

Final Environmental Report	Period Ending: 5th August 2009
Compiled By: Aoife Reynolds, Siobhan Quinn, Catriona King & Tracey Lavelle	
Approved By: Tony Doyle	

1 Monitoring Data

1.1 Monitoring Equipment

Axonics	– The Axonic's plant was operational during the reporting period.
PO4	– The PO ₄ analyser was operational for the majority of the reporting period. – The composite sampler was in place to cover any shortfalls in the PO ₄ analyser.
TSS	– The TSS analyser was operational during the reporting period.
Composite	– The composite sampler was operational during the reporting period. – Where there is loss of continuous monitoring data due to instrument faults or other issues composite sample data is provided on the graphs.
Noise	– There is a single noise monitoring location currently being used – N1.
Vibration	– There is a single vibration monitoring location currently being used – V1.
Sondes	– The results are displayed graphically. o Any unusual values are explained on the relevant graph. o Internal memory difficulty gave a shortfall to the sonde monitoring in MP4. o There is no result's for MP7 monitoring due to technical error which has been rectified.
Weather Station	– The data used for this reporting period was taken from the on-site meteorological station.
Weirs	– Weirs were operational during the reporting period.

1.2 Rainfall Data

23/07/2009	12.100	30/07/2009	0.200
24/07/2009	1.200	31/07/2009	4.400
25/07/2009	4.600	01/08/2009	12.000
26/07/2009	10.600	02/08/2009	5.000
27/07/2009	7.000	03/08/2009	3.600
28/07/2009	3.800	04/08/2009	2.600
29/07/2009	0.800	05/08/2009	6.500
Total Rainfall 74.4mm			

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1.3 Summary

Environment	Comments
Surface Water	There were no exceedances during the reporting period.
Axonic's	Elevated total aluminium result on the 23 rd of July. This may have been caused by flock carry over. Improvements are ongoing in the plant.
Groundwater	The groundwater data (Sonde) is within anticipated ranges.
Dust	Dust results are all within limits.
Weather	There was a total of 74.4mm of rainfall during the reporting period, with a temperature range of 8.0°C to 18.1°C.
Noise	All noise levels were within the set limits. Where values were affected by high wind speeds it is indicated on the table.
Vibration	No vibration exceedances were recorded during the reporting period, based on available results.

Note: All laboratory data generated on site should be considered indicative only.**2 Environmental Exceedances / Incidents / Complaints**

No exceedances during the reporting period.

Surface Water Monitoring Record Sheet: Accredited Laboratory Results																	
	Date	Cond. µS/cm	Temp °C	Turbidity NTU	DO % Sat	pH pH units	TSS mg l ⁻¹	Ortho-phosphate as P µg l ⁻¹	Nitrate as N mg l ⁻¹	Nitrate as NO ₃ mg l ⁻¹	Total Phosphorus as P mg l ⁻¹	Ammonia as NH ₃ -N mg l ⁻¹	Nitrite as NO ₂ mg l ⁻¹	Aluminium (dissolved) µg l ⁻¹	Aluminium (total) µg l ⁻¹	Phosphate as PO ₄ -P mg l ⁻¹	TDS 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		
SP1	23/07/2009	278		2.6		7.9	2	<10		<0.44	0.04	0.005	<0.017	21	65	<0.03	149
SP3	23/07/2009	170		49.4		7.0	26	39		<0.44	0.06	<0.005	<0.017	<20	407	0.04	149
SP1	30/07/2009	258		2.3		7.3	<2	53		<0.44	0.02	<0.005	<0.017	35	65	0.16	138
SP3	30/07/2009	294		0.8		7.1	<2	<10		1.01	0.02	0.006	<0.017	<20	52	<0.03	158
Axonics Monitoring																	
Pre Axonics	23/07/2009	305		656.0		6.8	73	51		1.46	0.19	0.227	<0.017	<20	1411	0.16	164
Post Axonics	23/07/2009	316		2.7		6.4	6	<10		1.37	0.03	0.245	0.020	<20	467	<0.03	169
Pre Axonics	30/07/2009	287		54.1		6.9	46	46		0.93	0.16	0.154	<0.017	<20	515	0.14	155
Post Axonics	30/07/2009	299		1.8		6.5	<2	<10		0.85	0.02	0.216	<0.017	<20	314	<0.03	161
Plant operations were suspended during the reporting period for scheduled upgrade works																	
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 Record Sheet

[illegible]

No Groundwater Monitoring Undertaken in the Reporting Period.
Graphs provided for MP1, MP2, MP4, MP6 and MP7: Temperature, Conductivity, and pH.

Determinant Results

[illegible]

Determinant Results

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

Determinant Results												
Location	Air Temp. (Min)	Air Temp. (Max)	Start Date	Time	Duration	Serial No.	Wind		Results dB			*Comments
							Speed (m/s)*	Direction (Degrees)	L _{Aeq}	L _{Amax}	L _{Amin}	
Action Limit									50			
Target Limit									55			
N1	12.1	17.0	23/07/2009	22:00:00	10:00:00	2539533	1.8	284.4	50.1	80.7	30.0	
N1	8.8	17.3	24/07/2009	22:00:00	10:00:00	2539533	2.7	265.7	49.9	62.8	39.1	
N1	8.0	18.1	25/07/2009	22:00:00	10:00:00	2539533	3.3	174.6	51.7	71.9	40.2	
N1	12.8	16.0	26/07/2009	22:00:00	10:00:00	2539533	6.7	195.3	54.3	78.8	41.9	Values impacted by high wind speeds.
N1	11.4	16.5	27/07/2009	22:00:00	10:00:00	2539533	4.9	230.5	52.1	69.8	40.5	
N1	11.7	16.4	28/07/2009	22:00:00	10:00:00	2539533	6.4	199.0	56.9	102.6	36.6	Values impacted by high wind speeds.
N1	11.1	16.8	29/07/2009	22:00:00	10:00:00	2539533	3.4	248.4	48.1	73.1	30.0	
N1	10.2	16.7	30/07/2009	22:00:00	10:00:00	2539533	3.5	234.8	52.7	103.6	30.0	
N1	11.3	16.5	31/07/2009	22:00:00	10:00:00	2539533	7.3	165.6	52.1	68.7	46.8	Values impacted by high wind speeds.
N1	12.2	14.6	01/08/2009	22:00:00	10:00:00	2539533	6.7	265.4	49.0	85.3	33.5	Values impacted by high wind speeds.
N1	10.4	17.1	02/08/2009	22:00:00	10:00:00	2539533	3.5	190.2	47.8	77.2	30.0	
N1	13.1	17.8	03/08/2009	22:00:00	10:00:00	2539533	4.1	162.3	48.2	79.4	30.0	
N1	12.4	18.0	04/08/2009	22:00:00	10:00:00	2539533	6.0	185.3	53.3	75.4	31.9	Values impacted by high wind speeds.
N1	16.5	14.2	05/08/2009	22:00:00	10:00:00	2539533	6.9	190.2	52.8	73.3	33.0	Values impacted by high wind speeds.
* Wind speeds in excess of 5 m/s negatively impact noise readings (as per EPA Guidance Note on Noise Measurement)												

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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)
23/07/2009	16.51	0.21	1.90	11.22	0.46	2.75
24/07/2009	19.03	5.23	10.80	8.23	1.03	5.43
25/07/2009	9.48	7.85	8.64	7.98	6.50	7.39
26/07/2009	16.27	7.39	11.29	9.83	5.57	7.84
27/07/2009	20.37	8.64	14.29	9.28	6.98	8.43
28/07/2009	12.70	6.67	10.77	10.10	5.57	8.22
29/07/2009	8.64	2.63	6.85	7.23	3.87	5.20
30/07/2009	8.00	2.63	6.44	7.23	5.35	6.40
31/07/2009	8.48	4.21	6.53	7.98	3.28	5.83
01/08/2009	30.29	8.00	15.06	15.13	7.47	9.55
02/08/2009	12.70	8.64	9.93	7.98	6.74	7.07
03/08/2009	10.74	7.85	9.57	7.47	4.69	6.48
04/08/2009	8.32	3.60	6.44	4.69	1.58	3.59
05/08/2009	12.50	3.70	6.80	5.35	0.90	2.29

Note: Negative values indicate low flow conditions.

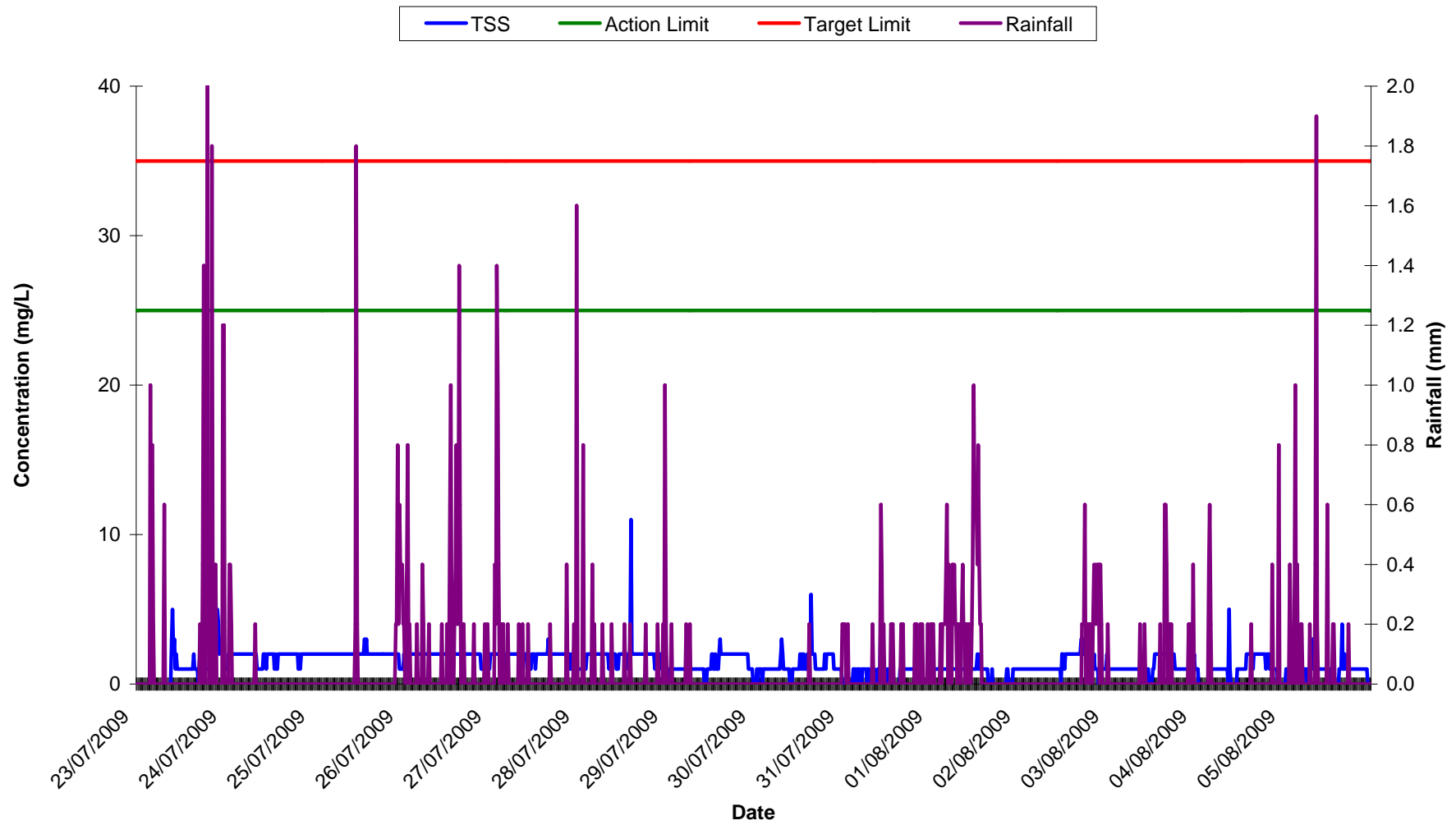
Vibration Monitoring Record Sheet

Determinant Results									
	Det. 1	Det. 2			Det. 3				

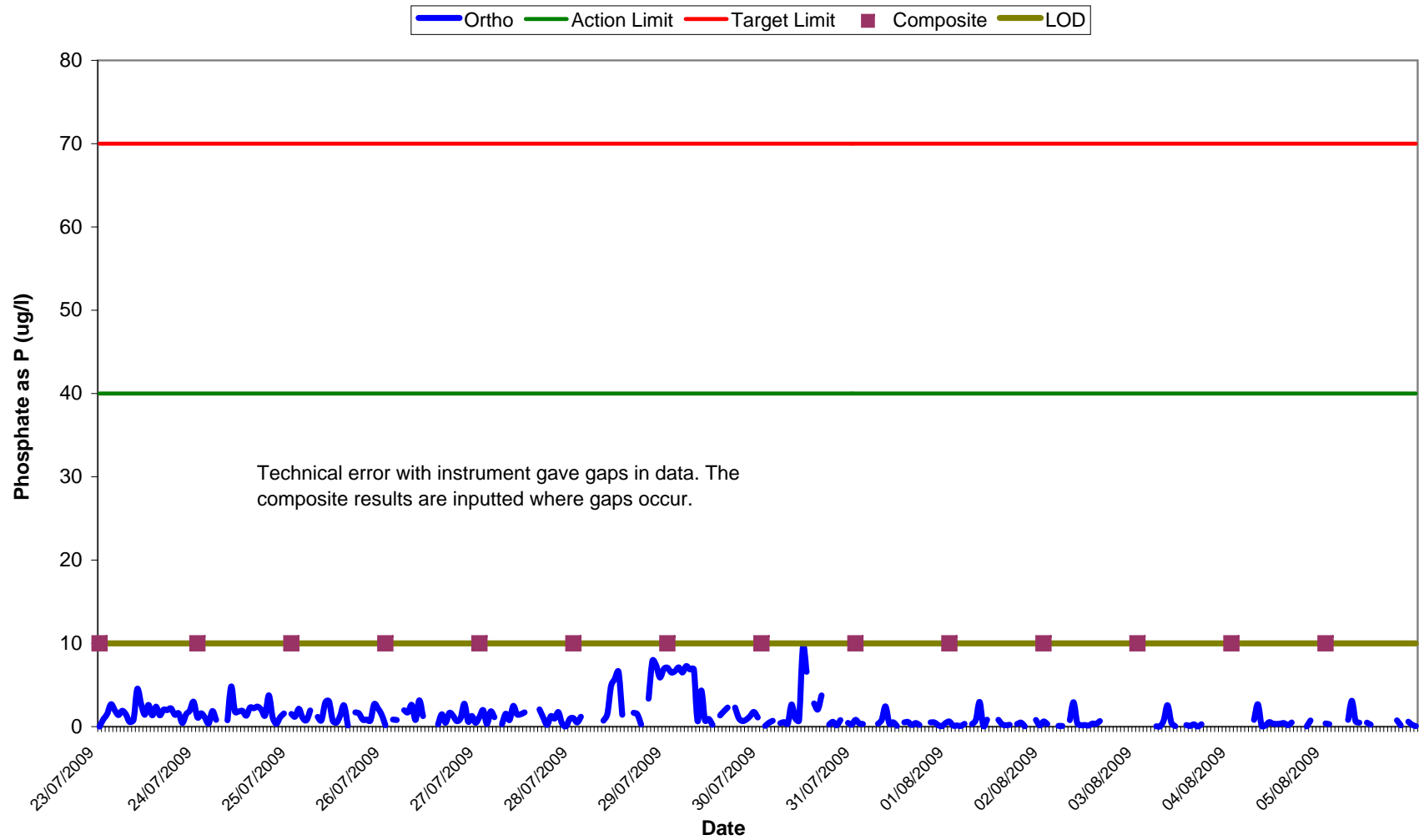
[illegible]

Vibration meter located at V1.

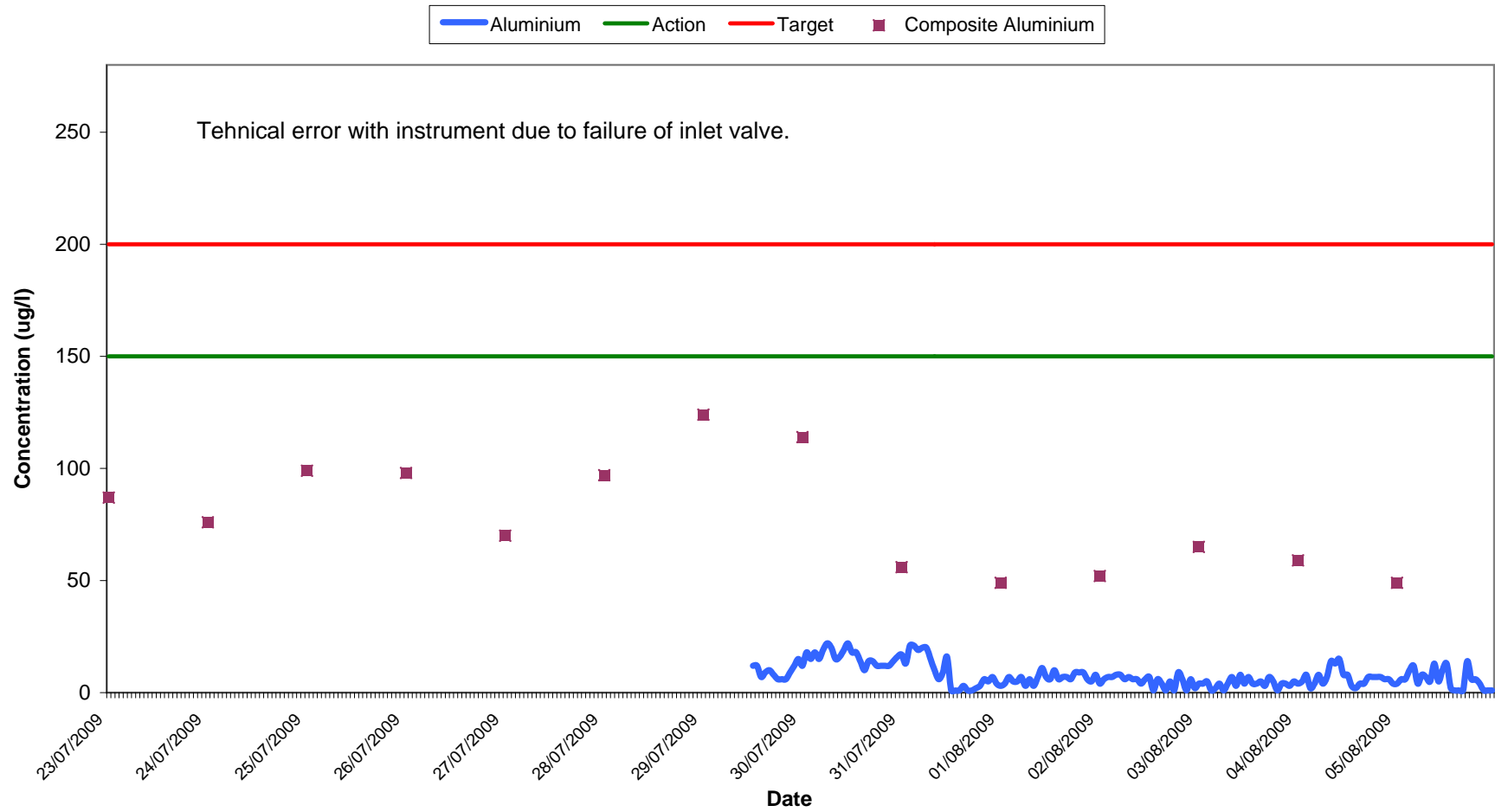
**Total Suspended Solids at SP1
Week 30-31**



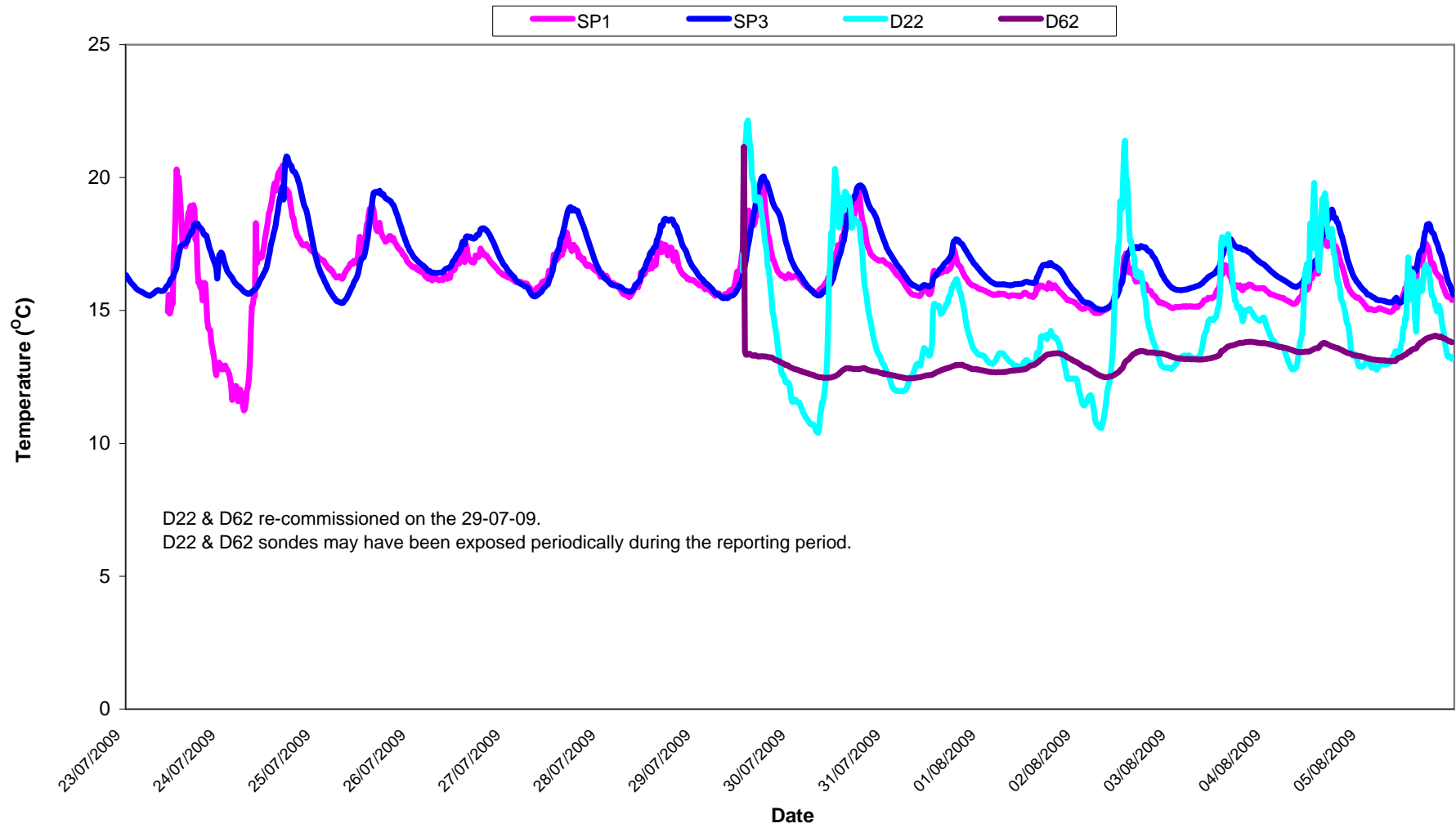
Orthophosphate Results at SP1 Wk 30-31



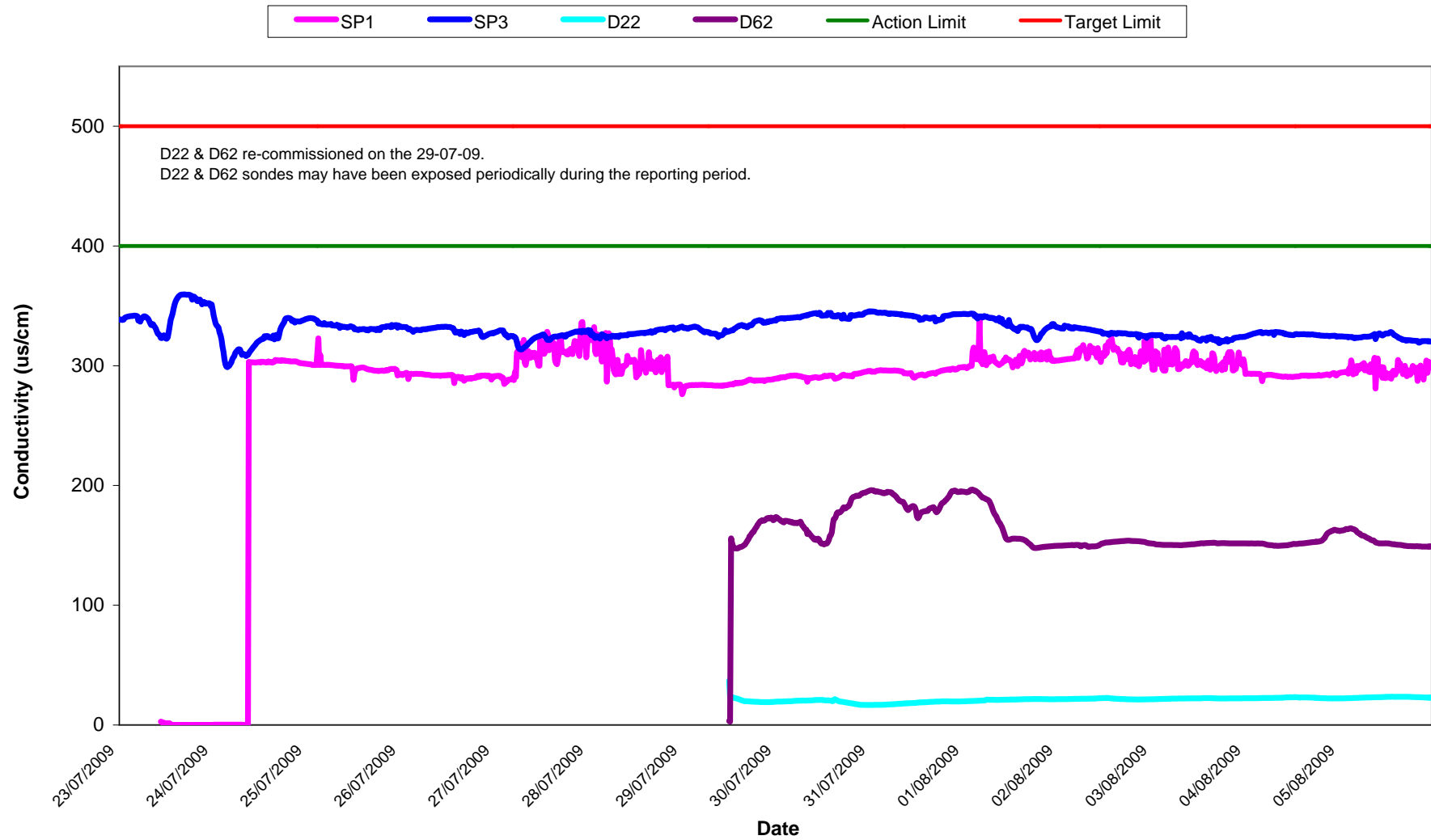
Aluminium Concentration at SP1 Wk 30-31



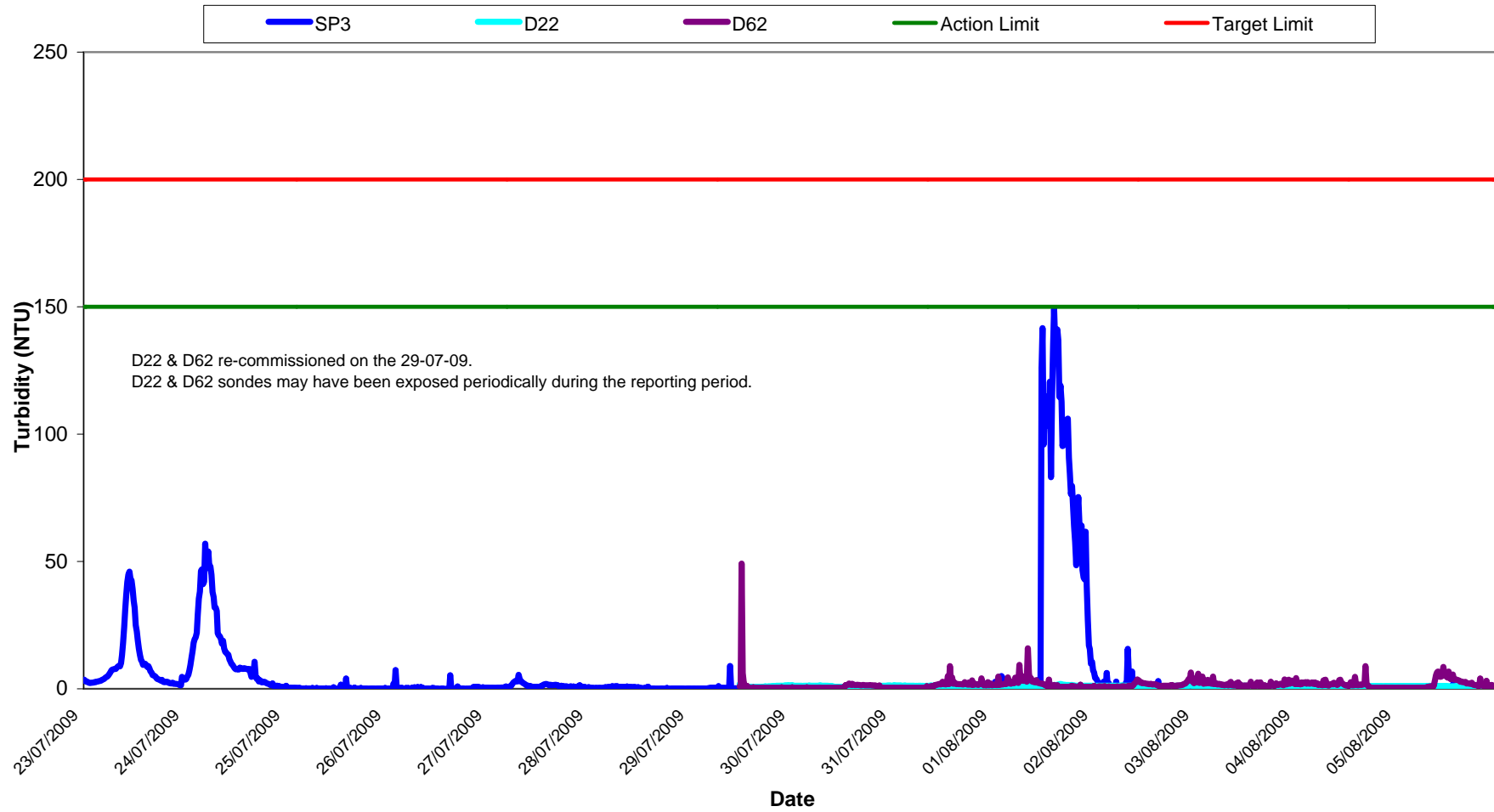
Temperature - Surface Waters Wk 30-31



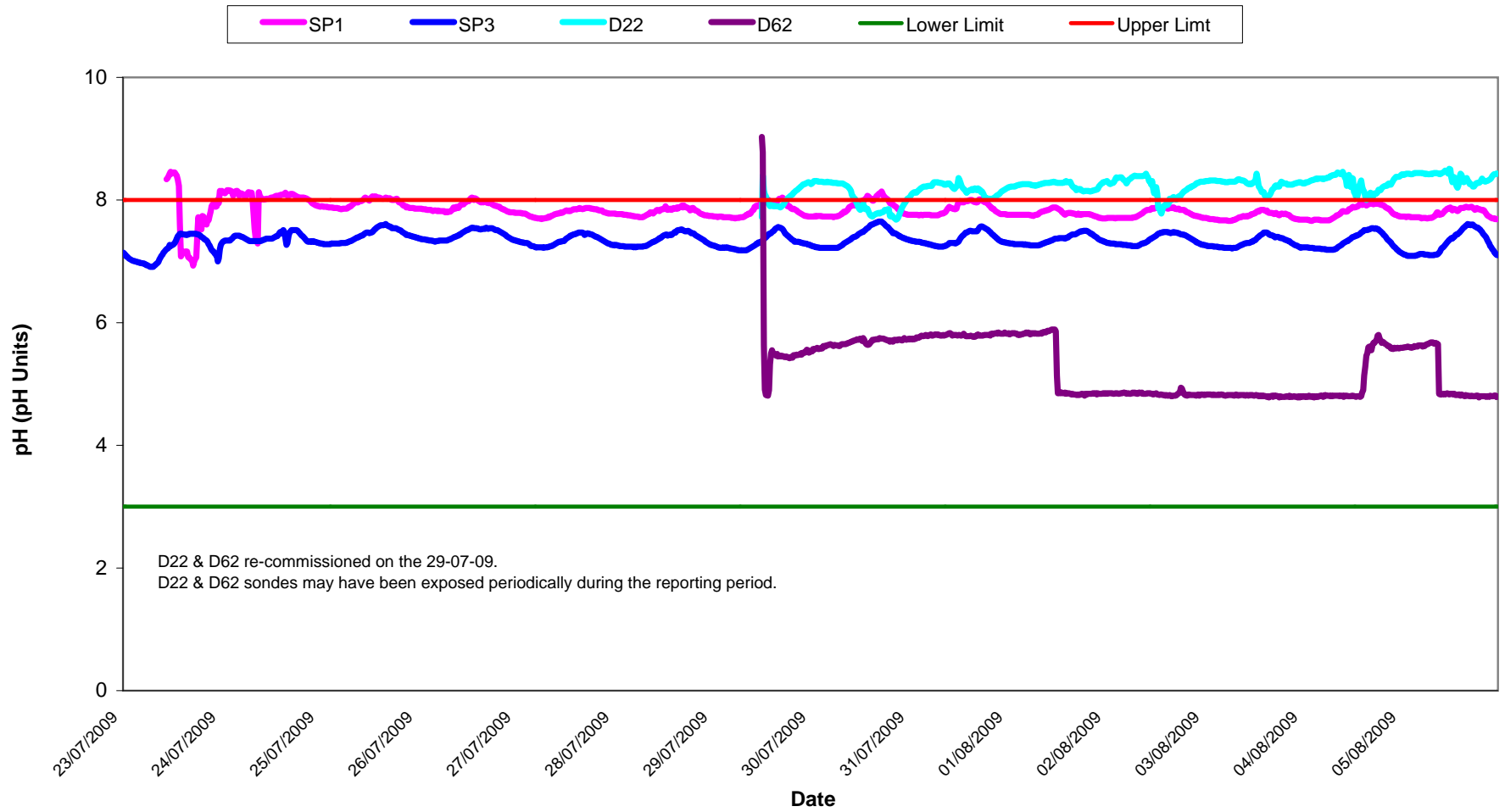
Conductivity - Surface Waters, Wk 30-31



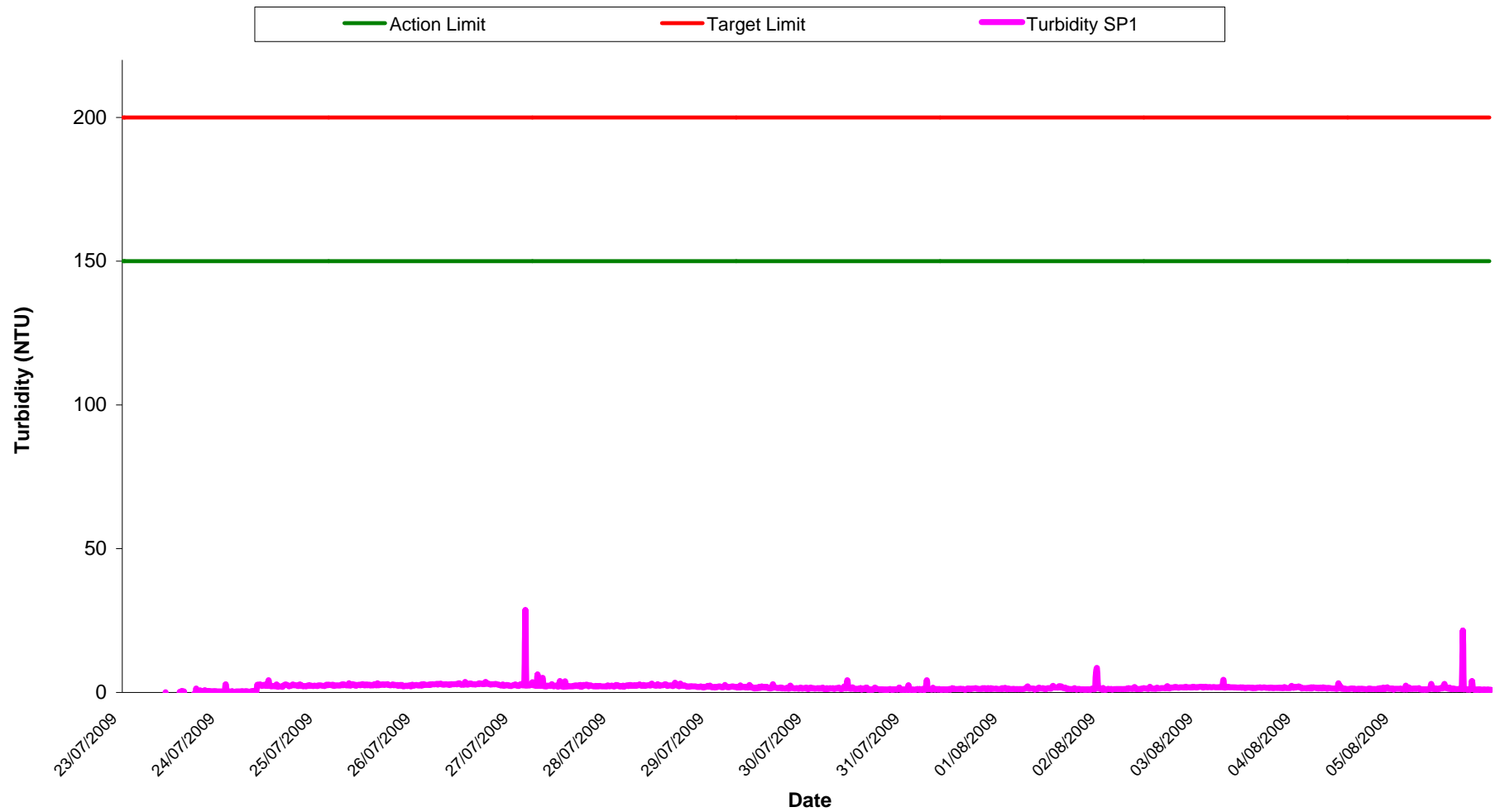
Turbidity - Surface Waters Wk 30-31



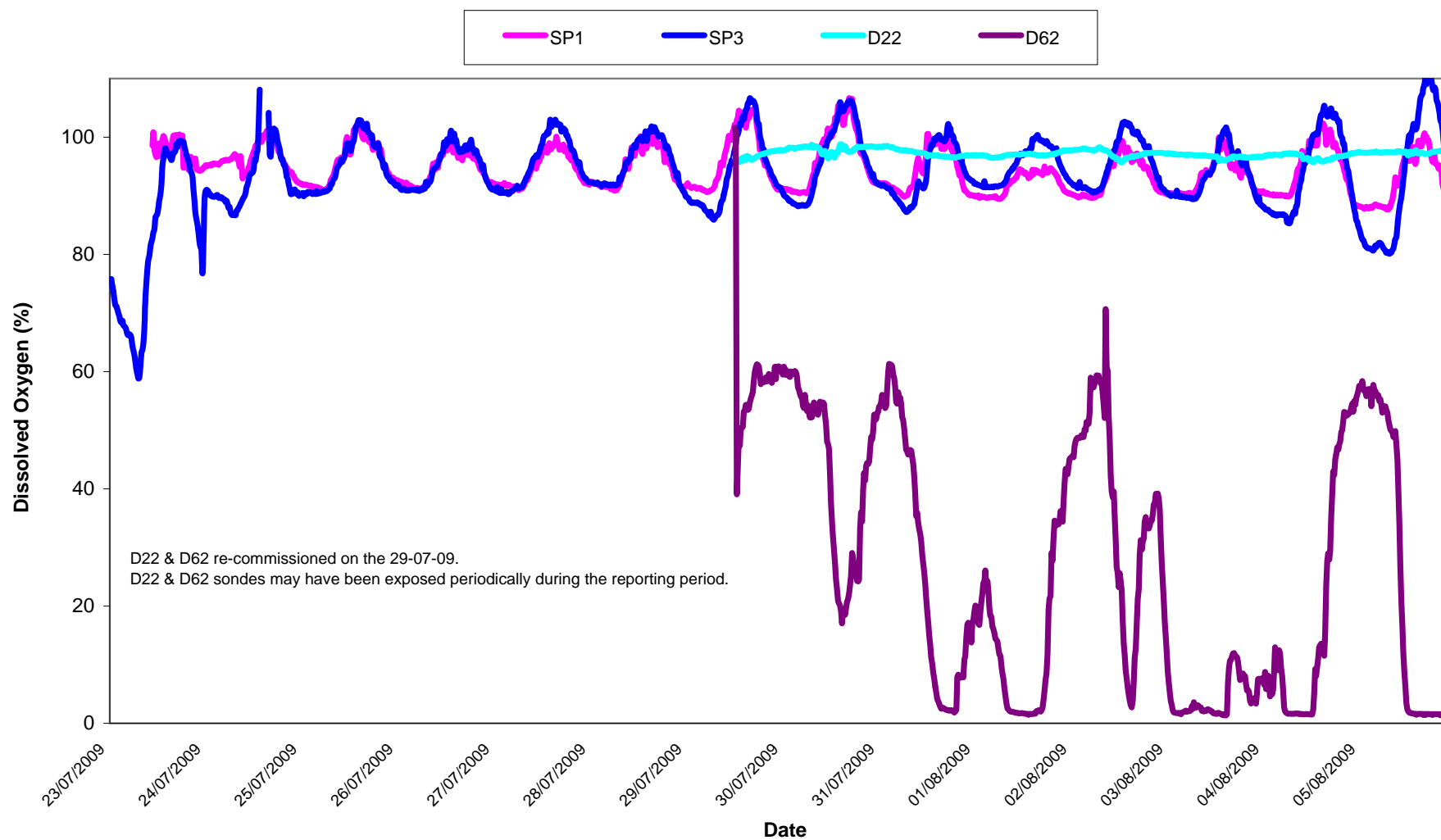
pH - Surface Waters Wk 30-31



Turbidity - Surface Waters @ SP1, Wk 30-31

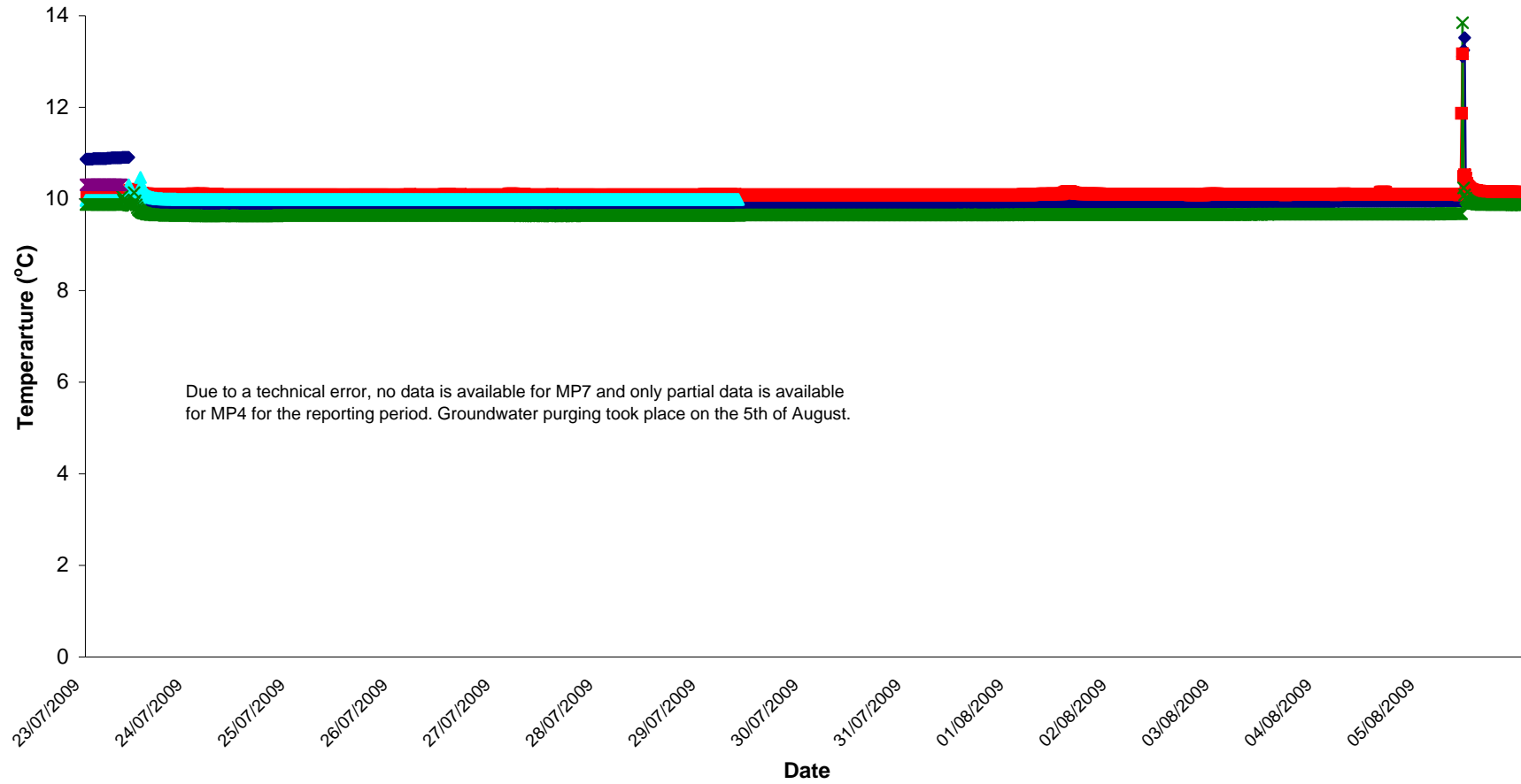


Dissolved Oxygen - Surface Waters, Wk 30-31

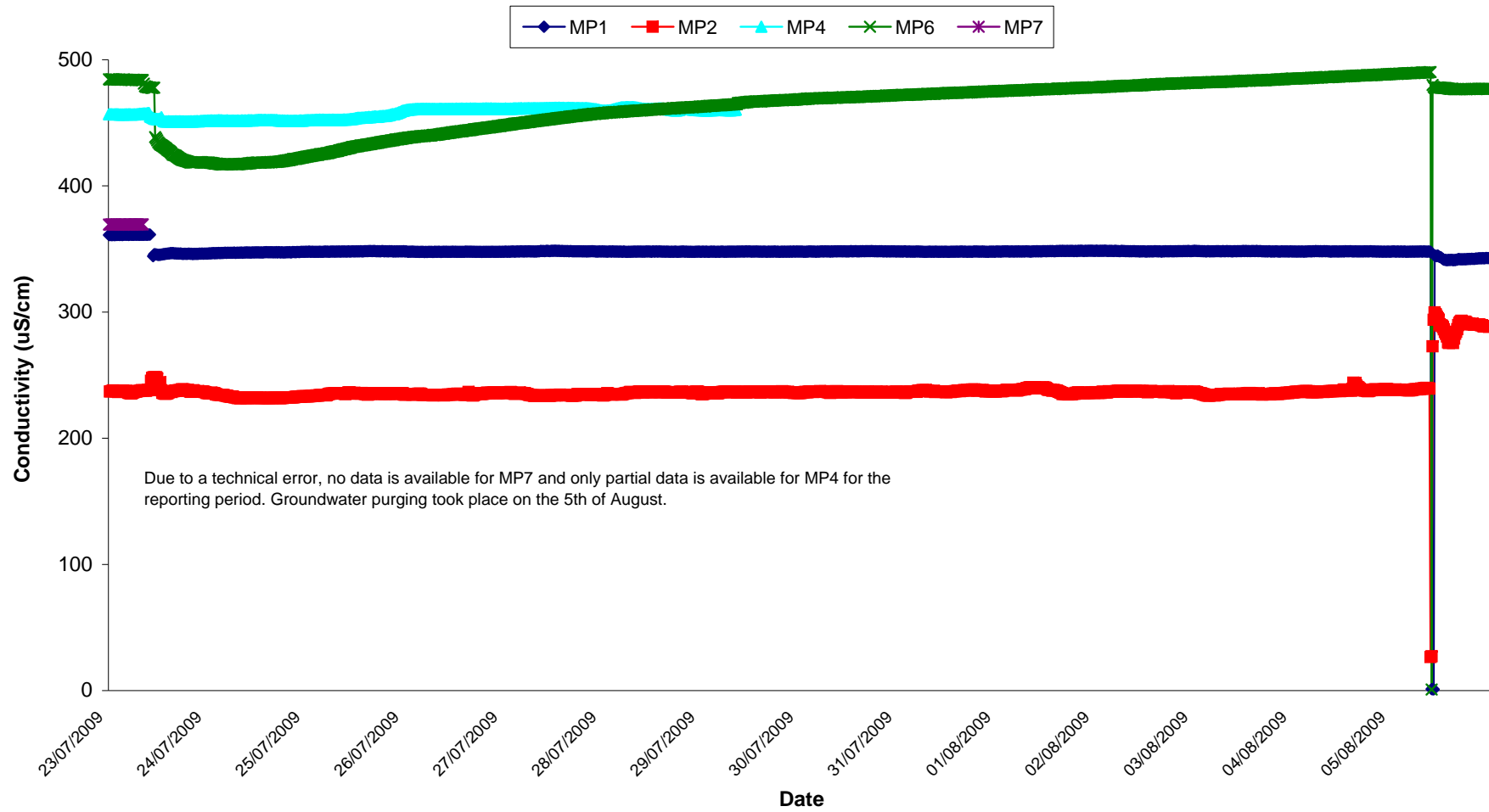


Temperature - Groundwaters Wk 30-31

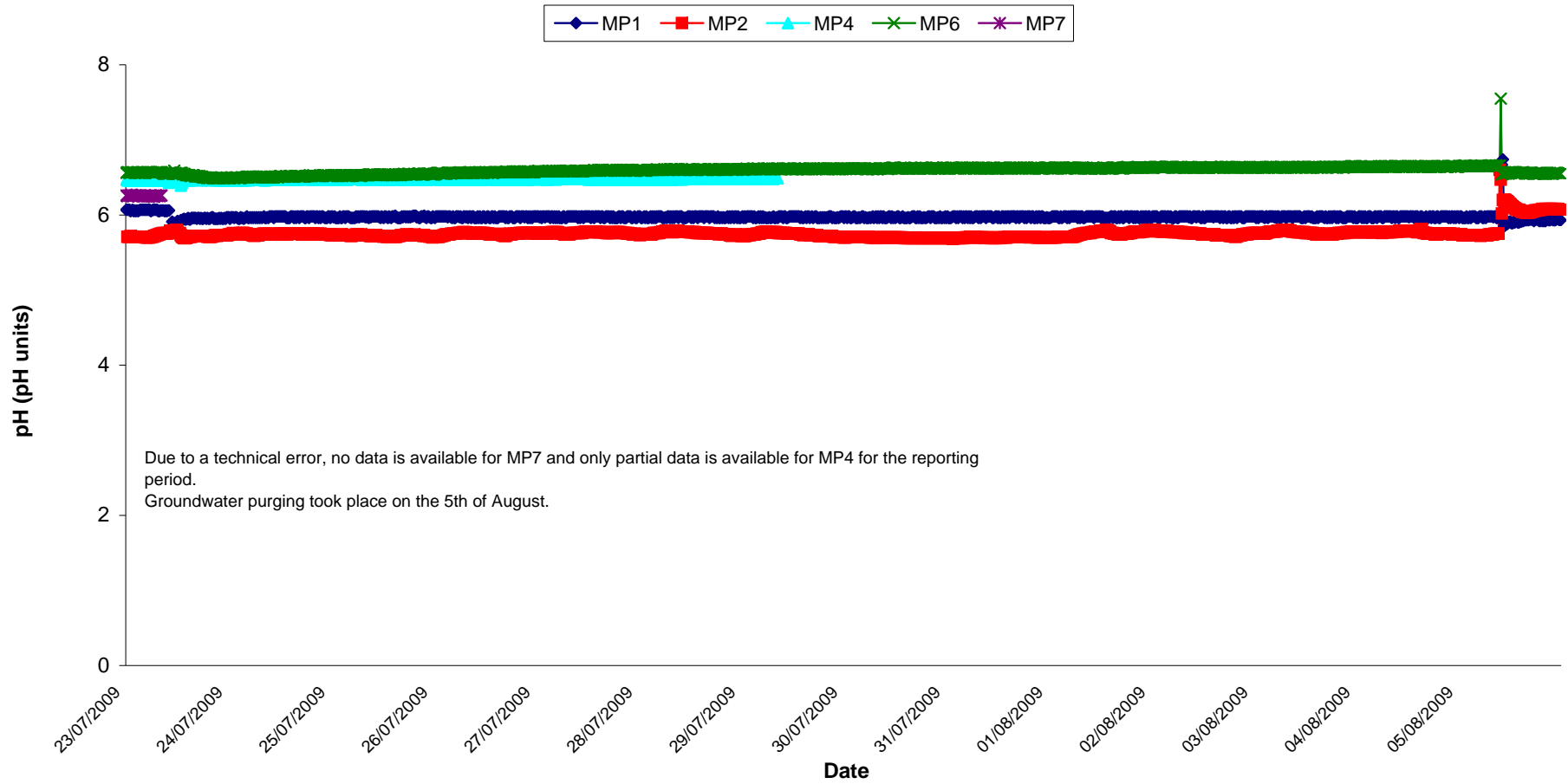
MP1 MP2 MP4 MP6 MP7



Conductivity - Groundwaters Wk 30-31



pH - Groundwaters Wk 30-31



Appendix 1

