

**Final Environmental Report**Period Ending: 20<sup>th</sup> August 2008

Compiled By: Aoife Reynolds, Catriona King &amp; Thomas McGlynn

Approved By: Tony Doyle

## 1 Monitoring Data

### 1.1 Monitoring Equipment

Axonics	– Axonics plant operated as required for the majority of the reporting period.
PO <sub>4</sub>	<ul style="list-style-type: none"> <li>– The PO<sub>4</sub> analyser was operational but some gaps in the data were encountered. Technical advice is being sought to eliminate this problem.</li> <li>– The composite sampler was in place to cover any shortfalls in the PO<sub>4</sub> analyser.</li> </ul>
TSS	<ul style="list-style-type: none"> <li>– The TSS analyser was operational during the reporting period.</li> <li>– The composite sampler was in place to cover any shortfalls in the TSS analyser.</li> </ul>
Composite	– The composite sampler was operational during the reporting period.
Noise	<ul style="list-style-type: none"> <li>– There is a single noise monitoring location currently being used – N1.</li> <li>– The other location is visible from off-site and because of current protestor action it cannot be guaranteed that the equipment remains undisturbed.</li> </ul>
Vibration	<ul style="list-style-type: none"> <li>– There is a single vibration monitoring location currently being used – V1.</li> <li>– The other location is visible from off-site and because of current protestor action it cannot be guaranteed that the equipment remains undisturbed.</li> </ul>
Sondes	<ul style="list-style-type: none"> <li>– The results are displayed graphically. <ul style="list-style-type: none"> <li>○ Any unusual values are explained on the relevant graph.</li> </ul> </li> </ul>
Weather Station	– The data used for this reporting period was taken from the on-site meteorological station.
Weirs	- Weir's were operational during the reporting period.

### 1.2 Rainfall Data

07/08/2008	1.95	14/08/2008	9.17
08/08/2008	0.00	15/08/2008	8.00
09/08/2008	11.12	16/08/2008	14.43
10/08/2008	8.00	17/08/2008	3.32
11/08/2008	4.49	18/08/2008	3.32
12/08/2008	6.24	19/08/2008	1.17
13/08/2008	43.68	20/08/2008	0.00
Total Rainfall 114.86mm			

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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.
Dust	Dust results were all within.
Weather	There was a total of 114.86mm of rainfall during the reporting period, with a temperature range of 6.2°C to 21.0°C
Noise	All noise within limits.
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 no exceedance during the reporting period.

### Surface Water Monitoring Record Sheet: Accredited Laboratory Results

[illegible]

Groundwater Monitoring Record Sheet																									
Location	Date	DO	Temp	Cond.	pH	TDS	BOD	TSS	Total Hardness	Nitrite as NO <sub>2</sub>	Nitrate as NO <sub>3</sub>	Phosphate as PO <sub>4</sub>	Arsenic	Mercury	Lead	Aluminium (total)	Zinc	Chromium	Copper	Cadmium	Iron	Tin	Ammonia	Aluminium, dissolved	Manganese, total
		% Sat	°C	uS/cm		mg l <sup>-1</sup>	mg l <sup>-1</sup>	mg l <sup>-1</sup>	mg/l CaCO <sub>3</sub>	mg l <sup>-1</sup>	mg l <sup>-1</sup>	mg l <sup>-1</sup>	ug l <sup>-1</sup>	ug l <sup>-1</sup>	ug l <sup>-1</sup>	ug l <sup>-1</sup>	ug l <sup>-1</sup>	ug l <sup>-1</sup>	ug l <sup>-1</sup>	ug l <sup>-1</sup>	ug l <sup>-1</sup>	ug l <sup>-1</sup>	mg l <sup>-1</sup>		
MP 1																									
MP 2																									
MP 3																									
MP 4																									
MP 5																									
MP 6																									
MP 7																									
MP 8																									
MP 10a																									
MP 11																									

Graphs provided for MP1, MP2,MP4, MP6 and MP7 for: Temperature, Conductivity, and pH.  
No Groundwater Monitoring Undertakend during The Reporting Period

Determinant Results							
	Date Positioned	Date Removed	Ref. Number	Date Dispatched	Date Returned	Weight (mg/m <sup>2</sup> /day)	Comments
<b>Target (Consent) Limit: 350 mg m<sup>2</sup> d<sup>-1</sup> on as a 30 day average</b>							
D1	25/03/2008	25/04/2008	170574	28/03/2008	16/05/2008	186	
D2	25/03/2008	25/04/2008	170575	28/03/2008	16/05/2008	281	
D3	25/03/2008	25/04/2008	170576	28/03/2008	16/05/2008	373	
D4	25/03/2008	25/04/2008	170577	28/03/2008	16/05/2008	158	
D1	25/04/2008	26/05/2008	172506	28/05/2008	09/06/2008	134	
D2	25/04/2008	26/05/2008	172507	28/05/2008	09/06/2008	121	
D3	25/04/2008	26/05/2008	172508	28/05/2008	09/06/2008	209	
D4	25/04/2008	26/05/2008	172509	28/05/2008	09/06/2008	119	
D1	26/05/2008	26/06/2008	177618	02/07/2008	11/07/2008	191	
D2	26/05/2008	26/06/2008	177619	02/07/2008	11/07/2008	159	
D3	26/05/2008	26/06/2008	177620	02/07/2008	11/07/2008	1046	Very heavy peat like substance in jar
D4	26/05/2008	26/06/2008	177621	02/07/2008	11/07/2008	151	
D1	26/06/2008	25/07/2008	179466	30/07/2008	20/08/2008	52	
D2	26/06/2008	25/07/2008	179467	30/07/2008	20/08/2008	34	
D3	26/06/2008	25/07/2008	179464	30/07/2008	20/08/2008	87	
D4	26/06/2008	25/07/2008	179465	30/07/2008	20/08/2008	33	
NDP = No Determination Possible							
Monitoring Points are numbered clockwise through the Cardinal Marks (N, E, S, W)							
Monitoring Results will be presented monthly							

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

Monitoring Results will be presented monthly

## Noise Monitoring Record Sheet

Determinant Results
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Location	Air Temp. (Max)	Air Temp. (Min)	Start Date	Time	Duration	Serial No.	Wind		Results dB			*Comments
							Speed (m/s)*	Direction (Degrees)	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	
Action Limit									60			
Target Limit									65			
N1	16.1	12.0	07/08/2008	08:00:00	14:00:00	2539533	4.0	177.2	53.1	101.8	34.0	
N1	18.0	6.2	08/08/2008	08:00:00	14:00:00	2539533	2.5	129.7	49.2	89.0	30.0	
N1	17.5	11.4	11/08/2008	08:00:00	14:00:00	2539533	3.6	60.6	50.1	81.8	32.0	
N1	15.7	10.7	12/08/2008	08:00:00	14:00:00	2539533	3.1	141.7	48.3	76.1	35.2	
N1	15.6	10.6	13/08/2008	08:00:00	14:00:00	2539533	3.9	128.7	49.2	67.4	36.0	
N1	17.6	11.4	14/08/2008	08:00:00	14:00:00	2539533	3.4	87.2	58.1	81.1	40.5	
N1	16.9	10.8	15/08/2008	08:00:00	14:00:00	2539533	1.9	123.8	49.1	78.2	35.1	
N1	16.4	11.9	18/08/2008	08:00:00	14:00:00	2539533	3.3	195.6	50.3	77.7	39.6	
N1	18.0	11.8	20/08/2008	08:00:00	14:00:00	2539533	2.4	100.8	45.7	75.4	30.0	

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

# Noise Monitoring Record Sheet

## Determinant Results

Determinant Records												
Location	Air Temp. (Max)	Air Temp. (Min)	Start Date	Time	Duration	Serial No.	Wind		Results dB			*Comments
							Speed (m/s)*	Direction (Degrees)	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	
Action Limit									60			
Target Limit									65			
N1	16.1	12.0	07/08/2008	22:00:00	10:00:00	2539533	4.0	177.2	53.1	101.8	34.0	
N1	18.0	6.2	08/08/2008	22:00:00	10:00:00	2539533	2.5	129.7	49.2	89.0	30.0	
N1	17.5	11.4	11/08/2008	22:00:00	10:00:00	2539533	3.6	60.6	50.1	81.8	32.0	
N1	15.7	10.7	12/08/2008	22:00:00	10:00:00	2539533	3.1	141.7	48.3	76.1	35.2	
N1	15.6	10.6	13/08/2008	22:00:00	10:00:00	2539533	3.9	128.7	49.2	67.4	36.0	
N1	17.6	11.4	14/08/2008	22:00:00	10:00:00	2539533	3.4	87.2	58.1	81.1	40.5	
N1	16.9	10.8	15/08/2008	22:00:00	10:00:00	2539533	1.9	123.8	49.1	78.2	35.1	
N1	16.4	11.9	18/08/2008	22:00:00	10:00:00	2539533	3.3	195.6	50.3	77.7	39.6	
N1	18.0	11.8	20/08/2008	22:00:00	10:00:00	2539533	2.4	100.8	45.7	75.4	30.0	

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

**Flow Weir Record Sheet****Determinant Results**

Date	SP1			SP3		
	Max (l/s)	Min (l/s)	Avg (l/s)	Max (l/s)	Min (l/s)	Avg (l/s)
07/08/2008	4.00	0.25	1.61	1.30	-0.38	-0.02
08/08/2008	3.23	0.21	1.65	0.56	-0.18	0.16
09/08/2008	9.66	3.14	6.55	3.67	0.46	1.48
10/08/2008	16.75	4.21	10.21	4.69	0.36	1.81
11/08/2008	10.93	3.80	7.99	3.67	1.74	2.74
12/08/2008	12.70	8.00	10.68	5.13	3.67	4.39
13/08/2008	258.55	4.88	60.78	128.56	3.28	24.98
14/08/2008	243.72	21.20	88.41	96.12	7.73	37.32
15/08/2008	23.51	0.84	15.72	9.83	4.69	7.24
16/08/2008	75.42	15.10	40.11	28.18	7.98	16.97
17/08/2008	15.79	10.74	12.66	14.81	5.80	7.58
18/08/2008	34.26	9.31	18.27	17.72	10.94	13.52
19/08/2008	14.87	4.10	9.58	16.73	5.57	9.13
20/08/2008	8.81	2.79	5.94	9.83	6.03	6.69

**Note:** Negative values indicate low flow conditions.

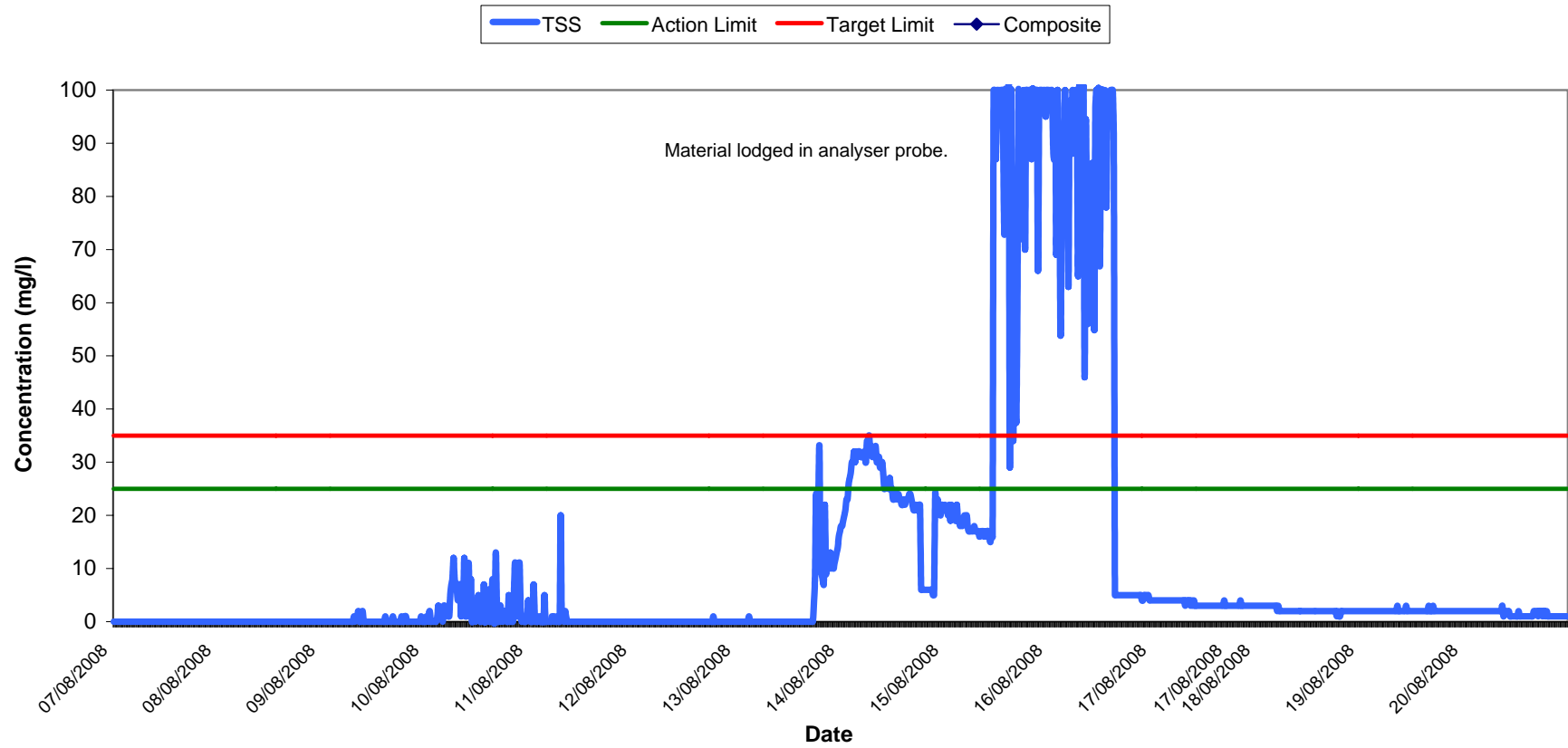


## Vibration Monitoring Record Sheet

[illegible][illegible]

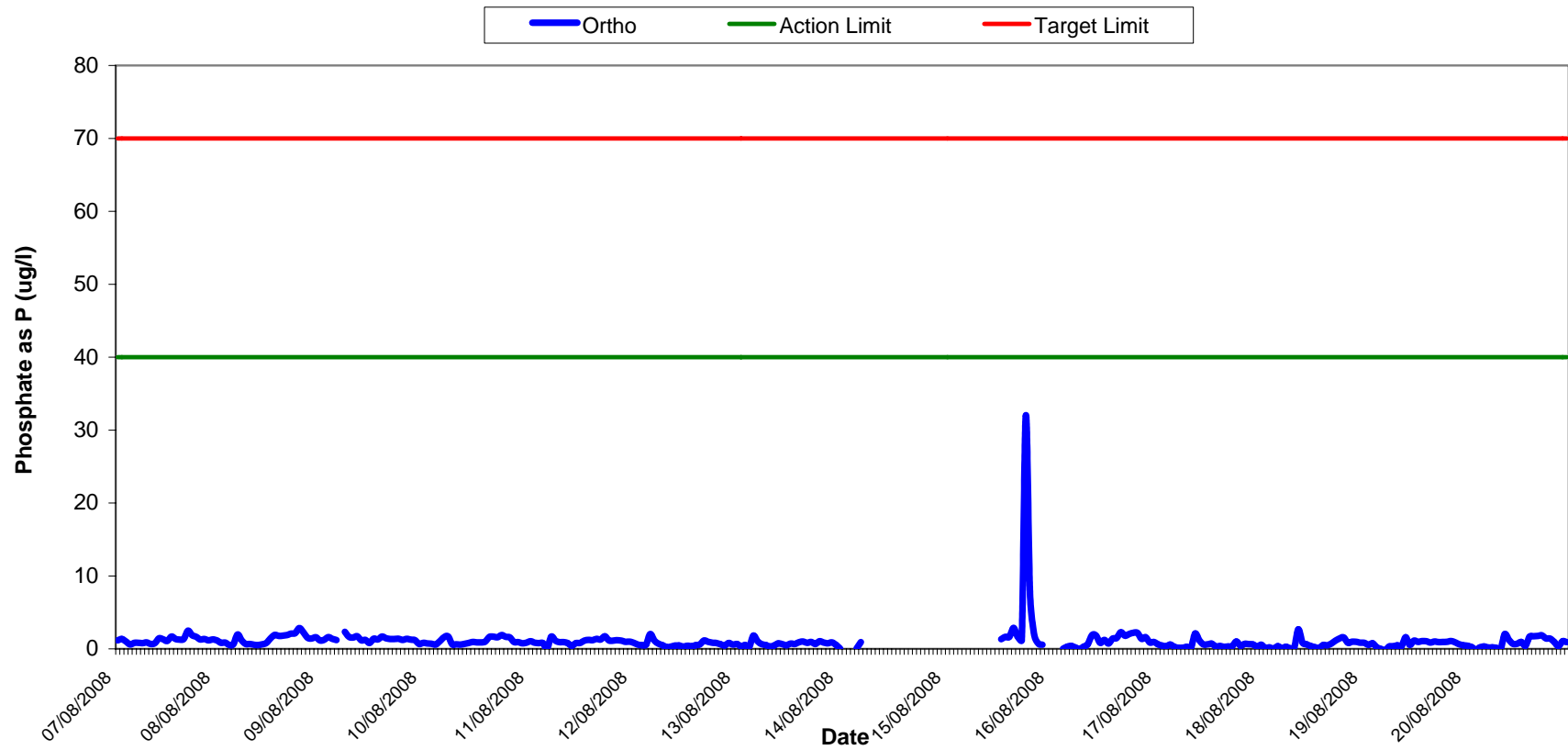
Vibration meter was located at V1 only.

**Total Suspended Solids Results at SP1**  
**Wk 33-34**

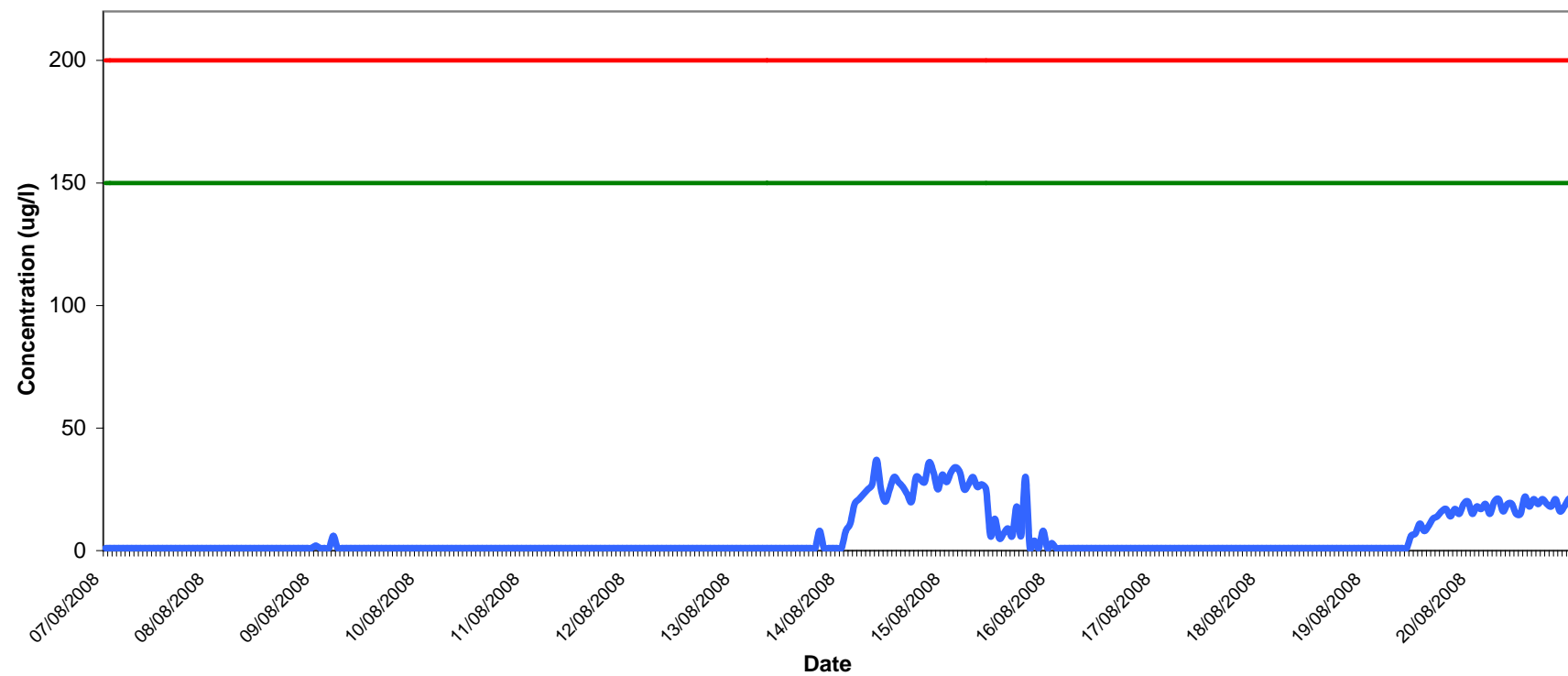
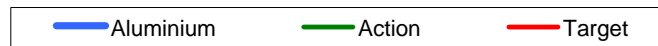


# Orthophosphate Results at SP1

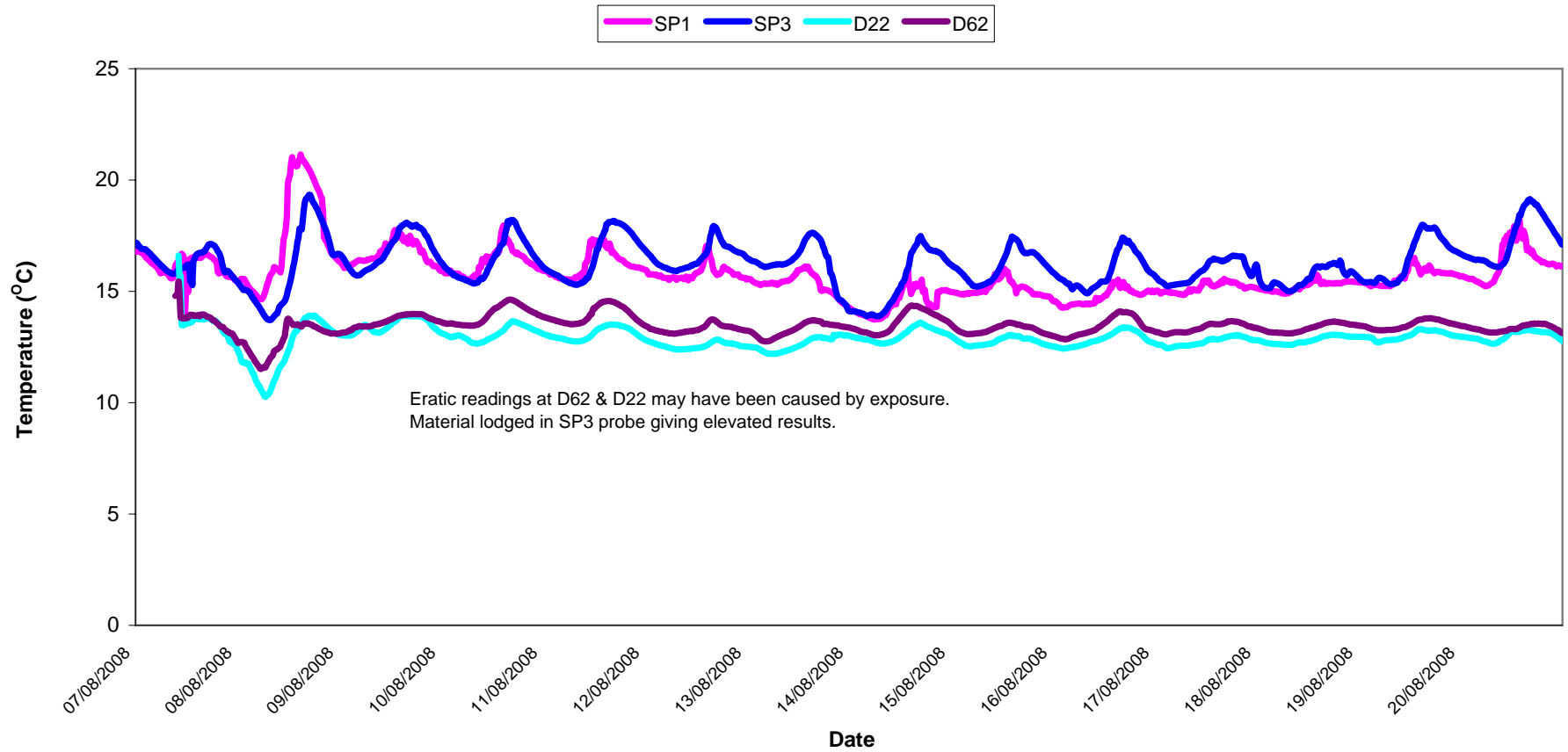
Wk 33-34



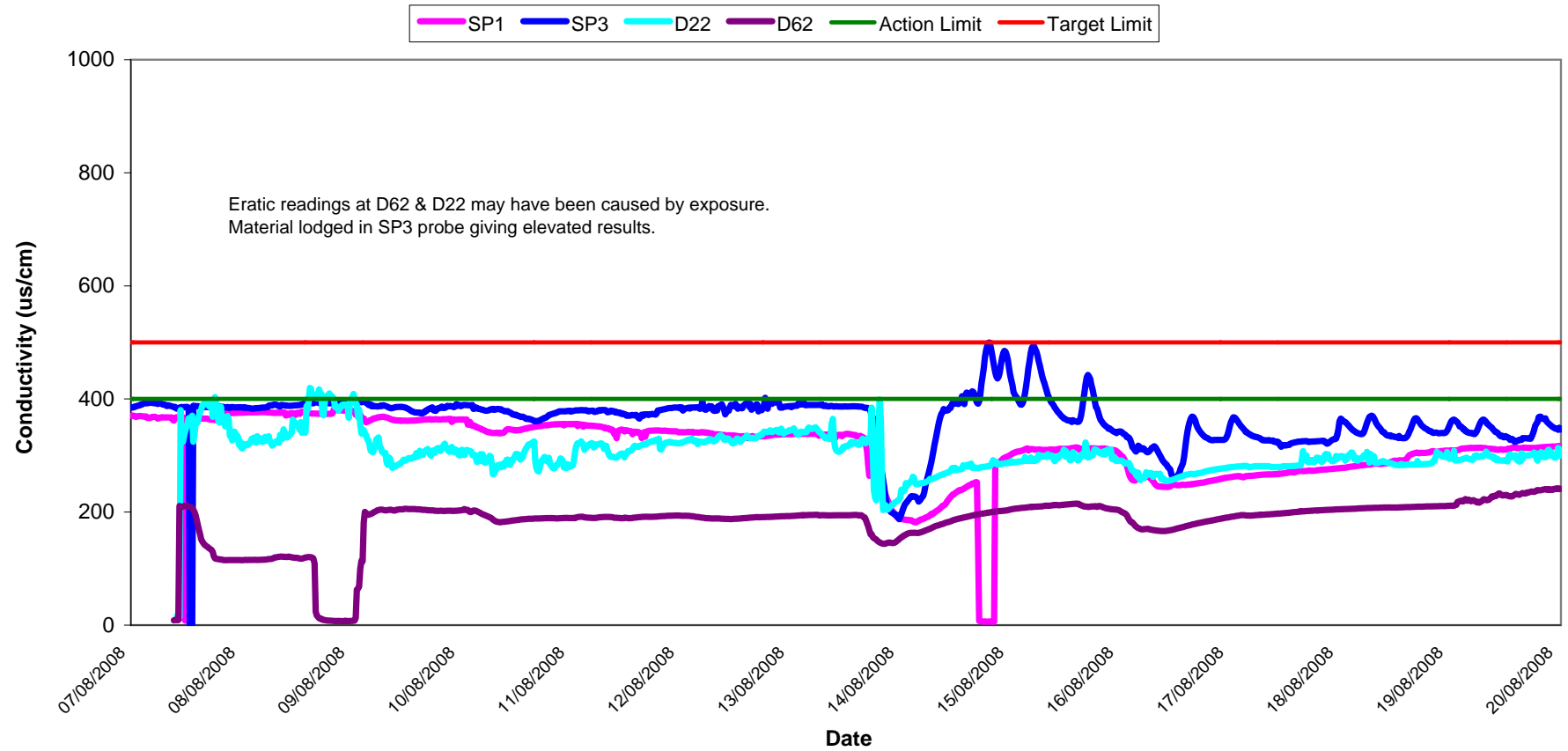
**Aluminium Concentration at SP1**  
**Wk 33-34**



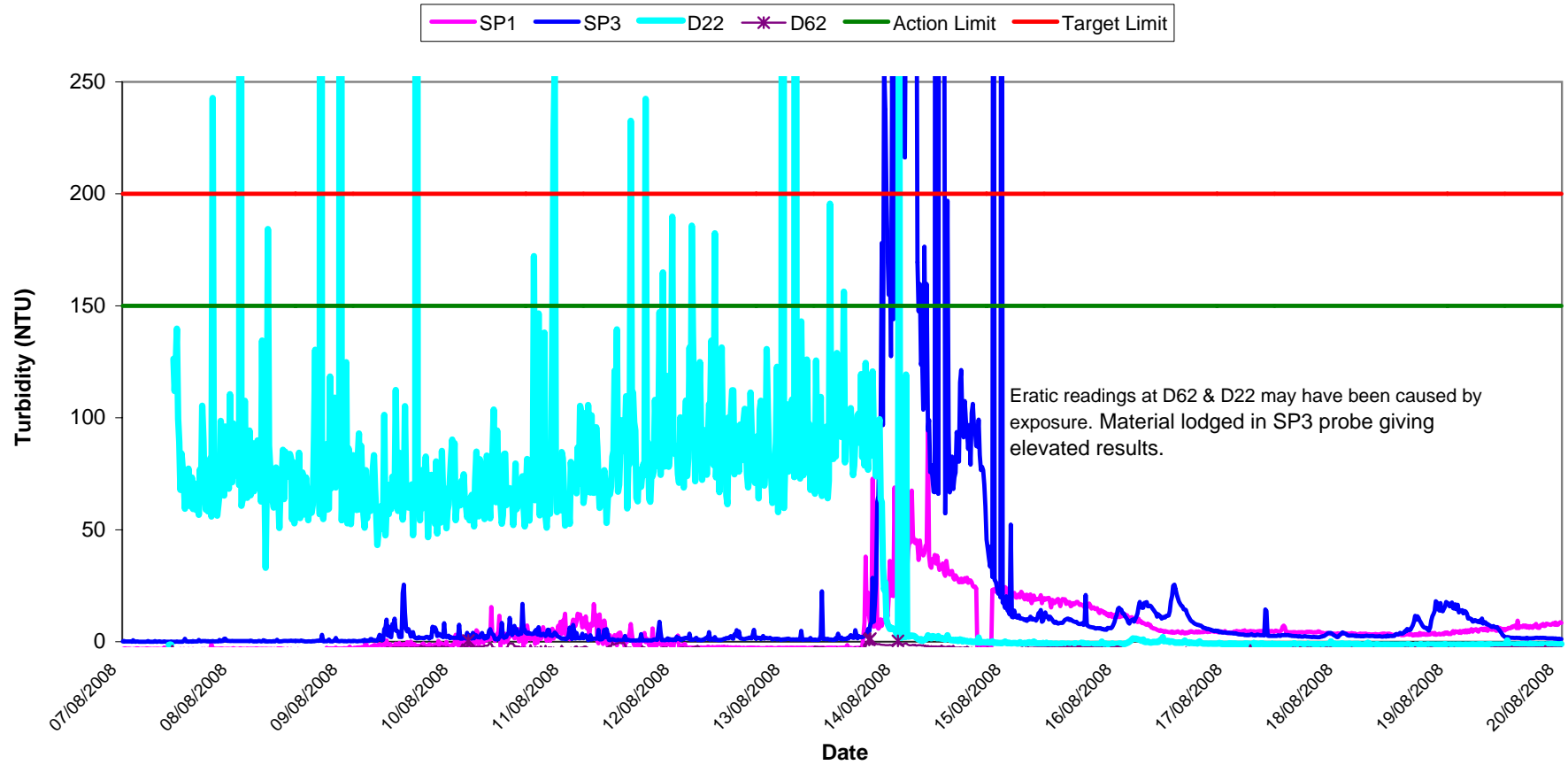
Temperature - Surface Waters  
Wk 33-34



### Conductivity - Surface Waters, Wk 33-34

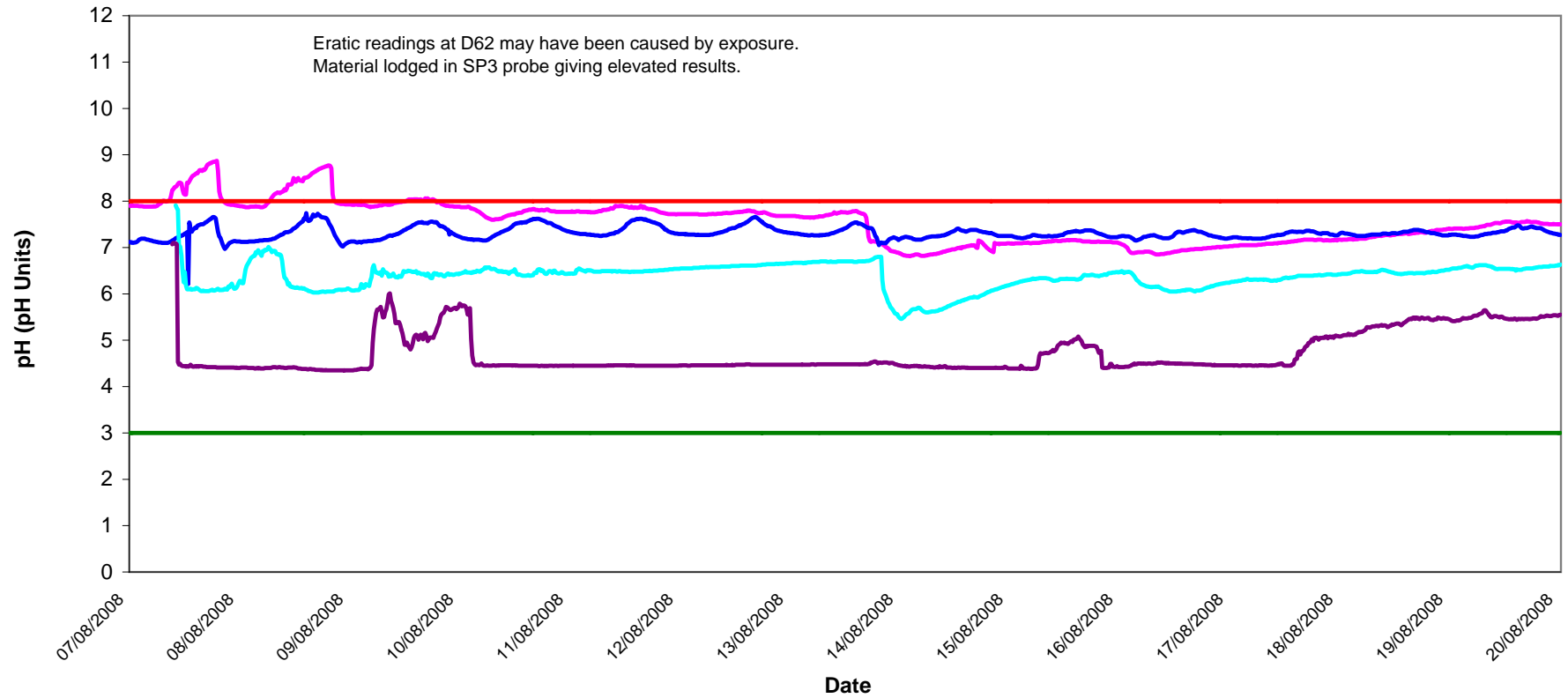


# Turbidity - Surface Waters Wk 33-34



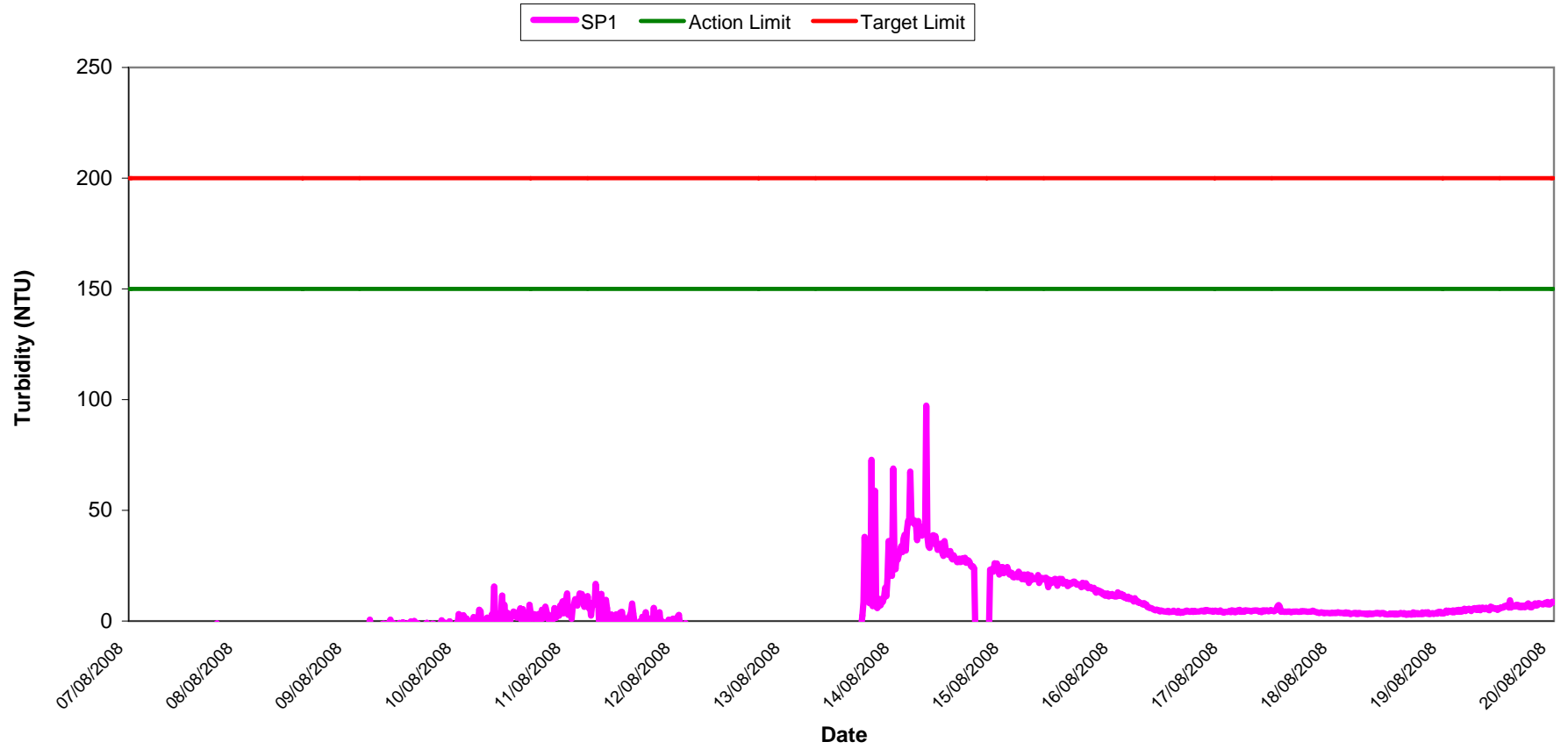
# pH - Surface Waters Wk 33-34

SP1 SP3 D22 D62 Lower Limit Upper Limit

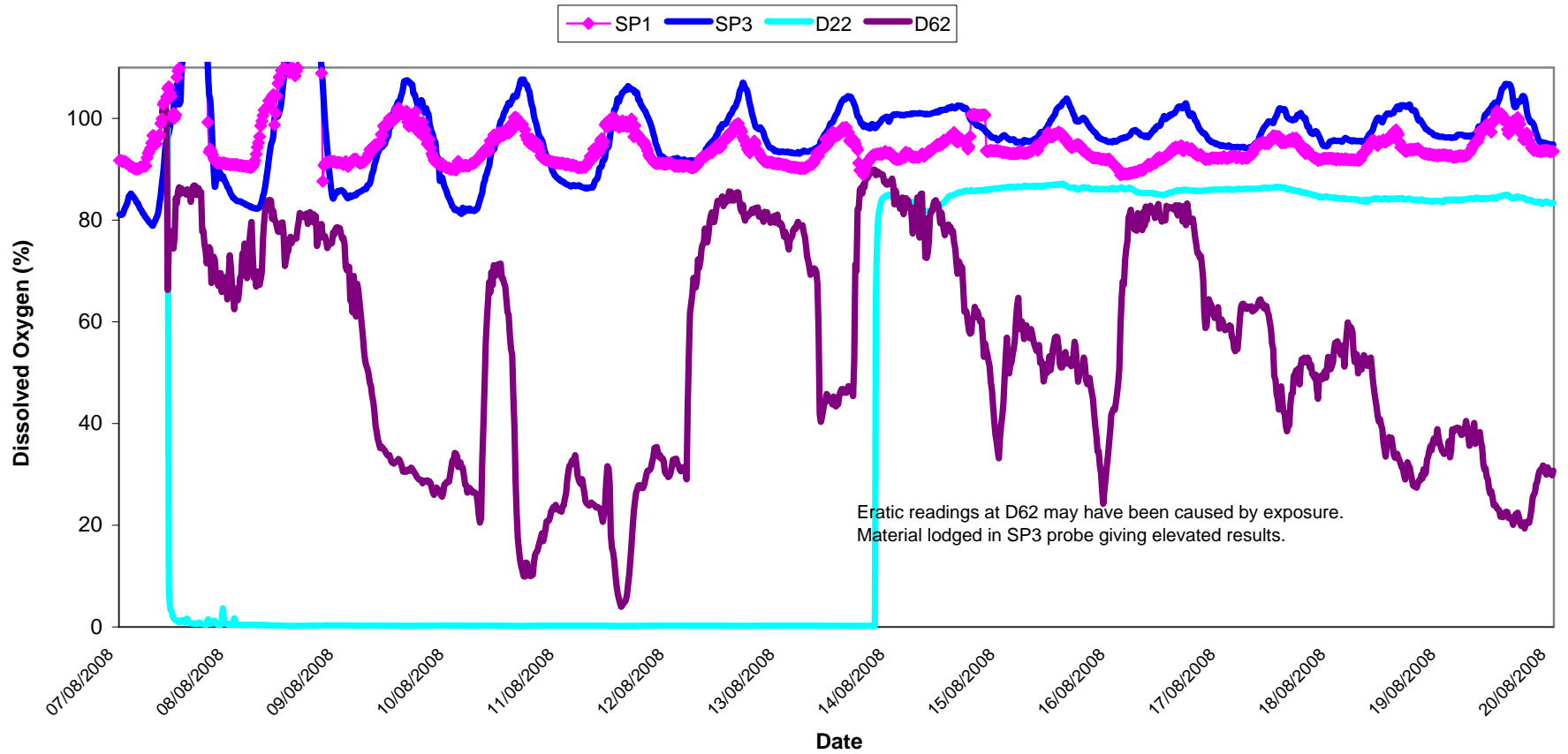




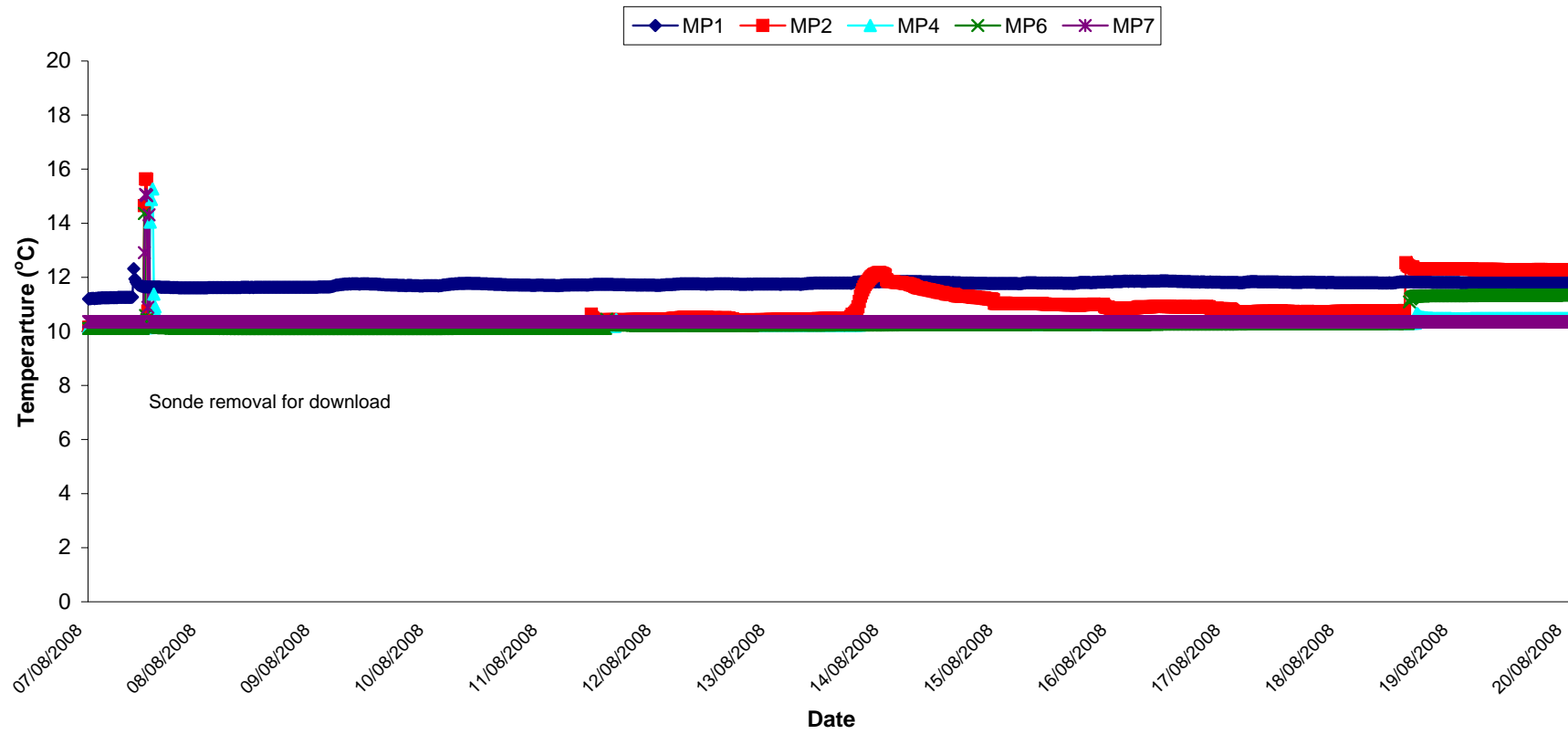
**Turbidity - Surface Waters @ SP1,  
Wk 33-34**



**Dissolved Oxygen - Surface Waters,  
Wk 33-34**

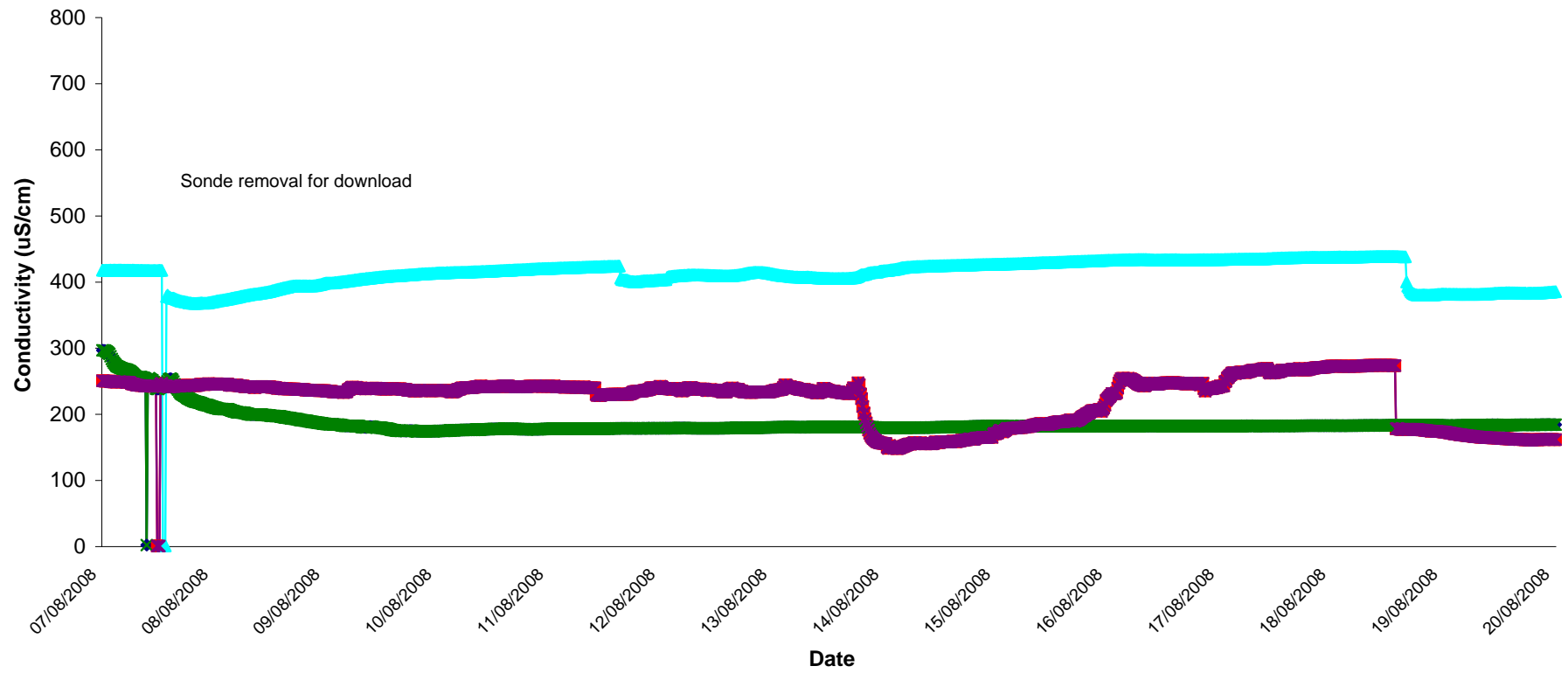


# Temperature - Groundwaters Wk 33-34



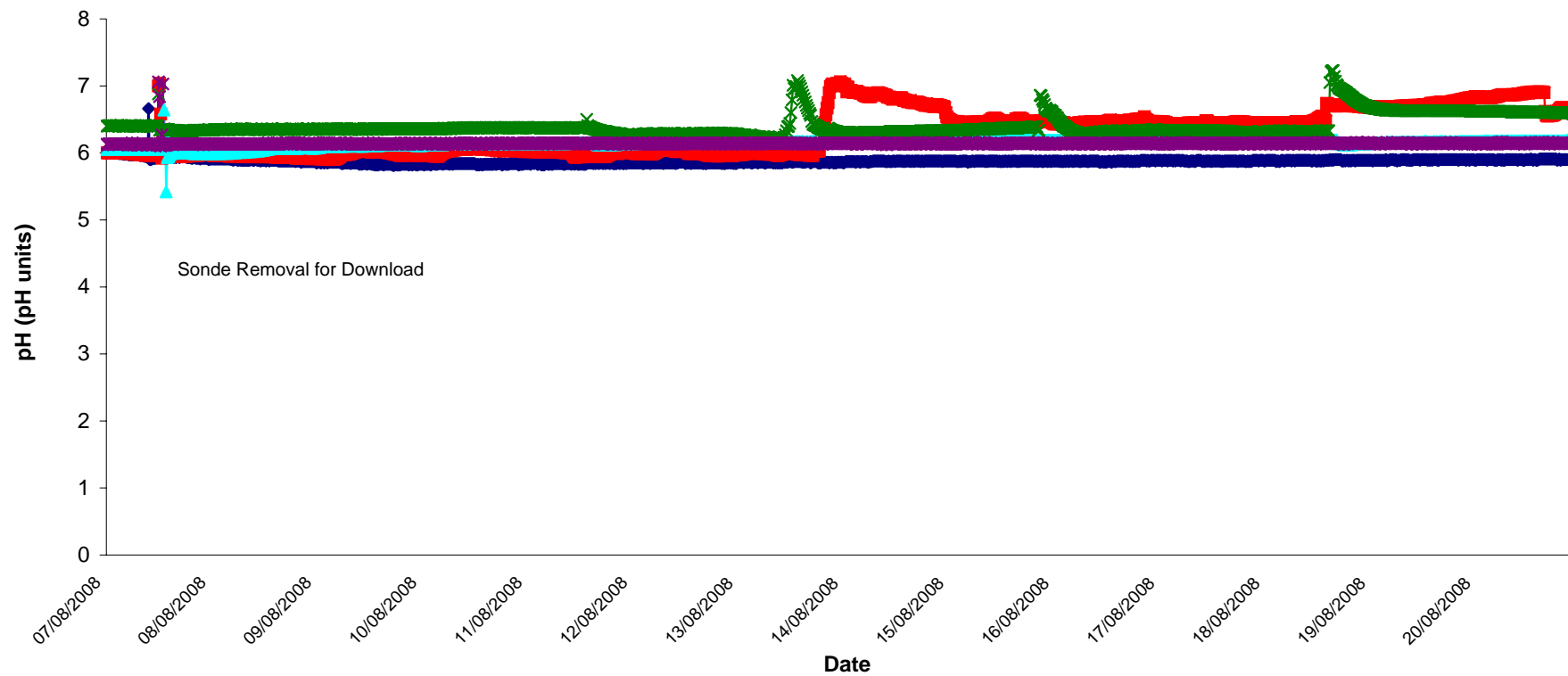
# Conductivity - Groundwaters Wk 33-34

MP1 MP2 MP4 MP6 MP7



**pH - Groundwaters  
Wk 33-34**

MP1 MP2 MP4 MP6 MP7



## **Appendix 1**

