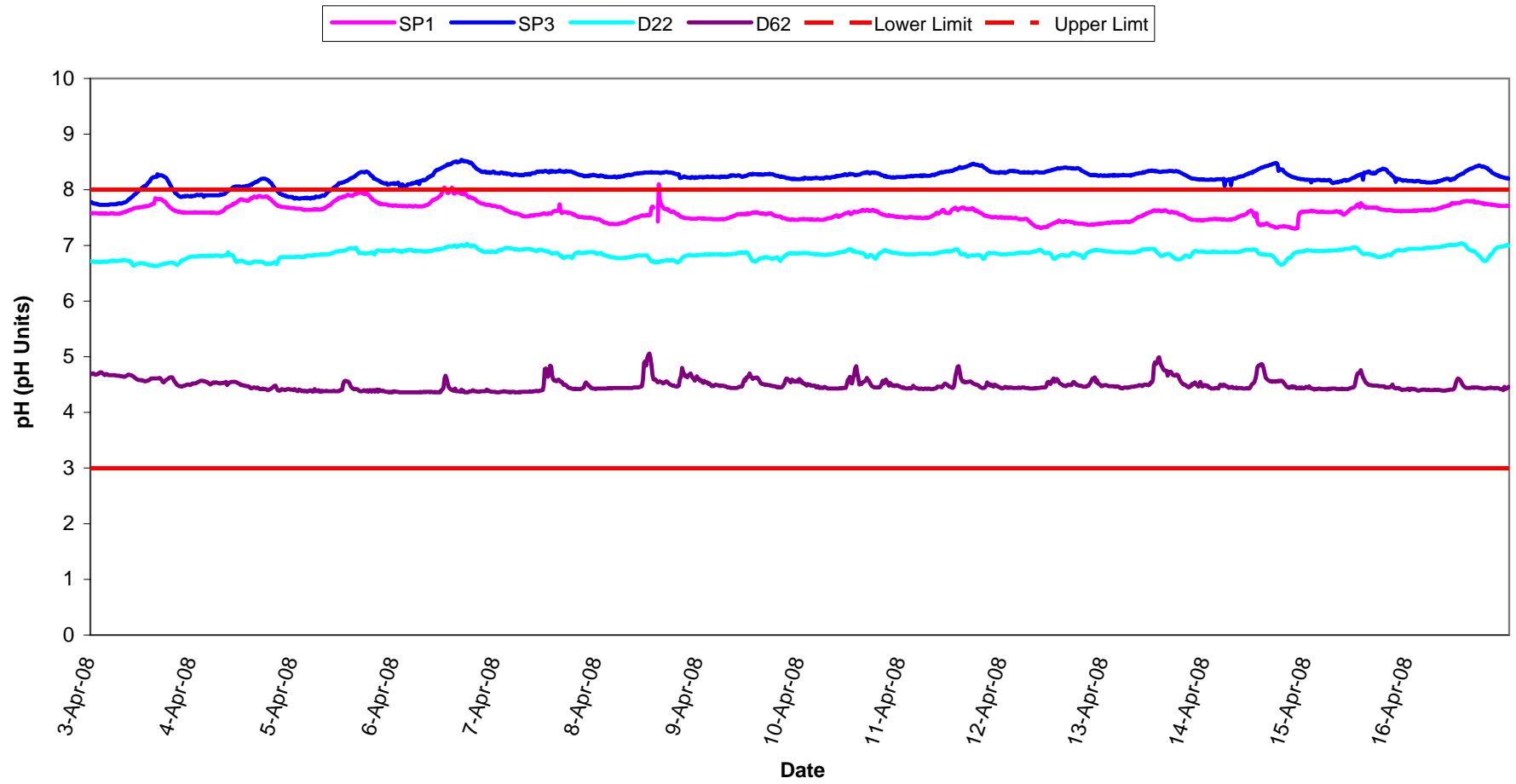
Conductivity - Surface Waters,
Week 15-16, 2008



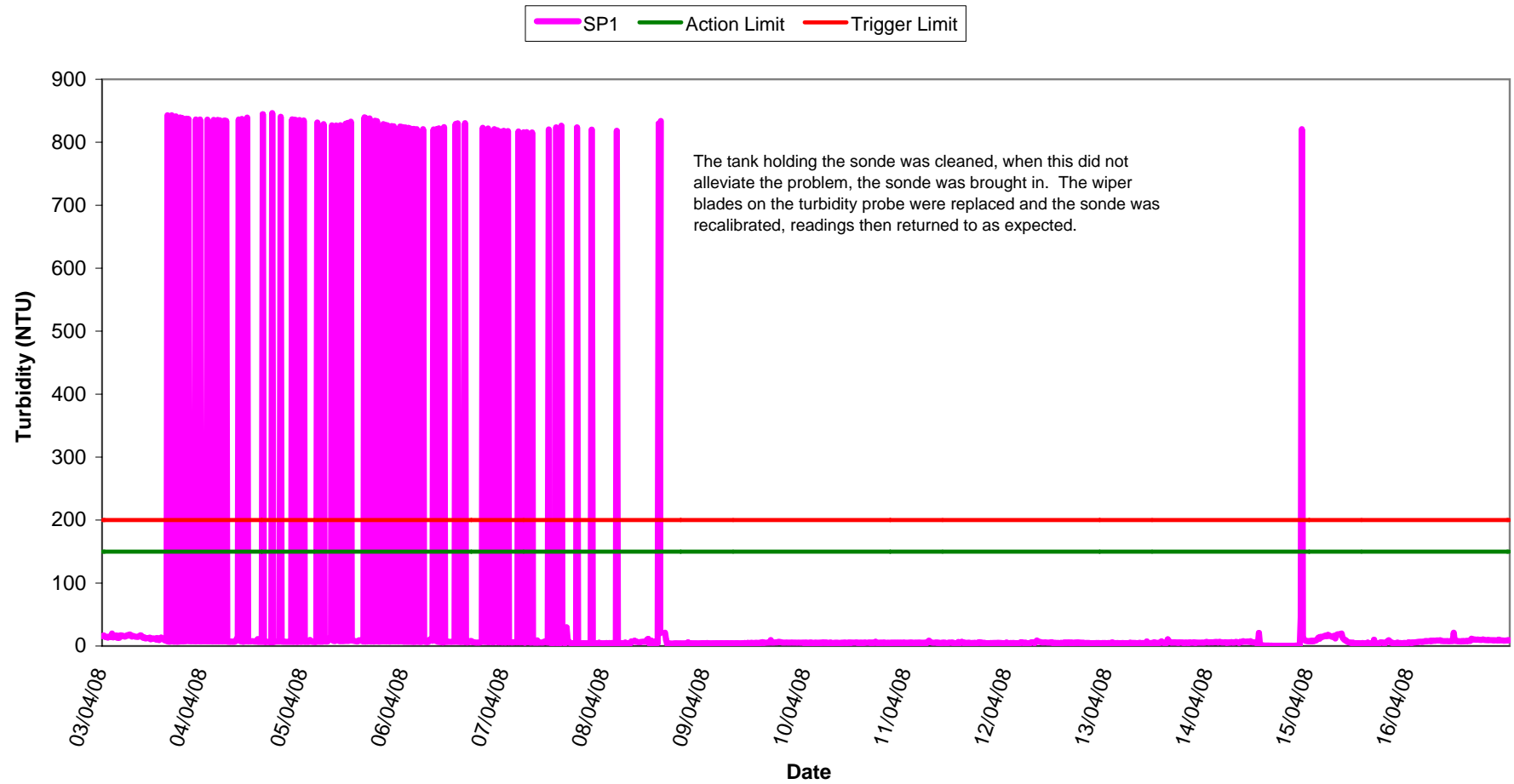
**Turbidity - Surface Waters,
Week 15-16, 2008**



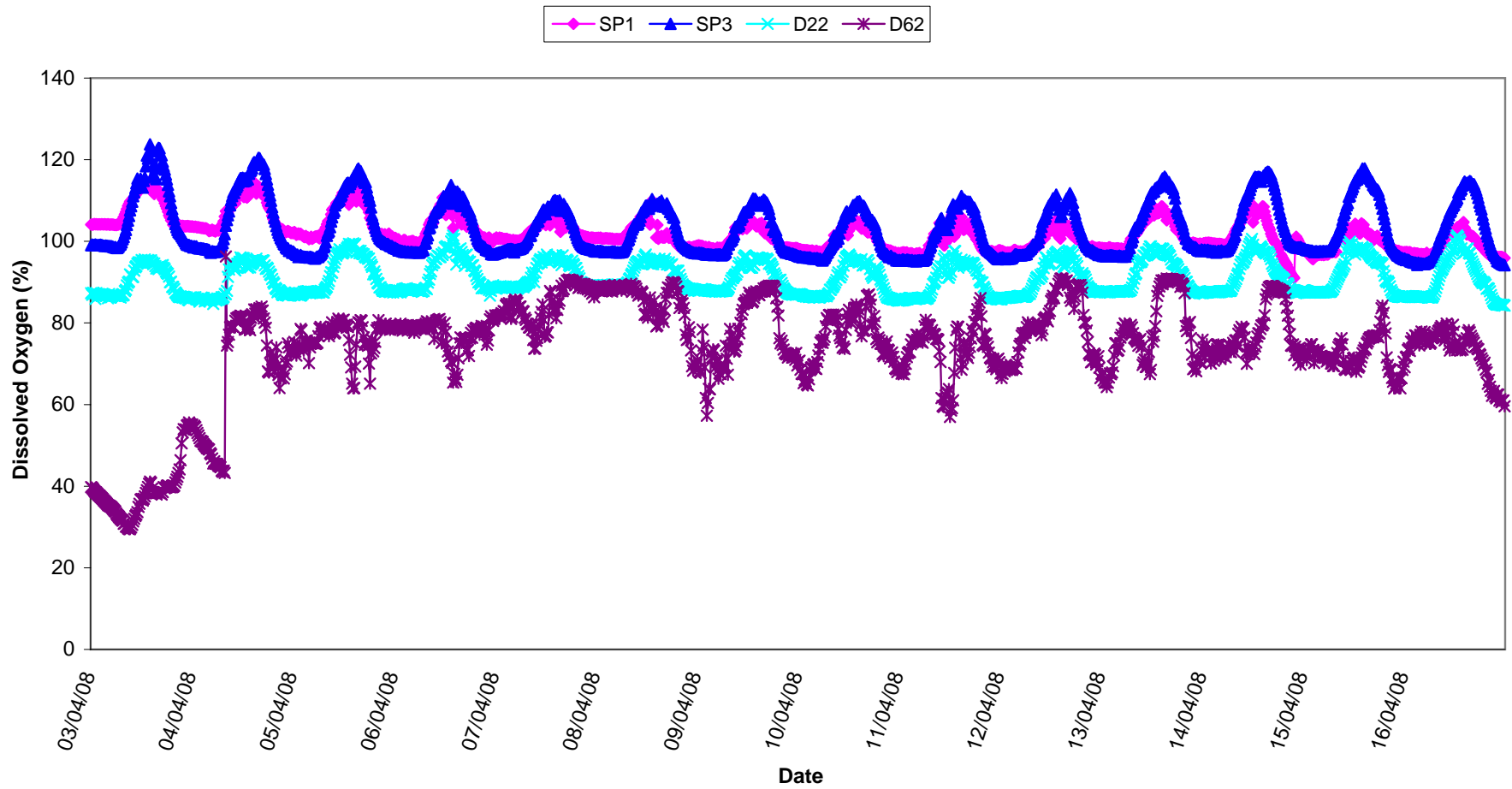
pH - Surface Waters,
Week 15-16, 2008



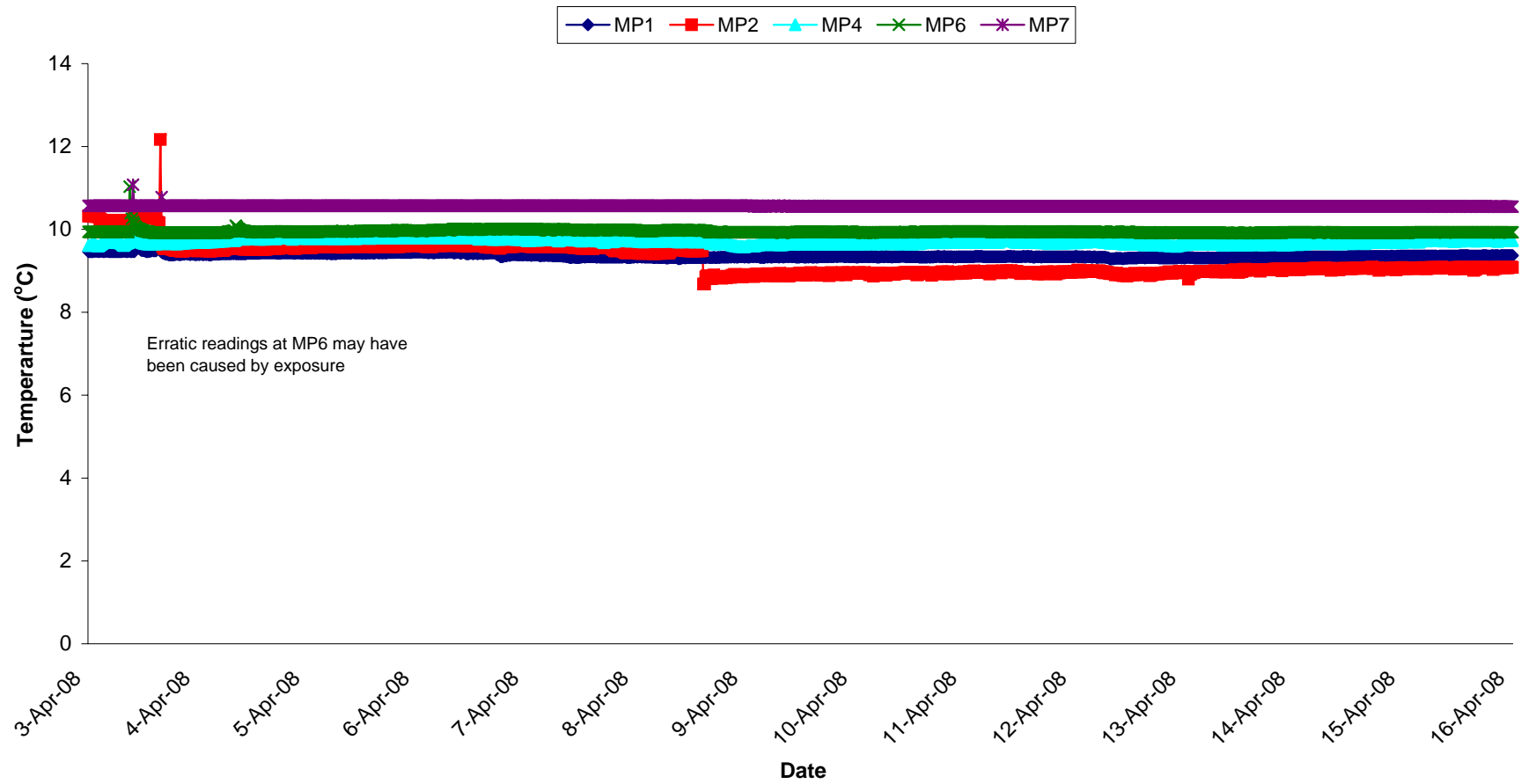
Turbidity - Surface Waters @ SP1, Week 15-16, 2008



**Dissolved Oxygen - Surface Waters,
Week 15-16, 2008**

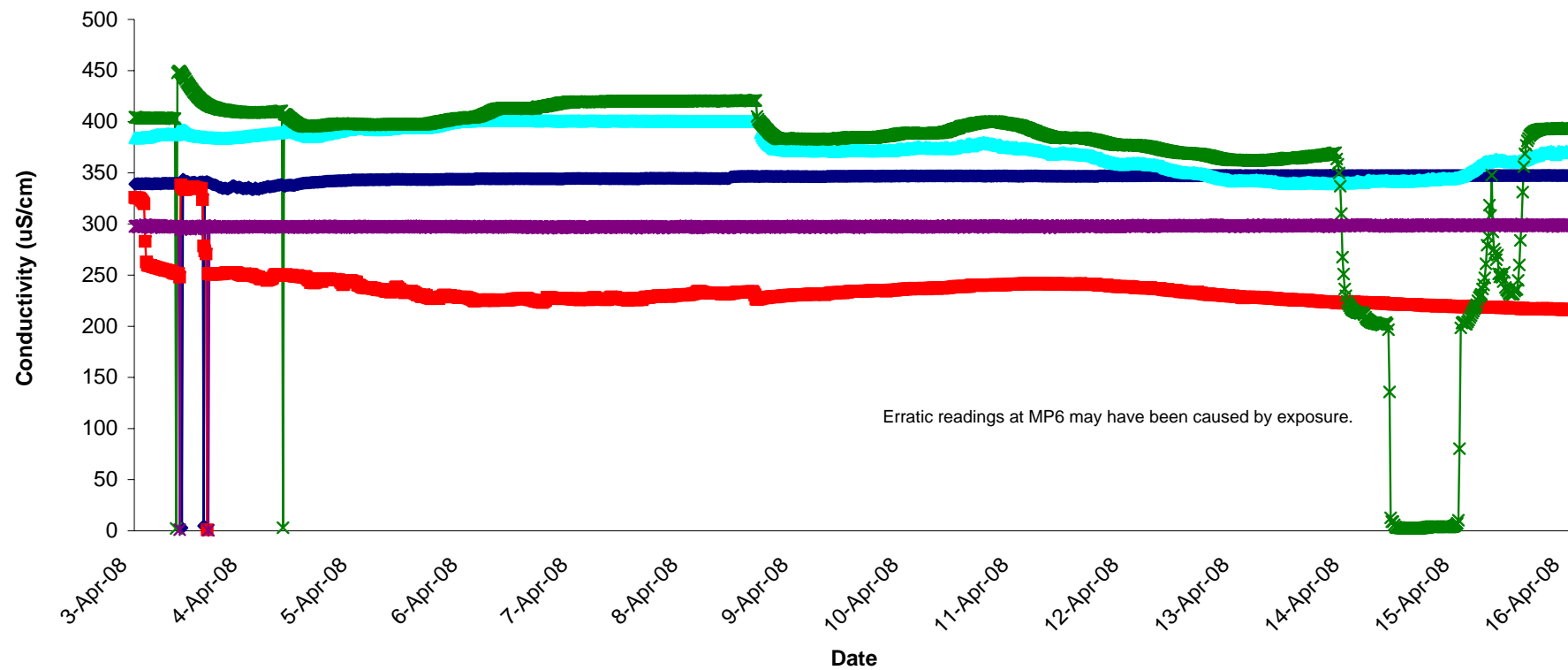


Temperature - Groundwaters Week 15-16, 2008



Conductivity - Groundwaters Week 15-16, 2008

MP1 MP2 MP4 MP6 MP7



pH - Groundwaters Week 15-16, 2008

MP1 MP2 MP4 MP6 MP7

