

1 Monitoring Data.

1.1 Monitoring Equipment

Axonics	<ul style="list-style-type: none"> - System ran without problems for the majority of the reporting period - New Axonics installed and commissioning substantially completed
PO ₄	<ul style="list-style-type: none"> - The PO₄ analyser was working during the reporting period. - There appears to be a problem with the telemetry data cannot be accessed. The technician is coming to site in the New Year to check the problem. - The composite sampler ran for most of the reporting period.
TSS	<ul style="list-style-type: none"> - The TSS analyser running as required.
Noise	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - Vibration monitoring will recommence when the vibrograph is returned to site – ours or a replacement
Sondes	<ul style="list-style-type: none"> - The results are displayed graphically below - Any exceedance events are explained on the relevant graph

1.2 Rainfall Data

08/12/2006	9.6	15/12/2006	1.2
09/12/2006	3.2	16/12/2006	1.8
10/12/2006	35.0	17/12/2006	6.2
11/12/2006	10.2	18/12/2006	2.6
12/12/2006	9.0	19/12/2006	0.6
13/12/2006	28.4	20/12/2006	0.2
14/12/2006	12.8		
Total Rainfall		120.8	mm

1.3 Summary

Environment	Comments
Surface Water	<p>From the data available there were 2 No. exceedance events during the reporting period (detailed in environmental incidents below); all other parameters were within the limits set prior to discharge from site, See SP1 table.</p> <p>From the data available for Axonics, in general parameters were below the trigger limit set prior to discharge into the surface water drainage system. Aluminium (Total) values were recorded at levels that exceed the limits set for the system. The system occasionally has floc carryover which can give a high total aluminium readings post treatment but the material settles out prior to discharge from the site at SP1. The new expanded Axonics facility has been designed to overcome this issue.</p> <p>Sonde results explained on the graphs.</p>
Groundwater	The groundwater data is within anticipated ranges.
Dust	The dust were collected and shipped for analysis during the last reporting period, results are still outstanding.
Weather	There was a total of 120.8 mm of rainfall during the reporting period, with a temperature range of -1.3 to 12.4 °C.

All Site data should be considered indicative only.

Environmental Report - Status	Week Ending: Wed 20 th Dec 2006
Generated By: Siobhan Quinn/Mairtin Naughton/Sandra Barber	
Checked By: Tony Doyle	

2 Environmental Exceedances/Incidents/Complaints

There were 2 No. reportable incidents during the reporting period

Date and Time	14-Nov-06, 11:00	30-Nov-06, 02:00								
Location	SP1	SP1								
Nature of Incident	<p>Exceedance for Total Aluminium (Limit 200 ug/l)</p> <table border="1"> <thead> <tr> <th>Date</th> <th>Total Aluminium</th> </tr> </thead> <tbody> <tr> <td>29/11/06</td> <td>543</td> </tr> <tr> <td>6/12/06</td> <td>568</td> </tr> <tr> <td>12/12/06</td> <td>666</td> </tr> </tbody> </table>	Date	Total Aluminium	29/11/06	543	6/12/06	568	12/12/06	666	<p>Exceedance for Total Suspended Solids</p> <p>There was a significant increase in the volume of water across site during the previous reporting period. As the weir data shows this has been dropping during this reporting period</p>
Date	Total Aluminium									
29/11/06	543									
6/12/06	568									
12/12/06	666									
Actions Taken	<ol style="list-style-type: none"> An increased monitoring regime will be initiated for the foreseeable future. <ul style="list-style-type: none"> Composite samples will be issued to an accredited lab for analysis Analysis will include Aluminium (total and dissolved), total suspended solids, turbidity, and Orthophosphate All analysis will be done with the highest possible turn-around to ensure we can more stringently track the situation An in-line aluminium analyser is due to be fitted to the monitoring station at SP1 Larger capacity Axonics treatment plant will be commissioned to reduce water volumes in terminal footprint Currently reviewing possible additional mitigation measures 	<ol style="list-style-type: none"> The situation will continue to be monitored and any increase in concentrations reported. Samples will be issued to the accredited lab for analysis (on-site and off-site) An increased monitoring regime will be initiated for the foreseeable future. <ul style="list-style-type: none"> Composite samples will be issued to an accredited lab for analysis Analysis will include Aluminium (total and dissolved), total suspended solids, turbidity, and Orthophosphate All analysis will be done with the highest possible turn-around to ensure we can more stringently track the situation <p>During the last 2 days of the reporting period the TSS levels dropped below the Trigger level and the exceedance report was closed.</p>								
Category	Exceedance	Exceedance								
Status	Open	Closed								

Surface Water Monitoring Record Sheet																
Conducted by										Approved by						
Name:					Signed					Name					Signed	
Determinant Results																
	Date	Cond.	Temp	Turbidity	DO	pH	TSS	Ortho-phosphate as P	Nitrate as N	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	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		0.2	0.025	100	135		
Target Limits		500		200		<3 or >8	35	70	2.6		0.5	0.05	150	200		
Settlement Pond Monitoring																
SP1	08/12/06	189	7.8	99.5	91	6.7			<LOD		0.03		100		0.05	110
SP3	08/12/06	203	8.3	93.7	90	6.9			<LOD		0.36		130		0.14	131
SP1	11/12/06	141	7.8	77	87	6.6			<LOD		0.4		80		0.37	93
SP3	11/12/06	202	6	80	94	6.7			<LOD		0.24		100		0.1	122
SP1	12/12/06	199	7.2	76	95	7.2			<LOD		0.46		90		0.07	113
SP3	12/12/06	203	8.1	129	94	7.3			<LOD		0.51		160		0.05	114
SP1	13/12/06	187	9.1	83	97	6.8			<LOD		0.16		100		0.08	109
SP3	13/12/06	183	9	161	97	6.5			<LOD		0.24		150		0.08	106
SP1	14/12/06	188.5	10.3	91.8	98	7.7			<LOD		0.45		100	130	0.06	105
SP3	14/12/06	205	9.3	93.1	98	7.8			<LOD		0.3		100		0.06	115
SP1	15/12/06	155.1	7.3	105	93	7			<LOD		0.17		100		0.07	111
SP3	15/12/06	197.2	5.9	122	96	7			<LOD		0.19		110		0.09	119
SP1	18/12/06	209	5.5	64.1	91	6			<LOD		0.9		70	190	0.08	121
SP3	18/12/06	199.9	4.9	79.5	93	6.5			<LOD		0.86		70		0.06	128
SP1	19/12/06	199.9	4.2	62.1	92	7.6			<LOD		0.09		70	180	0.05	125
SP3	19/12/06	208	4	83.1	93	7.3			<LOD		0.57		90		0.09	138
SP1	20/12/06	199	4	56.2	97	6.4			<LOD		0.26		70	110	0.18	
SP3	20/12/06	201	3.7	20.6	98	6.5			<LOD		0.34		100		0.06	
SP1	11/12/06			54.2			39						I.P.	I.P.		
SP3	11/12/06			59.5			46						I.P.	I.P.		
SP1	12/12/06	I.P.		58.9		I.P.	36	<20	<0.193		<0.030	0.023	91.8	666	I.P.	I.P.
SP3	12/12/06	I.P.		113		I.P.	113	<20	<0.189		0.04	0.0361429	88.2	879	I.P.	I.P.
SP1	18/12/06			47			30						I.P.	I.P.		
SP3	18/12/06			59.2			34						I.P.	I.P.		
Additional Monitoring																
D22	15/12/06	189	7.4	6.4	88	6.2			<LOD		0		70		0.05	109
D62	15/12/06	176	7	9.5	89	5.1			0.1		0.05		30		0.03	103
Composite	08/12/06	153.5		46.7		7.1	27	29	<0.1			<0.005	I.P.	I.P.	0.019	
Composite	09/12/06	156.5		60.1		7	71	31	<0.1			<0.005	I.P.	I.P.	0.026	
Composite	10/12/06	128.1		55.7		6.8	56	28	<0.1			<0.005	I.P.	I.P.	0.026	
Axonics Monitoring																
Pre-Axonics	08/12/06	227		104		7.5			<LOD		0.05		220		0.1	144
Post-Axonics	08/12/06	261		1.33		6.3			0.3		<LOD		40		0.03	176
Pre-Axonics	11/12/06	223		101		7.4			<LOD		0.14		370		0.04	143
Post-Axonics	11/12/06	257		11.6		6.3			0.2		0.11		50		0.11	176
Pre-Axonics	12/12/06	234		99		7.4			<LOD		0.89		430		0.01	154
Post-Axonics	12/12/06	253		8.7		6.2			0.2		0.02		20		<LOD	170
Pre-Axonics	13/12/06	231		120		7.2			<LOD		0.08		350		0.01	143

Surface Water Monitoring Record Sheet

Conducted by Name: _____ Signed _____ Approved by Name _____ Signed _____

Determinant 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	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		0.2	0.025	100	135		
Target Limits		500		200		<3 or >8	35	70	2.6		0.5	0.05	150	200		
Post-Axonics	13/12/06	251		6.3		6.4			0.2		0.03		40		0.02	168
Pre-Axonics	14/12/06	236		94		6.8		<LOD			0.09		380		0.02	156
Post-Axonics	14/12/06	260		13.9		5.7		0.5			0.19		50	140	0.01	173
Pre-Axonics	15/12/06	236		91.7		7.3		<LOD			0.12		290		0.02	154
Post-Axonics	15/12/06	258		7.27		6.5		0.3			0.05		40		0.02	169
Pre-Axonics	18/12/06	221		105		6.7		<LOD			0.15		220		0.04	151
Post-Axonics	18/12/06	236		7.6		6.3		0.1			0.06		60	440	0.02	157
Pre-Axonics	19/12/06	225		105		7.3		<LOD			0.08		180		0	150
Post-Axonics	19/12/06	244		8.1		6.2		0.7			0.01		30	30	0.02	163
Pre-Axonics	20/12/06	209		149		6.9		<LOD			0.12		230		0.39	
Post-Axonics	20/12/06	239		10		6.6		0.2			0.46		100	300	0.06	
Pre-Axonics	11/12/06			82			72						I.P.	I.P.		
Post-Axonics	11/12/06			2.3			12						I.P.	I.P.		
Post-Axonics	12/12/06	I.P.		5.43		I.P.	7	< 0.020	<0.194		0.036	0.020	17.7	776		I.P.
Pre-Axonics	18/12/06			87.4			59						I.P.	I.P.		
Post-Axonics	18/12/06			11			11						I.P.	I.P.		

Results detailed above are from on site grab samples only

The limit values set apply to SP1 only

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 no... 1 of 1

Conducted _____ Approved by _____

Name: _____ Signed _____ Name _____ Signed _____

Eminent Results																								
Location	Date	DO % Sat	Temp °C	Cond. uS/cm	pH	TDS mg l ⁻¹	Nitrate as NO ₃ mg l ⁻¹	Ammonia mg l ⁻¹	Aluminium ug l ⁻¹	BOD mg l ⁻¹	TSS mg l ⁻¹	Orthophosphate as P ug l ⁻¹	Total Hardness mg/l CaCO ₃	Nitrite as NO ₂ mg l ⁻¹	Arsenic ug l ⁻¹	Mercury ug l ⁻¹	Lead ug l ⁻¹	Zinc ug l ⁻¹	Chromium ug l ⁻¹	Copper ug l ⁻¹	Cadmium ug l ⁻¹	Iron ug l ⁻¹	Tin ug l ⁻¹	
MP1	12/12/06	45	8.3	317	6.2	212		1.95	>LOD															
MP2	12/12/06	41	9.3	443	6.3	293		>LOD	>LOD															
MP3	12/12/06	35	9.5	380	6.3	254		2.03	>LOD															
MP4	12/12/06	39	9.6	435	6.1	288		1.93	>LOD															
MP5	12/12/06	45	9.5	244	6	164		1.29	230															
MP6	12/12/06	56	9.6	412	6.3	273		2.02	>LOD															
MP7	12/12/06	42	8.8	320	6.3	215		2.33	>LOD															
MP8	12/12/06	37	9.1	396	6.4	264		2.55	>LOD															
MP9	12/12/06	47	9.4	277	6.3	186		0.77	10															
MP10	12/12/06			762	6.5	499		1.64	>LOD															
MEL BR4a	12/12/06			258	6.2	171		0.17	90															
MP1	12/12/06			I.P.	6.4	I.P.	<0.196	1.885	244	I.P.	I.P.	0.02	I.P.	< 0.013	4.98	0.008	2.24	9.01	0.67	1.8	<0.1000	I.P.	2.5	
MP2	12/12/06			I.P.	6.9	I.P.	<0.196	3.048	58.3	I.P.	I.P.	0.02	I.P.	< 0.013	1.244	0.008	2	11.4	<0.5000	1.0	<0.1000	I.P.	2.5	
MP3	12/12/06			I.P.	6.5	I.P.	<0.196	1.456	508	I.P.	I.P.	0.398	I.P.	< 0.013	2.68	0.008	2	6.95	1.04	1.6	<0.1000	14900	2.5	
MP4	12/12/06			I.P.	6.2	I.P.	<0.196	1.518	260	I.P.	I.P.	0.02	I.P.	< 0.013	1.205	0.008	2	6.95	1.95	3.1	<0.1000	I.P.	2.5	
MP5	12/12/06			I.P.	6.5	I.P.	<0.196	0.587	224	I.P.	I.P.	0.02	I.P.	< 0.013	<1	0.008	3.14	9.1	1.54	1.5	0.13	8470	2.5	
MP6	12/12/06			I.P.	6.6	I.P.	<0.196	1.97	62.6	I.P.	I.P.	0.02	I.P.	< 0.013	3.627	0.008	3.58	14.9	<0.5000	2.6	0.19	I.P.	2.5	
MP7	12/12/06			I.P.	6.1	I.P.	<0.196	2.112	91.3	I.P.	I.P.	0.02	I.P.	< 0.013	<1	0.008	2	13.5	<0.5000	1.2	1.24	I.P.	2.5	
MP8	12/12/06			I.P.	6.4	I.P.	<0.196	2.786	152	I.P.	I.P.	0.02	I.P.	< 0.013	2.563	0.008	4	13.4	0.56	3.0	<0.1000	I.P.	2.5	
MP9	12/12/06			I.P.	6.7	I.P.	<0.196	0.45	31.4	I.P.	I.P.	0.035	I.P.	< 0.013	<1	0.008	2	23.3	<0.5000	1.9	0.56	1640	2.5	
MP10	12/12/06			I.P.	7.1	I.P.	<0.196	1.276	51600	I.P.	I.P.	0.02	I.P.	< 0.013	3.292	0.022	197	812	138	281	8.51	I.P.	107	
MEL BR4A	12/12/06			I.P.	6.5	I.P.	<1.176	0.03	5410	I.P.	I.P.	0.082	I.P.	< 0.013	<1	0.024	9.03	27	1.71	9.5	0.27	4160	2.5	

Note: Results detailed above are from on site grab samples only. Data recorded continuously is shown on the following graphs

- I.P. = In Progress
 - On-Site Analysis
 - Grey shaded areas denote parameters that cannot or were not analysed on-site or the lab.
- 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 m ² d ⁻¹ on as a 30 day average							
D1	03/05/2006	07/06/2006	41083	07/06/2006	13/06/2006	21	
D2	03/05/2006	07/06/2006	41084	07/06/2006	13/06/2006	196	
D3	03/05/2006	07/06/2006	41085	07/06/2006	13/06/2006	2353	Algal Growth
D4	03/05/2006	07/06/2006	41086	07/06/2006	13/06/2006	32	
D1	07/06/2006	06/07/2006	102841	07/07/2006	17/07/2006	63	
D2	07/06/2006	06/07/2006	102842	07/07/2006	17/07/2006	49	
D3	07/06/2006	06/07/2006	102843	07/07/2006	17/07/2006	1107	Algal Growth
D4	07/06/2006	06/07/2006	102844	07/07/2006	17/07/2006	89	
D1	07/07/2006	08/08/2006	105433	09/08/2006	17/08/2006	246	
D2	07/07/2006	08/08/2006	105434	09/08/2006	17/08/2006	293	
D3	07/07/2006	08/08/2006	105435	09/08/2006	17/08/2006	180	
D4	07/07/2006	08/08/2006	105436	09/08/2006	17/08/2006	386	
D1	08/08/2006	04/09/2006	107505	04/09/2006	15/09/2006	207	
D2	08/08/2006	04/09/2006	107506	04/09/2006	15/09/2006	98	
D3	08/08/2006	04/09/2006	107507	04/09/2006	15/09/2006	23	
D4	08/08/2006	04/09/2006	107508	04/09/2006	15/09/2006	97	
D1	04/09/2006	03/10/2006	110575	11/10/2006	26/10/2006	309	
D2	04/09/2006	03/10/2006	110575	11/10/2006	26/10/2006	60	
D3	04/09/2006	03/10/2006	110575	11/10/2006	26/10/2006	1061	
D4	04/09/2006	03/10/2006	110575	11/10/2006	26/10/2006	23	
D1	11/10/2006	09/11/2006	107505	10/11/2006	22/11/2006	71	
D2	11/10/2006	09/11/2006	107506	10/11/2006	22/11/2006	41	
D3	11/10/2006	09/11/2006	107507	10/11/2006	22/11/2006	163	
D4	11/10/2006	09/11/2006	107508	10/11/2006	22/11/2006	114	

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

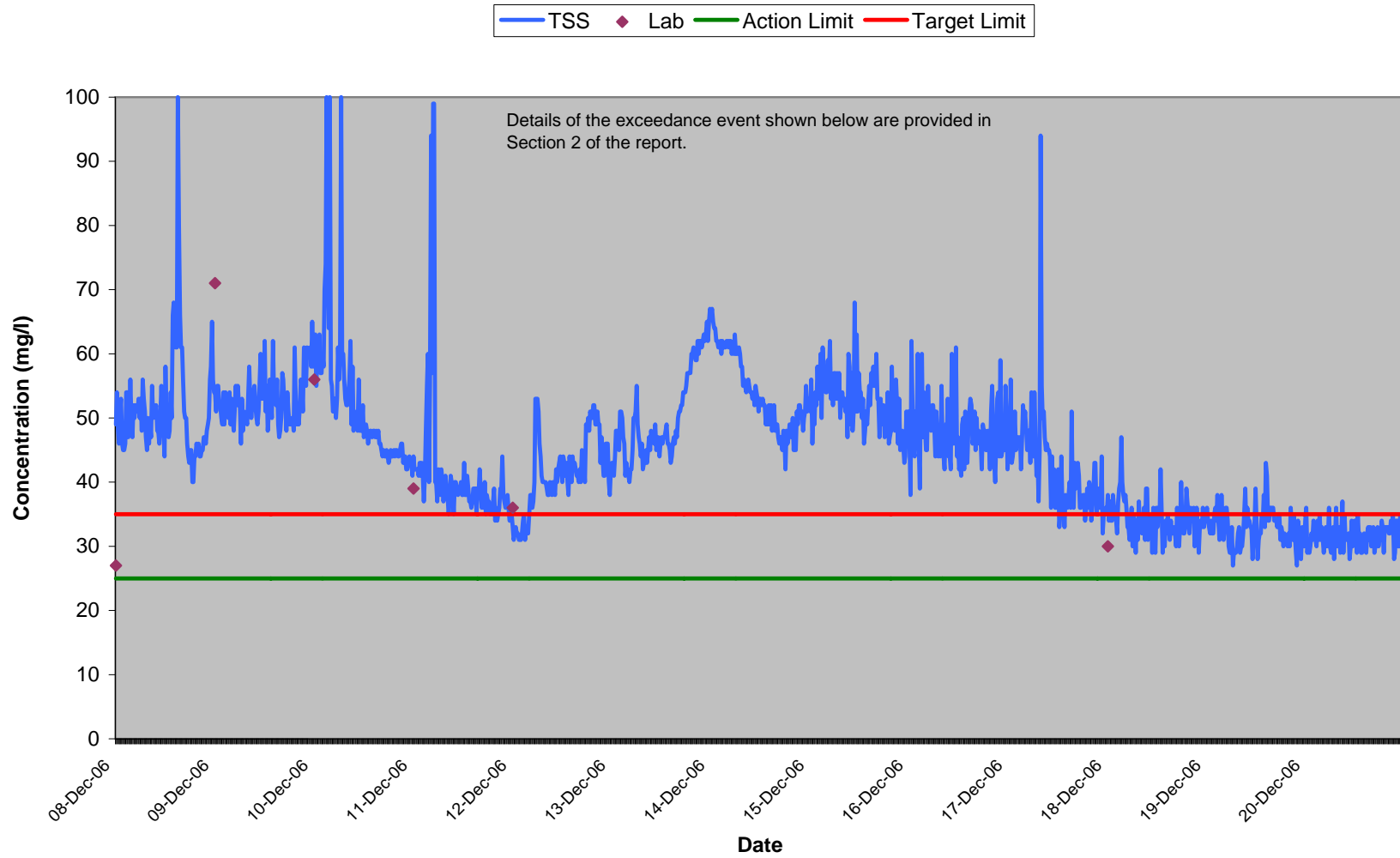
Monitoring Results will be presented monthly

Noise Monitoring Record Sheet											no... 1 of 1
Conducted by							Approved by				
Name: Sandra Barber					Signed		Name:				Signed
Determinant Results											
Location	Air Temp. (Avg)	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	6.6	08/12/06				7	137				Too Windy for accurate readings
N1	6.4	11/12/06				6	67				Too Windy for accurate readings
N1	8.8	12/12/06	09:44:00	06:48	2343753	7	56	54	46	78	Too Windy for accurate readings
N1	11.4	14/12/06	09:16:00	07:16	2343753	11	24	54	46	70	Too Windy for accurate readings
N1	8.2	15/12/06	09:36:00	7:08	2343753	5	49	54	43	71	Too Windy for accurate readings
N1	5.9	18/12/06	08:59:00	7:37	2343753	3	61	54	46	64	
N1	3.7	19/12/06				0	112				Operational Failure
N1	1.2	20/12/06				2	110				Operational Failure
N1	3.9	21/12/06	08:58:00	8:01	2343753	2	83	54	46	81	

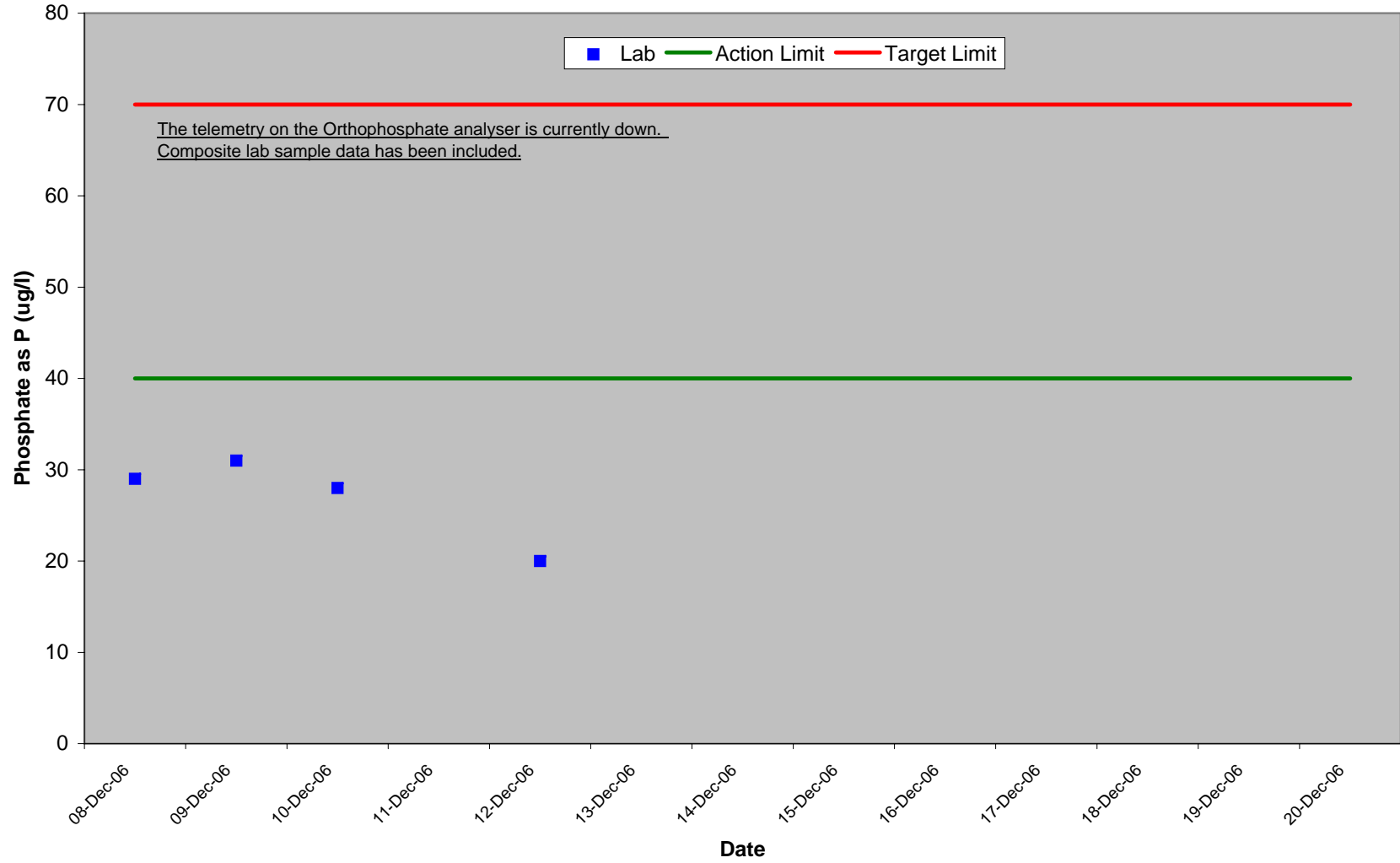
* Wind speeds in excess of 5 m/s negatively impact noise readings (as per EPA Guidance Note on Noise Measurement).

Flow Weir Record Sheet				no... 1 of 1		
Conducted by			Approved by			
Name:	Sandra Barber	Signed	Name:	Signed		
Determinant Results						
Date	SP1			SP3		
	Max (l/s)	Min (l/s)	Avg (l/s)	Max (l/s)	Min (l/s)	Avg (l/s)
08/12/2006	34.6	7.7	14.9	69.0	27.4	38.1
09/12/2006	26.9	5.5	10.8	55.4	24.0	31.7
10/12/2006	259.8	11.5	105.3	219.4	35.0	131.2
11/12/2006	38.5	13.8	20.6	70.6	37.1	47.5
12/12/2006	112.1	9.1	34.0	160.4	29.4	63.4
13/12/2006	201.3	9.1	73.3	200.5	29.0	104.8
14/12/2006	82.8	18.5	41.8	121.5	42.8	71.1
15/12/2006	18.0	5.1	10.3	45.0	20.1	30.1
16/12/2006	5.7	3.7	4.6	20.4	17.7	19.0
17/12/2006	11.1	3.4	5.9	38.0	17.4	22.2
18/12/2006	9.8	3.2	5.6	30.1	17.1	20.8
19/12/2006	3.2	1.5	2.2	16.7	12.1	14.0
20/12/2006	1.5	1.0	1.1	12.1	10.1	10.6

Total Suspended Solids Results at SP1 Week 50/51, 2006

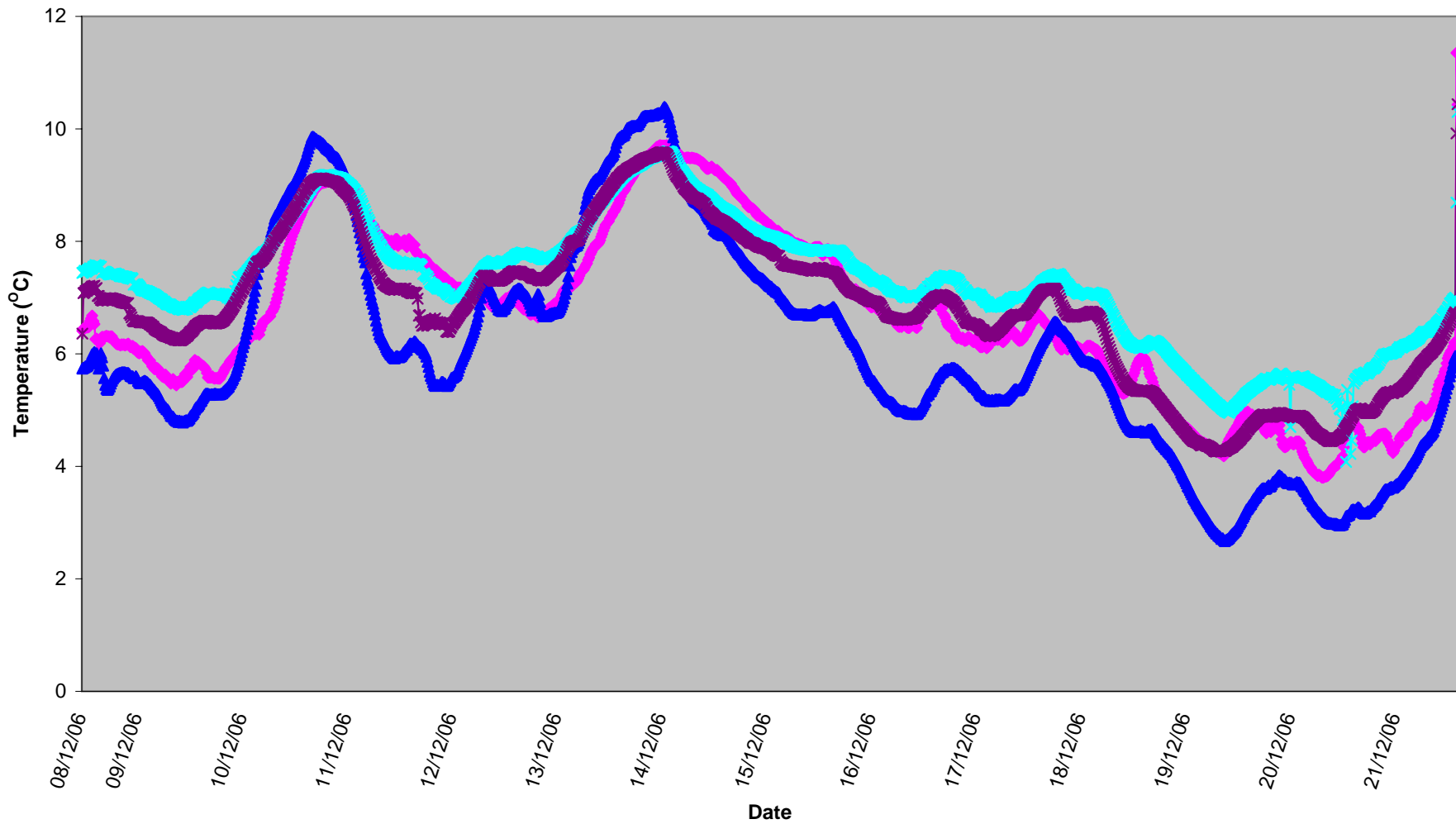


Orthophosphate Results at SP1 Week 50/51, 2006

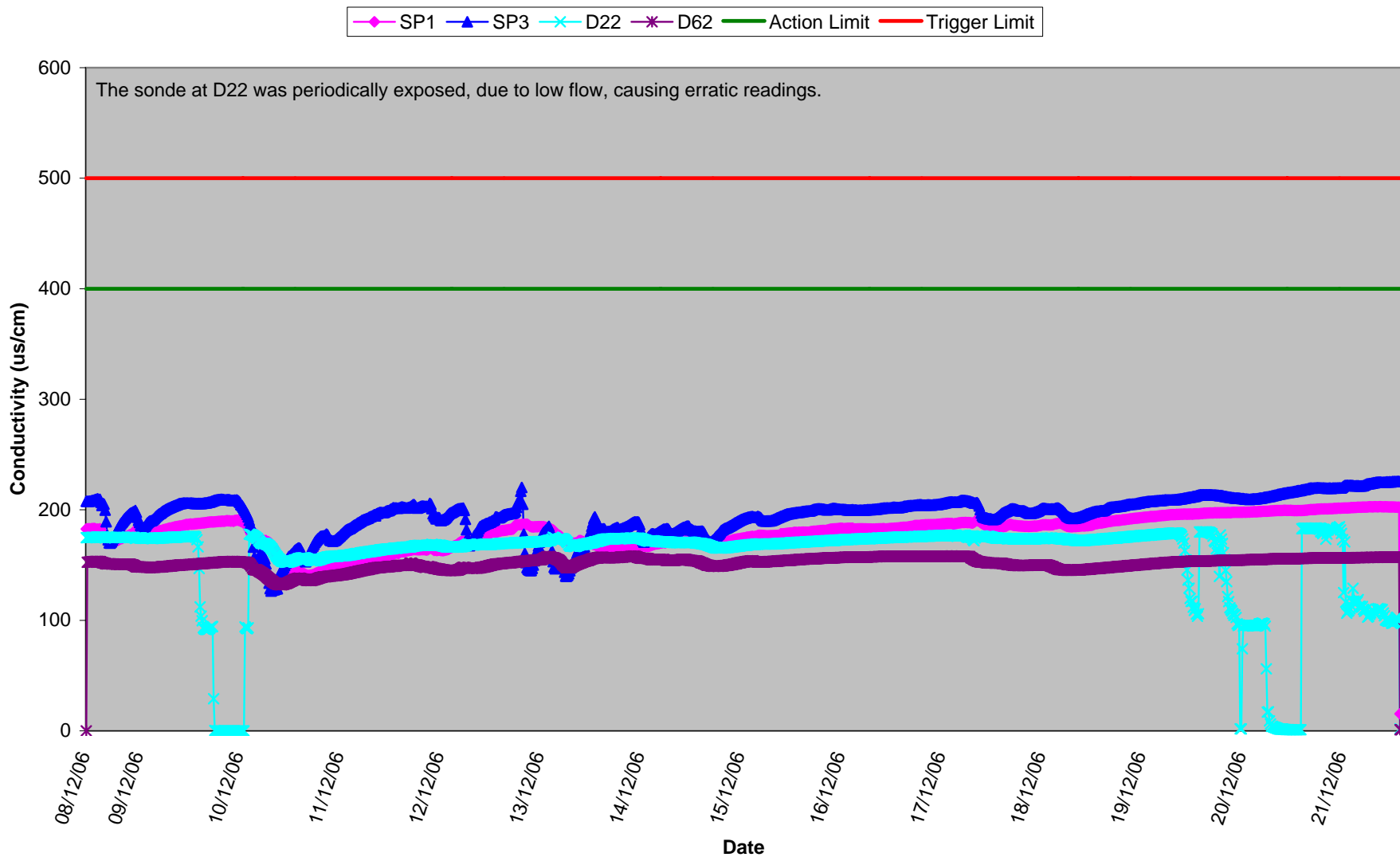


Temperature - Surface Waters,
Weeks 50-51, 2006

SP1 SP3 D22 D62

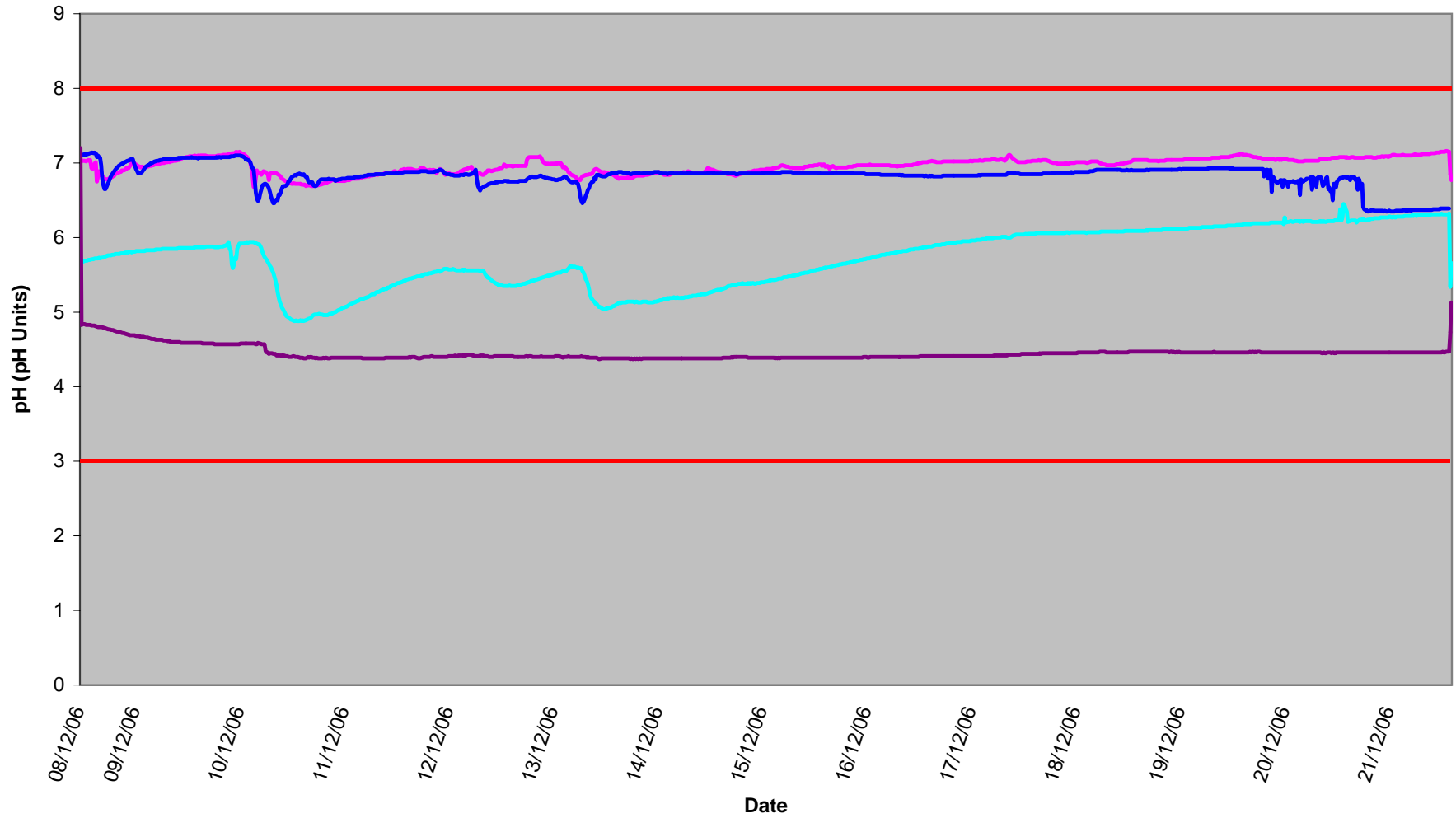


Conductivity - Surface Waters, Weeks 50-51, 2006

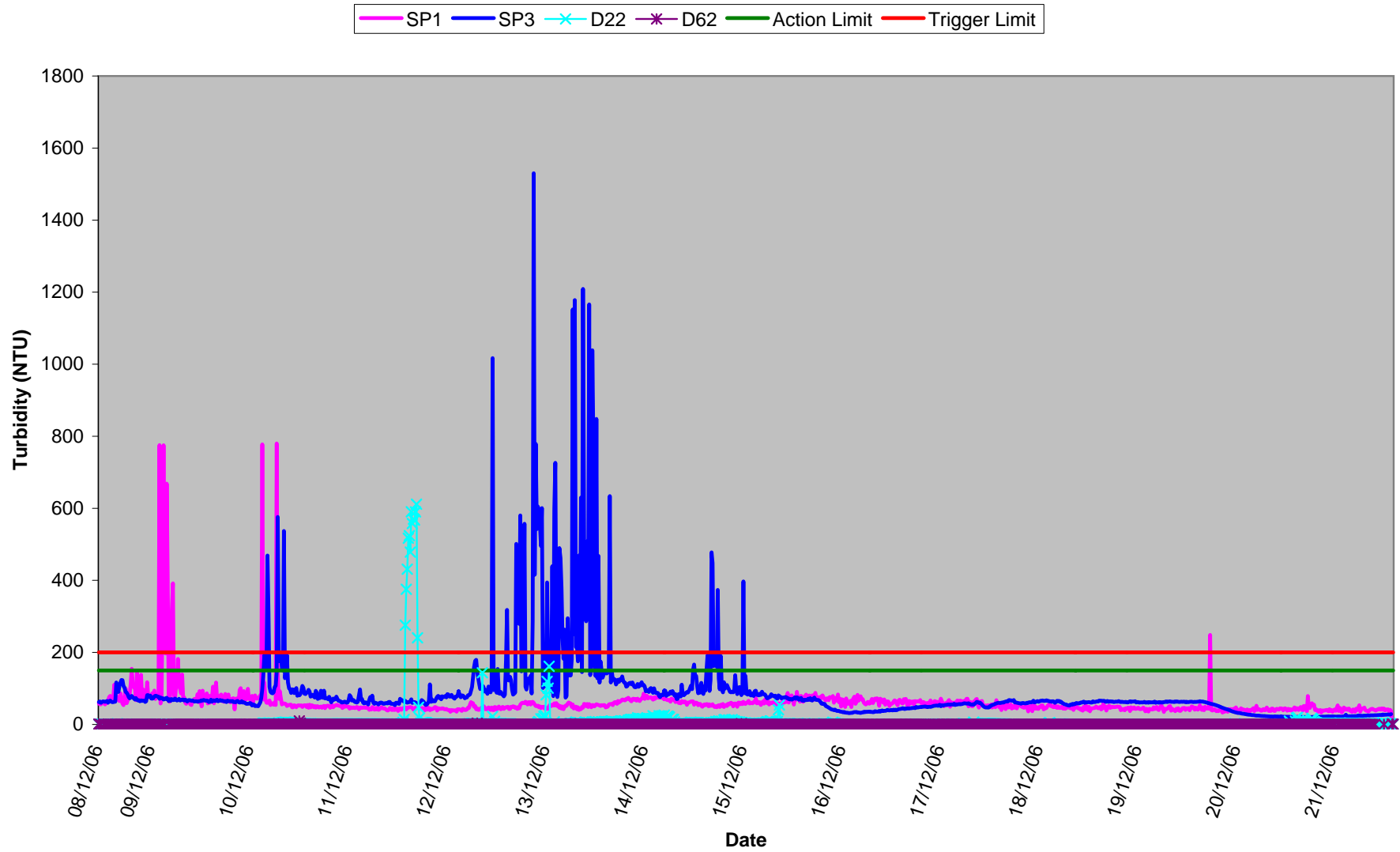


pH - Surface Waters, Weeks 50-51, 2006

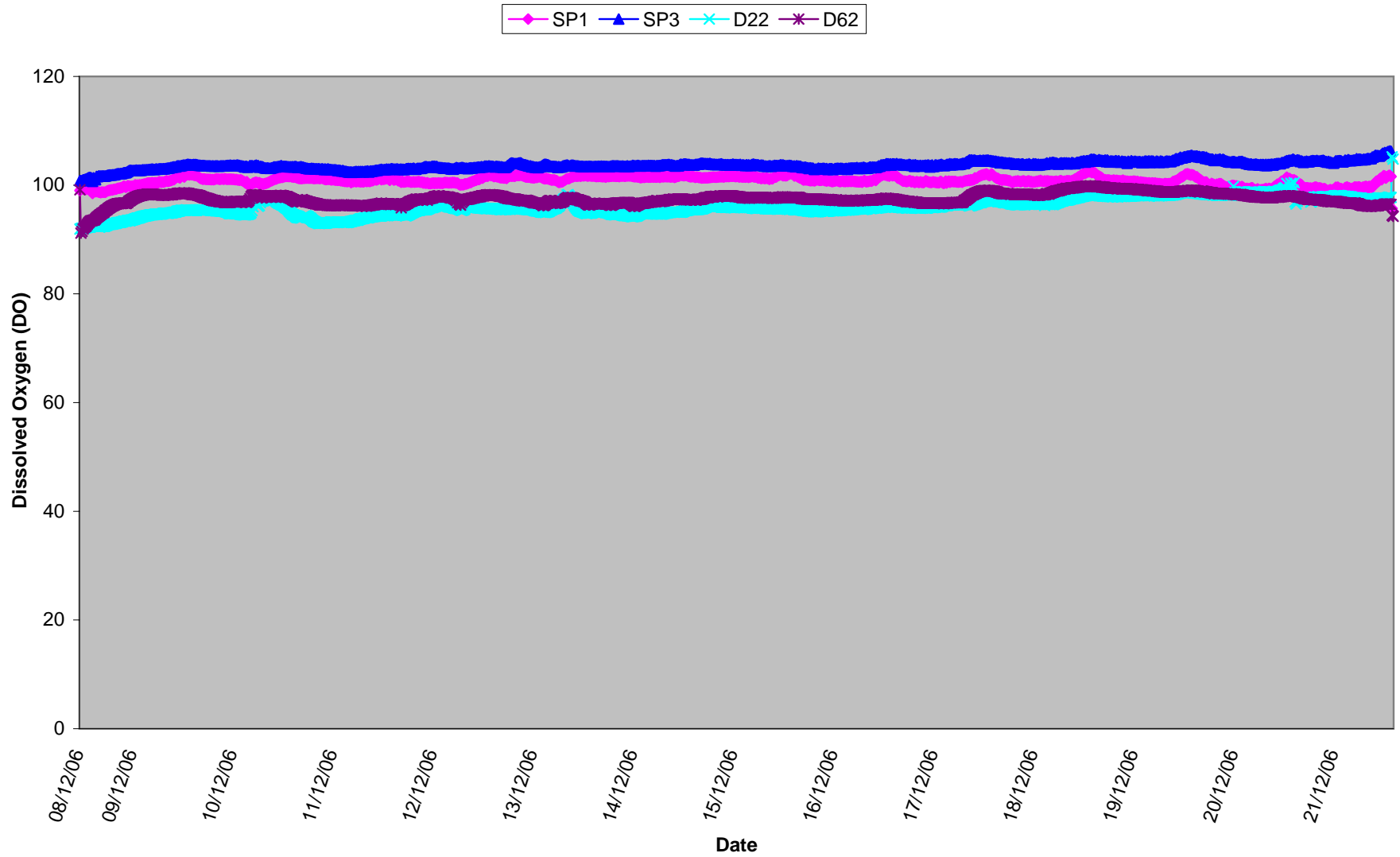
SP1 SP3 D22 D62 Lower Limit Upper Limit



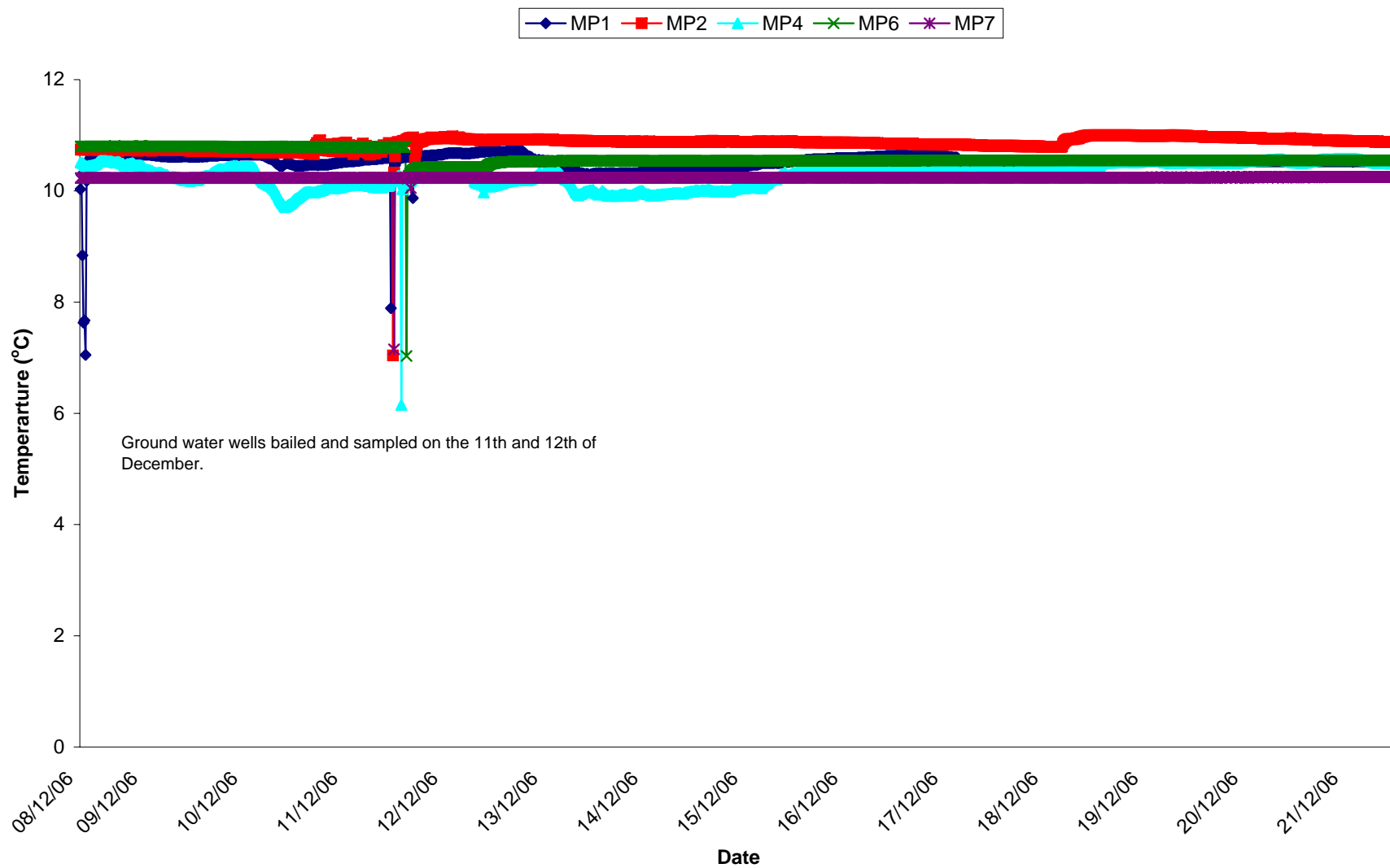
Turbidity - Surface Waters, Weeks 50-51, 2006



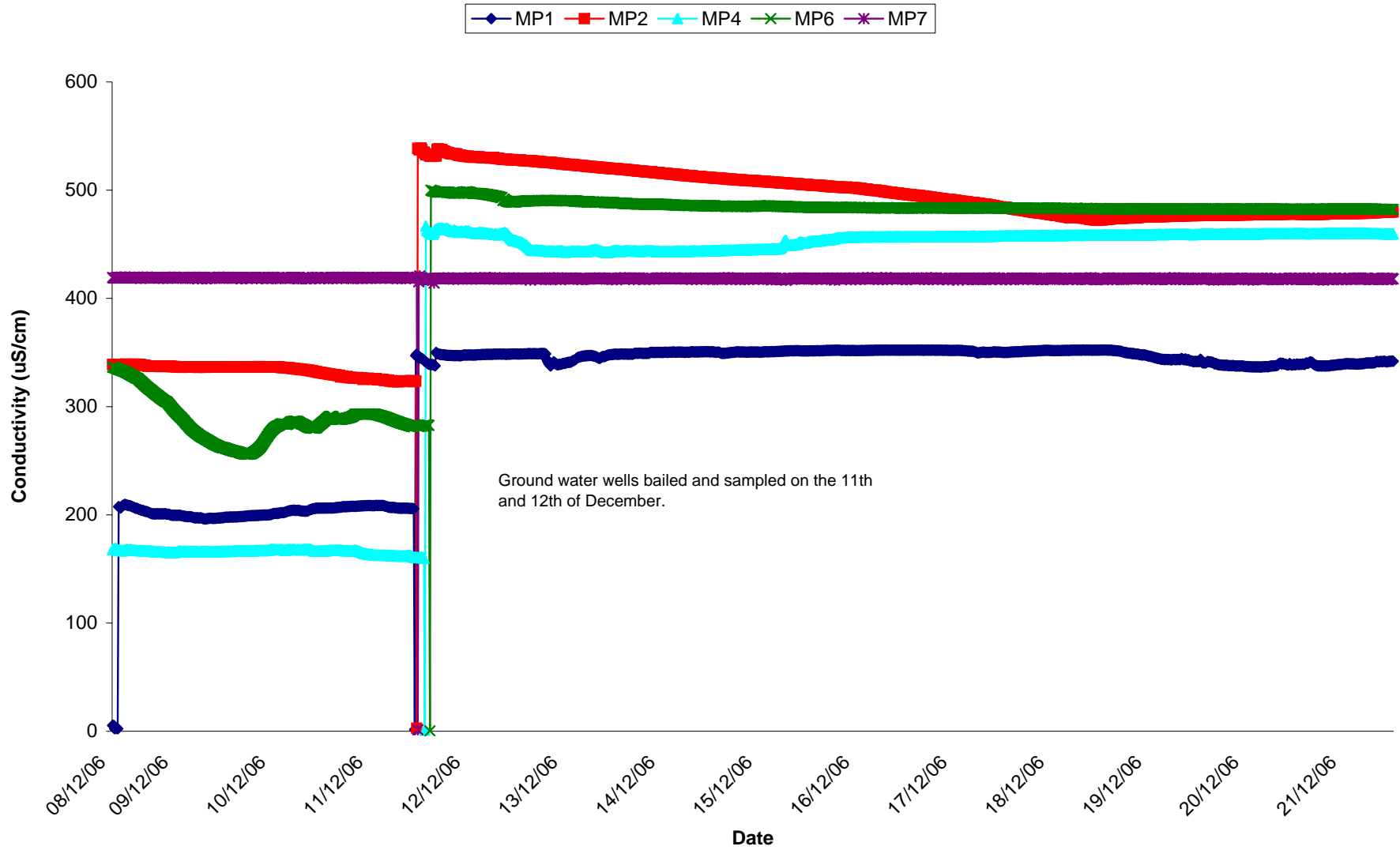
Dissolved Oxygen - Surface Waters,
Weeks 50-51, 2006



Temperature - Groundwaters Weeks 50-51, 2006



Conductivity - Groundwaters Weeks 50-51, 2006



pH - Groundwaters Weeks 50-51, 2006

MP1 MP2 MP4 MP6 MP7

