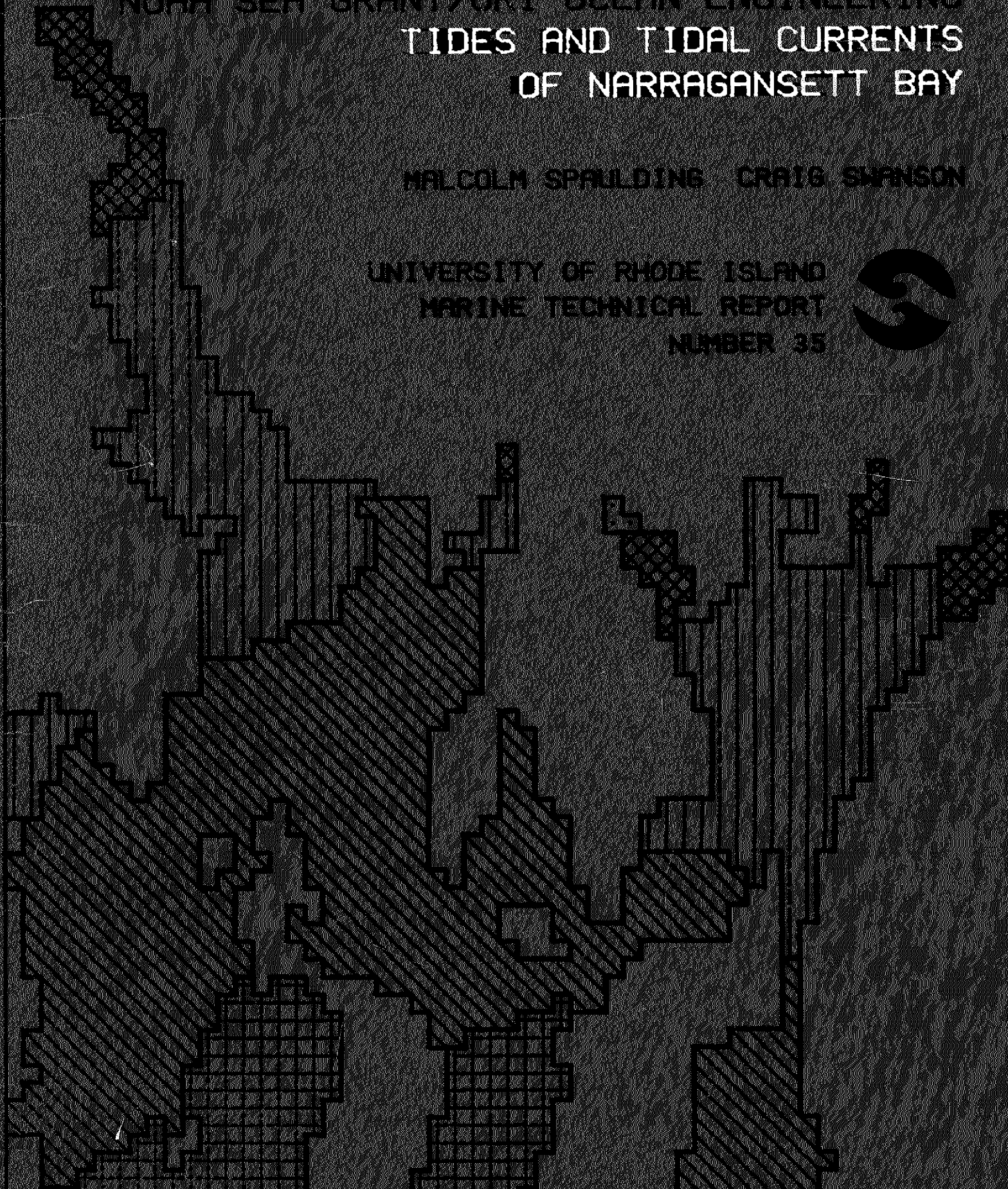


# NOAA SEA GRANT/URI OCEAN ENGINEERING TIDES AND TIDAL CURRENTS OF NARRAGANSETT BAY

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UNIVERSITY OF RHODE ISLAND  
MARINE TECHNICAL REPORT  
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These tidal current and height charts for Narragansett Bay have been created primarily for the recreational user, notably the sailor.\* Charts currently in use are based on actual measurements at approximately 80 locations in the bay, while this new set gives values at approximately 600. In addition, the new charts offer greater accuracy by being based on calculations done at the same time for all points.

These new current charts show the hourly velocity to the nearest tenth of a knot, and direction of the tidal currents by means of arrows. A series of hourly tidal height charts shows the height to the nearest tenth of a foot above mean sea level throughout the bay. Also included is a table, on which the charts are based, which gives the time and range of the tides at Newport, Rhode Island, from 1975 to 1984. This table is divided into one month per page and subdivided into columns of times and ranges for each year. The time is based on a 24-hour clock, Eastern Standard Time (EST), and the range is the difference in feet between high water at the time shown and the next low water.

These charts were generated under the assumption of no wind, constant river flow, and no atmospheric pressure gradient over the bay, i.e. no storm. Any one or all of these effects could cause variation in the magnitude and direction of the currents in the bay.

There is one tidal current chart and one tide height chart for each hour after high tide at Newport giving a total of 13 current and height charts covering one tidal cycle (about 12.4 hours). The chart to be used is determined by subtracting the time of previous high tide from the present time. The chart at the hour closest to this difference is the correct chart. If the time difference falls about equally between two charts then a more accurate approach would be to take the average of the two. This is particularly true if there is a substantial difference between the two charts in speed or direction of the tidal current.

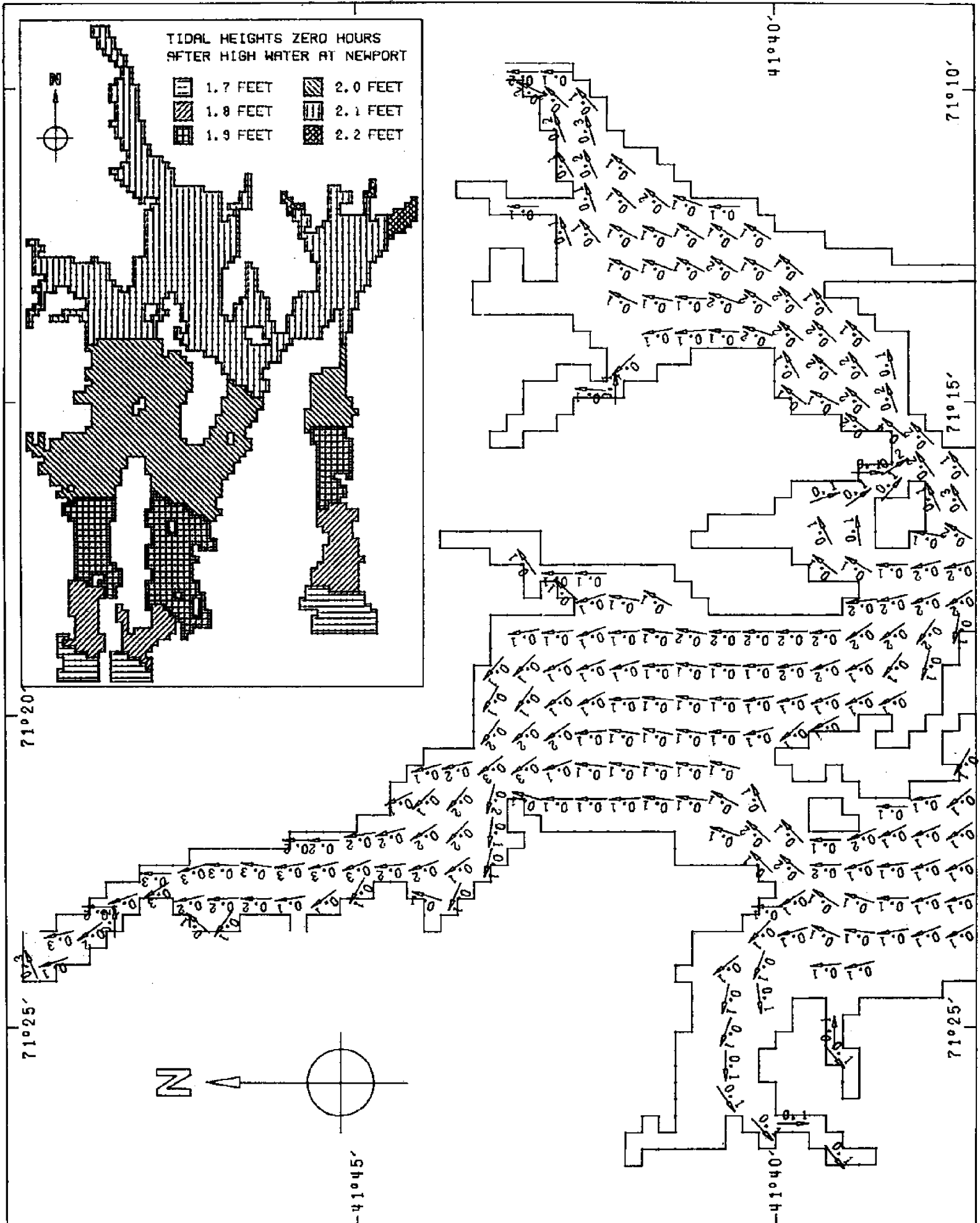
Even though the charts are based on the mean tidal cycle over the decade 1975 through 1984, it is necessary to correct the current and height charts to account for variations in tidal range because no day has the exact mean tidal cycle. Included below is a table of factors for correcting velocity and height for various tidal ranges. These ranges are found with the times of high tide and vary from 1.6 to 6.0 feet. To correct the tidal velocities and heights it is necessary to multiply the values shown on the charts by the factors shown in the table for the appropriate range.

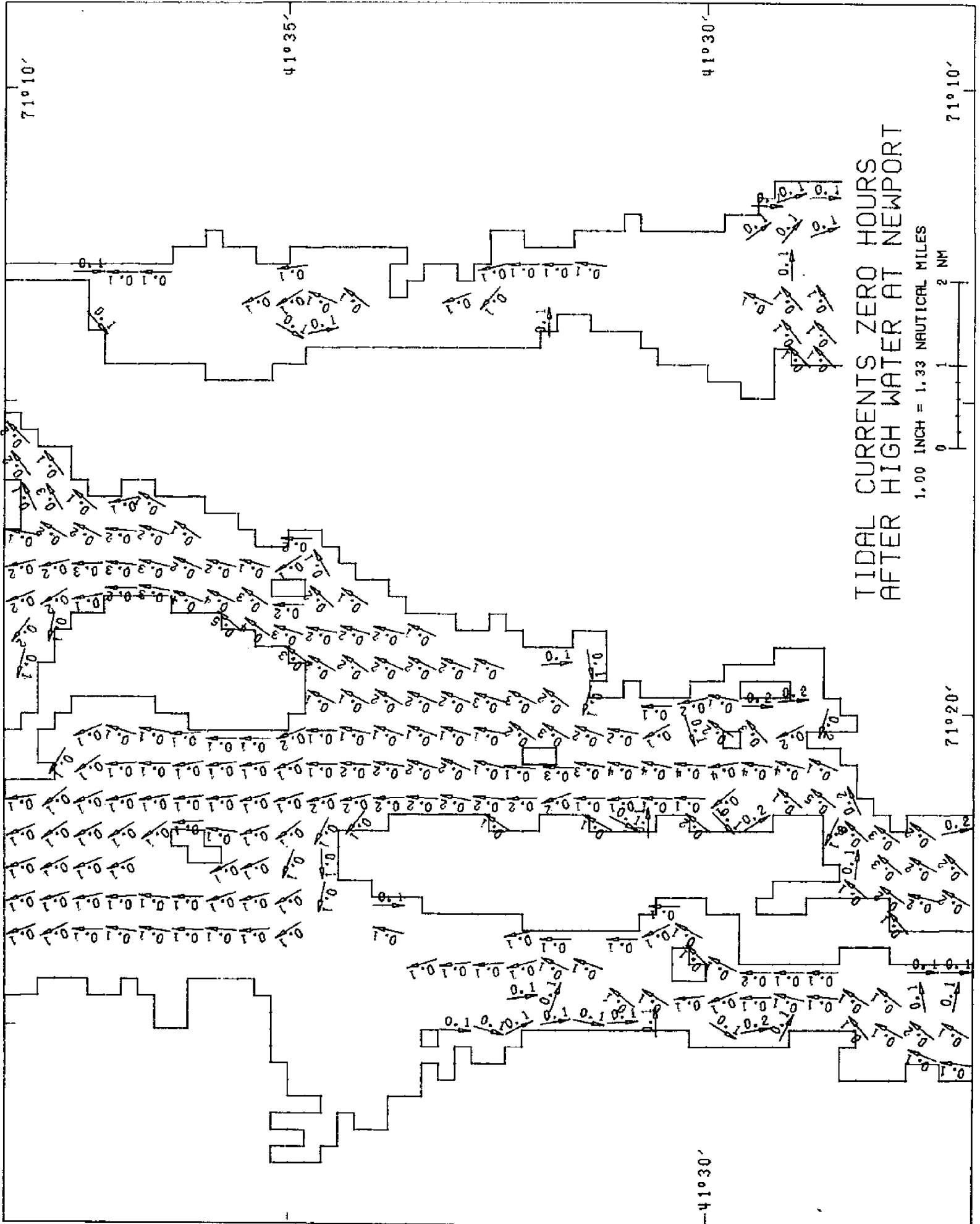
EXAMPLE. The speed and direction of the current and the tide height just off the northern end of Dyer Island is to be found for 5:00 PM EST on August 17, 1976. From the tide time and range table for that date it is found that high water occurs at 12:51 EST with a range of 2.3 feet. Subtracting the high water time, 12:51, from 5:00 PM, or 17:00, gives a difference of 4 hours and 9 minutes. Thus the chart labelled 4 hours after high water at Newport should be used. That chart shows the current ebbing 0.8 knots in a southwesterly direction and a tide height of -1.1 feet. From the correction factor table for a range of 2.3 feet the current should be multiplied by 0.7 and the tide height by 0.6. This gives a current of 0.6 knots and a tide height of -0.7 feet at 5:00 pm on August 17, 1976.

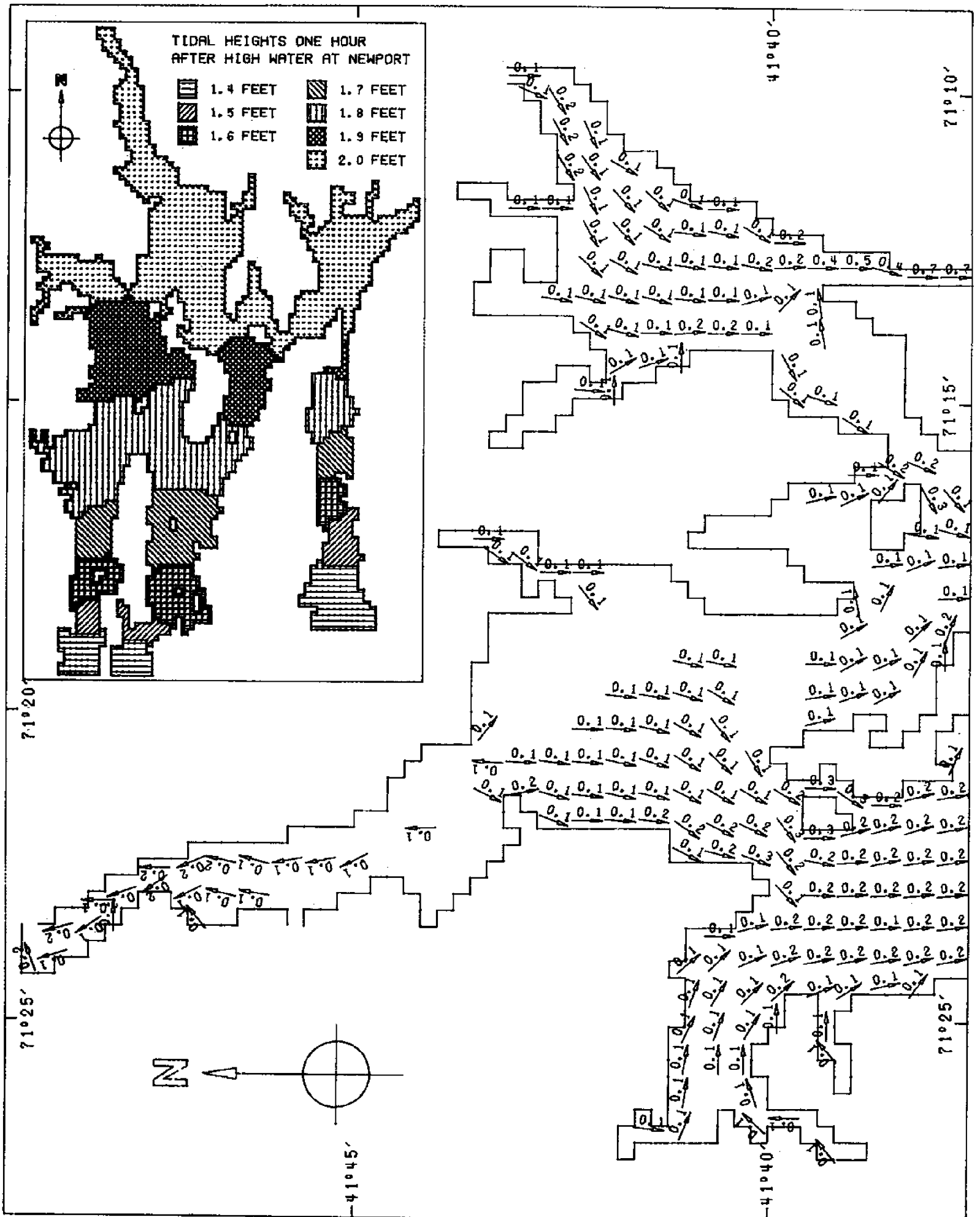
TABLE OF CORRECTION FACTORS

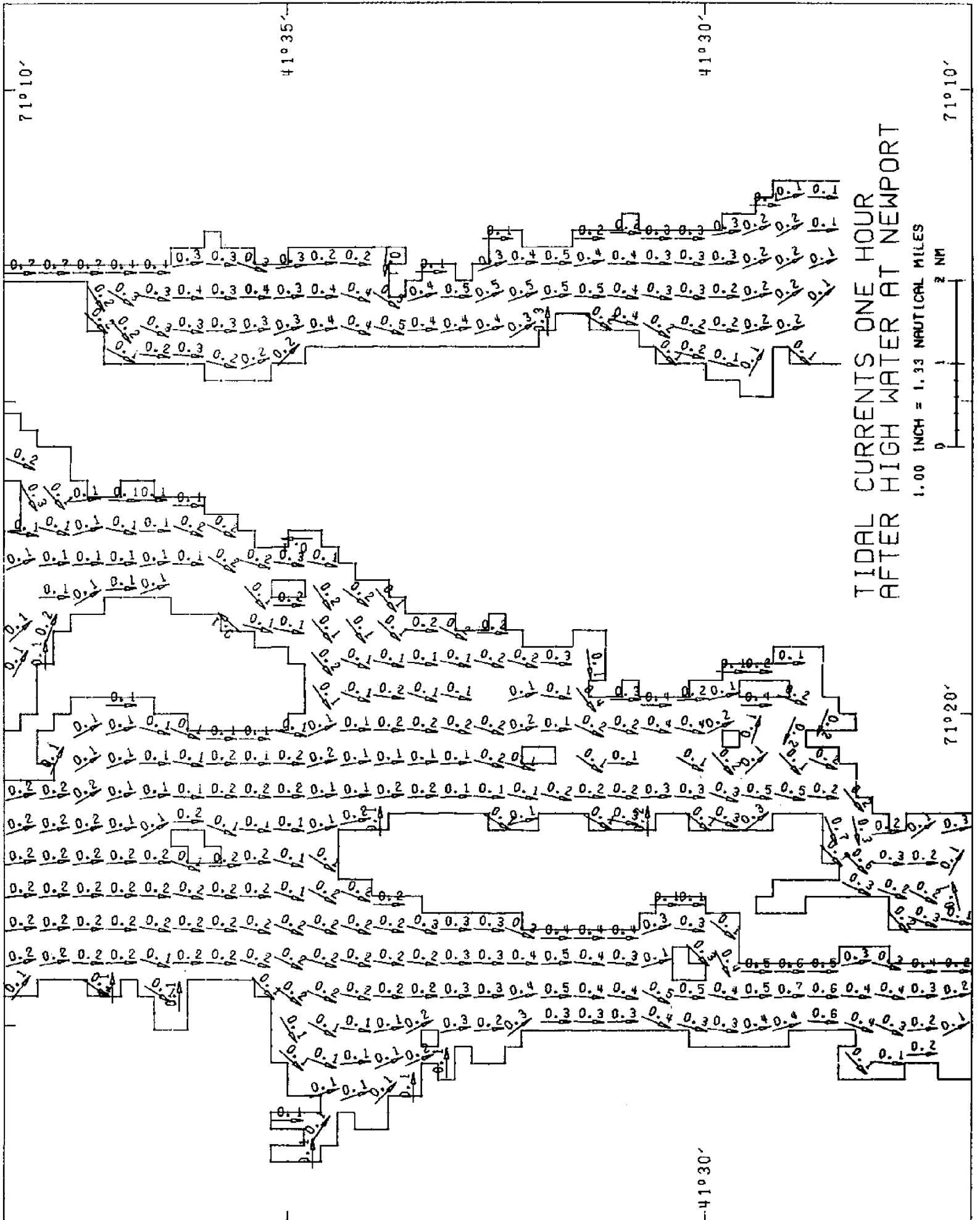
RANGE FEET	VELOCITY CORRECTION FACTOR	HEIGHT CORRECTION FACTOR	RANGE FEET	VELOCITY CORRECTION FACTOR	HEIGHT CORRECTION FACTOR
1.6 to 2.0	0.7	0.5	4.2 to 4.4	1.2	1.2
2.0 to 2.4	0.7	0.6	4.4 to 4.6	1.2	1.3
2.4 to 2.6	0.7	0.7	4.6 to 4.8	1.3	1.3
2.6 to 2.8	0.8	0.7	4.8 to 5.0	1.4	1.4
2.8 to 3.0	0.8	0.8	5.0 to 5.4	1.4	1.5
3.0 to 3.4	0.9	0.9	5.4 to 5.6	1.5	1.5
3.4 to 3.8	1.0	1.0	5.6 to 5.8	1.5	1.6
3.8 to 4.2	1.1	1.1	5.8 to 6.0	1.6	1.6

\*The technical aspects of generating the charts are described in a University of Rhode Island Marine Technical Report in press entitled Generation of Tidal Current and Height Charts For Narragansett Bay Using a Numerical Model by C. Swanson and M. Spaulding. For additional copies of Marine Technical Report 35, please write to the Marine Advisory Service, University of Rhode Island, Narragansett Bay Campus, Narragansett, Rhode Island 02882. Please make checks payable to the University of Rhode Island.









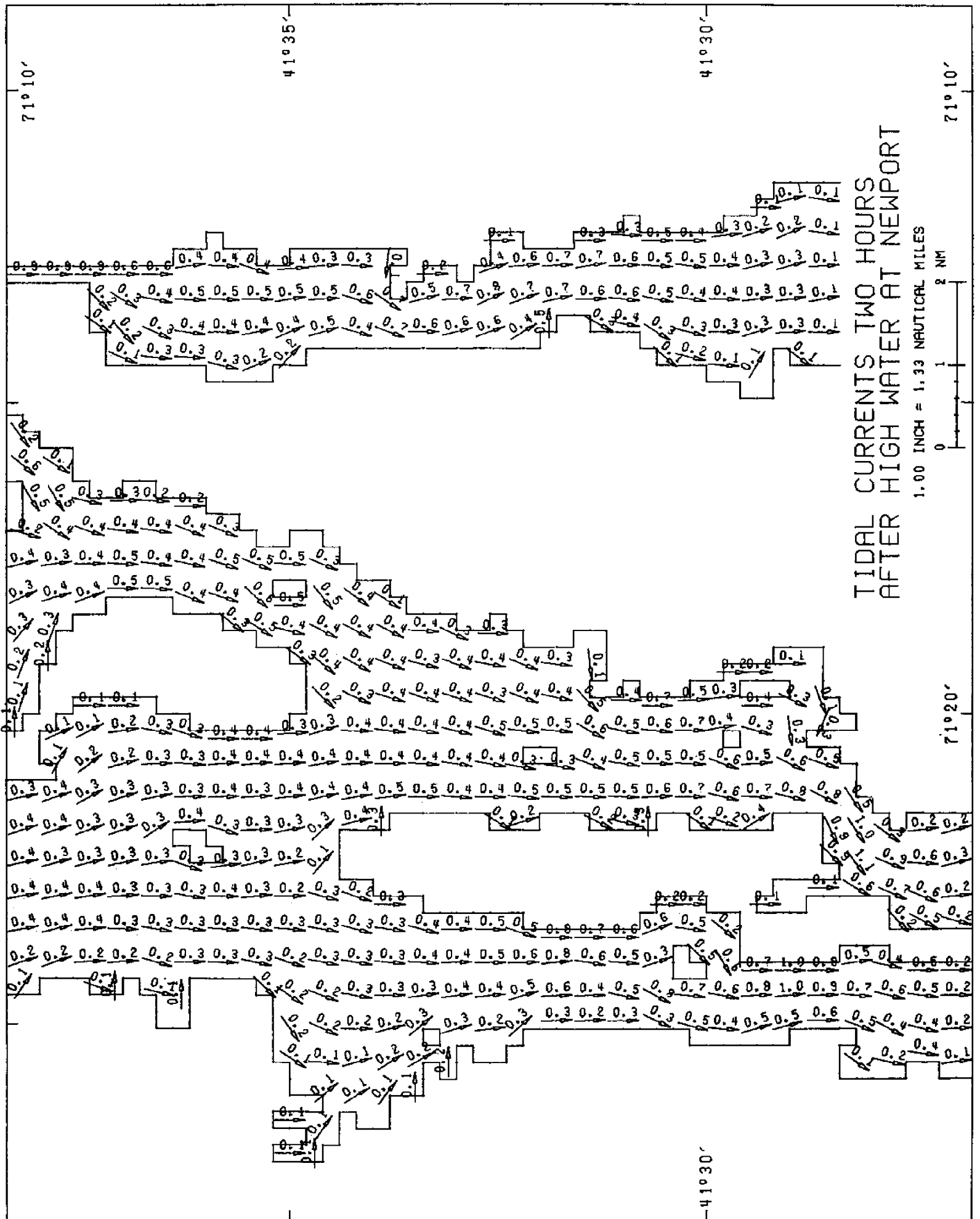
TIDAL CURRENTS ONE HOUR  
AFTER HIGH WATER AT NEWPORT

1.00 INCH = 1.33 NAUTICAL MILES



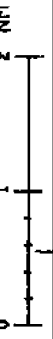




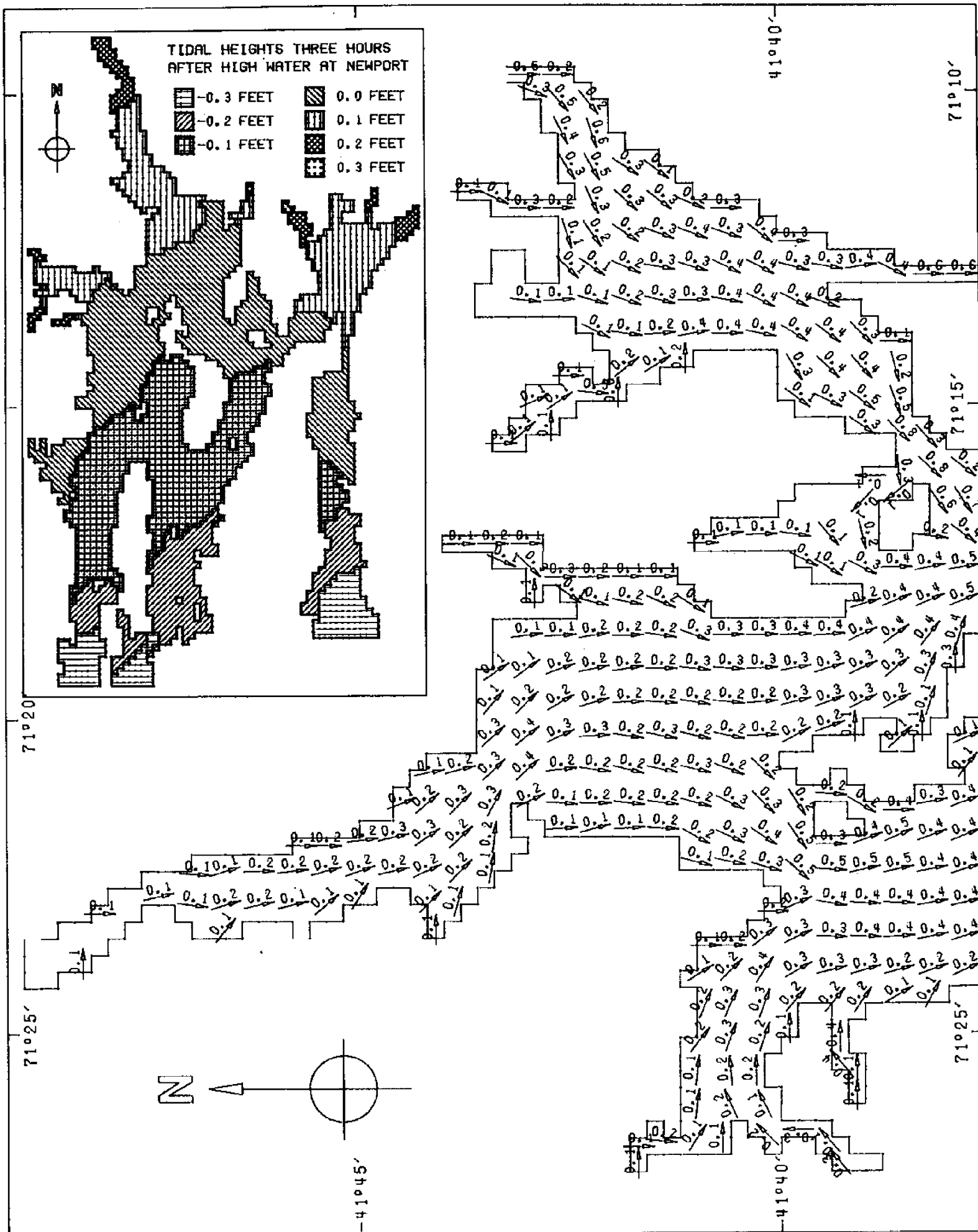


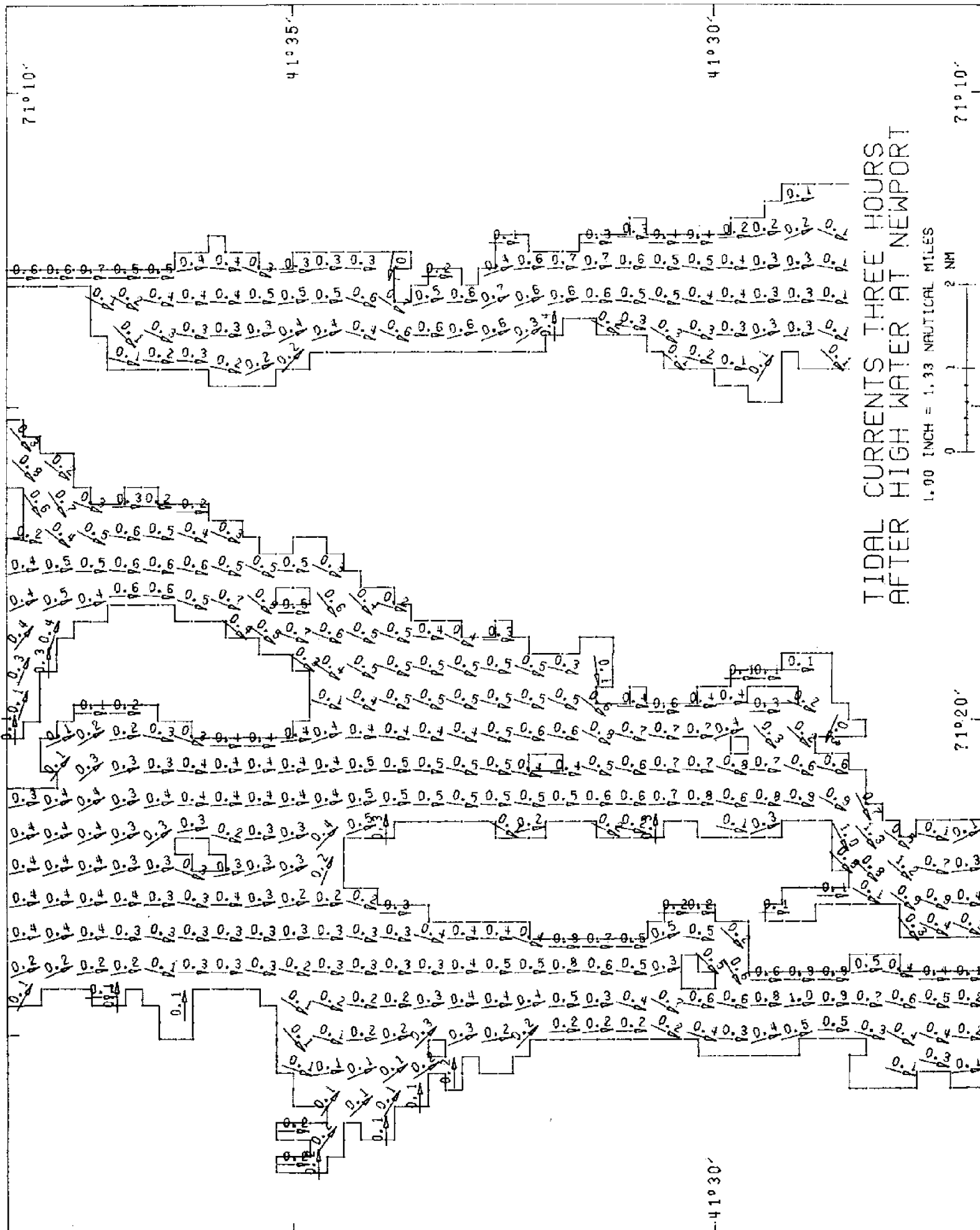
TIDAL CURRENTS TWO HOURS  
AFTER HIGH WATER AT NEWPORT

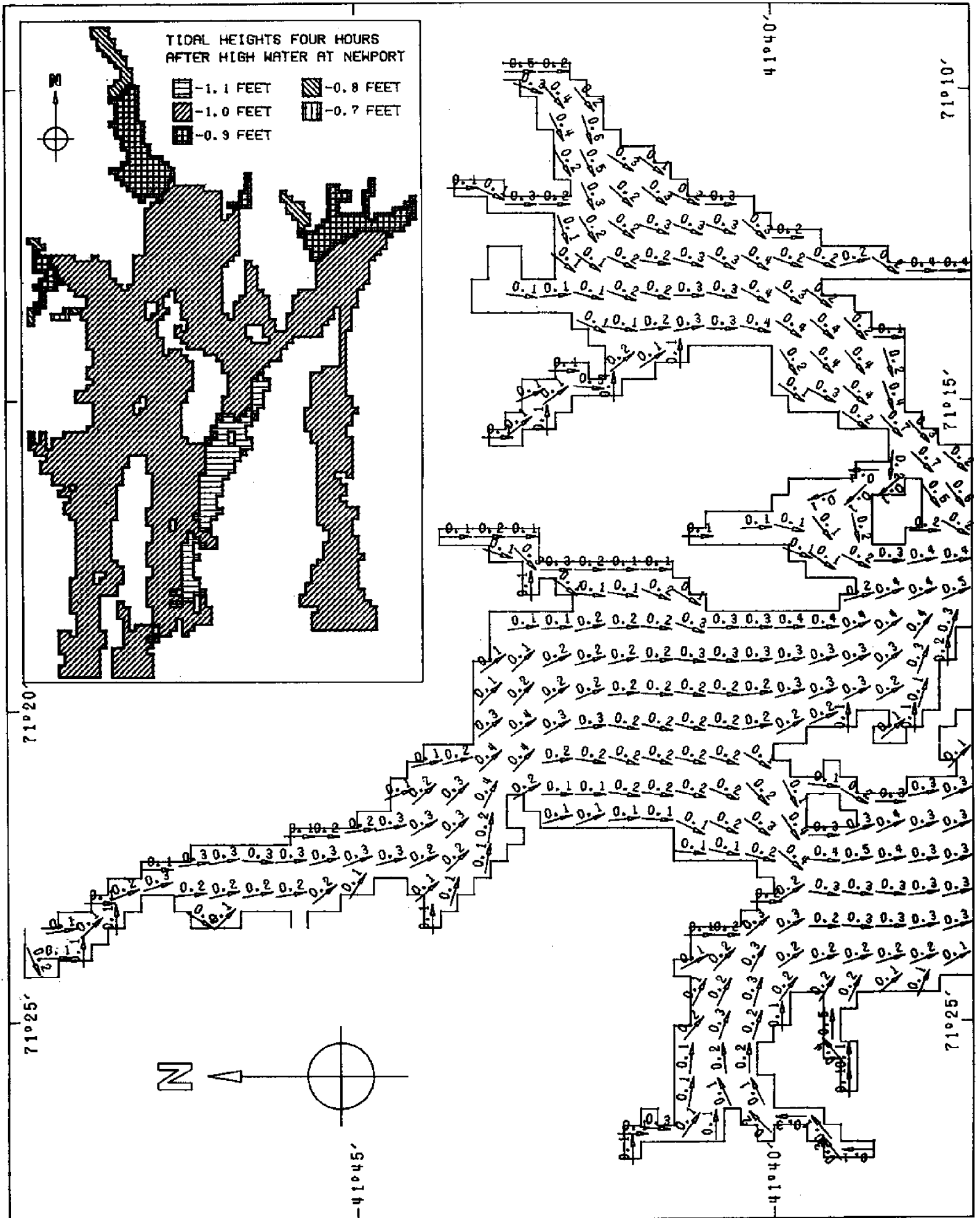
1.00 INCH = 1.33 NAUTICAL MILES

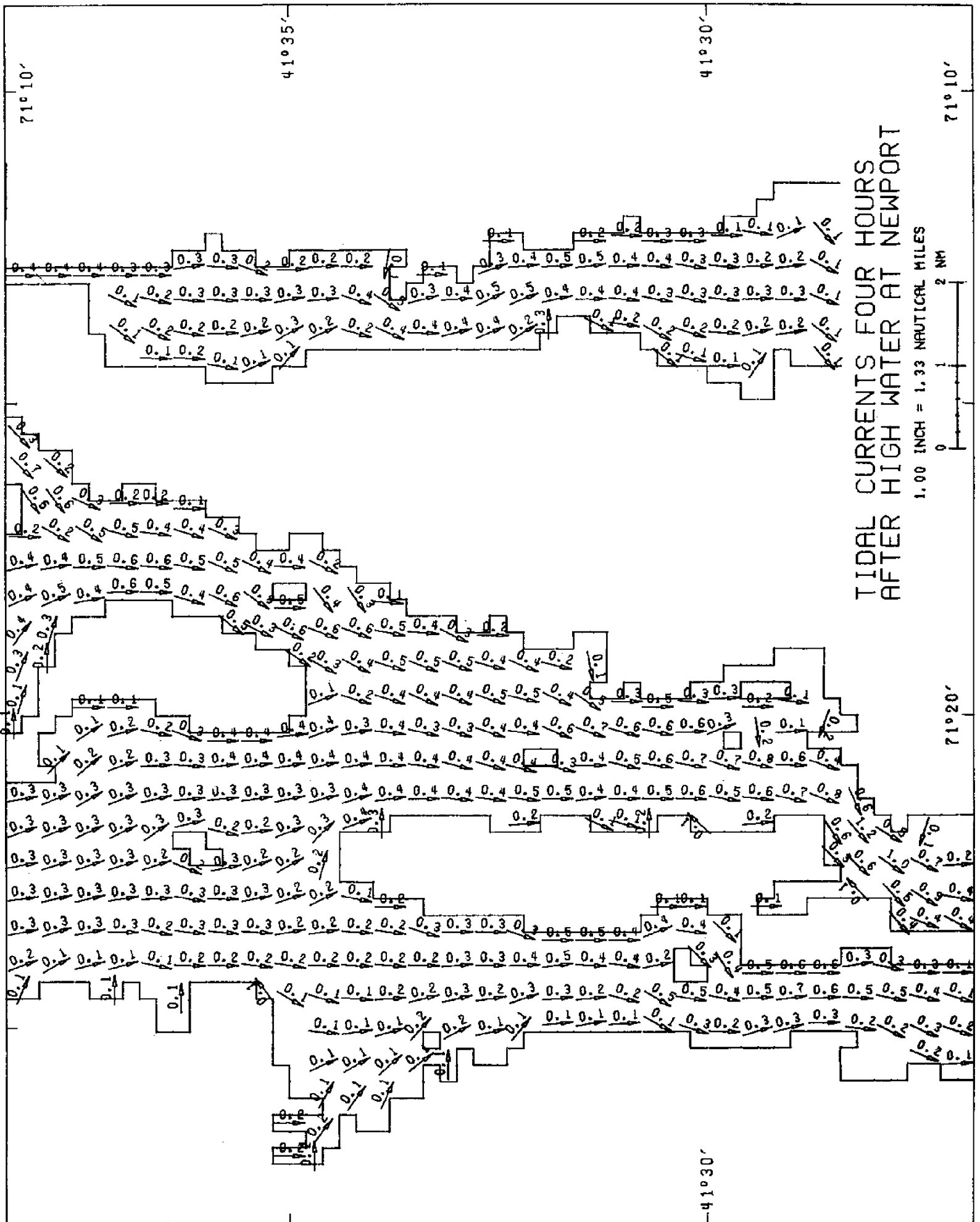


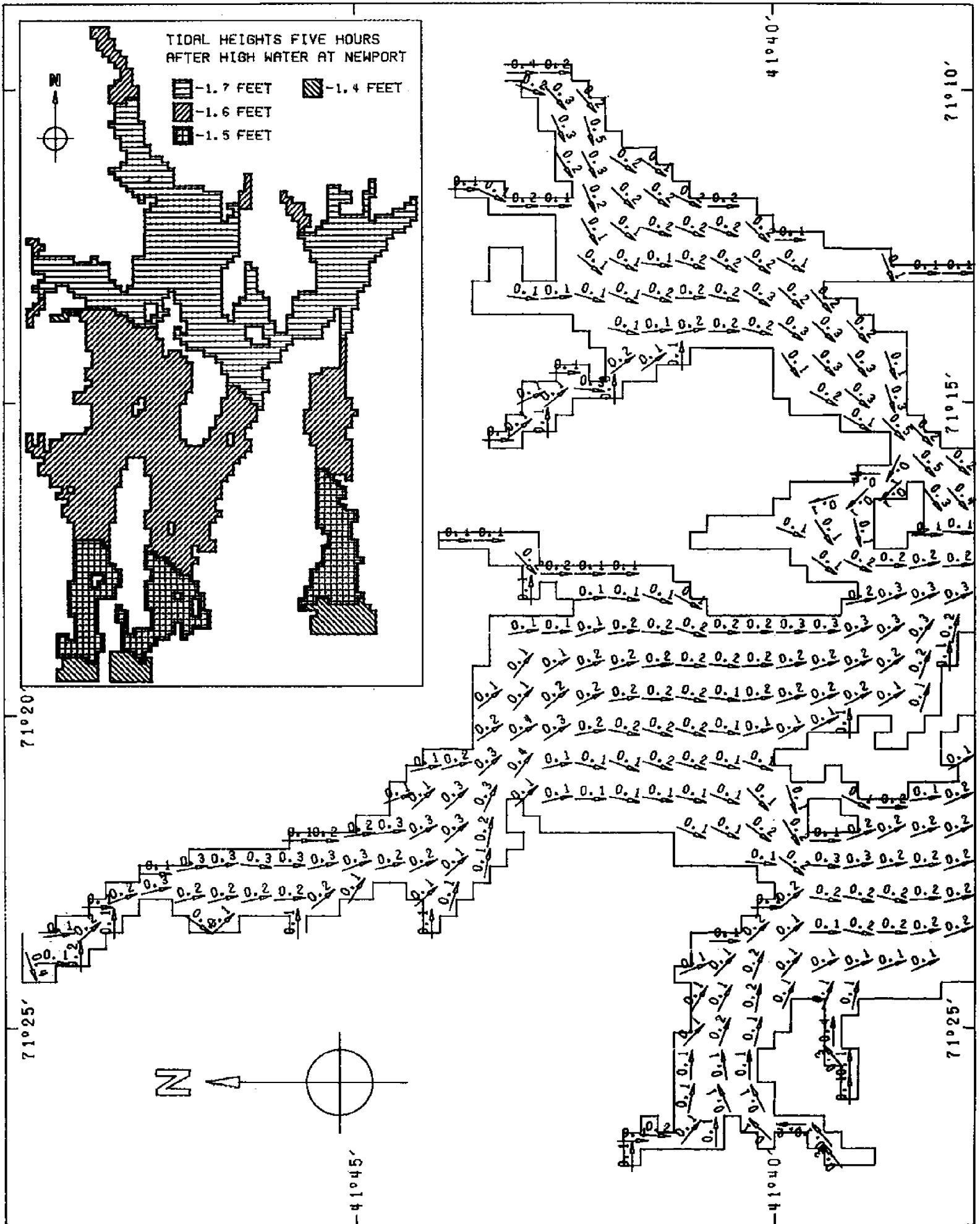


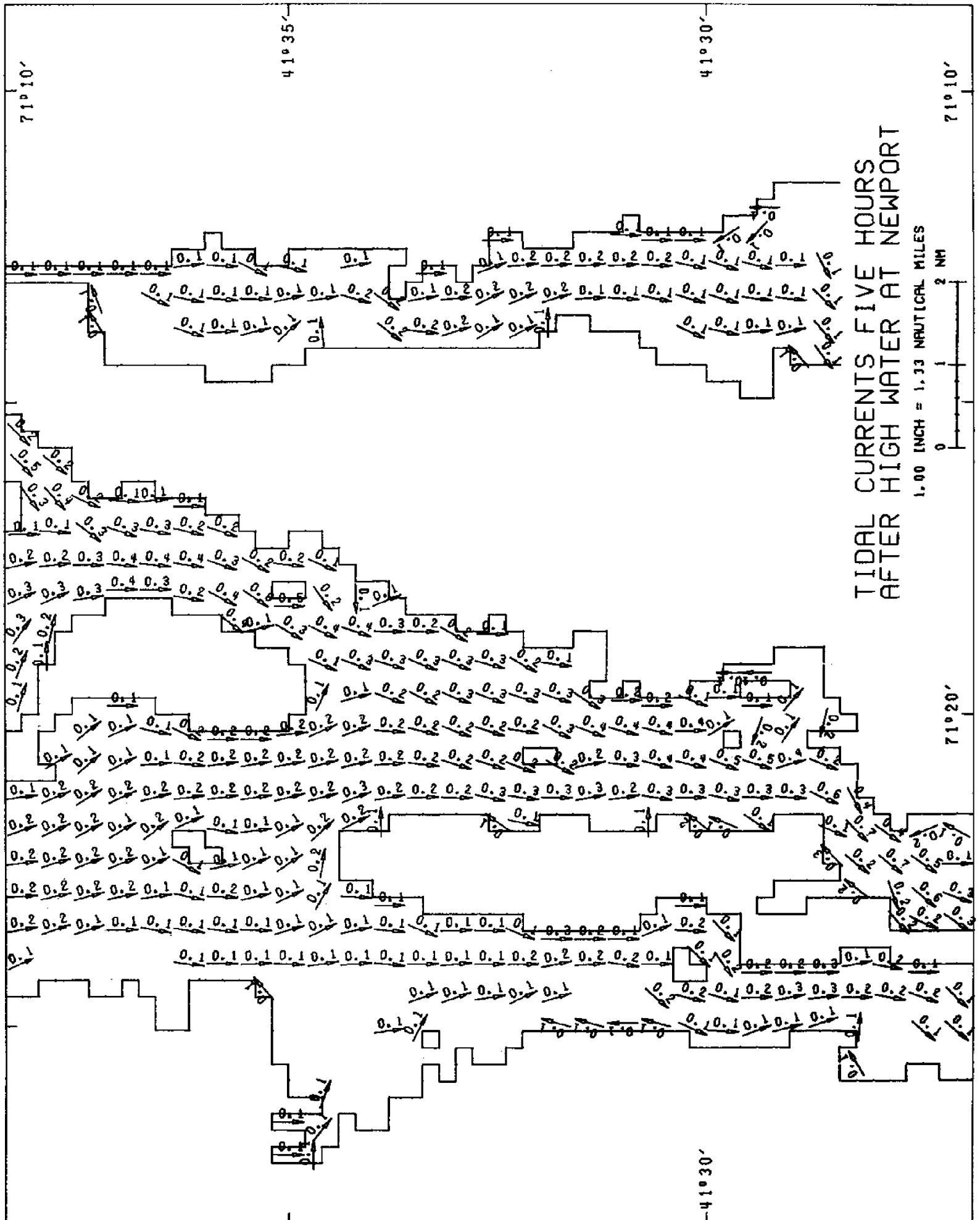


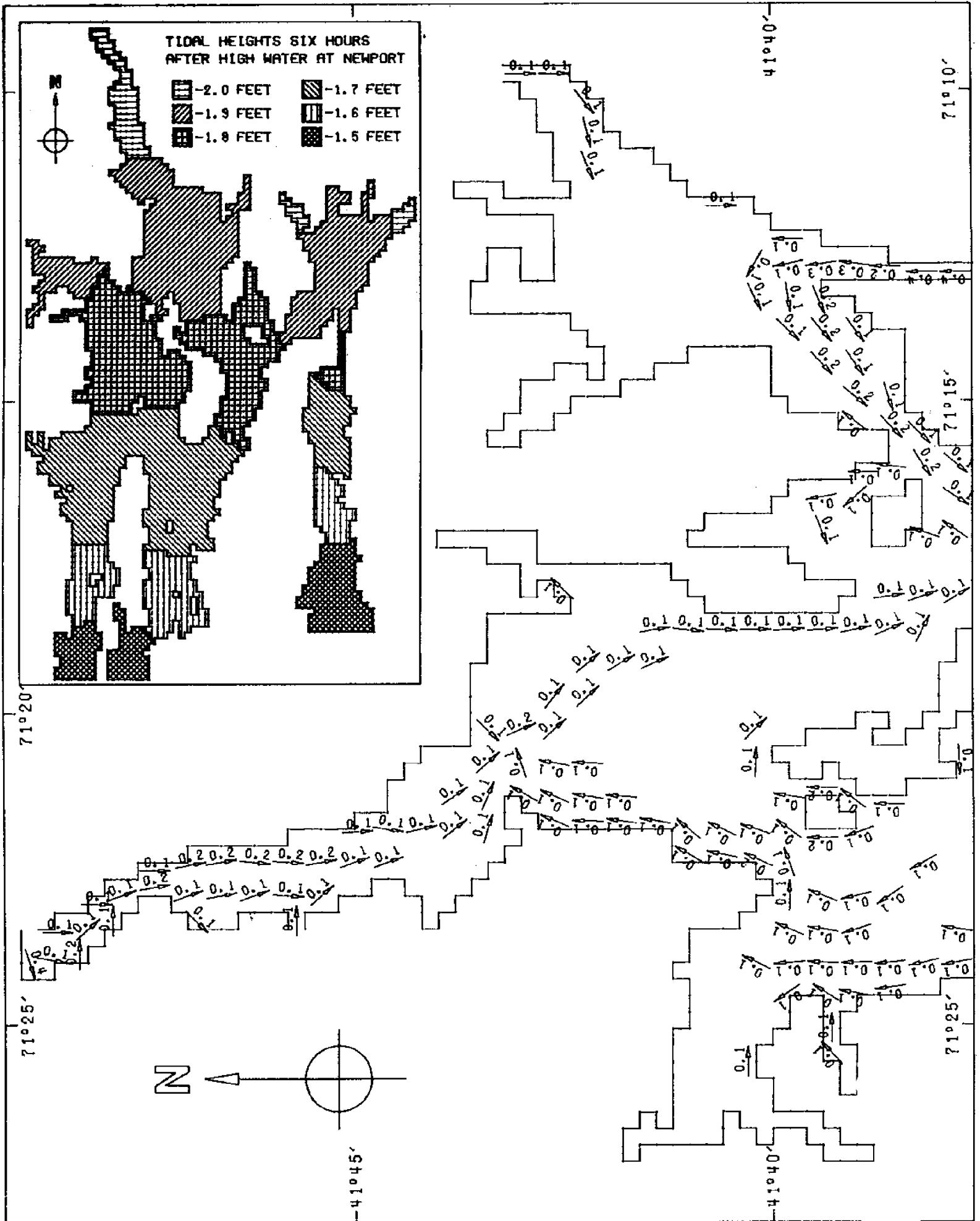




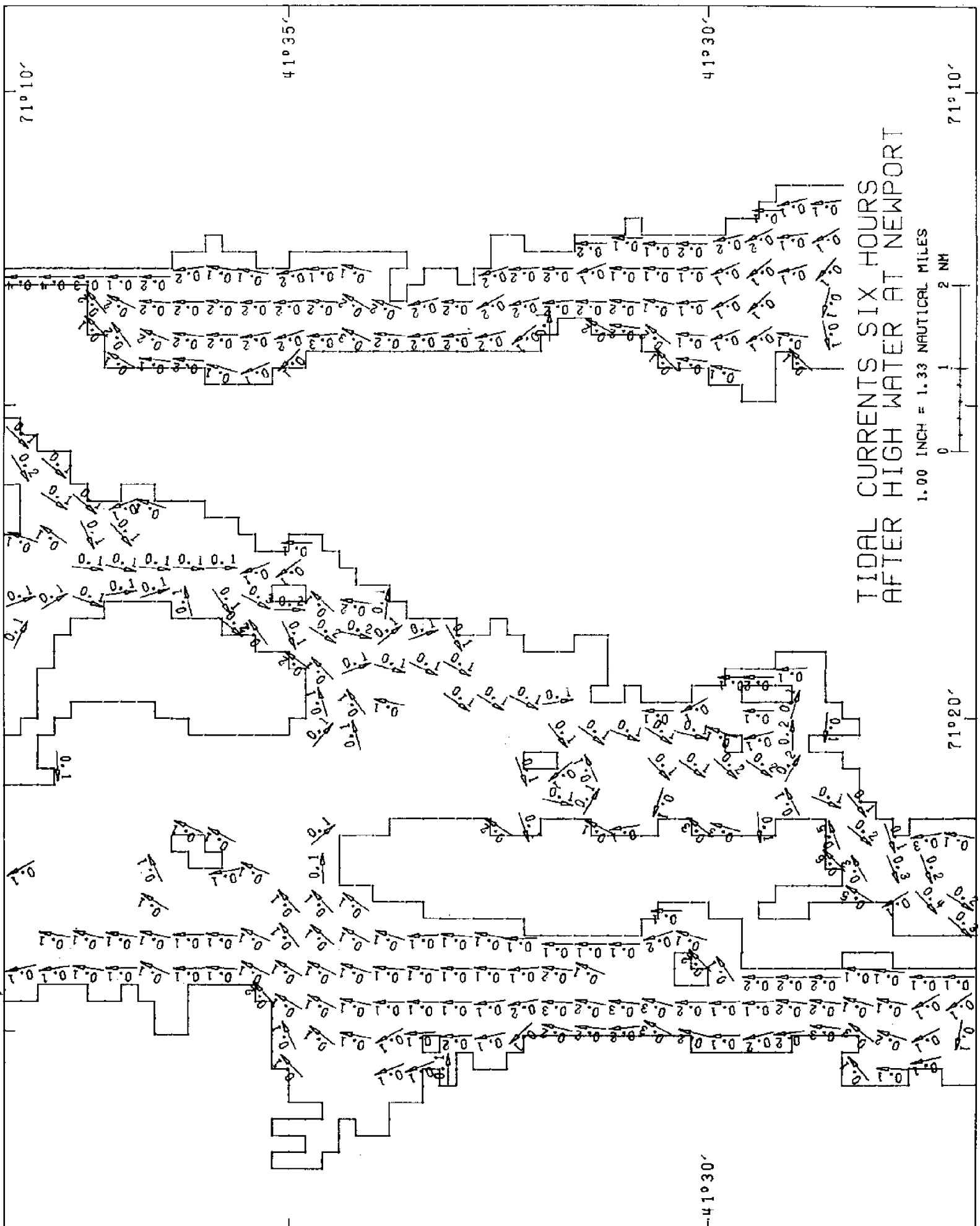


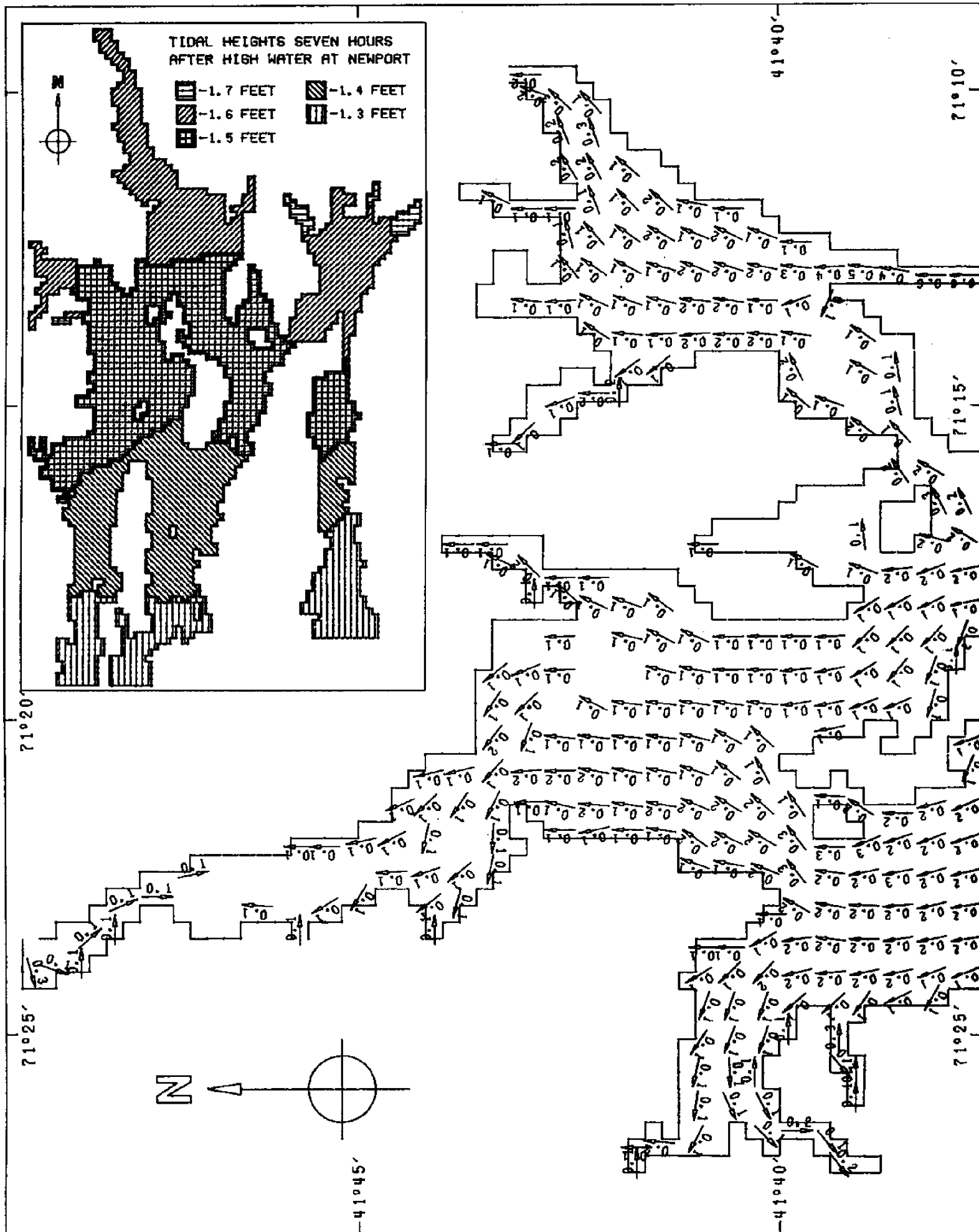


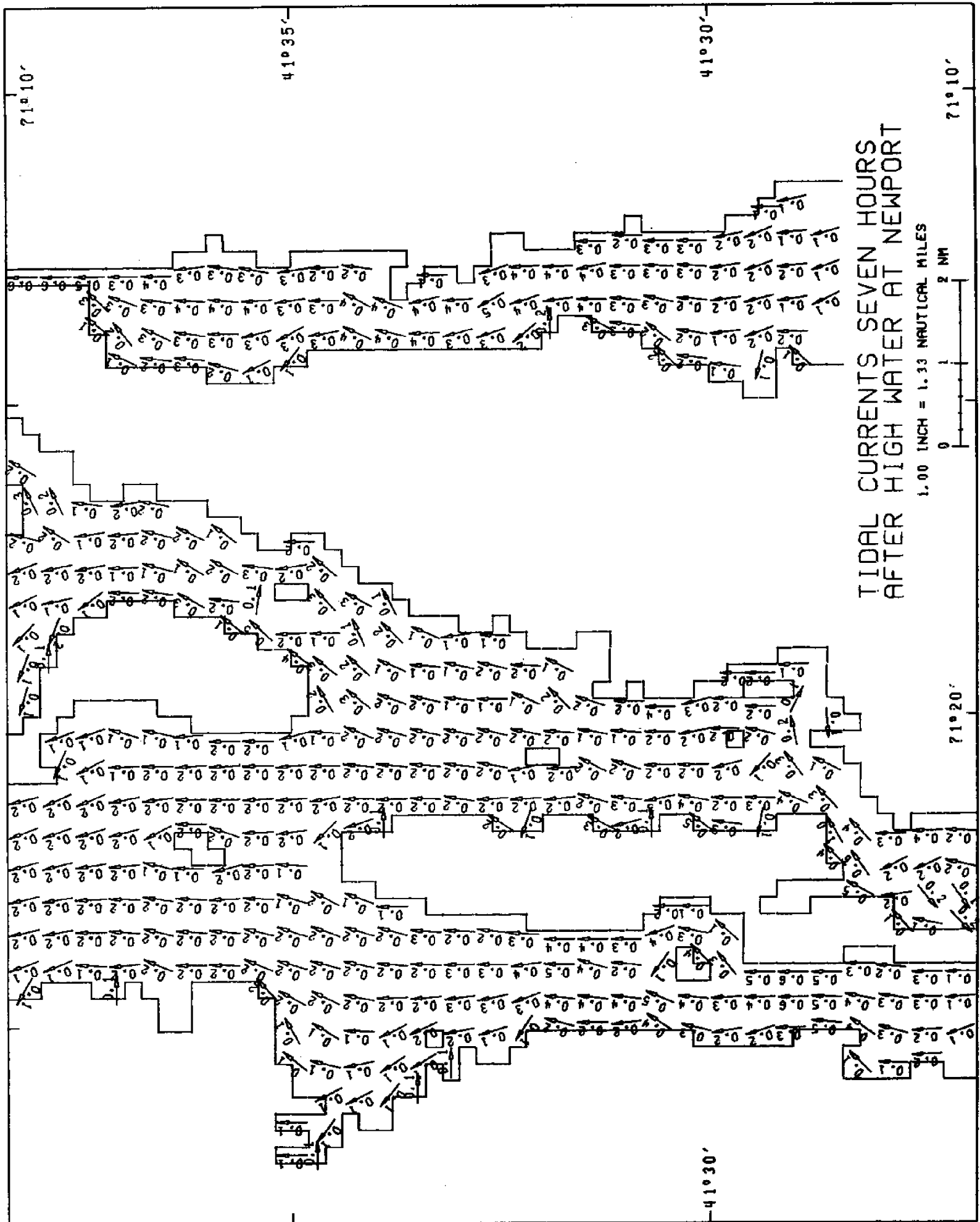












TIDAL CURRENTS SEVEN HOURS  
AFTER HIGH WATER AT NEWPORT

1.00 INCH = 1.33 NAUTICAL MILES



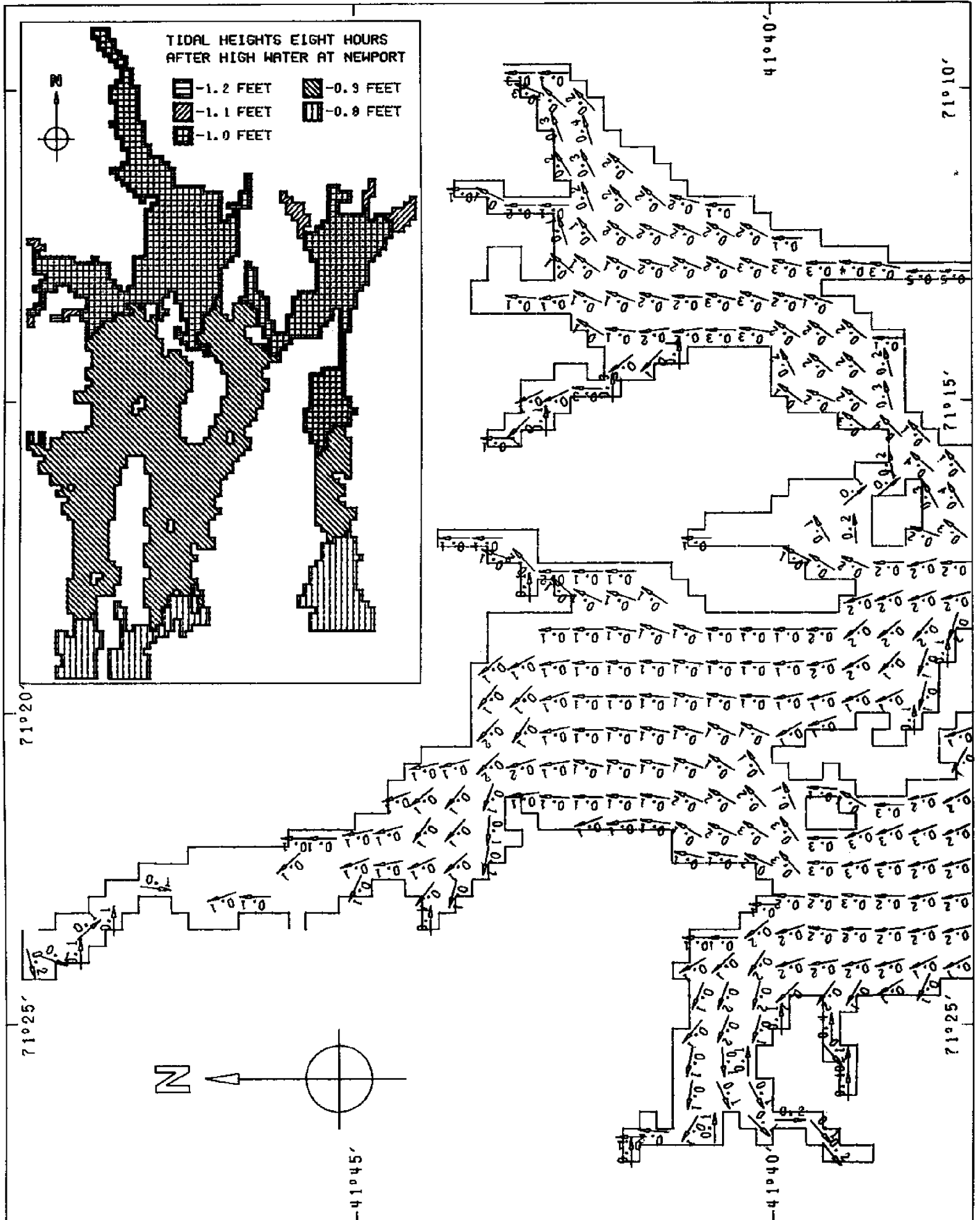
71°20'

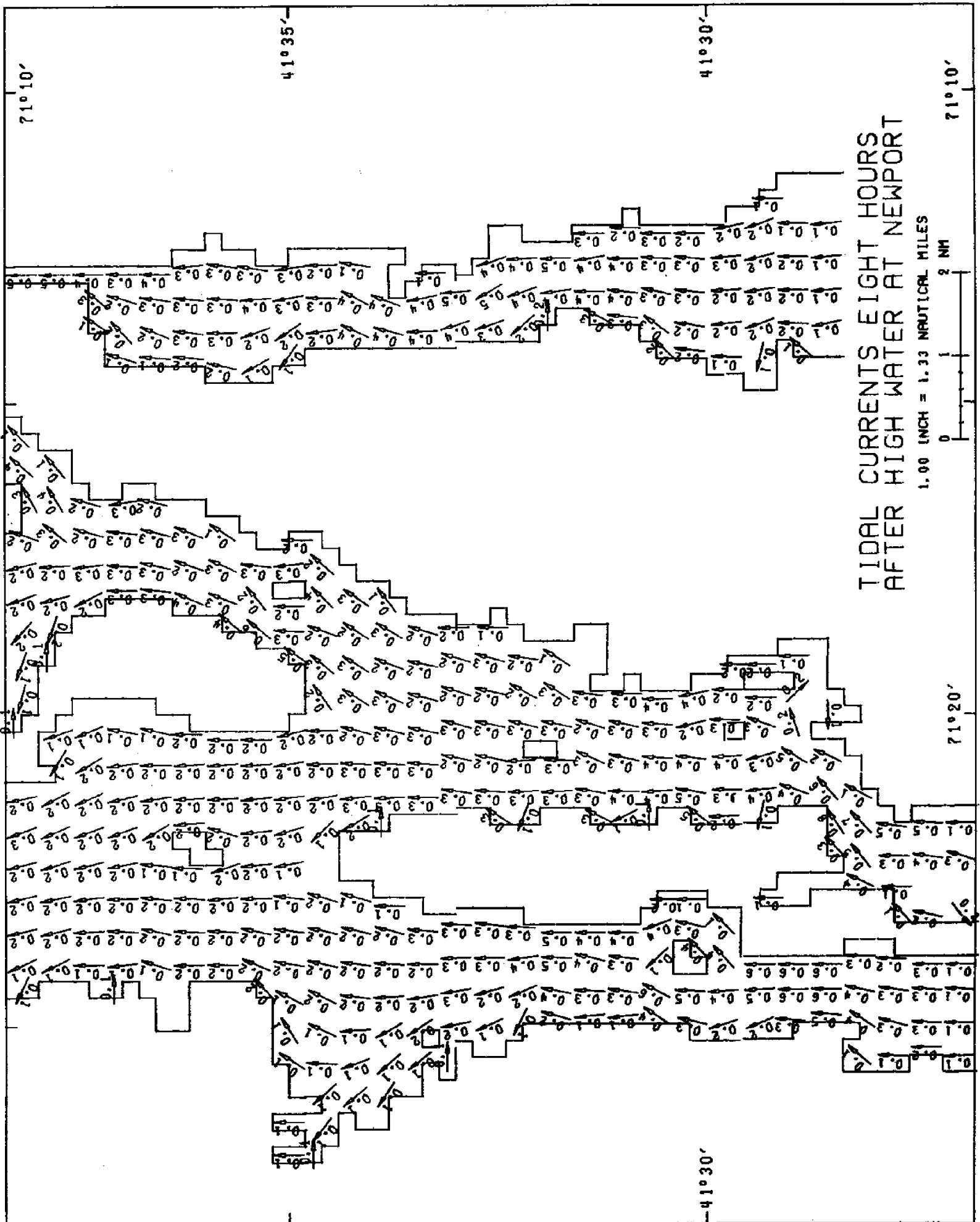
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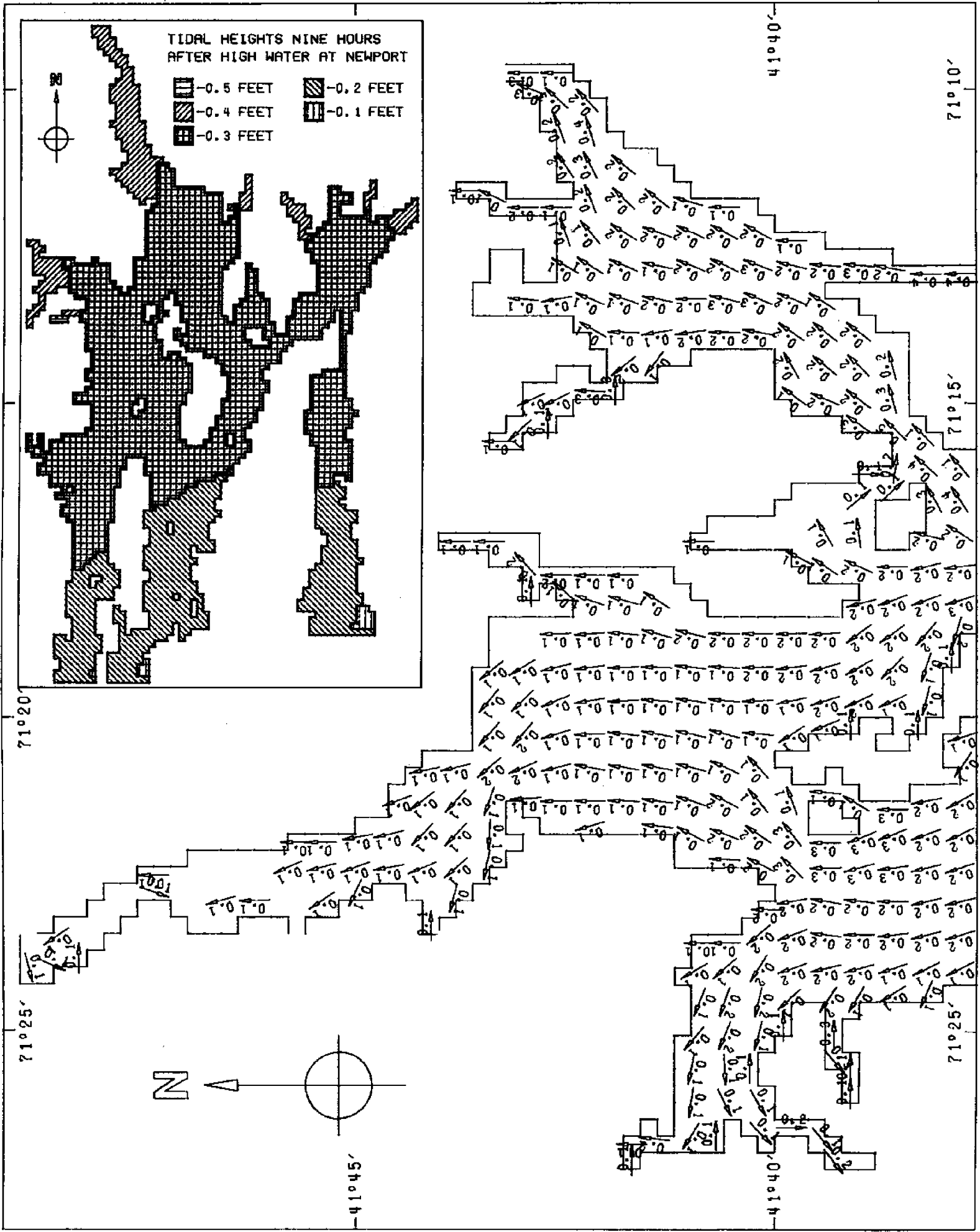
41°35'

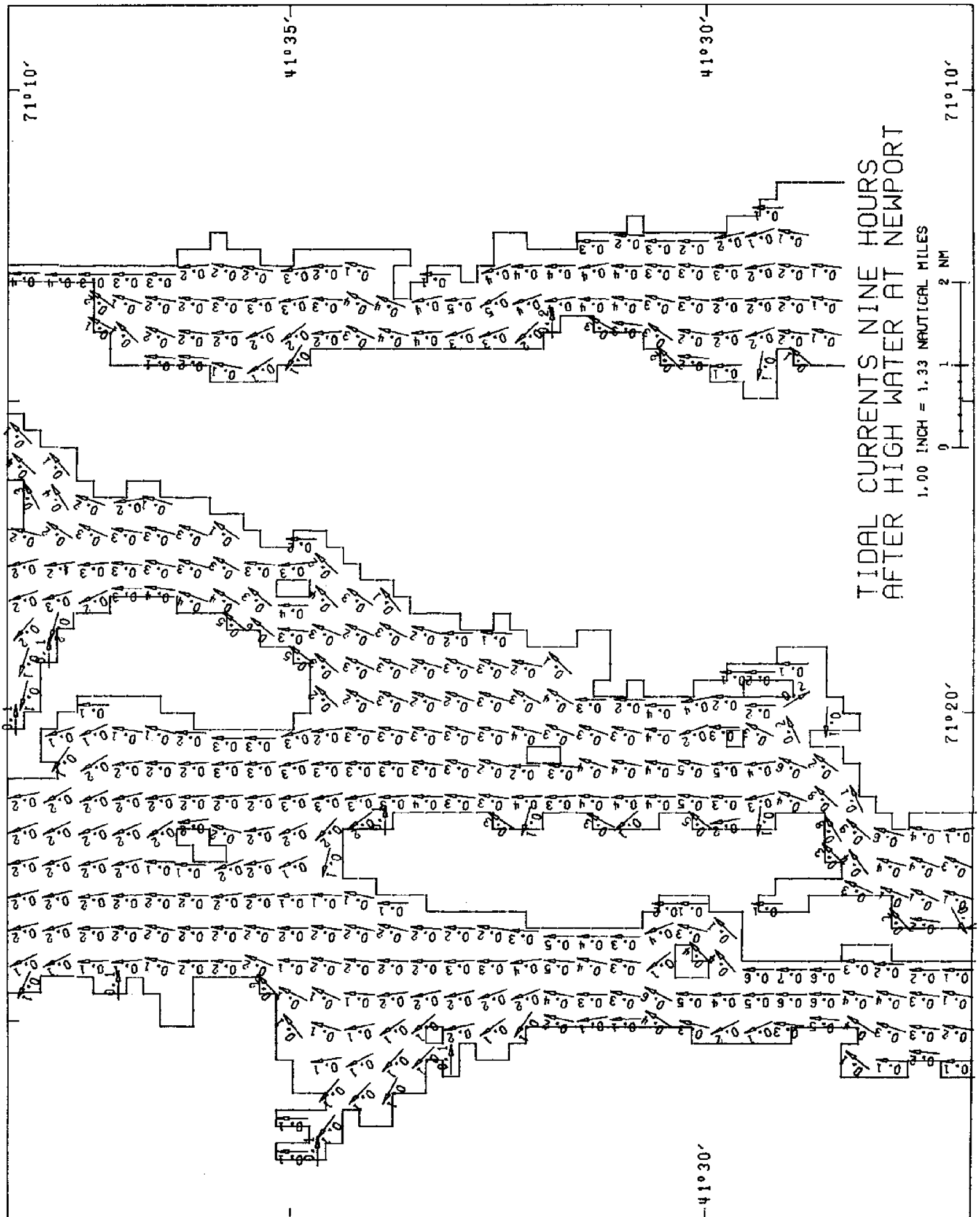
41°30'

41°30'

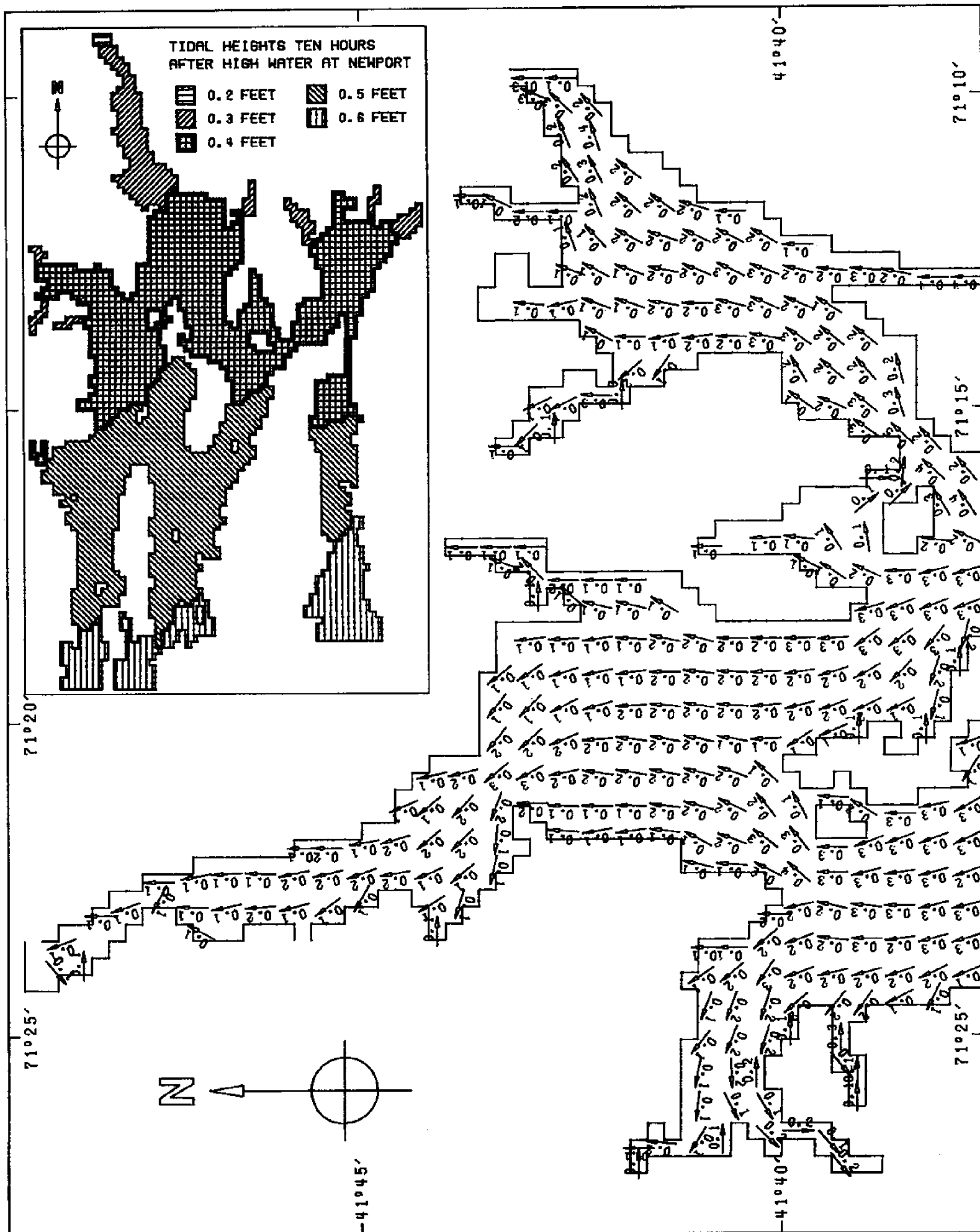


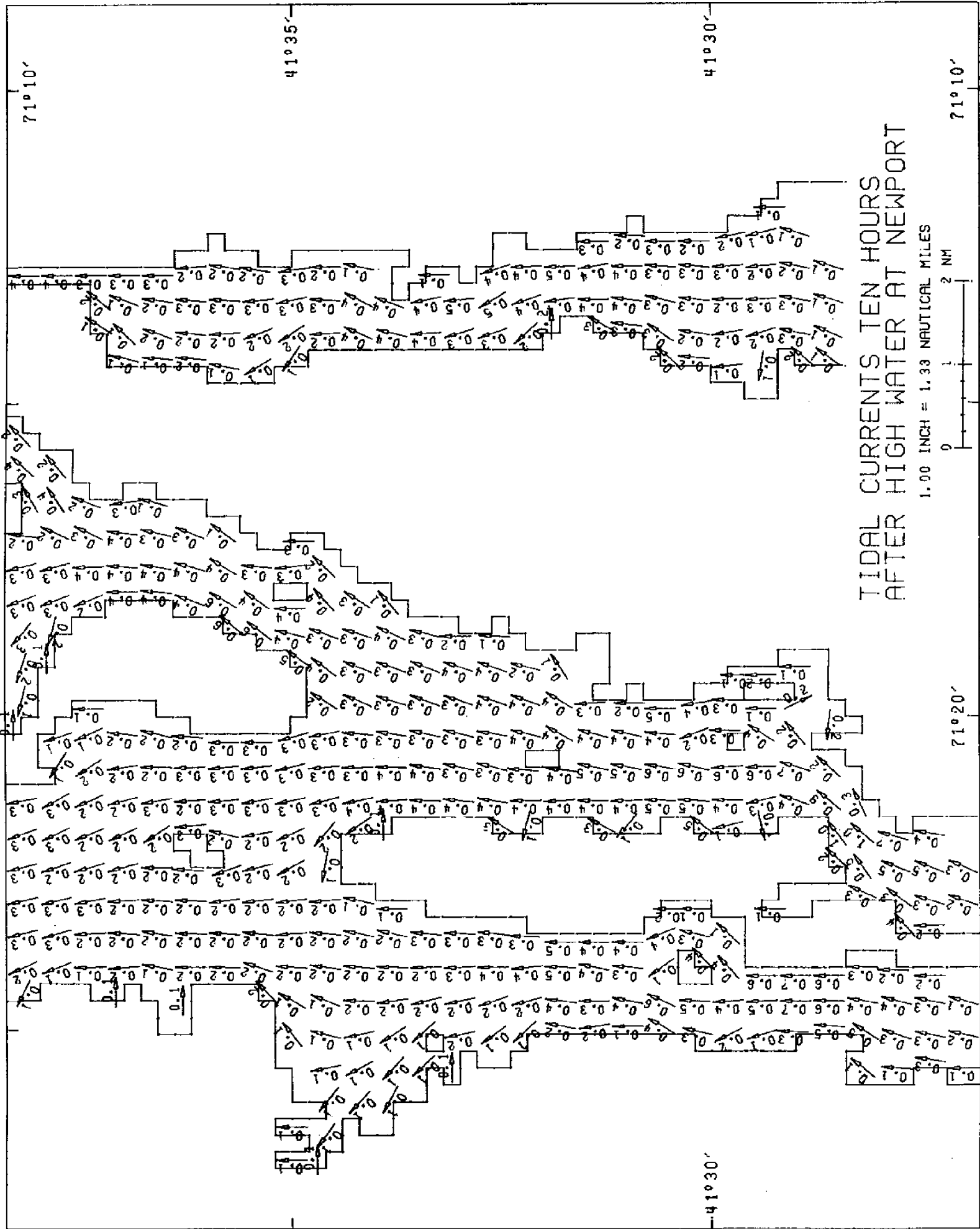






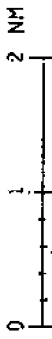


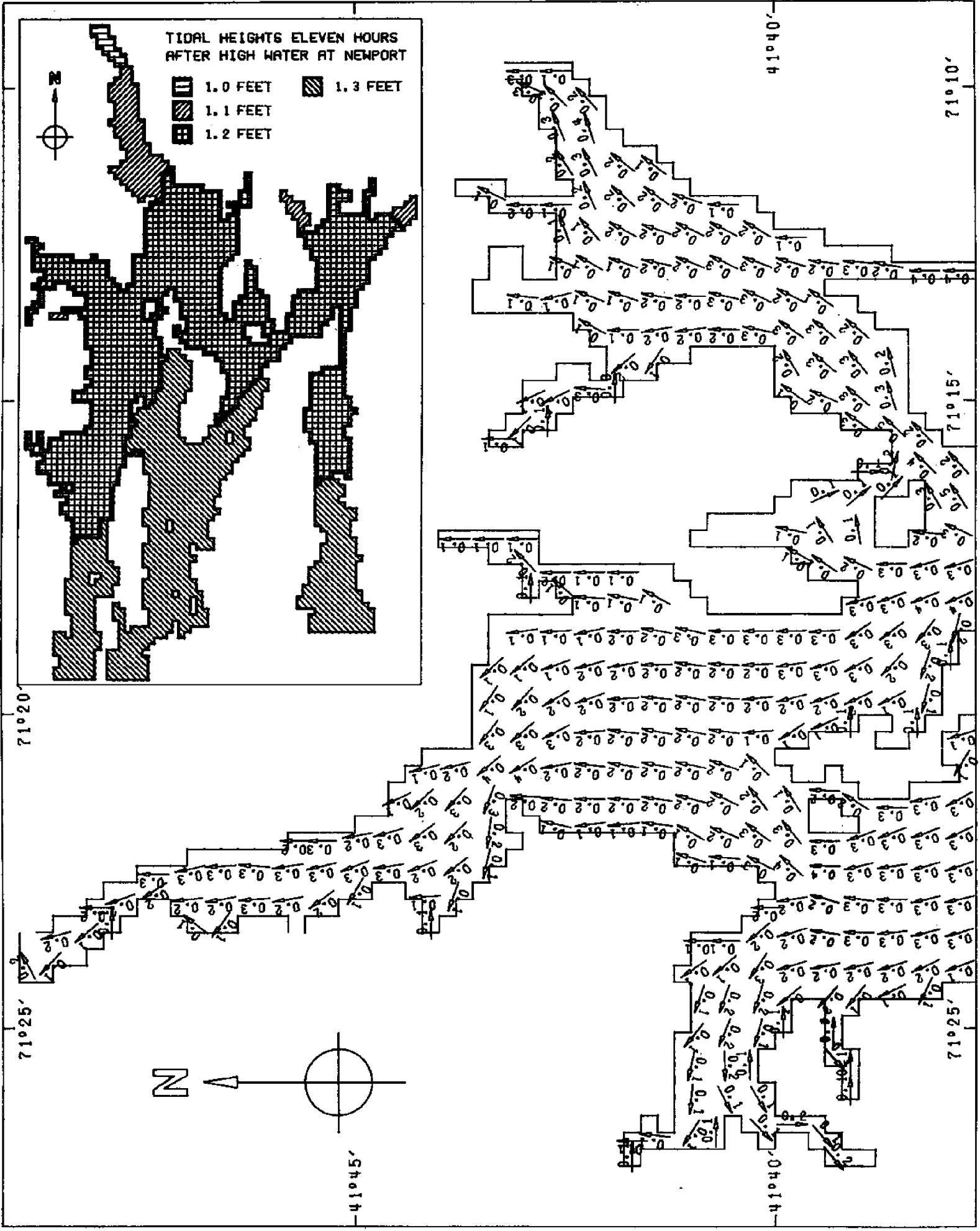


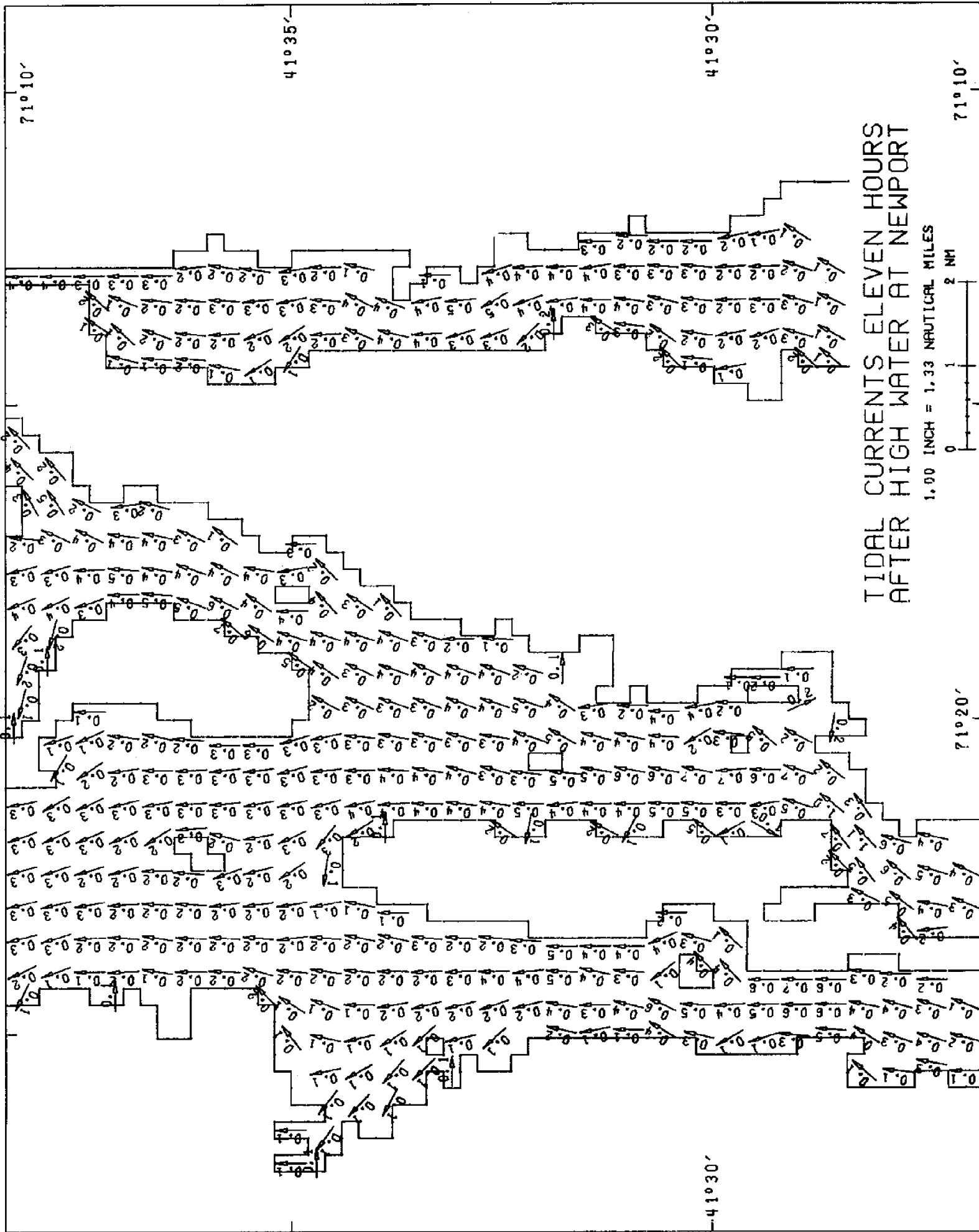


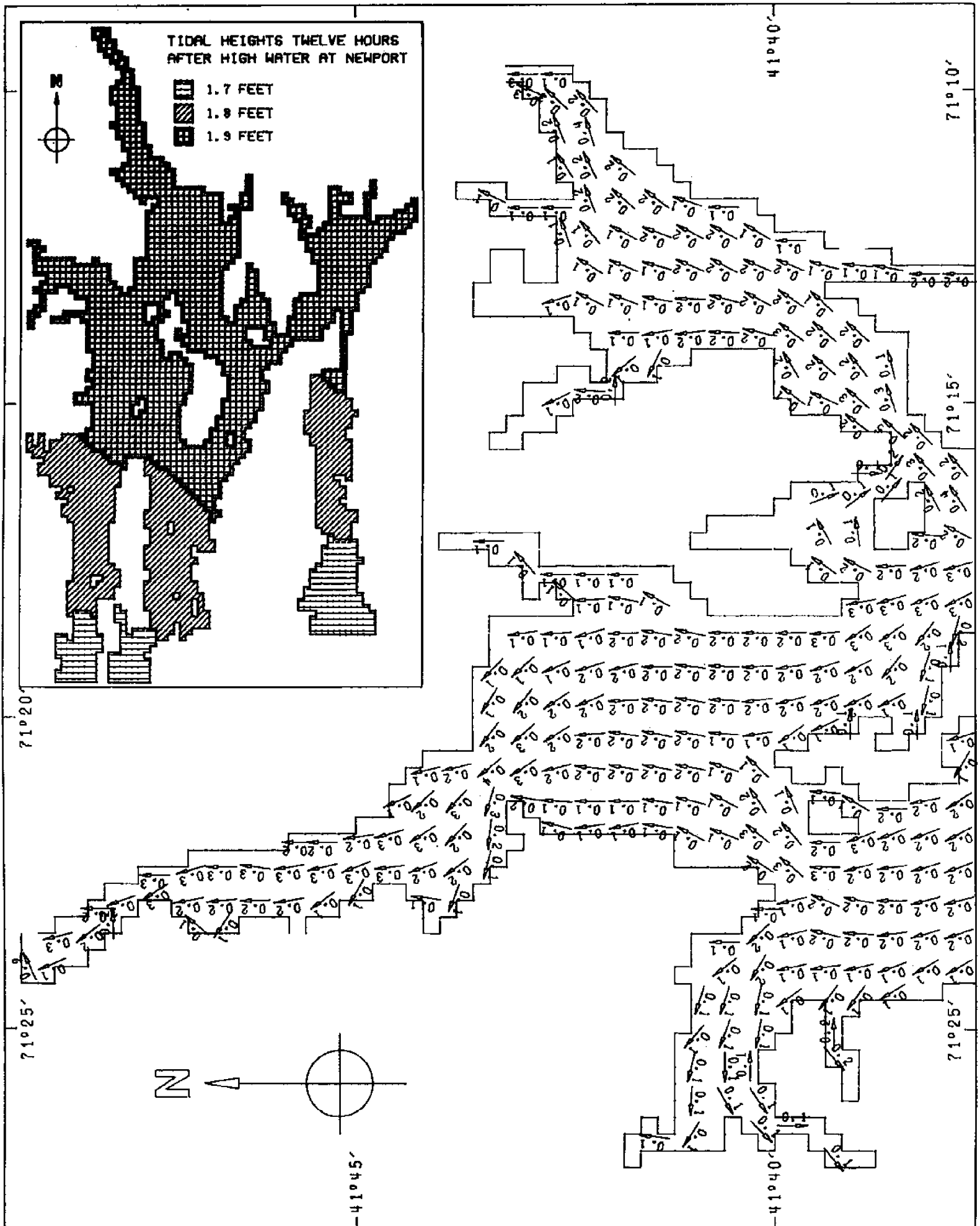
TIDAL CURRENTS TEN HOURS  
AFTER HIGH WATER AT NEWPORT

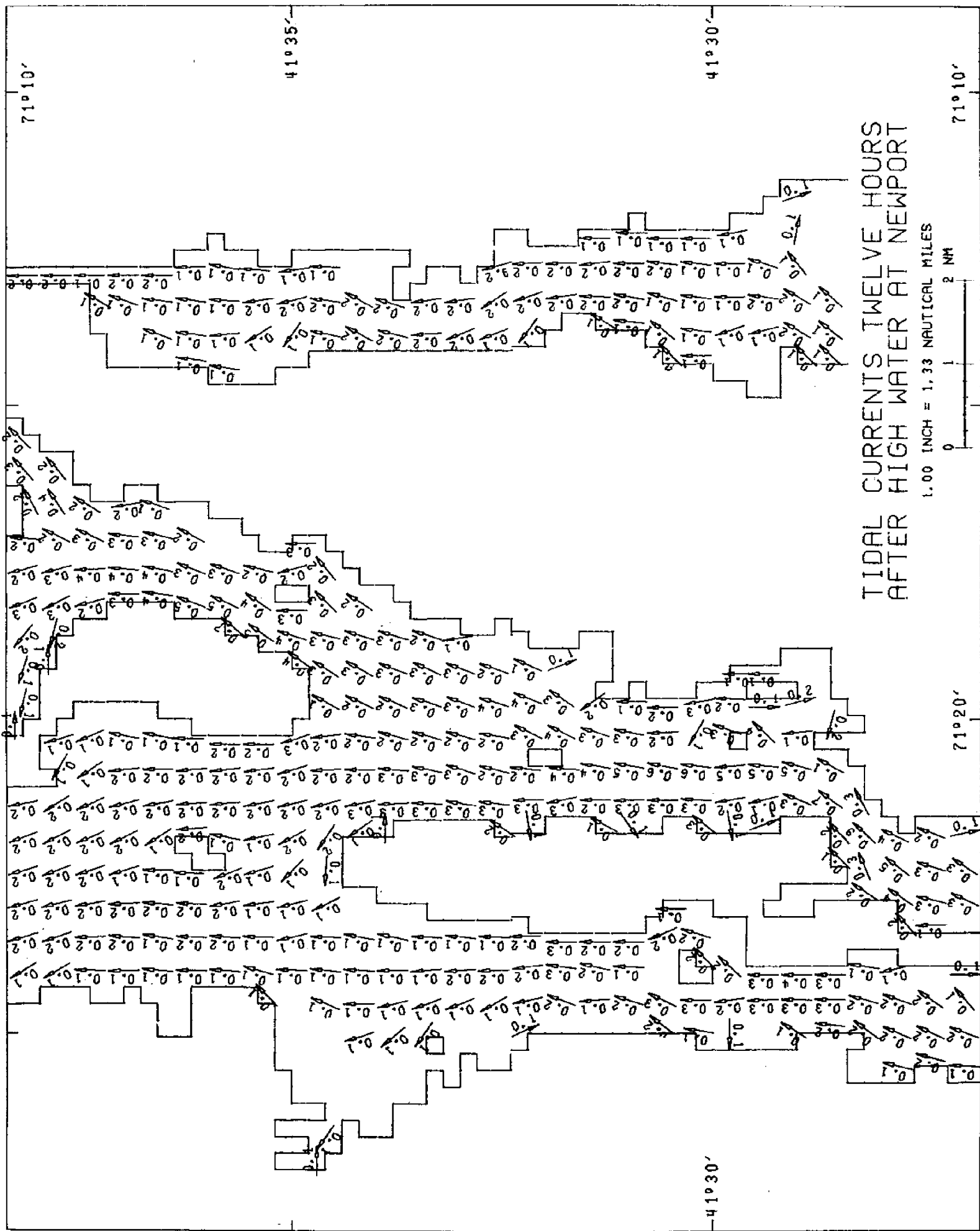
1.00 INCH = 1.33 NAUTICAL MILES











TIDAL CURRENTS TWELVE HOURS  
AFTER HIGH WATER AT NEWPORT

1.00 INCH = 1.33 NAUTICAL MILES



JANUARY

DAY	1975		1976		1977		1978		1979		1980		1981		1982		1983		1984	
	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT
1	0958	4.5	0709	4.4	0433	9.6	1224	2.9	0929	5.3	0639	4.5	0355	2.5	1150	3.1	0857	5.3	0606	1.4
2	1051	4.4	0754	4.4	0519	2.9	0528	8.9	1025	4.4	1900	4.3	1642	2.2	0246	9.0	2150	4.5	1851	3.4
3	1117	4.3	0839	4.3	0602	3.3	0551	0.0	1051	4.3	1945	3.7	1702	3.3	0246	0.0	2218	4.3	1975	4.3
4	0146	8.5	0922	4.3	0646	4.0	1025	4.3	1080	3.9	2029	4.3	1748	3.3	0244	2.2	2044	3.3	1981	3.9
5	0120	5.5	0945	3.3	0706	4.0	1035	3.9	2050	3.8	0850	4.3	1855	3.3	0327	2.7	2058	3.3	2038	2.7
6	0122	1.4	1002	3.3	0747	4.3	1041	5.2	2101	3.7	0937	4.3	1935	3.4	0346	2.5	2104	3.3	2058	3.3
7	0123	9.4	1009	3.3	0758	4.3	1045	4.4	2104	3.8	0948	4.3	1944	3.3	0348	2.9	2107	3.3	2058	3.3
8	0124	9.5	1011	3.3	0804	4.3	1048	4.4	2105	3.9	0952	4.3	1948	3.3	0349	2.6	2108	3.3	2058	3.3
9	0125	5.0	1013	3.3	0810	4.3	1050	4.6	2106	3.9	0955	4.3	1951	3.3	0350	4.8	2109	3.3	2058	3.3
10	0126	1.6	1015	3.3	0815	4.3	1052	4.4	2107	3.5	0956	4.3	1952	3.3	0351	4.5	2110	3.3	2058	3.3
11	0127	1.6	1017	3.3	0821	4.3	1054	4.4	2108	3.6	0957	4.3	1953	3.3	0352	4.5	2111	3.3	2058	3.3
12	0128	1.6	1019	3.3	0825	4.3	1056	4.4	2109	3.8	0958	4.3	1954	3.3	0353	4.4	2112	3.3	2058	3.3
13	0129	1.6	1021	3.3	0830	4.3	1058	4.4	2110	3.8	0959	4.3	1955	3.3	0354	4.4	2113	3.3	2058	3.3
14	0130	1.6	1023	3.3	0835	4.3	1060	4.4	2111	3.8	0960	4.3	1956	3.3	0355	4.4	2114	3.3	2058	3.3
15	0131	1.6	1025	3.3	0840	4.3	1062	4.4	2112	3.8	0961	4.3	1957	3.3	0356	4.4	2115	3.3	2058	3.3
16	0132	1.6	1027	3.3	0845	4.3	1064	4.4	2113	3.8	0962	4.3	1958	3.3	0357	4.4	2116	3.3	2058	3.3
17	0133	1.6	1029	3.3	0850	4.3	1066	4.4	2114	3.8	0963	4.3	1959	3.3	0358	4.4	2117	3.3	2058	3.3
18	0134	1.6	1031	3.3	0855	4.3	1068	4.4	2115	3.8	0964	4.3	1960	3.3	0359	4.4	2118	3.3	2058	3.3
19	0135	1.6	1033	3.3	0900	4.3	1070	4.4	2116	3.8	0965	4.3	1961	3.3	0360	4.4	2119	3.3	2058	3.3
20	0136	1.6	1035	3.3	0905	4.3	1072	4.4	2117	3.8	0966	4.3	1962	3.3	0361	4.4	2120	3.3	2058	3.3
21	0137	1.6	1037	3.3	0910	4.3	1074	4.4	2118	3.8	0967	4.3	1963	3.3	0362	4.4	2121	3.3	2058	3.3
22	0138	1.6	1039	3.3	0915	4.3	1076	4.4	2119	3.8	0968	4.3	1964	3.3	0363	4.4	2122	3.3	2058	3.3
23	0139	1.6	1041	3.3	0920	4.3	1078	4.4	2120	3.8	0969	4.3	1965	3.3	0364	4.4	2123	3.3	2058	3.3
24	0140	1.6	1043	3.3	0925	4.3	1080	4.4	2121	3.8	0970	4.3	1966	3.3	0365	4.4	2124	3.3	2058	3.3
25	0141	1.6	1045	3.3	0930	4.3	1082	4.4	2122	3.8	0971	4.3	1967	3.3	0366	4.4	2125	3.3	2058	3.3
26	0142	1.6	1047	3.3	0935	4.3	1084	4.4	2123	3.8	0972	4.3	1968	3.3	0367	4.4	2126	3.3	2058	3.3
27	0143	1.6	1049	3.3	0940	4.3	1086	4.4	2124	3.8	0973	4.3	1969	3.3	0368	4.4	2127	3.3	2058	3.3
28	0144	1.6	1051	3.3	0945	4.3	1088	4.4	2125	3.8	0974	4.3	1970	3.3	0369	4.4	2128	3.3	2058	3.3
29	0145	1.6	1053	3.3	0950	4.3	1090	4.4	2126	3.8	0975	4.3	1971	3.3	0370	4.4	2129	3.3	2058	3.3
30	0146	1.6	1055	3.3	0955	4.3	1092	4.4	2127	3.8	0976	4.3	1972	3.3	0371	4.4	2130	3.3	2058	3.3
31	0147	1.6	1057	3.3	0960	4.3	1094	4.4	2128	3.8	0977	4.3	1973	3.3	0372	4.4	2131	3.3	2058	3.3



FEBRUARY

DAY	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1	123	0815	0534	0125	1022	0745	0456	0051	1021	0714
2	121	0855	0756	1331	1148	2026	1719	1318	44	33
3	029	0911	1640	1453	032	2047	1545	1122	33	33
4	015	0957	1702	1633	062	2090	1828	1255	33	33
5	014	1015	1744	1659	179	2125	1945	1356	27	27
6	016	1027	1805	1725	222	2206	2018	1425	22	22
7	013	1054	1845	1754	222	2251	2056	1477	22	22
8	017	1111	1898	1825	232	2308	2124	1526	22	22
9	019	1135	1931	1851	232	2351	2151	1577	22	22
10	019	1152	1958	1904	232	2408	2202	1624	22	22
11	020	1211	2003	1935	232	2451	2236	1675	22	22
12	020	1229	2038	1966	232	2508	2271	1726	22	22
13	020	1247	2073	1997	232	2551	2306	1777	22	22
14	020	1265	2108	2028	232	2608	2341	1828	22	22
15	020	1283	2143	2059	232	2651	2376	1879	22	22
16	020	1301	2178	2090	232	2708	2411	1930	22	22
17	020	1319	2213	2121	232	2751	2446	1981	22	22
18	020	1337	2248	2152	232	2808	2481	2032	22	22
19	020	1355	2283	2183	232	2851	2516	2083	22	22
20	020	1373	2318	2214	232	2908	2551	2134	22	22
21	020	1391	2353	2245	232	2951	2586	2185	22	22
22	020	1409	2388	2276	232	3008	2621	2236	22	22
23	020	1427	2423	2307	232	3051	2656	2287	22	22
24	020	1445	2458	2338	232	3108	2691	2338	22	22
25	020	1463	2493	2369	232	3151	2726	2389	22	22
26	020	1481	2528	2400	232	3208	2761	2440	22	22
27	020	1499	2563	2431	232	3251	2796	2491	22	22
28	020	1517	2598	2462	232	3308	2831	2542	22	22
29	020	1535	2633	2493	232	3351	2866	2593	22	22

MARCH

DAY	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1	1007	0749	0419	0001	0939	0720	0330	1156	0908	0650
2	1232	0808	0533	0130	2028	1946	0457	0277	2155	1709
3	1326	0827	0533	0103	1254	2019	0449	3303	1958	1948
4	1153	0827	0533	0209	1347	2058	0517	1403	2048	2026
5	0252	0905	0444	0154	1211	2091	0624	1509	2136	2102
6	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
7	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
8	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
9	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
10	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
11	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
12	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
13	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
14	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
15	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
16	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
17	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
18	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
19	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
20	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
21	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
22	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
23	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
24	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
25	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
26	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
27	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
28	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
29	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
30	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149
31	1325	0924	0444	0416	1412	2135	0648	1642	2121	2149

APRIL

DAY	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1	128	0835	0518	0151	1052	0810	0470	0113	1014	0738
2	125	085	0605	0256	1144	0849	0534	0220	1236	0815
3	123	085	0605	0256	1144	0849	0534	0220	1236	0815
4	052	085	0605	0256	1144	0849	0534	0220	1236	0815
5	052	085	0605	0256	1144	0849	0534	0220	1236	0815
6	052	085	0605	0256	1144	0849	0534	0220	1236	0815
7	052	085	0605	0256	1144	0849	0534	0220	1236	0815
8	052	085	0605	0256	1144	0849	0534	0220	1236	0815
9	052	085	0605	0256	1144	0849	0534	0220	1236	0815
10	052	085	0605	0256	1144	0849	0534	0220	1236	0815
11	052	085	0605	0256	1144	0849	0534	0220	1236	0815
12	052	085	0605	0256	1144	0849	0534	0220	1236	0815
13	052	085	0605	0256	1144	0849	0534	0220	1236	0815
14	052	085	0605	0256	1144	0849	0534	0220	1236	0815
15	052	085	0605	0256	1144	0849	0534	0220	1236	0815
16	052	085	0605	0256	1144	0849	0534	0220	1236	0815
17	052	085	0605	0256	1144	0849	0534	0220	1236	0815
18	052	085	0605	0256	1144	0849	0534	0220	1236	0815
19	052	085	0605	0256	1144	0849	0534	0220	1236	0815
20	052	085	0605	0256	1144	0849	0534	0220	1236	0815
21	052	085	0605	0256	1144	0849	0534	0220	1236	0815
22	052	085	0605	0256	1144	0849	0534	0220	1236	0815
23	052	085	0605	0256	1144	0849	0534	0220	1236	0815
24	052	085	0605	0256	1144	0849	0534	0220	1236	0815
25	052	085	0605	0256	1144	0849	0534	0220	1236	0815
26	052	085	0605	0256	1144	0849	0534	0220	1236	0815
27	052	085	0605	0256	1144	0849	0534	0220	1236	0815
28	052	085	0605	0256	1144	0849	0534	0220	1236	0815
29	052	085	0605	0256	1144	0849	0534	0220	1236	0815
30	052	085	0605	0256	1144	0849	0534	0220	1236	0815

MAY

DAY	1975			1976			1977			1978			1979			1980			1981			1982			1983			1984		
	TIME	HGT	DAY	TIME	HGT	DAY	TIME	HGT	DAY	TIME	HGT	DAY	TIME	HGT	DAY	TIME	HGT	DAY	TIME	HGT	DAY	TIME	HGT	DAY	TIME	HGT	DAY	TIME	HGT	DAY
1	1157	2.4	1	0852	3.8	1	0536	4.5	1	0238	3.5	1	0505	4.1	1	0822	3.5	1	0505	4.1	1	0200	3.0	1	1033	2.7	1	0747	3.5	1
2	0918	6.1	2	0933	3.3	2	0625	5.4	2	0338	4.3	2	0530	4.4	2	0903	3.8	2	0556	4.6	2	0336	3.3	2	1252	3.1	2	2007	4.4	2
3	1014	2.2	3	1013	3.5	3	0715	5.5	3	0431	3.3	3	0646	5.5	3	0945	3.3	3	0819	5.5	3	0401	3.3	3	1122	2.6	3	0827	4.3	3
4	1044	2.2	4	1012	3.2	4	0807	4.5	4	0522	4.3	4	0908	5.0	4	2000	3.3	4	0936	5.0	4	0454	3.5	4	1216	1.9	4	2048	4.3	4
5	1035	2.2	5	1022	3.2	5	0856	4.5	5	0603	4.3	5	0958	5.0	5	2248	3.2	5	1036	5.0	5	0454	3.5	5	0936	2.3	5	2048	4.3	5
6	1035	2.2	6	1022	3.2	6	0949	4.4	6	0653	4.3	6	1030	5.0	6	1241	3.2	6	1036	5.0	6	0454	3.5	6	1036	2.3	6	2048	4.3	6
7	1035	2.2	7	1022	3.2	7	1030	4.4	7	0745	4.3	7	1341	3.2	7	0041	3.2	7	1036	5.0	7	0454	3.5	7	1036	2.3	7	2048	4.3	7
8	1035	2.2	8	1022	3.2	8	1030	4.4	8	0837	4.3	8	1419	3.2	8	0114	3.2	8	1036	5.0	8	0454	3.5	8	1036	2.3	8	2048	4.3	8
9	1035	2.2	9	1022	3.2	9	1030	4.4	9	0930	4.3	9	1546	3.2	9	0247	3.2	9	1036	5.0	9	0454	3.5	9	1036	2.3	9	2048	4.3	9
10	1035	2.2	10	1022	3.2	10	1030	4.4	10	1030	4.3	10	1616	3.2	10	0317	3.2	10	1036	5.0	10	0454	3.5	10	1036	2.3	10	2048	4.3	10
11	1035	2.2	11	1022	3.2	11	1030	4.4	11	1130	4.3	11	1718	3.2	11	0432	3.2	11	1036	5.0	11	0454	3.5	11	1036	2.3	11	2048	4.3	11
12	1035	2.2	12	1022	3.2	12	1030	4.4	12	1230	4.3	12	1818	3.2	12	0536	3.2	12	1036	5.0	12	0454	3.5	12	1036	2.3	12	2048	4.3	12
13	1035	2.2	13	1022	3.2	13	1030	4.4	13	1330	4.3	13	1918	3.2	13	0630	3.2	13	1036	5.0	13	0454	3.5	13	1036	2.3	13	2048	4.3	13
14	1035	2.2	14	1022	3.2	14	1030	4.4	14	1430	4.3	14	2018	3.2	14	0730	3.2	14	1036	5.0	14	0454	3.5	14	1036	2.3	14	2048	4.3	14
15	1035	2.2	15	1022	3.2	15	1030	4.4	15	1530	4.3	15	2118	3.2	15	0830	3.2	15	1036	5.0	15	0454	3.5	15	1036	2.3	15	2048	4.3	15
16	1035	2.2	16	1022	3.2	16	1030	4.4	16	1630	4.3	16	2218	3.2	16	0930	3.2	16	1036	5.0	16	0454	3.5	16	1036	2.3	16	2048	4.3	16
17	1035	2.2	17	1022	3.2	17	1030	4.4	17	1730	4.3	17	2318	3.2	17	1030	3.2	17	1036	5.0	17	0454	3.5	17	1036	2.3	17	2048	4.3	17
18	1035	2.2	18	1022	3.2	18	1030	4.4	18	1830	4.3	18	2418	3.2	18	1130	3.2	18	1036	5.0	18	0454	3.5	18	1036	2.3	18	2048	4.3	18
19	1035	2.2	19	1022	3.2	19	1030	4.4	19	1930	4.3	19	2518	3.2	19	1230	3.2	19	1036	5.0	19	0454	3.5	19	1036	2.3	19	2048	4.3	19
20	1035	2.2	20	1022	3.2	20	1030	4.4	20	2030	4.3	20	2618	3.2	20	1330	3.2	20	1036	5.0	20	0454	3.5	20	1036	2.3	20	2048	4.3	20
21	1035	2.2	21	1022	3.2	21	1030	4.4	21	2130	4.3	21	2718	3.2	21	1430	3.2	21	1036	5.0	21	0454	3.5	21	1036	2.3	21	2048	4.3	21
22	1035	2.2	22	1022	3.2	22	1030	4.4	22	2230	4.3	22	2818	3.2	22	1530	3.2	22	1036	5.0	22	0454	3.5	22	1036	2.3	22	2048	4.3	22
23	1035	2.2	23	1022	3.2	23	1030	4.4	23	2330	4.3	23	2918	3.2	23	1630	3.2	23	1036	5.0	23	0454	3.5	23	1036	2.3	23	2048	4.3	23
24	1035	2.2	24	1022	3.2	24	1030	4.4	24	2430	4.3	24	3018	3.2	24	1730	3.2	24	1036	5.0	24	0454	3.5	24	1036	2.3	24	2048	4.3	24
25	1035	2.2	25	1022	3.2	25	1030	4.4	25	2530	4.3	25	3118	3.2	25	1830	3.2	25	1036	5.0	25	0454	3.5	25	1036	2.3	25	2048	4.3	25
26	1035	2.2	26	1022	3.2	26	1030	4.4	26	2630	4.3	26	3218	3.2	26	1930	3.2	26	1036	5.0	26	0454	3.5	26	1036	2.3	26	2048	4.3	26
27	1035	2.2	27	1022	3.2	27	1030	4.4	27	2730	4.3	27	3318	3.2	27	2030	3.2	27	1036	5.0	27	0454	3.5	27	1036	2.3	27	2048	4.3	27
28	1035	2.2	28	1022	3.2	28	1030	4.4	28	2830	4.3	28	3418	3.2	28	2130	3.2	28	1036	5.0	28	0454	3.5	28	1036	2.3	28	2048	4.3	28
29	1035	2.2	29	1022	3.2	29	1030	4.4	29	2930	4.3	29	3518	3.2	29	2230	3.2	29	1036	5.0	29	0454	3.5	29	1036	2.3	29	2048	4.3	29
30	1035	2.2	30	1022	3.2	30	1030	4.4	30	3030	4.3	30	3618	3.2	30	2330	3.2	30	1036	5.0	30	0454	3.5	30	1036	2.3	30	2048	4.3	30
31	1035	2.2	31	1022	3.2	31	1030	4.4	31	3130	4.3	31	3718	3.2	31	2430	3.2	31	1036	5.0	31	0454	3.5	31	1036	2.3	31	2048	4.3	31

JUNE

DAY	1975		1976		1977		1978		1979		1980		1981		1982		1983		1984	
	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT
1	031	5	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
2	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
3	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
4	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
5	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
6	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
7	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
8	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
9	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
10	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
11	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
12	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
13	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
14	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
15	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
16	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
17	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
18	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
19	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
20	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
21	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
22	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
23	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
24	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
25	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
26	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
27	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
28	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
29	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084
30	031	2	092	3	062	2	040	092	4	062	3	064	062	7	033	3	114	084	1	084

JULY

DAY	1975		1976		1977		1978		1979		1980		1981		1982		1983		1984	
	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT
1	0040	4	1021	3	0728	4	0428	7	0002	6	0952	9	0658	5	0352	2	1159	2	0918	3
2	0131	2	1239	4	1952	5	1651	8	0253	2	2211	4	1749	2	1621	3	0910	2	2139	4
3	0418	2	1331	3	2041	4	1740	9	0341	3	2304	3	2084	4	1747	5	1020	2	2232	4
4	0503	2	1206	3	2103	4	1844	8	0425	4	1138	3	2093	4	1850	5	1045	5	1107	4
5	0446	3	0238	5	2205	6	1935	7	0516	5	0000	8	2101	5	1925	6	1056	6	1220	5
6	0407	3	0120	3	2255	4	1846	6	0609	3	0065	6	2111	6	2038	7	1071	7	0259	5
7	0507	3	1030	3	2314	4	1935	7	0655	4	1305	4	2121	7	2053	8	1082	8	1259	5
8	0408	2	1634	4	2407	5	2053	8	0744	5	1432	5	2131	8	2090	9	1097	9	1425	6
9	0515	3	1633	4	2502	5	2135	9	0830	6	1534	5	2141	9	2115	10	1103	10	1558	6
10	0420	4	1644	4	2601	5	2201	10	0922	7	1640	6	2151	10	2142	11	1116	11	1651	7
11	0520	4	1927	4	2701	6	2217	11	1011	8	1749	7	2161	11	2157	12	1130	12	1741	8
12	0502	4	1925	4	2802	5	2311	12	1102	9	1832	8	2171	12	2203	13	1144	13	1825	9
13	0516	4	2031	4	2902	6	2340	13	1154	10	1948	9	2181	13	2216	14	1155	14	1939	10
14	0519	4	2041	4	3002	5	2407	14	1248	11	2055	10	2191	14	2221	15	1167	15	1954	11
15	0613	7	2133	3	3102	6	2526	15	1352	12	2169	11	2201	15	2231	16	1177	16	2008	12
16	0619	3	2249	3	3202	5	2628	16	1448	13	2244	12	2211	16	2241	17	1187	17	2024	13
17	0419	3	2314	3	3302	4	2716	17	1539	14	2316	13	2221	17	2251	18	1197	18	2042	14
18	0408	3	2408	3	3402	5	2833	18	1636	15	2404	14	2231	18	2261	19	1207	19	2059	15
19	0504	3	2504	3	3502	4	2936	19	1733	16	2509	15	2241	19	2271	20	1217	20	2077	16
20	0508	3	2608	3	3602	5	3033	20	1830	17	2616	16	2251	20	2281	21	1227	21	2095	17
21	0604	3	2704	3	3702	4	3130	21	1927	18	2723	17	2261	21	2291	22	1237	22	2113	18
22	0605	3	2805	3	3802	5	3227	22	2024	19	2830	18	2271	22	2301	23	1247	23	2131	19
23	0700	4	2900	4	3902	6	3324	23	2121	20	2937	19	2281	23	2311	24	1257	24	2149	20
24	0802	4	3002	4	4002	5	3421	24	2218	21	3044	20	2291	24	2321	25	1267	25	2167	21
25	0858	4	3108	4	4102	6	3518	25	2315	22	3151	21	2301	25	2331	26	1277	26	2185	22
26	0954	4	3204	4	4202	5	3615	26	2412	23	3258	22	2311	26	2341	27	1287	27	2203	23
27	1050	4	3304	4	4302	6	3712	27	2509	24	3365	23	2321	27	2351	28	1297	28	2221	24
28	1146	4	3404	4	4402	5	3809	28	2606	25	3472	24	2331	28	2361	29	1307	29	2239	25
29	1242	4	3504	4	4502	6	3906	29	2703	26	3579	25	2341	29	2371	30	1317	30	2257	26
30	1338	4	3604	4	4602	5	4003	30	2800	27	3686	26	2351	30	2381	31	1327	31	2275	27
31	1434	4	3704	4	4702	6	4100	31	2897	28	3793	27	2361	31	2391		1337		2293	28

AUGUST

DAY	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1	0147	1143	0848	0537	0105	1115	0818	0500	0257	1041
2	1424	0062	1093	1622	1302	1339	2095	1727	1015	1336
3	1514	0242	1256	1840	1430	1038	2125	1807	1215	0001
4	1640	0134	1443	1740	1368	1139	2209	1871	1416	0234
5	1751	0244	1631	2045	1654	1445	2256	1935	1541	0335
6	1851	0316	1732	2095	1721	1525	2311	2010	1644	0430
7	1938	0415	1829	2145	1803	1639	2347	2091	1738	0536
8	2021	0520	1923	2194	1859	1752	2402	2172	1831	0628
9	2111	0615	2009	2242	1933	1846	2453	2255	1922	0720
10	2200	0711	2093	2290	2013	1936	2504	2344	2008	0809
11	2250	0807	2178	2338	2093	2026	2554	2433	2093	0929
12	2340	0904	2263	2386	2172	2119	2604	2522	2182	1039
13	2430	1001	2348	2434	2251	2207	2654	2610	2271	1151
14	2520	1058	2433	2482	2330	2295	2704	2698	2360	1263
15	2610	1155	2518	2530	2409	2383	2754	2786	2449	1375
16	2700	1252	2603	2578	2488	2471	2804	2878	2538	1487
17	2790	1349	2688	2626	2567	2559	2854	2951	2627	1599
18	2880	1446	2773	2674	2646	2647	2904	3048	2716	1711
19	2970	1543	2858	2722	2725	2735	2954	3145	2805	1823
20	3060	1640	2943	2770	2804	2825	3004	3242	2894	1935
21	3150	1737	3028	2818	2883	2913	3054	3339	2983	2047
22	3240	1834	3113	2866	2962	3001	3104	3436	3072	2159
23	3330	1931	3198	2914	3041	3089	3154	3533	3161	2271
24	3420	2028	3283	2962	3120	3177	3204	3630	3250	2383
25	3510	2125	3368	3010	3199	3265	3254	3727	3339	2495
26	3600	2222	3453	3058	3278	3356	3304	3824	3428	2607
27	3690	2319	3538	3106	3357	3447	3354	3921	3517	2719
28	3780	2416	3623	3154	3436	3538	3404	4018	3606	2831
29	3870	2513	3708	3202	3515	3629	3454	4115	3695	2943
30	3960	2610	3793	3250	3594	3720	3504	4212	3784	3055
31	4050	2707	3878	3298	3673	3811	3554	4309	3873	3167



SEPTEMBER

DAY	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1	0317	0349	0952	0636	0234	0016	0921	0604	0148	1208
2	0154	0325	2237	1853	1535	1139	2102	1822	1423	0039
3	0540	0117	2255	0713	0432	0225	1048	0646	0356	0113
4	1053	0258	1124	0821	0526	0354	1235	0846	0543	0142
5	1824	0712	0337	1425	0940	0641	0147	0410	0138	0343
6	0917	0425	0130	0913	0604	0428	0205	0111	0043	0426
7	1029	0627	0252	1155	0835	0628	0122	0244	0090	0549
8	0209	0119	0356	0344	0152	0097	0543	0333	0128	0652
9	1201	0758	0440	0533	0227	0121	0633	0406	0141	0832
10	1101	0807	0530	0630	0320	0133	0434	0215	0066	0931
11	1125	0916	0636	0733	0455	0228	0529	0333	0146	1018
12	0200	0116	0858	0822	0522	0353	0629	0433	0210	0825
13	0140	0233	1013	1042	0738	0452	0840	0533	0319	0910
14	0250	0330	1138	1144	0822	0533	0937	0633	0416	1004
15	0426	0455	1216	1259	0922	0622	1009	0733	0509	1102
16	0536	0532	1311	1350	1014	0700	1104	0833	0607	1204
17	0659	0637	1417	1459	1102	0752	1207	0933	0702	1302
18	0813	0751	1511	1600	1202	0846	1314	1033	0808	1402
19	0935	0924	1604	1659	1306	0942	1423	1133	0906	1502
20	1057	1048	1700	1758	1406	1046	1534	1233	1008	1602
21	1209	1156	1800	1850	1502	1146	1646	1333	1108	1702
22	1321	1307	1900	1950	1606	1250	1759	1433	1208	1802
23	1433	1419	2000	2050	1710	1404	1846	1533	1308	1902
24	1545	1531	2100	2150	1824	1518	1959	1633	1408	2002
25	1657	1643	2200	2250	1938	1632	2046	1733	1508	2102
26	1809	1795	2300	2350	2052	1746	2159	1833	1608	2202
27	1921	1907	2400	2450	2166	1860	2246	1933	1708	2302
28	2033	2019	2500	2550	2280	1974	2359	2033	1808	2402
29	2145	2131	2600	2650	2394	2088	2446	2133	1908	2502
30	2257	2243	2700	2750	2508	2202	2559	2233	2008	2602

OCTOBER

DAY	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1	0349	0136	1022	0645	0314	0056	0930	0615	0236	0113
2	1614	0140	1227	1925	0412	1320	1047	1855	1339	1244
3	1709	1050	1309	1944	1630	1431	1105	1915	1608	1346
4	1824	1635	1136	0805	1506	1359	1255	1756	1703	1420
5	1824	1651	0029	2087	1824	1644	1180	2090	1619	1546
6	1902	1740	1220	2157	1973	1753	1370	2128	1707	1610
7	1902	1840	1122	2144	2082	1835	1458	2294	1931	1744
8	2020	1900	1222	2213	2094	1913	1509	2307	2017	1801
9	2113	2080	1223	2213	2209	1935	1628	2337	2104	1870
10	2113	2080	1223	2213	2209	1935	1628	2337	2104	1870
11	0123	0135	0622	1315	0228	0210	0176	0422	0259	0208
12	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
13	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
14	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
15	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
16	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
17	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
18	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
19	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
20	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
21	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
22	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
23	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
24	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
25	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
26	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
27	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
28	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
29	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
30	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208
31	0130	0148	0622	1315	0228	0210	0176	0422	0259	0208

NOVEMBER

DAY	1975		1976		1977		1978		1979		1980		1981		1982		1983		1984	
	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT
1	0513	49	0138	8	1109	2	0738	4	0446	0234	2	0247	1022	3	0708	0417	0150	0149	0150	1
2	0608	5	0142	3	1150	2	0801	4	0511	0350	2	0300	1208	2	0753	0403	0155	0154	0155	2
3	0657	6	0147	3	0245	0	0910	4	0621	0621	2	0300	1230	2	0816	0403	0159	0158	0159	3
4	0723	7	0151	3	0247	0	0930	4	0645	0645	2	0300	1230	2	0834	0403	0159	0158	0159	4
5	0802	8	0153	3	0249	0	0950	4	0658	0658	2	0300	1230	2	0854	0403	0159	0158	0159	5
6	0851	9	0155	3	0251	0	1010	4	0712	0712	2	0300	1230	2	0914	0403	0159	0158	0159	6
7	0940	10	0157	3	0253	0	1030	4	0734	0734	2	0300	1230	2	0934	0403	0159	0158	0159	7
8	1029	11	0159	3	0255	0	1050	4	0756	0756	2	0300	1230	2	0954	0403	0159	0158	0159	8
9	1118	12	0201	3	0257	0	1110	4	0818	0818	2	0300	1230	2	1014	0403	0159	0158	0159	9
10	1207	13	0203	3	0259	0	1130	4	0840	0840	2	0300	1230	2	1034	0403	0159	0158	0159	10
11	1256	14	0205	3	0301	0	1150	4	0902	0902	2	0300	1230	2	1054	0403	0159	0158	0159	11
12	1345	15	0207	3	0303	0	1210	4	0924	0924	2	0300	1230	2	1114	0403	0159	0158	0159	12
13	1434	16	0209	3	0305	0	1230	4	0946	0946	2	0300	1230	2	1134	0403	0159	0158	0159	13
14	1523	17	0211	3	0307	0	1250	4	0968	0968	2	0300	1230	2	1154	0403	0159	0158	0159	14
15	1612	18	0213	3	0309	0	1310	4	0990	0990	2	0300	1230	2	1214	0403	0159	0158	0159	15
16	1701	19	0215	3	0311	0	1330	4	1012	1012	2	0300	1230	2	1234	0403	0159	0158	0159	16
17	1750	20	0217	3	0313	0	1350	4	1034	1034	2	0300	1230	2	1254	0403	0159	0158	0159	17
18	1839	21	0219	3	0315	0	1410	4	1056	1056	2	0300	1230	2	1314	0403	0159	0158	0159	18
19	1928	22	0221	3	0317	0	1430	4	1078	1078	2	0300	1230	2	1334	0403	0159	0158	0159	19
20	2017	23	0223	3	0319	0	1450	4	1100	1100	2	0300	1230	2	1354	0403	0159	0158	0159	20
21	2106	24	0225	3	0321	0	1510	4	1122	1122	2	0300	1230	2	1414	0403	0159	0158	0159	21
22	2195	25	0227	3	0323	0	1530	4	1144	1144	2	0300	1230	2	1434	0403	0159	0158	0159	22
23	2284	26	0229	3	0325	0	1550	4	1166	1166	2	0300	1230	2	1454	0403	0159	0158	0159	23
24	2373	27	0231	3	0327	0	1610	4	1188	1188	2	0300	1230	2	1514	0403	0159	0158	0159	24
25	2462	28	0233	3	0329	0	1630	4	1210	1210	2	0300	1230	2	1534	0403	0159	0158	0159	25
26	2551	29	0235	3	0331	0	1650	4	1232	1232	2	0300	1230	2	1554	0403	0159	0158	0159	26
27	2640	30	0237	3	0333	0	1710	4	1254	1254	2	0300	1230	2	1614	0403	0159	0158	0159	27
28	2729	31	0239	3	0335	0	1730	4	1276	1276	2	0300	1230	2	1634	0403	0159	0158	0159	28
29	2818	32	0241	3	0337	0	1750	4	1298	1298	2	0300	1230	2	1654	0403	0159	0158	0159	29
30	2907	33	0243	3	0339	0	1810	4	1320	1320	2	0300	1230	2	1714	0403	0159	0158	0159	30

DECEMBER

DAY	1975		1976		1977		1978		1979		1980		1981		1982		1983		1984	
	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT	TIME	HGT
1	0545	5.4	0330	7.5	1115	8.2	0803	5.3	0519	4.8	0253	4.4	1039	3.4	0737	5.4	0449	3.9	0209	0
2	0636	5.4	0419	5.0	1234	4.7	0853	4.6	1742	4.3	1512	4.6	2309	2.9	0821	4.5	1713	3.6	1420	2.2
3	0725	5.4	0502	2.9	1405	2.7	0944	4.4	1608	5.4	1631	2.6	1127	2.9	0912	4.5	1801	4.4	1520	2.2
4	0813	5.4	0549	2.5	1559	3.6	1039	4.4	1656	4.4	1643	2.8	0001	3.7	1006	4.4	1871	4.7	1608	2.2
5	0902	5.4	0625	0.9	1736	2.8	1137	4.4	1743	4.4	1513	3.0	1051	4.8	1103	4.3	1955	4.9	1654	2.2
6	0949	5.4	0707	2.8	1920	3.3	1237	3.4	1806	4.4	1556	3.8	1135	3.6	1203	4.3	2039	3.3	1701	2.2
7	1035	5.4	0749	3.9	2105	3.4	1337	3.3	1852	4.4	1617	3.4	1212	3.3	1303	3.3	2123	3.3	1764	2.2
8	1121	5.4	0825	2.8	2250	3.4	1441	3.3	1925	3.3	1657	3.4	1303	3.3	1407	3.3	2206	3.3	1821	2.2
9	0008	5.6	0910	2.8	0037	3.2	1539	3.3	2006	3.2	1738	3.4	1405	4.3	1506	3.3	2292	3.3	1884	2.2
10	0058	2.3	0952	2.6	0126	3.2	1639	3.4	2077	2.2	1829	3.4	1533	4.5	1628	3.3	2384	3.4	1964	2.2
11	0140	2.2	1037	1.4	0214	3.2	1740	3.3	2149	2.2	1918	3.3	1645	4.3	1730	3.3	2477	3.4	2044	2.2
12	0224	2.2	1122	0.9	0302	3.2	1848	3.3	2222	2.2	2027	3.3	1753	4.4	1841	3.3	2570	3.4	2128	2.2
13	0307	2.2	1209	0.1	0352	3.2	1956	3.3	2305	2.2	2125	3.3	1859	4.4	1951	3.3	2663	3.4	2212	2.2
14	0351	3.3	1256	0.1	0443	3.3	2064	3.3	2349	2.2	2220	3.3	1977	4.4	2062	3.3	2756	3.4	2300	2.2
15	0435	3.3	1344	1.8	0536	3.3	2172	3.3	2432	2.2	2314	3.3	2093	4.4	2173	3.3	2849	3.4	2388	2.2
16	0520	3.3	1433	1.6	0629	3.3	2280	3.3	2515	2.2	2407	3.3	2208	4.4	2284	3.3	2942	3.4	2477	2.2
17	0605	3.3	1522	1.6	0724	3.3	2388	3.3	2600	2.2	2492	3.3	2323	4.4	2395	3.3	3035	3.4	2566	2.2
18	0650	3.3	1611	1.6	0819	3.3	2496	3.3	2685	2.2	2577	3.3	2438	4.4	2506	3.3	3128	3.4	2655	2.2
19	0735	3.3	1700	1.6	0914	3.3	2604	3.3	2770	2.2	2662	3.3	2553	4.4	2617	3.3	3221	3.4	2744	2.2
20	0820	3.3	1749	1.6	1009	3.3	2712	3.3	2855	2.2	2747	3.3	2669	4.4	2728	3.3	3314	3.4	2831	2.2
21	0905	3.3	1798	1.6	1104	3.3	2820	3.3	2940	2.2	2832	3.3	2776	4.4	2815	3.3	3407	3.4	2918	2.2
22	0950	3.3	1847	1.6	1200	3.3	2928	3.3	3025	2.2	2917	3.3	2883	4.4	2904	3.3	3500	3.4	3005	2.2
23	1035	3.3	1896	1.6	1245	3.3	3016	3.3	3110	2.2	3006	3.3	2990	4.4	2993	3.3	3593	3.4	3092	2.2
24	1120	3.3	1945	1.6	1340	3.3	3104	3.3	3195	2.2	3095	3.3	3077	4.4	3082	3.3	3686	3.4	3179	2.2
25	0005	3.3	2034	1.6	1435	3.3	3192	3.3	3280	2.2	3184	3.3	3165	4.4	3170	3.3	3779	3.4	3266	2.2
26	0050	3.3	2123	1.6	1530	3.3	3280	3.3	3365	2.2	3273	3.3	3254	4.4	3259	3.3	3872	3.4	3353	2.2
27	0135	3.3	2212	1.6	1625	3.3	3370	3.3	3450	2.2	3362	3.3	3343	4.4	3348	3.3	3965	3.4	3440	2.2
28	0220	3.3	2301	1.6	1720	3.3	3460	3.3	3535	2.2	3450	3.3	3432	4.4	3437	3.3	4058	3.4	3527	2.2
29	0305	3.3	2390	1.6	1815	3.3	3550	3.3	3620	2.2	3539	3.3	3521	4.4	3532	3.3	4151	3.4	3614	2.2
30	0350	3.3	2479	1.6	1910	3.3	3640	3.3	3705	2.2	3628	3.3	3610	4.4	3621	3.3	4244	3.4	3701	2.2
31	0435	3.3	2568	1.6	2005	3.3	3730	3.3	3790	2.2	3717	3.3	3700	4.4	3709	3.3	4337	3.4	3788	2.2

