

Weekly Environmental Report - Status	Week Ending: Thur. 21 <sup>st</sup> April 2005
Generated By: Sandra Barber	
Checked By: Leslie Finnegan	

## 1 Monitoring Data

All monitoring data is presented in tabular form, see attached. The sonde data is also presented graphically.

### 1.1 Rainfall Data

The weather data now being reported is generated by the on-site weather station.

Date	15-Apr-05	16-Apr-05	17-Apr-05	18-Apr-05	19-Apr-05	20-Apr-05	21-Apr-05
Rainfall (mm)	0.4	0.0	9.6	1.2	0.0	0.0	1.8

### 1.2 Summary

Environment	Comments
Surface Water	<p>On Thursday (21-04-05) the in-situ phosphate and TSS analysers at D12 were moved to their new permanent location at SP1, a point downstream of the settlement ponds. Monitoring locations D12, D16 and DS1 are now defunct.</p> <p>Elevated orthophosphate recorded at D22, the concentration has been decreasing ever since the TCF drain was redirected. D22 will continue to be monitored weekly to ensure this trend continues.</p> <p>The data downloaded from D22 has data gaps, the cause it thought to be the batteries powering the sonde running down. These have been replaced.</p>
Groundwater	Initial on-site results are detailed in the table, lab results to follow.
Noise	<p><math>L_{Aeq}</math> at N1 recorded between 52.7 and 57.2dB</p> <p><math>L_{Aeq}</math> at N2 recorded between 43.8 and 47.0dB</p> <p>The noise meter at N2 was returned to site on the 18-04-05</p>
Vibration	Max Pk Disp 0.53 mm with an associated acceleration 0.05 g*
Dust	Dust Gauges are due for collection on the 4 <sup>th</sup> May 2005
Weather	There was a total of 13 mm of rainfall during the reporting period, with an average temperature range of 0.9 to 15.7 °C

\* The data defined above uses different parameters than those outlined in the Environmental Monitoring Plan (velocity in mm/sec). The Environmental Monitoring Plan has been updated to reflect this change.

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## **2 Environmental Incidents/Near misses/Complaints**

There were two environmental incidents and one near miss.

The bund structure for the oil/fuel storage area was near completion and the fuel tank and it's associated generator were being relocated. There was an oil spill onto the associated area of hardstanding during this process. The spill did not enter any of the local drains, was immediately contained and cleared up using spill kit material.

A second pump had been located at the junction of D99 and D12. It was noted that there was oil leaking from the pump casing. The leak was contained within the immediate area of the spill and spill kit materials were used to remove the oil.

In both cases the contaminated spill kit material was collected up and disposed of into the oil contaminated material barrels.

A culvert collapsed as a vehicle passed over it. In clearing the damaged pipe and replacing it, a volume of suspended solids was released into the drain causing the total suspended solids and turbidity to rise.

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Determinant Results

	Date	Cond. µS	Temp °C	Turbidity NTU	DO % Sat	TSS* mg l <sup>-1</sup>	Nitrate mg l <sup>-1</sup>	Phosphate mg l <sup>-1</sup> PO <sub>4</sub>	pH	Ortho-phosphate* as P mg l <sup>-1</sup>	Ammonia mg l <sup>-1</sup>	*Comments
D12	08-Apr-05	264	7.6	16.1	92	15	0	< 10	6.20	0.109		
D16	08-Apr-05	210	6.3	3.6	86	< 4	0	< 10	5.83	0.036		
DS1	08-Apr-05	216	6.0	7.0	88	4	0	< 10	6.48	0.036		
D12	11-Apr-05	230	10.2	11.6	56	14	0	< 10	6.18	0.062		
D16	11-Apr-05	246	10.3	9.1	75	7	0	< 10	6.46	0.063		
D22	11-Apr-05	267	9.6	1.8	39	5	0	< 10	6.42	0.155		See comment in repor
D62	11-Apr-05	183	9.7	0.8	66	< 4	0	< 10	5.56	0.011		
DS1	11-Apr-05	233	10.3	1.6	83	< 4	0	< 10	6.70	< 0.01		
D12	12-Apr-05	235	7.1	31.2	69		0	< 10	5.80			
D16	12-Apr-05	235	8.9	13.9	50		0	< 10	6.01			
DS1	12-Apr-05	207	8.8	11.6	94		0	< 10	6.55			
D12	13-Apr-05	201	8.2	85.0	82		0	< 10	6.13			
D16	13-Apr-05	207	8.1	58.0	78		0	< 10	6.32			
D22	13-Apr-05	177	7.4	4.1	70		0	< 10	6.27			
DS1	13-Apr-05	240	8.7	21.1	90		0	< 10	6.42			
D12	14-Apr-05	214	6.7	120.0	79		0	< 10	6.14			
D16	14-Apr-05	216	5.9	52.0	81		0	< 10	6.14			
DS1	14-Apr-05	187	6.8	18.0	82		0	< 10	6.30			

The data above details the results from daily analyses (Except weekly grab sample 23-03-05) carried out by Complete Lab Solutions for the previous reporting period.

TSS and Orthophosphate analysis has reverted to the in-situ analysers and a single weekly grab sample

\* Carried out at CLS labs

Surface Water Monitoring Record Sheet										no...	2	of	2					
Conducted by					Approved by													
Name: Sandra Barber					Signed					Name Leslie Finnegan					Signed			
Determinant Results																		
	Date	Cond. µS	Temp °C	Turbidity NTU	DO % Sat	TSS* <sup>§</sup> mg l <sup>-1</sup>	Nitrate mg l <sup>-1</sup>	Phosphate mg l <sup>-1</sup> PO <sub>4</sub>	pH	Ortho-phosphate as P * <sup>§</sup> mg l <sup>-1</sup>	Ammonia mg l <sup>-1</sup>	*Comments						
D12	15-Apr-05	243	7.4	19.6	90		0	< 10	6.38									
D16	15-Apr-05	219	8.1	18.9	73		0	< 10	5.70									
DS1	15-Apr-05	199	7.9	13.1	94		0	< 10	6.45									
D12	16-Apr-05	259	8.3	14.9	80		0	< 10	5.33									
D16	16-Apr-05	238	7.2	19.8	68		0	< 10	5.70									
DS1	16-Apr-05	221	6.8	12.5	75		0	< 10	6.28									
D12	18-Apr-05	256	6.6	44.8	64		0	< 10	5.75									
D16	18-Apr-05	227	7.7	17.4	58		0	< 10	6.36									
D22	18-Apr-05	237	8.1	3.1	50		0	< 10	6.59									
DS1	18-Apr-05	201	7.8	5.9	86		0	< 10	6.81									
D12-Lab	18-Apr-05	226		10.2		13	< 0.1	0.287	6.80	0.094	0.261							
D16-Lab	18-Apr-05	202		11.7		7	< 0.1	0.189	6.50	0.062	0.081							
D22-Lab	18-Apr-05	208		1.5		< 4	< 0.1	0.427	6.60	0.139	0.085	See comment in repor						
DS1-Lab	18-Apr-05	178		4.3		< 4	< 0.1	0.099	6.90	0.032	0.01							
D12	19-Apr-05	255	5.3	10.4	4.3		0	< 10	5.33									
D16	19-Apr-05	241	5.9	8.5	3.9		0	< 10	5.88									
DS1	19-Apr-05	227	6.6	3.5	4.5		0	< 10	6.58									
D12	20-Apr-05	271	6.4	10.3	75		0	< 10	5.63									
D16	20-Apr-05	252	6.8	4.9	55		0	< 10	5.97									
DS1	20-Apr-05	240	6.1	5.3	98		0	< 10	6.62									

\* Carried out at CLS labs

§ Data not presented will be included in the next weekly report (Week ending Thursday 7th April 2005).

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Determinant Results												
Location	Date	Cond. uS/cm	Temp °C	BOD mg l <sup>-1</sup>	DO % Sat	TSS* mg l <sup>-1</sup>	Phosphate as P mg l <sup>-1</sup>	pH	Total Hardness mg/l caco3	Nitrite as NO <sub>2</sub> mg l <sup>-1</sup>	Nitrate as NO <sub>3</sub> mg l <sup>-1</sup>	Phosphate as PO <sub>4</sub> mg l <sup>-1</sup>
MP 1												
MP 2												
MP 3	18-Apr-05	483	11.1		0			5.78				
MP 4												
MP 5	18-Apr-05	489	12.2		0			6.15				
MP 6												
MP 7												
MP 8	18-Apr-05	484	12.5		0			6.16				
MP 9	18-Apr-05	265	12.4		0			5.79				
MP 10a												
MEL BR4a	18-Apr-05	430	12.6		0			6.83				

Location	Date	TDS mg l <sup>-1</sup>	Arsenic ug l <sup>-1</sup>	Mercury ug l <sup>-1</sup>	Lead ug l <sup>-1</sup>	Aluminium ug l <sup>-1</sup>	Zinc ug l <sup>-1</sup>	Chromium ug l <sup>-1</sup>	Copper ug l <sup>-1</sup>	Cadmium ug l <sup>-1</sup>	Iron ug l <sup>-1</sup>	Tin ug l <sup>-1</sup>
MP 1												
MP 2												
MP 3	18-Apr-05	271										
MP 4												
MP 5	18-Apr-05	331										
MP 6												
MP 7												
MP 8	18-Apr-05	318										
MP 9	18-Apr-05	181										
MP 10a												
MEL BR4a	18-Apr-05	295										

MP1, MP2, MP4, MP6 and MP7 have been installed with in-situ monitoring devices, these results are presented graphically  
 MP10a and MEL BR4a have been installed.  
 MP10a was not sampled this week as the bailer would not fit, there is a slight bend in the pipe. The bailer has been cut down to fit and the well will be sampled next week.

Noise Monitoring Record Sheet										no... 1	of ... 1
Conducted by					Approved by						
Name: Sandra Barber			Signed		Name: Leslie Finnegan			Signed			
Determinant Results											
Location	Start Date	Time	Duration	Serial No.	Wind		Results dB			*Comments	
					Speed (m/s)*	Direction (Degrees)	L <sub>Aeq</sub>	L <sub>AFmin</sub>	L <sub>AFmax</sub>		
N1	15/04/2005	08:53:54	12:00:00	2343754	4.7	190.4	57.2	46.2	90.20		
N1	16/04/2005	07:48:33	12:00:00	2343754	2.0	193.1	52.8	41.8	77.90		
N1	18/04/2005	06:47:14	12:00:00	2343754	2.9	121.4	52.7	43	75.00		
N1	19/04/2005	06:12:24	12:00:00	2343754	2.3	118.9	55.5	92.3	46.60		
N1	20/04/2005	06:14:51	12:00:00	2343754	2.7	245.5	55.3	46.6	76.50		
N1	21/04/2005	07:26:33	12:00:00	2343754	3.3	287.0	55.7	46.6	84.50		
N2	18/04/2005	06:38:56	12:00:00	2343753	2.9	121.4	47.0	< 30	86.4		
N2	19/04/2005	06:22:30	12:00:00	2343753	2.3	118.9	43.8	< 30	76.6		
N2	20/04/2005	06:39:06	12:00:00	2343753	2.7	245.5	46.1	< 30	68.7		
N2	21/04/2005	06:51:21	12:00:00	2343753	3.3	287.0	46.2	< 30	74.2		

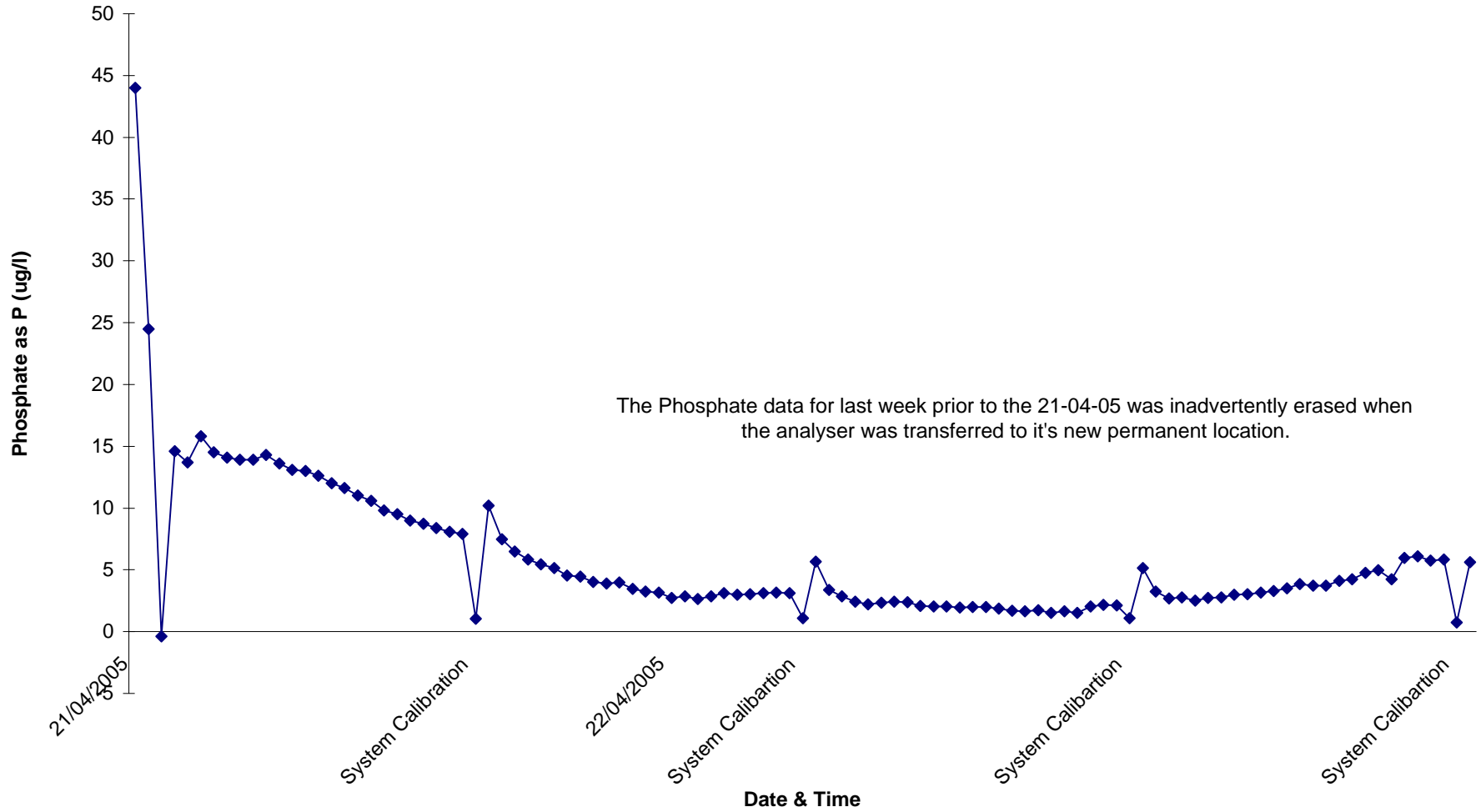
\* Wind speeds in excess of 5 m/s negatively impact noise readings (as per EPA Guidance Note on Noise Measurement).



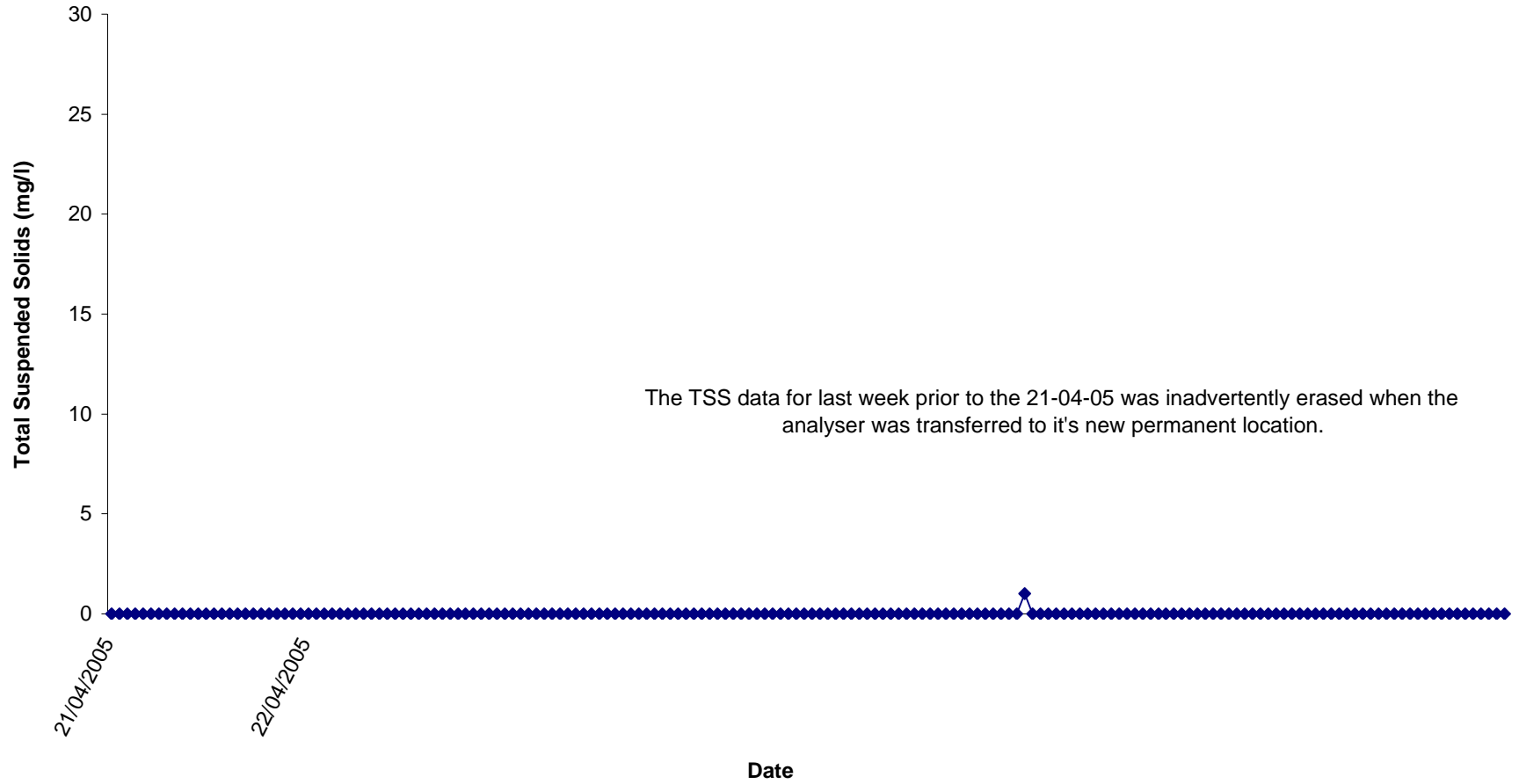
Vibration Monitoring Record Sheet				No...1	of...1
Conducted by			Approved by		
Name: Sandra Barber		Signed	Name: Leslie Finnegan		Signed
Determinant Results					
Location	Date Positioned	Date Removed	Event Time	Pk Disp (mm)	Accel (g)
V1	18/04/2005	19/04/2005	08:42:28	0.08	0.049
				0.04	0.02
				0.053	0.029
V2	19/04/2005	20/04/2005	07:23:58	0.11	0.034
				0.08	0.017
				0.066	0.019
V2	19/04/2005	20/04/2005	07:40:56	0.25	0.091
				0.42	0.11
				0.15	0.076
V1	20/04/2005	21/04/2005	07:14:16	0.13	0.4
				0.23	0.089
				0.093	0.15
V1	20/04/2005	21/04/2005	07:43:15	0.53	0.05
				0.27	0.016
				0.15	0.025
V2	21/04/2005	22/04/2005	07:31:57	0.053	0.019
				0.08	0.029
				0.066	0.046
V2	21/04/2005	22/04/2005	07:52:24	0.28	0.13
				0.23	0.43
				0.12	0.011
V2	21/04/2005	22/04/2005	08:28:03	0.093	0.4
				0.04	0.072
				0.093	0.57
V2	21/04/2005	22/04/2005	15:58:23	0.027	0.23
				0.027	0.31
				0.027	0.26
V2	21/04/2005	22/04/2005	15:59:04	0.013	0.052
				0.027	0.29
				0.027	0.19

Vibration meter was moved between V1 and V2 daily

**Surface Water (SP1)  
Phosphate, Week 16 2005**

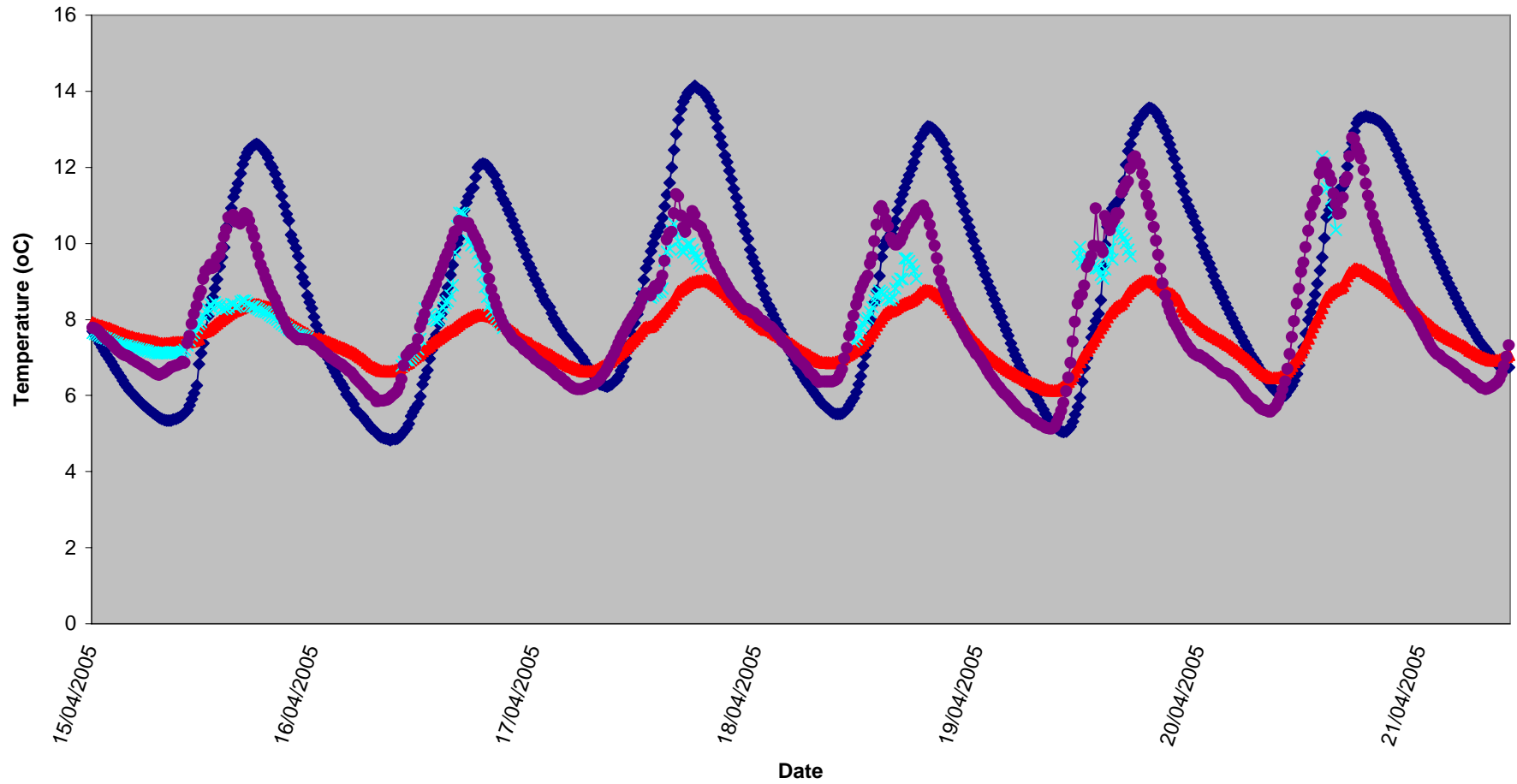


**Surface Water (SP1)  
Total Suspended Solids, Week 16 2005**

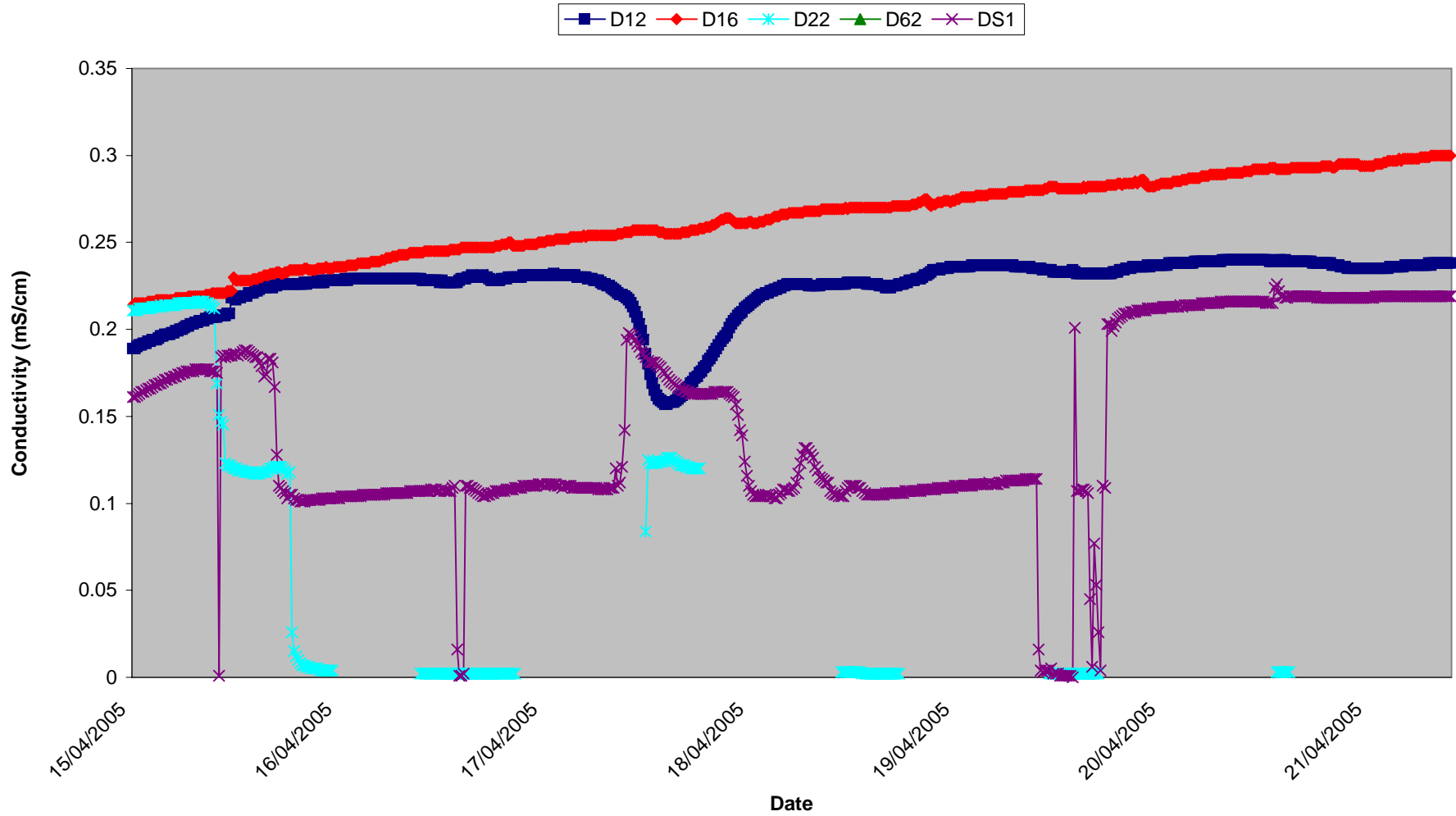


Surface Waters  
Temperature, Week 16 2005

◆ D12 ▲ D16 × D22 \* D62 ● DS1

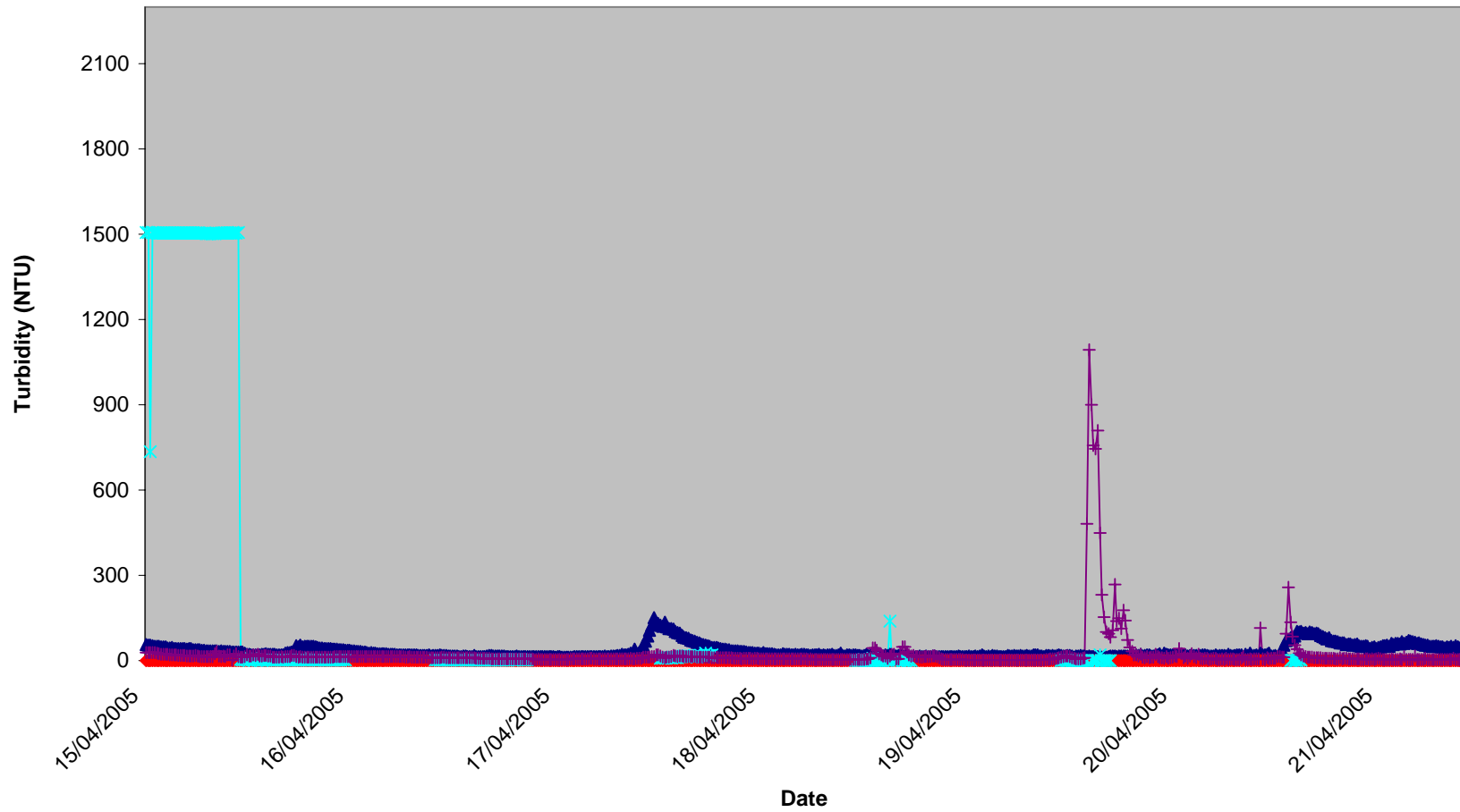


### Surface Waters Conductivity, Week 15 2005



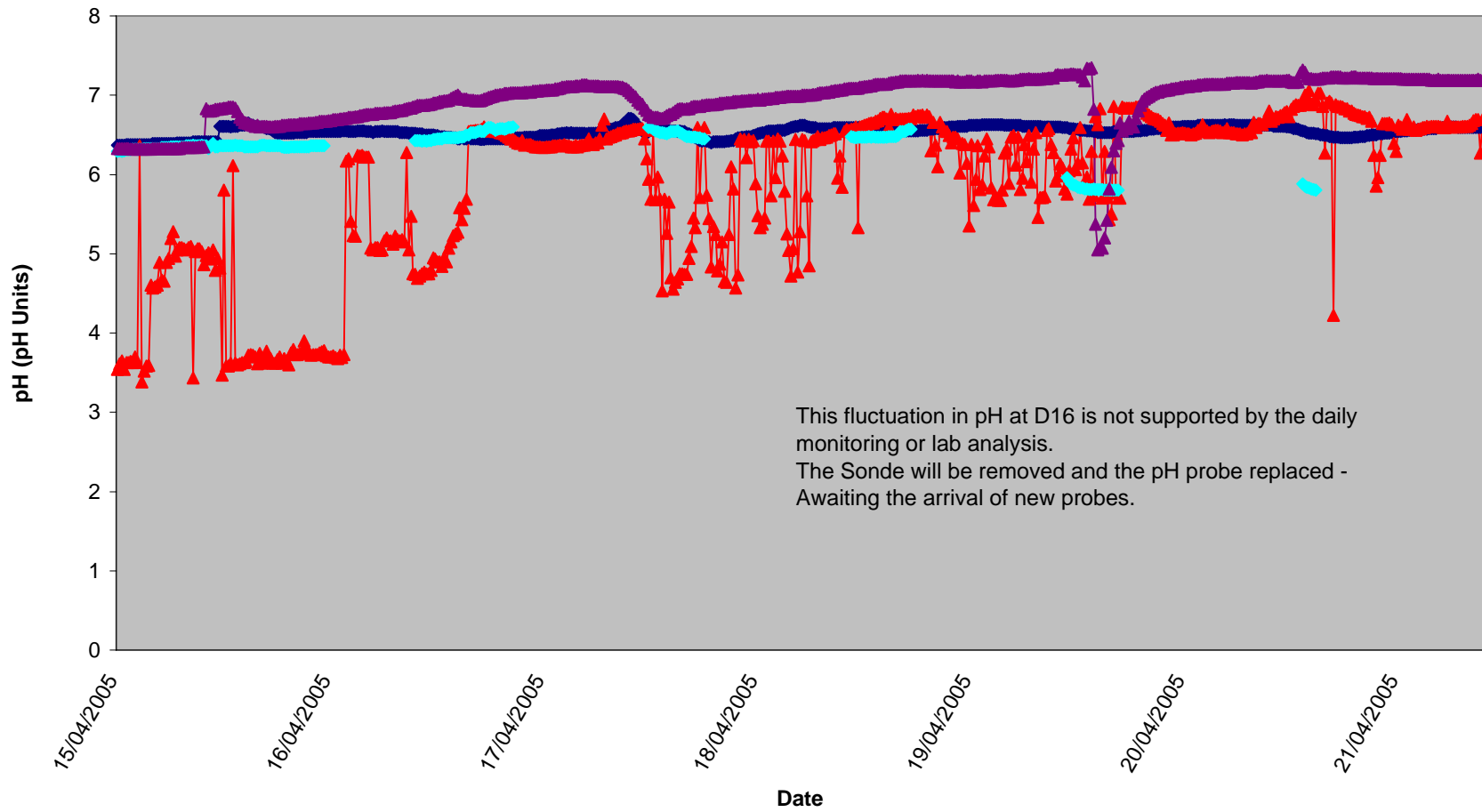
### Surface Waters Turbidity, Week 15 2005

—▲— D12 —◆— D16 —✱— D22 —●— D62 —+— DS1



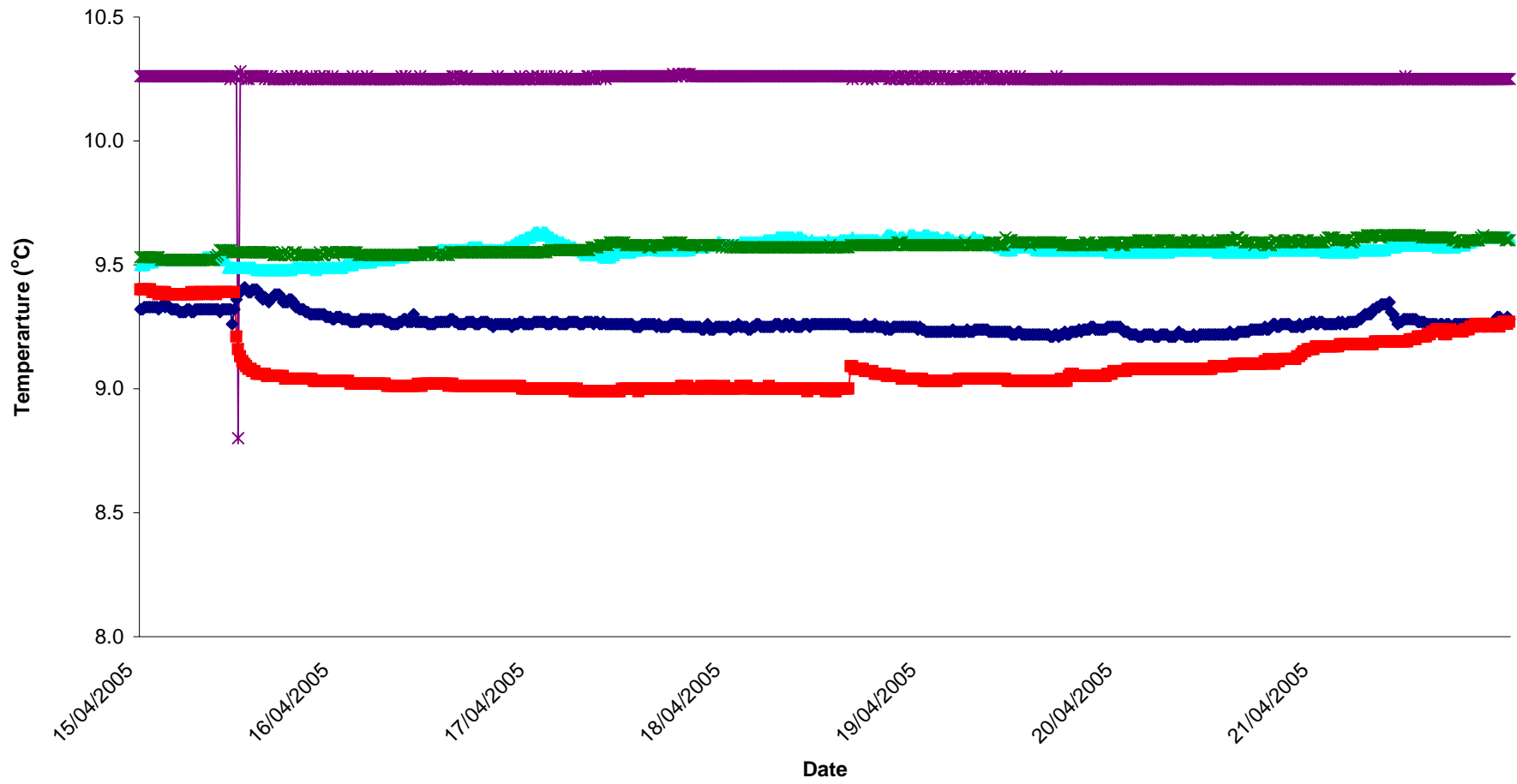
### Surface Waters pH, Week 15 2005

—◆— D12 —▲— D16 —◆— D22 —■— D62 —▲— DS1



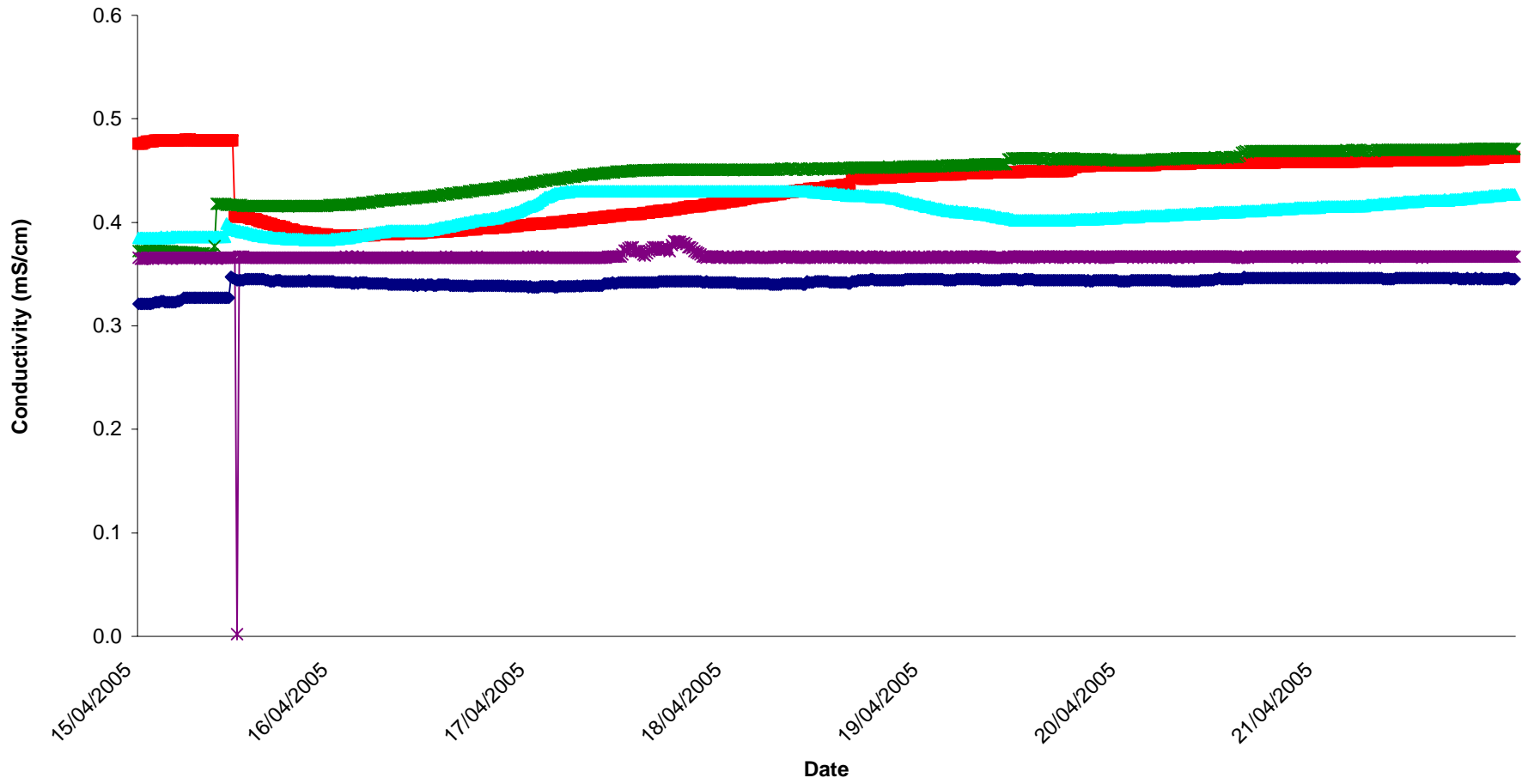
### Groundwaters Temp, Week 16 2005

◆ MP1   ■ MP2   ▲ MP4   × MP6   \* MP7



### Groundwaters Conductivity, Week 16 2005

MP1 MP2 MP4 MP6 MP7



### Groundwaters pH, Week 16 2005

MP1 MP2 MP4 MP6 MP7

