

POSITION DATA SHEET

R/V NEW HORIZON

CRUISE: NH0908

2 - 21 August 2009

SHEET 1 OF

Station Number	Date August	Time ZD +7	Latitude North	Longitude West	Remarks	Initials
1	02/8/09	1217	32° 35.677	117° 47.560	CTD TEST MAN DEPLOYED.	KI
1	02/8/09	1217	32° 35.755	117° 47.526	CTD @ 500 m	KI
1	02/8/09	1253	32° 35.741	117° 47.340	CTD ON DECK.	KI
2	02/8/09	1524	32° 33.585	118° 09.871	MANTA TOW DEPLOYED	KI
2	02/8/09	1540	32° 33.557	118° 10.270	MANTA TOW ON DECK	KI
3	2	2109	32° 28.700	119° 05.449	Manta tow deployed	VS
3	2	2124	32° 28.612	119° 05.574	Manta on deck	VS
4	3	0231	32° 24.807	119° 57.346	CTD #2 DEPLOYED	KI
4	3	0251	32° 24.561	119° 57.553	CTD #2 @ 500m	KI
4	3	0321	32° 24.206	119° 58.060	CTD #2 ON DECK.	KI
4	3	0344	32° 23.985	119° 58.736	BONGO #2 DEPLOYED	WJW
4	3	0406	32° 23.862	119° 59.162	BONGO #2 ON DECK	WJW
4	3	0441	32° 23.630	119° 59.822	CTD #3 DEPLOYED	WJW
4	3	0520	32° 23.578	119° 59.844	CTD #3 @ 500m	WJW
4	3	0515	32° 23.490	119° 59.852	CTD #3 ON DECK	WJW
4	3	0536	32° 24.099	119° 59.520	MANTA #2 DEPLOYED	WJW
4	3	0551	32° 24.013	119° 59.787	MANTA #2 ON DECK	WJW
4	3	0641	32° 25.241	119° 58.727	IKMT #3 DEPLOYED	WJW
4	3	0742	32° 26.898	120° 00.360	IKMT #3 @ 1800m	VS
4	3	0905	32° 28.589	120° 02.141	IKMT #3 on deck	VS
		1025	32° 25.493	119° 58.000	Manta #3 deployed	VS
		1040	32° 25.517	119° 58.157	Manta #3 on deck	VS
		1104	32° 25.450	119° 58.352	CTD #4 deployed	VS
		1118	32° 25.448	119° 58.506	CTD @ depth 500m	VS
▼	▼	1143	32° 25.382	119° 58.737	CTD #4 on deck	KI
4	3	1209	32° 25.326	119° 59.049	MANTA 4 DEPLOYED	KI
4	3	1226	32° 25.212	119° 59.271	MANTA 4 ON DECK.	KI
4	3				BONGO TOW #3 DEPLOYED	
4	3	1300	32° 25.	119° 59.913	BONGO TOW #3 ON DECK	KI
4	3	1328	32° 24.747	119° 57.970	MANTA TOW #5 DEPLOYED	KI
4	3	1350	32° 24.530	119° 58.326	MANTA TOW #5 ON DECK.	KI

All positions are GPS unless otherwise indicated

POSITION DATA SHEET

R/V NEW HORIZON

CRUISE: NH0907

24-28 July 2009

SHEET 7 OF

Station Number	Date July 09	Time ZD +07	Latitude North	Longitude West	Remarks	Initials
4	3	1400	32° 24.513	119° 58.654	BONGO #4 DEPLOYED	KI
4	3	1421	32 24.558	119 58.740	BONGO #4 ON DECK	KI
4	3	1445	32° 24.790	119 58.720	IKMT 4 DEEP TOW DEPLOYED	KI
4	3	1648	32-27.660	119-120-01.776	IKMT 4 DEEP TOW ON DECK	WN
4	3	1716	32-24.370	119-56.279	MANTA #6 DEPLOYED	WN
4	3	1756	32-24.402	119-56.572	MANTA #6 ON DECK	WN
4	3	1800	32-24.462	119-56.692	BONGO #5 DEPLOYED	WN
4	3	1822	32-24.531	119-57.202	BONGO #5 ON DECK	WN
4	3	1835	32-24.771	119-57.662	MANTA #7 DEPLOYED	WN
4	3	1850	32-24.750	119-57.913	MANTA #7 ON DECK	WN
4	3	1854	32-24.748	119-58.120	BONGO #6 DEPLOYED	WN
4	3	1915	32-24.725	119-58.692	BONGO #6 ON DECK	WN
4	3	1927	32-24.677	119-58.826	MANTA #8 DEPLOYED	WN
4	3	1941	32-24.645	119-59.130	MANTA #8 ON DECK	WN
4	3	1957	32 24.664	119 59.535	IKMT #1 deployed	VS
		2042	32 25.270	120 01.957	IKMT @ depth 1100m	VS
		2206	32 25.946	120 05.202	IKMT #1 on deck	VS
		2236	32 25.665	120 03.599	Manta #1 deployed	VS
		2251	32 25.590	120 03.795	Manta #1 on deck	VS
		2258	32 25.458	120 03.889	Bongo #1 deployed	VS
		2322	32 25.245	120 04.373	Bongo #1 on deck	VS
▼	▼	2345	32 25.156	120 05.211	IKMT #2 deployed	KI
▼	04	2358 2358	32 25.171	120 05.662	IKMT @ depth 500m	KI
▼	04	0045	32 25.198	120 07.221	IKMT #2 on deck	KI
4	4	0234	32° 23.310	120° 08.144	CTD 1 DEPLOYED	KI
4	4	0248	32° 23.714	120° 08.653	CTD 1 @ 500m	KI
4	4	0313	32° 23.852	120° 08.903	CTD ON DECK	KI
5	4	0906	32 22.700	121 12.065	Manta deployed	VS
5	4	0922	32 22.914	121 12.459	Manta on deck	VS
6	4	1502	32° 21.609	122 18.594	MANTA DEPLOYED	KI
6	4				MANTA ON DECK	

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POSITION DATA SHEET

R/V NEW HORIZON

CRUISE: NH0908

2 - 21 August 2009

SHEET 3 OF

Station Number	Date August	Time ZD +7	Latitude North	Longitude West	Remarks	Initials
7	4	2057	32 20.671	123 20.600	Manta deployed	MS
7	4	2113	32 20.727	123 21.136	Manta on deck	MS
↓	↓	2118	32 20.739	123 21.194	Manta deployed	MS
↓	↓	2134	32 20.773	123 21.411	Manta on deck	MS
8	5	0304	32 19.671	124 20.786	MANTA DEPLOYED	KI
8	5	0322	32 19.635	124 21.157	MANTA ON DECK	KI
8	5	0333	32 19.689	124 21.332	CTD DEPLOYED	KI
8	5	0350	32-19.803	124-21.576	CTD @ 500m	WN
8	5	0422	32-19.720	124-21.873	CTD ON DECK	WN
9	5	0906	32 19.523	125 13.842	Manta deployed	MS
9	5	0921	32 19.501	125 14.164	Manta on deck	MS
10	5	1502	32 17.393	126 16.927	MANTA TOW DEPLOYED	KI
10	5	1514	32 17.431	126 17.159	MANTA TOW ON DECK	KI
11	5	2103	32 15.520	127 21.306	Manta deployed	MS
↓	↓	2119	32 15.513	127 21.763	Manta on deck	MS
↓	↓	2125	32 15.505	127 21.901	Manta deployed	MS
↓	↓	2140	32 15.526	127 22.397	Manta on deck	MS
12	6	0301	32 14.689	128 21.534	MANTA TOW DEPLOYED	KI
12	6	0318	32 14.917	128 21.773	MANTA ON DECK	KI
12	6	0329	32 15.291	128 21.806	CTD DEPLOYED	KI
12	6	0353	32-15.287	128-21.770	CTD @ 500m	WN
12	6	0419	32-15.163	128-21.804	CTD ON DECK	WN
13	6	0902	32 13.350	129 10.550	Manta deployed	MS
13	6	0917	32 13.410	129 10.800	Manta on deck	MS
14	6	1504	32 12.459	130 14.710 14.310	MANTA TOW DEPLOYED	KI
14	6	1519	32 12.574	130 14.599	MANTA TOW ON DECK	KI
14	6	1527 1547	32 12.632	130 14.591	MANTA TOW DEPLOYED	KI
14	6	1540	32 12.729	130 15.091	MANTA TOW ON DECK	KI
15	6	2200	32 10.578	131 25.056	Manta deployed	MS
15	6	2215	32 10.736	131 25.343	Manta on deck	MS

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SHEET 4 OF

Station Number	Date August	Time ZD +7	Latitude North	Longitude West	Remarks	Initials
16	7	0304	32° 18.349	132° 18.964	MANTA TOW DEPLOYED	KI
16	7	0320	32° 18.796	132° 19.242	MANTA TOW ON DECK	KI
16	7	0331	32° 18.887	132° 19.365	CTD DEPLOYED	KI
16	7	0347	32-11.027	132-19.540	CTD @ 500 m	WIN
16	7	0411	32-11.285	132-19.720	CTD ON DECK.	WIN
17	7	0902	32 09.628	133 10.933	Manta deployed	MS
17	7	0907	32 09.907	133 11.139	Manta on deck	MS
18	7	1504	32 07.198	134 13.859	MANTA DEPLOYED	KI
18	7	1520	32 07.476	134 14.117	MANTA ON DECK	KI
19	7	2202	32 06.083	135 28.812	Manta deployed	MS
19	7	2217	32 06.441	135 28.873	Manta on deck	MS
20	8	0302	32° 04.811	136° 20.942	MANTA DEPLOYED	KI
20	8	0320	32° 05.046	136° 21.301	MANTA ON DECK	KI
20	8	0339	32° 05.131	136° 21.453	CTD DEPLOYED	KI
20	8	0335	32° 05.182	136° 21.538	CTD @ 500 m CTD ON DECK	KI
20	8	0510	32° 05.218	136° 21.598	CTD ON DECK CTD DEPLOYED	KI
20	8	0356	32 05.322	136-21.832	CTD @ 500m	WIN
20	8	0420	32-05.451	136-22.277	CTD ON DECK	WIN
21	8	0902	32 04.092	137 13.189	Manta deployed	MS
21	8	0917	32 04.474	137 13.365	Manta on deck	MS
22	8	1203	32 03.076	137 42.340	MANTA DEPLOYED	KI
22	8	1219	32 03.423	137 42.301	MANTA ON DECK	KI
23	8	1355	32 02.571	137 55.671	MANTA DEPLOYED	KI
23	8	1408	32° 02.732	137 55.444	MANTA ON DECK	KI
23	8	1413	32° 02.799	137 55.381	MANTA DEPLOYED	KI
23	8	1429	32° 02.932	137 55.205	MANTA ON DECK	KI
23	8	1442	32° 03.078	137 55.035	CTD DEPLOYED	KI
23	8	1457	32° 03.136	137 54.969	CTD @ 500 m	KI
23	8	1516	32° 03.271	137 54.864	CTD ON DECK	KI
23	8	1529	32° 03.419	137 54.719	BONGO TOW DEPLOYED	KI
23	8	1551	32° 03.789	137 54.493	BONGO TOW ON DECK.	KI

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SHEET 5 OF

Station Number	Date August	Time ZD +7	Latitude North	Longitude West	Remarks	Initials
23	8	1617	32-03.878	137-53.885	1KMT 4 DEPLOYED	WJN
23	8		32	137	1KMT 4 @	KI
23	8	1814	32-06.070	137-49.988	1KMT 4 ON DECK	WJN
23	8	1908	32-07.346	137-56.004	MANTA #6 DEPLOYED	WJN
23	8	1922	32-07.616	137-56.094	MANTA #6 ON DECK	WJN
23	8	1928	32-07.774	137-56.120	BONGO #5 DEPLOYED	WJN
23	8	1953	32-07.321	137-56.289	BONGO #5 ON DECK	KI
23	8	2008	32-03.551	137-56.319	CTD #4 deployed	MS
		2024	32-03.831	137-56.375	CTD @ depth 500m	VS
		2036	32-04.007	137-56.491	CTD #4 on deck	VS
		2057	32-04.610	137-56.409	1KMT #1 deployed	WJ
		2137	32-06.492	137-55.373	1KMT @ depth 1800m	VS
		2325	32-09.634	137-53.846	1KMT #1 on deck	VS
23	9	0034	32-09.854	137-54.771	BONGO #2 DEPLOYED	KI
23	9	0055	32-04.571	137-54.835	BONGO #2 ON DECK	KI
23	9	0103	32-04.766	137-54.8	BONGO #6 [#] DECK DEPLOYED	KI
23	9	0125	32-05.263	137-54.906	BONGO #6 DECK ON DECK	KI
23	9	0150	32-06.480	137-54.195	1KMT #2 DEPLOYED	KI
23	9	0251	32-08.474	137-52.800	1KMT #2 ON DECK.	KI
23	9	0412	32-07.402	137-55.540	CTD DEPLOYED #3	WJN
23	9	0427	32-07.536	137-55.558	CTD @ 500 m #3	WJN
23	9	0451	32-07.853	137-55.546	CTD ON DECK #3	WJN
23	9	0459	32-07.965	137-55.476	MANTA #7 DEPLOYED	WJN
23	9	0514	32-03.292	137-55.319	MANTA #7 ON DECK	WJN
23	9	0519	32-03.376	137-55.306	MANTA #8 DEPLOYED	WJN
23	9	0534	32-03.716	137-55.188	MANTA #8 ON DECK	WJN
23	9	0550	32-04.182	137-54.779	1KMT #3 DEPLOYED	WJN
23	9	0627	32-05.451	137-53.305	1KMT #3 @ 1800	WJN
23	9	0606	32-08.011	137-50.031	1KMT #3 ON DECK	MS
23	9	0607	32-03.047	137-54.977	Manta #1 deployed	VS
23	9	0912	32-03.323	137-54.677	Manta #1 on deck	VS

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SHEET 6 OF

Station Number	Date August	Time ZD +7	Latitude North	Longitude West	Remarks	Initials
23	9	0927	32 03.390	137 54.603	Manta #2 deployed	VS
		0943	32 03.673	137 54.276	Manta #2 on deck	VS
		0947	32 03.740	137 54.222	Manta deployed	VS
		1002	32 04.033	137 53.944	Manta on deck	VS
		1010	32 04.179	137 53.845	Bongo #3 deployed	VS
		1036	32 04.700	137 53.512	Bongo #3 on deck	VS
		1109	32 02.984	137 55.229	CTD #1 deployed	VS
		1123	32 03.115	137 55.177	CTD @ depth 500m	VS
		1156	32 03.340	137 55.200	CTD #1 on deck	KI
23	9	1205	32 03.437	137 55.155	MANTA TOW DEPLOYED #3	KI
23	9	1223	32 03.737	137 54.908	MANTA TOW ON DECK #3	KI
23	9	1227	32 03.821	137 54.845	MANTA TOW DEPLOYED #4	KI
23	9	1243	32 04.057	137 54.672	MANTA TOW ON DECK #4	KI
23	9	1246	32 04.100	137 54.641	MANTA TOW DEPLOYED	KI
23	9	1302	32 04.344	137 54.472	MANTA TOW ON DECK	KI
23	9	1323			BONGO #1 DEPLOYED	KI
23	9	1349	32 03.735	137 54.646	BONGO #1 ON DECK	KI
23	9	1400	32 04.000	137 54.012	MANTA DEPLOYED	KI
23	9	1415	32 04.091	137 54.222	MANTA ON DECK	KI
23	9	1422	32 04.215	137 54.065	MANTA DEPLOYED	KI
23	9	1437	32 04.331	137 54.878	MANTA ON DECK	KI
2425	9	1804	32 01.749	138 30.460	MANTA DEPLOYED	WN
2425	9	1819	32 01.823	138 30.148	MANTA ON DECK	WN
25	9	2102	32 01.444	138 58.200	Manta deployed	VS
25	9	2118	32 01.699	138 58.522	Manta on deck	VS
26	10	0904	32 01.980	139 27.643	MANTA DEPLOYED	KI
26	10	0921	32 01.522	139 27.319	MANTA ON DECK.	KI
27	10	0904	32 01.790	139 55.827	MANTA DEPLOYED	KI
27	10	0923	32 02.180	139 54.700	MANTA ON DECK.	KI
27	10	0931	32 02.324	139 54.613	CTD DEPLOYED	KI
27	10	0947	32 02.547	139 54.476	CTD @ 500 m	WN

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SHEET 7 OF

Station Number	Date August	Time ZD +7	Latitude North	Longitude West	Remarks	Initials
27	10	0413	32-02.873	141-54.206	CTD ON DECK	WN
28	10	0603	32-02.528	140-12.123	MANTA DEPLOYED	WN
28	10	0618	32-02.770	140-11.030	MANTA ON DECK	WN
29	10	0905	32 20.923	140 10.276	Manta deployed	VS
29	10	0920	32 21.086	140 10.863	Manta on deck	VS
29	10	0927	32 21.160	140 10.691	Manta deployed	VS
29	10	0942	32 21.311	140 10.327	Manta on deck	VS
30	10	1155	32 27.871	140 18.692	MANTA DEPLOYED	KI
30	10	1214	32 38.131	140 18.600	MANTA ON DECK	KI
31	10	1409	32 53.836	140 19.346	MANTA DEPLOYED	KI
31	10	1420	32 54.191	140 19.385	MANTA ON DECK	KI
31	10	1454	32 54.676	140 19.148	CTD DEPLOYED #9	KI
31	10	1514	32 54.660	140 18.972	CTD @ 500 m #5	KI
31	10	1530	32 54.651	140 18.814	CTD ON DECK #5	KI
31	10	1542	32-54.879	140-19.009	BONGO4 DEPLOYED	WN
31	10	1603	32-55.209	140-19.503	BONGO4 ON DECK	WN
31	10	1704	32 54.920	140 18.714	IKMT4 DEPLOYED	KI
31	10	1714	32-53.874	140-17.047	IKMT 4 ON DECK @ 1800	WN
31	10		32	140	IKMT 4 ON DECK	
31	10	1809	32-53.485	140-16.186	SINOBUW #2 DEPLOYED	WN
31	10	1915	32-53.107	140-14.041	IKMT 4 ON DECK	WN
31	10	1953	32 54.300	140 17.577	Manta #4 deployed	VS
		2006	32 54.517	140 17.888	Manta #4 on deck	VS
		2013	32 54.696	140 17.997	Manta #4 deployed	VS
		2020	32 54.989	140 18.325	Manta #4 on deck	VS
		2030	32 55.126	140 18.580	Bongo #5 deployed	VS
		2101	32 55.577	140 18.636	Bongo #5 on deck	VS
		2121	32 55.563	140 18.123	IKMT #1 deployed	VS
		2204	32 53.981	140 16.237	IKMT @ depth 1800m	VS
		2345	32 51.169	140 12.529	IKMT #1 on deck	KI
31	10	0107	32 54.546	140 16.162	BONGO TOW DEPLOYED #2	KI

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SHEET 8 OF

Station Number	Date August	Time ZD +7	Latitude North	Longitude West	Remarks	Initials
31	11	0130	32° 54.257	140° 17.709	BONGO ON DECK #2	KI
31	11	0134	32° 53.947	140° 17.148	BONGO #6 DEPLOYED	KI
31	11	0154	32° 53.880	140° 17.027	BONGO #6 ON DECK	KI
31	11	0223	32° 53.136	140° 16.024	IKMT #2 DEPLOYED	KI
31	11	0324	32° 51.236	140° 13.856	IKMT #2 ON DECK	KI
31	11	0423	32-55.040	140-19.217	CTD #3 DEPLOYED	WN
31	11	0441	32-54.843	140-19.899	CTD #3 @ 500m	WN
31	11	0505	32-54.624	140-18.569	CTD ON DECK	WN
31	11	0513	32-54.504	140-18.433	MANTA 7 DEPLOYED	WN
31	11	0528	32-54.166	140-18.058	MANTA 7 ON DECK	WN
31	11	0534	32-53.976	140-17.858	MANTA 8 DEPLOYED	WN
31	11	0549	32-53.570	140-17.469	MANTA 8 ON DECK	WN
31	11	0600	32-52.926	140-16.932	IKMT 3 DEPLOYED	WN
31	11	0646	32-51.140	140-15.466	IKMT 3 @ 1800m	WN
31	11	0821	32 47.857	140 13.203	IKMT 3 on deck	MS
		0921	32 53.452	140 18.340	Manta #1 deployed	MS
		0930	32 53.643	140 18.642	Manta #1 on deck	MS
		0942	32 53.699	140 18.727	Manta #2 deployed	MS
		0956	32 53.880	140 19.024	Manta #2 on deck	MS
		1002	32 53.937	140 19.125	Manta #2 deployed	MS
		1018	32 54.135	140 19.464	Manta #2 on deck	MS
		1043	32 54.223	140 19.734	CTD #1 deployed	MS
		1050	32 54.032	140 19.779	CTD @ depth	MS
		1129	32 53.702	140 19.571	CTD #1 on deck	MS
31	11	1218	32 54.714	140 19.801	BONGO #3 DEPLOYED	KI
31	11	1237	32 54.966	140 20.077	BONGO #3 ON DECK	KI
31	11	1247 1247	32 55.151	140 20.242	BONGO #1 DEPLOYED	KI
31	11	1306	32 55.626	140 20.693	BONGO #1 ON DECK	KI
31	11	1316	32° 55.803	140 20.726	MANTA #6 DEPLOYED	KI
31	11	1333	32° 55.607	140 20.593	MANTA #6 ON DECK	KI
31	11	1337	32° 55.549	140 20.537	MANTA #3	KI

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Station Number	Date August	Time ZD +7	Latitude North	Longitude West	Remarks	Initials
31	11	1353	32° 55.427	140° 20.432	MANTA #6 ON DECK	KI
31	11	1358	32° 55.376	140° 20.390	MANTA "CHELSEA" DEPLOYED	KI
31	11	1413	32° 55.210	140° 20.239	MANTA "CHELSEA" ON DECK	KI
31	11	1441	32° 55.097	140° 20.047	CTD #4 DEPLOYED	KI
31	11	1459	32° 55.044	140° 19.817	CTD #4 @ 500 m	KI
31	11	1515	32° 54.983	140° 19.798	CTD #4 ON DECK	KI
32	11	2300	32° 37.588	139° 45.852	Manta deployed	MS
32	11	2315	33° 37.921	139° 45.916	Manta on deck	MS
33	12	0004	33° 46.654	139° 46.345	MANTA DEPLOYED	KI
33	12	0022	33° 43.823	139° 45.915	MANTA ON DECK	KI
34	12	0302	34° 05.795	134° 49.423	MANTA DEPLOYED	KI
34	12	0318	34° 06.024	139° 49.519	MANTA ON DECK	KI
34	12	0329	34° 06.198	139° 49.643	CTD DEPLOYED,	KI
34	12	0345	34-06.256	139-49.677	CTD @ 500m	WN
34	12	0367	34-06.485	139-49.871	CTD ON DECK.	WN
35	12	0603	34-23.113	139-51.247	MANTA DEPLOYED	WN
35	12	0618	34-23.460	139-51.504	MANTA ON DECK	WN
36	12	0903	34 48.811	139 52.771	Manta deployed	VS
36	12	0918	34 49.289	139 52.697	Manta on deck	VS
37	12	1203	34 13.680	134 55.416	MANTA ON DECK DEPLOYED	KI
37	12	1220	35 14.019	139 55.464	MANTA ON DECK	KI
38	12	1501	35 36.977	139 58.561	MANTA DEPLOYED	KI
38	12	1518	35 37.363	139 58.659	MANTA ON DECK	KI
3938	12	1602	35-42.980	139-58.995	MANTA DEPLOYED	WN
3938	12	1617	35-43.129	139-59.217	MANTA ON DECK	WN
3938	12	1631	35-43.212	139-59.277	CTD DEPLOYED	WN
39	12	1644	35-43.260	139-59.277	CTD @ 500m	WN
39	12	1657	35-43.292	139-59.285	CTD ON DECK	WN
40	12	1801	35-48.211	139-59.002	OFF MANTA DEPLOYED	WN
40	12	1816	35-48.489	139-59.069	MANTA ON DECK	WN
41	12	1901	35-53.600	139-58.944	MANTA DEPLOYED	WN

All positions are GPS unless otherwise indicated

POSITION DATA SHEET

R/V NEW HORIZON

CRUISE: NH0908

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SHEET 10 OF

Station Number	Date August	Time ZD +7	Latitude North	Longitude West	Remarks	Initials
41	12	1916	35-53.924	139-59.074	MANTA ON DECK	WJN
42	12	2002	35 59.080	139 58.957	Manta deployed	WJ
		2017	35° 59.373	139 58.945	Manta on deck	WJ
		2032	35 59.414	139 58.984	CTD deployed	WJ
		2049	35 59.445	139 59.141	CTD @ depth 500m	WJ
		2106	35 59.521	139 59.249	CTD on deck	WJ
43	12	2200	35 59.180	139 52.509	Manta deployed	WJ
43	12	2215	35 59.117	139 52.062	Manta on deck	WJ
44	12	2301	35 53.966	139 52.357	Manta deployed	WJ
44	12	2314	35 53.700	139 52.330	Manta on deck	WJ
45	13	0000	35 48.600	139 52.379	MANTA DEPLOYED	KI
45	13	0017	35 48.289	139° 52.418	MANTA ON DECK	KI
46	13	0101	35 43.200	139 52.260	MANTA DEPLOYED	KI
46	13	0119	35 42.902	139° 52.264	MANTA ON DECK	KI
47	13	0201	35 43.097	139 45.971	MANTA DEPLOYED	KI
47	13	0219	35 43.191	139° 45.495	MANTA ON DECK	KI
48	13	0302	35 44.317	139° 45.613	MANTA DEPLOYED	KI
48	13	0318	35 48.789	139° 45.546	MANTA ON DECK	KI
48	13	0333	35 49.171	139° 45.490	CTD DEPLOYED	KI
48	13	0356	35-49.347	139 45.442	CTD @ 500m	WJN
48	13	0417	35-49.324	139-45.138	CTD ON DECK	WJN
49	13	0504 0504	35-53.868	139-45.741	MANTA DEPLOYED	WJN
49	13	0519	35-54.189	139-45.561	MANTA ON DECK	WJN
50	13	0603	35-58.960	139-45.559	MANTA DEPLOYED	WJN
50	13	0618	35- 58.395 58.395	139-45.518	MANTA ON DECK	WJN
51	13	0703	35-59.173	139-39.204	MANTA DEPLOYED	WJN
51	13	0718	35-59.129	139-38.167	MANTA ON DECK	WJN
51	13	0730	35-59.081	139-38.302	CTD DEPLOYED	WJN
51	13	0745	35 39.054	139 38.045	CTD @ depth	WJ
51	13	0759	35 39.054	139 37.821	CTD on deck	WJ
52	13	0803	35 59.990	139 38.815	Manta deployed	WJ

All positions are GPS unless otherwise indicated

POSITION DATA SHEET

R/V NEW HORIZON

CRUISE: NH0908

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SHEET 11 OF

Station Number	Date August	Time ZD +7	Latitude North	Longitude West	Remarks	Initials
52	13	0918	35 53.674	139 38.730	Manta on deck	MS
53	13	1002	35 48.520	139 38.863	Manta deployed	MS
53	13	1018	35 48.102	139 38.804	Manta on deck	MS
54	13	1102	35 43.121	139 38.870	Manta deployed	MS
↓	↓	1117	35 42.743	139 38.727	Manta on deck	MS
↓	↓	1129	35 42.591	139 38.634	CTD deployed	MS
↓	↓	1153	35 42.477	139 38.521	CTD @ depth 500m	MS
↓	↓	1204	35 42.249	139 38.400	CTD on deck	KI
55	13	1503	35 16.222	139 44.414	MANTA DEPLOYED	KI
55	13	1520	35 15.977	139 44.345	MANTA ON DECK	KI
56	13	1802	34 34 57.666	139 49.249	MANTA DEPLOYED	WNH
56	13	1807	34 52.353	139 49.216	MANTA ON DECK	WNH
57	13	2102	34 27.869	139 54.416	Manta deployed	MS
57	13	2117	34 27.515	139 54.653	Manta on deck	MS
58	14	0005	34° 03.224	139° 59.211	MANTA DEPLOYED #4	KI
58	14	0022	34 03.430	139° 59.109	MANTA ON DECK #4	KI
58	14	0059	34° 03.792	139° 58.548	IKMT TOW DEPLOYED #1	KI
58	14	0313	34° 04.897	139° 52.982	IKMT TOW ON DECK #1	KI
58	14	0406	34 03.516	139-59.178	CTD3 DEPLOYED	WNH
58	14	0420	34 03.589	139-59.153	CTD #3 @ 500m	WNH
58	14	0442	34 03.649	139-59.122	CTD #3 ON DECK	WNH
58	14	0457	34-03.790	139-58.651	IKMT #2 DEPLOYED	WNH
58	14	0507	34-03.945	139-58.31	IKMT #2 @ 900m	WNH
58	14	0519	34-04.589	139-56.517	IKMT #2 ON DECK	WNH
58	14	0622	34-03.411	139-59.245	MANTA #1 DEPLOYED	WNH
58	14	0637	34-03.647	139-59.082	MANTA #1 ON DECK	WNH
58	14	0642	34-03.700	139-59.067	MANTA #2 DEPLOYED	WNH
58	14	0657	34-03.755	139-58.942	MANTA #2 ON DECK	WNH
58	14	0707	34-04.175	139-58.680	IKMT #4 DEPLOYED	WNH
↓	↓	0749	34 05.074	139 56.577	IKMT @ depth 1800m	MS
↓	↓	0929	34 06.162	139 53.048	IKMT #4 on deck	MS

All positions are GPS unless otherwise indicated

POSITION DATA SHEET

R/V NEW HORIZON

CRUISE: NH0908

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SHEET 12 OF

Station Number	Date August	Time ZD +7	Latitude North	Longitude West	Remarks	Initials
58	14	1023	34 03.583	139 58.566	CTD #5 deployed	MS
↓	↓	1038	34 03.385	139 58.482	CTD @ depth 500m	MS
↓	↓	1056	34 03.255	139 58.294	CTD #5 on deck	MS
58	14	1148	34 03.366	139 57.773	^{MI} BONGO #3 DEPLOYED MANTA #7 DEPLOYED	KI
58	14	1205	34 03.531	139 57.541	^{MI} BONGO #3 ON DECK MANTA #7 ON DECK	KI
58	14	1213	34 03.619	139 57.391	MANTA #8 DEPLOYED	KI
58	14	1228	34 03.763	139 57.168	MANTA #8 ON DECK	KI
58	14	1240	34 03.934	139 56.847	BONGO #3 DEPLOYED	KI
58	14	1302	34 04.300	139 56.455	BONGO #3 ON DECK	KI
58	14	1320	34 04.405	139 56.346	BONGO #1 DEPLOYED	KI
58	14	1332	34 04.788	139 56.021	BONGO #1 ON DECK	KI
58	14	1407	34 04.841	139 55.744	BONGO #5 DEPLOYED	KI
58	14	1431	34 05.301	139 55.057	BONGO #5 ON DECK	KI
58	14	1451	34 05.529	139 54.928	CTD #4 DEPLOYED	KI
58	14	1509	34 05.724	139 54.880	CTD #4 @ 500m	KI
58	14	1521	34 05.868	139 54.851	CTD ON DECK	KI
58	14	1605	34 03.226	139 59.411	MANTA #6 DEPLOYED	WN
58	14	1620	34 03.300	139 59.110	MANTA #6 ON DECK	WN
58	14	1624	34 03.321	139 59.020	MANTA #3 DEPLOYED	WN
58	14	1639	34 03.386	139 58.729	MANTA #3 ON DECK	WN
58	14	1805	34 03.490	139 59.901	IKMT #3 DEPLOYED	WN
58	14	1846	34 03.692	139 59.712	IKMT #3 @ 1800	WN
58	14	2020	34 04.309	139 54.540	IKMT #3 ON DECK	MS
58	14	2100	34 03.522	139 58.986	Manta #5 deployed	MS
↓	↓	2115	34 03.480	139 58.647	Manta #5 on deck	MS
↓	↓	2134	34 03.417	139 58.402	CTD #1 deployed	MS
↓	↓	2203	34 03.568	139 58.404	CTD @ depth 1000m	MS
↓	↓	2239	34 03.825	139 58.670	CTD #1 on deck	MS
↓	↓	2250	34 03.980	139 58.697	Bongo #6 deployed	MS
↓	↓	2314	34 04.450	139 58.639	Bongo #6 on deck	MS

All positions are GPS unless otherwise indicated

POSITION DATA SHEET

R/V NEW HORIZON

CRUISE: NH0908

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SHEET 13 OF

Station Number	Date August	Time ZD +7	Latitude North	Longitude West	Remarks	Initials
58	14	2319	34° 04.540	139° 50.636	Bongo #4 deployed	KI
58	14	2343	34° 04.991	139° 58.564	Bongo #4 on deck	KI
58	14	2352	34° 04.577	139° 58.594	BONGO #2 DEPLOYED	KI
58	14	0013	34° 05.419	139° 58.202	BONGO #2 ON DECK.	KI
59	15	0305	34° 03.342	140° 28.802	MANTA DEPLOYED	KI
59	15	0321	34° 04.554	140° 28.416	MANTA ON DECK	KI
59	15	0336	34° 04.715	140° 28.160	CTD DEPLOYED	KI
59	15	0353	34° 04.783	140° 27.890	CTD @ 500m	WN
59	15	0417	34° 04.866	140° 27.622	CTD ON DECK	WN
60	15	0602	34° 03.375	140° 45.855	MANTA DEPLOYED	WN
60	15	0617	34° 03.511	140° 46.285	MANTA ON DECK	WN
61	15	0946	34° 03.430	141° 22.355	Manta "A" deployed	Y
		1002	34° 03.443	141° 22.761	Manta "A" on deck	Y
		1006	34° 03.441	141° 22.854	Manta "B" deployed	Y
		1021	34° 03.439	141° 23.232	Manta "B" on deck	Y
		1026	34° 03.435	141° 23.380	Manta "C" deployed	Y
		1041	34° 03.420	141° 23.818	Manta "C" on deck	Y
		1048	34° 03.416	141° 24.006	Manta "D" deployed	Y
		1103	34° 03.419	141° 24.447	Manta "D" on deck	Y
		1108	34° 03.424	141° 24.597	Manta "E" deployed	Y
		1123	34° 03.460	141° 25.104	Manta "E" on deck.	Y
62	15	1226	34° 03.639	141° 35.674	MANTA "A" DEPLOYED	KI
62	15	1245	34° 03.773	141° 36.201	MANTA "A" ON DECK	KI
62	15	1251	34° 03.815	141° 36.342	MANTA "B" DEPLOYED	KI
62	15	1305	34° 03.920	141° 36.724	MANTA "B" ON DECK	KI
62	15	1309	34° 03.591	141° 36.827	MANTA "C" DEPLOYED	KI
62	15	1325	34° 04.028	141° 37.258	MANTA "C" ON DECK	KI
62	15	1328	34° 04.040	141° 37.359	MANTA "D" DEPLOYED	KI
62	15	1343	34° 04.109	141° 37.789	MANTA "D" ON DECK	KI
62	15	1347	34° 04.124	141° 37.893	MANTA "E" ^{DEPLOYED} ON DECK	KI
62	15	1402	34° 04.190	141° 38.334	MANTA "E" ON DECK	KI

All positions are GPS unless otherwise indicated

POSITION DATA SHEET

R/V NEW HORIZON

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SHEET 14 OF

Station Number	Date August	Time ZD +7	Latitude North	Longitude West	Remarks	Initials
63	15	1535	34° 03.869	141° 48.807	MANTA "A" DEPLOYED	KI
63	15	1551	34-03.896	141-49.200	MANTA "A" ON DECK	WJN
63	15	1554	34-03.900	141-49.284	MANTA "B" DEPLOYED	WJN
63	15	1609	34-03.908	141-49.728	MANTA "B" ON DECK	WJN
63	15	1612	34-03.967	141-49.810	MANTA "C" DEPLOYED	WJN
63	15	1627	34-03.902	141-49.230	MANTA "C" ON DECK	WJN
63	15	1630	34-03.904	141-50.366	MANTA "D" DEPLOYED	WJN
63	15	1645	34-03.899	141-50.737	MANTA "D" ON DECK	WJN
63	15	1647	34-03.899	141-50.818	MANTA "E" DEPLOYED	WJN
63	15	1703	34 03.895	141 51.240	MANTA "E" ON DECK	WJ
64	15	1823	34 03.404	142 01.510	MANTA "A" DEPLOYED	WJN
64	15	1837	34-03.333	142-01.866	MANTA "A" ON DECK	WJN
64	15	1842	34-03.310	142-01.979	MANTA "B" DEPLOYED	WJN
64	15	1858	34-03.199	142-02.429	MANTA "B" ON DECK	WJN
64	15	1902	34-03.179	142-02.514	MANTA "C" DEPLOYED	WJN
64	15	1917	34-03.080	142-02.914	MANTA "C" ON DECK	WJN
64	15	1920	34-03.000	142-02.995	MANTA "D" DEPLOYED	WJN
64	15	1935	34-02.934	142-03.398	MANTA "D" ON DECK	WJN
64	15	1938	34 02.901	142 03.499	MANTA "E" DEPLOYED	WJ
64	15	1953	34 2.767	142 03.936	MANTA "E" ON DECK.	WJ
64	15	1959	34 02.799	142 04.028	Manta deployed	WJ
64	15	2024	34 03.147	142 03.998	Manta on deck	WJ
65	16	0301	35° 00.900	141 44.315	MANTA DEPLOYED	KI
65	16	0318	35° 01.258	141 43.948	MANTA ON DECK	KI
65	16	0326	35° 01.354	141° 43.820	CTD DEPLOYED	KI
65	16	0345	35 01.577	141 43.819	CTD @ 500m	WJN
65	16	0409	35-01.696	141-43.984	CTD ON DECK	WJN
66	16	0904	35 45.812	141 29.292	Manta deployed	WJ
66	16	0919	35 46.203	141 29.321	Manta on deck	WJ
67	16	1501	36 36.742	141 11.810	BONGO DEPLOYED MANTA	KI
67	16	1517	36 36.977	141 11.604	BONGO ON DECK MANTA	KI

All positions are GPS unless otherwise indicated

POSITION DATA SHEET

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SHEET 15 OF 15

Station Number	Date August	Time ZD +7	Latitude North	Longitude West	Remarks	Initial
67	16	1521	36° 37.033	141° 11.544	MANTA DEP.	KI
67	16	1936	36 37.251	141 11.320	MANTA ON DECK	KI
68	16	2106	37 17.824	140° 42.762	Manta deployed	VS
68	16	2121	37° 18.084	140° 42.416	Manta on deck	VS
69	17	0302	37° 44.131	139° 46.026	MANTA DEPLOYED	KI
69	17	0317	37° 44.294	139° 45.771	MANTA ON DECK	KI
69	17	0326	37° 44.370	139° 45.716	CTD DEPLOYED	KI
69	17	0341	37-44.518	139-45.482	CTD @ 500M	WNW
69	17	0406	37-44.762	139-45.161	CTD ON DECK	WNW
70	17	0904	38° 00.000	138° 55.981	Manta deployed	VS
70	17	0919	38° 01.245	138° 55.558	Manta on deck	VS
71	17	1504	38° 34.205	137° 57.415	MANTA DEPLOYED	KI
71	17	1520	38 34.734	137° 57.430	MANTA ON DECK	KI
72	17	2104	38 59.862	137 00.626	Manta deployed	VS
72	17	2119	38 00.164	137 00.350	Manta on deck	VS
73	18	0303	38 13.132	136 07.281	MANTA DEP.	KI
73	18	0319	39 13.465	136 07.302	MANTA ON DECK	KI
73	18	0324	39° 23.728	136 07.937	CTD DEPLOYED	KI
73	18	0345	39-23.999	136-07.407	CTD @ 500M	WNW
73	18	0411	39-24.132	136-07.582	CTD ON DECK	WNW
74	19	2103	42° 20.850	129° 25.665	Manta deployed	VS
74	19	2118	42 21.055	129° 25.273	Manta on deck	VS
75	1920	0324	42 47.822	128° 28.122	MANTA DEPLOYED	KI
75	1920	0321	42 47.806	128° 28.525	MANTA ON DECK	KI
75	1920	0329	42 47.779	128° 23.715	CTD DEPLOYED	KI
75	20	0345	42-47.676	128-24.003	CTD @ 500M	WNW
75	20	0409	42-47.492	128-24.436	CTD ON DECK	WNW
	20	0630	43° 07.384	127° 37.563	Drifter #1 deployed	VS
	20	0845	43° 07.800	127° 36.390	Drifter #2 deployed	VS

All positions are GPS unless otherwise indicated