

RAW SEA WATER ANALYSIS											Notes
DATE	Time	NH3	NO2	UV Nitrate	MLML-NO3	PO4	O2 Sat	O2 mg/l	Temp	pH	
1/4/97		0.01	0.00	0.1						7.96	
1/15/97		0.01	0.01	0.0						7.88	
1/23/97		0.01	0.01	0.1						8.06	
1/30/97		0.02	0.03	0.1						7.98	
3/12/97		0.01	0.01	0.7						7.79	
3/19/97		0.05	0.01	0.6							Ammonia contaminated by Citrate?
3/26/97		0.04	0.02	0.4							
4/2/97		0.03	0.02	0.5							
4/9/97		0.02	0.02	0.8							
4/16/97		0.04	0.00	0.9						7.63	
4/23/97		0.02	0.01	0.2						7.83	
4/30/97		0.03	0.02	0.1						7.92	
4/30/97		0.04	0.01	0.3							Duplicate analysis
5/7/96		0.04	0.02	0.9						7.76	
5/14/97		0.02	0.02	0.3						7.90	
5/21/97		0.04	0.04	0.0						7.93	
5/28/97		0.05	0.02	0.5						7.83	
6/4/97		0.06	0.02	0.4						7.76	
6/12/97											Defouling of RSW line
6/18/97		0.05	0.02	0.9							
6/25/97		0.07	0.02	0.8						7.87	
7/2/97		0.04	0.02	0.9						7.81	
7/9/97		0.06	0.01	0.4						7.99	
7/16/97		0.06	0.02	0.4						8.03	
7/23/97		0.04	0.03	0.7						7.91	
7/30/97		0.01	0.00	0.5						7.98	
8/6/97		0.04	0.03	0.9						7.88	
8/13/97		0.03	0.01	0.0						8.12	
8/14/97		0.05	0.01	0.0						8.06	
8/16/97		0.03	0.02	0.2						7.99	
8/20/97		0.03	0.02	0.2						8.05	
8/27/97		0.05	0.02	0.7						8.00	
8/28/97		0.02	0.03	0.5		0.11					
9/3/97		0.02	0.01	0.4							
9/10/97		0.03	0.01	0.2						8.04	
9/17/97		0.02	0.02	0.6		0.11				7.97	
9/25/97		0.03	0.02	0.4		0.13					
10/1/97		0.02	0.00	0.2						8.09	
10/8/97		0.02	0.02	0.5						8.01	
10/10/97		0.02	0.01	0.5						8.02	
10/13/97		0.00	0.01	0.4						7.97	
10/15/97		0.02	0.00	0.1						8.08	

Wet Chemistry
Soot
Measurements

RAW SEA WATER ANALYSIS											Notes
DATE	Time	NH3	NO2	UV Nitrate	MLML-NO3	PO4	O2 Sat	O2 mg/l	Temp	pH	
10/17/97		0.02	0.00	0.0							
10/22/97		0.02	0.02	0.1						8.08	
10/29/97		0.02	0.01	0.0						8.11	
11/5/97		0.01	0.01	0.0						8.09	
11/12/97		0.02	0.01	0.1						8.06	
11/19/97		0.03	0.00	0.1							
11/25/97		0.02	0.00	0.0						8.15	
12/3/97		0.02	0.01	0.1						8.14	
12/10/97		0.01	0.02	0.0						8.13	
12/17/97		0.00	0.02	0.0						8.11	
12/19/97		0.01	0.03	0.1		0.13				8.09	
12/22/97		0.00	0.02	0.1						8.15	
12/31/97		0.01	0.01	0.1						8.09	
1/7/98		0.01	0.02	0.0						8.09	
1/14/98	9:00	0.04	0.02	0.1						8.07	
1/20/98	8:30	0.01	0.03	0.3						8.08	
1/27/98	8:40	0.00	0.03	0.0							
2/10/98	8:50	0.01	0.00	0.1						8.08	
2/17/98	8:45	0.00	0.02	0.4							
2/24/98	8:37	0.00	0.03	0.4						8.17	
3/3/98	8:35	0.01	0.01	0.0						8.14	
3/10/98	9:00	0.00	0.01	0.0						8.08	
3/17/98	8:45	0.08	0.02	0.4							
3/21/98	9:00	0.01	0.01	0.3							
3/24/98	9:00	0.01	0.00	0.0							
3/26/98	9:00	0.01	0.00	0.0							
3/31/98	8:20	0.03	0.00	0.2						8.02	
4/7/98	8:30	0.06	0.00	0.0							
4/10/98	8:30	0.00	0.00	0.0							
4/14/98	9:00	0.02	0.01	0.0			82.3		13.0		
4/21/98	8:45	0.02	0.00	0.5							
5/1/98	8:20	0.02	0.01	0.0						8.11	
5/8/98	8:50	0.03	0.01							8.11	
5/15/98	9:00	0.02	0.02	0.0							
5/21/98	9:00	0.03	0.02	0.1							
5/28/98	9:15	0.01	0.02	0.1						7.93	
6/5/98	8:30	0.02	0.01	0.0							
6/12/98	8:35	0.02	0.03	0.7							
6/26/98	8:45	0.02	0.03	0.1							
7/3/98	9:05	0.01	0.02	0.0							
7/10/98	9:17	0.07	0.01	0.0							
7/17/98	9:30	0.02	0.01	0.9					11.5		

RAW SEA WATER ANALYSIS											Notes
DATE	Time	NH3	NO2	UV Nitrate	MLML-NO3	PO4	O2 Sat	O2 mg/l	Temp	pH	
7/24/98	9:01	0.04	0.00	0.0							
7/31/98	9:00	0.06	0.02	0.0							
8/7/98	9:04	0.02	0.01	0.0					16.0	7.96	
8/14/98	9:14	0.03	0.01	0.1					14.2	7.90	
8/21/98	9:05	0.02	0.01	0.0					14.6	7.90	
8/28/98	8:54	0.02	0.01	0.0					14.2	7.88	
9/4/98	10:45	0.02	0.00	0.0							
9/11/98	8:58	0.03	0.00	0.0					16.1	7.95	
9/18/98	8:53	0.05	0.00	0.0					16.2	8.02	
9/25/98	8:53	0.01	0.01	0.4					14.8	8.00	
10/2/98	8:51	0.02	0.01	0.0					16.1	8.08	
10/9/98	8:47	0.07	0.03	0.6					14.1	7.96	
10/16/98	8:50	0.01	0.01	1.1					12.0	7.79	
10/23/98	9:00	0.04	0.01	0.6					12.7	7.99	
10/30/98	9:04	0.02	0.03	0.7	0.61				13.3	7.96	
11/6/98	8:57	0.01	0.02	0.9	1.01				12.5	7.86	
11/13/98	8:56	0.02	0.00	0.9	0.91				12.4	7.90	
11/20/98	9:09	0.02	0.02	0.6	0.74				12.6	7.91	
11/27/98	9:05	0.02	0.02	1.0	0.53				13.4	8.03	
12/4/98	9:14	0.01	0.01	0.7	0.45				12.8	8.06	
12/11/98	9:12	0.01	0.02	0.8	0.67				12.2	7.88	
12/18/98	8:49	0.01	0.01	1.3	1.13				11.8	7.77	
12/23/98	8:59	0.02	0.03	0.9	0.96				10.6	7.82	
12/30/98	8:34	0.01	0.01	0.5	0.76				11.4	7.83	
1/8/99	8:57	0.01	0.02	0.9	0.70				11.9	7.83	
1/15/99	9:00	0.02	0.01	1.0	0.78				11.8	7.85	
1/22/99	8:58	0.00	0.02	0.4	0.59				12.7	7.87	
1/29/99	8:50	0.02	0.02	0.9	0.71				12.1	7.83	
2/5/99	8:49	0.02	0.02	1.0	0.89				11.8	7.82	
2/12/99	9:11	0.01	0.02	0.7	0.99				11.3	7.76	
2/19/99	9:02	0.03	0.01	0.7	0.78				11.8	7.82	
2/26/99	8:57	0.02	0.03	1.2	0.83				11.7	7.78	
3/5/99	8:46	0.00	0.03	1.5	1.70				10.6		
3/12/99	8:57	0.02	0.00	1.2	1.10				10.8	7.72	
3/19/99	9:16	0.00	0.01	0.8	0.66				11.0	7.85	
3/26/99	9:14	0.03	0.00	0.2					11.7	7.95	
4/2/99	9:21	0.02	0.02	1.1	1.24				10.5	7.63	
4/9/99	9:31	0.02	0.02	1.0	1.23				9.8	7.73	
4/16/99	9:12	0.02	0.01	0.8	1.18				10.5	7.77	
4/23/99	9:23	0.03	0.03	0.8	0.75				10.7	7.84	
4/30/99	9:16	0.04	0.03	1.2	1.21				10.0	7.79	
5/7/99	9:03	0.05	0.02	0.4	0.19				11.3	8.06	

RAW SEA WATER ANALYSIS											Notes
DATE	Time	NH3	NO2	UV Nitrate	MLML-NO3	PO4	O2 Sat	O2 mg/l	Temp	pH	
5/14/99	8:48	0.03	0.02		1.06				10.0	7.92	
5/21/99	9:04	0.04	0.02		0.91		94	8.3	10.5	7.99	
5/28/99	9:09	0.08	0.02		0.74		100	10.2	11.8	8.15	
6/2/99	9:01					0.14					
6/4/99	8:43	0.04	0.02		0.72	0.15	103	8.9	11.9	8.08	
6/11/99	9:04	0.06	0.03		1.04	0.26					AM sample thought to be a bad sample, low O2, but turned out to be real
6/11/99	15:25				0.53	0.13	97	8.1	12.5	7.99	
6/18/99	9:01	0.07	0.02		1.20	0.19	71	6.4	10.5	7.92	O2 real number, pump house had 73% sat
6/25/99	8:56	0.04	0.03		1.03	0.17	83	7.0	11.7	8.14	
7/2/99	8:59	0.03	0.01		0.59	0.11	103	8.8	13.1	8.03	pH measured in lab
7/9/99	8:57	0.03	0.04		1.44	0.22	57	5.0	10.9	7.79	pH measured in lab
7/9/99	15:09					0.16	79	6.7	12.6	7.80	pH measured in lab
7/16/99	9:08	0.03	0.03		0.35	0.14	104	8.7	14.3	8.06	
7/23/99	8:51	0.05	0.02		0.39	0.11	94	7.7	14.6	8.03	
7/30/99	8:59	0.05	0.03		0.89	0.17	69	6.1	13.5	7.84	
8/6/99	8:46	0.04	0.03		0.96	0.16	63	5.5	13.0	7.83	
8/10/99	8:57	0.03	0.03		1.31	0.21	57	5.0	12.3	7.81	
8/10/99	13:52						61	5.2	12.7	7.77	
8/11/99	9:04	0.04	0.02		0.80		70	6.1	12.9	7.83	
8/13/99	8:58	0.02	0.03		1.04	0.19	73	6.7	12.6	7.91	
8/18/99	8:44						69	6.2	12.3	7.91	
8/20/99	9:00	0.03	0.03		0.97	0.19	68	5.9	12.5	7.87	
8/27/99	9:00	0.02	0.02		0.65	0.15	90	7.9	12.9	8.00	
9/3/99											No sample could be taken, rotting out main pipe
9/15/99	15:45	0.06	0.02		0.90	0.15					Sample from bucket in sump
9/17/99	9:02	0.05	0.02		0.41	0.14	88	7.4	14.3	8.02	Sample from tap in pump house 10" PFA line
9/24/99	9:25	0.05	0.01		0.37	0.16	83	6.9	14.3	7.71	Sample from normal port. Rotting over as of 5pm 9/23
10/1/99	9:44	0.04	0.02		0.00	0.11	97	8.1	14.7	8.05	
10/8/99	9:24	0.02	0.05		0.75	0.19	66	5.7	13.2	7.83	
10/15/99	8:55	0.01	0.01		0.00	0.07	99	8.2	14.6	8.06	
10/22/99	9:15	0.00	0.03		0.81	0.05	70	6.1	12.8	7.84	
10/29/99	9:16	0.03	0.02		0.26	0.13	86	7.4	14.0	7.97	
11/5/99	9:21	0.00	0.02		0.48	0.14	80	6.9	13.0	7.89	
11/12/99	9:15	0.01	0.02		0.68		93	7.8	13.9	8.00	Robin missed taking phosphates today
11/19/99	9:37	0.02	0.01		0.00	0.07	91	7.6	14.4	8.10	
11/24/99	9:51	0.03	0.02		0.16	0.14	83	7.2	13.7	8.00	Sampled early due to holiday
12/3/99	9:33	0.02	0.02		0.09	0.08	98	8.5	13.3	8.08	
12/10/99	8:59	0.01	0.02		0.38	0.11	97	8.5	12.6	8.04	
12/17/99	9:16	0.01	0.02		0.89	0.11	76	6.5	11.6	7.88	
12/20/99	8:52	0.02	0.02		0.92	0.13	84	7.2	12.1	7.94	Sampled early due to holiday
12/30/99	8:54	0.01	0.02		0.17	0.07	94	8.0	12.6	8.00	
1/7/00	8:39	0.02	0.02		0.39	0.09	78	6.7	12.0	7.91	

RAW SEA WATER ANALYSIS											Notes
DATE	Time	NH3	NO2	UV Nitrate	MLML-NO3	PO4	O2 Sat	O2 mg/l	Temp	pH	
1/14/00	9:09	0.00	0.03		0.34	0.10	93	7.9	12.3	7.94	
1/21/00	8:58	0.01	0.02		0.00	0.07	97	8.2	13.2	8.00	
1/28/00	9:26	0.00	0.03		0.00	0.12	95	7.9	13.3	8.04	
2/4/00	8:58	0.02	0.01		0.00	0.06	93	7.9	13.1	8.03	
2/11/00	8:52	0.02	0.01		0.00	0.28	100	8.4	13.2	8.05	
2/18/00	9:01	0.01	0.02		0.00	0.00	102	8.6	13.5	8.09	
2/25/00	8:52	0.02	0.02		0.08	0.10	98	8.4	13.2	8.01	
3/3/00	8:59	0.01	0.01		0.00	0.06	96	8.2	13.4	8.03	
3/10/00	9:08	0.01	0.02		0.00	0.25	96	8.3	12.8	7.78	
3/17/00	9:20	0.01	0.01		0.92	0.08	46	4.2	11.0	7.72	
3/24/00	9:19	0.00	0.01		0.26	0.00	78	6.9	11.6	7.95	
3/31/00	9:17	0.04	0.01		0.33	0.05	73	6.5	11.4	7.39	
4/7/00	9:15	0.03	0.01		0.00	0.00	105	9.0	13.0	8.08	
4/13/00	9:15					0.10	84	7.2	13.3	7.65	
4/21/00	9:41	0.03	0.00		0.00	0.01	97	8.2	13.5	7.99	
4/28/00	9:29	0.04	0.01		0.65	0.17	59	5.2	11.9	7.81	
5/5/00	9:31	0.01	0.02		0.67	0.16	71	6.3	11.6	7.83	
5/12/00	9:30	0.01	0.01		0.00	0.12	101	8.8	12.2	8.02	
5/19/00	9:04	0.04	0.01		0.01	0.00	83	7.0	12.6	7.94	
5/26/00	9:11	0.03	0.01		0.52	0.05	72	6.2	12.6	7.80	
6/2/00	9:15	0.05	0.02		0.80	0.14	45	3.9	10.9	7.66	
6/9/00	8:37	0.01	0.01		0.00	0.00	122	10.2	13.7	8.12	
6/16/00	8:36	0.01	0.02		0.17	0.04	102	8.7	12.9	7.96	
6/23/00	8:55	0.04	0.01		0.00	0.01	106	8.7	14.0	8.01	
6/30/00	8:34	0.02	0.02		0.16	0.01	97	7.7	13.3	7.92	
7/7/00	8:34	0.02	0.01		0.00	0.00	108	8.8	14.9	8.07	
7/14/00	9:02	0.02	0.01		0.00	0.00	113	9.3	14.1	8.08	
7/21/00	9:20	0.05	0.02		0.53	0.05	63	5.3	12.5	7.81	
7/28/00	9:02	0.01	0.02		0.84	0.14	53	4.6	11.3	7.75	
8/4/00	8:50	0.04	0.02		0.00	0.06	100	8.3	13.2	8.05	
8/11/00	9:15	0.02	0.02		0.17	0.00	86	7.2	13.2	7.94	
8/18/00	9:07	0.02	0.02		0.59	0.05	64	5.5	11.5	7.86	
8/25/00	8:46	0.00	0.05		0.41	0.10	75	6.1	12.1	7.92	
9/1/00	8:36	0.03	0.00		0.00	0.02	123	10.4	14.0	8.18	
9/8/00	9:20	0.04	0.02		0.50	0.07	58	5.0	12.2	7.85	
9/15/00	9:20	0.02	0.02		0.16	0.04	88	7.2	13.6	7.96	
9/22/00	9:15	0.02	0.01		0.00	0.04	101	8.0	16.1	8.10	NH3 & NO2 color reagent now without sulfanilamide
9/29/00	9:12	0.03	0.02		0.03	0.11	90	7.1	14.9	7.93	
10/6/00	9:04	0.02	0.01		0.00	0.14	97	7.4	15.8	8.02	
10/13/00	9:17	0.00	0.04		0.19	0.08	82	6.5	14.3	7.93	
10/20/00	9:00	0.00	0.01		0.60	0.10	68	5.6	12.3	7.81	
10/27/00	9:05	0.01	0.01		0.00	0.02			13.6	8.02	No DO because handheld quit

RAW SEA WATER ANALYSIS											
DATE	Time	NH3	NO2	UV Nitrate	MLML-NO3	PO4	O2 Sat	O2 mg/l	Temp	pH	Notes
11/3/00	9:36	0.02	0.01		0.00	0.08	92	7.8	13.8	7.97	
11/10/00	9:23	0.00	0.01		0.35	0.01	83	7.3	11.5	7.85	
11/17/00	9:32	0.01	0.01		0.24	0.09	84	7.3	11.6	7.96	
12/1/00	9:30	0.01	0.01		0.17	0.23	94	7.8	12.6	7.85	Sample taken from port in pump house
12/8/00	8:46	0.00	0.01		0.00	0.18	99	8.2	14.2	7.95	Sample taken from port in pump house
12/15/00	8:59	0.01	0.01		0.00	0.07	95	8.0	13.7	8.06	
12/22/00	10:15	0.01	0.02		0.00	0.09	92	7.8	13.1	7.84	
12/28/00	9:12	0.00	0.01		0.09	0.10	92	7.9	12.7	8.05	
1/2/01	9:29	0.00	0.04		0.02	0.12	95	8.2	12.8	8.05	Sampled early due to holiday
1/12/01	9:08	0.02	0.02		0.00	0.09	104	8.8	13.3	8.10	
1/19/01	9:15	0.00	0.02		0.00	0.06	99	8.5	13.1	8.12	
1/26/01	9:52	0.01	0.01		0.00	0.08	98	8.4	12.9	7.94	
2/2/01	9:10	0.00	0.02		0.15	0.10	85	7.3	12.5	8.07	
2/9/01	9:09	0.01	0.04		0.12	0.14	85	7.4	12.1	8.09	
2/16/01	8:59	0.01	0.01		0.28	0.17	86	7.6	11.3	8.00	
2/23/01	9:15	0.02	0.02		0.00	0.07	99	8.5	12.7	8.11	
3/2/01	9:27	0.01	0.01		0.16	0.06	100	8.5	13.1	8.16	
3/9/01	9:43	0.01	0.00		0.00	0.00	101	8.6	13.1	8.14	
3/16/01	9:22	0.01	0.04		0.02	0.13	96	8.3	13.0	8.12	
3/23/01	9:24	0.00	0.02		0.16	0.14	92	7.9	12.8	8.07	
3/30/01	9:04	0.00	0.02		0.76	0.13	60	5.4	11.2	7.89	