

Table 19. Laboratory incubation denitrification rates for the experiment of May 22, 2009

[NEC, Northeast Creek watershed; BHM, Bass Harbor Marsh watershed; GW#, measurement site; NO<sub>3</sub>, nitrate; mM, millimolar; nmoles, nanomoles; hr, hour; T<sub>0</sub>, date and time chamber sealed and initial gas sampling; T<sub>1</sub>, T<sub>2</sub>, T<sub>3</sub>, subsequent gas sampling times; g, gram; C<sub>2</sub>H<sub>2</sub>, acetylene; N<sub>2</sub>O, nitrous oxide]

	Fresh weight (g)	T <sub>0</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	Treatment	Number of replicate measurements	N <sub>2</sub> O Production rate	
								T <sub>1</sub> to T <sub>2</sub>	T <sub>2</sub> to T <sub>3</sub>
								nmoles/g oven dry soil/hr	nmoles/g oven dry soil/hr
NEC GW2	20.08	10:36	10:36	14:48	18:32	+ C <sub>2</sub> H <sub>2</sub>	2	0.24	0.664
NEC GW2	20.18	10:37	10:37	14:49	18:32	+ glucose + C <sub>2</sub> H <sub>2</sub>	2	2.34	0.298
NEC GW2	20.08	10:38	10:38	14:50	18:33	Ambient	1	-0.036	0.167
NEC GW2	20.20	10:38	10:38	14:50	18:33	+ glucose	1	0.461	-0.836
NEC GW2	20.21	10:39	10:39	14:51	18:33	75 mM NO <sub>3</sub> + C <sub>2</sub> H <sub>2</sub>	2	11	16.7
NEC GW2	20.22	10:39	10:39	14:52	18:34	75 mM NO <sub>3</sub> + Glucose + C <sub>2</sub> H <sub>2</sub>	2	17.1	35.4
NEC GW2	20.22	10:41	10:41	14:53	18:35	75 mM NO <sub>3</sub>	1	12.5	14.9
NEC GW2	20.04	10:41	10:41	14:53	18:35	75 mM NO <sub>3</sub> + Glucose	1	22.4	29.1
NEC GW2	20.37	10:42	10:42	14:54	18:36	500 mM NO <sub>3</sub> + C <sub>2</sub> H <sub>2</sub>	2	3.66	7.3
NEC GW2	20.20	10:43	10:43	14:55	18:37	500 mM NO <sub>3</sub> + Glucose + C <sub>2</sub> H <sub>2</sub>	2	4.97	9.97
NEC GW2	20.45	10:43	10:43	14:56	18:38	500 mM NO <sub>3</sub>	1	4.71	6.68
NEC GW2	20.37	10:44	10:44	14:57	18:39	500 mM NO <sub>3</sub> + Glucose	1	4.85	10.2
BHM GW2	20.11	10:45	10:45	15:59	18:39	+ C <sub>2</sub> H <sub>2</sub>	2	0.025	0.079
BHM GW2	20.04	10:45	10:45	16:01	18:39	+ glucose + C <sub>2</sub> H <sub>2</sub>	2	1.33	-0.097
BHM GW2	20.03	10:47	10:47	16:01	18:40	Ambient	1	0.009	-0.075
BHM GW2	20.14	10:47	10:47	16:01	18:40	+ glucose	1	0.083	-0.208
BHM GW2	20.10	10:47	10:47	16:01	18:40	75 mM NO <sub>3</sub> + C <sub>2</sub> H <sub>2</sub>	2	8.87	31.6
BHM GW2	20.15	10:48	10:48	16:02	18:41	75 mM NO <sub>3</sub> + Glucose + C <sub>2</sub> H <sub>2</sub>	2	16.3	63.4

BHM GW2	20.07	10:49	10:49	16:03	18:42	75 mM NO <sub>3</sub>	1	6.87	18.3
BHM GW2	20.05	10:49	10:49	16:04	18:42	75 mM NO <sub>3</sub> + Glucose	1	12.5	45.5
BHM GW2	20.04	10:50	10:50	16:05	18:43	500 mM NO <sub>3</sub> + C <sub>2</sub> H <sub>2</sub>	2	5.41	19.3
BHM GW2	20.05	10:52	10:52	16:06	18:44	500 mM NO <sub>3</sub> + Glucose + C <sub>2</sub> H <sub>2</sub>	2	6.63	26.6
BHM GW2	20.09	10:52	10:52	16:06	18:45	500 mM NO <sub>3</sub>	1	4.24	11.4
BHM GW2	20.07	10:53	10:53	16:07	18:45	500 mM NO <sub>3</sub> + Glucose	1	5.81	18.7

---