

**Biosensor Measurement Datasheet**  
**Second Bangor Demonstration, September 2004**

40 mL Vial Number: *mow-1-1 (B)*  
 Biosensor ID: *422*  
 pH Optode ID: *105*  
 pH Optode Sensitivity: *32* PMT: *600V*

Analyst: *NICOLE ACHA*  
 Date: *09/20/04*  
 Time:

Checked By:  
 Date Checked:

Subsample Number (4.85 mL Vial)	Biosensor or Optode Reading?	Step Number	Step Description	Solution Removed and Volume (uL)	Solution Added and Volume (uL)	Start Time	Start Volts	End Time	End Volts	Delta T	Delta V
	BIO	1	<i>mow-1-1</i>	<i>100</i>	<i>100</i>	<i>8:23</i>	<i>6.64</i>	<i>8:30</i>	<i>6.355</i>	<i>7</i>	<i>0.306</i>
	BIO	2	<del><i>dca</i></del> <i>(100ppb)</i>	<i>50</i>	<i>50</i>	<i>8:33</i>	<i>6.363</i>	<i>8:42</i>	<i>6.215</i>	<i>9</i>	<i>0.248</i>
	BIO	3	<i>dca</i> <i>(100ppb)</i>	<i>25</i>	<i>25</i>	<i>8:49</i>	<i>5.97</i>	<i>8:57</i>	<i>5.769</i>	<i>18</i>	<i>0.601</i>
	BIO	4	<i>dca</i> <i>(200ppb)</i>	<i>75</i>	<i>75</i>	<i>9:16</i>	<i>4.305</i>	<i>9:34</i>	<i>3.258</i>	<i>18</i>	<i>1.044</i>
	BIO	5	<i>HCl</i> <i>(1mM)</i>	<i>50</i>	<i>50</i>	<i>9:36</i>	<i>3.31</i>	<i>9:40</i>	<i>3.02</i>	<i>4</i>	<i>0.29</i>
	BIO	6	<i>HCl</i> <i>(1mM)</i>	<i>25</i>	<i>25</i>	<i>9:43</i>	<i>3.01</i>	<i>9:47</i>	<i>2.77</i>	<i>4</i>	<i>0.24</i>
	BIO	7	<i>HCl</i> <i>(1mM)</i>	<i>75</i>	<i>75</i>	<i>9:50</i>	<i>2.75</i>	<i>9:58</i>	<i>2.37</i>	<i>8</i>	<i>0.378</i>
	pH opt	8	<i>mow-1-1</i>	<i>100</i>	<i>100</i>	<i>10:01</i>	<i>9.732</i>	<i>10:04</i>	<i>9.37</i>	<i>3</i>	<i>0.362</i>
	pH opt	9	<i>DCA</i> <i>(100ppb)</i>	<i>50</i>	<i>50</i>	<i>10:05</i>	<i>9.37</i>	<i>10:12</i>	<i>8.62</i>	<i>5</i>	<i>0.75</i>
	pH opt	10	<i>DCA</i> <i>(100ppb)</i>	<i>25</i>	<i>25</i>	<i>10:14</i>	<i>8.64</i>	<i>10:20</i>	<i>8.06</i>	<i>6</i>	<i>0.58</i>
	pH opt	11	<i>DCA</i> <i>(200ppb)</i>	<i>75</i>	<i>75</i>	<i>10:21</i>	<i>8.00</i>	<i>10:28</i>	<i>6.98</i>	<i>6</i>	<i>1.02</i>
	pH opt	12	<i>ACE</i> <i>(1mM)</i>	<i>50</i>	<i>50</i>	<i>10:30</i>	<i>7.54</i>	<i>10:37</i>	<i>7.38</i>	<i>7</i>	<i>0.16</i>
	pH opt	13	<i>HCl</i> <i>(1mM)</i>	<i>25</i>	<i>25</i>	<i>10:38</i>	<i>7.37</i>	<i>10:49</i>	<i>6.86</i>	<i>11</i>	<i>0.51</i>
	pH opt	14	<i>HCl</i> <i>(1mM)</i>	<i>75</i>	<i>75</i>	<i>10:50</i>	<i>6.86</i>	<i>10:57</i>	<i>6.18</i>	<i>7</i>	<i>0.68</i>

*0.58*

Comments:

Uncorrected DCA Concentration of Unknown (ug/L) =  
 Corrected DCA Concentration of Unknown (ug/L) =

## Report Documentation Page

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**Biosensor Measurement Datasheet**  
**Second Bangor Demonstration, September 2004**

40 mL Vial Number: <i>mow-1-1</i>	Analyst: <i>Victor ACHA</i>	Checked By:
Biosensor ID: <i>422</i>	Date: <i>09/20/04</i>	Date Checked:
pH Optode ID: <i>105</i>	Time: <i>2:11 PM</i>	
pH Optode Sensitivity: <i>32</i> PMT: <i>600</i>		

Subsample Number (4.85 mL Vial)	Biosensor or Optode Reading?	Step Number	Step Description	Solution Removed and Volume (uL)	Solution Added and Volume (uL)	Start Time	Start Volts	End Time	End Volts	Delta T	Delta V
	<i>Bio</i>	<i>1</i>	<i>mow-1-1</i>	<i>100</i>	<i>100</i>	<i>2:11</i>	<i>8.232</i>	<i>2:15</i>	<i>8.159</i>	<i>4</i>	<i>0.073</i>
	<i>Bio</i>	<i>2</i>	<i>DCA (100 ppb)</i>	<i>50</i>	<i>50</i>	<i>2:21</i>	<i>8.351</i>	<i>2:24</i>	<i>8.278</i>	<i>3</i>	<i>0.073</i>
	<i>Bio</i>	<i>3</i>	<i>DCA (100 ppb)</i>	<i>25</i>	<i>25</i>	<i>2:31</i>	<i>8.393</i>	<i>2:35</i>	<i>8.243</i>	<i>4</i>	<i>0.150</i>
	<i>Bio</i>	<i>4</i>	<i>DCA (100 ppb)</i>	<i>75</i>	<i>75</i>	<i>2:45</i>	<i>8.393</i>	<i>2:49</i>	<i>8.244</i>	<i>4</i>	<i>0.149</i>
	<i>Bio</i>	<i>5</i>	<i>HCl (1mM)</i>	<i>50</i>	<i>50</i>	<i>3:50</i>	<i>9.576</i>	<i>3:53</i>	<i>9.507</i>	<i>3</i>	<i>0.069</i>
	<i>Bio</i>	<i>6</i>	<i>HCl (1mM)</i>	<i>25</i>	<i>25</i>	<i>4:01</i>	<i>9.436</i>	<i>4:03</i>	<i>9.391</i>	<i>2</i>	<i>0.045</i>
	<i>Bio</i>	<i>7</i>	<i>HCl (1mM)</i>	<i>75</i>	<i>75</i>	<i>4:08</i>	<i>9.482</i>	<i>4:11</i>	<i>9.383</i>	<i>3</i>	<i>0.1</i>
	<i>pH op</i>	<i>8</i>	<i>mow-1-1</i>	<i>100</i>	<i>100</i>	<i>4:41</i>	<i>11.313</i>	<i>4:44</i>	<i>11.261</i>	<i>3</i>	<i>0.052</i>
	<i>pH op</i>	<i>9</i>	<i>DCA (100 ppb)</i>	<i>50</i>	<i>50</i>	<i>4:45</i>	<i>11.26</i>	<i>4:47</i>	<i>11.078</i>	<i>2</i>	<i>0.182</i>
	<i>pH op</i>	<i>10</i>	<i>DCA (100 ppb)</i>	<i>25</i>	<i>25</i>	<i>4:50</i>	<i>11.057</i>	<i>4:52</i>	<i>10.909</i>	<i>2</i>	<i>0.149</i>
	<i>pH op</i>	<i>11</i>	<i>DCA (100 ppb)</i>	<i>75</i>	<i>75</i>	<i>4:59</i>	<i>10.47</i>	<i>5:06</i>	<i>9.863</i>	<i>7</i>	<i>0.615</i>
	<i>pH op</i>	<i>12</i>	<i>HCl (1mM)</i>	<i>50</i>	<i>50</i>	<i>5:15</i>	<i>10.884</i>	<i>5:17</i>	<i>10.829</i>	<i>2</i>	<i>0.055</i>
	<i>pH op</i>	<i>13</i>	<i>HCl (1mM)</i>	<i>25</i>	<i>25</i>	<i>5:19</i>	<i>10.808</i>	<i>5:20</i>	<i>10.779</i>	<i>1</i>	<i>0.029</i>
	<i>pH op</i>	<i>14</i>	<i>HCl (1mM)</i>	<i>75</i>	<i>75</i>	<i>5:22</i>	<i>10.74</i>	<i>5:25</i>	<i>10.635</i>	<i>3</i>	<i>0.105</i>

Comments:

Uncorrected DCA Concentration of Unknown (ug/L) =
Corrected DCA Concentration of Unknown (ug/L) =

**Biosensor Measurement Datasheet**  
**Second Bangor Demonstration, September 2004**

40 mL Vial Number: <i>mow-2-1</i> Biosensor ID: <i>422</i> pH Optode ID: <i>105</i> pH Optode Sensitivity: <i>32</i> PMT: <i>600V</i>	Analyst: <i>VICTOR ACHA</i> Date: <i>9/20/04</i> Time: <i>11:13 PM</i>	Checked By: Date Checked:
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Subsample Number (4.85 mL Vial)	Biosensor or Optode Reading?	Step Number	Step Description	Solution Removed and Volume (uL)	Solution Added and Volume (uL)	PM Start Time	Start Volts	End Time	End Volts	min	Delta T	Delta V	
	BIO	1	<i>mow-2-1</i>	100	100	11:13	10.456	11:26	10.113	13	0.283	(0.283)	
	BIO	2	<i>DCA (100 ppb)</i>	50	50	11:26	10.173	11:34	10.01	8	0.163		
	BIO	3	<i>DCA (100 ppb)</i>	25	25	11:36	10.004	11:43	9.82	7	0.184		
	BIO	4	<i>DCA (100 ppb)</i>	75	75	11:45	9.782	11:59	9.39	14	0.392		
	BIO	5	<i>HCl (1mM)</i>	50	50	12:01 AM	8.554	00:26	8.31	5	0.243		
	BIO	6	<i>HCl (1mM)</i>	25	25	AM	00:28	8.205	00:32	7.96	4	0.24	(0.24)
	BIO	7	<i>HCl (1mM)</i>	75	75	AM	00:35	7.97	00:42	7.586	7	0.384	
	pH opt	8	<i>mow-2-1</i>	100	100		00:54	8.632	00:56	8.38	2	0.252	
	pH opt	9	<i>DCA (100 ppb)</i>	50	50		00:57	8.386	00:59	7.593	4	0.793	
	pH opt	10	<i>DCA (100 ppb)</i>	25	25		01:03	7.5185	1:10	6.947	7	0.5715	
	pH opt	11	<i>DCA (100 ppb)</i>	75	75		1:11	6.923	1:18	5.84	7	1.083	
	pH opt	12	<i>HCl (1mM)</i>	50	50		1:29	7.919	1:35	7.76	6	0.159	
	pH opt	13	<i>HCl (1mM)</i>	25	25		1:37	7.746	1:49	7.314	12	0.432	
	pH opt	14	<i>HCl (1mM)</i>	75	75		1:50	7.322	1:58	6.616	8	0.706	

Comments:

Uncorrected DCA Concentration of Unknown (ug/L) =
Corrected DCA Concentration of Unknown (ug/L) =

**Biosensor Measurement Datasheet**  
**Second Bangor Demonstration, September 2004**

N

40 mL Vial Number: <b>MOV-3-2</b> 16H30 Biosensor ID: <b>422</b> 9/21/04 pH Optode ID: <b>105</b> pH Optode Sensitivity: <b>32</b> PMT: <b>600V</b>	Analyst: <b>Victor Acha</b> Date: <b>9/21/04</b> Time:	Checked By: Date Checked:
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Subsample Number (4.85 mL Vial)	Biosensor or Optode Reading?	Step Number	Step Description	Solution Removed and Volume (uL)	Solution Added and Volume (uL)	Start Time	Start Volts	End Time	End Volts	Delta T	Delta V
	B10	1	MOV-3-2	100	100	8:32	11.255	8:33	11.224	1	0.031
	B10	2	DCA (100ppb)	50	50	8:38	11.2365	8:41	11.21	3	0.0265
	B10	3	DCA (100ppb)	25	25	8:45	11.2465	8:47	11.202	2	0.0445
	B10	4	DCA (100ppb)	75	75	8:49	11.2015	8:53	11.1265	4	0.0749
	B10	5	HCl (1mM)	50	50	9:08	10.97	9:09	10.932	1	0.038
	B10	6	HCl (1mM)	25	25	9:09	10.947	9:11	10.9115	2	0.0355
	B10	7	HCl (1mM)	75	75	9:21	10.916	9:24	10.924	3	0.036
	pH opt	8	MOV-3-2	100	100	9:47	11.383	9:52	10.788	5	0.5945
	pH opt	9	DCA (100ppb)	50	50	9:57	10.784	10:01	10.554	4	0.23
	pH opt	10	DCA (100ppb)	25	25	10:03	10.57	10:13	10.37	10	0.2
	pH opt	11	DCA (100ppb)	75	75	10:14	10.35	10:18	10.02	4	0.328
	pH opt	12	HCl (1mM)	50	50	11:49	11.224	12:01	11.125	12	0.109
			HCl (1mM)	25	25	12:01	11.124	12:05	11.08	4	0.044
			HCl (1mM)	75	75	12:08	11.04	12:14	10.916	6	0.1465

0.025 ✓  
0.043  
0.051  
0.5945  
0.1465

Comments: 75mL HCl added to mg  
1) - 0.01  
2) - 0.02

Uncorrected DCA Concentration of Unknown (ug/L) =  
 Corrected DCA Concentration of Unknown (ug/L) =