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THE SALINITY INTRUSION IN THE FRASER RIVER: Observations of Salinities, Temperatures and Currents by Time Series and Hovercraft Coverage 1985, 1986, 1987



A.B. Ages and A.L. Woppard

Institute of Ocean Sciences
Department of Fisheries and Oceans
Sidney, B.C.

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Rapport statistique canadien sur l'hydrographie et les sciences océaniques

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Les établissements des Sciences et levés océaniques dans les régions et à l'administration centrale ont cessé de publier leurs diverses séries de rapports en décembre 1981. Une liste complète de ces publications figure dans le volume 39, Index des publications 1982, du *Journal canadien des sciences halieutiques et aquatiques*. La série actuelle a commencé avec la publication du rapport numéro 1 en janvier 1982.



Canadian Data Report of
Hydrography and Ocean Sciences 126
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**THE SALINITY INTRUSION
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**Observations of Salinities, Temperatures and Currents
by Time Series and Hovercraft Coverage
1985, 1986, 1987**

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ABSTRACT

Ages, A.B. and A.L. Woppard, 1994. The Salinity Intrusion in the Fraser River: Observations of Salinities, Temperatures and Currents by Time Series and Hovercraft Coverage 1985, 1986 1987. Can. Data Rep. Hydrog. Ocean Sci. 126: 166 pp.

As part of a field program to examine the interaction between the advancing salt wedge and the water movement in its immediate vicinity, time series at very short intervals of salinities, temperatures and currents were carried out in the Fraser River in 1985 and 1986.

In addition, an attempt was made in 1987 to observe the distribution of these properties throughout the delta as rapidly as possible by the use of a hovercraft.

The results are presented in tables, stick diagrams and profile plots.

Keywords: Fraser River, currents, salinities, temperatures.

RÉSUMÉ

Ages, A.B. and A.L. Woppard, 1994. The Salinity Intrusion in the Fraser River: Observations of Salinities, Temperatures and Currents by Time Series and Hovercraft Coverage 1985, 1986 1987. Can. Data Rep. Hydrog. Ocean Sci. 126: 166 pp.

Dans le cadre des travaux de terrain portant sur l'interaction du coin salé et des courants avoisinants, des séries chronologiques très rapprochées des salinités, des températures et des courants ont été effectuées dans le fleuve Fraser en 1985 et 1986.

En plus, on a essayé, en 1987, d'observer la répartition de ces propriétés dans tout le delta le plus rapidement possible en utilisant un aéroglisseur.

Les données sont présentées sous forme de tableaux, de graphiques de bâtonnet et de profils verticaux.

Mot-Clés: Fleuve Fraser, courants, salinités, températures.

ACKNOWLEDGEMENTS

The time series were taken from the *Vector* (Institute of Ocean Sciences); the cooperation and active interest in our work by Captain Rae Mackenzie and his crew are appreciated. We also thank Captain John McGrath and his staff of the Canadian Coast Guard Hovercraft Unit on Sea Island for their assistance and helpful suggestions in installing our equipment on their hovercraft and for their cooperation in our field work.

The assistance of Alexandra Dobbs and Mike Cannon in the field is gratefully acknowledged as well as that of Di Tran, Mark Albright and Georg Jorgenson in processing the data. Don Smyth of Applied Microsystems in Sidney accompanied us during the first days of operation with their instrument and his instructions were most helpful. Finally, thanks are due to Sharon Thomson for proofreading the text.

INTRODUCTION

Attempts to incorporate the salt intrusion into an earlier developed numerical tidal model of the Fraser River have been motivated by the need for information on the current distribution in the reaches affected by the salt wedge. This one-dimensional model had originally been designed at the Institute of Ocean Sciences to compute water surface elevations in the navigable part of the river. It could not be expected to give any reliable information on the current profiles in the vicinity of the salt wedge.

In 1978 and 1979, observations of salinities, temperatures and currents were carried out throughout the delta to examine the feasibility of extending this part of the model into a multi-layer version, to include the salinity intrusion. The data gave us an idea of the complexity of the physics involved in simulating the effect of the salt wedge upon the river flow, in particular the decay and eventual breakdown of the interface at a falling tide; the seemingly inconsistent progress of salt wedge; and the current pattern near the head of the wedge. These features would be a major challenge to incorporate into a model but had to be simulated almost flawlessly to applications such as sedimentation processes and transport of contaminants, and perhaps to a less critical degree, to navigation.

As a sequel to the more general coverage of the salinity intrusion carried out in 1978 and 1979, the time series in this report focussed upon the water velocities near and behind the head of the salt wedge as it advanced along the river bottom. The observations were made possible by the acquisition of a locally designed system (CSTDV), which simultaneously measured salinities, temperatures, depths and current velocities as closely as possible, and stored the measurements on a data logger. The same system was also installed on a hovercraft to cover the Fraser delta in the shortest possible time.

OBSERVATIONS

The time series in the Main Arm between New Westminster and Steveston were carried out from the *Vector* (Institute of Ocean Sciences; Figure 1). The measurement routine consisted of conventional profiles at half-hour intervals or of observations at one-minute intervals with the sensors held close to the river bottom during the passage of the front of the salt wedge.

At the same stations, staff of the Water Quality Branch, Inland Waters Directorate in Vancouver conducted tests to determine the efficiencies of two techniques of collecting suspended sediments.

Upon completion of the time series, the same configuration of sensors and data logger was installed on a hovercraft of the Canadian Coast Guard (Figure 2). Three experimental cruises were made in the summer of 1987. This approach proved to be significantly more efficient than the conventional use of a launch equipped with an analog recorder (for salinities and temperatures) and a deck read-out (for currents). However, the accuracy of the current data depended on the skill of the pilot to keep the hovercraft exactly in position during the observations, a much more demanding operation than that with a launch.

Attempts to collect similar data with a helicopter had to be suspended not only because it was virtually impossible to keep the helicopter exactly in position for current measurements but also because the instrument's cable continued to swing above the water surface and could not hold the probe stationary.

Locations of time series and hovercraft stations are sketched in Figure 3.

INSTRUMENTATION

Point measurements of currents, salinities and temperatures were made by a CSTDV unit manufactured locally by Applied Microsystems. The one-metre long probe consisted of a Marsh McBirney electromagnetic directional current meter combined with depth, conductivity and temperature sensors designed by Applied Microsystems. The conductivity and temperature sensors were located 18 cm above the centre of the current sensor (the "XY" points), and 5 cm below the depth sensor.

The system's configuration is sketched in Figure 4.



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Figure 1. *CSS Vector*.



Figure 2. Canadian Coast Guard hovercraft with CSTDV probe.

LOWER FRASER RIVER

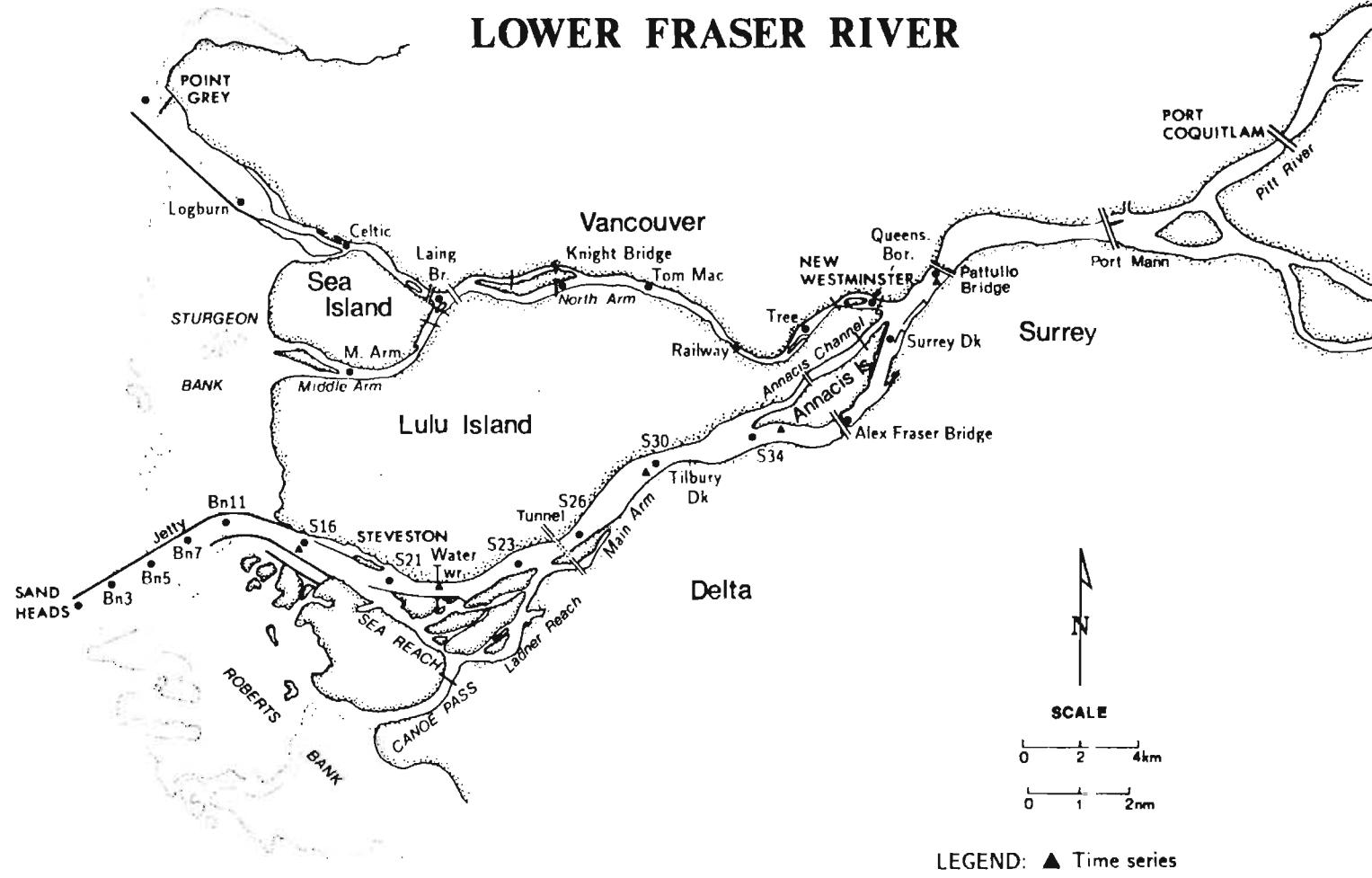


Figure 3. Positions of stations in the Lower Fraser River.

CSTDV Configuration

COMPONENTS:

- *To measure currents:*

Marsh McBirney 585 electromagnetic directional current meter with
Digicourse heading sensor range 0 to 300 cm/sec. max. pitch and roll 38°

- *To measure salinities, temperatures and depths:*

Applied Microsystems CTD

Salinity range 0 to 40‰, accuracy 0.002 ‰

(Salinity computed from conductivity and temperature, using formula by
Perkins and Lewis, 1980)

- Temperature range: -2° to 36°C, accuracy 0.01°C
- Pressure range: 0 to 70 d Bars, resolution 0.01 d Bar
- Power required: 16 volts DC, gel cells

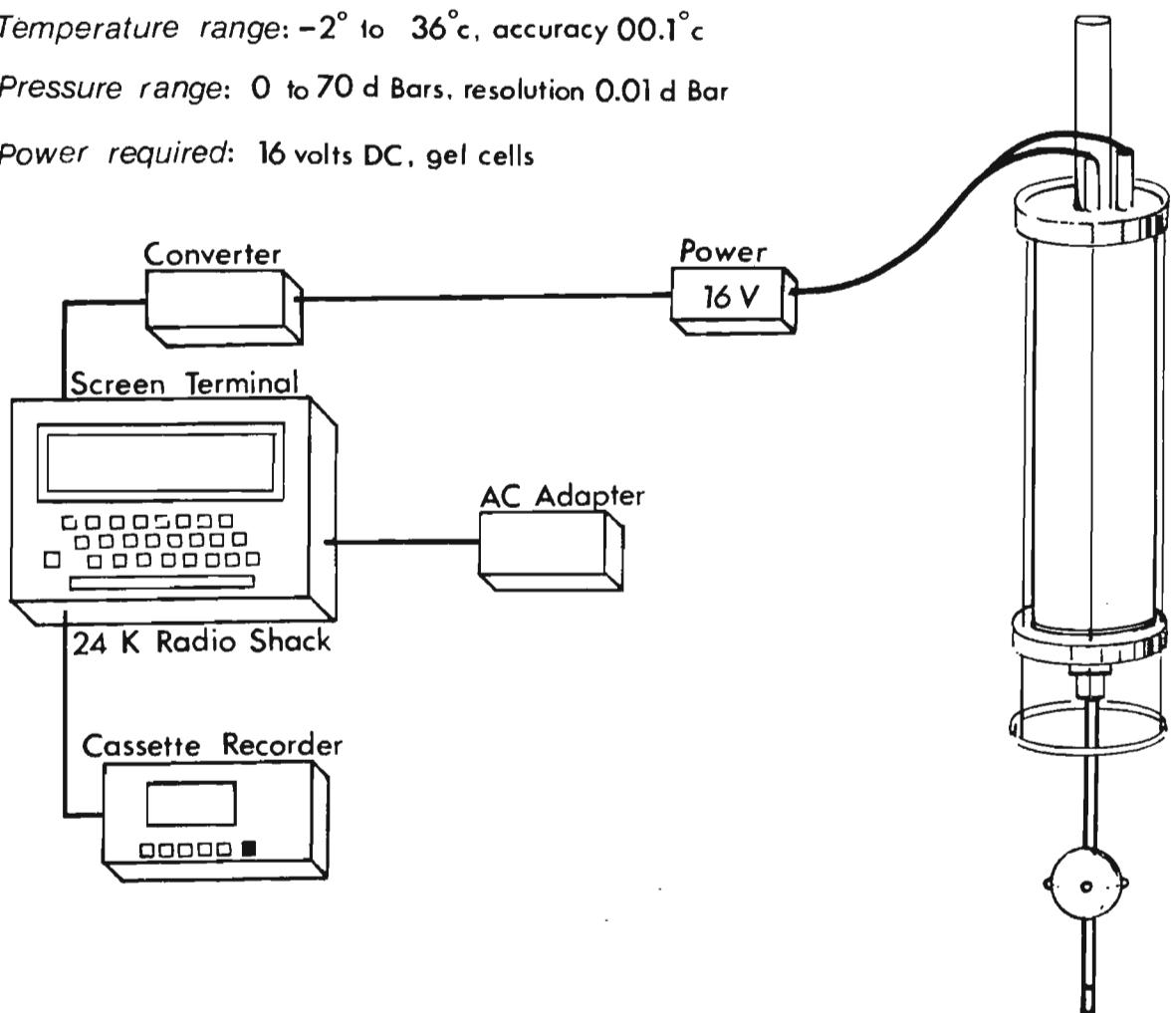


Figure 4. Configuration of the CSTDV system.

REFERENCES

- Ages, A., 1979. The Salinity Intrusion in the Fraser River: Salinity, Temperature and Current Observations, 1976, 1977. Pacific Marine Science Report 79-14.
- Ages, A., 1988. The Salinity Intrusion in the Fraser River: Time Series of Salinities, Temperatures and Currents 1978, 1979. Canadian Data Report of Hydrography and Ocean Sciences, No. 66.

TIME SERIES AT TILBURY DOCK

MARCH 6, 1985

RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

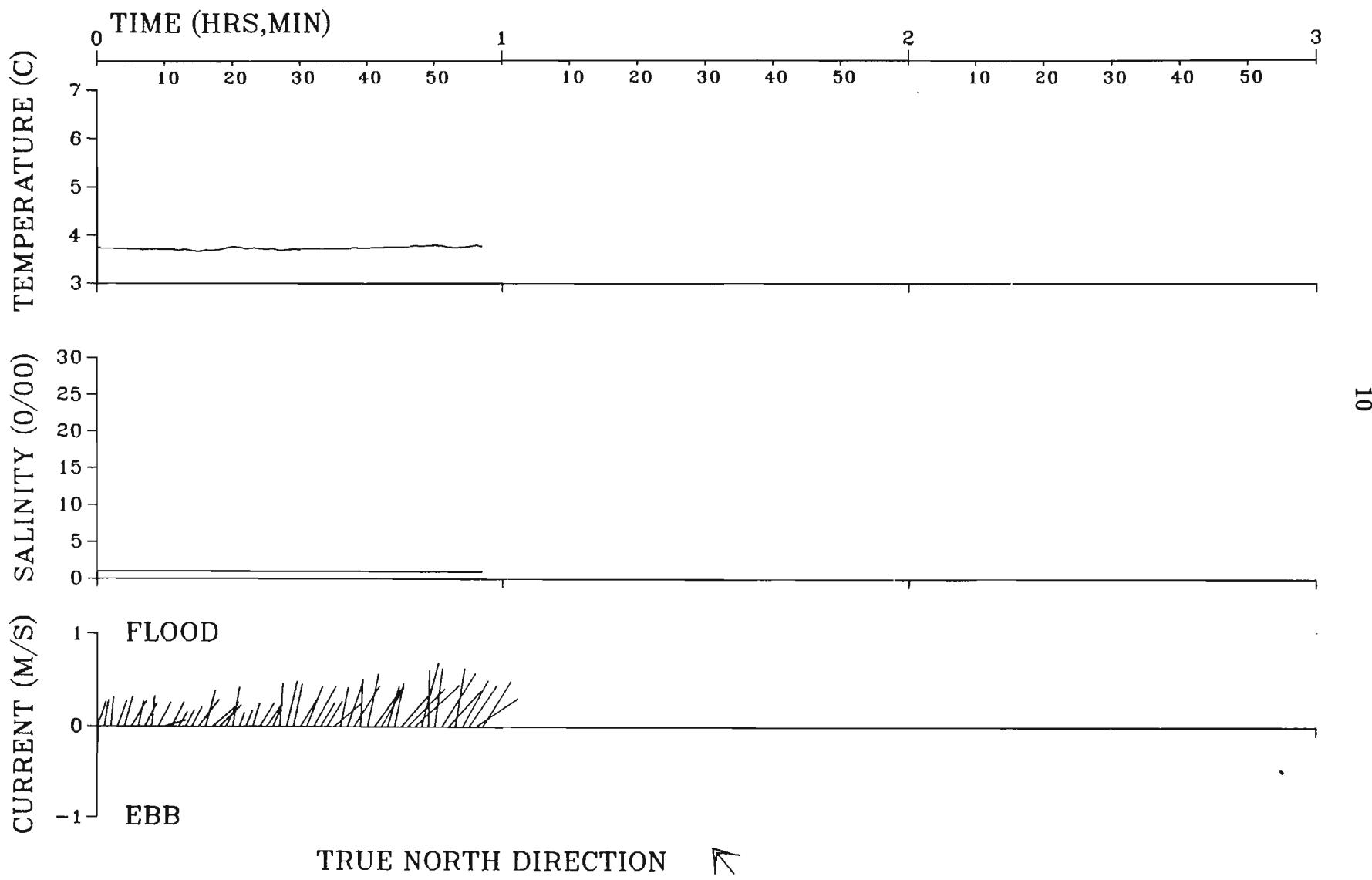
TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
03 21	11.7	1.00	3.7	0.29	061
03 22	11.8	1.00	3.7	0.29	051
03 23	11.7	1.00	3.7	0.31	046
03 24	11.7	1.00	3.7	0.30	061
03 25	11.6	1.00	3.7	0.34	057
03 26	11.4	1.00	3.7	0.33	073
03 27	11.3	1.00	3.7	0.27	054
03 28	11.3	1.00	3.7	0.28	069
03 29	11.2	1.00	3.7	0.33	047
03 30	11.1	1.00	3.7	0.31	069
03 31	11.1	1.00	3.7	0.25	115
03 32	11.1	1.00	3.7	0.29	069
03 33	11.3	1.00	3.7	0.19	074
03 34	11.2	1.00	3.7	0.20	070
03 35	10.9	1.00	3.7	0.23	069
03 36	10.7	1.00	3.7	0.37	079
03 37	10.8	1.00	3.7	0.41	056
03 38	10.7	1.00	3.7	0.33	092
03 39	11.0	1.00	3.7	0.34	089
03 40	11.4	1.00	3.7	0.30	069
03 41	11.2	1.00	3.8	0.43	051
03 42	11.1	1.00	3.8	0.16	063
03 43	10.9	1.00	3.7	0.18	063
03 44	10.7	1.00	3.7	0.26	058
03 45	10.9	1.00	3.7	0.31	074
03 46	10.7	1.00	3.7	0.30	077
03 47	10.7	1.00	3.7	0.25	064
03 48	10.3	1.00	3.7	0.46	045
03 49	10.0	1.00	3.7	0.50	054
03 50	9.8	1.00	3.7	0.47	053
03 51	9.5	1.00	3.7	0.35	074
03 52	9.7	1.00	3.7	0.48	063
03 53	9.6	1.00	3.7	0.51	071
03 54	9.5	1.00	3.7	0.31	074
03 55	9.7	1.00	3.7	0.33	073
03 56	9.7	1.00	3.7	0.38	092
03 57	9.8	1.00	3.7	0.44	052
03 58	9.6	1.00	3.7	0.53	061
03 59	9.5	1.00	3.7	0.53	074
04 00	9.6	1.00	3.7	0.51	043
04 01	9.6	1.00	3.7	0.58	053
04 02	9.4	1.00	3.7	0.53	078
04 03	9.9	1.00	3.7	0.50	072
04 04	10.2	1.00	3.8	0.46	057
04 05	9.8	1.00	3.8	0.48	053
04 06	9.2	1.00	3.8	0.51	083
04 07	9.2	1.00	3.8	0.59	086

TIME SERIES AT TILBURY DOCK

MARCH 6, 1985 RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
04 08	8.0	1.00	3.8	0.68	089
04 09	7.9	1.00	3.8	0.72	056
04 10	8.2	1.00	3.8	0.60	042
04 11	8.7	1.00	3.8	0.63	048
04 12	6.9	1.00	3.8	0.70	074
04 13	6.7	1.00	3.8	0.54	084
04 14	7.1	1.00	3.7	0.64	050
04 15	7.2	1.00	3.8	0.59	071
04 16	7.5	1.00	3.8	0.55	076
04 17	8.2	1.00	3.8	0.58	098
04 18	8.3	1.00	3.8	0.60	074

TIME SERIES AT TILBURY DOCK
MARCH 6, 1985 START TIME 03:21 PST



TIME SERIES AT TILBURY DOCK

MARCH 6, 1985

RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
04 43	12.7	2.25	4.0	0.63	068
04 44	13.8	2.30	4.0	0.44	080
04 45	13.8	2.34	4.0	0.62	082
04 46	13.7	2.44	4.0	0.61	082
04 47	13.7	2.42	4.0	0.56	080
04 48	12.9	2.45	4.0	0.62	085
04 49	12.4	2.36	4.0	0.70	084
04 50	12.7	2.49	4.0	0.62	075
04 51	12.6	2.57	4.0	0.67	080
04 52	12.4	2.54	4.0	0.73	074
04 53	12.7	2.70	4.1	0.67	069
04 54	12.3	2.64	4.0	0.76	070
04 55	12.6	2.74	4.1	0.75	073
04 56	12.7	2.78	4.1	0.64	070
04 57	12.8	2.82	4.1	0.71	072
04 58	12.7	2.89	4.1	0.62	072
04 59	12.8	2.84	4.1	0.61	078
05 00	12.9	2.91	4.1	0.60	074
05 01	12.9	2.99	4.1	0.63	074
05 02	12.9	3.01	4.1	0.64	073
05 03	13.0	3.01	4.1	0.56	076
05 04	12.9	3.03	4.1	0.70	070
05 05	12.7	3.12	4.1	0.66	073
05 06	12.7	3.19	4.1	0.64	078
05 07	12.7	3.27	4.1	0.68	076
05 08	12.8	3.24	4.1	0.60	075
05 09	12.5	3.25	4.1	0.71	069
05 10	12.8	3.31	4.1	0.64	064
05 11	12.6	3.29	4.1	0.72	077
05 12	12.6	3.24	4.1	0.66	077
05 13	12.6	3.25	4.1	0.77	086
05 14	12.4	3.41	4.2	0.73	080
05 15	12.3	3.33	4.1	0.63	068
05 16	12.6	3.39	4.2	0.60	076
05 17	12.6	3.52	4.2	0.66	078
05 18	12.7	3.60	4.2	0.67	079
05 19	12.9	3.63	4.2	0.66	075
05 20	12.9	3.69	4.2	0.61	082
05 21	12.7	3.69	4.2	0.70	079
05 22	12.9	3.79	4.2	0.67	069
05 23	12.9	3.85	4.2	0.60	071
05 24	13.0	3.86	4.2	0.53	066
05 25	12.9	3.88	4.2	0.58	080
05 26	12.7	3.81	4.2	0.71	086
05 27	13.0	3.85	4.2	0.51	081
05 28	13.3	3.90	4.2	0.66	071
05 29	13.0	3.80	4.2	0.58	064

TIME SERIES AT TILBURY DOCK

MARCH 6, 1985 RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

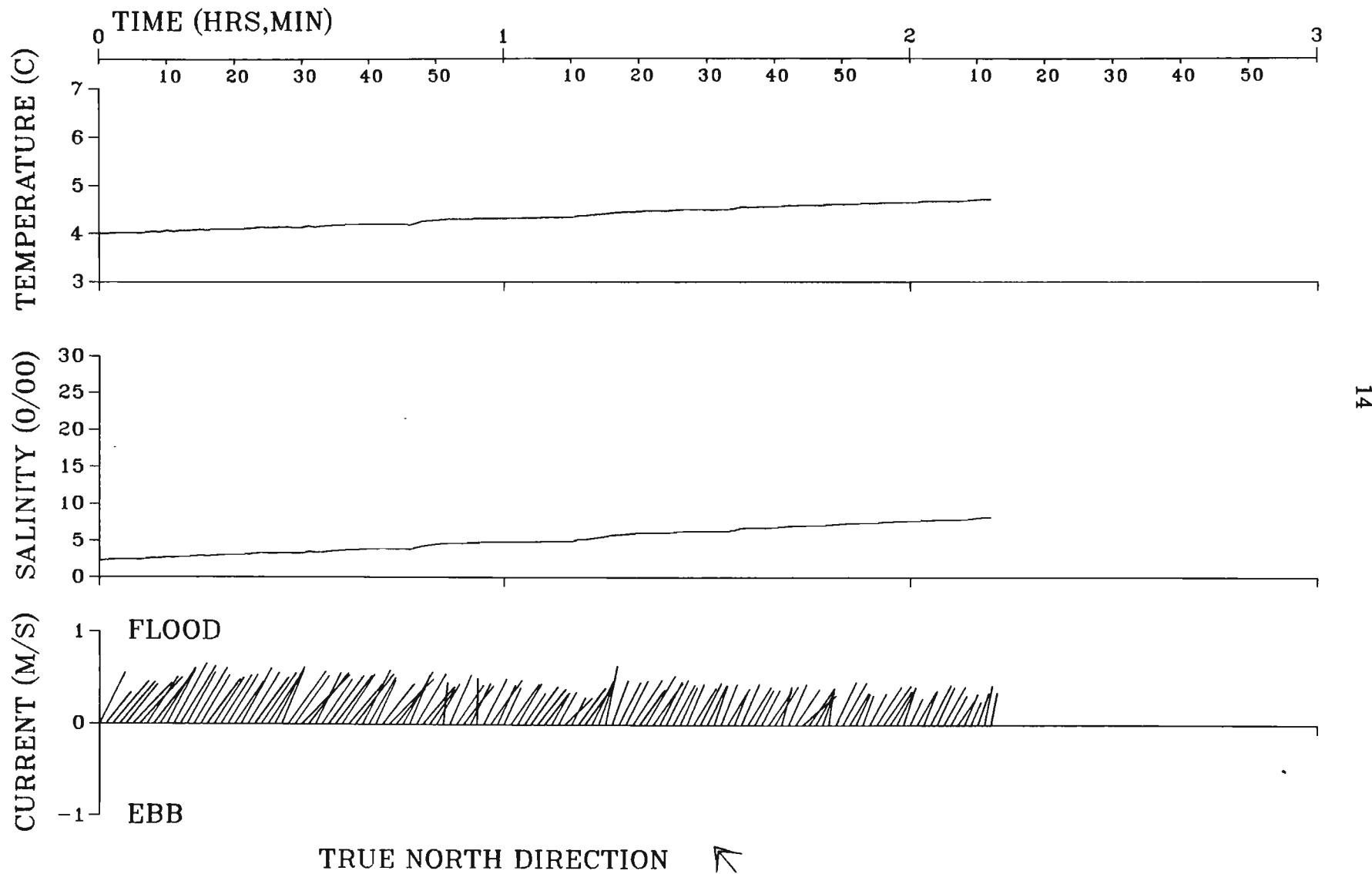
TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
05 30	13.0	4.02	4.2	0.64	072
05 31	13.0	4.25	4.3	0.55	082
05 32	13.0	4.38	4.3	0.47	078
05 33	13.0	4.51	4.3	0.51	071
05 34	13.3	4.57	4.3	0.45	047
05 35	13.2	4.61	4.3	0.59	065
05 36	13.2	4.63	4.3	0.53	076
05 37	13.2	4.65	4.3	0.55	080
05 38	13.4	4.68	4.3	0.50	068
05 39	12.9	4.72	4.3	0.50	041
05 40	13.1	4.73	4.3	0.56	068
05 41	12.9	4.74	4.3	0.60	077
05 42	13.1	4.74	4.3	0.48	066
05 43	13.2	4.75	4.3	0.45	066
05 44	13.3	4.79	4.3	0.55	077
05 45	13.3	4.81	4.3	0.52	072
05 46	13.3	4.83	4.3	0.42	076
05 47	13.2	4.84	4.3	0.52	077
05 48	13.3	4.86	4.3	0.51	080
05 49	13.3	4.87	4.3	0.45	080
05 50	13.2	4.88	4.3	0.37	071
05 51	13.3	4.89	4.3	0.41	071
05 52	13.3	4.90	4.3	0.43	088
05 53	13.4	4.92	4.3	0.33	069
05 54	13.2	5.15	4.4	0.51	078
05 55	13.2	5.18	4.4	0.49	078
05 56	13.2	5.32	4.4	0.54	068
05 57	13.2	5.44	4.4	0.56	061
05 58	12.8	5.59	4.4	0.65	052
05 59	12.8	5.73	4.4	0.52	061
06 00	12.9	5.84	4.4	0.52	068
06 01	13.1	5.90	4.4	0.54	068
06 02	13.3	5.96	4.4	0.60	075
06 03	13.2	6.03	4.4	0.48	078
06 04	12.9	6.11	4.5	0.63	072
06 05	13.0	6.07	4.5	0.57	077
06 06	13.3	6.08	4.5	0.53	069
06 07	12.8	6.07	4.5	0.55	067
06 08	12.8	6.14	4.5	0.50	070
06 09	12.8	6.22	4.5	0.45	066
06 10	12.8	6.32	4.5	0.49	064
06 11	12.8	6.29	4.5	0.47	073
06 12	12.8	6.31	4.5	0.52	068
06 13	12.8	6.28	4.5	0.49	068
06 14	12.9	6.28	4.5	0.45	060
06 15	12.9	6.32	4.5	0.48	063
06 16	12.9	6.36	4.5	0.46	073

TIME SERIES AT TILBURY DOCK

MARCH 6, 1985 RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
06 17	12.9	6.45	4.5	0.39	063
06 18	12.8	6.67	4.5	0.49	065
06 19	12.7	6.73	4.5	0.49	073
06 20	12.8	6.74	4.5	0.44	070
06 21	12.9	6.76	4.5	0.44	069
06 22	12.9	6.77	4.5	0.45	077
06 23	12.8	6.81	4.5	0.50	073
06 24	12.9	6.88	4.6	0.43	056
06 25	12.9	6.99	4.6	0.49	065
06 26	12.9	7.03	4.6	0.49	076
06 27	12.8	7.06	4.6	0.50	091
06 28	12.8	7.07	4.6	0.49	077
06 29	12.9	7.09	4.6	0.41	072
06 30	13.0	7.12	4.6	0.33	061
06 31	13.0	7.19	4.6	0.39	048
06 32	12.7	7.23	4.6	0.52	067
06 33	12.9	7.29	4.6	0.54	071
06 34	12.9	7.37	4.6	0.41	073
06 35	13.0	7.39	4.6	0.37	066
06 36	12.7	7.41	4.6	0.34	061
06 37	12.8	7.42	4.6	0.39	070
06 38	12.8	7.46	4.6	0.50	075
06 39	12.8	7.59	4.6	0.53	077
06 40	12.9	7.59	4.6	0.44	075
06 41	12.9	7.61	4.6	0.45	069
06 42	12.9	7.66	4.6	0.43	059
06 43	13.0	7.68	4.6	0.32	067
06 44	13.0	7.71	4.6	0.41	072
06 45	12.9	7.74	4.7	0.40	063
06 46	12.8	7.78	4.7	0.50	069
06 47	12.7	7.81	4.7	0.46	066
06 48	12.8	7.83	4.7	0.49	071
06 49	12.9	7.83	4.7	0.36	071
06 50	12.9	7.86	4.7	0.36	077
06 51	13.0	7.87	4.7	0.36	065
06 52	12.9	8.00	4.7	0.27	066
06 53	12.8	8.08	4.7	0.37	061
06 54	12.7	8.14	4.7	0.43	052
06 55	12.8	8.18	4.7	0.35	052

TIME SERIES AT TILBURY DOCK
MARCH 6, 1985 START TIME 04:43 PST



TIME SERIES AT TILBURY DOCK

MARCH 6, 1985 RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
07 04	12.1	8.34	4.7	0.40	073
07 05	12.1	8.35	4.7	0.41	065
07 06	12.1	8.35	4.7	0.33	064
07 07	12.1	8.36	4.7	0.36	066
07 08	12.2	8.41	4.7	0.32	052
07 09	12.2	8.43	4.7	0.34	059
07 10	12.2	8.46	4.7	0.32	055
07 11	12.2	8.45	4.7	0.34	065
07 12	12.2	8.47	4.7	0.32	062
07 13	12.2	8.49	4.8	0.27	059
07 14	12.1	8.56	4.8	0.37	080
07 15	12.1	8.64	4.8	0.43	066
07 16	12.2	8.67	4.8	0.38	068
07 17	12.2	8.68	4.8	0.37	072
07 18	12.2	8.72	4.8	0.34	057
07 19	12.2	8.77	4.8	0.34	054
07 20	12.2	8.83	4.8	0.37	056
07 21	12.2	8.87	4.8	0.38	055
07 22	12.1	8.92	4.8	0.39	064
07 23	12.2	8.94	4.8	0.40	058
07 24	12.1	8.97	4.8	0.44	058
07 25	12.2	8.98	4.8	0.38	060
07 26	12.2	9.00	4.8	0.40	059
07 27	12.2	9.01	4.8	0.33	061
07 28	12.1	9.04	4.8	0.36	061
07 29	12.2	9.07	4.8	0.38	061
07 30	12.2	9.05	4.8	0.34	062
07 31	12.2	9.06	4.8	0.29	053
07 32	12.2	9.06	4.8	0.30	063
07 33	12.2	9.14	4.8	0.34	034
07 34	12.2	9.25	4.8	0.37	054
07 35	12.2	9.28	4.8	0.33	054
07 36	12.2	9.32	4.8	0.33	059
07 37	12.2	9.35	4.8	0.28	064
07 38	12.2	9.40	4.9	0.36	057
07 39	12.2	9.43	4.9	0.35	055
07 40	12.2	9.49	4.9	0.41	064
07 41	12.2	9.53	4.9	0.37	059
07 42	12.2	9.53	4.9	0.34	057
07 43	12.2	9.57	4.9	0.36	053
07 44	12.2	9.57	4.9	0.26	061
07 45	12.2	9.58	4.9	0.30	055
07 46	12.2	9.59	4.9	0.27	062
07 47	12.2	9.62	4.9	0.25	074
07 48	12.2	9.64	4.9	0.29	068
07 49	12.2	9.65	4.9	0.25	066
07 50	12.2	9.70	4.9	0.30	058

TIME SERIES AT TILBURY DOCK

MARCH 6, 1985

RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
07 51	12.2	9.72	4.9	0.32	063
07 52	12.2	9.74	4.9	0.29	063
07 53	12.2	9.80	4.9	0.36	057
07 54	12.2	9.88	4.9	0.36	058
07 55	12.2	9.94	4.9	0.35	047
07 56	12.2	10.03	4.9	0.35	047
07 57	12.2	10.05	4.9	0.29	052
07 58	12.2	10.11	4.9	0.32	048
07 59	12.2	10.15	4.9	0.32	054
08 00	12.2	10.30	5.0	0.37	051
08 01	12.2	10.48	5.0	0.35	049
08 02	12.2	10.58	5.0	0.40	046
08 03	12.2	10.64	5.0	0.31	047
08 04	12.2	10.64	5.0	0.28	048
08 05	12.2	10.73	5.0	0.28	046
08 06	12.2	10.75	5.0	0.31	052
08 07	12.2	10.83	5.0	0.34	041
08 08	12.2	10.86	5.0	0.23	045
08 09	12.3	10.95	5.0	0.26	041
08 10	12.2	11.02	5.0	0.29	041
08 11	12.2	11.13	5.1	0.29	046
08 12	12.2	11.15	5.1	0.22	042
08 13	12.2	11.18	5.1	0.31	041
08 14	12.2	11.21	5.1	0.25	034
08 15	12.2	11.26	5.1	0.31	043
08 16	12.2	11.29	5.1	0.29	049
08 17	12.2	11.32	5.1	0.23	046
08 18	12.3	11.34	5.1	0.20	040
08 19	12.2	11.36	5.1	0.22	054
08 20	12.2	11.50	5.1	0.32	044
08 21	12.2	11.59	5.1	0.31	047
08 22	12.2	11.64	5.1	0.25	046
08 23	12.2	11.72	5.1	0.26	045
08 24	12.2	11.82	5.1	0.30	052
08 25	12.3	11.87	5.1	0.28	054
08 26	12.3	11.94	5.2	0.24	063
08 27	12.3	11.98	5.2	0.25	054
08 28	12.3	12.02	5.2	0.23	058
08 29	12.3	12.19	5.2	0.23	070
08 30	12.2	12.56	5.2	0.36	068
08 31	12.3	12.67	5.2	0.34	064
08 32	12.3	12.79	5.2	0.34	065
08 33	12.3	12.77	5.2	0.34	068
08 34	12.3	12.57	5.2	0.40	069
08 35	12.3	12.54	5.2	0.41	067
08 36	12.3	12.65	5.2	0.44	061
08 37	12.2	12.63	5.2	0.44	064

TIME SERIES AT TILBURY DOCK

MARCH 6, 1985 RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

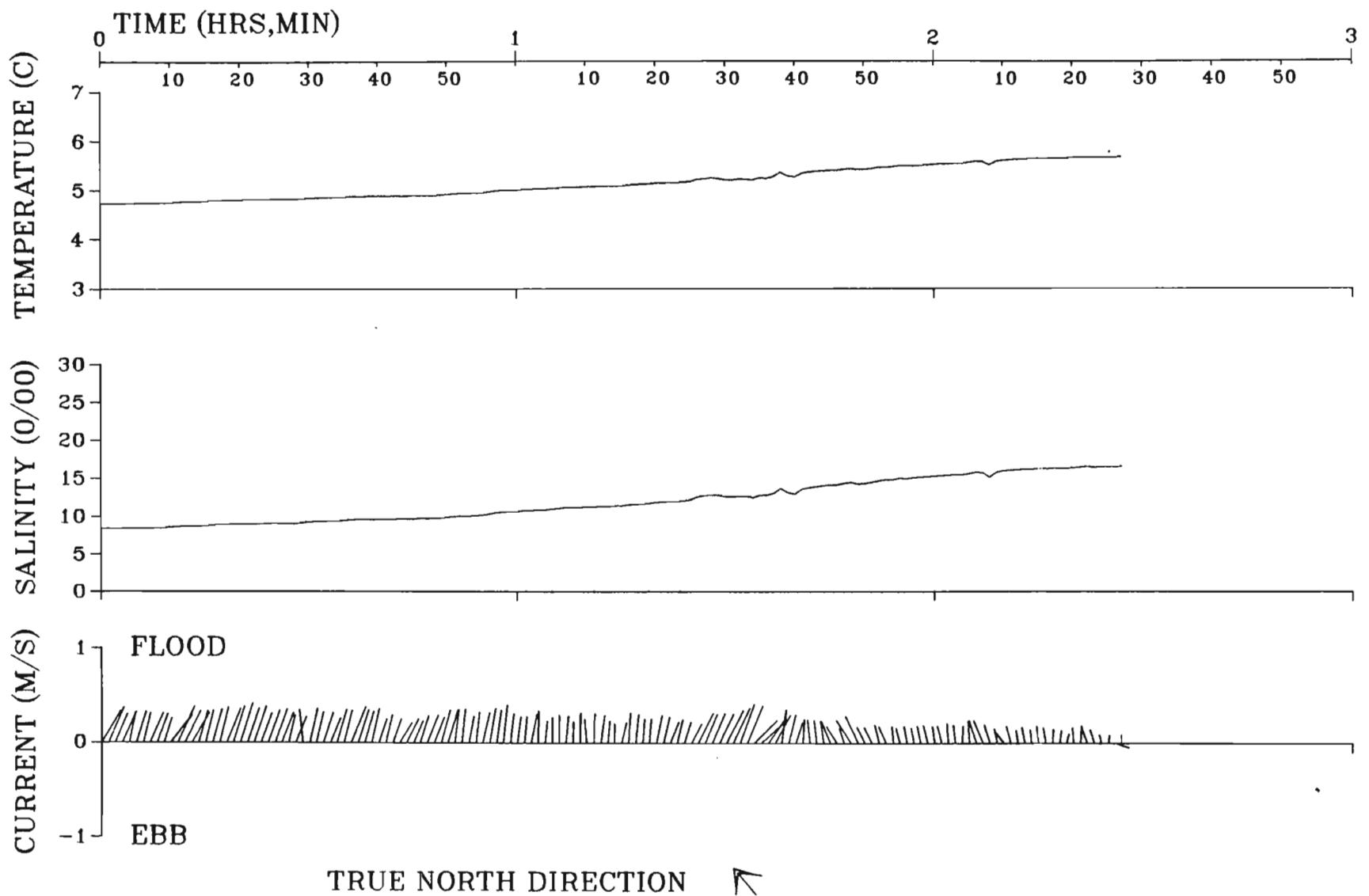
TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
08 38	12.2	12.43	5.2	0.35	087
08 39	12.3	12.79	5.2	0.40	090
08 40	12.3	12.73	5.2	0.33	077
08 41	12.3	13.02	5.3	0.34	070
08 42	12.3	13.66	5.3	0.35	048
08 43	12.3	13.11	5.3	0.31	055
08 44	12.3	12.91	5.3	0.23	059
08 45	12.3	13.53	5.3	0.25	045
08 46	12.3	13.77	5.4	0.25	034
08 47	12.3	13.86	5.4	0.25	033
08 48	12.3	14.02	5.4	0.23	031
08 49	12.3	14.09	5.4	0.24	016
08 50	12.3	14.12	5.4	0.21	005
08 51	12.3	14.31	5.4	0.17	019
08 52	12.3	14.41	5.4	0.29	005
08 53	12.3	14.26	5.4	0.32	013
08 54	12.3	14.30	5.4	0.19	011
08 55	12.3	14.43	5.4	0.19	011
08 56	12.3	14.64	5.4	0.20	025
08 57	12.3	14.77	5.5	0.19	014
08 58	12.3	14.78	5.5	0.18	035
08 59	12.3	14.93	5.5	0.16	023
09 00	12.3	14.91	5.5	0.18	029
09 01	12.3	15.03	5.5	0.16	028
09 02	12.3	15.10	5.5	0.18	026
09 03	12.3	15.19	5.5	0.20	025
09 04	12.3	15.24	5.5	0.17	031
09 05	12.3	15.31	5.5	0.19	024
09 06	12.3	15.37	5.5	0.20	034
09 07	12.3	15.45	5.5	0.19	032
09 08	12.3	15.45	5.5	0.18	041
09 09	12.3	15.59	5.6	0.23	036
09 10	12.3	15.75	5.6	0.24	021
09 11	12.3	15.69	5.6	0.26	015
09 12	12.3	15.09	5.5	0.20	021
09 13	12.3	15.75	5.6	0.15	028
09 14	12.3	15.95	5.6	0.15	000
09 15	12.3	16.06	5.6	0.18	023
09 16	12.3	16.10	5.6	0.13	031
09 17	12.3	16.13	5.6	0.16	028
09 18	12.3	16.17	5.6	0.14	031
09 19	12.3	16.21	5.6	0.17	032
09 20	12.3	16.25	5.6	0.16	031
09 21	12.3	16.27	5.6	0.14	043
09 22	12.3	16.29	5.6	0.13	050
09 23	12.3	16.31	5.6	0.10	057
09 24	12.3	16.39	5.7	0.16	037

TIME SERIES AT TILBURY DOCK

MARCH 6, 1985 RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
09 25	12.3	16.42	5.7	0.17	044
09 26	12.3	16.47	5.7	0.14	017
09 27	12.3	16.45	5.7	0.14	022
09 28	12.3	16.48	5.7	0.09	023
09 29	12.3	16.50	5.7	0.08	049
09 30	12.3	16.51	5.7	0.16	148
09 31	12.3	16.53	5.7	0.08	035

TIME SERIES AT TILBURY DOCK
MARCH 6, 1985 START TIME 07:04 PST



TIME SERIES AT TILBURY DOCK

MARCH 6, 1985 RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
09 50	12.3	16.91	5.7	0.11	049
09 51	12.3	17.08	5.7	0.15	034
09 52	12.3	17.21	5.7	0.18	012
09 53	12.3	17.29	5.8	0.13	057
09 54	12.3	17.27	5.8	0.20	031
09 55	12.3	17.30	5.8	0.10	062
09 56	12.3	17.37	5.8	0.14	047
09 57	12.3	17.33	5.8	0.19	354
09 58	12.3	17.36	5.8	0.07	077
09 59	12.3	17.46	5.8	0.10	043
10 00	12.3	17.50	5.8	0.20	346
10 01	12.3	17.64	5.8	0.15	347
10 02	12.3	17.34	5.8	0.11	056
10 03	12.3	17.44	5.8	0.14	036
10 04	12.3	17.37	5.8	0.18	349
10 05	12.3	17.44	5.8	0.11	019
10 06	12.3	17.62	5.8	0.12	034
10 07	12.3	17.47	5.8	0.12	030
10 08	12.3	17.22	5.8	0.14	036
10 09	12.3	17.34	5.8	0.09	029
10 10	12.3	17.48	5.8	0.14	037
10 11	12.3	17.16	5.7	0.10	053
10 12	12.3	17.28	5.8	0.11	019
10 13	12.3	17.58	5.8	0.16	356
10 14	12.3	17.33	5.8	0.15	008
10 15	12.3	17.68	5.8	0.17	024
10 16	12.3	17.47	5.8	0.13	028
10 17	12.3	17.50	5.8	0.16	043
10 18	12.2	17.80	5.8	0.17	353
10 19	12.2	17.59	5.8	0.14	037
10 20	12.3	18.09	5.8	0.17	031
10 21	12.3	17.81	5.8	0.15	008
10 22	12.3	18.17	5.8	0.18	027
10 23	12.2	18.22	5.9	0.19	006
10 24	12.2	18.27	5.9	0.17	014
10 25	12.3	18.33	5.9	0.13	039
10 26	12.2	18.35	5.9	0.11	028
10 27	12.2	17.98	5.8	0.12	054
10 28	12.3	17.83	5.8	0.07	037
10 29	12.2	18.29	5.9	0.20	337
10 30	12.2	17.60	5.8	0.14	033
10 31	12.2	17.99	5.8	0.17	028
10 32	12.2	18.50	5.9	0.15	024
10 33	12.2	18.27	5.9	0.15	042
10 34	12.2	18.43	5.9	0.13	358
10 35	12.2	18.43	5.9	0.12	358
10 36	12.1	18.61	5.9	0.12	006

TIME SERIES AT TILBURY DOCK

MARCH 6, 1985

RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
10 37	12.2	17.76	5.8	0.14	054
10 38	12.2	17.98	5.8	0.12	058
10 39	12.1	17.91	5.8	0.17	009
10 40	12.2	17.82	5.8	0.11	006
10 41	12.1	17.78	5.8	0.12	046
10 42	12.2	18.51	5.9	0.13	010
10 43	12.1	18.02	5.8	0.10	058
10 44	12.2	18.12	5.8	0.17	031
10 45	12.1	17.98	5.8	0.12	010
10 46	12.1	18.16	5.9	0.16	067
10 47	12.1	18.02	5.8	0.15	038
10 48	12.2	18.13	5.9	0.16	016
10 49	12.0	17.96	5.8	0.15	023
10 50	12.0	17.86	5.8	0.13	077
10 51	12.2	18.07	5.8	0.18	052
10 52	12.0	18.04	5.8	0.13	046
10 53	12.1	17.96	5.8	0.13	057
10 54	12.0	17.89	5.8	0.17	048
10 55	12.1	18.05	5.8	0.10	054
10 56	12.1	18.45	5.9	0.14	015
10 57	12.0	17.90	5.8	0.20	061
10 58	12.1	18.01	5.8	0.18	046
10 59	12.1	18.85	5.9	0.11	042
11 00	12.2	18.88	5.9	0.09	025
11 01	12.1	18.83	5.9	0.14	061
11 02	12.1	18.75	5.9	0.13	055
11 03	12.2	18.84	5.9	0.14	040
11 04	12.1	18.81	5.9	0.12	023
11 05	12.0	18.94	5.9	0.11	006
11 06	12.1	18.92	5.9	0.14	354
11 07	12.1	18.98	5.9	0.12	049
11 08	12.1	19.06	6.0	0.09	335
11 09	12.1	19.12	6.0	0.09	006
11 10	12.1	19.14	6.0	0.11	005
11 11	12.1	19.18	6.0	0.13	001
11 12	12.1	19.13	6.0	0.13	005
11 13	12.1	19.10	6.0	0.13	299
11 14	12.1	19.22	6.0	0.11	025
11 15	12.1	19.28	6.0	0.06	002
11 16	12.0	19.03	6.0	0.07	024
11 17	12.1	19.06	6.0	0.16	045
11 18	12.0	18.98	5.9	0.14	044
11 19	12.1	19.19	6.0	0.17	355
11 20	12.1	19.00	5.9	0.10	022
11 21	12.1	18.98	5.9	0.12	030
11 22	12.0	18.94	5.9	0.11	079
11 23	12.1	19.01	6.0	0.10	027

TIME SERIES AT TILBURY DOCK

MARCH 6, 1985 RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

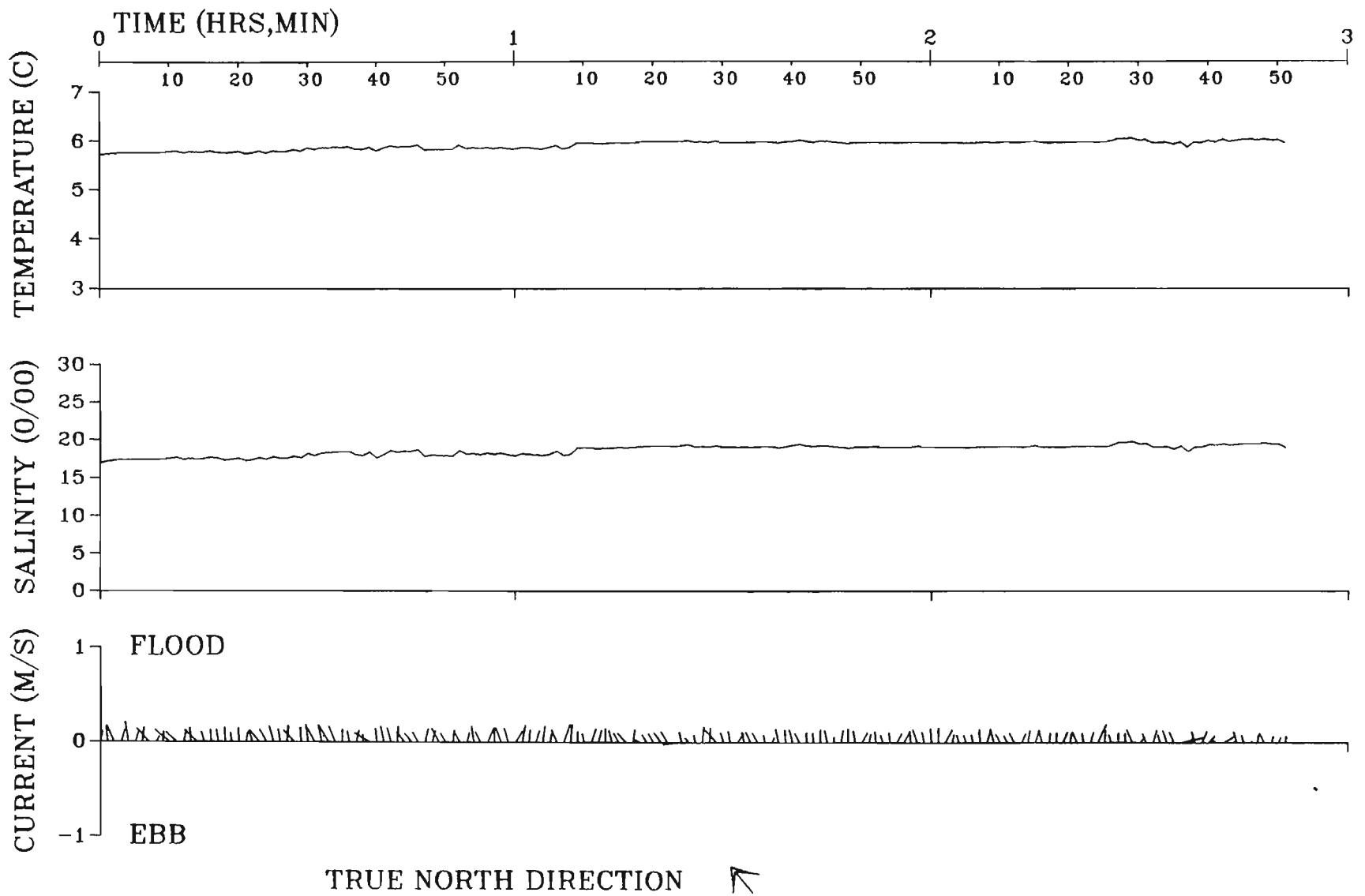
TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
11 24	11.9	18.95	5.9	0.12	011
11 25	11.9	19.06	6.0	0.12	007
11 26	11.9	19.08	6.0	0.07	027
11 27	12.0	19.03	6.0	0.06	065
11 28	12.0	18.91	5.9	0.14	024
11 29	12.0	19.06	6.0	0.13	035
11 30	12.0	19.22	6.0	0.14	024
11 31	12.0	19.36	6.0	0.10	010
11 32	12.0	19.19	6.0	0.10	038
11 33	11.9	19.07	6.0	0.09	035
11 34	11.9	19.15	6.0	0.13	040
11 35	11.9	19.17	6.0	0.13	026
11 36	11.9	19.04	6.0	0.05	040
11 37	11.9	18.98	5.9	0.13	050
11 38	11.9	18.85	5.9	0.14	040
11 39	11.9	18.95	5.9	0.12	030
11 40	11.9	18.98	5.9	0.12	071
11 41	11.9	18.99	6.0	0.09	054
11 42	11.9	19.01	6.0	0.11	034
11 43	11.9	18.96	5.9	0.08	021
11 44	11.9	18.95	5.9	0.10	036
11 45	11.9	18.94	5.9	0.11	070
11 46	12.0	18.98	5.9	0.13	072
11 47	12.0	19.00	6.0	0.12	037
11 48	12.1	19.09	6.0	0.14	018
11 49	12.1	19.04	6.0	0.12	026
11 50	12.1	19.01	6.0	0.14	036
11 51	12.0	18.98	6.0	0.15	040
11 52	12.0	18.93	5.9	0.15	071
11 53	12.1	18.95	5.9	0.08	055
11 54	12.1	18.93	5.9	0.08	022
11 55	12.1	18.89	5.9	0.08	020
11 56	12.1	18.89	5.9	0.08	025
11 57	12.0	18.95	5.9	0.13	036
11 58	12.0	18.98	6.0	0.12	059
11 59	12.0	18.93	5.9	0.14	024
12 00	11.9	19.02	6.0	0.10	006
12 01	11.9	19.10	6.0	0.08	010
12 02	12.0	19.02	6.0	0.11	008
12 03	12.0	19.00	6.0	0.10	067
12 04	11.9	19.05	6.0	0.12	050
12 05	12.0	19.17	6.0	0.13	059
12 06	12.0	18.97	6.0	0.12	022
12 07	12.0	18.96	5.9	0.10	050
12 08	11.9	19.00	6.0	0.10	045
12 09	11.9	19.00	6.0	0.12	065
12 10	11.9	19.06	6.0	0.10	054

TIME SERIES AT TILBURY DOCK

MARCH 6, 1985 RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
12 11	12.0	19.08	6.0	0.12	014
12 12	11.9	19.08	6.0	0.09	029
12 13	12.0	19.08	6.0	0.11	058
12 14	12.0	19.06	6.0	0.21	067
12 15	12.2	19.05	6.0	0.13	044
12 16	12.1	19.13	6.0	0.09	019
12 17	12.2	19.56	6.0	0.09	039
12 18	12.1	19.56	6.0	0.09	038
12 19	12.2	19.70	6.0	0.14	015
12 20	12.1	19.38	6.0	0.08	089
12 21	12.1	19.44	6.0	0.09	016
12 22	11.2	18.94	5.9	0.13	058
12 23	11.3	18.96	5.9	0.08	022
12 24	11.2	19.05	6.0	0.13	018
12 25	11.2	18.71	5.9	0.12	012
12 26	11.2	19.07	6.0	0.25	119
12 27	11.3	18.37	5.8	0.05	094
12 28	11.3	18.94	6.0	0.12	021
12 29	11.3	18.98	5.9	0.13	066
12 30	11.3	19.27	6.0	0.09	084
12 31	11.3	19.22	6.0	0.05	343
12 32	11.3	19.36	6.0	0.14	105
12 33	11.3	19.21	6.0	0.06	125
12 34	11.3	19.31	6.0	0.11	021
12 35	11.3	19.45	6.0	0.08	021
12 36	11.3	19.42	6.0	0.02	088
12 37	11.3	19.42	6.0	0.08	047
12 38	11.3	19.47	6.0	0.11	009
12 39	11.2	19.33	6.0	0.06	056
12 40	11.3	19.37	6.0	0.06	068
12 41	11.3	18.90	5.9	0.06	049

TIME SERIES AT TILBURY DOCK
MARCH 6, 1985 START TIME 09:50 PST



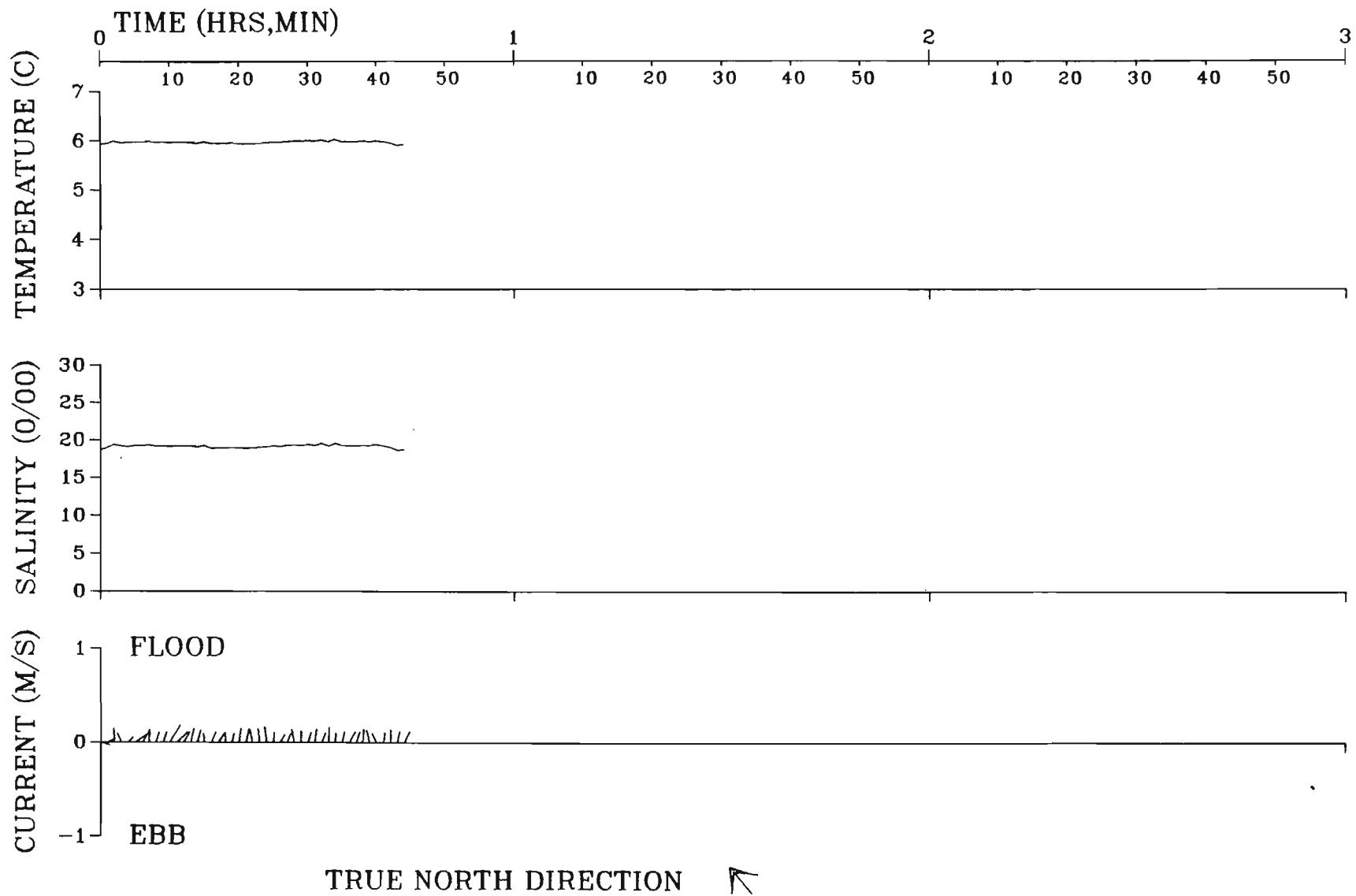
TIME SERIES AT TILBURY DOCK

MARCH 6, 1985

RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
12 49	11.3	18.66	5.9	0.11	148
12 50	11.3	18.95	5.9	0.08	107
12 51	11.3	19.35	6.0	0.14	036
12 52	11.3	19.15	6.0	0.10	012
12 53	11.3	19.11	6.0	0.07	085
12 54	11.3	19.21	6.0	0.14	100
12 55	11.3	19.22	6.0	0.14	073
12 56	11.3	19.31	6.0	0.13	042
12 57	11.3	19.13	6.0	0.11	057
12 58	11.3	19.13	6.0	0.11	063
12 59	11.3	19.08	6.0	0.21	073
13 00	11.3	19.17	6.0	0.16	090
13 01	11.3	19.17	6.0	0.13	073
13 02	11.3	19.17	6.0	0.14	055
13 03	11.3	19.02	5.9	0.13	056
13 04	11.3	19.22	6.0	0.09	034
13 05	11.3	18.86	5.9	0.12	065
13 06	11.3	18.92	5.9	0.13	079
13 07	11.3	18.92	5.9	0.09	042
13 08	11.3	18.98	6.0	0.09	054
13 09	11.3	18.88	5.9	0.14	049
13 10	11.3	18.85	5.9	0.14	055
13 11	11.3	18.92	5.9	0.13	025
13 12	11.3	18.94	5.9	0.14	033
13 13	11.3	19.02	6.0	0.16	033
13 14	11.3	19.14	6.0	0.10	044
13 15	11.3	19.12	6.0	0.09	073
13 16	11.3	19.24	6.0	0.10	064
13 17	11.3	19.28	6.0	0.14	028
13 18	11.3	19.24	6.0	0.12	042
13 19	11.3	19.35	6.0	0.11	060
13 20	11.3	19.24	6.0	0.14	050
13 21	11.3	19.47	6.0	0.11	065
13 22	11.3	19.16	6.0	0.15	042
13 23	11.3	19.49	6.0	0.09	041
13 24	11.3	19.26	6.0	0.11	054
13 25	11.3	19.17	6.0	0.13	071
13 26	11.3	19.19	6.0	0.12	060
13 27	11.3	19.25	6.0	0.14	045
13 28	11.3	19.22	6.0	0.13	025
13 29	11.3	19.36	6.0	0.11	012
13 30	11.3	19.18	6.0	0.10	047
13 31	11.3	18.93	5.9	0.13	042
13 32	11.3	18.59	5.9	0.12	055
13 33	11.3	18.63	5.9	0.13	069

TIME SERIES AT TILBURY DOCK
MARCH 6, 1985 START TIME 12:49 PST



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT TILBURY DOCK

MAR 7/85 RIVER DISCHARGE AT HOPE = 788 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
06H 49M	0.8	2.51	3.9	0.38	350
	5.0	4.38	4.2	0.67	006
	7.1	4.98	4.3	0.65	019
	10.2	5.51	4.3	0.60	025
	11.1	6.35	4.4	0.53	026
	11.8	6.44	4.4	0.46	024
	12.7	6.46	4.4	0.30	028
	13.4	8.96	4.8	0.18	042
15H 08M	0.3	1.00	3.9	0.04	254
	1.8	1.00	3.8	0.13	252
	2.8	1.00	3.8	0.11	244
	3.5	1.00	3.8	0.11	253
	4.6	1.00	3.8	0.12	211
	5.4	1.00	3.8	0.09	227
	6.3	1.00	3.8	0.11	225
	7.5	1.00	3.8	0.07	235
	8.2	1.00	3.8	0.08	234
	9.6	3.94	4.2	0.10	351
	10.4	6.56	4.5	0.26	055
	12.0	16.00	5.5	0.09	049
15H 28M	0.2	1.00	3.9	0.01	168
	0.8	1.00	3.9	0.05	246
	1.9	1.00	3.8	0.03	245
	2.5	1.00	3.8	0.05	202
	4.0	1.00	3.8	0.09	248
	4.7	1.00	3.8	0.02	288
	5.9	1.00	3.8	0.06	234
	7.0	1.00	3.8	0.06	024
	7.9	1.00	3.9	0.03	188
	9.2	3.15	4.1	0.32	029
	10.0	7.38	4.6	0.22	037
	11.3	15.88	5.5	0.18	031
	12.0	16.00	5.5	0.09	049
16H 00M	0.4	1.00	3.9	0.07	328
	2.7	1.00	3.8	0.12	017
	4.9	1.00	3.9	0.12	036
	7.2	1.00	3.9	0.19	030
	9.2	8.21	4.7	0.42	040
	11.6	16.54	5.6	0.24	044
	12.6	16.66	5.6	0.11	348
16H 15M	0.3	1.00	3.9	0.07	310
	2.6	1.00	3.9	0.16	333
	5.1	1.00	3.9	0.14	341

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT TILBURY DOCK

MAR 7/85 RIVER DISCHARGE AT HOPE = 788 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
16H 15M	7.1	1.00	3.9	0.36	025
	8.6	7.28	4.5	0.53	010
	10.4	14.97	5.4	0.38	028
	12.9	17.19	5.7	0.12	048
16H 29M	0.4	1.00	3.9	0.11	322
	2.3	1.00	3.8	0.11	358
	4.6	1.00	3.8	0.15	004
	6.9	1.00	3.9	0.39	016
	8.4	6.21	4.4	0.61	028
	9.6	11.42	5.0	0.62	023
	13.1	17.28	5.7	0.12	036
16H 58M	0.4	1.00	3.8	0.14	333
	2.6	1.00	3.8	0.21	015
	4.9	1.00	3.9	0.42	028
	6.7	3.60	4.1	0.54	013
	7.7	6.32	4.5	0.73	022
	8.3	7.45	4.6	0.78	030
	10.6	14.46	5.4	0.54	017
	13.3	16.85	5.6	0.10	038
	0.5	1.00	3.9	0.24	338
17H 30M	2.8	1.00	3.8	0.28	010
	4.9	2.25	4.0	0.41	017
	6.4	4.95	4.3	0.64	019
	7.1	5.97	4.5	0.74	024
	7.9	6.62	4.5	0.76	026
	9.3	11.96	5.1	0.66	024
	13.6	17.17	5.7	0.07	055
	0.4	1.00	3.8	0.18	337
17H 59M	2.7	1.00	3.9	0.31	001
	4.7	3.92	4.2	0.50	014
	6.2	4.99	4.4	0.64	019
	7.3	6.49	4.6	0.70	020
	8.1	8.24	4.7	0.72	025
	13.2	17.12	5.7	0.14	031
	0.3	1.00	3.9	0.09	341
18H 29M	2.9	1.00	4.0	0.28	014
	5.3	4.67	4.3	0.54	012
	7.3	8.34	4.8	0.62	004
	9.1	13.42	5.3	0.57	035
	13.0	16.74	5.7	0.16	026
	0.6	1.00	3.8	0.04	312

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT TILBURY DOCK

MAR 7/85 RIVER DISCHARGE AT HOPE = 788 CU.M/SEC

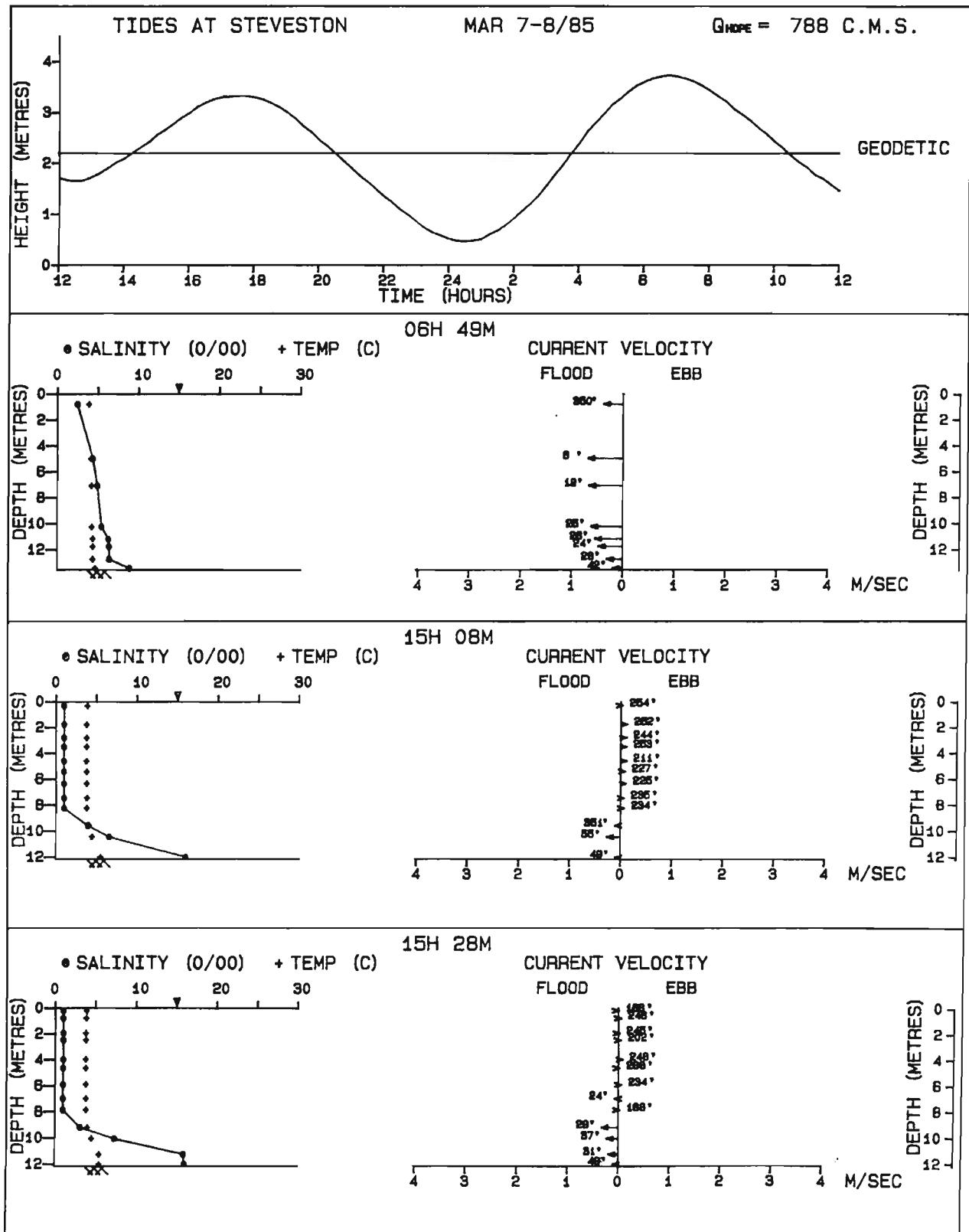
TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE)	
					FLOOD	EBB
18H 59M	3.3	2.91	4.1	0.22	013	
	5.8	5.55	4.5	0.43	023	
	7.8	13.19	5.3	0.50	038	
	11.0	16.33	5.6	0.21	036	
	12.5	16.59	5.7	0.12	038	
19H 29M	0.3	1.00	3.8	0.15		277
	2.5	1.00	4.0	0.09	355	
	4.8	4.10	4.3	0.10	058	
	7.0	11.37	5.1	0.43	052	
	9.4	15.71	5.6	0.10	027	
	11.8	17.06	5.7	0.08	079	
	13.1	17.14	5.7	0.14	063	
19H 59M	0.2	1.00	3.9	0.30		267
	2.3	1.00	4.0	0.26		265
	4.5	7.09	4.6	0.04	327	
	6.6	13.25	5.3	0.05	005	
	8.9	16.81	5.7	0.13		184
	11.0	17.21	5.7	0.15		182
	13.0	17.35	5.8	0.14		145

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT TILBURY DOCK

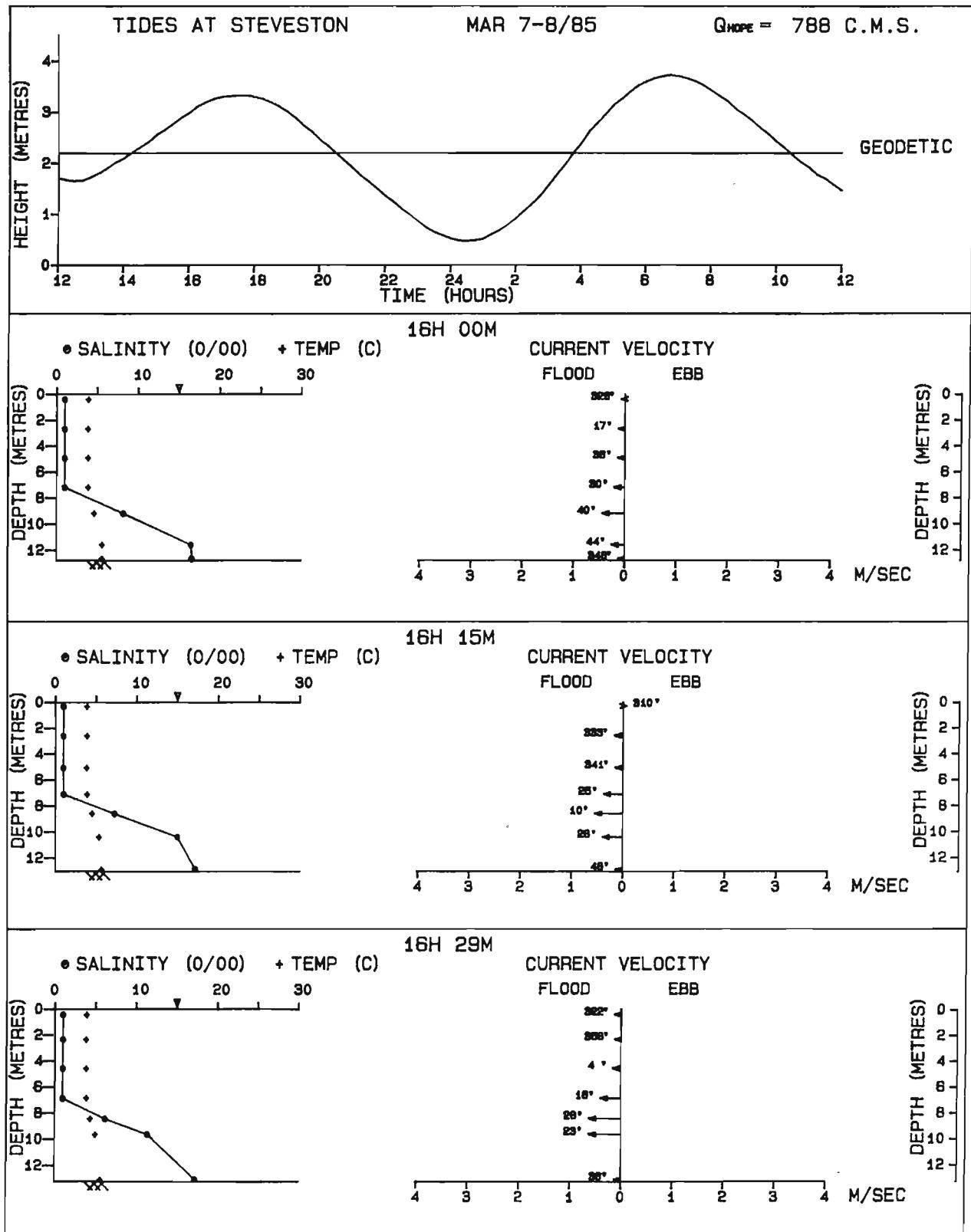
MAR 8/85 RIVER DISCHARGE AT HOPE = 790 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
06H 58M	0.3	1.00	3.7	0.43	320
	2.6	1.00	3.8	0.53	360
	4.4	2.22	3.9	0.60	022
	5.6	2.47	3.9	0.71	025
	7.3	2.70	3.9	0.67	026
	9.3	2.77	3.9	0.68	037
	10.6	2.87	3.9	0.67	038
	13.5	2.92	4.0	0.50	036
07H 40M	0.5	2.81	4.0	0.38	331
	3.0	3.40	4.0	0.46	004
	5.4	3.58	4.0	0.50	020
	7.3	3.88	4.1	0.53	026
	9.8	4.01	4.1	0.48	025
	12.3	4.04	4.1	0.42	020
	13.8	4.07	4.1	0.33	020
07H 59M	0.4	2.71	3.9	0.35	351
	3.1	3.47	4.0	0.34	340
	5.8	4.12	4.1	0.28	014
	8.3	4.52	4.2	0.40	017
	10.8	4.67	4.2	0.40	025
	13.5	4.70	4.2	0.31	032
	13.9	4.72	4.2	0.22	024
08H 29M	0.4	3.29	4.0	0.32	330
	3.1	3.45	4.0	0.24	359
	5.7	5.01	4.2	0.28	347
	8.2	5.18	4.2	0.26	019
	10.7	5.32	4.3	0.21	001
	13.2	5.37	4.3	0.25	031
08H 59M	0.3	3.30	4.0	0.16	335
	2.7	4.98	4.2	0.12	012
	4.9	5.28	4.3	0.16	003
	7.1	5.81	4.3	0.13	351
	9.4	5.89	4.3	0.17	342
	11.7	5.95	4.3	0.18	039
	12.7	5.96	4.3	0.11	039
09H 29M	0.3	3.65	4.1	0.07	088
	2.7	4.07	4.1	0.05	280
	5.0	5.21	4.3	0.08	255
	7.3	6.04	4.4	0.07	070
	9.5	6.20	4.4	0.11	046
	11.6	6.62	4.4	0.23	073
	13.0	6.67	4.4	0.20	082

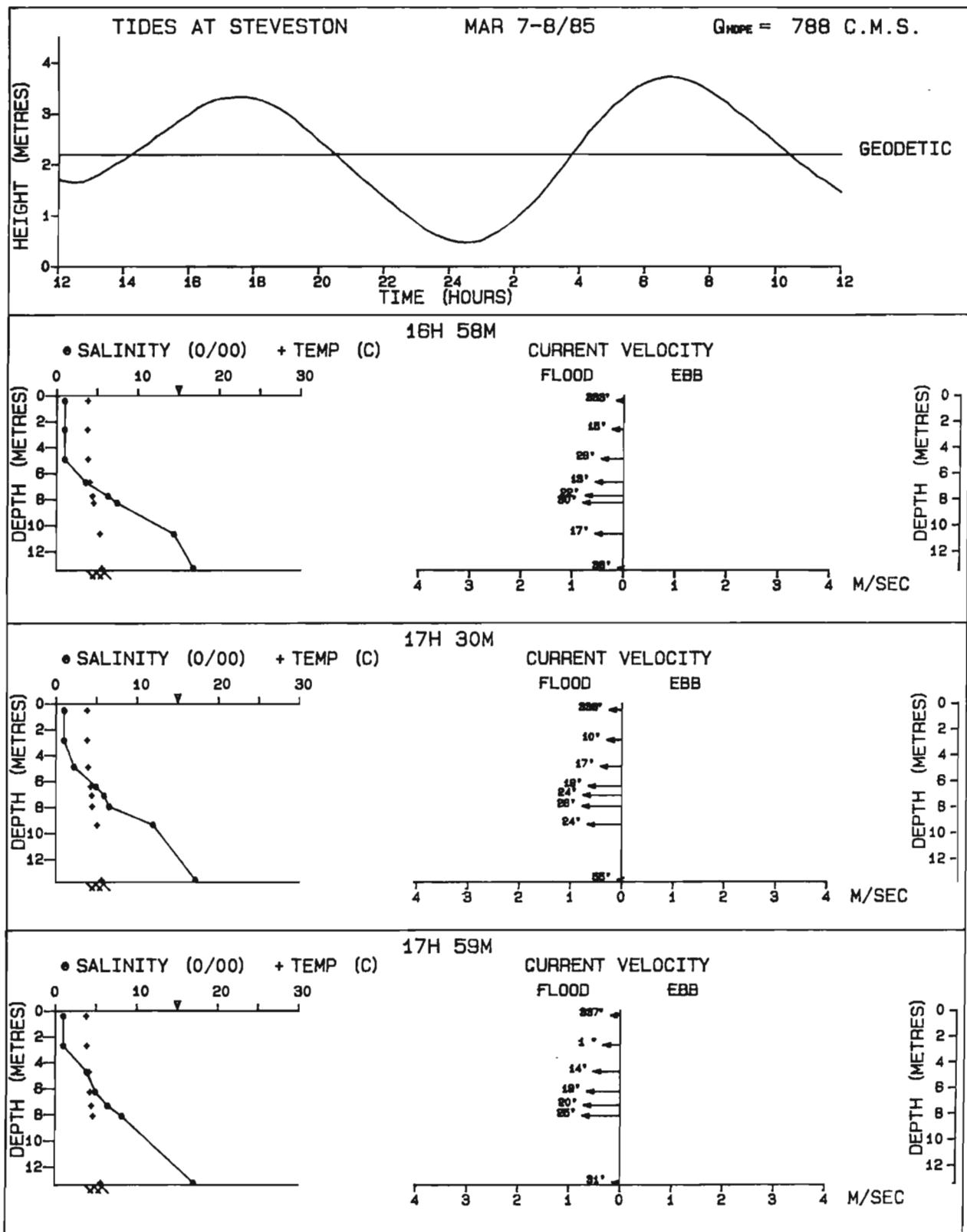
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT TILBURY DOCK



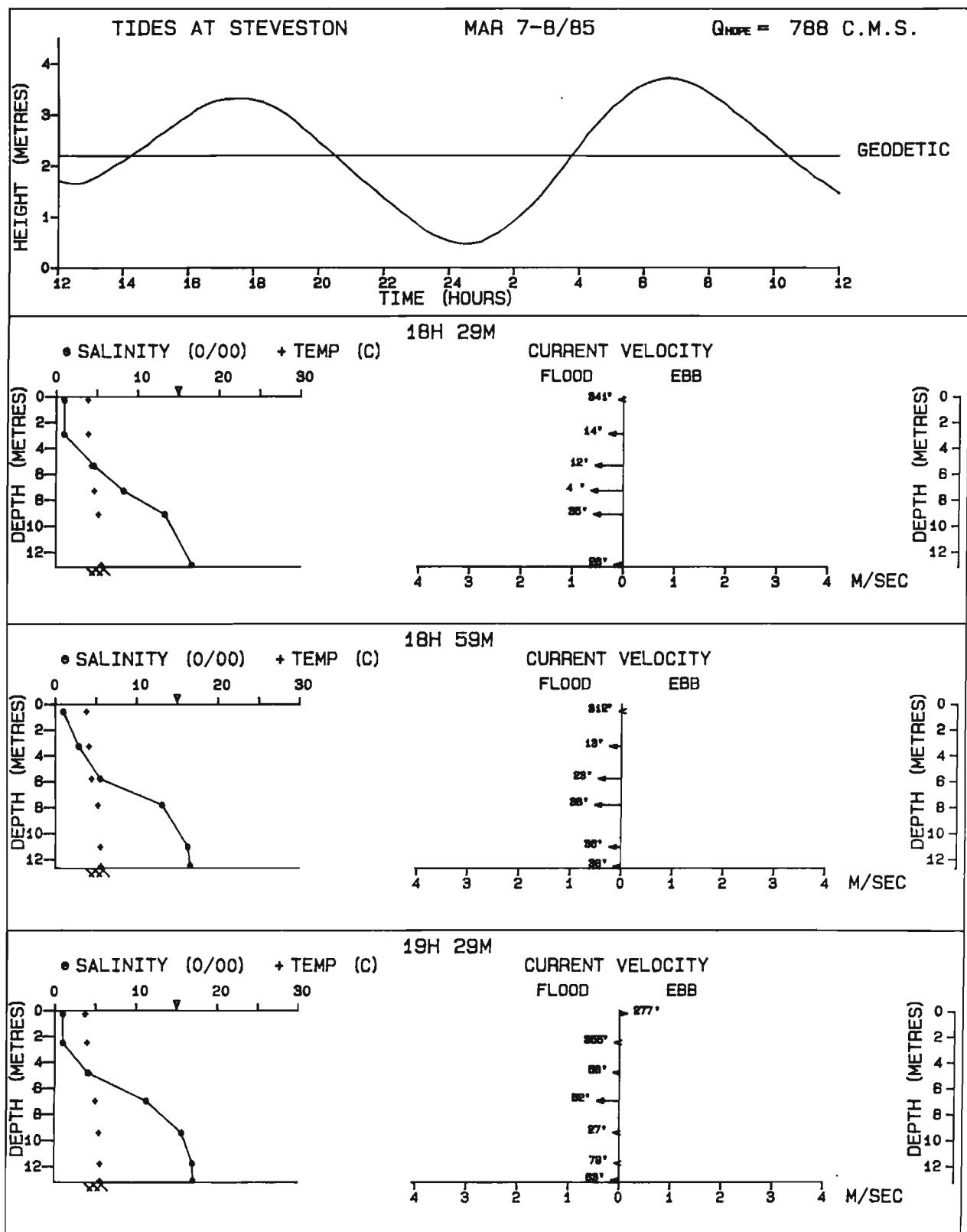
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT TILBURY DOCK



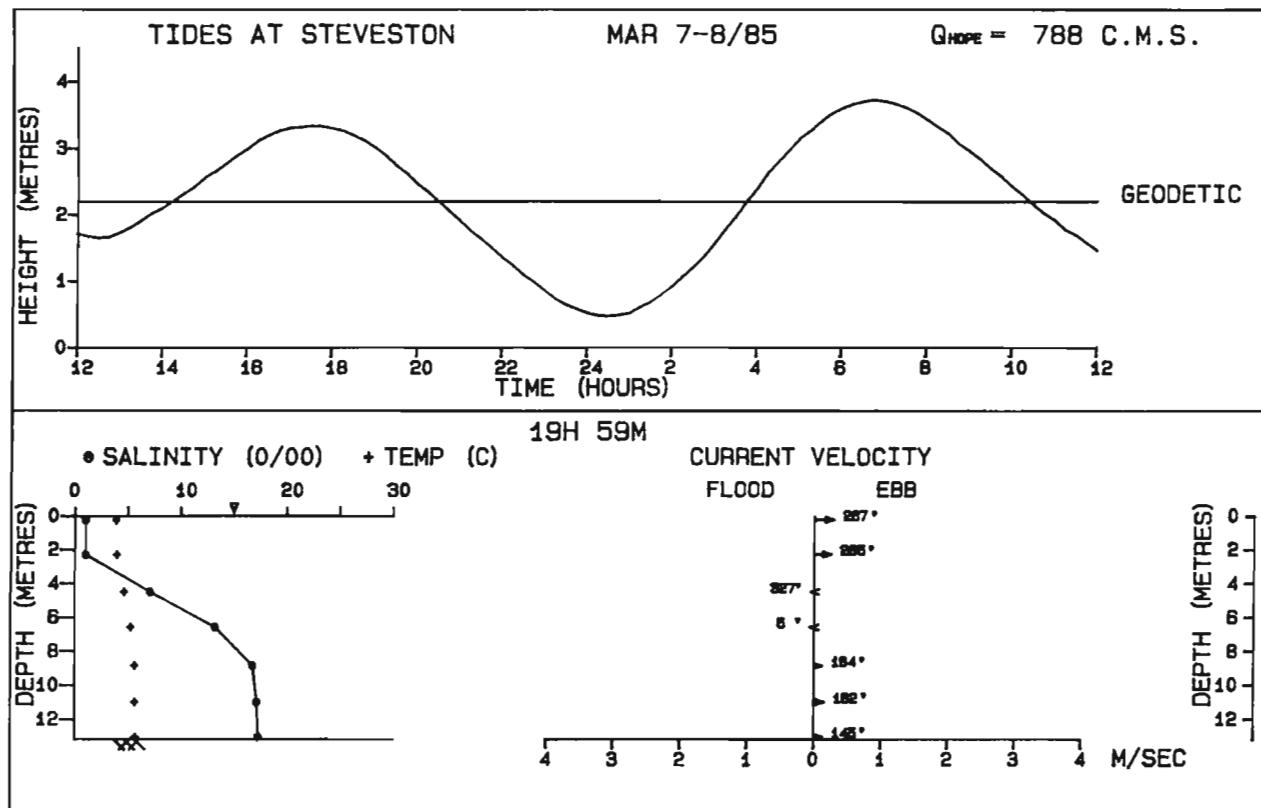
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT TILBURY DOCK



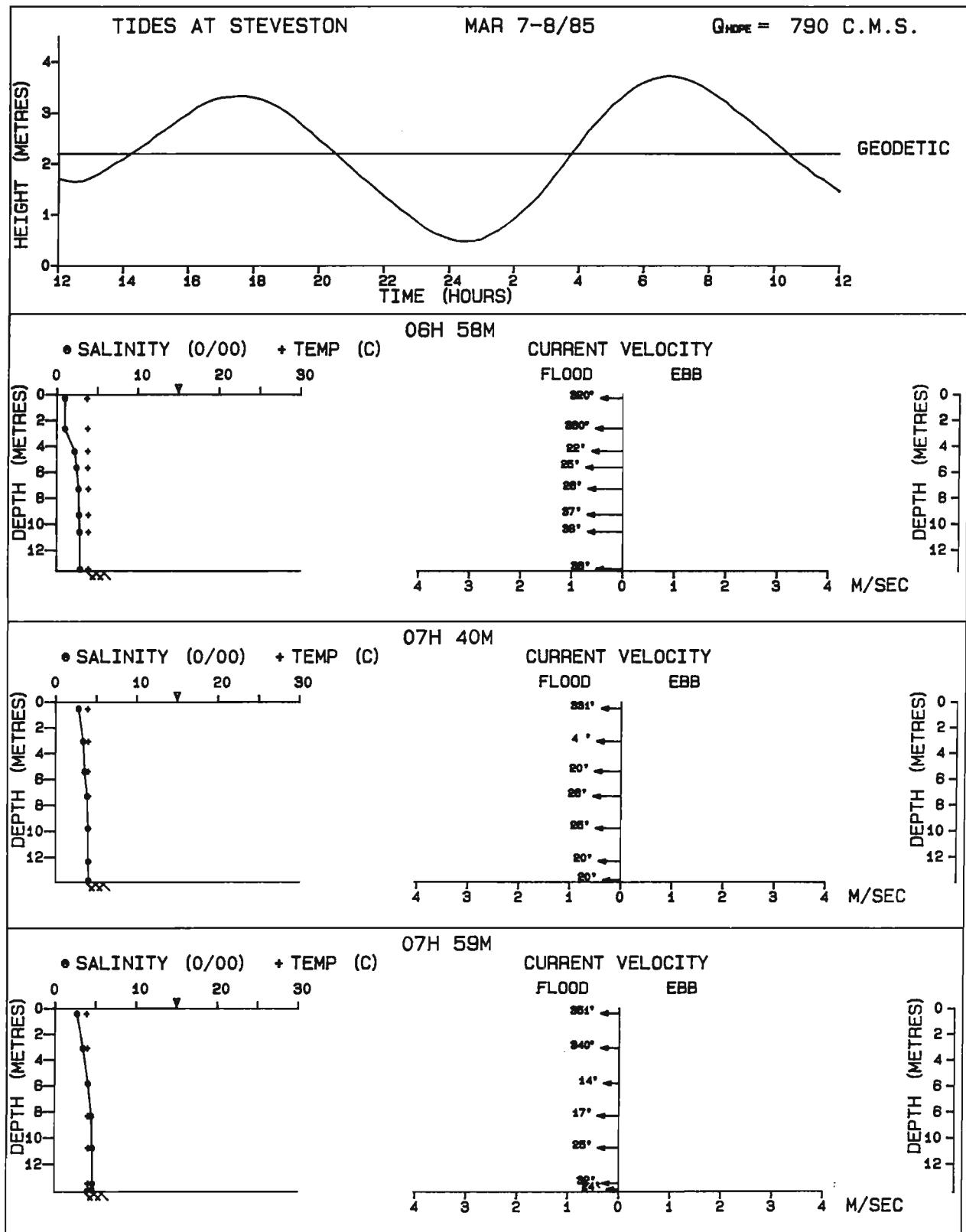
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT TILBURY DOCK



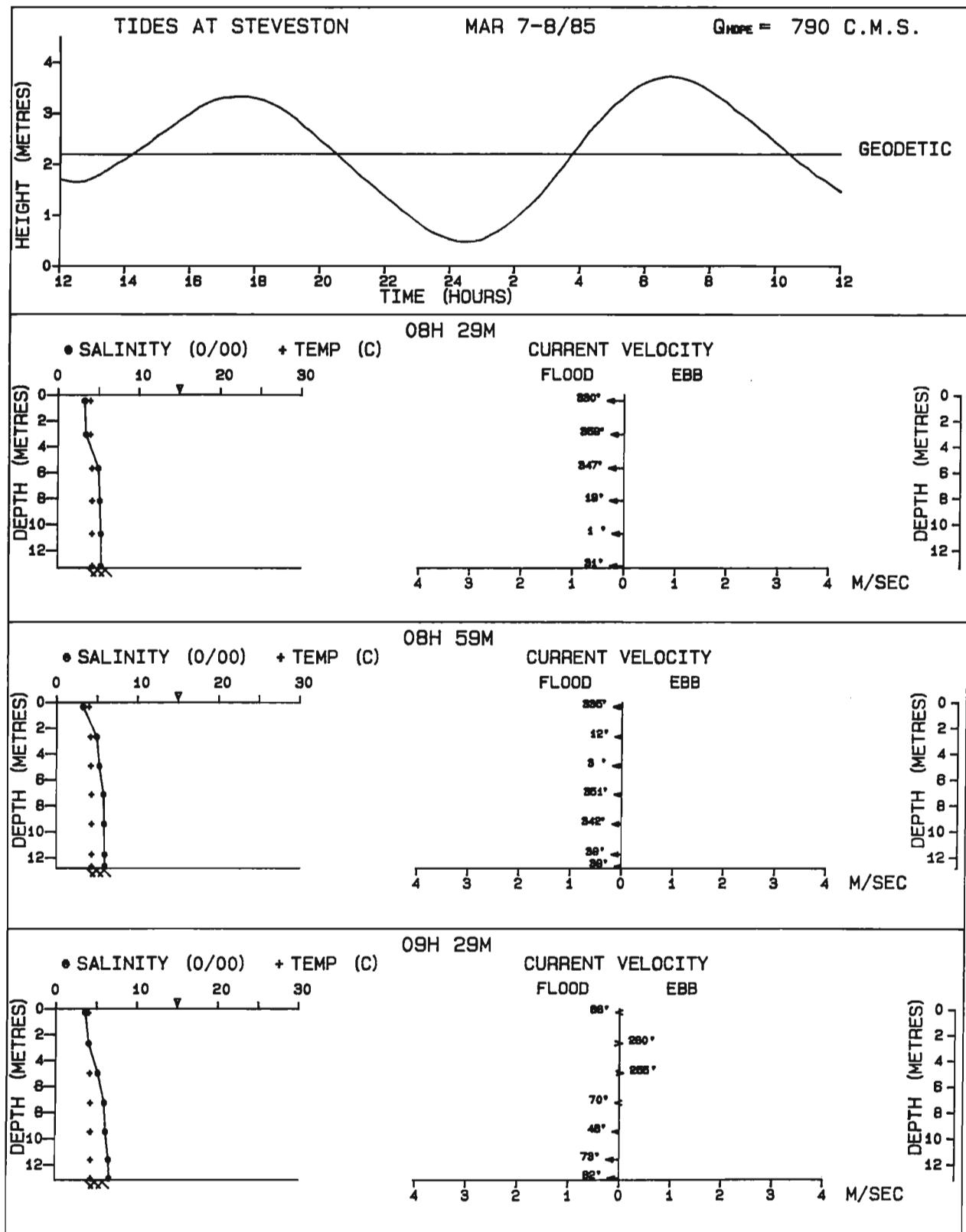
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT TILBURY DOCK



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT TILBURY DOCK



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT TILBURY DOCK



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR

FEB 25/86 RIVER DISCHARGE AT HOPE = 1110 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE)	
					FLOOD	EBB
16H 01M	0.2	1.00	2.2	0.30		149
	3.6	1.00	2.2	0.41		177
	4.7	1.00	2.2	0.49		174
	6.4	1.00	2.2	0.46		171
	7.4	1.00	2.2	0.19		160
17H 03M	0.2	1.00	2.2	0.36		170
	2.7	1.00	2.2	0.55		200
	4.6	1.00	2.2	0.44		186
	6.5	1.00	2.2	0.44		177
17H 59M	0.3	1.00	2.2	0.20		162
	2.3	1.00	2.2	0.43		199
	4.0	1.00	2.2	0.44		187
	6.6	1.00	2.2	0.40		166
19H 06M	0.3	1.00	2.2	0.25		155
	2.2	1.00	2.2	0.46		188
	4.0	1.00	2.2	0.51		181
	6.4	1.00	2.2	0.45		159
20H 03M	0.3	1.00	2.3	0.32		162
	2.4	1.00	2.3	0.67		196
	4.0	1.00	2.3	0.71		188
	6.6	1.00	2.3	0.51		157
21H 06M	0.3	1.00	2.3	0.76		162
	2.1	1.00	2.3	0.88		190
	5.9	1.00	2.3	0.75		167
	7.3	1.00	2.3	0.41		168
22H 08M	0.5	1.00	2.3	0.83		163
	2.3	1.00	2.3	1.09		192
	3.5	1.00	2.3	1.10		190
	5.3	1.00	2.3	1.11		179
23H 06M	0.3	1.00	2.4	0.99		141
	2.3	1.00	2.4	1.19		192
	5.5	1.00	2.4	1.13		173

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR

FEB 26/86 RIVER DISCHARGE AT HOPE = 1970 CU.M/SEC

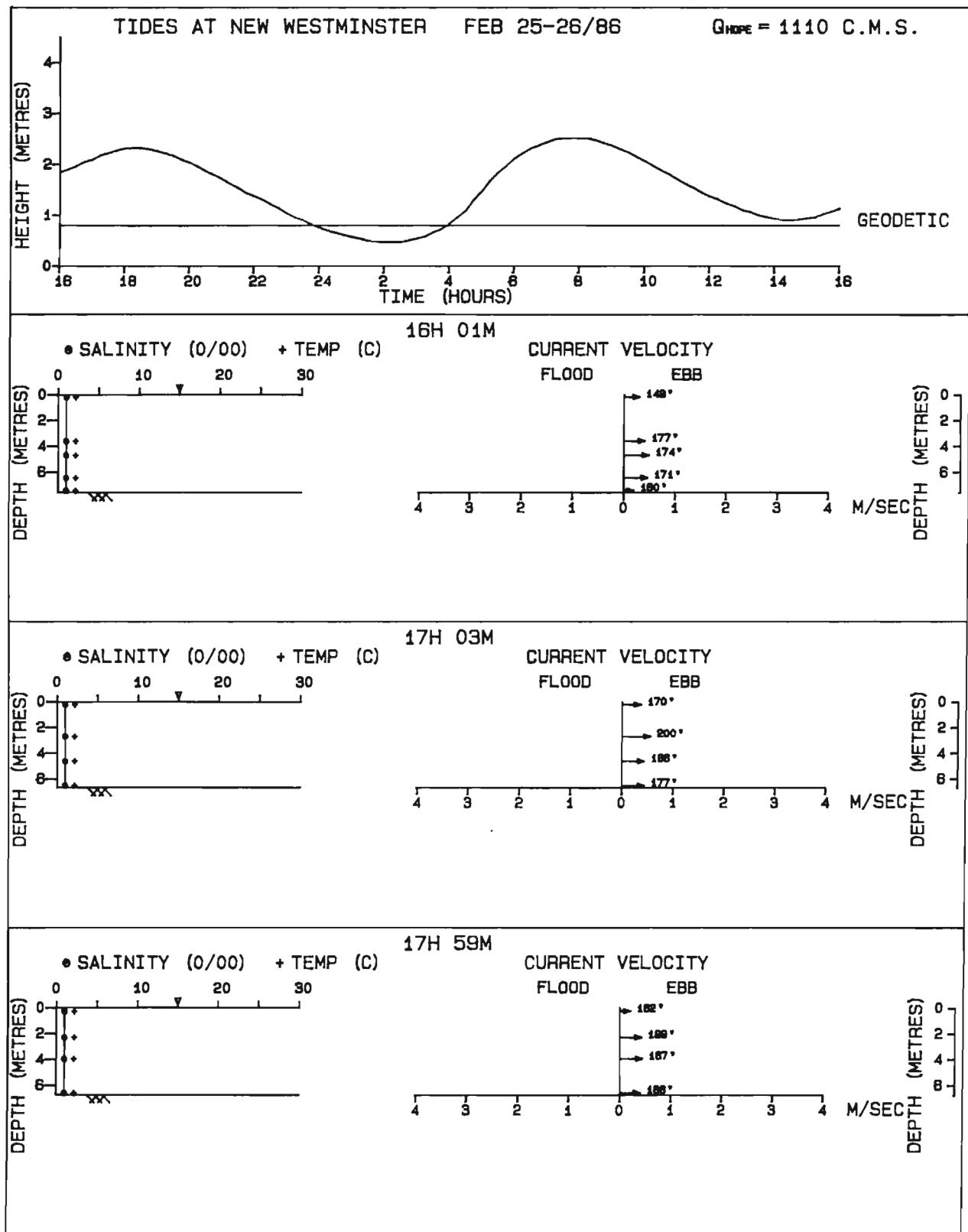
TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
00H 06M	0.4	1.00	2.5	1.13	164
	2.0	1.00	2.5	1.33	200
	3.8	1.00	2.5	1.37	195
	5.2	1.00	2.5	1.24	170
01H 06M	0.1	1.00	2.5	0.97	153
	1.9	1.00	2.5	1.35	193
02H 05M	0.2	1.00	2.6	1.27	159
	1.9	1.00	2.6	1.44	186
	3.8	1.00	2.6	1.34	194
	4.5	1.00	2.6	1.24	191
03H 04M	0.3	1.00	2.6	1.20	151
	2.1	1.00	2.6	1.24	189
	4.0	1.00	2.6	1.14	188
	5.1	1.00	2.6	1.04	199
04H 06M	0.3	1.00	2.6	0.87	154
	2.2	1.00	2.6	0.82	193
	4.1	1.00	2.6	0.80	192
	5.3	1.00	2.6	0.72	172
05H 04M	0.3	1.00	2.6	0.30	150
	2.3	1.00	2.6	0.31	191
	4.2	1.00	2.6	0.30	178
	6.1	1.00	2.6	0.27	154
06H 01M	0.5	1.00	2.6	0.05	299
	2.3	1.00	2.6	0.08	008
	4.2	1.00	2.6	0.09	025
	6.1	1.00	2.6	0.10	016
07H 02M	0.4	1.00	3.8	0.14	298
	2.3	1.00	3.8	0.19	302
	4.2	1.00	3.4	0.24	329
	6.0	1.00	2.8	0.25	339
08H 09M	0.3	1.00	3.6	0.19	312
	2.3	1.00	3.4	0.18	308
	4.2	1.00	3.3	0.22	328
	6.2	1.00	3.3	0.23	339
09H 02M	0.6	1.00	3.2	0.12	188
	2.4	1.00	3.2	0.13	150
	4.2	1.00	3.2	0.13	162
	6.2	1.00	3.3	0.15	165

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR

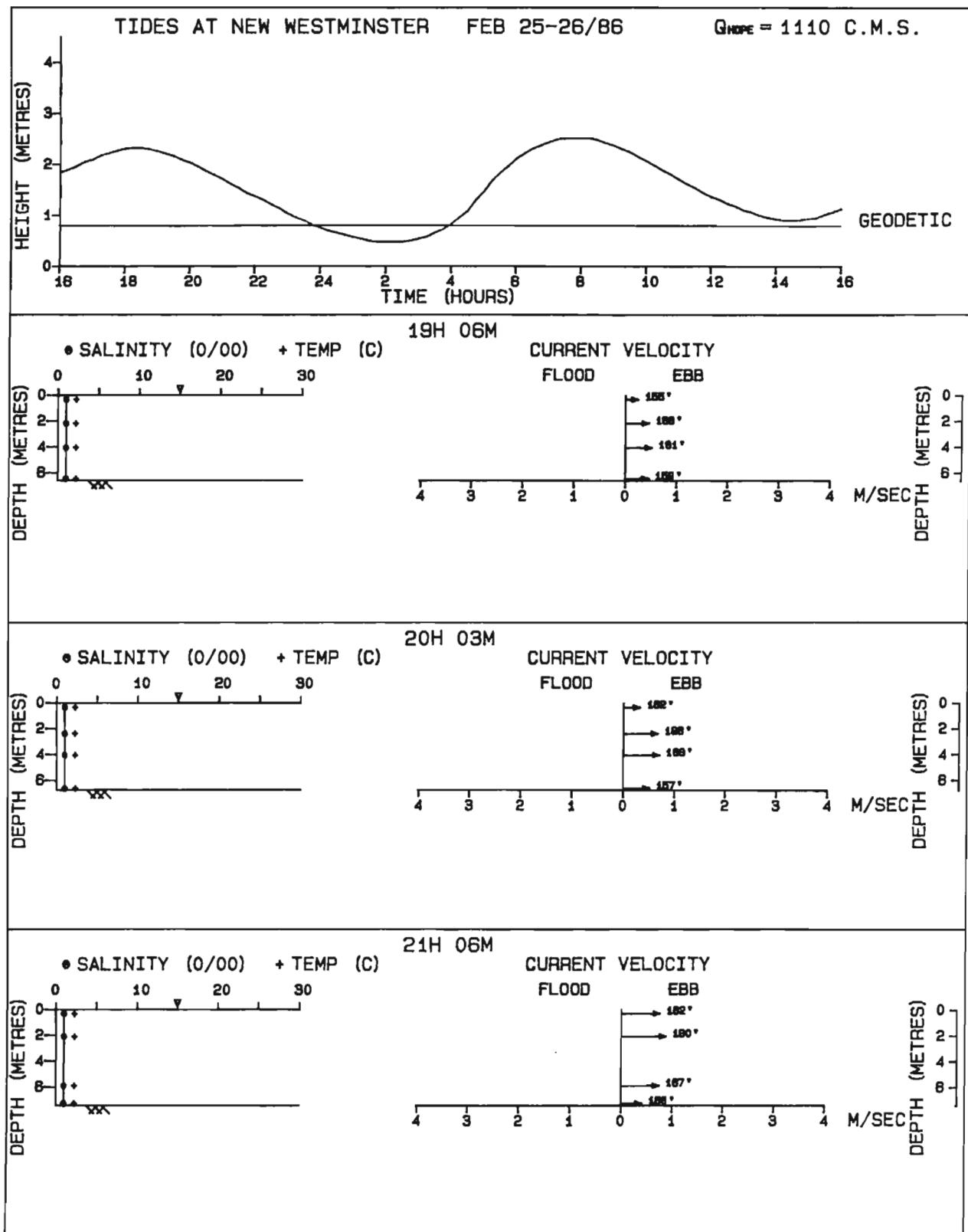
FEB 26/86 RIVER DISCHARGE AT HOPE = 1970 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
10H 05M	0.4	1.00	3.4	0.25	158
	2.3	1.00	3.4	0.43	191
	4.2	1.00	3.4	0.48	181
	6.0	1.00	3.4	0.44	168
11H 03M	0.4	1.00	3.0	0.38	168
	2.3	1.00	3.0	0.56	199
	4.1	1.00	3.0	0.69	180
	6.1	1.00	3.0	0.61	162
12H 03M	0.4	1.00	3.4	0.44	154
	2.1	1.00	3.4	0.99	189
	4.0	1.00	3.4	0.91	197
	5.8	1.00	3.4	0.86	183
13H 03M	0.3	1.00	2.8	0.49	147
	2.1	1.00	2.8	0.94	187
	3.9	1.00	2.8	1.13	184
	5.7	1.00	2.8	0.99	175
14H 05M	0.3	1.00	2.9	0.79	142
	2.0	1.00	2.9	1.05	183
	3.8	1.00	2.9	1.06	189
	5.7	1.00	2.9	0.83	180
15H 03M	0.5	1.00	2.9	0.83	152
	2.1	1.00	3.0	1.05	188
	4.0	1.00	3.0	0.97	191
	6.0	1.00	3.0	0.73	174
16H 01M	0.3	1.00	3.0	0.53	138
	2.2	1.00	3.0	0.69	184
	4.0	1.00	3.0	0.69	184
	5.8	1.00	3.0	0.53	167

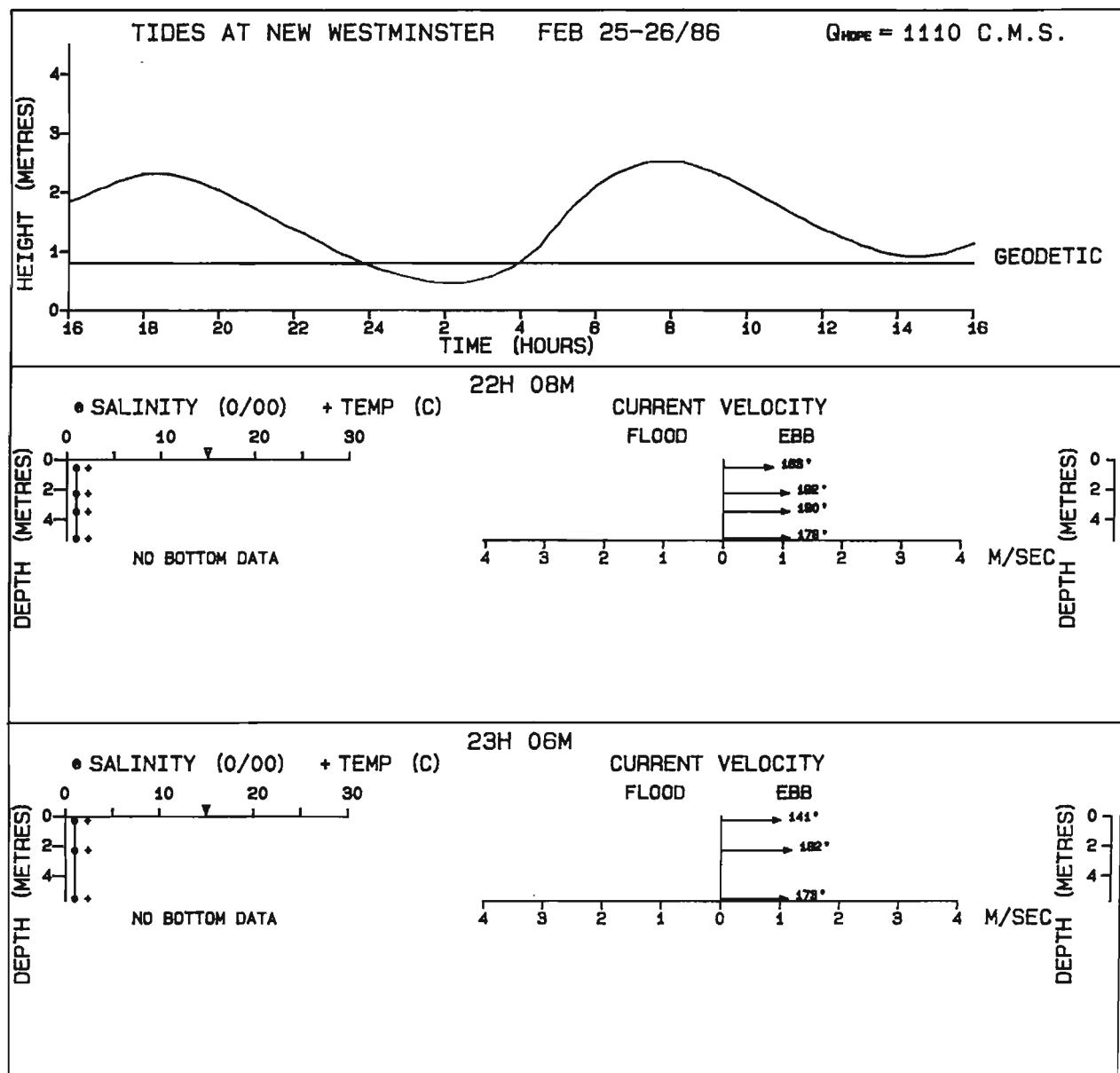
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



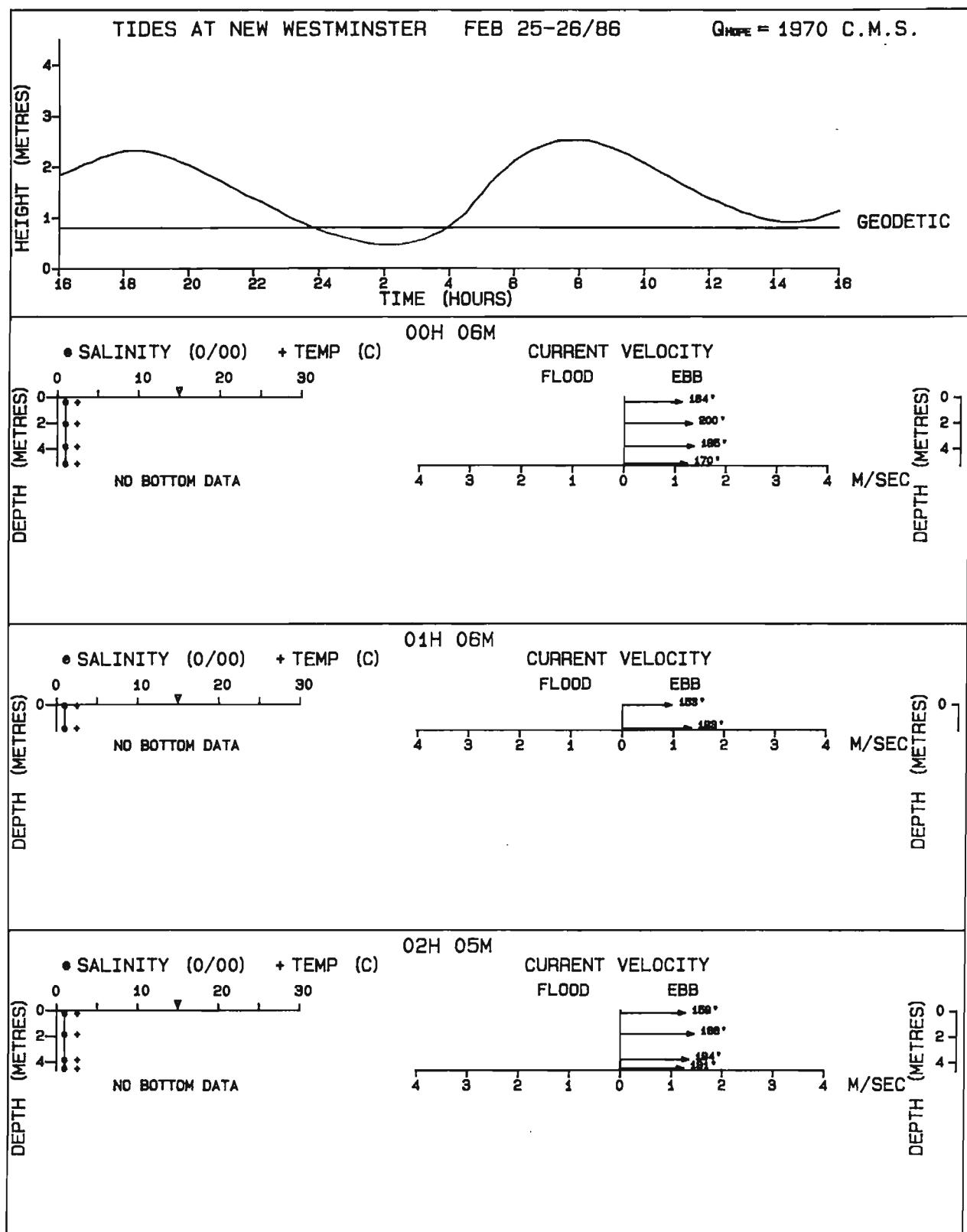
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



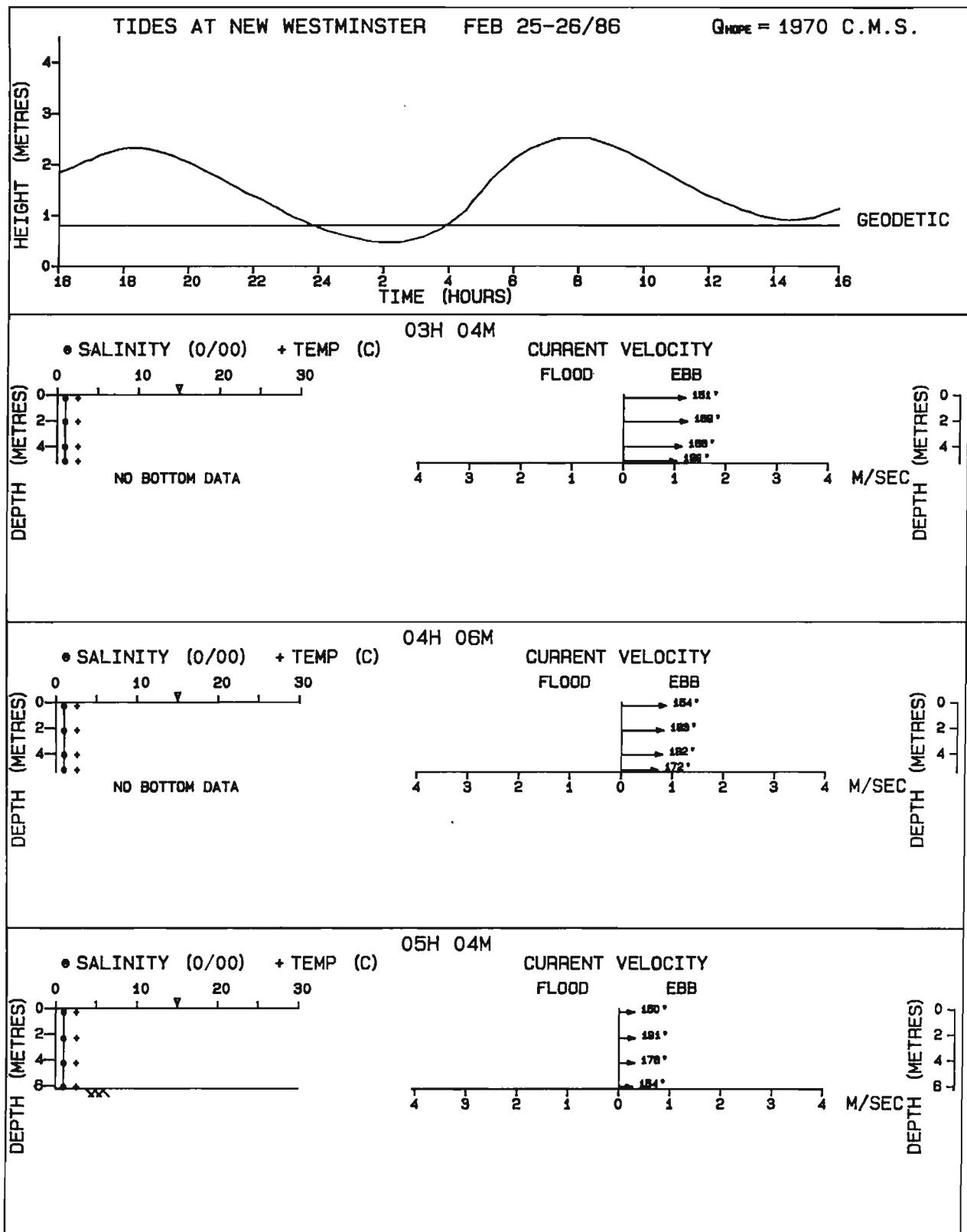
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



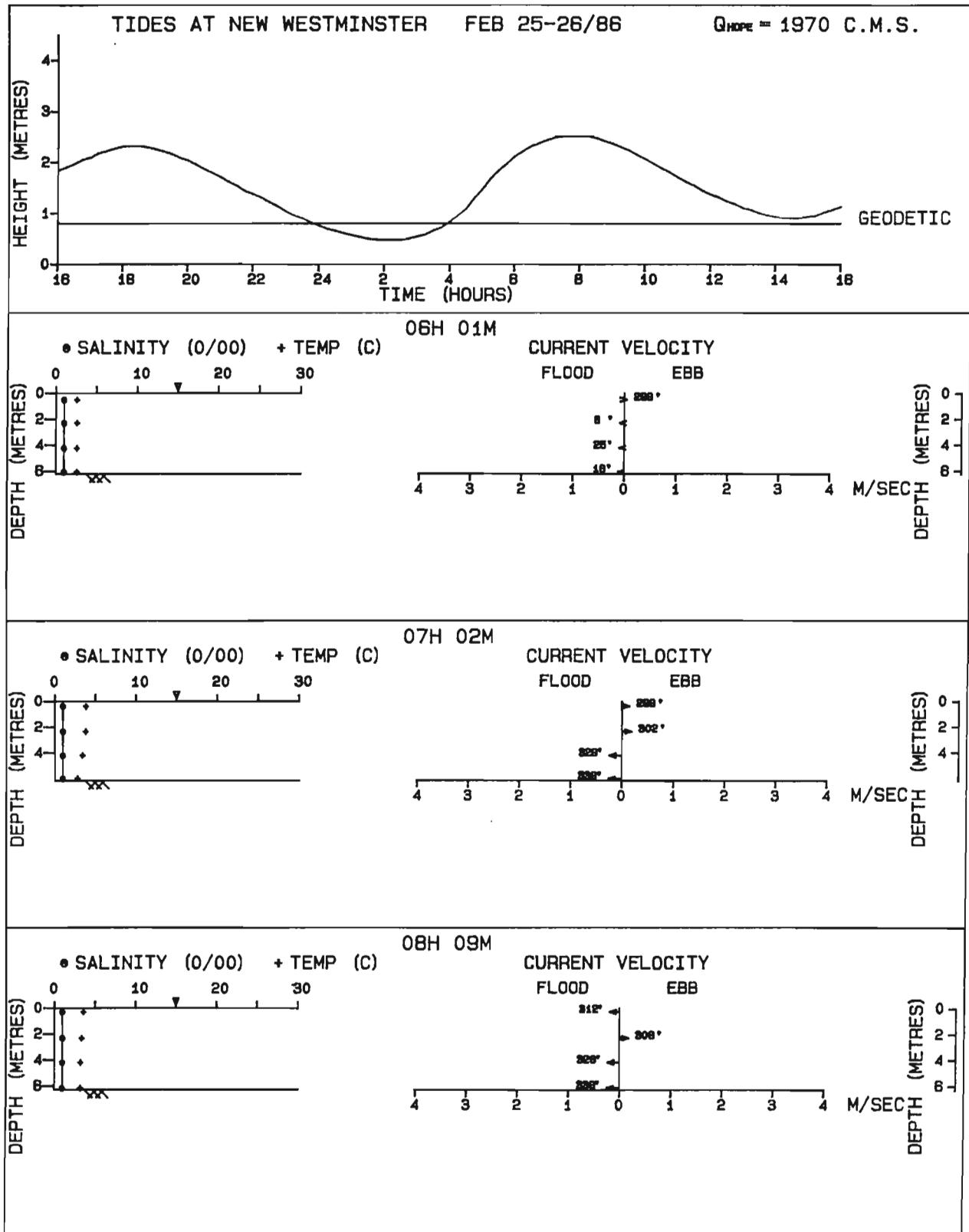
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



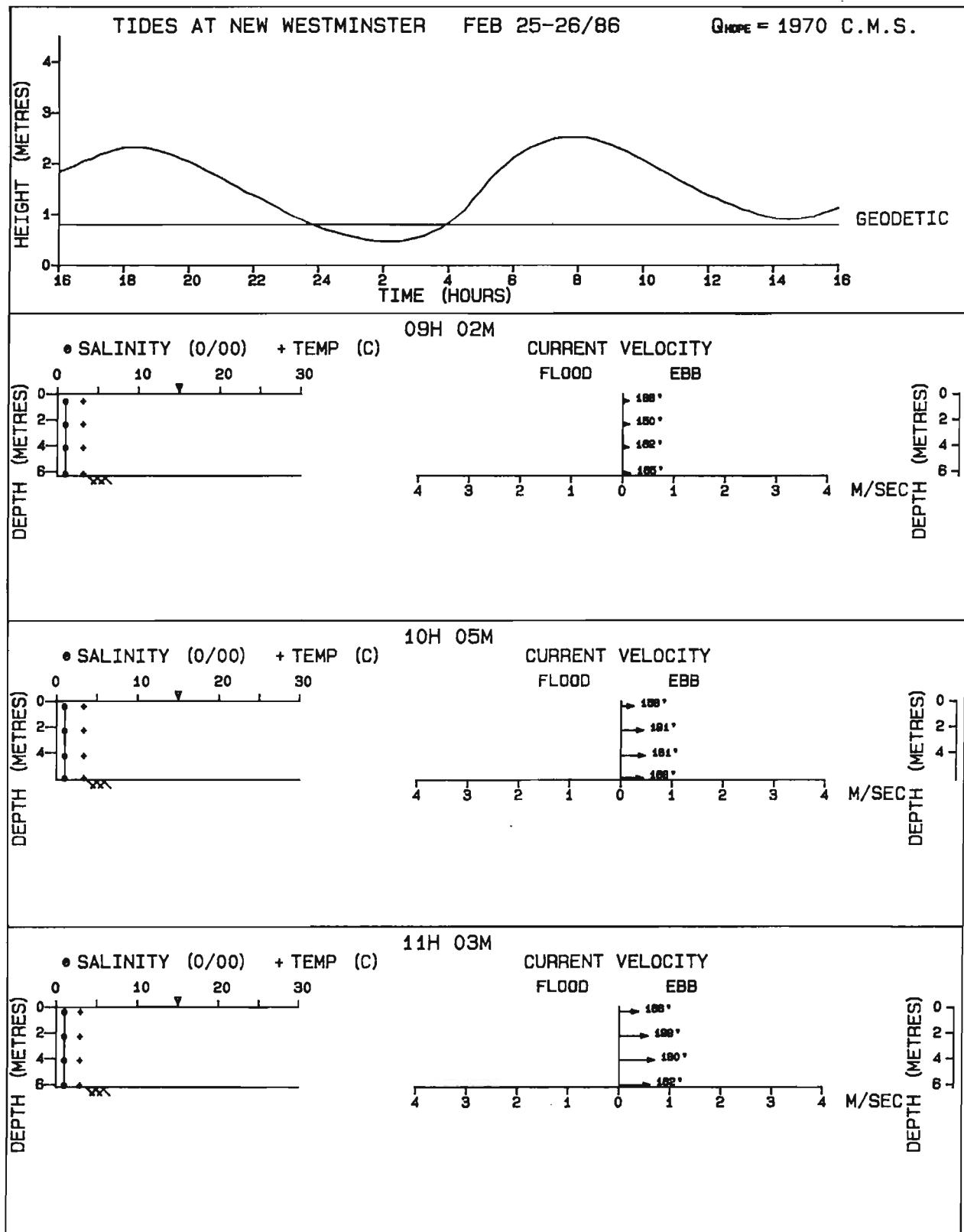
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



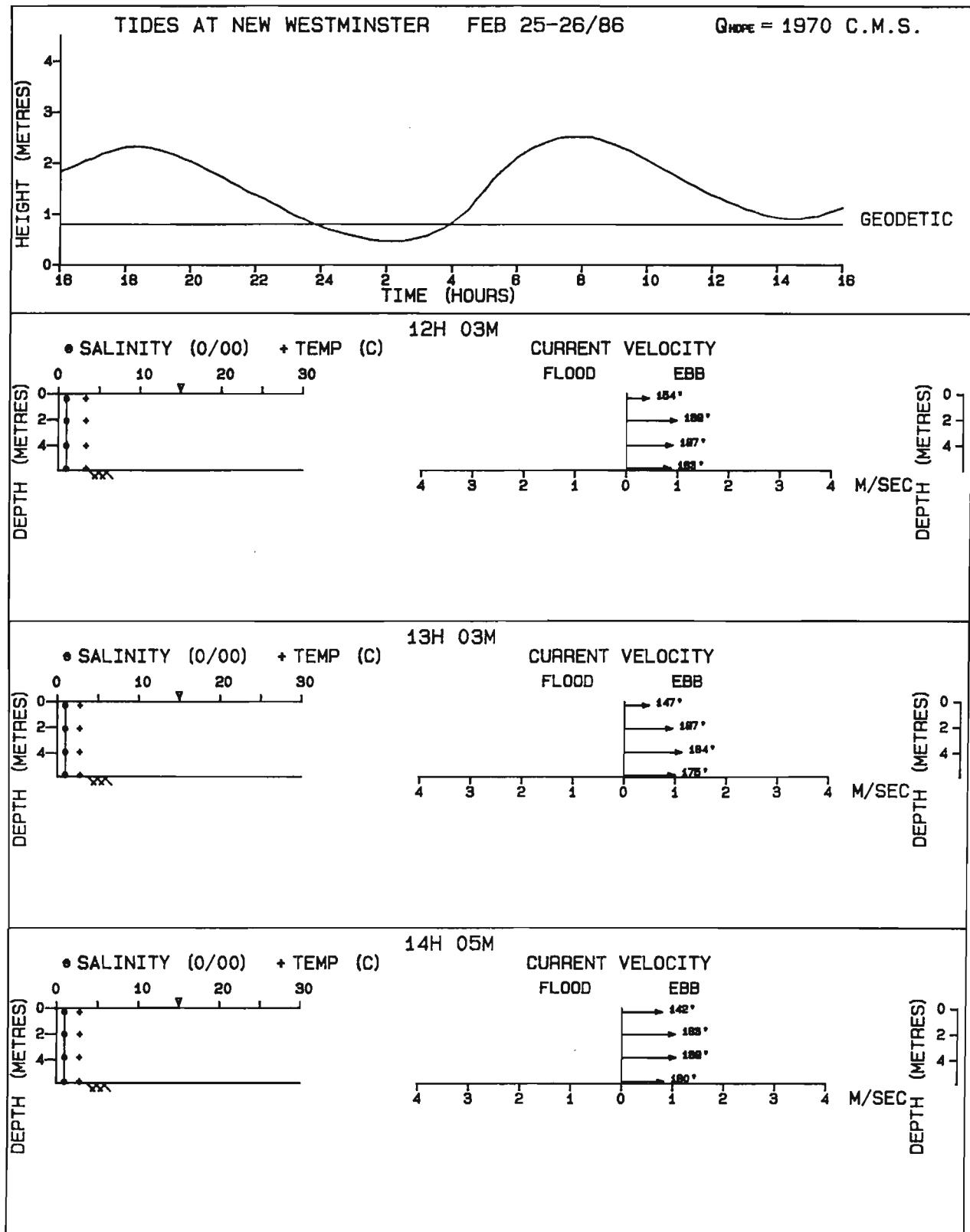
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



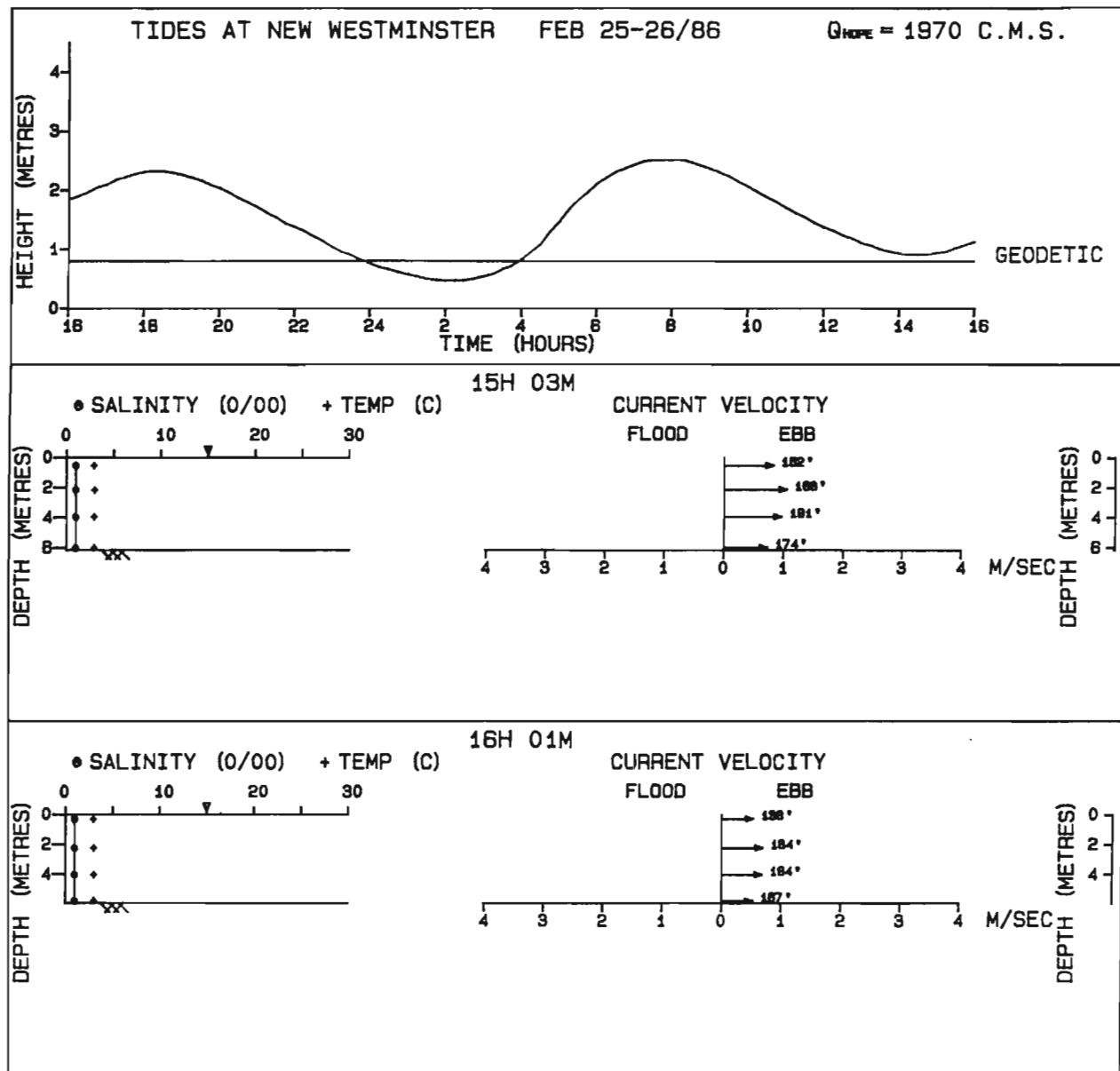
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD

FEB 26/86 RIVER DISCHARGE AT HOPE = 1970 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
17H 18M	0.2	1.00	3.2	0.17	049
	2.3	1.00	3.2	0.17	123
	4.0	1.00	3.2	0.18	104
	6.0	1.00	3.2	0.22	072
	7.3	1.00	3.2	0.24	059
18H 01M	0.3	1.00	3.2	0.03	023
	2.2	1.00	3.2	0.02	262
	4.1	1.00	3.2	0.06	265
	6.0	1.00	3.2	0.07	322
	7.6	1.00	3.2	0.02	205
19H 00M	0.4	1.00	3.3	0.10	178
	2.3	1.00	3.2	0.10	114
	4.1	1.00	3.2	0.10	044
	6.1	1.00	3.2	0.09	006
	7.9	1.00	3.2	0.13	013
20H 03M	0.5	1.00	3.2	0.23	077
	2.4	1.00	3.1	0.22	109
	4.3	1.00	3.1	0.24	096
	6.3	1.00	3.1	0.23	087
	7.6	1.00	3.1	0.17	056
21H 05M	0.5	1.00	3.1	0.47	071
	2.3	1.00	3.2	0.49	112
	4.0	1.00	3.2	0.47	116
	5.8	1.00	3.2	0.42	084
	7.1	1.00	3.1	0.39	071
22H 01M	0.3	1.00	3.2	0.53	068
	2.1	1.00	3.2	0.62	105
	4.1	1.00	3.2	0.63	108
	6.2	1.00	3.2	0.61	088
	7.0	1.00	3.2	0.58	079
23H 02M	0.2	1.00	3.3	0.85	067
	2.2	1.00	3.3	1.05	117
	3.9	1.00	3.3	1.01	118
	5.9	1.00	3.3	1.00	103
	6.8	1.00	3.3	0.86	087

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD

FEB 27/86 RIVER DISCHARGE AT HOPE = 1570 CU.M/SEC

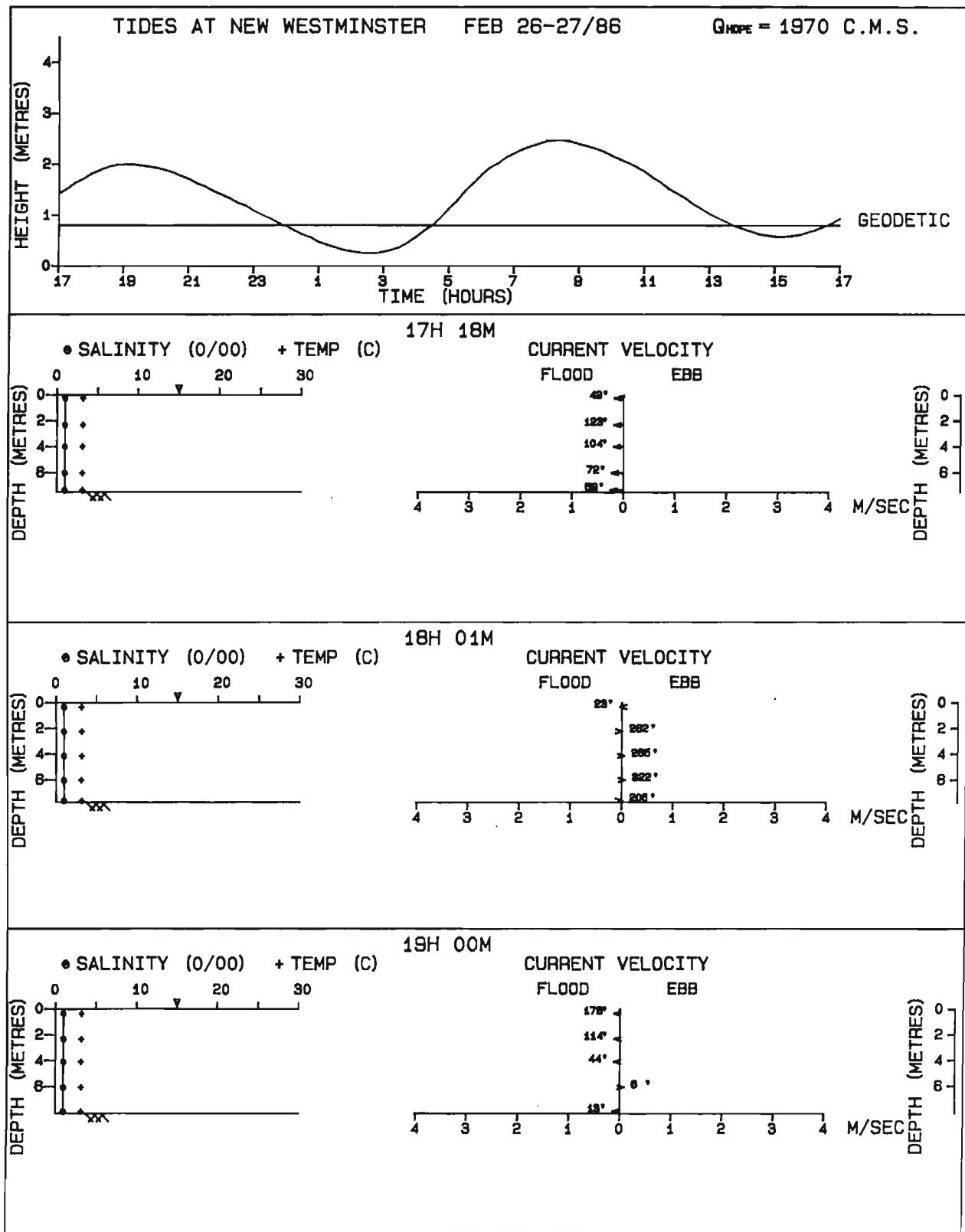
TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
00H 05M	0.8	1.00	3.4	1.16	076
	2.3	1.00	3.4	1.19	113
	4.4	1.00	3.5	1.07	119
	6.3	1.00	3.5	0.96	086
07H 03M	0.2	1.00	3.3	0.56	269
	1.9	1.00	3.3	0.59	267
	3.8	1.00	3.3	0.58	273
	5.8	1.00	3.3	0.53	276
	7.9	1.00	3.3	0.49	276
08H 03M	0.2	1.00	3.4	0.57	264
	4.0	1.00	3.4	0.62	267
	8.1	1.00	3.4	0.45	276
09H 34M	0.3	1.00	3.4	0.17	266
	2.1	1.00	3.4	0.20	267
	3.9	1.00	3.4	0.20	287
	6.2	1.00	3.4	0.19	296
	7.7	1.00	3.4	0.15	272
10H 04M	0.4	1.00	3.4	0.03	298
	2.1	1.00	3.4	0.06	027
	4.0	1.00	3.4	0.01	049
	6.1	1.00	3.4	0.02	011
	7.8	1.00	3.4	0.09	026
10H 31M	0.4	1.00	3.4	0.17	081
	2.1	1.00	3.4	0.22	091
	4.0	1.00	3.4	0.26	088
	6.0	1.00	3.4	0.27	087
	7.6	1.00	3.4	0.21	059
11H 03M	0.6	1.00	3.4	0.43	080
	2.3	1.00	3.3	0.54	115
	4.1	1.00	3.4	0.53	102
	6.1	1.00	3.4	0.46	075
	7.3	1.00	3.5	0.39	080
12H 36M	0.7	1.00	3.5	0.96	081
	2.4	1.00	3.5	1.01	122
	4.2	1.00	3.4	0.96	113
	6.1	1.00	3.5	0.95	081
	7.1	1.00	3.5	0.76	084
13H 31M	0.3	1.00	3.6	0.72	043
	2.1	1.00	3.6	1.02	116

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD

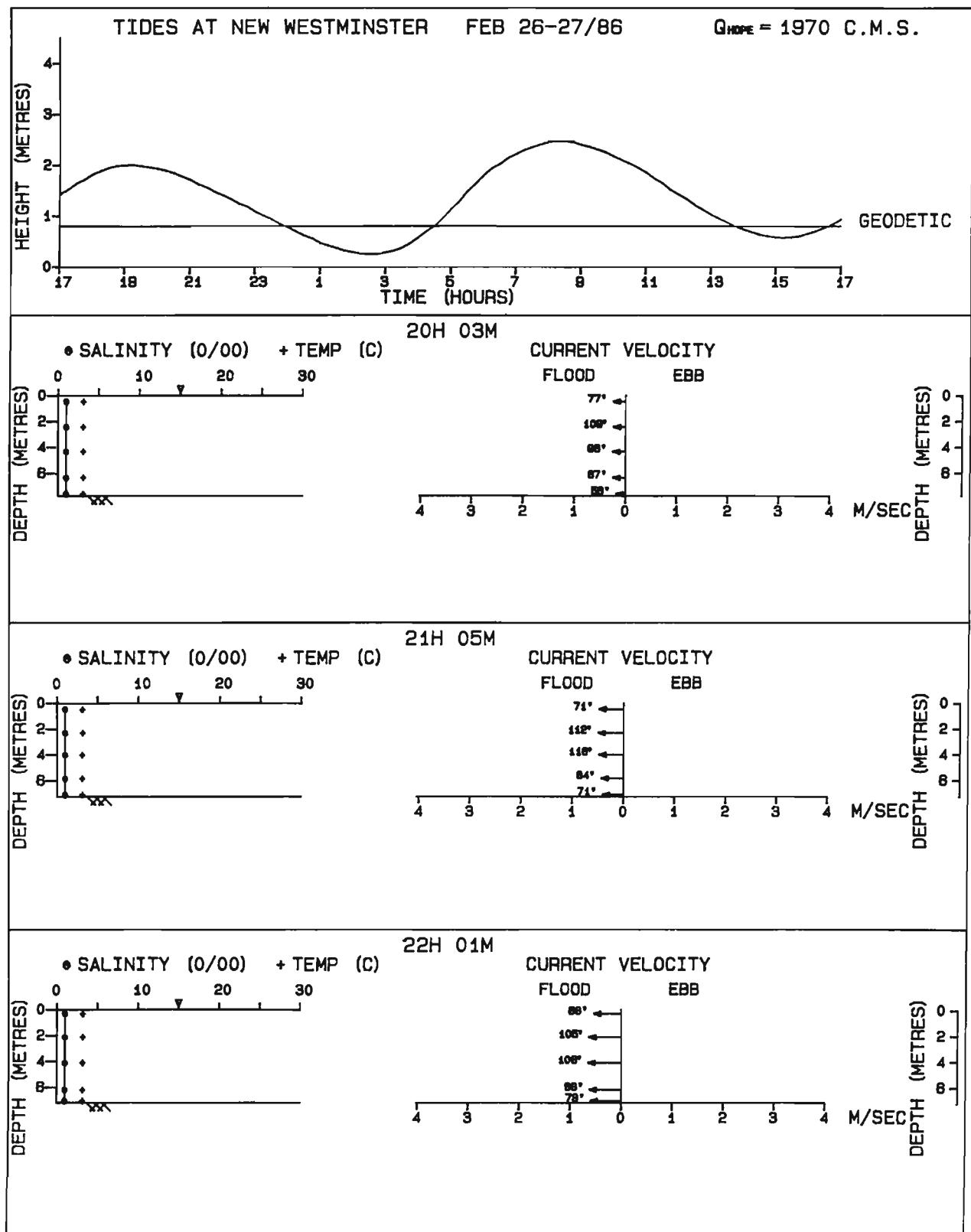
FEB 27/86 RIVER DISCHARGE AT HOPE = 1570 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE)	
					FLOOD	EBB
13H 31M	3.7	1.00	3.6	1.18	115	
	5.5	1.00	3.6	1.10	097	
	6.8	1.00	3.7	0.89	083	
14H 28M	0.5	1.00	3.9	0.70	060	
	2.0	1.00	3.9	0.99	115	
	3.8	1.00	3.9	0.96	117	
	6.2	1.00	3.9	0.86	086	

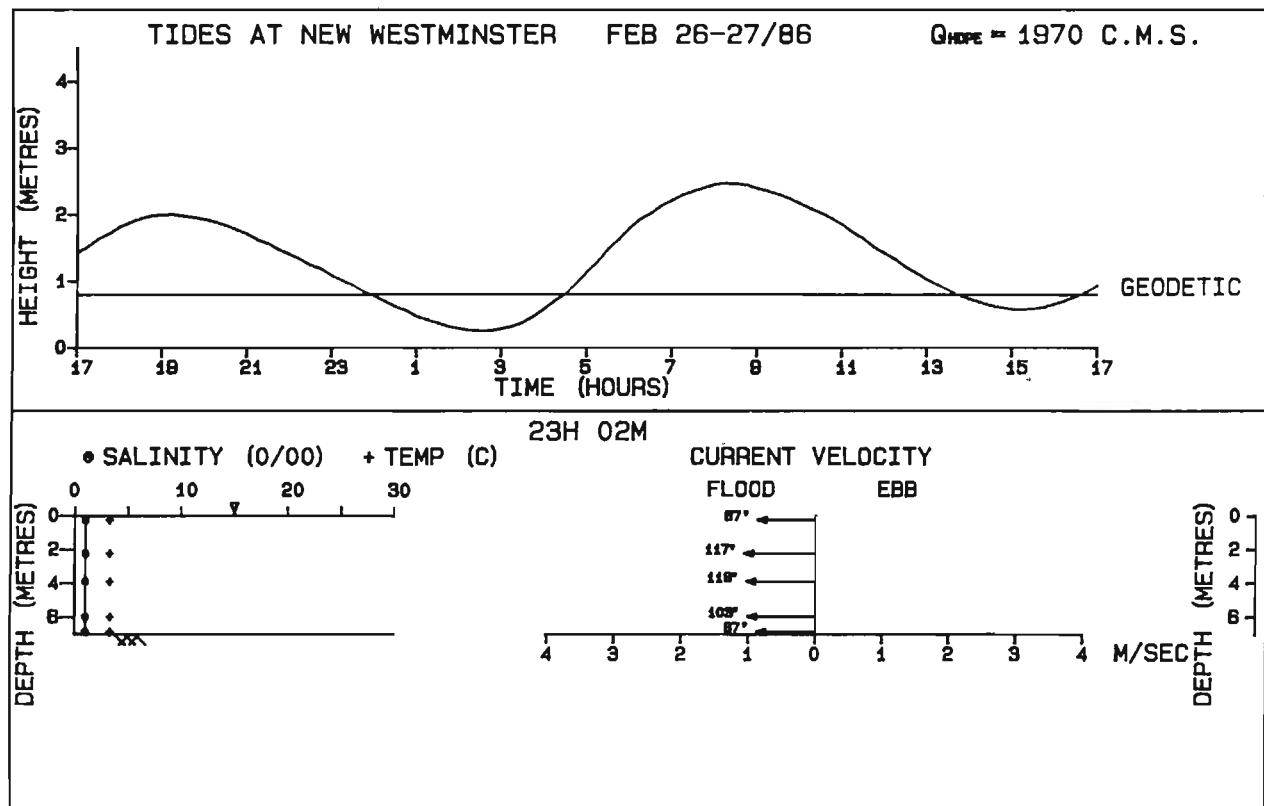
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



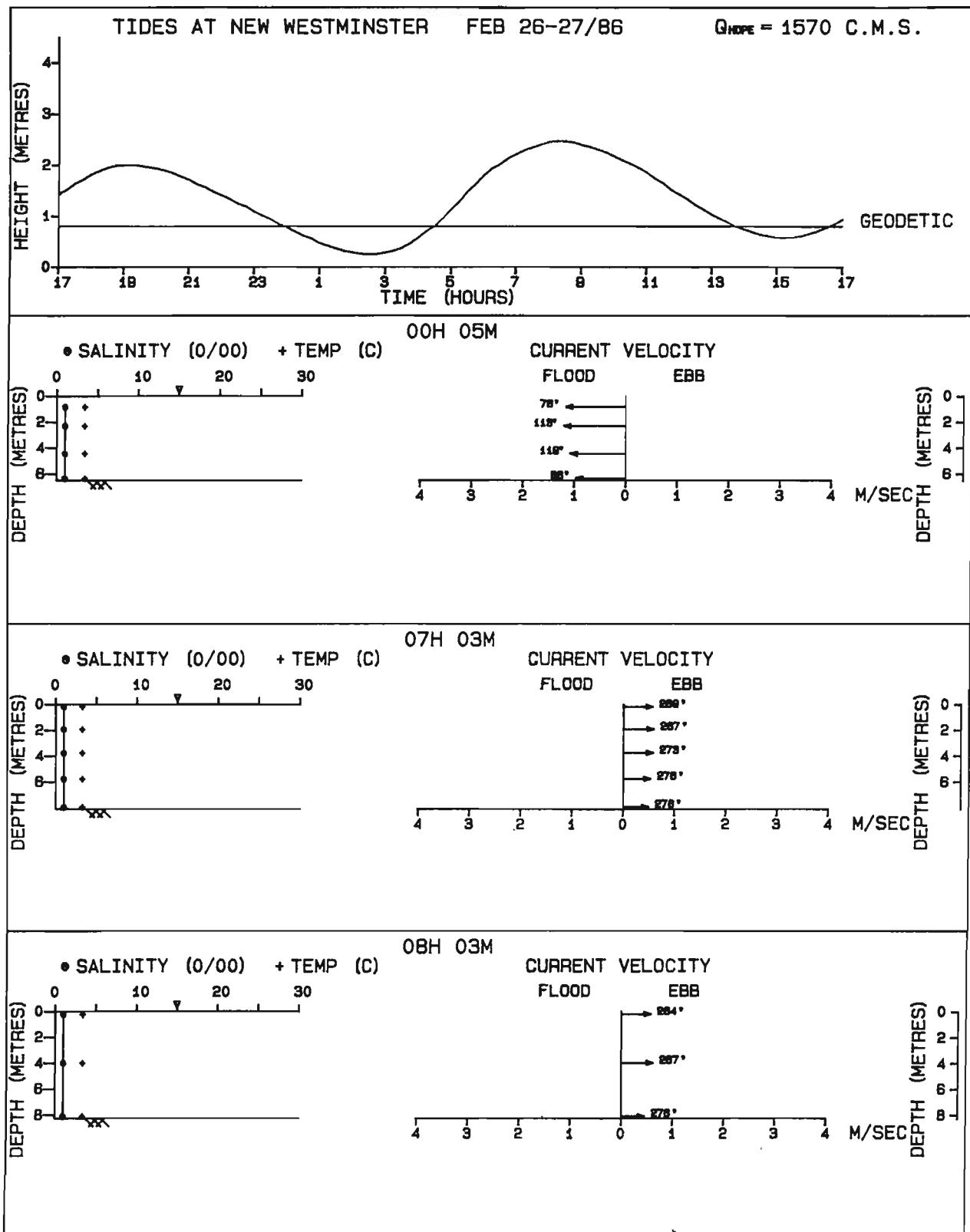
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



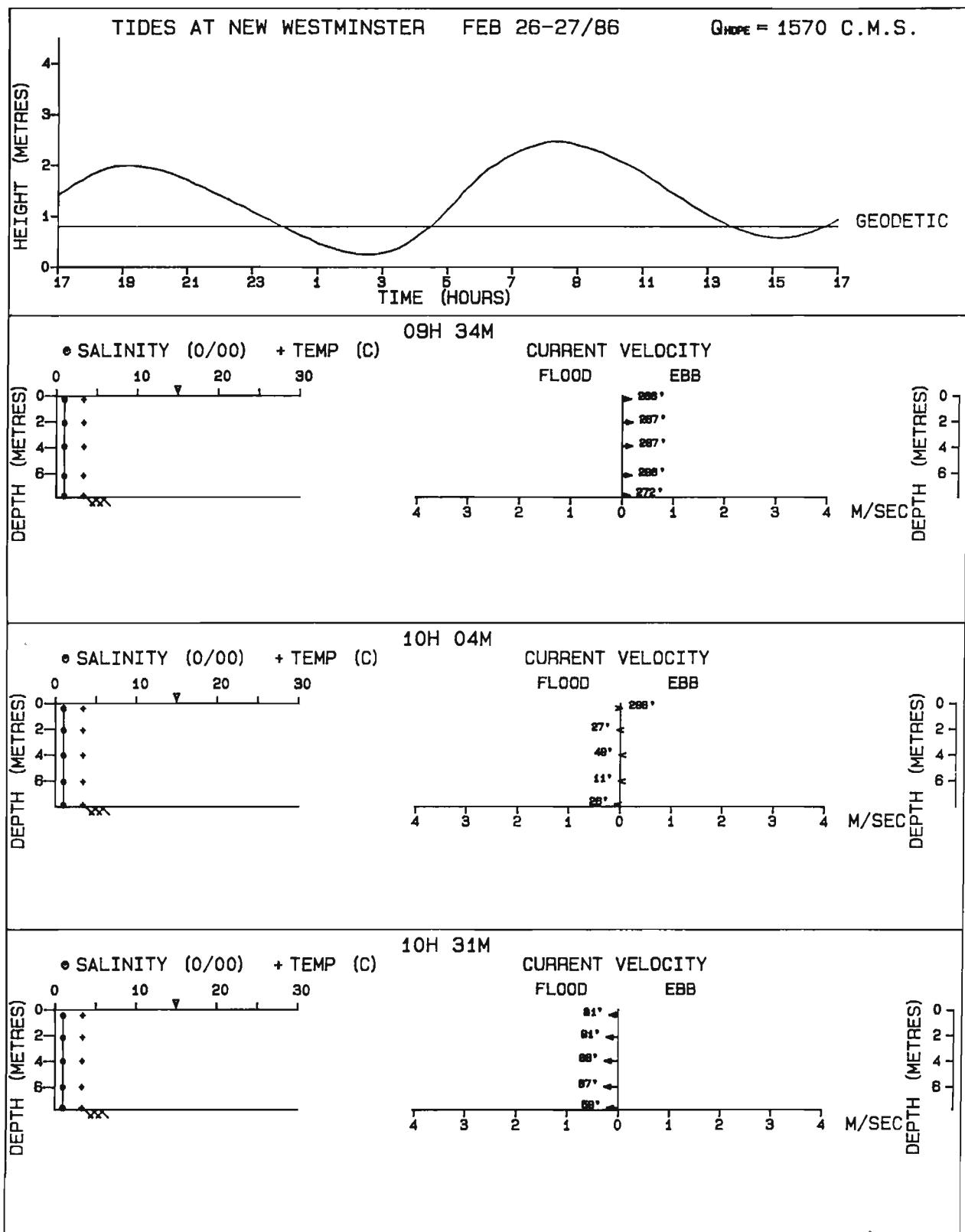
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



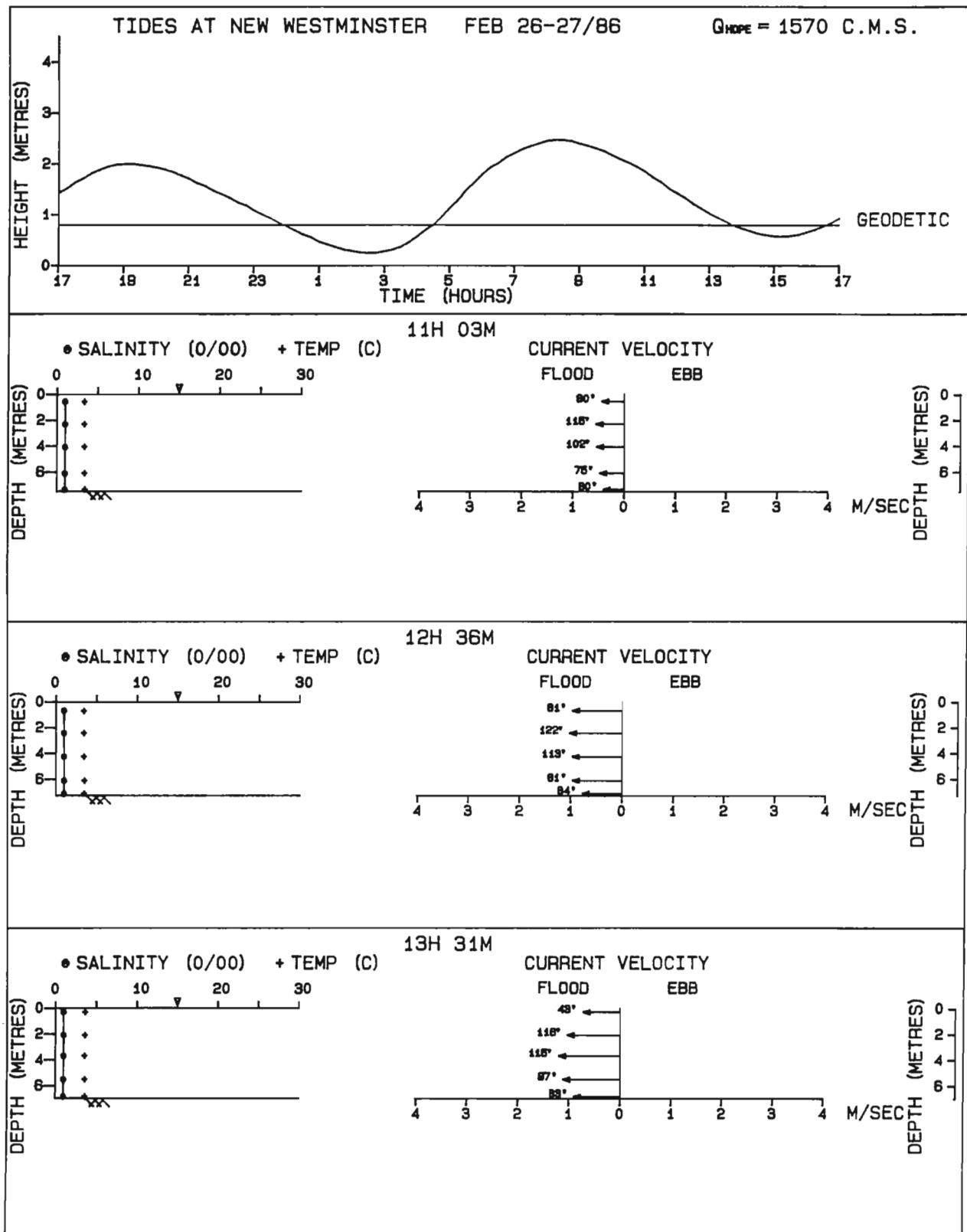
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



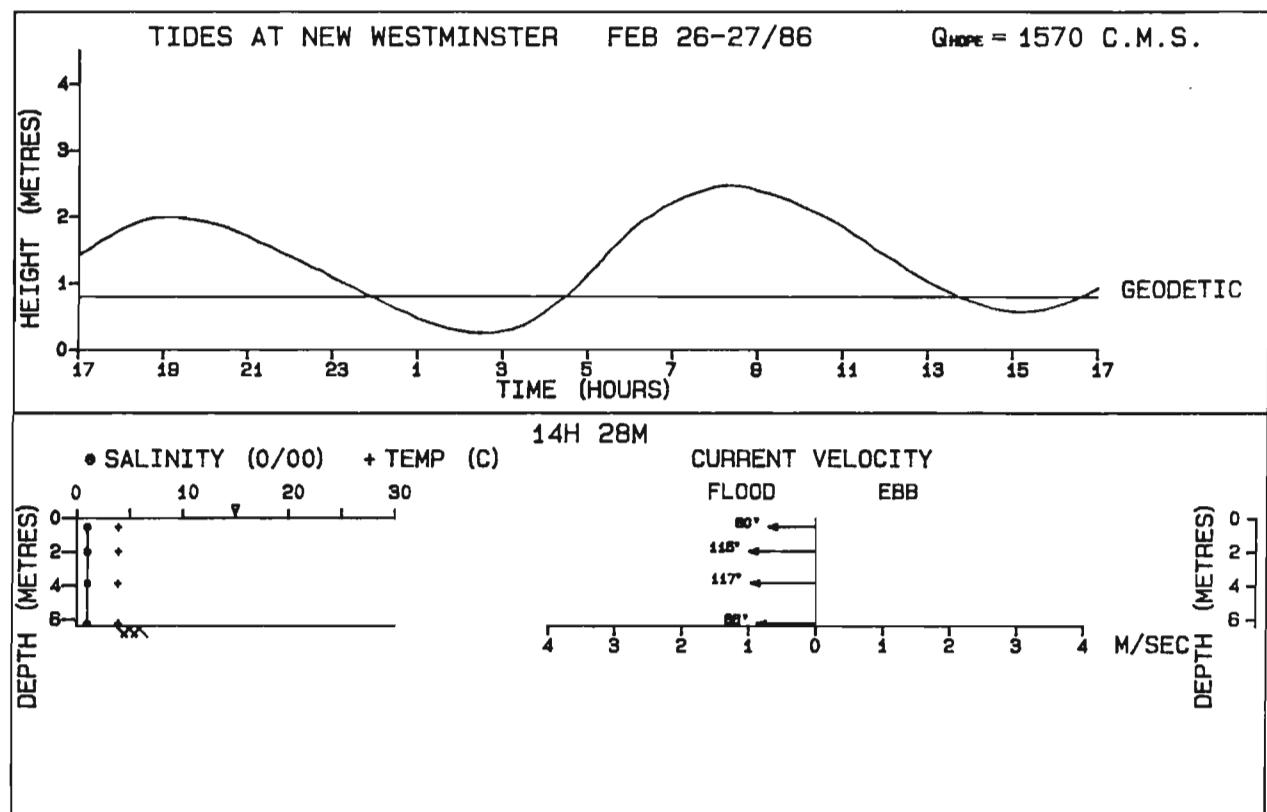
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO 'BD



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON

FEB 27/86 RIVER DISCHARGE AT HOPE = 1570 CU.M/SEC

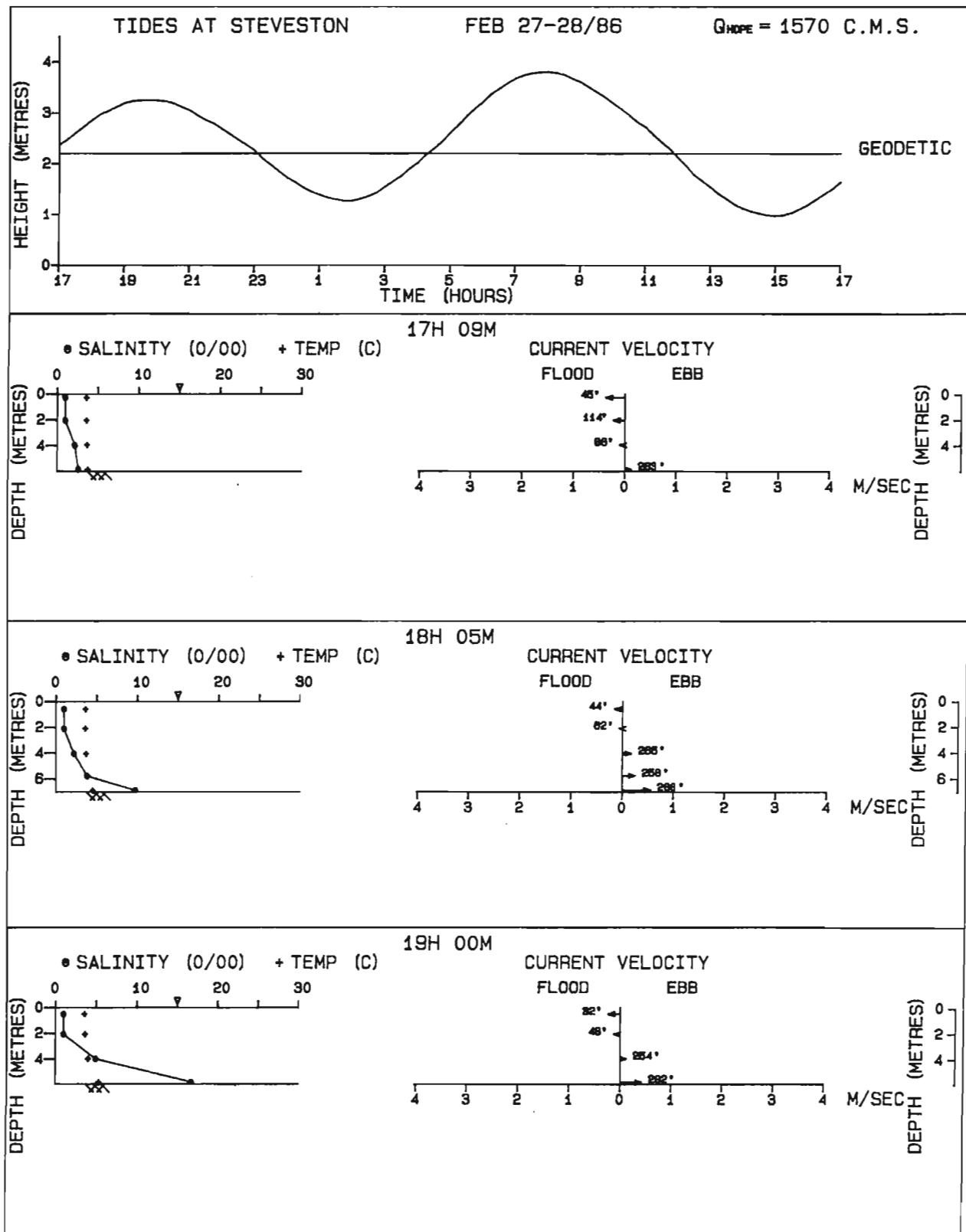
TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
17H 09M	0.3	1.00	3.6	0.36	045
	2.0	1.00	3.6	0.21	114
	4.0	2.19	3.7	0.09	086
	5.8	2.59	3.8	0.13	263
18H 05M	0.6	1.00	3.6	0.15	044
	2.1	1.00	3.6	0.05	062
	4.0	2.20	3.7	0.19	265
	5.8	3.83	4.0	0.26	258
	6.9	9.75	4.5	0.56	288
19H 00M	0.5	1.00	3.6	0.23	032
	2.1	1.00	3.7	0.11	048
	4.0	4.92	4.0	0.13	254
	5.8	16.76	5.3	0.43	292
20H 03M	0.4	1.00	3.6	0.22	060
	2.6	1.00	3.7	0.12	111
	4.4	8.97	4.5	0.23	256
	6.4	24.10	6.5	0.40	289
	7.2	25.40	6.6	0.32	317
21H 01M	0.7	1.00	3.5	0.39	068
	2.4	1.00	3.7	0.33	106
	4.4	9.04	4.8	0.10	270
	6.7	24.67	6.6	0.36	288
22H 06M	4.4	6.00	4.2	0.28	095
	6.3	26.16	6.7	0.11	298
23H 07M	0.6	1.00	3.6	0.51	054
	2.4	1.00	3.8	0.98	106
	4.4	11.35	4.9	0.46	085
	6.3	21.73	6.4	0.17	023

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON

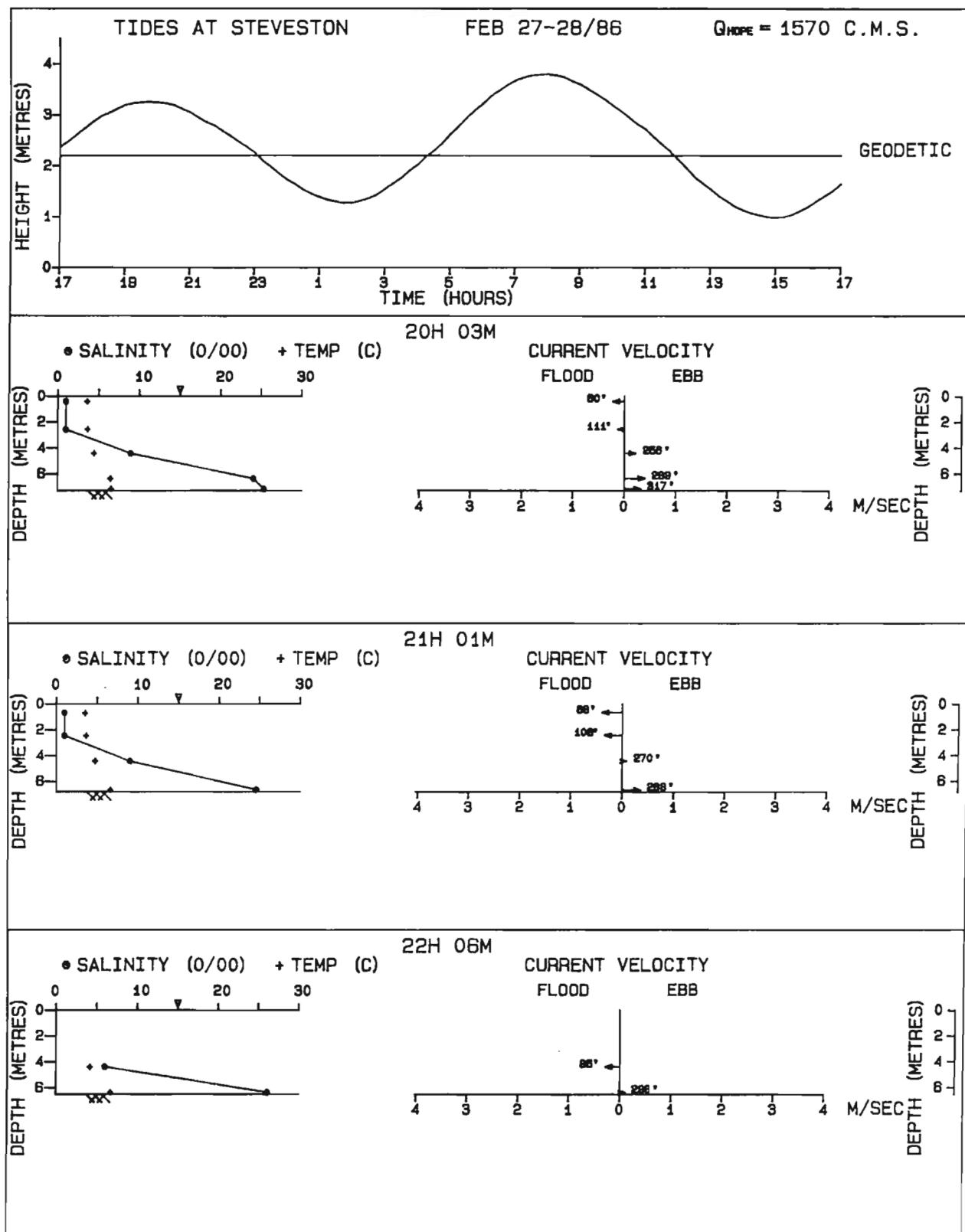
FEB 28/86 RIVER DISCHARGE AT HOPE = 1120 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
00H 02M	0.5	1.00	3.8	0.43	049
	2.4	2.41	3.9	0.77	103
	4.6	13.47	5.1	0.77	078
	5.5	15.39	5.4	0.45	053
01H 06M	0.0	1.00	3.9	0.94	050
	1.7	1.00	3.9	0.89	079
	3.9	6.45	4.4	0.82	118
	5.2	12.52	5.1	0.79	077
02H 07M	0.1	1.00	3.9	0.90	046
	2.0	1.00	3.9	0.49	113
	4.0	7.50	4.5	0.92	083
	5.1	10.32	4.8	0.67	063
03H 04M	0.4	1.00	3.8	1.02	055
	2.2	1.00	3.9	0.54	089
	4.0	3.42	4.1	0.59	103
	5.3	4.89	4.2	0.37	062
04H 05M	0.4	1.00	3.9	0.66	051
	2.2	1.00	3.9	0.45	078
	4.0	1.00	3.9	0.36	070
	5.8	3.34	4.1	0.12	037
05H 04M	0.3	1.00	3.9	0.23	040
	2.2	1.00	3.9	0.11	082
	4.1	2.23	4.0	0.06	307
	6.1	3.83	4.1	0.26	277
06H 02M	0.4	1.00	4.0	0.17	301
	2.2	1.00	4.0	0.24	236
	4.0	3.47	4.1	0.36	248
	6.0	16.00	5.4	0.60	256
	7.7	22.51	6.2	0.35	248

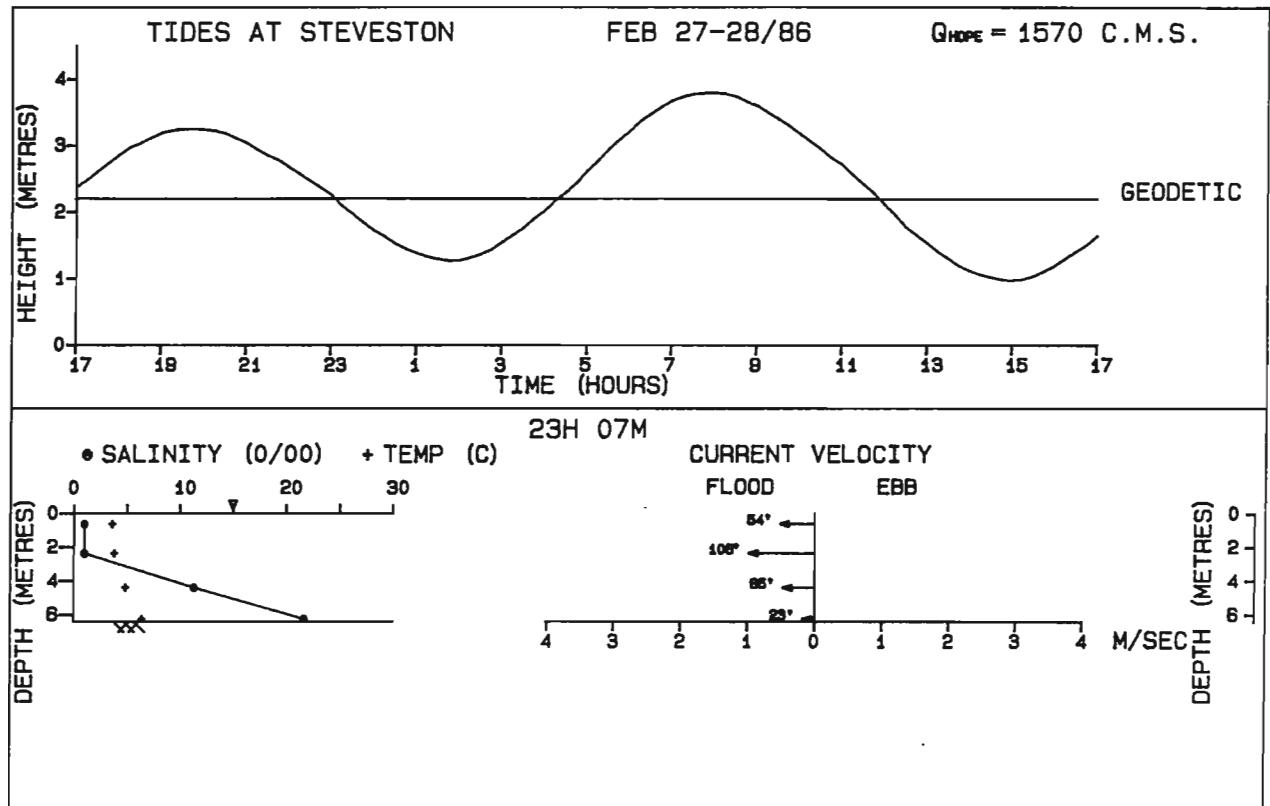
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



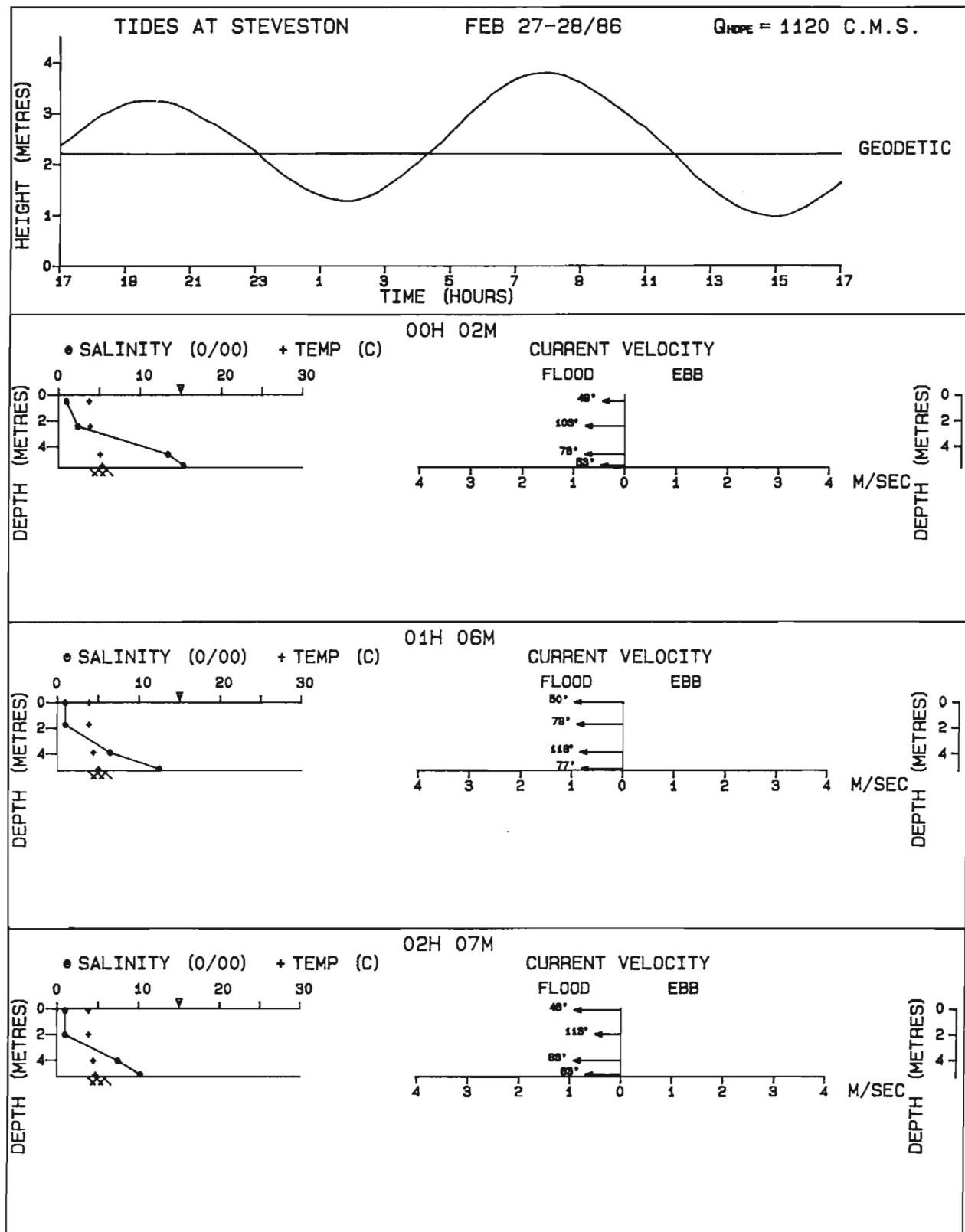
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



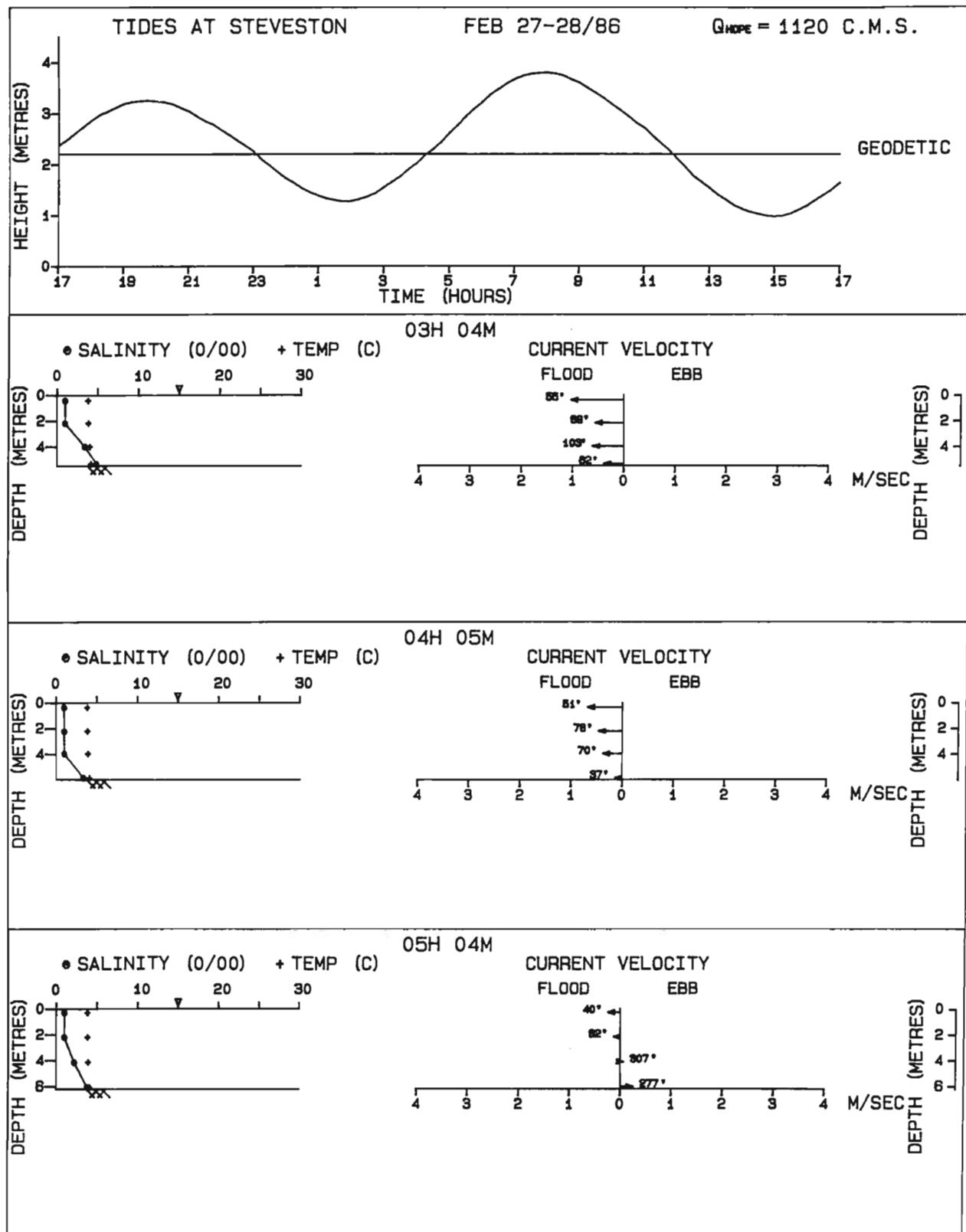
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



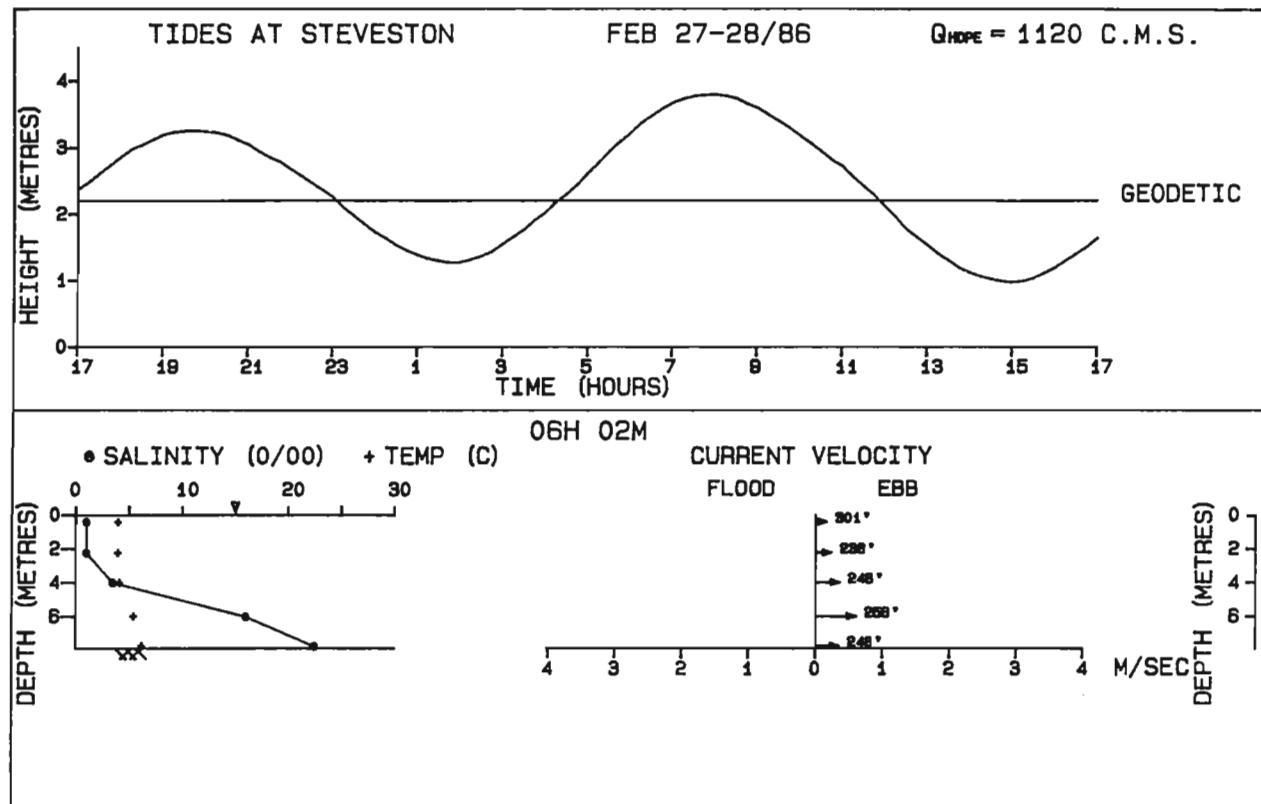
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR

JULY 1/86 RIVER DISCHARGE AT HOPE = 6440 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE)	
					FLOOD	EBB
15H 04M	0.6	1.00	14.3	0.93	130	
	2.4	1.00	14.3	0.82		162
	4.1	1.00	14.3	0.81		153
	6.3	1.00	14.3	0.69		136
	8.1	1.00	14.3	0.33		200
15H 36M	0.7	1.00	14.2	0.89	137	
	2.4	1.00	14.2	0.86		169
	4.2	1.00	14.3	0.82		162
	6.0	1.00	14.3	0.79		148
	7.9	1.00	14.3	0.68		136
16H 21M	0.6	1.00	14.2	0.84	132	
	2.4	1.00	14.3	0.90		162
	4.1	1.00	14.2	0.84		161
	6.3	1.00	14.2	0.77		149
	7.5	1.00	14.2	0.54		269
17H 11M	0.4	1.00	14.2	0.93	125	
	2.3	1.00	14.2	0.93		157
	4.3	1.00	14.2	0.85		156
	6.0	1.00	14.2	0.79		143
	7.9	1.00	14.2	0.44		221
18H 04M	0.6	1.00	14.2	0.93	134	
	2.3	1.00	14.2	0.96		161
	4.0	1.00	14.2	0.93		159
	6.0	1.00	14.2	0.87		144
	8.3	1.00	14.2	0.70		134
18H 31M	0.5	1.00	14.1	1.01	133	
	2.5	1.00	14.2	1.06		166
	4.3	1.00	14.2	0.99		159
	6.2	1.00	14.2	0.90		145
	8.2	1.00	14.2	0.65		132
	9.2	1.00	14.2	0.43		233
19H 04M	0.0	1.00	14.9	0.14	151	
	0.6	1.00	14.1	0.74		153
	2.7	1.00	14.1	1.07		163
	4.3	1.00	14.1	1.06		157
	6.3	1.00	14.2	1.00		139
	8.1	1.00	14.2	0.76		131
	8.6	1.00	14.1	0.36		189
19H 37M	0.4	1.00	14.1	1.14	253	
	2.4	1.00	14.1	1.11		156

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR

JULY 1/86 RIVER DISCHARGE AT HOPE = 6440 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
19H 37M	4.1	1.00	14.1	1.06	153 143 158
	5.9	1.00	14.1	1.03	
	8.1	1.00	14.1	0.53	
20H 35M	0.5	1.00	14.1	1.08	129
	2.3	1.00	14.1	1.14	157
	4.1	1.00	14.1	1.09	153
	6.0	1.00	14.1	0.95	139
	8.2	1.00	14.1	0.96	121
21H 02M	0.4	1.00	14.1	0.90	223
	2.2	1.00	14.1	0.92	143
	3.8	1.00	14.1	1.00	173
	5.6	1.00	14.1	0.94	126
	7.7	1.00	14.1	0.96	127
21H 34M	0.5	1.00	14.1	1.13	130
	2.4	1.00	14.1	1.12	158
	4.2	1.00	14.1	1.04	161
	5.9	1.00	14.1	0.98	141
	7.7	1.00	14.1	0.97	124
	8.4	1.00	14.1	0.95	129
22H 03M	0.5	1.00	14.1	1.13	126
	2.3	1.00	14.1	1.05	163
	4.1	1.00	14.1	1.12	154
	6.0	1.00	14.1	0.96	140
	7.8	1.00	14.1	0.85	132
	8.4	1.00	14.1	0.88	123
22H 33M	0.5	1.00	14.1	1.02	142
	2.3	1.00	14.1	1.01	160
	4.1	1.00	14.1	1.00	157
	6.0	1.00	14.1	0.95	146
	7.8	1.00	14.1	0.89	128
	8.5	1.00	14.1	0.69	125
23H 04M	0.4	1.00	14.1	0.71	175
	2.3	1.00	14.1	0.82	179
	4.2	1.00	14.1	0.75	141
	6.1	1.00	14.1	0.86	139
	7.7	1.00	14.1	0.79	133
	8.4	1.00	14.1	0.40	207

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR

JULY 2/86 RIVER DISCHARGE AT HOPE = 6360 CU.M/SEC

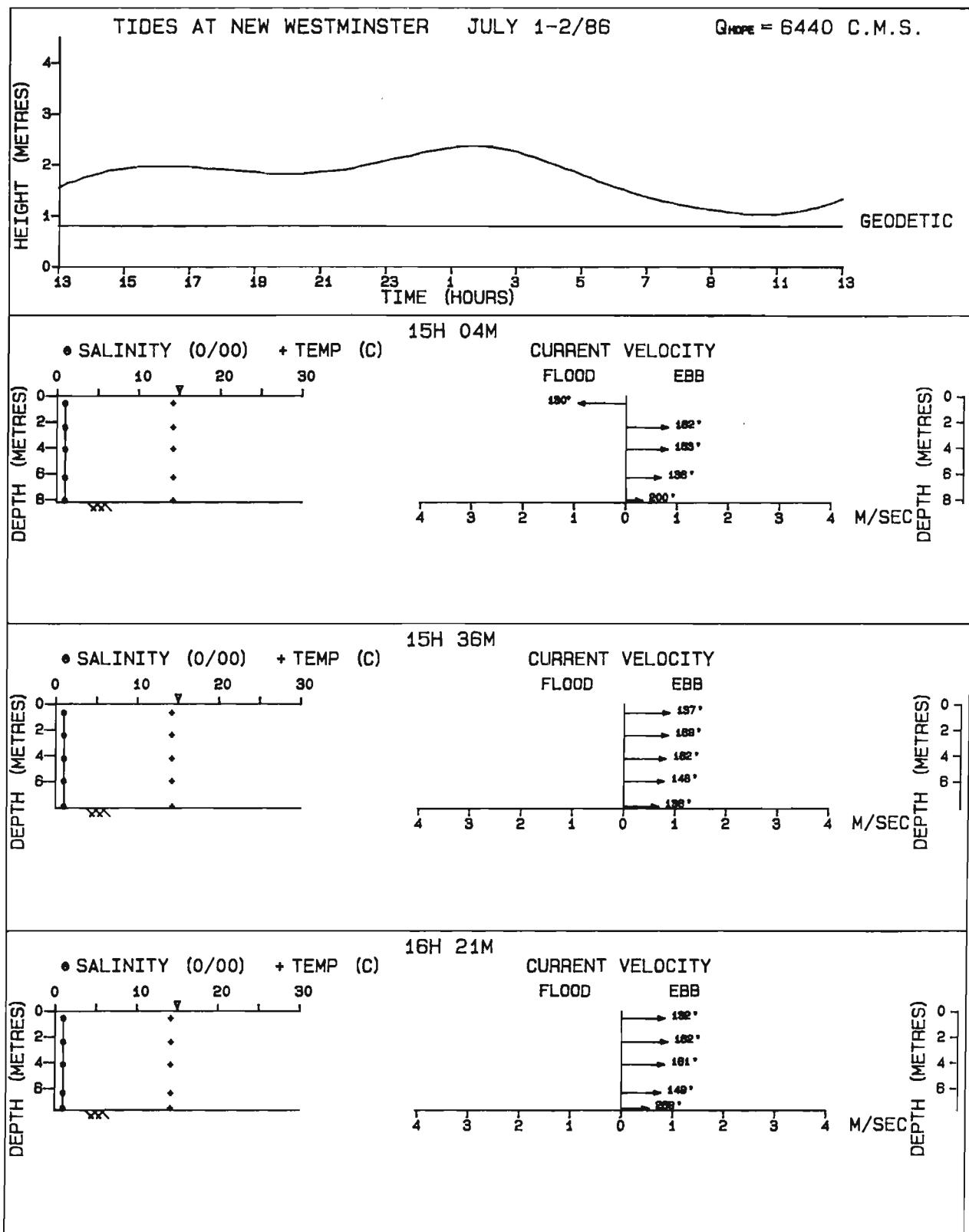
TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD	DIR (TRUE) EBB
00H 01M	2.4	1.00	14.1	0.94	165	
	4.3	1.00	14.1	0.84		152
	6.1	1.00	14.1	0.89		144
	7.9	1.00	14.1	0.74		141
00H 35M	4.2	1.00	14.1	0.80	153	
	6.2	1.00	14.2	0.78		146
	7.9	1.00	14.2	0.76		128
01H 03M	0.6	1.00	14.1	0.82	124	
	2.3	1.00	14.2	0.86	156	
	4.2	1.00	14.1	0.81		155
	6.3	1.00	14.2	0.79		150
	7.9	1.00	14.2	0.71	123	
02H 00M	0.6	1.00	14.1	0.80	247	
	2.4	1.00	14.2	0.87		155
	4.3	1.00	14.2	0.89		149
	6.2	1.00	14.2	0.80		136
	8.1	1.00	14.2	0.60		129
02H 35M	0.7	1.00	14.2	0.96	132	
	2.4	1.00	14.2	0.90		158
	4.4	1.00	14.2	0.92		152
	6.1	1.00	14.2	0.88		133
	8.0	1.00	14.2	0.46		151
03H 05M	0.7	1.00	14.2	1.05	130	
	2.6	1.00	14.2	0.97	160	
	4.3	1.00	14.2	0.96		151
	6.2	1.00	14.2	0.96		135
	8.1	1.00	14.2	0.78	122	
03H 32M	0.0	1.00	14.2	1.06	253	
04H 02M	0.0	1.00	14.2	1.21		124
04H 31M	0.0	1.00	14.3	1.31	120	
05H 02M	0.0	1.00	14.3	1.37	123	
05H 33M	0.0	1.00	14.3	1.49	128	
06H 02M	0.0	1.00	14.4	1.39	134	
06H 41M	0.0	1.00	14.4	0.89		157

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR

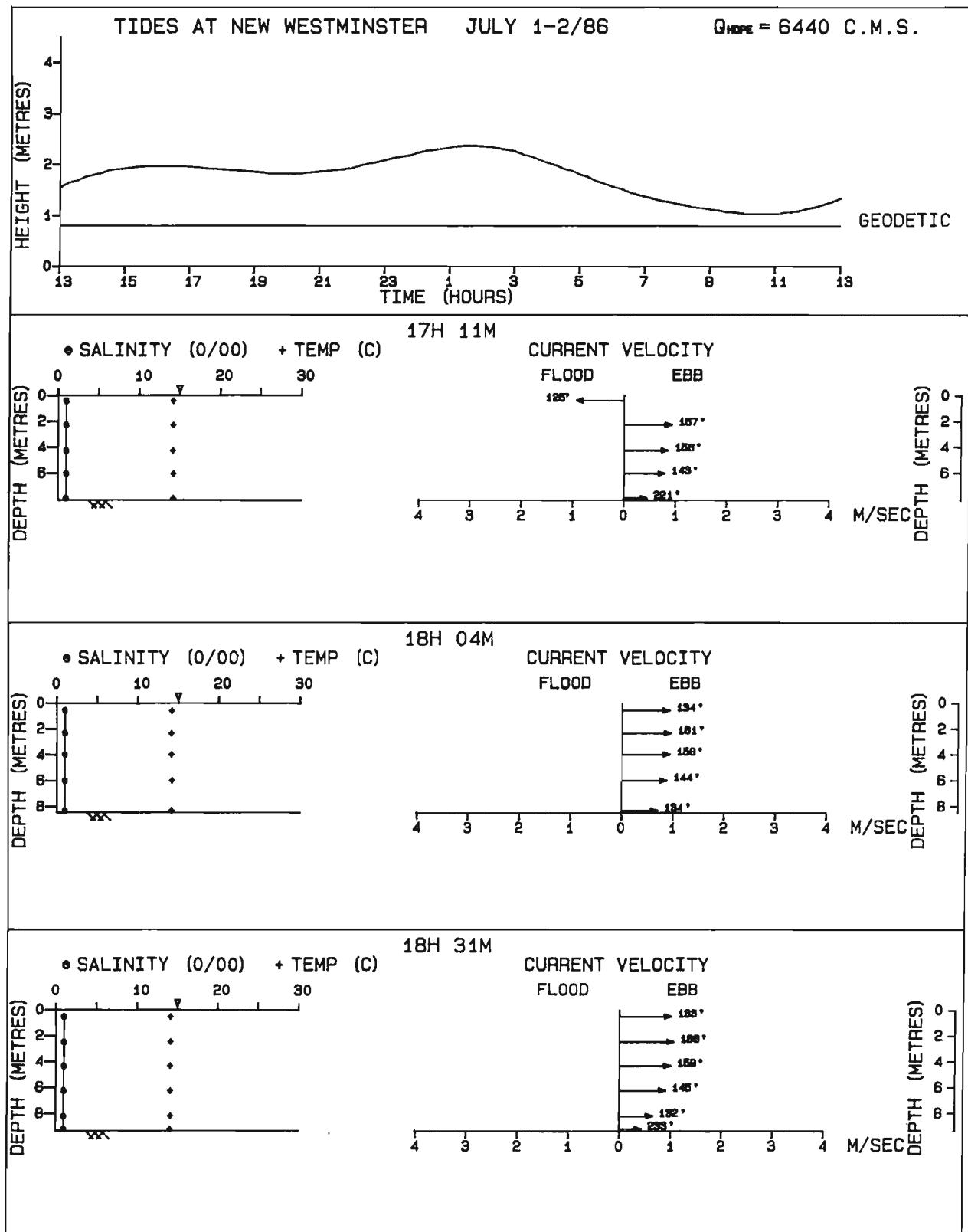
JULY 2/86 RIVER DISCHARGE AT HOPE = 6360 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
07H 02M	0.0	1.00	14.4	1.71	117
07H 33M	0.0	1.00	14.5	0.85	193

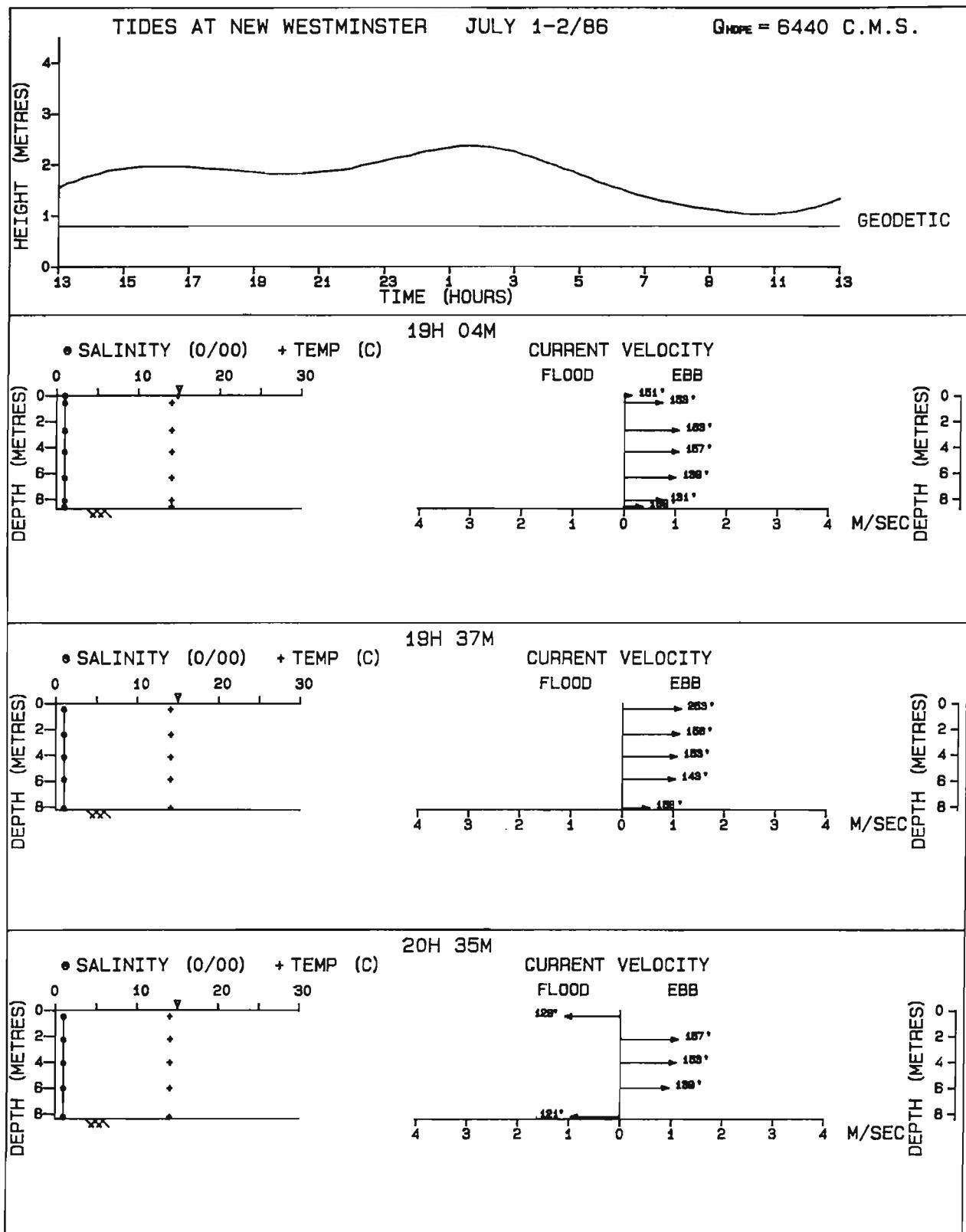
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



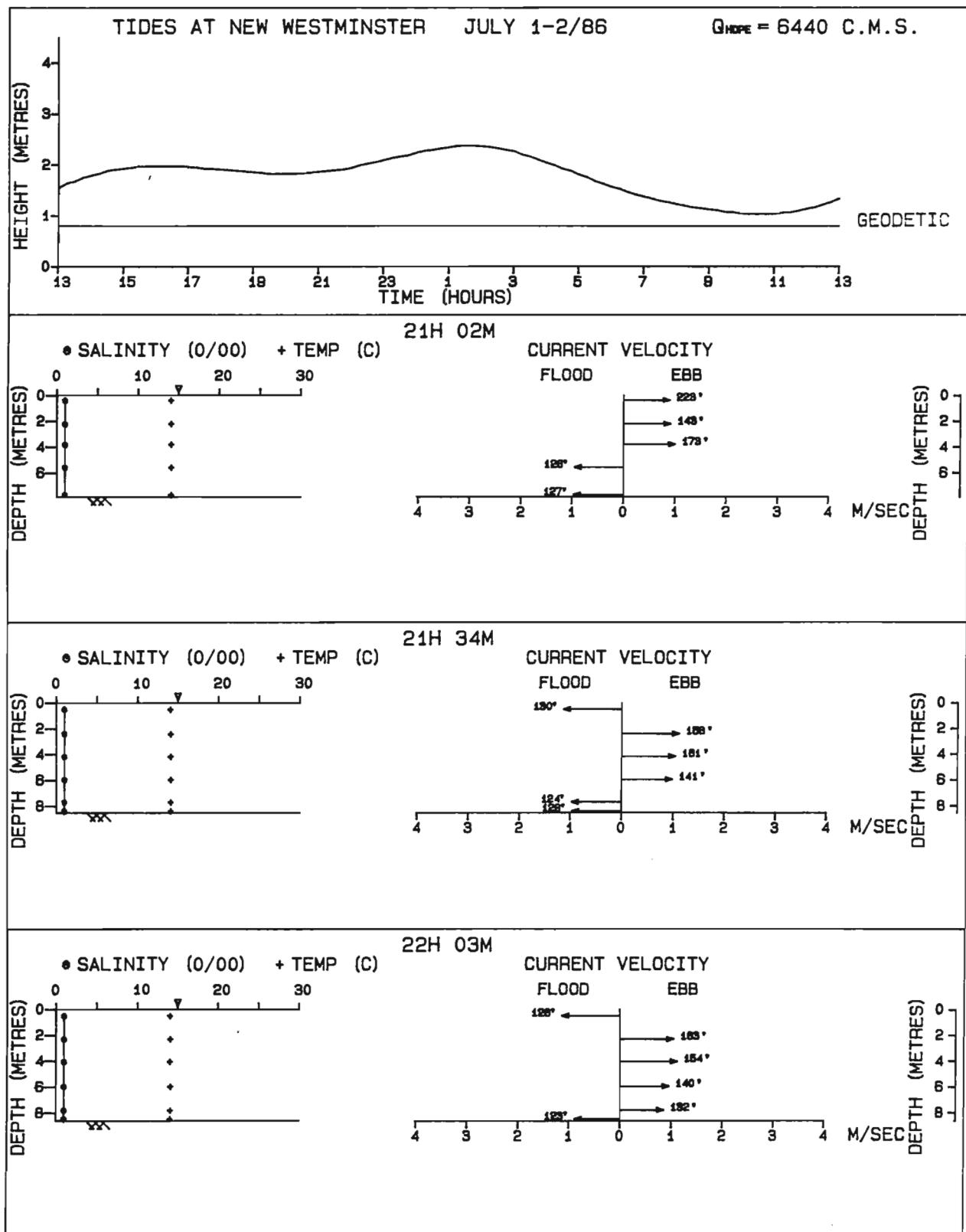
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



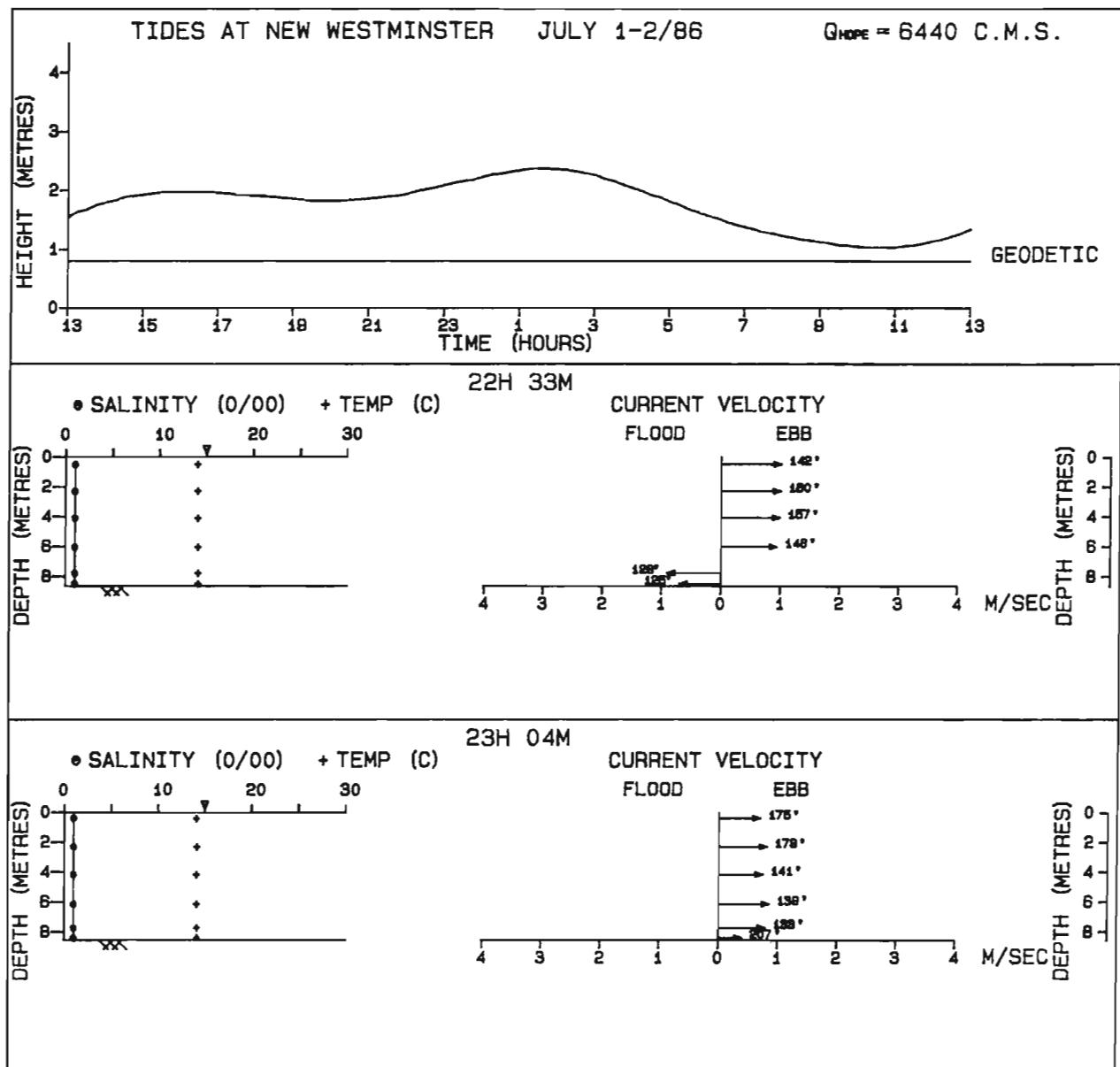
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



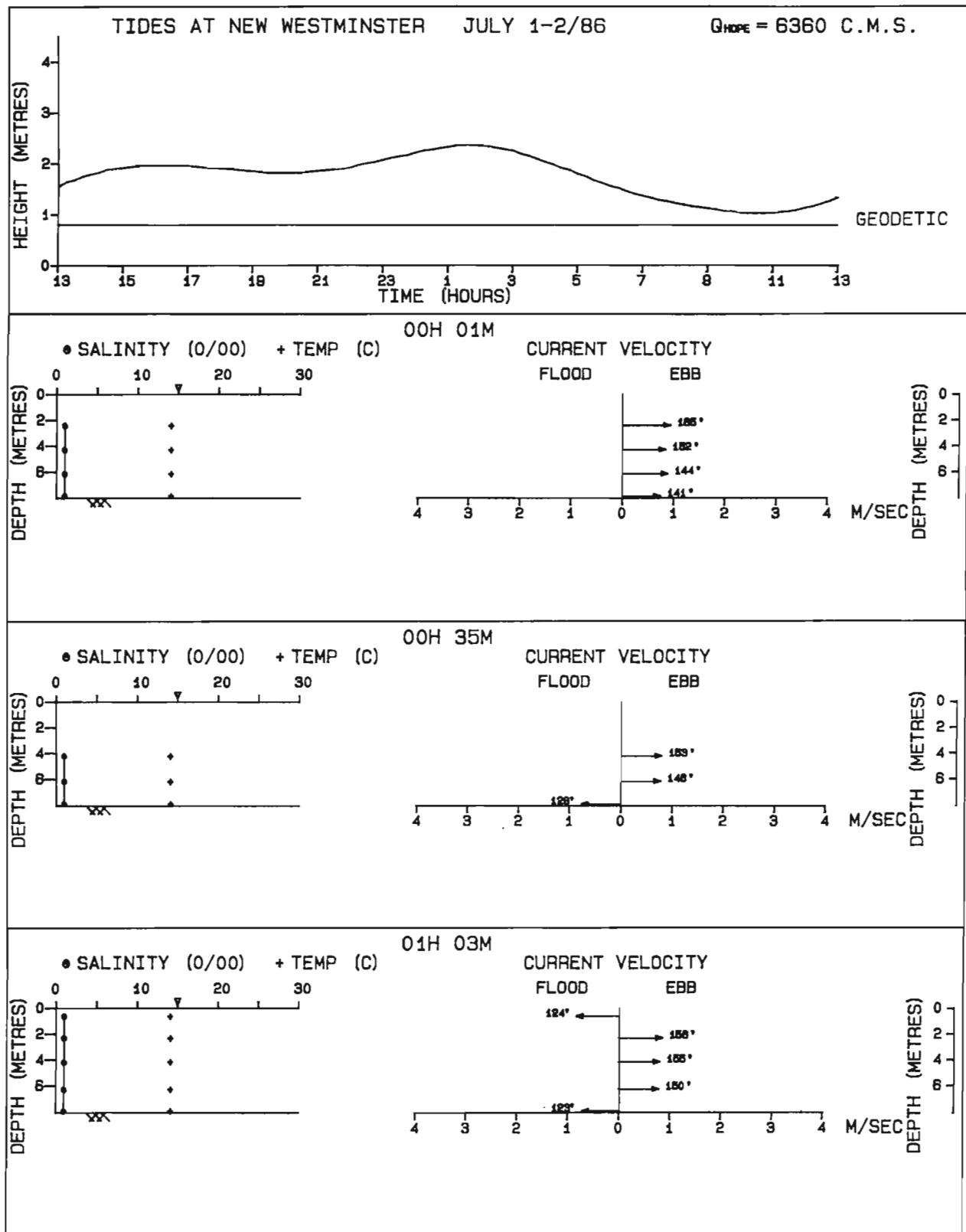
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



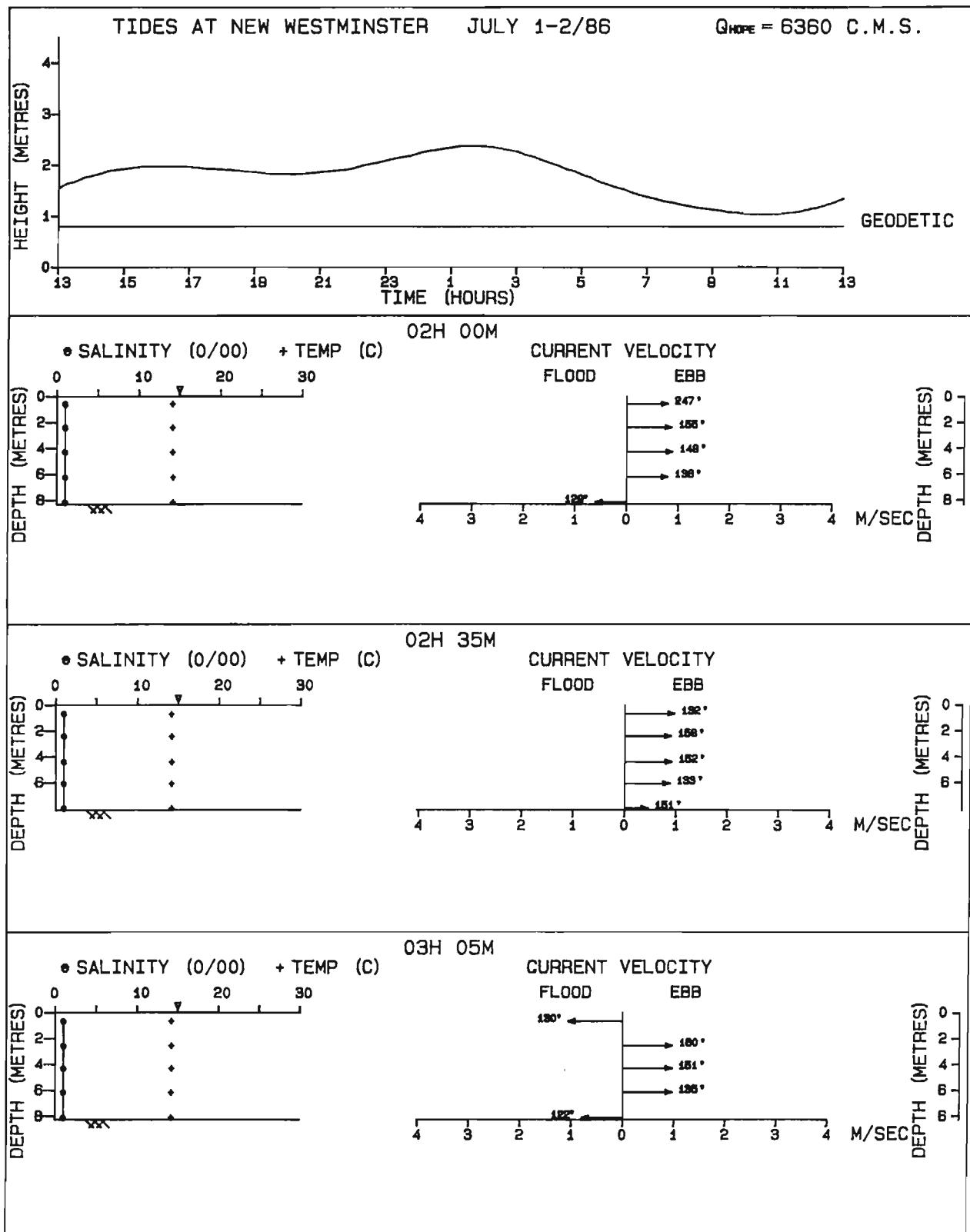
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BR



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD

JULY 2/86 RIVER DISCHARGE AT HOPE = 6360 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
08H 36M	0.0	1.00	14.4	1.36	180
09H 03M	0.0	1.00	14.5	1.47	180
09H 33M	0.0	1.00	14.5	1.32	176
10H 02M	0.0	1.00	14.5	1.37	182
10H 31M	0.0	1.00	14.5	1.45	169
11H 02M	0.0	1.00	14.6	1.34	179
11H 32M	0.0	1.00	14.6	1.34	175
12H 33M	0.0	1.00	14.7	1.25	174
13H 00M	0.6	1.00	14.8	1.17	174
	2.3	1.00	14.8	1.08	221
	4.3	1.00	14.8	0.86	222
	6.2	1.00	14.8	0.88	209
	6.8	1.00	14.8	0.79	198
13H 33M	0.6	1.00	14.8	1.06	181
	2.5	1.00	14.8	1.01	227
	4.3	1.00	14.8	0.89	220
	6.2	1.00	14.8	0.70	203
14H 03M	0.8	1.00	14.8	0.90	181
	2.5	1.00	14.8	0.84	222
	4.5	1.00	14.5	0.73	224
	6.4	1.00	14.8	0.67	211
14H 32M	0.5	1.00	14.8	0.80	174
	2.4	1.00	14.8	0.76	219
	4.2	1.00	14.8	0.73	219
	6.3	1.00	14.8	0.64	191
15H 00M	0.5	1.00	14.8	0.75	187
	2.5	1.00	14.8	0.75	215
	4.4	1.00	14.8	0.67	221
	6.6	1.00	14.8	0.54	195
15H 35M	0.6	1.00	14.8	0.71	177
	2.6	1.00	14.8	0.61	217
	4.5	1.00	14.8	0.60	211
	6.3	1.00	14.8	0.61	184

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD

JULY 2/86 RIVER DISCHARGE AT HOPE = 6360 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
16H 03M	0.6	1.00	14.8	0.71	183
	2.5	1.00	14.8	0.65	215
	4.4	1.00	14.8	0.52	217
	6.4	1.00	14.8	0.49	198
	7.2	1.00	14.8	0.55	183
16H 33M	0.5	1.00	14.7	0.74	176
	2.5	1.00	14.8	0.61	228
	4.4	1.00	14.8	0.59	213
	6.3	1.00	14.8	0.47	190
	7.2	1.00	14.8	0.50	187
17H 05M	0.5	1.00	14.7	0.67	170
	2.5	1.00	14.8	0.64	206
	4.2	1.00	14.7	0.59	204
	6.1	1.00	14.8	0.57	205
	7.4	1.00	14.8	0.46	186
17H 31M	0.6	1.00	14.7	0.72	179
	2.5	1.00	14.8	0.69	210
	4.4	1.00	14.8	0.62	223
	6.1	1.00	14.8	0.61	197
	7.2	1.00	14.8	0.59	192
18H 01M	0.5	1.00	14.7	0.84	172
	2.5	1.00	14.7	0.63	222
	4.6	1.00	14.7	0.71	219
	6.0	1.00	14.7	0.64	188
	7.7	1.00	14.7	0.48	184
18H 31M	0.5	1.00	14.7	0.73	178
	2.5	1.00	14.7	0.74	232
	4.4	1.00	14.7	0.71	222
	6.3	1.00	14.7	0.68	196
	7.3	1.00	14.7	0.59	187
19H 00M	0.5	1.00	14.7	0.81	183
	2.5	1.00	14.7	0.87	222
	4.4	1.00	14.7	0.79	222
	6.3	1.00	14.8	0.69	197
	7.5	1.00	14.8	0.66	193
19H 31M	0.5	1.00	14.7	0.87	186
	2.4	1.00	14.8	0.82	235
	4.3	1.00	14.8	0.80	226
	6.3	1.00	14.8	0.75	204
	7.9	1.00	14.8	0.59	183

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD

JULY 2/86 RIVER DISCHARGE AT HOPE = 6360 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
20H 01M	0.4	1.00	14.7	0.98	170
	2.2	1.00	14.8	0.95	225
	4.2	1.00	14.8	0.78	230
	6.0	1.00	14.8	0.78	200
	7.1	1.00	14.8	0.70	190
20H 31M	0.5	1.00	14.8	0.99	185
	2.3	1.00	14.8	1.02	228
	4.2	1.00	14.8	0.99	229
	6.0	1.00	14.8	0.85	205
	7.1	1.00	14.8	0.76	197
21H 01M	0.4	1.00	14.8	1.05	176
	2.3	1.00	14.8	1.02	230
	4.2	1.00	14.8	0.87	228
	6.0	1.00	14.9	0.89	211
	7.1	1.00	14.9	0.87	194
21H 32M	0.5	1.00	14.8	1.07	176
	2.3	1.00	14.9	0.98	233
	4.3	1.00	14.9	0.91	226
	6.2	1.00	14.9	0.83	202
	7.2	1.00	14.9	0.78	194
22H 01M	0.4	1.00	14.8	1.00	179
	2.3	1.00	14.9	0.87	226
	4.1	1.00	14.9	0.88	225
	6.0	1.00	14.9	0.82	208
	7.3	1.00	14.9	0.72	185
22H 30M	0.5	1.00	14.9	1.00	181
	2.3	1.00	14.9	0.94	230
	4.3	1.00	14.9	0.79	229
	6.0	1.00	14.9	0.86	202
	6.9	1.00	14.9	0.77	200
23H 03M	0.4	1.00	14.8	1.01	182
	2.3	1.00	14.9	0.92	227
	4.1	1.00	14.9	0.92	223
	5.9	1.00	14.9	0.82	205
23H 32M	0.5	1.00	14.8	0.94	190
	2.2	1.00	14.9	0.98	216
	4.1	1.00	14.8	0.59	179
	6.0	1.00	14.9	0.77	213

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD

JULY 3/86 RIVER DISCHARGE AT HOPE = 6330 CU.M/SEC

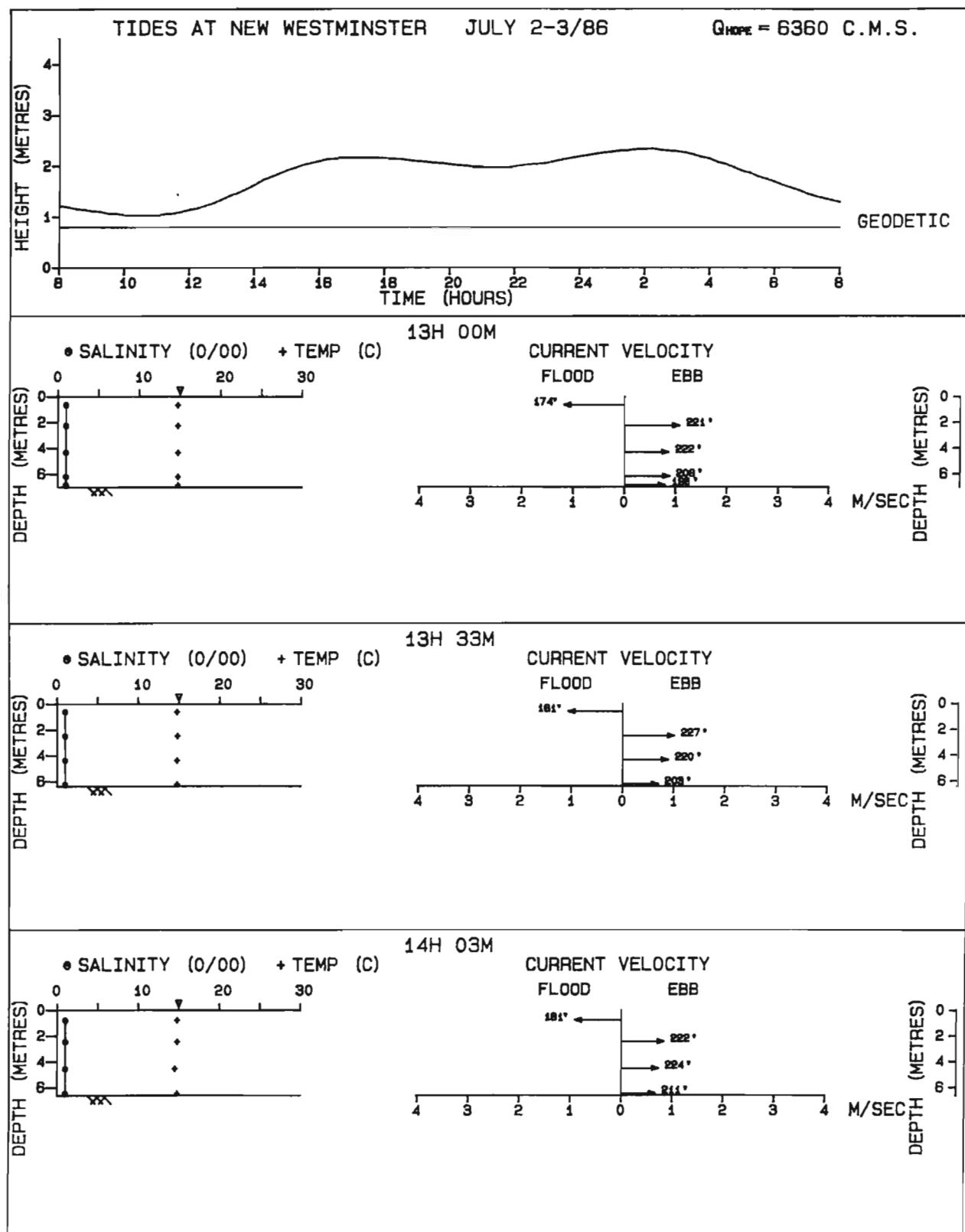
TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
00H 03M	0.5	1.00	14.8	0.90	175
	2.4	1.00	14.9	0.89	215
	4.4	1.00	14.8	0.82	223
	6.3	1.00	14.9	0.71	207
00H 32M	0.4	1.00	14.8	0.83	184
	2.6	1.00	14.8	0.76	222
	4.1	1.00	14.8	0.80	212
	6.2	1.00	14.8	0.67	197
01H 02M	0.7	1.00	14.8	0.85	190
	2.4	1.00	14.8	0.75	226
	4.2	1.00	14.8	0.71	226
	6.2	1.00	14.8	0.66	210
01H 33M	0.7	1.00	14.8	0.84	200
	2.4	1.00	14.8	0.84	232
	4.4	1.00	14.8	0.80	226
	6.3	1.00	14.8	0.73	209
02H 01M	0.6	1.00	14.8	0.78	187
	2.6	1.00	14.8	0.74	225
	4.2	1.00	14.8	0.71	225
	6.3	1.00	14.9	0.68	200
02H 32M	0.5	1.00	14.8	0.82	184
	2.3	1.00	14.9	0.81	226
	4.3	1.00	14.9	0.71	226
	6.2	1.00	14.9	0.63	199
03H 02M	0.5	1.00	14.8	0.96	189
	2.4	1.00	14.9	0.86	242
	4.1	1.00	14.9	0.88	233
	5.6	1.00	14.9	0.81	212
03H 30M	0.4	1.00	14.8	1.02	178
	2.3	1.00	14.9	0.98	243
	4.1	1.00	14.9	0.91	238
	5.9	1.00	14.9	0.86	212
04H 01M	0.4	1.00	14.9	1.14	178
	2.2	1.00	14.9	1.05	233
	4.0	1.00	14.9	1.03	245
	5.7	1.00	14.9	1.01	215
05H 01M	0.3	1.00	14.9	1.16	169
	2.0	1.00	14.9	1.05	215

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD

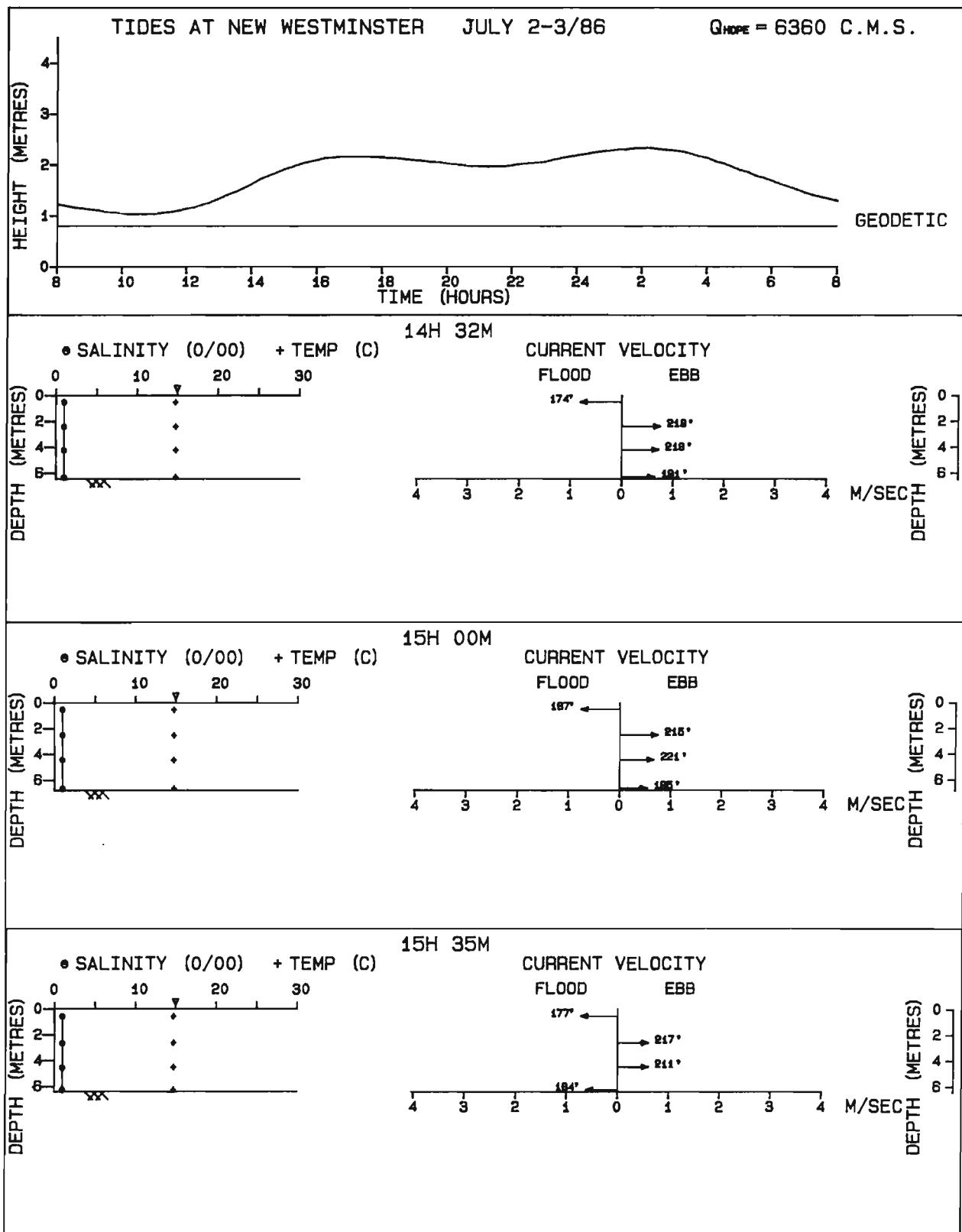
JULY 3/86 RIVER DISCHARGE AT HOPE = 6330 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
05H 01M	3.7	1.00	14.9	1.10	218
	5.3	1.00	15.0	1.14	225
	6.9	1.00	15.0	1.06	191
05H 30M	0.3	1.00	14.9	1.28	177
	2.2	1.00	15.0	1.19	230
	3.8	1.00	15.0	1.21	242
	5.6	1.00	15.0	1.12	217
	6.8	1.00	15.0	1.08	198
06H 01M	0.5	1.00	15.0	1.34	187
	2.0	1.00	15.0	1.35	238
	3.7	1.00	15.0	0.90	221
	5.4	1.00	15.0	1.25	223
	6.7	1.00	15.0	1.06	194
06H 31M	0.4	1.00	15.0	1.46	181
	2.0	1.00	15.1	1.42	243
	3.5	1.00	15.0	0.91	218
	5.4	1.00	15.1	1.27	217
	6.6	1.00	15.1	1.21	195
07H 01M	0.0	1.00	15.1	1.46	172
07H 32M	0.0	1.00	15.2	1.52	170

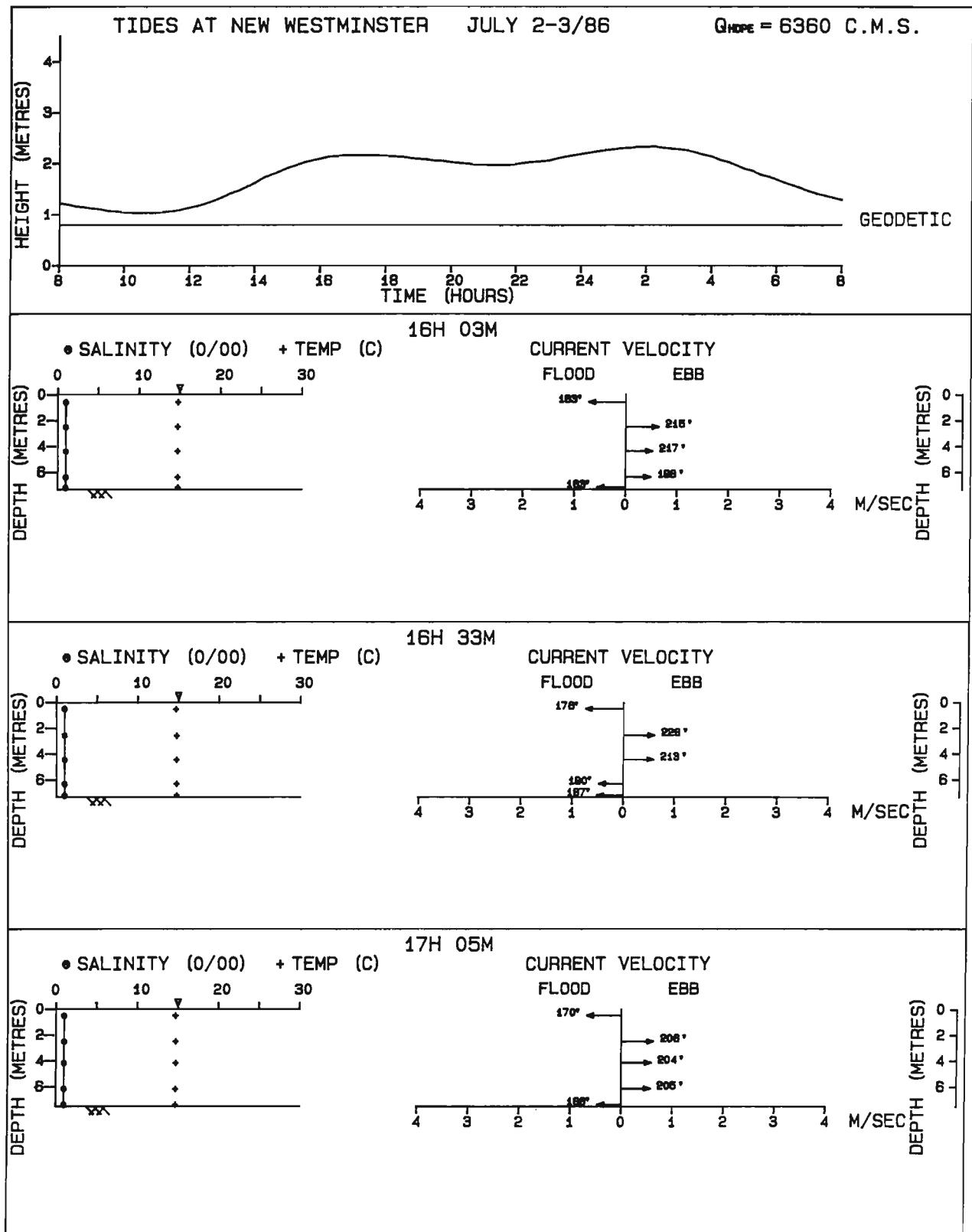
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



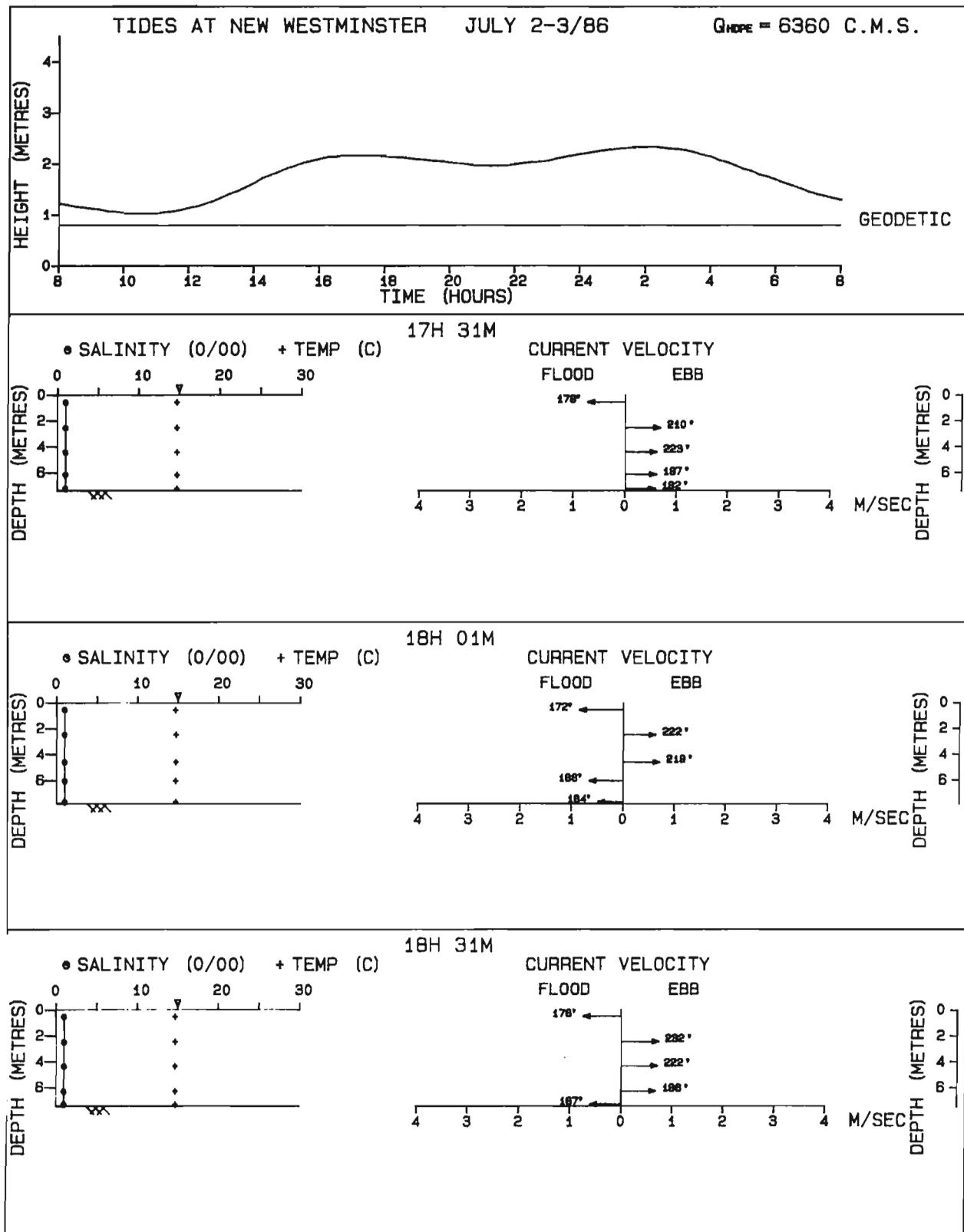
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



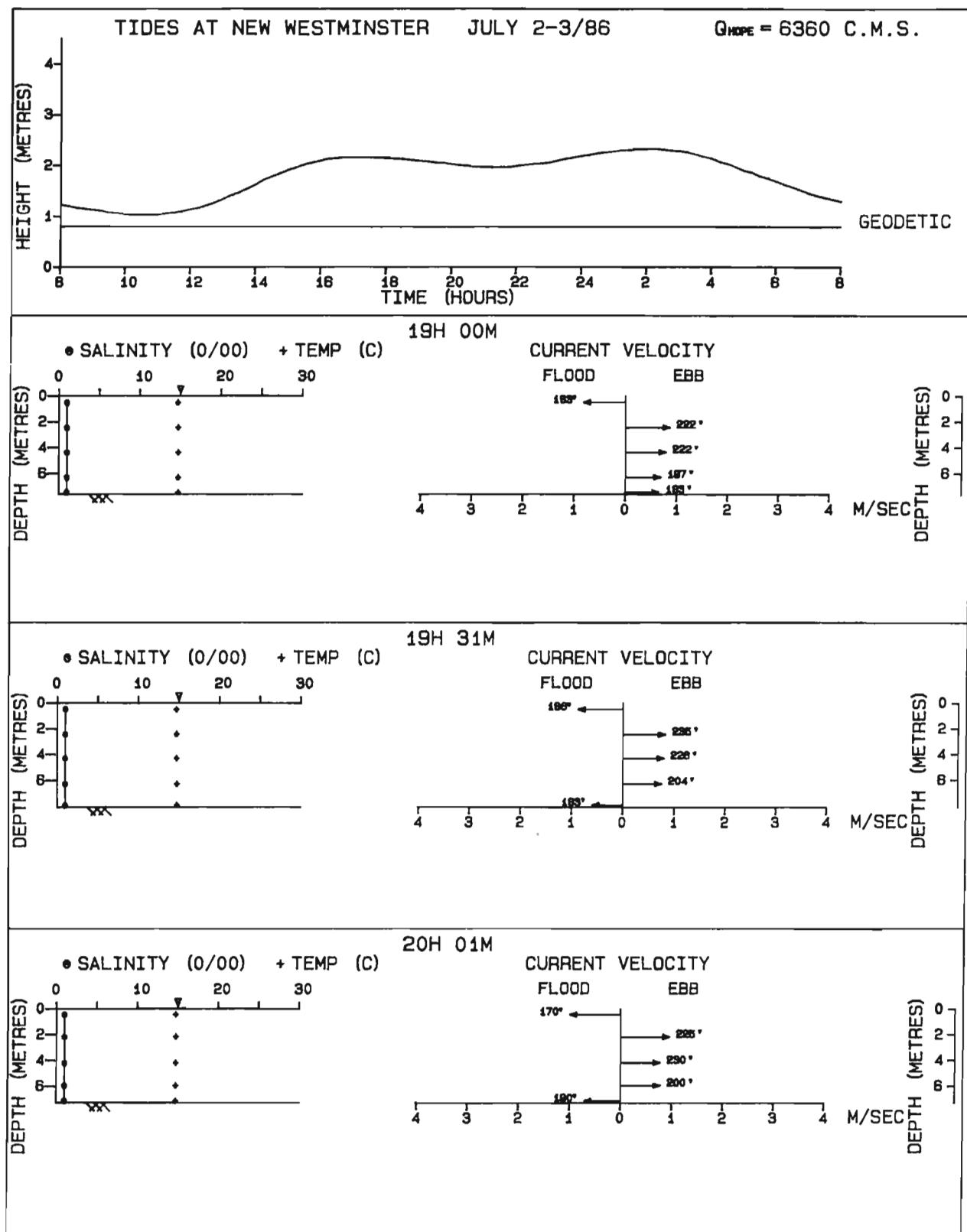
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



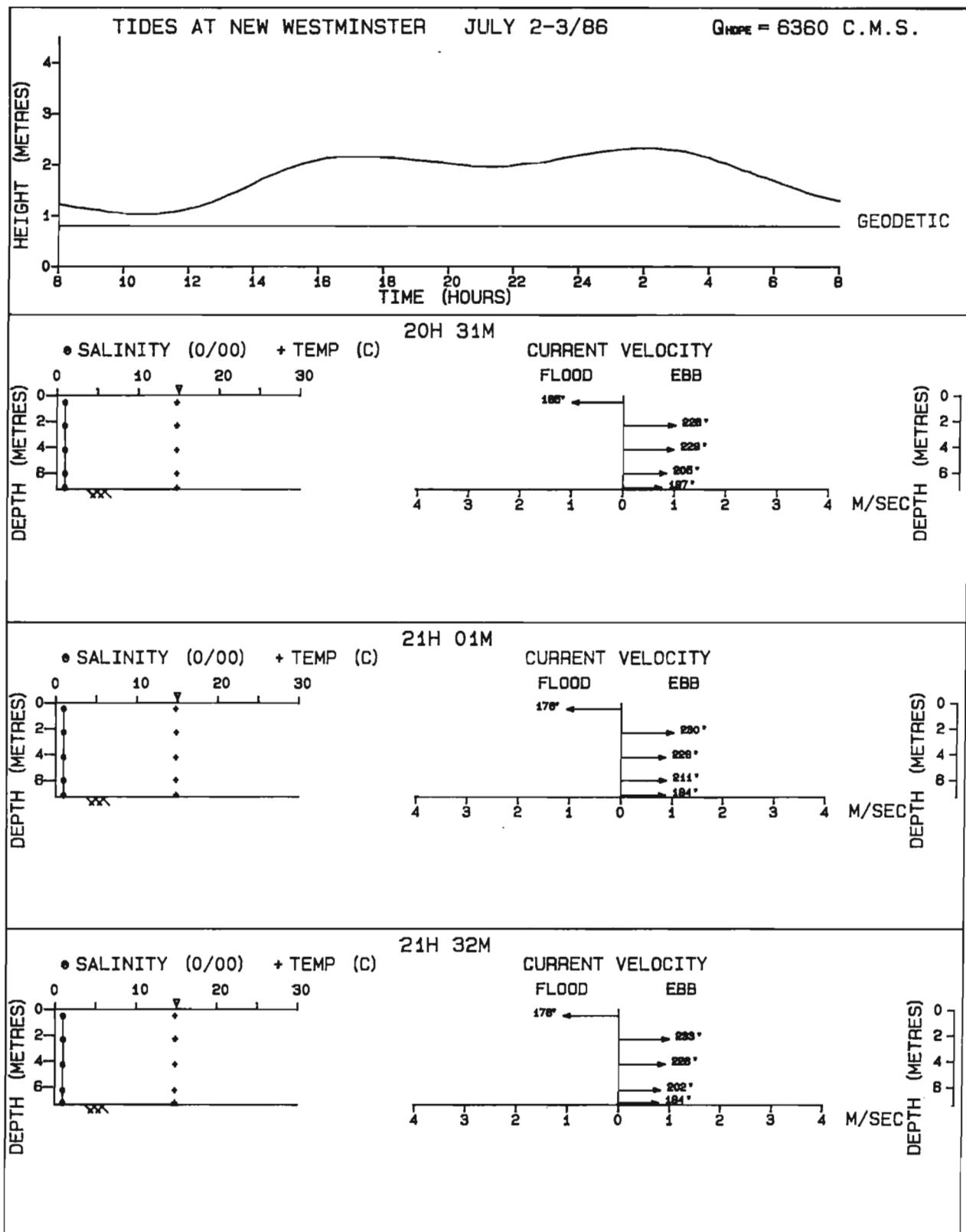
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



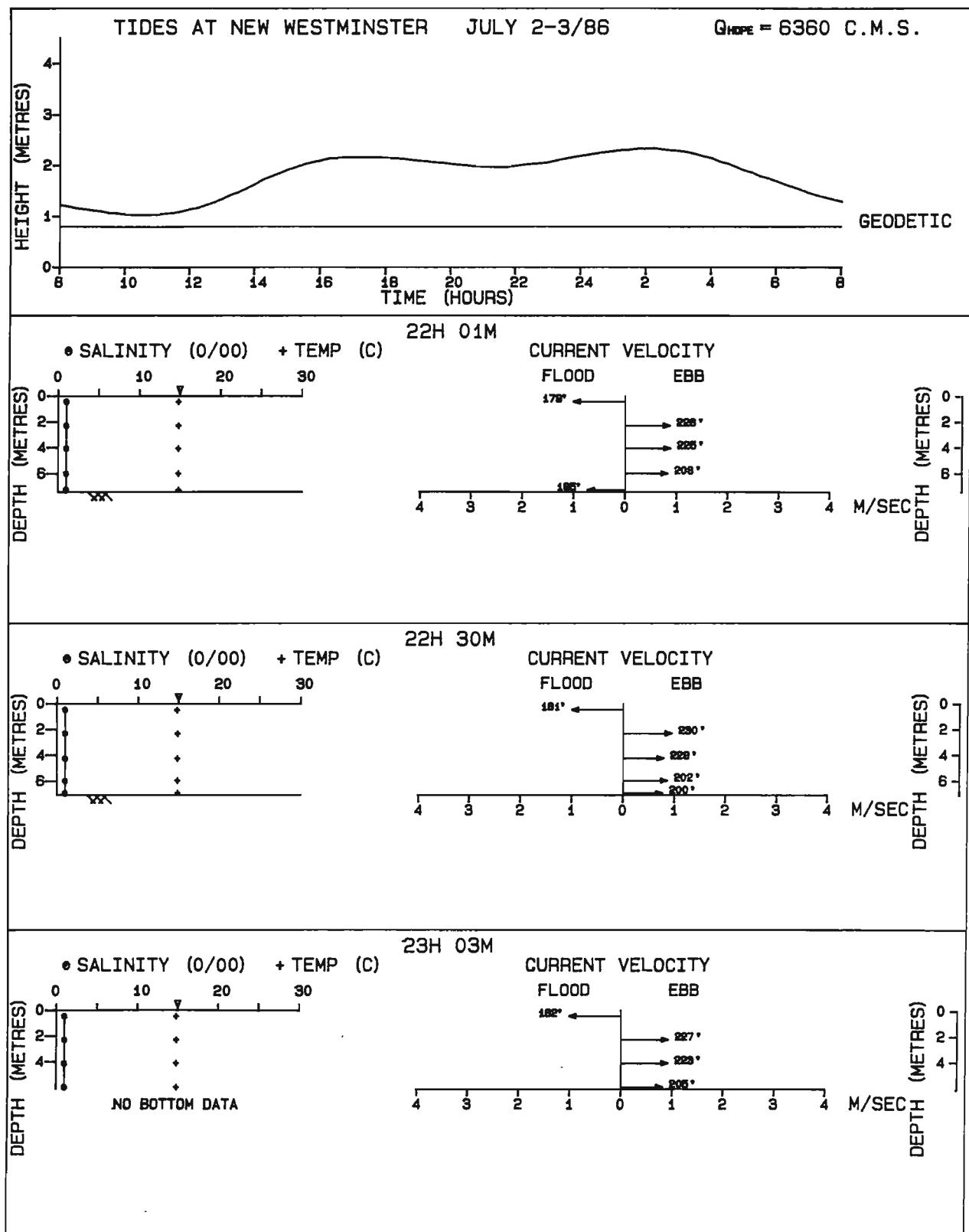
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



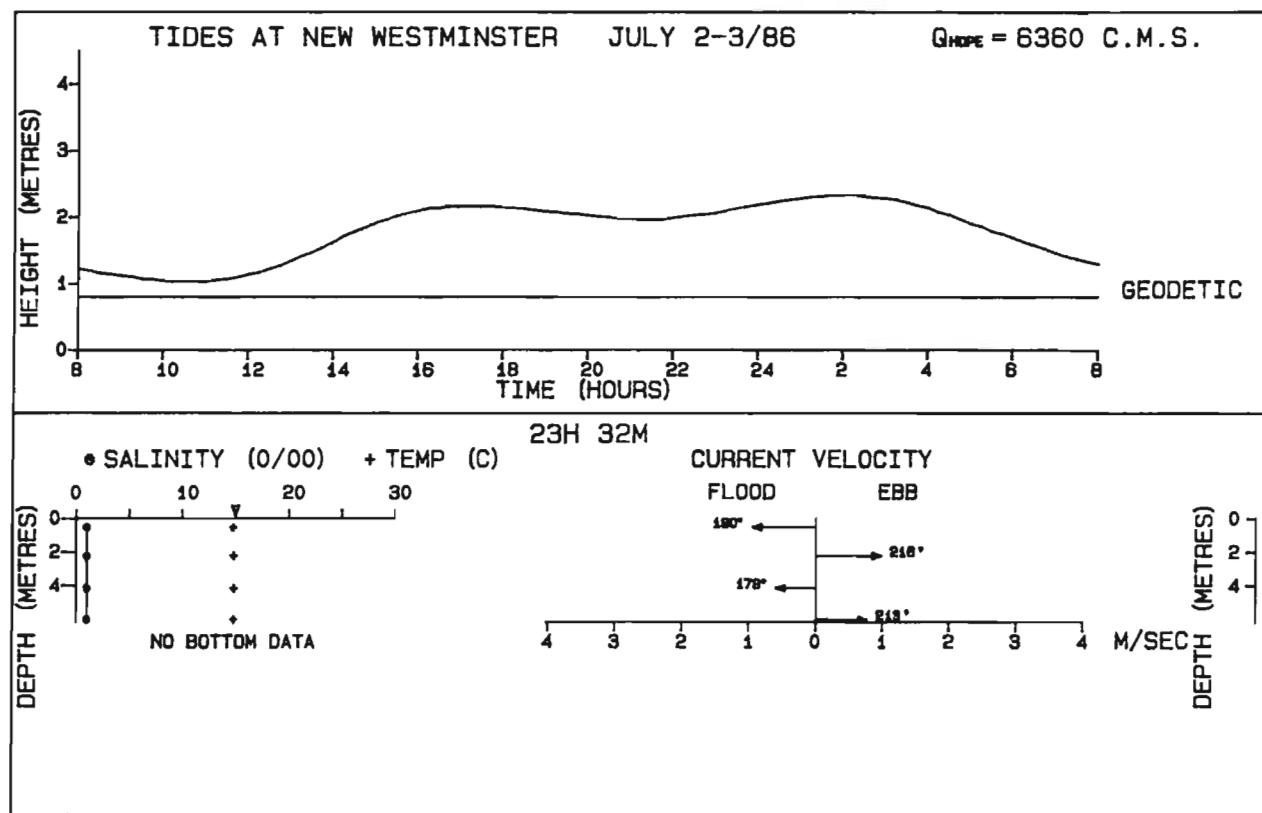
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



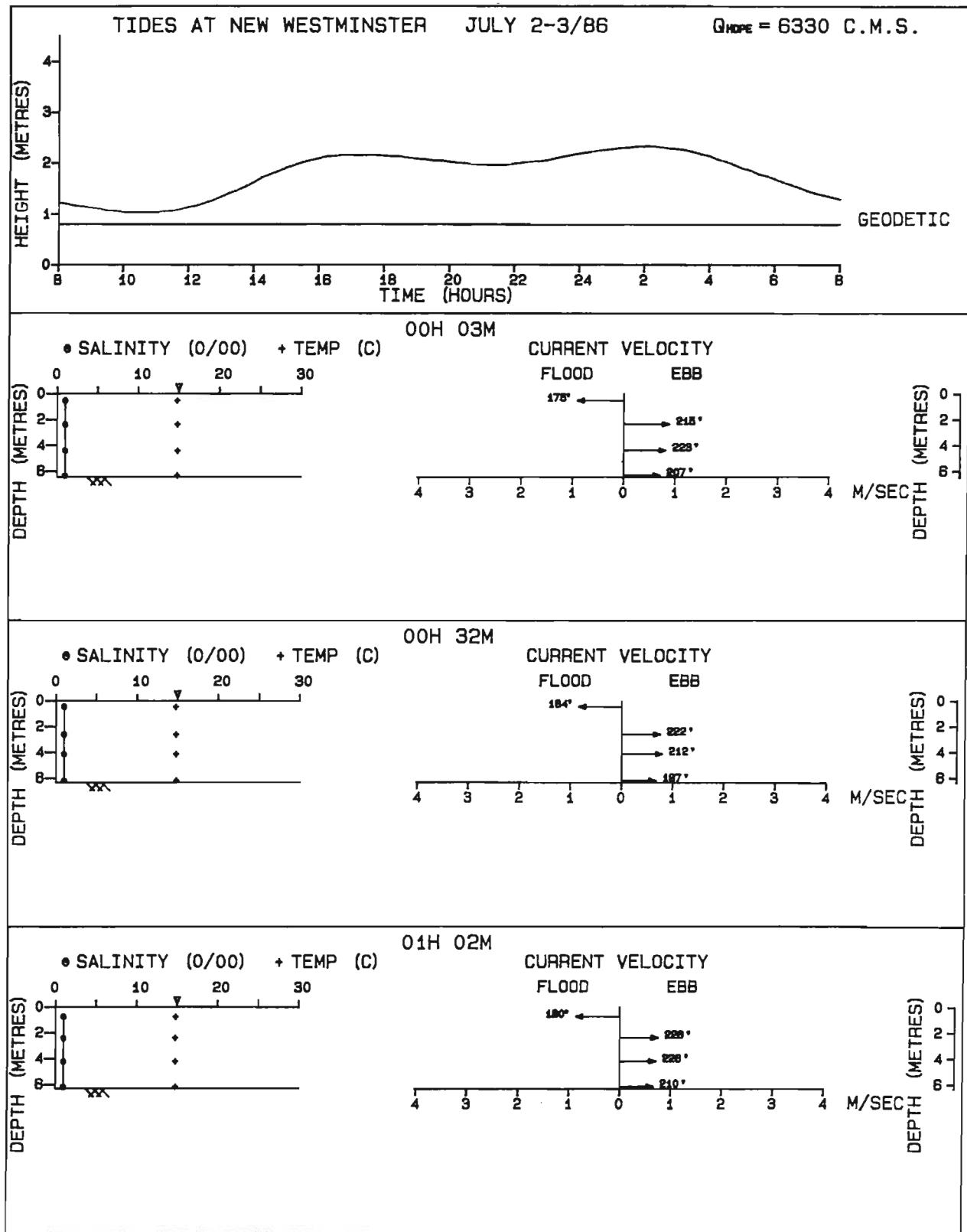
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



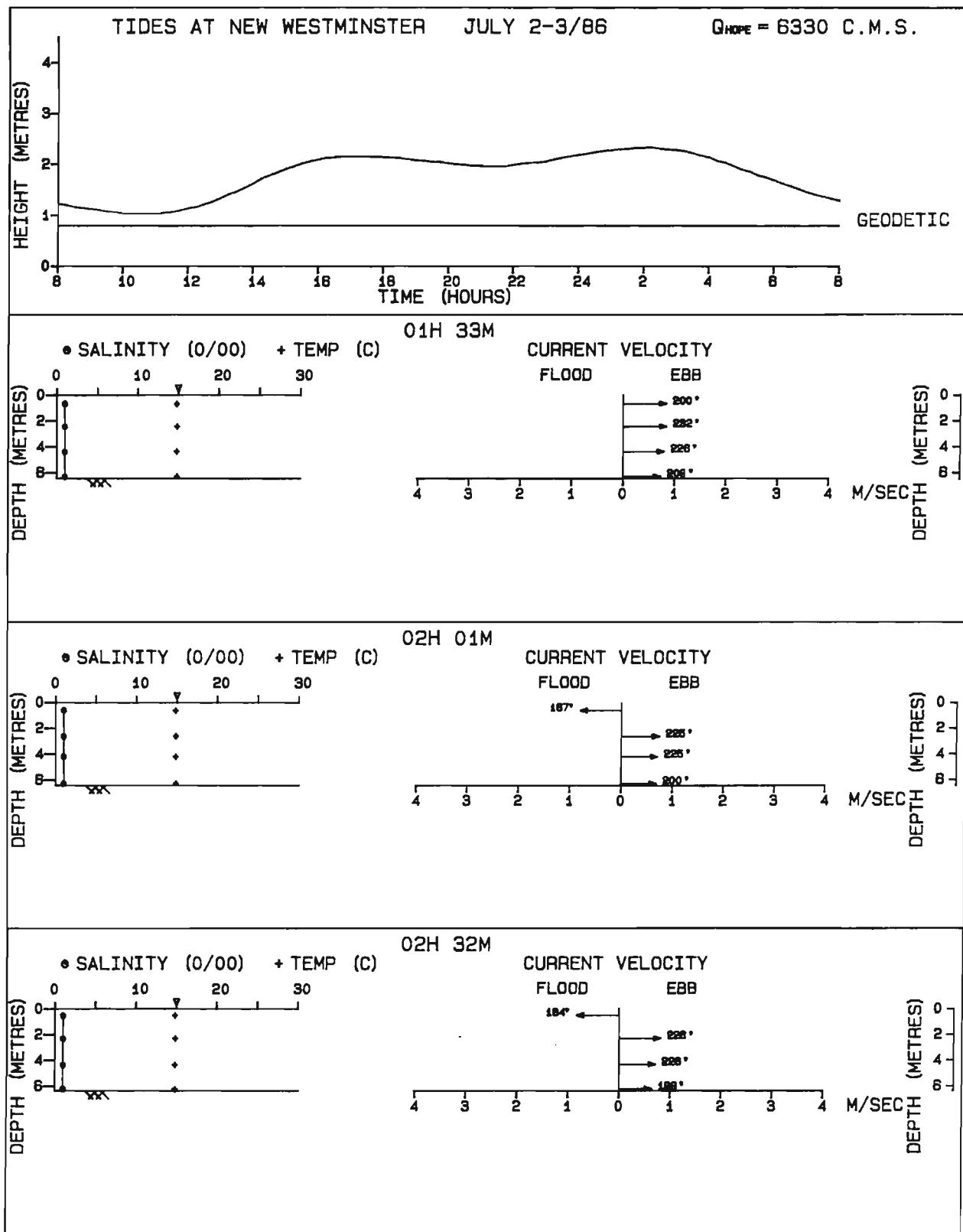
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



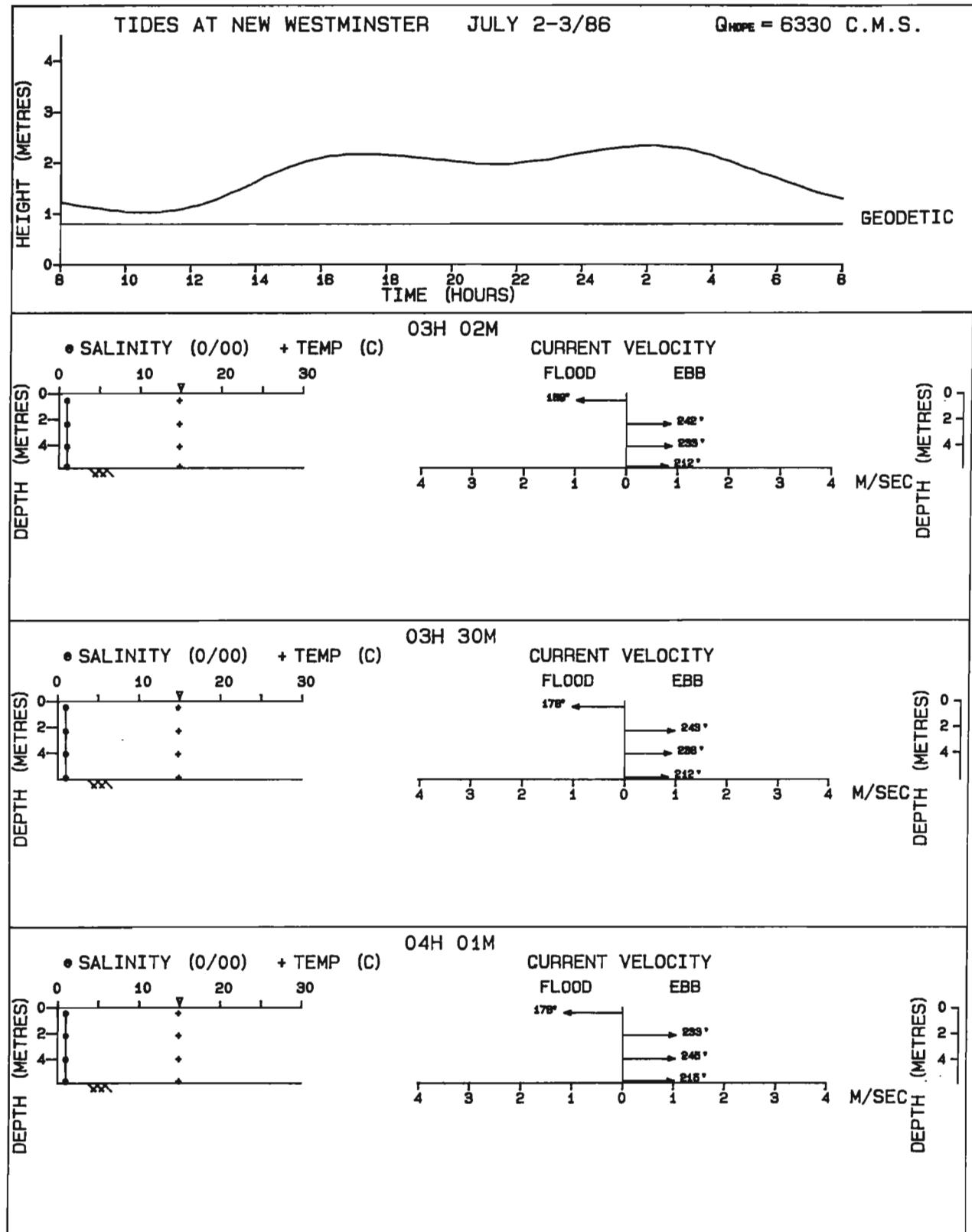
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



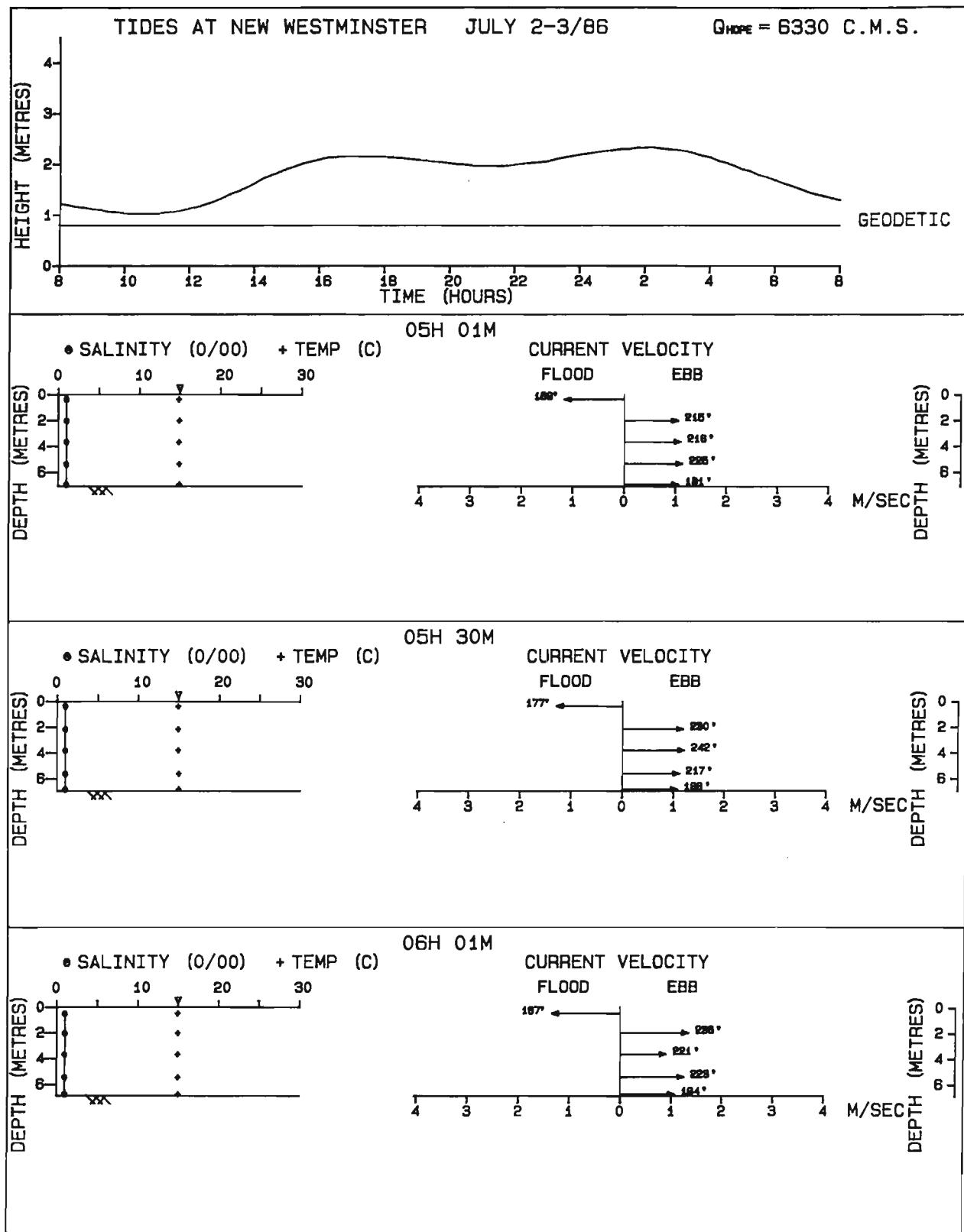
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



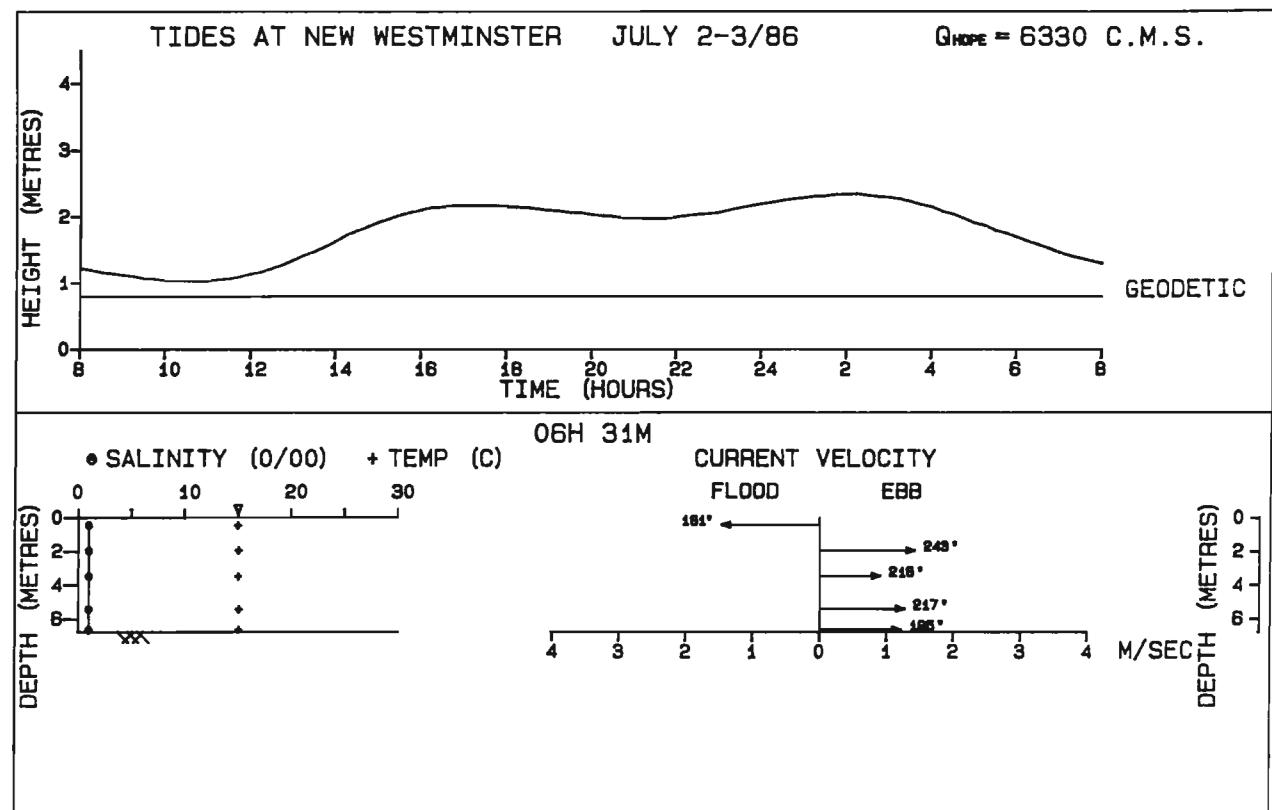
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BD



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON

JULY 3/86

RIVER DISCHARGE AT HOPE = 6330 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
09H 02M	0.0	1.00	15.0	1.32	157
09H 31M	0.0	1.00	15.0	1.40	155
10H 00M	0.0	1.00	15.1	1.30	155
10H 35M	0.0	1.00	15.1	1.29	158
11H 05M	0.0	1.00	15.2	0.94	159
11H 35M	0.0	1.00	15.2	1.00	155
12H 02M	0.5	1.00	15.3	0.97	154
	2.2	1.00	15.3	0.92	191
	4.1	1.00	15.3	0.81	206
	6.0	1.00	15.3	0.67	176
	7.6	1.00	15.3	0.63	147
12H 33M	0.4	1.00	15.3	0.71	145
	2.4	1.00	15.3	0.64	179
	4.3	1.00	15.3	0.60	178
	5.9	1.00	15.3	0.58	157
	7.8	1.00	15.3	0.50	136
13H 06M	0.0	1.00	15.3	0.61	143
13H 34M	0.6	1.00	15.3	0.36	145
	2.5	1.00	15.3	0.34	122
	4.0	1.00	15.3	0.36	169
	5.9	1.00	15.3	0.35	161
	7.9	1.00	15.3	0.29	168
14H 04M	0.6	1.00	15.3	0.23	115
	2.3	1.00	15.3	0.18	096
	4.2	1.00	15.3	0.27	101
	6.0	1.00	15.3	0.21	129
	7.9	1.00	15.3	0.13	132
14H 33M	0.7	1.00	15.3	0.08	349
	2.3	1.00	15.3	0.09	069
	4.1	1.00	15.3	0.16	085
	6.1	1.00	15.3	0.16	100
	7.7	1.00	15.3	0.14	113
15H 00M	0.5	1.00	15.3	0.06	197
	2.3	1.00	15.3	0.05	094
	4.1	1.00	15.3	0.01	196

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON

JULY 3/86 RIVER DISCHARGE AT HOPE = 6330 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
15H 00M	6.1	1.00	15.3	0.07	087
	7.8	1.00	15.3	0.11	116
15H 41M	0.7	1.00	15.3	0.04	099
	2.3	1.00	15.3	0.10	084
	4.2	1.00	15.3	0.13	068
	6.0	1.00	15.3	0.11	072
	7.9	1.00	15.3	0.14	143
16H 01M	0.6	1.00	15.3	0.03	094
	2.4	1.00	15.3	0.09	015
	4.3	1.00	15.3	0.19	
	6.2	1.00	15.3	0.18	
	8.0	1.00	15.3	0.17	
	8.8	1.00	15.3	0.13	
	9.4	1.00	15.3	0.12	
16H 10M	4.8	1.00	15.3	0.11	187
	9.4	1.90	15.1	0.18	259
16H 50M	4.9	1.00	15.3	0.08	
	6.1	1.00	15.3	0.16	
	6.9	1.00	15.2	0.12	
	7.9	7.29	14.3	0.26	
	8.8	12.84	13.7	0.50	
	9.6	21.46	12.4	0.30	
17H 32M	4.9	1.00	15.3	0.12	212
	6.1	1.00	15.2	0.10	208
	7.0	5.10	14.6	0.08	277
	7.9	9.81	14.1	0.40	342
	8.8	20.01	12.7	0.35	241
	9.7	23.64	12.2	0.19	309
18H 02M	3.8	1.00	15.3	0.16	242
	5.1	1.00	15.3	0.16	208
	6.0	1.00	15.1	0.35	202
	6.9	5.85	14.6	0.14	283
	7.8	12.65	13.9	0.50	334
	8.7	22.31	12.5	0.40	247
	9.8	24.63	12.1	0.31	337
18H 34M	0.3	1.00	15.3	0.03	105
	1.1	1.00	15.3	0.17	189
	2.1	1.00	15.3	0.15	188
	3.0	1.00	15.3	0.19	221
	4.0	1.00	15.3	0.29	

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON

JULY 3/86

RIVER DISCHARGE AT HOPE = 6330 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
18H 34M	4.9	1.00	15.3	0.14	211
	6.1	1.33	15.1	0.29	201
	6.9	5.02	14.7	0.12	260
	7.9	13.99	13.7	0.42	333
	8.8	24.45	12.1	0.38	343
	9.7	25.19	12.0	0.34	329
19H 02M	0.4	1.00	15.2	0.26	162
	1.5	1.00	15.3	0.43	193
	2.3	1.00	15.3	0.58	215
	3.3	1.00	15.3	0.45	221
	4.2	1.00	15.2	0.05	188
	5.1	1.00	15.1	0.43	207
	6.1	2.58	15.0	0.46	205
	7.1	4.90	14.8	0.21	247
	8.1	15.88	13.6	0.35	336
	9.0	25.18	12.1	0.38	332
	10.0	25.39	12.0	0.31	319
19H 33M	0.4	1.00	15.2	0.37	172
	1.4	1.00	15.2	0.59	196
	2.2	1.00	15.2	0.60	214
	3.2	1.00	15.2	0.59	230
	4.2	1.00	15.2	0.07	207
	5.2	1.65	15.0	0.35	195
	6.2	4.13	14.8	0.47	199
	7.3	6.43	14.5	0.13	237
	8.2	17.33	13.2	0.38	338
	9.1	25.61	11.9	0.33	337
	9.9	25.66	11.9	0.30	323
20H 10M	0.4	1.00	15.2	0.53	170
	1.2	1.00	15.2	0.59	188
	2.2	1.00	15.2	0.62	208
	3.0	1.00	15.2	0.58	221
	4.0	1.00	15.2	0.24	209
	5.0	2.43	15.0	0.50	199
	6.0	4.95	14.6	0.60	194
	7.0	6.74	14.4	0.33	191
	7.9	12.34	13.8	0.23	294
	9.0	25.83	11.9	0.32	336
	9.8	25.93	11.8	0.28	321
20H 50M	0.3	1.00	15.1	0.52	170
	1.2	1.00	15.2	0.71	185
	2.2	1.00	15.2	0.62	212
	2.9	1.00	15.2	0.65	223

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON

JULY 3/86

RIVER DISCHARGE AT HOPE = 6330 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
20H 50M	4.0	1.00	15.2	0.72	215
	4.9	1.00	15.1	0.25	204
	5.9	4.63	14.7	0.49	191
	6.9	6.74	14.4	0.48	201
	8.0	10.03	14.0	0.10	236
	8.9	26.16	11.8	0.28	317
	9.8	26.19	11.8	0.24	328
21H 33M	0.4	1.00	15.1	0.52	167
	2.2	1.00	15.2	0.75	221
	4.0	1.00	15.2	0.59	215
	6.1	5.88	14.5	0.60	190
	8.0	9.89	14.0	0.14	199
	9.8	26.23	11.8	0.21	322
22H 04M	0.3	1.00	15.1	0.52	167
	2.2	1.00	15.1	0.73	226
	4.1	1.00	15.1	0.63	232
	6.0	5.00	14.6	0.56	186
	7.9	9.74	14.0	0.15	185
	9.5	26.12	11.8	0.24	337
22H 31M	0.3	1.00	15.0	0.52	167
	2.2	1.00	15.1	0.78	233
	4.1	1.00	15.1	0.90	229
	5.9	2.76	14.8	0.34	190
	8.1	10.86	13.8	0.28	246
	9.6	25.97	11.8	0.22	319
23H 01M	0.4	1.00	15.0	0.50	162
	2.3	1.00	15.1	0.76	232
	4.1	1.00	15.0	0.61	228
	6.2	4.96	14.5	0.52	177
	7.9	9.41	14.0	0.17	191
	9.8	26.10	11.8	0.25	317
23H 32M	0.6	1.00	15.0	0.43	181
	2.3	1.00	15.0	0.57	232
	4.2	1.00	15.0	0.53	220
	6.1	3.87	14.6	0.61	188
	8.1	11.11	13.8	0.10	335
	9.6	25.99	11.8	0.24	332

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON

JULY 4/86

RIVER DISCHARGE AT HOPE = 6330 CU.M/SEC

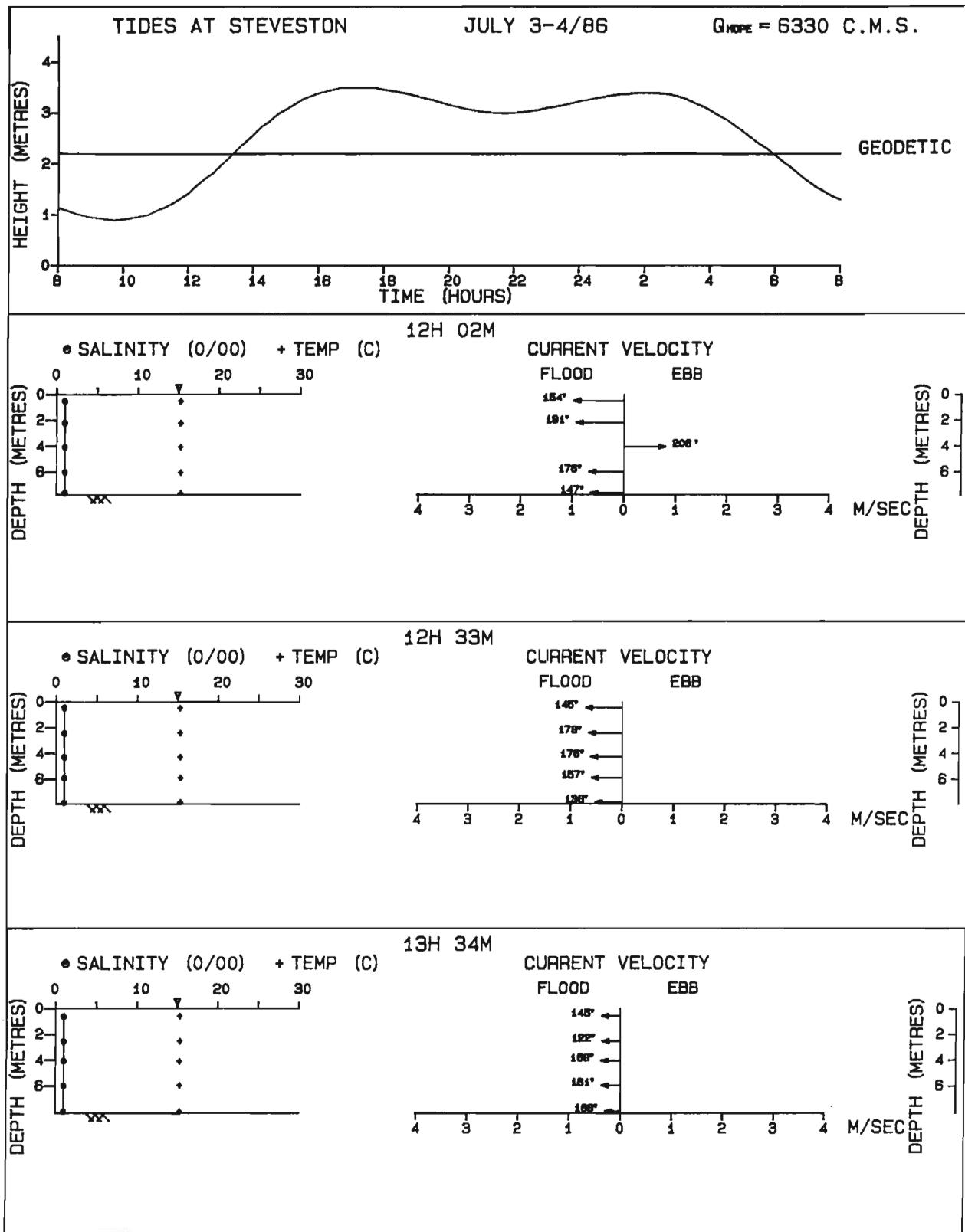
TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
00H 03M	0.4	1.00	14.9	0.62	160
	2.3	1.00	15.0	0.73	217
	4.2	1.00	15.0	0.23	215
	6.1	3.36	14.7	0.50	191
	8.1	13.57	13.5	0.24	326
	9.6	24.94	11.9	0.43	009
00H 33M	0.4	1.00	14.9	0.68	166
	2.3	1.00	14.9	0.55	246
	4.1	1.00	14.9	0.77	217
	6.1	5.02	14.5	0.44	189
	8.1	16.08	13.1	0.10	351
	9.6	26.23	11.7	0.27	320
01H 02M	0.5	1.00	14.9	0.46	172
	2.5	1.00	14.9	0.44	238
	4.1	1.00	14.9	0.39	224
	6.1	4.60	14.5	0.44	196
	8.2	15.92	13.1	0.37	322
	9.7	26.47	11.6	0.30	308
01H 34M	0.4	1.00	14.8	0.38	165
	2.2	1.00	14.9	0.43	214
	4.4	1.00	14.9	0.41	210
	6.2	4.78	14.5	0.48	195
	8.1	17.84	12.7	0.24	332
	9.7	26.63	11.5	0.28	325
02H 01M	0.5	1.00	14.8	0.60	173
	2.3	1.00	14.9	0.44	222
	4.0	1.00	14.9	0.58	225
	6.5	5.15	14.4	0.33	182
	8.0	15.19	13.1	0.36	320
	9.6	26.74	11.4	0.28	324
02H 33M	0.5	1.00	14.8	0.48	179
	2.3	1.00	14.9	0.31	226
	4.4	1.00	14.9	0.44	218
	6.4	4.96	14.4	0.41	185
	8.1	19.57	12.5	0.32	325
	9.6	26.98	11.4	0.32	318
03H 02M	0.4	1.00	14.8	0.30	168
	2.2	1.00	14.9	0.11	222
	4.0	1.00	14.9	0.29	212
	6.1	4.12	14.5	0.49	172
	7.9	9.22	13.8	0.14	252

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON

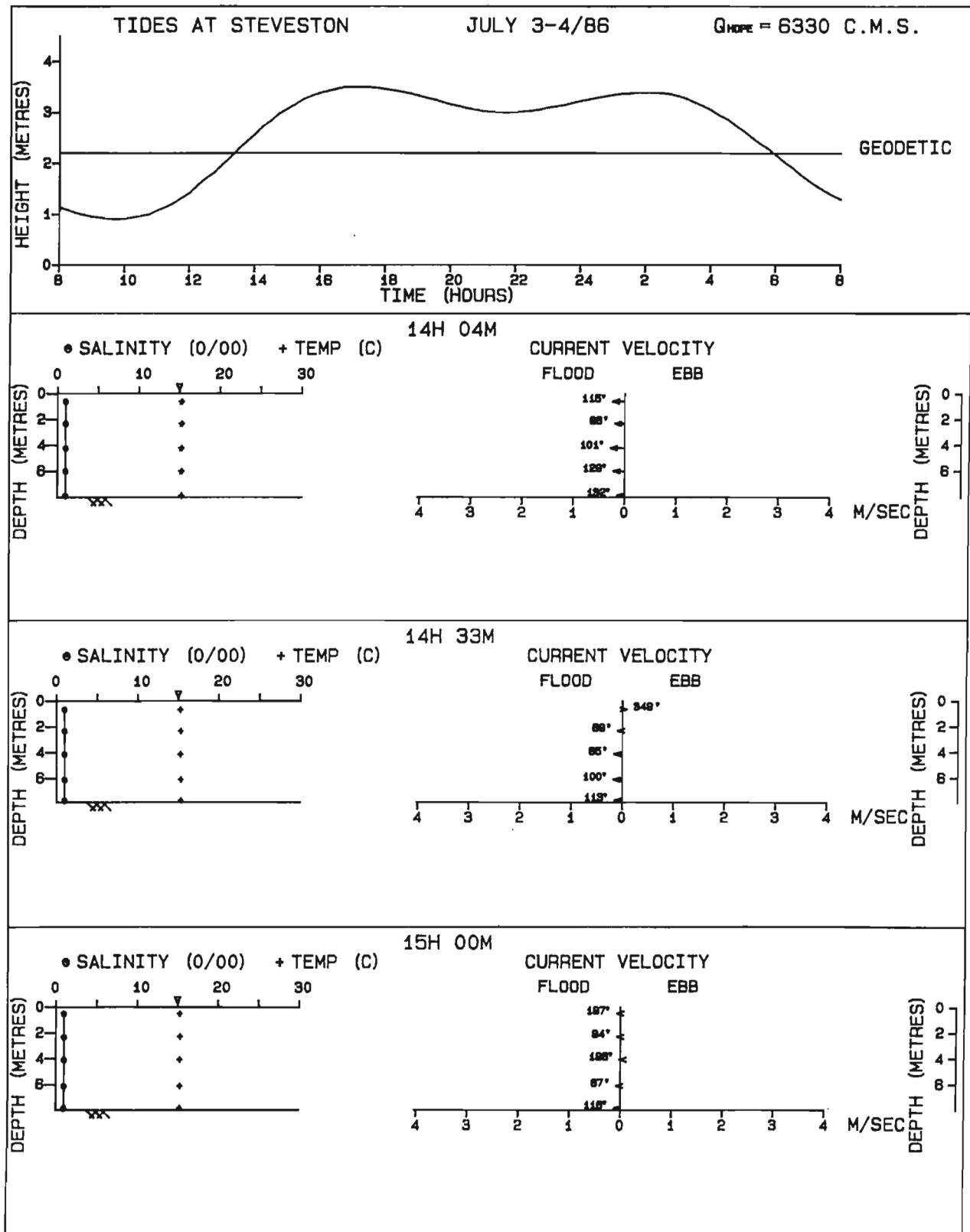
JULY 4/86 RIVER DISCHARGE AT HOPE = 6330 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
03H 32M	0.0	1.00	14.8	0.55	164
04H 02M	0.0	1.00	14.8	0.51	160
04H 33M	0.2	1.00	14.8	0.40	160
	2.0	1.00	14.9	0.46	220
	3.5	1.00	14.9	0.68	
	5.9	3.81	14.5	0.88	
	7.8	11.53	13.5	0.54	
	9.6	26.92	11.4	0.13	322
05H 04M	0.0	1.00	14.8	0.54	162

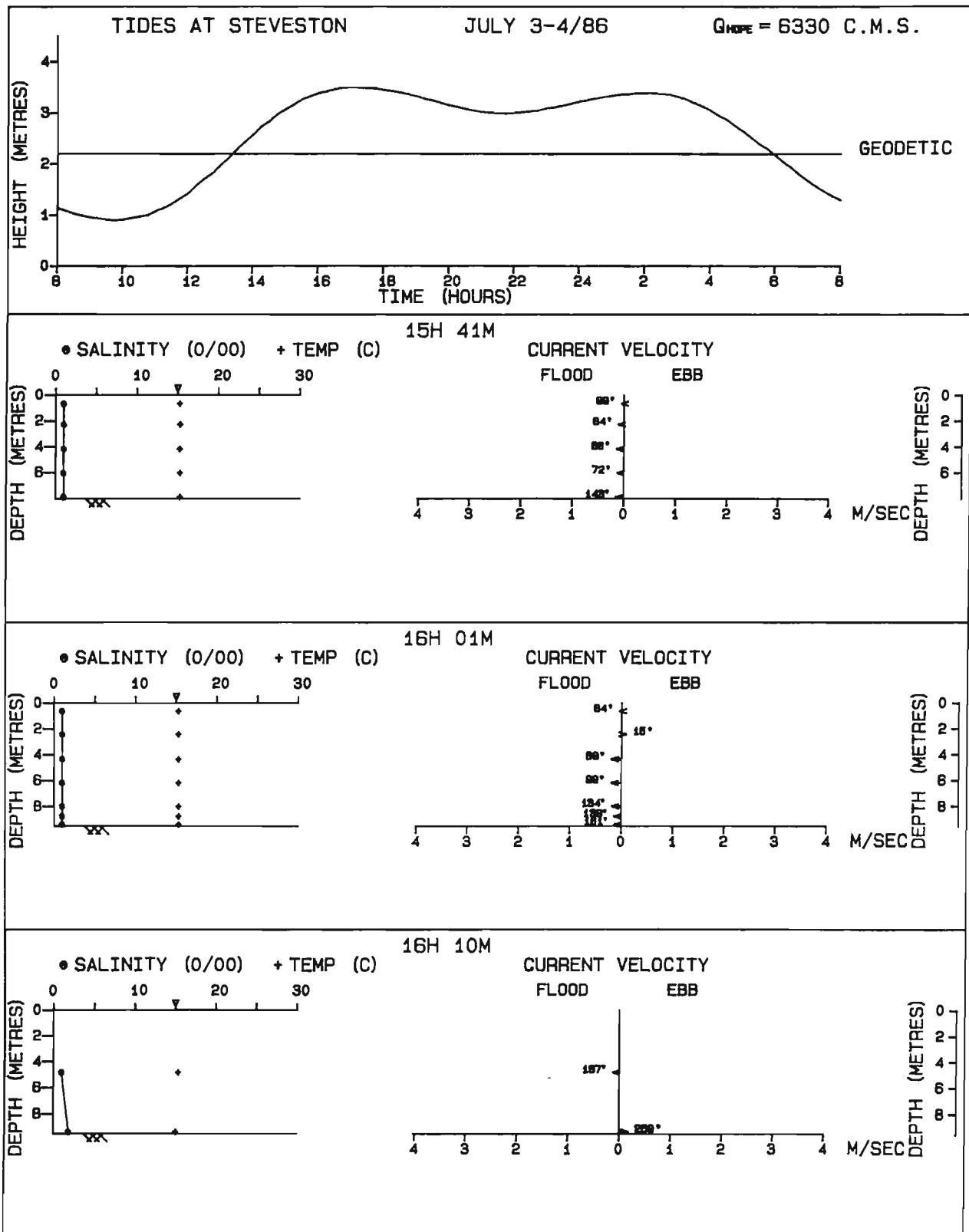
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



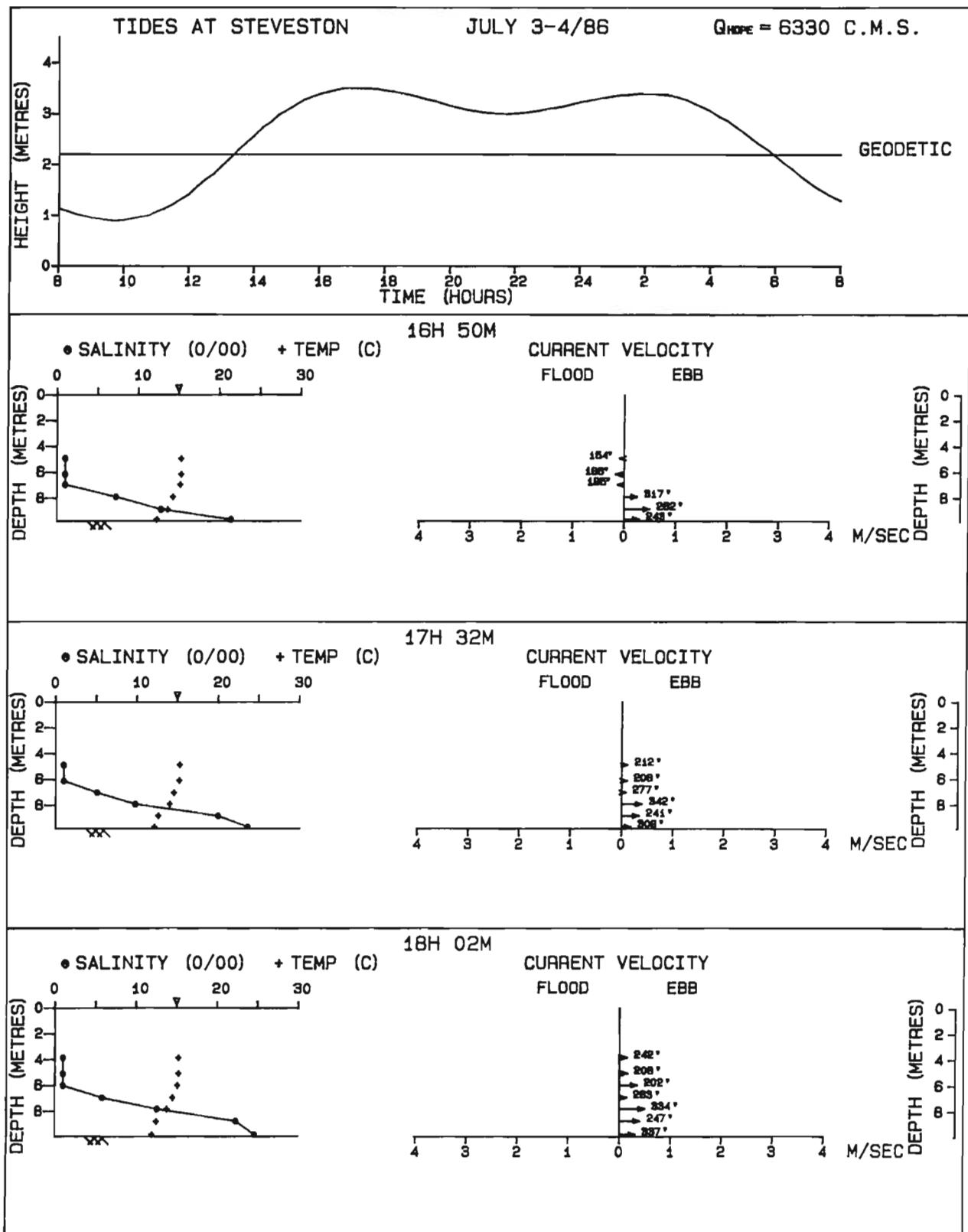
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



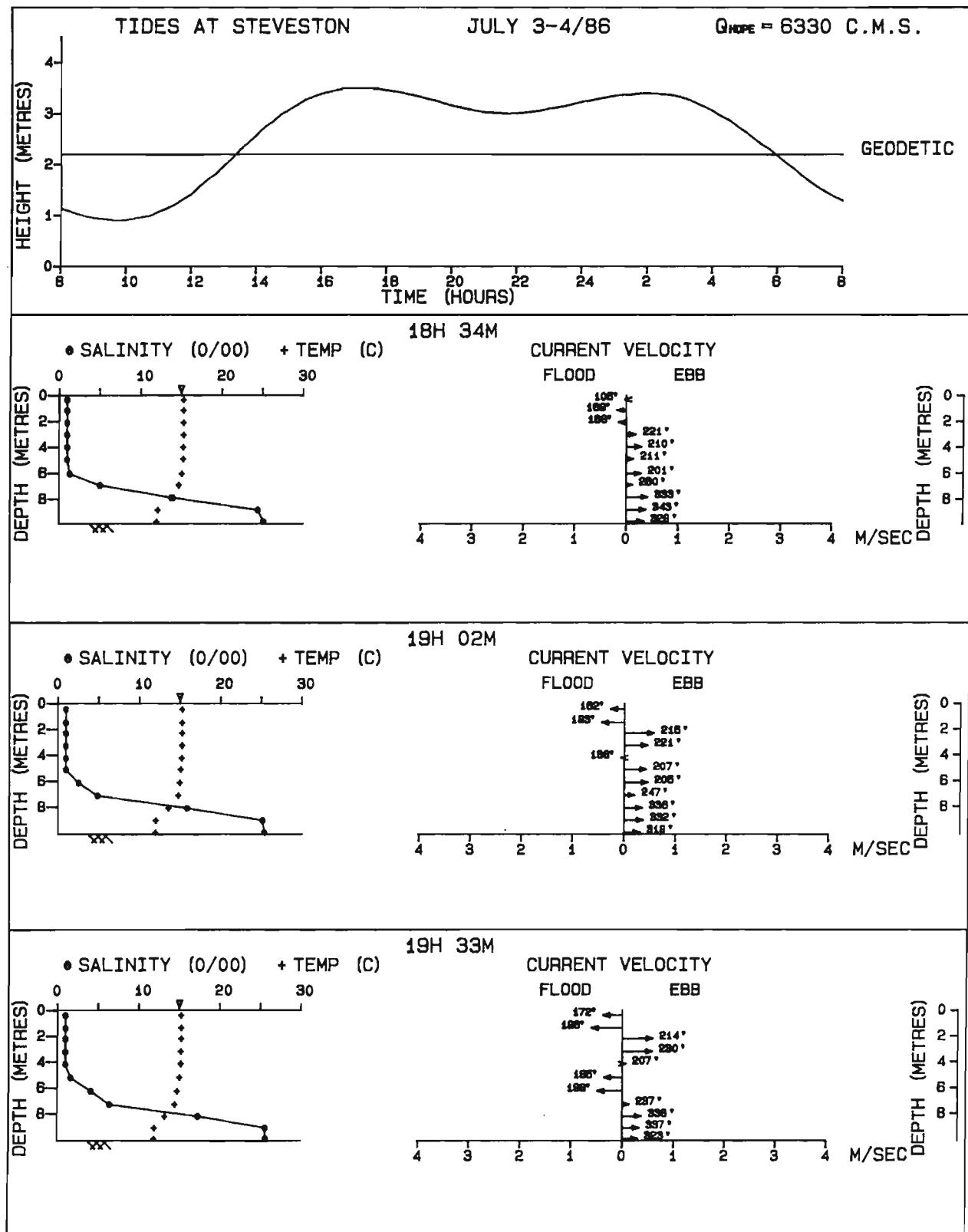
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



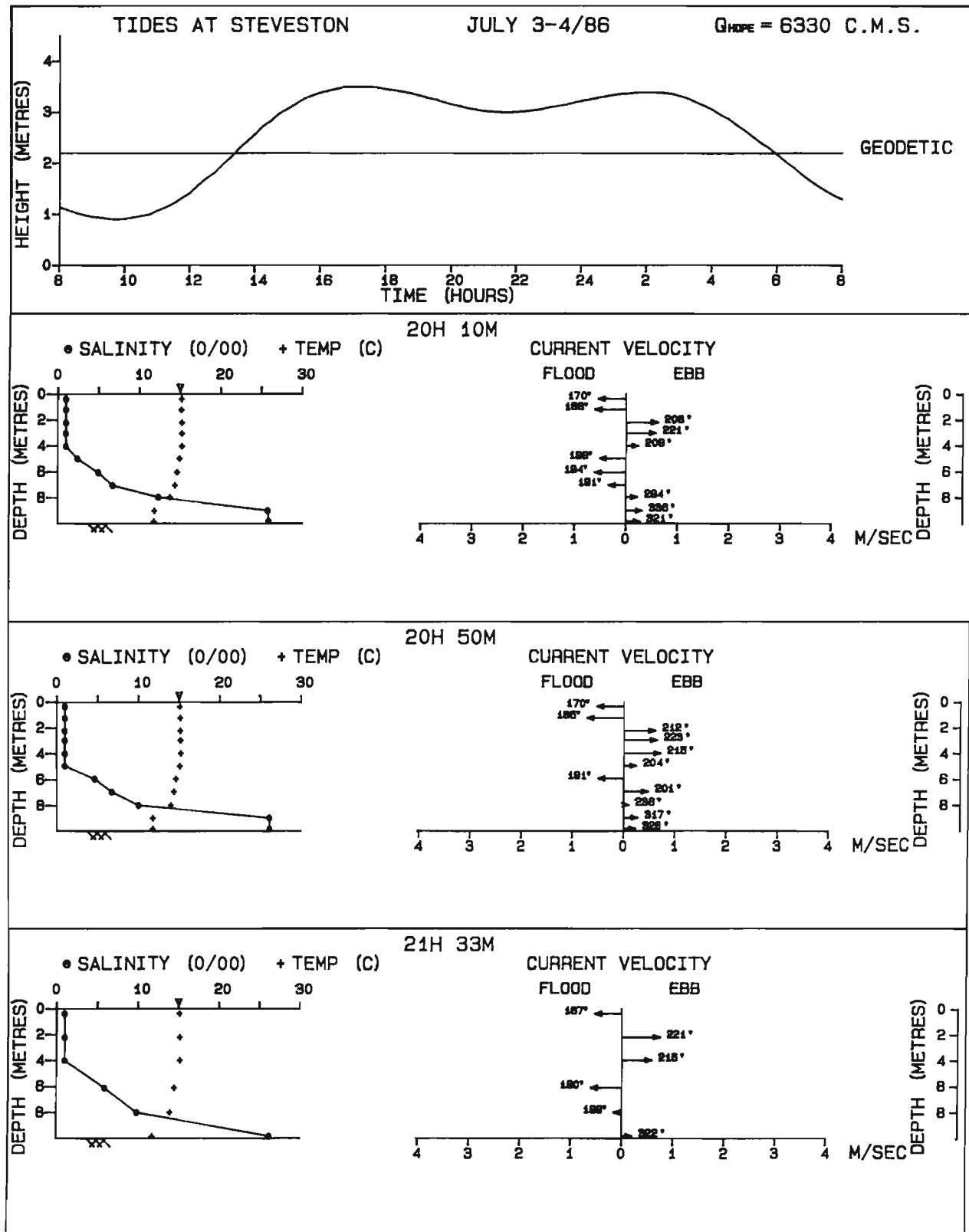
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



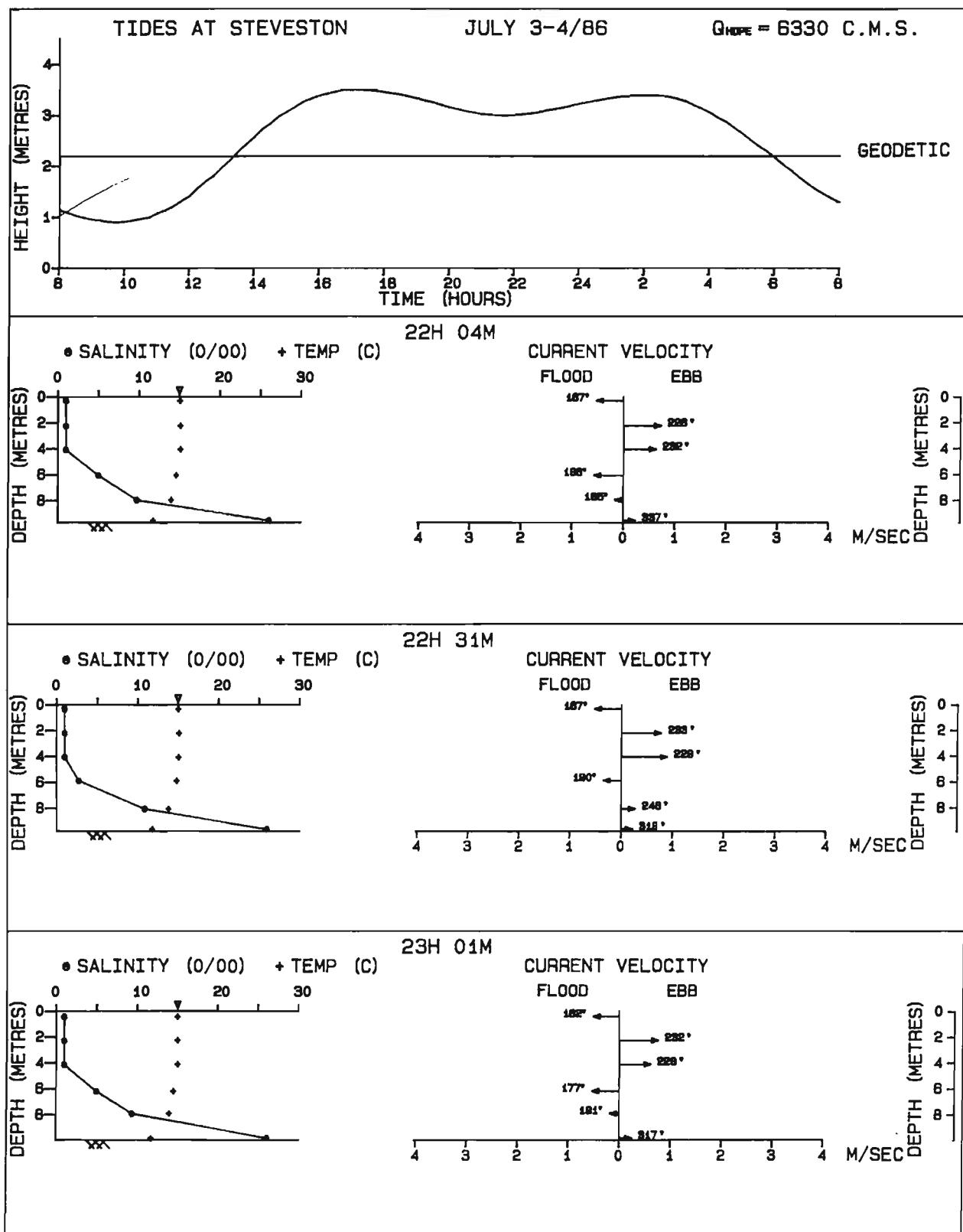
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



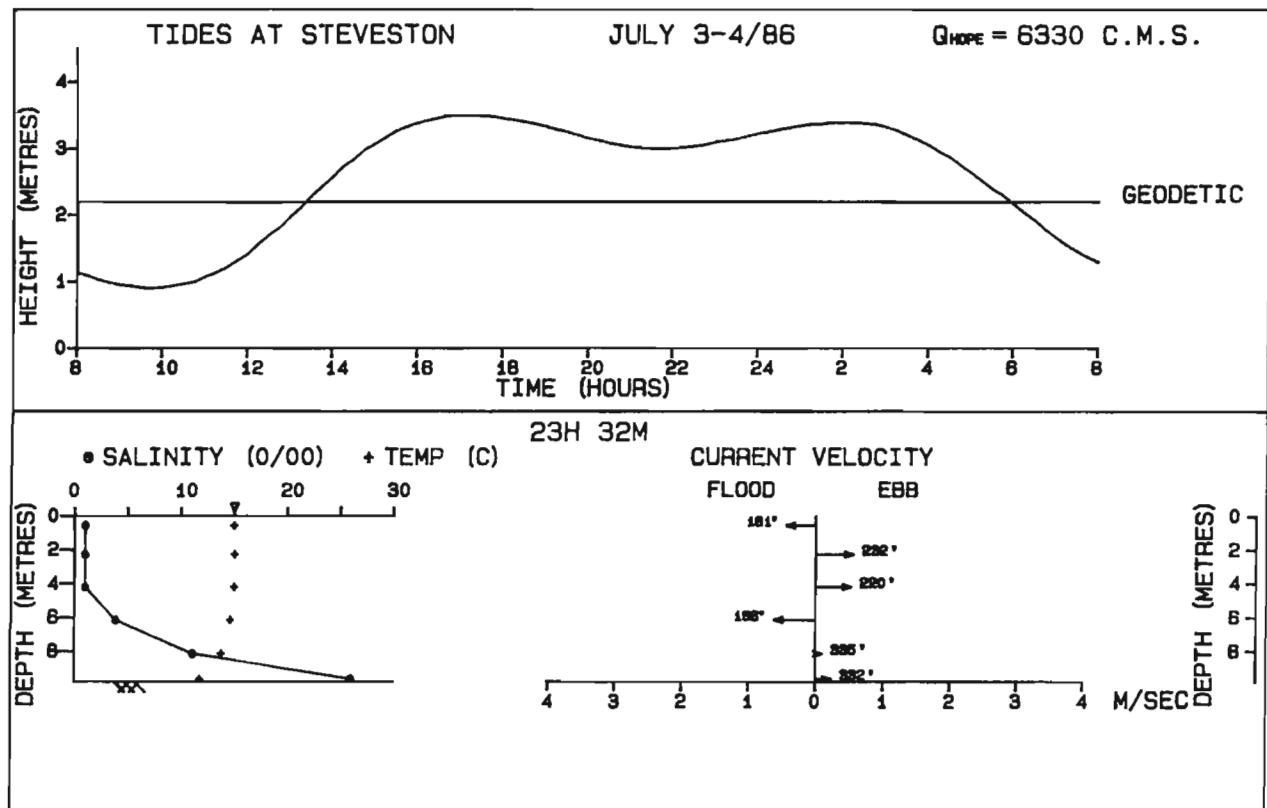
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



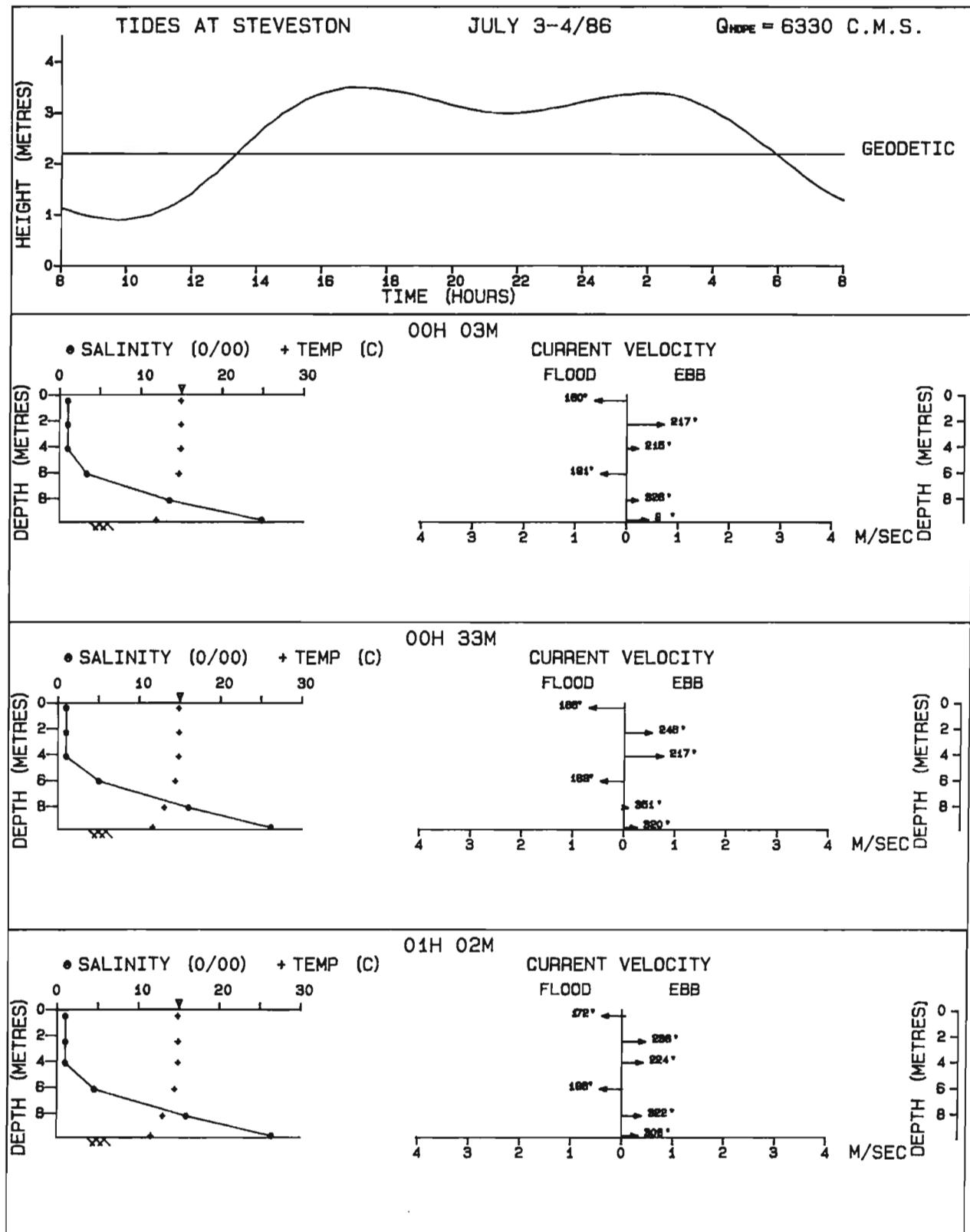
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



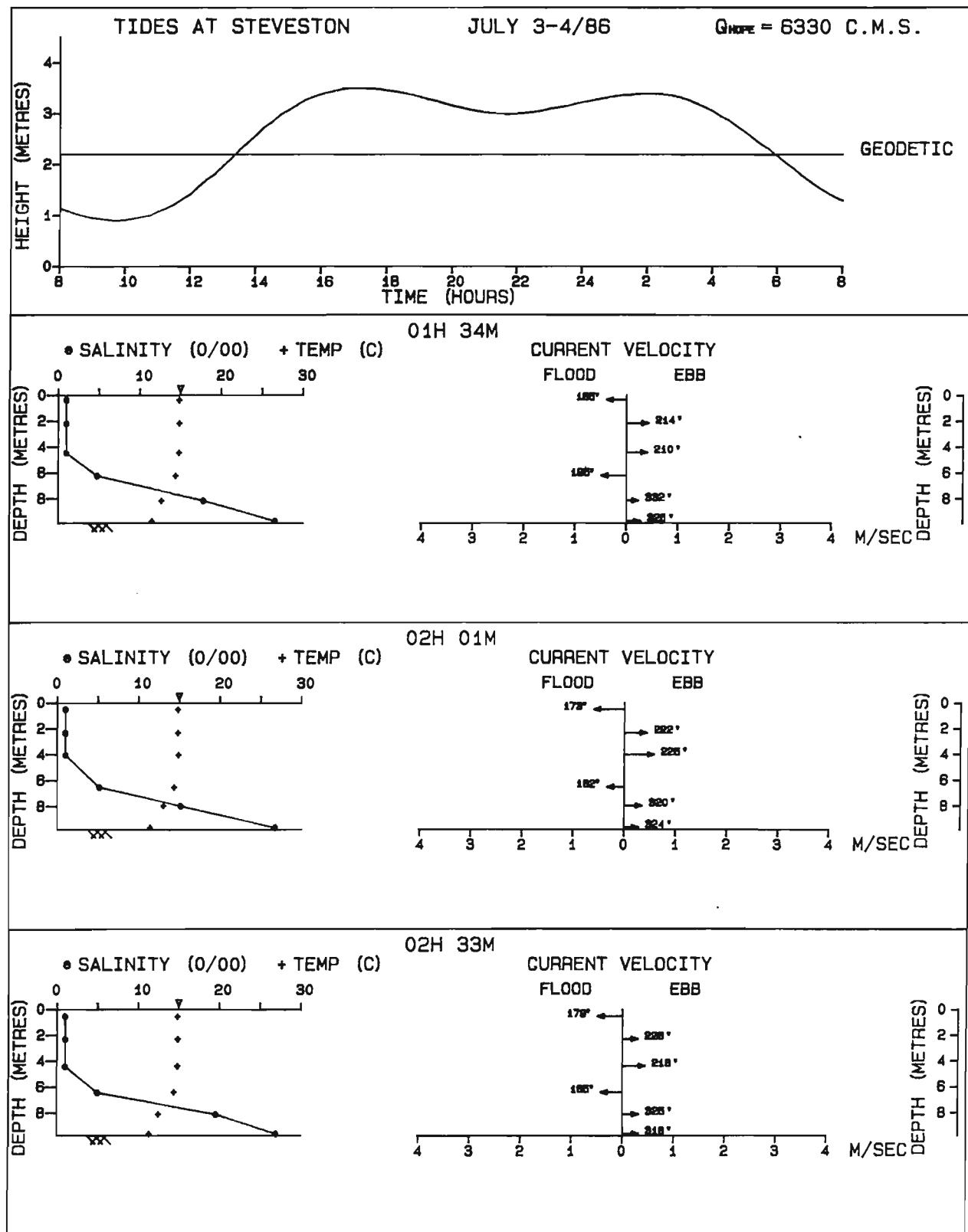
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



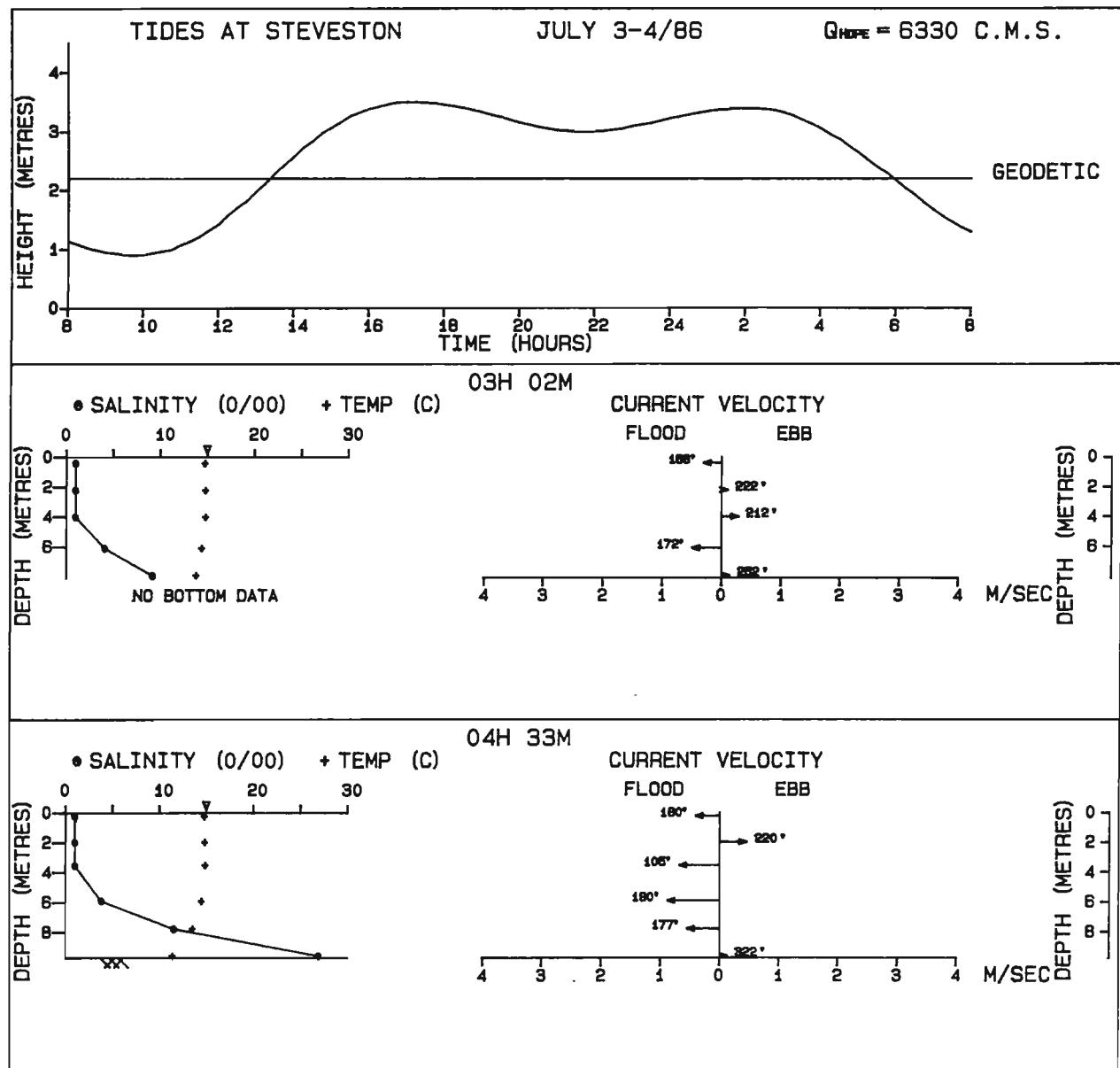
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT STEVESTON



TIME SERIES AT STEVESTON

JULY 3, 1986 RIVER DISCHARGE AT HOPE = 6330 CU.M/SEC

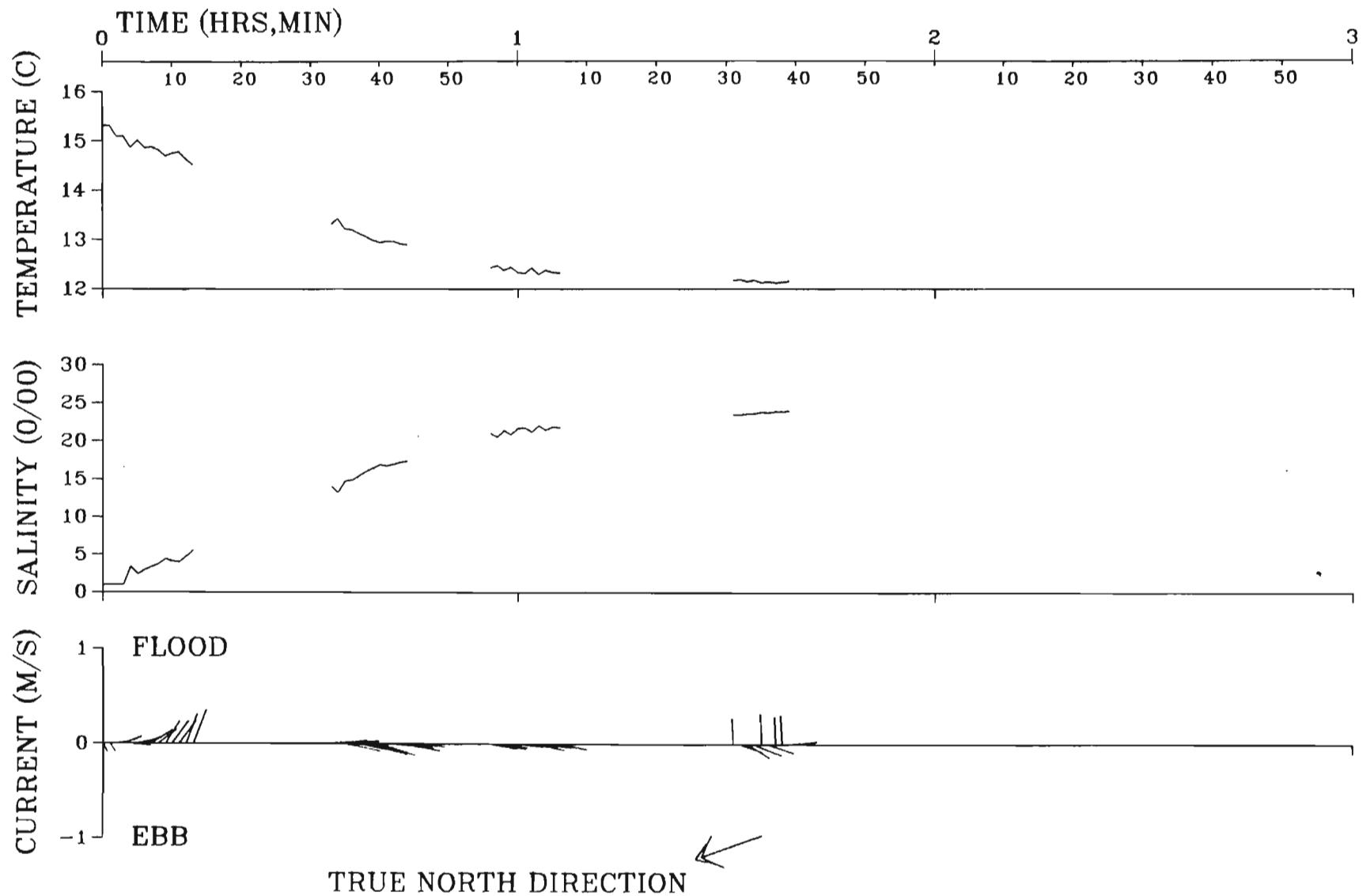
TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
16 18	9.4	1.00	15.3	0.11	263
16 19	9.4	1.00	15.3	0.11	256
16 20	9.4	1.00	15.1	0.09	194
16 21	9.4	1.00	15.1	0.21	181
16 22	9.4	3.30	14.9	0.23	206
16 23	9.3	2.39	15.0	0.19	190
16 24	9.3	2.92	14.9	0.22	181
16 25	9.4	3.28	14.9	0.27	170
16 26	9.3	3.67	14.8	0.25	165
16 27	9.4	4.38	14.7	0.28	145
16 28	9.3	4.09	14.8	0.30	149
16 29	9.3	3.97	14.8	0.29	149
16 30	9.4	4.71	14.6	0.33	132
16 31	9.3	5.50	14.5	0.38	133
16 51	9.7	13.93	13.3	0.40	196
16 52	9.6	13.23	13.4	0.45	197
16 53	9.7	14.71	13.2	0.41	211
16 54	9.7	14.82	13.2	0.46	205
16 55	9.7	15.40	13.1	0.43	211
16 56	9.6	15.87	13.1	0.42	211
16 57	9.7	16.40	13.0	0.41	216
16 58	9.7	16.81	12.9	0.42	217
16 59	9.6	16.71	13.0	0.41	199
17 00	9.6	16.88	13.0	0.44	206
17 01	9.6	17.17	12.9	0.45	209
17 02	9.6	17.27	12.9	0.42	204
17 14	9.7	20.98	12.4	0.30	210
17 15	9.6	20.52	12.5	0.32	210
17 16	9.6	21.33	12.4	0.29	209
17 17	9.6	20.85	12.4	0.31	204
17 18	9.6	21.64	12.3	0.28	206
17 19	9.6	21.68	12.3	0.25	207
17 20	9.6	21.13	12.4	0.28	207
17 21	9.6	21.97	12.3	0.30	213
17 22	9.6	21.46	12.4	0.29	208
17 23	9.6	21.81	12.3	0.29	200
17 24	9.6	21.75	12.3	0.31	211
17 49	9.7	23.45	12.2	0.27	106
17 50	9.7	23.46	12.2	0.26	219
17 51	9.7	23.59	12.1	0.29	230
17 52	9.7	23.60	12.2	0.32	221

TIME SERIES AT STEVESTON

JULY 3, 1986 RIVER DISCHARGE AT HOPE = 6330 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMPERATURE (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
17 53	9.7	23.80	12.1	0.31	108
17 54	9.7	23.70	12.1	0.31	218
17 55	9.7	23.86	12.1	0.29	108
17 56	9.7	23.85	12.1	0.30	106
17 57	9.7	23.88	12.1	0.31	196

TIME SERIES AT STEVESTON
JULY 3, 1986 START TIME 16:18 PST

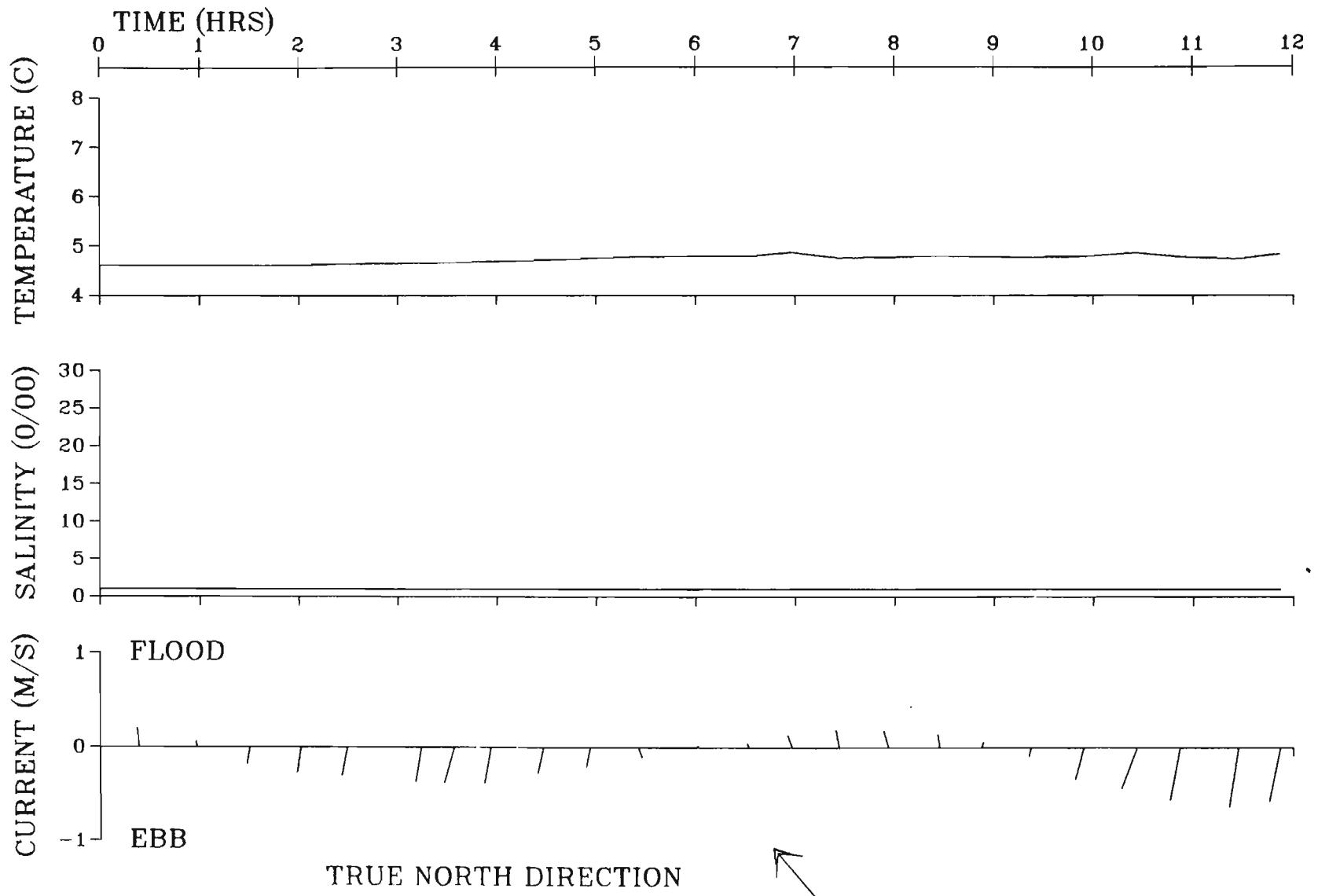


SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT PATTULLO BRIDGE

DEC 2 1986 RIVER DISCHARGE AT HOPE = 1140 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
09:07	7.0	1.00	4.6	0.26	041
09:30	7.0	1.00	4.6	0.19	034
10:05	7.0	1.00	4.6	0.06	032
10:37	7.0	1.00	4.6	0.20	228
11:08	7.0	1.00	4.6	0.29	228
11:36	5.9	1.00	4.6	0.32	230
12:21	5.9	1.00	4.7	0.40	229
12:41	5.9	1.00	4.7	0.41	235
13:03	5.9	1.00	4.7	0.41	229
13:35	5.9	1.00	4.7	0.31	232
14:03	5.9	1.00	4.7	0.23	230
14:32	5.9	1.00	4.8	0.12	197
15:07	5.9	1.00	4.8	0.03	092
15:39	5.9	1.00	4.8	0.05	011
16:05	5.9	1.00	4.9	0.14	017
16:33	5.9	1.00	4.8	0.18	030
17:03	5.9	1.00	4.8	0.18	023
17:34	5.9	1.00	4.8	0.14	031
17:59	5.9	1.00	4.8	0.06	065
18:29	5.9	1.00	4.8	0.11	232
19:01	5.9	1.00	4.8	0.37	235
19:33	4.1	1.00	4.9	0.48	240
19:59	4.0	1.00	4.8	0.58	230
20:34	3.9	1.00	4.7	0.64	228
20:59	3.8	1.00	4.8	0.60	231

TIME SERIES AT PATTULLO BRIDGE
DEC 2 1986 START TIME 09:07 PST

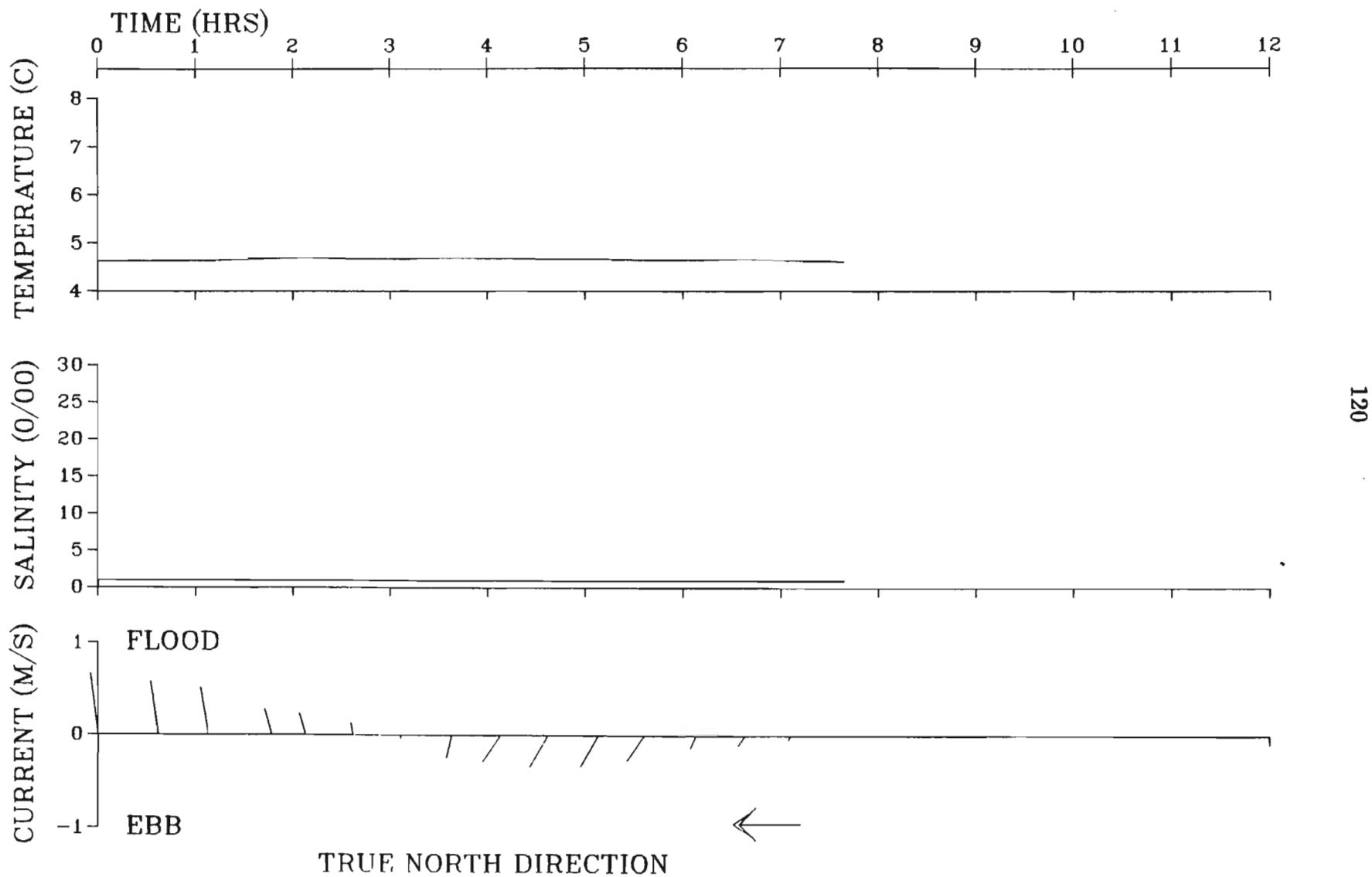


SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BEND

DEC 3 1986 RIVER DISCHARGE AT HOPE = 1090 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
08:25	9.9	1.00	4.6	0.66	083
09:02	10.0	1.00	4.6	0.58	081
09:33	10.0	1.00	4.6	0.51	080
10:12	10.1	1.00	4.7	0.29	073
10:33	10.0	1.00	4.7	0.24	073
11:02	9.9	1.00	4.7	0.13	081
11:31	8.2	1.00	4.7	0.06	248
12:03	8.3	1.00	4.7	0.27	282
12:33	8.3	1.00	4.7	0.35	304
13:02	8.3	1.00	4.7	0.40	299
13:33	8.3	1.00	4.7	0.39	299
14:01	8.3	1.00	4.6	0.33	303
14:33	10.0	1.00	4.6	0.16	295
15:03	8.7	1.00	4.7	0.14	304
15:31	8.9	1.00	4.6	0.09	303
16:04	9.2	1.00	4.6	0.03	322

TIME SERIES AT MUNGO BEND
DEC 3 1986 START TIME 08:25 PST

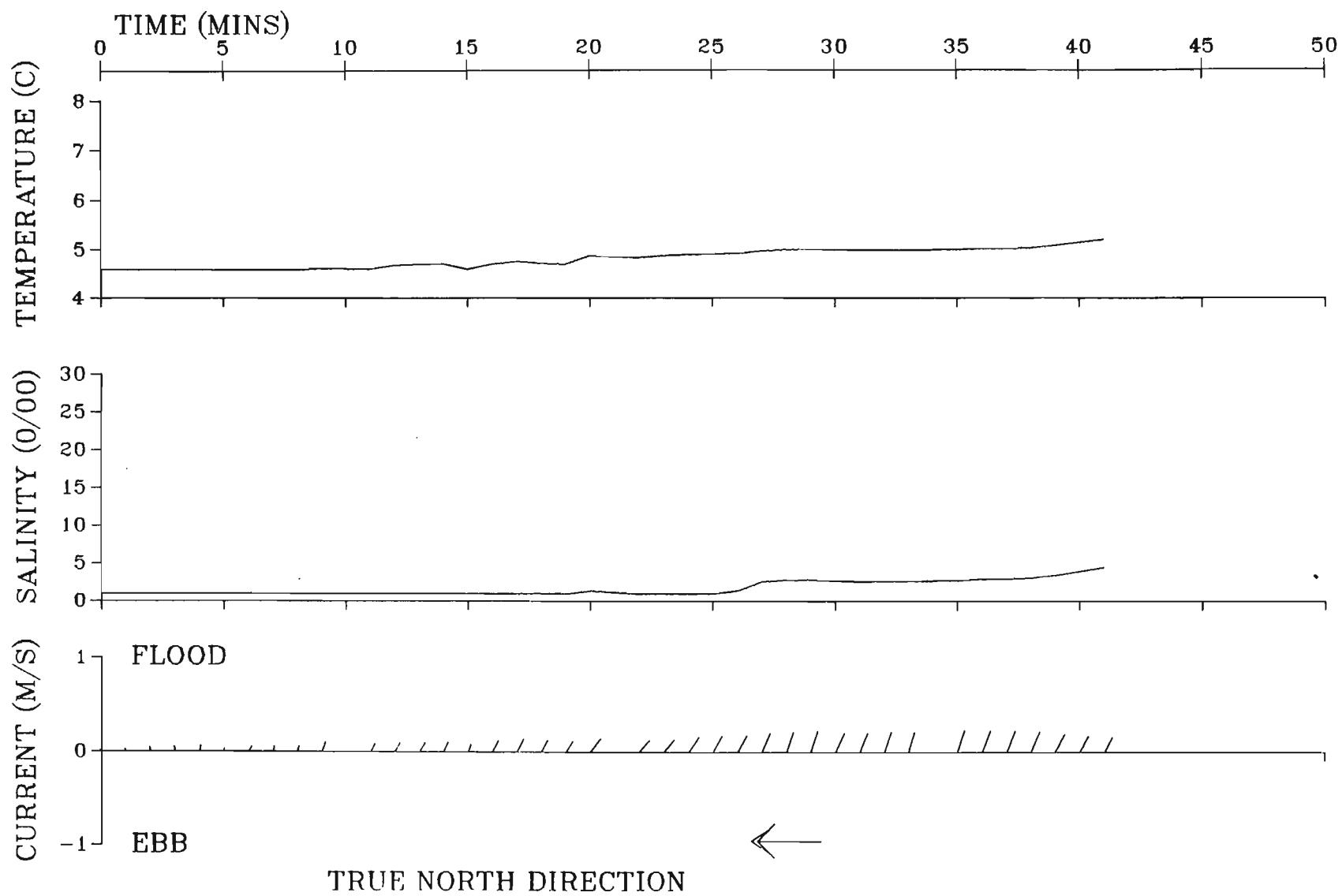


SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BEND

DEC 3 1986 RIVER DISCHARGE AT HOPE = 1090 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
16:29	9.1	1.00	4.6	0.02	029
16:30	9.1	1.00	4.6	0.03	056
16:31	9.2	1.00	4.6	0.05	071
16:32	9.2	1.00	4.6	0.05	074
16:33	9.2	1.00	4.6	0.06	094
16:34	9.2	1.00	4.6	0.03	085
16:35	9.1	1.00	4.6	0.06	119
16:36	9.2	1.00	4.6	0.06	103
16:37	9.2	1.00	4.6	0.06	106
16:38	9.3	1.00	4.6	0.11	113
16:40	9.3	1.00	4.6	0.10	119
16:41	9.3	1.00	4.7	0.12	120
16:42	9.3	1.00	4.7	0.12	122
16:43	9.3	1.00	4.7	0.11	113
16:44	9.3	1.00	4.6	0.09	112
16:45	9.3	1.00	4.7	0.13	118
16:46	9.3	1.00	4.7	0.15	117
16:47	9.2	1.00	4.7	0.14	117
16:48	9.2	1.00	4.7	0.14	123
16:49	9.6	1.38	4.9	0.18	128
16:51	9.5	1.00	4.8	0.16	131
16:52	9.5	1.00	4.9	0.17	130
16:53	9.6	1.00	4.9	0.20	125
16:54	9.7	1.00	4.9	0.20	119
16:55	9.7	1.39	4.9	0.21	119
16:56	9.7	2.59	5.0	0.22	113
16:57	9.7	2.75	5.0	0.23	109
16:58	9.7	2.83	5.0	0.24	107
16:59	9.7	2.72	5.0	0.23	115
17:00	9.6	2.60	5.0	0.22	112
17:01	9.7	2.64	5.0	0.23	108
17:02	9.7	2.62	5.0	0.23	106
17:04	9.8	2.70	5.0	0.24	107
17:05	9.8	2.91	5.0	0.25	112
17:06	9.8	2.91	5.0	0.25	112
17:07	9.8	3.02	5.0	0.24	112
17:08	9.8	3.38	5.1	0.22	117
17:09	9.8	3.87	5.1	0.19	118
17:10	9.8	4.46	5.2	0.18	118

TIME SERIES AT MUNGO BEND
DEC 3 1986 START TIME 16:29 PST

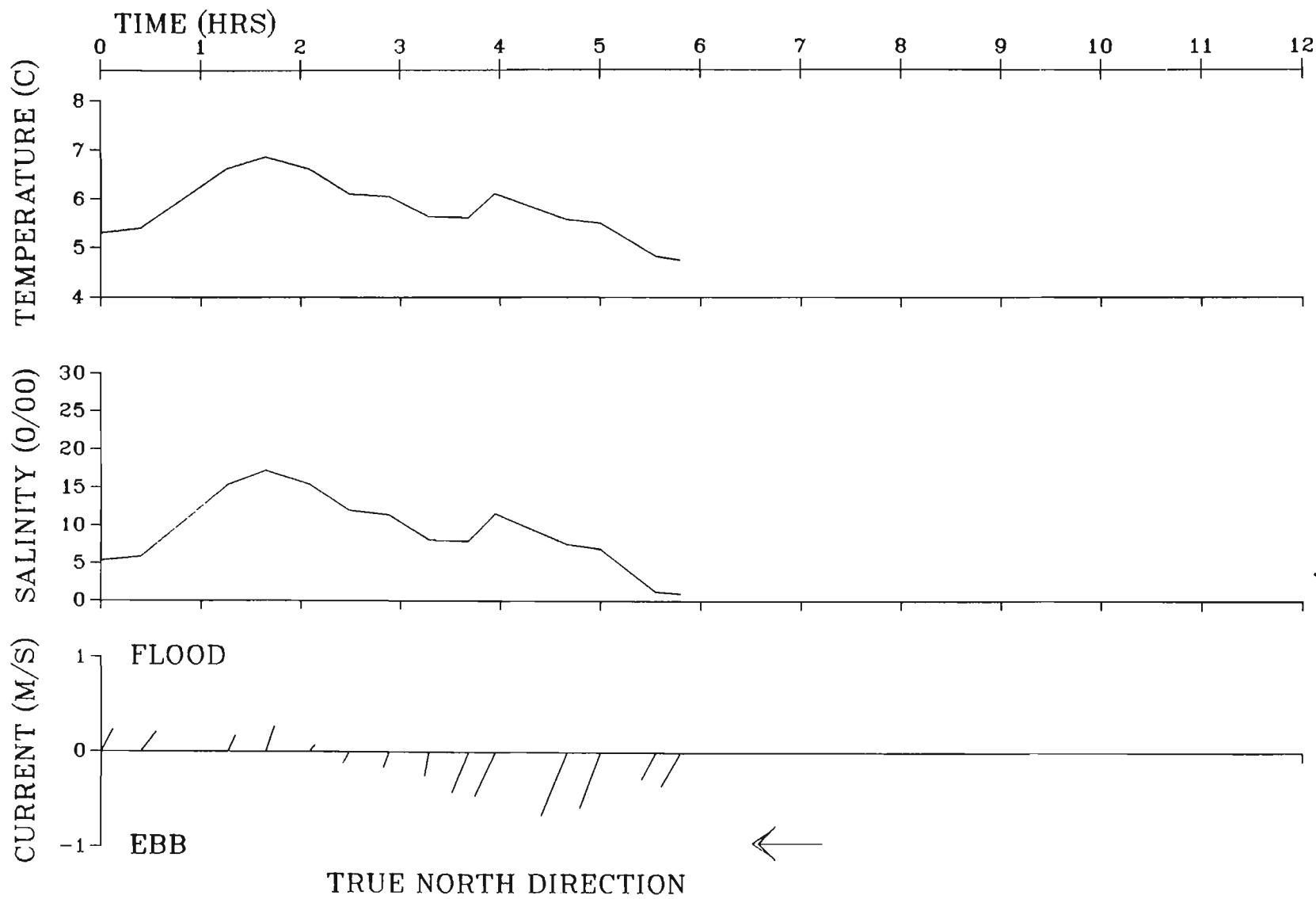


SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT MUNGO BEND

DEC 3 1986 RIVER DISCHARGE AT HOPE = 1090 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
17:23	9.7	5.26	5.3	0.26	118
17:47	9.5	5.86	5.4	0.26	127
18:39	10.7	15.30	6.6	0.18	115
19:02	10.7	17.19	6.9	0.28	107
19:28	10.7	15.39	6.6	0.09	129
19:52	10.7	11.99	6.1	0.14	297
20:16	10.7	11.35	6.0	0.19	289
20:40	10.6	8.10	5.6	0.27	279
21:04	10.5	7.88	5.6	0.48	292
21:20	10.3	11.59	6.1	0.53	295
22:03	8.3	7.50	5.6	0.73	292
22:23	8.4	6.91	5.5	0.64	290
22:56	7.2	1.22	4.8	0.34	297
23:11	7.6	1.00	4.7	0.42	299

TIME SERIES AT MUNGO BEND
DEC 3 1986 START TIME 17:23 PST



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT WATER TOWER

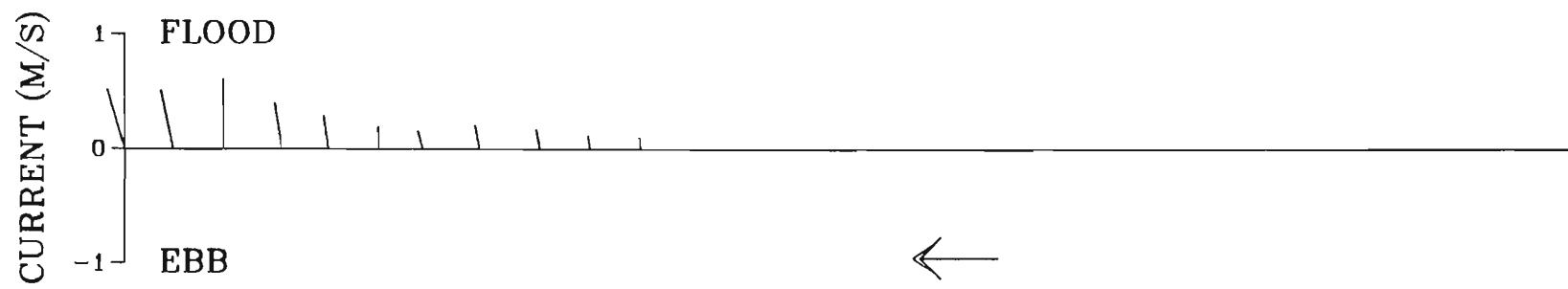
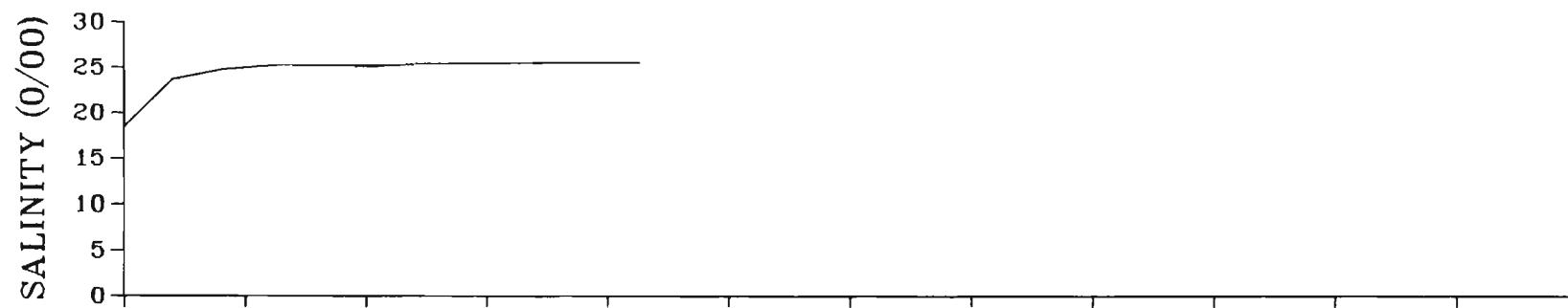
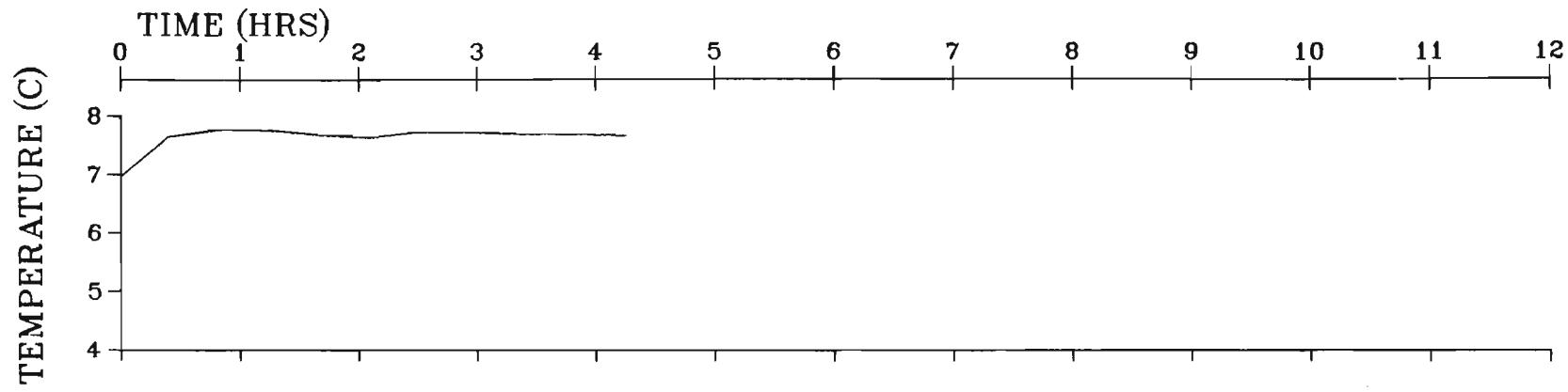
DEC 4 1986 RIVER DISCHARGE AT HOPE = 1030 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
07:15	13.2	18.40	7.0	0.53	073
07:39	13.2	23.71	7.6	0.52	078
08:04	13.1	24.76	7.8	0.60	089
08:33	13.8	25.23	7.7	0.40	080
08:56	14.2	25.19	7.7	0.29	081
09:21	14.2	25.09	7.6	0.19	088
09:43	14.2	25.32	7.7	0.16	074
10:11	14.2	25.38	7.7	0.21	080
10:41	14.3	25.40	7.7	0.17	080
11:06	14.3	25.42	7.7	0.12	080
11:31	14.4	25.43	7.7	0.10	084

TIME SERIES AT WATER TOWER

DEC 4 1986

START TIME 07:15 PST



TRUE NORTH DIRECTION

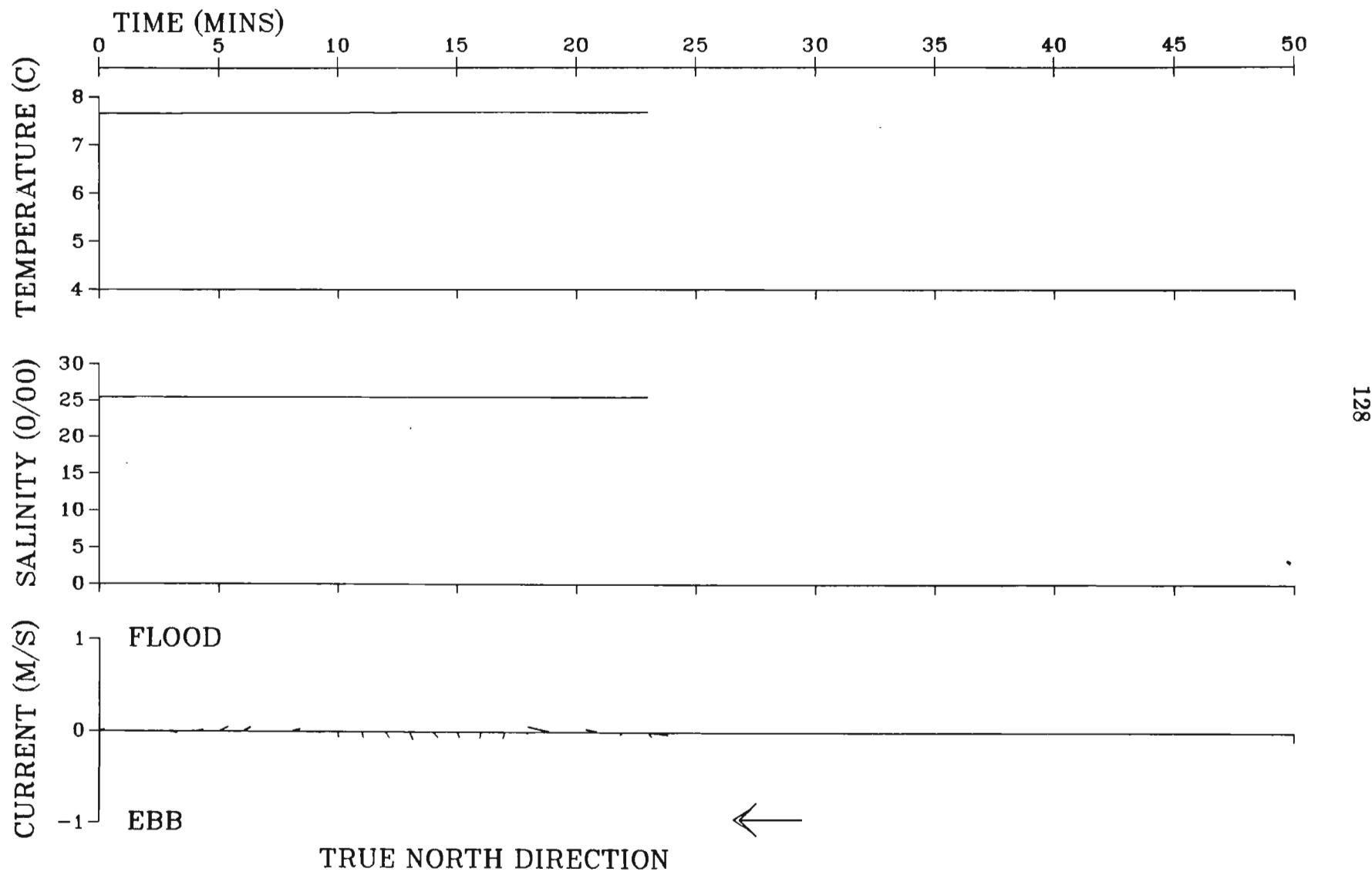
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SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT WATER TOWER

DEC 4 1986 RIVER DISCHARGE AT HOPE = 1030 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
11:45	14.4	25.45	7.7	0.05	160
11:46	14.3	25.46	7.7	0.05	175
11:47	14.3	25.46	7.7	0.06	184
11:48	14.3	25.45	7.7	0.07	204
11:49	14.1	25.45	7.7	0.08	170
11:50	14.1	25.45	7.7	0.11	155
11:51	13.9	25.45	7.7	0.09	153
11:53	13.7	25.45	7.7	0.10	166
11:54	13.5	25.44	7.7	0.07	193
11:55	13.4	25.44	7.7	0.07	265
11:56	13.4	25.45	7.7	0.08	256
11:57	13.3	25.44	7.7	0.09	238
11:58	13.2	25.44	7.7	0.10	246
11:59	13.2	25.45	7.7	0.09	231
12:00	13.1	25.45	7.7	0.07	246
12:01	13.1	25.44	7.7	0.07	280
12:02	13.4	25.44	7.7	0.08	287
12:03	13.3	25.44	7.7	0.03	315
12:04	12.7	25.43	7.7	0.27	011
12:06	13.2	25.43	7.7	0.16	009
12:07	13.1	25.43	7.7	0.06	323
12:08	13.1	25.44	7.7	0.08	231
12:08	13.1	25.43	7.7	0.22	188

TIME SERIES AT WATER TOWER
DEC 4 1986 START TIME 11:45 PST

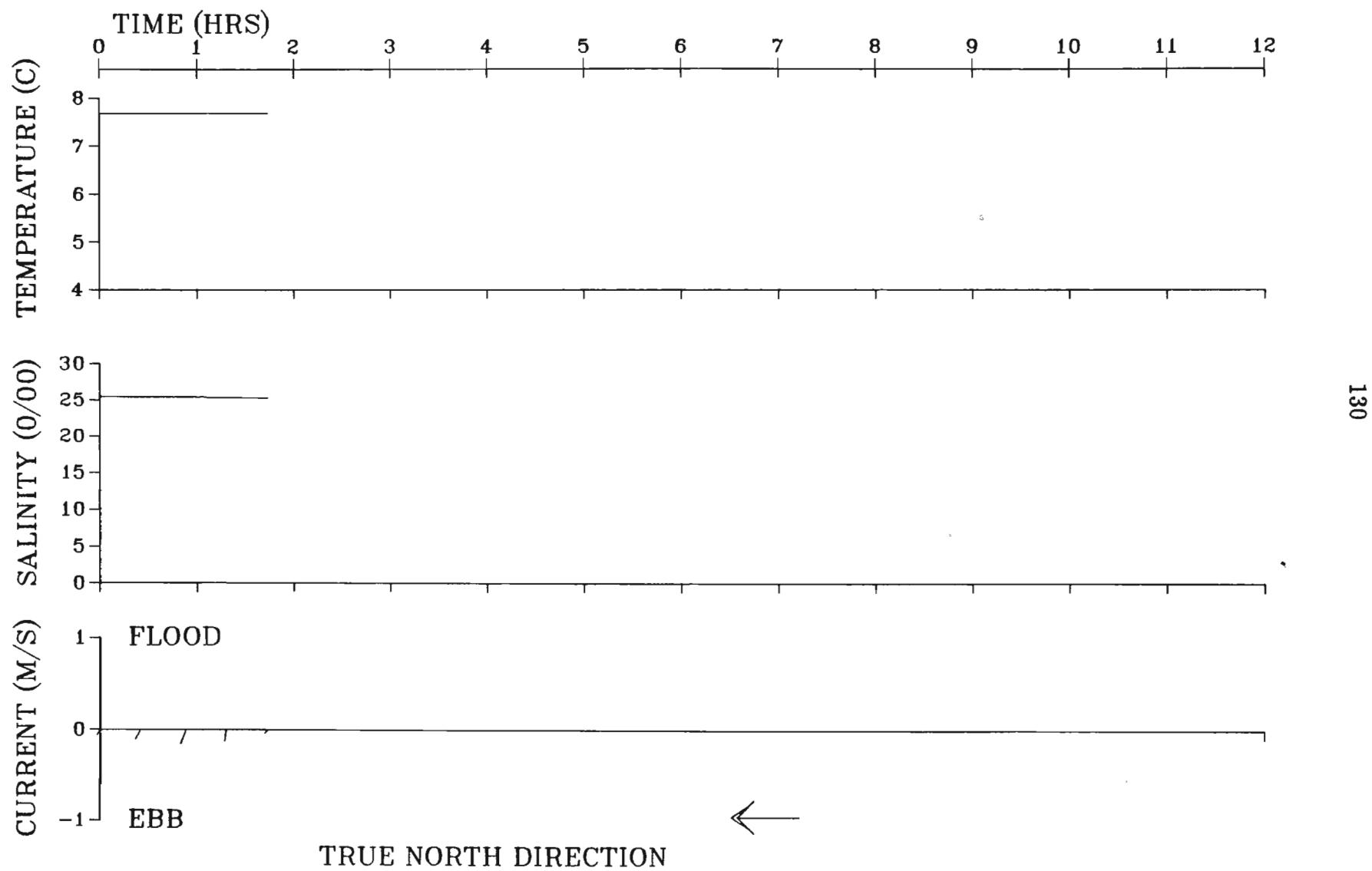


SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT WATER TOWER

DEC 4 1986 RIVER DISCHARGE AT HOPE = 1030 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
12:21	13.1	25.42	7.7	0.08	297
12:46	12.6	25.39	7.7	0.13	296
13:14	12.5	25.35	7.7	0.17	290
13:39	12.4	25.29	7.7	0.14	276
14:05	12.4	25.23	7.7	0.07	308

TIME SERIES AT WATER TOWER
DEC 4 1986 START TIME 12:21 PST

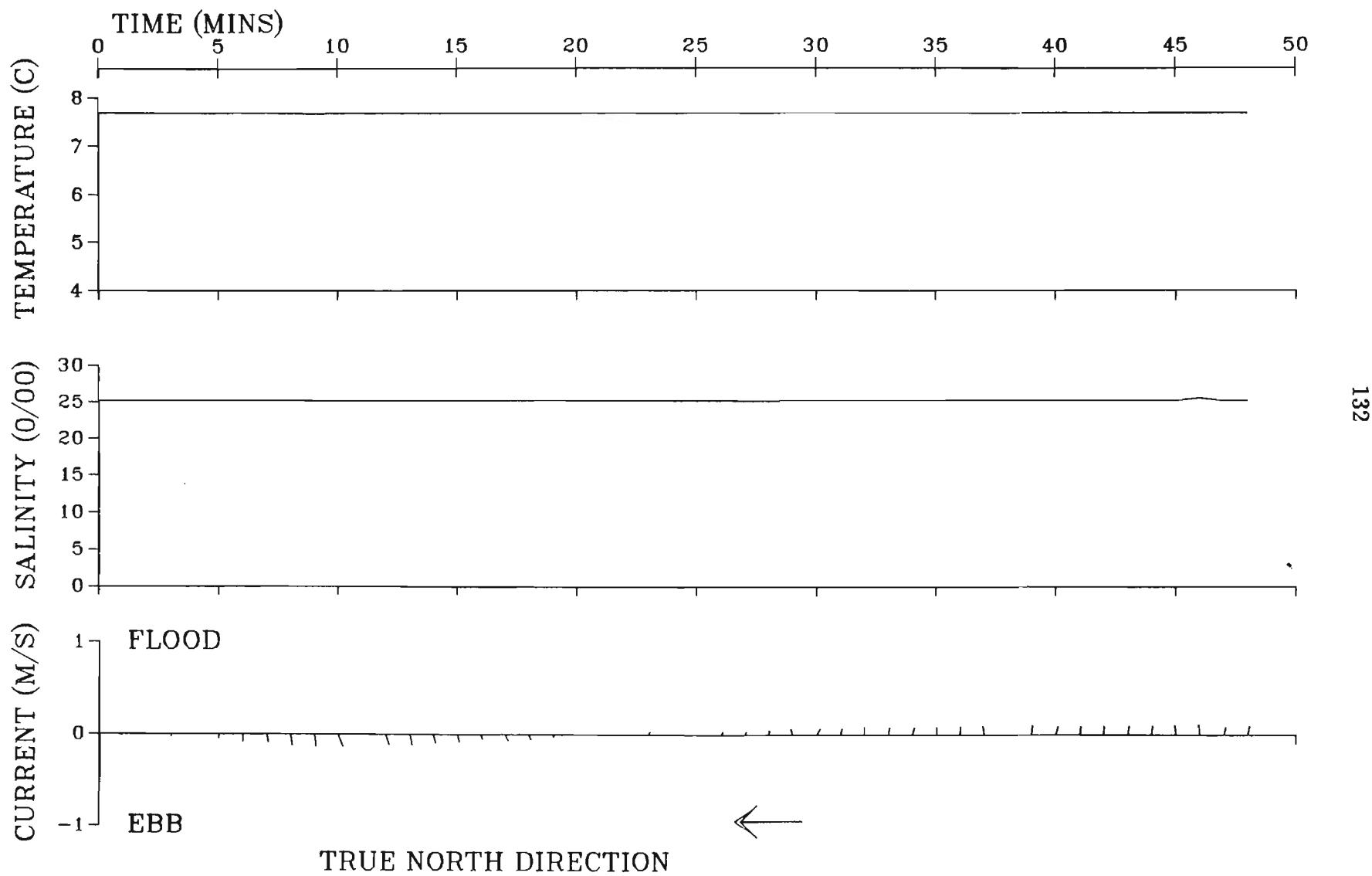


SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT WATER TOWER

DEC 4 1986 RIVER DISCHARGE AT HOPE = 1030 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
14:21	12.4	25.19	7.7	0.03	291
14:22	12.4	25.19	7.7	0.04	331
14:23	12.4	25.19	7.7	0.02	336
14:24	12.4	25.19	7.7	0.03	273
14:26	12.4	25.19	7.7	0.07	270
14:27	12.4	25.18	7.7	0.10	270
14:28	12.4	25.19	7.7	0.10	261
14:29	12.4	25.18	7.7	0.13	260
14:30	12.4	25.17	7.7	0.14	262
14:31	12.4	25.18	7.7	0.15	248
14:33	12.4	25.18	7.7	0.12	253
14:34	12.4	25.17	7.7	0.12	256
14:35	12.4	25.16	7.7	0.11	255
14:36	12.4	25.17	7.7	0.09	256
14:37	12.4	25.17	7.7	0.07	259
14:38	12.4	25.16	7.7	0.08	244
14:39	12.4	25.15	7.7	0.07	247
14:40	12.4	25.15	7.7	0.04	254
14:41	12.4	25.15	7.7	0.01	267
14:42	12.4	25.15	7.7	0.01	359
14:43	12.4	25.15	7.7	0.01	149
14:44	12.4	25.13	7.7	0.03	108
14:47	12.4	25.13	7.7	0.04	128
14:48	12.4	25.11	7.7	0.03	122
14:49	12.4	25.11	7.7	0.05	099
14:50	12.4	25.13	7.7	0.07	075
14:51	12.4	25.14	7.7	0.07	120
14:52	12.4	25.14	7.7	0.07	108
14:53	12.4	25.14	7.7	0.08	091
14:54	12.4	25.14	7.7	0.07	103
14:55	12.4	25.14	7.7	0.08	107
14:56	12.4	25.14	7.7	0.08	096
14:57	12.4	25.14	7.7	0.08	094
14:58	12.4	25.14	7.7	0.09	079
15:00	12.4	25.15	7.7	0.10	093
15:01	12.4	25.15	7.7	0.09	105
15:02	12.4	25.15	7.7	0.09	098
15:03	12.4	25.15	7.7	0.09	094
15:04	12.4	25.15	7.7	0.10	101
15:05	12.4	25.15	7.7	0.09	095
15:06	12.4	25.15	7.7	0.10	083
15:07	12.4	25.47	7.7	0.11	082
15:08	12.4	25.16	7.7	0.08	104
15:09	12.4	25.16	7.7	0.09	100

TIME SERIES AT WATER TOWER
DEC 4 1986 START TIME 14:21 PST

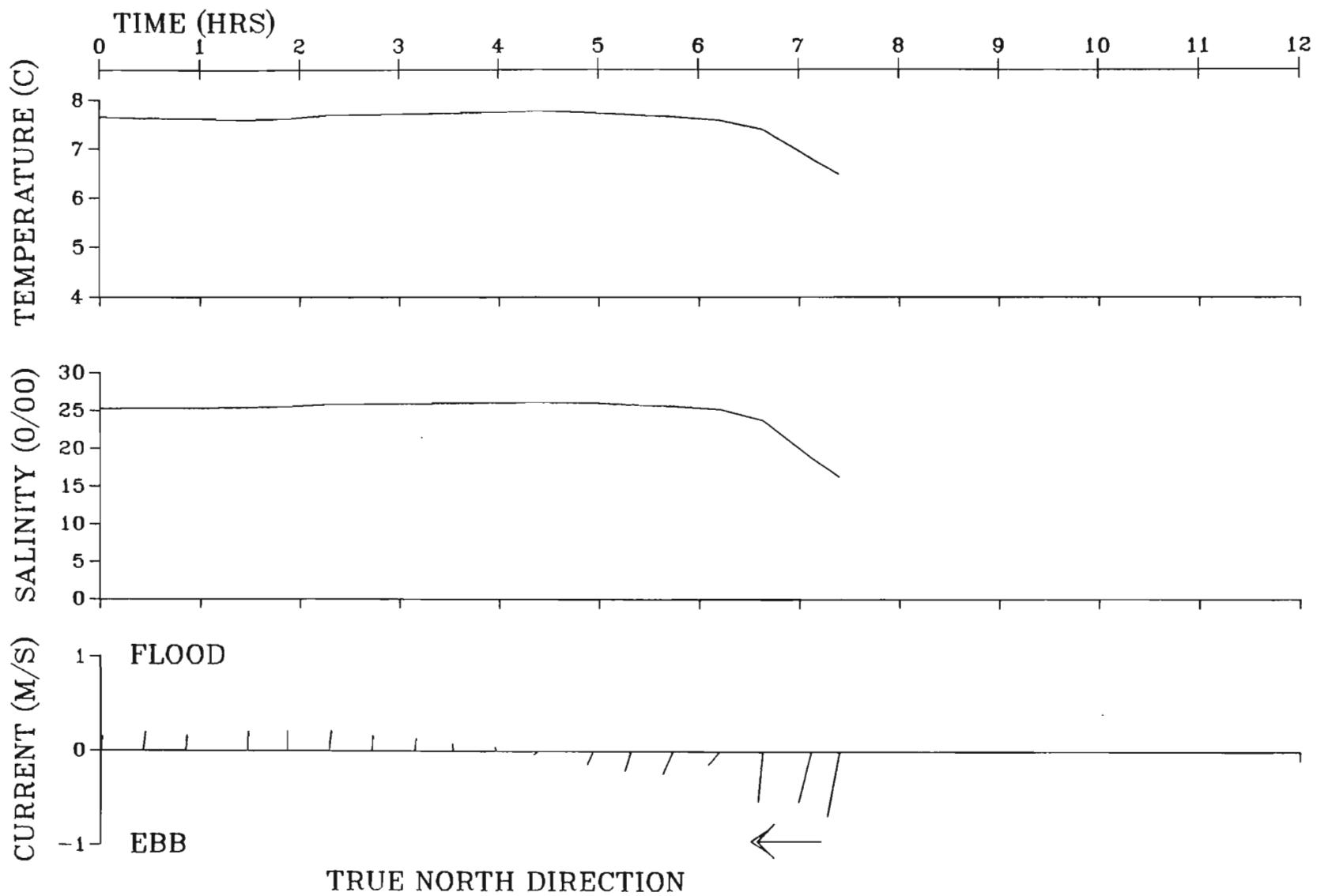


SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT WATER TOWER

DEC 4 1986 RIVER DISCHARGE AT HOPE = 1030 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE)	
					FLOOD	EBB
15:22	12.4	25.20	7.7	0.15	097	
15:47	12.4	25.27	7.6	0.20	097	
16:13	12.4	25.28	7.6	0.16	092	
16:50	12.4	25.34	7.6	0.20	093	
17:14	12.4	25.50	7.6	0.20	090	
17:39	12.4	25.74	7.7	0.21	096	
18:05	12.4	25.84	7.7	0.16	093	
18:31	12.4	25.92	7.7	0.13	096	
18:54	12.4	25.95	7.7	0.08	084	
19:20	12.4	26.03	7.7	0.05	072	
19:45	12.4	26.09	7.8	0.06		321
20:18	12.4	25.96	7.7	0.16		293
20:41	12.4	25.79	7.7	0.23		287
21:06	12.2	25.57	7.6	0.27		293
21:34	11.7	25.16	7.6	0.19		309
22:00	10.8	23.71	7.4	0.54		275
22:29	10.8	18.79	6.8	0.56		284
22:46	10.6	16.23	6.5	0.71		280

TIME SERIES AT WATER TOWER
DEC 4 1986 START TIME 15:22 PST



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SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT WATER TOWER

DEC 5 1986 RIVER DISCHARGE AT HOPE = 0970 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
05:06	11.9	1.00	4.1	0.20	253
05:06	11.5	1.00	4.1	0.07	317
05:07	11.4	1.00	4.1	0.07	314
05:09	11.4	1.00	4.1	0.07	000
05:10	11.4	1.00	4.1	0.05	046
05:11	11.5	1.00	4.1	0.09	046
05:12	11.5	1.00	4.1	0.08	043
05:13	11.4	1.00	4.1	0.09	046
05:14	11.4	1.00	4.1	0.08	047
05:15	11.4	1.00	4.1	0.07	042
05:16	11.5	1.00	4.1	0.04	056
05:17	11.4	1.00	4.1	0.04	104
05:18	11.4	1.00	4.1	0.07	113
05:20	11.4	1.00	4.1	0.12	105
05:21	11.4	1.00	4.1	0.17	095
05:22	11.4	1.00	4.1	0.16	095
05:23	11.4	1.00	4.1	0.15	095
05:24	11.4	1.00	4.1	0.18	092
05:25	11.4	1.00	4.1	0.20	088
05:26	11.4	1.00	4.1	0.22	085
05:27	11.4	1.00	4.1	0.24	088
05:28	11.4	1.00	4.1	0.23	085
05:29	11.4	1.00	4.1	0.24	085
05:31	11.4	1.00	4.1	0.22	090
05:32	11.4	1.00	4.1	0.26	089
05:33	11.4	1.00	4.1	0.28	088
05:34	11.4	1.00	4.1	0.27	083
05:35	11.4	1.00	4.1	0.28	082
05:36	11.4	1.00	4.1	0.28	084
05:37	11.4	1.00	4.1	0.28	089
05:38	11.4	1.00	4.1	0.28	087
05:39	11.4	1.00	4.1	0.27	087
05:41	11.4	1.00	4.1	0.31	090
05:42	11.4	1.00	4.1	0.29	084
05:43	11.4	1.00	4.1	0.31	084
05:44	11.4	1.00	4.2	0.32	093
05:45	11.4	1.00	4.2	0.32	091
05:46	11.4	1.00	4.2	0.30	091
05:47	11.4	1.00	4.2	0.33	083
05:48	11.4	1.00	4.3	0.37	083
05:49	11.4	1.00	4.3	0.34	082
05:50	11.4	1.00	4.3	0.34	082
05:51	11.4	1.00	4.3	0.37	085
05:53	11.4	1.00	4.3	0.34	085
05:53	11.4	1.00	4.3	0.39	091
05:56	11.4	1.00	4.3	0.37	086

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT WATER TOWER

DEC 5 1986 RIVER DISCHARGE AT HOPE = 0970 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
05:57	11.4	1.00	4.3	0.36	084
05:58	11.4	1.00	4.3	0.40	084
06:00	11.4	1.00	4.3	0.37	080
06:01	11.4	1.00	4.3	0.48	079
06:02	11.4	1.00	4.3	0.49	088
06:03	11.4	1.00	4.3	0.48	087
06:04	11.4	1.00	4.3	0.43	086
06:05	11.4	1.00	4.3	0.52	079
06:06	11.4	1.00	4.3	0.50	076
06:07	11.5	1.00	4.2	0.46	083
06:08	12.1	1.00	4.2	0.40	089
06:09	12.1	1.00	4.2	0.46	092
06:10	12.1	1.00	4.2	0.48	087
06:11	12.1	1.00	4.2	0.47	086
06:13	12.1	1.00	4.2	0.46	079
06:14	12.1	1.00	4.2	0.42	081
06:15	12.1	1.00	4.2	0.46	089
06:16	12.1	1.00	4.2	0.44	084
06:17	12.1	1.00	4.2	0.41	078
06:18	12.1	1.00	4.2	0.48	075
06:19	12.1	1.00	4.2	0.52	082
06:20	12.1	1.00	4.2	0.51	076
06:21	12.1	1.00	4.3	0.47	065
06:22	12.1	1.00	4.3	0.47	069
06:23	12.1	1.00	4.4	0.42	078
06:24	12.1	1.00	4.4	0.44	077
06:28	12.1	1.00	4.5	0.52	084
06:29	12.1	1.00	4.5	0.55	071
06:30	12.0	1.00	4.5	0.58	070
06:31	12.1	1.00	4.5	0.46	085
06:33	12.1	1.00	4.5	0.53	088
06:34	12.1	1.00	4.5	0.49	085
06:35	12.1	1.00	4.6	0.47	076
06:36	12.0	1.00	4.6	0.52	077
06:37	12.0	1.00	4.6	0.53	082
06:38	12.0	1.09	4.6	0.56	084
06:39	12.0	1.21	4.6	0.57	082
06:40	12.8	1.72	4.6	0.55	080
06:41	12.8	2.18	4.6	0.47	077
06:42	12.8	2.21	4.6	0.51	080
06:43	12.8	2.23	4.6	0.52	084
06:44	12.7	2.27	4.6	0.53	076
06:46	12.7	2.29	4.6	0.53	074
06:47	12.7	2.29	4.6	0.48	080
06:48	12.7	2.32	4.6	0.64	080
06:49	12.8	2.35	4.6	0.45	076

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT WATER TOWER

DEC 5 1986 RIVER DISCHARGE AT HOPE = 0970 CU.M/SEC

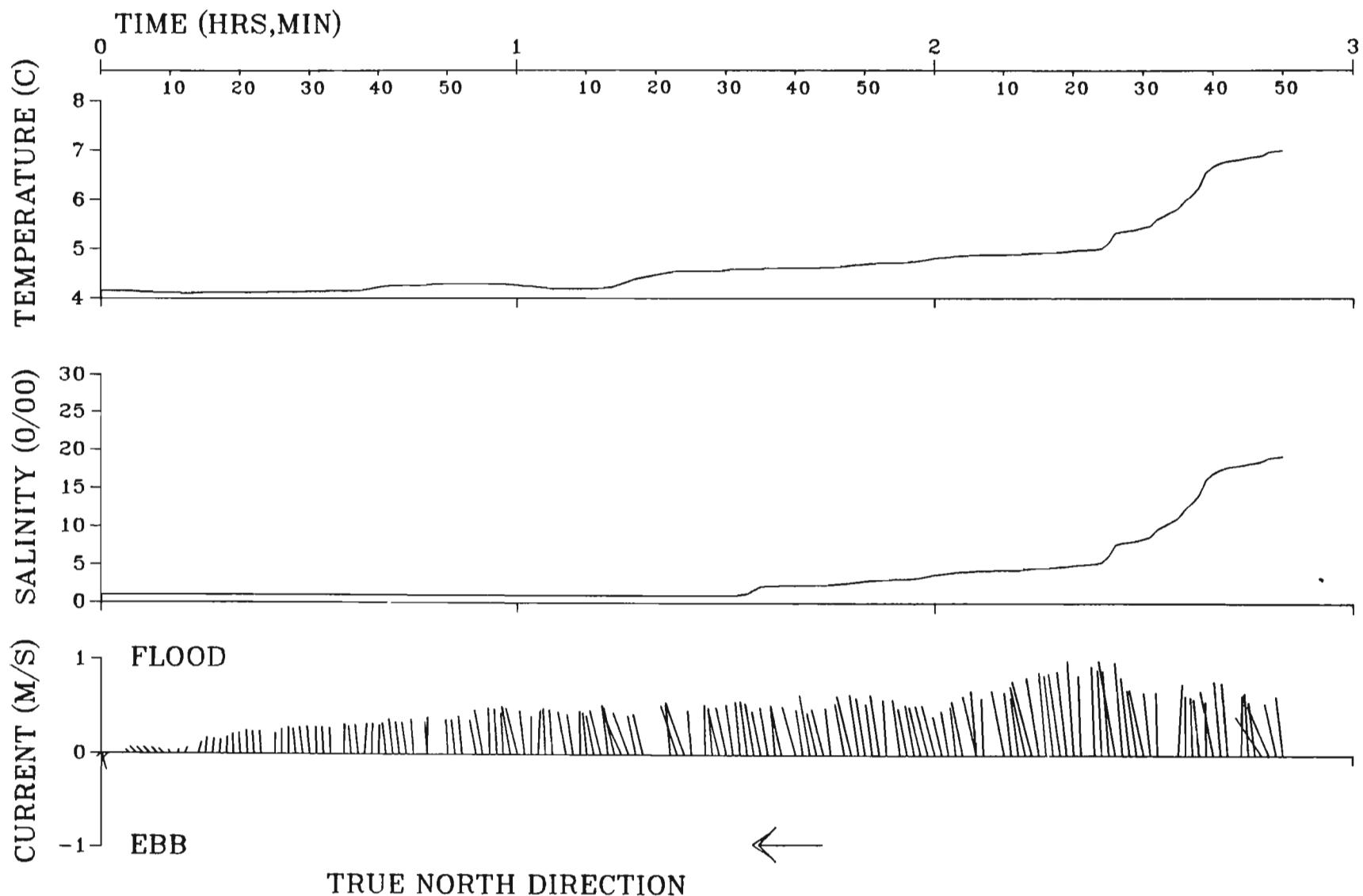
TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
06:50	12.8	2.39	4.6	0.50	075
06:51	12.7	2.44	4.6	0.50	083
06:53	12.7	2.52	4.6	0.55	079
06:54	12.7	2.66	4.7	0.64	076
06:55	12.7	2.76	4.7	0.64	081
06:56	12.7	2.87	4.7	0.61	080
06:57	12.7	2.94	4.7	0.54	082
06:58	12.7	3.04	4.7	0.64	081
06:59	13.2	3.12	4.7	0.58	086
07:01	13.4	3.13	4.7	0.59	082
07:02	13.4	3.17	4.7	0.50	079
07:03	13.4	3.25	4.7	0.53	079
07:04	13.4	3.39	4.7	0.52	076
07:05	13.4	3.58	4.8	0.54	075
07:06	13.5	3.77	4.8	0.54	075
07:07	13.5	3.85	4.8	0.41	077
07:08	13.5	3.93	4.8	0.47	080
07:09	13.4	4.08	4.8	0.51	083
07:10	13.4	4.18	4.9	0.57	078
07:12	13.3	4.23	4.9	0.64	076
07:12	13.3	4.26	4.9	0.68	084
07:13	13.4	4.29	4.9	0.60	088
07:16	13.3	4.34	4.9	0.69	078
07:17	13.4	4.36	4.9	0.66	083
07:18	13.6	4.39	4.9	0.61	082
07:19	13.6	4.48	4.9	0.74	077
07:20	13.5	4.57	4.9	0.80	074
07:21	13.5	4.61	4.9	0.82	080
07:22	13.4	4.65	4.9	0.88	085
07:23	13.5	4.70	4.9	0.84	083
07:24	13.4	4.75	4.9	0.87	082
07:25	13.4	4.86	4.9	0.89	083
07:26	13.1	4.98	5.0	1.00	085
07:27	13.4	5.05	5.0	0.84	088
07:29	13.3	5.18	5.0	0.93	087
07:30	13.3	5.33	5.0	0.90	087
07:31	13.3	6.20	5.1	0.89	085
07:32	13.0	7.65	5.3	1.01	079
07:33	13.0	7.89	5.3	0.97	085
07:34	13.4	8.05	5.4	0.82	083
07:35	13.6	8.16	5.4	0.69	081
07:36	13.6	8.43	5.4	0.70	077
07:37	13.7	8.70	5.5	0.66	083
07:38	13.8	9.70	5.6	0.66	088
07:41	13.7	11.17	5.8	0.75	093
07:42	13.8	12.32	6.0	0.62	090

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS AT WATER TOWER

DEC 5 1986 RIVER DISCHARGE AT HOPE = 0970 CU.M/SEC

TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
07:43	13.7	13.13	6.1	0.61	088
07:44	13.7	14.14	6.2	0.59	084
07:45	13.7	16.20	6.5	0.56	088
07:46	13.7	16.97	6.7	0.69	078
07:47	13.6	17.45	6.7	0.78	085
07:48	13.6	17.75	6.8	0.77	085
07:50	13.6	18.01	6.8	0.63	090
07:51	13.6	18.25	6.8	0.66	086
07:52	13.6	18.40	6.9	0.56	082
07:53	13.7	18.54	6.9	0.49	055
07:54	13.9	18.98	7.0	0.57	066
07:55	13.9	19.11	7.0	0.56	077
07:56	13.9	19.19	7.0	0.63	082

TIME SERIES AT WATER TOWER
DEC 5 1986 START TIME 05:06 PST



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS

JUN 08 1987 RIVER DISCHARGE AT HOPE = 5330 CU.M/SEC

LOCATION	TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
SANDHEADS	13:30	0.4	1.00	13.9	0.44	282
		1.0	1.00	13.9	0.23	237
		3.3	14.10	13.5	0.22	268
		4.9	20.72	13.2	0.21	090
		10.0	22.44	11.3	0.35	109
		13.1	22.35	11.1	0.27	068
BEACON 3	13:39	6.8	22.39	11.5	0.31	246
		8.2	22.47	11.5	0.44	072
		12.6	22.38	11.4	0.43	069
		14.1	22.35	11.4	0.32	066
BEACON 5	13:43	3.2	3.17	13.7	0.18	341
		7.3	20.96	13.1	0.75	060
		10.6	21.91	12.0	0.60	050
BEACON 7	13:48	0.6	1.00	13.9	0.33	228
		2.8	1.00	13.9	0.32	268
		6.3	7.46	13.3	0.23	265
		14.0	21.62	11.8	0.71	064
		16.7	21.61	11.8	0.63	069
		18.6	21.59	11.8	0.58	061
BEACON 11	13:52	0.3	1.00	13.8	0.19	326
		3.1	1.00	13.9	0.19	247
		6.2	5.55	13.6	0.21	340
		9.3	13.79	12.6	0.38	140
		15.8	21.32	11.5	0.27	107
BUOY S16	13:58	0.4	1.00	14.1	0.16	273
		4.3	1.00	14.0	0.12	338
		11.6	1.00	14.0	0.14	231
BUOY S21	14:03	1.6	1.00	14.2	0.18	258
		6.5	1.00	14.2	0.32	228
		11.5	1.00	14.2	0.19	308
		13.0	1.00	14.2	0.21	330
WATER TOWER	14:08	1.6	1.00	14.4	0.22	265
		5.0	1.00	14.4	0.34	267
		10.0	1.00	14.3	0.35	233
		13.2	1.00	14.3	0.35	258
BUOY S23	14:13	0.9	1.00	14.4	0.31	232
		3.6	1.00	14.5	0.18	271
		8.7	1.00	14.5	0.21	251

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS

JUN 08 1987 RIVER DISCHARGE AT HOPE = 5330 CU.M/SEC

LOCATION	TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
BUOY S23	14:13	13.5	1.00	14.5	0.31	260
BUOY S26	14:17	5.4	1.00	14.6	0.30	256
		8.0	1.00	14.6	0.43	232
		11.1	1.00	14.5	0.17	233
BUOY S34	14:29	0.5	1.00	14.6	0.26	249
		1.1	1.00	14.5	0.26	250
		2.4	1.00	14.6	0.33	236
		5.7	1.00	14.5	0.30	276
		8.6	1.00	14.5	0.39	279
		10.8	1.00	14.5	0.34	253
		12.9	1.00	14.5	0.27	234
ALEX FRASER	14:33	0.3	1.00	13.1	0.30	221
		1.1	1.00	14.5	0.27	216
		3.8	1.00	14.5	0.18	217
		6.9	1.00	14.5	0.24	214
		11.5	1.00	14.5	0.36	216
		13.7	1.00	14.5	0.10	280
SURREY DOCK	14:38	0.2	1.00	14.5	0.15	204
		1.5	1.00	14.5	0.35	190
		4.0	1.00	14.5	0.17	222
		6.1	1.00	14.5	0.31	190
		8.0	1.00	14.5	0.39	225
		11.2	1.00	14.5	0.52	212
		12.9	1.00	14.5	0.29	225
PATTULLO BR	14:43	0.2	1.00	14.5	0.39	204
		3.4	1.00	14.4	0.47	193
		5.3	1.00	14.5	0.43	205
		8.6	1.00	14.5	0.63	226
		10.0	1.00	14.5	0.44	238
		14.0	1.00	14.5	0.18	231

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS

JUL 06 1987 RIVER DISCHARGE AT HOPE = 5210 CU.M/SEC

LOCATION	TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
SANDHEADS	11:08	0.6	1.00	16.2	0.34	224
		1.6	1.00	16.0	0.30	223
		3.5	7.58	14.9	0.11	246
		5.0	13.13	14.2	0.13	123
		7.7	14.97	13.3	0.44	091
		8.7	15.04	13.0	0.56	077
BEACON 3	11:15	0.2	1.00	16.2	0.24	285
		1.4	1.00	16.1	0.29	270
		3.0	1.00	16.0	0.35	261
		4.1	4.71	15.4	0.10	261
		8.3	15.16	12.5	0.44	006
		12.7	14.99	12.5	0.35	027
		13.1	14.99	12.5	0.31	038
BEACON 5	11:20	1.0	1.00	16.1	0.37	242
		2.6	1.00	16.0	0.51	233
		4.7	1.00	15.7	0.42	229
		5.0	5.57	15.2	0.35	233
		7.4	13.02	13.0	0.26	360
		10.2	14.82	12.4	0.43	058
		12.4	14.76	12.3	0.24	060
BEACON 7	11:25	0.6	1.00	16.2	0.29	248
		4.9	1.00	16.0	0.30	228
		5.8	1.00	16.0	0.45	217
		10.6	1.00	16.0	0.46	218
		13.9	1.00	16.0	0.25	206
		15.9	1.00	16.0	0.29	158
BEACON 11	11:32	0.2	1.00	13.9	0.15	329
		3.1	1.00	16.0	0.32	283
		6.2	1.00	16.0	0.43	311
		12.5	1.00	16.0	0.20	241
BUOY S16	11:38	0.6	1.00	16.3	0.26	304
		4.3	1.00	16.0	0.28	305
		6.9	1.00	16.0	0.25	313
		11.8	1.00	16.0	0.22	281
BUOY S21	11:45	0.6	1.00	16.2	0.31	269
		3.4	1.00	16.1	0.26	263
		4.5	1.00	16.1	0.39	277
		11.5	1.00	16.0	0.26	271
WATER TOWER	11:51	0.6	1.00	16.2	0.21	288

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS

JUL 06 1987 RIVER DISCHARGE AT HOPE = 5210 CU.M/SEC

LOCATION	TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
WATER TOWER	11:51	1.4	1.00	16.1	0.22	247
		4.7	1.00	16.0	0.38	272
		7.1	1.00	16.0	0.46	258
		10.6	1.00	16.0	0.37	243
		12.9	1.00	16.0	0.20	327
BUOY S23	12:15	0.6	1.00	16.5	0.22	286
		5.0	1.00	16.1	0.31	258
		6.2	1.00	16.1	0.23	257
		8.4	1.00	16.0	0.26	264
		11.9	1.00	16.0	0.29	276
BUOY S26	12:34	1.2	1.00	18.2	0.38	214
		5.0	1.00	17.8	0.31	209
		6.9	1.00	17.2	0.50	213
		9.1	1.00	16.1	0.36	210
		11.5	1.00	16.0	0.40	204
		13.7	1.00	16.0	0.17	196
BUOY S30	12:40	1.6	1.00	18.2	0.27	224
		4.0	1.00	18.3	0.29	233
		5.9	1.00	17.3	0.29	245
		9.2	1.00	16.8	0.40	224
		10.1	1.00	16.1	0.34	248
		11.9	1.00	16.1	0.27	236
BUOY S34	12:48	0.6	1.00	16.2	0.16	269
		3.3	1.00	17.3	0.23	254
		4.7	1.00	17.0	0.26	262
		6.1	1.00	17.2	0.43	259
		11.0	1.00	16.0	0.51	263
ALEX FRASER	12:55	2.6	1.00	16.1	0.44	210
		4.7	1.00	16.1	0.37	239
		5.9	1.00	16.1	0.41	224
		7.6	1.00	16.0	0.47	234
		8.7	1.00	16.0	0.45	225
		11.0	1.00	16.0	0.42	230
		12.9	1.00	16.0	0.24	223
SURREY DOCK	13:05	0.3	1.00	16.1	0.32	216
		3.6	1.00	16.1	0.57	197
		6.1	1.00	16.0	0.73	193
		7.3	1.00	15.9	0.67	187
		9.3	1.00	15.9	0.61	190
		11.2	1.00	15.9	0.64	193

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS

JUL 06 1987 RIVER DISCHARGE AT HOPE = 5210 CU.M/SEC

LOCATION	TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
SURREY DOCK	13:05	12.2	1.00	15.9	0.51	181
		13.3	1.00	15.9	0.45	220
PATTULLO BR	13:12	0.8	1.00	16.1	0.36	252
		3.5	1.00	16.1	0.74	241
		6.4	1.00	16.0	0.73	220
		9.8	1.00	16.0	0.79	235
		12.1	1.00	16.0	0.74	227
		14.1	1.00	16.0	0.53	227
QUEENSBOROUGH	13:24	3.3	1.00	15.8	0.46	273
		6.7	1.00	15.8	0.55	305
		8.9	1.00	15.8	0.57	303
		10.4	1.00	15.8	0.21	327
TREE ISLAND	13:32	0.7	1.00	16.0	0.32	264
		2.8	1.00	16.1	0.25	233
		5.0	1.00	16.1	0.50	228
		6.4	1.00	16.1	0.17	286
RAILWAY BR	13:38	0.7	1.00	16.2	0.30	342
		2.6	1.00	16.6	0.31	337
		4.2	1.00	16.4	0.31	333
		7.6	1.00	16.1	0.32	325
TOM MAC SHPYD	13:46	0.4	1.00	21.0	0.10	284
		2.0	1.00	20.7	0.23	297
		3.8	1.00	22.6	0.17	309
		8.7	1.00	18.3	0.38	282
		10.5	1.00	19.3	0.56	302
KNIGHT ST BR	13:53	0.6	1.00	16.9	0.24	258
		1.9	1.00	16.5	0.28	250
		5.7	1.00	17.3	0.27	232
		6.9	1.00	17.5	0.20	241
ARTHUR LAING	14:03	0.0	1.00	15.6	0.15	211
		4.2	1.00	16.5	0.12	227
		9.1	1.00	16.2	0.14	293
CELTIC SHPYD	14:10	0.1	1.00	13.4	0.22	272
		2.4	1.00	16.2	0.07	224
		8.4	5.85	16.0	0.11	329
LOG BURN LT	14:17	0.6	5.84	16.1	0.28	298

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS

JUL 06 1987 RIVER DISCHARGE AT HOPE = 5210 CU.M/SEC

LOCATION	TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
POINT GREY	14:26	0.6	11.66	17.0	0.42	294
		2.6	12.88	16.7	0.29	292
		5.1	18.30	13.9	0.11	263
		6.7	18.88	12.9	0.19	160
		7.4	19.74	11.5	0.08	069
		9.7	19.79	11.4	0.12	107
MIDDLE ARM	14:56	0.2	1.00	16.6	0.16	316
		1.4	1.00	16.4	0.15	284
		3.2	1.00	16.4	0.18	282
		5.3	1.00	16.4	0.12	246

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS

SEP 03 1987 RIVER DISCHARGE AT HOPE = 1980 CU.M/SEC

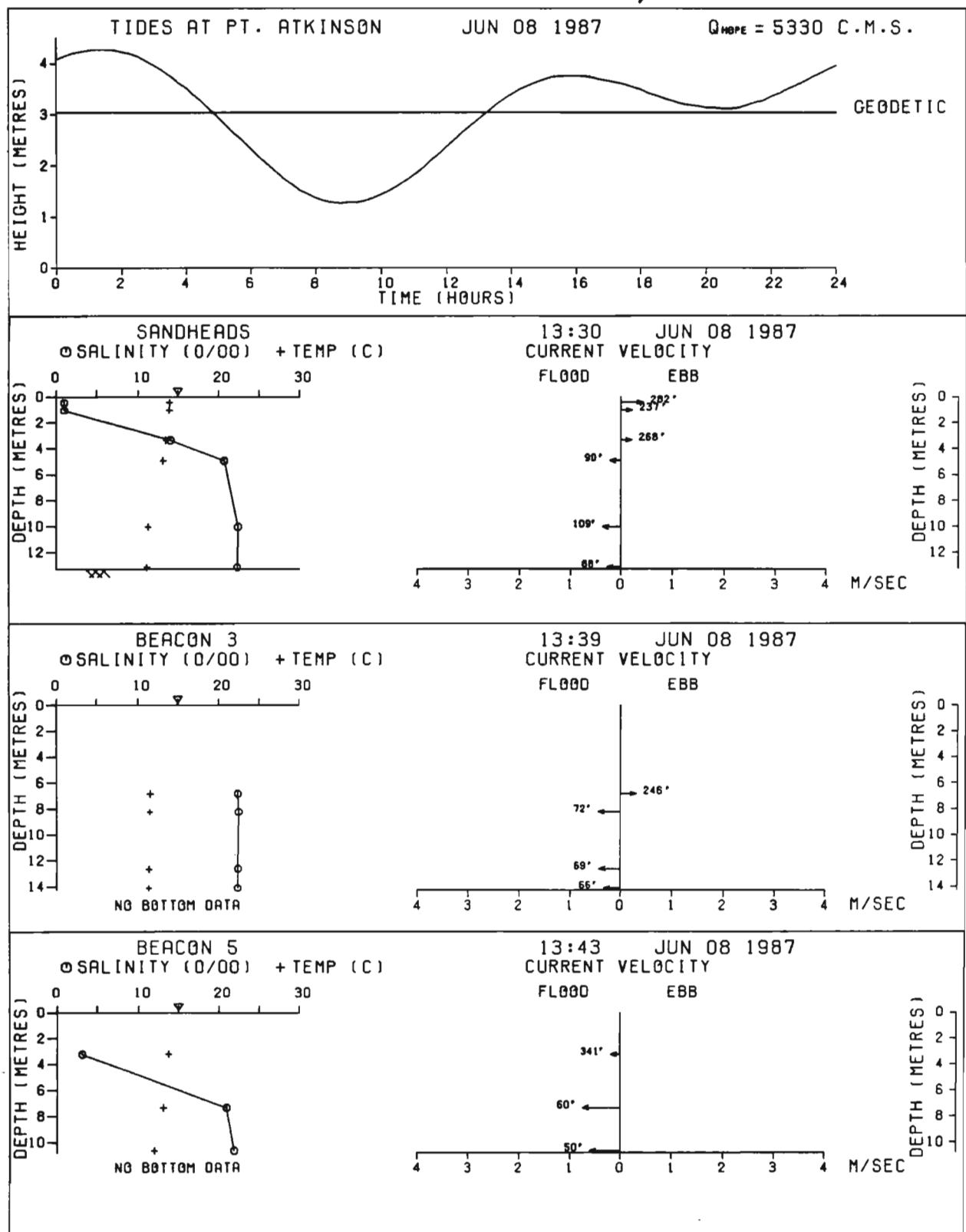
LOCATION	TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
SANDHEADS	11:07	1.1	6.74	18.2	0.34	086
		2.4	17.35	17.0	0.52	094
		4.1	21.00	16.8	0.78	059
		6.2	22.68	16.4	0.96	095
BEACON 5	11:20	1.5	4.49	18.4	0.37	057
		5.0	14.61	15.8	0.77	062
		7.4	16.32	15.5	0.88	067
		9.9	17.00	14.3	0.66	068
		11.7	17.02	14.0	0.41	085
BEACON 11	11:28	0.2	1.00	17.2	0.13	106
		6.0	7.48	17.6	0.80	136
		9.9	12.72	16.3	0.80	115
		10.3	14.15	16.2	0.94	130
		13.4	18.16	14.2	0.69	136
		16.9	17.65	14.0	0.58	130
		19.4	18.52	14.0	0.55	133
		0.9	1.00	18.8	0.12	171
BUOY S21	11:37	4.7	1.00	18.8	0.28	171
		6.9	1.00	18.8	0.29	182
		9.8	1.00	18.8	0.10	179
		11.7	1.00	18.8	0.17	130
		2.2	1.00	18.6	0.16	270
BUOY S30	11:52	6.0	1.00	18.8	0.16	273
		10.5	1.00	18.6	0.15	294
		0.6	1.00	18.5	0.16	179
ALEX FRASER	12:02	5.5	1.00	18.4	0.20	251
		9.9	1.00	18.4	0.14	270
		11.3	1.00	18.4	0.16	250
		2.2	1.00	18.3	0.17	184
PATTULLO BR	12:10	5.7	1.00	18.3	0.21	184
		7.3	1.00	18.2	0.18	202
		9.1	1.00	18.2	0.17	231
		0.4	1.00	18.7	0.30	294
QUEENSBOROUGH	12:17	1.5	1.00	18.7	0.28	244
		5.1	1.00	18.7	0.22	315
		6.9	1.00	18.7	0.22	291
		0.5	1.00	18.9	0.09	251
RAILWAY BR	12:27	4.1	1.00	18.8	0.13	281

SALINITY, TEMPERATURE & CURRENT MEASUREMENTS

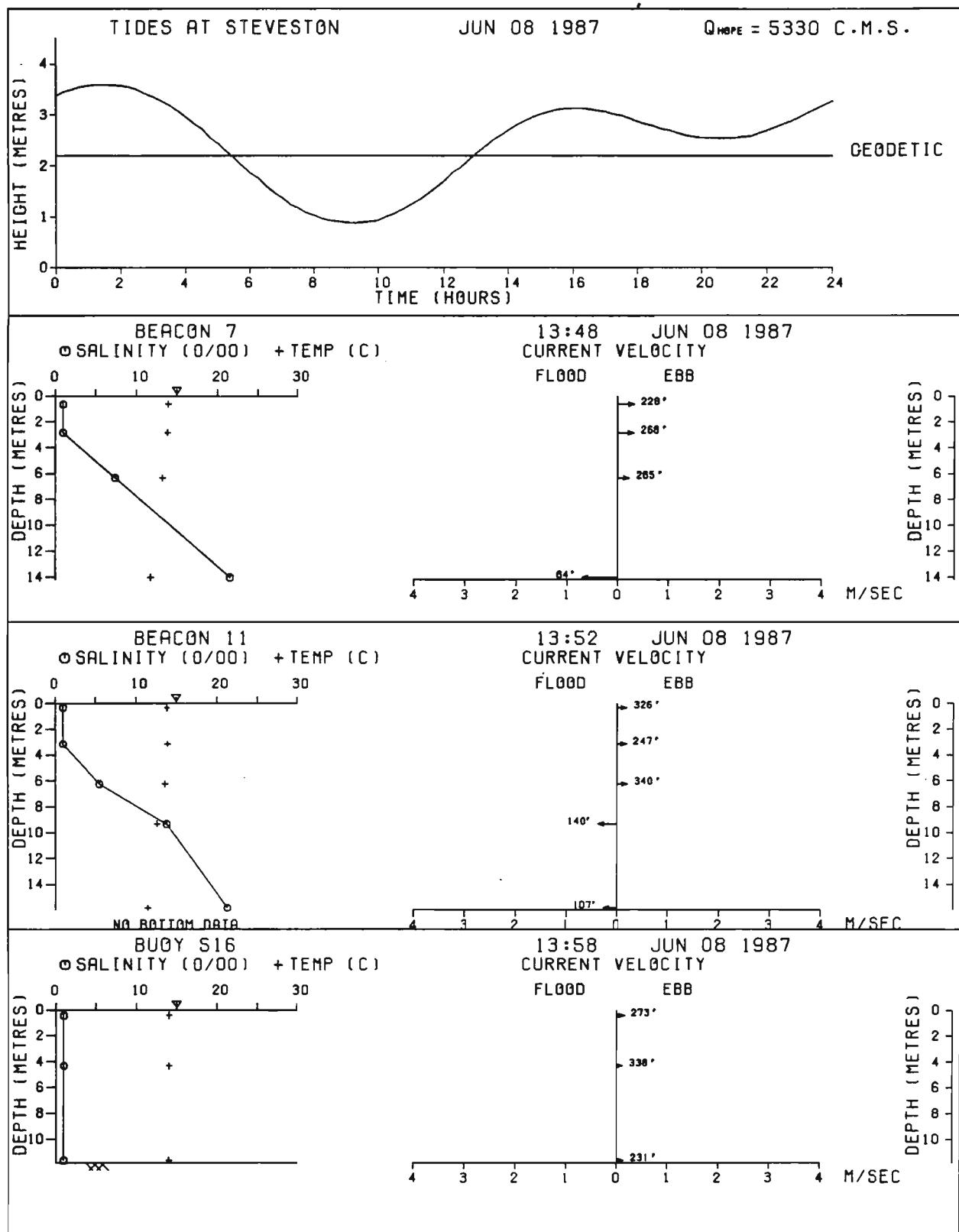
SEP 03 1987 RIVER DISCHARGE AT HOPE = 1980 CU.M/SEC

LOCATION	TIME (PST)	DEPTH (M)	SALINITY (0/00)	TEMP (C)	SPEED (M/S)	DIR (TRUE) FLOOD EBB
RAILWAY BR	12:27	8.5	1.00	18.8	0.21	246
KNIGHT ST BR	12:40	0.2	1.00	18.8	0.12	149
		3.3	1.00	18.8	0.23	105
		5.8	1.00	18.8	0.12	101
		6.7	1.00	18.8	0.19	144
ARTHUR LAING	12:49	1.6	1.00	18.9	0.12	057
		3.3	1.00	18.9	0.17	098
		6.0	1.00	18.8	0.26	117
		7.5	1.00	18.9	0.39	125
CELTIC SHPYD	12:56	0.0	1.00	17.4	0.11	156
		0.5	2.76	18.8	0.08	129
		2.3	5.14	18.3	0.34	120
		3.7	8.01	17.7	0.28	113
		8.0	10.94	17.1	0.26	125
POINT GREY	13:09	0.5	16.61	17.1	0.22	162
		2.0	18.59	14.7	0.23	112
		3.0	18.99	14.1	0.18	110
		5.2	19.61	13.3	0.23	088
		8.2	20.10	12.6	0.28	085
		9.8	20.22	12.4	0.28	104
MIDDLE ARM	13:27	0.9	4.58	18.4	0.27	107
		2.4	5.06	18.3	0.46	152
		4.6	5.57	18.3	0.53	153

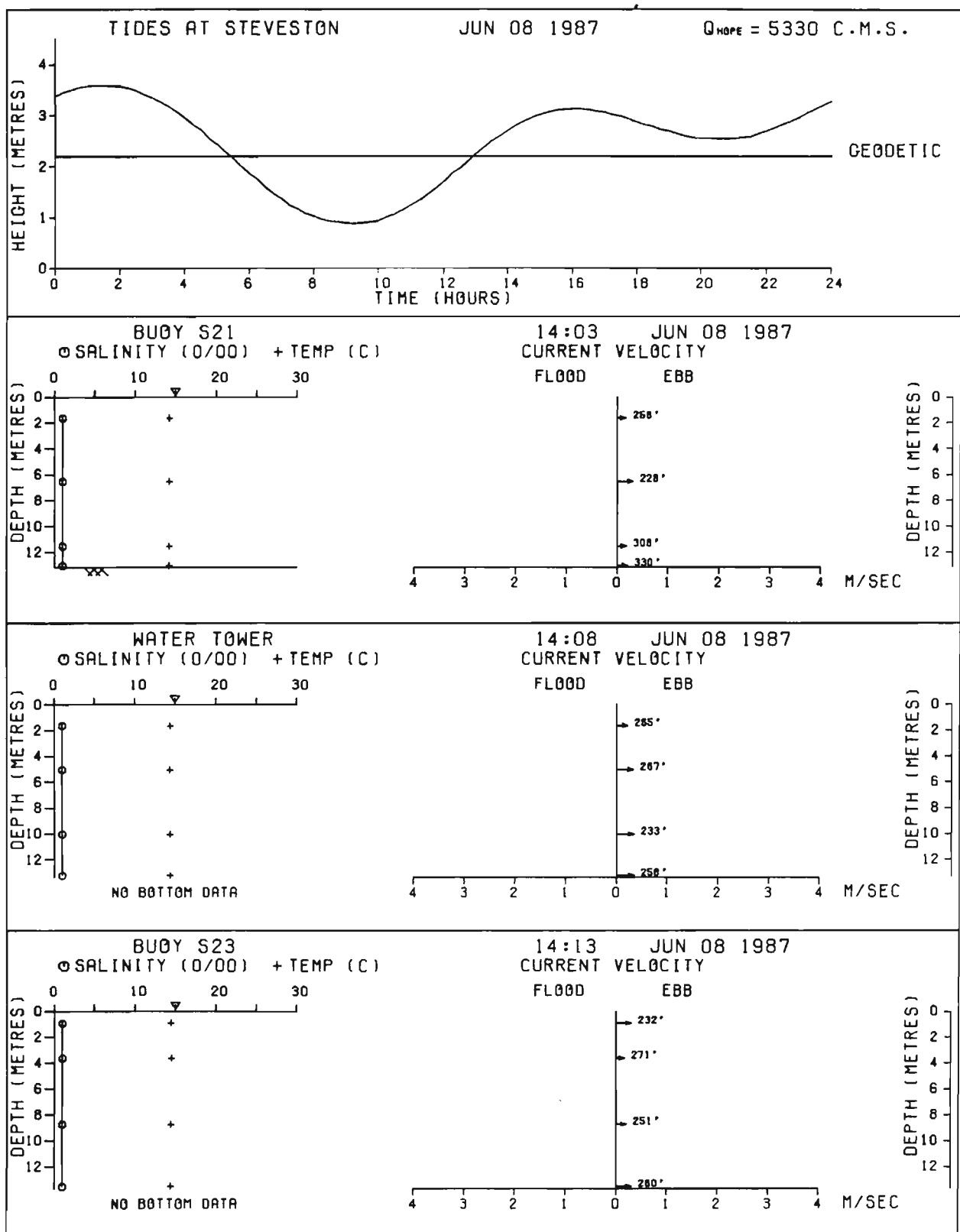
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



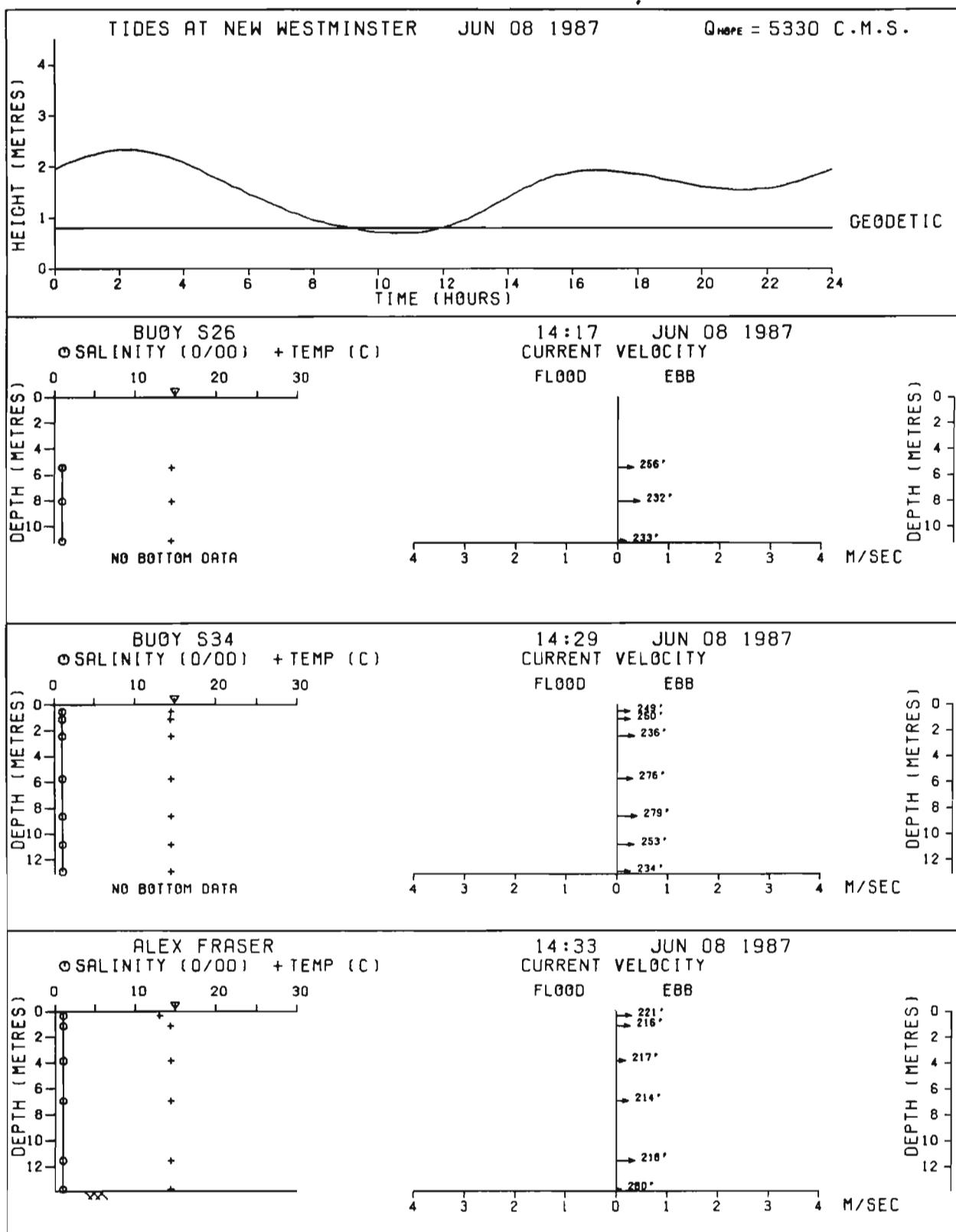
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



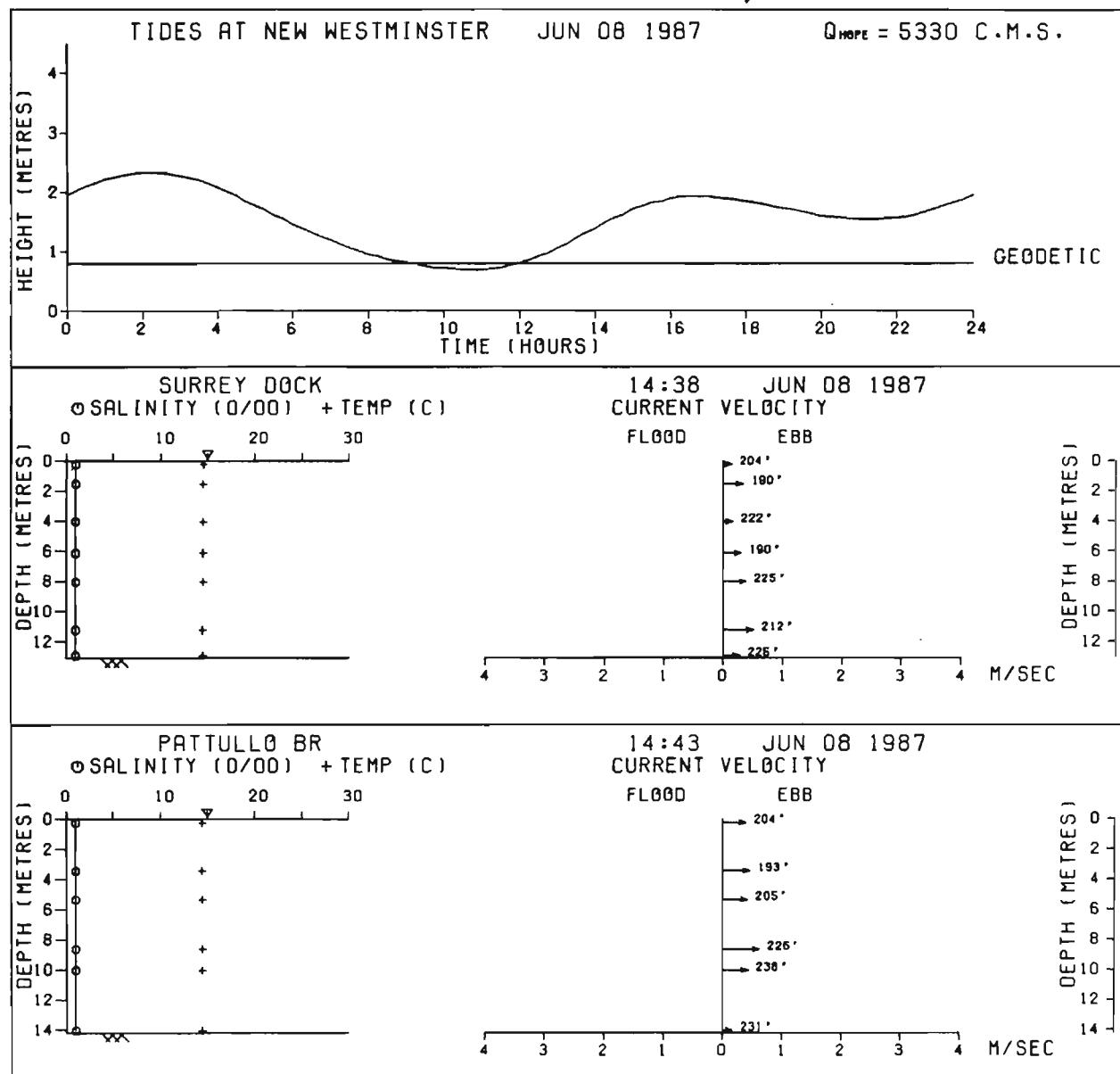
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



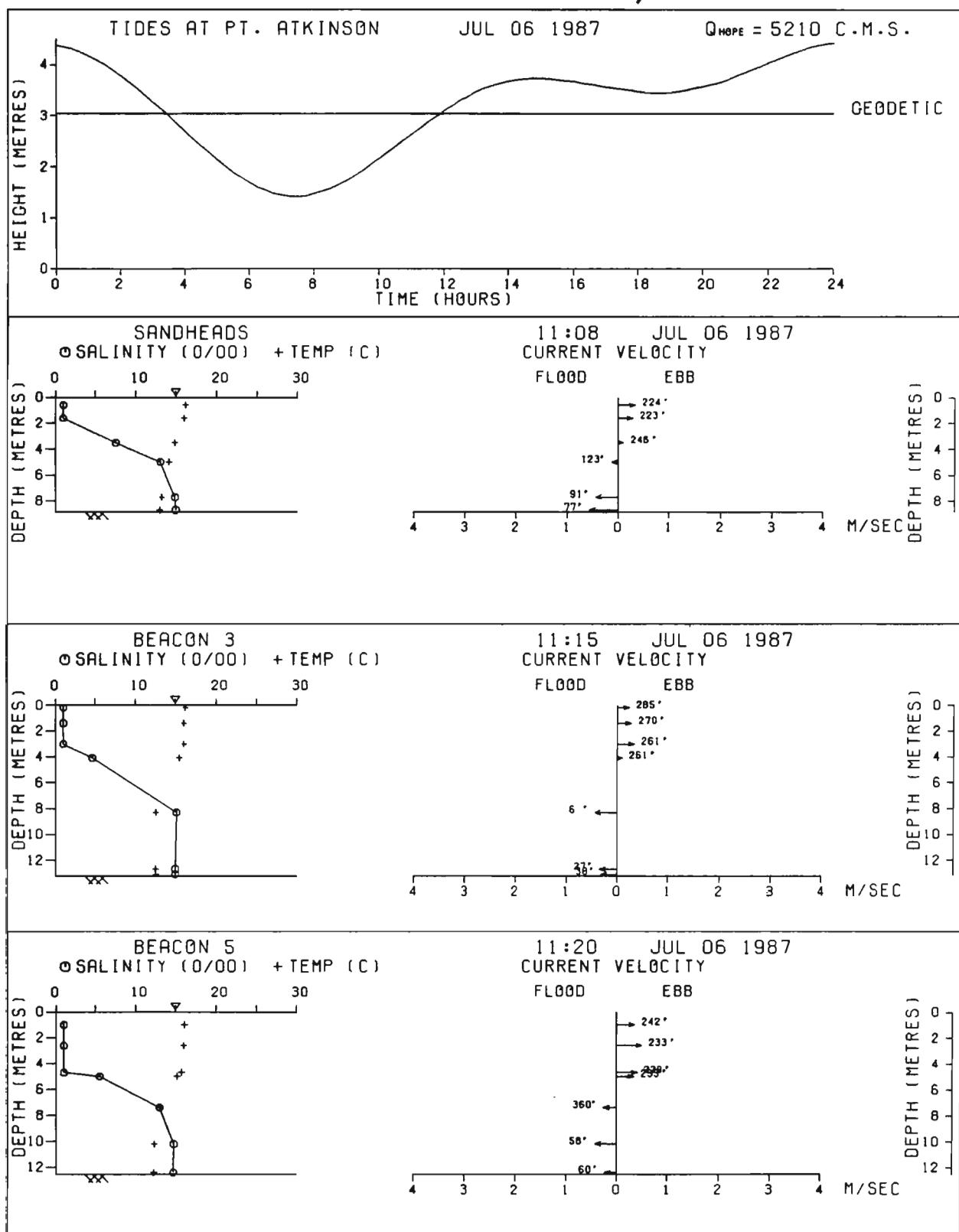
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



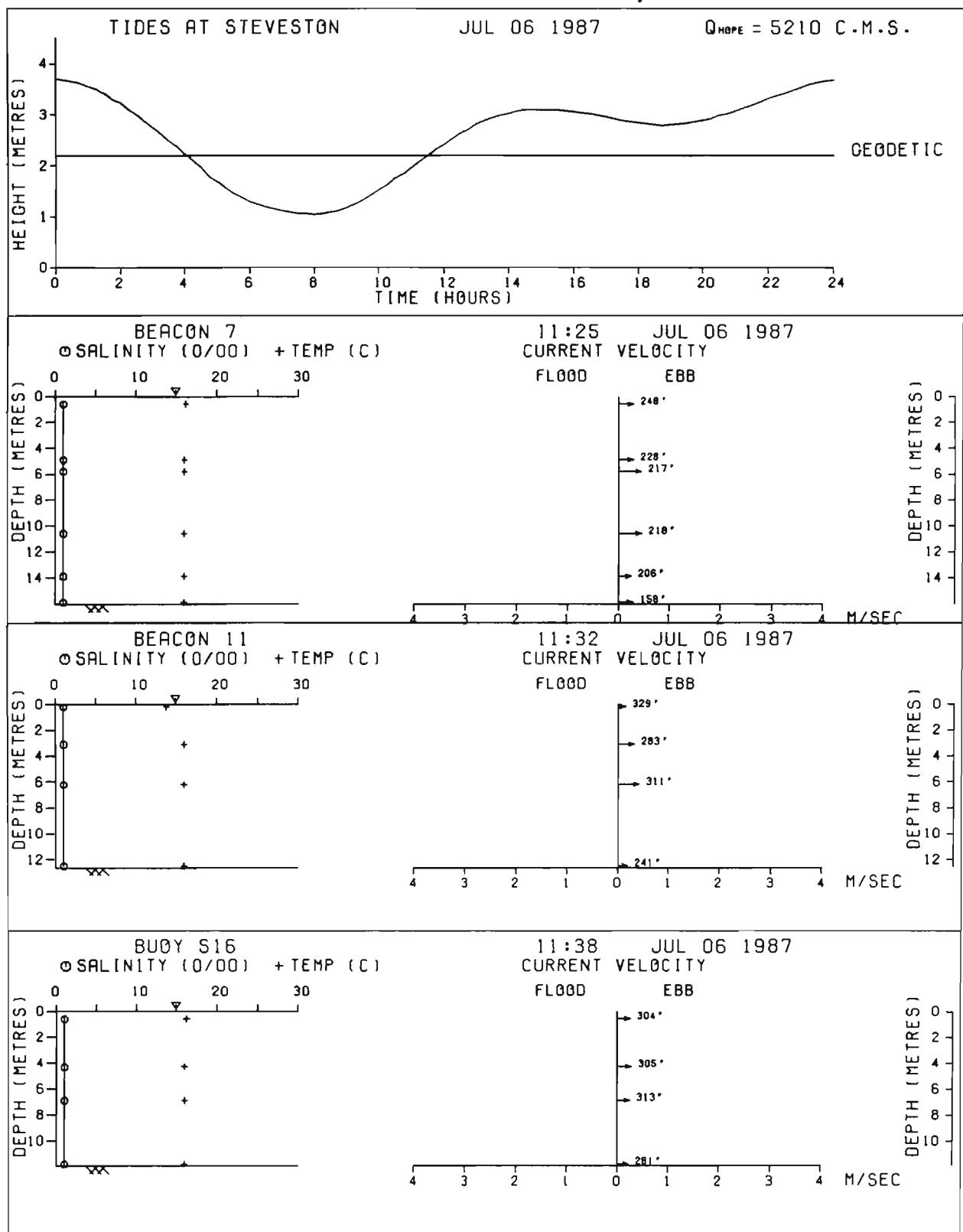
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



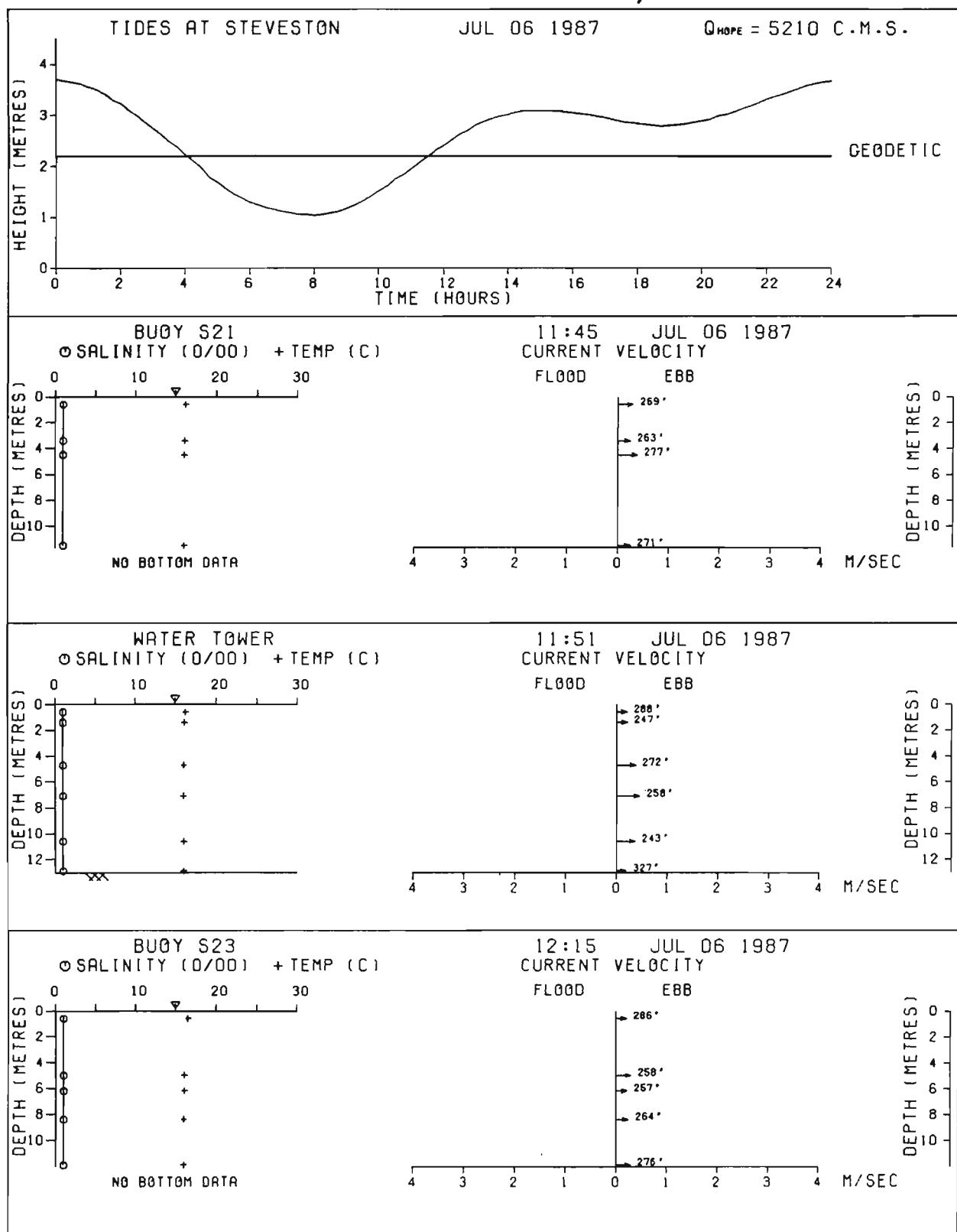
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



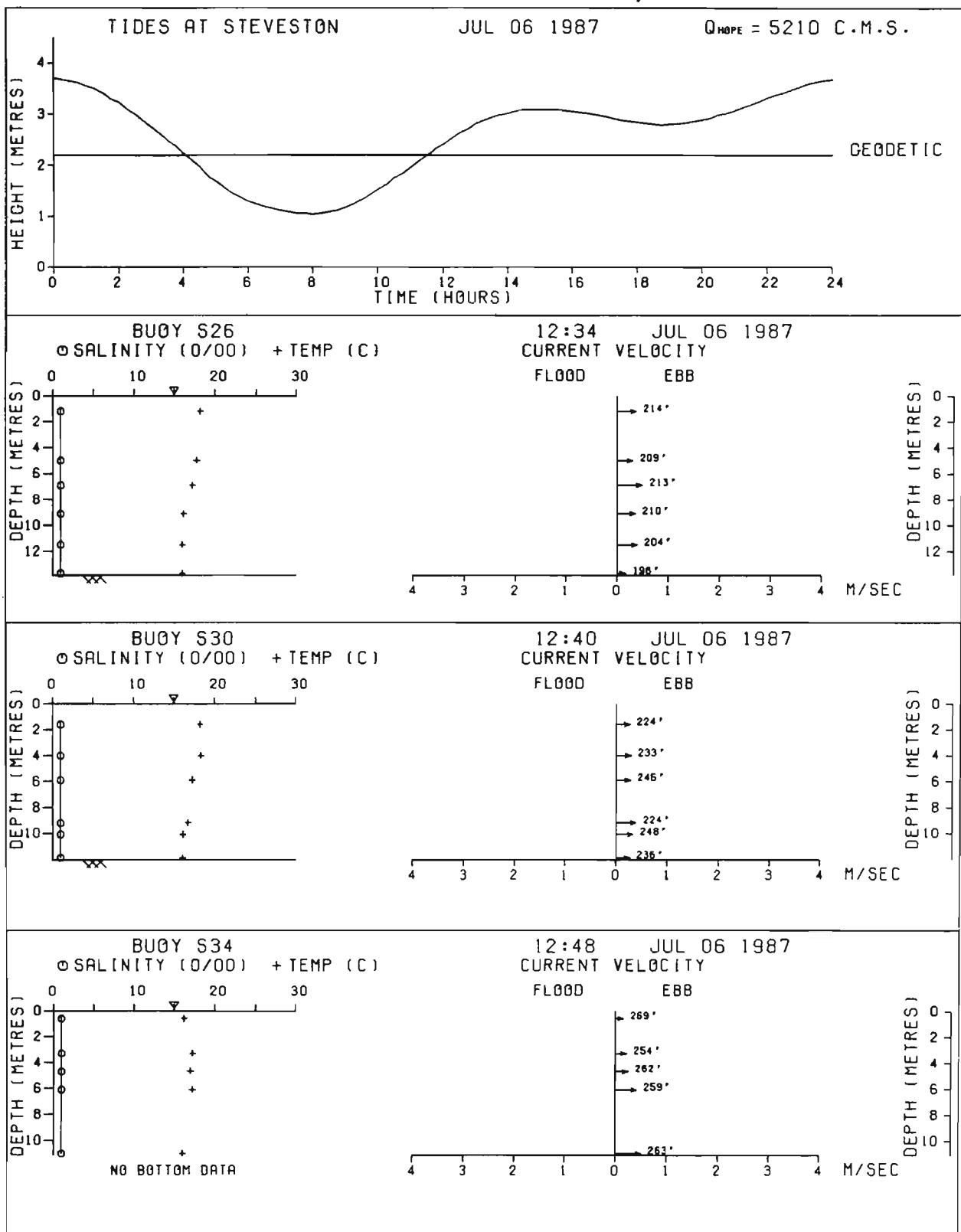
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



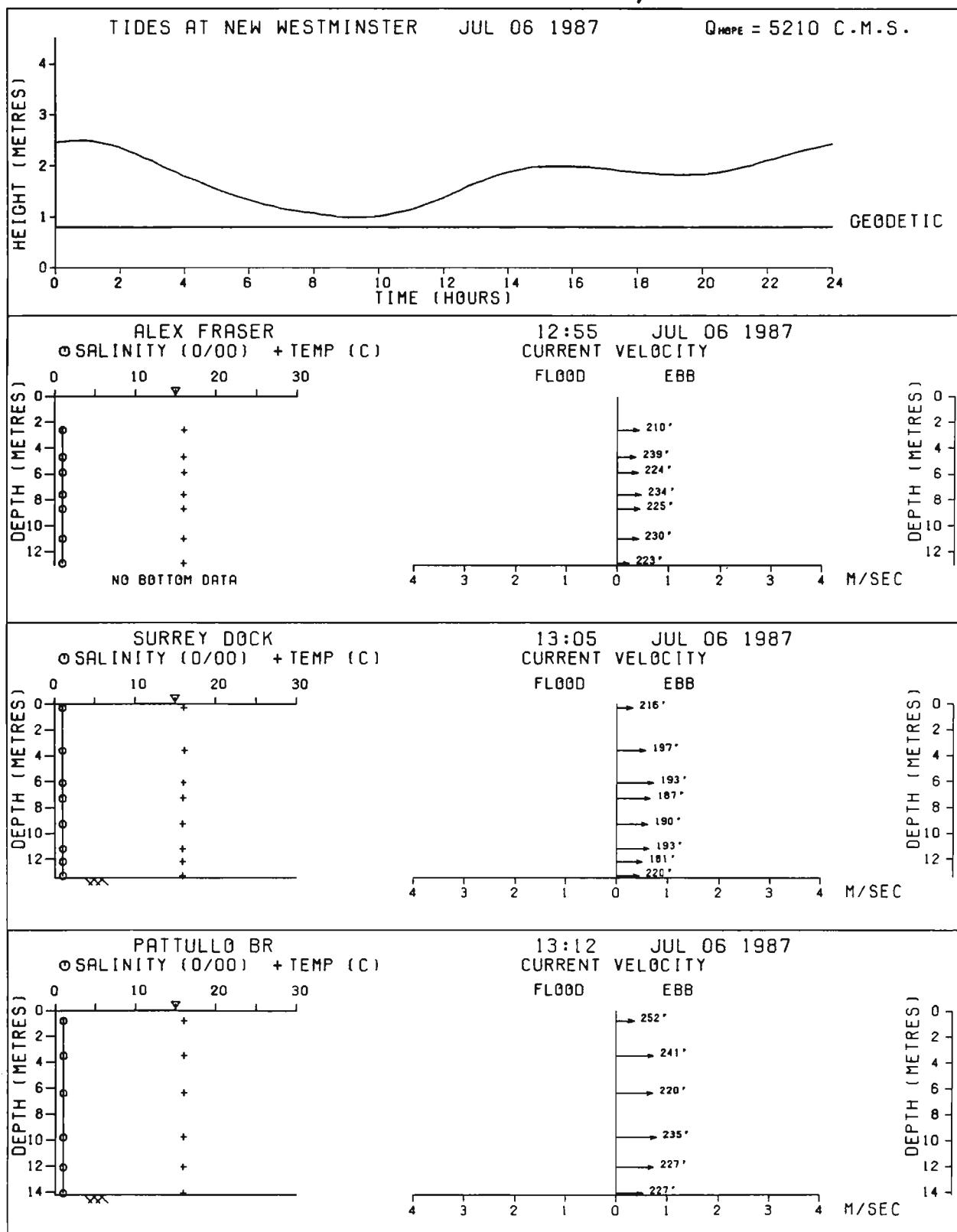
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



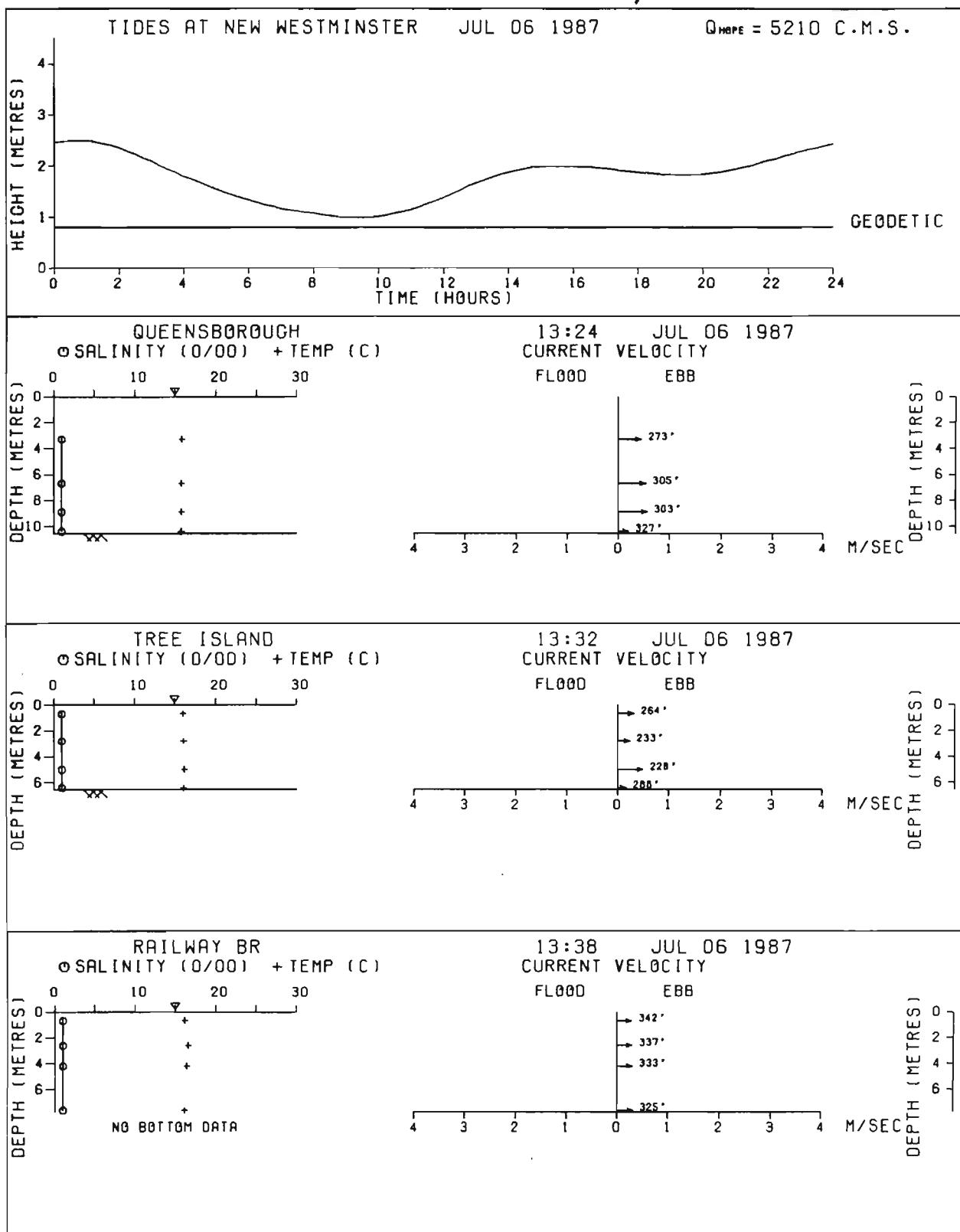
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



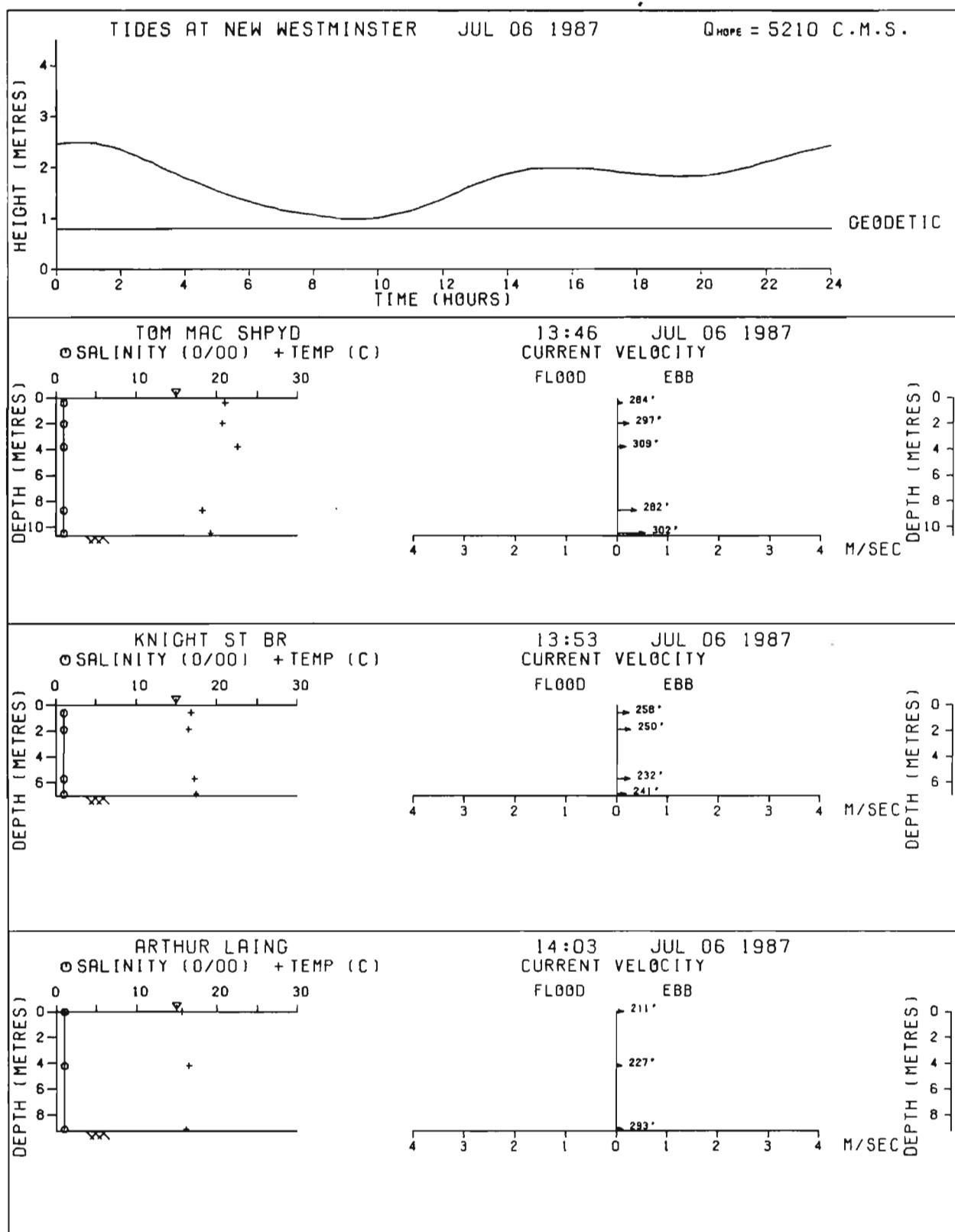
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



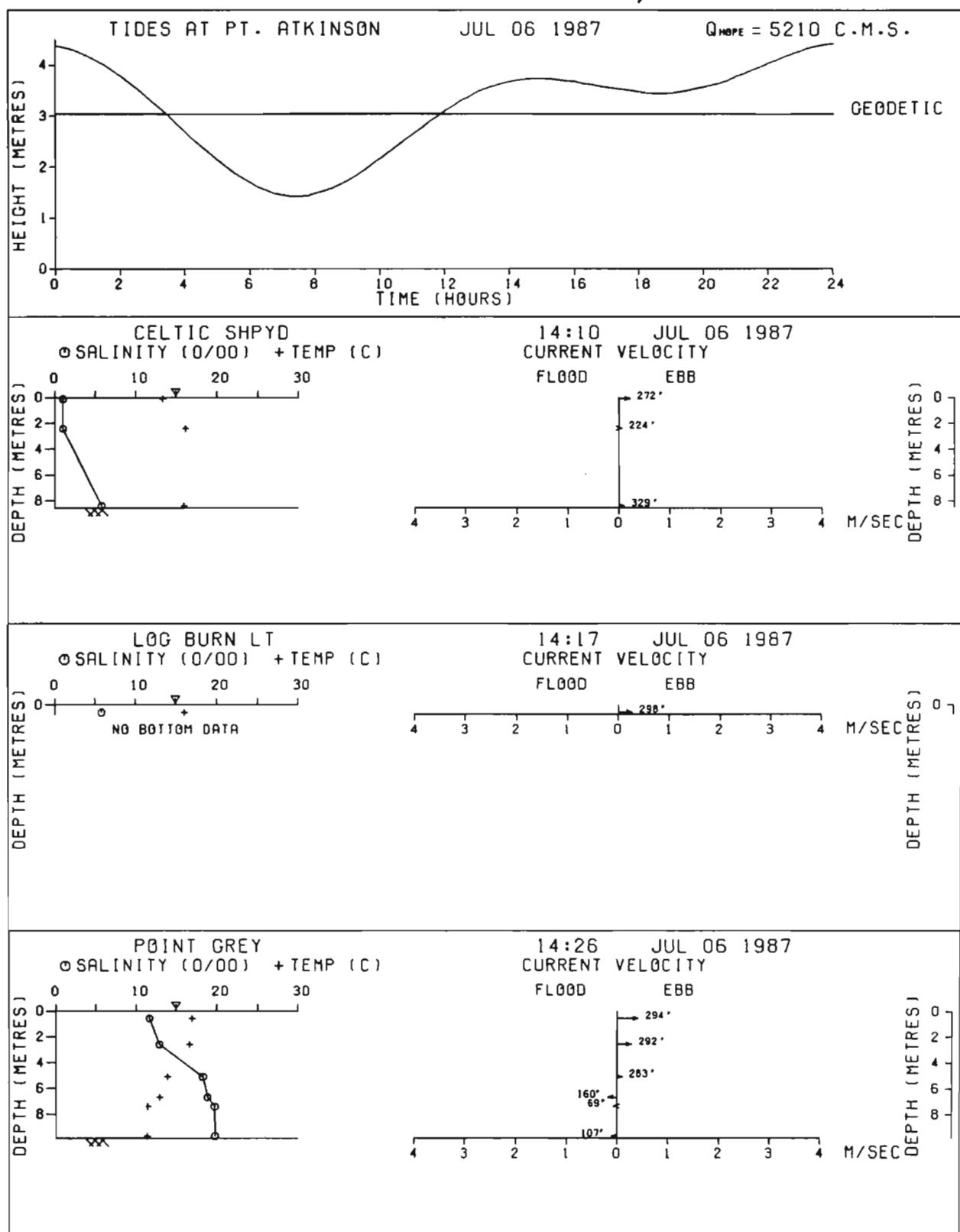
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



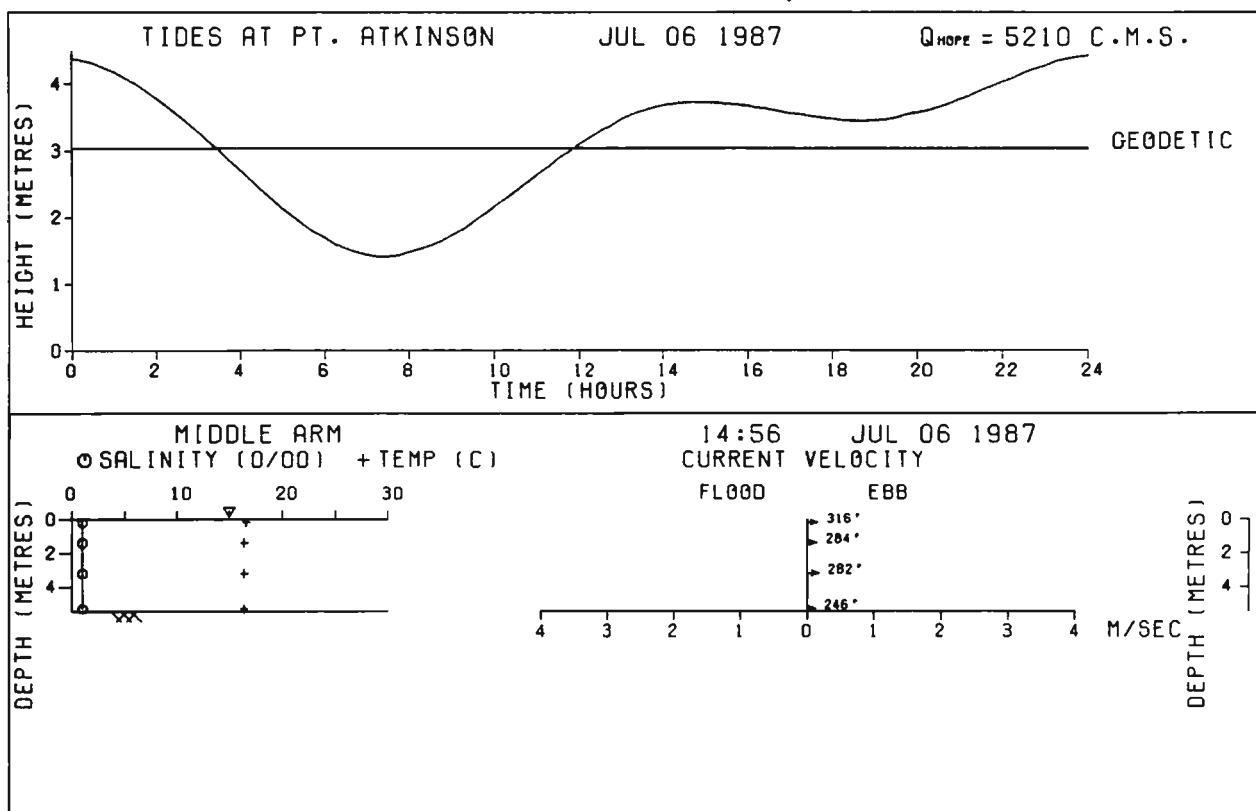
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



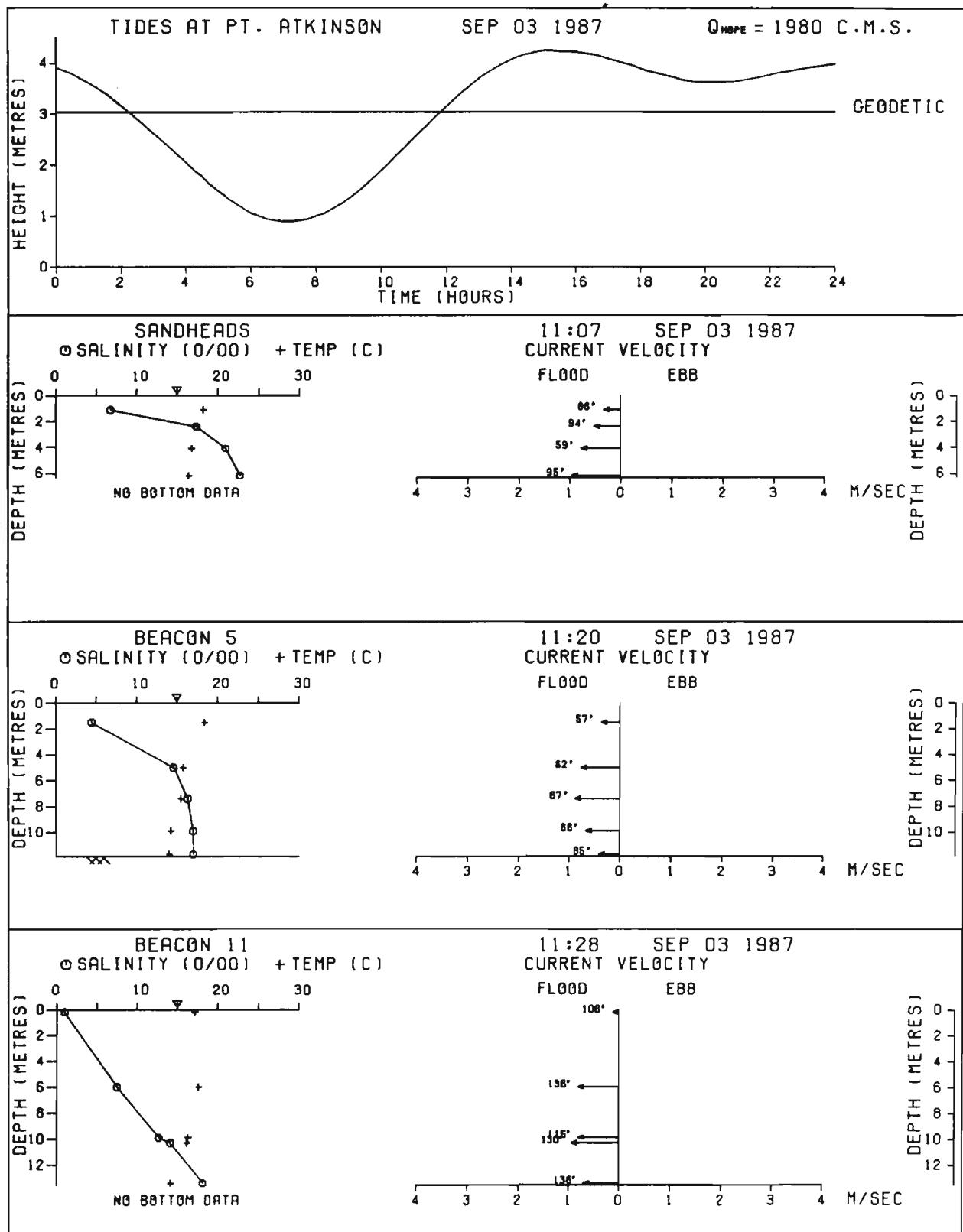
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



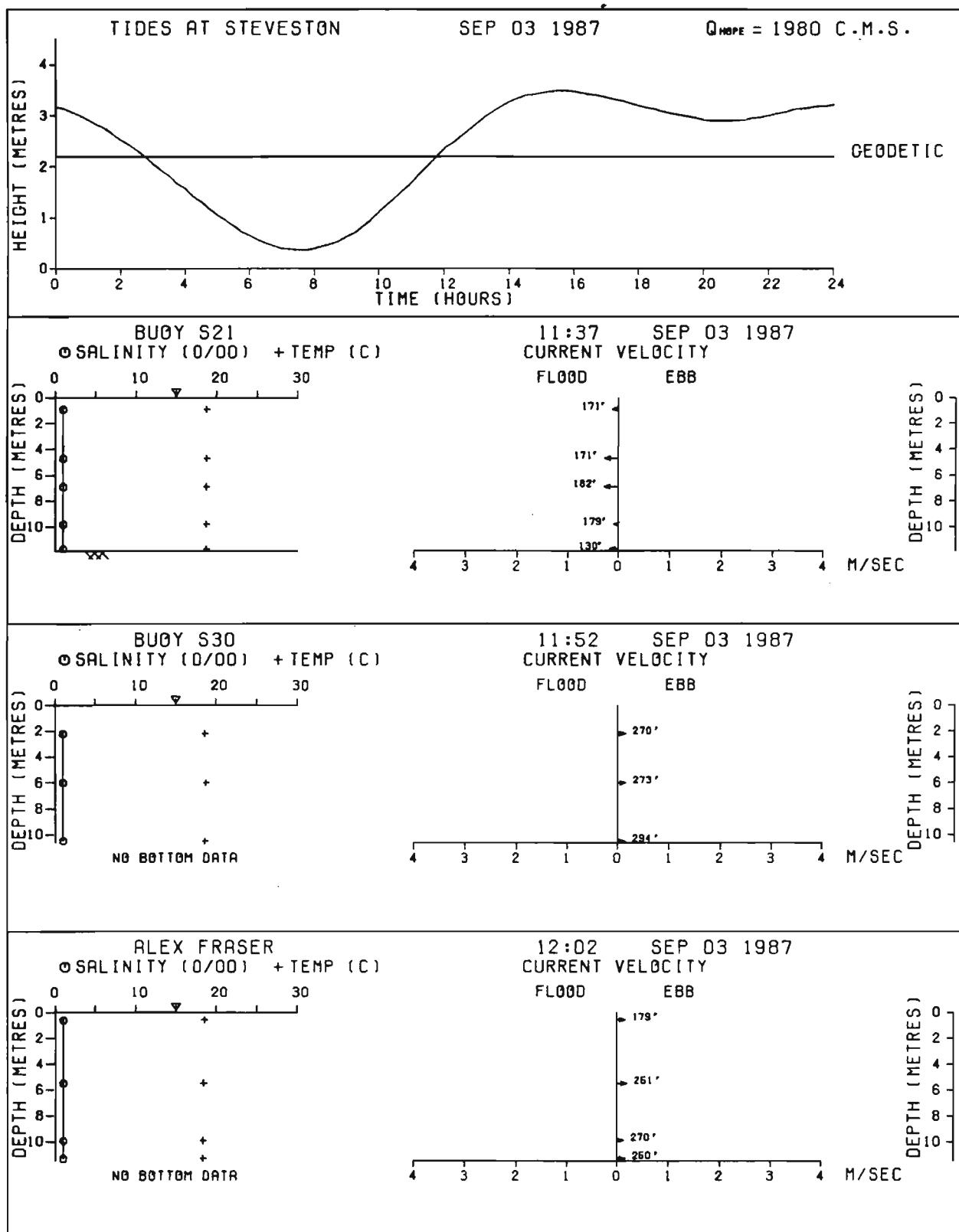
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



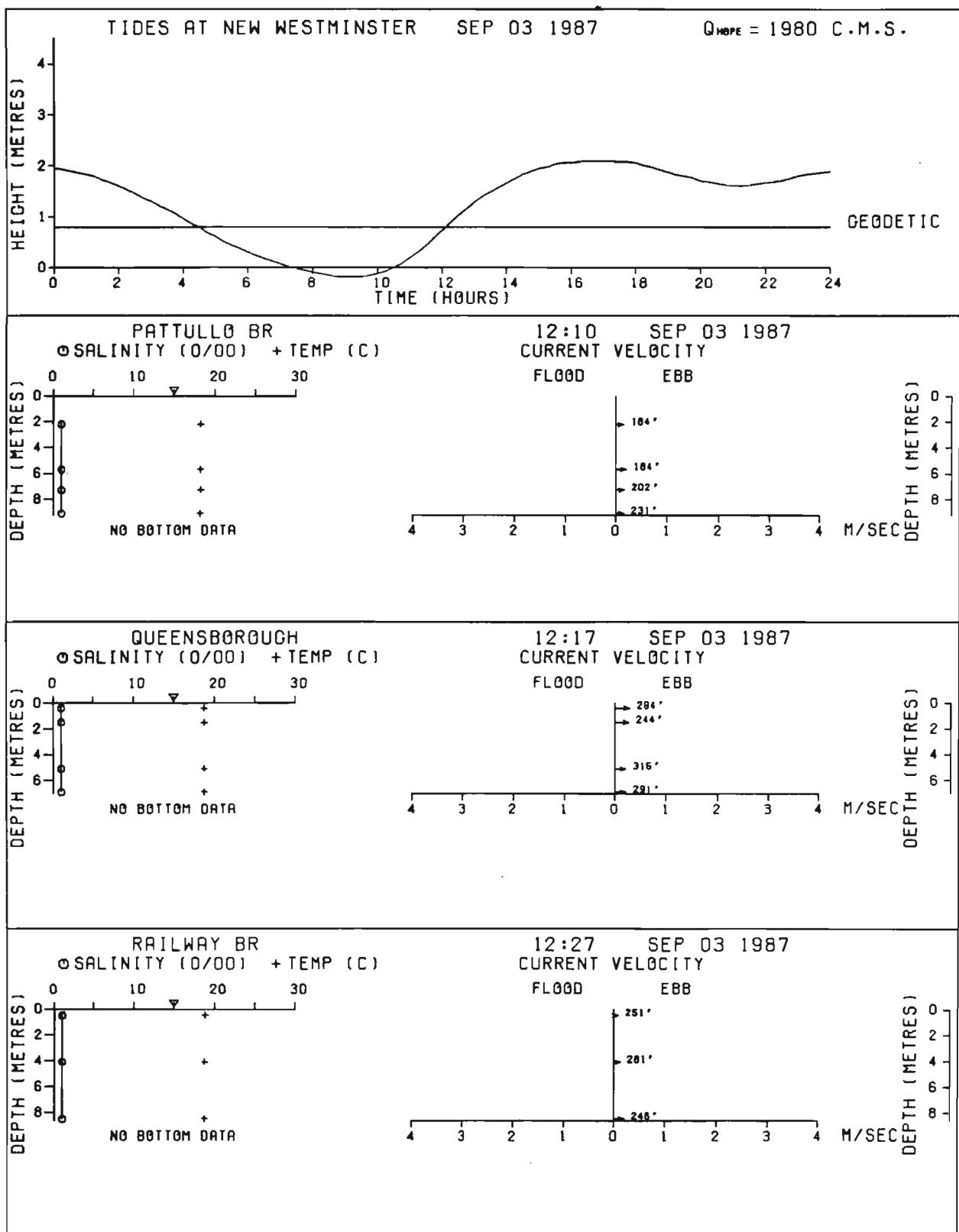
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



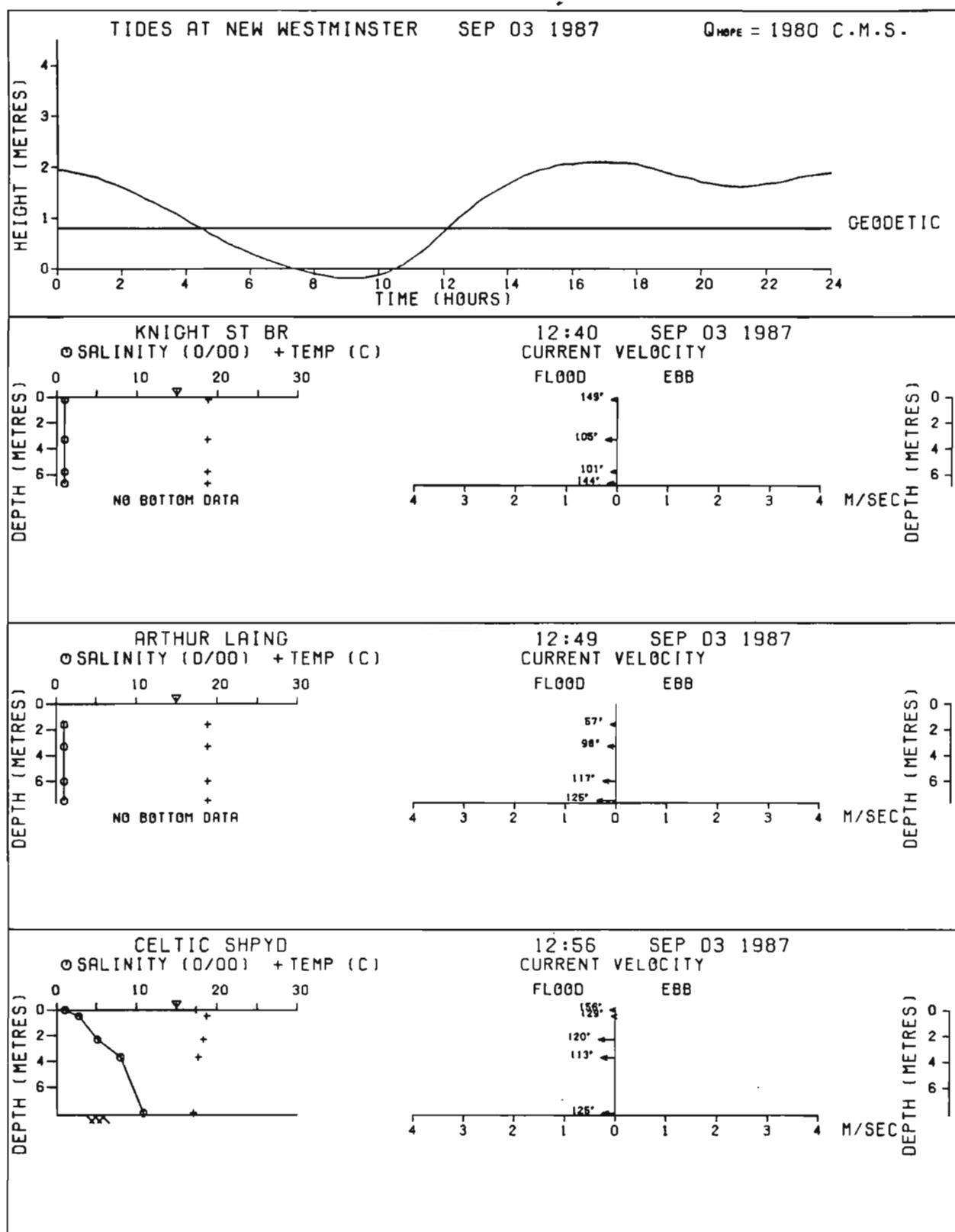
SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS



SALINITY, TEMPERATURE & CURRENT MEASUREMENTS

