

## 1 Monitoring Data

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

### 1.1 Rainfall Data

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

Date	10-June-05	11-June-05	12-June-05	13-June-05	14-June-05	15-June-05	16-June-05
Rainfall (mm)	0	0	0.2	0	0.4	0	20.8

### 1.2 Summary

Environment	Comments
Surface Water	<p>On average all parameters were within the limits set. There were a few single event exceedances but these did not warrant any actions being taken. MCC were verbally notified.</p> <p>D62 was removed for downloading on the morning of the 13-06-05 and was returned without reactivation. This has now been corrected.</p> <p>The solar panels charging the orthophosphate battery provided insufficient power to charge and the battery failed during the evening of the 16-06-05. The battery has been replaced and the system is fully functional.</p>
Groundwater	The sonde data downloaded is shown graphically.
Noise	<p><math>L_{Aeq}</math> at N1 recorded between approx. 53dB</p> <p><math>L_{Aeq}</math> at N2 recorded between 40 and 53dB</p> <p>The results for both locations were below the 65 dB limit.</p>
Vibration	Max Pk Disp 0.04 mm with an associated acceleration 0.13 g was recorded. Almost all events recorded appear to be associated with the movement of the meter.
Dust	Dust pots for June 2005 are currently in place. Results will be reported in early July.
Weather	There was a total of 21.4 mm of rainfall during the reporting period, 20.8mm in a single day, with a temperature range of 7.6 to 16.7 °C

## 2 Environmental Incidents/Near misses/Complaints

There were no Environmental Incidents, Near misses or Complaints made to Mayo County Council during the reporting period.

One notification was made to MCC regarding a sudden spike in both TSS and phosphate (as P), which occurred on Thursday 16<sup>th</sup> June. The level suddenly rose to 64mg/l before again suddenly coming back down below the action level. This period lasted no longer than 15 minutes. This rise can be attributed to a piece of debris passing the meter at the time it was logging. There were no other exceedances of the action levels.

High turbidity readings were recorded in D22 on Thursday 16<sup>th</sup> June (see attached graph for Surface Water Turbidity and data presented below). This is attributed to a series of four random malfunctions of the turbidity probe which are being investigated.

Date / Time	Turbidity
16/06/2005 01:30	7.8
16/06/2005 01:45	8.1
16/06/2005 02:00	8.1
16/06/2005 02:15	1259.1
16/06/2005 02:30	8.4
16/06/2005 02:45	8.3
16/06/2005 03:00	1259.1
16/06/2005 03:15	8.3
16/06/2005 03:30	8.3
16/06/2005 03:45	8.1
16/06/2005 04:00	8.3
16/06/2005 04:15	7.9
16/06/2005 04:30	8.3
16/06/2005 04:45	8.3
16/06/2005 05:00	1259
16/06/2005 05:15	8
16/06/2005 05:30	8.4
16/06/2005 05:45	8.3
16/06/2005 06:00	7.5
16/06/2005 06:15	7.6
16/06/2005 06:30	7.3
16/06/2005 06:45	1259.3
16/06/2005 07:00	7
16/06/2005 07:15	6.6
16/06/2005 07:30	6

Surface Water Monitoring Record Sheet

Conducted by								Approved by						
Name: Sandra Barber				Signed				Name Leslie Finnegan				Signed		
Determinant Results														
	Date	Cond. µS/cm	Temp °C	Turbidity NTU	DO % Sat	TSS mg l <sup>-1</sup>	pH	Ortho-phosphate as P µg l <sup>-1</sup>	Nitrate as N mg l <sup>-1</sup>	Total Phosphorus as P (sw) mg l <sup>-1</sup>	Ammonia as NH <sub>3</sub> -N mg l <sup>-1</sup>	Ammonium as NH <sub>4</sub> mg l <sup>-1</sup>	Nitrite as N mg l <sup>-1</sup>	Comments
<b>Action Limits</b>		<b>400</b>		<b>150</b>		<b>25</b>	<b>&lt;3.5 or &gt;7.5</b>	<b>40</b>				<b>0.2</b>		
<b>Target Limits</b>		<b>500</b>		<b>200</b>		<b>35</b>	<b>&lt;3 or &gt;8</b>	<b>70</b>				<b>0.5</b>		
<b>Settlement Pond Monitoring</b>														
SP1	10-Jun-05	207	5.5	4.9	12		5.5							
SP3	10-Jun-05	299	6.5	7.7	81		6.5							
SP1 - Lab	10-Jun-05	191		3.9		<4	6	65	<0.1	0.113	0.11	0.14	<0.44	
SP3 - Lab	10-Jun-05	255		7.8		13	6.7	103	<0.1	0.183	0.05	0.06	<0.44	
SP1	11-Jun-05	284	6.4	9.5	16		6.4							
SP3	11-Jun-05	299	6.7	11.5	71		6.7							
SP1	13-Jun-05	233	5.9	5.9	24		5.86							
SP3	13-Jun-05	321	6.8	8.5	73		6.76							
SP1 - Lab	13-Jun-05	203		4.6		<4	6.2	18	<0.1	0.065	0.08	0.10	<0.44	
SP3 - Lab	13-Jun-05	297		6.2		6	7.1	63	<0.1	0.148	<0.005	<0.01	<0.44	
SP1	14-Jun-05	225	12.9	5.1	19		6.27							
SP3	14-Jun-05	312	13.5	6.5	65		7.08							
SP1	15-Jun-05	225	13.7	3.2	14		5.95							
SP3	15-Jun-05													
SP1	16-Jun-05	275	13.5	10.2	53		6.51							
SP3	16-Jun-05	343	14.8	14.9	67		6.85							
<b>Additional Surface Water Monitoring</b>														
D22 - Lab	13-Jun-05	200		5.9		<4	6.7	0.133	0.159	0.186	0.05	0.06	0.72	
D62 - Lab	13-Jun-05	151		0.7		<4	5.6	0.041	<0.1	0.079	0.02	0.03	<0.44	
D22	Sonde Data Presented Graphically													
D62	Sonde Data Presented Graphically													

Note: LAB - Carried out by CLS Laboratories  
 Grey shaded areas denote parameters that cannot be analysed on-site.  
 Results detailed above are from on site grab samples only, Data recorded continuously is shown on the following graphs  
 Graphs provided for SP1, SP2, D22 and D62 for: Temperature, Turbidity, pH, Conductivity, Orthophosphate, Total Suspended Solids and Total Ammonia  
 pH Target and Action Limits to be approved by Statutory Authorities

Conducted by Approved by  
 Name: Sandra Barber Name Leslie Finnegan  
 Signed Signed

Determinant Results													
Location	Date	Cond. uS/cm	Temp °C	BOD mg l <sup>-1</sup>	DO % Sat	TDS* mg l <sup>-1</sup>	Phosphate as P mg l <sup>-1</sup>	pH	Total Hardness mg/l CaCO <sub>3</sub>	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>	Ammonia mg l <sup>-1</sup>
MP 1													
MP 2													
MP 3													
MP 4													
MP 5													
MP 6													
MP 7													
MP 8													
MP 9													
MP 10a													
MEL BR4a													

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												
MP 4												
MP 5												
MP 6												
MP 7												
MP 8												
MP 9												
MP 10a												
MEL BR4a												

Note: Results detailed above are from on site grab samples only. Data recorded continuously is shown on the following graphs  
 Graphs provided for MP1, MP2, MP4, MP6 and MP7 for: Temperature, Conductivity, and pH.

Conducted by \_\_\_\_\_ Approved by \_\_\_\_\_

Name: Sandra Barber Signed \_\_\_\_\_ Name: Leslie Finnegan Signed \_\_\_\_\_

Determinant Results

Location	Air Temp.	Start Date	Time	Duration	Serial No.	Wind		Results dB			*Comments
						Speed (m/s)*	Direction (Degrees)	L <sub>Aeq</sub>	L <sub>Amin</sub>	L <sub>Amax</sub>	
<b>Action Limit</b>								<b>60</b>			
<b>Target Limit</b>								<b>65</b>			
N1	11.9	10/06/2005	08:53:19	12:00:00	2343753	2.8	207.5	53	47	80	
N1	11.3	11/06/2005	07:52:18	12:00:00	2343753	3.2	200.8	52	39	72	
N1	10.9	13/06/2005	09:16:43	12:00:00	2343753	4.3	146.1	53	46	77	
N1	11.2	14/06/2005	08:00:11	12:00:00	2343753	4.4	73.3	53	46	73	
N1	12.3	15/06/2005	08:20:16	12:00:00	2343753	2.5	71.6	52	40	74	
N1	13.3	16/06/2005	08:22:37	12:00:00	2343753	2.7	155.6	53	53	79	
N2	11.9	10/06/2005	07:57:37	12:00:00	2343754	2.8	207.5	41	< 30	68	
N2	11.3	11/06/2005	09:19:52	12:00:00	2343754	3.2	200.8	53	< 30	103	
N2	10.9	13/06/2005	08:56:58	12:00:00	2343754	4.3	146.1	40	< 30	63	
N2	11.2	14/06/2005	08:08:19	12:00:00	2343754	4.4	73.3	44	< 30	72	
N2	12.3	15/06/2005	08:09:14	12:00:00	2343754	2.5	71.6	39	< 30	61	
N2	13.3	16/06/2005	08:12:32	12:00:00	2343754	2.7	155.6	41	< 30	90	

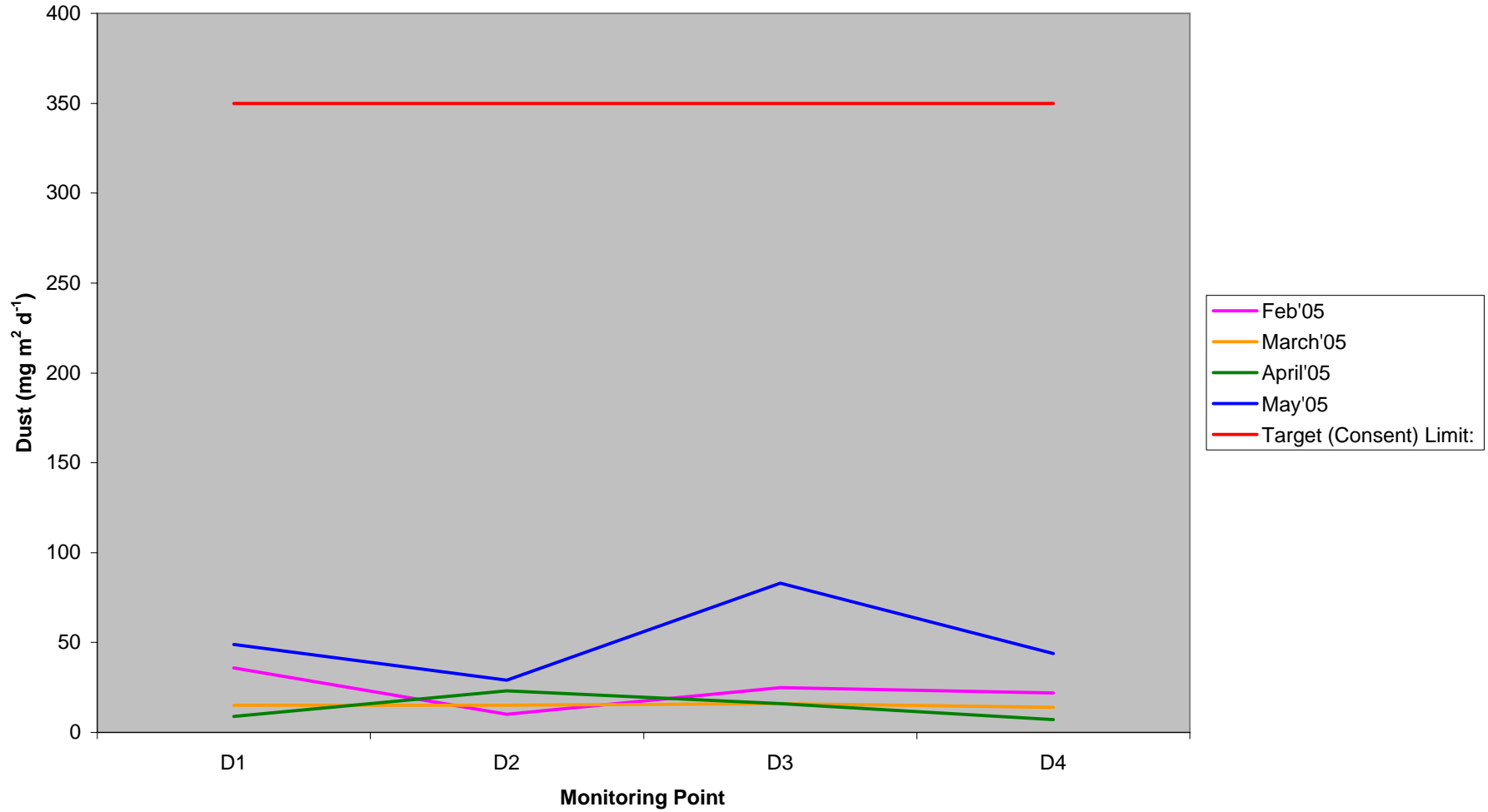
\* Wind speeds in excess of 5 m/s negatively impact noise readings (as per EPA Guidance Note on Noise Measurement).

Dust Monitoring Record Sheet				no... 1 of 1			
Conducted by			Approved by				
Name: Sandra Barber		Signed		Name: Leslie Finnegan		Signed	
Determinant Results							
	Date Positioned	Date Removed	Ref. Number	Date Dispatched	Date Returned	Weight (mg/sq.m/day)	Comments
<b>Target (Consent) Limit:</b>		<b>350 mg m<sup>2</sup> d<sup>-1</sup> on as a 30 day average</b>					
D1	31/01/2005	02/03/2005	59793	02/03/2005	24/03/2005	36	
D2	31/01/2005	02/03/2005	59794	02/03/2005	24/03/2005	10	
D3	31/01/2005	02/03/2005	59795	02/03/2005	24/03/2005	25	
D4	31/01/2005	02/03/2005	59796	02/03/2005	24/03/2005	22	
D1	02/03/2005	01/04/2005	61907	01/04/2005	08/04/2005	15	
D2	02/03/2005	01/04/2005	61908	01/04/2005	08/04/2005	15	
D3	02/03/2005	01/04/2005	61909	01/04/2005	08/04/2005	16	
D4	02/03/2005	01/04/2005	61910	01/04/2005	08/04/2005	14	
D1	01/04/2005	04/05/2005	64400	04/05/2005	09/05/2005	9	
D2	01/04/2005	04/05/2005	64401	04/05/2005	09/05/2005	23	
D3	01/04/2005	04/05/2005	64402	04/05/2005	09/05/2005	16	
D4	01/04/2005	04/05/2005	64403	04/05/2005	09/05/2005	7	
D1	04/05/2005	07/06/2005	67524	07/06/2005	10/06/2006	49	
D2	04/05/2005	07/06/2005	67525	07/06/2005	10/06/2006	29	
D3	04/05/2005	07/06/2005	67526	07/06/2005	10/06/2006	83	
D4	04/05/2005	07/06/2005	67527	07/06/2005	10/06/2006	44	

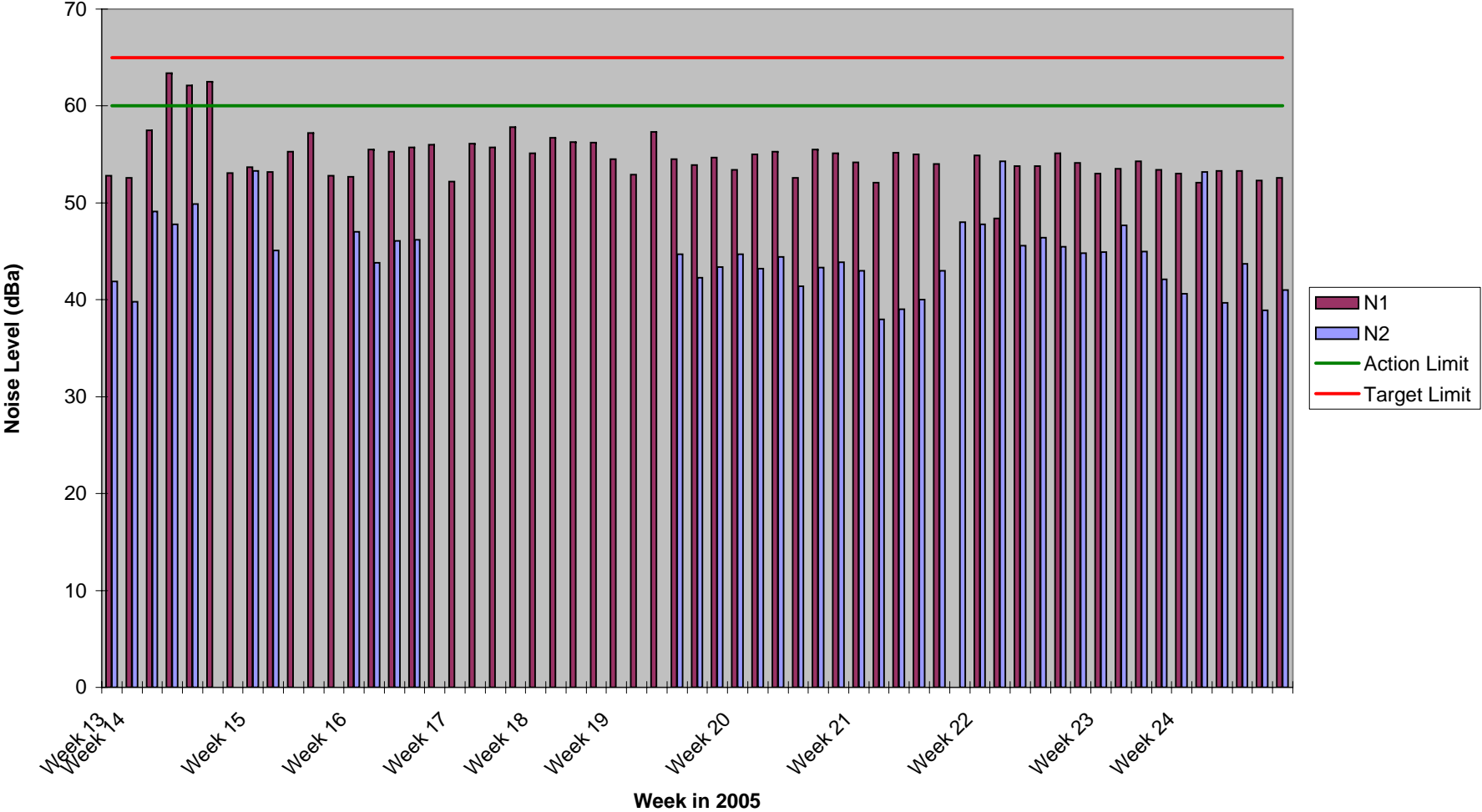
Monitoring Points are numbered clockwise through the Cardinal Marks (N, E, S, W)  
Monitoring Results will be presented monthly



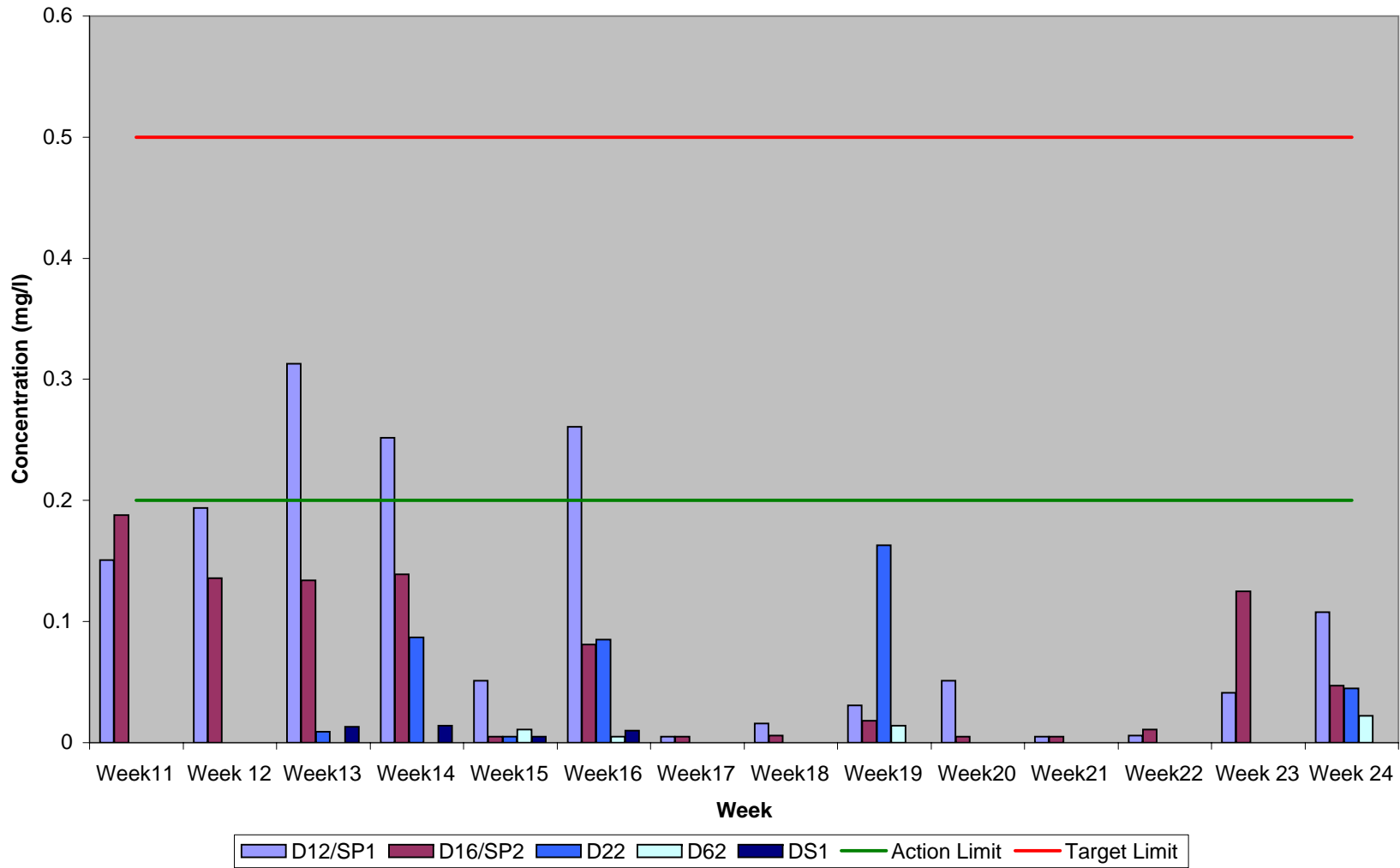
### Dust Compiled Results 2005



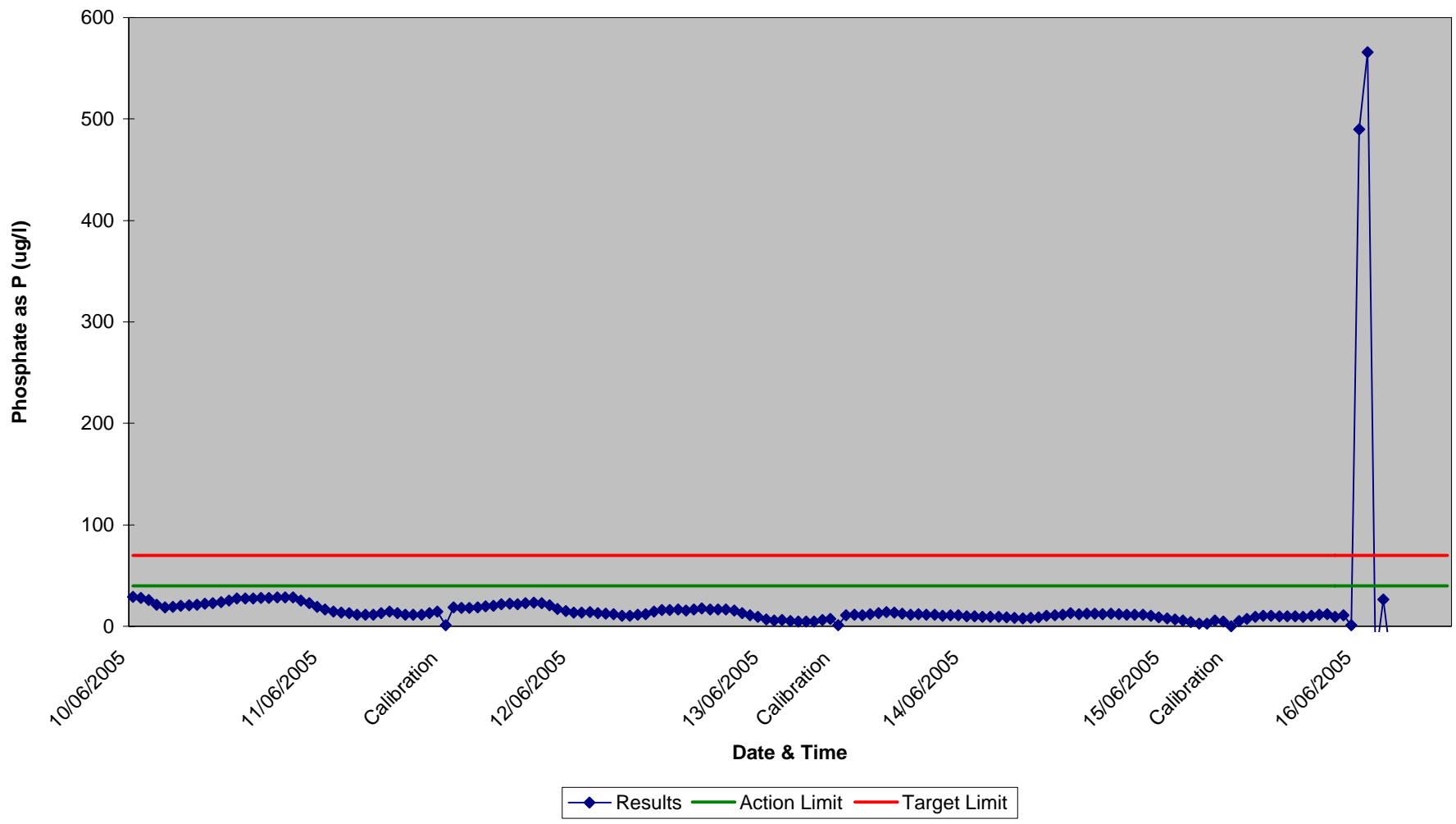
# Noise Monitoring Compiled Results 2005



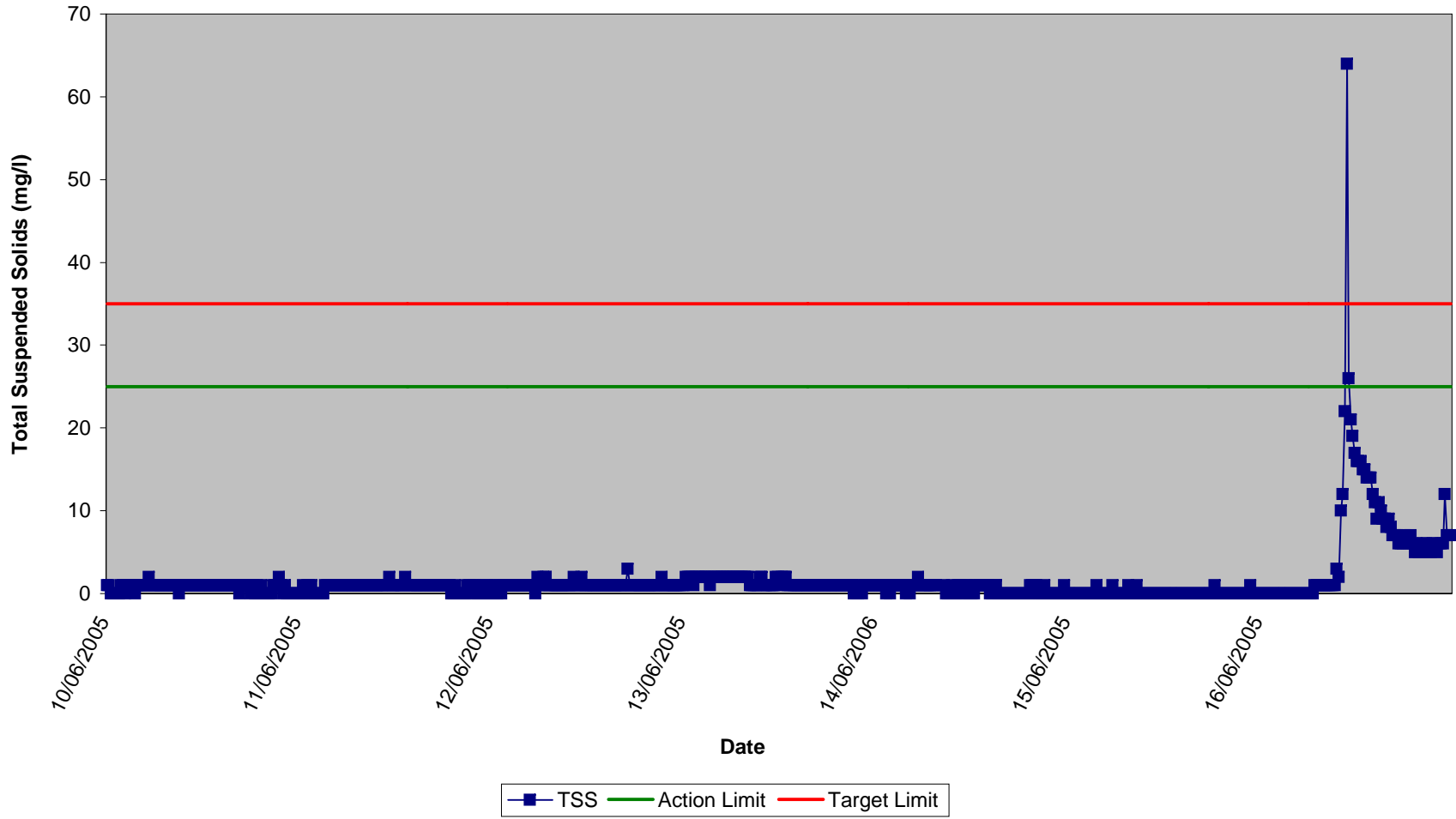
**Ammonia as NH<sub>3</sub>-N,  
Compiled Results 2005**



Surface Water (SP1)  
Orthophosphate, Week 24 2005

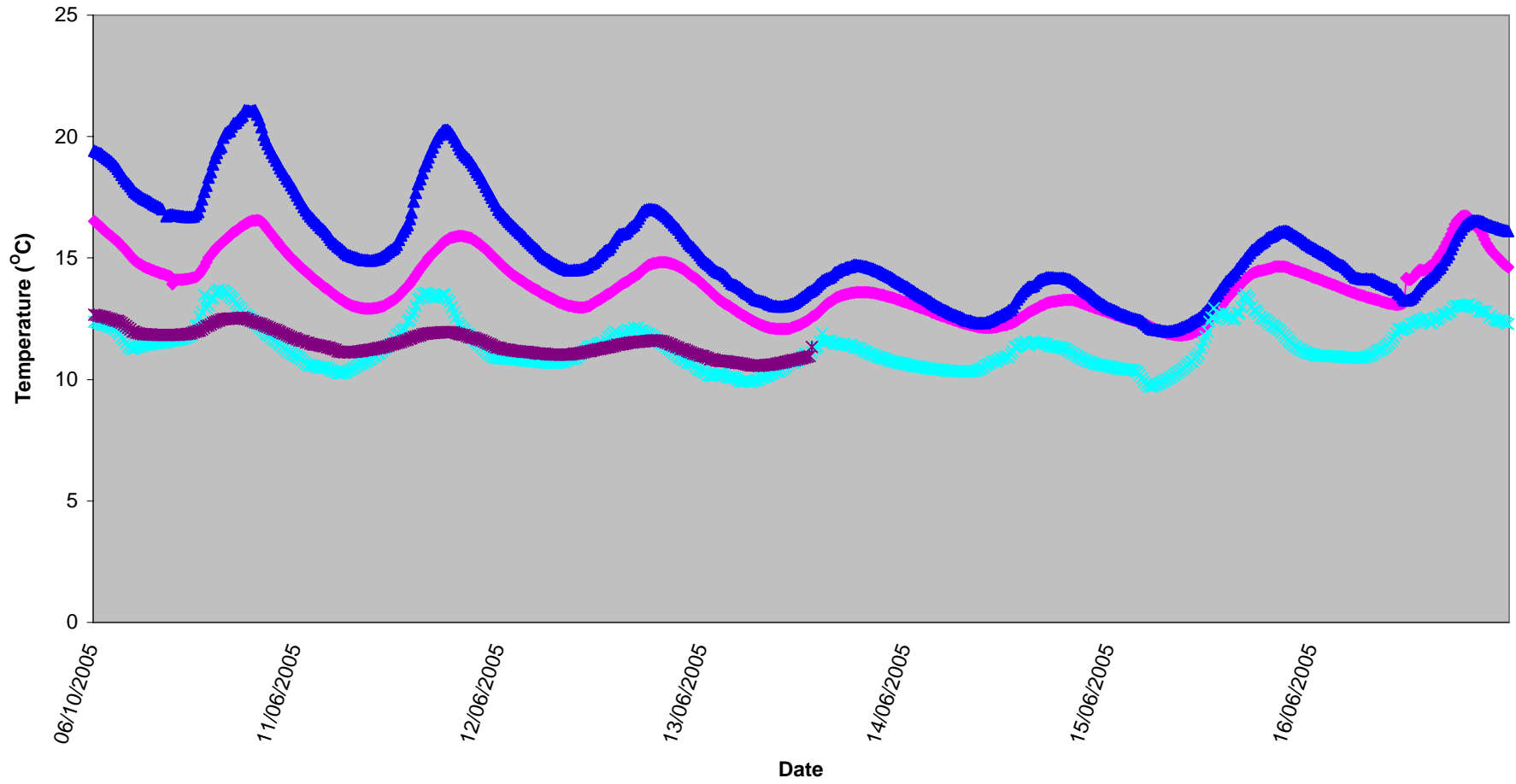


Surface Water (SP1)  
Total Suspended Solids, Week 24 2005

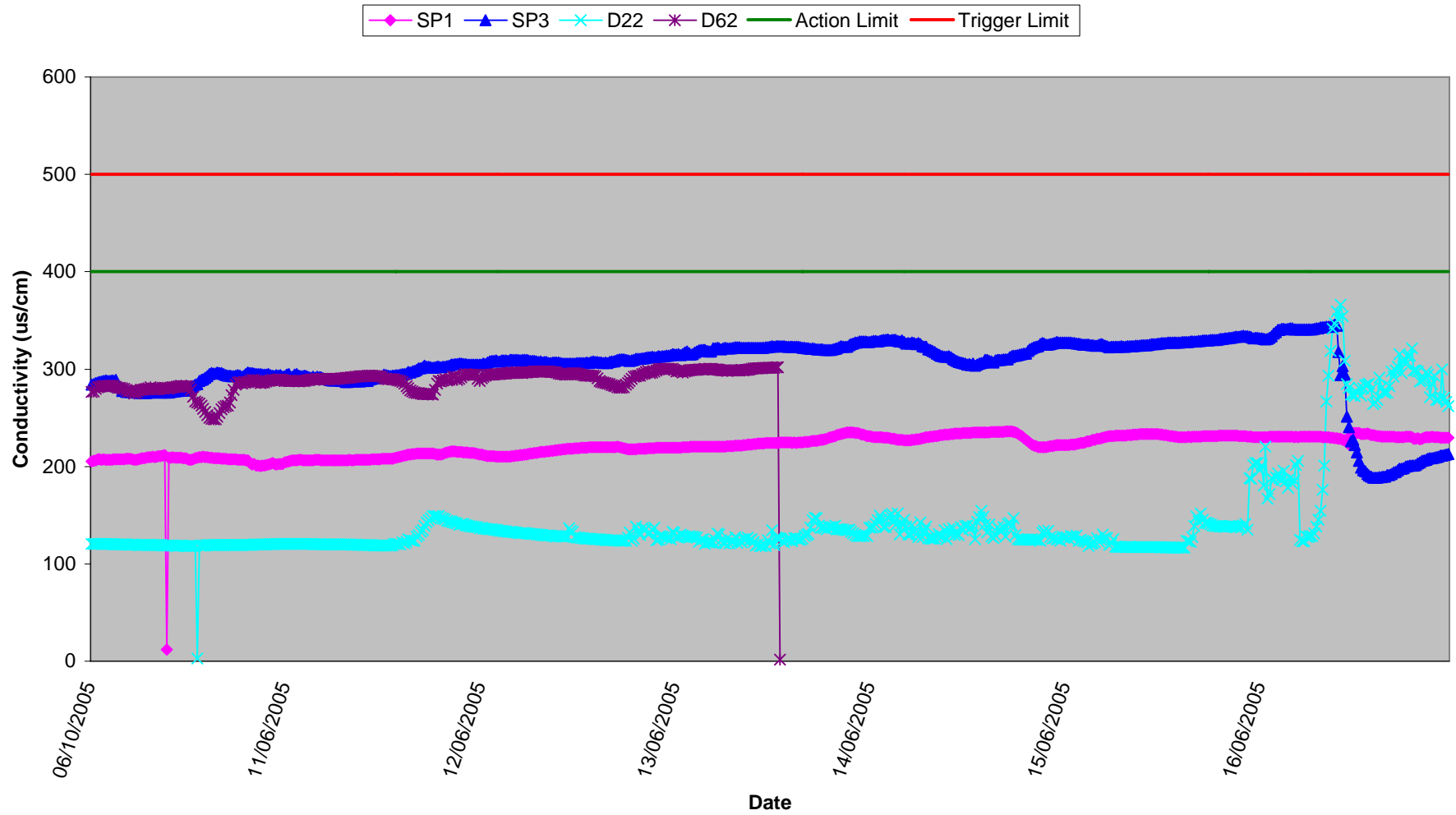


Surface Waters  
Temperature, Week 24 2005

SP1 SP3 D22 D62

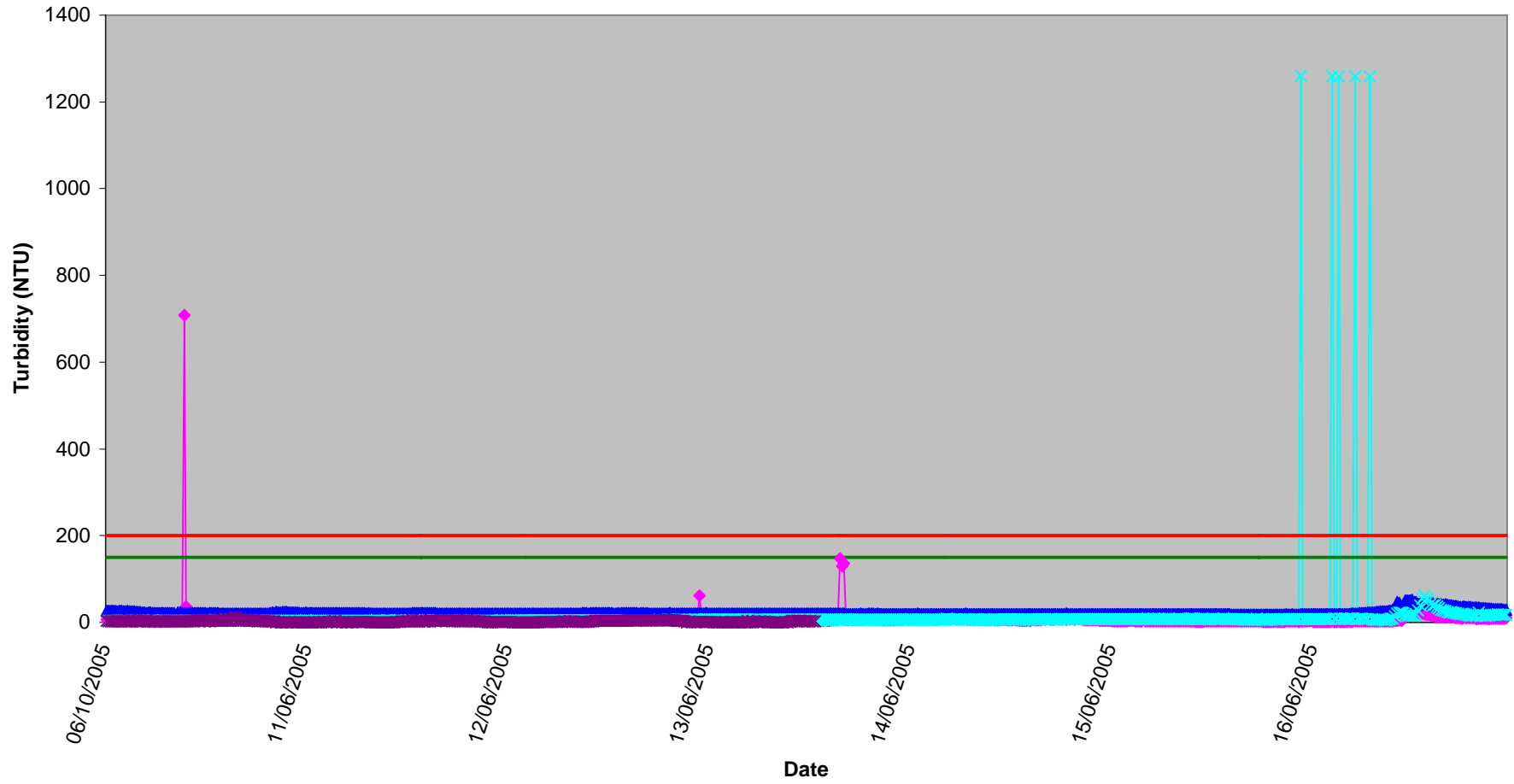


### Surface Waters Conductivity, Week 24 2005



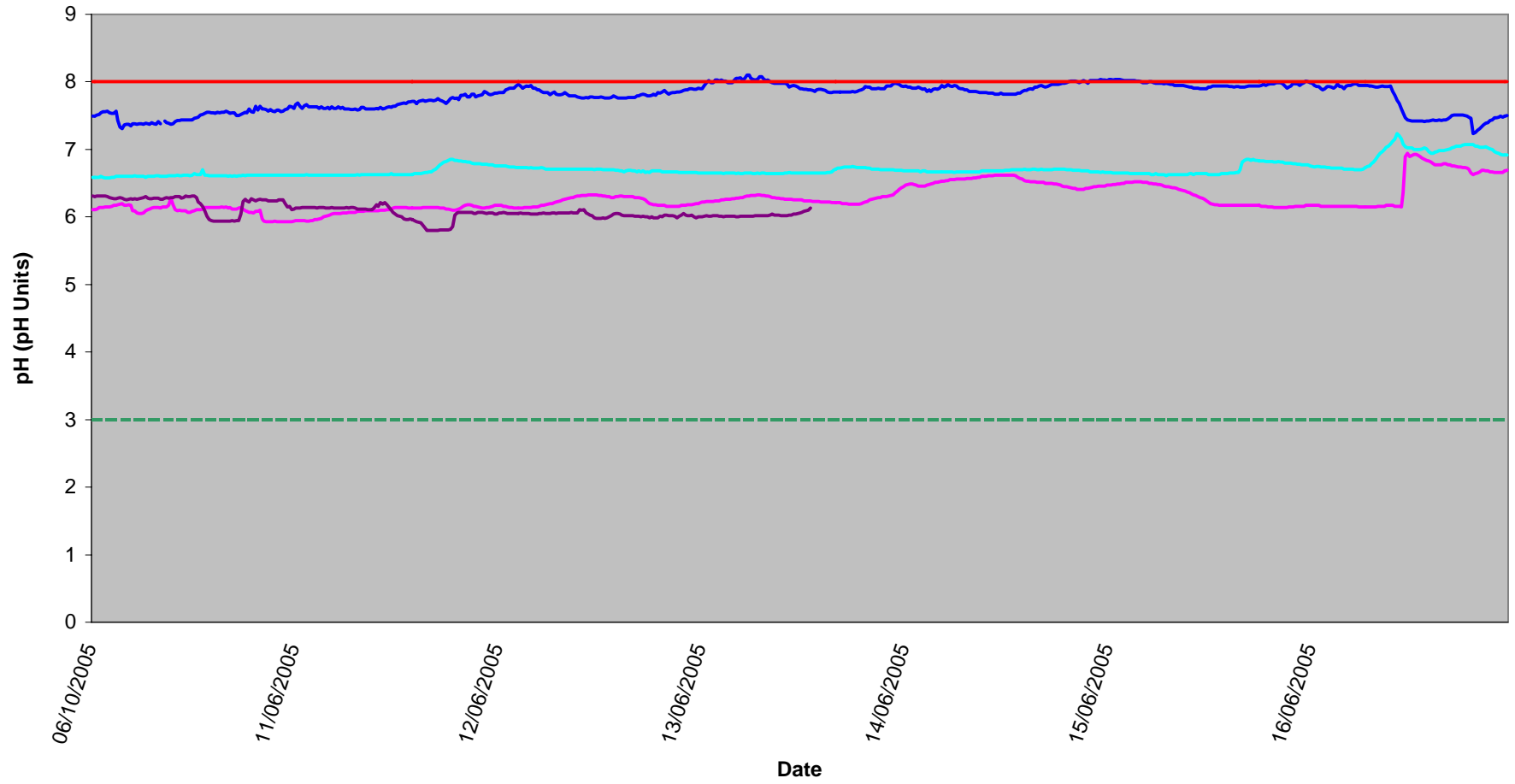
### Surface Waters Turbidity, Week 24 2005

SP1 SP3 D22 D62 Action Limit Trigger Limit



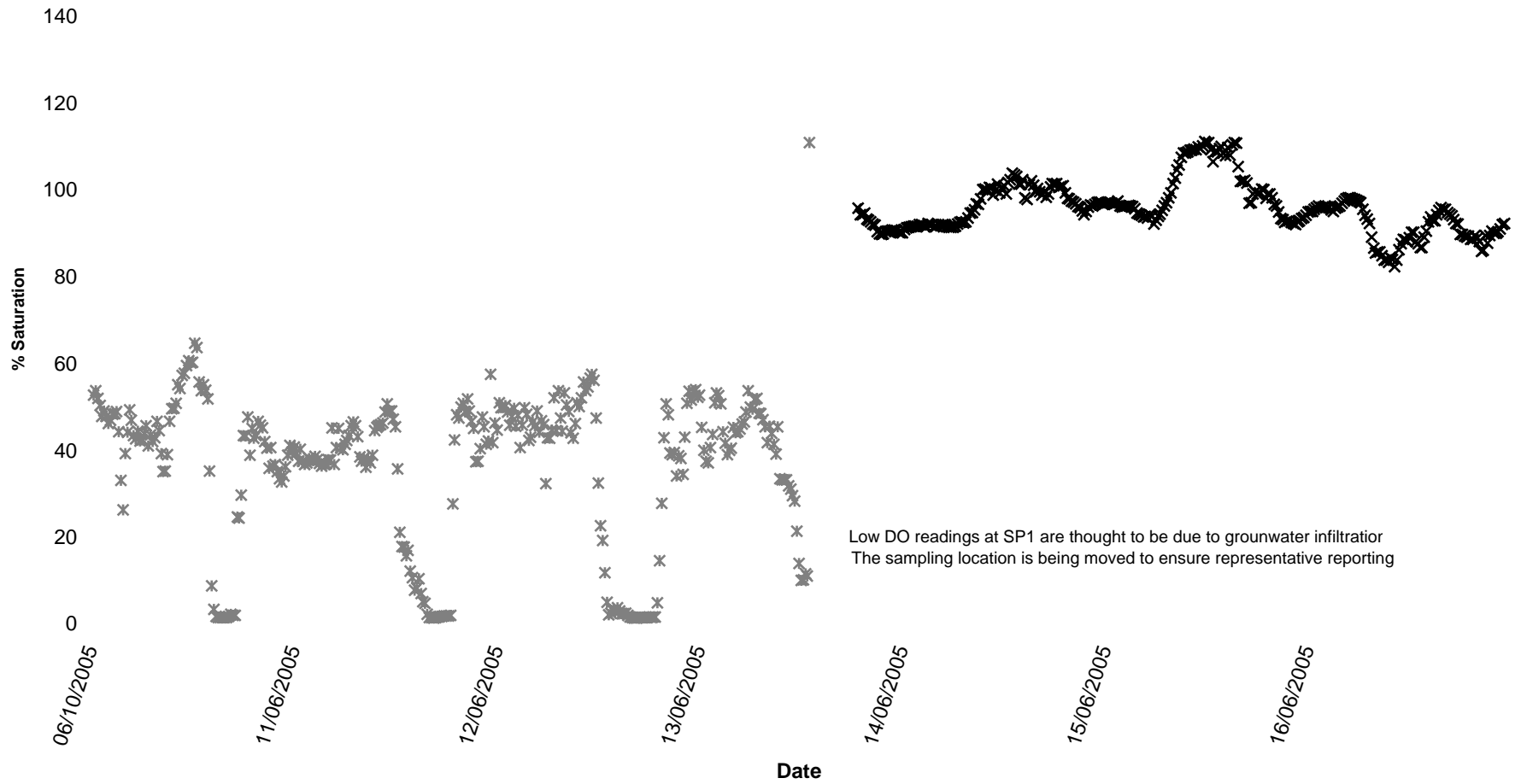
### Surface Waters pH, Week 24 2005

SP1 SP3 D22 D62 Lower Limit Upper Limit



### Surface Waters Dissolved Oxygen, Week 24 2005

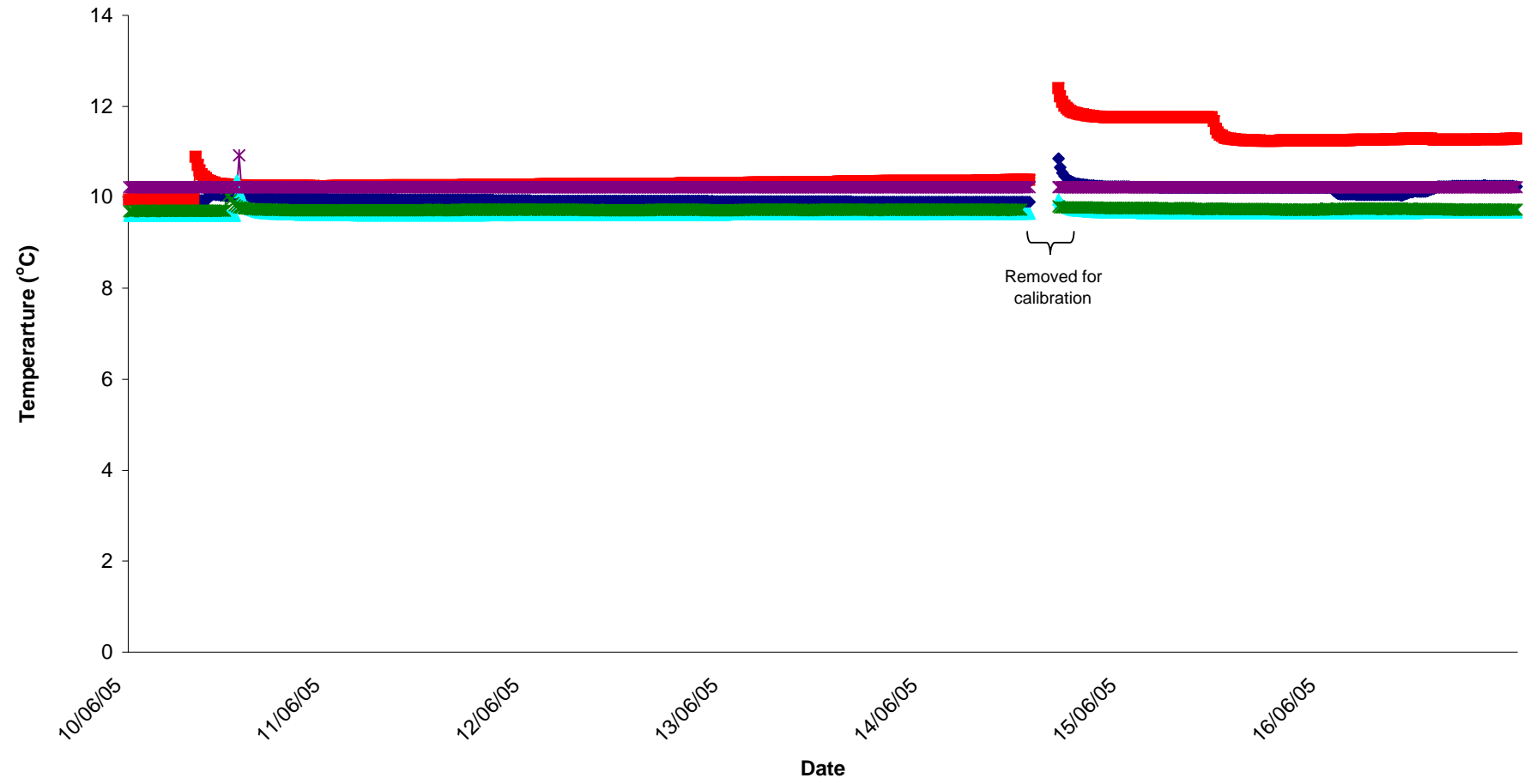
SP1 ▲ SP3 × D22 \* D62



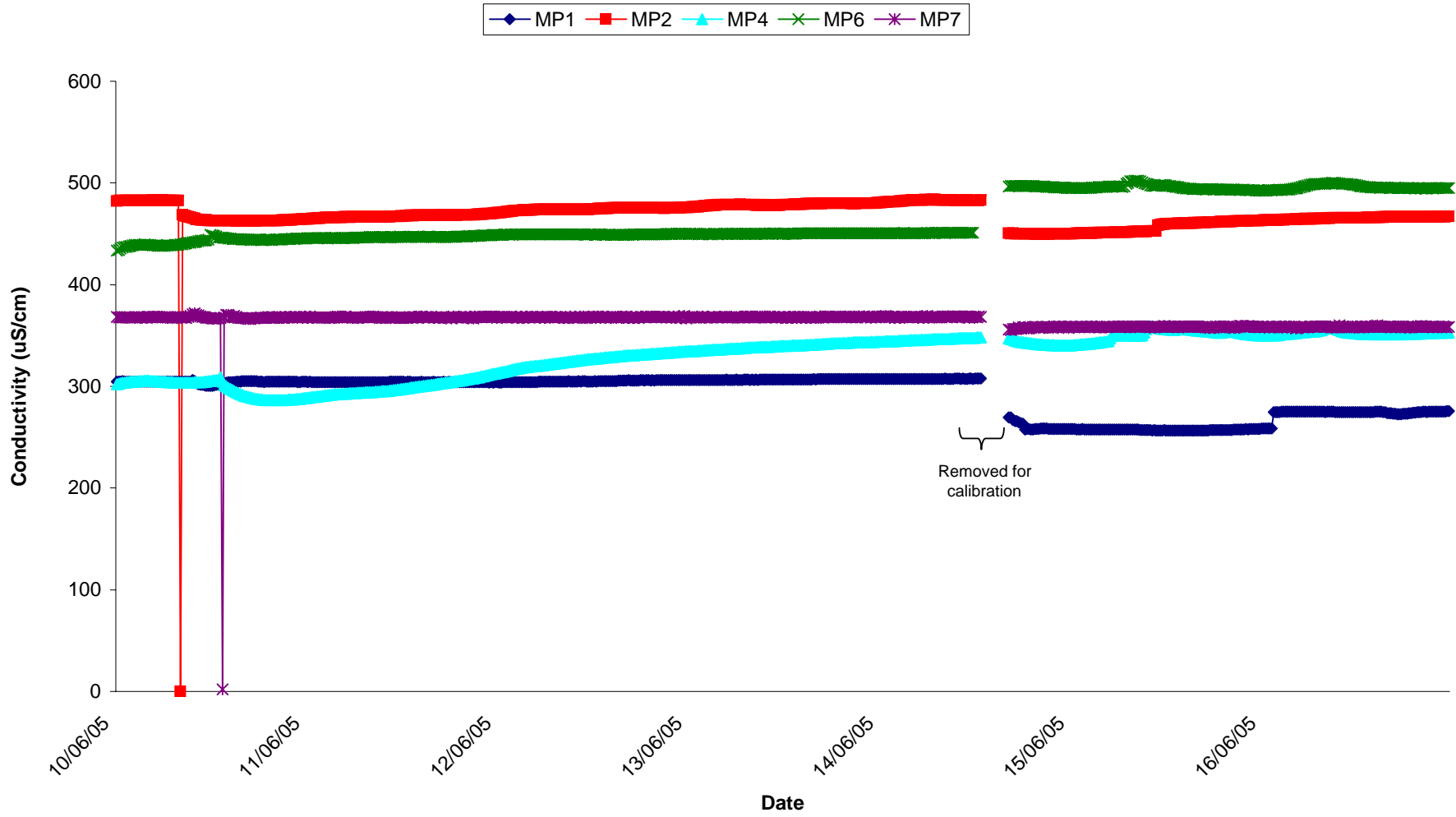
Low DO readings at SP1 are thought to be due to groundwater infiltration  
The sampling location is being moved to ensure representative reporting

### Groundwaters Temp, Week 24 2005

MP1 MP2 MP4 MP6 MP7



### Groundwaters Conductivity, Week 24 2005



### Groundwaters pH, Week 24 2005

