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MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD

MEGHNA ESTUARY STUDY

DATA VOLUME MES - 107

MORPHOLOGY AND HYDRODYNAMICS DATA - PART 3A
(1991-1994)

September 1998

DHV CONSULTANTS BV

in association with

KAMPSAX INTERNATIONAL
DANISH HYDRAULIC INSTITUTE

DEVELOPMENT DESIGN CONSULTANTS
SURFACE WATER MODELLING CENTRE
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MEGHNA ESTUARY STUDY - FAP5B

Meghna Estuary Resource Information System (MERIS)

Flow, Sediment Concentration and Salinity Measurement Data (1991-1994)

Morphology and Hydrodynamics

Part - 3A

September 1998

FLOW, SEDIMENT CONCENTRATION AND SALINITY DATA

Background and Objectives

The overall goal of the Meghna Estuary Study (MES) is to ensure the physical safety and social security of the people living in the coastal areas and on the islands of the Meghna estuary. The goal is to be realized by retaining and increasing knowledge of the hydraulic and morphological processes in the Meghna Estuary and by developing appropriate techniques for efficient land reclamation as well as effective river bank protection (Meghna Estuary Study, 1996).

The first priority of the MES is to learn the characteristics of the study area, to understand the forces and processes that govern the physical developments and to discern patterns and tendencies that will assist in planning and monitoring interventions (Meghna Estuary Study, 1996).

MERIS

As a first step to facilitate MES' priority and to fulfill its goals and objectives, MES has set up a **M**eghna **E**stuary **R**esource **I**nformation **S**ystem **(MERIS)** for storing and analyzing morphological and sedimentological, hydraulic and morphometric, and hydro-meteorological data, historical bathymetric and coastline maps, and other information about the Meghna Estuary Study project area.

The MERIS databases and analytical tools will be used to study the hydromorphology of the Meghna Estuary. Our study will focuss mainly on formation of new land, hydraulic and morphological processes, tidal and channnel flat characteristics and 'char' development. Furthermore, the MERIS databases will be used to obtain knowledge about future morphodynamic behaviour and morphological evolution of the Meghna Estuary system.

MES collected flow, sediment concentration and salinity data mainly during 1997 as per its requirements. A substantial portion of the MERIS databases is based on data from field and monitoring surveys and specific project surveys executed by the Survey and Study Division (SSD, a division of BWDB) between 1982 and 1994. The MERIS database and tools will be updated regularly with data derived from surveys executed by Meghna Estuary Study.

A summary of data collected by MES from SSD of LRP and other relevant agencies is presented in "Inventory of Available Data" (MES, April, 1997).

The basic categories of available data are:

- water level data
- flow, sediment concentration and salinity data
- topographic and bathymetric (e.g., cross-section) data

*This data report gives an overview of the available processed **flow, sediment concentration and salinity** data.*

In the Lower Meghna Estuary, a number of 'standard' flow transects (figure 1) were sounded by LRP periodically,

most of them several times per year. Figure 2 shows the location of flow transects surveyed by MES during 1997 flow measurement program. Velocity, sediment concentration, and salinity data were collected in MES and LRP cross-sections as per their requirements. Background information on computing flood and ebb tidal volumes are described in Barua, D.K. and Koch, F.G. 1986 [2].

A list of available processed discharge, sediment concentration and salinity data is appended herewith. These data are arranged in 5 parts :

Part - 1 Flow, Sediment Concentration and Salinity Data, 1985-1988
Part - 2 Flow, Sediment Concentration and Salinity Data, 1989-1990
Part - 3A Flow, Sediment Concentration and Salinity Data, 1991-1994
Part - 3B Flow, Sediment Concentration and Salinity Data, 1997 (Cruises 1 to 14)
Part - 3C Flow, Sediment Concentration and Salinity Data, 1997 (Cruises 15 to 16)

The available data are stored in electronic databases (EXCEL; MIKE 11 database) for easy access and further analysis. It has been assumed that the data user is familar with the EXCEL spreadsheet and MIKE 11 database, as majority of the processed data files are formatted for these systems. Of course, it is possible to convert the datafiles to any orther format, if preferred. The EXCEL spreadsheet and MIKE 11 database are conveniently applied in a DOS/Windows environmment.

Reference

1. Ahmed, Saifuddin and Louters, Teunis. (April, 1997) Residual Tidal Volume and Sediment Trasport Patterns in the Lower Meghna Estuary During Premonsoon and Postmonsoon - An Analysis of Available Data Collected During 1986-94.
2. Barua, Dilip K. and Koch, Fred G. (1986) Characteristic Morphological Relationship for Tide Dominated Channels of the Meghna Estuary, LRP, BWDB, Dhaka, Bangladesh.
3. Hossain, Mobarak and Louters, Teunis (May, 1997) Water Levels and Current Velocities at Different Locations in the Meghna Estuary Study Area.
4. Hossain, Mobarak (January, 1997) Technical Note on Salinities at Different Places in the Meghna Estuary Area.
5. Louters, Teunis (March, 1997) An Estimate of Gravitational Circulation in the Shahbazpur Main Channel of Meghna Estuary and Its Implication for Fine Sediment Transport MES.
6. Meghna Estuary Study (April, 1997). Inventory of Available Data.
7. Meghna Estuary Study (April, 1996); Inception Report (Main), Bangladesh Water Development Board.

FIG 1 : LOCATION OF LRP FLOW TRANSECTS

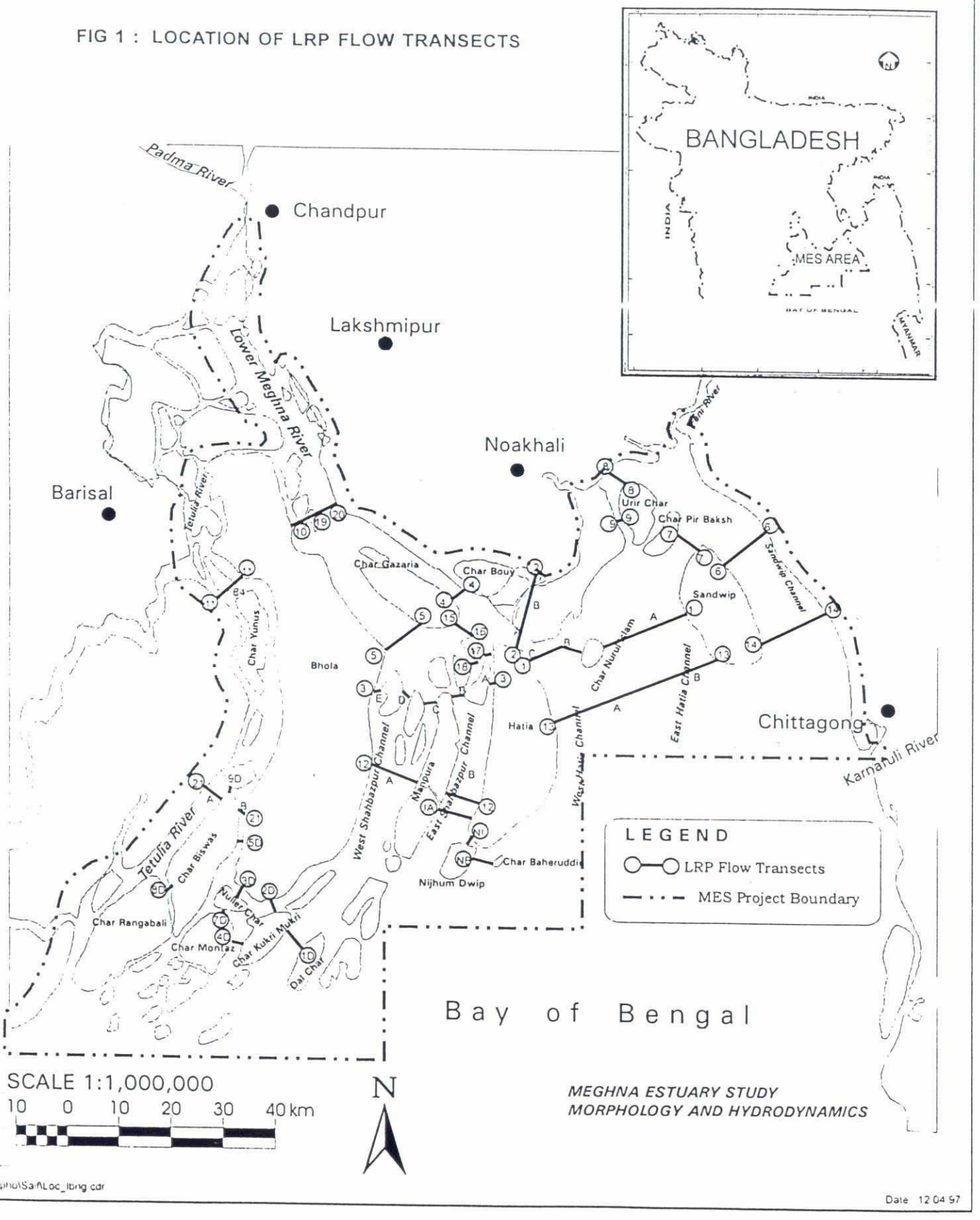
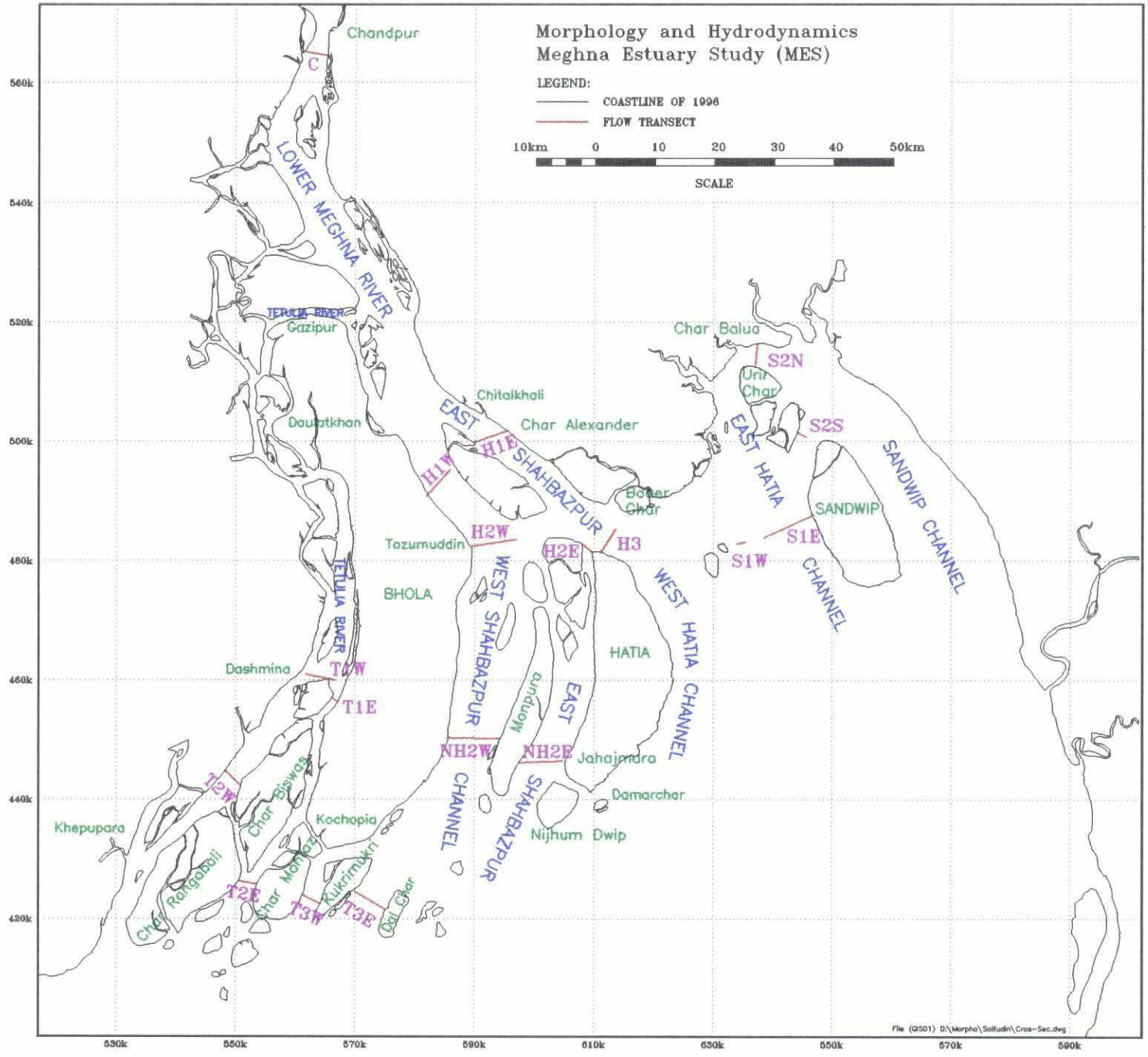


Figure 2: LOCATION OF MES ADCP FLOW TRANSECTS



MES DATA COLLECTION DURING CRUISES OF THE VESSEL 'ANWESHA'

Cruise ID	Duration	Type of Data Collected
01	26 Aug 96 - 11 Sept 96	Sediment sampling
02	8 Dec 96 - 22 Dec 96	Sediment sampling, Installation of wave and water level sensors
03	01 Jan 97 - 13 Jan 97	Bathymetry
04	20 Jan 97 - 07 Feb 97	Bathymetry, Salinity and Temperature
05	15 Feb 97- 05 Mar 97	Bathymetry, Sediment sampling , Wind speed and direction , Salinity and Temperature
06	21 Mar 97 - 31 Mar 97	Bathymetry, Wind speed and direction, Salinity and Temperature
07	06 Apr 97- 13 Apr 97	Bathymetry, Salinity and Temperature, Wind speed and direction
08	29 Apr 97- 13 Mar 97	Bathymetry, Salinity and Temperature, Wind speed and direction, RTK reference station, Inspection of reference stations and Wave/Tide gauges
09	18 May 97- 03 Jun 97	Bathymetry, Sediment sampling at Char Alexander Erosion Control Pilot Scheme, Salinity and Temperature
10	06 Jun 97 - 22 Jun 97	Bathymetry, RTK reference station
11	26 Jul 97 - 06 Aug 97	Bathymetry, Sediment sampling, Flow transect (C, H1E, H3), Salinity and Temperature, Wind speed and direction
12	08 Aug 97 - 17 Aug 97	Synoptic Survey, Bathymetry, Sediment sampling, Flow transect (H1E, H1W, H2W, H2E), Salinity and Temperature, Wind speed and direction
13	26 Aug 97 - 03 Sep 97	Bathymetry, Sediment sampling (S1E, S2N, S3), Salinity and Temperature, Wind speed and direction
14	11 Sep 97 - 23 Sep 97	Synoptic Survey, Sediment sampling, Salinity and Temperature, Wind speed and direction. Flow transect (NH2E, NH2W, H1W, H3)
15	03 Oct 97 - 18 Oct 97	Synoptic Survey, Bathymetry, Sediment sampling, Flow transect (C, T1E, T1W, T2E, T2W, T3E, T3W) , Salinity and Temperature, Wind speed and direction
16	01 Nov 97 - 13 Nov 97	Flow transect (S1E, S1W, S2N, S2S, S3), Salinity and Temperature, sediment sampling
17	18 Nov 97 - 07 Dec 97	Bathymetry
18	07 Jan 98 - 22 Jan 98	Bathymetry
19	04 Feb 98 - 12 Feb 98	Bathymetry

MES TRANSECTS

Transect Name	Channel Name	Date of Survey	Runline ID
C (Chandpur)	Lower Meghna	04 & 05-10-97 27 & 28-10-97	CT1X005
H1 East	East (E) Shahbazpur	02 & 03-08-97 13 & 14-08-97	XT1X001
H1 West	West (W) Shahbazpur	16 & 17-09-97 10 & 11-08-97	AT1X001
H2 East	East Shahbazpur	13-08-97 16-08-97	AT2X004 AT3X002
H2 West	West Shahbazpur	12-08-97	AT2X001
NH2 East	East Shahbazpur	11 & 12-09-97 20 & 21-09-97	JT1X0001
NH2 West	West Shahbazpur	13 & 14-09-97 22 & 23-09-97	4T1X0001
H3	West Hatia	04-08-97 15-08-97 19-09-97	WT1X001
S1 East	East Hatia	31-08-97 09 & 10-11-97	ST1X001
S1 West	East Hatia	11-11-97	6T1X0001
S2 North	Sandwip Channel	01 & 02-09-97 07 & 08-11-97	7T1X001
S2 South	Sandwip Channel	05 & 06-11-97	7T1X0001
S3	Sandwip Channel	02, 03 & 04-11-97 27 & 28-08-97	YT1X001
T1 East	East Tentulia	08 & 09-10-97	DT1X0001
T1 West	West Tentulia	12 & 13-10-97	DT1X0001
T2 East	East Tentulia	12 & 13-10-97	BT1X0001
T2 West	West Tentulia	10 & 11-10-97	BT1X0001
T3 East	West Shahbazpur	16 & 17-10-97	ET1X0001
T3 West	West Shahbazpur	15-10-97	UT1X0001

List of Processed Flow Data

1985

CS No.	Name of Area	Date of Survey	Tidal Condition	Directory	File Name
11	Dhulia - Gangapur	09.10.1985	Neap	c:\q\q85\	091085.xls
11	Dhulia - Gangapur	10.10.1985	Neap	c:\q\q85\	101085.xls
11	Dhulia - Gangapur	15.10.1985	Spring	c:\q\q85\	151085.xls
11	Dhulia - Gangapur	16.10.1985	Spring	c:\q\q85\	161085.xls

1986

CS No.	Name of Area	Date of Survey	Tidal Condition	Directory	File Name
Ch-Faiz	Char Faizuddin - Goalia	12.09.1986	Neap	c:\q\q86\	120986.xls
Ch-Faiz	Char Faizuddin - Goalia	13.09.1986	Neap	c:\q\q86\	130986.xls
Ch-Faiz	Char Faizuddin - Goalia	19.09.1986	Spring	c:\q\q86\	190986.xls
NI	Jahajmara - Nizhumdwip	14.09.1986	Neap	c:\q\q86\	140986.xls
NI	Jahajmara - Nizhumdwip	18.09.1986	Spring	c:\q\q86\	180986.xls
2(d)	Kukri Mukri - Bhola	01.12.1986	Spring	c:\q\q86\	011286.xls

1987

CS No.	Name of Area	Date of Survey	Tidal Condition	Directory	File Name
JA	Jahajmara - Goalia	31.12.1987	Neap	c:\q\q87\	311287.xls
NB	Nizhumdwip - Char Baharuddin	30.12.1987	Neap	c:\q\q87\	301287.xls
NI	Hatia - Nizhumdwip	02.09.1987	Neap	c:\q\q87\	020987.xls
NI	Hatia - Nizhumdwip	08.09.1987	Spring	c:\q\q87\	080987.xls
NI	Muktar Char - Nizhumdwip	29.12.1987	Neap	c:\q\q87\	291287.xls
2(a)	Hatia - Bouer Char	26.09.1987	Spring	c:\q\q87\cs2a	2609872a.xls
2(a)	Hatia - Bouer Char	27.09.1987	Spring	c:\q\q87\cs2a	2709872a.xls
2(a)	Hatia - Bouer Char	03.10.1987	Neap	c:\q\q87\cs2a	0310872a.xls
2(a)	Hatia - Bouer Char	04.10.1987	Neap	c:\q\q87\cs2a	0410872a.xls
2(b)	Low Water Char - Char Jabber	28.09.1987	Spring	c:\q\q87\cs2b	2809872b.xls
2(b)	Low Water Char - Char Jabber	05.10.1987	Neap	c:\q\q87\cs2b	0510872b.xls
3(a)	Hatia - Dal Char	20.03.1987	Spring	c:\q\q87\cs3a	2003873a.xls
3(a)	Hatia - Dal Char	26.03.1987	Neap	c:\q\q87\cs3a	2603873a.xls
3(b)	Manpura - Dal Char	19.03.1987	Spring	c:\q\q87\cs3b	1903873b.xls
3(b)	Manpura - Dal Char	25.03.1987	Neap	c:\q\q87\cs3b	2503873b.xls
3(c)	Manpura - Dry Char	18.03.1987	Spring	c:\q\q87\cs3c	1803873c.xls
3(c)	Manpura - Dry Char	24.03.1987	Neap	c:\q\q87\cs3c	2403873c.xls
3(d)	Dry Char - Dry Char	17.03.1987	Spring	c:\q\q87\cs3d	1703873d.xls
3(d)	Dry Char - Dry Char	23.03.1987	Neap	c:\q\q87\cs3d	2303873d.xls
4	Ramgati - Gazaria	07.10.1987	Spring	c:\q\q87\cs4	0710874.xls
5	Tazumuddin - Gazaria	09.10.1987	Spring	c:\q\q87\cs5	0910875.xls
16	Taller Char - Dry Char	01.10.1987	Neap	c:\q\q87\cs16	01108716.xls
17	Hatia - Maulavir Char	28.02.1987	Spring	c:\q\q87\cs17	28028717.xls
18	Hatia - Maoulavir Char	02.10.1987	Neap	c:\q\q87\cs18	02108717.xls

1988

CS No.	Name of Area	Date of Survey	Tidal Condition	Directory	File Name
JA	Jahajmara - Goalia	06.01.1988	Spring	c:\q\q88\	060188.xls
NB	Nizhumdwip - Baharuddin	05.01.1988	Spring	c:\q\q88\	050188.xls
NI	Muktar Char - Nizhumdwip	04.01.1988	Spring	c:\q\q88\	040188.xls
18	Hatia - Maoulavir Char	02.10.1987	Neap	c:\q\q88\cs18	120288.xls

1989

CS No.	Name of Area	Date of Survey	Tidal Condition	Directory	File Name
-	Karnafuli River Mouth	09.02.1989	Spring	c:\q\q89\	090289.xls
NB	Nizhumdwip - Char Baharuddin	10.03.1989	Spring	c:\q\q89\	100389.xls
NI	Muktar Char - Nizhumdwip	09.03.1989	Spring	c:\q\q89\	090389.xls
1(d)	Kukri Mukri - Dal Char	15.10.1989	Spring	c:\q\q89\cs1d	1510891d.xls
1(d)	Kukri Mukri - Dal Char	29.10.1989	Neap	c:\q\q89\cs1d	2910891d.xls
2	Hatia - Char Jabber	06.03.1989	Spring	c:\q\q89\cs2	060389.xls
2(d)	Kukri Mukri - Kochopia	15.10.1989	Spring	c:\q\q89\cs2d	1510892d.xls
2(d)	Kukri Mukri - Kochopia	27.10.1989	Neap	c:\q\q89\cs2d	2710892d.xls
3(d)	Nullar Char - Bhola	16.10.1989	Spring	c:\q\q89\cs3d	1610893d.xls
3(d)	Nullar Char - Bhola	26.10.1989	Neap	c:\q\q89\cs3d	2610893d.xls
4(d)	Char Momtaz - Kukri Mukri	15.10.1989	Spring	c:\q\q89\cs4d	1510894d.xls
4(d)	Char Momtaz - Kukri Mukri	28.10.1989	Neap	c:\q\q89\cs4d	2810894d.xls
5(d)	Bhola - Char Biswas	16.10.1989	Spring	c:\q\q89\cs5d	1610895d.xls
5(d)	Bhola - Char Biswas	24.10.1989	Neap	c:\q\q89\cs5d	2410895d.xls
6(d)*	Dhulia - Gangapur	19.10.1989	Spring	c:\q\q89\cs6d	1910896d.xls
6(d)	Dhulia - Gangapur	20.10.1989	Neap	c:\q\q89\cs6d	2010896d.xls
7	Sandwip - Urir Char	03.03.1989	Neap	c:\q\q89\cs7	030389.xls
7(d)	Char Momtaz - Khalifer Char	17.10.1989	Spring	c:\q\q89\cs7d	1710897d.xls
7(d)	Char Momtaz - Khalifer Char	23.10.1989	Neap	c:\q\q89\cs7d	2310897d.xls
8(d)	Char Biswas - Rangabali	17.10.1989	Spring	c:\q\q89\cs8d	1710898d.xls
8(d)	Char Biswas - Rangabali	22.10.1989	Neap	c:\q\q89\cs8d	2210898d.xls
9	Char Lakhi - Urir Char	02.03.1989	Neap	c:\q\q89\cs9	020389.xls
9(d)	Kuchar Char - Char Biswas	16.10.1989	Spring	c:\q\q89\cs9d	1610899d.xls
9(d)	Kuchar Char - Char Biswas	25.10.1989	Neap	c:\q\q89\cs9d	2510899d.xls
11	Dhulia - Gangapur	10.01.1989	Spring	c:\q\q89\cs11	100189.xls

1990

CS No.	Name of Area	Date of Survey	Tidal Condition	Directory	File Name
-	Karnafuli River Mouth	08.05.1990	Spring	c:\q\q90\	080590.xls
1(a)	Sandwip - Char Nurul Islam	17.09.1990	Neap	c:\q\q90\cs1a	170990.xls
1(a)	Sandwip - Char Nurul Islam	18.09.1990	Spring	c:\q\q90\cs1a	180990.xls
1(b)	Shallow - Char Nurul Islam	16.09.1990	Neap	c:\q\q90\cs1b	160990.xls
1(b)	Shallow - Char Nurul Islam	19.09.1990	Spring	c:\q\q90\cs1b	190990.xls
1(c)	Shallow - Hatia	15.09.1990	Neap	c:\q\q90\cs1c	150990.xls
1(c)	Shallow - Hatia	20.09.1990	Spring	c:\q\q90\cs1c	200990.xls
2(a)	Hatia - Bouer Char	21.09.1990	Spring	c:\q\q90\cs2a	210990.xls
2(a)	Hatia - Bouer Char	25.09.1990	Neap	c:\q\q90\cs2a	250990.xls
2(b)	Bouer Char - Char Jabber	23.09.1990	Spring	c:\q\q90\cs2b	230990.xls
2(b)	Bouer Char - Char Jabber	24.09.1990	Neap	c:\q\q90\cs2b	240990.xls
4	Gazaria - Ramgati	01.03.1990	Spring	c:\q\q90\cs4	010390.xls
4	Char Gazaria - Ramgati	02.08.1990	Neap	c:\q\q90\cs4	020890.xls
5	Tazumuddin - Gazaria	27.02.1990	Spring	c:\q\q90\cs5	270290.xls
5	Bhola - Char Gazaria	01.08.1990	Neap	c:\q\q90\cs5	010890.xls
6	Sandwip - Ctg. Main Land	27-28.09.1990	Neap	c:\q\q90\cs6	270990c6.xls
11	Dhulia - Gangapur	31.07.1990	Neap	c:\q\q90\cs11	310790.xls
11	Dhulia - Gangapur	09.08.1990	Spring	c:\q\q90\cs11	090890.xls
12(a)	Manpura - Bhola	13.08.1990	Neap	c:\q\q90\cs12a	130890.xls
13(a)	Hatia - Low Water Char	26.09.1990	Spring	c:\q\q90\cs13a	260990.xls
13(b)	Sandwip - Low Water Char	27.09.1990	Neap	c:\q\q90\cs13b	270990.xls
14	Sandwip - Chittagong	28.09.1990	Neap	c:\q\q90\cs14	280990.xls
21(a)	Char Biswas - Dasmonia	30.07.1990	Neap	c:\q\q90\cs21a	300790.xls

Note : * - Incomple data series

1991

CS No.	Name of Area	Date of Survey	Tidal Condition	Directory	File Name
2(b)	Bouer Char - Char Jabber	05.01.1991		c:\q\q91\cs2b	050191.xls
2(b)	Bouer Char - Bagardona	06.01.1991		c:\q\q91\cs2b	060191.xls
2(b)	Bouer Char - Char Jabber	07.01.1991		c:\q\q91\cs2b	070191.xls
4	Ramgati - Gazaria	26.03.1991	Neap	c:\q\q91\cs4	260391.xls
4	Ramgati - Gazaria	29.03.1991	Spring	c:\q\q91\cs4	290391.xls
5	Tajumuddin - Gazaria	27.03.1991	Neap	c:\q\q91\cs5	270391.xls
5	Tajumuddin - Gazaria	30.03.1991	Spring	c:\q\q91\cs5	300391.xls
11	Dhulia - Gangapur	31.03.1991	Neap	c:\q\q91\cs11	310391.xls
11	Dhulia - Gangapur	07.04.1991	Spring	c:\q\q91\cs11	070491.xls
21(a)	Dasmonia - Char Biswas	02.04.1991	Spring	c:\q\q91\cs21a	020491.xls
21(a)	Dasmonia - Char Biswas	05.04.1991	Neap	c:\q\q91\cs21a	050491.xls

1992

CS No.	Name of Area	Date of Survey	Tidal Condition	Directory	File Name
10, 19, 20	Daulat Khan - Ludua (vert-2)	19.12.1992	Neap	c:\q\q92\cs10	191292.xls
10, 19, 20	Daulat Khan - Ludua (vert-1)	20.12.1992	Neap	c:\q\q92\cs10	201292.xls
10, 19, 20	Daulat Khan - Ludua (vert-2)	25.12.1992	Spring	c:\q\q92\cs10	251292.xls
11	Dhulia - Gangapur (vert-1)	23.11.1992	Spring	c:\q\q92\cs11	231192.xls
11	Dhulia - Gangapur (vert-2)	24.11.1992	Spring	c:\q\q92\cs11	241192.xls
11	Dhulia - Gangapur (vert-1)	03.12.1992	Neap	c:\q\q92\cs11	031292.xls
11	Dhulia - Gangapur (vert-2)	04.12.1992	Neap	c:\q\q92\cs11	041292.xls
11	Ilisha - Ramdaspur	22.12.1992	Neap	c:\q\q92\cs11	221292.xls

1994

CS No.	Name of Area	Date of Survey	Tidal Condition	Directory	File Name
6	Chattigong - Sandwip	13.02.1994	Spring	c:\q\q94\cs6	1302946.xls
7(a)	Sandwip - Urir Char	13.02.1994	Spring	c:\q\q94\cs7a	1302947a.xls
7(a)	Sandwip - Urir Char	21.02.1994	Neap	c:\q\q94\cs7a	2102947a.xls
7(b)	Sandwip - Urir Char	14.02.1994	Spring	c:\q\q94\cs7b	1402947b.xls
7(b)	Sandwip - Urir Char	20.02.1994	Neap	c:\q\q94\cs7b	2002947b.xls
8	Char Balua - Urir Char	31.03.1994	Neap	c:\q\q94\cs8	3103948.xls
8	Char Balua - Urir Char	04.04.1994	Spring	c:\q\q94\cs8	0404948.xls
9	Urir Char - Char Lakhi	19.02.1994	Neap	c:\q\q94\cs9	1902949.xls
9	Urir Char - Char Lakhi	27.02.1994	Spring	c:\q\q94\cs9	2702949.xls

1991

Cross Section CS-2(b)

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bouer Char - Char Jabber	4.	Cross Section No.	:	2(b)
5.	Decca Location	:	H-18.80; C-31.05	6.	Reference File Name	:	
7.	Season	:	Dry Season	8.	Date	:	05.01.91
9.	Tidal Condition	:		10.	Gauge used	:	
11.	Current Meter No.	:	A-OTT No.30256	12.	Propeller No.	:	AOTT 1-30982
13.	Tide Range	:	1.71 m	14.	X-section Direction	:	173 degrees
15.	Reference Tide Range	:	1.71 m	16.	Equation of Velocity	:	V = 0.2526n + .0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 19.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	0.91	3.20	138	0.36	0.01	0.05	0.08	0.05	4.30	4.30	4.30	4.30	2832	594	29
7	0.51	2.00	16	0.53	2.01		3.68	2.85	4.40		4.40	4.40	3035	632	1798
8	0.21	1.20	16	0.34	0.91		1.42	1.16	4.10		4.20	4.15	3460	470	546
9	-0.80	0.90	17	0.29									1778	210	0
10	-0.40	0.90	17	0.19	0.16			0.16	4.40			4.40	2618	198	31
11	-0.50	0.70	17	0.19	0.01			0.01	4.40			4.40	2807	219	2
12	-0.55	0.70	17	0.18	0.07			0.07	4.00			4.00	2680	199	14
13	-0.60	0.70	17	0.18	0.09			0.09	4.20			4.20	2556	185	16
14	-0.65	0.70	17	0.17	0.08			0.08	4.20			4.20	2434	168	13
15	-0.60	0.70	17	0.13	0.15			0.15	4.30			4.30	2556	140	21
16	-0.45	1.00	17	0.33	2.15			2.15	4.20			4.20	8586	1165	2510
17	-0.30	1.50	17	0.60			1.16	1.16			4.50	4.50	3094	755	873
18	0.10	1.95	327	1.01	1.21		0.55	0.88	4.40		4.40	4.40	780	348	305
19	0.50	2.50	279	1.02	0.13	0.12	0.18	0.14	4.30	4.30	4.30	4.30	113	111	16

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bouer Char - Char Jabber	4.	Cross Section No.	:	2(b)
5.	Decca Location	:	H-18.80; C-31.05	6.	Reference File Name	:	CS-2
7.	Season	:	Dry Season	8.	Date	:	05.01.91
9.	Tidal Condition	:		10.	Gauge used	:	
11.	Current Meter No.	:	A-OTT No.30256	12.	Propeller No.	:	AOTT 1-30982
13.	Tide Range	:	1.71 m	14.	X-section Direction	:	173 degrees
15.	Reference Tide Range	:	1.71 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
600	0.00	77	0.40		1.15	140	0.36	138	0.910	260	2.60	202	594	0.50	0.012	4.30
	0.50	77	0.40	0.20		140				290	1.80	149		1.60	0.054	4.30
	1.00	69	0.36	0.19		133				290	2.50	216		2.70	0.080	4.30
	2.70	81	0.42	0.66		137				85	1.10	27				
	3.20		0.00	0.11												
700	0.00	124	0.64		1.07	18	0.53	16	0.510	260	2.60	221	632	0.50	2.010	4.40
	0.50	124	0.64	0.32		18				290	1.80	152		1.00		
	1.00	117	0.61	0.31		15				290	2.50	234		1.50	3.680	4.40
	1.50	110	0.57	0.29		17				85	1.10	25				
	2.00		0.00	0.14												
800	0.00	86	0.45		0.41	17	0.34	16	0.210	260	2.60	168	470	0.50	0.908	4.10
	0.50	86	0.45	0.22		17				290	1.80	109		0.60		
	0.70	80	0.41	0.09		15				290	2.50	177		0.70	1.416	4.20
	1.20		0.00	0.10						85	1.10	16				
900	0.00	72	0.37		0.26	17	0.29	17	-0.800	260	2.60	85	210	0.50		
	0.50	72	0.37	0.19		17				290	1.80	37				
	0.90		0.00	0.08						290	2.50	87				
										85	1.10	1				
1000	0.00	46	0.24		0.17	17	0.19	17	-0.400	260	2.60	76	198	0.50	0.158	4.40
	0.50	46	0.24	0.12		17				290	1.80	41				
	0.90		0.00	0.05						290	2.50	78				
										85	1.10	4				
1100	0.00	43	0.22		0.13	17	0.19	17	-0.500	260	2.60	85	219	0.50	0.010	4.40
	0.50	43	0.22	0.11		17				290	1.80	43				

DISCHARGE MEASUREMENT

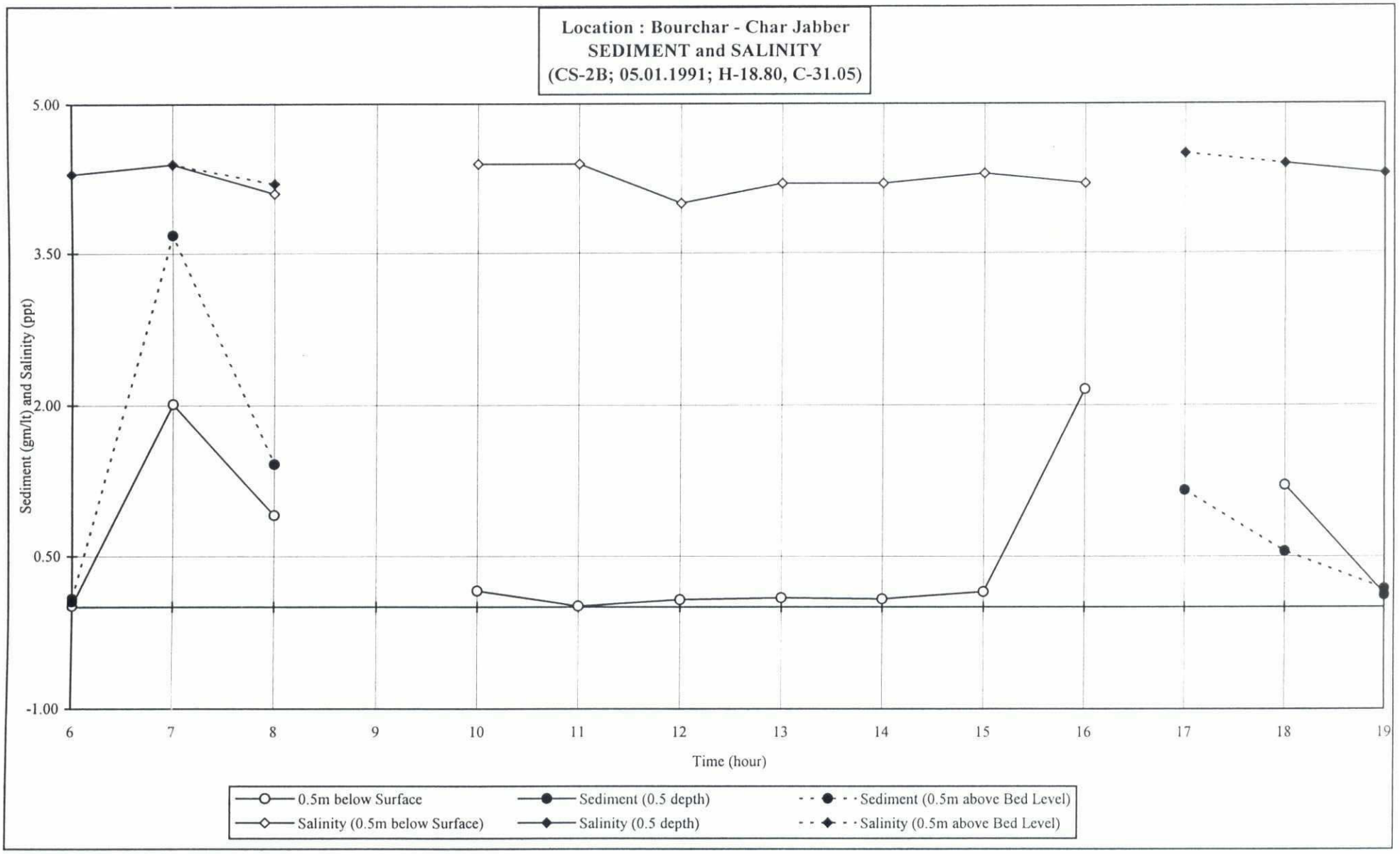
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bouer Char - Char Jabber	4.	Cross Section No.	:	2(b)
5.	Decca Location	:	H-18.80; C-31.05	6.	Reference File Name	:	CS-2
7.	Season	:	Dry Season	8.	Date	:	05.01.91
9.	Tidal Condition	:		10.	Gauge used	:	
11.	Current Meter No.	:	A-OTT No.30256	12.	Propeller No.	:	AOTT 1-30982
13.	Tide Range	:	1.71 m	14.	X-section Direction	:	173 degrees
15.	Reference Tide Range	:	1.71 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0.70		0.00	0.02						290	2.50	87				
										85	1.10	4				
1200	0.00	41	0.21		0.13	17	0.18	17	-0.550	260	2.60	78	199	0.50	0.070	4.00
	0.50	41	0.21	0.11		17				290	1.80	39				
	0.70		0.00	0.02						290	2.50	80				
										85	1.10	3				
1300	0.00	40	0.21		0.13	17	0.18	17	-0.600	260	2.60	73	185	0.50	0.088	4.20
	0.50	40	0.21	0.10		17				290	1.80	35				
	0.70		0.00	0.02						290	2.50	75				
										85	1.10	2				
1400	0.00	38	0.20		0.12	17	0.17	17	-0.650	260	2.60	66	168	0.50	0.078	4.20
	0.50	38	0.20	0.10		17				290	1.80	31				
	0.70		0.00	0.02						290	2.50	68				
										85	1.10	2				
1500	0.00	30	0.16		0.09	17	0.13	17	-0.600	260	2.60	55	140	0.50	0.148	4.30
	0.50	30	0.16	0.08		17				290	1.80	27				
	0.70		0.00	0.02						290	2.50	56				
										85	1.10	2				
1600	0.00	86	0.45		0.33	17	0.33	17	-0.450	260	2.60	416	1165	0.50	2.154	4.20
	0.50	86	0.45	0.22		17				290	1.80	306				
	1.00		0.00	0.11						290	2.50	443				
										85	1.10	0				
1700	0.00	174	0.90		0.90	17	0.60	17	-0.300	260	2.60	264	755	0.50		
	0.50	174	0.90	0.45		17				290	1.80	182		0.75		

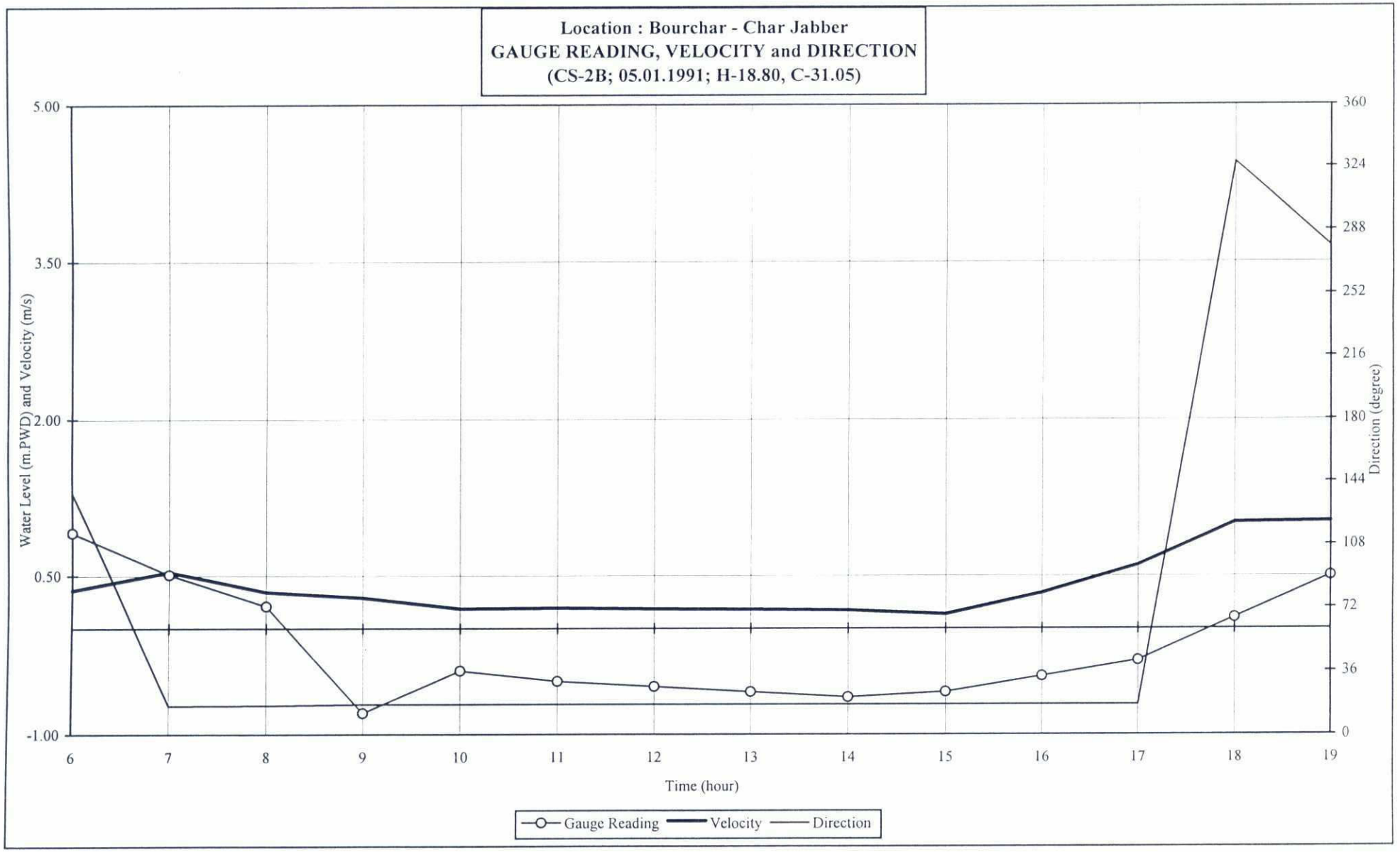
DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bouer Char - Char Jabber	4.	Cross Section No.	:	2(b)
5.	Decca Location	:	H-18.80; C-31.05	6.	Reference File Name	:	CS-2
7.	Season	:	Dry Season	8.	Date	:	05.01.91
9.	Tidal Condition	:		10.	Gauge used	:	
11.	Current Meter No.	:	A-OTT No.30256	12.	Propeller No.	:	AOTT 1-30982
13.	Tide Range	:	1.71 m	14.	X-section Direction	:	173 degrees
15.	Reference Tide Range	:	1.71 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	88	0.46	0.34		17				290	2.50	279		1.00	1.156	4.50
	1.50		0.00	0.11						85	1.10	30				
1800	0.00	240	1.24		1.96	325	1.01	327	0.100	260	2.60	124	348	0.50	1.206	4.40
	0.50	240	1.24	0.62		325				290	1.80	81		0.98		
	1.45	202	1.04	1.08		330				290	2.50	131		1.45	0.550	4.40
	1.95		0.00	0.26						85	1.10	12				
1900	0.00	246	1.27		2.55	278	1.02	279	0.500	260	2.60	45	111	0.50	0.128	4.30
	0.50	246	1.27	0.63		278				290	1.80	19		1.25	0.116	4.30
	1.00	212	1.09	0.59		277				290	2.50	46		2.00	0.180	4.30
	2.00	200	1.03	1.06		282				85	1.10	1				
	2.50		0.00	0.26												


Location : Bourchar - Char Jabber
SEDIMENT and SALINITY
(CS-2B; 05.01.1991; H-18.80, C-31.05)
5.00
3.50
2.00
0.50
-1.00
Sediment (gm/lt) and Salinity (ppt)
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Time (hour)
0.5m below Surface
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)

Location : Bourchar - Char Jabber
GAUGE READING, VELOCITY and DIRECTION
(CS-2B; 05.01.1991; H-18.80, C-31.05)



DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bouer Char - Bagardona	4.	Cross Section No.	:	2(b)
5.	Decca Location	:	H-09.25; C-32.30	6.	Reference File Name	:	CS-2
7.	Season	:	Dry Season	8.	Date	:	06.01.91
9.	Tidal Condition	:		10.	Gauge used	:	
11.	Current Meter No.	:	A-OTT No.30256	12.	Propeller No.	:	AOTT 1-30982
13.	Tide Range	:	1.09 m	14.	X-section Direction	:	44 degrees
15.	Reference Tide Range	:	1.09 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 19.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	-1.77	2.90	283	0.70	0.06	0.11	0.15	0.11	4.30	4.30	4.30	4.30	689	413	44
7	-1.56	2.60	152	0.30	0.07	0.11	0.13	0.10	4.40	4.40	4.30	4.37	878	-253	25
8	-1.79	2.40	129	1.03	0.08	0.24	0.26	0.20	4.40	4.50	4.50	4.47	760	-780	152
9	-1.99	2.00	142	0.95	0.31		0.27	0.29	4.50		4.50	4.50	704	-663	192
10	-2.19	1.50	125	0.56	0.40		0.44	0.42	4.30		4.40	4.35	678	-376	158
11	-2.25	1.20	124	0.33	0.75	0.79		0.77	4.30	4.30		4.30	727	-237	183
12	-2.45	1.20	124	0.26	0.59	0.65		0.62	4.30	4.30		4.30	560	-146	90
13	-2.50	1.00	124	0.26	0.65			0.65	4.20			4.20	584	-148	97
14	-2.55	0.90	124	0.31	1.05			1.05	4.20			4.20	578	-177	185
15	-2.60	0.90	124	0.30	0.94			0.94	4.10			4.10	534	-157	148
16	-2.65	1.00	124	0.29	0.87			0.87	4.00			4.00	460	-132	115
17	-2.65	2.00	305	1.01	0.17	0.31	0.37	0.28	4.30	4.30	4.30	4.30	89	89	25
18	-2.40	2.40	300	0.99	0.10	0.12	0.14	0.12	4.40	4.50	4.40	4.43	789	760	92
19	-1.90	2.80	295	0.71	0.08	0.12	0.16	0.12	4.40	4.40	4.40	4.40	832	562	67

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bouer Char - Bagardona	4.	Cross Section No.	:	2(b)
5.	Decca Location	:	H-09.25; C-32.30	6.	Reference File Name	:	CS-2
7.	Season	:	Dry Season	8.	Date	:	06.01.91
9.	Tidal Condition	:		10.	Gauge used	:	
11.	Current Meter No.	:	A-OTT No.30256	12.	Propeller No.	:	AOTT 1-30982
13.	Tide Range	:	1.09 m	14.	X-section Direction	:	44 degrees
15.	Reference Tide Range	:	1.09 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	165	0.85		2.02	285	0.70	283	-1.770	500	3.60	413	413	0.50	0.064	4.30
	0.50	165	0.85	0.43		285				475	1.40	0		1.45	0.106	4.30
	1.00	160	0.83	0.42		284								2.40	0.150	4.30
	2.40	121	0.63	1.02		279										
	2.90		0.00	0.16												
7	0.00	51	0.26		0.78	150	0.30	152	-1.560	500	3.60	-253	-253	0.50	0.070	4.40
	0.50	51	0.26	0.13		150				475	1.40	0		1.30	0.106	4.40
	1.00	80	0.41	0.17		153								2.10	0.126	4.30
	2.10	61	0.32	0.40		150										
	2.60		0.00	0.08												
8	0.00	241	1.24		2.47	130	1.03	129	-1.790	500	3.60	-780	-780	0.50	0.080	4.40
	0.50	241	1.24	0.62		130				475	1.40	0		1.20	0.244	4.50
	1.00	246	1.27	0.63		127								1.90	0.262	4.50
	1.90	180	0.93	0.99		127										
	2.40		0.00	0.23												
9	0.00	260	1.34		1.90	145	0.95	142	-1.990	500	3.60	-663	-663	0.50	0.310	4.50
	0.50	260	1.34	0.67		145				475	1.40	0		1.00		
	1.00	206	1.06	0.60		135								1.50	0.270	4.50
	1.50	140	0.72	0.45		142										
	2.00		0.00	0.18												
10	0.00	137	0.71		0.84	124	0.56	125	-2.190	500	3.60	-376	-376	0.50	0.400	4.30
	0.50	137	0.71	0.35		124				475	1.40	0		0.75		
	1.00	120	0.62	0.33		128								1.00	0.440	4.40
	1.50		0.00	0.16												

DISCHARGE MEASUREMENT

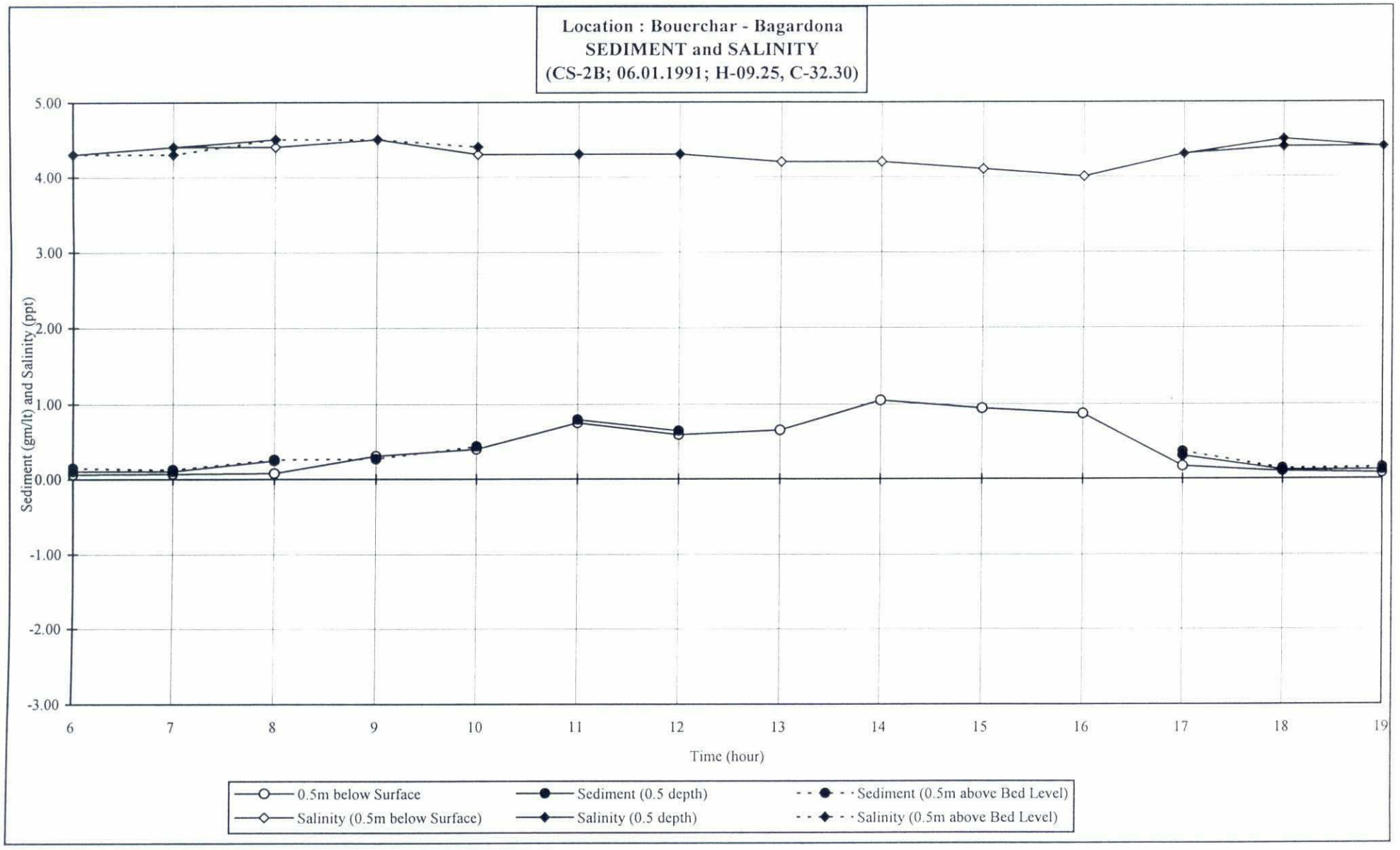
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bouer Char - Bagardona	4.	Cross Section No.	:	2(b)
5.	Decca Location	:	H-09.25; C-32.30	6.	Reference File Name	:	CS-2
7.	Season	:	Dry Season	8.	Date	:	06.01.91
9.	Tidal Condition	:		10.	Gauge used	:	
11.	Current Meter No.	:	A-OTT No.30256	12.	Propeller No.	:	AOTT 1-30982
13.	Tide Range	:	1.09 m	14.	X-section Direction	:	44 degrees
15.	Reference Tide Range	:	1.09 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 19.66

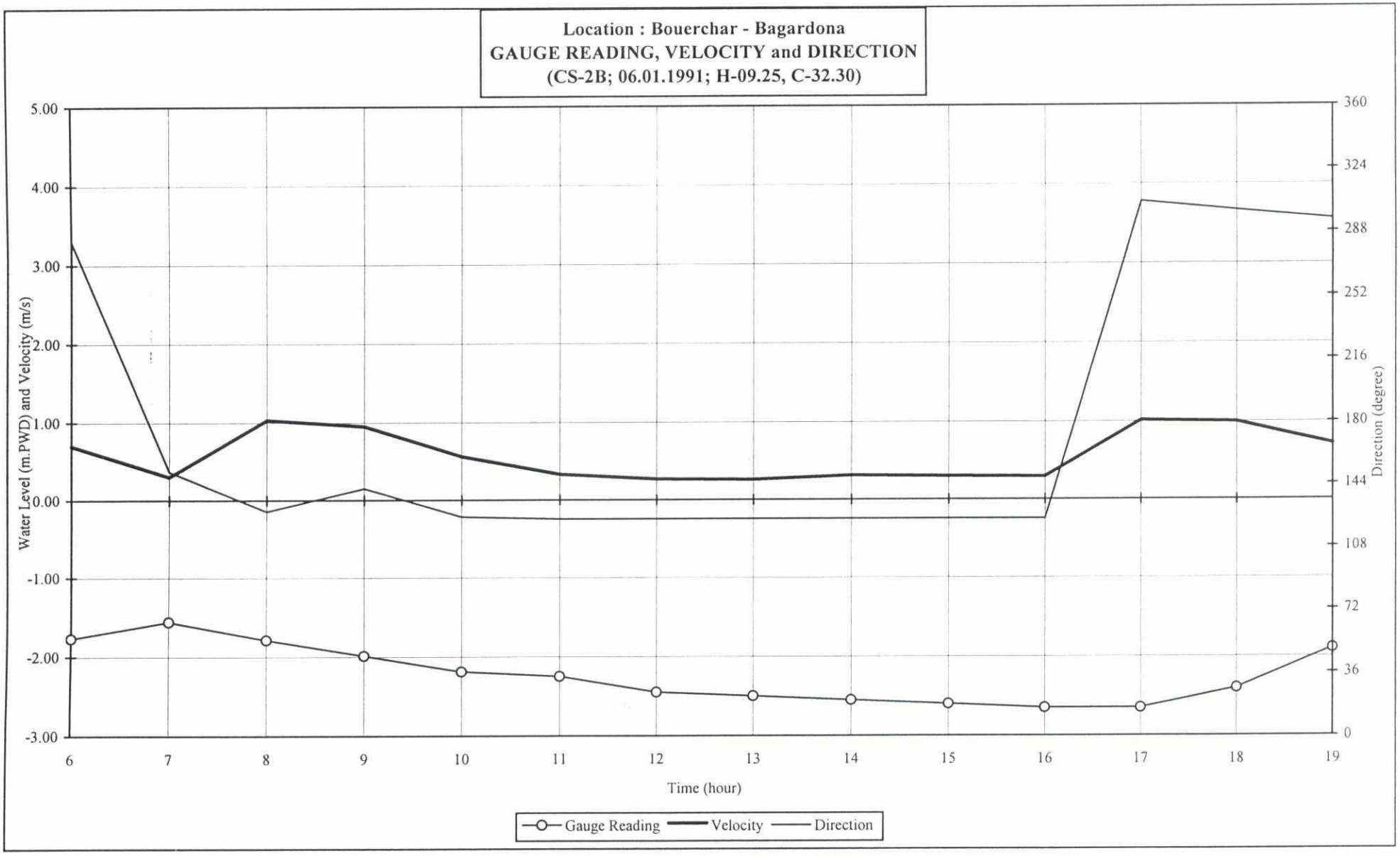
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
11	0.00	90	0.47		0.40	124	0.33	124	-2.250	500	3.60	-237	-237	0.50	0.750	4.30
	0.50	90	0.47	0.23		124				475	1.40	0		0.70	0.794	4.30
	1.20		0.00	0.16												
12	0.00	72	0.37		0.32	124	0.26	124	-2.450	500	3.60	-146	-146	0.50	0.592	4.30
	0.50	72	0.37	0.19		124				475	1.40	0		0.70	0.646	4.30
	1.20		0.00	0.13												
13	0.00	66	0.34		0.26	124	0.26	124	-2.500	500	3.60	-148	-148	0.50	0.654	4.20
	0.50	66	0.34	0.17		124				475	1.40	0				
	1.00		0.00	0.09												
14	0.00	77	0.40		0.28	124	0.31	124	-2.550	500	3.60	-177	-177	0.50	1.046	4.20
	0.50	77	0.40	0.20		124				475	1.40	0				
	0.90		0.00	0.08												
15	0.00	74	0.38		0.27	124	0.30	124	-2.600	500	3.60	-157	-157	0.50	0.942	4.10
	0.50	74	0.38	0.19		124				475	1.40	0				
	0.90		0.00	0.08												
16	0.00	75	0.39		0.29	124	0.29	124	-2.650	500	3.60	-132	-132	0.50	0.872	4.00
	0.50	75	0.39	0.19		124				475	1.40	0				
	1.00		0.00	0.10												
17	0.00	220	1.14		2.02	312	1.01	305	-2.650	500	3.60	89	89	0.50	0.170	4.30
	0.50	220	1.14	0.57		312				475	1.40	0		1.00	0.308	4.30
	1.00	241	1.24	0.60		310								1.50	0.366	4.30
	1.50	212	1.09	0.58		300										
	2.00		0.00	0.27												
18	0.00	245	1.26		2.38	295	0.99	300	-2.400	500	3.60	760	760	0.50	0.100	4.40

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bouer Char - Bagardona	4.	Cross Section No.	:	2(b)
5.	Decca Location	:	H-09.25; C-32.30	6.	Reference File Name	:	CS-2
7.	Season	:	Dry Season	8.	Date	:	06.01.91
9.	Tidal Condition	:		10.	Gauge used	:	
11.	Current Meter No.	:	A-OTT No.30256	12.	Propeller No.	:	AOTT 1-30982
13.	Tide Range	:	1.09 m	14.	X-section Direction	:	44 degrees
15.	Reference Tide Range	:	1.09 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0.50	245	1.26	0.63		295				475	1.40	0		1.20	0.120	4.50
	1.00	203	1.05	0.58		302								1.90	0.144	4.40
	1.90	194	1.00	0.92		307										
	2.40		0.00	0.25												
19	0.00	172	0.89		2.00	290	0.71	295	-1.900	500	3.60	562	562	0.50	0.080	4.40
	0.50	172	0.89	0.44		290				475	1.40	0		1.40	0.122	4.40
	1.00	164	0.85	0.43		293								2.30	0.156	4.40
	2.30	122	0.63	0.96		307										
	2.80		0.00	0.16												


Location : Bouerchar - Bagardona
SEDIMENT and SALINITY
(CS-2B; 06.01.1991; H-09.25, C-32.30)
Sediment (gm/lt) and Salinity (ppt)
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Time (hour)
0.5m below Surface
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)


Location : Bouerchar - Bagardona
GAUGE READING, VELOCITY and DIRECTION
(CS-2B; 06.01.1991; H-09.25, C-32.30)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
360
324
288
252
216
180
144
108
72
36
0
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Gauge Reading
Velocity
Direction

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bouer Char - Char Jabber	4.	Cross Section No.	:	CS-2(b)
5.	Decca Location	:	I-03.60; C-31.15	6.	Reference File Name	:	
7.	Season	:	Dry Season	8.	Date	:	07.01.91
9.	Tidal Condition	:		10.	Gauge used	:	
11.	Current Meter No.	:	A-OTT No.30256	12.	Propeller No.	:	AOTT 1-30982
13.	Tide Range	:	0.60 m	14.	X-section Direction	:	67 degrees
15.	Reference Tide Range	:	0.60 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 19.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	-0.45	0.50	323	0.63	0.12	0.23	0.27	0.21	6.40	6.10	6.10	6.20	1624	994	207
7	-0.20	0.50	313	0.26	0.10	0.12	0.16	0.13	5.50	6.00	6.00	5.83	1806	436	55
8	-0.15	0.00	237	0.27	0.07	0.07	0.11	0.08	6.00	6.00	6.00	6.00	1964	-88	7
9	-0.10	2.30	159	0.82	0.08	0.19	0.12	0.13	6.00	5.40	6.00	5.80	2185	-1801	235
10	-0.20	1.00	161	1.20	0.15	0.17	0.11	0.14	6.00	6.00	5.50	5.83	2193	-2624	378
11	-0.40	0.50	149	1.05	0.05	0.10	0.13	0.09	6.00	6.00	6.00	6.00	2139	-2220	201
12	-0.60	0.00	168	0.79	0.13	0.19	0.31	0.21	6.00	6.00	6.00	6.00	2046	-1577	332
13	-0.70	2.20	155	0.49	0.12	0.17		0.15	5.80	5.80		5.80	2029	-984	143
14	-0.70	1.60	161	0.28	0.11		0.14	0.12	5.80		5.80	5.80	2085	-584	72
15	-0.70	1.00	165	0.23	0.29		0.13	0.21	5.50		5.80	5.65	2146	-481	100
16	-0.65	0.50	246	0.22	0.10		0.12	0.11	5.80		5.80	5.80	2149	-6	1
17	-0.55	0.50	337	1.46	0.17	0.20	0.32	0.23	5.80	5.80	5.80	5.80	1811	2651	615
18	-0.40	0.00	328	1.20	0.07	0.09	0.10	0.09	5.80	5.80	5.80	5.80	1866	2205	190
19	-0.20	4.10	330	0.66	0.11	0.15	0.20	0.15	5.80	5.80	5.80	5.80	1885	1232	188

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bouer Char - Char Jabber	4.	Cross Section No.	:	CS-2(b)
5.	Decca Location	:	I-03.60; C-31.15	6.	Reference File Name	:	
7.	Season	:	Dry Season	8.	Date	:	07.01.91
9.	Tidal Condition	:		10.	Gauge used	:	
11.	Current Meter No.	:	A-OTT No.30256	12.	Propeller No.	:	AOTT 1-30982
13.	Tide Range	:	0.60 m	14.	X-section Direction	:	67 degrees
15.	Reference Tide Range	:	0.60 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	165	0.85		2.65	325	0.63	323	-0.45	250	3.70	425	994	0.50	0.124	6.40
	0.50	165	0.85	0.43		325				370	3.40	539		2.10	0.230	6.10
	1.00	191	0.99	0.46		327				130	1.40	30		3.70	0.270	6.10
	3.00	85	0.44	1.43		322										
	3.70	59	0.31	0.26		315										
	4.20		0.00	0.08												
7	0.00	60	0.31		1.16	306	0.26	313	-0.20	250	3.70	184	436	0.50	0.096	5.50
	0.50	60	0.31	0.16		306				370	3.40	235		2.20	0.122	6.00
	1.00	51	0.26	0.14		307				130	1.40	17		3.90	0.164	6.00
	3.00	53	0.28	0.54		315										
	3.90	54	0.28	0.25		317										
	4.40		0.00	0.07												
8	0.00	52	0.27		1.08	235	0.27	237	-0.15	250	3.70	-37	-88	0.50	0.070	6.00
	0.50	52	0.27	0.14		235				370	3.40	-47		2.00	0.074	6.00
	1.00	47	0.24	0.13		238				130	1.40	-4		3.50	0.110	6.00
	3.00	62	0.32	0.57		239										
	3.50	64	0.33	0.16		240										
	4.00		0.00	0.08												
9	0.00	190	0.98		2.89	160	0.82	159	-0.10	250	3.70	-755	-1801	0.50	0.078	6.00
	0.50	190	0.98	0.49		160				370	3.40	-971		1.75	0.190	5.40
	1.00	182	0.94	0.48		157				130	1.40	-76		3.00	0.124	6.00
	3.00	151	0.78	1.72		160										
	3.50		0.00	0.20												
10	0.00	270	1.39		3.24	161	1.20	161	-0.20	250	3.70	-1106	-2624	0.50	0.148	6.00

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bouer Char - Char Jabber	4.	Cross Section No.	:	CS-2(b)
5.	Decca Location	:	I-03.60; C-31.15	6.	Reference File Name	:	
7.	Season	:	Dry Season	8.	Date	:	07.01.91
9.	Tidal Condition	:		10.	Gauge used	:	
11.	Current Meter No.	:	A-OTT No.30256	12.	Propeller No.	:	AOTT 1-30982
13.	Tide Range	:	0.60 m	14.	X-section Direction	:	67 degrees
15.	Reference Tide Range	:	0.60 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0.50	270	1.39	0.70		161				370	3.40	-1417		1.60	0.170	6.00
	1.00	253	1.31	0.67		160				130	1.40	-102		2.70	0.114	5.50
	2.70	172	0.89	1.87		155										
	3.20		0.00	0.22												
11	0.00	221	1.14		2.94	154	1.05	149	-0.40	250	3.70	-947	-2220	0.50	0.046	6.00
	0.50	211	1.09	0.56		154				370	3.40	-1202		1.40	0.100	6.00
	1.00	256	1.32	0.60		142				130	1.40	-71		2.30	0.126	6.00
	2.30	197	1.02	1.52		145										
	2.80		0.00	0.25												
12	0.00	174	0.90		1.97	169	0.79	168	-0.60	250	3.70	-682	-1577	0.50	0.132	6.00
	0.50	174	0.90	0.45		169				370	3.40	-856		1.25	0.186	6.00
	1.00	172	0.89	0.45		170				130	1.40	-39		2.00	0.314	6.00
	2.00	161	0.83	0.86		165										
	2.50		0.00	0.21												
13	0.00	103	0.53		1.12	156	0.49	155	-0.70	250	3.70	-428	-984	0.50	0.120	5.80
	0.50	103	0.53	0.27		156				370	3.40	-535		1.15	0.170	5.80
	1.00	91	0.47	0.25		156				130	1.40	-21		1.80		
	1.80	122	0.63	0.44		150										
	2.30		0.00	0.16												
14	0.00	61	0.32		0.62	163	0.28	161	-0.70	250	3.70	-254	-584	0.50	0.110	5.80
	0.50	61	0.32	0.16		163				370	3.40	-317		1.10		
	1.00	67	0.35	0.17		158				130	1.40	-12		1.70	0.138	5.80
	1.70	55	0.29	0.22		150										
	2.20		0.00	0.07												

DISCHARGE MEASUREMENT

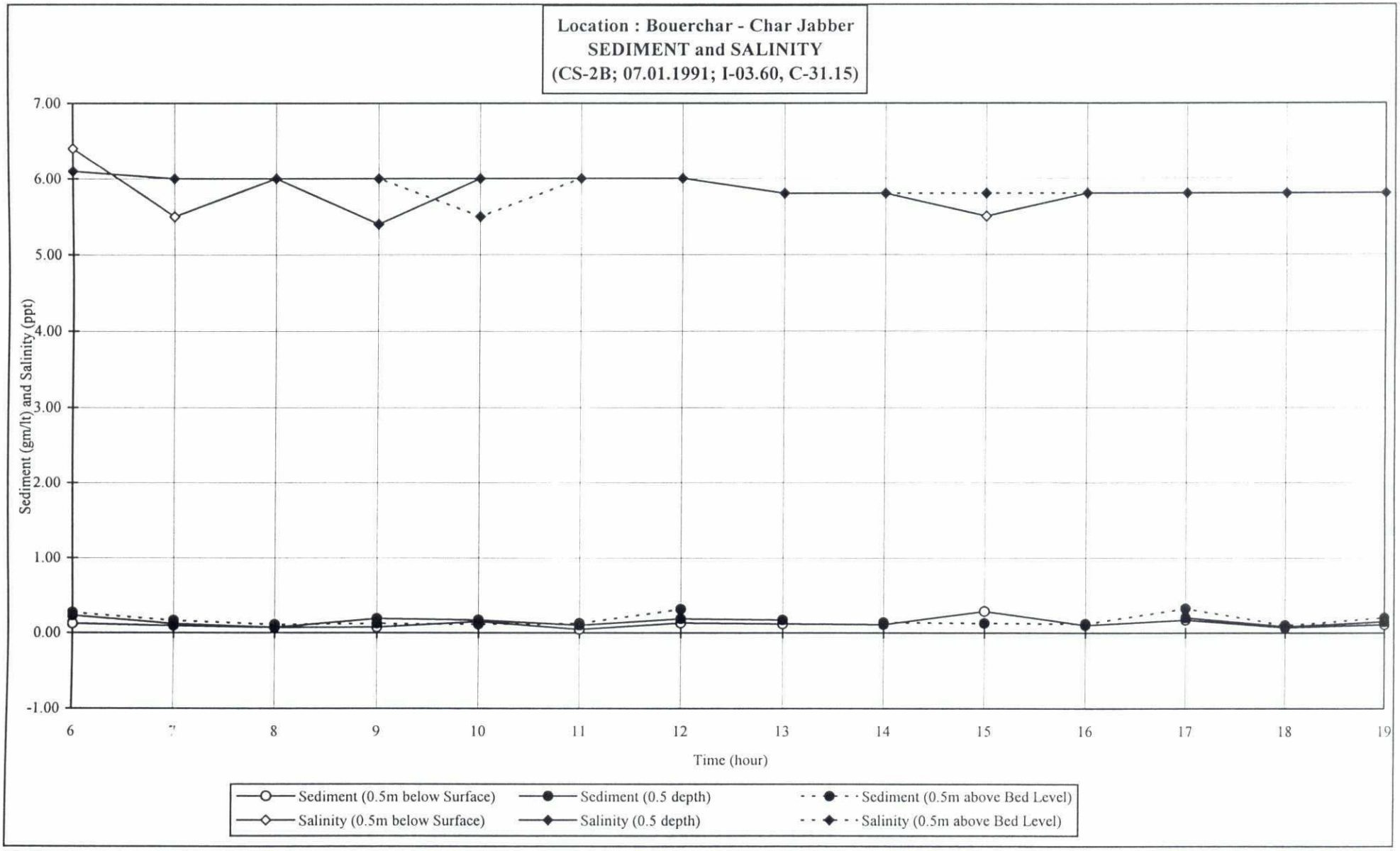
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bouer Char - Char Jabber	4.	Cross Section No.	:	CS-2(b)
5.	Decca Location	:	I-03.60; C-31.15	6.	Reference File Name	:	
7.	Season	:	Dry Season	8.	Date	:	07.01.91
9.	Tidal Condition	:		10.	Gauge used	:	
11.	Current Meter No.	:	A-OTT No.30256	12.	Propeller No.	:	AOTT 1-30982
13.	Tide Range	:	0.60 m	14.	X-section Direction	:	67 degrees
15.	Reference Tide Range	:	0.60 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 19.66

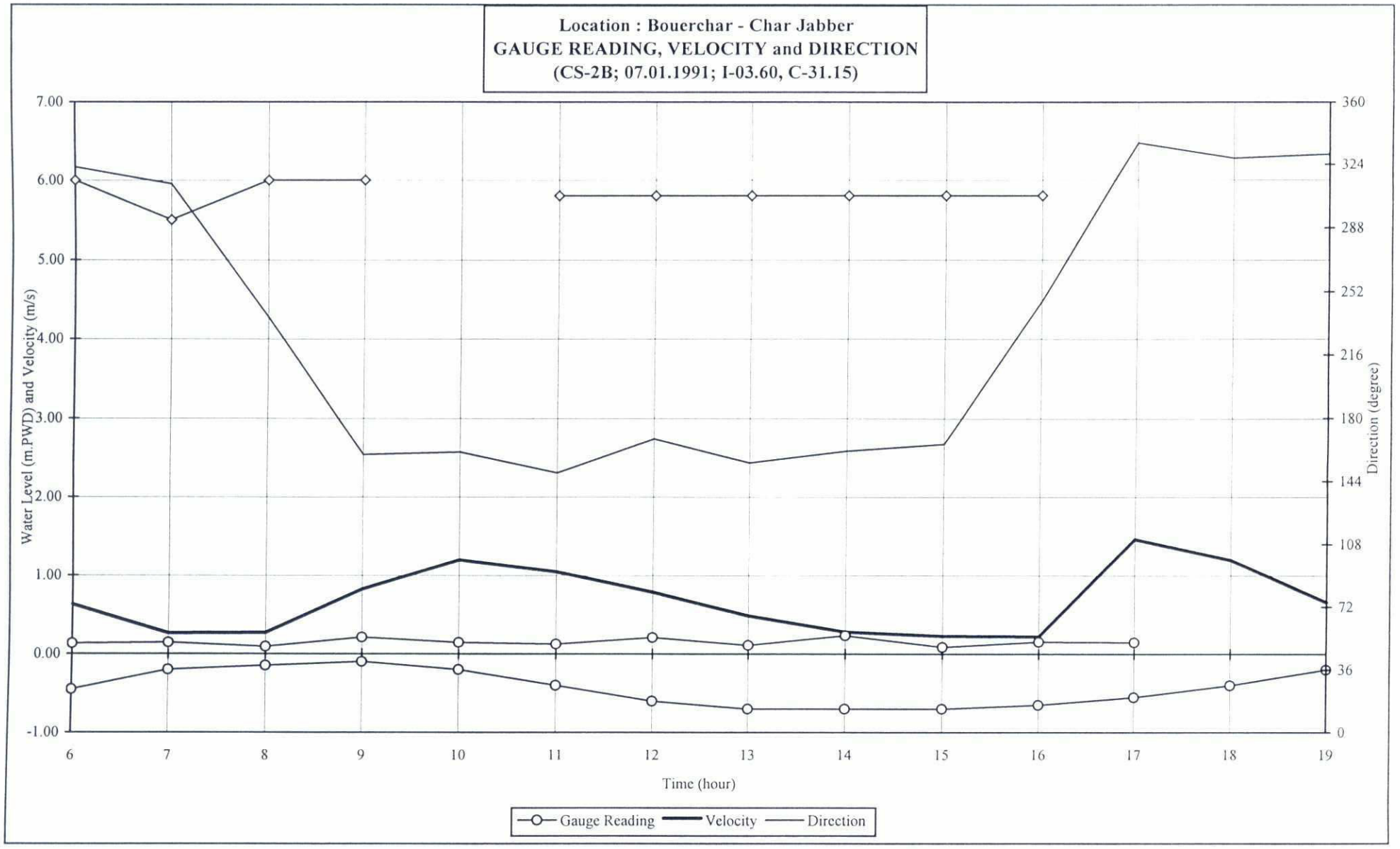
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
15	0.00	56	0.29		0.48	168	0.23	165	-0.70	250	3.70	-209	-481	0.50	0.286	5.50
	0.50	56	0.29	0.15		168				370	3.40	-262		1.05		
	1.00	48	0.25	0.14		165				130	1.40	-10		1.60	0.128	5.80
	1.60	42	0.22	0.14		160										
	2.10		0.00	0.06												
16	0.00	74	0.38		0.49	220	0.22	246	-0.65	250	3.70	-2	-6	0.50	0.100	5.80
	0.50	74	0.38	0.19		220				370	3.40	-3		1.10		
	1.00	57	0.30	0.17		230				130	1.40	0		1.70	0.120	5.80
	1.70	7	0.04	0.12		315										
	2.20		0.00	0.01												
17	0.00	304	1.57		4.69	320	1.46	337	-0.55	250	3.70	1142	2651	0.50	0.170	5.80
	0.50	304	1.57	0.78		320				370	3.40	1438		1.60	0.204	5.80
	1.00	377	1.95	0.88		330				130	1.40	71		2.70	0.322	5.80
	2.70	241	1.24	2.71		343										
	3.20		0.00	0.31												
18	0.00	230	1.19		4.19	325	1.20	328	-0.40	250	3.70	940	2205	0.50	0.072	5.80
	0.50	230	1.19	0.59		325				370	3.40	1193		1.75	0.086	5.80
	1.00	261	1.35	0.63		332				130	1.40	71		3.00	0.100	5.80
	3.00	250	1.29	2.64		329										
	3.50		0.00	0.32												
19	0.00	143	0.74		2.70	330	0.66	330	-0.20	250	3.70	519	1232	0.50	0.110	5.80
	0.50	143	0.74	0.37		330				370	3.40	665		2.05	0.148	5.80
	1.00	155	0.80	0.39		331				130	1.40	48		3.60	0.200	5.80
	3.00	130	0.67	1.47		330										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bouer Char - Char Jabber	4.	Cross Section No.	:	CS-2(b)
5.	Decca Location	:	I-03.60; C-31.15	6.	Reference File Name	:	
7.	Season	:	Dry Season	8.	Date	:	07.01.91
9.	Tidal Condition	:		10.	Gauge used	:	
11.	Current Meter No.	:	A-OTT No.30256	12.	Propeller No.	:	AOTT 1-30982
13.	Tide Range	:	0.60 m	14.	X-section Direction	:	67 degrees
15.	Reference Tide Range	:	0.60 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	3.60	94	0.49	0.35		329										
	4.10		0.00	0.12												


Location : Bouerchar - Char Jabber
SEDIMENT and SALINITY
(CS-2B; 07.01.1991; I-03.60, C-31.15)
Sediment (gm/lt) and Salinity (ppt)
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)


Location : Bouerchar - Char Jabber
GAUGE READING, VELOCITY and DIRECTION
(CS-2B; 07.01.1991; I-03.60, C-31.15)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
360
324
288
252
216
180
144
108
72
36
0
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Gauge Reading
Velocity
Direction

Cross Section CS-4

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ramgati - Gazaria	4.	Cross Section No.	:	4
5.	Decca Location	:	F-18.00; C-39.30	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	26.03.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Ramgati
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.16 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.16 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5	0.45	7.90	114	-0.90	0.48	0.49	0.58	0.52	3.20	3.20	3.20	3.20	5966	-4936	2557
6	0.18	7.80	97	-0.92	0.46	0.46	0.58	0.50	2.90	2.90	2.90	2.90	5513	-3889	1945
7	-0.15	7.50	110	-0.89	0.37	0.37	0.45	0.40	2.50	2.50	2.50	2.50	5047	-3998	1602
8	-0.19	7.20	125	-0.90	0.33	0.25	0.29	0.29	1.90	1.90	1.90	1.90	5327	-4714	1361
9	0.11	7.20	147	-0.47	0.41	0.42	0.35	0.40	1.50	1.50	1.50	1.50	5653	-2606	1032
10	0.95	8.00	294	0.48	0.10	0.09	0.08	0.09	1.50	1.20	1.20	1.30	6881	3017	272
11	1.38	8.70	297	0.74	0.39	0.25	0.38	0.34	2.00	2.00	2.00	2.00	7373	5144	1745
12	1.68	9.00	285	0.85	0.31	0.27	0.31	0.29	2.50	2.50	2.50	2.50	7816	5670	1671
13	1.97	9.20	295	0.79	0.09	0.14	0.13	0.12	3.10	3.10	3.10	3.10	8295	6085	734
14	1.68	9.00	304	0.47	0.11	0.10	0.15	0.12	3.10	3.10	3.10	3.10	7816	3567	426
15	1.20	8.50	303	0.15	0.04	0.24	0.13	0.14	3.10	3.10	3.10	3.10	7119	1063	145
16	0.82	8.10	113	-0.57	0.06	0.01	0.05	0.04	3.50	3.50	3.50	3.50	6576	-3412	136
17	0.44	7.90	121	-0.90	0.05	0.06	0.08	0.06	3.00	3.00	3.00	3.00	5948	-5150	330
18	0.23	7.50	126	-1.28	0.07	0.02	0.05	0.05	3.00	3.00	3.00	3.00	5738	-7208	336

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ramgati - Gazaria	4.	Cross Section No.	:	4
5.	Decca Location	:	F-18.00; C-39.30	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	26.03.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Ramgati
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.16 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.16 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
500	0.00	226	1.17		7.13	137	0.90	114	0.450	300	3.80	-725	-4936	0.50	0.480	3.20
	0.50	226	1.17	0.58		137				200	1.70	-161		3.95	0.494	3.20
	1.00	215	1.11	0.57		135				500	4.00	-1301		7.40	0.580	3.20
	3.00	193	1.00	2.11		107				300	6.80	-1709				
	5.00	175	0.90	1.90		105				200	6.10	-968				
	7.00	127	0.66	1.56		95				125	1.30	-72				
	7.40	117	0.61	0.25		102										
	7.90		0.00	0.15												
600	0.00	230	1.19		7.14	101	0.92	97	0.180	300	3.80	-561	-3889	0.50	0.456	2.90
	0.50	230	1.19	0.59		101				200	1.70	-111		3.90	0.460	2.90
	1.00	202	1.04	0.56		102				500	4.00	-1011		7.30	0.584	2.90
	3.00	198	1.02	2.07		95				300	6.80	-1382				
	5.00	173	0.89	1.92		94				200	6.10	-777				
	7.30	135	0.70	1.83		95				125	1.30	-47				
	7.80		0.00	0.17												
700	0.00	219	1.13		6.68	103	0.89	110	-0.150	300	3.80	-561	-3998	0.50	0.374	2.50
	0.50	219	1.13	0.57		103				200	1.70	-94		3.75	0.374	2.50
	1.00	220	1.14	0.57		105				500	4.00	-1018		7.00	0.454	2.50
	3.00	197	1.02	2.15		103				300	6.80	-1470				
	5.00	161	0.83	1.85		113				200	6.10	-820				
	7.00	110	0.57	1.40		125				125	1.30	-36				
	7.50		0.00	0.14												
800	0.00	204	1.05		6.50	134	0.90	125	-0.190	300	3.80	-659	-4714	0.50	0.334	1.90
	0.50	204	1.05	0.53		134				200	1.70	-107		3.60	0.246	1.90

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ramgati - Gazaria	4.	Cross Section No.	:	4
5.	Decca Location	:	F-18.00; C-39.30	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	26.03.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Ramgati
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.16 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.16 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	209	1.08	0.53		130				500	4.00	-1197		6.70	0.286	1.90
	3.00	192	0.99	2.07		125				300	6.80	-1741				
	5.00	170	0.88	1.87		119				200	6.10	-970				
	6.70	133	0.69	1.33		119				125	1.30	-41				
	7.20		0.00	0.17												
900	0.00	126	0.65		3.37	144	0.47	147	0.110	300	3.80	-374	-2606	0.50	0.414	1.50
	0.50	126	0.65	0.33		144				200	1.70	-72		3.60	0.424	1.50
	1.00	120	0.62	0.32		146				500	4.00	-675		6.70	0.350	1.50
	3.00	96	0.50	1.12		147				300	6.80	-932				
	5.00	75	0.39	0.89		148				200	6.10	-524				
	6.70	69	0.36	0.63		150				125	1.30	-30				
	7.20		0.00	0.09												
1000	0.00	80	0.41		3.81	290	0.48	294	0.950	300	3.80	456	3017	0.50	0.100	1.50
	0.50	80	0.41	0.21		290				200	1.70	119		4.00	0.090	1.20
	1.00	83	0.43	0.21		292				500	4.00	812		7.50	0.080	1.20
	3.00	110	0.57	1.00		296				300	6.80	1000				
	5.00	107	0.55	1.12		296				200	6.10	573				
	7.50	74	0.38	1.17		296				125	1.30	57				
	8.00		0.00	0.10												
1100	0.00	172	0.89		6.46	306	0.74	297	1.380	300	3.80	793	5144	0.50	0.386	2.00
	0.50	172	0.89	0.44		306				200	1.70	229		4.35	0.254	2.00
	1.00	145	0.75	0.41		302				500	4.00	1404		8.20	0.378	2.00
	3.00	152	0.79	1.53		293				300	6.80	1650				
	5.00	131	0.68	1.46		291				200	6.10	953				

OK

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ramgati - Gazaria	4.	Cross Section No.	:	4
5.	Decca Location	:	F-18.00; C-39.30	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	26.03.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Ramgati
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.16 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.16 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00	158	0.82	1.49		287				125	1.30	114				
	8.20	141	0.73	0.93		294										
	8.70		0.00	0.18												
1200	0.00	185	0.96		7.68	277	0.85	285	1.680	300	3.80	884	5670	0.50	0.308	2.50
	0.50	185	0.96	0.48		277				200	1.70	271		4.50	0.266	2.50
	1.00	200	1.03	0.50		281				500	4.00	1561		8.50	0.310	2.50
	3.00	182	0.94	1.97		285				300	6.80	1781				
	5.00	198	1.02	1.96		290				200	6.10	1034				
	7.00	130	0.67	1.69		294				125	1.30	138				
	8.50	110	0.57	0.93		292										
	9.00		0.00	0.14												
1300	0.00	202	1.04		7.26	297	0.79	295	1.970	300	3.80	959	6085	0.50	0.092	3.10
	0.50	202	1.04	0.52		297				200	1.70	309		4.60	0.140	3.10
	1.00	191	0.99	0.51		297				500	4.00	1688		8.70	0.130	3.10
	3.00	162	0.84	1.82		294				300	6.80	1875				
	5.00	153	0.79	1.63		293				200	6.10	1094				
	7.00	143	0.74	1.53		293				125	1.30	160				
	8.70	109	0.56	1.11		296										
	9.20		0.00	0.14												
1400	0.00	156	0.81		4.21	307	0.47	304	1.680	300	3.80	556	3567	0.50	0.110	3.10
	0.50	156	0.81	0.40		307				200	1.70	171		4.50	0.102	3.10
	1.00	138	0.71	0.38		307				500	4.00	982		8.50	0.146	3.10
	3.00	100	0.52	1.23		304				300	6.80	1120				
	5.00	82	0.42	0.94		298				200	6.10	651				

DISCHARGE MEASUREMENT

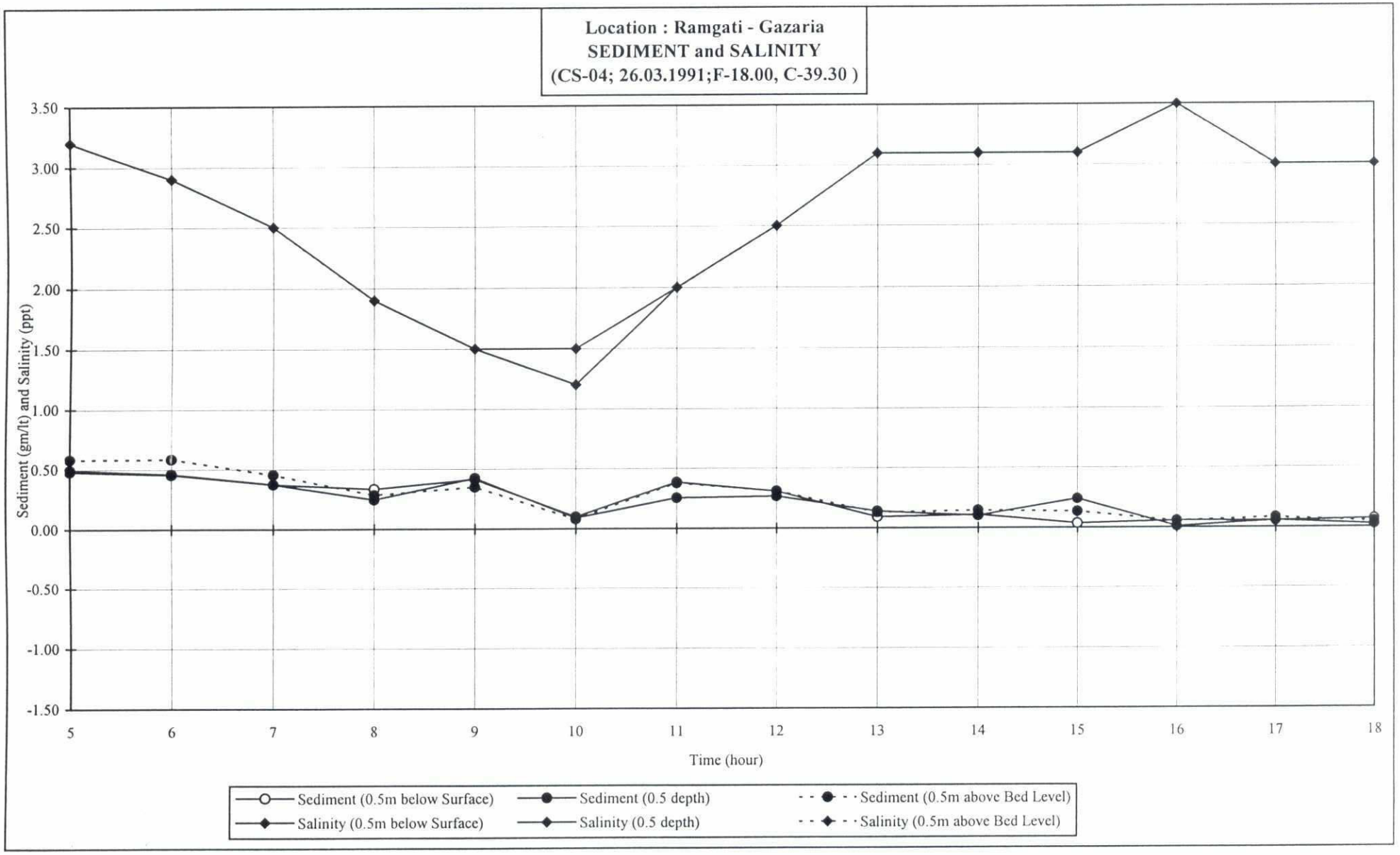
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ramgati - Gazaria	4.	Cross Section No.	:	4
5.	Decca Location	:	F-18.00; C-39.30	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	26.03.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Ramgati
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.16 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.16 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

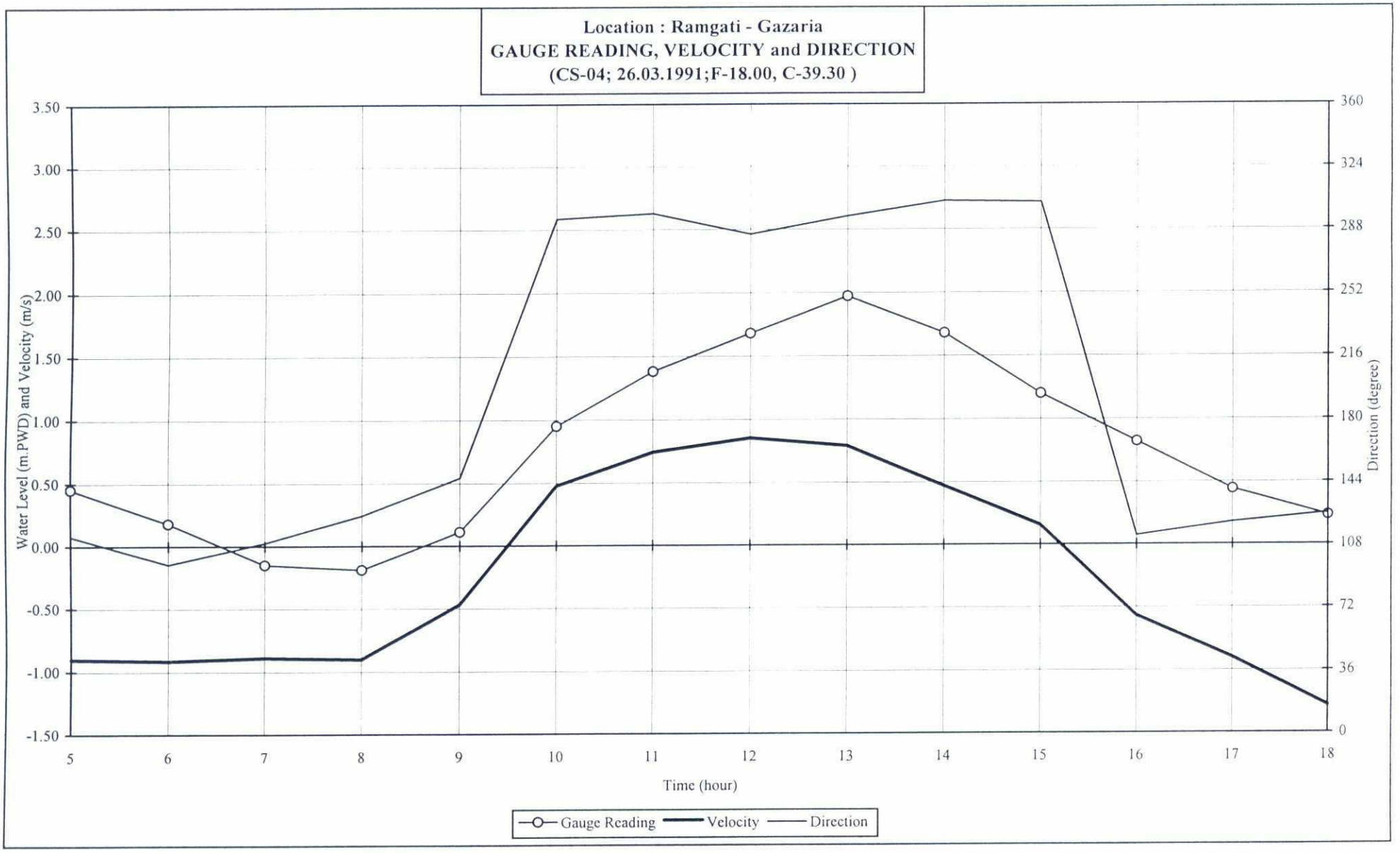
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00	54	0.28	0.71		300				125	1.30	87				
	8.50	66	0.34	0.47		305										
	9.00		0.00	0.09												
1500	0.00	3	0.02		1.31	300	0.15	303	1.200	300	3.80	163	1063	0.50	0.036	3.10
	0.50	3	0.02	0.01		300				200	1.70	45		4.25	0.240	3.10
	1.00	4	0.02	0.01		301				500	4.00	289		8.00	0.134	3.10
	3.00	42	0.22	0.24		309				300	6.80	345				
	5.00	36	0.19	0.41		299				200	6.10	199				
	7.00	46	0.24	0.43		306				125	1.30	22				
	8.00	23	0.12	0.18		307										
	8.50		0.00	0.03		305										
1600	0.00	98	0.51		4.59	106	0.57	113	0.820	300	3.80	-512	-3412	0.50	0.056	3.50
	0.50	98	0.51	0.25		106				200	1.70	-129		4.05	0.010	3.50
	1.00	112	0.58	0.27		107				500	4.00	-914		7.60	0.054	3.50
	3.00	138	0.71	1.29		121				300	6.80	-1143				
	5.00	118	0.61	1.32		124				200	6.10	-653				
	7.00	90	0.47	1.08		115				125	1.30	-61				
	7.60	83	0.43	0.27		113										
	8.10		0.00	0.11												
1700	0.00	285	1.47		7.12	115	0.90	121	0.440	300	3.80	-756	-5150	0.50	0.054	3.00
	0.50	285	1.47	0.74		115				200	1.70	-167		3.95	0.056	3.00
	1.00	250	1.29	0.69		115				500	4.00	-1357		7.40	0.082	3.00
	3.00	184	0.95	2.24		120				300	6.80	-1784				
	5.00	167	0.86	1.81		130				200	6.10	-1011				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ramgati - Gazaria	4.	Cross Section No.	:	4
5.	Decca Location	:	F-18.00; C-39.30	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	26.03.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Ramgati
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.16 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.16 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00	92	0.48	1.34		125				125	1.30	-75				
	7.40	90	0.47	0.19		125										
	7.90		0.00	0.12												
1800	0.00	298	1.54		9.60	120	1.28	126	0.230	300	3.80	-1043	-7208	0.50	0.070	3.00
	0.50	298	1.54	0.77		120				200	1.70	-212		3.75	0.024	3.00
	1.00	290	1.50	0.76		125				500	4.00	-1879		7.00	0.046	3.00
	3.00	280	1.45	2.94		125				300	6.80	-2548				
	5.00	237	1.22	2.67		130				200	6.10	-1436				
	7.00	192	0.99	2.22		135				125	1.30	-91				
	7.50		0.00	0.25												


Location : Ramgati - Gazaria
SEDIMENT and SALINITY
(CS-04; 26.03.1991;F-18.00, C-39.30)
Sediment (gm/lt) and Salinity (ppt)
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)


Location : Ramgati - Gazaria
GAUGE READING, VELOCITY and DIRECTION
(CS-04; 26.03.1991;F-18.00, C-39.30)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
Gauge Reading
Velocity
Direction

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ramgati - Gazaria	4.	Cross Section No.	:	4
5.	Decca Location	:	F-18.00; C-39.30	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	29.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Ramgati
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.99 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.99 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5	1.00	8.60	123	-0.78	0.12	0.40	1.28	0.60	3.50	3.90	5.00	4.13	6683	-5090	3044
6	0.80	8.50	130	-1.19	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	6351	-7479	5983
7	0.43	8.40	126	-1.36	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	5714	-7594	3265
8	0.15	8.00	136	-1.19	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	5376	-6402	960
9	0.02	7.70	130	-1.18	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	5267	-6157	123
10	-0.10	7.50	130	-1.13	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	5136	-5772	-577
11	-0.25	7.50	126	-0.24	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	4872	-1123	-281
12	-0.05	9.00	292	1.37	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	4683	5828	-291
13	0.64	9.60	281	1.15	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	5628	5221	3341
14	1.72	10.40	298	1.43	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	7240	9784	16829
15	2.40	10.50	303	1.38	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	8490	11407	27377
16	2.74	9.60	4	0.35	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	9673	2348	6434
17	2.38	8.60	29	0.19	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	9525	563	1340
18	2.12	8.00	123	-0.88	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	9357	-7985	16927

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ramgati - Gazaria	4.	Cross Section No.	:	4
5.	Decca Location	:	F-18.00; C-39.30	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	29.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Ramgati
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.99 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.99 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
500	0.00	215	1.11		6.74	110	0.78	123	1.000	300	3.80	-771	-5090	0.50	0.118	3.50
	0.50	215	1.11	0.56		110				200	1.70	-204		4.30	0.400	3.90
	1.00	187	0.97	0.52		117				500	4.00	-1372		8.10	1.276	5.00
	3.00	166	0.86	1.82		130				300	6.80	-1680				
	5.00	164	0.85	1.71		125				200	6.10	-964				
	7.00	106	0.55	1.40		130				125	1.30	-98				
	8.10	106	0.55	0.60		128										
	8.60		0.00	0.14												
600	0.00	342	1.76		10.10	124	1.19	130	0.800	300	3.80	-1122	-7479	0.50	0.050	3.80
	0.50	342	1.76	0.88		124				200	1.70	-280		4.25	0.340	3.90
	1.00	342	1.76	0.88		124				500	4.00	-2002		8.00	1.928	4.20
	3.00	281	1.45	3.22		128				300	6.80	-2510				
	5.00	205	1.06	2.51		131				200	6.10	-1433				
	7.00	143	0.74	1.80		135				125	1.30	-132				
	8.00	113	0.58	0.66		135										
	8.50		0.00	0.15												
700	0.00	351	1.81		11.38	123	1.36	126	0.430	300	3.80	-1114	-7594	0.50	1.188	3.50
	0.50	351	1.81	0.91		123				200	1.70	-246		4.20	2.294	3.80
	1.00	336	1.73	0.89		123				500	4.00	-2000		7.90	2.730	3.80
	3.00	264	1.36	3.10		125				300	6.80	-2634				
	5.00	250	1.29	2.65		127				200	6.10	-1491				
	7.00	234	1.21	2.50		127				125	1.30	-110				
	7.90	221	1.14	1.06		129										
	8.40		0.00	0.29												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ramgati - Gazaria	4.	Cross Section No.	:	4
5.	Decca Location	:	F-18.00; C-39.30	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	29.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Ramgati
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.99 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.99 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
800	0.00	256	1.32		9.53	131	1.19	136	0.150	300	3.80	-921	-6402	0.50	1.696	3.50
	0.50	256	1.32	0.66		131				200	1.70	-180		4.00	1.452	3.50
	1.00	242	1.25	0.64		133				500	4.00	-1661		7.50	1.740	3.50
	3.00	266	1.37	2.62		134				300	6.80	-2281				
	5.00	248	1.28	2.65		139				200	6.10	-1283				
	7.50	174	0.90	2.72		142				125	1.30	-76				
	8.00		0.00	0.23												
900	0.00	270	1.39		9.07	130	1.18	130	0.020	300	3.80	-876	-6157	0.50	1.252	3.20
	0.50	270	1.39	0.70		130				200	1.70	-161		3.85	1.618	3.20
	1.00	262	1.35	0.69		133				500	4.00	-1585		7.20	1.886	3.20
	3.00	248	1.28	2.63		135				300	6.80	-2223				
	5.00	214	1.11	2.39		130				200	6.10	-1246				
	7.20	208	1.07	2.40		122				125	1.30	-66				
	7.70		0.00	0.27												
1000	0.00	258	1.33		8.50	122	1.13	130	-0.100	300	3.80	-813	-5772	0.50	1.840	3.00
	0.50	258	1.33	0.67		122				200	1.70	-140		3.75	1.886	3.00
	1.00	254	1.31	0.66		127				500	4.00	-1475		7.00	1.962	3.00
	3.00	224	1.16	2.47		134				300	6.80	-2111				
	5.00	216	1.12	2.27		135				200	6.10	-1179				
	7.00	204	1.05	2.17		130				125	1.30	-55				
	7.50		0.00	0.26												
1100	0.00	82	0.42		1.76	125	0.24	126	-0.250	300	3.80	-156	-1123	0.50	0.075	2.50
	0.50	82	0.42	0.21		125				200	1.70	-24		3.75	1.600	2.50
	1.00	66	0.34	0.19		128				500	4.00	-284		7.00	1.830	2.50

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ramgati - Gazaria	4.	Cross Section No.	:	4
5.	Decca Location	:	F-18.00; C-39.30	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	29.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Ramgati
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.99 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.99 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33 = 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	3.00	50	0.26	0.60		130				300	6.80	-417				
	5.00	32	0.17	0.43		125				200	6.10	-232				
	7.00	25	0.13	0.30		120				125	1.30	-9				
	7.50		0.00	0.03												
1200	0.00	320	1.65		12.36	303	1.37	292	-0.050	300	3.80	824	5828	0.50	0.190	3.00
	0.50	320	1.65	0.83		303				200	1.70	146		4.50	1.540	3.00
	1.00	342	1.76	0.85		298				500	4.00	1494		8.50	1.792	3.00
	3.00	335	1.73	3.49		291				300	6.80	2120				
	5.00	291	1.50	3.23		291				200	6.10	1185				
	7.00	142	0.73	2.24		282				125	1.30	58				
	8.50	227	1.17	1.43		275										
	9.00		0.00	0.29												
1300	0.00	288	1.49		11.06	278	1.15	281	0.640	300	3.80	776	5221	0.50	1.560	3.20
	0.50	288	1.49	0.74		278				200	1.70	184		4.80	1.620	3.20
	1.00	254	1.31	0.70		280				500	4.00	1388		9.10	1.992	3.20
	3.00	265	1.37	2.68		272				300	6.80	1777				
	5.00	213	1.10	2.47		279				200	6.10	1011				
	7.00	198	1.02	2.12		287				125	1.30	85				
	9.10	189	0.98	2.10		290										
	9.60		0.00	0.24												
1400	0.00	320	1.65		14.88	289	1.43	298	1.720	300	3.80	1528	9784	0.50	0.770	3.10
	0.50	320	1.65	0.83		289				200	1.70	472		5.20	1.020	3.10
	1.00	343	1.77	0.86		292				500	4.00	2697		9.90	1.194	3.10
	3.00	301	1.55	3.32		293				300	6.80	3065				

DISCHARGE MEASUREMENT

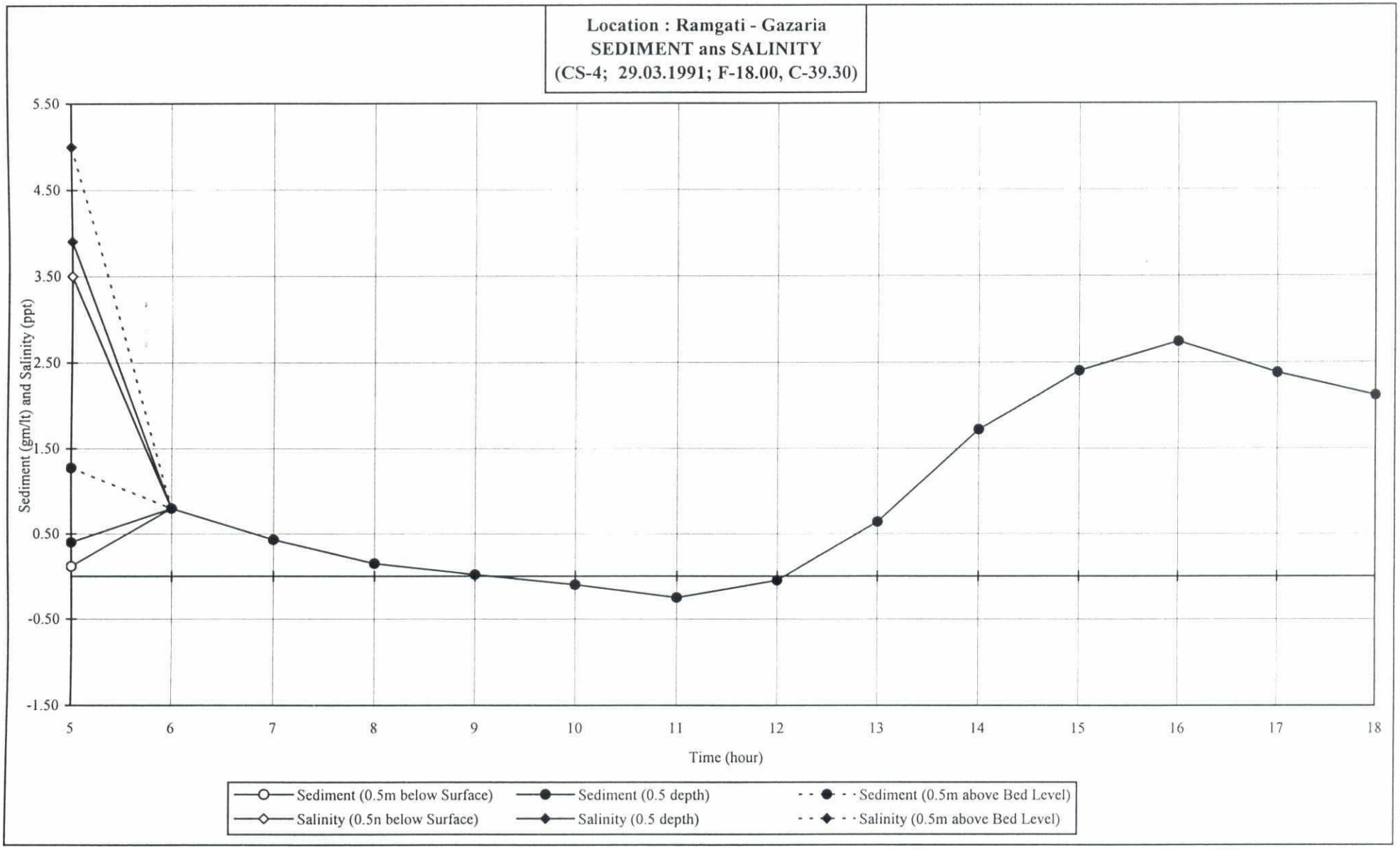
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ramgati - Gazaria	4.	Cross Section No.	:	4
5.	Decca Location	:	F-18.00; C-39.30	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	29.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Ramgati
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.99 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.99 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

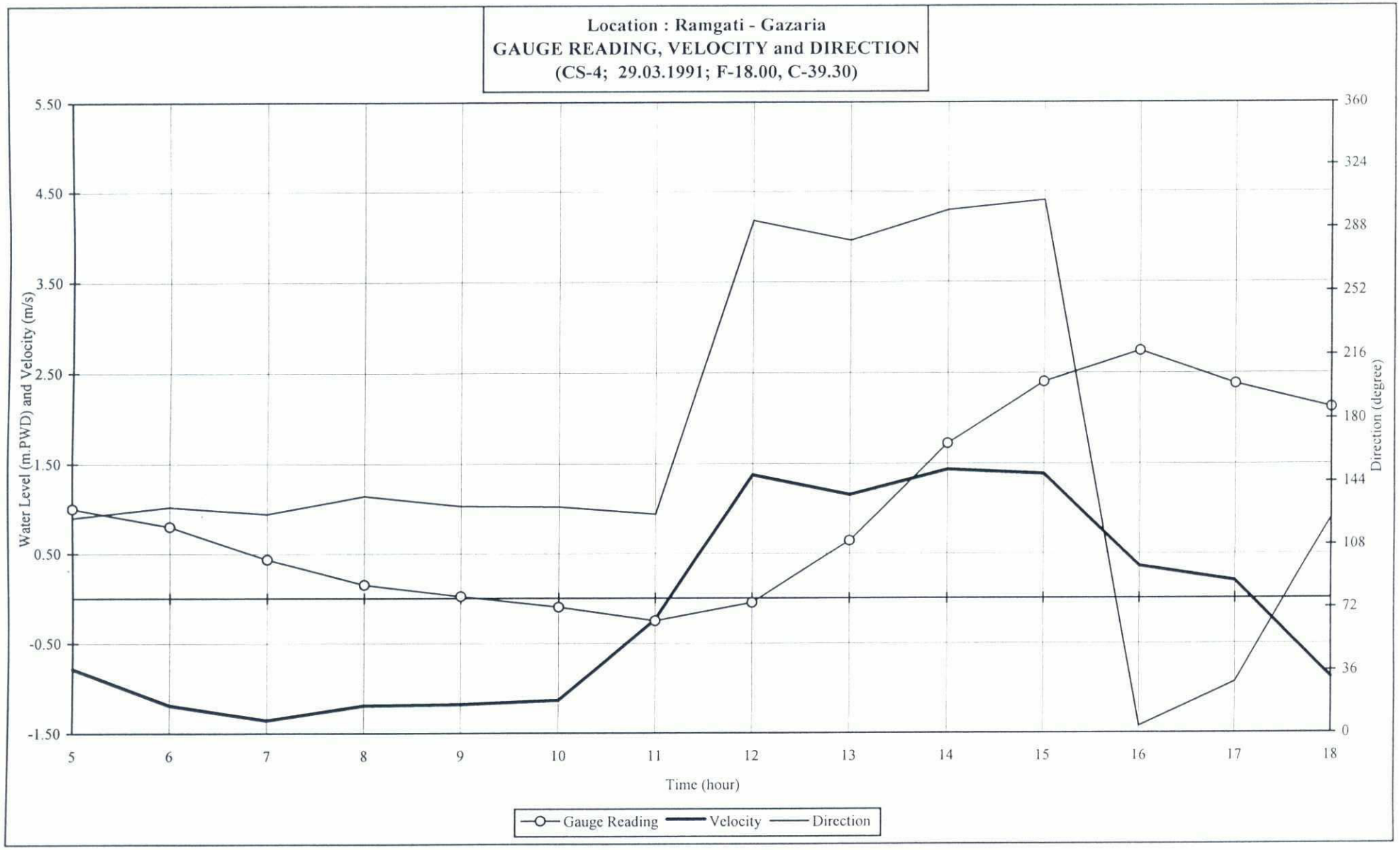
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	5.00	322	1.66	3.22		299				200	6.10	1781				
	7.00	254	1.31	2.97		307				125	1.30	241				
	9.00	230	1.19	2.50		305										
	9.90	180	0.93	0.95		308										
	10.40		0.00	0.23												
1500	0.00	286	1.48		14.51	300	1.38	303	2.400	300	3.80	1821	11407	0.50	1.058	5.00
	0.50	286	1.48	0.74		300				200	1.70	625		5.25	0.904	4.80
	1.00	354	1.83	0.83		301				500	4.00	3193		10.00	1.532	5.00
	3.00	310	1.60	3.43		309				300	6.80	3426				
	5.00	296	1.53	3.13		299				200	6.10	2012				
	7.00	234	1.21	2.74		306				125	1.30	331				
	9.00	218	1.13	2.33		307										
	10.00	196	1.01	1.07		305										
	10.50		0.00	0.25												
1600	0.00	81	0.42		3.40	5	0.35	4	2.740	300	3.80	378	2348	0.50	0.502	4.50
	0.50	81	0.42	0.21		5				200	1.70	135		4.80	3.726	5.20
	1.00	81	0.42	0.21		5				500	4.00	661		9.10	3.864	5.50
	3.00	76	0.39	0.81		2				300	6.80	692				
	5.00	66	0.34	0.74		2				200	6.10	408				
	7.00	59	0.31	0.65		5				125	1.30	73				
	9.10	68	0.35	0.69		2										
	9.60		0.00	0.09												
1700	0.00	16	0.08		1.66	25	0.19	29	2.380	300	3.80	90	563	0.50	0.352	5.20
	0.50	16	0.08	0.04		25				200	1.70	31		4.30	0.590	5.20

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ramgati - Gazaria	4.	Cross Section No.	:	4
5.	Decca Location	:	F-18.00; C-39.30	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	29.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Ramgati
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.99 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.99 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	28	0.15	0.06		30				500	4.00	158		8.10	1.138	5.20
	3.00	30	0.16	0.30		25				300	6.80	169				
	5.00	48	0.25	0.41		27				200	6.10	99				
	7.00	50	0.26	0.51		34				125	1.30	16				
	8.10	47	0.24	0.28		38										
	8.60		0.00	0.06												
1800	0.00	214	1.11		7.02	120	0.88	123	2.120	300	3.80	-1264	-7985	0.50	0.236	5.00
	0.50	214	1.11	0.55		120				200	1.70	-417		4.00	0.966	5.00
	1.00	228	1.18	0.57		127				500	4.00	-2222		7.50	0.722	5.00
	3.00	189	0.98	2.15		126				300	6.80	-2438				
	5.00	165	0.85	1.83		125				200	6.10	-1426				
	7.50	110	0.57	1.78		122				125	1.30	-218				
	8.00		0.00	0.14												


Location : Ramgati - Gazaria
SEDIMENT ans SALINITY
(CS-4; 29.03.1991; F-18.00, C-39.30)
Sediment (gm/lt) and Salinity (ppt)
5.50
4.50
3.50
2.50
1.50
0.50
-0.50
-1.50
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5n below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)


Location : Ramgati - Gazaria
GAUGE READING, VELOCITY and DIRECTION
(CS-4; 29.03.1991; F-18.00, C-39.30)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
5.50
4.50
3.50
2.50
1.50
0.50
-0.50
-1.50
360
324
288
252
216
180
144
108
72
36
0
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Gauge Reading
Velocity
Direction

Cross Section CS-5

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	27.03.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.99 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	1.99 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5	-0.10	14.00	138	-1.10	0.11	0.05	0.11	0.09	0.20	1.00	1.20	0.80	20072	-22042	1998
6	-0.34	13.80	146	-1.41	0.04	0.26	0.03	0.11	0.80	0.80	0.50	0.70	12834	-17887	1968
7	-0.64	13.60	139	-1.61	0.08	0.08	0.14	0.10	0.40	0.20	0.20	0.27	12226	-19658	2005
8	-0.80	13.40	149	-1.66	0.09	0.06	0.09	0.08	0.20	0.20	0.20	0.20	11960	-19471	1610
9	-0.74	13.20	153	-1.40	0.04	0.09	0.21	0.11	0.10	0.10	0.10	0.10	12209	-16423	1861
10	0.01	13.80	145	-0.32	0.02	0.04	0.11	0.06	0.00	0.00	0.00	0.00	13705	-4346	240
11	0.51	14.70	327	0.57	0.04	0.03	0.06	0.05	0.00	0.00	0.00	0.00	14457	8139	369
12	0.97	15.20	318	0.89	0.06	0.10	0.26	0.14	0.10	0.20	0.20	0.17	15363	13734	1905
13	1.16	15.00	322	1.02	0.05	0.04	0.07	0.05	0.20	0.20	0.40	0.27	15995	16175	884
14	1.19	15.50	320	0.65	0.03	0.05	0.06	0.04	0.40	1.50	0.80	0.90	15766	10180	455
15	0.91	15.20	334	0.17	0.01	0.04	0.06	0.04	0.80	0.80	0.80	0.80	15204	2453	95
16	0.48	14.80	136	-0.47	0.03	0.15	0.14	0.11	0.80	1.00	1.50	1.10	14321	-6694	710
17	0.11	14.40	151	-0.87	0.06	0.06	0.07	0.06	0.80	1.00	1.00	0.93	13611	-11536	715
18	-0.15	14.00	153	-0.95	0.06	0.08	0.10	0.08	0.50	0.50	1.00	0.67	13188	-12001	968

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	27.03.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.99 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	1.99 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
500	0.00	273	1.41		15.38	135	1.10	138	-0.100	188	2.80	-206	-22042	0.50	0.106	0.20
	0.50	273	1.41	0.70		135				313	0.60	-33		7.00	0.054	1.00
	1.00	270	1.39	0.70		135				375	2.70	-586		13.50	0.112	1.20
	3.00	245	1.26	2.66		138				500	7.10	-3844				
	5.00	242	1.25	2.51		137				375	6.70	-2623				
	7.00	226	1.17	2.42		134				375	9.20	-4388				
	9.00	200	1.03	2.20		137				450	14.00	-10362				
	11.00	172	0.89	1.92		140										
	13.00	156	0.81	1.69		145										
	13.50	142	0.73	0.39		145										
	14.00		0.00	0.18												
600	0.00	310	1.60		19.45	143	1.41	146	-0.340	188	2.80	-226	-17887	0.50	0.042	0.80
	0.50	310	1.60	0.80		143				313	0.60	-10		6.90	0.260	0.80
	1.00	324	1.67	0.82		140				375	2.70	-424		13.30	0.028	0.50
	3.00	338	1.74	3.42		140				500	7.10	-3071				
	5.00	319	1.65	3.39		143				375	6.70	-2089				
	7.00	308	1.59	3.24		148				375	9.20	-3552				
	9.00	285	1.47	3.06		148				450	14.00	-8515				
	11.00	189	0.98	2.45		148										
	13.00	172	0.89	1.86		150										
	13.30	138	0.71	0.24		150										
	13.80		0.00	0.18												
700	0.00	378	1.95		21.88	128	1.61	139	-0.640	188	2.80	-214	-19658	0.50	0.084	0.40
	0.50	378	1.95	0.98		128				313	0.60	0		6.80	0.084	0.20

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	27.03.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.99 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	1.99 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	396	2.04	1.00		130				375	2.70	-396		13.10	0.138	0.20
	3.00	365	1.88	3.93		130				500	7.10	-3323				
	5.00	362	1.87	3.75		143				375	6.70	-2249				
	7.00	326	1.68	3.55		143				375	9.20	-3912				
	9.00	308	1.59	3.27		143				450	14.00	-9564				
	11.00	236	1.22	2.81		143										
	13.10	196	1.01	2.34		150										
	13.60		0.00	0.25												
800	0.00	415	2.14		22.28	144	1.66	149	-0.800	188	2.80	-193	-19471	0.50	0.094	0.20
	0.50	415	2.14	1.07		144				313	0.60	0		6.70	0.064	0.20
	1.00	374	1.93	1.02		147				375	2.70	-355		12.90	0.090	0.20
	3.00	358	1.85	3.78		146				500	7.10	-3261				
	5.00	351	1.81	3.66		149				375	6.70	-2201				
	7.00	322	1.66	3.47		150				375	9.20	-3878				
	9.00	296	1.53	3.19		146				450	14.00	-9584				
	11.00	289	1.49	3.02		153										
	12.90	267	1.38	2.73		154										
	13.40		0.00	0.35												
900	0.00	332	1.71		18.44	145	1.40	153	-0.740	188	2.80	-168	-16423	0.50	0.036	0.10
	0.50	332	1.71	0.86		145				313	0.60	0		6.60	0.090	0.10
	1.00	336	1.73	0.86		146				375	2.70	-311		12.70	0.214	0.10
	3.00	302	1.56	3.29		149				500	7.10	-2760				
	5.00	288	1.49	3.05		150				375	6.70	-1865				
	7.00	302	1.56	3.05		155				375	9.20	-3270				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	27.03.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.99 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	1.99 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	9.00	241	1.24	2.80		159				450	14.00	-8049				
	11.00	230	1.19	2.43		162										
	12.70	193	1.00	1.86		155										
	13.20		0.00	0.25												
1000	0.00	125	0.65		4.42	135	0.32	145	0.010	188	2.80	-64	-4346	0.50	0.018	0.00
	0.50	125	0.65	0.32		135				313	0.60	-9		6.90	0.042	0.00
	1.00	110	0.57	0.30		141				375	2.70	-120		13.30	0.106	0.00
	3.00	96	0.50	1.07		145				500	7.10	-758				
	5.00	78	0.40	0.90		147				375	6.70	-518				
	7.00	56	0.29	0.69		154				375	9.20	-860				
	9.00	66	0.34	0.63		155				450	14.00	-2017				
	11.00	10	0.05	0.40		150										
	13.30	5	0.03	0.10		135										
	13.80		0.00	0.01												
1100	0.00	100	0.52		8.40	324	0.57	327	0.510	188	2.80	142	8139	0.50	0.040	0.00
	0.50	100	0.52	0.26		324				313	0.60	40		7.35	0.034	0.00
	1.00	92	0.48	0.25		325				375	2.70	271		14.20	0.062	0.00
	3.00	102	0.53	1.00		325				500	7.10	1444				
	5.00	118	0.61	1.14		331				375	6.70	993				
	7.00	122	0.63	1.24		330				375	9.20	1600				
	9.00	132	0.68	1.31		329				450	14.00	3648				
	11.00	128	0.66	1.34		327										
	13.00	98	0.51	1.17		326										
	14.20	85	0.44	0.57		325										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	27.03.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.99 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	1.99 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	14.70		0.00	0.11												
1200	0.00	197	1.02		13.59	310	0.89	318	0.970	188	2.80	273	13734	0.50	0.058	0.10
	0.50	197	1.02	0.51		310				313	0.60	111		7.60	0.100	0.20
	1.00	205	1.06	0.52		318				375	2.70	523		14.70	0.258	0.20
	3.00	197	1.02	2.08		320				500	7.10	2470				
	5.00	189	0.98	1.99		320				375	6.70	1708				
	7.00	175	0.90	1.88		320				375	9.20	2682				
	9.00	172	0.89	1.79		320				450	14.00	5968				
	11.00	160	0.83	1.72		320										
	13.00	155	0.80	1.63		320										
	14.70	140	0.72	1.30		320										
	15.20		0.00	0.18												
1300	0.00	196	1.01		15.23	310	1.02	322	1.160	188	2.80	337	16175	0.50	0.052	0.20
	0.50	196	1.01	0.51		310				313	0.60	152		7.75	0.044	0.20
	1.00	191	0.99	0.50		313				375	2.70	646		15.00	0.068	0.40
	3.00	196	1.01	2.00		310				500	7.10	2923				
	5.00	210	1.08	2.10		327				375	6.70	2025				
	7.00	245	1.26	2.35		327				375	9.20	3150				
	9.00	204	1.05	2.32		328				450	14.00	6943				
	11.00	181	0.93	1.99		335										
	13.00	169	0.87	1.81		330										
	15.00	154	0.80	1.67		332										
	15.00		0.00	0.00												
1400	0.00	127	0.66		10.02	320	0.65	320	1.190	188	2.80	213	10180	0.50	0.028	0.40

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	27.03.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.99 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	1.99 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0.50	127	0.66	0.33		320				313	0.60	98		7.75	0.046	1.50
	1.00	118	0.61	0.32		320				375	2.70	410		15.00	0.060	0.80
	3.00	131	0.68	1.29		322				500	7.10	1841				
	5.00	166	0.86	1.53		320				375	6.70	1276				
	7.00	129	0.67	1.52		320				375	9.20	1981				
	9.00	124	0.64	1.31		320				450	14.00	4361				
	11.00	124	0.64	1.28		320										
	13.00	114	0.59	1.23		320										
	15.00	96	0.50	1.09		320										
	15.50		0.00	0.12												
1500	0.00	18	0.09		2.57	335	0.17	334	0.910	188	2.80	48	2453	0.50	0.010	0.80
	0.50	18	0.09	0.05		335				313	0.60	19		7.60	0.042	0.80
	1.00	10	0.05	0.04		334				375	2.70	92		14.70	0.064	0.80
	3.00	12	0.06	0.12		333				500	7.10	440				
	5.00	46	0.24	0.30		333				375	6.70	304				
	7.00	29	0.15	0.39		334				375	9.20	479				
	9.00	38	0.20	0.35		337				450	14.00	1070				
	11.00	42	0.22	0.42		337										
	13.00	46	0.24	0.46		331										
	14.70	42	0.22	0.39		331										
	15.20		0.00	0.06												
1600	0.00	54	0.28		6.92	120	0.47	136	0.480	188	2.80	-116	-6694	0.50	0.028	0.80
	0.50	54	0.28	0.14		120				313	0.60	-32		7.40	0.154	1.00
	1.00	94	0.49	0.19		128				375	2.70	-220		14.30	0.136	1.50

DISCHARGE MEASUREMENT

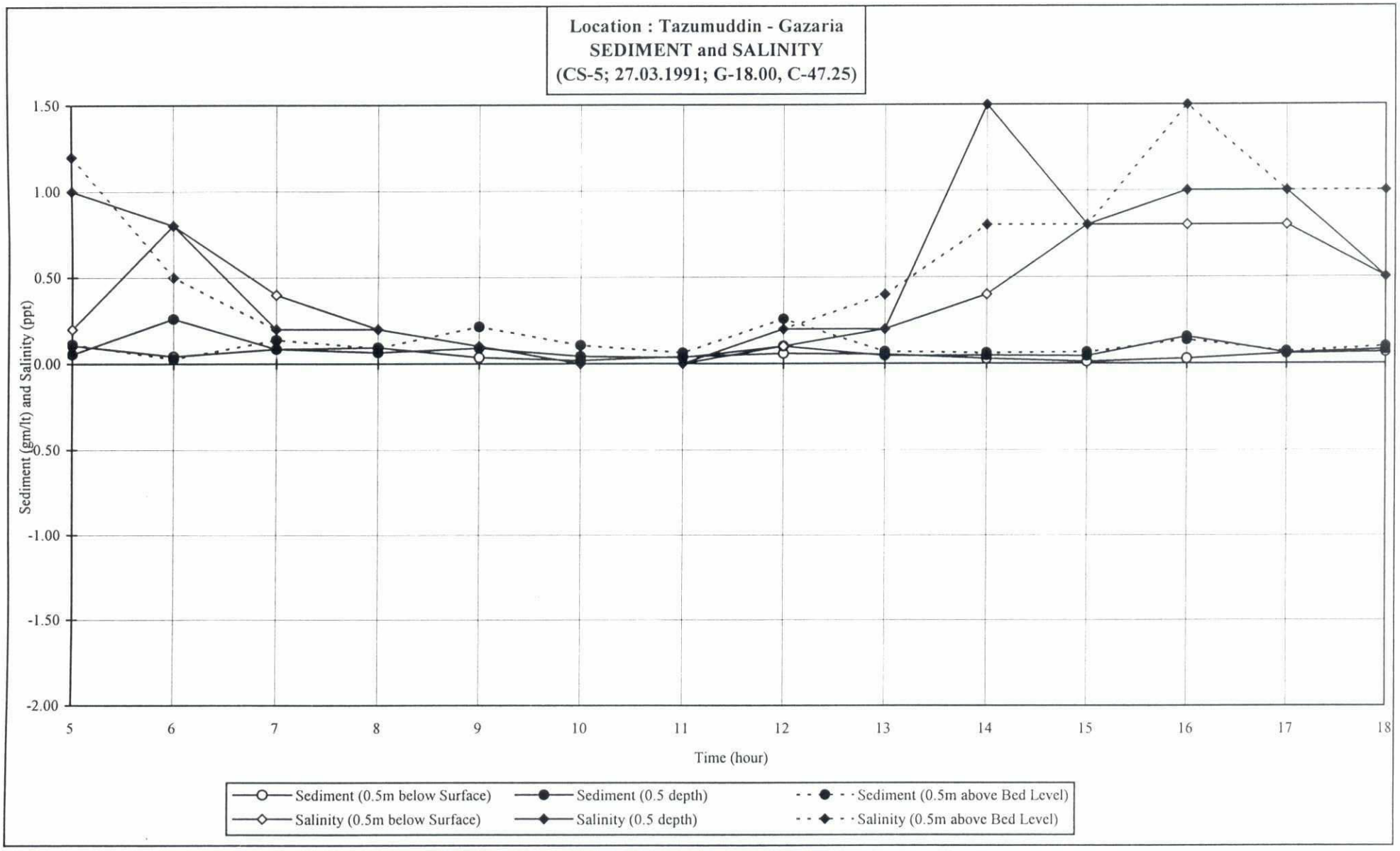
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	27.03.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.99 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	1.99 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

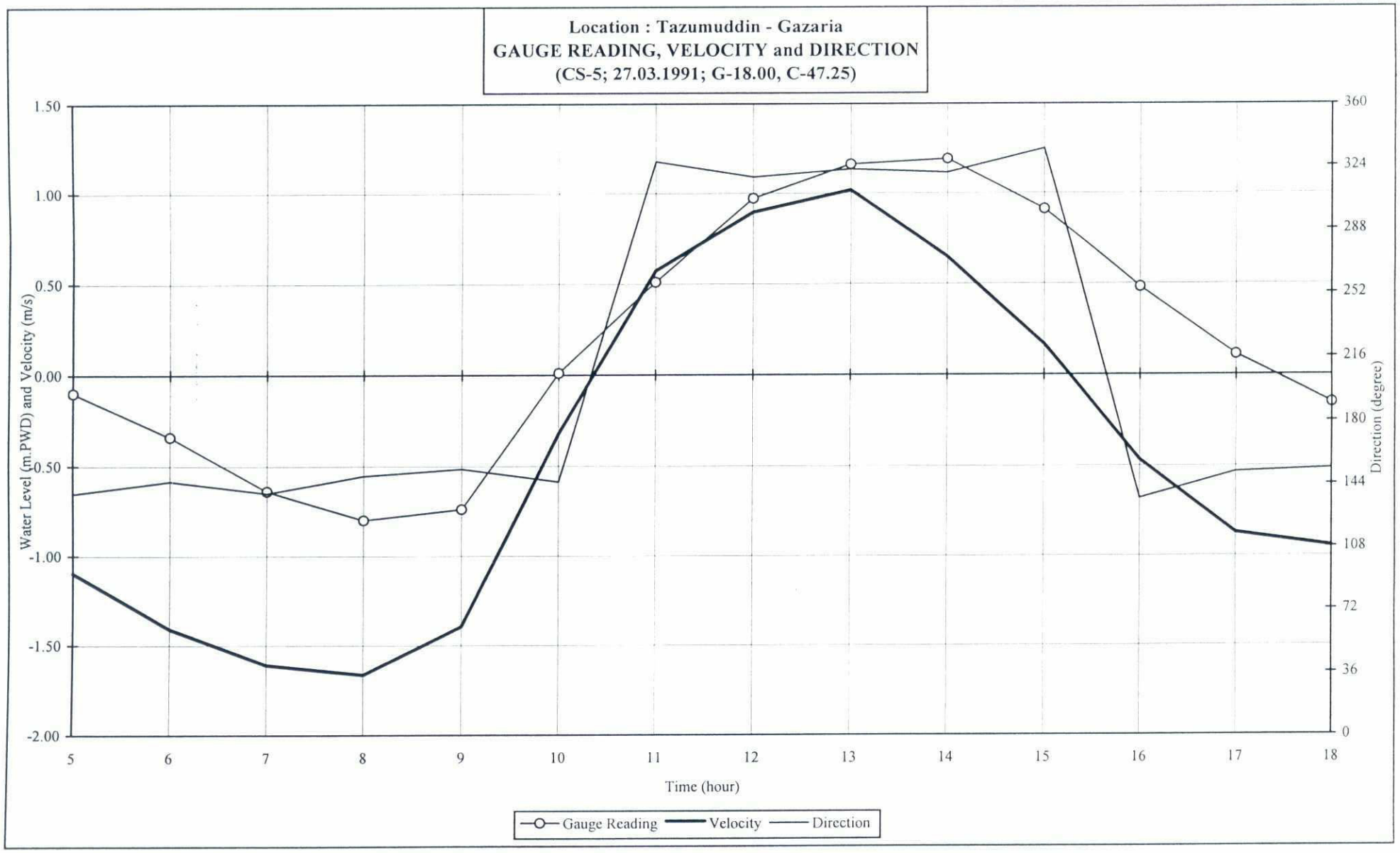
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	3.00	126	0.65	1.14		140				500	7.10	-1187				
	5.00	120	0.62	1.27		147				375	6.70	-816				
	7.00	100	0.52	1.14		152				375	9.20	-1317				
	9.00	98	0.51	1.02		150				450	14.00	-3006				
	11.00	68	0.35	0.86		150										
	13.00	68	0.35	0.71		125										
	14.30	47	0.24	0.39		125										
	14.80		0.00	0.06												
1700	0.00	185	0.96		12.57	144	0.87	151	0.110	188	2.80	-176	-11536	0.50	0.056	0.80
	0.50	185	0.96	0.48		144				313	0.60	-30		7.20	0.060	1.00
	1.00	194	1.00	0.49		160				375	2.70	-333		13.90	0.070	1.00
	3.00	196	1.01	2.01		160				500	7.10	-2019				
	5.00	206	1.06	2.08		156				375	6.70	-1382				
	7.00	206	1.06	2.13		155				375	9.20	-2280				
	9.00	134	0.69	1.76		144				450	14.00	-5317				
	11.00	152	0.79	1.48		147										
	13.00	124	0.64	1.43		145										
	13.90	120	0.62	0.57		153										
	14.40		0.00	0.16												
1800	0.00	198	1.02		13.25	148	0.95	153	-0.150	188	2.80	-165	-12001	0.50	0.064	0.50
	0.50	198	1.02	0.51		148				313	0.60	-15		7.00	0.080	0.50
	1.00	190	0.98	0.50		147				375	2.70	-311		13.50	0.098	1.00
	3.00	195	1.01	1.99		151				500	7.10	-2078				
	5.00	200	1.03	2.04		155				375	6.70	-1417				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	27.03.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.99 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	1.99 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00	210	1.08	2.12		160				375	9.20	-2379				
	9.00	190	0.98	2.07		159				450	14.00	-5635				
	11.00	167	0.86	1.84		154										
	13.50	142	0.73	2.00		154										
	14.00		0.00	0.18												


Location : Tazumuddin - Gazaria
SEDIMENT and SALINITY
(CS-5; 27.03.1991; G-18.00, C-47.25)
Sediment (gm/lt) and Salinity (ppt)
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)


Location : Tazumuddin - Gazaria
GAUGE READING, VELOCITY and DIRECTION
(CS-5; 27.03.1991; G-18.00, C-47.25)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00
360
324
288
252
216
180
144
108
72
36
0
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Gauge Reading
Velocity
Direction

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	30.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.76 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.76 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5	0.10	16.40	149	-0.36	0.08	0.10	0.15	0.11	2.20	2.20	2.20	2.20	12574	-4476	489
6	0.37	15.60	165	-0.74	0.04	0.09	0.09	0.07	2.00	2.00	2.00	2.00	13608	-8877	657
7	-0.07	14.40	158	-1.61	0.05	0.08	0.06	0.06	1.50	1.50	1.50	1.50	13164	-19868	1285
8	-0.41	14.00	149	-1.97	0.10	0.10	0.12	0.11	1.00	1.00	1.00	1.00	12556	-24238	2569
9	-0.74	13.70	138	-2.05	0.32	0.35	0.38	0.35	1.00	1.00	1.00	1.00	11941	-24457	8495
10	-0.95	13.50	137	-2.00	0.21	0.19	0.41	0.27	1.00	1.00	1.00	1.00	11562	-23135	6262
11	-0.39	14.00	128	-1.16	0.17	0.18	0.19	0.18	1.00	1.00	1.00	1.00	12604	-14424	2567
12	0.57	15.00	351	0.44	0.14	0.12	0.12	0.13	1.00	1.00	1.00	1.00	14437	5336	669
13	1.09	15.60	336	1.49	0.18	0.16	0.16	0.17	1.00	1.00	1.00	1.00	15441	21710	3647
14	1.51	16.20	331	1.42	0.34	0.39	0.28	0.33	1.00	1.00	1.00	1.00	16199	22243	7444
15	1.81	16.40	321	1.27	0.97	1.08	0.98	1.01	2.80	2.80	2.80	2.80	16886	21431	21674
16	1.57	16.40	328	0.68	0.38	0.48	0.57	0.48	2.20	2.20	2.20	2.20	16241	10747	5137
17	1.05	15.60	339	0.28	0.36	0.46	0.40	0.41	2.50	2.50	2.50	2.50	15336	3915	1603
19	0.65	14.80	155	-1.45	0.32	0.42	0.44	0.39	2.20	1.00	2.20	1.80	14761	-20324	7981

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	30.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.76 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.76 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
500	0.00	92	0.48		5.97	155	0.36	149	0.10	188	2.80	-68	-4476	0.50	0.082	2.20
	0.50	92	0.48	0.24		155				313	0.60	-11		8.20	0.100	2.20
	1.00	90	0.47	0.24		155				375	2.70	-129		15.90	0.146	2.20
	3.00	78	0.40	0.87		152				500	7.10	-783				
	5.00	74	0.38	0.79		152				375	6.70	-536				
	7.00	66	0.34	0.73		155				375	9.20	-885				
	9.00	67	0.35	0.69		150				450	14.00	-2064				
	11.00	60	0.31	0.66		153										
	13.00	58	0.30	0.61		140										
	15.00	78	0.40	0.71		140										
	15.90	74	0.38	0.35		140										
	16.40		0.00	0.10												
600	0.00	195	1.01		11.53	160	0.74	165	0.37	188	2.80	-148	-8877	0.50	0.040	2.00
	0.50	195	1.01	0.50		160				313	0.60	-36		7.80	0.094	2.00
	1.00	190	0.98	0.50		162				375	2.70	-282		15.10	0.088	2.00
	3.00	193	1.00	1.98		164				500	7.10	-1568				
	5.00	174	0.90	1.90		167				375	6.70	-1077				
	7.00	162	0.84	1.74		171				375	9.20	-1749				
	9.00	134	0.69	1.53		168				450	14.00	-4017				
	11.00	133	0.69	1.38		165										
	13.00	94	0.49	1.17		164										
	15.10	48	0.25	0.77		164										
	15.60		0.00	0.06												
700	0.00	360	1.86		23.23	162	1.61	158	-0.07	188	2.80	-283	-19868	0.50	0.050	1.50

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	30.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.76 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.76 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0.50	360	1.86	0.93		162				313	0.60	-33		7.20	0.080	1.50
	1.00	350	1.81	0.92		160				375	2.70	-533		13.90	0.064	1.50
	3.00	390	2.01	3.82		156				500	7.10	-3452				
	5.00	364	1.88	3.89		150				375	6.70	-2357				
	7.00	300	1.55	3.43		148				375	9.20	-3935				
	9.00	348	1.80	3.34		155				450	14.00	-9275				
	11.00	296	1.53	3.32		158										
	13.00	190	0.98	2.51		165										
	13.90	176	0.91	0.85		165										
	14.40		0.00	0.23												
800	0.00	404	2.08		27.65	170	1.97	149	-0.41	188	2.80	-297	-24238	0.50	0.100	1.00
	0.50	404	2.08	1.04		170				313	0.60	-8		7.00	0.100	1.00
	1.00	447	2.31	1.10		162				375	2.70	-554		13.50	0.118	1.00
	3.00	432	2.23	4.53		156				500	7.10	-4147				
	5.00	415	2.14	4.37		145				375	6.70	-2818				
	7.00	401	2.07	4.21		147				375	9.20	-4817				
	9.00	383	1.98	4.04		133				450	14.00	-11598				
	11.00	350	1.81	3.78		140										
	13.50	298	1.54	4.18		140										
	14.00		0.00	0.39												
900	0.00	446	2.30		28.06	130	2.05	138	-0.74	188	2.80	-251	-24457	0.50	0.316	1.00
	0.50	446	2.30	1.15		130				313	0.60	0		6.85	0.350	1.00
	1.00	435	2.24	1.14		132				375	2.70	-463		13.20	0.376	1.00
	3.00	415	2.14	4.39		138				500	7.10	-4110				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	30.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.76 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.76 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	5.00	451	2.33	4.47		133				375	6.70	-2778				
	7.00	391	2.02	4.34		138				375	9.20	-4869				
	9.00	407	2.10	4.12		138				450	14.00	-11986				
	11.00	389	2.01	4.11		142										
	13.20	308	1.59	3.96		150										
	13.70		0.00	0.40												
1000	0.00	446	2.30		27.01	117	2.00	137	-0.95	188	2.80	-208	-23135	0.50	0.214	1.00
	0.50	446	2.30	1.15		117				313	0.60	0		6.75	0.192	1.00
	1.00	442	2.28	1.15		127				375	2.70	-380		13.00	0.406	1.00
	3.00	480	2.48	4.76		126				500	7.10	-3838				
	5.00	434	2.24	4.71		140				375	6.70	-2584				
	7.00	404	2.08	4.32		140				375	9.20	-4610				
	9.00	348	1.80	3.88		140				450	14.00	-11515				
	11.00	327	1.69	3.48		151										
	13.00	290	1.50	3.18		157										
	13.50		0.00	0.37												
1100	0.00	311	1.60		16.23	127	1.16	128	-0.39	188	2.80	-178	-14424	0.50	0.166	1.00
	0.50	311	1.60	0.80		127				313	0.60	-5		7.00	0.176	1.00
	1.00	298	1.54	0.79		127				375	2.70	-333		13.50	0.192	1.00
	3.00	315	1.63	3.16		122				500	7.10	-2470				
	5.00	254	1.31	2.94		126				375	6.70	-1679				
	7.00	238	1.23	2.54		131				375	9.20	-2866				
	9.00	197	1.02	2.25		130				450	14.00	-6892				
	11.00	160	0.83	1.84		130										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	30.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.76 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.76 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	13.50	113	0.58	1.76		130										
	14.00		0.00	0.15												
1200	0.00	24	0.13		6.67	340	0.44	351	0.57	188	2.80	95	5336	0.50	0.136	1.00
	0.50	24	0.13	0.06		340				313	0.60	29		7.50	0.118	1.00
	1.00	78	0.40	0.13		343				375	2.70	181		14.50	0.122	1.00
	3.00	74	0.38	0.79		346				500	7.10	949				
	5.00	62	0.32	0.71		352				375	6.70	653				
	7.00	26	0.14	0.46		354				375	9.20	1048				
	9.00	130	0.67	0.81		358				450	14.00	2382				
	11.00	126	0.65	1.32		356										
	13.00	135	0.70	1.35		358										
	14.50	101	0.52	0.92		360										
	15.00		0.00	0.13												
1300	0.00	282	1.46	-10.93	23.21	330	1.49	336	1.09	188	2.80	445	21710	0.50	0.184	1.00
	0.50	282	1.46	0.73		330				313	0.60	193		7.80	0.160	1.00
	1.00	317	1.64	0.77		334				375	2.70	853		15.10	0.160	1.00
	3.00	290	1.50	3.13		327				500	7.10	3917				
	5.00	350	1.81	3.30		327				375	6.70	2711				
	7.00	361	1.86	3.67		338				375	9.20	4232				
	9.00	280	1.45	3.31		344				450	14.00	9361				
	11.00	271	1.40	2.84		340										
	13.00	261	1.35	2.75		345										
	15.10	193	1.00	2.46		345										
	15.60		0.00	0.25												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	30.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.76 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.76 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1400	0.00	237	1.22		22.98	330	1.42	331	1.51	188	2.80	501	22243	0.50	0.336	1.00
	0.50	237	1.22	0.61		330				313	0.60	264		8.10	0.390	1.00
	1.00	234	1.21	0.61		330				375	2.70	964		15.70	0.278	1.00
	3.00	276	1.42	2.63		330				500	7.10	4052				
	5.00	296	1.53	2.95		332				375	6.70	2816				
	7.00	266	1.37	2.90		332				375	9.20	4308				
	9.00	280	1.45	2.82		337				450	14.00	9339				
	11.00	267	1.38	2.82		335										
	13.00	301	1.55	2.93		330										
	15.70	315	1.63	4.29		328										
	16.20		0.00	0.41												
1500	0.00	186	0.96		20.87	327	1.27	321	1.81	188	2.80	512	21431	0.50	0.968	2.80
	0.50	186	0.96	0.48		327				313	0.60	300		8.20	1.082	2.80
	1.00	214	1.11	0.52		324				375	2.70	988		15.90	0.984	2.80
	3.00	242	1.25	2.35		325				500	7.10	3927				
	5.00	296	1.53	2.78		330				375	6.70	2737				
	7.00	280	1.45	2.97		326				375	9.20	4132				
	9.00	286	1.48	2.92		323				450	14.00	8835				
	11.00	255	1.32	2.79		317										
	13.00	226	1.17	2.48		312										
	15.00	220	1.14	2.30		310										
	15.90	209	1.08	1.00		310										
	16.40		0.00	0.27												
1600	0.00	100	0.52		11.07	310	0.68	328	1.57	188	2.80	245	10747	0.50	0.380	2.20

DISCHARGE MEASUREMENT

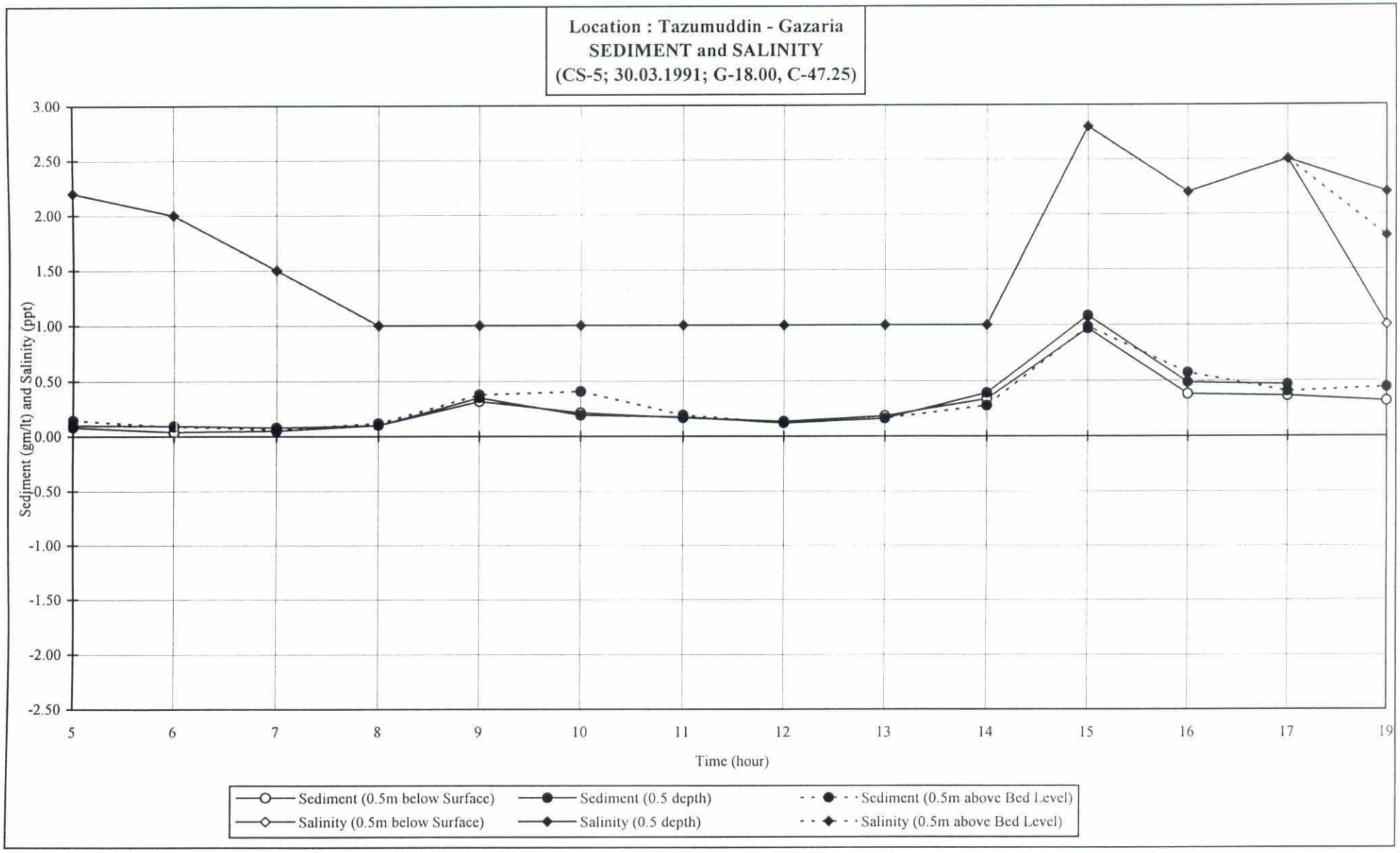
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	30.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.76 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.76 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

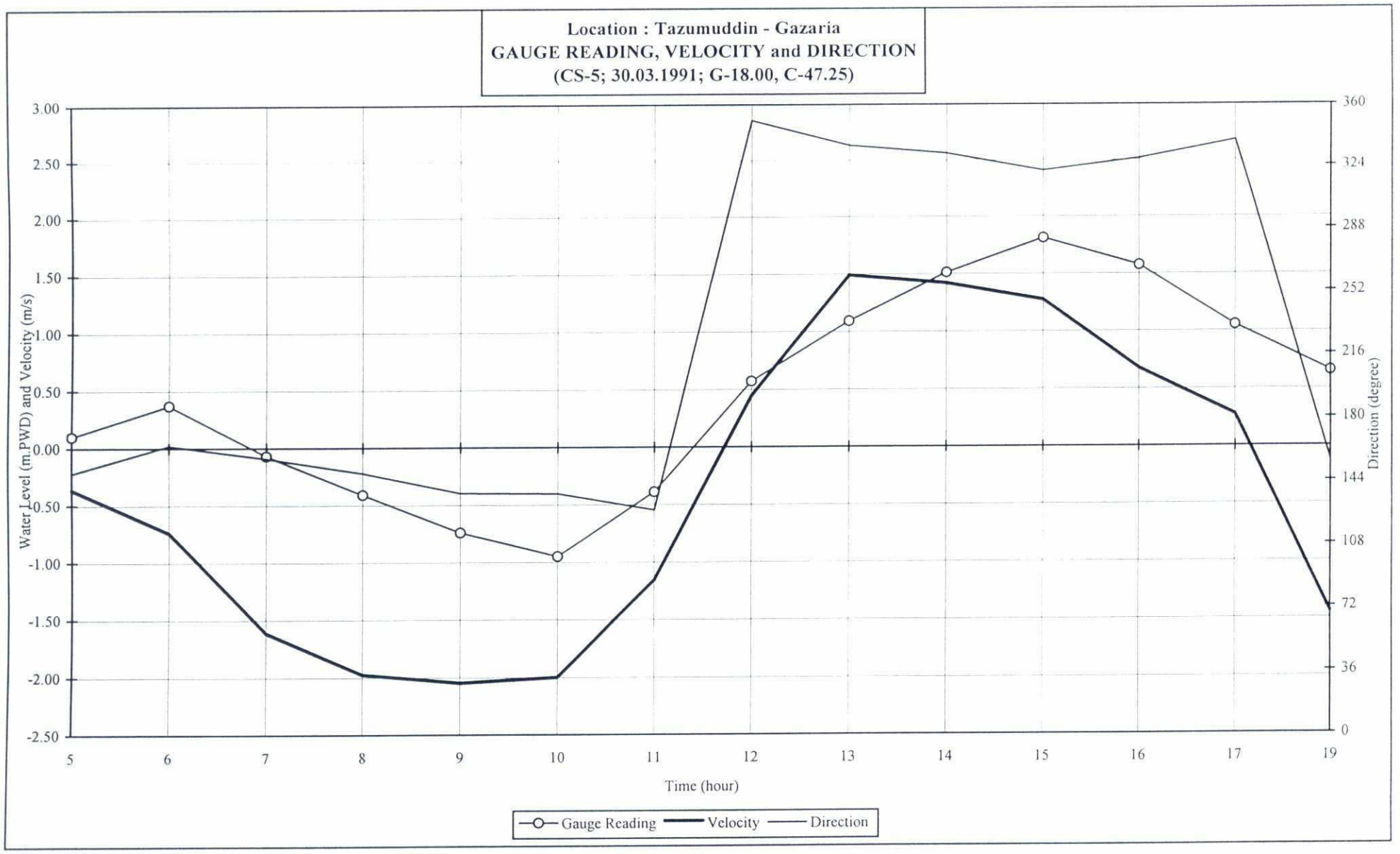
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0.50	100	0.52	0.26		310				313	0.60	132		8.20	0.484	2.20
	1.00	136	0.70	0.31		315				375	2.70	472		15.90	0.570	2.20
	3.00	130	0.67	1.38		320				500	7.10	1960				
	5.00	116	0.60	1.27		322				375	6.70	1363				
	7.00	168	0.87	1.47		330				375	9.20	2080				
	9.00	162	0.84	1.71		332				450	14.00	4496				
	11.00	96	0.50	1.33		337										
	13.00	150	0.78	1.27		340										
	15.00	118	0.61	1.39		345										
	15.90	116	0.60	0.54		350										
	16.40		0.00	0.15												
1700	0.00	20	0.11		4.30	350	0.28	339	1.05	188	2.80	79	3915	0.50	0.362	2.50
	0.50	20	0.11	0.05		350				313	0.60	34		7.80	0.464	2.50
	1.00	30	0.16	0.07		345				375	2.70	152		15.10	0.402	2.50
	3.00	28	0.15	0.30		342				500	7.10	706				
	5.00	60	0.31	0.46		342				375	6.70	488				
	7.00	32	0.17	0.48		335				375	9.20	764				
	9.00	36	0.19	0.35		335				450	14.00	1693				
	11.00	78	0.40	0.59		335										
	13.00	90	0.47	0.87		330										
	15.10	94	0.49	1.00		325										
	15.60		0.00	0.12												
1900	0.00	298	1.54		21.43	160	1.45	155	0.65	188	2.80	-370	-20324	0.50	0.316	2.20
	0.50	298	1.54	0.77		160				313	0.60	-119		7.40	0.422	1.00

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Tazumuddin - Gazaria	4.	Cross Section No.	:	5
5.	Decca Location	:	G-18.00; C-47.25	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	30.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Tazumuddin
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.76 m	14.	X-section Direction	:	47 degrees
15.	Reference Tide Range	:	2.76 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	302	1.56	0.77		160				375	2.70	-706		14.30	0.440	2.20
	3.00	285	1.47	3.03		160				500	7.10	-3623				
	5.00	288	1.49	2.96		157				375	6.70	-2496				
	7.00	295	1.52	3.01		155				375	9.20	-3988				
	9.00	286	1.48	3.00		155				450	14.00	-9022				
	11.00	281	1.45	2.93		153										
	13.00	276	1.42	2.87		145										
	14.30	251	1.30	1.77		145										
	14.80		0.00	0.32												


Location : Tazumuddin - Gazaria
SEDIMENT and SALINITY
(CS-5; 30.03.1991; G-18.00, C-47.25)
Sediment (gm/lt) and Salinity (ppt)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
5
6
7
8
9
10
11
12
13
14
15
16
17
19
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)


Location : Tazumuddin - Gazaria
GAUGE READING, VELOCITY and DIRECTION
(CS-5; 30.03.1991; G-18.00, C-47.25)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
360
324
288
252
216
180
144
108
72
36
0
5
6
7
8
9
10
11
12
13
14
15
16
17
19
Gauge Reading
Velocity
Direction

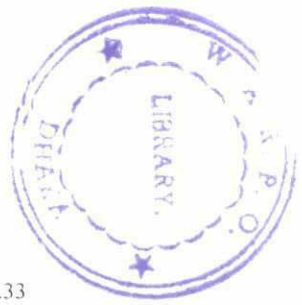
Cross Section CS-11

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.46 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	1.46 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
10	0.03	17.00	92	-0.84	0.18	0.11	0.19	0.16	0.00	0.00	0.00	0.00	34602	-17770	2808
11	-0.16	16.90	84	-0.69	0.08	0.05	0.12	0.09	0.00	0.00	0.00	0.00	33430	-11485	980
12	0.00	17.80	335	0.37	0.15	0.12	0.09	0.12	0.00	0.00	0.00	0.00	29587	10644	1277
13	0.65	18.80	286	1.19	0.25	0.22	0.26	0.24	0.00	0.00	0.00	0.00	33135	31001	7585
14	0.95	19.00	298	1.40	0.18	0.25	0.34	0.26	0.00	0.00	0.00	0.00	34897	43964	11431
15	1.13	19.20	294	1.17	0.25	0.29	0.64	0.39	0.00	0.00	0.00	0.00	36000	36354	14348
16	1.30	19.20	307	0.79	0.29	0.29	0.35	0.31	0.00	0.00	0.00	0.00	37069	27978	8673
17	1.30	18.80	342	0.34	0.14	0.16	0.22	0.17	0.00	0.00	0.00	0.00	37069	12045	2064
18	1.17	18.40	28	0.29	0.28	0.29	0.56	0.38	0.00	0.00	0.00	0.00	23657	3023	1143
19	0.97	18.00	73	-0.94	0.28	0.23	0.33	0.28	0.00	0.00	0.00	0.00	23153	-7147	1992
20	0.77	17.90	75	-1.16	0.27	0.76	0.86	0.63	0.00	0.00	0.00	0.00	22440	-9132	5735
21	0.54	17.50	85	-1.04	0.18	0.27	0.31	0.25	0.00	0.00	0.00	0.00	21865	-11641	2957
22	0.30	17.30	122	-1.07	0.30	0.92	2.57	1.26	0.00	0.00	0.00	0.00	21123	-20958	26491
23	0.90	17.00	132	-0.58	0.28	0.91	0.81	0.67	0.00	0.00	0.00	0.00	23664	-13506	8986

DISCHARGE MEASUREMENT



1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.46 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	1.46 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1000	0.00	176	0.91		14.21	91	0.84	92	0.030	1000	11.80	-8324	-17770	0.50	0.176	0.00
	0.50	176	0.91	0.45		91				1000	5.40	-2392		8.50	0.112	0.00
	1.00	159	0.82	0.43		100				750	7.60	-3095		16.50	0.186	0.00
	3.00	196	1.01	1.83		101				400	7.80	-1721				
	5.00	172	0.89	1.90		101				1600	-0.60	0				
	7.00	178	0.92	1.81		100				350	10.00	-2238				
	9.00	168	0.87	1.79		98										
	11.00	152	0.79	1.65		98										
	13.00	151	0.78	1.57		80										
	15.00	144	0.74	1.52		75										
	16.50	133	0.69	1.07		75										
	17.00		0.00	0.17												
1100	0.00	142	0.73		11.71	91	0.69	84	-0.160	1000	11.80	-5426	-11485	0.50	0.080	0.00
	0.50	142	0.73	0.37		91				1000	5.40	-1511		8.45	0.052	0.00
	1.00	156	0.81	0.39		93				750	7.60	-1989		16.40	0.124	0.00
	3.00	160	0.83	1.63		94				400	7.80	-1107				
	5.00	145	0.75	1.58		94				1600	-0.60	0				
	7.00	133	0.69	1.44		93				350	10.00	-1452				
	9.00	133	0.69	1.38		93										
	11.00	124	0.64	1.33		93										
	13.00	124	0.64	1.28		62										
	15.00	125	0.65	1.29		62										
	16.40	120	0.62	0.89		62										
	16.90		0.00	0.16												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.46 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	1.46 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1200	0.00	120	0.62		6.52	359	0.37	335	0.000	1000	11.80	4993	10644	0.50	0.148	0.00
	0.50	120	0.62	0.31		359				1000	5.40	1428		8.90	0.118	0.00
	1.00	66	0.34	0.24		333				750	7.60	1852		17.30	0.094	0.00
	3.00	68	0.35	0.69		335				400	7.80	1030				
	5.00	70	0.36	0.72		337				1600	-0.60	0				
	7.00	62	0.32	0.68		340				350	10.00	1341				
	9.00	88	0.46	0.78		335										
	11.00	101	0.52	0.98		331										
	13.00	68	0.35	0.88		338										
	15.00	50	0.26	0.61		330										
	17.00	48	0.25	0.51		326										
	17.30	42	0.22	0.07		320										
	17.80		0.00	0.06												
1300	0.00	270	1.39		22.35	295	1.19	286	0.650	1000	11.80	14145	31001	0.50	0.246	0.00
	0.50	270	1.39	0.70		295				1000	5.40	4456		9.40	0.224	0.00
	1.00	280	1.45	0.71		290				750	7.60	5494		18.30	0.264	0.00
	3.00	268	1.38	2.83		283				400	7.80	3045				
	5.00	252	1.30	2.68		280				1600	-0.60	3				
	7.00	228	1.18	2.48		277				350	10.00	3858				
	9.00	236	1.22	2.40		275										
	11.00	216	1.12	2.33		270										
	13.00	206	1.06	2.18		290										
	15.00	222	1.15	2.21		294										
	17.00	206	1.06	2.21		295										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.46 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	1.46 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	18.30	200	1.03	1.36		295										
	18.80		0.00	0.26												
1400	0.00	270	1.39		26.53	304	1.40	298	0.950	1000	11.80	19786	43964	0.50	0.184	0.00
	0.50	270	1.39	0.70		304				1000	5.40	6485		9.50	0.252	0.00
	1.00	280	1.45	0.71		300				750	7.60	7834		18.50	0.344	0.00
	3.00	276	1.42	2.87		291				400	7.80	4336				
	5.00	278	1.43	2.86		290				1600	-0.60	94				
	7.00	282	1.46	2.89		295				350	10.00	5430				
	9.00	280	1.45	2.90		300										
	11.00	286	1.48	2.92		295										
	13.00	286	1.48	2.95		305										
	15.00	280	1.45	2.92		302										
	17.00	240	1.24	2.68		300										
	18.50	231	1.19	1.82		300										
	19.00		0.00	0.30												
1500	0.00	244	1.26		22.43	290	1.17	294	1.130	1000	11.80	16218	36354	0.50	0.254	0.00
	0.50	244	1.26	0.63		290				1000	5.40	5436		9.60	0.294	0.00
	1.00	249	1.29	0.64		288				750	7.60	6492		18.70	0.636	0.00
	3.00	265	1.37	2.65		282				400	7.80	3590				
	5.00	240	1.24	2.61		285				1600	-0.60	149				
	7.00	236	1.22	2.46		292				350	10.00	4468				
	9.00	220	1.14	2.35		295										
	11.00	220	1.14	2.27		295										
	13.00	216	1.12	2.25		302										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.46 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	1.46 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	15.00	218	1.13	2.24		302										
	17.00	210	1.08	2.21		300										
	18.70	210	1.08	1.84		300										
	19.20		0.00	0.27												
1600	0.00	138	0.71		15.12	315	0.79	307	1.300	1000	11.80	12377	27978	0.50	0.288	0.00
	0.50	138	0.71	0.36		315				1000	5.40	4234		9.60	0.292	0.00
	1.00	142	0.73	0.36		295				750	7.60	5004		18.70	0.350	0.00
	3.00	164	0.85	1.58		285				400	7.80	2766				
	5.00	154	0.80	1.64		293				1600	-0.60	175				
	7.00	150	0.78	1.57		293				350	10.00	3421				
	9.00	172	0.89	1.66		303										
	11.00	170	0.88	1.77		305										
	13.00	162	0.84	1.72		320										
	15.00	152	0.79	1.62		322										
	17.00	143	0.74	1.52		322										
	18.70	120	0.62	1.16		320										
	19.20		0.00	0.16												
1700	0.00	112	0.58		6.44	332	0.34	342	1.300	1000	11.80	5329	12045	0.50	0.138	0.00
	0.50	112	0.58	0.29		332				1000	5.40	1823		9.40	0.158	0.00
	1.00	66	0.34	0.23		330				750	7.60	2154		18.30	0.218	0.00
	3.00	62	0.32	0.66		325				400	7.80	1191				
	5.00	90	0.47	0.79		333				1600	-0.60	76				
	7.00	96	0.50	0.96		335				350	10.00	1473				
	9.00	80	0.41	0.91		340										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.46 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	1.46 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	11.00	56	0.29	0.71		352										
	13.00	48	0.25	0.54		355										
	15.00	56	0.29	0.54		355										
	17.00	42	0.22	0.51		360										
	18.30	34	0.18	0.26		360										
	18.80		0.00	0.04												
1800	0.00	30	0.16		5.36	15	0.29	28	1.170	1000	11.80	1346	3023	0.50	0.282	0.00
	0.50	30	0.16	0.08		15				1000	5.40	453		9.20	0.290	0.00
	1.00	25	0.13	0.07		18				750	7.60	540		17.90	0.562	0.00
	3.00	52	0.27	0.40		25				400	7.80	299				
	5.00	54	0.28	0.55		28				1600	-0.60	14				
	7.00	60	0.31	0.59		36				350	10.00	371				
	9.00	66	0.34	0.65		24										
	11.00	50	0.26	0.60		37										
	13.00	60	0.31	0.57		33										
	15.00	64	0.33	0.64		34										
	17.00	92	0.48	0.81		35										
	17.90	48	0.25	0.33		36										
	18.40		0.00	0.06												
1900	0.00	192	0.99		16.85	81	0.94	73	0.970	1000	11.80	-3213	-7147	0.50	0.284	0.00
	0.50	192	0.99	0.50		81				1000	5.40	-1056		9.00	0.226	0.00
	1.00	204	1.05	0.51		88				750	7.60	-1274		17.50	0.326	0.00
	3.00	183	0.95	2.00		79				400	7.80	-705				
	5.00	192	0.99	1.94		80				1600	-0.60	-17				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.46 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	1.46 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00	198	1.02	2.01		65				350	10.00	-882				
	9.00	208	1.07	2.10		73										
	11.00	147	0.76	1.83		69										
	13.00	190	0.98	1.74		70										
	15.00	182	0.94	1.92		65										
	17.00	159	0.82	1.76		68										
	17.50	127	0.66	0.37		60										
	18.00		0.00	0.16												
2000	0.00	330	1.70		20.79	75	1.16	75	0.770	1000	11.80	-4145	-9132	0.50	0.266	0.00
	0.50	330	1.70	0.85		75				1000	5.40	-1327		8.95	0.758	0.00
	1.00	245	1.26	0.74		78				750	7.60	-1622		17.40	0.860	0.00
	3.00	231	1.19	2.46		76				400	7.80	-899				
	5.00	236	1.22	2.41		77				1600	-0.60	-6				
	7.00	225	1.16	2.38		70				350	10.00	-1133				
	9.00	206	1.06	2.23		72										
	11.00	230	1.19	2.25		73										
	13.00	225	1.16	2.35		73										
	15.00	215	1.11	2.27		76										
	17.00	208	1.07	2.18		77										
	17.40	195	1.01	0.42		76										
	17.90		0.00	0.25												
2100	0.00	198	1.02		18.18	78	1.04	85	0.540	1000	11.80	-5336	-11641	0.50	0.178	0.00
	0.50	198	1.02	0.51		78				1000	5.40	-1655		8.75	0.274	0.00
	1.00	181	0.93	0.49		78				750	7.60	-2057		17.00	0.310	0.00

DISCHARGE MEASUREMENT

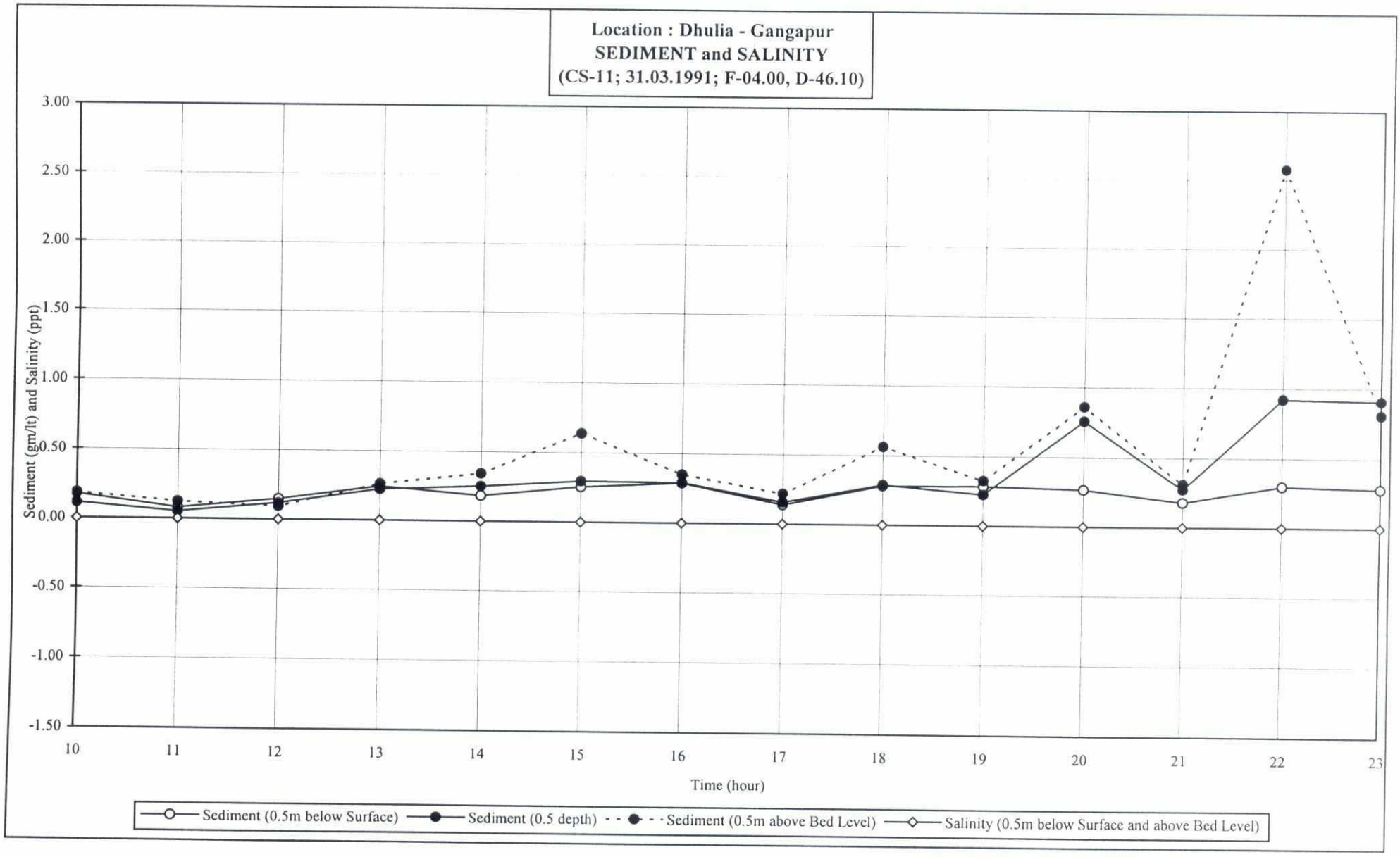
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.46 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	1.46 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33 = 0.2577n + 0.0021 0.33 < n < 4.66

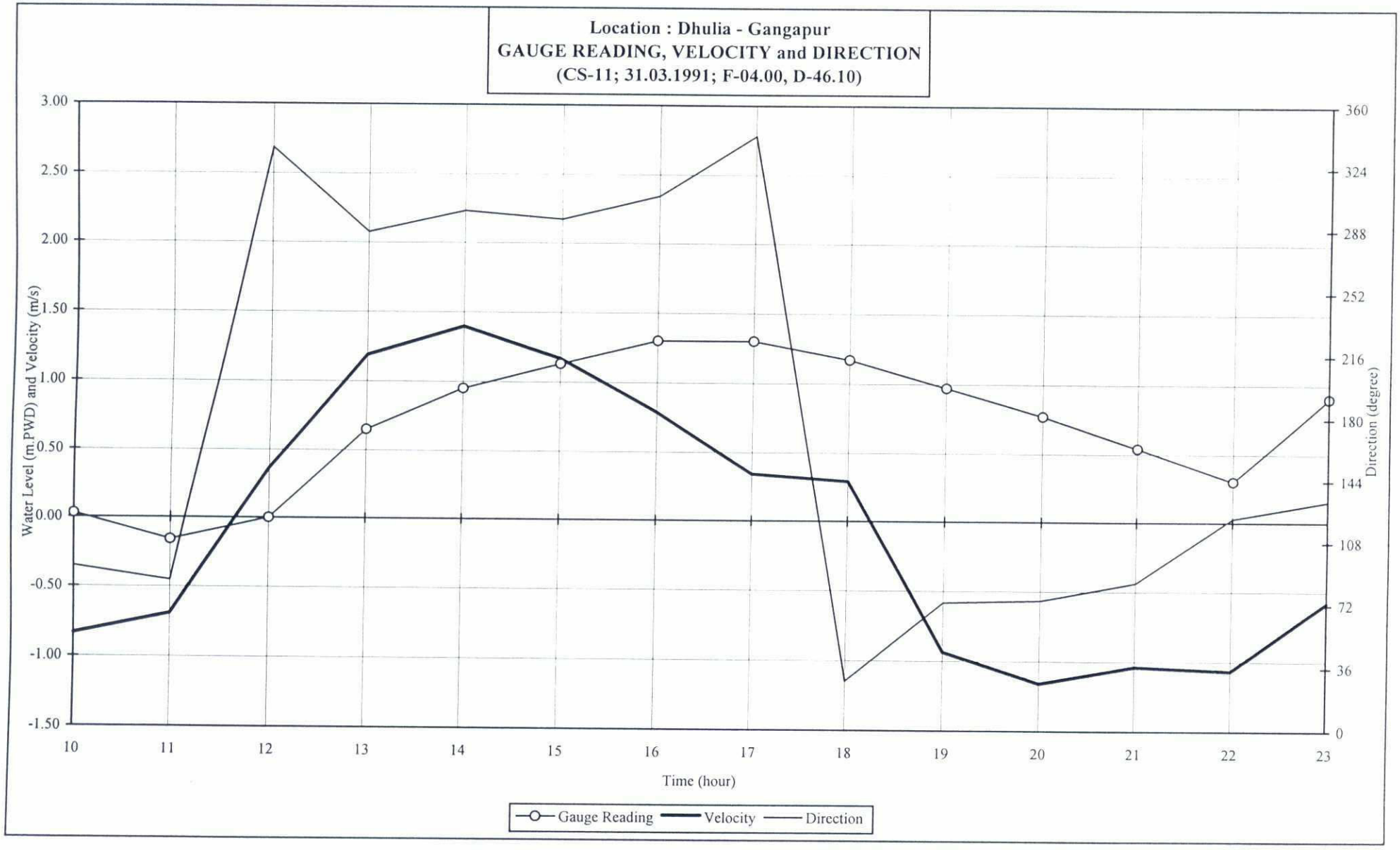
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	3.00	195	1.01	1.94		83				400	7.80	-1141				
	5.00	211	1.09	2.10		98				1600	-0.60	0				
	7.00	217	1.12	2.21		98				350	10.00	-1452				
	9.00	196	1.01	2.13		93										
	11.00	205	1.06	2.07		93										
	13.00	198	1.02	2.08		78										
	15.00	220	1.14	2.16		78										
	17.00	209	1.08	2.22		78										
	17.50		0.00	0.27												
2200	0.00	175	0.90		18.49	119	1.07	122	0.300	1000	11.80	-9703	-20958	0.50	0.298	0.00
	0.50	175	0.90	0.45		119				1000	5.40	-2907		8.65	0.920	0.00
	1.00	195	1.01	0.48		129				750	7.60	-3680		16.80	2.574	0.00
	3.00	204	1.05	2.06		135				400	7.80	-2043				
	5.00	201	1.04	2.09		135				1600	-0.60	0				
	7.00	205	1.06	2.10		127				350	10.00	-2625				
	9.00	209	1.08	2.14		122										
	11.00	245	1.26	2.34		116										
	13.00	225	1.16	2.43		115										
	15.00	210	1.08	2.25		114										
	16.80	198	1.02	1.90		113										
	17.30		0.00	0.26												
2300	0.00	135	0.70		9.91	140	0.58	132	0.900	1000	11.80	-6093	-13506	0.50	0.280	0.00
	0.50	135	0.70	0.35		140				1000	5.40	-1984		8.50	0.908	0.00
	1.00	150	0.78	0.37		138				750	7.60	-2405		16.50	0.808	0.00

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.46 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	1.46 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	3.00	110	0.57	1.34		137				400	7.80	-1331				
	5.00	98	0.51	1.08		137				1600	-0.60	-23				
	7.00	101	0.52	1.03		137				350	10.00	-1670				
	9.00	112	0.58	1.10		132										
	11.00	135	0.70	1.28		126										
	13.00	100	0.52	1.22		124										
	15.00	112	0.58	1.10		122										
	16.50	120	0.62	0.90		120										
	17.00		0.00	0.16												


Location : Dhulia - Gangapur
SEDIMENT and SALINITY
(CS-11; 31.03.1991; F-04.00, D-46.10)
Sediment (gm/lt) and Salinity (ppt)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
10
11
12
13
14
15
16
17
18
19
20
21
22
23
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface and above Bed Level)


Location : Dhulia - Gangapur
GAUGE READING, VELOCITY and DIRECTION
(CS-11; 31.03.1991; F-04.00, D-46.10)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
360
324
288
252
216
180
144
108
72
36
0
10
11
12
13
14
15
16
17
18
19
20
21
22
23
Gauge Reading
Velocity
Direction

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-45.95	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	07.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	0.59 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	0.59 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4	0.32	15.00	17	0.13	0.03	0.06	0.08	0.06	0.80	0.80	0.80	0.80	23073	1812	106
5	0.40	15.10	322	0.25	0.04	0.06	0.06	0.05	0.80	0.80	0.80	0.80	23303	5911	323
6	0.52	15.20	307	0.34	0.02	0.03	0.04	0.03	0.80	0.80	0.80	0.80	23695	7775	233
7	0.56	15.10	301	0.26	0.04	0.06	0.08	0.06	0.80	0.80	0.80	0.80	23951	5644	357
8	0.55	14.80	305	0.07	0.05	0.06	0.08	0.06	0.80	0.80	0.80	0.80	24197	1545	97
9	0.45	14.50	38	0.24	0.03	0.07	0.08	0.06	0.80	0.80	0.80	0.80	24079	1569	94
10	0.28	14.40	73	-0.46	0.05	0.06	0.09	0.07	0.80	0.80	0.80	0.80	23477	-3431	226
11	0.18	14.40	99	-0.62	0.05	0.06	0.06	0.06	0.80	0.80	0.80	0.80	23068	-10179	590
12		11.00												-8000	0
13	-0.02	14.50	64	-0.54	0.11	0.12	0.13	0.12	0.80	0.80	0.80	0.80	22167	-1994	234
14	-0.03	14.80	250	0.26	0.04	0.11	0.13	0.09	0.80	0.80	0.80	0.80	21859	1513	140
15	0.20	15.00	305	0.30	0.06	0.09	0.12	0.09	0.80	0.80	0.80	0.80	22593	6502	572
16	0.37	15.10	308	0.44	0.03	0.07	0.10	0.07	0.80	0.80	0.80	0.80	23183	9717	667
17	0.50	15.20	308	0.57	0.11	0.13	0.17	0.14	0.80	0.80	0.80	0.80	23614	12907	1764

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-45.95	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	07.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	0.59 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	0.59 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
400	0.00	26	0.14		1.98	20	0.13	17	0.32	1000	11.80	838	1812	0.50	0.034	0.80
	0.50	26	0.14	0.07		20				1000	5.40	252		7.50	0.060	0.80
	1.00	28	0.15	0.07		18				750	7.60	318		14.50	0.082	0.80
	3.00	30	0.16	0.30		20				400	7.80	177				
	5.00	28	0.15	0.30		17				1600	-0.60	0				
	7.00	20	0.11	0.25		15				350	10.00	227				
	9.00	22	0.12	0.22		14										
	11.00	26	0.14	0.25		15										
	13.00	28	0.15	0.28		18										
	14.50	22	0.12	0.20		20										
	15.00		0.00	0.03												
500	0.00	48	0.25		3.83	315	0.25	322	0.40	1000	11.80	2725	5911	0.50	0.044	0.80
	0.50	48	0.25	0.12		315				1000	5.40	829		7.55	0.056	0.80
	1.00	48	0.25	0.12		315				750	7.60	1041		14.60	0.064	0.80
	3.00	52	0.27	0.52		315				400	7.80	577				
	5.00	50	0.26	0.53		322				1600	-0.60	0				
	7.00	54	0.28	0.54		322				350	10.00	739				
	9.00	54	0.28	0.56		325										
	11.00	52	0.27	0.55		330										
	13.00	42	0.22	0.49		325										
	14.60	40	0.21	0.34		325										
	15.10		0.00	0.05												
600	0.00	70	0.36		5.22	305	0.34	307	0.52	1000	11.80	3567	7775	0.50	0.024	0.80
	0.50	70	0.36	0.18		305				1000	5.40	1103		7.60	0.028	0.80

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-45.95	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	07.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	0.59 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	0.59 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	70	0.36	0.18		305				750	7.60	1373		14.70	0.038	0.80
	3.00	72	0.37	0.74		305				400	7.80	762				
	5.00	72	0.37	0.75		306				1600	-0.60	0				
	7.00	70	0.36	0.74		306				350	10.00	970				
	9.00	68	0.35	0.72		306										
	11.00	58	0.30	0.65		307										
	13.00	66	0.34	0.64		310										
	14.70	59	0.31	0.55		310										
	15.20		0.00	0.08												
700	0.00	46	0.24		3.87	320	0.26	301	0.56	1000	11.80	2585	5644	0.50	0.042	0.80
	0.50	46	0.24	0.12		320				1000	5.40	804		7.55	0.064	0.80
	1.00	44	0.23	0.12		321				750	7.60	998		14.60	0.084	0.80
	3.00	52	0.27	0.50		314				400	7.80	553				
	5.00	57	0.30	0.57		310				1600	-0.60	0				
	7.00	61	0.32	0.61		308				350	10.00	703				
	9.00	52	0.27	0.59		306										
	11.00	47	0.24	0.51		303										
	13.00	44	0.23	0.47		301										
	14.60	36	0.19	0.33		224										
	15.10		0.00	0.05												
800	0.00	24	0.13		1.00	300	0.07	305	0.55	1000	11.80	708	1545	0.50	0.050	0.80
	0.50	24	0.13	0.06		300				1000	5.40	220		7.40	0.058	0.80
	1.00	17	0.09	0.05		301				750	7.60	273		14.30	0.080	0.80
	3.00	5	0.03	0.12		302				400	7.80	151				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-45.95	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	07.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	0.59 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	0.59 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	5.00	21	0.11	0.14		306				1600	-0.60	0				
	7.00	9	0.05	0.16		305				350	10.00	193				
	9.00	12	0.06	0.11		306										
	11.00	11	0.06	0.12		310										
	13.00	13	0.07	0.13		309										
	14.30	10	0.05	0.08		310										
	14.80		0.00	0.01												
900	0.00	30	0.16		3.47	38	0.24	38	0.45	1000	11.80	722	1569	0.50	0.028	0.80
	0.50	30	0.16	0.08		38				1000	5.40	221		7.25	0.068	0.80
	1.00	25	0.13	0.07		41				750	7.60	277		14.00	0.084	0.80
	3.00	21	0.11	0.24		37				400	7.80	153				
	5.00	31	0.16	0.27		38				1600	-0.60	0				
	7.00	55	0.29	0.45		34				350	10.00	196				
	9.00	57	0.30	0.58		35										
	11.00	61	0.32	0.61		42										
	13.00	69	0.36	0.67		38										
	14.00	81	0.42	0.39		41										
	14.50		0.00	0.11												
1000	0.00	85	0.44		6.63	75	0.46	73	0.28	1000	11.80	-1590	-3431	0.50	0.050	0.80
	0.50	85	0.44	0.22		75				1000	5.40	-475		7.20	0.062	0.80
	1.00	92	0.48	0.23		75				750	7.60	-602		13.90	0.086	0.80
	3.00	95	0.49	0.97		70				400	7.80	-334				
	5.00	89	0.46	0.95		81				1600	-0.60	0				
	7.00	95	0.49	0.95		76				350	10.00	-430				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-45.95	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	07.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	0.59 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	0.59 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	9.00	90	0.47	0.96		70										
	11.00	89	0.46	0.93		70										
	13.00	86	0.45	0.91		66										
	13.90	87	0.45	0.40		67										
	14.40		0.00	0.11												
1100	0.00	133	0.69		8.92	103	0.62	99	0.18	1000	11.80	-4737	-10179	0.50	0.050	0.80
	0.50	133	0.69	0.34		103				1000	5.40	-1394		7.20	0.060	0.80
	1.00	124	0.64	0.33		93				750	7.60	-1781		13.90	0.064	0.80
	3.00	139	0.72	1.36		103				400	7.80	-989				
	5.00	130	0.67	1.39		95				1600	-0.60	0				
	7.00	123	0.64	1.31		97				350	10.00	-1278				
	9.00	118	0.61	1.25		96										
	11.00	113	0.58	1.19		100										
	13.00	106	0.55	1.13		104										
	13.90	101	0.52	0.48		100										
	14.40		0.00	0.13												
1200	0.00															
	0.50		Measurement was not taken due to storm.						0.07					0.50		
	1.00													5.50		
	3.00													10.50		
	5.00															
	7.00															
	9.00															
	11.00															

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-45.95	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	07.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	0.59 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	0.59 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1300	0.00	101	0.52		7.82	26	0.54	64	-0.02	1000	11.80	-936	-1994	0.50	0.106	0.80
	0.50	101	0.52	0.26		26				1000	5.40	-267		7.25	0.120	0.80
	1.00	115	0.59	0.28		7				750	7.60	-347		14.00	0.126	0.80
	3.00	112	0.58	1.17		43				400	7.80	-193				
	5.00	97	0.50	1.08		64				1600	-0.60	0				
	7.00	103	0.53	1.04		65				350	10.00	-251				
	9.00	111	0.57	1.11		75										
	11.00	115	0.59	1.17		97										
	13.00	97	0.50	1.10		112										
	14.00	93	0.48	0.49		121										
	14.50		0.00	0.12												
1400	0.00	24	0.13		3.81	245	0.26	250	-0.03	1000	11.80	711	1513	0.50	0.042	0.80
	0.50	24	0.13	0.06		245				1000	5.40	202		7.40	0.110	0.80
	1.00	52	0.27	0.10		245				750	7.60	263		14.30	0.126	0.80
	3.00	34	0.18	0.45		247				400	7.80	146				
	5.00	44	0.23	0.41		247				1600	-0.60	0				
	7.00	52	0.27	0.50		255				350	10.00	191				
	9.00	72	0.37	0.64		255										
	11.00	64	0.33	0.71		257										
	13.00	46	0.24	0.57		260										
	14.30	48	0.25	0.32		265										
	14.80		0.00	0.06												
1500	0.00	46	0.24		4.57	272	0.30	305	0.20	1000	11.80	3023	6502	0.50	0.062	0.80
	0.50	46	0.24	0.12		272				1000	5.40	892		7.50	0.086	0.80

DISCHARGE MEASUREMENT

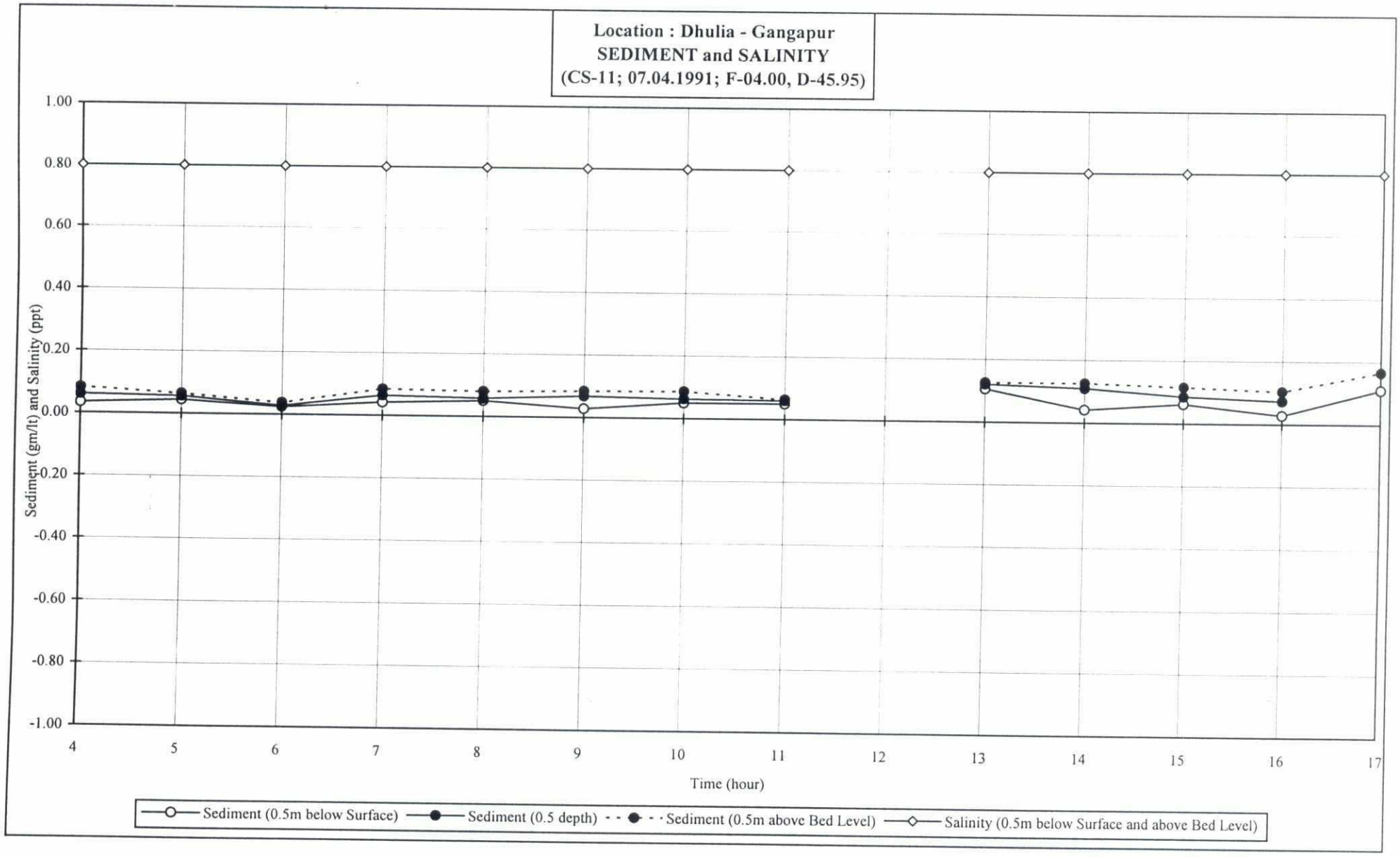
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-45.95	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	07.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	0.59 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	0.59 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

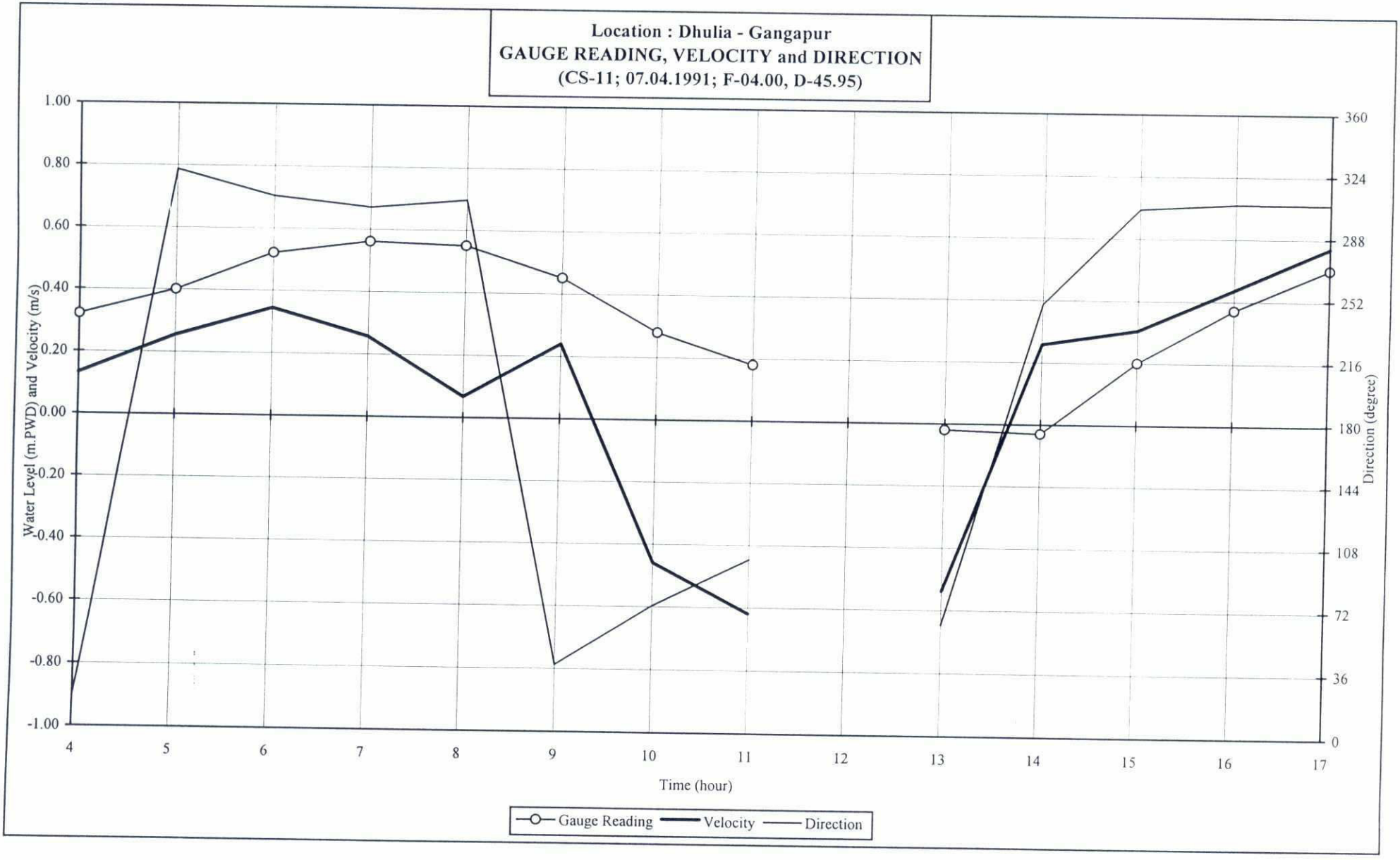
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	38	0.20	0.11		292				750	7.60	1138		14.50	0.116	0.80
	3.00	76	0.39	0.59		305				400	7.80	632				
	5.00	82	0.42	0.82		328				1600	-0.60	0				
	7.00	42	0.22	0.64		310				350	10.00	816				
	9.00	68	0.35	0.57		307										
	11.00	52	0.27	0.62		313										
	13.00	53	0.28	0.55		320										
	14.50	65	0.34	0.46		330										
	15.00		0.00	0.08												
1600	0.00	98	0.51		6.58	300	0.44	308	0.37	1000	11.80	4485	9717	0.50	0.028	0.80
	0.50	98	0.51	0.25		300				1000	5.40	1358		7.55	0.074	0.80
	1.00	88	0.46	0.24		300				750	7.60	1709		14.60	0.104	0.80
	3.00	115	0.59	1.05		305				400	7.80	949				
	5.00	77	0.40	0.99		310				1600	-0.60	0				
	7.00	106	0.55	0.95		310				350	10.00	1216				
	9.00	72	0.37	0.92		322										
	11.00	83	0.43	0.80		317										
	13.00	66	0.34	0.77		310										
	14.60	60	0.31	0.52		305										
	15.10		0.00	0.08												
1700	0.00	116	0.60		8.66	313	0.57	308	0.50	1000	11.80	5926	12907	0.50	0.110	0.80
	0.50	116	0.60	0.30		313				1000	5.40	1828		7.60	0.134	0.80
	1.00	114	0.59	0.30		313				750	7.60	2279		14.70	0.166	0.80
	3.00	112	0.58	1.17		308				400	7.80	1264				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-45.95	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	07.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	0.59 m	14.	X-section Direction	:	54 degrees
15.	Reference Tide Range	:	0.59 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	5.00	150	0.78	1.35		305				1600	-0.60	0				
	7.00	104	0.54	1.31		305				350	10.00	1611				
	9.00	90	0.47	1.00		302										
	11.00	84	0.44	0.90		307										
	13.00	130	0.67	1.11		305										
	14.70	112	0.58	1.06		305										
	15.20		0.00	0.15												


Location : Dhulia - Gangapur
SEDIMENT and SALINITY
(CS-11; 07.04.1991; F-04.00, D-45.95)
Sediment (gm/lt) and Salinity (ppt)
1.00
0.80
0.60
0.40
0.20
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
4
5
6
7
8
9
10
11
12
13
14
15
16
17
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface and above Bed Level)


Location : Dhulia - Gangapur
GAUGE READING, VELOCITY and DIRECTION
(CS-11; 07.04.1991; F-04.00, D-45.95)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
1.00
0.80
0.60
0.40
0.20
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
360
324
288
252
216
180
144
108
72
36
0
4
5
6
7
8
9
10
11
12
13
14
15
16
17
Gauge Reading
Velocity
Direction

Cross Section CS-21(a)

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dasmoina - Char Biswas	4.	Cross Section No.	:	21(a)
5.	Decca Location	:	H-03.20; F-38.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	02.04.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.85 m	14.	X-section Direction	:	91 degrees
15.	Reference Tide Range	:	1.85 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 (n < 0.33)
							= 0.2577n + 0.0021 (0.33 < n < 4.66)

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5	0.74	10.50	175	-0.67	0.23	0.42	0.49	0.38	1.00	1.00	1.00	1.00	20022	-13267	5059
6	0.43	10.40	193	-0.97	0.31	0.23	0.37	0.30	1.00	1.00	1.00	1.00	18415	-17419	5307
7	-0.09	10.30	179	-1.37	0.23	0.20	0.70	0.38	1.00	1.00	1.00	1.00	15838	-21635	8149
8	-0.27	10.10	183	-1.49	0.37	0.38	0.38	0.38	0.80	0.80	0.80	0.80	15157	-22610	8592
9	-0.21	9.90	165	-1.57	0.55	0.60	0.59	0.58	0.80	0.80	0.50	0.70	15628	-23549	13612
10	0.58	10.10	144	-0.93	0.50	0.85	0.54	0.63	0.20	0.20	0.20	0.20	19577	-14455	9087
11	1.11	10.50	49	0.54	0.47	0.54	0.56	0.53	0.20	0.20	0.20	0.20	22181	7998	4202
12	1.41	11.20	19	1.21	1.10	1.08	1.22	1.13	0.80	0.80	0.80	0.80	23110	26653	30154
13	1.56	11.50	15	0.96	0.58	0.56	0.50	0.55	0.90	0.90	0.90	0.90	29897	27782	15151
14	1.58	11.50	28	0.64	0.98	1.04	1.03	1.02	1.00	1.00	1.00	1.00	23766	13512	13746
15	1.29	11.70	26	0.43	0.87	0.95	1.12	0.98	1.00	1.00	1.00	1.00	21816	8518	8324
16	0.87	11.30	27	0.41	0.59	0.61	0.65	0.62	1.80	1.80	1.80	1.80	19874	7288	4499
17	0.54	10.80	66	0.29	0.56	0.62	0.70	0.63	1.50	1.50	1.50	1.50	18591	2301	1448
18	0.26	10.50	142	-1.08	0.63	0.61	0.72	0.65	1.50	1.20	1.50	1.40	17411	-14550	9496

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dasmoina - Char Biswas	4.	Cross Section No.	:	21(a)
5.	Decca Location	:	H-03.20; F-38.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	02.04.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.85 m	14.	X-section Direction	:	91 degrees
15.	Reference Tide Range	:	1.85 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
500	0.00	72	0.37		6.99	158	0.67	175	0.740	300	0.40	-58	-13267	0.50	0.230	1.00
	0.50	72	0.37	0.19		158				1200	3.90	-2255		5.25	0.424	1.00
	1.00	86	0.45	0.20		155				900	6.00	-3080		10.00	0.490	1.00
	3.00	148	0.76	1.21		185				900	7.70	-4415				
	5.00	152	0.79	1.55		190				400	8.70	-2348				
	7.00	158	0.82	1.60		180				1650	0.70	-469				
	9.00	140	0.72	1.54		175				450	1.40	-243				
	10.00	86	0.45	0.58		185				420	2.30	-400				
	10.50		0.00	0.11												
600	0.00	204	1.05		10.05	196	0.97	193	0.430	300	0.40	-50	-17419	0.50	0.308	1.00
	0.50	204	1.05	0.53		196				1200	3.90	-2897		5.20	0.232	1.00
	1.00	218	1.13	0.54		193				900	6.00	-4100		9.90	0.374	1.00
	3.00	218	1.13	2.25		195				900	7.70	-5970				
	5.00	206	1.06	2.19		190				400	8.70	-3195				
	7.00	178	0.92	1.98		190				1650	0.70	-454				
	9.00	156	0.81	1.73		190				450	1.40	-271				
	9.90	128	0.66	0.66		195				420	2.30	-482				
	10.40		0.00	0.17												
700	0.00	328	1.69		14.08	185	1.37	179	-0.090	300	0.40	-14	-21635	0.50	0.230	1.00
	0.50	328	1.69	0.85		185				1200	3.90	-3425		5.15	0.196	1.00
	1.00	330	1.70	0.85		180				900	6.00	-5202		9.80	0.704	1.00
	3.00	332	1.71	3.42		178				900	7.70	-7801				
	5.00	290	1.50	3.21		175				400	8.70	-4225				
	7.00	242	1.25	2.75		175				1650	0.70	-241				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dasmoina - Char Biswas	4.	Cross Section No.	:	21(a)
5.	Decca Location	:	H-03.20; F-38.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	02.04.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.85 m	14.	X-section Direction	:	91 degrees
15.	Reference Tide Range	:	1.85 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	9.00	170	0.88	2.13		178				450	1.40	-229				
	9.80	159	0.82	0.68		180				420	2.30	-498				
	10.30		0.00	0.21												
800	0.00	335	1.73		15.08	187	1.49	183	-0.270	300	0.40	-4	-22610	0.50	0.372	0.80
	0.50	335	1.73	0.86		187				1200	3.90	-3501		5.05	0.384	0.80
	1.00	337	1.74	0.87		194				900	6.00	-5469		9.60	0.384	0.80
	3.00	346	1.79	3.52		195				900	7.70	-8295				
	5.00	319	1.65	3.43		185				400	8.70	-4513				
	7.00	253	1.31	2.95		178				1650	0.70	-150				
	9.00	229	1.18	2.49		172				450	1.40	-199				
	9.60	209	1.08	0.68		171				420	2.30	-480				
	10.10		0.00	0.27												
900	0.00	309	1.59		15.50	162	1.57	165	-0.210	300	0.40	-7	-23549	0.50	0.548	0.80
	0.50	309	1.59	0.80		162				1200	3.90	-3675		4.95	0.596	0.80
	1.00	365	1.88	0.87		151				900	6.00	-5685		9.40	0.590	0.50
	3.00	331	1.71	3.59		165				900	7.70	-8591				
	5.00	341	1.76	3.47		176				400	8.70	-4667				
	7.00	285	1.47	3.23		172				1650	0.70	-190				
	9.40	238	1.23	3.24		165				450	1.40	-221				
	9.90		0.00	0.31						420	2.30	-514				
1000	0.00	250	1.29		9.38	135	0.93	144	0.580	300	0.40	-52	-14455	0.50	0.496	0.20
	0.50	250	1.29	0.65		135				1200	3.90	-2431		5.05	0.846	0.20
	1.00	187	0.97	0.56		143				900	6.00	-3379		9.60	0.544	0.20
	3.00	245	1.26	2.23		158				900	7.70	-4884				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dasmoina - Char Biswas	4.	Cross Section No.	:	21(a)
5.	Decca Location	:	H-03.20; F-38.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	02.04.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.85 m	14.	X-section Direction	:	91 degrees
15.	Reference Tide Range	:	1.85 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	5.00	190	0.98	2.25		154				400	8.70	-2605				
	7.00	157	0.81	1.79		137				1650	0.70	-442				
	9.60	105	0.54	1.76		135				450	1.40	-244				
	10.10		0.00	0.14						420	2.30	-418				
1100	0.00	85	0.44		5.70	44	0.54	49	1.110	300	0.40	50	7998	0.50	0.472	0.20
	0.50	85	0.44	0.22		44				1200	3.90	1388		5.25	0.540	0.20
	1.00	73	0.38	0.20		46				900	6.00	1826		10.00	0.564	0.20
	3.00	131	0.68	1.06		42				900	7.70	2574				
	5.00	123	0.64	1.31		58				400	8.70	1358				
	7.00	83	0.43	1.07		53				1650	0.70	370				
	9.00	129	0.67	1.10		52				450	1.40	171				
	10.00	105	0.54	0.61		56				420	2.30	262				
	10.50		0.00	0.14												
1200	0.00	294	1.52		13.56	17	1.21	19	1.410	300	0.40	207	26653	0.50	1.098	0.80
	0.50	294	1.52	0.76		17				1200	3.90	4690		5.60	1.078	0.80
	1.00	281	1.45	0.74		23				900	6.00	6003		10.70	1.218	0.80
	3.00	224	1.16	2.61		20				900	7.70	8356				
	5.00	260	1.34	2.50		15				400	8.70	4387				
	7.00	216	1.12	2.46		15				1650	0.70	1458				
	9.00	216	1.12	2.23		13				450	1.40	631				
	10.70	232	1.20	1.97		30				420	2.30	922				
	11.20		0.00	0.30												
1300	0.00	286	1.48		11.01	25	0.96	15	1.560	300	0.40	236	27782	0.50	0.580	0.90
	0.50	286	1.48	0.74		25				1200	3.90	4918		5.75	0.560	0.90

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dasmoina - Char Biswas	4.	Cross Section No.	:	21(a)
5.	Decca Location	:	H-03.20; F-38.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	02.04.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.85 m	14.	X-section Direction	:	91 degrees
15.	Reference Tide Range	:	1.85 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	232	1.20	0.67		20				900	6.00	6216		11.00	0.496	0.90
	3.00	180	0.93	2.13		13				900	7.70	8601				
	5.00	192	0.99	1.92		10				400	8.70	4504				
	7.00	146	0.75	1.75		12				1650	0.70	1633				
	9.00	182	0.94	1.69		10				450	1.40	689				
	11.00	182	0.94	1.88		5				420	2.30	986				
	11.50		0.00	0.24												
1400	0.00	128	0.66		7.30	40	0.64	28	1.580	300	0.40	116	13512	0.50	0.982	1.00
	0.50	128	0.66	0.33		40				1200	3.90	2394		5.75	1.040	1.00
	1.00	176	0.91	0.39		30				900	6.00	3021		11.00	1.030	1.00
	3.00	116	0.60	1.51		20				900	7.70	4176				
	5.00	108	0.56	1.16		20				400	8.70	2186				
	7.00	140	0.72	1.28		25				1650	0.70	802				
	9.00	138	0.71	1.44		25				450	1.40	337				
	11.00	74	0.38	1.10		20				420	2.30	481				
	11.50		0.00	0.10												
1500	0.00	99	0.51		5.05	5	0.43	26	1.290	300	0.40	61	8518	0.50	0.866	1.00
	0.50	99	0.51	0.26		5				1200	3.90	1491		5.85	0.948	1.00
	1.00	93	0.48	0.25		17				900	6.00	1929		11.20	1.118	1.00
	3.00	90	0.47	0.95		33				900	7.70	2698				
	5.00	85	0.44	0.91		24				400	8.70	1419				
	7.00	105	0.54	0.98		22				1650	0.70	437				
	9.00	63	0.33	0.87		55				450	1.40	194				
	11.20	69	0.36	0.75		50				420	2.30	288				

DISCHARGE MEASUREMENT

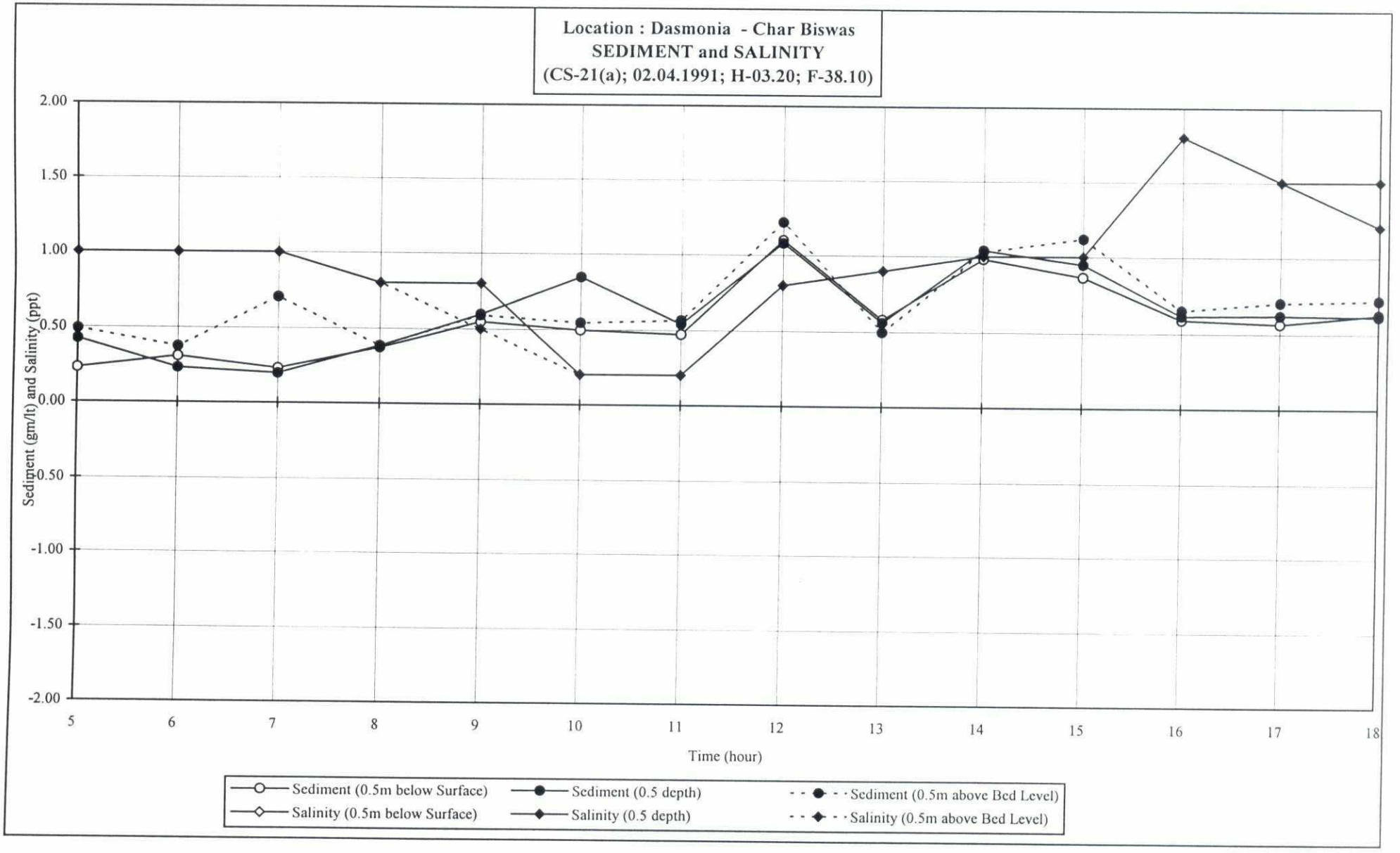
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dasmoina - Char Biswas	4.	Cross Section No.	:	21(a)
5.	Decca Location	:	H-03.20; F-38.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	02.04.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.85 m	14.	X-section Direction	:	91 degrees
15.	Reference Tide Range	:	1.85 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

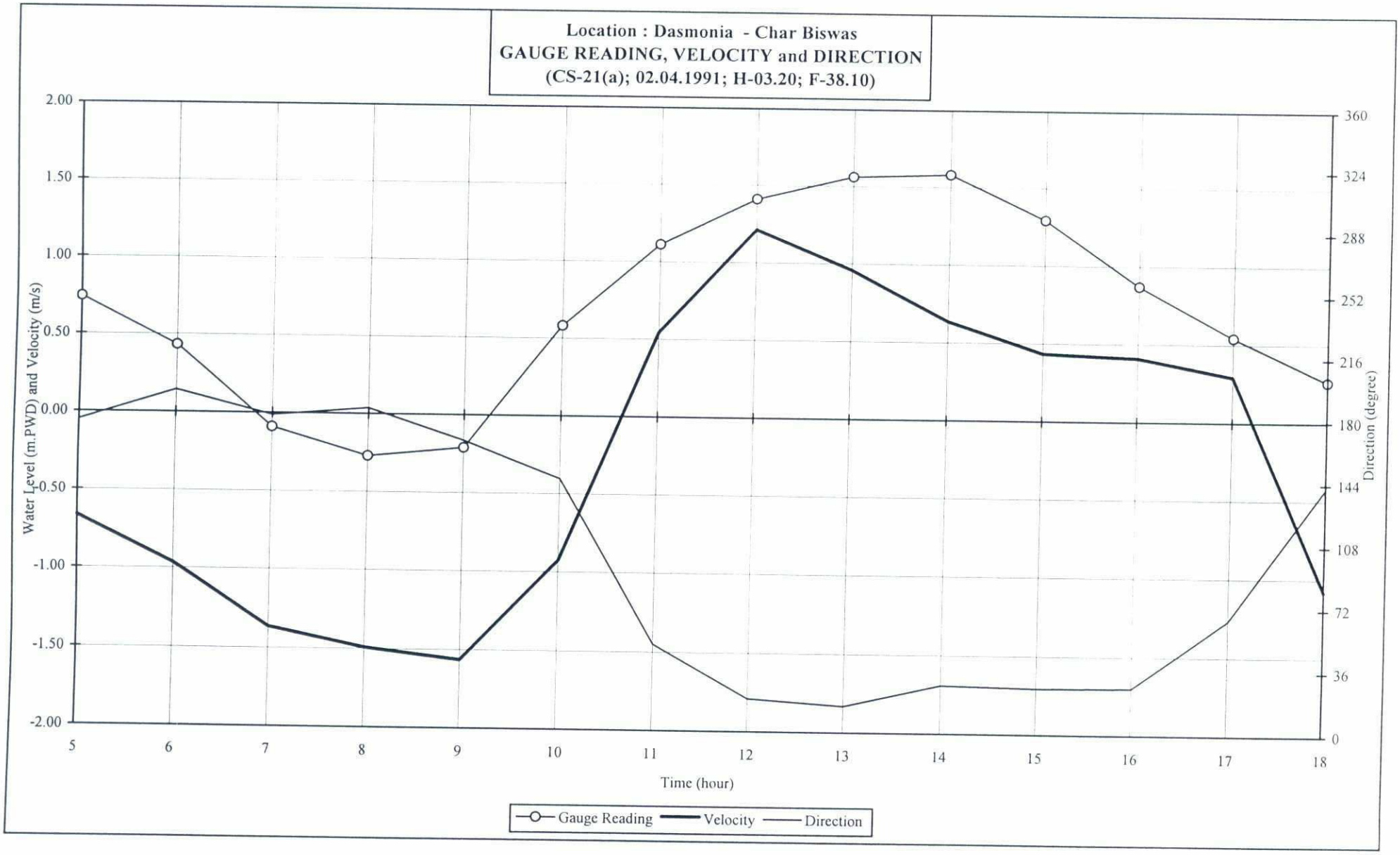
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	11.70		0.00	0.09												
1600	0.00	50	0.26		4.60	40	0.41	27	0.870	300	0.40	37	7288	0.50	0.588	1.80
	0.50	50	0.26	0.13		40				1200	3.90	1248		5.65	0.614	1.80
	1.00	74	0.38	0.16		36				900	6.00	1682		10.80	0.650	1.80
	3.00	82	0.42	0.81		41				900	7.70	2396				
	5.00	98	0.51	0.93		21				400	8.70	1271				
	7.00	96	0.50	1.00		14				1650	0.70	286				
	9.00	72	0.37	0.87		12				450	1.40	141				
	10.80	60	0.31	0.62		10				420	2.30	226				
	11.30		0.00	0.08												
1700	0.00	30	0.16		3.13	75	0.29	66	0.540	300	0.40	8	2301	0.50	0.564	1.50
	0.50	30	0.16	0.08		75				1200	3.90	386		5.40	0.620	1.50
	1.00	35	0.18	0.08		85				900	6.00	539		10.30	0.704	1.50
	3.00	37	0.19	0.38		71				900	7.70	781				
	5.00	48	0.25	0.44		65				400	8.70	417				
	7.00	84	0.44	0.68		40				1650	0.70	68				
	9.00	82	0.42	0.86		50				450	1.40	38				
	10.30	71	0.37	0.52		65				420	2.30	66				
	10.80		0.00	0.09												
1800	0.00	200	1.03		11.35	130	1.08	142	0.260	300	0.40	-30	-14550	0.50	0.626	1.50
	0.50	200	1.03	0.52		130				1200	3.90	-2386		5.25	0.614	1.20
	1.00	230	1.19	0.56		132				900	6.00	-3450		10.00	0.718	1.50
	3.00	215	1.11	2.30		141				900	7.70	-5070				
	5.00	222	1.15	2.26		154				400	8.70	-2723				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dasmoina - Char Biswas	4.	Cross Section No.	:	21(a)
5.	Decca Location	:	H-03.20; F-38.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	02.04.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.85 m	14.	X-section Direction	:	91 degrees
15.	Reference Tide Range	:	1.85 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00	221	1.14	2.29		156				1650	0.70	-306				
	9.00	201	1.04	2.18		150				450	1.40	-203				
	10.00	190	0.98	1.01		140				420	2.30	-382				
	10.50		0.00	0.25												


Location : Dasmonia - Char Biswas
SEDIMENT and SALINITY
(CS-21(a); 02.04.1991; H-03.20; F-38.10)
Sediment (gm/lt) and Salinity (ppt)
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)


Location : Dasmonia - Char Biswas
GAUGE READING, VELOCITY and DIRECTION
(CS-21(a); 02.04.1991; H-03.20; F-38.10)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00
360
324
288
252
216
180
144
108
72
36
0
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Gauge Reading
Velocity
Direction

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dasmoina - Char Biswas	4.	Cross Section No.	:	21(a)
5.	Decca Location	:	H-03.20, F-38.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	05.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.34 m	14.	X-section Direction	:	91 degrees
15.	Reference Tide Range	:	1.34 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							V = 0.2577n + 0.0021 0.33 < n < 19.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5	0.83	10.80	39	0.29	0.15	0.17	0.19	0.17	1.00	1.00	1.00	1.00	20192	4695	798
6	0.55	10.50	110	-0.37	0.15	0.13	0.11	0.13	1.00	1.00	1.00	1.00	18962	-2274	296
7	0.28	10.20	185	-0.80	0.15	0.16	0.15	0.15	0.80	0.80	0.80	0.80	17822	-14299	2193
8	0.03	10.00	178	-1.08	0.07	0.05	0.10	0.07	0.50	0.50	0.50	0.50	16725	-18059	1348
9	-0.17	9.30	171	-1.21	0.01	0.23	0.54	0.26	0.50	0.50	0.50	0.50	16427	-19509	5046
10	-0.29	9.10	177	-1.08	0.23	0.22	0.32	0.26	0.50	0.50	0.50	0.50	16035	-17233	4469
11	-0.24	9.60	167	-0.77	0.44	0.59	5.17	2.06	0.20	0.20	0.20	0.20	15772	-11801	24365
12	0.19	10.20	45	0.24	0.92	2.54	0.80	1.42	0.20	0.20	0.20	0.20	17348	3048	4335
13	0.69	10.60	146	-0.67	0.86	1.35	5.98	2.73	0.20	0.20	0.20	0.20	19628	-10716	29240
14	0.84	11.10	353	0.56	0.71	0.70	0.74	0.72	0.50	0.50	0.50	0.50	19920	11144	7971
15	0.99	11.20	333	0.69	0.21	0.29	0.40	0.30	0.80	0.80	0.80	0.80	20654	12574	3772
16	1.05	11.20	23	0.56	0.33	0.43	0.47	0.41	1.00	1.00	1.00	1.00	20996	10825	4438
17	1.02	11.00	352	0.32	0.24	0.26	0.30	0.27	1.00	1.00	1.00	1.00	21050	6735	1801
18	0.80	10.80	354	0.22	0.24	0.24	2.54	1.01	1.00	1.00	1.00	1.00	20023	4318	4358

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dasmoina - Char Biswas	4.	Cross Section No.	:	21(a)
5.	Decca Location	:	H-03.20, F-38.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	05.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.34 m	14.	X-section Direction	:	91 degrees
15.	Reference Tide Range	:	1.34 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							V = 0.2577n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
500	0.00	24	0.13		3.19	60	0.29	39	0.830	300	0.40	23	4695	0.50	0.146	1.00
	0.50	24	0.13	0.06		60				1200	3.90	802		5.40	0.172	1.00
	1.00	16	0.08	0.05		50				900	6.00	1085		10.30	0.192	1.00
	3.00	42	0.22	0.30		40				900	7.70	1549				
	5.00	86	0.45	0.66		40				400	8.70	822				
	7.00	78	0.40	0.85		35				1650	0.70	178				
	9.00	49	0.25	0.66		25				450	1.40	90				
	10.30	92	0.48	0.48		23				420	2.30	144				
	10.80		0.00	0.12												
600	0.00	12	0.06		3.84	115	0.37	110	0.550	300	0.40	-8	-2274	0.50	0.148	1.00
	0.50	12	0.06	0.03		115				1200	3.90	-382		5.25	0.132	1.00
	1.00	32	0.17	0.06		113				900	6.00	-532		10.00	0.110	1.00
	3.00	90	0.47	0.63		115				900	7.70	-771				
	5.00	88	0.46	0.92		115				400	8.70	-411				
	7.00	74	0.38	0.84		108				1650	0.70	-67				
	9.00	82	0.42	0.81		105				450	1.40	-38				
	10.00	86	0.45	0.44		100				420	2.30	-65				
	10.50		0.00	0.11												
700	0.00	160	0.83		8.20	170	0.80	185	0.280	300	0.40	-31	-14299	0.50	0.150	0.80
	0.50	160	0.83	0.41		170				1200	3.90	-2349		5.10	0.156	0.80
	1.00	143	0.74	0.39		180				900	6.00	-3387		9.70	0.154	0.80
	3.00	180	0.93	1.67		185				900	7.70	-4973				
	5.00	184	0.95	1.88		195				400	8.70	-2670				
	7.00	166	0.86	1.81		195				1650	0.70	-309				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dasmoina - Char Biswas	4.	Cross Section No.	:	21(a)
5.	Decca Location	:	H-03.20, F-38.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	05.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.34 m	14.	X-section Direction	:	91 degrees
15.	Reference Tide Range	:	1.34 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							V = 0.2577n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	9.00	118	0.61	1.47		190				450	1.40	-202				
	9.70	116	0.60	0.42		180				420	2.30	-378				
	10.20		0.00	0.15												
800	0.00	223	1.15		10.81	166	1.08	178	0.030	300	0.40	-20	-18059	0.50	0.066	0.50
	0.50	223	1.15	0.58		166				1200	3.90	-2897		5.00	0.054	0.50
	1.00	226	1.17	0.58		176				900	6.00	-4322		9.50	0.104	0.50
	3.00	257	1.33	2.49		176				900	7.70	-6436				
	5.00	242	1.25	2.58		174				400	8.70	-3476				
	7.00	195	1.01	2.26		180				1650	0.70	-260				
	9.00	148	0.76	1.77		193				450	1.40	-212				
	9.50	141	0.73	0.37		183				420	2.30	-436				
	10.00		0.00	0.18												
900	0.00	265	1.37		11.23	155	1.21	171	-0.170	300	0.40	-8	-19509	0.50	0.010	0.50
	0.50	265	1.37	0.68		155				1200	3.90	-3059		4.65	0.228	0.50
	1.00	255	1.32	0.67		162				900	6.00	-4704		8.80	0.538	0.50
	3.00	271	1.40	2.72		184				900	7.70	-7089				
	5.00	249	1.29	2.68		181				400	8.70	-3847				
	7.00	209	1.08	2.36		173				1650	0.70	-177				
	8.80	192	0.99	1.86		168				450	1.40	-191				
	9.30		0.00	0.25						420	2.30	-434				
1000	0.00	243	1.25		9.81	184	1.08	177	-0.290	300	0.40	-2	-17233	0.50	0.230	0.50
	0.50	243	1.25	0.63		184				1200	3.90	-2661		4.55	0.224	0.50
	1.00	245	1.26	0.63		179				900	6.00	-4171		8.60	0.324	0.50
	3.00	250	1.29	2.56		194				900	7.70	-6334				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dasmoina - Char Biswas	4.	Cross Section No.	:	21(a)
5.	Decca Location	:	H-03.20, F-38.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	05.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.34 m	14.	X-section Direction	:	91 degrees
15.	Reference Tide Range	:	1.34 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							V = 0.2577n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	5.00	203	1.05	2.34		169				400	8.70	-3448				
	7.00	175	0.90	1.95		174				1650	0.70	-106				
	8.60	181	0.93	1.47		159				450	1.40	-148				
	9.10		0.00	0.23						420	2.30	-362				
1100	0.00	175	0.90		7.39	148	0.77	167	-0.240	300	0.40	-3	-11801	0.50	0.436	0.20
	0.50	175	0.90	0.45		148				1200	3.90	-1834		4.80	0.590	0.20
	1.00	155	0.80	0.43		186				900	6.00	-2852		9.10	5.168	0.20
	3.00	174	0.90	1.70		184				900	7.70	-4317				
	5.00	185	0.96	1.85		182				400	8.70	-2347				
	7.00	118	0.61	1.57		165				1650	0.70	-87				
	9.10	112	0.58	1.25		158				450	1.40	-107				
	9.60		0.00	0.15						420	2.30	-254				
1200	0.00	22	0.12		2.49	50	0.24	45	0.190	300	0.40	5	3048	0.50	0.922	0.20
	0.50	22	0.12	0.06		50				1200	3.90	497		5.10	2.540	0.20
	1.00	14	0.07	0.05		47				900	6.00	725		9.70	0.804	0.20
	3.00	34	0.18	0.25		49				900	7.70	1070				
	5.00	44	0.23	0.41		42				400	8.70	575				
	7.00	67	0.35	0.58		44				1650	0.70	58				
	9.00	75	0.39	0.74		47				450	1.40	41				
	9.70	88	0.46	0.30		30				420	2.30	78				
	10.20		0.00	0.11												
1300	0.00	164	0.85		7.05	43	0.67	146	0.690	300	0.40	-44	-10716	0.50	0.860	0.20
	0.50	164	0.85	0.42		43				1200	3.90	-1816		5.30	1.346	0.20
	1.00	117	0.61	0.36		38				900	6.00	-2493		10.10	5.980	0.20

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dasmoina - Char Biswas	4.	Cross Section No.	:	21(a)
5.	Decca Location	:	H-03.20, F-38.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	05.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.34 m	14.	X-section Direction	:	91 degrees
15.	Reference Tide Range	:	1.34 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							V = 0.2577n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	3.00	165	0.85	1.46		5				900	7.70	-3583				
	5.00	133	0.69	1.54		345				400	8.70	-1907				
	7.00	130	0.67	1.36		5				1650	0.70	-363				
	9.00	106	0.55	1.22		355				450	1.40	-192				
	10.10	93	0.48	0.57		335				420	2.30	-319				
	10.60		0.00	0.12												
1400	0.00	143	0.74		6.27	335	0.56	353	0.840	300	0.40	55	11144	0.50	0.706	0.50
	0.50	143	0.74	0.37		335				1200	3.90	1906		5.55	0.700	0.50
	1.00	111	0.57	0.33		343				900	6.00	2575		10.60	0.740	0.50
	3.00	117	0.61	1.18		340				900	7.70	3674				
	5.00	104	0.54	1.14		350				400	8.70	1950				
	7.00	137	0.71	1.25		364				1650	0.70	427				
	9.00	90	0.47	1.17		370				450	1.40	214				
	10.60	84	0.44	0.72		386				420	2.30	344				
	11.10		0.00	0.11												
1500	0.00	172	0.89		7.72	325	0.69	333	0.990	300	0.40	71	12574	0.50	0.210	0.80
	0.50	172	0.89	0.44		325				1200	3.90	2169		5.60	0.294	0.80
	1.00	163	0.84	0.43		326				900	6.00	2886		10.70	0.396	0.80
	3.00	158	0.82	1.66		337				900	7.70	4090				
	5.00	130	0.67	1.49		335				400	8.70	2164				
	7.00	132	0.68	1.35		335				1650	0.70	537				
	9.00	108	0.56	1.24		343				450	1.40	257				
	10.70	109	0.56	0.95		338				420	2.30	401				
	11.20		0.00	0.14												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dasmoina - Char Biswas	4.	Cross Section No.	:	21(a)
5.	Decca Location	:	H-03.20, F-38.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	05.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.34 m	14.	X-section Direction	:	91 degrees
15.	Reference Tide Range	:	1.34 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							V = 0.2577n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1600	0.00	134	0.69		6.22	34	0.56	23	1.050	300	0.40	65	10825	0.50	0.334	1.00
	0.50	134	0.69	0.35		34				1200	3.90	1873		5.60	0.426	1.00
	1.00	88	0.46	0.29		27				900	6.00	2478		10.70	0.470	1.00
	3.00	112	0.58	1.04		25				900	7.70	3502				
	5.00	150	0.78	1.35		23				400	8.70	1851				
	7.00	76	0.39	1.17		19				1650	0.70	481				
	9.00	112	0.58	0.97		13				450	1.40	226				
	10.70	98	0.51	0.92		7				420	2.30	350				
	11.20		0.00	0.13												
1700	0.00	66	0.34		3.56	360	0.32	352	1.020	300	0.40	39	6735	0.50	0.242	1.00
	0.50	66	0.34	0.17		360				1200	3.90	1164		5.50	0.256	1.00
	1.00	76	0.39	0.18		355				900	6.00	1544		10.50	0.304	1.00
	3.00	54	0.28	0.67		352				900	7.70	2185				
	5.00	86	0.45	0.73		352				400	8.70	1155				
	7.00	78	0.40	0.85		353				1650	0.70	294				
	9.00	36	0.19	0.59		345				450	1.40	139				
	10.50	43	0.22	0.31		340				420	2.30	216				
	11.00		0.00	0.06												
1800	0.00	42	0.22		2.34	360	0.22	354	0.800	300	0.40	20	4318	0.50	0.244	1.00
	0.50	42	0.22	0.11		360				1200	3.90	737		5.40	0.244	1.00
	1.00	38	0.20	0.10		360				900	6.00	999		10.30	2.540	1.00
	3.00	52	0.27	0.47		355				900	7.70	1429				
	5.00	56	0.29	0.56		355				400	8.70	759				
	7.00	58	0.30	0.59		350				1650	0.70	160				

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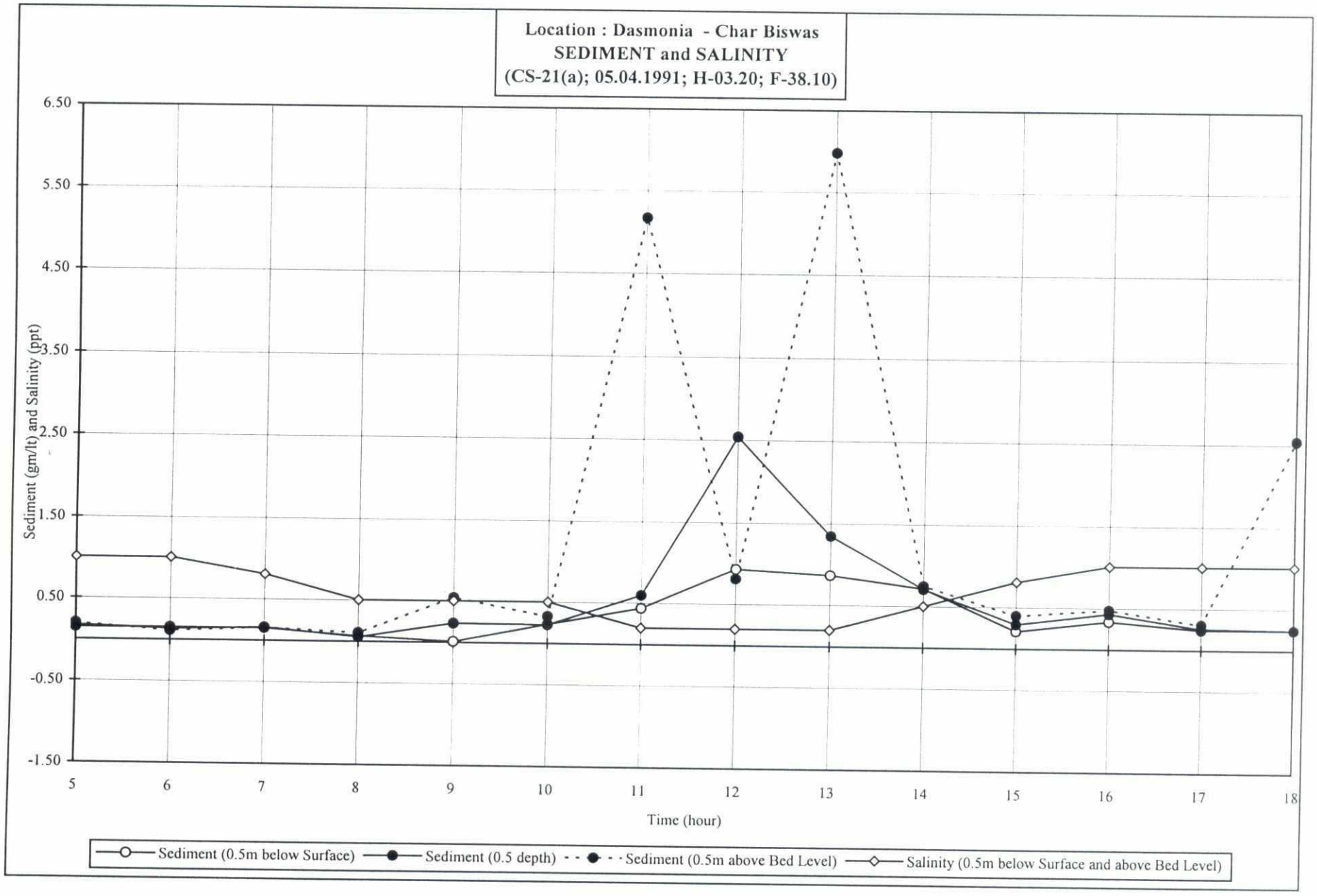
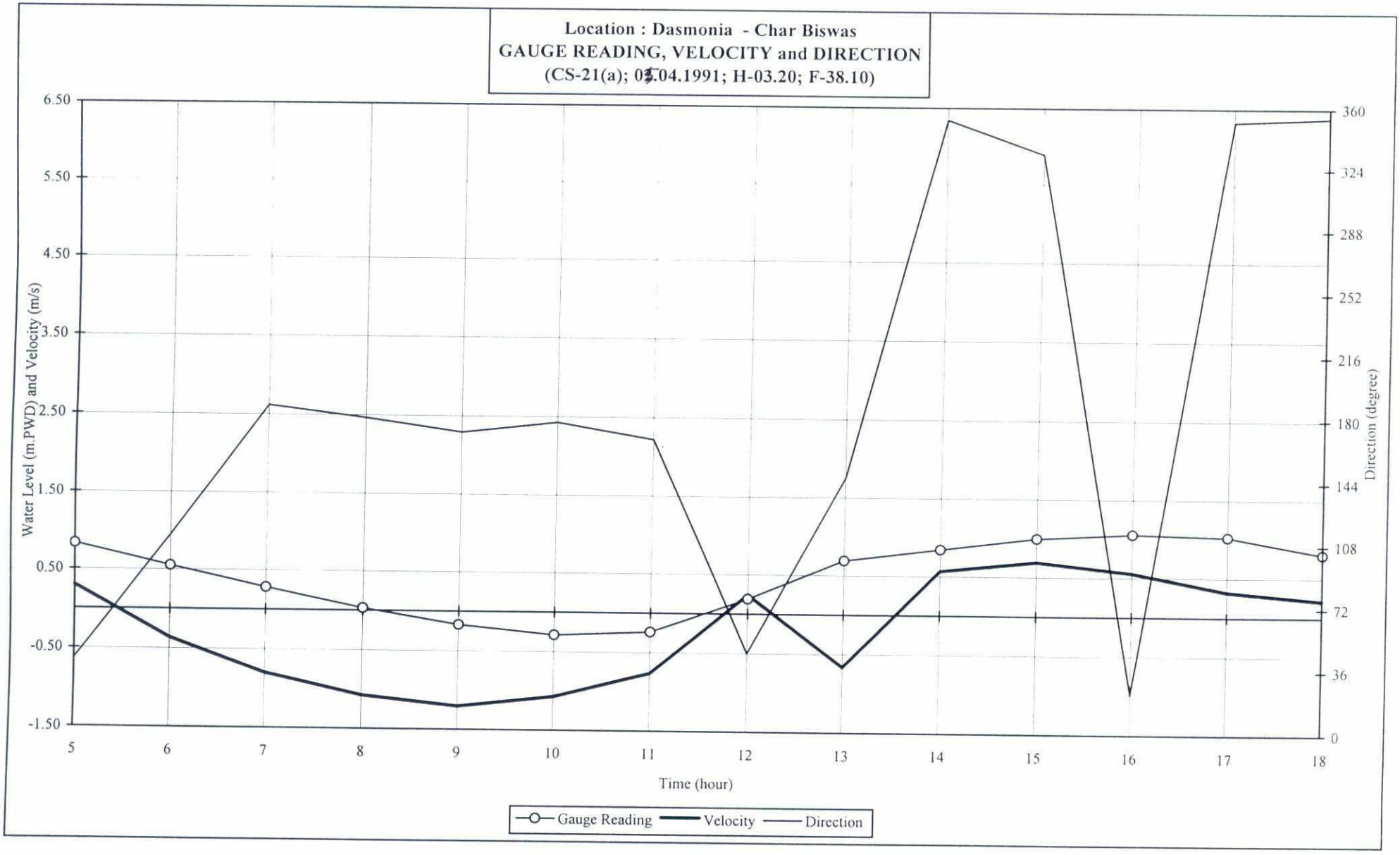
DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dasmoina - Char Biswas	4.	Cross Section No.	:	21(a)
5.	Decca Location	:	H-03.20, F-38.10	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	05.04.91
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.34 m	14.	X-section Direction	:	91 degrees
15.	Reference Tide Range	:	1.34 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							V = 0.2577n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	9.00	14	0.07	0.38		350				450	1.40	81				
	10.30	18	0.09	0.11		345				420	2.30	132				
	10.80		0.00	0.02												


Location : Dasmonia - Char Biswas
SEDIMENT and SALINITY
(CS-21(a); 05.04.1991; H-03.20; F-38.10)
Sediment (gm/lt) and Salinity (ppt)
6.50
5.50
4.50
3.50
2.50
1.50
0.50
-0.50
-1.50
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface and above Bed Level)


Location : Dasmonia - Char Biswas
GAUGE READING, VELOCITY and DIRECTION
(CS-21(a); 05.04.1991; H-03.20; F-38.10)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
6.50
5.50
4.50
3.50
2.50
1.50
0.50
-0.50
-1.50
360
324
288
252
216
180
144
108
72
36
0
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Gauge Reading
Velocity
Direction

Cross Section CS-21(b)

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bhola - Char Biswas	4.	Cross Section No.	:	21(b)
5.	Decca Location	:	H-11.10; F-31.70	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	03.04.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	m	14.	X-section Direction	:	degrees
15.	Reference Tide Range	:	m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33 = 0.2577n + 0.0021 0.33 < n < 4.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
7		11.20	172	-0.78	0.34	0.33	0.65	0.44	0.90	0.90	0.90	0.90	7223	-787	346
8		10.90	175	-0.95	0.50	0.48	0.67	0.55	0.80	0.80	0.80	0.80	7341	-663	365
9		10.60	177	-0.93	0.48	0.00	0.85	0.44	0.50	0.00	0.50	0.33	7465	-339	150
10		10.80	168	-0.89	0.54	0.54	0.41	0.49	0.50	0.50	0.50	0.50	7382	-1404	694
11		11.60	350	0.30	0.46	0.45	0.46	0.46	0.20	0.20	0.20	0.20	7073	360	164
12		11.90	11	-0.82	0.60	0.65	4.64	1.96	0.50	0.50	0.50	0.50	6966	-1122	2203
13	2.30	12.40	11	-0.77	0.91	1.16	0.43	0.83	0.90	0.90	0.70	0.83	16097	-2350	1959
14	1.60	12.60	24	-0.68	0.68	0.67	0.78	0.71	1.00	1.00	1.00	1.00	12824	-3546	2515
15		12.50	25	-0.56	0.54	0.54	0.59	0.56	1.20	1.20	1.20	1.20	6764	-1614	905
16	0.40	12.50	15	-0.33	0.36	0.28	0.45	0.36	1.50	1.50	1.50	1.50	8149	-693	251
17	-0.15	12.20	96	-0.44	0.51	0.41	0.42	0.45	1.00	1.00	1.00	1.00	6363	-2773	1246
18	-0.45	11.20	177	-0.90	0.25	0.23	0.21	0.23	1.00	1.00	1.00	1.00	5694	-294	67
19	-0.20	10.90	187	1.09	0.28	0.31	0.35	0.31	1.00	1.00	1.00	1.00	6632	936	294
20	0.60	10.50	182	1.06	0.46	0.52	0.59	0.52	0.90	0.90	0.90	0.90	9855	354	185

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bhola - Char Biswas	4.	Cross Section No.	:	21(b)
5.	Decca Location	:	H-11.10; F-31.70	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	03.04.91
9.	Tidal Condition	:	Spring Tide*	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
	*** : Not corrected for Reference Tide Station**						= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
700	0.00	161	0.83		8.70	151	0.78	172		1250	4.20	-316	-787	0.50	0.340	0.90
	0.50	161	0.83	0.42		151				1500	2.30	-144		5.60	0.328	0.90
	1.00	185	0.96	0.45		183				750	2.40	-77		10.70	0.650	0.90
	3.00	200	1.03	1.99		190				750	3.70	-155				
	5.00	168	0.87	1.90		196				550	3.30	-94				
	7.00	135	0.70	1.57		180										
	9.00	118	0.61	1.31		163										
	10.70	98	0.51	0.95		161										
	11.20		0.00	0.13												
800	0.00	178	0.92		10.40	159	0.95	175		1250	4.20	-267	-663	0.50	0.502	0.80
	0.50	178	0.92	0.46		159				1500	2.30	-121		5.45	0.476	0.80
	1.00	197	1.02	0.48		185				750	2.40	-65		10.40	0.674	0.80
	3.00	226	1.17	2.18		187				750	3.70	-131				
	5.00	201	1.04	2.20		181				550	3.30	-80				
	7.00	182	0.94	1.98		185										
	9.00	160	0.83	1.77		165										
	10.40	152	0.79	1.13		175										
	10.90		0.00	0.20												
900	0.00	156	0.81		9.84	180	0.93	177		1250	4.20	-136	-339	0.50	0.480	0.50
	0.50	156	0.81	0.40		180				1500	2.30	-62		5.30		
	1.00	156	0.81	0.40		170				750	2.40	-33		10.10	0.846	0.50
	3.00	237	1.22	2.03		185				750	3.70	-67				
	5.00	216	1.12	2.34		185				550	3.30	-41				

DCC

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bhola - Char Biswas	4.	Cross Section No.	:	21(b)
5.	Decca Location	:	H-11.10; F-31.70	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	03.04.91
9.	Tidal Condition	:	Spring Tide*	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
	*** : Not corrected for Reference Tide Station**						= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00	182	0.94	2.06		188										
	9.00	138	0.71	1.65		159										
	10.10	136	0.70	0.78		170										
	10.60		0.00	0.18												
1000	0.00	182	0.94		9.63	153	0.89	168		1250	4.20	-565	-1404	0.50	0.542	0.50
	0.50	182	0.94	0.47		153				1500	2.30	-257		5.40	0.536	0.50
	1.00	152	0.79	0.43		184				750	2.40	-137		10.30	0.406	0.50
	3.00	179	0.92	1.71		180				750	3.70	-276				
	5.00	211	1.09	2.01		183				550	3.30	-169				
	7.00	185	0.96	2.05		168										
	9.00	158	0.82	1.77		167										
	10.30	142	0.73	1.01		153										
	10.80		0.00	0.18												
1100	0.00	81	0.42		3.45	352	0.30	350		1250	4.20	145	360	0.50	0.462	0.20
	0.50	81	0.42	0.21		352				1500	2.30	66		5.80	0.446	0.20
	1.00	65	0.34	0.19		345				750	2.40	35		11.10	0.458	0.20
	3.00	58	0.30	0.64		355				750	3.70	71				
	5.00	50	0.26	0.56		337				550	3.30	43				
	7.00	69	0.36	0.62		354										
	9.00	49	0.25	0.61		351										
	11.10	52	0.27	0.55		354										
	11.60		0.00	0.07												
1200	0.00	211	1.09		9.71	2	0.82	11		1250	4.20	-451	-1122	0.50	0.600	0.50

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bhola - Char Biswas	4.	Cross Section No.	:	21(b)
5.	Decca Location	:	H-11.10; F-31.70	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	03.04.91
9.	Tidal Condition	:	Spring Tide*	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

*** : Not corrected for Reference Tide Station**

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0.50	211	1.09	0.54		2				1500	2.30	-205		5.95	0.654	0.50
	1.00	186	0.96	0.51		1				750	2.40	-110		11.40	4.638	0.50
	3.00	199	1.03	1.99		5				750	3.70	-221				
	5.00	157	0.81	1.84		20				550	3.30	-135				
	7.00	179	0.92	1.74		18										
	9.00	118	0.61	1.53		20										
	11.40	110	0.57	1.42		23										
	11.90		0.00	0.14												
1300	0.00	178	0.92		9.58	7	0.77	11	2.300	1250	4.20	-805	-2350	0.50	0.912	0.90
	0.50	178	0.92	0.46		7				1500	2.30	-555		6.20	1.158	0.90
	1.00	156	0.81	0.43		10				750	2.40	-287		11.90	0.430	0.70
	3.00	182	0.94	1.75		10				750	3.70	-425				
	5.00	152	0.79	1.73		12				550	3.30	-279				
	7.00	150	0.78	1.56		10										
	9.00	174	0.90	1.67		15										
	11.00	100	0.52	1.42		15										
	11.90	92	0.48	0.45		12										
	12.40		0.00	0.12												
1400	0.00	126	0.65		8.53	33	0.68	24	1.600	1250	4.20	-1258	-3546	0.50	0.682	1.00
	0.50	126	0.65	0.33		33				1500	2.30	-798		6.30	0.670	1.00
	1.00	174	0.90	0.39		27				750	2.40	-415		12.10	0.776	1.00
	3.00	120	0.62	1.52		25				750	3.70	-653				
	5.00	150	0.78	1.40		23				550	3.30	-422				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bhola - Char Biswas	4.	Cross Section No.	:	21(b)
5.	Decca Location	:	H-11.10; F-31.70	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	03.04.91
9.	Tidal Condition	:	Spring Tide*	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

*** : Not corrected for Reference Tide Station**

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00	132	0.68	1.46		22										
	9.00	148	0.76	1.45		24										
	11.00	106	0.55	1.31		18										
	12.10	91	0.47	0.56		12										
	12.60		0.00	0.12												
1500	0.00	176	0.91		7.06	35	0.56	25		1250	4.20	-649	-1614	0.50	0.544	1.20
	0.50	176	0.91	0.45		35				1500	2.30	-295		6.25	0.544	1.20
	1.00	100	0.52	0.36		25				750	2.40	-158		12.00	0.594	1.20
	3.00	110	0.57	1.09		18				750	3.70	-318				
	5.00	90	0.47	1.04		10				550	3.30	-194				
	7.00	166	0.86	1.32		20										
	9.00	84	0.44	1.29		22										
	11.00	82	0.42	0.86		33										
	12.00	112	0.58	0.50		27										
	12.50		0.00	0.15												
1600	0.00	62	0.32		4.11	0	0.33	15	0.400	1250	4.20	-268	-693	0.50	0.362	1.50
	0.50	62	0.32	0.16		0				1500	2.30	-136		6.25	0.280	1.50
	1.00	58	0.30	0.16		5				750	2.40	-72		12.00	0.446	1.50
	3.00	86	0.45	0.75		12				750	3.70	-134				
	5.00	104	0.54	0.98		17				550	3.30	-83				
	7.00	32	0.17	0.71		18										
	9.00	62	0.32	0.49		25										
	11.00	52	0.27	0.59		28										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bhola - Char Biswas	4.	Cross Section No.	:	21(b)
5.	Decca Location	:	H-11.10; F-31.70	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	03.04.91
9.	Tidal Condition	:	Spring Tide*	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

*** : Not corrected for Reference Tide Station**

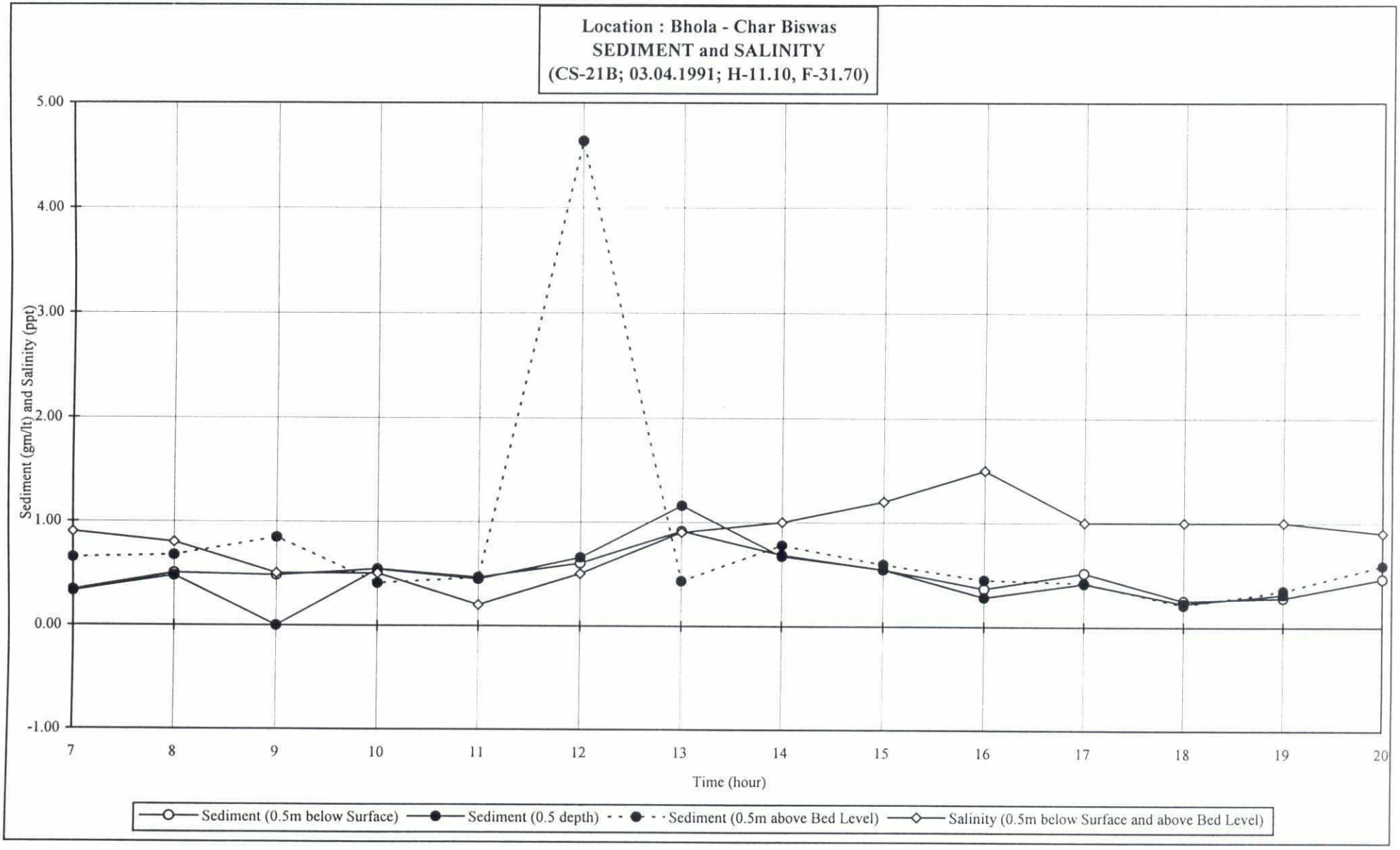
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	12.00	36	0.19	0.23		30										
	12.50		0.00	0.05												
1700	0.00	21	0.11		5.35	105	0.44	96	-0.150	1250	4.20	-1135	-2773	0.50	0.514	1.00
	0.50	21	0.11	0.06		105				1500	2.30	-490		6.10	0.414	1.00
	1.00	82	0.42	0.13		102				750	2.40	-264		11.70	0.420	1.00
	3.00	104	0.54	0.96		100				750	3.70	-551				
	5.00	108	0.56	1.10		98				550	3.30	-333				
	7.00	100	0.52	1.08		97										
	9.00	84	0.44	0.95		99										
	11.00	64	0.33	0.77		82										
	11.70	61	0.32	0.23		80										
	12.20		0.00	0.08												
1800	0.00	154	0.80		10.04	165	0.90	177	-0.450	1250	4.20	-125	-294	0.50	0.252	1.00
	0.50	154	0.80	0.40		165				1500	2.30	-48		5.60	0.226	1.00
	1.00	200	1.03	0.46		173				750	2.40	-26		10.70	0.210	1.00
	3.00	208	1.07	2.11		177				750	3.70	-60				
	5.00	198	1.02	2.10		185				550	3.30	-35				
	7.00	188	0.97	1.99		183										
	9.00	150	0.78	1.75		180										
	10.70	102	0.53	1.11		185										
	11.20		0.00	0.13												
1900	0.00	250	1.29		11.86	180	1.09	187	-0.200	1250	4.20	385	936	0.50	0.280	1.00
	0.50	250	1.29	0.65		180				1500	2.30	164		5.45	0.314	1.00

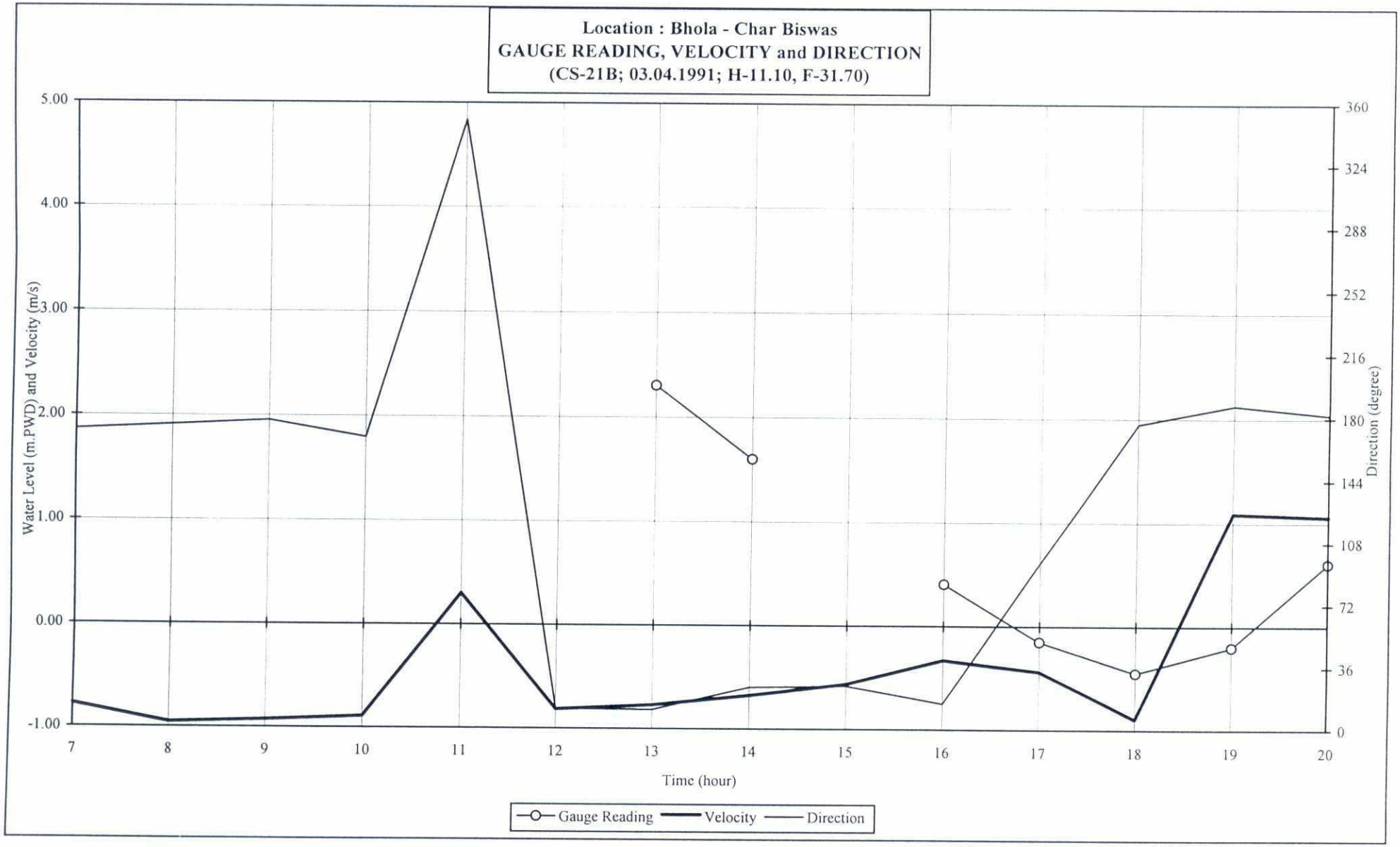
DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bhola - Char Biswas	4.	Cross Section No.	:	21(b)
5.	Decca Location	:	H-11.10; F-31.70	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	03.04.91
9.	Tidal Condition	:	Spring Tide*	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

*** : Not corrected for Reference Tide Station**

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	261	1.35	0.66		191				750	2.40	88		10.40	0.348	1.00
	3.00	257	1.33	2.67		192				750	3.70	186				
	5.00	244	1.26	2.59		188				550	3.30	112				
	7.00	195	1.01	2.27		192										
	9.00	151	0.78	1.79		191										
	10.40	142	0.73	1.06		185										
	10.90		0.00	0.18												
2000	0.00	197	1.02		11.11	178	1.06	182	0.600	1250	4.20	135	354	0.50	0.460	0.90
	0.50	197	1.02	0.51		178				1500	2.30	72		5.25	0.518	0.90
	1.00	223	1.15	0.54		176				750	2.40	38		10.00	0.588	0.90
	3.00	222	1.15	2.30		185				750	3.70	68				
	5.00	227	1.17	2.32		198				550	3.30	42				
	7.00	207	1.07	2.24		189										
	9.00	189	0.98	2.05		175										
	10.00	172	0.89	0.93		176										
	10.50		0.00	0.22												


Location : Bhola - Char Biswas
SEDIMENT and SALINITY
(CS-21B; 03.04.1991; H-11.10, F-31.70)
Sediment (gm/lt) and Salinity (ppt)
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
7
8
9
10
11
12
13
14
15
16
17
18
19
20
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface and above Bed Level)


Location : Bhola - Char Biswas
GAUGE READING, VELOCITY and DIRECTION
(CS-21B; 03.04.1991; H-11.10, F-31.70)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
360
324
288
252
216
180
144
108
72
36
0
7
8
9
10
11
12
13
14
15
16
17
18
19
20
Time (hour)
Gauge Reading
Velocity
Direction

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bhola - Char Biswas	4.	Cross Section No.	:	21(b)
5.	Decca Location	:	H-11.10; F-31.70	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	04.04.91
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	m	14.	X-section Direction	:	degrees
15.	Reference Tide Range	:	m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5	0.00	11.80	138	0.47	0.07	0.07	0.06	0.06	1.00	1.00	1.00	1.00	7001	-2206	143
6	0.00	11.40	199	0.95	0.11	0.13	0.15	0.13	0.80	0.80	0.80	0.80	7147	2178	280
7	0.00	11.00	183	1.00	0.27	0.28	0.28	0.28	0.80	0.80	0.80	0.80	7301	393	109
8	0.00	10.70	179	0.97	0.43	0.47	0.52	0.47	0.50	0.50	0.50	0.50	7423	-164	78
9	0.00	10.50	175	0.88	0.49	0.46	0.50	0.48	0.50	0.50	0.50	0.50	7507	-522	251
10	0.00	10.40	175	0.89	0.56	0.52	0.54	0.54	0.20	0.20	0.20	0.20	7550	-590	319
11	0.00	11.00	68	0.25	1.18	1.08	1.47	1.24	0.10	0.10	0.10	0.10	7301	-1669	2070
12	0.00	11.80	22	0.79	0.28	0.39	0.43	0.37	0.20	0.20	0.20	0.20	7001	-2093	766
13	0.00	12.00	28	0.75	0.39	0.44	0.53	0.45	0.50	0.50	0.50	0.50	6931	-2418	1098
14	0.00	12.30	24	0.78	0.56	0.45	0.74	0.58	0.80	0.80	0.80	0.80	6830	-2147	1253
15	0.00	12.30	6	0.56	0.48	0.42	0.49	0.46	1.00	1.00	1.00	1.00	6830	-384	178
16	0.00	12.50	33	0.50	0.21	0.50	1.53	0.74	1.00	1.00	1.00	1.00	6764	-1839	1370
17	0.00	12.00	72	0.26	0.24	0.25	0.94	0.48	1.10	1.10	1.10	1.10	6931	-1742	829
18	0.00	11.20	162	0.77	0.20	0.22	1.03	0.48	1.10	1.10	1.10	1.10	7223	-1691	818

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bhola - Char Biswas	4.	Cross Section No.	:	21(b)
5.	Decca Location	:	H-11.10; F-31.70	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	04.04.91
9.	Tidal Condition	:	Neap Tide*	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

*** : Not corrected for Reference Tide Station**

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
500	0.00	44	0.23		5.55	125	0.47	138		1250	4.20	-887	-2206	0.50	0.070	1.00
	0.50	44	0.23	0.11		125				1500	2.30	-403		5.90	0.066	1.00
	1.00	56	0.29	0.13		127				750	2.40	-216		11.30	0.058	1.00
	3.00	110	0.57	0.86		130				750	3.70	-434				
	5.00	108	0.56	1.13		137				550	3.30	-265				
	7.00	104	0.54	1.10		140										
	9.00	98	0.51	1.05		150										
	11.00	84	0.44	0.94		152										
	11.30	81	0.42	0.13		155										
	11.80		0.00	0.11												
600	0.00	214	1.11		10.83	195	0.95	199		1250	4.20	876	2178	0.50	0.108	0.80
	0.50	214	1.11	0.55		195				1500	2.30	398		5.70	0.132	0.80
	1.00	210	1.08	0.55		205				750	2.40	213		10.90	0.146	0.80
	3.00	212	1.09	2.18		205				750	3.70	429				
	5.00	200	1.03	2.13		198				550	3.30	261				
	7.00	170	0.88	1.91		198										
	9.00	168	0.87	1.75		195										
	10.90	152	0.79	1.57		198										
	11.40		0.00	0.20												
700	0.00	200	1.03		11.03	177	1.00	183		1250	4.20	158	393	0.50	0.270	0.80
	0.50	200	1.03	0.52		177				1500	2.30	72		5.50	0.280	0.80
	1.00	216	1.12	0.54		179				750	2.40	38		10.50	0.282	0.80
	3.00	224	1.16	2.27		185				750	3.70	77				
	5.00	215	1.11	2.27		193				550	3.30	47				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bhola - Char Biswas	4.	Cross Section No.	:	21(b)
5.	Decca Location	:	H-11.10; F-31.70	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	04.04.91
9.	Tidal Condition	:	Neap Tide*	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
	*** : Not corrected for Reference Tide Station**						= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00	196	1.01	2.12		193										
	9.00	168	0.87	1.88		180										
	10.50	152	0.79	1.24		180										
	11.00		0.00	0.20												
800	0.00	198	1.02		10.40	190	0.97	179		1250	4.20	-66	-164	0.50	0.430	0.50
	0.50	198	1.02	0.51		190				1500	2.30	-30		5.35	0.472	0.50
	1.00	176	0.91	0.48		200				750	2.40	-16		10.20	0.516	0.50
	3.00	226	1.17	2.08		177				750	3.70	-32				
	5.00	210	1.08	2.25		185				550	3.30	-20				
	7.00	199	1.03	2.11		160										
	9.00	167	0.86	1.89		157										
	10.20	126	0.65	0.91		170										
	10.70		0.00	0.16												
900	0.00	169	0.87		9.20	170	0.88	175		1250	4.20	-210	-522	0.50	0.486	0.50
	0.50	169	0.87	0.44		170				1500	2.30	-96		5.25	0.460	0.50
	1.00	164	0.85	0.43		185				750	2.40	-51		10.00	0.498	0.50
	3.00	212	1.09	1.94		166				750	3.70	-103				
	5.00	188	0.97	2.07		177				550	3.30	-63				
	7.00	165	0.85	1.82		177										
	9.00	150	0.78	1.63		173										
	10.00	126	0.65	0.71		185										
	10.50		0.00	0.16												
1000	0.00	172	0.89		9.22	180	0.89	175		1250	4.20	-237	-590	0.50	0.562	0.20
	0.50	172	0.89	0.44		180				1500	2.30	-108		5.20	0.524	0.20

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bhola - Char Biswas	4.	Cross Section No.	:	21(b)
5.	Decca Location	:	H-11.10; F-31.70	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	04.04.91
9.	Tidal Condition	:	Neap Tide*	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
	*** : Not corrected for Reference Tide Station**						= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	191	0.99	0.47		192				750	2.40	-58		9.90	0.536	0.20
	3.00	201	1.04	2.02		179				750	3.70	-116				
	5.00	193	1.00	2.03		160				550	3.30	-71				
	7.00	161	0.83	1.83		166										
	9.00	145	0.75	1.58		173										
	9.90	138	0.71	0.66		169										
	10.40		0.00	0.18												
1100	0.00	20	0.11		2.71	110	0.25	68		1250	4.20	-671	-1669	0.50	1.176	0.10
	0.50	20	0.11	0.05		110				1500	2.30	-305		5.50	1.080	0.10
	1.00	27	0.14	0.06		100				750	2.40	-163		10.50	1.466	0.10
	3.00	61	0.32	0.46		75				750	3.70	-328				
	5.00	65	0.34	0.65		55				550	3.30	-200				
	7.00	59	0.31	0.64		30										
	9.00	39	0.20	0.51		28										
	10.50	35	0.18	0.29		35										
	11.00		0.00	0.05												
1200	0.00	182	0.94		9.28	40	0.79	22		1250	4.20	-842	-2093	0.50	0.282	0.20
	0.50	182	0.94	0.47		40				1500	2.30	-383		5.90	0.388	0.20
	1.00	191	0.99	0.48		26				750	2.40	-205		11.30	0.428	0.20
	3.00	135	0.70	1.68		28				750	3.70	-412				
	5.00	142	0.73	1.43		21				550	3.30	-251				
	7.00	150	0.78	1.51		14										
	9.00	151	0.78	1.56		12										
	11.00	168	0.87	1.65		12										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bhola - Char Biswas	4.	Cross Section No.	:	21(b)
5.	Decca Location	:	H-11.10; F-31.70	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	04.04.91
9.	Tidal Condition	:	Neap Tide*	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
	*** : Not corrected for Reference Tide Station**						= 0.2577n + 0.0021 0.33 < n < 4.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	11.30	178	0.92	0.27		8										
	11.80		0.00	0.23												
1300	0.00	125	0.65		8.95	25	0.75	28		1250	4.20	-973	-2418	0.50	0.392	0.50
	0.50	125	0.65	0.32		25				1500	2.30	-442		6.00	0.440	0.50
	1.00	122	0.63	0.32		26				750	2.40	-237		11.50	0.530	0.50
	3.00	177	0.91	1.55		30				750	3.70	-476				
	5.00	175	0.90	1.82		33				550	3.30	-290				
	7.00	157	0.81	1.72		25										
	9.00	145	0.75	1.56		29										
	11.00	102	0.53	1.28		25										
	11.50	99	0.51	0.26		33										
	12.00		0.00	0.13												
1400	0.00	187	0.97		9.59	29	0.78	24		1250	4.20	-864	-2147	0.50	0.564	0.80
	0.50	187	0.97	0.48		29				1500	2.30	-393		6.15	0.450	0.80
	1.00	134	0.69	0.41		30				750	2.40	-210		11.80	0.736	0.80
	3.00	166	0.86	1.55		16				750	3.70	-423				
	5.00	175	0.90	1.76		21				550	3.30	-258				
	7.00	145	0.75	1.65		21										
	9.00	157	0.81	1.56		17										
	11.00	125	0.65	1.46		24										
	11.80	133	0.69	0.53		27										
	12.30		0.00	0.17												
1500	0.00	104	0.54		6.86	3	0.56	6		1250	4.20	-154	-384	0.50	0.476	1.00
	0.50	104	0.54	0.27		3				1500	2.30	-70		6.15	0.424	1.00

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bhola - Char Biswas	4.	Cross Section No.	:	21(b)
5.	Decca Location	:	H-11.10; F-31.70	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	04.04.91
9.	Tidal Condition	:	Neap Tide*	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

*** : Not corrected for Reference Tide Station**

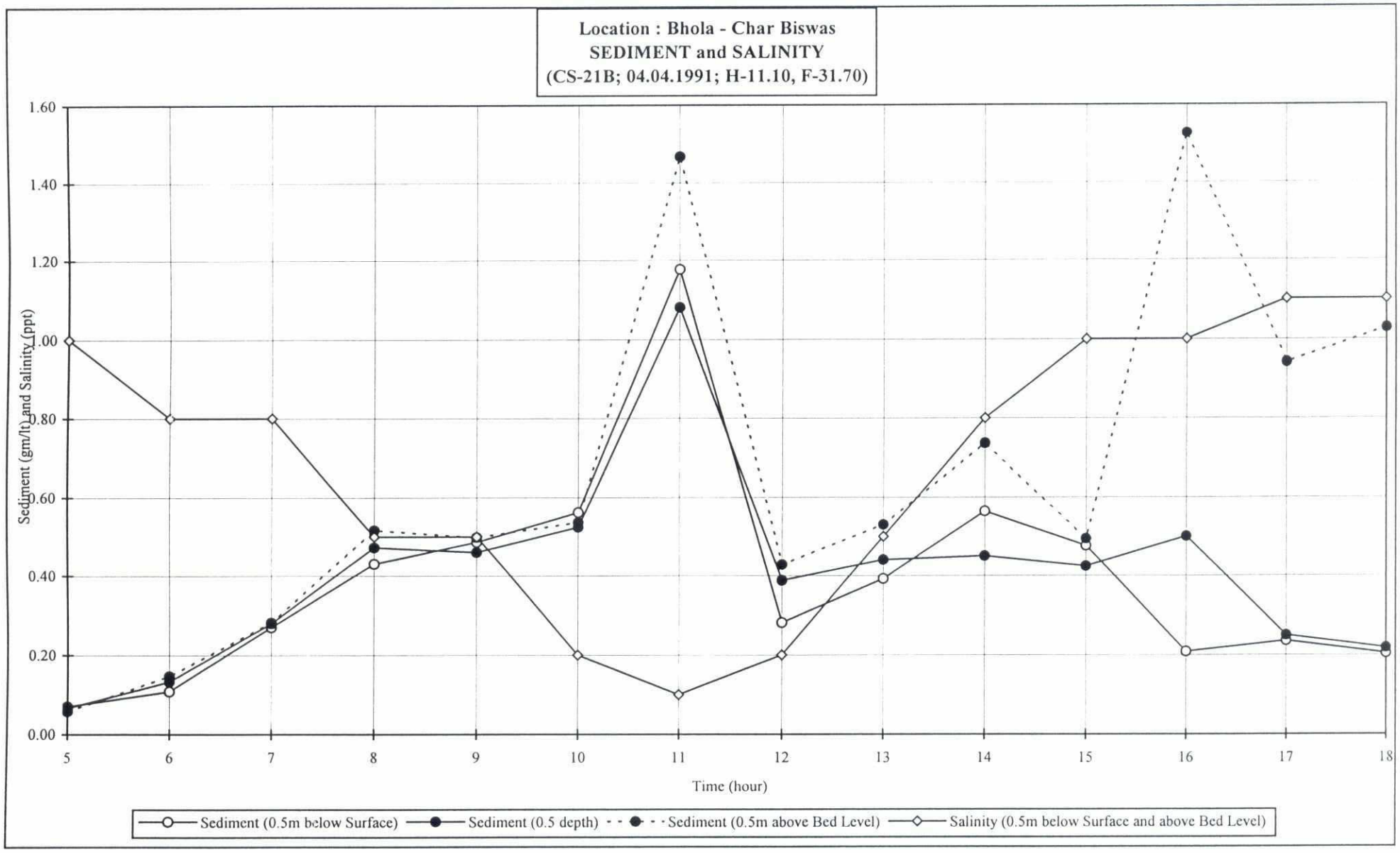
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	158	0.82	0.34		0				750	2.40	-38		11.80	0.494	1.00
	3.00	110	0.57	1.39		3				750	3.70	-76				
	5.00	102	0.53	1.10		5				550	3.30	-46				
	7.00	126	0.65	1.18		8										
	9.00	108	0.56	1.21		10										
	11.00	76	0.39	0.95		10										
	11.80	80	0.41	0.32		10										
	12.30		0.00	0.10												
1600	0.00	62	0.32		6.26	17	0.50	33		1250	4.20	-740	-1839	0.50	0.208	1.00
	0.50	62	0.32	0.16		17				1500	2.30	-336		6.25	0.500	1.00
	1.00	71	0.37	0.17		20				750	2.40	-180		12.00	1.526	1.00
	3.00	78	0.40	0.77		35				750	3.70	-362				
	5.00	108	0.56	0.96		35				550	3.30	-221				
	7.00	144	0.74	1.30		37										
	9.00	70	0.36	1.11		40										
	11.00	120	0.62	0.98		45										
	12.00	125	0.65	0.63		50										
	12.50		0.00	0.16												
1700	0.00	52	0.27		3.17	92	0.26	72		1250	4.20	-701	-1742	0.50	0.236	1.10
	0.50	52	0.27	0.14		92				1500	2.30	-319		6.00	0.250	1.10
	1.00	42	0.22	0.12		90				750	2.40	-171		11.50	0.942	1.10
	3.00	42	0.22	0.44		80				750	3.70	-343				
	5.00	49	0.25	0.47		70				550	3.30	-209				
	7.00	64	0.33	0.59		60										

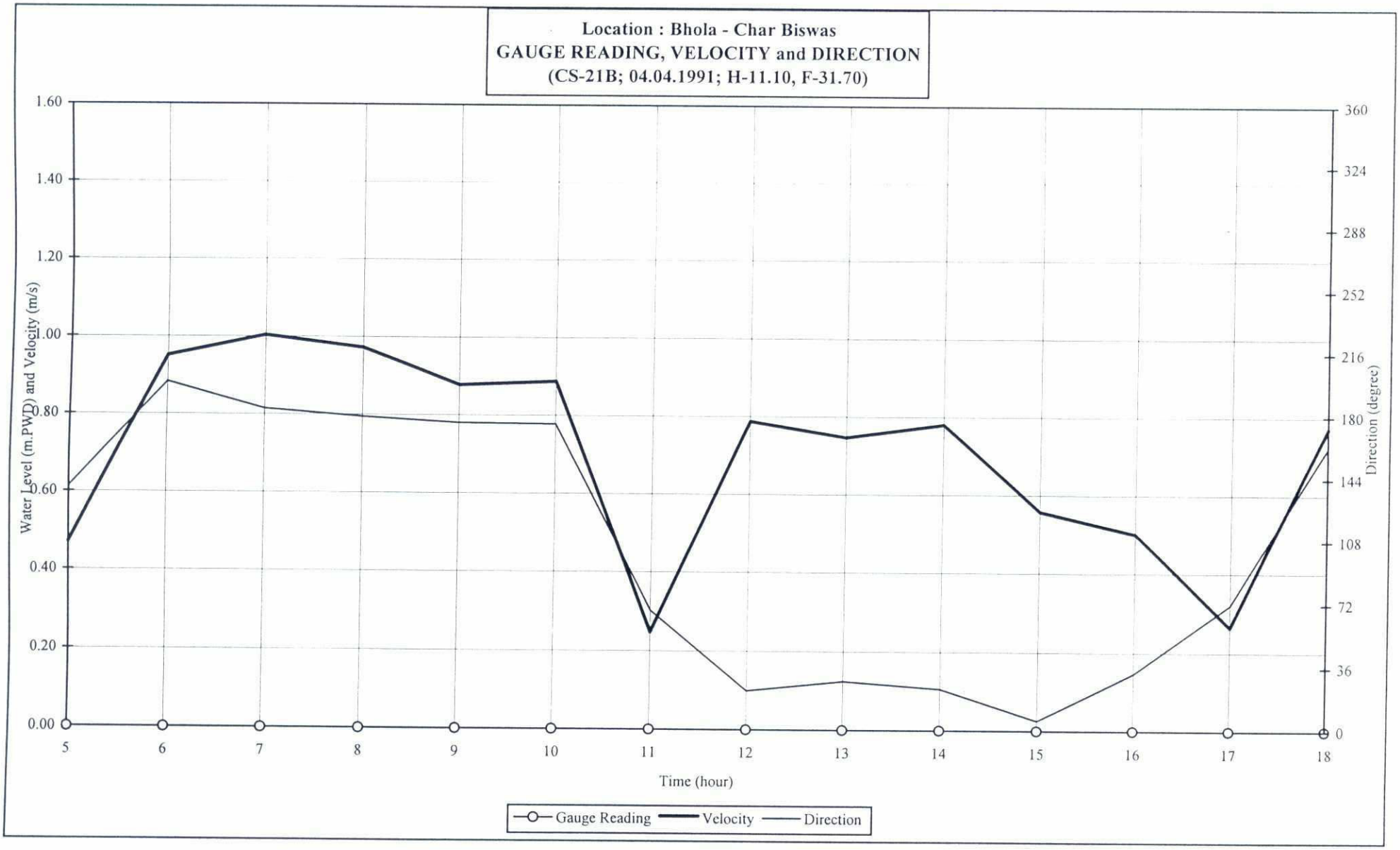
DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Bhola - Char Biswas	4.	Cross Section No.	:	21(b)
5.	Decca Location	:	H-11.10; F-31.70	6.	Reference File Name	:	8(1990-91)/D/SSD
7.	Season	:	Premonsoon	8.	Date	:	04.04.91
9.	Tidal Condition	:	Neap Tide*	10.	Gauge used	:	Dasmoina
11.	Current Meter No.	:	A-OTT. No.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.2526n + 0.0038 n < 0.33
							= 0.2577n + 0.0021 0.33 < n < 4.66

*** : Not corrected for Reference Tide Station**

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	9.00	68	0.35	0.68		60										
	11.00	42	0.22	0.57		55										
	11.50	40	0.21	0.11		50										
	12.00		0.00	0.05												
1800	0.00	138	0.71		8.63	165	0.77	162		1250	4.20	-680	-1691	0.50	0.204	1.10
	0.50	138	0.71	0.36		165				1500	2.30	-309		5.60	0.218	1.10
	1.00	149	0.77	0.37		165				750	2.40	-166		10.70	1.028	1.10
	3.00	142	0.73	1.50		163				750	3.70	-333				
	5.00	168	0.87	1.60		165				550	3.30	-203				
	7.00	179	0.92	1.79		160										
	9.00	150	0.78	1.70		160										
	10.70	114	0.59	1.16		155										
	11.20		0.00	0.15												


Location : Bhola - Char Biswas
SEDIMENT and SALINITY
(CS-21B; 04.04.1991; H-11.10, F-31.70)
Sediment (gm/lt) and Salinity (ppt)
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface and above Bed Level)


Location : Bhola - Char Biswas
GAUGE READING, VELOCITY and DIRECTION
(CS-21B; 04.04.1991; H-11.10, F-31.70)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
360
324
288
252
216
180
144
108
72
36
0
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Gauge Reading
Velocity
Direction

302

1992

Cross Section CS-Ilisha

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ilisha - Ramdaspur	4.	Cross Section No.	:	Ilisha - Ramdaspur
5.	Decca Location	:	D-12.65; C-45.35	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	22.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Ramdaspur
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.38 m	14.	X-section Direction	:	6 degrees
15.	Reference Tide Range	:	1.29 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
10	0.85	5.40	145	-0.27	0.04	0.05	0.03	0.04	0.10	0.12	0.12	0.11	2996	-544	24
11	0.68	5.10	151	-0.26	0.03	0.05	0.03	0.04	0.16	0.20	0.20	0.19	2881	-432	15
12	0.78	4.80	131	-0.11	0.05	0.03	0.04	0.04	0.20	0.16	0.16	0.17	3123	-282	11
13	1.06	5.60	286	0.12	0.10	0.10	0.06	0.09	0.17	0.18	0.12	0.16	3201	377	33
14	1.58	6.70	297	0.25	0.02	0.05	0.04	0.04	0.22	0.18	0.17	0.19	3516	813	29
15	1.79	7.40	304	0.38	0.07	0.02	0.05	0.04	0.18	0.14	0.20	0.17	3573	1189	53
16	1.96	7.60	310	0.35	0.02	0.06	0.07	0.05	0.16	0.16	0.16	0.16	3730	1080	53
17	1.95	7.30	305	0.21	0.01	0.01	0.01	0.01	0.17	0.14	0.15	0.15	3809	703	7
18	1.67	6.20	168	-0.05	0.02	0.03	0.02	0.02	0.18	0.16	0.20	0.18	3808	-57	1
19	1.32	5.50	173	-0.10	0.01	0.03	0.02	0.02	0.16	0.16	0.10	0.14	3590	-84	2
20	1.03	5.30	147	-0.12	0.03	0.02	0.01	0.02	0.12	0.12	0.14	0.13	3268	-254	4
21	0.85	4.90	139	-0.17	0.02	0.01	0.01	0.01	0.11	0.12	0.12	0.12	3178	-384	6
22	0.68	4.80	130	-0.23	0.01	0.02	0.01	0.01	0.20	0.20	0.02	0.14	2989	-571	7
23	0.58	4.60	131	-0.24	0.02	0.02	0.01	0.01	0.16	0.16	0.18	0.17	2934	-574	8

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ilisha - Ramdaspur	4.	Cross Section No.	:	Ilisha - Ramdaspur
5.	Decca Location	:	D-12.65; C-45.35	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	22.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Ramdaspur
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.38 m	14.	X-section Direction	:	6 degrees
15.	Reference Tide Range	:	1.29 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1000	0.00	63	0.33		1.48	145	0.27	145	0.850	270	-0.20	-8	-544	0.50	0.044	0.10
	0.50	63	0.33	0.16		145				230	1.50	-55		2.70	0.052	0.12
	1.00	58	0.30	0.16		148				200	2.40	-81		4.90	0.034	0.12
	3.00	56	0.29	0.59		145				350	4.10	-279				
	4.90	47	0.24	0.51		140				180	3.60	-121				
	5.40		0.00	0.06												
1100	0.00	65	0.34		1.34	155	0.26	151	0.680	270	-0.20	-4	-432	0.50	0.032	0.16
	0.50	65	0.34	0.17		155				230	1.50	-42		2.55	0.048	0.20
	1.00	62	0.32	0.16		153				200	2.40	-63		4.60	0.026	0.20
	3.00	49	0.25	0.58		150				350	4.10	-225				
	4.60	42	0.22	0.38		147				180	3.60	-97				
	5.10		0.00	0.06												
1200	0.00	26	0.14		0.53	135	0.11	131	0.780	270	-0.20	-4	-282	0.50	0.050	0.20
	0.50	26	0.14	0.07		135				230	1.50	-28		2.40	0.032	0.16
	1.00	30	0.16	0.07		135				200	2.40	-42		4.30	0.040	0.16
	3.00	16	0.08	0.24		130				350	4.10	-146				
	4.50	18	0.09	0.13		125				180	3.60	-63				
	4.80		0.00	0.01												
1300	0.00	13	0.07		0.67	295	0.12	286	1.060	270	-0.20	8	377	0.50	0.104	0.17
	0.50	13	0.07	0.03		295				230	1.50	40		2.80	0.098	0.18
	1.00	14	0.07	0.04		285				200	2.40	57		5.10	0.060	0.12
	3.00	34	0.18	0.25		280				350	4.10	189				
	5.00	25	0.13	0.31		285				180	3.60	83				
	5.60		0.00	0.04												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ilisha - Ramdaspur	4.	Cross Section No.	:	Ilisha - Ramdaspur
5.	Decca Location	:	D-12.65; C-45.35	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	22.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Ramdaspur
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.38 m	14.	X-section Direction	:	6 degrees
15.	Reference Tide Range	:	1.29 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1400	0.00	58	0.30		1.66	290	0.25	297	1.580	270	-0.20	31	813	0.50	0.020	0.22
	0.50	58	0.30	0.15		290				230	1.50	95		3.35	0.052	0.18
	1.00	51	0.26	0.14		295				200	2.40	125		6.20	0.036	0.17
	3.00	54	0.28	0.55		300				350	4.10	389				
	5.00	46	0.24	0.52		300				180	3.60	172				
	6.20	36	0.19	0.26		300										
	6.70		0.00	0.05												
1500	0.00	78	0.40		2.80	285	0.38	304	1.790	270	-0.20	52	1189	0.50	0.066	0.18
	0.50	78	0.40	0.20		285				230	1.50	144		3.70	0.016	0.14
	1.00	74	0.38	0.20		285				200	2.40	185		6.90	0.052	0.20
	3.00	83	0.43	0.81		310				350	4.10	559				
	5.00	79	0.41	0.84		320				180	3.60	249				
	6.90	58	0.30	0.67		322										
	7.40		0.00	0.08												
1600	0.00	74	0.38		2.66	315	0.35	310	1.960	270	-0.20	53	1080	0.50	0.024	0.16
	0.50	74	0.38	0.19		315				230	1.50	134		3.80	0.058	0.16
	1.00	81	0.42	0.20		315				200	2.40	169		7.10	0.066	0.16
	3.00	80	0.41	0.83		307				350	4.10	501				
	5.00	67	0.35	0.76		305				180	3.60	224				
	7.10	45	0.23	0.61		303										
	7.60		0.00	0.06												
1700	0.00	54	0.28		1.54	305	0.21	305	1.950	270	-0.20	34	703	0.50	0.008	0.17
	0.50	54	0.28	0.14		305				230	1.50	87		3.65	0.010	0.14
	1.00	57	0.30	0.14		305				200	2.40	110		6.80	0.012	0.15

DISCHARGE MEASUREMENT

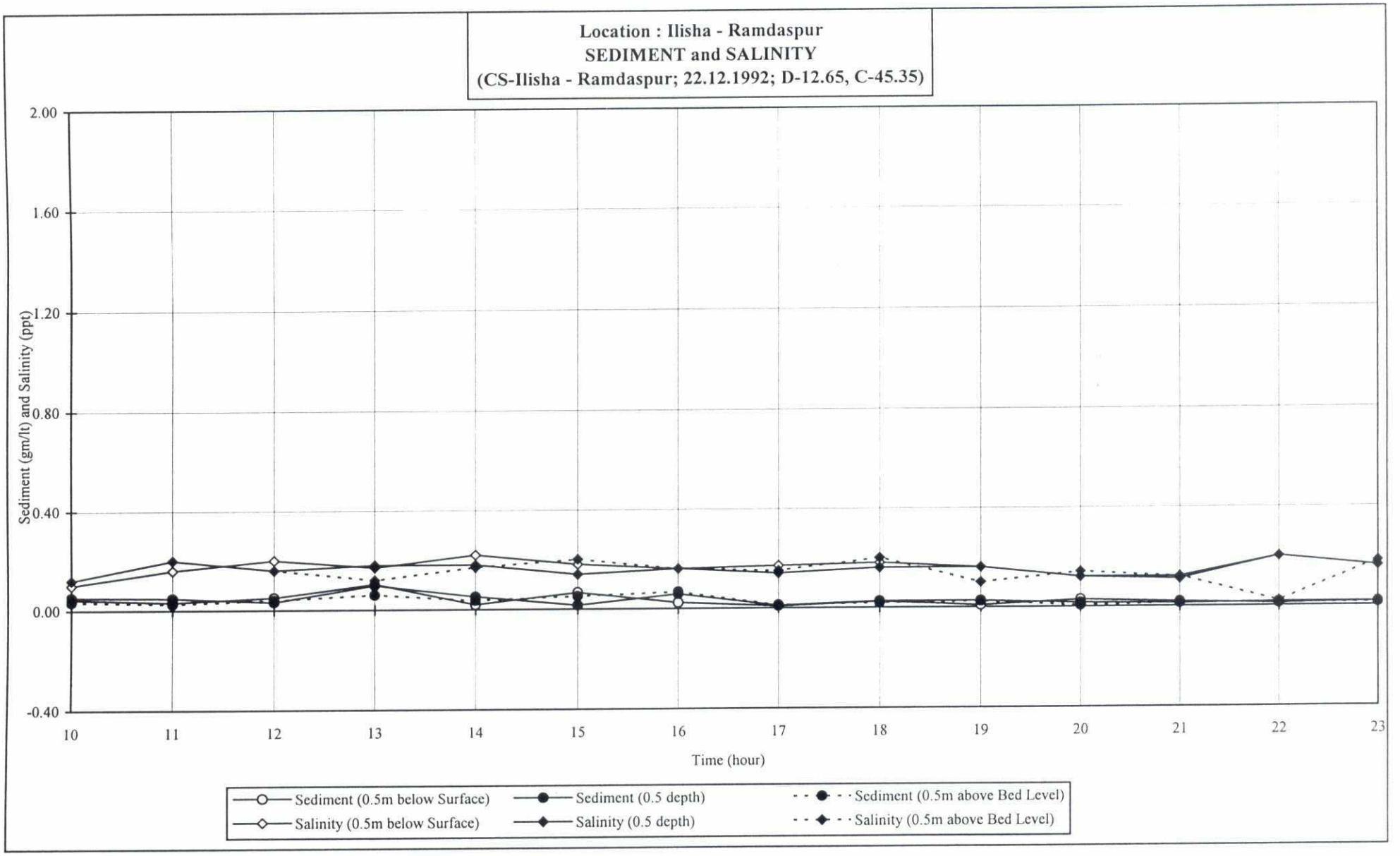
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ilisha - Ramdaspur	4.	Cross Section No.	:	Ilisha - Ramdaspur
5.	Decca Location	:	D-12.65; C-45.35	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	22.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Ramdaspur
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.38 m	14.	X-section Direction	:	6 degrees
15.	Reference Tide Range	:	1.29 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

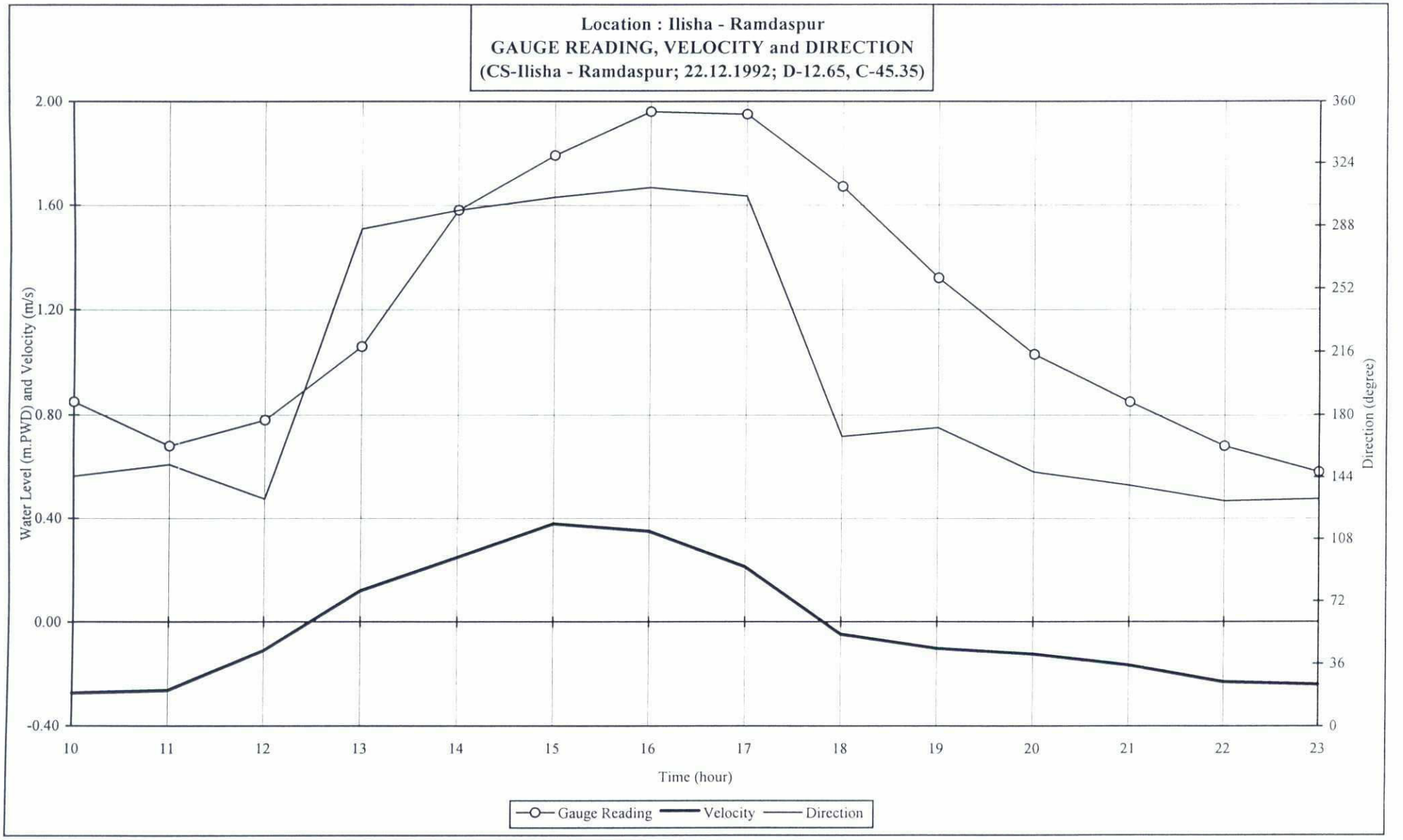
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	3.00	42	0.22	0.51		305				350	4.10	326				
	5.00	36	0.19	0.41		305				180	3.60	146				
	6.80	28	0.15	0.30		305										
	7.30		0.00	0.04												
1800	0.00	4	0.02		0.29	165	0.05	168	1.670	270	-0.20	-2	-57	0.50	0.024	0.18
	0.50	4	0.02	0.01		165				230	1.50	-7		3.10	0.026	0.16
	1.00	6	0.03	0.01		165				200	2.40	-9		5.70	0.018	0.20
	3.00	13	0.07	0.10		164				350	4.10	-27				
	5.00	9	0.05	0.12		174				180	3.60	-12				
	5.70	8	0.04	0.03		172										
	6.20		0.00	0.01												
1900	0.00	14	0.07		0.56	175	0.10	173	1.320	270	-0.20	-2	-84	0.50	0.008	0.16
	0.50	14	0.07	0.04		175				230	1.50	-9		2.75	0.026	0.16
	1.00	18	0.09	0.04		170				200	2.40	-13		5.00	0.024	0.10
	3.00	23	0.12	0.22		173				350	4.10	-41				
	5.00	22	0.12	0.24		170				180	3.60	-18				
	5.50		0.00	0.03												
2000	0.00	24	0.13		0.66	150	0.12	147	1.030	270	-0.20	-5	-254	0.50	0.028	0.12
	0.50	24	0.13	0.06		150				230	1.50	-27		2.65	0.016	0.12
	1.00	25	0.13	0.06		150				200	2.40	-38		4.80	0.006	0.14
	3.00	29	0.15	0.28		140				350	4.10	-128				
	4.80	18	0.09	0.22		145				180	3.60	-56				
	5.30		0.00	0.02												
2100	0.00	34	0.18		0.81	142	0.17	139	0.850	270	-0.20	-6	-384	0.50	0.018	0.11

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Ilisha - Ramdaspur	4.	Cross Section No.	:	Ilisha - Ramdaspur
5.	Decca Location	:	D-12.65; C-45.35	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	22.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Ramdaspur
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.38 m	14.	X-section Direction	:	6 degrees
15.	Reference Tide Range	:	1.29 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0.50	34	0.18	0.09		142				230	1.50	-39		2.45	0.012	0.12
	1.00	35	0.18	0.09		132				200	2.40	-57		4.40	0.014	0.12
	3.00	33	0.17	0.35		135				350	4.10	-197				
	4.40	32	0.17	0.24		145				180	3.60	-85				
	4.90		0.00	0.04												
2200	0.00	48	0.25		1.11	130	0.23	130	0.680	270	-0.20	-6	-571	0.50	0.010	0.20
	0.50	48	0.25	0.12		130				230	1.50	-55		2.40	0.016	0.20
	1.00	52	0.27	0.13		130				200	2.40	-84		4.30	0.012	0.02
	3.00	47	0.24	0.51		130				350	4.10	-298				
	4.30	38	0.20	0.29		130				180	3.60	-128				
	4.80		0.00	0.05												
2300	0.00	50	0.26		1.10	130	0.24	131	0.580	270	-0.20	-4	-574	0.50	0.016	0.16
	0.50	50	0.26	0.13		130				230	1.50	-54		2.30	0.016	0.16
	1.00	52	0.27	0.13		130				200	2.40	-84		4.10	0.012	0.18
	3.00	48	0.25	0.52		133				350	4.10	-303				
	4.10	44	0.23	0.26		133				180	3.60	-130				
	4.60		0.00	0.06												


Location : Ilisha - Ramdaspur
SEDIMENT and SALINITY
(CS-Ilisha - Ramdaspur; 22.12.1992; D-12.65, C-45.35)
Sediment (gm/lt) and Salinity (ppt)
2.00
1.60
1.20
0.80
0.40
0.00
-0.40
10
11
12
13
14
15
16
17
18
19
20
21
22
23
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)


Location : Ilisha - Ramdaspur
GAUGE READING, VELOCITY and DIRECTION
(CS-Ilisha - Ramdaspur; 22.12.1992; D-12.65, C-45.35)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
2.00
1.60
1.20
0.80
0.40
0.00
-0.40
360
324
288
252
216
180
144
108
72
36
0
10
11
12
13
14
15
16
17
18
19
20
21
22
23
Time (hour)
Gauge Reading
Velocity
Direction

Cross Section CS-10, 19, 20

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	19.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.13 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	1.13 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	0.61	15.50	192	-0.92	0.02	0.06	0.03	0.04	0.02	0.02	0.04	0.03	27633	-17740	627
4	0.38	15.40	197	-0.96	0.06	0.02	0.02	0.03	0.00	0.04	0.04	0.03	26507	-15839	528
5	0.22	15.20	186	-1.00	0.02	0.05	0.04	0.04	0.02	0.04	0.03	0.03	25881	-19748	737
6	0.08	15.00	191	-1.14	0.03	0.10	0.12	0.08	0.02	0.02	0.04	0.03	25367	-20316	1707
7	0.11	14.80	188	-1.02	0.06	0.06	0.11	0.08	0.04	0.03	0.04	0.04	25725	-19579	1488
8	0.39	14.60	182	-0.57	0.09	0.23	0.11	0.15	0.03	0.06	0.08	0.06	27417	-12635	1836
9	0.81	14.60	178	-0.07	0.02	0.12	0.09	0.07	0.08	0.12	0.12	0.11	29779	-1812	135
10	1.08	14.80	356	0.22	0.02	0.07	0.04	0.04	0.22	0.14	0.16	0.17	31122	5957	258
11	1.21	15.00	350	0.42	0.01	0.01	0.01	0.01	0.00	0.04	0.04	0.03	31650	12183	171
12	1.16	15.20	350	0.27	0.02	0.07	0.04	0.04	0.00	0.04	0.03	0.02	31104	7593	314
13	0.93	15.20	190	-0.14	0.01	0.02	0.02	0.02	0.03	0.10	0.10	0.08	29759	-3120	50
14	0.66	15.00	186	-0.46	0.01	0.03	0.06	0.03	0.14	0.10	0.14	0.13	28456	-10008	320
15	0.48	14.80	188	-0.83	0.02	0.06	0.11	0.06	0.10	0.08	0.08	0.09	27684	-16982	1098
16	0.27	14.60	184	-1.01	0.06	0.07	0.13	0.09	0.06	0.02	0.06	0.05	26773	-21449	1873

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	19.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.13 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	1.13 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
330	0.00	181	0.93		14.25	190	0.92	192	0.610	900	-0.30	-16	-17740	0.50	0.024	0.02
	0.50	181	0.93	0.47		190				1250	1.60	-546		7.80	0.056	0.02
	1.00	185	0.96	0.47		190				1250	2.80	-1099		15.10	0.026	0.04
	3.00	202	1.04	2.00		192				1000	4.50	-1685				
	5.00	198	1.02	2.07		192				1000	13.50	-8566				
	7.00	185	0.96	1.98		200				1300	8.80	-5829				
	9.00	178	0.92	1.88		200										
	11.00	148	0.76	1.68		188										
	13.00	194	1.00	1.77		188										
	15.10	138	0.71	1.80		185										
	15.50		0.00	0.14												
430	0.00	207	1.07		14.78	198	0.96	197	0.380	900	-0.30	-2	-15839	0.50	0.058	0.00
	0.50	207	1.07	0.53		198				1250	1.60	-427		7.70	0.018	0.04
	1.00	211	1.09	0.54		198				1250	2.80	-917		14.90	0.024	0.04
	3.00	219	1.13	2.22		195				1000	4.50	-1462				
	5.00	210	1.08	2.22		200				1000	13.50	-7796				
	7.00	204	1.05	2.14		200				1300	8.80	-5235				
	9.00	196	1.01	2.07		195										
	11.00	161	0.83	1.84		195										
	13.00	150	0.78	1.61		198										
	14.90	142	0.73	1.43		198										
	15.40		0.00	0.18												
530	0.00	221	1.14		15.15	185	1.00	186	0.220	900	-0.30	0	-19748	0.50	0.018	0.02
	0.50	221	1.14	0.57		185				1250	1.60	-479		7.60	0.054	0.04

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	19.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.13 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	1.13 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	224	1.16	0.57		185				1250	2.80	-1086		14.70	0.040	0.03
	3.00	215	1.11	2.27		183				1000	4.50	-1783				
	5.00	206	1.06	2.17		188				1000	13.50	-9849				
	7.00	192	0.99	2.06		188				1300	8.80	-6550				
	9.00	190	0.98	1.97		185										
	11.00	180	0.93	1.91		190										
	13.00	178	0.92	1.85		185										
	14.70	175	0.90	1.55		185										
	15.20		0.00	0.23												
630	0.00	253	1.31		17.07	190	1.14	191	0.080	900	-0.30	0	-20316	0.50	0.034	0.02
	0.50	253	1.31	0.65		190				1250	1.60	-445		7.50	0.100	0.02
	1.00	260	1.34	0.66		190				1250	2.80	-1065		14.50	0.118	0.04
	3.00	270	1.39	2.74		190				1000	4.50	-1798				
	5.00	244	1.26	2.65		190				1000	13.50	-10250				
	7.00	234	1.21	2.47		190				1300	8.80	-6758				
	9.00	196	1.01	2.22		190										
	11.00	186	0.96	1.97		195										
	13.00	198	1.02	1.98		193										
	14.50	185	0.96	1.48		193										
	15.00		0.00	0.24												
730	0.00	230	1.19		15.12	187	1.02	188	0.110	900	-0.30	0	-19579	0.50	0.062	0.04
	0.50	230	1.19	0.59		187				1250	1.60	-439		7.40	0.056	0.03
	1.00	243	1.25	0.61		187				1250	2.80	-1037		14.30	0.110	0.04
	3.00	239	1.23	2.49		187				1000	4.50	-1740				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	19.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.13 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	1.13 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	5.00	234	1.21	2.44		187				1000	13.50	-9854				
	7.00	196	1.01	2.22		189				1300	8.80	-6509				
	9.00	190	0.98	1.99		189										
	11.00	181	0.93	1.92		188										
	13.00	150	0.78	1.71		188										
	14.30	137	0.71	0.96		188										
	14.80		0.00	0.18												
830	0.00	126	0.65		8.36	183	0.57	182	0.390	900	-0.30	-2	-12635	0.50	0.094	0.03
	0.50	126	0.65	0.33		183				1250	1.60	-343		7.30	0.228	0.06
	1.00	132	0.68	0.33		180				1250	2.80	-734		14.10	0.114	0.08
	3.00	126	0.65	1.33		185				1000	4.50	-1168				
	5.00	121	0.63	1.28		180				1000	13.50	-6214				
	7.00	114	0.59	1.22		180				1300	8.80	-4175				
	9.00	116	0.60	1.19		180										
	11.00	102	0.53	1.13		182										
	13.00	85	0.44	0.97		183										
	14.10	83	0.43	0.48		188										
	14.60		0.00	0.11												
930	0.00	28	0.15		1.05	182	0.07	178	0.810	900	-0.30	-4	-1812	0.50	0.016	0.08
	0.50	28	0.15	0.07		182				1250	1.60	-62		7.30	0.118	0.12
	1.00	27	0.14	0.07		182				1250	2.80	-118		14.10	0.090	0.12
	3.00	22	0.12	0.26		177				1000	4.50	-176				
	5.00	19	0.10	0.22		175				1000	13.50	-861				
	7.00	16	0.08	0.18		175				1300	8.80	-592				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	19.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.13 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	1.13 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	9.00	7	0.04	0.12		175										
	11.00	2	0.01	0.05		178										
	13.00	2	0.01	0.03		178										
	14.10	8	0.04	0.03		178										
	14.60		0.00	0.01												
1030	0.00	36	0.19		3.27	350	0.22	356	1.080	900	-0.30	22	5957	0.50	0.020	0.22
	0.50	36	0.19	0.09		350				1250	1.60	228		7.40	0.072	0.14
	1.00	37	0.19	0.10		350				1250	2.80	415		14.30	0.038	0.16
	3.00	48	0.25	0.44		350				1000	4.50	595				
	5.00	56	0.29	0.54		358				1000	13.50	2766				
	7.00	52	0.27	0.56		355				1300	8.80	1931				
	9.00	44	0.23	0.50		345										
	11.00	35	0.18	0.41		360										
	13.00	34	0.18	0.36		365										
	14.30	32	0.17	0.22		375										
	14.80		0.00	0.04												
1130	0.00	82	0.42		6.34	340	0.42	350	1.210	900	-0.30	57	12183	0.50	0.014	0.00
	0.50	82	0.42	0.21		340				1250	1.60	492		7.50	0.014	0.04
	1.00	83	0.43	0.21		340				1250	2.80	872		14.50	0.014	0.04
	3.00	90	0.47	0.90		340				1000	4.50	1231				
	5.00	92	0.48	0.94		348				1000	13.50	5597				
	7.00	79	0.41	0.89		355				1300	8.80	3934				
	9.00	86	0.45	0.85		355										
	11.00	85	0.44	0.89		360										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	19.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.13 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	1.13 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	13.00	72	0.37	0.81		360										
	14.50	69	0.36	0.55		365										
	15.00		0.00	0.09												
1230	0.00	42	0.22		4.05	348	0.27	350	1.160	900	-0.30	33	7593	0.50	0.018	0.00
	0.50	42	0.22	0.11		348				1250	1.60	301		7.60	0.068	0.04
	1.00	48	0.25	0.12		345				1250	2.80	538		14.70	0.038	0.03
	3.00	55	0.29	0.54		350				1000	4.50	764				
	5.00	63	0.33	0.61		350				1000	13.50	3502				
	7.00	58	0.30	0.63		355				1300	8.80	2456				
	9.00	61	0.32	0.62		355										
	11.00	52	0.27	0.59		355										
	13.00	39	0.20	0.47		345										
	14.70	35	0.18	0.33		345										
	15.20		0.00	0.05												
1330	0.00	8	0.04		2.20	170	0.14	190	0.930	900	-0.30	-8	-3120	0.50	0.012	0.03
	0.50	8	0.04	0.02		170				1250	1.60	-112		7.60	0.020	0.10
	1.00	22	0.12	0.04		185				1250	2.80	-210		14.70	0.016	0.10
	3.00	27	0.14	0.26		190				1000	4.50	-307				
	5.00	32	0.17	0.31		195				1000	13.50	-1467				
	7.00	41	0.21	0.38		185				1300	8.80	-1016				
	9.00	34	0.18	0.39		185										
	11.00	29	0.15	0.33		200										
	13.00	21	0.11	0.26		210										
	14.70	20	0.11	0.18		205										

DISCHARGE MEASUREMENT

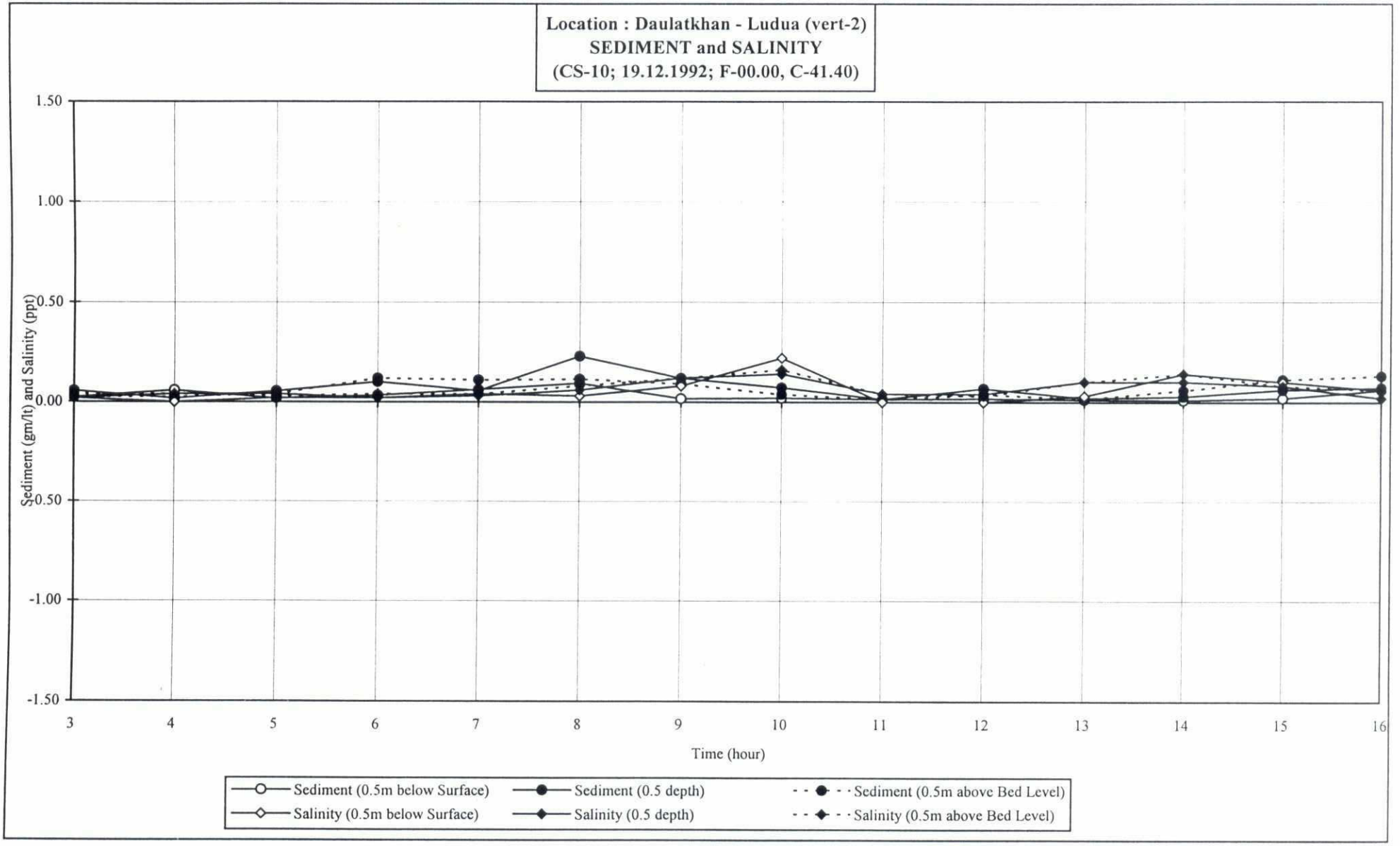
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	19.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.13 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	1.13 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

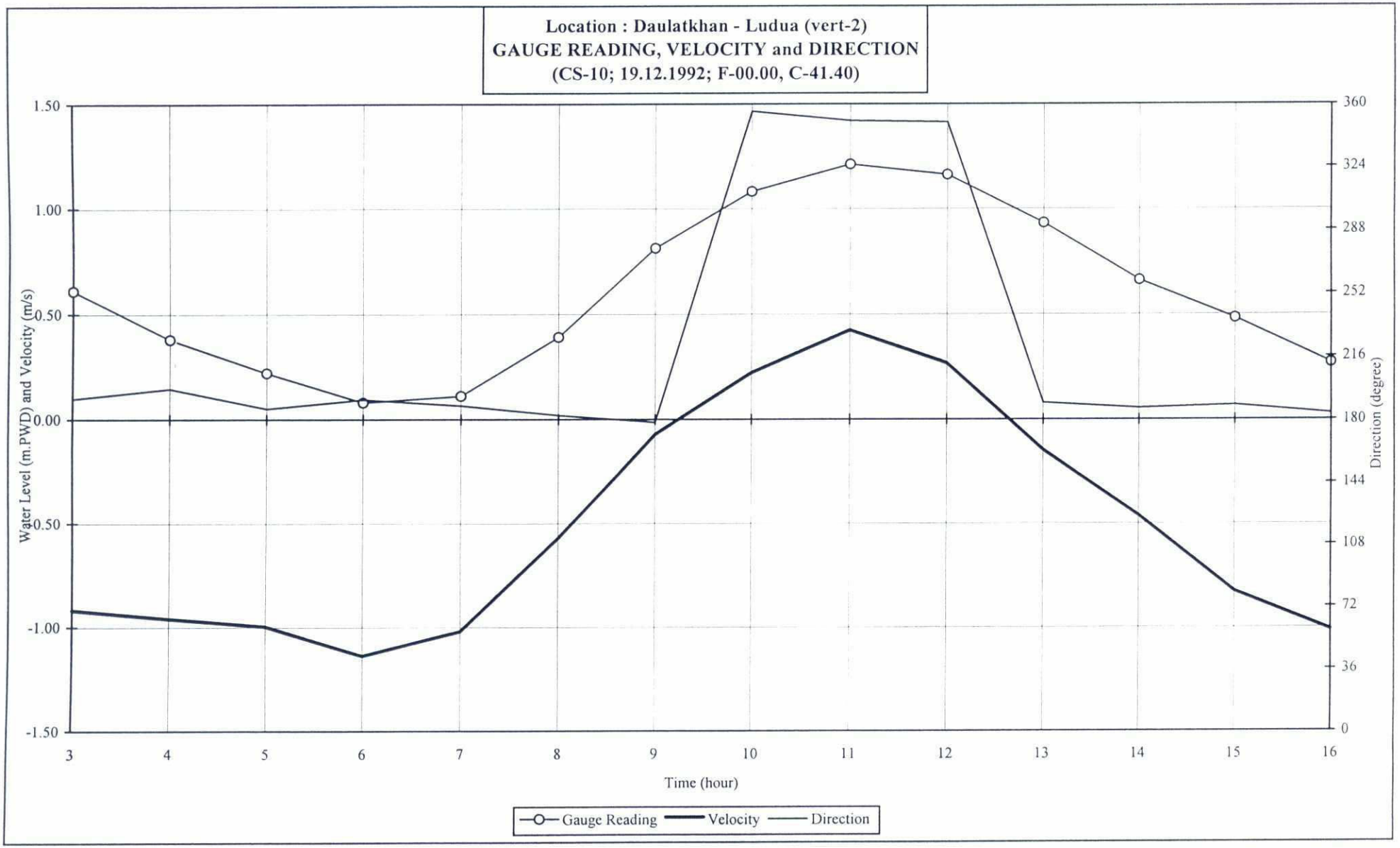
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	15.20		0.00	0.03												
1430	0.00	114	0.59		6.93	182	0.46	186	0.660	900	-0.30	-11	-10008	0.50	0.010	0.14
	0.50	114	0.59	0.29		182				1250	1.60	-316		7.50	0.028	0.10
	1.00	107	0.55	0.29		182				1250	2.80	-628		14.50	0.058	0.14
	3.00	88	0.46	1.01		185				1000	4.50	-956				
	5.00	97	0.50	0.96		185				1000	13.50	-4812				
	7.00	104	0.54	1.04		190				1300	8.80	-3284				
	9.00	96	0.50	1.04		185										
	11.00	65	0.34	0.83		190										
	13.00	81	0.42	0.76		190										
	14.50	78	0.40	0.62		193										
	15.00		0.00	0.10												
1530	0.00	160	0.83		12.25	190	0.83	188	0.480	900	-0.30	-6	-16982	0.50	0.020	0.10
	0.50	160	0.83	0.41		190				1250	1.60	-486		7.40	0.062	0.08
	1.00	196	1.01	0.46		190				1250	2.80	-1014		14.30	0.112	0.08
	3.00	187	0.97	1.98		185				1000	4.50	-1588				
	5.00	156	0.81	1.77		188				1000	13.50	-8289				
	7.00	160	0.83	1.63		195				1300	8.80	-5599				
	9.00	181	0.93	1.76		195										
	11.00	158	0.82	1.75		193										
	13.00	128	0.66	1.48		180										
	14.30	122	0.63	0.84		175										
	14.80		0.00	0.16												
1630	0.00	227	1.17		14.77	185	1.01	184	0.270	900	-0.30	0	-21449	0.50	0.060	0.06

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	19.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.13 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	1.13 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0.50	227	1.17	0.59		185				1250	1.60	-539		7.30	0.072	0.02
	1.00	224	1.16	0.58		185				1250	2.80	-1200		14.10	0.130	0.06
	3.00	223	1.15	2.31		185				1000	4.50	-1951				
	5.00	218	1.13	2.28		188				1000	13.50	-10653				
	7.00	202	1.04	2.17		188				1300	8.80	-7106				
	9.00	205	1.06	2.10		185										
	11.00	184	0.95	2.01		180										
	13.00	150	0.78	1.73		180										
	14.10	142	0.73	0.83		175										
	14.60		0.00	0.18												


Location : Daulatkhan - Ludua (vert-2)
SEDIMENT and SALINITY
(CS-10; 19.12.1992; F-00.00, C-41.40)
Sediment (gm/lt) and Salinity (ppt)
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)


Location : Daulatkhan - Ludua (vert-2)
GAUGE READING, VELOCITY and DIRECTION
(CS-10; 19.12.1992; F-00.00, C-41.40)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
360
324
288
252
216
180
144
108
72
36
0
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Gauge Reading
Velocity
Direction

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-1)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; D-32.50	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	20.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.19 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	1.13 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5	0.53	6.40	164	-0.46	0.01	0.06	0.04	0.04	0.03	0.02	0.04	0.03	17835	-7806	286
6	0.30	6.20	163	-0.42	0.08	0.08	0.06	0.08		0.02	0.04	0.03	16771	-6660	502
7	0.12	6.10	171	-0.38	0.04	0.07	0.03	0.04		0.02	0.02	0.02	15886	-5435	243
8	0.00	6.00	163	-0.33	0.05	0.09	0.05	0.06	0.03	0.04	0.08	0.05	15362	-4867	299
9	0.08	6.20	167	-0.13	0.03	0.05	0.05	0.04	0.08	0.02	0.08	0.06	15505	-1901	82
10	0.46	6.60	300	0.13	0.05	0.03	0.02	0.04	0.16	0.14	0.10	0.13	17084	2039	72
11	0.86	7.00	327	0.33	0.04	0.05	0.06	0.05	0.04	0.06	0.08	0.06	18917	6206	319
12	1.08	7.50	324	0.24	0.02	0.03	0.04	0.03	0.12	0.06	0.05	0.08	19517	4756	139
13	1.19	7.70	315	0.21	0.05	0.03	0.10	0.06	0.08	0.06	0.06	0.07	19907	4081	242
14	1.08	7.30	183	-0.04	0.03	0.04	0.04	0.04	0.10	0.12	0.16	0.13	19837	-691	26
15	0.87	7.10	170	-0.27	0.04	0.06	0.02	0.04	0.10	0.14	0.14	0.13	18819	-4694	188
16	0.63	6.80	170	-0.36	0.02	0.03	0.02	0.02	0.18	0.16	0.14	0.16	17801	-5781	135
17	0.38	6.50	164	-0.42	0.05	0.03	0.01	0.03	0.12	0.10	0.14	0.12	16765	-6660	182
18	0.17	6.30	161	-0.40	0.04	0.04	0.02	0.03	0.12	0.12	0.16	0.13	15861	-6136	192

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-1)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; D-32.50	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	20.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.19 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	1.13 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
500	0.00	96	0.50		2.95	170	0.46	164	0.530	1500	1.00	-397	-7806	0.50	0.010	0.03
	0.50	96	0.50	0.25		170				500	7.70	-1990		3.20	0.058	0.02
	1.00	89	0.46	0.24		170				1000	6.00	-2747		5.90	0.042	0.04
	3.00	90	0.47	0.93		160				1000	4.90	-2043				
	5.00	97	0.50	0.97		160				1500	1.20	-485				
	5.90	93	0.48	0.44		160				750	-0.30	-9				
	6.40		0.00	0.12						350	1.40	-135				
600	0.00	99	0.51		2.58	162	0.42	163	0.300	1500	1.00	-282	-6660	0.50	0.084	0.00
	0.50	99	0.51	0.26		162				500	7.70	-1759		3.10	0.084	0.02
	1.00	93	0.48	0.25		165				1000	6.00	-2399		5.70	0.058	0.04
	3.00	92	0.48	0.96		163				1000	4.90	-1763				
	5.00	65	0.34	0.81		163				1500	1.20	-356				
	5.70	59	0.31	0.23		163				750	-0.30	0				
	6.20		0.00	0.08						350	1.40	-102				
700	0.00	88	0.46		2.30	170	0.38	171	0.120	1500	1.00	-193	-5435	0.50	0.040	0.00
	0.50	88	0.46	0.23		170				500	7.70	-1475		3.05	0.068	0.02
	1.00	85	0.44	0.22		170				1000	6.00	-1992		5.60	0.026	0.02
	3.00	72	0.37	0.81		170				1000	4.90	-1449				
	5.00	70	0.36	0.74		170				1500	1.20	-251				
	5.60	65	0.34	0.21		173				750	-0.30	0				
	6.10		0.00	0.08						350	1.40	-74				
800	0.00	70	0.36		1.98	165	0.33	163	0.000	1500	1.00	-150	-4867	0.50	0.050	0.03
	0.50	70	0.36	0.18		165				500	7.70	-1346		3.00	0.086	0.04
	1.00	66	0.34	0.18		161				1000	6.00	-1805		5.50	0.048	0.08

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-1)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; D-32.50	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	20.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.19 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	1.13 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	3.00	72	0.37	0.72		161				1000	4.90	-1304				
	5.00	60	0.31	0.68		163				1500	1.20	-201				
	5.50	57	0.30	0.15		163				750	-0.30	0				
	6.00		0.00	0.07						350	1.40	-60				
900	0.00	36	0.19		0.81	165	0.13	167	0.080	1500	1.00	-64	-1901	0.50	0.028	0.08
	0.50	36	0.19	0.09		165				500	7.70	-519		3.10	0.048	0.02
	1.00	30	0.16	0.09		165				1000	6.00	-700		5.70	0.054	0.08
	3.00	23	0.12	0.28		165				1000	4.90	-508				
	5.00	24	0.13	0.25		170				1500	1.20	-85				
	5.70	21	0.11	0.08		170				750	-0.30	0				
	6.20		0.00	0.03						350	1.40	-25				
1000	0.00	8	0.04		0.88	295	0.13	300	0.460	1500	1.00	99	2039	0.50	0.054	0.16
	0.50	8	0.04	0.02		295				500	7.70	526		3.30	0.034	0.14
	1.00	6	0.03	0.02		300				1000	6.00	723		6.10	0.018	0.10
	3.00	38	0.20	0.23		305				1000	4.90	536				
	5.00	37	0.19	0.39		300				1500	1.20	121				
	6.10	25	0.13	0.18		300				750	-0.30	1				
	6.60		0.00	0.03						350	1.40	34				
1100	0.00	50	0.26		2.30	335	0.33	327	0.860	1500	1.00	387	6206	0.50	0.044	0.04
	0.50	50	0.26	0.13		335				500	7.70	1505		3.50	0.054	0.06
	1.00	69	0.36	0.15		325				1000	6.00	2111		6.50	0.056	0.08
	3.00	74	0.38	0.74		330				1000	4.90	1595				
	5.00	64	0.33	0.72		330				1500	1.20	457				
	6.50	59	0.31	0.48		305				750	-0.30	27				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-1)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; D-32.50	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	20.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.19 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	1.13 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00		0.00	0.08						350	1.40	124				
1200	0.00	34	0.18		1.83	317	0.24	324	1.080	1500	1.00	330	4756	0.50	0.020	0.12
	0.50	34	0.18	0.09		317				500	7.70	1117		3.75	0.032	0.06
	1.00	38	0.20	0.09		317				1000	6.00	1582		7.00	0.036	0.05
	3.00	64	0.33	0.53		332				1000	4.90	1207				
	5.00	56	0.29	0.62		330				1500	1.20	383				
	7.00	31	0.16	0.45		330				750	-0.30	34				
	7.50		0.00	0.04						350	1.40	102				
1300	0.00	18	0.09		1.61	315	0.21	315	1.190	1500	1.00	297	4081	0.50	0.048	0.08
	0.50	18	0.09	0.05		315				500	7.70	943		3.85	0.028	0.06
	1.00	23	0.12	0.05		320				1000	6.00	1343		7.20	0.102	0.06
	3.00	53	0.28	0.40		315				1000	4.90	1029				
	5.00	52	0.27	0.55		315				1500	1.20	342				
	7.20	38	0.20	0.51		310				750	-0.30	34				
	7.70		0.00	0.05						350	1.40	91				
1400	0.00	4	0.02		0.32	180	0.04	183	1.080	1500	1.00	-48	-691	0.50	0.030	0.10
	0.50	4	0.02	0.01		180				500	7.70	-162		3.65	0.044	0.12
	1.00	7	0.04	0.02		180				1000	6.00	-230		6.80	0.038	0.16
	3.00	12	0.06	0.10		185				1000	4.90	-175				
	5.00	8	0.04	0.11		185				1500	1.20	-56				
	6.80	6	0.03	0.07		190				750	-0.30	-5				
	7.30		0.00	0.01						350	1.40	-15				
1500	0.00	68	0.35		1.93	165	0.27	170	0.870	1500	1.00	-294	-4694	0.50	0.040	0.10
	0.50	68	0.35	0.18		165				500	7.70	-1137		3.55	0.056	0.14

DISCHARGE MEASUREMENT

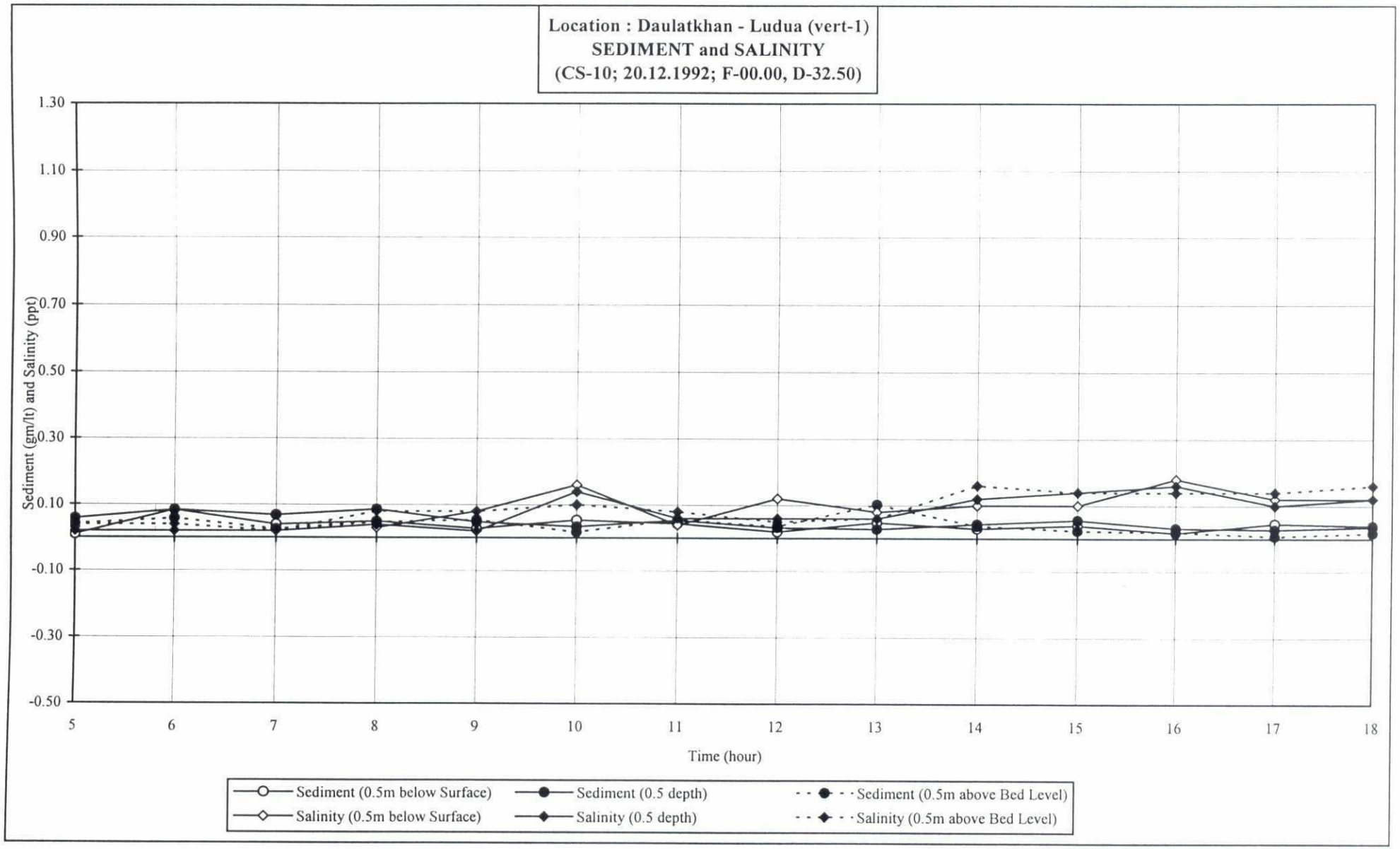
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-1)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; D-32.50	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	20.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.19 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	1.13 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	69	0.36	0.18		165				1000	6.00	-1595		6.60	0.024	0.14
	3.00	56	0.29	0.65		175				1000	4.90	-1206				
	5.00	48	0.25	0.54		175				1500	1.20	-347				
	6.60	35	0.18	0.35		173				750	-0.30	-21				
	7.10		0.00	0.05						350	1.40	-94				
1600	0.00	84	0.44		2.42	173	0.36	170	0.630	1500	1.00	-315	-5781	0.50	0.018	0.18
	0.50	84	0.44	0.22		173				500	7.70	-1451		3.40	0.032	0.16
	1.00	87	0.45	0.22		170				1000	6.00	-2014		6.30	0.020	0.14
	3.00	79	0.41	0.86		170				1000	4.90	-1505				
	5.00	61	0.32	0.73		167				1500	1.20	-380				
	6.30	40	0.21	0.34		167				750	-0.30	-12				
	6.80		0.00	0.05						350	1.40	-105				
1700	0.00	92	0.48		2.72	160	0.42	164	0.380	1500	1.00	-302	-6660	0.50	0.046	0.12
	0.50	92	0.48	0.24		160				500	7.70	-1737		3.25	0.028	0.10
	1.00	90	0.47	0.24		160				1000	6.00	-2380		6.00	0.008	0.14
	3.00	91	0.47	0.94		163				1000	4.90	-1756				
	5.00	78	0.40	0.88		175				1500	1.20	-376				
	6.00	59	0.31	0.36		167				750	-0.30	-1				
	6.50		0.00	0.08						350	1.40	-106				
1800	0.00	90	0.47		2.52	165	0.40	161	0.170	1500	1.00	-229	-6136	0.50	0.040	0.12
	0.50	90	0.47	0.23		165				500	7.70	-1653		3.15	0.036	0.12
	1.00	90	0.47	0.23		160				1000	6.00	-2238		5.80	0.018	0.16
	3.00	87	0.45	0.92		155				1000	4.90	-1633				
	5.00	66	0.34	0.79		160				1500	1.20	-296				

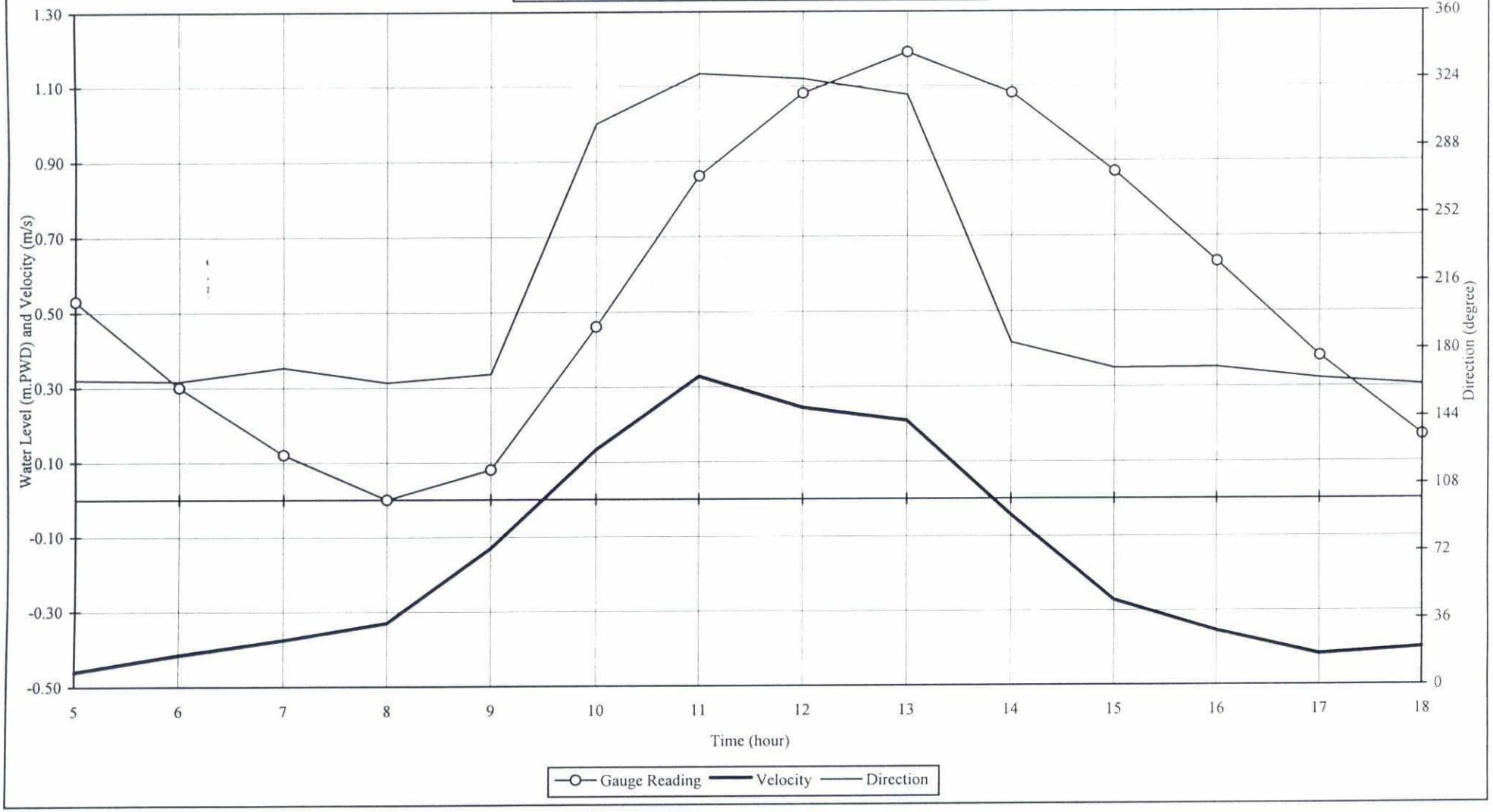
DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-1)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; D-32.50	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	20.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	1.19 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	1.13 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	5.80	62	0.32	0.27		160				750	-0.30	0				
	6.30		0.00	0.08						350	1.40	-86				


Location : Daulatkhan - Ludua (vert-1)
SEDIMENT and SALINITY
(CS-10; 20.12.1992; F-00.00, D-32.50)
Sediment (gm/lt) and Salinity (ppt)
1.30
1.10
0.90
0.70
0.50
0.30
0.10
-0.10
-0.30
-0.50
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)

Location : Daulatkhan - Ludua (vert-1)
GAUGE READING, VELOCITY and DIRECTION
(CS-10; 20.12.1992; F-00.00, D-32.50)



DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	25.12.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.07 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	2.12 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	1.64	17.10	355	0.92	0.03	0.02	0.06	0.04	0.12	0.10	0.16	0.13	32498	26239	927
4	1.90	17.60	351	0.75	0.01	0.02	0.03	0.02	0.16	0.14	0.10	0.13	33498	22859	488
5	1.73	17.50	4	0.42	0.03	0.03	0.03	0.03	0.14	0.16	0.16	0.15	32589	10822	317
6	1.38	17.00	265	0.09	0.02	0.02	0.03	0.02	0.08	0.16	0.14	0.13	31072	1294	30
7	0.99	16.60	174	-0.45	0.08	0.04	0.02	0.05	0.08	0.14	0.16	0.13	29259	-11577	571
8	0.69	16.10	178	-0.76	0.04	0.02	0.04	0.03	0.07	0.08	0.06	0.07	28107	-18021	589
9	0.42	16.00	174	-0.86	0.02	0.16	0.10	0.09	0.14	0.16	0.07	0.12	26748	-20130	1839
10	0.20	15.90	187	-0.93	0.07	0.06	0.06	0.06	0.03	0.12	0.07	0.07	25704	-18005	1140
11	-0.01	15.70	181	-0.97	0.04	0.13	0.05	0.07	0.15	0.18	0.20	0.18	24830	-19743	1474
12	-0.17	15.30	174	-1.01	0.05	0.07	0.06	0.06	0.07	0.06	0.10	0.08	24406	-21790	1322
13	0.04	15.40	170	-0.80	0.05	0.06	0.07	0.06	0.10	0.09	0.10	0.10	25371	-18420	1142
14	0.71	16.15	160	-0.06	0.04	0.11	0.08	0.08	0.06	0.10	0.08	0.08	28165	-1531	116
15	1.18	16.60	360	0.34	0.03	0.04	0.02	0.03	0.12	0.16	0.20	0.16	30345	8531	273
16	1.44	16.90	354	0.65	0.03	0.07	0.04	0.05	0.12	0.10	0.08	0.10	31534	17897	859

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	25.12.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.07 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	2.12 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
300	0.00	217	1.12		15.74	350	0.92	355	1.640	900	-0.30	212	26239	0.50	0.026	0.12
	0.50	217	1.12	0.56		350				1250	1.60	1229		8.55	0.016	0.10
	1.00	212	1.09	0.55		350				1250	2.80	2042		16.60	0.064	0.16
	3.00	208	1.07	2.17		350				1000	4.50	2749				
	5.00	214	1.11	2.18		350				1000	13.50	11645				
	7.00	187	0.97	2.07		352				1300	8.80	8362				
	9.00	198	1.02	1.99		357										
	11.00	139	0.72	1.74		357										
	13.00	158	0.82	1.53		360										
	15.00	146	0.75	1.57		360										
	16.60	142	0.73	1.19		360										
	17.10		0.00	0.18												
400	0.00	169	0.87		13.26	350	0.75	351	1.900	900	-0.30	235	22859	0.50	0.008	0.16
	0.50	169	0.87	0.44		350				1250	1.60	1157		8.80	0.022	0.14
	1.00	171	0.88	0.44		350				1250	2.80	1859		17.10	0.034	0.10
	3.00	186	0.96	1.84		350				1000	4.50	2441				
	5.00	169	0.87	1.83		355				1000	13.50	9941				
	7.00	156	0.81	1.68		350				1300	8.80	7226				
	9.00	145	0.75	1.56		350										
	11.00	146	0.75	1.50		350										
	13.00	119	0.62	1.37		355										
	15.00	115	0.59	1.21		350										
	17.10	114	0.59	1.24		350										
	17.60		0.00	0.15												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	25.12.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.07 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	2.12 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
500	0.00	90	0.47		7.32	0	0.42	4	1.730	900	-0.30	96	10822	0.50	0.030	0.14
	0.50	90	0.47	0.23		0				1250	1.60	521		8.75	0.030	0.16
	1.00	96	0.50	0.24		2				1250	2.80	855		17.00	0.028	0.16
	3.00	93	0.48	0.98		0				1000	4.50	1142				
	5.00	92	0.48	0.96		5				1000	13.50	4769				
	7.00	87	0.45	0.93		5				1300	8.80	3439				
	9.00	86	0.45	0.90		8										
	11.00	91	0.47	0.92		10										
	13.00	75	0.39	0.86		5										
	15.00	56	0.29	0.68		0										
	17.00	53	0.28	0.57		0										
	17.50		0.00	0.07												
600	0.00	12	0.06		1.46	275	0.09	265	1.380	900	-0.30	8	1294	0.50	0.020	0.08
	0.50	12	0.06	0.03		275				1250	1.60	56		8.50	0.024	0.16
	1.00	20	0.11	0.04		275				1250	2.80	96		16.50	0.026	0.14
	3.00	22	0.12	0.22		275				1000	4.50	133				
	5.00	23	0.12	0.24		270				1000	13.50	586				
	7.00	18	0.09	0.22		265				1300	8.80	416				
	9.00	18	0.09	0.19		265										
	11.00	12	0.06	0.16		260										
	13.00	14	0.07	0.14		255										
	15.00	9	0.05	0.12		255										
	16.50	11	0.06	0.08		255										
	17.00		0.00	0.02												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	25.12.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.07 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	2.12 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
700	0.00	123	0.64		7.47	172	0.45	174	0.990	900	-0.30	-36	-11577	0.50	0.084	0.08
	0.50	123	0.64	0.32		172				1250	1.60	-427		8.30	0.040	0.14
	1.00	120	0.62	0.31		172				1250	2.80	-789		16.10	0.024	0.16
	3.00	115	0.59	1.22		175				1000	4.50	-1146				
	5.00	112	0.58	1.17		173				1000	13.50	-5416				
	7.00	97	0.50	1.08		176				1300	8.80	-3763				
	9.00	76	0.39	0.90		176										
	11.00	76	0.39	0.79		175										
	13.00	69	0.36	0.75		175										
	15.00	48	0.25	0.61		175										
	16.10	45	0.23	0.27		175										
	16.60		0.00	0.06												
800	0.00	173	0.89		12.18	175	0.76	178	0.690	900	-0.30	-23	-18021	0.50	0.038	0.07
	0.50	173	0.89	0.45		175				1250	1.60	-578		8.05	0.016	0.08
	1.00	176	0.91	0.45		175				1250	2.80	-1141		15.60	0.044	0.06
	3.00	165	0.85	1.76		175				1000	4.50	-1728				
	5.00	162	0.84	1.69		180				1000	13.50	-8643				
	7.00	164	0.85	1.68		180				1300	8.80	-5909				
	9.00	156	0.81	1.65		175										
	11.00	142	0.73	1.54		180										
	13.00	129	0.67	1.40		180										
	15.00	92	0.48	1.14		180										
	15.60	93	0.48	0.29		180										
	16.10		0.00	0.12												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	25.12.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.07 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	2.12 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
900	0.00	201	1.04		13.69	180	0.86	174	0.420	900	-0.30	-4	-20130	0.50	0.020	0.14
	0.50	201	1.04	0.52		180				1250	1.60	-556		8.00	0.156	0.16
	1.00	195	1.01	0.51		177				1250	2.80	-1180		15.50	0.098	0.07
	3.00	190	0.98	1.99		177				1000	4.50	-1868				
	5.00	194	1.00	1.98		174				1000	13.50	-9875				
	7.00	172	0.89	1.89		172				1300	8.80	-6647				
	9.00	174	0.90	1.79		172										
	11.00	154	0.80	1.69		170										
	13.00	156	0.81	1.60		172										
	15.00	105	0.54	1.35		172										
	15.50	88	0.46	0.25		172										
	16.00		0.00	0.11												
1000	0.00	215	1.11		14.79	201	0.93	187	0.200	900	-0.30	0	-18005	0.50	0.068	0.03
	0.50	215	1.11	0.56		201				1250	1.60	-431		7.95	0.058	0.12
	1.00	214	1.11	0.55		198				1250	2.80	-984		15.40	0.064	0.07
	3.00	214	1.11	2.21		185				1000	4.50	-1621				
	5.00	204	1.05	2.16		184				1000	13.50	-8994				
	7.00	195	1.01	2.06		184				1300	8.80	-5974				
	9.00	184	0.95	1.96		181										
	11.00	182	0.94	1.89		181										
	13.00	149	0.77	1.71		181										
	15.00	119	0.62	1.39		181										
	15.40	79	0.41	0.20		181										
	15.90		0.00	0.10												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	25.12.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.07 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	2.12 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1100	0.00	229	1.18		15.28	180	0.97	181	-0.010	900	-0.30	0	-19743	0.50	0.044	0.15
	0.50	229	1.18	0.59		180				1250	1.60	-403		7.85	0.128	0.18
	1.00	230	1.19	0.59		183				1250	2.80	-1001		15.20	0.052	0.20
	3.00	232	1.20	2.39		183				1000	4.50	-1723				
	5.00	222	1.15	2.34		182				1000	13.50	-10036				
	7.00	201	1.04	2.18		180				1300	8.80	-6579				
	9.00	194	1.00	2.04		181										
	11.00	172	0.89	1.89		181										
	13.00	152	0.79	1.67		181										
	15.00	112	0.58	1.36		181										
	15.20	87	0.45	0.10		181										
	15.70		0.00	0.11												
1200	0.00	240	1.24		15.49	180	1.01	174	-0.170	900	-0.30	0	-21790	0.50	0.052	0.07
	0.50	240	1.24	0.62		180				1250	1.60	-387		7.65	0.066	0.06
	1.00	242	1.25	0.62		177				1250	2.80	-1038		14.80	0.064	0.10
	3.00	236	1.22	2.47		175				1000	4.50	-1853				
	5.00	226	1.17	2.39		175				1000	13.50	-11228				
	7.00	203	1.05	2.22		175				1300	8.80	-7285				
	9.00	190	0.98	2.03		170										
	11.00	185	0.96	1.94		170										
	13.00	152	0.79	1.74		170										
	14.80	129	0.67	1.31		169										
	15.30		0.00	0.17												
1300	0.00	170	0.88		12.24	173	0.80	170	0.040	900	-0.30	0	-18420	0.50	0.050	0.10

DISCHARGE MEASUREMENT

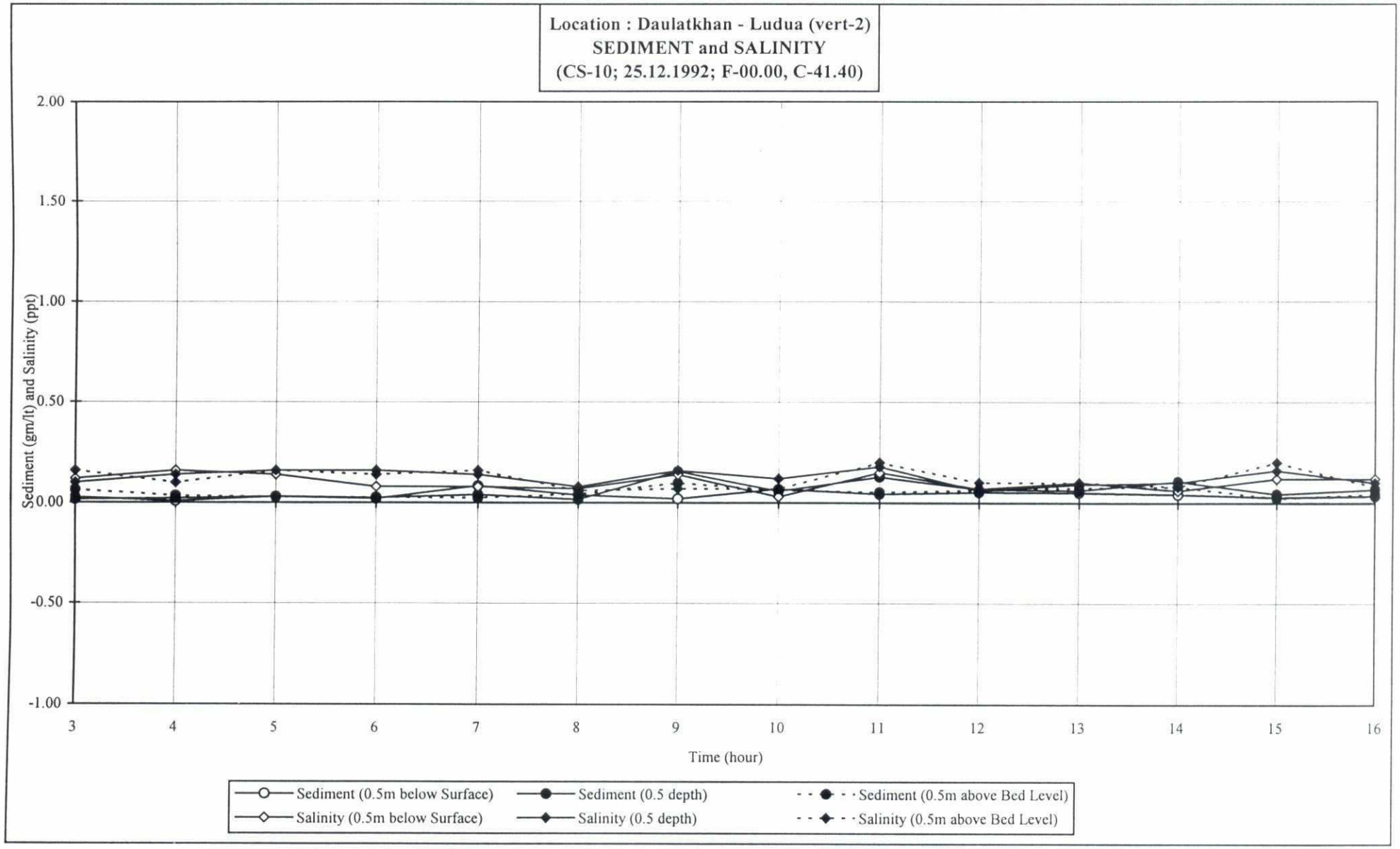
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	25.12.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.07 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	2.12 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

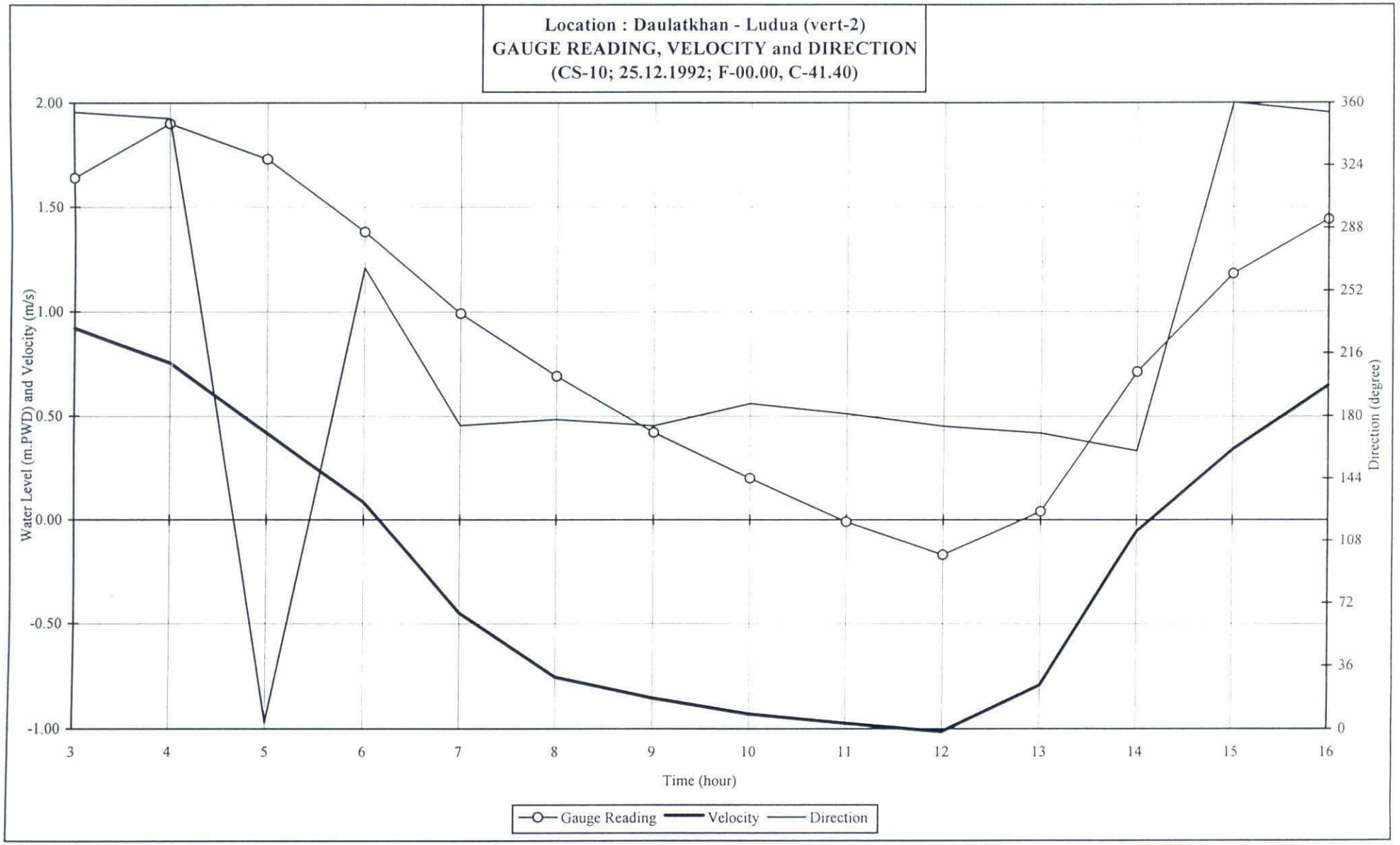
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0.50	170	0.88	0.44		173				1250	1.60	-392		7.70	0.062	0.09
	1.00	179	0.92	0.45		173				1250	2.80	-951		14.90	0.074	0.10
	3.00	162	0.84	1.76		173				1000	4.50	-1620				
	5.00	172	0.89	1.73		172				1000	13.50	-9325				
	7.00	166	0.86	1.75		173				1300	8.80	-6133				
	9.00	192	0.99	1.85		168										
	11.00	134	0.69	1.68		165										
	13.00	128	0.66	1.35		165										
	14.90	97	0.50	1.11		165										
	15.40		0.00	0.13												
1400	0.00	19	0.10		0.90	160	0.06	160	0.710	900	-0.30	-2	-1531	0.50	0.042	0.06
	0.50	19	0.10	0.05		160				1250	1.60	-50		8.08	0.106	0.10
	1.00	18	0.09	0.05		160				1250	2.80	-97		15.65	0.080	0.08
	3.00	17	0.09	0.18		160				1000	4.50	-147				
	5.00	11	0.06	0.15		160				1000	13.50	-733				
	7.00	10	0.05	0.11		160				1300	8.80	-502				
	9.00	10	0.05	0.11		160										
	11.00	3	0.02	0.07		160										
	13.00	8	0.04	0.06		160										
	15.00	7	0.04	0.08		160										
	15.65	5	0.03	0.02		160										
	16.15		0.00	0.01												
1500	0.00	76	0.39		5.65	360	0.34	360	1.180	900	-0.30	38	8531	0.50	0.028	0.12
	0.50	76	0.39	0.20		360				1250	1.60	340		8.30	0.044	0.16

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Daulat Khan - Ludua (vert-2)	4.	Cross Section No.	:	10,19,20
5.	Decca Location	:	F-00.00; C-41.40	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	25.12.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Daulat Khan
11.	Current Meter No.	:	A-OTT NO.30256	12.	Propeller No.	:	1-30982
13.	Tide Range	:	2.07 m	14.	X-section Direction	:	56 degrees
15.	Reference Tide Range	:	2.12 m	16.	Equation of Velocity	:	V = 0.2526 n + 0.0038 n < 0.33
							= 0.2577 n + 0.0021 0.33 < n < 19.66

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	79	0.41	0.20		360				1250	2.80	607		16.10	0.024	0.20
	3.00	76	0.39	0.80		358				1000	4.50	860				
	5.00	72	0.37	0.77		361				1000	13.50	3929				
	7.00	70	0.36	0.74		358				1300	8.80	2757				
	9.00	66	0.34	0.71		363										
	11.00	64	0.33	0.67		360										
	13.00	66	0.34	0.67		360										
	15.00	47	0.24	0.59		361										
	16.10	41	0.21	0.25		361										
	16.60		0.00	0.05												
1600	0.00	148	0.76		10.91	358	0.65	354	1.440	900	-0.30	116	17897	0.50	0.034	0.12
	0.50	148	0.76	0.38		358				1250	1.60	785		8.45	0.066	0.10
	1.00	144	0.74	0.38		358				1250	2.80	1342		16.40	0.044	0.08
	3.00	140	0.72	1.47		356				1000	4.50	1845				
	5.00	138	0.71	1.44		353				1000	13.50	8070				
	7.00	124	0.64	1.35		360				1300	8.80	5739				
	9.00	125	0.65	1.29		350										
	11.00	117	0.61	1.25		350										
	13.00	119	0.62	1.22		350										
	15.00	110	0.57	1.18		355										
	16.40	112	0.58	0.80		350										
	16.90		0.00	0.15												


Location : Daulatkhan - Ludua (vert-2)
SEDIMENT and SALINITY
(CS-10; 25.12.1992; F-00.00, C-41.40)
Sediment (gm/lt) and Salinity (ppt)
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)


Location : Daulatkhan - Ludua (vert-2)
GAUGE READING, VELOCITY and DIRECTION
(CS-10; 25.12.1992; F-00.00, C-41.40)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
360
324
288
252
216
180
144
108
72
36
0
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Gauge Reading
Velocity
Direction

Cross Section CS-11

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	23.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.04 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	1.05	17.20	108	-0.89	0.09	0.15	0.07	0.10	0.18	0.18	0.20	0.19	18215	-12474	1289
7	0.84	16.80	111	-0.91	0.10	0.09	0.06	0.08	0.20	0.22	0.24	0.22	17912	-12965	1063
8	0.61	16.50	110	-0.84	0.09	0.11	0.11	0.10	0.25	0.30	0.32	0.29	17494	-11576	1173
9	0.40	16.30	106	-0.80	0.01	0.08	0.10	0.07	0.33	0.30	0.34	0.32	17066	-10095	660
10	0.28	16.10	88	-0.32	0.12	0.06	0.07	0.08	0.28	0.28	0.32	0.29	16876	-2630	221
11	0.65	16.20	308	0.16	0.05	0.07	0.04	0.05	0.32	0.28	0.32	0.31	17792	2685	143
12	0.92	16.50	285	0.55	0.08	0.07	0.05	0.07	0.30	0.35	0.33	0.33	18320	7441	491
13	1.14	16.90	288	0.66	0.03	0.01	0.07	0.04	0.20	0.28	0.28	0.25	18648	9367	337
14	1.27	17.20	285	0.65	0.10	0.09	0.06	0.08	0.30	0.26	0.28	0.28	19525	9288	768
15	1.32	17.50	292	0.25	0.05	0.06	0.06	0.06	0.32	0.33	0.34	0.33	18741	3722	213
16	1.17	17.10	105	-0.37	0.07	0.08	0.07	0.07	0.33	0.32	0.34	0.33	18598	-5009	367
17	0.97	16.80	96	-0.69	0.02	0.07	0.08	0.06	0.30	0.34	0.35	0.33	18258	-7860	440
18	0.82	16.50	106	-0.88	0.06	0.05	0.09	0.06	0.30	0.30	0.30	0.30	18051	-11856	767
19	0.62	16.30	109	-0.87	0.04	0.09	0.07	0.07	0.34	0.32	0.28	0.31	17647	-11966	798

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	23.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.04 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
600	0.00	60	0.62		15.37	107	0.89	108	1.050	750	12.00	-6343	-12474	0.50	0.092	0.18
	0.50	60	0.62	0.31		107				750	10.00	-4863		8.60	0.152	0.18
	1.00	89	0.93	0.39		108				500	5.10	-1269		16.70	0.066	0.20
	3.00	94	0.98	1.90		108										
	5.00	98	1.02	2.00		110										
	7.00	92	0.96	1.98		109										
	9.00	92	0.96	1.92		107										
	11.00	84	0.87	1.83		110										
	13.00	89	0.93	1.80		107										
	15.00	81	0.84	1.77		107										
	16.70	66	0.69	1.30		107										
	17.20		0.00	0.17												
700	0.00	81	0.84		15.26	110	0.91	111	0.840	750	12.00	-6624	-12965	0.50	0.096	0.20
	0.50	81	0.84	0.42		110				750	10.00	-5054		8.40	0.092	0.22
	1.00	92	0.96	0.45		110				500	5.10	-1286		16.30	0.058	0.24
	3.00	95	0.99	1.95		110										
	5.00	92	0.96	1.95		110										
	7.00	96	1.00	1.96		110										
	9.00	86	0.90	1.89		110										
	11.00	91	0.95	1.84		112										
	13.00	88	0.92	1.86		112										
	15.00	78	0.81	1.73		112										
	16.30	73	0.76	1.02		112										
	16.80		0.00	0.19												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	23.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.04 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
800	0.00	87	0.91		13.81	110	0.84	110	0.610	750	12.00	-5948	-11576	0.50	0.090	0.25
	0.50	87	0.91	0.45		110				750	10.00	-4513		8.25	0.106	0.30
	1.00	90	0.94	0.46		110				500	5.10	-1115		16.00	0.108	0.32
	3.00	99	1.03	1.97		110										
	5.00	98	1.02	2.05		112										
	7.00	92	0.96	1.98		110										
	9.00	81	0.84	1.80		110										
	11.00	64	0.67	1.51		110										
	13.00	72	0.75	1.42		110										
	15.00	62	0.65	1.40		110										
	16.00	59	0.61	0.63		110										
	16.50		0.00	0.15												
900	0.00	78	0.81		13.03	107	0.80	106	0.400	750	12.00	-5214	-10095	0.50	0.014	0.33
	0.50	78	0.81	0.41		107				750	10.00	-3936		8.15	0.080	0.30
	1.00	82	0.85	0.42		107				500	5.10	-946		15.80	0.102	0.34
	3.00	85	0.88	1.74		107										
	5.00	81	0.84	1.73		107										
	7.00	86	0.90	1.74		107										
	9.00	87	0.91	1.80		105										
	11.00	81	0.84	1.75		105										
	13.00	72	0.75	1.59		106										
	15.00	54	0.56	1.31		103										
	15.80	48	0.50	0.43		103										
	16.30		0.00	0.13												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	23.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.04 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1000	0.00	35	0.36		5.09	90	0.32	88	0.280	750	12.00	-1362	-2630	0.50	0.124	0.28
	0.50	35	0.36	0.18		90				750	10.00	-1025		8.05	0.062	0.28
	1.00	34	0.35	0.18		90				500	5.10	-242		15.60	0.066	0.32
	3.00	38	0.40	0.75		90										
	5.00	36	0.38	0.77		90										
	7.00	34	0.35	0.73		90										
	9.00	29	0.30	0.66		85										
	11.00	26	0.27	0.57		85										
	13.00	24	0.25	0.52		85										
	15.00	27	0.28	0.53		85										
	15.60	19	0.20	0.14		85										
	16.10		0.00	0.05												
1100	0.00	8	0.08		2.61	315	0.16	308	0.650	750	12.00	1378	2685	0.50	0.050	0.32
	0.50	8	0.08	0.04		315				750	10.00	1047		8.10	0.066	0.28
	1.00	10	0.11	0.05		315				500	5.10	260		15.70	0.044	0.32
	3.00	7	0.07	0.18		310										
	5.00	20	0.21	0.28		310										
	7.00	18	0.19	0.40		310										
	9.00	20	0.21	0.40		305										
	11.00	17	0.18	0.39		305										
	13.00	18	0.19	0.37		305										
	15.00	16	0.17	0.36		300										
	15.70	15	0.16	0.11		300										
	16.20		0.00	0.04												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	23.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.04 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1200	0.00	72	0.75		9.10	285	0.55	285	0.920	750	12.00	3795	7441	0.50	0.078	0.30
	0.50	72	0.75	0.37		285				750	10.00	2901		8.25	0.068	0.35
	1.00	79	0.82	0.39		285				500	5.10	745		16.00	0.052	0.33
	3.00	68	0.71	1.53		285										
	5.00	54	0.56	1.27		285										
	7.00	65	0.68	1.24		287										
	9.00	54	0.56	1.24		287										
	11.00	51	0.53	1.09		285										
	13.00	39	0.41	0.94		285										
	15.00	28	0.29	0.70		285										
	16.00	22	0.23	0.26		285										
	16.50		0.00	0.06												
1300	0.00	65	0.68		11.11	287	0.66	288	1.140	750	12.00	4753	9367	0.50	0.026	0.20
	0.50	65	0.68	0.34		287				750	10.00	3651		8.45	0.014	0.28
	1.00	64	0.67	0.34		287				500	5.10	962		16.40	0.068	0.28
	3.00	78	0.81	1.48		287										
	5.00	72	0.75	1.56		287										
	7.00	75	0.78	1.53		287										
	9.00	64	0.67	1.45		287										
	11.00	56	0.58	1.25		290										
	13.00	54	0.56	1.15		290										
	15.00	54	0.56	1.12		288										
	16.40	51	0.53	0.77		288										
	16.90		0.00	0.13												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	23.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.04 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1400	0.00	64	0.67		11.12	285	0.65	285	1.270	750	12.00	4700	9288	0.50	0.100	0.30
	0.50	64	0.67	0.33		285				750	10.00	3620		8.60	0.092	0.26
	1.00	68	0.71	0.34		285				500	5.10	968		16.70	0.056	0.28
	3.00	67	0.70	1.41		285										
	5.00	68	0.71	1.41		285										
	7.00	65	0.68	1.38		287										
	9.00	67	0.70	1.37		284										
	11.00	64	0.67	1.36		287										
	13.00	62	0.65	1.31		285										
	15.00	52	0.54	1.19		285										
	16.70	48	0.50	0.89		285										
	17.20		0.00	0.13												
1500	0.00	36	0.38		4.32	285	0.25	292	1.320	750	12.00	1881	3722	0.50	0.052	0.32
	0.50	36	0.38	0.19		285				750	10.00	1451		8.75	0.058	0.33
	1.00	34	0.35	0.18		285				500	5.10	390		17.00	0.062	0.34
	3.00	36	0.38	0.73		290										
	5.00	35	0.36	0.74		290										
	7.00	28	0.29	0.66		292										
	9.00	24	0.25	0.54		290										
	11.00	18	0.19	0.44		295										
	13.00	14	0.15	0.33		295										
	15.00	10	0.11	0.25		300										
	17.00	11	0.12	0.22		300										
	17.50		0.00	0.03												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	23.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.04 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1600	0.00	41	0.43		6.30	100	0.37	105	1.170	750	12.00	-2540	-5009	0.50	0.066	0.33
	0.50	41	0.43	0.21		100				750	10.00	-1953		8.55	0.080	0.32
	1.00	44	0.46	0.22		100				500	5.10	-516		16.60	0.074	0.34
	3.00	49	0.51	0.97		102										
	5.00	43	0.45	0.96		102										
	7.00	38	0.40	0.84		105										
	9.00	35	0.36	0.76		108										
	11.00	34	0.35	0.72		108										
	13.00	29	0.30	0.66		110										
	15.00	24	0.25	0.55		110										
	16.60	18	0.19	0.35		110										
	17.10		0.00	0.05												
1700	0.00	78	0.81		11.63	95	0.69	96	0.970	750	12.00	-4004	-7860	0.50	0.024	0.30
	0.50	78	0.81	0.41		95				750	10.00	-3064		8.40	0.066	0.34
	1.00	82	0.85	0.42		95				500	5.10	-792		16.30	0.078	0.35
	3.00	78	0.81	1.67		95										
	5.00	76	0.79	1.60		98										
	7.00	72	0.75	1.54		96										
	9.00	72	0.75	1.50		100										
	11.00	71	0.74	1.49		97										
	13.00	65	0.68	1.42		100										
	15.00	44	0.46	1.14		95										
	15.30	41	0.43	0.13		95										
	16.80		0.00	0.32												

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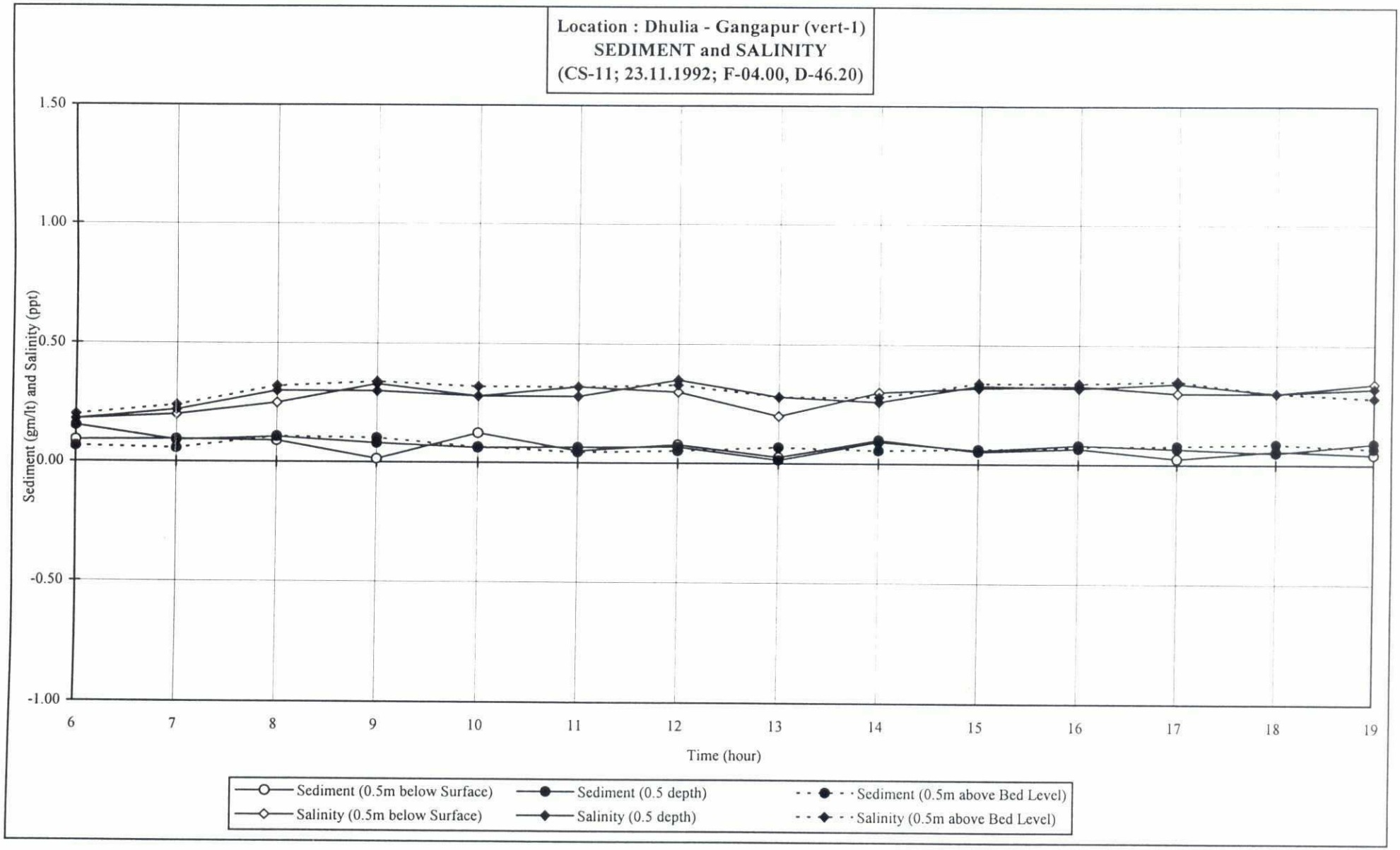
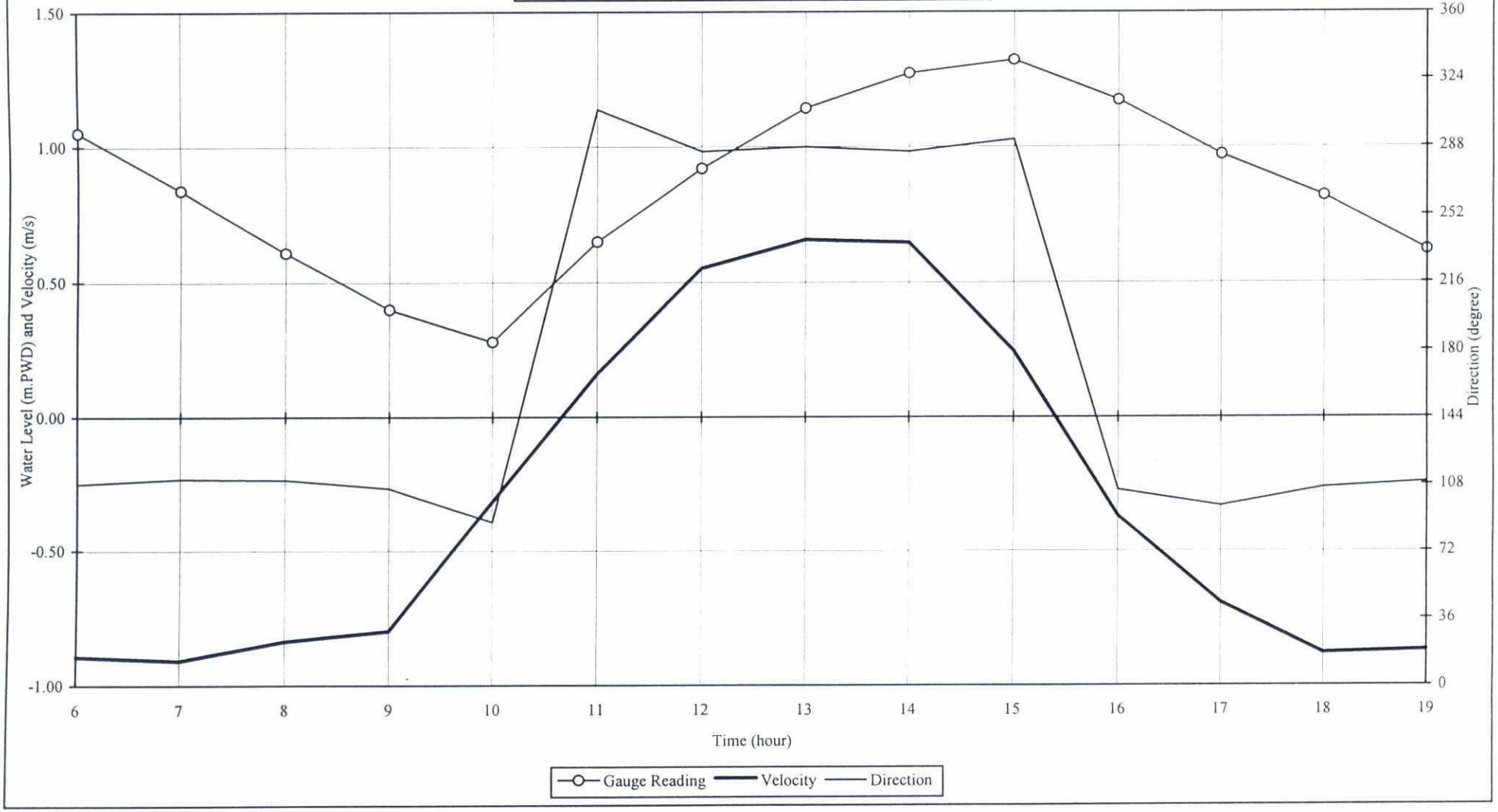
DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	23.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.04 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1800	0.00	84	0.87		14.52	105	0.88	106	0.820	750	12.00	-6061	-11856	0.50	0.058	0.30
	0.50	84	0.87	0.44		105				750	10.00	-4622		8.25	0.050	0.30
	1.00	89	0.93	0.45		105				500	5.10	-1173		16.00	0.086	0.30
	3.00	97	1.01	1.94		107										
	5.00	92	0.96	1.97		104										
	7.00	95	0.99	1.95		104										
	9.00	87	0.91	1.89		107										
	11.00	88	0.92	1.82		107										
	13.00	72	0.75	1.67		105										
	15.00	74	0.77	1.52		110										
	16.00	63	0.66	0.71		110										
	16.50		0.00	0.16												
1900	0.00	79	0.82		14.16	107	0.87	109	0.620	750	12.00	-6146	-11966	0.50	0.042	0.34
	0.50	79	0.82	0.41		107				750	10.00	-4665		8.15	0.090	0.32
	1.00	84	0.87	0.42		107				500	5.10	-1154		15.80	0.068	0.28
	3.00	87	0.91	1.78		109										
	5.00	88	0.92	1.82		109										
	7.00	84	0.87	1.79		110										
	9.00	92	0.96	1.83		110										
	11.00	87	0.91	1.86		110										
	13.00	81	0.84	1.75		112										
	15.80	76	0.79	2.29		112										
	16.30		0.00	0.20												


Location : Dhulia - Gangapur (vert-1)
SEDIMENT and SALINITY
(CS-11; 23.11.1992; F-04.00, D-46.20)
Sediment (gm/lt) and Salinity (ppt)
1.50
1.00
0.50
0.00
-0.50
-1.00
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)

Location : Dhulia - Gangapur (vert-1)
GAUGE READING, VELOCITY and DIRECTION
(CS-11; 23.11.1992; F-04.00, D-46.20)



DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	24.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.16 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 $n < 0.26$
							= 0.5199 n + 0.0010 $0.26 < n < 7.61$

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5	1.42	19.60	95	-0.52	0.05	0.06	0.07	0.06	0.12	0.12	0.16	0.13	32279	-10190	618
6	1.22	19.30	90	-0.55	0.06	0.06	0.02	0.05	0.16	0.16	0.15	0.16	31763	-9407	458
7	1.01	19.00	90	-0.69	0.01	0.13	0.09	0.08	0.20	0.22	0.25	0.22	31210	-11289	858
8	0.77	18.80	85	-0.65	0.06	0.08	0.07	0.07	0.20	0.22	0.22	0.21	30446	-8881	616
9	0.52	18.60	85	-0.67	0.05	0.07	0.07	0.06	0.24	0.24	0.26	0.25	29651	-8879	556
10	0.34	18.40	97	-0.60	0.09	0.07	0.08	0.08	0.25	0.26	0.25	0.25	29139	-11053	906
11	0.26	18.80	129	-0.34	0.04	0.07	0.07	0.06	0.18	0.18	0.20	0.19	28463	-9122	541
12	0.72	18.70	180	-0.10	0.02	0.05	0.04	0.04	0.16	0.18	0.19	0.18	30344	-2458	93
13	1.02	19.00	229	-0.26	0.03	0.05	0.07	0.05	0.20	0.25	0.24	0.23	39006	-1565	75
14	1.20	19.40	227	-0.31	0.08	0.06	0.09	0.08	0.24	0.26	0.22	0.24	31585	-1940	150
15	1.30	19.80	227	-0.23	0.06	0.04	0.05	0.05	0.18	0.22	0.16	0.19	31604	-1369	68
16	1.30	20.10	222	-0.11	0.03	0.04	0.04	0.04	0.20	0.22	0.24	0.22	31323	-918	33
17	1.12	19.80	157	-0.25	0.03	0.02	0.05	0.03	0.22	0.18	0.24	0.21	30889	-7754	253
18	0.92	19.40	121	-0.49	0.03	0.01	0.02	0.02	0.24	0.25	0.25	0.25	30471	-13340	258

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	24.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.16 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 (n < 0.26)
							= 0.5199 n + 0.0010 (0.26 < n < 7.61)

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
500	0.00	58	0.60		10.28	95	0.52	95	1.420	1000	7.00	-1605	-10190	0.50	0.052	0.12
	0.50	58	0.60	0.30		95				750	13.40	-2972		9.80	0.062	0.12
	1.00	64	0.67	0.32		95				500	18.80	-3251		19.10	0.068	0.16
	3.00	56	0.58	1.25		95				550	12.00	-1860				
	5.00	50	0.52	1.10		97				700	3.60	-490				
	7.00	68	0.71	1.23		94				250	-0.50	-11				
	9.00	51	0.53	1.24		94										
	11.00	56	0.58	1.11		95										
	13.00	42	0.44	1.02		95										
	15.00	36	0.38	0.81		95										
	17.00	46	0.48	0.85		95										
	19.10	39	0.41	0.93		95										
	19.60		0.00	0.10												
600	0.00	61	0.64		10.70	90	0.55	90	1.220	1000	7.00	-1462	-9407	0.50	0.064	0.16
	0.50	61	0.64	0.32		90				750	13.40	-2753		9.65	0.064	0.16
	1.00	66	0.69	0.33		90				500	18.80	-3030		18.80	0.018	0.15
	3.00	68	0.71	1.40		90				550	12.00	-1719				
	5.00	58	0.60	1.31		90				700	3.60	-435				
	7.00	61	0.64	1.24		93				250	-0.50	-7				
	9.00	56	0.58	1.22		90										
	11.00	49	0.51	1.09		90										
	13.00	47	0.49	1.00		90										
	15.00	48	0.50	0.99		90										
	17.00	44	0.46	0.96		90										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	24.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.16 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	18.80	36	0.38	0.75		90										
	19.30		0.00	0.09												
700	0.00	83	0.86		13.13	93	0.69	90	1.010	1000	7.00	-1730	-11289	0.50	0.014	0.20
	0.50	83	0.86	0.43		93				750	13.40	-3317		9.50	0.126	0.22
	1.00	86	0.90	0.44		93				500	18.80	-3672		18.50	0.088	0.25
	3.00	86	0.90	1.79		93				550	12.00	-2066				
	5.00	81	0.84	1.74		90				700	3.60	-499				
	7.00	67	0.70	1.54		90				250	-0.50	-5				
	9.00	68	0.71	1.41		92										
	11.00	64	0.67	1.37		87										
	13.00	63	0.66	1.32		90										
	15.00	56	0.58	1.24		90										
	17.00	47	0.49	1.07		85										
	18.50	39	0.41	0.67		82										
	19.00		0.00	0.10												
800	0.00	81	0.84		12.23	85	0.65	85	0.770	1000	7.00	-1337	-8881	0.50	0.062	0.20
	0.50	81	0.84	0.42		85				750	13.40	-2621		9.40	0.076	0.22
	1.00	76	0.79	0.41		85				500	18.80	-2923		18.30	0.070	0.22
	3.00	74	0.77	1.56		87				550	12.00	-1628				
	5.00	72	0.75	1.52		87				700	3.60	-372				
	7.00	64	0.67	1.42		87				250	-0.50	-1				
	9.00	66	0.69	1.35		85										
	11.00	61	0.64	1.32		85										
	13.00	63	0.66	1.29		85										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	24.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.16 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 (n < 0.26)
							= 0.5199 n + 0.0010 (0.26 < n < 7.61)

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	15.00	52	0.54	1.20		85										
	17.00	47	0.49	1.03		80										
	18.30	41	0.43	0.60		80										
	18.80		0.00	0.11												
900	0.00	79	0.82		12.42	87	0.67	85	0.520	1000	7.00	-1311	-8879	0.50	0.050	0.24
	0.50	79	0.82	0.41		87				750	13.40	-2631		9.30	0.068	0.24
	1.00	86	0.90	0.43		87				500	18.80	-2959		18.10	0.070	0.26
	3.00	78	0.81	1.71		85				550	12.00	-1629				
	5.00	70	0.73	1.54		85				700	3.60	-349				
	7.00	74	0.77	1.50		85				250	-0.50	0				
	9.00	66	0.69	1.46		86										
	11.00	57	0.59	1.28		86										
	13.00	64	0.67	1.26		85										
	15.00	61	0.64	1.30		85										
	17.00	43	0.45	1.08		80										
	18.10	24	0.25	0.38		80										
	18.60		0.00	0.06												
1000	0.00	74	0.77		11.00	95	0.60	97	0.340	1000	7.00	-1607	-11053	0.50	0.094	0.25
	0.50	74	0.77	0.39		95				750	13.40	-3286		9.20	0.068	0.26
	1.00	69	0.72	0.37		95				500	18.80	-3716		17.90	0.084	0.25
	3.00	61	0.64	1.35		93				550	12.00	-2030				
	5.00	68	0.71	1.34		93				700	3.60	-414				
	7.00	66	0.69	1.40		95				250	-0.50	0				
	9.00	57	0.59	1.28		100										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	24.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.16 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	11.00	54	0.56	1.16		100										
	13.00	54	0.56	1.12		100										
	15.00	51	0.53	1.09		100										
	17.00	44	0.46	0.99		100										
	17.90	41	0.43	0.40		100										
	18.40		0.00	0.11												
1100	0.00	38	0.40		6.37	125	0.34	129	0.260	1000	7.00	-1317	-9122	0.50	0.036	0.18
	0.50	38	0.40	0.20		125				750	13.40	-2715		9.15	0.074	0.18
	1.00	42	0.44	0.21		125				500	18.80	-3079		17.80	0.068	0.20
	3.00	40	0.42	0.85		125				550	12.00	-1675				
	5.00	41	0.43	0.84		127				700	3.60	-334				
	7.00	38	0.40	0.82		127				250	-0.50	0				
	9.00	43	0.45	0.84		130										
	11.00	29	0.30	0.75		130										
	13.00	26	0.27	0.57		130										
	15.00	25	0.26	0.53		135										
	17.00	21	0.22	0.48		135										
	17.80	18	0.19	0.16		135										
	18.80		0.00	0.09												
1200	0.00	8	0.08		1.80	180	0.10	180	0.720	1000	7.00	-369	-2458	0.50	0.022	0.16
	0.50	8	0.08	0.04		180				750	13.40	-726		9.35	0.050	0.18
	1.00	6	0.06	0.04		180				500	18.80	-811		18.20	0.042	0.19
	3.00	4	0.04	0.11		180				550	12.00	-451				
	5.00	5	0.05	0.10		185				700	3.60	-102				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	24.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.16 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 (n < 0.26)
							= 0.5199 n + 0.0010 (0.26 < n < 7.61)

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00	9	0.10	0.15		185				250	-0.50	0				
	9.00	18	0.19	0.28		185										
	11.00	6	0.06	0.25		180										
	13.00	8	0.08	0.15		180										
	15.00	16	0.17	0.25		180										
	17.00	11	0.12	0.28		175										
	18.20	8	0.08	0.12		175										
	18.70		0.00	0.02												
1300	0.00	12	0.13		5.00	230	0.26	229	1.020	1500	7.40	-312	-1565	0.50	0.026	0.20
	0.50	12	0.13	0.06		230				1000	7.00	-192		9.50	0.048	0.25
	1.00	15	0.16	0.07		230				750	13.40	-368		18.50	0.070	0.24
	3.00	21	0.22	0.38		235				500	18.80	-408				
	5.00	28	0.29	0.51		225				550	12.00	-229				
	7.00	34	0.35	0.65		225				700	3.60	-56				
	9.00	40	0.42	0.77		225				250	-0.50					
	11.00	29	0.30	0.72		230										
	13.00	20	0.21	0.51		230										
	15.00	21	0.22	0.43		230										
	17.00	26	0.27	0.49		230										
	18.50	20	0.21	0.36		230										
	19.00		0.00	0.05												
1400	0.00	28	0.29		6.10	225	0.31	227	1.200	1000	7.00	-301	-1940	0.50	0.078	0.24
	0.50	28	0.29	0.15		225				750	13.40	-568		9.70	0.060	0.26
	1.00	30	0.31	0.15		225				500	18.80	-625		18.90	0.094	0.22

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	24.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.16 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 $n < 0.26$
							= 0.5199 n + 0.0010 $0.26 < n < 7.61$

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	3.00	46	0.48	0.79		230				550	12.00	-355				
	5.00	41	0.43	0.91		235				700	3.60	-89				
	7.00	35	0.36	0.79		235				250	-0.50	-1				
	9.00	29	0.30	0.67		225										
	11.00	40	0.42	0.72		230										
	13.00	24	0.25	0.67		220										
	15.00	18	0.19	0.44		220										
	17.00	21	0.22	0.41		225										
	18.90	16	0.17	0.37		225										
	19.40		0.00	0.04												
1500	0.00	21	0.22		4.59	225	0.23	227	1.300	1000	7.00	-214	-1369	0.50	0.060	0.18
	0.50	21	0.22	0.11		225				750	13.40	-400		9.90	0.036	0.22
	1.00	29	0.30	0.13		225				500	18.80	-439		19.30	0.054	0.16
	3.00	27	0.28	0.58		225				550	12.00	-250				
	5.00	28	0.29	0.57		222				700	3.60	-64				
	7.00	32	0.33	0.63		227				250	-0.50	-1				
	9.00	18	0.19	0.52		227										
	11.00	19	0.20	0.39		230										
	13.00	23	0.24	0.44		230										
	15.00	16	0.17	0.41		230										
	17.00	19	0.20	0.37		230										
	19.30	15	0.16	0.41		230										
	19.80		0.00	0.04												
1600	0.00	10	0.11		2.21	225	0.11	222	1.300	1000	7.00	-144	-918	0.50	0.030	0.20

DISCHARGE MEASUREMENT

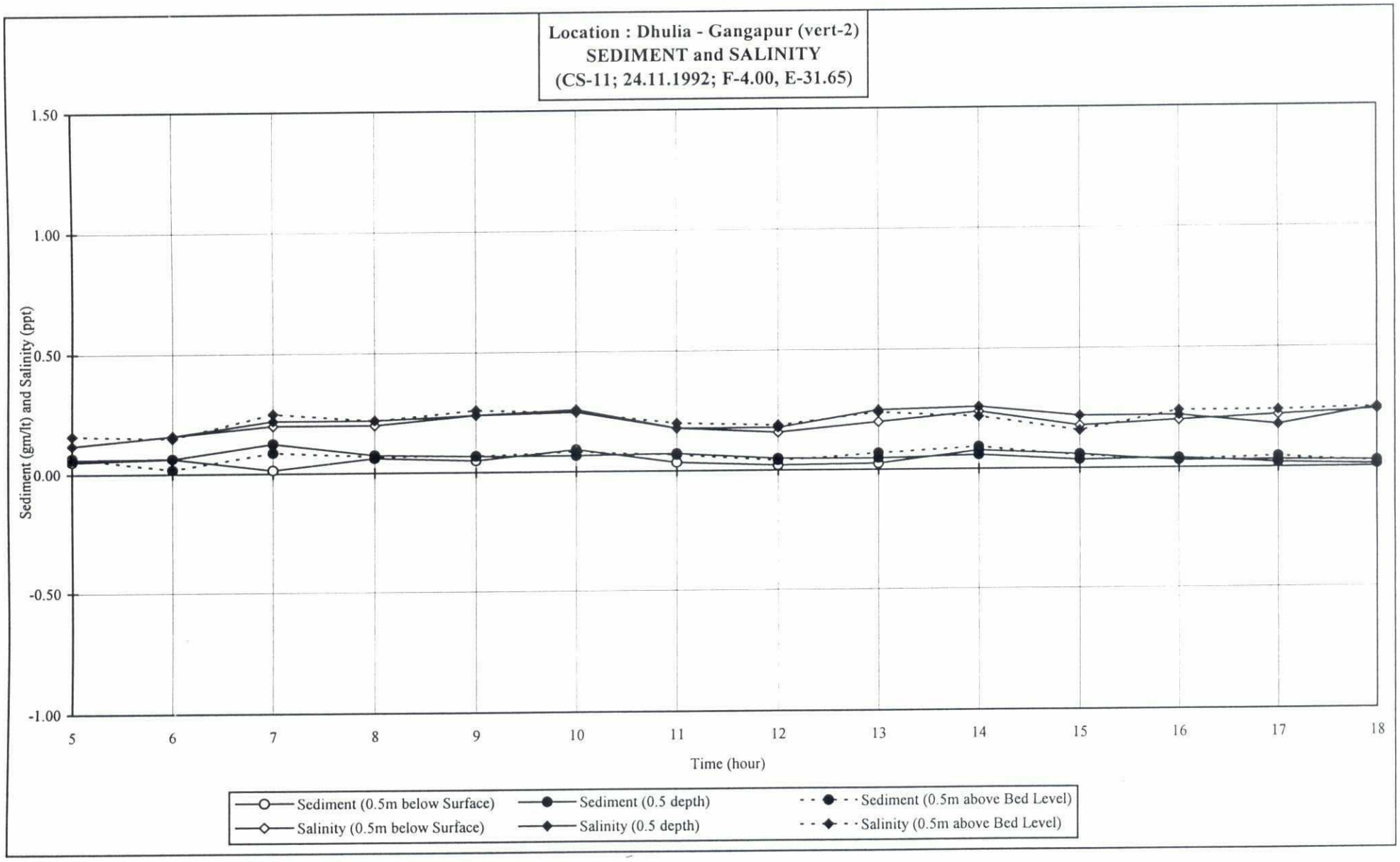
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	24.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.16 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26 = 0.5199 n + 0.0010 0.26 < n < 7.61

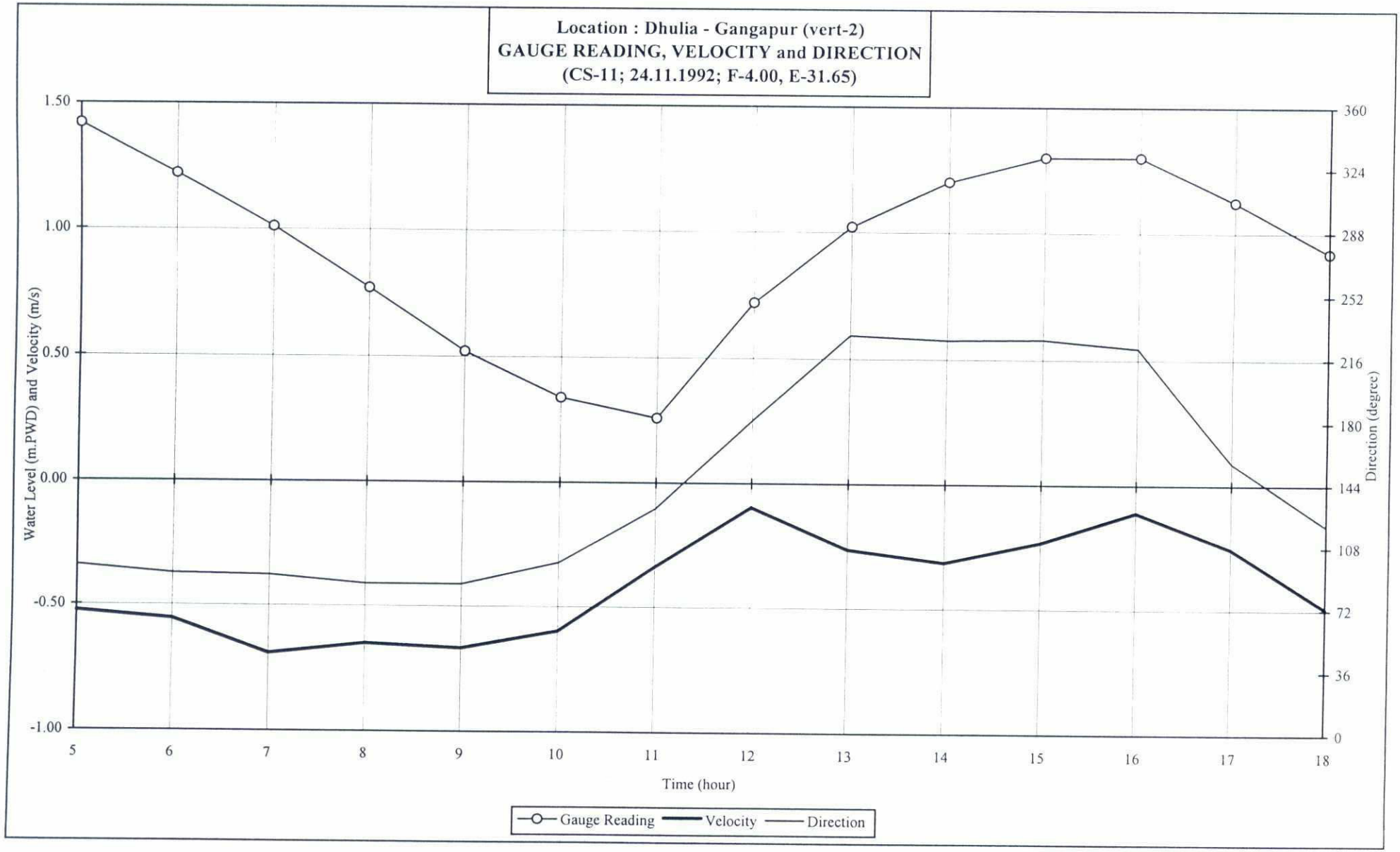
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0.50	10	0.11	0.05		225				750	13.40	-268		10.05	0.042	0.22
	1.00	12	0.13	0.06		225				500	18.80	-295		19.60	0.036	0.24
	3.00	7	0.07	0.20		225				550	12.00	-168				
	5.00	7	0.07	0.15		225				700	3.60	-43				
	7.00	12	0.13	0.20		223				250	-0.50	-1				
	9.00	13	0.14	0.26		223										
	11.00	9	0.10	0.23		223										
	13.00	11	0.12	0.21		218										
	15.00	14	0.15	0.26		220										
	17.00	12	0.13	0.27		220										
	19.00	10	0.11	0.23		220										
	19.60	8	0.08	0.06		220										
	20.10		0.00	0.02												
1700	0.00	12	0.13		5.03	165	0.25	157	1.120	1000	7.00	-1197	-7754	0.50	0.032	0.22
	0.50	12	0.13	0.06		165				750	13.40	-2274		9.90	0.020	0.18
	1.00	18	0.19	0.08		165				500	18.80	-2509		19.30	0.046	0.24
	3.00	37	0.39	0.57		165				550	12.00	-1418				
	5.00	32	0.33	0.72		157				700	3.60	-351				
	7.00	29	0.30	0.64		157				250	-0.50	-5				
	9.00	28	0.29	0.59		155										
	11.00	25	0.26	0.55		155										
	13.00	23	0.24	0.50		150										
	15.00	21	0.22	0.46		145										
	17.00	18	0.19	0.41		150										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	24.11.92
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	1.16 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	1.16 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 (n < 0.26)
							= 0.5199 n + 0.0010 (0.26 < n < 7.61)

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	19.00	16	0.17	0.36		155										
	19.30	15	0.16	0.05		155										
	19.80		0.00	0.04												
1800	0.00	47	0.49		9.57	120	0.49	121	0.920	1000	7.00	-2031	-13340	0.50	0.026	0.24
	0.50	47	0.49	0.24		120				750	13.40	-3925		9.70	0.010	0.25
	1.00	54	0.56	0.26		120				500	18.80	-4359		18.90	0.022	0.25
	3.00	57	0.59	1.16		120				550	12.00	-2443				
	5.00	51	0.53	1.12		115				700	3.60	-578				
	7.00	59	0.61	1.15		120				250	-0.50	-4				
	9.00	50	0.52	1.14		120										
	11.00	48	0.50	1.02		125										
	13.00	46	0.48	0.98		122										
	15.00	49	0.51	0.99		122										
	17.00	32	0.33	0.84		122										
	18.90	28	0.29	0.59		120										
	19.40		0.00	0.07												


Location : Dhulia - Gangapur (vert-2)
SEDIMENT and SALINITY
(CS-11; 24.11.1992; F-4.00, E-31.65)
Sediment (gm/lt) and Salinity (ppt)
1.50
1.00
0.50
0.00
-0.50
-1.00
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)


Location : Dhulia - Gangapur (vert-2)
GAUGE READING, VELOCITY and DIRECTION
(CS-11; 24.11.1992; F-4.00, E-31.65)
Water Level (m.PWD) and Velocity (m/s)
1.50
1.00
0.50
0.00
-0.50
-1.00
Direction (degree)
360
324
288
252
216
180
144
108
72
36
0
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Time (hour)
Gauge Reading
Velocity
Direction

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	03.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.76 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
10	1.05	17.00	106	-0.47	0.02	0.07	0.01	0.03	0.10	0.12	0.17	0.13	16445	-5689	186
11	0.94	16.80	110	-0.55	0.01	0.01	0.03	0.01	0.14	0.11	0.11	0.12	16297	-7052	103
12	0.82	16.60	109	-0.67	0.04	0.03	0.04	0.04	0.15	0.25	0.11	0.17	16126	-8422	314
13	0.67	16.40	107	-0.59	0.04	0.04		0.04	0.12	0.18		0.15	15883	-7049	261
14	0.54	16.40	105	-0.59	0.01	0.05	0.03	0.03	0.18	0.12	0.12	0.14	15575	-6703	197
15	0.42	16.20	108	-0.49	0.02	0.02	0.05	0.03	0.13	0.12	0.12	0.12	15404	-5784	174
16	0.30	16.10	115	-0.32	0.03	0.02	0.04	0.03	0.14	0.14	0.14	0.14	15177	-4051	116
17	0.32	16.00	204	-0.05	0.04	0.01	0.04	0.03	0.11	0.11	0.11	0.11	15281	-403	11
18	0.55	16.20	256	0.25	0.04	0.04	0.04	0.04	0.15	0.15	0.15	0.15	15713	1234	53
19	0.72	16.60	274	0.36	0.02	0.02	0.01	0.01	0.12	0.14	0.14	0.13	15888	3345	47
20	0.88	16.80	276	0.34	0.02	0.02	0.03	0.02	0.15	0.15	0.15	0.15	16154	3397	75
21	1.00	17.00	280	0.35	0.02	0.02	0.02	0.02	0.11	0.11	0.11	0.11	16325	3806	74
22	1.06	17.20	256	0.17	0.01	0.02	0.01	0.01	0.10	0.10	0.10	0.10	16354	865	11
23	1.02	17.00	134	-0.08	0.01	0.01	0.02	0.01	0.08	0.10	0.10	0.09	16373	-1314	18

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	03.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.76 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1030	0.00	16	0.17		7.91	100	0.47	106	1.050	750	12.00	-2893	-5689	0.50	0.018	0.10
	0.50	16	0.17	0.08		100				750	10.00	-2218		8.50	0.072	0.12
	1.00	21	0.22	0.10		100				500	5.10	-579		16.50	0.008	0.17
	3.00	26	0.27	0.49		100										
	5.00	48	0.50	0.77		110										
	7.00	50	0.52	1.02		105										
	9.00	51	0.53	1.05		110										
	11.00	56	0.58	1.11		105										
	13.00	60	0.62	1.21		110										
	15.00	52	0.54	1.17		110										
	16.50	48	0.50	0.78		110										
	17.00		0.00	0.13												
1130	0.00	53	0.55		9.29	110	0.55	110	0.940	750	12.00	-3595	-7052	0.50	0.008	0.14
	0.50	53	0.55	0.28		110				750	10.00	-2749		8.40	0.010	0.11
	1.00	58	0.60	0.29		110				500	5.10	-708		16.30	0.026	0.11
	3.00	60	0.62	1.23		110										
	5.00	56	0.58	1.21		110										
	7.00	59	0.61	1.20		110										
	9.00	54	0.56	1.18		110										
	11.00	49	0.51	1.07		110										
	13.00	48	0.50	1.01		115										
	15.00	52	0.54	1.04		105										
	16.30	46	0.48	0.66		105										
	16.80		0.00	0.12												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	03.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.76 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1230	0.00	67	0.70		11.15	110	0.67	109	0.820	750	12.00	-4305	-8422	0.50	0.036	0.15
	0.50	67	0.70	0.35		110				750	10.00	-3284		8.30	0.032	0.25
	1.00	68	0.71	0.35		110				500	5.10	-833		16.10	0.044	0.11
	3.00	80	0.83	1.54		115										
	5.00	59	0.61	1.45		118										
	7.00	66	0.69	1.30		118										
	9.00	59	0.61	1.30		107										
	11.00	69	0.72	1.33		107										
	13.00	68	0.71	1.43		105										
	15.00	61	0.64	1.34		100										
	16.10	49	0.51	0.63		100										
	16.60		0.00	0.13												
1330	0.00	59	0.61		9.70	107	0.59	107	0.670	750	12.00	-3616	-7049	0.50	0.036	0.12
	0.50	59	0.61	0.31		107				750	10.00	-2748		8.20	0.038	0.18
	1.00	63	0.66	0.32		107				500	5.10	-684		15.90		
	3.00	62	0.65	1.30		107										
	5.00	56	0.58	1.23		110										
	7.00	62	0.65	1.23		105										
	9.00	56	0.58	1.23		105										
	11.00	54	0.56	1.15		110										
	13.00	60	0.62	1.19		105										
	15.00	52	0.54	1.17		105										
	15.90	47	0.49	0.46		105										
	16.40		0.00	0.12												

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DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	03.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.76 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1430	0.00	62	0.65		9.65	105	0.59	105	0.540	750	12.00	-3450	-6703	0.50	0.010	0.18
	0.50	62	0.65	0.32		105				750	10.00	-2613		8.20	0.050	0.12
	1.00	59	0.61	0.32		105				500	5.10	-640		15.90	0.028	0.12
	3.00	53	0.55	1.17		100										
	5.00	62	0.65	1.20		105										
	7.00	60	0.62	1.27		105										
	9.00	54	0.56	1.19		105										
	11.00	49	0.51	1.07		105										
	13.00	53	0.55	1.06		100										
	15.00	52	0.54	1.09		110										
	15.90	98	1.02	0.70		110										
	16.40		0.00	0.26												
1530	0.00	51	0.53		7.90	110	0.49	108	0.420	750	12.00	-2986	-5784	0.50	0.020	0.13
	0.50	51	0.53	0.27		110				750	10.00	-2255		8.10	0.022	0.12
	1.00	59	0.61	0.29		110				500	5.10	-543		15.70	0.048	0.12
	3.00	52	0.54	1.16		110										
	5.00	46	0.48	1.02		110										
	7.00	46	0.48	0.96		105										
	9.00	47	0.49	0.97		107										
	11.00	42	0.44	0.93		110										
	13.00	45	0.47	0.91		105										
	15.00	48	0.50	0.97		108										
	15.70	43	0.45	0.33		108										
	16.20		0.00	0.11												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	03.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.76 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1630	0.00	33	0.34		5.10	117	0.32	115	0.300	750	12.00	-2097	-4051	0.50	0.028	0.14
	0.50	33	0.34	0.17		117				750	10.00	-1579		8.05	0.018	0.14
	1.00	32	0.33	0.17		117				500	5.10	-374		15.60	0.040	0.14
	3.00	32	0.33	0.67		115										
	5.00	30	0.31	0.65		118										
	7.00	30	0.31	0.63		116										
	9.00	31	0.32	0.64		113										
	11.00	30	0.31	0.64		110										
	13.00	32	0.33	0.65		113										
	15.00	30	0.31	0.65		116										
	15.60	27	0.28	0.18		118										
	16.10		0.00	0.07												
1730	0.00	2	0.02		0.77	189	0.05	204	0.320	750	12.00	-209	-403	0.50	0.036	0.11
	0.50	2	0.02	0.01		185				750	10.00	-157		8.00	0.010	0.11
	1.00	0	0.00	0.01		190				500	5.10	-37		15.50	0.038	0.11
	3.00	0	0.00	0.01		190										
	5.00	0	0.00	0.01		195										
	7.00	3	0.03	0.04		200										
	9.00	4	0.04	0.08		210										
	11.00	10	0.11	0.15		220										
	13.00	11	0.12	0.22		220										
	15.00	8	0.08	0.20		225										
	15.50	6	0.06	0.04		225										
	16.00		0.00	0.02												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	03.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.76 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1830	0.00	28	0.29		4.12	255	0.25	256	0.550	750	12.00	635	1234	0.50	0.044	0.15
	0.50	28	0.29	0.15		255				750	10.00	481		8.10	0.042	0.15
	1.00	26	0.27	0.14		255				500	5.10	118		15.70	0.044	0.15
	3.00	22	0.23	0.50		255										
	5.00	20	0.21	0.44		250										
	7.00	26	0.27	0.48		255										
	9.00	28	0.29	0.56		255										
	11.00	27	0.28	0.57		255										
	13.00	26	0.27	0.55		260										
	15.00	24	0.25	0.52		260										
	15.70	18	0.19	0.15		260										
	16.20		0.00	0.05												
1930	0.00	43	0.45		5.95	273	0.36	274	0.720	750	12.00	1714	3345	0.50	0.016	0.12
	0.50	43	0.45	0.22		273				750	10.00	1304		8.30	0.020	0.14
	1.00	42	0.44	0.22		273				500	5.10	327		16.10	0.006	0.14
	3.00	42	0.44	0.88		273										
	5.00	38	0.40	0.83		275										
	7.00	36	0.38	0.77		270										
	9.00	38	0.40	0.77		275										
	11.00	32	0.33	0.73		275										
	13.00	27	0.28	0.62		280										
	15.00	26	0.27	0.55		273										
	16.10	24	0.25	0.29		273										
	16.60		0.00	0.06												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	03.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.76 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
2030	0.00	41	0.43		5.69	275	0.34	276	0.880	750	12.00	1734	3397	0.50	0.016	0.15
	0.50	41	0.43	0.21		275				750	10.00	1324		8.40	0.024	0.15
	1.00	37	0.39	0.20		275				500	5.10	339		16.30	0.026	0.15
	3.00	38	0.40	0.78		275										
	5.00	40	0.42	0.81		277										
	7.00	36	0.38	0.79		277										
	9.00	32	0.33	0.71		275										
	11.00	28	0.29	0.63		280										
	13.00	27	0.28	0.57		280										
	15.00	28	0.29	0.57		275										
	16.30	23	0.24	0.35		275										
	16.80		0.00	0.06												
2130	0.00	38	0.40		5.90	280	0.35	280	1.000	750	12.00	1937	3806	0.50	0.024	0.11
	0.50	38	0.40	0.20		280				750	10.00	1484		8.50	0.018	0.11
	1.00	34	0.35	0.19		280				500	5.10	385		16.50	0.016	0.11
	3.00	35	0.36	0.72		280										
	5.00	36	0.38	0.74		282										
	7.00	38	0.40	0.77		282										
	9.00	36	0.38	0.77		277										
	11.00	31	0.32	0.70		280										
	13.00	34	0.35	0.68		280										
	15.00	28	0.29	0.65		280										
	16.50	26	0.27	0.42		280										
	17.00		0.00	0.07												

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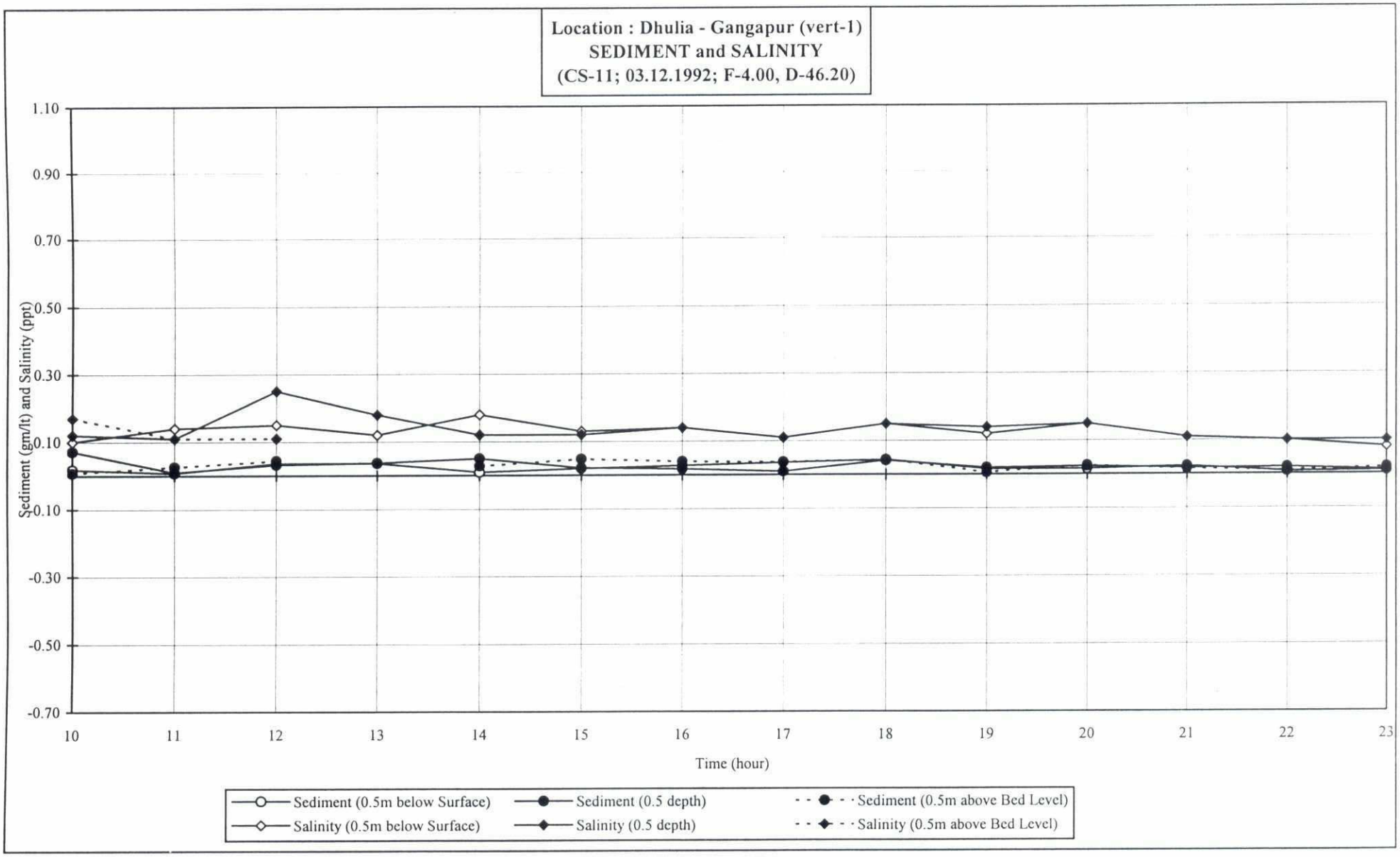
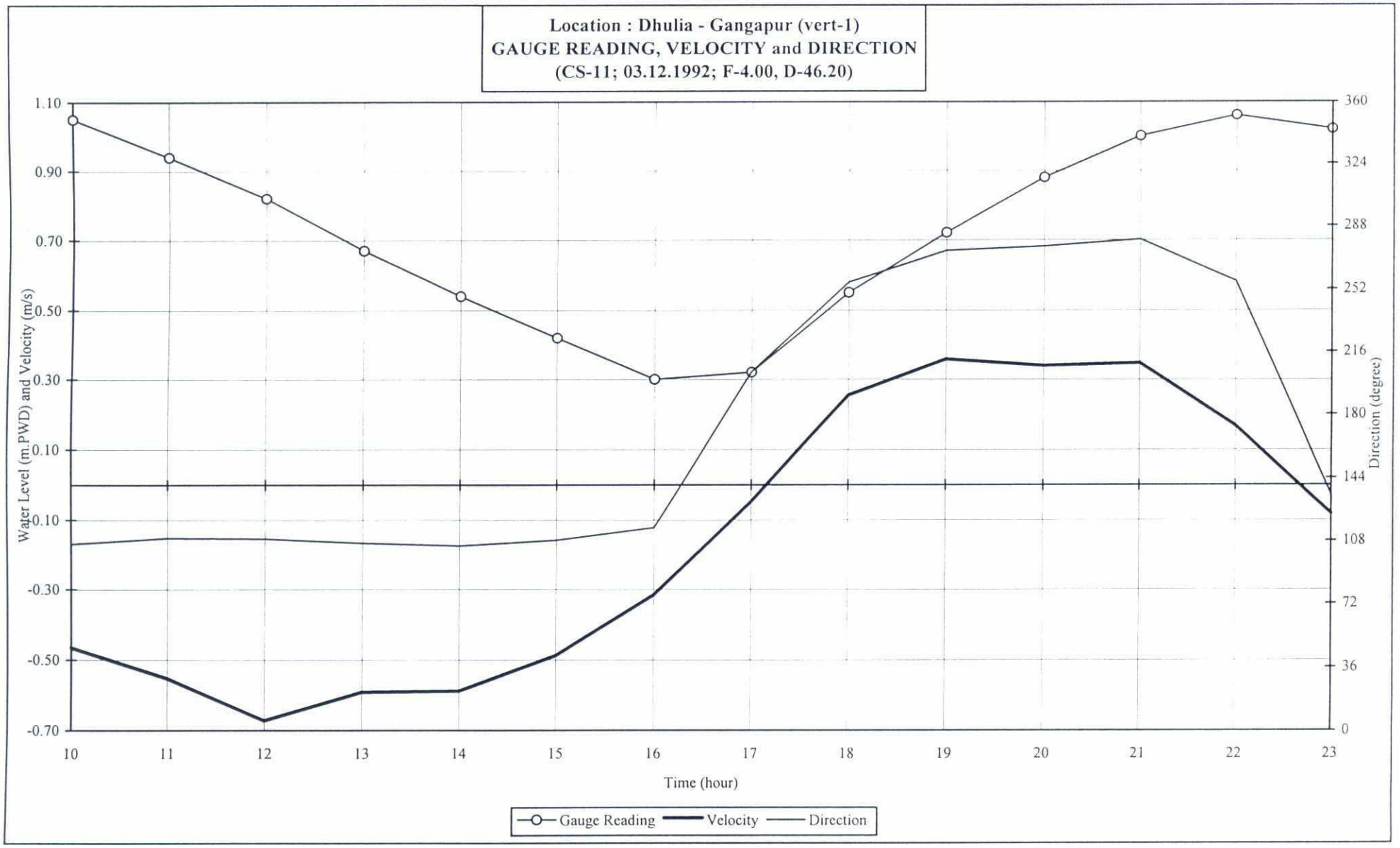
DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-1)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; D-46.20	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	03.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.76 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
2230	0.00	16	0.17		2.87	265	0.17	256	1.060	750	12.00	439	865	0.50	0.008	0.10
	0.50	16	0.17	0.08		265				750	10.00	337		8.60	0.020	0.10
	1.00	18	0.19	0.09		265				500	5.10	88		16.70	0.010	0.10
	3.00	17	0.18	0.37		265										
	5.00	17	0.18	0.36		255										
	7.00	18	0.19	0.37		255										
	9.00	15	0.16	0.35		255										
	11.00	17	0.18	0.33		250										
	13.00	16	0.17	0.35		250										
	15.00	14	0.15	0.31		250										
	16.70	13	0.14	0.24		245										
	17.20		0.00	0.03												
2330	0.00	8	0.08		1.41	130	0.08	134	1.020	750	12.00	-669	-1314	0.50	0.010	0.08
	0.50	8	0.08	0.04		130				750	10.00	-512		8.50	0.012	0.10
	1.00	10	0.11	0.05		130				500	5.10	-133		16.50	0.020	0.10
	3.00	10	0.11	0.21		130										
	5.00	8	0.08	0.19		130										
	7.00	6	0.06	0.15		135										
	9.00	8	0.08	0.15		135										
	11.00	8	0.08	0.17		135										
	13.00	7	0.07	0.16		140										
	15.00	8	0.08	0.16		140										
	16.50	6	0.06	0.11		140										
	17.00		0.00	0.02												


Location : Dhulia - Gangapur (vert-1)
SEDIMENT and SALINITY
(CS-11; 03.12.1992; F-4.00, D-46.20)
Sediment (gm/lt) and Salinity (ppt)
1.10
0.90
0.70
0.50
0.30
0.10
-0.10
-0.30
-0.50
-0.70
10
11
12
13
14
15
16
17
18
19
20
21
22
23
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)


Location : Dhulia - Gangapur (vert-1)
GAUGE READING, VELOCITY and DIRECTION
(CS-11; 03.12.1992; F-4.00, D-46.20)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
1.10
0.90
0.70
0.50
0.30
0.10
-0.10
-0.30
-0.50
-0.70
360
324
288
252
216
180
144
108
72
36
0
10
11
12
13
14
15
16
17
18
19
20
21
22
23
Gauge Reading
Velocity
Direction

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	04.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.80 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	0.58	19.10	140	-0.03	0.05	0.02	0.05	0.04	0.14	0.14	0.14	0.14	27949	-759	31
7	0.75	19.40	233	-0.07	0.02	0.04	0.03	0.03	0.18	0.18	0.20	0.19	28316	-158	4
8	0.87	19.80	232	-0.23	0.03	0.02	0.01	0.02	0.22	0.25	0.25	0.24	28415	-699	15
9	0.95	20.20	226	-0.17	0.04	0.03	0.00	0.02	0.23	0.22	0.00	0.15	28372	-1004	22
10	0.97	20.50	245	0.15	0.05	0.08	0.04	0.06	0.27	0.30	0.30	0.29	28198	567	32
11	0.87	20.70	195	-0.13	0.04	0.04	0.05	0.04	0.29	0.33	0.33	0.32	27676	-2518	107
12	0.74	20.50	126	-0.29	0.05	0.04	0.05	0.05	0.28	0.30	0.21	0.26	27369	-7242	338
13	0.62	20.20	85	-0.50	0.02	0.04	0.03	0.03	0.21	0.22	0.31	0.25	27179	-6247	183
14	0.50	19.90	92	-0.54	0.04	0.04	0.05	0.04	0.21	0.08	0.16	0.15	22291	-6650	297
15	0.37	19.60	88	-0.54	0.05	0.04	0.04	0.04	0.00	0.00	0.12	0.04	26770	-7066	297
16	0.26	19.40	88	-0.54	0.07	0.05	0.11	0.07	0.12	0.10	0.10	0.11	26541	-7312	546
17	0.17	19.20	93	-0.43	0.05	0.05	0.07	0.05	0.10	0.10	0.10	0.10	26383	-6507	343
18	0.19	19.00	95	-0.28	0.04	0.07	0.06	0.06	0.04	0.04	0.08	0.05	26619	-4550	261
19	0.47	19.20	95	-0.08	0.06	0.06	0.06	0.06	0.02	0.02	0.04	0.03	27461	-1384	83

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	04.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.80 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
600	0.00	0	0.00		0.52	130	0.03	140	0.580	1000	7.00	-113	-759	0.50	0.052	0.14
	0.50	0	0.00	0.00		130				750	13.40	-225		9.55	0.022	0.14
	1.00	1	0.01	0.00		130				500	18.80	-252		18.60	0.048	0.14
	3.00	0	0.00	0.02		130				550	12.00	-139				
	5.00	3	0.03	0.04		135				700	3.60	-30				
	7.00	4	0.04	0.08		135				250	-0.50	0				
	9.00	0	0.00	0.05		140										
	11.00	3	0.03	0.04		140										
	13.00	2	0.02	0.06		145										
	15.00	5	0.05	0.08		145										
	17.00	5	0.05	0.11		150										
	18.60	2	0.02	0.06		155										
	19.10		0.00	0.01												
700	0.00	3	0.03		1.29	242	0.07	233	0.750	1000	7.00	-24	-158	0.50	0.018	0.18
	0.50	3	0.03	0.02		242				750	13.40	-47		9.70	0.036	0.18
	1.00	6	0.06	0.02		242				500	18.80	-52		18.90	0.026	0.20
	3.00	4	0.04	0.11		240				550	12.00	-29				
	5.00	5	0.05	0.10		240				700	3.60	-7				
	7.00	2	0.02	0.08		235				250	-0.50	0				
	9.00	4	0.04	0.07		235										
	11.00	9	0.10	0.14		230										
	13.00	12	0.13	0.22		230										
	15.00	11	0.12	0.24		225										
	17.00	6	0.06	0.18		225										

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DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	04.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.80 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	18.90	4	0.04	0.10		220										
	19.40		0.00	0.01												
800	0.00	24	0.25		4.57	230	0.23	232	0.870	1000	7.00	-106	-699	0.50	0.030	0.22
	0.50	24	0.25	0.13		230				750	13.40	-206		9.90	0.022	0.25
	1.00	26	0.27	0.13		230				500	18.80	-229		19.30	0.012	0.25
	3.00	27	0.28	0.55		230				550	12.00	-128				
	5.00	25	0.26	0.54		233				700	3.60	-30				
	7.00	28	0.29	0.55		230				250	-0.50	0				
	9.00	21	0.22	0.51		230										
	11.00	18	0.19	0.41		232										
	13.00	20	0.21	0.40		230										
	15.00	17	0.18	0.39		235										
	17.00	22	0.23	0.41		235										
	19.30	20	0.21	0.50		235										
	19.80		0.00	0.05												
900	0.00	24	0.25		3.41	220	0.17	226	0.950	1000	7.00	-153	-1004	0.50	0.038	0.23
	0.50	24	0.25	0.13		220				750	13.40	-295		10.10	0.028	0.22
	1.00	21	0.22	0.12		220				500	18.80	-327		19.70		
	3.00	22	0.23	0.45		220				550	12.00	-184				
	5.00	23	0.24	0.47		225				700	3.60	-44				
	7.00	18	0.19	0.43		225				250	-0.50	0				
	9.00	17	0.18	0.37		220										
	11.00	14	0.15	0.32		225										
	13.00	11	0.12	0.26		225										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	04.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.80 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	15.00	10	0.11	0.22		225										
	17.00	13	0.14	0.24		235										
	19.00	14	0.15	0.28		235										
	19.70	11	0.12	0.09		235										
	20.20		0.00	0.03												
1000	0.00	18	0.19		3.16	235	0.15	245	0.970	1000	7.00	87	567	0.50	0.046	0.27
	0.50	18	0.19	0.09		235				750	13.40	167		10.25	0.082	0.30
	1.00	16	0.17	0.09		235				500	18.80	185		20.00	0.040	0.30
	3.00	14	0.15	0.31		240				550	12.00	104				
	5.00	14	0.15	0.29		240				700	3.60	25				
	7.00	15	0.16	0.30		240				250	-0.50	0				
	9.00	18	0.19	0.35		245										
	11.00	11	0.12	0.30		245										
	13.00	12	0.13	0.24		250										
	15.00	18	0.19	0.31		250										
	17.00	15	0.16	0.35		255										
	19.00	16	0.17	0.32		255										
	20.00	14	0.15	0.16		255										
	20.50		0.00	0.04												
1100	0.00	4	0.04		2.79	205	0.13	195	0.870	1000	7.00	-382	-2518	0.50	0.038	0.29
	0.50	4	0.04	0.02		205				750	13.40	-742		10.35	0.042	0.33
	1.00	8	0.08	0.03		205				500	18.80	-825		20.20	0.048	0.33
	3.00	6	0.06	0.15		205				550	12.00	-461				
	5.00	5	0.05	0.12		200				700	3.60	-108				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	04.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.80 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00	7	0.07	0.13		200				250	-0.50	-1				
	9.00	12	0.13	0.20		200										
	11.00	13	0.14	0.26		195										
	13.00	18	0.19	0.32		190										
	15.00	22	0.23	0.42		190										
	17.00	18	0.19	0.42		185										
	19.00	24	0.25	0.44		185										
	20.20	14	0.15	0.24		185										
	20.70		0.00	0.04												
1200	0.00	22	0.23		5.85	130	0.29	126	0.740	1000	7.00	-1088	-7242	0.50	0.050	0.28
	0.50	22	0.23	0.11		130				750	13.40	-2138		10.25	0.038	0.30
	1.00	21	0.22	0.11		130				500	18.80	-2387		20.00	0.052	0.21
	3.00	25	0.26	0.48		130				550	12.00	-1327				
	5.00	25	0.26	0.52		128				700	3.60	-301				
	7.00	26	0.27	0.53		126				250	-0.50	-1				
	9.00	29	0.30	0.57		120										
	11.00	34	0.35	0.66		125										
	13.00	28	0.29	0.65		120										
	15.00	29	0.30	0.59		125										
	17.00	32	0.33	0.64		120										
	19.00	28	0.29	0.63		130										
	20.00	26	0.27	0.28		125										
	20.50		0.00	0.07												
1300	0.00	52	0.54		10.09	85	0.50	85	0.620	1000	7.00	-930	-6247	0.50	0.022	0.21

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	04.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.80 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0.50	52	0.54	0.27		85				750	13.40	-1848		10.10	0.038	0.22
	1.00	49	0.51	0.26		85				500	18.80	-2071		19.70	0.028	0.31
	3.00	50	0.52	1.03		85				550	12.00	-1146				
	5.00	46	0.48	1.00		80				700	3.60	-252				
	7.00	56	0.58	1.06		85				250	-0.50	0				
	9.00	55	0.57	1.16		80										
	11.00	44	0.46	1.03		85										
	13.00	56	0.58	1.04		85										
	15.00	45	0.47	1.05		90										
	17.00	44	0.46	0.93		85										
	19.00	40	0.42	0.88		90										
	19.70	37	0.39	0.28		90										
	20.20		0.00	0.10												
1400	0.00	60	0.62		10.66	90	0.54	92	0.500	1000	7.00	-980	-6650	0.50	0.044	0.21
	0.50	60	0.62	0.31		90				750	13.40	-1971		9.95	0.042	0.08
	1.00	60	0.62	0.31		90				500	18.80	-2218		19.40	0.048	0.16
	3.00	58	0.60	1.23		92				550	12.00	-1220				
	5.00	55	0.57	1.18		92				700	3.60	-260				
	7.00	50	0.52	1.09		90				250	-0.50	0				
	9.00	52	0.54	1.06		90										
	11.00	53	0.55	1.09		90										
	13.00	54	0.56	1.11		95										
	15.00	47	0.49	1.05		95										
	17.00	48	0.50	0.99		90										

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DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	04.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.80 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	19.00	42	0.44	0.94		95										
	19.40	41	0.43	0.17		95										
	19.90		0.00	0.11												
1500	0.00	60	0.62		10.50	90	0.54	88	0.370	1000	7.00	-1030	-7066	0.50	0.046	0.00
	0.50	60	0.62	0.31		90				750	13.40	-2099		9.80	0.042	0.00
	1.00	56	0.58	0.30		90				500	18.80	-2372		19.10	0.038	0.12
	3.00	54	0.56	1.15		85				550	12.00	-1297				
	5.00	52	0.54	1.10		90				700	3.60	-267				
	7.00	49	0.51	1.05		90				250	-0.50	0				
	9.00	60	0.62	1.14		90										
	11.00	53	0.55	1.18		85										
	13.00	51	0.53	1.08		85										
	15.00	56	0.58	1.11		85										
	17.00	47	0.49	1.07		85										
	19.10	36	0.38	0.91		85										
	19.60		0.00	0.09												
1600	0.00	57	0.59		10.55	90	0.54	88	0.260	1000	7.00	-1056	-7312	0.50	0.068	0.12
	0.50	57	0.59	0.30		90				750	13.40	-2177		9.70	0.050	0.10
	1.00	54	0.56	0.29		90				500	18.80	-2468		18.90	0.106	0.10
	3.00	59	0.61	1.18		90				550	12.00	-1343				
	5.00	56	0.58	1.20		90				700	3.60	-268				
	7.00	50	0.52	1.10		92				250	-0.50	0				
	9.00	49	0.51	1.03		90										
	11.00	57	0.59	1.10		90										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	04.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.80 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	13.00	54	0.56	1.16		85										
	15.00	52	0.54	1.10		90										
	17.00	48	0.50	1.04		82										
	18.90	46	0.48	0.93		82										
	19.40		0.00	0.12												
1700	0.00	46	0.48		8.34	97	0.43	93	0.170	1000	7.00	-932	-6507	0.50	0.046	0.10
	0.50	46	0.48	0.24		97				750	13.40	-1940		9.60	0.046	0.10
	1.00	47	0.49	0.24		97				500	18.80	-2207		18.70	0.066	0.10
	3.00	49	0.51	1.00		95				550	12.00	-1196				
	5.00	40	0.42	0.93		100				700	3.60	-232				
	7.00	41	0.43	0.84		95				250	-0.50	0				
	9.00	46	0.48	0.91		95										
	11.00	47	0.49	0.97		90										
	13.00	38	0.40	0.89		90										
	15.00	44	0.46	0.85		85										
	17.00	34	0.35	0.81		85										
	18.70	31	0.32	0.58		85										
	19.20		0.00	0.08												
1800	0.00	26	0.27		5.41	95	0.28	95	0.190	1000	7.00	-653	-4550	0.50	0.044	0.04
	0.50	26	0.27	0.14		95				750	13.40	-1356		9.50	0.066	0.04
	1.00	24	0.25	0.13		95				500	18.80	-1541		18.50	0.062	0.08
	3.00	23	0.24	0.49		95				550	12.00	-836				
	5.00	24	0.25	0.49		95				700	3.60	-163				
	7.00	26	0.27	0.52		95				250	-0.50	0				

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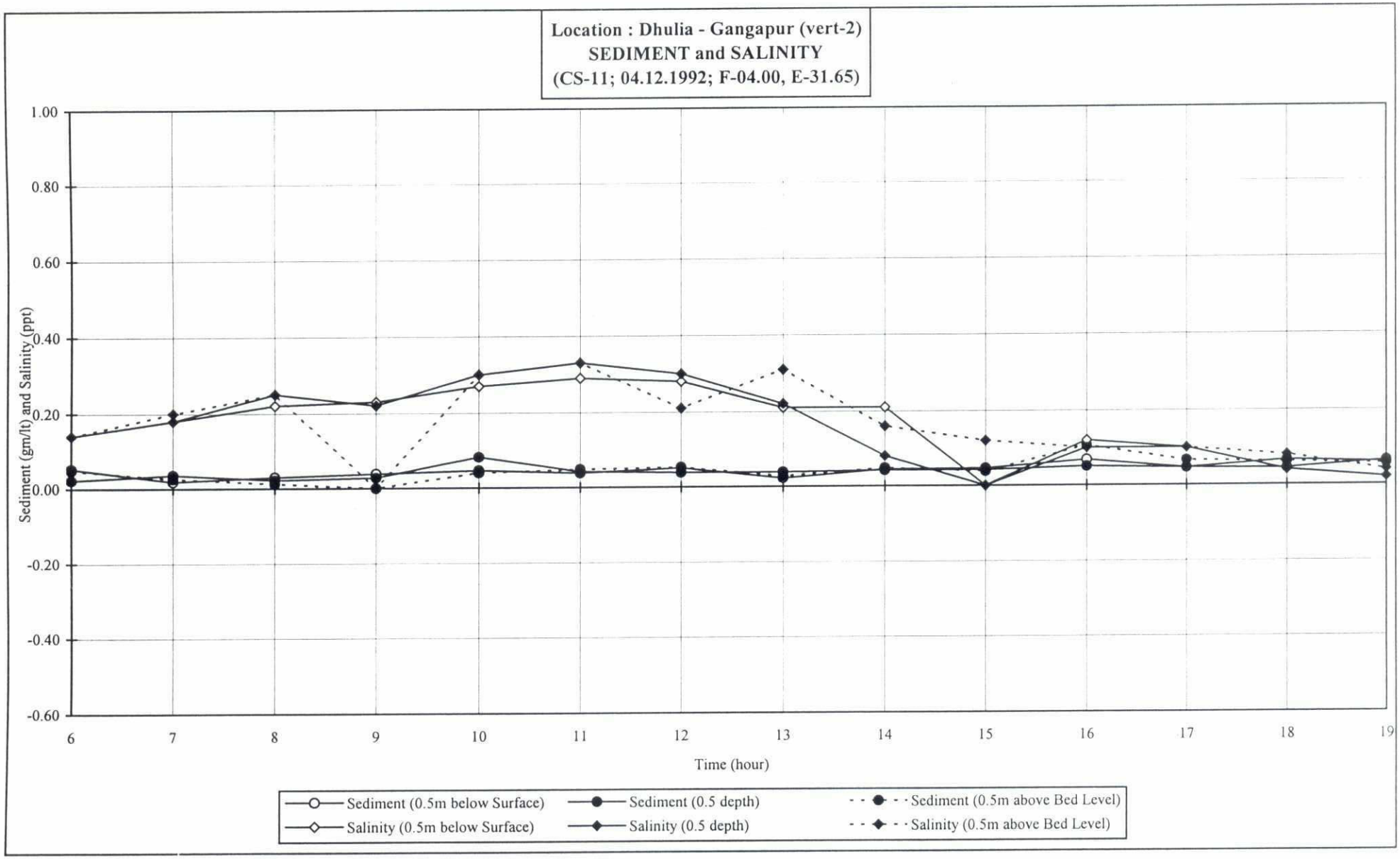
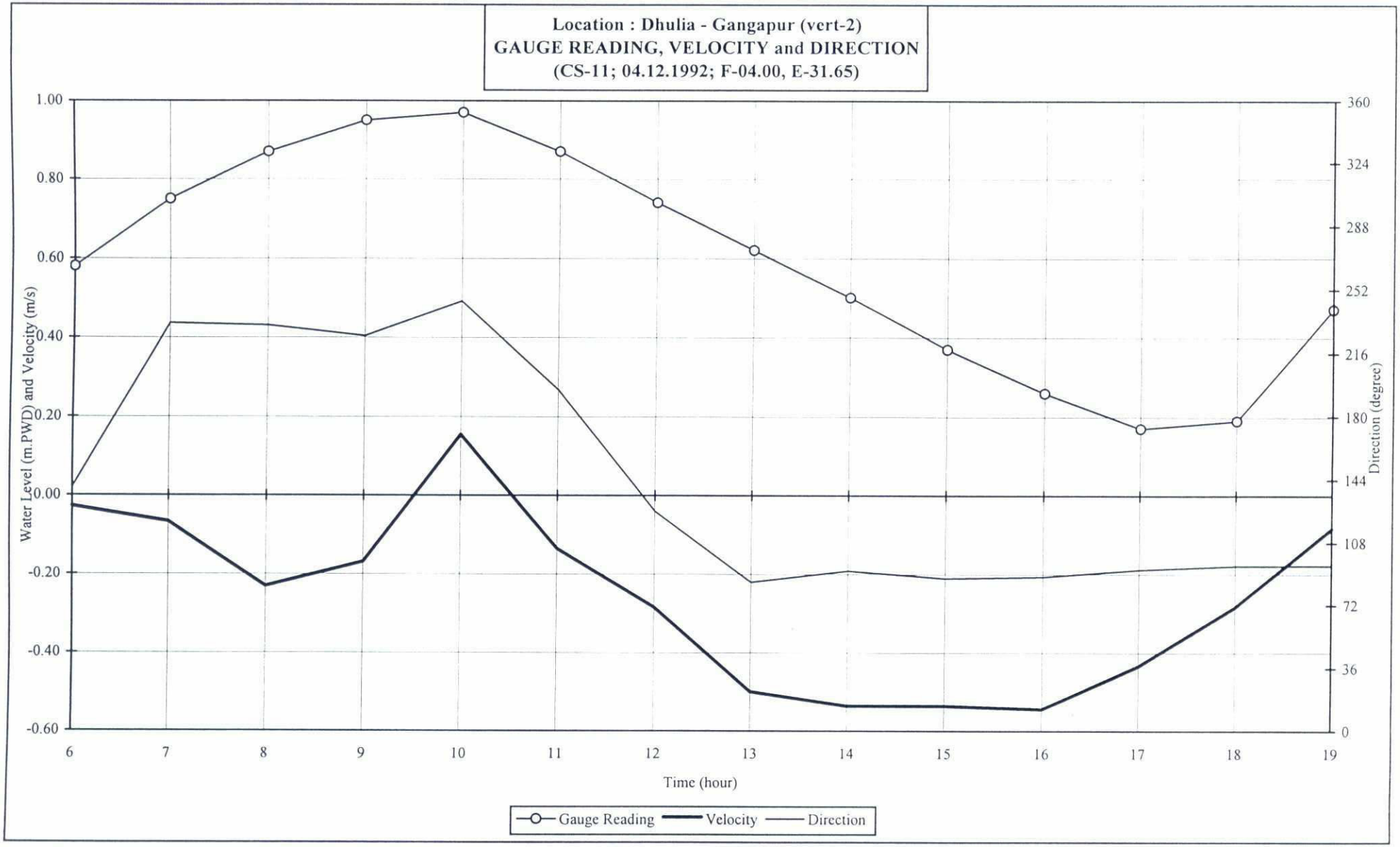
DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Dhulia - Gangapur (vert-2)	4.	Cross Section No.	:	11
5.	Decca Location	:	F-04.00; E-31.65	6.	Reference File Name	:	
7.	Season	:	Postmonsoon	8.	Date	:	04.12.92
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Dhulia
11.	Current Meter No.	:	SEBA NO. F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	0.80 m	14.	X-section Direction	:	58 degrees
15.	Reference Tide Range	:	0.76 m	16.	Equation of Velocity	:	V = 0.5142 n + 0.0025 n < 0.26
							= 0.5199 n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	9.00	29	0.30	0.57		95										
	11.00	28	0.29	0.59		97										
	13.00	28	0.29	0.58		92										
	15.00	30	0.31	0.61		95										
	17.00	38	0.40	0.71		95										
	18.50	26	0.27	0.50		95										
	19.00		0.00	0.07												
1900	0.00	2	0.02		1.61	90	0.08	95	0.470	1000	7.00	-204	-1384	0.50	0.064	0.02
	0.50	2	0.02	0.01		90				750	13.40	-411		9.60	0.060	0.02
	1.00	4	0.04	0.02		90				500	18.80	-462		18.70	0.056	0.04
	3.00	6	0.06	0.11		90				550	12.00	-254				
	5.00	5	0.05	0.12		95				700	3.60	-54				
	7.00	6	0.06	0.12		95				250	-0.50	0				
	9.00	8	0.08	0.15		95										
	11.00	11	0.12	0.20		95										
	13.00	9	0.10	0.21		100										
	15.00	13	0.14	0.23		100										
	17.00	11	0.12	0.25		100										
	18.70	8	0.08	0.17		100										
	19.20		0.00	0.02												


Location : Dhulia - Gangapur (vert-2)
SEDIMENT and SALINITY
(CS-11; 04.12.1992; F-04.00, E-31.65)
Sediment (gm/lt) and Salinity (ppt)
1.00
0.80
0.60
0.40
0.20
0.00
-0.20
-0.40
-0.60
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)


Location : Dhulia - Gangapur (vert-2)
GAUGE READING, VELOCITY and DIRECTION
(CS-11; 04.12.1992; F-04.00, E-31.65)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
1.00
0.80
0.60
0.40
0.20
0.00
-0.20
-0.40
-0.60
360
324
288
252
216
180
144
108
72
36
0
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Gauge Reading
Velocity
Direction

1994

Cross Section CS-6

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Chattigong - Sandwip	4.	Cross Section No.	:	6
5.	Decca Location	:	A-06.00; B-34.10	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	13.02.94
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125 /2.152.500.125
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	221 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	V = 0.4952n + 0.0154 n < 0.55
							= 0.5186n + 0.0026 0.55 < n < 7.63
							V = 0.2444n+0.0068 7.63 < n < 17.76

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	0.15	10.30	150	1.35	0.58	0.19	0.21	0.33	7.78	7.78	7.78	7.78	98947	126361	41278
7	-0.65	9.50	145	1.41	0.20	0.19	2.01	0.80	7.78	7.78	7.78	7.78	90043	123275	98373
8	-1.43	8.50	149	1.05	0.25	0.09	5.68	2.01	7.78	7.78	7.78	7.78	82633	82948	166726
9	-1.85	8.00	160	0.58	0.14	1.38	2.52	1.35	7.78	7.78	7.78	7.78	78458	40041	53922
10	-2.05	8.00	170	0.35	0.24	0.28	3.23	1.25	7.78	7.78	7.78	7.78	75104	20537	25671
11	-2.15	8.00	255	-1.18	2.45	0.38	1.99	1.61	7.78	7.78	7.78	7.78	73449	-48156	77403
12	-0.65	9.75	295	-2.04	0.31	0.07	0.12	0.17	7.78	7.78	7.78	7.78	88652	-173622	28706
13	1.30	11.50	310	-2.61	0.10	5.94	5.63	3.89	7.78	7.78	7.78	7.78	111661	-291693	1135076
14	2.50	12.70	319	-1.65	0.20	3.54	4.76	2.84	7.78	7.78	7.78	7.78	125247	-204390	579786
15	2.90	12.90	323	-1.04	0.06	5.24	8.82	4.71	7.78	7.78	7.78	7.78	130985	-132803	625146
16	2.61	12.80	45	0.78	4.03	2.63	5.95	4.20	7.78	7.78	7.78	7.78	126554	6772	28474
17	1.70	12.00	133	2.15	0.05	3.63	5.66	3.11	7.78	7.78	7.78	7.78	115603	248080	772521
18	0.92	10.90	140	3.03	0.11	5.12	2.53	2.59	7.78	7.78	7.78	7.78	108664	324701	840108
19	0.20	9.75	133	2.89	0.10	5.51	6.07	3.89	7.78	7.78	7.78	7.78	112586	324701	1264384

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Chattigong - Sandwip	4.	Cross Section No.	:	6
5.	Decca Location	:	A-06.00; B-34.10	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	13.02.94
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.152.500.125
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	221 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	$V = 0.4952n + 0.0154$ $n < 0.55$
							$= 0.5186n + 0.0026$ $0.55 < n < 7.63$
							$V = 0.2444n + 0.0068$ $7.63 < n < 17.76$

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	182	1.89		13.91	145	1.35	150	0.15	1500	4.00	4593	126361	0.50	0.584	7.78
	0.50	182	1.89	0.95		145				4000	9.80	49785		5.15	0.186	7.78
	1.00	170	1.77	0.91		145				4500	9.60	54218		9.80	0.210	7.78
	3.00	150	1.56	3.32		150				1550	9.30	17765				
	5.00	156	1.62	3.18		150										
	7.00	132	1.37	2.99		155										
	9.00	62	0.65	2.02		155										
	9.80	41	0.43	0.43		155										
	10.30		0.00	0.11												
7	0.00	176	1.83		13.39	145	1.41	145	-0.65	1500	4.00	3666	123275	0.50	0.198	7.78
	0.50	176	1.83	0.91		145				4000	9.80	49018		4.75	0.186	7.78
	1.00	162	1.68	0.88		145				4500	9.60	53230		9.00	2.010	7.78
	3.00	160	1.66	3.34		147				1550	9.30	17361				
	5.00	164	1.70	3.37		142										
	7.00	112	1.16	2.87		145										
	9.00	66	0.69	1.85		145										
	9.50		0.00	0.17												
8	0.00	142	1.48		8.96	148	1.05	149	-1.43	1500	4.00	1875	82948	0.50	0.254	7.78
	0.50	142	1.48	0.74		148				4000	9.80	33317		4.25	0.094	7.78
	1.00	128	1.33	0.70		147				4500	9.60	36058		8.00	5.682	7.78
	3.00	134	1.39	2.72		147				1550	9.30	11698				
	5.00	112	1.16	2.56		152										
	7.00	50	0.52	1.69		150										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Chattigong - Sandwip	4.	Cross Section No.	:	6
5.	Decca Location	:	A-06.00; B-34.10	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	13.02.94
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.152.500.125
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	221 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	$V = 0.4952n + 0.0154$ $n < 0.55$
							$= 0.5186n + 0.0026$ $0.55 < n < 7.63$
							$V = 0.2444n+0.0068$ $7.63 < n < 17.76$

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	8.00	38	0.40	0.46		150										
	8.50		0.00	0.10												
9	0.00	95	0.99		4.67	165	0.58	160	-1.85	1500	4.00	741	40041	0.50	0.144	7.78
	0.50	95	0.99	0.49		165				4000	9.80	16178		4.00	1.376	7.78
	1.00	90	0.94	0.48		167				4500	9.60	17472		7.50	2.520	7.78
	3.00	80	0.83	1.77		166				1550	9.30	5650				
	5.00	48	0.50	1.33		152										
	7.00	4	0.06	0.56		153										
	7.50	2	0.04	0.02		152										
	8.00		0.02	0.01												
10	0.00	99	1.03		2.81	170	0.35	170	-2.05	1500	4.00	339	20537	0.50	0.240	7.78
	0.50	99	1.03	0.51		170				4000	9.80	8322		4.00	0.284	7.78
	1.00	102	1.06	0.52		170				4500	9.60	8978		7.50	3.226	7.78
	3.00	24	0.25	1.31		170				1550	9.30	2898				
	5.00	6	0.07	0.33		170										
	7.00	2	0.04	0.11		170										
	7.50	1	0.03	0.02		170										
	8.00		0.02	0.01												
11	0.00	106	1.10		9.45	255	1.18	255	-2.15	1500	4.00	-747	-48156	0.50	2.450	7.78
	0.50	106	1.10	0.55		255				4000	9.80	-19542		4.00	0.382	7.78
	1.00	133	1.38	0.62		254				4500	9.60	-21072		7.50	1.990	7.78
	3.00	145	1.51	2.89		255				1550	9.30	-6796				
	5.00	128	1.33	2.84		254										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Chattigong - Sandwip	4.	Cross Section No.	:	6
5.	Decca Location	:	A-06.00; B-34.10	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	13.02.94
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.152.500.125
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	221 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	V = 0.4952n + 0.0154 n < 0.55
							= 0.5186n + 0.0026 0.55 < n < 7.63
							V = 0.2444n+0.0068 7.63 < n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00	72	0.75	2.08		254										
	7.50	54	0.56	0.33		256										
	8.00		0.00	0.14												
12	0.00	393	1.93		19.90	295	2.04	295	-0.65	1500	4.00	-5164	-173622	0.50	0.310	7.78
	0.50	393	1.93	0.96		295				4000	9.80	-69037		4.88	0.068	7.78
	1.00	425	2.08	1.00		294				4500	9.60	-74969		9.25	0.118	7.78
	3.00	422	2.07	4.15		294				1550	9.30	-24452				
	5.00	390	1.91	3.98		296										
	7.00	435	2.13	4.05		294										
	9.25	235	2.44	5.14		294										
	9.75		0.00	0.61												
13	0.00	400	1.96		30.05	305	2.61	310	1.30	1500	4.00	-13043	-291693	0.50	0.100	7.78
	0.50	400	1.96	0.98		305				4000	9.80	-113606		5.75	5.940	7.78
	1.00	366	3.80	1.44		310				4500	9.60	-124148		11.00	5.634	7.78
	3.00	368	3.82	7.62		310				1550	9.30	-40897				
	5.00	288	2.99	6.81		310										
	7.00	214	2.22	5.21		312										
	9.00	210	2.18	4.40		313										
	11.00	108	1.12	3.30		313										
	11.50		0.00	0.28												
14	0.00	300	3.11		20.95	315	1.65	319	2.50	1500	4.00	-10652	-204390	0.50	0.204	7.78
	0.50	300	3.11	1.56		315				4000	9.80	-78801		6.35	3.544	7.78
	1.00	280	2.91	1.51		315				4500	9.60	-86360		12.20	4.762	7.78

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Chattigong - Sandwip	4.	Cross Section No.	:	6
5.	Decca Location	:	A-06.00; B-34.10	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	13.02.94
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.152.500.125
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	221 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	V = 0.4952n + 0.0154 n < 0.55
							= 0.5186n + 0.0026 0.55 < n < 7.63
							V = 0.2444n+0.0068 7.63 < n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	3.00	222	2.31	5.21		315				1550	9.30	-28577				
	5.00	168	1.75	4.05		320										
	7.00	114	1.19	2.93		320										
	9.00	112	1.16	2.35		325										
	11.00	92	0.96	2.12		325										
	12.20	74	0.77	1.04		325										
	12.70		0.00	0.19												
15	0.00	166	1.72		13.40	325	1.04	323	2.90	1500	4.00	-7215	-132803	0.50	0.056	7.78
	0.50	166	1.72	0.86		325				4000	9.80	-51046		6.45	5.244	7.78
	1.00	166	1.72	0.86		325				4500	9.60	-55990		12.40	8.822	7.78
	3.00	136	1.41	3.14		325				1550	9.30	-18552				
	5.00	102	1.06	2.47		318										
	7.00	62	0.65	1.71		318										
	9.00	54	0.56	1.21		325										
	11.00	98	1.02	1.58		325										
	12.40	86	0.89	1.34		325										
	12.90		0.00	0.22												
16	0.00	46	0.48		10.00	45	0.78	45	2.61	1500	4.00	357	6772	0.50	4.030	7.78
	0.50	46	0.48	0.24		45				4000	9.80	2609		6.40	2.630	7.78
	1.00	52	0.54	0.26		45				4500	9.60	2860		12.30	5.954	7.78
	3.00	43	0.45	0.99		45				1550	9.30	947				
	5.00	80	0.83	1.28		45										
	7.00	66	0.69	1.52		45										

DISCHARGE MEASUREMENT

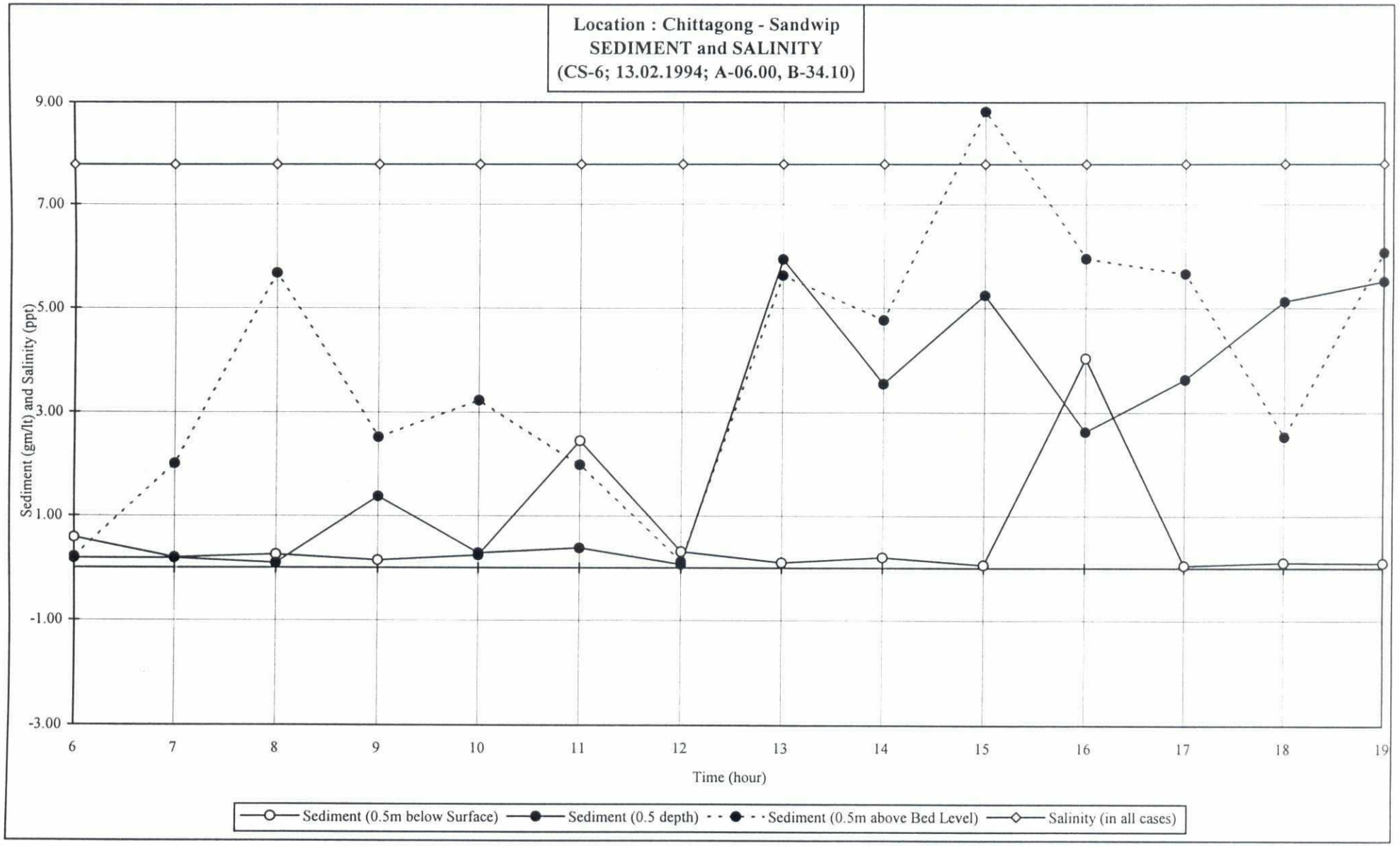
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Chattigong - Sandwip	4.	Cross Section No.	:	6
5.	Decca Location	:	A-06.00; B-34.10	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	13.02.94
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.152.500.125
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	221 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	V = 0.4952n + 0.0154 n < 0.55
							= 0.5186n + 0.0026 0.55 < n < 7.63
							V = 0.2444n+0.0068 7.63 < n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	9.00	90	0.94	1.62		45										
	11.00	128	1.33	2.27		45										
	12.30	102	1.06	1.55		45										
	12.80		0.00	0.27												
17	0.00	204	2.12		25.77	133	2.15	133	1.70	1500	4.00	11739	248080	0.50	0.050	7.78
	0.50	204	2.12	1.06		133				4000	9.80	96276		6.00	3.628	7.78
	1.00	207	2.15	1.07		133				4500	9.60	105317		11.50	5.664	7.78
	3.00	205	2.13	4.28		133				1550	9.30	34749				
	5.00	229	2.38	4.51		133										
	7.00	213	2.21	4.59		133										
	9.00	212	2.20	4.41		133										
	11.50	199	2.07	5.34		133										
	12.00		0.00	0.52												
18	0.00	353	3.66		32.97	140	3.03	140	0.92	1500	4.00	13670	324701	0.50	0.106	7.78
	0.50	353	3.66	1.83		140				4000	9.80	126917		5.45	5.122	7.78
	1.00	340	3.53	1.80		140				4500	9.60	138548		10.40	2.534	7.78
	3.00	319	3.31	6.84		140				1550	9.30	45566				
	5.00	301	3.12	6.44		140										
	7.00	288	2.99	6.11		140										
	9.00	276	2.87	5.86		140										
	10.40	212	2.20	3.55		140										
	10.90		0.00	0.55												
19	0.00	352	3.65		28.13	130	2.89	133	0.20	1500	4.00	13670	324701	0.50	0.098	7.78

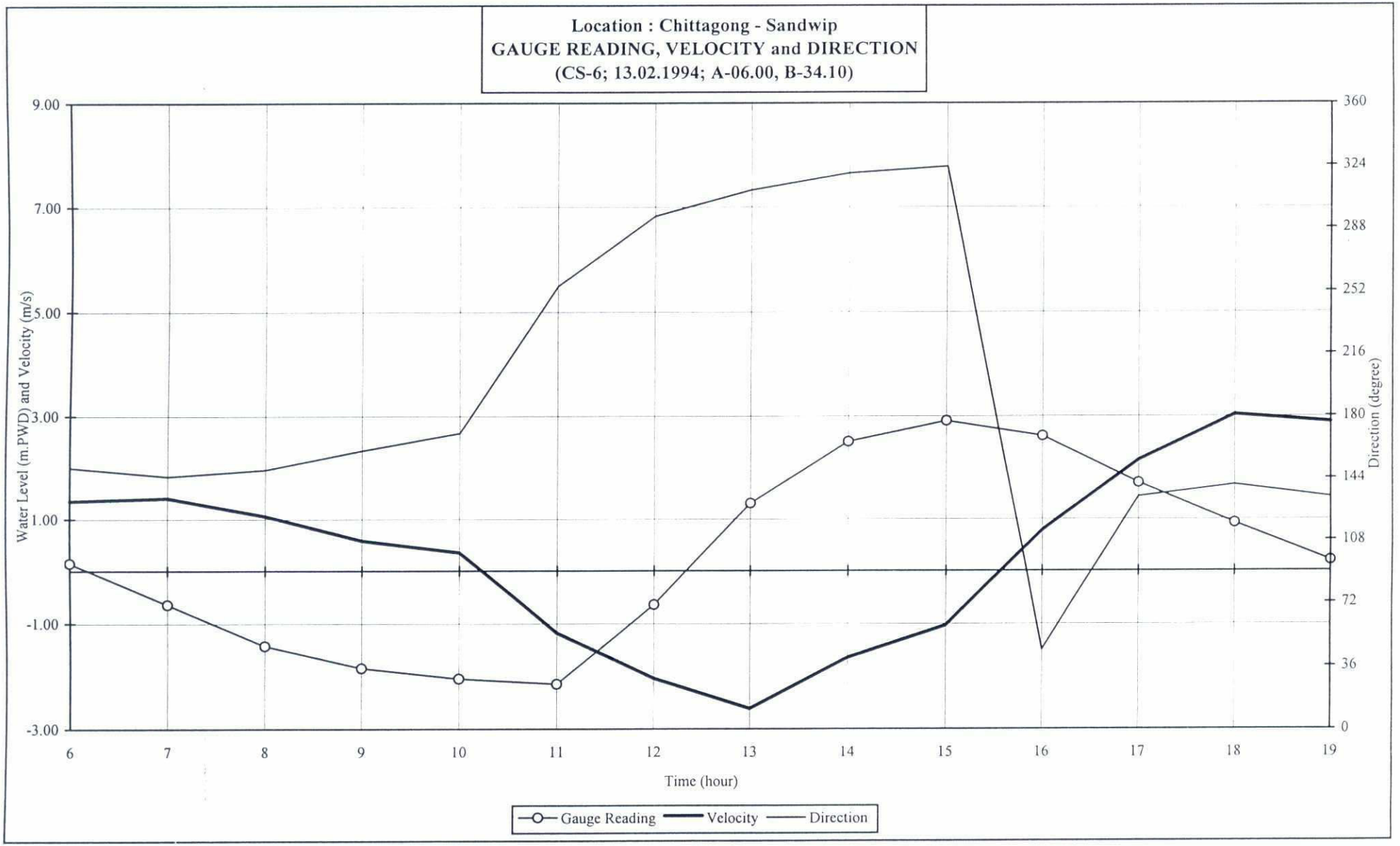
DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Chattigong - Sandwip	4.	Cross Section No.	:	6
5.	Decca Location	:	A-06.00; B-34.10	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	13.02.94
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.152.500.125
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	221 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	V = 0.4952n + 0.0154 n < 0.55
							= 0.5186n + 0.0026 0.55 < n < 7.63
							V = 0.2444n+0.0068 7.63 < n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0.50	352	3.65	1.83		130				4000	9.80	126917		4.88	5.514	7.78
	1.00	336	3.49	1.79		130				4500	9.60	138548		9.25	6.070	7.78
	3.00	302	3.13	6.62		135				1550	9.30	45566				
	5.00	300	3.11	6.25		135										
	7.00	238	2.47	5.59		135										
	9.25	230	2.39	5.47		135										
	9.75		0.00	0.60												


Location : Chittagong - Sandwip
SEDIMENT and SALINITY
(CS-6; 13.02.1994; A-06.00, B-34.10)
9.00
7.00
5.00
3.00
1.00
-1.00
-3.00
Sediment (gm/lt) and Salinity (ppt)
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (in all cases)

226


Location : Chittagong - Sandwip
GAUGE READING, VELOCITY and DIRECTION
(CS-6; 13.02.1994; A-06.00, B-34.10)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
9.00
7.00
5.00
3.00
1.00
-1.00
-3.00
360
324
288
252
216
180
144
108
72
36
0
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Gauge Reading
Velocity
Direction

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Chattigong - Sandwip	4.	Cross Section No.	:	6
5.	Decca Location	:	A-06.00; B-34.10	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	21.02.94
9.	Tidal Condition	:	Neap Tide*	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	221 degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.4952n + 0.0154 n < 0.55
							= 0.5186n + 0.0026 0.55 < n < 7.63
							= 0.2444n+0.0068 7.63 < n < 17.76

*** : Not corrected for Reference Tide Station**

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	-0.35	8.60	293	-1.59	0.15	0.12	0.06	0.11	7.78	7.78	7.78	7.78	100899	-153213	16751
7	0.40	9.60	322	-1.73	0.09	0.17	0.15	0.14	7.78	7.79	7.79	7.79	107728	-183134	25395
8	0.97	10.30	313	-1.23	0.03	0.25	0.36	0.21	7.79	7.79	7.79	7.79	113304	-139276	29619
9	1.26	10.70	304	-0.65	0.04	0.06	0.06	0.06	7.79	7.79	7.79	7.79	115815	-74402	4117
10	1.25	10.90	297	-0.18	0.03	0.07	0.06	0.05	7.79	7.79	7.80	7.79	114416	-19477	1013
11	0.98	11.00	140	0.62	0.69	0.20	0.51	0.47	7.80	7.80	7.80	7.80	109104	66890	31305
12	0.52	10.80	149	0.79	0.00	0.06	0.05	0.04	7.80	7.80	7.80	7.80	102361	77117	2879
13	-0.04	10.00	151	1.16	0.00	0.08	0.08	0.05	7.80	7.80	7.80	7.80	97452	106161	5803
14	-0.52	9.70	136	1.15	0.00	0.02	0.02	0.01	7.80	7.80	7.80	7.80	91048	104648	1395
15	-0.89	9.30	135	0.91	0.01	0.00	0.03	0.01	7.79	7.79	7.79	7.79	87093	78787	1050
16	-1.04	9.00	133	0.48	0.02	0.00	0.02	0.01	7.79	7.79	7.79	7.79	86276	41475	525
17	-0.82	8.90	328	-0.25	0.01	0.01	0.00	0.01	7.79	7.79	7.79	7.79	90628	-21310	156
18	-0.60	9.50	324	-1.20	0.04	0.01	0.03	0.03	7.79	7.79	7.79	7.79	90836	-106278	2976
19	-0.01	10.50	315	-1.72	0.01	0.08	0.03	0.04	7.79	7.79	7.79	7.79	61795	-106278	4393

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Chattigong - Sandwip	4.	Cross Section No.	:	6
5.	Decca Location	:	A-06.00; B-34.10	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	21.02.94
9.	Tidal Condition	:	Neap Tide*	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	221 degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.4952n + 0.0154 n < 0.55
							= 0.5186n + 0.0026 0.55 < n < 7.63
							= 0.2444n+0.0068 7.63 < n < 17.76

*** : Not corrected for Reference Tide Station**

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	175	1.82		13.71	289	1.59	293	-0.35	1500	4.00	-4942	-153213	0.50	0.150	7.78
	0.50	175	1.82	0.91		289				4000	9.80	-60708		4.30	0.118	7.78
	1.00	180	1.87	0.92		289				4500	9.60	-65998		8.10	0.060	7.78
	3.00	157	1.63	3.50		295				1550	9.30	-21564				
	5.00	148	1.54	3.17		295										
	7.00	170	1.77	3.30		298										
	8.10	112	1.16	1.61		298										
	8.60		0.00	0.29												
7	0.00	188	1.95		16.63	325	1.73	322	0.40	1500	4.00	-7014	-183134	0.50	0.094	7.78
	0.50	188	1.95	0.98		325				4000	9.80	-71959		4.80	0.170	7.79
	1.00	194	2.01	0.99		320				4500	9.60	-78431		9.10	0.152	7.79
	3.00	198	2.06	4.07		320				1550	9.30	-25731				
	5.00	172	1.79	3.84		320										
	7.00	144	1.50	3.28		322										
	9.10	140	1.45	3.10		322										
	9.60		0.00	0.36												
8	0.00	144	1.50		12.67	309	1.23	313	0.97	1500	4.00	-5913	-139276	0.50	0.026	7.79
	0.50	144	1.50	0.75		309				4000	9.80	-54413		5.15	0.248	7.79
	1.00	144	1.50	0.75		309				4500	9.60	-59408		9.80	0.364	7.79
	3.00	136	1.41	2.91		314				1550	9.30	-19542				
	5.00	142	1.48	2.89		314										
	7.00	104	1.08	2.56		315										
	9.00	86	0.89	1.98		315										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Chattigong - Sandwip	4.	Cross Section No.	:	6
5.	Decca Location	:	A-06.00; B-34.10	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	21.02.94
9.	Tidal Condition	:	Neap Tide*	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	221 degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.4952n + 0.0154 n < 0.55
	*** : Not corrected for Reference Tide Station**						= 0.5186n + 0.0026 0.55 < n < 7.63
							= 0.2444n+0.0068 7.63 < n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	9.80	71	0.74	0.65		315										
	10.30		0.00	0.19												
9	0.00	80	0.83		6.93	300	0.65	304	1.26	1500	4.00	-3305	-74402	0.50	0.040	7.79
	0.50	80	0.83	0.42		300				4000	9.80	-28989		5.35	0.062	7.79
	1.00	77	0.80	0.41		305				4500	9.60	-31675		10.20	0.064	7.79
	3.00	71	0.74	1.54		305				1550	9.30	-10433				
	5.00	63	0.66	1.40		305										
	7.00	62	0.65	1.30		305										
	9.00	53	0.55	1.20		305										
	10.20	38	0.40	0.57		305										
	10.70		0.00	0.10												
10	0.00	9	0.10		1.91	298	0.18	297	1.25	1500	4.00	-864	-19477	0.50	0.026	7.79
	0.50	9	0.10	0.05		298				4000	9.80	-7589		5.45	0.074	7.79
	1.00	3	0.05	0.04		298				4500	9.60	-8292		10.40	0.056	7.80
	3.00	15	0.16	0.21		298				1550	9.30	-2731				
	5.00	9	0.10	0.27		297										
	7.00	26	0.27	0.38		297										
	9.00	25	0.26	0.54		297										
	10.40	24	0.25	0.36		296										
	10.90		0.02	0.07												
11	0.00	64	0.67		6.83	140	0.62	140	0.98	1500	4.00	2844	66890	0.50	0.690	7.80
	0.50	64	0.67	0.33		140				4000	9.80	26130		5.50	0.202	7.80
	1.00	69	0.72	0.35		140				4500	9.60	28530		10.50	0.512	7.80

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Chattigong - Sandwip	4.	Cross Section No.	:	6
5.	Decca Location	:	A-06.00; B-34.10	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	21.02.94
9.	Tidal Condition	:	Neap Tide*	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	221 degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.4952n + 0.0154 n < 0.55
	*** : Not corrected for Reference Tide Station**						= 0.5186n + 0.0026 0.55 < n < 7.63
							= 0.2444n+0.0068 7.63 < n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	3.00	63	0.66	1.37		140				1550	9.30	9385				
	5.00	52	0.54	1.20		140										
	7.00	57	0.59	1.14		140										
	9.00	67	0.70	1.29		140										
	10.50	60	0.62	0.99		140										
	11.00		0.00	0.16												
12	0.00	60	0.62		8.53	143	0.79	149	0.52	1500	4.00	3021	77117	0.50	0.004	7.80
	0.50	60	0.62	0.31		143				4000	9.80	30265		5.40	0.058	7.80
	1.00	76	0.79	0.35		143				4500	9.60	32999		10.30	0.050	7.80
	3.00	74	0.77	1.56		148				1550	9.30	10832				
	5.00	76	0.79	1.56		149										
	7.00	88	0.92	1.71		154										
	9.00	88	0.92	1.83		154										
	10.30	65	0.68	1.03		154										
	10.80		0.00	0.17												
13	0.00	120	1.25		11.55	147	1.16	151	-0.04	1500	4.00	3698	106161	0.50		7.80
	0.50	120	1.25	0.62		147				4000	9.80	41914		5.00	0.084	7.80
	1.00	118	1.23	0.62		147				4500	9.60	45617		9.50	0.080	7.80
	3.00	118	1.23	2.45		147				1550	9.30	14931				
	5.00	122	1.27	2.49		154										
	7.00	116	1.21	2.47		154										
	9.00	96	1.00	2.20		154										
	9.50	84	0.87	0.47		154										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Chattigong - Sandwip	4.	Cross Section No.	:	6
5.	Decca Location	:	A-06.00; B-34.10	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	21.02.94
9.	Tidal Condition	:	Neap Tide*	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	221 degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.4952n + 0.0154 n < 0.55
	*** : Not corrected for Reference Tide Station**						= 0.5186n + 0.0026 0.55 < n < 7.63
							= 0.2444n+0.0068 7.63 < n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	10.00		0.00	0.22												
14	0.00	118	1.23		11.18	134	1.15	136	-0.52	1500	4.00	3227	104648	0.50		7.80
	0.50	118	1.23	0.61		134				4000	9.80	41547		4.85	0.020	7.80
	1.00	124	1.29	0.63		134				4500	9.60	45139		9.20	0.020	7.80
	3.00	146	1.52	2.81		136				1550	9.30	14734				
	5.00	121	1.26	2.77		136										
	7.00	97	1.01	2.27		136										
	9.00	76	0.79	1.80		138										
	9.20	59	0.61	0.14		136										
	9.70		0.00	0.15												
15	0.00	100	1.04		8.43	135	0.91	135	-0.89	1500	4.00	2173	78787	0.50	0.010	7.79
	0.50	100	1.04	0.52		135				4000	9.80	31423		4.65		7.79
	1.00	106	1.10	0.54		135				4500	9.60	34089		8.80	0.030	7.79
	3.00	109	1.13	2.24		135				1550	9.30	11101				
	5.00	85	0.88	2.02		135										
	7.00	80	0.83	1.72		135										
	8.80	55	0.57	1.26		135										
	9.30		0.00	0.14												
16	0.00	71	0.74		4.33	135	0.48	133	-1.04	1500	4.00	1088	41475	0.50	0.018	7.79
	0.50	71	0.74	0.37		135				4000	9.80	16573		4.50		7.79
	1.00	69	0.72	0.36		134				4500	9.60	17968		8.50	0.020	7.79
	3.00	52	0.54	1.26		133				1550	9.30	5846				
	5.00	42	0.44	0.98		132										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Chattigong - Sandwip	4.	Cross Section No.	:	6
5.	Decca Location	:	A-06.00; B-34.10	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	21.02.94
9.	Tidal Condition	:	Neap Tide*	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	221 degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.4952n + 0.0154 n < 0.55
							= 0.5186n + 0.0026 0.55 < n < 7.63
							= 0.2444n+0.0068 7.63 < n < 17.76

*** : Not corrected for Reference Tide Station**

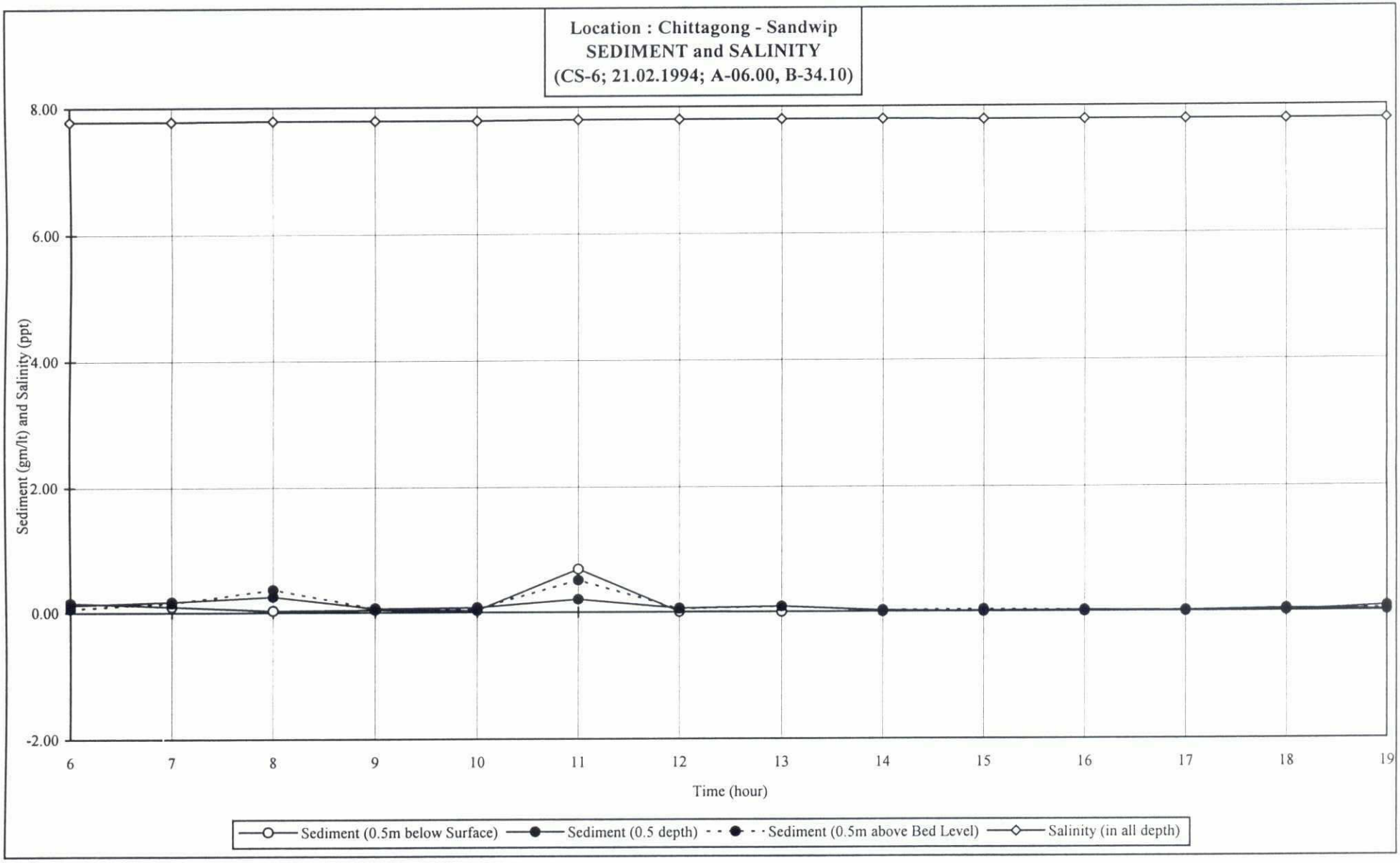
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00	35	0.37	0.80		131										
	8.50	26	0.27	0.48		131										
	9.00		0.02	0.07												
17	0.00	15	0.16		2.19	334	0.25	328	-0.82	1500	4.00	-601	-21310	0.50	0.010	7.79
	0.50	15	0.16	0.08		334				4000	9.80	-8492		4.45	0.012	7.79
	1.00	10	0.11	0.07		332				4500	9.60	-9215		8.40		7.79
	3.00	16	0.17	0.29		330				1550	9.30	-3002				
	5.00	26	0.27	0.45		326										
	7.00	37	0.39	0.66		323										
	8.40	38	0.40	0.55		320										
	8.90		0.00	0.10												
18	0.00	100	1.04		11.39	323	1.20	324	-0.60	1500	4.00	-3204	-106278	0.50	0.040	7.79
	0.50	100	1.04	0.52		323				4000	9.80	-42235		4.75	0.010	7.79
	1.00	97	1.01	0.51		323				4500	9.60	-45873		9.00	0.034	7.79
	3.00	107	1.11	2.12		324				1550	9.30	-14966				
	5.00	123	1.28	2.39		324										
	7.00	131	1.36	2.64		324										
	9.00	142	1.48	2.84		324										
	9.50		0.00	0.37												
19	0.00	189	1.96		18.10	315	1.72	315	-0.01	1500	4.00	-3204	-106278	0.50	0.014	7.79
	0.50	189	1.96	0.98		315				4000	9.80	-42235		5.25	0.078	7.79
	1.00	179	1.86	0.96		315				4500	9.60	-45873		10.00	0.032	7.79
	3.00	186	1.93	3.79		315				1550	9.30	-14966				

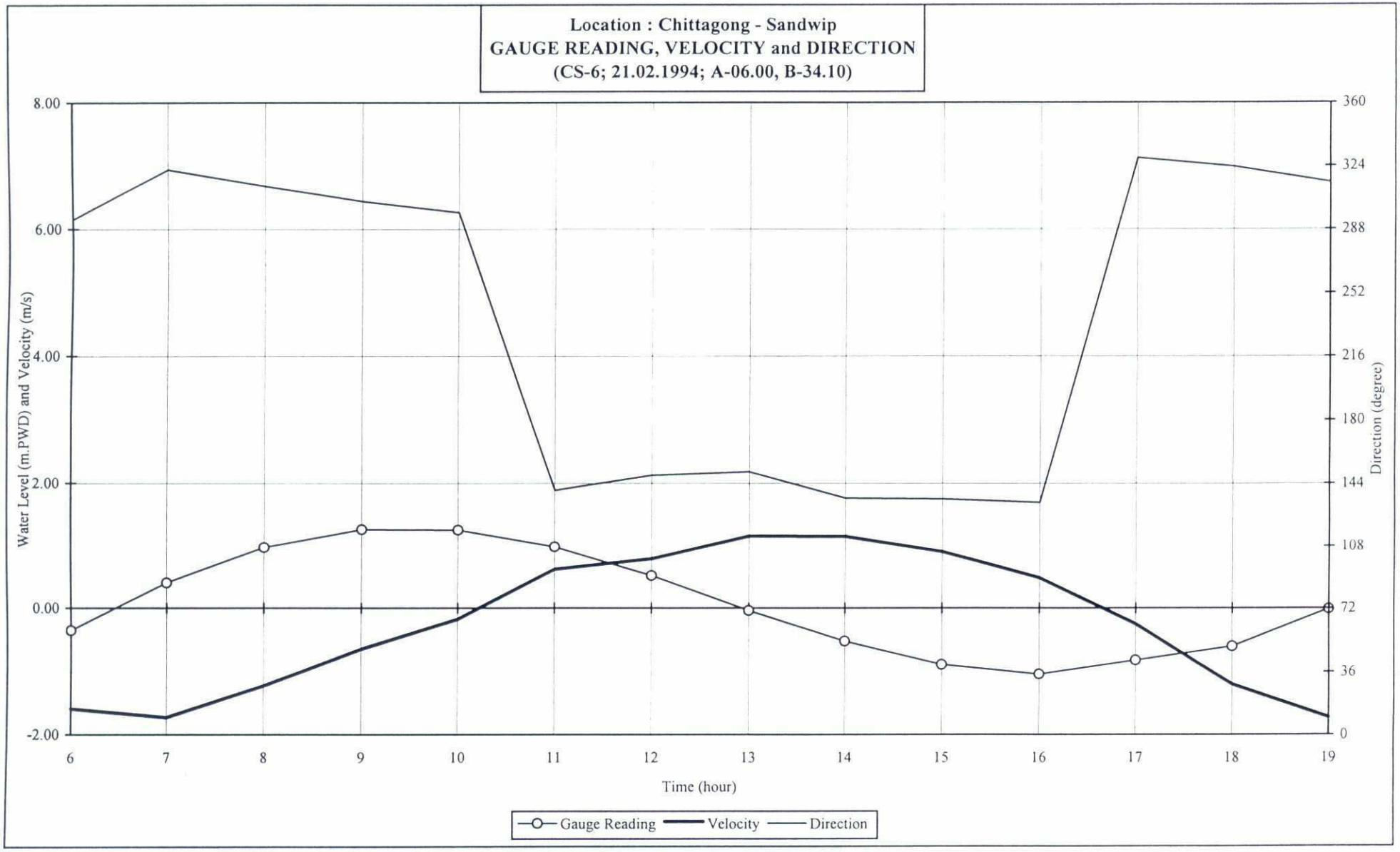
DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Chattigong - Sandwip	4.	Cross Section No.	:	6
5.	Decca Location	:	A-06.00; B-34.10	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	21.02.94
9.	Tidal Condition	:	Neap Tide*	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	1.00 m	14.	X-section Direction	:	221 degrees
15.	Reference Tide Range	:	1.00 m	16.	Equation of Velocity	:	V = 0.4952n + 0.0154 n < 0.55
							= 0.5186n + 0.0026 0.55 < n < 7.63
							= 0.2444n+0.0068 7.63 < n < 17.76

*** : Not corrected for Reference Tide Station**

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	5.00	178	1.85	3.78		315										
	7.00	151	1.57	3.42		314										
	9.00	156	1.62	3.19		314										
	10.00	150	1.56	1.59		314										
	10.50		0.00	0.39												


Location : Chittagong - Sandwip
SEDIMENT and SALINITY
(CS-6; 21.02.1994; A-06.00, B-34.10)
8.00
6.00
4.00
2.00
0.00
-2.00
Sediment (gm/lt) and Salinity (ppt)
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (in all depth)


Location : Chittagong - Sandwip
GAUGE READING, VELOCITY and DIRECTION
(CS-6; 21.02.1994; A-06.00, B-34.10)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
8.00
6.00
4.00
2.00
0.00
-2.00
360
324
288
252
216
180
144
108
72
36
0
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Time (hour)
Gauge Reading
Velocity
Direction

Cross Section CS-7(a)

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(a)
5.	Decca Location	:	A-05.60; B-37.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	13.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	A-OTT	12.	Propeller No.	:	1-38441
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	V = 0.2510n + 0.0054 n < 16.95

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	-0.19	3.80	56	-1.01	3.08	10.17	2.43	5.23	7.77	7.77	7.77	7.77	78	-70	368
7	-0.65	3.00	63	-0.48	3.08	3.14	3.14	3.12	7.77	7.77	7.77	7.77	23	-9	29
8	-1.43	1.50	55	0.37	3.82			3.82	7.77			7.77	0	0	0
9	-1.85	1.00	60	0.23	4.40			4.40	7.77			7.77	0	0	0
10															
11															
12	-0.65	1.50	212	0.88	10.73	11.37		11.05	7.77	7.77		7.77	35	31	342
13	1.30	3.50	215	1.40	11.47	5.00	9.28	8.58	7.77	7.77	7.77	7.77	445	622	5343
14	2.50	4.50	215	1.21	1.65	1.86	2.83	2.11	7.78	7.78	7.78	7.78	752	903	1910
15	2.90	5.50	215	0.87	1.42	1.52	3.29	2.08	7.78	7.78	7.78	7.78	1010	878	1825
16	2.61	5.20	195	0.48	0.54	2.21	2.79	1.85	7.78	7.78	7.78	7.78	751	352	649
17	1.70	4.50	67	-0.12	1.06	0.56	0.17	0.60	7.78	7.78	7.78	7.78	495	-49	30
18	0.92	4.00	64	-0.71	0.27	0.25	1.76	0.76	7.78	7.78	7.78	7.78	307	-181	138
19	0.20	3.60	66	-0.98	0.28	0.29	0.31	0.29	7.78	7.78	7.78	7.78	152	-120	35

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(a)
5.	Decca Location	:	A-05.60; B-37.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	13.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	A-OTT	12.	Propeller No.	:	1-38441
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	V = 0.2510n + 0.0054 n < 16.95

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	225	1.13		3.83	55	1.01	56	-0.190	250	1.00	-70	-70	0.50	3.078	7.77
	0.50	225	1.13	0.57		55				2750	-2.50	0		1.90	10.172	7.77
	1.00	216	1.09	0.56		60								3.30	2.430	7.77
	3.00	207	1.04	2.13		55										
	3.30	203	1.02	0.31		55										
	3.80		0.01	0.26												
7	0.00	105	0.53		1.44	60	0.48	63	-0.647	250	1.00	-9	-9	0.50	3.078	7.77
	0.50	105	0.53	0.27		60				2750	-2.50	0		1.50	3.144	7.77
	1.00	108	0.55	0.27		65								2.50	3.144	7.77
	2.50	97	0.49	0.78		65										
	3.00		0.01	0.12												
8	0.00	89	0.45		0.56	55	0.37	55	-1.427	250	1.00	0	0	0.50	3.820	7.77
	0.50	89	0.45	0.23		55				2750	-2.50	0				
	1.00	86	0.44	0.22		55										
	1.50		0.01	0.11												
9	0.00	59	0.30		0.23	60	0.23	60	-1.847	250	1.00	0	0	0.50	4.400	7.77
	0.50	59	0.30	0.15		60				2750	-2.50	0				
	1.00		0.01	0.08												
10	!	CHANNEL DRIED														
11	!															
12	0.00	243	1.23		1.32	210	0.88	212	-0.647	250	1.00	31	31	0.50	10.726	7.77
	0.50	243	1.23	0.61		210				2750	-2.50	0		1.00	11.370	7.77
	1.00	158	0.80	0.51		215										
	1.50		0.01	0.20												
13	0.00	329	1.66		4.91	215	1.40	215	1.303	250	1.00	622	622	0.50	11.472	7.77

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(a)
5.	Decca Location	:	A-05.60; B-37.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	13.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	A-OTT	12.	Propeller No.	:	1-38441
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	V = 0.2510n + 0.0054 n < 16.95

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	225	1.13		3.83	55	1.01	56	-0.190	250	1.00	-70	-70	0.50	3.078	7.77
	0.50	329	1.66	0.83		215				2750	-2.50	0		1.75	4.996	7.77
	1.00	313	1.58	0.81		215								3.00	9.282	7.77
	3.00	269	1.36	2.93		215										
	3.50		0.01	0.34												
14	0.00	282	1.42		5.43	215	1.21	215	2.503	250	1.00	903	903	0.50	1.652	7.78
	0.50	282	1.42	0.71		215				2750	-2.50	0		2.25	1.860	7.78
	1.00	283	1.43	0.71		215								4.00	2.832	7.78
	3.00	246	1.24	2.67		215										
	4.00	189	0.95	1.10		215										
	4.50		0.01	0.24												
15	0.00	193	0.97		4.80	215	0.87	215	2.903	250	1.00	689	878	0.50	1.424	7.78
	0.50	193	0.97	0.49		215				2750	-2.50	189		2.75	1.522	7.78
	1.00	188	0.95	0.48		215								5.00	3.286	7.78
	3.00	190	0.96	1.91		215										
	5.00	153	0.77	1.73		215										
	5.50		0.01	0.19												
16	0.00	114	0.58		2.52	200	0.48	195	2.613	250	1.00	339	352	0.50	0.538	7.78
	0.50	114	0.58	0.29		200				2750	-2.50	13		2.60	2.208	7.78
	1.00	110	0.56	0.28		190								4.70	2.790	7.78
	3.00	105	0.53	1.09		190										
	4.70	72	0.37	0.76		195										
	5.20		0.01	0.09												
17	0.00	48	0.25		0.56	70	0.12	67	1.703	250	1.00	-49	-49	0.50	1.062	7.78
	0.50	48	0.25	0.12		70				2750	-2.50	0		2.25	0.564	7.78

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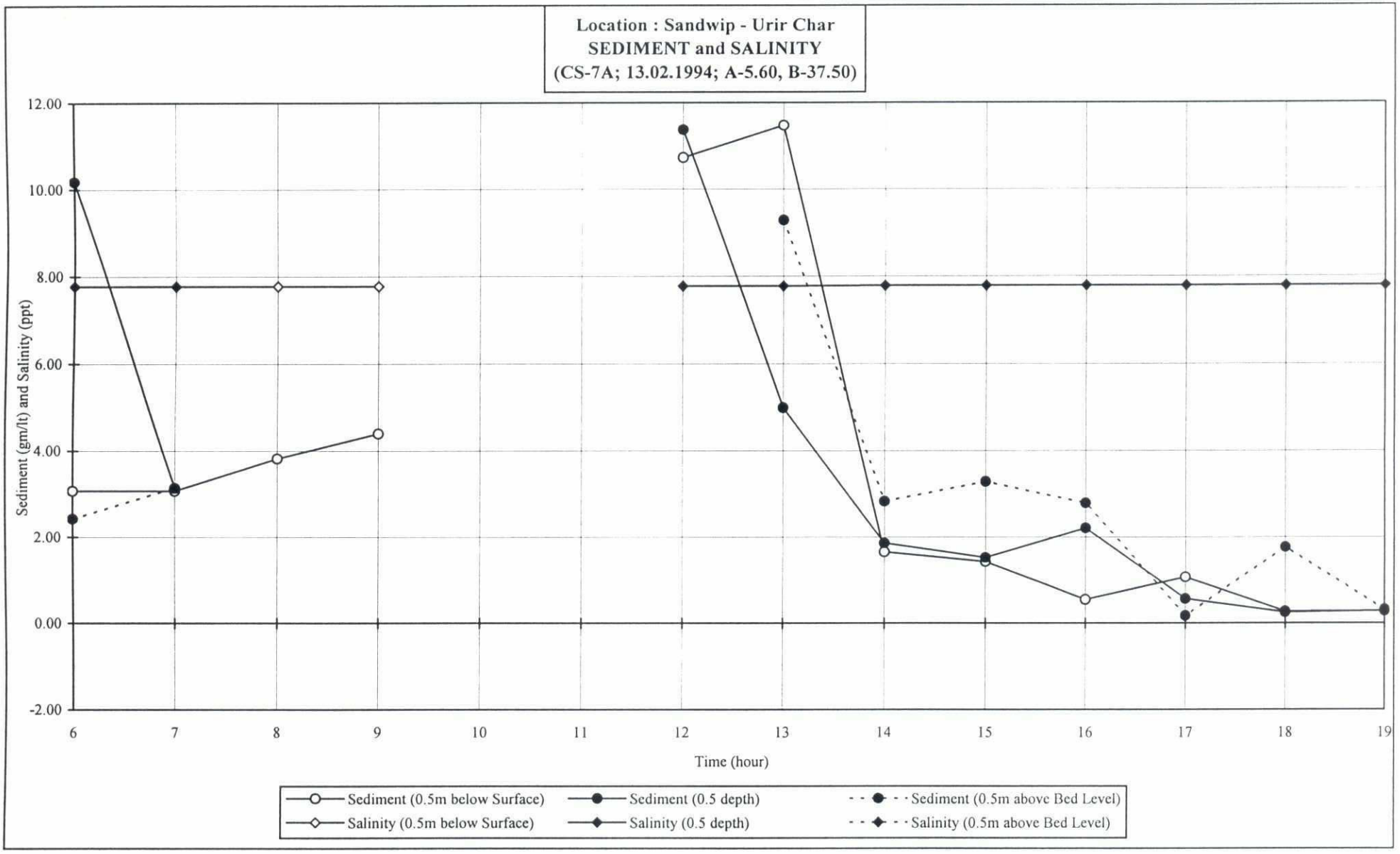
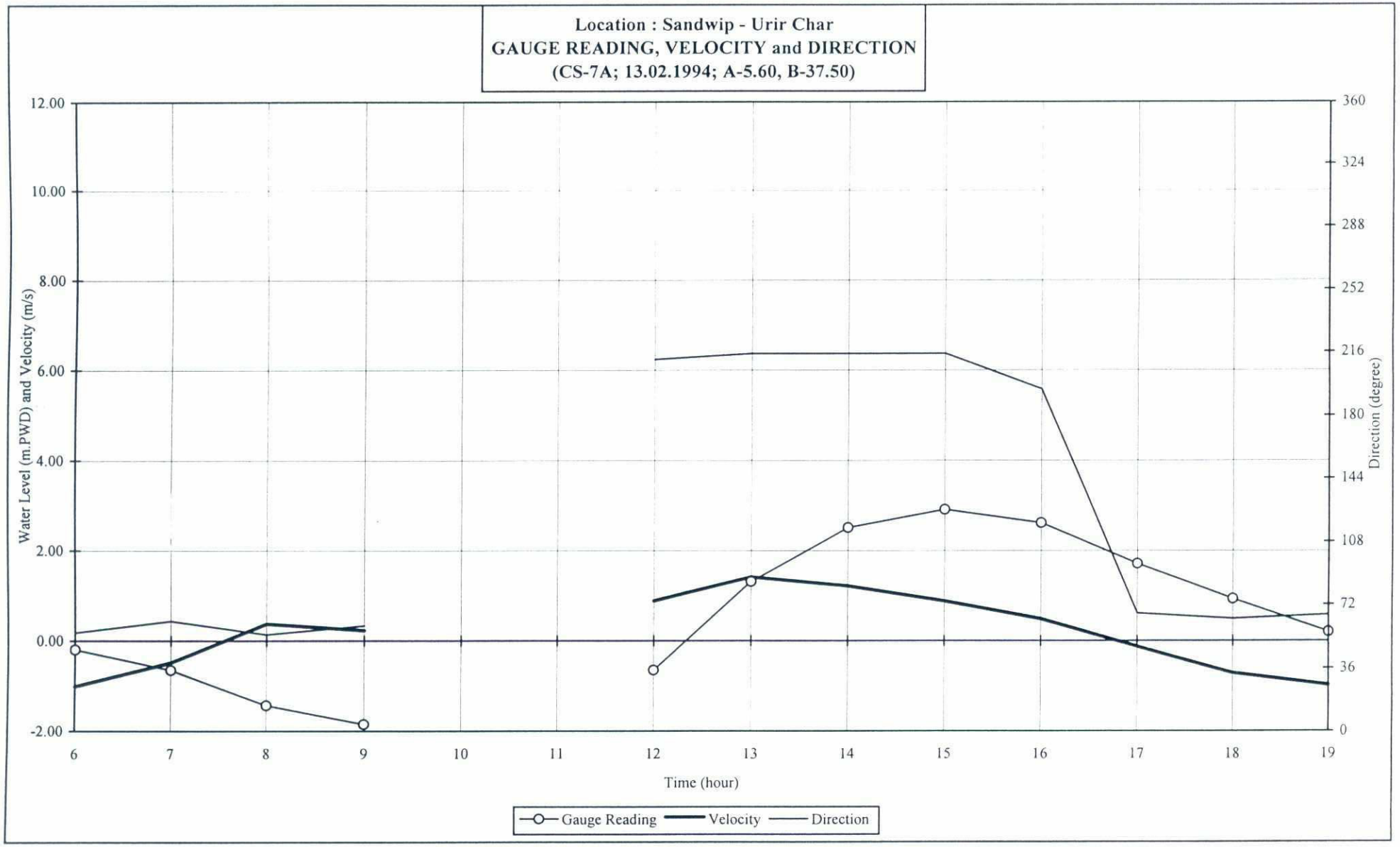
DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(a)
5.	Decca Location	:	A-05.60; B-37.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	13.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	A-OTT	12.	Propeller No.	:	1-38441
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	V = 0.2510n + 0.0054 n < 16.95

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	225	1.13		3.83	55	1.01	56	-0.190	250	1.00	-70	-70	0.50	3.078	7.77
	1.00	25	0.13	0.09		65								4.00	0.170	7.78
	3.00	19	0.10	0.23		60										
	4.00	15	0.08	0.09		70										
	4.50		0.01	0.02												
18	0.00	159	0.80		2.85	60	0.71	64	0.923	250	1.00	-181	-181	0.50	0.270	7.78
	0.50	159	0.80	0.40		60				2750	-2.50	0		2.00	0.250	7.78
	1.00	152	0.77	0.39		70								3.50	1.762	7.78
	3.00	148	0.75	1.52		65										
	3.50	139	0.70	0.36		65										
	4.00		0.01	0.18												
19	0.00	207	1.04		3.52	65	0.98	66	0.200	250	1.00	-120	-120	0.50	0.280	7.78
	0.50	207	1.04	0.52		65				2750	-2.50	0		1.80	0.286	7.78
	1.00	215	1.08	0.53		65								3.10	0.314	7.78
	3.10	202	1.02	2.21		70										
	3.60		0.01	0.26												


Location : Sandwip - Urir Char
SEDIMENT and SALINITY
(CS-7A; 13.02.1994; A-5.60, B-37.50)
Sediment (gm/lt) and Salinity (ppt)
12.00
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (0.5m below Surface)
Salinity (0.5 depth)
Salinity (0.5m above Bed Level)


Location : Sandwip - Urir Char
GAUGE READING, VELOCITY and DIRECTION
(CS-7A; 13.02.1994; A-5.60, B-37.50)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
12.00
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
360
324
288
252
216
180
144
108
72
36
0
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Gauge Reading
Velocity
Direction

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(a)
5.	Decca Location	:	A-05.60; B-37.50	6.	Reference File Name	:	3,4(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	21.02.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	A-OTT	12.	Propeller No.	:	1-38441
13.	Tide Range	:	2.40 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.40 m	16.	Equation of Velocity	:	V = 0.2510n + 0.0054 n < 16.95

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	-0.36	2.00	213	0.48	0.95	1.13	1.09	1.06	7.70	7.70	7.70	7.70	78.94	38	40
7	0.40	2.30	214	0.45	1.12	0.46	0.81	0.80	7.70	7.70	7.70	7.70	258.23	117	93
8	0.97	2.80	209	0.42	0.43	0.11	0.94	0.49	7.70	7.70	7.70	7.70	397.60	165	82
9	1.26	3.50	214	0.43	0.18	0.27	0.61	0.35	7.70	7.70	7.70	7.70	432.96	186	65
10	1.25	3.60	215	0.32	0.10	0.21	0.45	0.25	7.70	7.70	7.70	7.70	422.55	134	34
11	0.98	3.40	125	0.05	0.10	1.20	0.16	0.48	7.70	7.70	7.70	7.70	355.94	1	1
12	0.52	2.80	58	-0.23	0.10	0.19	0.43	0.24	7.70	7.70	7.70	7.70	261.41	-52	13
13	-0.05	2.40	63	-0.32	0.17	0.72	0.18	0.35	7.70	7.70	7.70	7.70	134.12	-36	13
14	-0.53	2.10	61	-0.28	0.24	0.23	0.25	0.24	7.70	7.70	7.70	7.70	46.31	-11	3
15	-0.90	1.60	60	-0.22	0.23		0.76	0.49	7.70		7.70	7.70	4.36	-1	0
16	-1.05	1.20	80	0.12	3.40		0.59	2.00	7.70		7.70	7.70	0.00	0	0
17	-0.83	1.30	207	0.13	0.16		0.24	0.20	7.70		7.70	7.70	11.82	2	0
18	-0.60	1.60	206	0.35	0.11		0.29	0.20	7.70		7.70	7.70	41.60	15	3
19	-0.02	2.00	213	0.45	0.19	0.25	0.21	0.22	7.70	7.70	7.70	7.70	157.07	70	15

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(a)
5.	Decca Location	:	A-05.60; B-37.50	6.	Reference File Name	:	3,4(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	21.02.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	A-OTT	12.	Propeller No.	:	1-38441
13.	Tide Range	:	2.40 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.40 m	16.	Equation of Velocity	:	V = 0.2510n + 0.0054 n < 16.95

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	112	0.57		0.95	210	0.48	213	-0.357	250	1.00	38	38	0.50	0.954	7.70
	0.50	112	0.57	0.28		210				2750	-2.50	0		1.00	1.132	7.70
	1.00	109	0.55	0.28		215								1.50	1.094	7.70
	1.50	98	0.50	0.26		215										
	2.00		0.01	0.13												
7	0.00	104	0.53		1.04	215	0.45	214	0.403	250	1.00	117	117	0.50	1.122	7.70
	0.50	104	0.53	0.26		215				2750	-2.50	0		1.15	0.462	7.70
	1.00	106	0.54	0.27		215								1.80	0.814	7.70
	1.80	89	0.45	0.40		210										
	2.30		0.01	0.11												
8	0.00	100	0.51		1.16	205	0.42	209	0.973	250	1.00	165	165	0.50	0.434	7.70
	0.50	100	0.51	0.25		205				2750	-2.50	0		1.40	0.106	7.70
	1.00	103	0.52	0.26		210								2.30	0.942	7.70
	2.30	68	0.35	0.56		215										
	2.80		0.01	0.09												
9	0.00	106	0.54		1.50	215	0.43	214	1.263	250	1.00	186	186	0.50	0.180	7.70
	0.50	106	0.54	0.27		215				2750	-2.50	0		1.75	0.272	7.70
	1.00	98	0.50	0.26		212								3.00	0.606	7.70
	3.00	75	0.38	0.88		212										
	3.50		0.01	0.10												
10	0.00	72	0.37		1.15	215	0.32	215	1.253	250	1.00	134	134	0.50	0.100	7.70
	0.50	72	0.37	0.18		215				2750	-2.50	0		1.80	0.206	7.70
	1.00	76	0.39	0.19		215								3.10	0.452	7.70
	3.10	55	0.28	0.70		215										
	3.60		0.01	0.07												

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DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(a)
5.	Decca Location	:	A-05.60; B-37.50	6.	Reference File Name	:	3,4(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	21.02.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	A-OTT	12.	Propeller No.	:	1-38441
13.	Tide Range	:	2.40 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.40 m	16.	Equation of Velocity	:	V = 0.2510n + 0.0054 n < 16.95

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	112	0.57		0.95	210	0.48	213	-0.357	250	1.00	38	38	0.50	0.954	7.70
11	0.00	14	0.08		0.16	140	0.05	125	0.983	250	1.00	1	1	0.50	0.098	7.70
	0.50	14	0.08	0.04		140				2750	-2.50	0		1.70	1.198	7.70
	1.00	9	0.05	0.03		120								2.90	0.156	7.70
	2.90	6	0.04	0.08		100										
	3.40		0.01	0.01												
12	0.00	50	0.26		0.63	55	0.23	58	0.523	250	1.00	-52	-52	0.50	0.102	7.70
	0.50	50	0.26	0.13		55				2750	-2.50	0		1.40	0.188	7.70
	1.00	57	0.29	0.14		60								2.30	0.428	7.70
	2.30	38	0.20	0.32		60										
	2.80		0.01	0.05												
13	0.00	71	0.36		0.76	65	0.32	63	-0.047	250	1.00	-36	-36	0.50	0.168	7.70
	0.50	71	0.36	0.18		65				2750	-2.50	0		1.20	0.716	7.70
	1.00	80	0.41	0.19		60								1.90	0.178	7.70
	1.90	56	0.29	0.31		60										
	2.40		0.01	0.07												
14	0.00	76	0.39		0.60	65	0.28	61	-0.527	250	1.00	-11	-11	0.50	0.240	7.70
	0.50	76	0.39	0.19		65				2750	-2.50	0		1.05	0.230	7.70
	1.00	58	0.30	0.17		55								1.60	0.248	7.70
	1.60	51	0.26	0.17		60										
	2.10		0.01	0.07												
15	0.00	57	0.29		0.35	60	0.22	60	-0.897	250	1.00	-1	-1	0.50	0.226	7.70
	0.50	57	0.29	0.15		60				2750	-2.50	0		0.80		
	1.00	42	0.22	0.13		60								1.10	0.760	7.70
	1.10	41	0.21	0.02		60										

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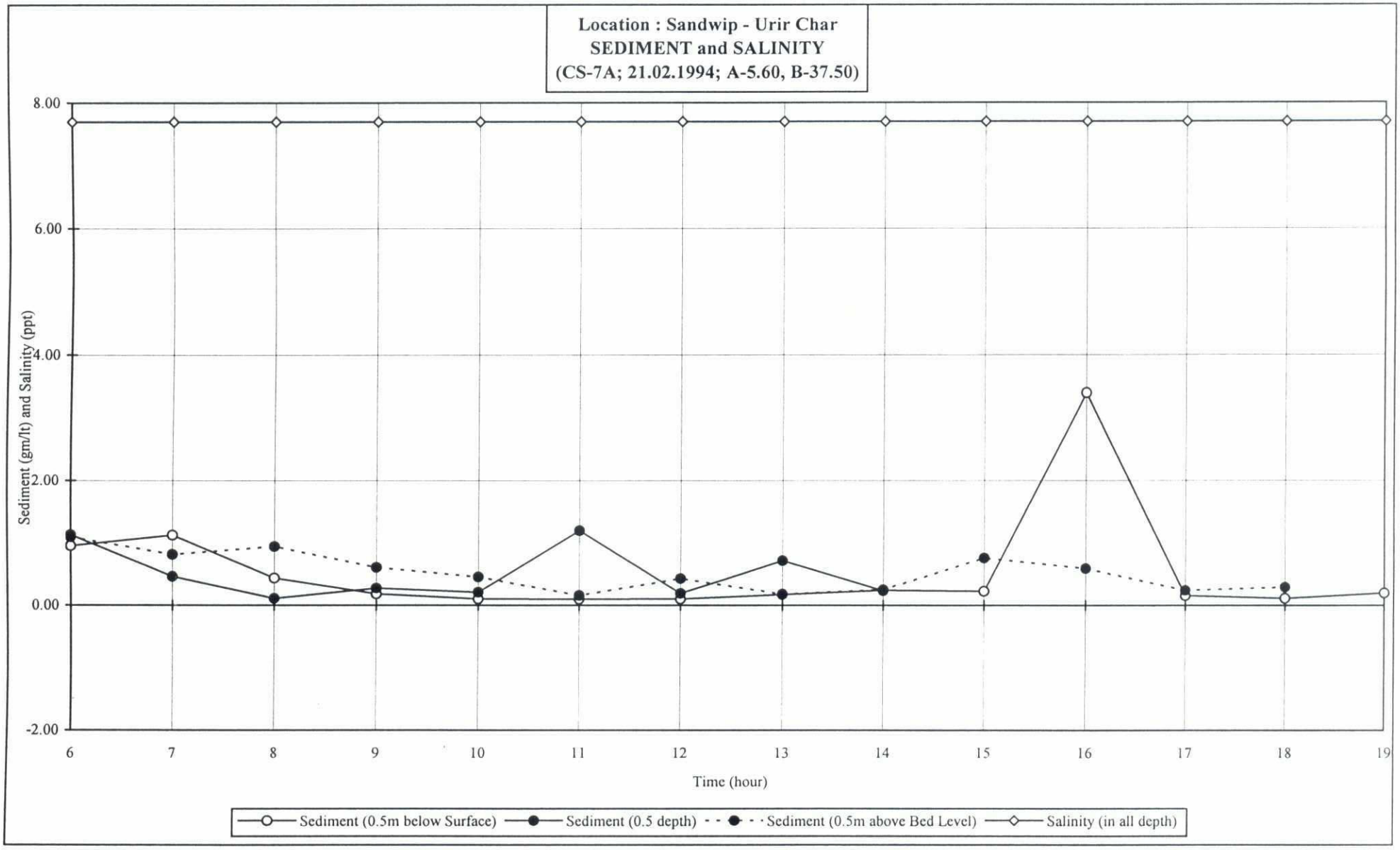
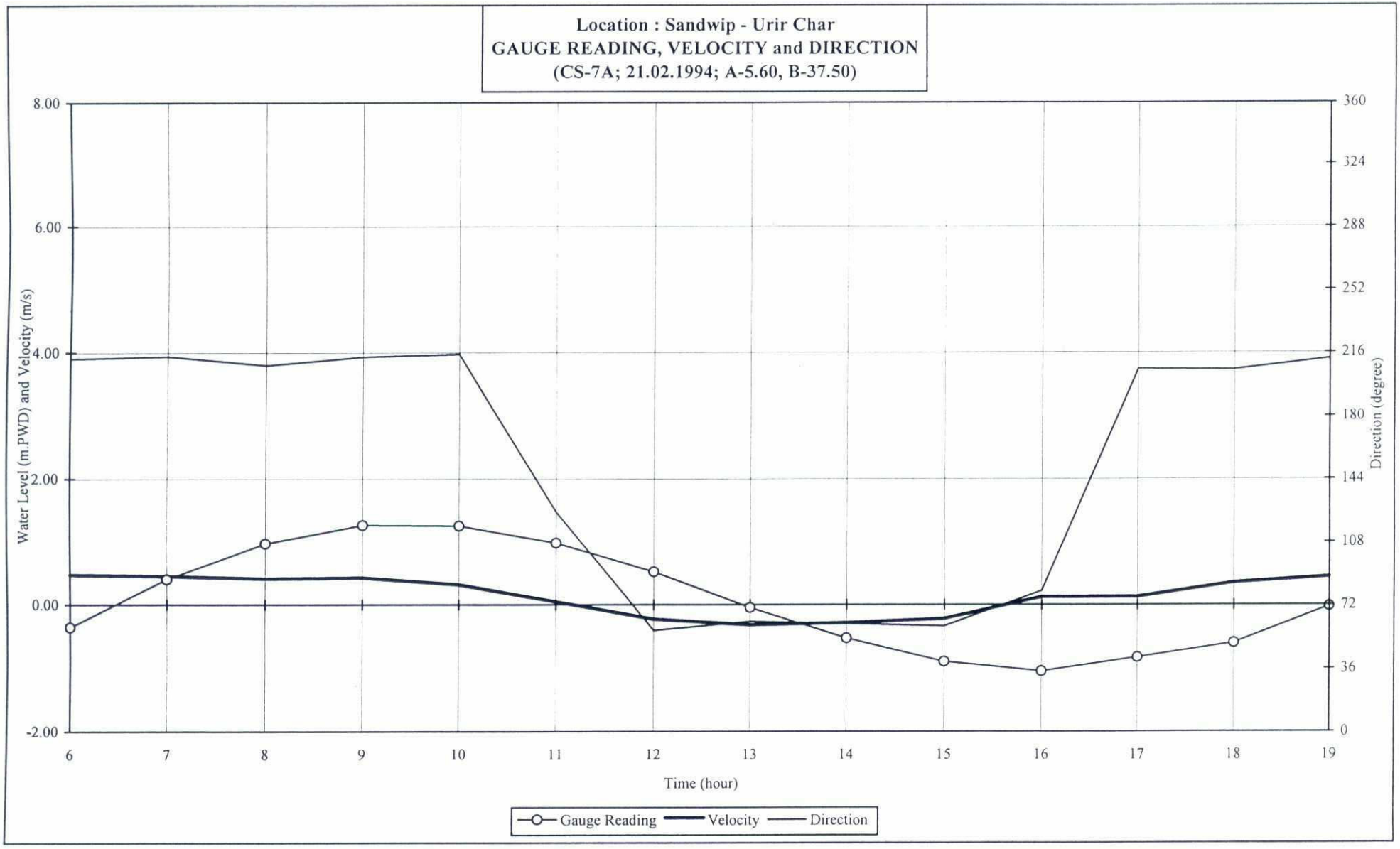
DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(a)
5.	Decca Location	:	A-05.60; B-37.50	6.	Reference File Name	:	3,4(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	21.02.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	A-OTT	12.	Propeller No.	:	1-38441
13.	Tide Range	:	2.40 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.40 m	16.	Equation of Velocity	:	V = 0.2510n + 0.0054 n < 16.95

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	112	0.57		0.95	210	0.48	213	-0.357	250	1.00	38	38	0.50	0.954	7.70
	1.60		0.01	0.05												
16	0.00	34	0.18		0.15	80	0.12	80	-1.047	250	1.00	0	0	0.50	3.404	7.70
	0.50	34	0.18	0.09		80				2750	-2.50	0		0.60		
	0.70	23	0.12	0.03		80								0.70	0.592	7.70
	1.20		0.01	0.03												
17	0.00	32	0.17		0.17	205	0.13	207	-0.827	250	1.00	2	2	0.50	0.156	7.70
	0.50	32	0.17	0.08		205				2750	-2.50	0		0.65		
	0.80	27	0.14	0.05		210								0.80	0.238	7.70
	1.30		0.01	0.04												
18	0.00	89	0.45		0.56	205	0.35	206	-0.600	250	1.00	15	15	0.50	0.110	7.70
	0.50	89	0.45	0.23		205				2750	-2.50	0		0.80		
	1.00	72	0.37	0.20		210								1.10	0.288	7.70
	1.10	73	0.37	0.04		205										
	1.60		0.01	0.09												
19	0.00	104	0.53		0.90	215	0.45	213	-0.020	250	1.00	70	70	0.50	0.194	7.70
	0.50	104	0.53	0.26		215				2750	-2.50	0		1.00	0.248	7.70
	1.00	103	0.52	0.26		210								1.50	0.210	7.70
	1.50	94	0.48	0.25		210										
	2.00		0.01	0.12												


Location : Sandwip - Urir Char
SEDIMENT and SALINITY
(CS-7A; 21.02.1994; A-5.60, B-37.50)
8.00
6.00
4.00
2.00
0.00
-2.00
Sediment (gm/lt) and Salinity (ppt)
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (in all depth)


Location : Sandwip - Urir Char
GAUGE READING, VELOCITY and DIRECTION
(CS-7A; 21.02.1994; A-5.60, B-37.50)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
8.00
6.00
4.00
2.00
0.00
-2.00
360
324
288
252
216
180
144
108
72
36
0
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Gauge Reading
Velocity
Direction

Cross Section CS-7(b)

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(b)
5.	Decca Location	:	J-20.70; B-37.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	14.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
8	-1.31	3.90	25	-1.24	3.20	3.76	5.76	4.24	7.73	7.73	7.73	7.73	2498	-3087	13086
9	-1.83	3.40	34	-1.82	0.16	5.41	6.64	4.07	7.73	7.73	7.73	7.73	1068	-1941	7897
10	-2.10	3.10	32	-1.49	3.29	2.61	4.35	3.42	7.73	7.73	7.73	7.73	487	-728	2488
11	-2.23	2.60	23	-0.79	3.40	3.09	4.22	3.57	7.73	7.73	7.73	7.73	286	-223	795
12	-1.95	3.90	70	-0.60	2.66	3.56	2.16	2.79	7.73	7.73	7.73	7.73	712	-327	914
13	0.50	6.70	85	-0.44	1.68	3.06	4.44	3.06	7.73	7.73	7.73	7.73	8086	-2023	6189
14	2.02	6.80	197	1.63	0.98	0.42	0.16	0.52	7.73	7.73	7.73	7.73	15734	24922	12976
15	2.75	7.50	199	2.06	0.87	4.15	5.09	3.37	7.73	7.73	7.73	7.73	19047	38519	129784
16	2.75	7.90	214	1.59	0.24	2.94	7.03	3.40	7.73	7.73	7.73	7.73	18461	29284	99624
17	2.15	7.60	210	0.97	2.70	4.71	4.73	4.05	7.73	7.73	7.73	7.73	15415	15007	60739
18	1.24	6.50	210	0.13	1.10	0.89	5.29	2.43	7.73	7.73	7.73	7.73	11826	1530	3714
19	0.05	5.50	42	-0.55	0.39	3.07	5.33	2.93	7.73	7.73	7.73	7.73	6960	-3760	11018
20	-0.60	4.60	38	-0.73	1.62	4.57	6.39	4.19	7.73	7.73	7.73	7.73	4807	-3457	14496
21	-1.15	4.10	33	0.94	3.97	5.29	8.47	5.91	7.73	7.73	7.73	7.73	172	161	952

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(b)
5.	Decca Location	:	J-20.70; B-37.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	14.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
8	0.00	292	1.43		4.84	25	1.24	25	-1.307	4350	2.50	-3087	-3087	0.50	3.196	7.73
	0.50	292	1.43	0.72		25				3450	-3.80	0		1.95	3.760	7.73
	1.00	281	1.38	0.70		25				300	0.30	0		3.40	5.760	7.73
	3.00	263	1.29	2.67		25				800	-2.20	0				
	3.40	219	1.08	0.47		25										
	3.90		0.01	0.27												
9	0.00	409	2.01		6.19	33	1.82	34	-1.827	4350	2.50	-1941	-1941	0.50	0.160	7.73
	0.50	409	2.01	1.00		33				3450	-3.80	0		1.70	5.408	7.73
	1.00	406	1.99	1.00		35				300	0.30	0		2.90	6.638	7.73
	2.90	390	1.91	3.71		35				800	-2.20	0				
	3.40		0.01	0.48												
10	0.00	382	1.87		4.63	33	1.49	32	-2.097	4350	2.50	-728	-728	0.50	3.294	7.73
	0.50	382	1.87	0.94		33				3450	-3.80	0		1.55	2.606	7.73
	1.00	341	1.67	0.89		30				300	0.30	0		2.60	4.346	7.73
	2.60	285	1.40	2.46		30				800	-2.20	0				
	3.10		0.01	0.35												
11	0.00	196	0.96		2.05	20	0.79	23	-2.227	4350	2.50	-223	-223	0.50	3.400	7.73
	0.50	196	0.96	0.48		20				3450	-3.80	0		1.30	3.086	7.73
	1.00	175	0.86	0.46		25				300	0.30	0		2.10	4.218	7.73
	2.10	160	0.79	0.91		25				800	-2.20	0				
	2.60		0.01	0.20												
12	0.00	149	0.74		2.32	70	0.60	70	-1.947	4350	2.50	-327	-327	0.50	2.662	7.73
	0.50	149	0.74	0.37		70				3450	-3.80	0		1.95	3.558	7.73
	1.00	140	0.69	0.36		65				300	0.30	0		3.40	2.158	7.73
	3.00	118	0.58	1.27		73				800	-2.20	0				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(b)
5.	Decca Location	:	J-20.70; B-37.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	14.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
8	0.00	292	1.43		4.84	25	1.24	25	-1.307	4350	2.50	-3087	-3087	0.50	3.196	7.73
	3.40	92	0.46	0.21		70										
	3.90		0.01	0.12												
13	0.00	106	0.52		2.92	85	0.44	85	0.503	4350	2.50	-2006	-2023	0.50	1.680	7.73
	0.50	106	0.52	0.26		85				3450	-3.80	0		3.35	3.058	7.73
	1.00	135	0.67	0.30		85				300	0.30	-16		6.20	4.442	7.73
	3.00	120	0.59	1.26		85				800	-2.20	0				
	5.00	48	0.24	0.83		85										
	6.20	26	0.13	0.23		85										
	6.70		0.01	0.04												
14	0.00	426	2.09		11.08	196	1.63	197	2.023	4350	2.50	24348	24922	0.50	0.980	7.73
	0.50	426	2.09	1.04		196				3450	-3.80	0		3.40	0.418	7.73
	1.00	394	1.93	1.01		198				300	0.30	574		6.30	0.164	7.73
	3.00	342	1.68	3.61		195				800	-2.20	0				
	5.00	338	1.66	3.34		197										
	6.30	226	1.11	1.80		197										
	6.80		0.01	0.28												
15	0.00	432	2.12		15.48	197	2.06	199	2.753	4350	2.50	37267	38519	0.50	0.868	7.73
	0.50	432	2.12	1.06		197				3450	-3.80	0		3.75	4.150	7.73
	1.00	456	2.24	1.09		197				300	0.30	1073		7.00	5.090	7.73
	3.00	484	2.37	4.61		200				800	-2.20	178				
	5.00	416	2.04	4.41		200										
	7.00	370	1.82	3.86		200										
	7.50		0.01	0.46												
16	0.00	390	1.91		12.56	210	1.59	214	2.753	4350	2.50	28332	29284	0.50	0.244	7.73

DISCHARGE MEASUREMENT

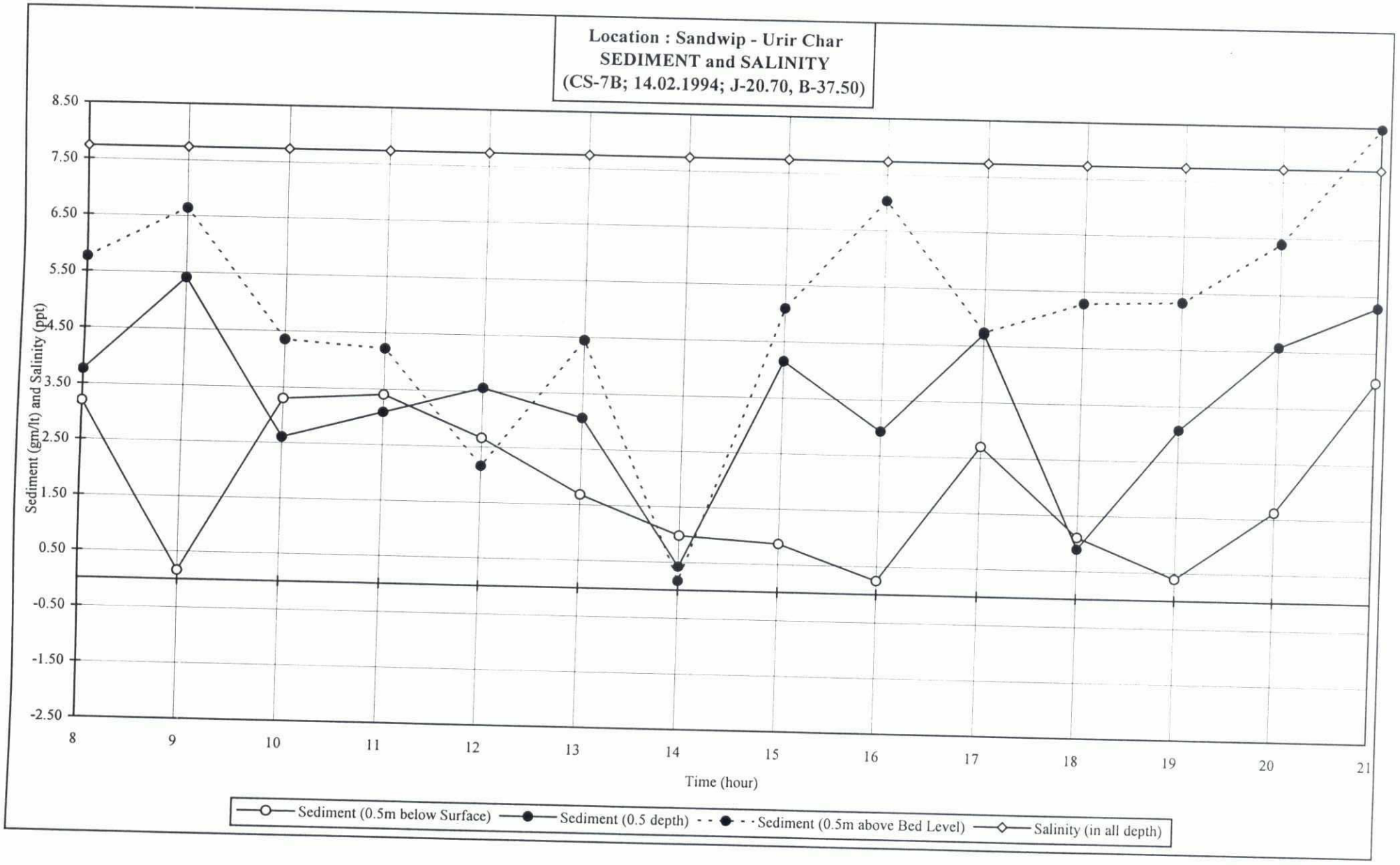
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(b)
5.	Decca Location	:	J-20.70; B-37.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	14.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

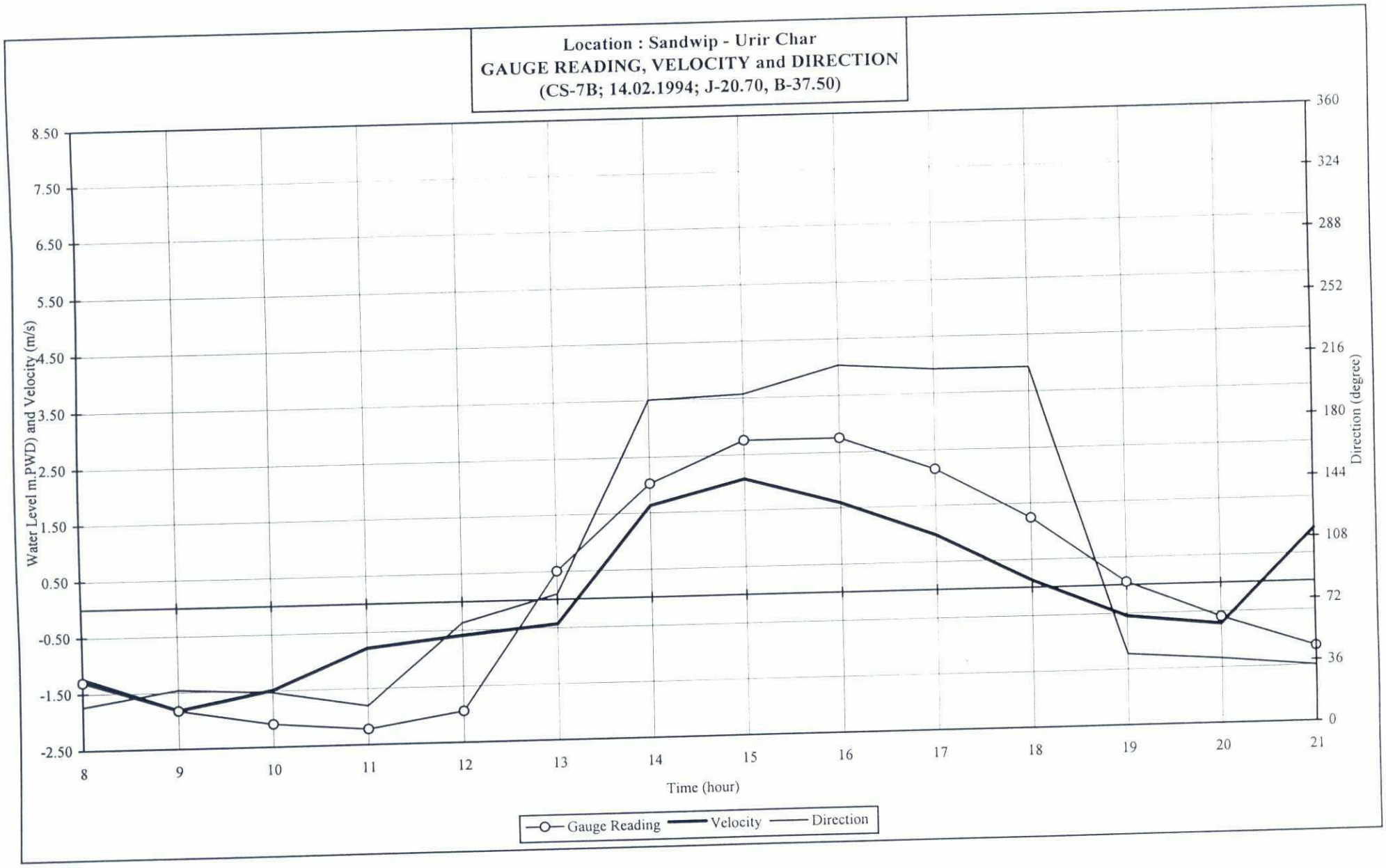
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
8	0.00	292	1.43		4.84	25	1.24	25	-1.307	4350	2.50	-3087	-3087	0.50	3.196	7.73
	0.50	390	1.91	0.96		210				3450	-3.80	0		3.95	2.936	7.73
	1.00	368	1.81	0.93		210				300	0.30	816		7.40	7.026	7.73
	3.00	346	1.70	3.50		215				800	-2.20	136				
	5.00	356	1.75	3.44		217										
	7.00	248	1.22	2.97		217										
	7.40	230	1.13	0.47		216										
	7.90		0.01	0.28												
17	0.00	240	1.18		7.40	209	0.97	210	2.153	4350	2.50	14647	15007	0.50	2.700	7.73
	0.50	240	1.18	0.59		209				3450	-3.80	0		3.80	4.708	7.73
	1.00	238	1.17	0.59		209				300	0.30	360		7.10	4.734	7.73
	3.00	238	1.17	2.34		209				800	-2.20	0				
	5.00	192	0.95	2.12		212										
	7.10	120	0.59	1.62		212										
	7.60		0.01	0.15												
18	0.00	63	0.31		0.84	210	0.13	210	1.240	4350	2.50	1505	1530	0.50	1.104	7.73
	0.50	63	0.31	0.16		210				3450	-3.80	0		3.25	0.892	7.73
	1.00	58	0.29	0.15		210				300	0.30	25		6.00	5.286	7.73
	3.00	13	0.07	0.36		210				800	-2.20	0				
	5.00	7	0.04	0.11		210										
	6.00	9	0.05	0.05		210										
	6.50		0.01	0.01												
19	0.00	100	0.50		3.03	44	0.55	42	0.050	4350	2.50	-3750	-3760	0.50	0.386	7.73
	0.50	100	0.50	0.25		44				3450	-3.80	0		2.75	3.070	7.73
	1.00	120	0.59	0.27		40				300	0.30	-10		5.00	5.334	7.73

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(b)
5.	Decca Location	:	J-20.70; B-37.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	14.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	5.08 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	5.08 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
8	0.00	292	1.43		4.84	25	1.24	25	-1.307	4350	2.50	-3087	-3087	0.50	3.196	7.73
	3.00	162	0.80	1.39		40				800	-2.20	0				
	5.00	51	0.26	1.05		40										
	5.50		0.01	0.07												
20	0.00	260	1.28		3.34	37	0.73	38	-0.600	4350	2.50	-3457	-3457	0.50	1.616	7.73
	0.50	260	1.28	0.64		37				3450	-3.80	0		2.25	4.570	7.73
	1.00	150	0.74	0.50		38				300	0.30	0		4.00	6.394	7.73
	3.00	132	0.65	1.39		40				800	-2.20	0				
	4.00	120	0.59	0.62		37										
	4.60		0.01	0.18												
21	0.00	366	1.80		3.85	30	0.94	33	-1.150	4350	2.50	-2777	-2777	0.50	3.972	7.73
	0.50	366	1.80	0.90		30				3450	-3.80	0		2.05	5.294	7.73
	1.00	189	0.93	0.68		33				300	0.30	0		3.60	8.470	7.73
	3.00	154	0.76	1.69		38				800	-2.20	0				
	3.60	128	0.63	0.42		33										
	4.10		0.01	0.16												


Location : Sandwip - Urir Char
SEDIMENT and SALINITY
(CS-7B; 14.02.1994; J-20.70, B-37.50)
Sediment (gm/lt) and Salinity (ppt)
8.50
7.50
6.50
5.50
4.50
3.50
2.50
1.50
0.50
-0.50
-1.50
-2.50
8
9
10
11
12
13
14
15
16
17
18
19
20
21
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (in all depth)


Location : Sandwip - Urir Char
GAUGE READING, VELOCITY and DIRECTION
(CS-7B; 14.02.1994; J-20.70, B-37.50)
Water Level m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
8.50
7.50
6.50
5.50
4.50
3.50
2.50
1.50
0.50
-0.50
-1.50
-2.50
360
324
288
252
216
180
144
108
72
36
0
8
9
10
11
12
13
14
15
16
17
18
19
20
21
Gauge Reading
Velocity
Direction

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(b)
5.	Decca Location	:	J-20.70; B-37.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	20.02.94
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	2.62 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.40 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4	-0.70	4.40	50	-0.07	0.34	1.20	1.54	1.02	7.72	7.72	7.72	7.72	4145	-256	262
5	0.30	5.00	210	0.56	0.81	1.00	0.85	0.89	7.72	7.72	7.72	7.72	7878	4407	3902
6	1.15	5.30	213	0.80	0.09	0.08	0.14	0.10	7.72	7.72	7.72	7.72	11789	9408	985
7	1.42	5.90	216	0.87	0.39	0.60	2.88	1.29	7.72	7.72	7.72	7.72	12425	10716	13838
8	1.37	5.95	214	0.52	0.70	0.72	0.53	0.65	7.72	7.72	7.72	7.72	12104	6227	4060
9	1.03	5.80	215	0.27	0.39	0.50	0.61	0.50	7.72	7.72	7.72	7.72	10565	2810	1401
10	0.66	5.20	269	0.07	0.13	0.22	0.17	0.18	7.74	7.74	7.74	7.74	9405	327	58
11	-0.16	4.60	30	-0.44	0.49	0.37	0.53	0.46	7.74	7.74	7.74	7.74	6185	-2696	1245
12	-0.62	4.00	35	-0.58	0.36	0.48	0.33	0.39	7.74	7.74	7.74	7.74	4725	-2730	1065
13	-1.00	3.70	32	-0.52	0.94	0.95	0.55	0.81	7.74	7.74	7.74	7.74	3439	-1801	1465
14	-1.18	3.60	39	-0.62	1.40	1.39	1.43	1.41	7.74	7.74	7.74	7.74	2843	-1751	2466
15	-0.88	3.70	34	-0.48	1.01	1.22	1.51	1.24	7.74	7.74	7.74	7.74	3895	-1845	2297
16	-0.27	4.20	106	-0.17	0.70	0.46	0.89	0.68	7.74	7.74	7.74	7.74	6044	-248	170
17	0.42	4.60	149	0.06	0.77	1.18	0.57	0.84	7.74	7.74	7.74	7.74	8895	253	212

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(b)
5.	Decca Location	:	J-20.70; B-37.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	20.02.94
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	2.62 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.40 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.3	0.00	4	0.03		0.29	50	0.07	50	-0.700	4350	2.50	-256	-256	0.50	0.338	7.72
	0.50	4	0.03	0.01		50				3450	-3.80	0		2.20	1.196	7.72
	1.00	8	0.05	0.02		50				300	0.30	0		3.90	1.538	7.72
	3.00	15	0.08	0.13		50				800	-2.20	0				
	3.90	26	0.13	0.10		50										
	4.40		0.01	0.04												
5.3	0.00	148	0.73		2.80	210	0.56	210	0.300	4350	2.50	4382	4407	0.50	0.810	7.72
	0.50	148	0.73	0.37		210				3450	-3.80	0		2.50	1.000	7.72
	1.00	139	0.69	0.35		210				300	0.30	25		4.50	0.846	7.72
	3.00	122	0.60	1.29		210				800	-2.20	0				
	4.50	67	0.33	0.70		210										
	5.00		0.01	0.09												
6.3	0.00	196	0.96		4.24	212	0.80	213	1.153	4350	2.50	9264	9408	0.50	0.092	7.72
	0.50	196	0.96	0.48		212				3450	-3.80	0		2.65	0.084	7.72
	1.00	191	0.94	0.48		215				300	0.30	144		4.80	0.138	7.72
	3.00	165	0.81	1.75		213				800	-2.20	0				
	4.80	139	0.69	1.35		213										
	5.30		0.01	0.17												
7.3	0.00	201	0.99		5.11	215	0.87	216	1.423	4350	2.50	10524	10716	0.50	0.394	7.72
	0.50	201	0.99	0.49		215				3450	-3.80	0		2.95	0.596	7.72
	1.00	208	1.02	0.50		215				300	0.30	192		5.40	2.884	7.72
	3.00	185	0.91	1.93		218				800	-2.20	0				
	5.00	157	0.77	1.69		215										
	5.40	152	0.75	0.30		215										
	5.90		0.01	0.19												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(b)
5.	Decca Location	:	J-20.70; B-37.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	20.02.94
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	2.62 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.40 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.3	0.00	4	0.03		0.29	50	0.07	50	-0.700	4350	2.50	-256	-256	0.50	0.338	7.72
8.3	0.00	128	0.63		3.07	213	0.52	214	1.373	4350	2.50	6118	6227	0.50	0.704	7.72
	0.50	128	0.63	0.32		213				3450	-3.80	0		2.95	0.718	7.72
	1.00	120	0.59	0.31		213				300	0.30	109		5.40	0.534	7.72
	3.00	114	0.56	1.16		215				800	-2.20	0				
	5.00	84	0.42	0.98		215										
	5.40	94	0.47	0.18		215										
	5.95		0.01	0.13												
9.3	0.00	64	0.32		1.55	217	0.27	215	1.033	4350	2.50	2770	2810	0.50	0.392	7.72
	0.50	64	0.32	0.16		217				3450	-3.80	0		2.90	0.496	7.72
	1.00	60	0.30	0.15		217				300	0.30	40		5.30	0.608	7.72
	3.00	58	0.29	0.59		217				800	-2.20	0				
	5.00	46	0.23	0.52		210										
	5.30	42	0.21	0.07		212										
	5.80		0.01	0.05												
10.3	0.00	8	0.05		0.35	268	0.07	269	0.663	4350	2.50	324	327	0.50	0.134	7.74
	0.50	8	0.05	0.02		268				3450	-3.80	0		2.60	0.220	7.74
	1.00	12	0.07	0.03		268				300	0.30	3		4.70	0.174	7.74
	3.00	15	0.08	0.15		270				800	-2.20	0				
	4.70	14	0.08	0.13		270										
	5.20		0.01	0.02												
11.3	0.00	112	0.55		2.01	20	0.44	30	-0.157	4350	2.50	-2694	-2696	0.50	0.488	7.74
	0.50	112	0.55	0.28		20				3450	-3.80	0		2.30	0.366	7.74
	1.00	96	0.48	0.26		30				300	0.30	-2		4.10	0.532	7.74
	3.00	100	0.50	0.97		45				800	-2.20	0				

DISCHARGE MEASUREMENT

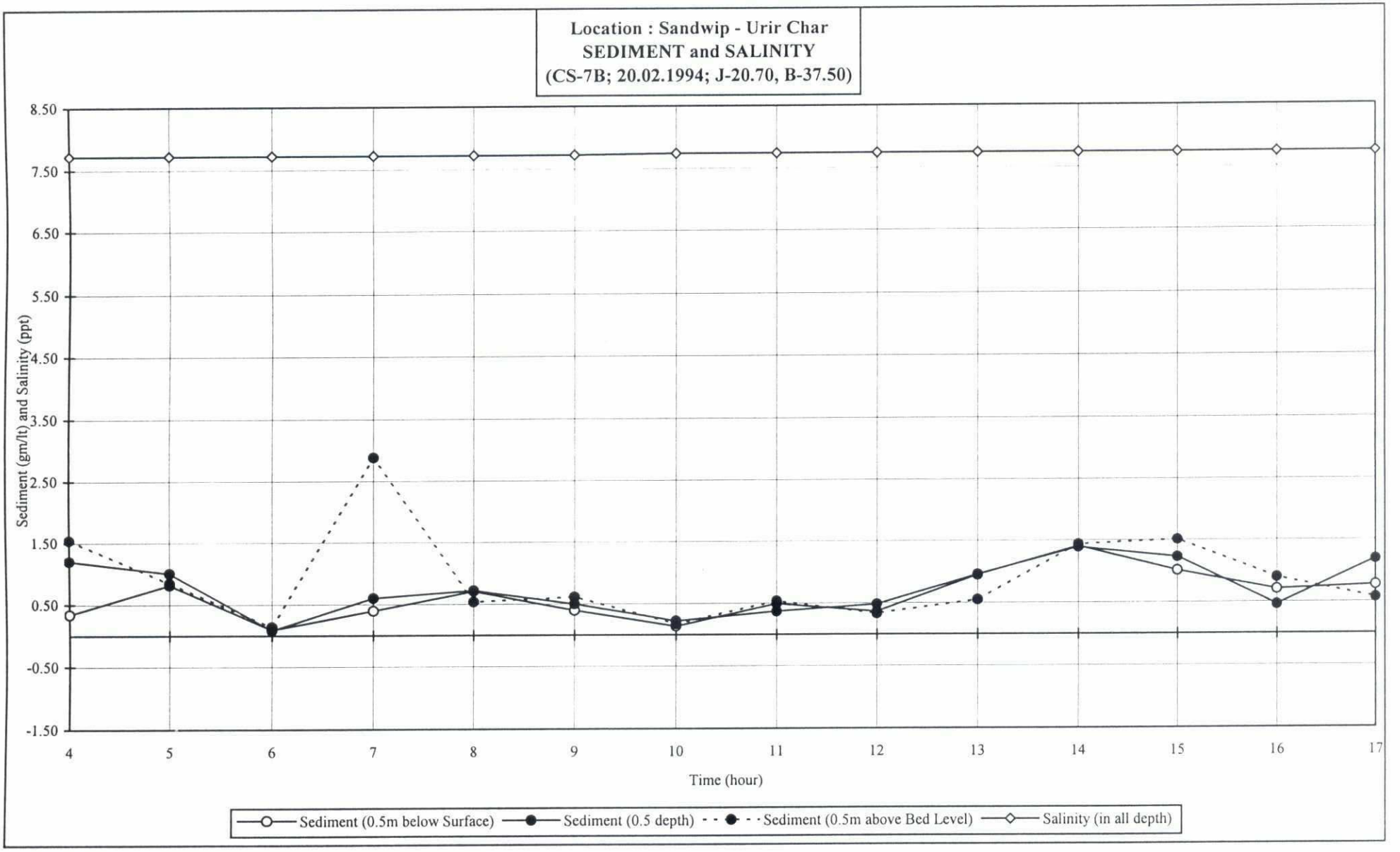
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(b)
5.	Decca Location	:	J-20.70; B-37.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	20.02.94
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	2.62 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.40 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

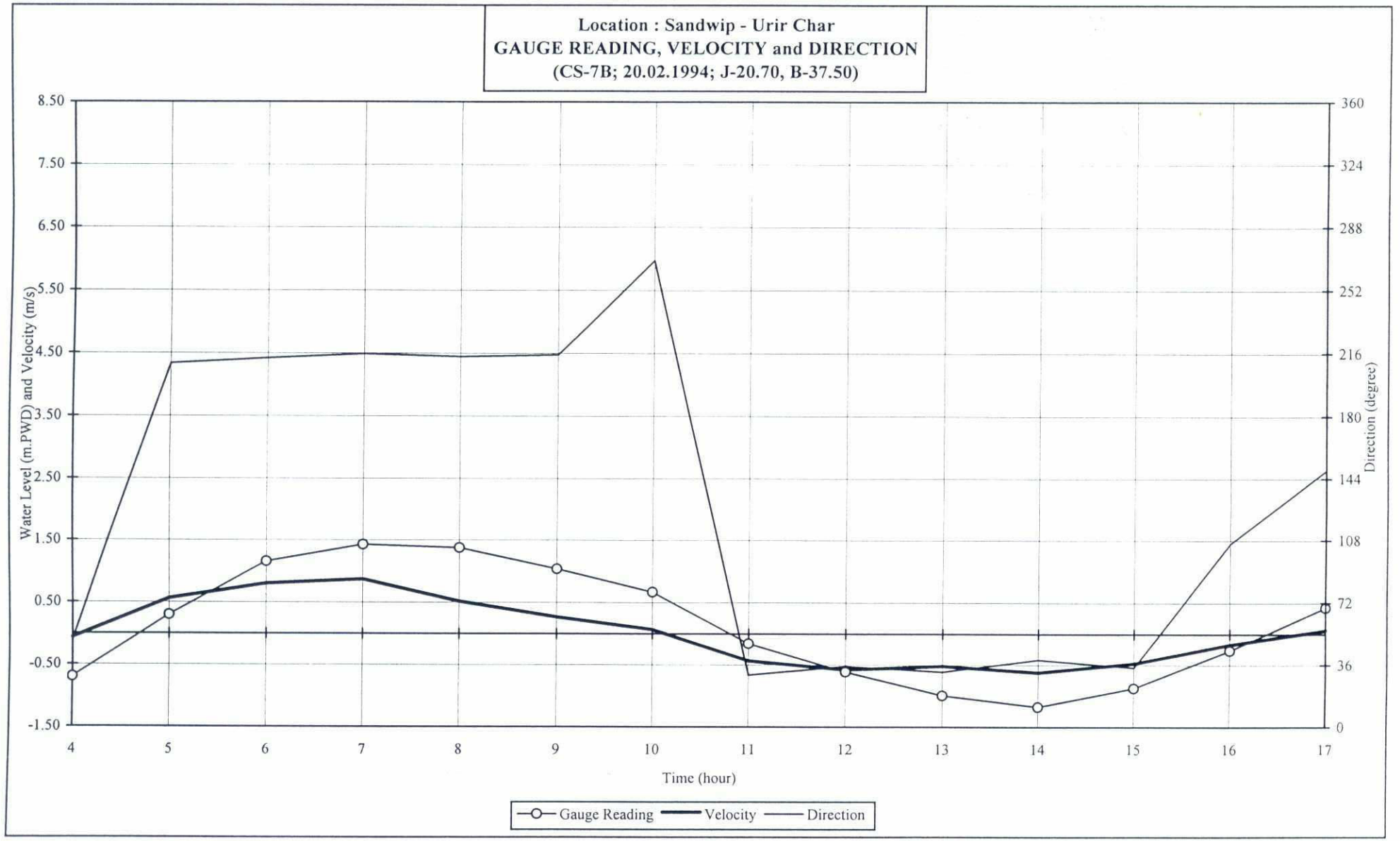
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.3	0.00	4	0.03		0.29	50	0.07	50	-0.700	4350	2.50	-256	-256	0.50	0.338	7.72
	4.10	56	0.28	0.43		35										
	4.60		0.01	0.07												
12.3	0.00	126	0.62		2.32	34	0.58	35	-0.617	4350	2.50	-2730	-2730	0.50	0.362	7.74
	0.50	126	0.62	0.31		34				3450	-3.80	0		2.00	0.476	7.74
	1.00	142	0.70	0.33		39				300	0.30	0		3.50	0.332	7.74
	3.00	122	0.60	1.30		34				800	-2.20	0				
	3.50	89	0.44	0.26		34										
	4.00		0.01	0.11												
13.3	0.00	148	0.73		1.94	29	0.52	32	-0.997	4350	2.50	-1801	-1801	0.50	0.944	7.74
	0.50	148	0.73	0.37		29				3450	-3.80	0		1.85	0.950	7.74
	1.00	146	0.72	0.36		34				300	0.30	0		3.20	0.546	7.74
	3.00	68	0.34	1.06		34				800	-2.20	0				
	3.20	66	0.33	0.07		33										
	3.70		0.01	0.08												
14.3	0.00	144	0.71		2.24	33	0.62	39	-1.177	4350	2.50	-1751	-1751	0.50	1.404	7.74
	0.50	144	0.71	0.36		33				3450	-3.80	0		1.80	1.388	7.74
	1.00	154	0.76	0.37		38				300	0.30	0		3.10	1.434	7.74
	3.00	120	0.59	1.35		43				800	-2.20	0				
	3.10	92	0.46	0.05		48										
	3.60		0.01	0.12												
15.3	0.00	112	0.55		1.76	34	0.48	34	-0.877	4350	2.50	-1845	-1845	0.50	1.006	7.74
	0.50	112	0.55	0.28		34				3450	-3.80	0		1.85	1.222	7.74
	1.00	96	0.48	0.26		34				300	0.30	0		3.20	1.506	7.74
	3.00	104	0.52	0.99		35				800	-2.20	0				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Sandwip - Urir Char	4.	Cross Section No.	:	7(b)
5.	Decca Location	:	J-20.70; B-37.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	20.02.94
9.	Tidal Condition	:	Neap Tide	10.	Gauge used	:	Santoshpur
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	2.62 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.40 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.3	0.00	4	0.03		0.29	50	0.07	50	-0.700	4350	2.50	-256	-256	0.50	0.338	7.72
	3.20	103	0.51	0.10		35										
	3.70		0.01	0.13												
16.3	0.00	62	0.31		0.71	100	0.17	106	-0.267	4350	2.50	-248	-248	0.50	0.702	7.74
	0.50	62	0.31	0.15		100				3450	-3.80	0		2.10	0.460	7.74
	1.00	32	0.16	0.12		105				300	0.30	0		3.70	0.890	7.74
	3.00	28	0.14	0.31		110				800	-2.20	0				
	3.70	25	0.13	0.10		115										
	4.20		0.01	0.03												
17.3	0.00	12	0.07		0.27	148	0.06	149	0.423	4350	2.50	251	253	0.50	0.768	7.74
	0.50	12	0.07	0.03		148				3450	-3.80	0		2.30	1.184	7.74
	1.00	14	0.08	0.04		148				300	0.30	2		4.10	0.568	7.74
	3.00	10	0.06	0.13		150				800	-2.20	0				
	4.10	9	0.05	0.06		150										
	4.60		0.01	0.01												


Location : Sandwip - Urir Char
SEDIMENT and SALINITY
(CS-7B; 20.02.1994; J-20.70, B-37.50)
Sediment (gm/lt) and Salinity (ppt)
8.50
7.50
6.50
5.50
4.50
3.50
2.50
1.50
0.50
-0.50
-1.50
4
5
6
7
8
9
10
11
12
13
14
15
16
17
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (in all depth)


Location : Sandwip - Urir Char
GAUGE READING, VELOCITY and DIRECTION
(CS-7B; 20.02.1994; J-20.70, B-37.50)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
8.50
7.50
6.50
5.50
4.50
3.50
2.50
1.50
0.50
-0.50
-1.50
360
324
288
252
216
180
144
108
72
36
0
4
5
6
7
8
9
10
11
12
13
14
15
16
17
Gauge Reading
Velocity
Direction

Cross Section CS-8

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Char Balua - Urir Char	4.	Cross Section No.	:	8
5.	Decca Location	:	I-01.45; B-34.00	6.	Reference File Name	:	3A(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.94
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	9.00 m	14.	X-section Direction	:	119 degrees
15.	Reference Tide Range	:	9.00 m	16.	Equation of Velocity	:	V = 0.5142n + 0.0025 n < 0.26
							= 0.5199n + 0.0010 0.26 < n < 7.61

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
9	-2.55	10.30	42	1.31	2.76	4.37	9.74	5.62	5.20	5.20	5.20	5.20	7802	10009	56252
10	-3.50	10.00	41	0.66	2.01	0.86	2.00	1.63	5.20	5.20	5.20	5.20	6001	3857	6271
11	-3.30	9.80	31	0.12	1.72	2.05	1.41	1.73	5.20	5.20	5.20	5.20	6460	788	1361
12	-1.60	10.20	41	0.34	1.55	1.12	1.56	1.41	5.20	5.20	5.20	5.20	10051	3392	4776
13	1.70	9.50	216	-2.57	6.68	4.59	6.00	5.76	5.20	5.20	5.20	5.20	20383	-51921	298925
14	4.00	9.50	213	-2.61	8.04	8.55		8.30	5.20	5.20		5.20	28810	-75004	622311
15	5.00	17.50	226	-1.65	5.41	5.18	6.28	5.62	5.20	5.20	5.20	5.20	22894	-35971	202203
16	5.00	18.50	230	-0.83	3.68	3.41	3.93	3.67	5.20	5.20	5.20	5.20	22151	-17132	62954
17	4.32	18.00	326	0.27	2.85	2.80	2.15	2.60	5.20	5.20	5.20	5.20	20562	2488	6471
18	2.90	16.50	30	0.80	1.43	1.93	1.86	1.74	5.20	5.20	5.20	5.20	17711	14189	24660
19	1.10	14.50	33	1.17	1.34	2.38	2.80	2.17	5.20	5.20	5.20	5.20	14279	16709	36258
20	-0.65	12.50	50	1.93	1.30	1.41	1.41	1.37	5.20	5.20	5.20	5.20	11074	19982	27415
21	-2.20	11.20	42	1.42	1.75	1.81	1.56	1.70	5.20	5.20	5.20	5.20	8159	11323	19287
22	-2.98	10.50	12	0.95	1.54	3.13	2.34	2.34	5.20	5.20	5.20	5.20	6821	6177	14425

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Char Balua - Urir Char	4.	Cross Section No.	:	8
5.	Decca Location	:	I-01.45; B-34.00	6.	Reference File Name	:	3A(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.94
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	9.00 m	14.	X-section Direction	:	119 degrees
15.	Reference Tide Range	:	9.00 m	16.	Equation of Velocity	:	V = 0.5142n + 0.0025 n < 0.26
							= 0.5199n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
9.3	0.00	162	1.69		13.53	70	1.31	42	-2.550	353	7.50	1442	10009	0.50	2.756	5.20
	0.50	162	1.69	0.84		70				350	7.30	1338		5.15	4.366	5.20
	1.00	192	2.00	0.92		52				880	10.00	6924		9.80	9.738	5.20
	3.00	162	1.69	3.68		40				610	3.90	306				
	5.00	111	1.16	2.84		30				410	-3.60	0				
	7.00	102	1.06	2.22		25										
	9.00	97	1.01	2.07		25										
	9.80	82	0.85	0.75		20										
	10.30		0.00	0.21												
10.3	0.00	81	0.84		6.56	43	0.66	41	-3.500	353	7.50	522	3857	0.50	2.012	5.20
	0.50	81	0.84	0.42		43				350	7.30	476		5.00	0.864	5.20
	1.00	83	0.86	0.43		44				880	10.00	2837		9.50	2.002	5.20
	3.00	86	0.90	1.76		46				610	3.90	21				
	5.00	65	0.68	1.57		41				410	-3.60	0				
	7.00	50	0.52	1.20		39										
	9.00	41	0.43	0.95		35										
	9.50	24	0.25	0.17		33										
	10.00		0.00	0.06												
11.3	0.00	13	0.14		1.20	33	0.12	31	-3.300	353	7.50	108	788	0.50	1.720	5.20
	0.50	13	0.14	0.07		33				350	7.30	99		4.90	2.052	5.20
	1.00	7	0.07	0.05		33				880	10.00	573		9.30	1.408	5.20
	3.00	4	0.04	0.12		30				610	3.90	8				
	5.00	27	0.28	0.33		30				410	-3.60	0				
	7.00	11	0.12	0.40		32										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Char Balua - Urir Char	4.	Cross Section No.	:	8
5.	Decca Location	:	I-01.45; B-34.00	6.	Reference File Name	:	3A(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.94
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	9.00 m	14.	X-section Direction	:	119 degrees
15.	Reference Tide Range	:	9.00 m	16.	Equation of Velocity	:	V = 0.5142n + 0.0025 n < 0.26
							= 0.5199n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	9.00	8	0.08	0.20		30										
	9.30	5	0.05	0.02		28										
	9.80		0.00	0.01												
12.3	0.00	17	0.18		3.51	50	0.34	41	-1.600	353	7.50	506	3392	0.50	1.548	5.20
	0.50	17	0.18	0.09		50				350	7.30	474		5.10	1.116	5.20
	1.00	13	0.14	0.08		47				880	10.00	2221		9.70	1.560	5.20
	3.00	32	0.33	0.47		44				610	3.90	192				
	5.00	45	0.47	0.80		38				410	-3.60	0				
	7.00	41	0.43	0.90		35										
	9.00	39	0.41	0.83		32										
	9.70	32	0.33	0.26		28										
	10.20		0.00	0.08												
13.3	0.00	261	2.71		24.40	225	2.57	216	1.700	353	7.50	-8115	-51921	0.50	6.684	5.20
	0.50	261	2.71	1.36		225				350	7.30	-7768		4.75	4.592	5.20
	1.00	266	2.77	1.37		222				880	10.00	-29709		9.00	5.996	5.20
	3.00	271	2.82	5.59		216				610	3.90	-6329				
	5.00	265	2.76	5.58		213				410	-3.60	0				
	7.00	242	2.52	5.27		208										
	9.00	209	2.17	4.69		205										
	9.50		0.00	0.54												
14.3	0.00	315	3.28		24.80	210	2.61	213	4.000	353	7.50	-11849	-75004	0.50	8.044	5.20
	0.50	315	3.28	1.64		210				350	7.30	-11424		4.75	8.550	5.20
	1.00	291	3.03	1.58		213				880	10.00	-40441		9.00		
	3.00	301	3.13	6.16		214				610	3.90	-11230				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Char Balua - Urir Char	4.	Cross Section No.	:	8
5.	Decca Location	:	I-01.45; B-34.00	6.	Reference File Name	:	3A(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.94
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	9.00 m	14.	X-section Direction	:	119 degrees
15.	Reference Tide Range	:	9.00 m	16.	Equation of Velocity	:	V = 0.5142n + 0.0025 n < 0.26
							= 0.5199n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	5.00	245	2.55	5.68		216				410	-3.60	-60				
	7.00	221	2.30	4.85		217										
	9.00	200	2.08	4.38		212										
	9.50		0.00	0.52												
15.3	0.00	189	1.97		28.81	227	1.65	226	5.000	353	7.50	-5674	-35971	0.50	5.408	5.20
	0.50	189	1.97	0.98		227				350	7.30	-5483		8.75	5.176	5.20
	1.00	187	1.95	0.98		227				880	10.00	-18923		17.00	6.280	5.20
	3.00	184	1.91	3.86		232				610	3.90	-5697				
	5.00	187	1.95	3.86		230				410	-3.60	-195				
	7.00	183	1.90	3.85		230										
	9.00	174	1.81	3.71		225										
	11.00	159	1.65	3.46		223										
	13.00	136	1.42	3.07		223										
	15.00	114	1.19	2.60		223										
	17.00	96	1.00	2.19		223										
	17.50		0.00	0.25												
16.3	0.00	86	0.90		15.29	230	0.83	230	5.000	353	7.50	-2702	-17132	0.50	3.684	5.20
	0.50	86	0.90	0.45		230				350	7.30	-2611		9.25	3.414	5.20
	1.00	88	0.92	0.45		230				880	10.00	-9012		18.00	3.926	5.20
	3.00	87	0.91	1.82		235				610	3.90	-2713				
	5.00	92	0.96	1.86		240				410	-3.60	-93				
	7.00	94	0.98	1.94		235										
	9.00	96	1.00	1.98		230										
	11.00	92	0.96	1.96		225										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Char Balua - Urir Char	4.	Cross Section No.	:	8
5.	Decca Location	:	I-01.45; B-34.00	6.	Reference File Name	:	3A(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.94
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	9.00 m	14.	X-section Direction	:	119 degrees
15.	Reference Tide Range	:	9.00 m	16.	Equation of Velocity	:	V = 0.5142n + 0.0025 n < 0.26
							= 0.5199n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	13.00	70	0.73	1.69		225										
	15.00	68	0.71	1.44		225										
	17.00	49	0.51	1.22		225										
	18.00	30	0.31	0.41		225										
	18.50		0.00	0.08												
17.3	0.00	15	0.16		4.81	335	0.27	326	4.320	353	7.50	393	2488	0.50	2.854	5.20
	0.50	15	0.16	0.08		335				350	7.30	379		9.00	2.796	5.20
	1.00	17	0.18	0.08		330				880	10.00	1331		17.50	2.152	5.20
	3.00	13	0.14	0.31		325				610	3.90	380				
	5.00	31	0.32	0.46		324				410	-3.60	5				
	7.00	34	0.35	0.68		324										
	9.00	38	0.40	0.75		324										
	11.00	42	0.44	0.83		323										
	13.00	21	0.22	0.66		323										
	15.00	19	0.20	0.42		323										
	17.00	18	0.19	0.39		322										
	17.50	20	0.21	0.10		322										
	18.00		0.00	0.05												
18.3	0.00	51	0.53		13.22	30	0.80	30	2.900	353	7.50	2233	14189	0.50	1.426	5.20
	0.50	51	0.53	0.27		30				350	7.30	2147		8.25	1.932	5.20
	1.00	77	0.80	0.33		30				880	10.00	7854		16.00	1.856	5.20
	3.00	81	0.84	1.64		25				610	3.90	1955				
	5.00	76	0.79	1.63		25				410	-3.60	0				
	7.00	90	0.94	1.73		32										

DISCHARGE MEASUREMENT

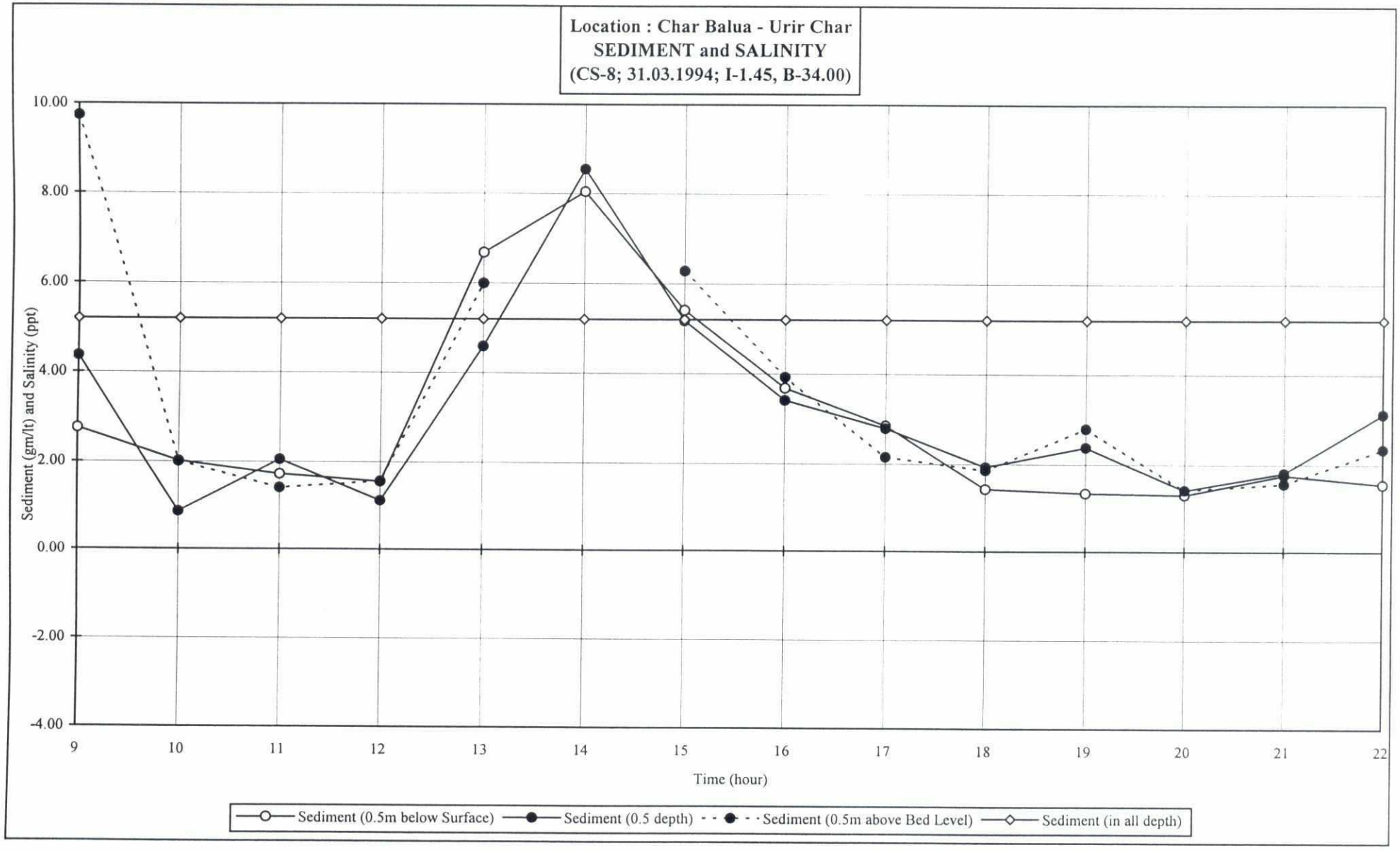
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Char Balua - Urir Char	4.	Cross Section No.	:	8
5.	Decca Location	:	I-01.45; B-34.00	6.	Reference File Name	:	3A(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.94
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	9.00 m	14.	X-section Direction	:	119 degrees
15.	Reference Tide Range	:	9.00 m	16.	Equation of Velocity	:	V = 0.5142n + 0.0025 n < 0.26
							= 0.5199n + 0.0010 0.26 < n < 7.61

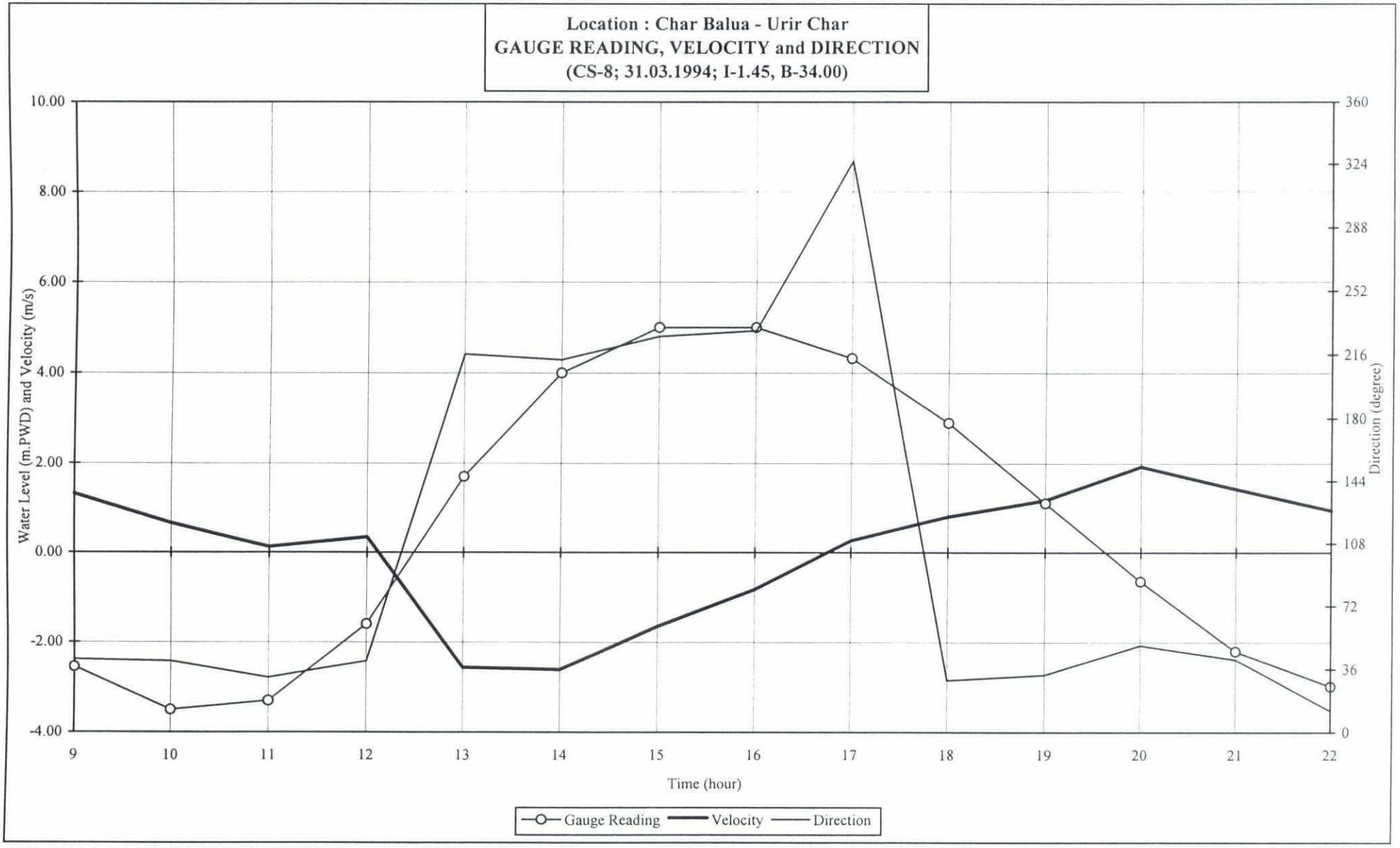
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	9.00	102	1.06	2.00		32										
	11.00	84	0.87	1.94		30										
	13.00	72	0.75	1.62		31										
	15.00	58	0.60	1.35		30										
	16.00	51	0.53	0.57		30										
	16.50		0.00	0.13												
19.3	0.00	172	1.79		17.00	33	1.17	33	1.100	353	7.50	2599	16709	0.50	1.336	5.20
	0.50	172	1.79	0.89		33				350	7.30	2482		7.25	2.378	5.20
	1.00	162	1.69	0.87		33				880	10.00	9745		14.00	2.796	5.20
	3.00	154	1.60	3.29		33				610	3.90	1882				
	5.00	123	1.28	2.88		35				410	-3.60	0				
	7.00	109	1.13	2.41		32										
	9.00	93	0.97	2.10		32										
	11.00	84	0.87	1.84		32										
	13.00	81	0.84	1.72		32										
	14.00	73	0.76	0.80		32										
	14.50		0.00	0.19												
20.3	0.00	205	2.13		24.10	50	1.93	50	-0.650	353	7.50	3041	19982	0.50	1.300	5.20
	0.50	205	2.13	1.07		50				350	7.30	2876		6.25	1.406	5.20
	1.00	228	2.37	1.13		50				880	10.00	12479		12.00	1.410	5.20
	3.00	229	2.38	4.75		51				610	3.90	1586				
	5.00	184	1.91	4.30		49				410	-3.60	0				
	7.00	182	1.89	3.81		48										
	9.00	176	1.83	3.72		49										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Char Balua - Urir Char	4.	Cross Section No.	:	8
5.	Decca Location	:	I-01.45; B-34.00	6.	Reference File Name	:	3A(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	31.03.94
9.	Tidal Condition	:	Spring Tide	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	9.00 m	14.	X-section Direction	:	119 degrees
15.	Reference Tide Range	:	9.00 m	16.	Equation of Velocity	:	V = 0.5142n + 0.0025 n < 0.26
							= 0.5199n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	11.00	153	1.59	3.42		50										
	12.00	142	1.48	1.53		50										
	12.50		0.00	0.37												
21.3	0.00	141	1.47		15.93	40	1.42	42	-2.200	353	7.50	1655	11323	0.50	1.748	5.20
	0.50	141	1.47	0.73		40				350	7.30	1543		5.60	1.806	5.20
	1.00	130	1.35	0.70		38				880	10.00	7668		10.70	1.556	5.20
	3.00	160	1.66	3.02		45				610	3.90	457				
	5.00	153	1.59	3.26		50				410	-3.60	0				
	7.00	155	1.61	3.20		45										
	9.00	120	1.25	2.86		40										
	10.70	95	0.99	1.90		35										
	11.20		0.00	0.25												
22.3	0.00	71	0.74		9.92	12	0.95	12	-2.980	353	7.50	869	6177	0.50	1.540	5.20
	0.50	71	0.74	0.37		12				350	7.30	801		5.25	3.126	5.20
	1.00	80	0.83	0.39		10				880	10.00	4392		10.00	2.340	5.20
	3.00	103	1.07	1.90		11				610	3.90	114				
	5.00	113	1.18	2.25		12				410	-3.60	0				
	7.00	96	1.00	2.18		13										
	9.00	82	0.85	1.85		14										
	10.00	71	0.74	0.80		15										
	10.50		0.00	0.19												


Location : Char Balua - Urir Char
SEDIMENT and SALINITY
(CS-8; 31.03.1994; I-1.45, B-34.00)
Sediment (gm/lt) and Salinity (ppt)
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
9
10
11
12
13
14
15
16
17
18
19
20
21
22
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Sediment (in all depth)


Location : Char Balua - Urir Char
GAUGE READING, VELOCITY and DIRECTION
(CS-8; 31.03.1994; I-1.45, B-34.00)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
360
324
288
252
216
180
144
108
72
36
0
9
10
11
12
13
14
15
16
17
18
19
20
21
22
Gauge Reading
Velocity
Direction

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Char Balua - Urir Char	4.	Cross Section No.	:	8
5.	Decca Location	:	I-01.45; B-34.00	6.	Reference File Name	:	3a(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	04.04.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	4.21 m	14.	X-section Direction	:	119 degrees
15.	Reference Tide Range	:	4.01 m	16.	Equation of Velocity	:	V = 0.5142n + 0.0025 n < 0.26
							V = 0.5199n + 0.0010 n < 7.61

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
7	2.15	14.00	230	-1.56	0.03	0.15	0.12	0.10	4.20	4.20	4.20	4.20	16571	-24108	2491
8	2.68	14.20	221	-0.80	0.11	0.12	0.10	0.11	4.20	4.20	4.20	4.20	17846	-13983	1529
9	2.32	14.00	131	-0.31	0.19	0.23	0.19	0.21	4.20	4.20	4.20	4.20	17024	-1105	228
10	1.58	13.40	74	0.56	0.07	0.07	0.09	0.08	4.20	4.20	4.20	4.20	15490	6123	486
11	0.78	12.30	53	1.11	0.09	0.38	0.08	0.19	4.20	4.20	4.20	4.20	14161	14422	2692
12	0.04	11.70	37	1.84	0.08	0.05	0.09	0.07	4.20	4.20	4.20	4.20	12664	23114	1633
13	-0.66	11.00	33	1.43	0.38	0.39	0.41	0.39	4.20	4.20	4.20	4.20	11360	16174	6373
14	-1.25	10.50	28	1.06	0.36	0.99	0.69	0.68	4.15	4.15	4.15	4.15	10229	10819	7335
15	-1.40	10.30	30	0.62	0.24	0.17	0.22	0.21	4.15	4.15	4.15	4.15	9988	6240	1298
16	-0.82	10.70	52	0.18	0.12	0.12	0.07	0.10	4.18	4.18	4.18	4.18	11152	1891	190
17	0.45	11.80	231	-1.50	0.09	0.09	0.11	0.10	4.18	4.18	4.18	4.18	13648	-18988	1810
18	1.58	13.20	229	-1.72	0.08	0.10	0.09	0.09	4.18	4.18	4.18	4.18	15630	-25264	2274
19	2.35	14.00	226	-1.73	0.07	0.08	0.09	0.08	4.18	4.18	4.18	4.18	17104	-28273	2243
20	2.70	14.20	187	-1.57	0.12	0.17	0.50	0.27	4.18	4.18	4.18	4.18	17900	-26138	6935

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Char Balua - Urir Char	4.	Cross Section No.	:	8
5.	Decca Location	:	I-01.45; B-34.00	6.	Reference File Name	:	3a(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	04.04.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	4.21 m	14.	X-section Direction	:	119 degrees
15.	Reference Tide Range	:	4.01 m	16.	Equation of Velocity	:	V = 0.5142n + 0.0025 n < 0.26
							V = 0.5199n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
7.45	0.00	172	1.79		21.81	235	1.56	230	2.150	353	7.50	-3779	-24108	0.50	0.034	4.20
	0.50	172	1.79	0.89		235				350	7.30	-3623		7.00	0.152	4.20
	1.00	176	1.83	0.91		234				880	10.00	-13615		13.50	0.124	4.20
	3.00	160	1.66	3.50		233				610	3.90	-3091				
	5.00	161	1.68	3.34		233				410	-3.60	0				
	7.00	149	1.55	3.23		227										
	9.00	142	1.48	3.03		226										
	11.00	148	1.54	3.02		226										
	13.00	132	1.37	2.91		225										
	13.50	124	1.29	0.67		225										
	14.00		0.00	0.32												
8.45	0.00	78	0.81		11.39	222	0.80	221	2.680	353	7.50	-2198	-13983	0.50	0.114	4.20
	0.50	78	0.81	0.41		222				350	7.30	-2112		7.10	0.116	4.20
	1.00	83	0.86	0.42		222				880	10.00	-7784		13.70	0.098	4.20
	3.00	101	1.05	1.92		225				610	3.90	-1889				
	5.00	93	0.97	2.02		224				410	-3.60	0				
	7.00	77	0.80	1.77		224										
	9.00	78	0.81	1.61		221										
	11.00	64	0.67	1.48		218										
	13.00	60	0.62	1.29		218										
	13.70	42	0.44	0.37		218										
	14.20		0.00	0.11												
9.45	0.00	48	0.50		4.33	135	0.31	131	2.320	353	7.50	-173	-1105	0.50	0.194	4.20
	0.50	48	0.50	0.25		135				350	7.30	-166		7.00	0.230	4.20

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Char Balua - Urir Char	4.	Cross Section No.	:	8
5.	Decca Location	:	I-01.45; B-34.00	6.	Reference File Name	:	3a(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	04.04.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	4.21 m	14.	X-section Direction	:	119 degrees
15.	Reference Tide Range	:	4.01 m	16.	Equation of Velocity	:	V = 0.5142n + 0.0025 n < 0.26
							V = 0.5199n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1.00	43	0.45	0.24		135				880	10.00	-621		13.50	0.194	4.20
	3.00	17	0.18	0.63		130				610	3.90	-144				
	5.00	23	0.24	0.42		130				410	-3.60	0				
	7.00	15	0.16	0.40		130										
	9.00	23	0.24	0.40		129										
	11.00	42	0.44	0.68		129										
	13.00	40	0.42	0.85		129										
	13.50	71	0.74	0.29		129										
	14.00		0.00	0.19												
10.45	0.00	77	0.80		7.47	78	0.56	74	1.580	353	7.50	956	6123	0.50	0.070	4.20
	0.50	77	0.80	0.40		78				350	7.30	915		6.70	0.074	4.20
	1.00	76	0.79	0.40		78				880	10.00	3516		12.90	0.094	4.20
	3.00	53	0.55	1.34		77				610	3.90	735				
	5.00	47	0.49	1.04		72				410	-3.60	0				
	7.00	46	0.48	0.97		71										
	9.00	48	0.50	0.98		71										
	11.00	58	0.60	1.10		70										
	12.90	53	0.55	1.10		70										
	13.40		0.00	0.14												
11.45	0.00	110	1.14		13.69	60	1.11	53	0.780	353	7.50	2237	14422	0.50	0.094	4.20
	0.50	110	1.14	0.57		60				350	7.30	2133		6.15	0.382	4.20
	1.00	117	1.22	0.59		58				880	10.00	8505		11.80	0.084	4.20
	3.00	119	1.24	2.46		52				610	3.90	1548				
	5.00	133	1.38	2.62		51				410	-3.60	0				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Char Balua - Urir Char	4.	Cross Section No.	:	8
5.	Decca Location	:	I-01.45; B-34.00	6.	Reference File Name	:	3a(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	04.04.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	4.21 m	14.	X-section Direction	:	119 degrees
15.	Reference Tide Range	:	4.01 m	16.	Equation of Velocity	:	V = 0.5142n + 0.0025 n < 0.26
							V = 0.5199n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7.00	97	1.01	2.39		50										
	9.00	103	1.07	2.08		49										
	11.00	94	0.98	2.05		48										
	11.80	78	0.81	0.72		47										
	12.30		0.00	0.20												
12.45	0.00	228	2.37		21.57	40	1.84	37	0.040	353	7.50	3555	23114	0.50	0.076	4.20
	0.50	228	2.37	1.19		40				350	7.30	3376		5.85	0.048	4.20
	1.00	225	2.34	1.18		40				880	10.00	14015		11.20	0.088	4.20
	3.00	204	2.12	4.46		37				610	3.90	2167				
	5.00	196	2.04	4.16		39				410	-3.60	0				
	7.00	170	1.77	3.81		34										
	9.00	145	1.51	3.28		36										
	11.00	135	1.40	2.91		35										
	11.20	121	1.26	0.27		33										
	11.70		0.00	0.32												
13.45	0.00	180	1.87		15.69	27	1.43	33	-0.660	353	7.50	2461	16174	0.50	0.380	4.20
	0.50	180	1.87	0.94		27				350	7.30	2327		5.50	0.388	4.20
	1.00	191	1.99	0.96		33				880	10.00	10105		10.50	0.414	4.20
	3.00	150	1.56	3.55		35				610	3.90	1280				
	5.00	137	1.43	2.99		33				410	-3.60	0				
	7.00	130	1.35	2.78		35										
	9.00	110	1.14	2.50		35										
	10.50	108	1.12	1.70		37										
	11.00		0.00	0.28												

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Char Balua - Urir Char	4.	Cross Section No.	:	8
5.	Decca Location	:	I-01.45; B-34.00	6.	Reference File Name	:	3a(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	04.04.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	4.21 m	14.	X-section Direction	:	119 degrees
15.	Reference Tide Range	:	4.01 m	16.	Equation of Velocity	:	V = 0.5142n + 0.0025 n < 0.26
							V = 0.5199n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
14.45	0.00	100	1.04		11.11	30	1.06	28	-1.250	353	7.50	1627	10819	0.50	0.356	4.15
	0.50	100	1.04	0.52		30				350	7.30	1531		5.25	0.990	4.15
	1.00	102	1.06	0.53		30				880	10.00	6954		10.00	0.688	4.15
	3.00	110	1.14	2.21		30				610	3.90	707				
	5.00	108	1.12	2.27		27				410	-3.60	0				
	7.00	106	1.10	2.23		25										
	9.00	98	1.02	2.12		25										
	10.00	93	0.97	0.99		25										
	10.50		0.00	0.24												
15.45	0.00	82	0.85		6.44	25	0.62	30	-1.400	353	7.50	935	6240	0.50	0.238	4.15
	0.50	82	0.85	0.43		25				350	7.30	879		5.15	0.168	4.15
	1.00	82	0.85	0.43		27				880	10.00	4042		9.80	0.218	4.15
	3.00	60	0.62	1.48		29				610	3.90	385				
	5.00	66	0.69	1.31		30				410	-3.60	0				
	7.00	49	0.51	1.20		32										
	9.00	51	0.53	1.04		34										
	9.80	50	0.52	0.42		35										
	10.30		0.00	0.13												
16.45	0.00	11	0.12		1.97	50	0.18	52	-0.820	353	7.50	287	1891	0.50	0.116	4.18
	0.50	11	0.12	0.06		50				350	7.30	271		5.35	0.120	4.18
	1.00	14	0.15	0.07		51				880	10.00	1190		10.20	0.066	4.18
	3.00	22	0.23	0.38		52				610	3.90	143				
	5.00	21	0.22	0.45		52				410	-3.60	0				
	7.00	13	0.14	0.36		53										

DISCHARGE MEASUREMENT

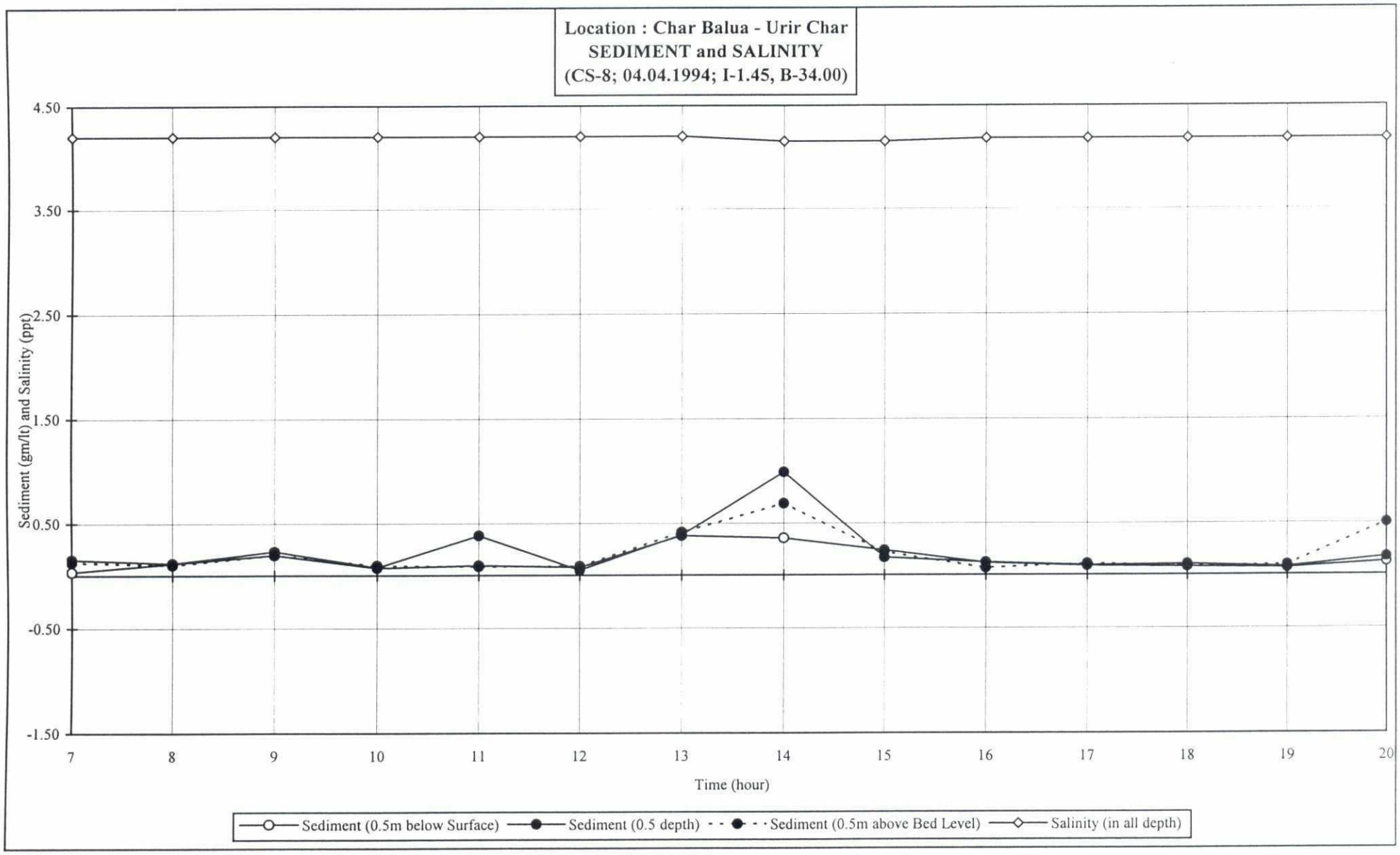
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Char Balua - Urir Char	4.	Cross Section No.	:	8
5.	Decca Location	:	I-01.45; B-34.00	6.	Reference File Name	:	3a(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	04.04.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	4.21 m	14.	X-section Direction	:	119 degrees
15.	Reference Tide Range	:	4.01 m	16.	Equation of Velocity	:	V = 0.5142n + 0.0025 n < 0.26
							V = 0.5199n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	9.00	18	0.19	0.32		54										
	10.20	26	0.27	0.28		55										
	10.70		0.00	0.07												
17.45	0.00	138	1.44		17.66	235	1.50	231	0.450	353	7.50	-2935	-18988	0.50	0.086	4.18
	0.50	138	1.44	0.72		235				350	7.30	-2794		5.90	0.092	4.18
	1.00	147	1.53	0.74		235				880	10.00	-11332		11.30	0.108	4.18
	3.00	135	1.40	2.93		232				610	3.90	-1927				
	5.00	144	1.50	2.90		229				410	-3.60	0				
	7.00	159	1.65	3.15		229										
	9.00	152	1.58	3.24		226										
	11.00	150	1.56	3.14		227										
	11.30	143	1.49	0.46		227										
	11.80		0.00	0.37												
18.45	0.00	216	2.25		22.65	230	1.72	229	1.580	353	7.50	-3945	-25264	0.50	0.076	4.18
	0.50	216	2.25	1.12		230				350	7.30	-3775		6.60	0.104	4.18
	1.00	211	2.19	1.11		230				880	10.00	-14509		12.70	0.090	4.18
	3.00	189	1.97	4.16		228				610	3.90	-3035				
	5.00	183	1.90	3.87		229				410	-3.60	0				
	7.00	154	1.60	3.51		229										
	9.00	146	1.52	3.12		226										
	11.00	141	1.47	2.99		227										
	12.70	133	1.38	2.42		228										
	13.20		0.00	0.35												
19.45	0.00	223	2.32		24.19	223	1.73	226	2.350	353	7.50	-4437	-28273	0.50	0.066	4.18

DISCHARGE MEASUREMENT

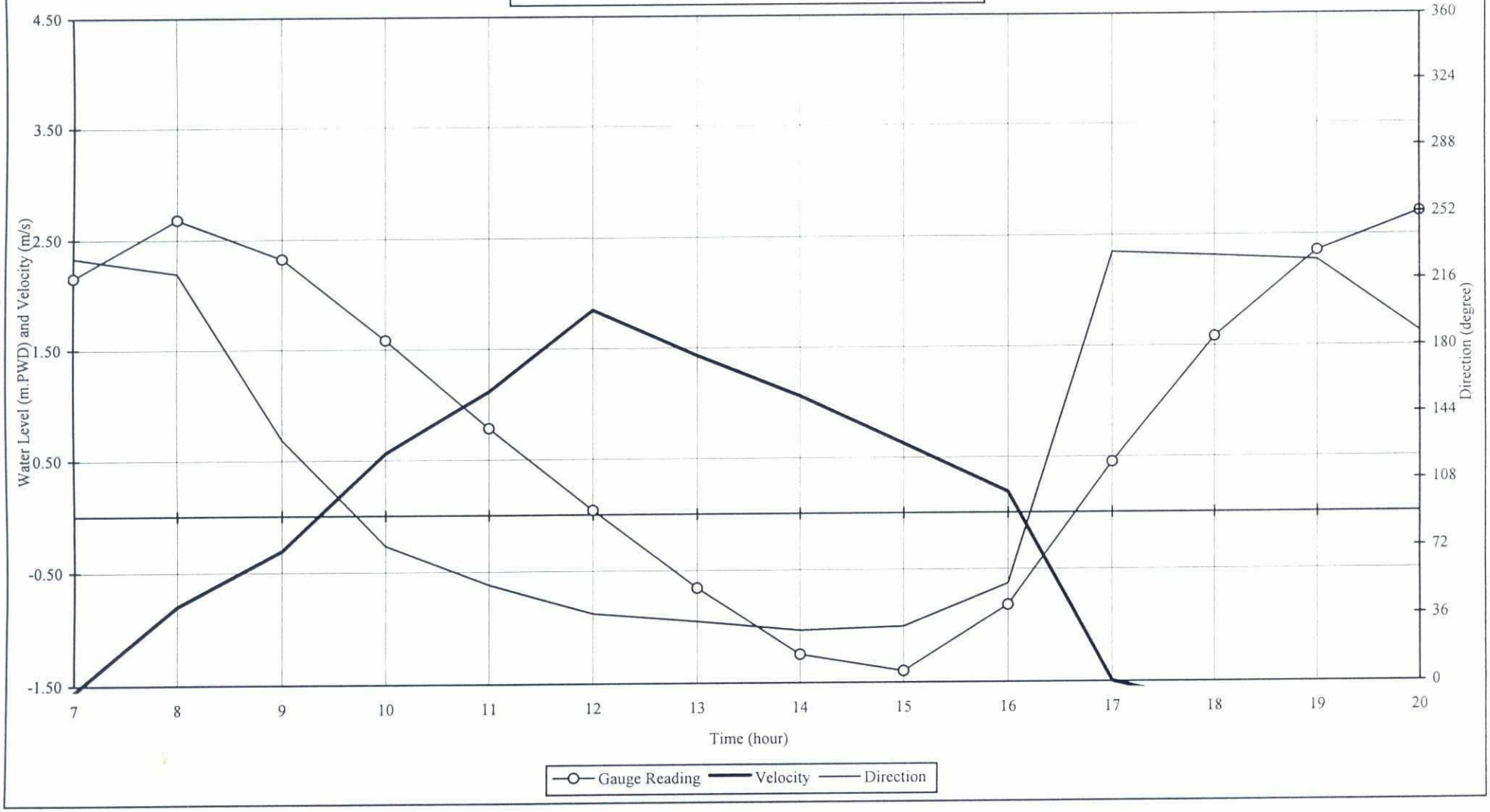
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesha
3.	Location	:	Char Balua - Urir Char	4.	Cross Section No.	:	8
5.	Decca Location	:	I-01.45; B-34.00	6.	Reference File Name	:	3a(1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	04.04.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-374	12.	Propeller No.	:	2.153.500.125
13.	Tide Range	:	4.21 m	14.	X-section Direction	:	119 degrees
15.	Reference Tide Range	:	4.01 m	16.	Equation of Velocity	:	V = 0.5142n + 0.0025 n < 0.26
							V = 0.5199n + 0.0010 0.26 < n < 7.61

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0.50	223	2.32	1.16		223				350	7.30	-4257		7.00	0.078	4.18
	1.00	228	2.37	1.17		228				880	10.00	-15878		13.50	0.094	4.18
	3.00	200	2.08	4.45		229				610	3.90	-3700				
	5.00	180	1.87	3.95		225				410	-3.60	0				
	7.00	164	1.71	3.58		226										
	9.00	160	1.66	3.37		227										
	11.00	146	1.52	3.18		225										
	13.00	104	1.08	2.60		226										
	13.50	86	0.90	0.49		227										
	14.00		0.00	0.22												
20.45	0.00	155	1.61		22.33	190	1.57	187	2.700	353	7.50	-4110	-26138	0.50	0.124	4.18
	0.50	155	1.61	0.81		190				350	7.30	-3948		7.10	0.170	4.18
	1.00	160	1.66	0.82		190				880	10.00	-14543		13.70	0.502	4.18
	3.00	184	1.91	3.58		190				610	3.90	-3537				
	5.00	158	1.64	3.56		187				410	-3.60	0				
	7.00	168	1.75	3.39		185										
	9.00	162	1.69	3.43		185										
	11.00	145	1.51	3.19		185										
	13.00	105	1.09	2.60		185										
	13.70	90	0.94	0.71		185										
	14.20		0.00	0.23												


Location : Char Balua - Urir Char
SEDIMENT and SALINITY
(CS-8; 04.04.1994; I-1.45, B-34.00)
4.50
3.50
2.50
1.50
0.50
-0.50
-1.50
Sediment (gm/lt) and Salinity (ppt)
7
8
9
10
11
12
13
14
15
16
17
18
19
20
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (in all depth)

290

Location : Char Balua - Urir Char
GAUGE READING, VELOCITY and DIRECTION
(CS-8; 04.04.1994; I-1.45, B-34.00)



Cross Section CS-9

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Urir Char - Char Lakhi	4.	Cross Section No.	:	9
5.	Decca Location	:	I-22.50; B-38.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	19.02.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	3.90 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.98 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4	1.50	8.80	206	0.72	0.48	1.38	3.43	1.76	7.65	7.65	7.65	7.65	2661	1900	3348
5	2.10	9.70	207	1.36	1.01	1.47	2.03	1.50	7.65	7.65	7.65	7.65	3792	5166	7772
6	2.60	10.10	211	1.49	1.63	1.73	2.39	1.92	7.65	7.65	7.65	7.65	4952	7369	14133
7	2.50	9.40	224	1.25	0.28	1.51	2.27	1.35	7.65	7.65	7.65	7.65	5390	6534	8830
8	1.80	9.10	228	0.91	0.35	1.93	2.87	1.72	7.65	7.65	7.65	7.65	3232	2783	4775
9	1.05	8.70	209	0.10	0.40	1.27	2.06	1.25	7.65	7.65	7.65	7.65	1859	184	229
10	0.25	7.90	60	-0.22	0.63	2.28	0.02	0.98	7.67	7.67	7.67	7.67	1042	-199	195
11	-0.45	7.50	83	-0.40	0.26	0.20	0.19	0.22	7.67	7.67	7.67	7.67	608	-148	32
12	-0.95	7.10	88	-0.49	0.10	0.09	0.28	0.16	7.67	7.67	7.67	7.67	470	-124	19
13	-1.25	6.70	85	-0.58	0.06	0.02	0.16	0.08	7.67	7.67	7.67	7.67	398	-134	11
14	-1.00	6.90	76	-0.88	0.25	0.26	1.70	0.74	7.67	7.67	7.67	7.67	463	-284	209
15	-0.20	7.50	64	-1.08	0.09	0.70	1.44	0.74	7.67	7.67	7.67	7.67	727	-650	483
16	1.00	7.00	186	0.36	0.94	1.06	0.85	0.95	7.67	7.67	7.67	7.67	2032	660	626
17	2.10	9.20	197	1.01	0.26	0.41	0.49	0.39	7.67	7.67	7.67	7.67	4154	4073	1586

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Urir Char - Char Lakhi	4.	Cross Section No.	:	9
5.	Decca Location	:	I-22.50; B-38.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	19.02.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	3.90 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.98 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.3	0.00	74	0.37		6.30	205	0.72	206	1.500	450	3.50	873	1900	0.50	0.478	7.65
	0.50	174	0.86	0.31		205				1550	0.40	632		4.40	1.380	7.65
	1.00	172	0.85	0.43		205				2520	-0.80	202		8.30	3.436	7.65
	3.00	165	0.81	1.66		209				420	0.50	186				
	5.00	156	0.77	1.58		209				2190	-1.40	7				
	7.00	130	0.64	1.41		205										
	8.30	110	0.54	0.77		205										
	8.80		0.01	0.14												
5.3	0.00	307	1.51		13.23	207	1.36	207	2.100	450	3.50	1884	5166	0.50	1.010	7.65
	0.50	306	1.50	0.75		207				1550	0.40	1771		4.85	1.474	7.65
	1.00	300	1.47	0.74		207				2520	-0.80	999		9.20	2.030	7.65
	3.00	296	1.45	2.93		210				420	0.50	511				
	5.00	287	1.41	2.86		210				2190	-1.40	0				
	7.00	270	1.33	2.74		205										
	9.00	268	1.32	2.64		205										
	9.20	251	1.23	0.26		205										
	9.70		0.01	0.31												
6.3	0.00	320	1.57		15.03	210	1.49	211	2.600	450	3.50	2304	7369	0.50	1.634	7.65
	0.50	320	1.57	0.79		210				1550	0.40	2535		5.05	1.734	7.65
	1.00	329	1.61	0.80		210				2520	-0.80	1805		9.60	2.386	7.65
	3.00	308	1.51	3.13		213				420	0.50	724				
	5.00	312	1.53	3.04		210				2190	-1.40	0				
	7.00	307	1.51	3.04		212										
	9.00	302	1.48	2.99		210										
	9.60	296	1.45	0.88		210										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Urir Char - Char Lakhi	4.	Cross Section No.	:	9
5.	Decca Location	:	I-22.50; B-38.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	19.02.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	3.90 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.98 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.3	0.00	74	0.37		6.30	205	0.72	206	1.500	450	3.50	873	1900	0.50	0.478	7.65
	10.10		0.01	0.37												
7.3	0.00	304	1.49		11.72	225	1.25	224	2.500	450	3.50	1909	6534	0.50	0.278	7.65
	0.50	304	1.49	0.75		225				1550	0.40	2041		4.70	1.506	7.65
	1.00	284	1.39	0.72		225				2520	-0.80	1400		8.90	2.270	7.65
	3.00	304	1.49	2.89		225				420	0.50	584				
	5.00	264	1.30	2.79		225				2190	-1.40	600				
	7.00	200	0.98	2.28		220										
	8.90	230	1.13	2.01		220										
	9.40		0.01	0.28												
8.3	0.00	222	1.09		8.24	230	0.91	228	1.800	450	3.50	1133	2783	0.50	0.352	7.65
	0.50	222	1.09	0.55		230				1550	0.40	946		4.55	1.926	7.65
	1.00	218	1.07	0.54		225				2520	-0.80	428		8.60	2.870	7.65
	3.00	208	1.02	2.10		227				420	0.50	276				
	5.00	188	0.93	1.95		225				2190	-1.40	0				
	7.00	176	0.87	1.79		230										
	8.60	120	0.59	1.17		230										
	9.10		0.01	0.15												
9.3	0.00	32	0.16		0.86	208	0.10	209	1.050	450	3.50	104	184	0.50	0.404	7.65
	0.50	32	0.16	0.08		208				1550	0.40	57		4.35	1.272	7.65
	1.00	34	0.17	0.08		208				2520	-0.80	5		8.20	2.064	7.65
	3.00	13	0.07	0.24		208				420	0.50	17				
	5.00	21	0.11	0.18		208				2190	-1.40	0				
	7.00	14	0.08	0.18		210										
	8.20	8	0.05	0.07		210										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Urir Char - Char Lakhi	4.	Cross Section No.	:	9
5.	Decca Location	:	I-22.50; B-38.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	19.02.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	3.90 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.98 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.3	0.00	74	0.37		6.30	205	0.72	206	1.500	450	3.50	873	1900	0.50	0.478	7.65
	8.70		0.01	0.01												
10.3	0.00	60	0.30		1.74	60	0.22	60	0.250	450	3.50	-157	-199	0.50	0.632	7.67
	0.50	60	0.30	0.15		60				1550	0.40	-32		3.95	2.276	7.67
	1.00	52	0.26	0.14		60				2520	-0.80	0		7.40	0.202	7.67
	3.00	44	0.22	0.48		60				420	0.50	-11				
	5.00	42	0.21	0.43		60				2190	-1.40	0				
	7.40	38	0.19	0.49		60										
	7.90		0.01	0.05												
11.3	0.00	89	0.44		3.04	85	0.40	83	-0.450	450	3.50	-148	-148	0.50	0.258	7.67
	0.50	89	0.44	0.22		85				1550	0.40	0		3.75	0.202	7.67
	1.00	71	0.35	0.20		83				2520	-0.80	0		7.00	0.190	7.67
	3.00	82	0.41	0.76		84				420	0.50	0				
	5.00	85	0.42	0.83		82				2190	-1.40	0				
	7.00	97	0.48	0.90		80										
	7.50		0.01	0.12												
12.3	0.00	105	0.52		3.47	90	0.49	88	-0.950	450	3.50	-124	-124	0.50	0.102	7.67
	0.50	105	0.52	0.26		90				1550	0.40	0		3.55	0.088	7.67
	1.00	106	0.52	0.26		85				2520	-0.80	0		6.60	0.278	7.67
	3.00	109	0.54	1.06		85				420	0.50	0				
	5.00	96	0.48	1.02		90				2190	-1.40	0				
	6.60	93	0.46	0.75		85										
	7.10		0.01	0.12												
13.3	0.00	102	0.51		3.87	85	0.58	85	-1.250	450	3.50	-134	-134	0.50	0.062	7.67
	0.50	102	0.51	0.25		85				1550	0.40	0		3.35	0.024	7.67

DISCHARGE MEASUREMENT

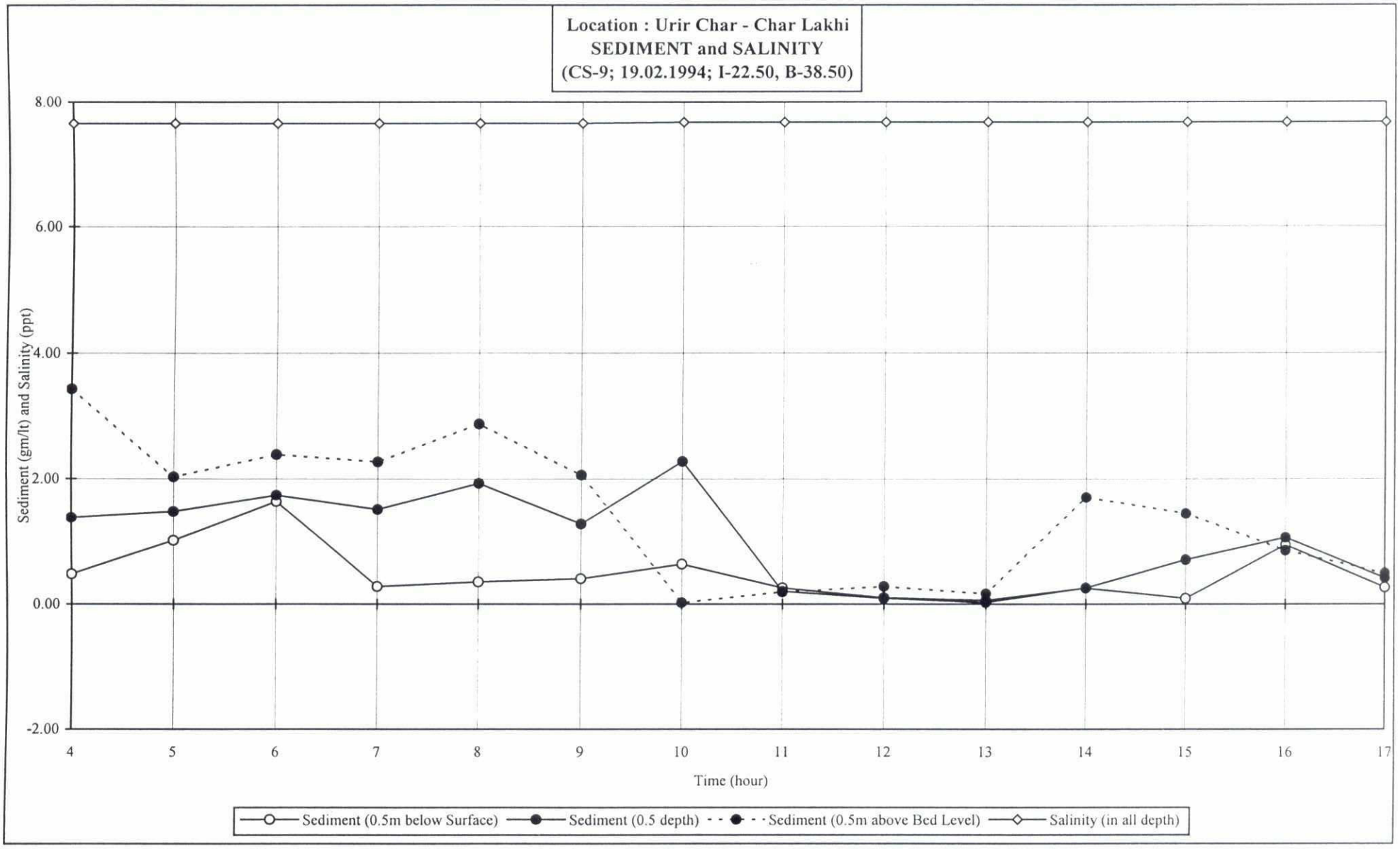
1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Urir Char - Char Lakhi	4.	Cross Section No.	:	9
5.	Decca Location	:	I-22.50; B-38.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	19.02.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	3.90 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.98 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

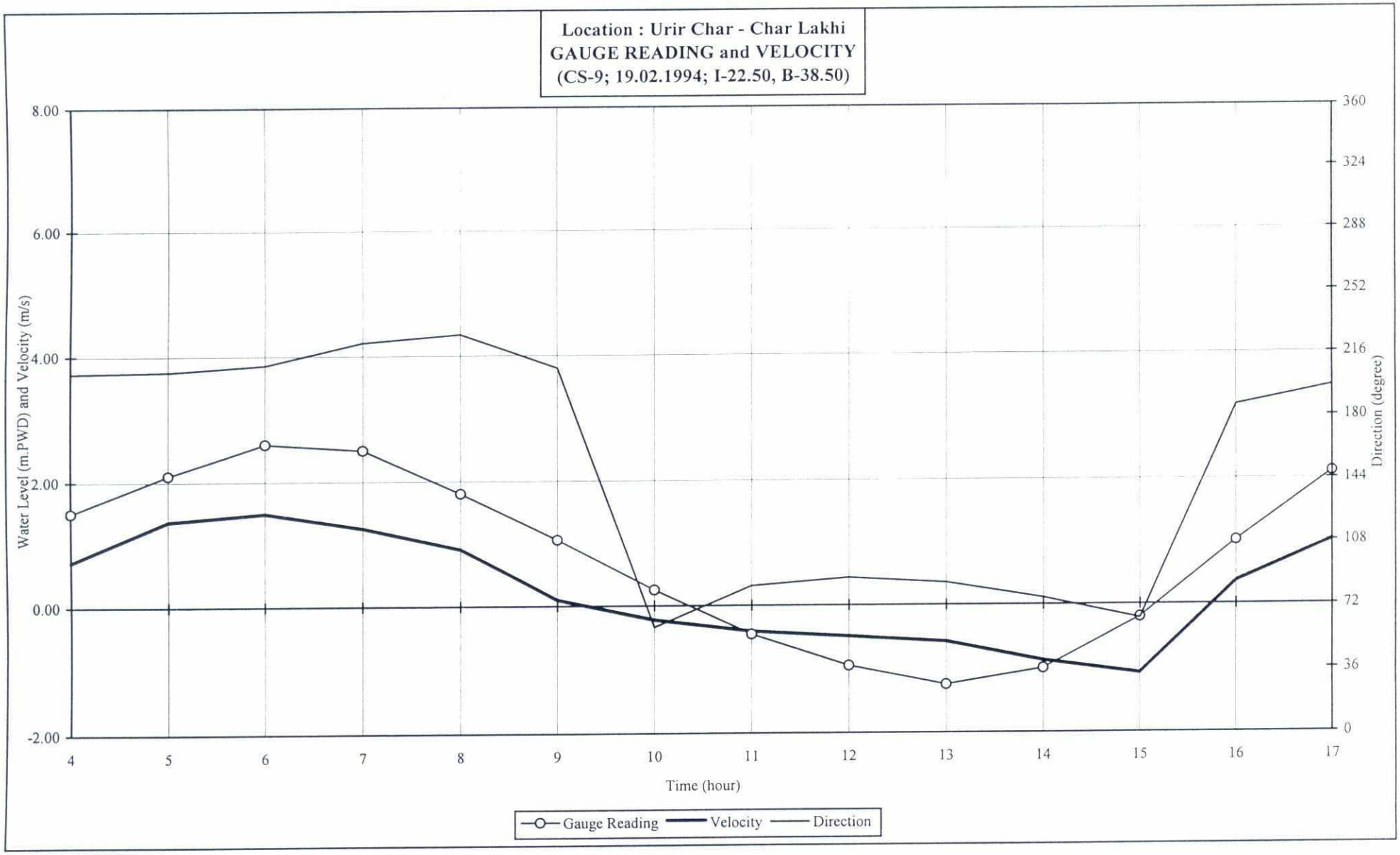
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.3	0.00	74	0.37		6.30	205	0.72	206	1.500	450	3.50	873	1900	0.50	0.478	7.65
	1.00	111	0.55	0.26		85				2520	-0.80	0		6.20	0.162	7.67
	3.00	128	0.63	1.18		85				420	0.50	0				
	5.00	130	0.64	1.27		85				2190	-1.40	0				
	6.20	121	0.60	0.74		82										
	6.70		0.01	0.15												
14.3	0.00	169	0.83		6.05	75	0.88	76	-1.000	450	3.50	-284	-284	0.50	0.252	7.67
	0.50	169	0.83	0.42		75				1550	0.40	0		3.45	0.256	7.67
	1.00	172	0.85	0.42		75				2520	-0.80	0		6.40	1.700	7.67
	3.00	196	0.96	1.81		75				420	0.50	0				
	5.00	187	0.92	1.89		75				2190	-1.40	0				
	6.40	186	0.92	1.29		80										
	6.90		0.01	0.23												
15.3	0.00	234	1.15		8.10	65	1.08	64	-0.200	450	3.50	-617	-650	0.50	0.090	7.67
	0.50	234	1.15	0.58		65				1550	0.40	-22		3.75	0.700	7.67
	1.00	245	1.20	0.59		65				2520	-0.80	0		7.00	1.440	7.67
	3.00	236	1.16	2.36		60				420	0.50	-12				
	5.00	218	1.07	2.23		65				2190	-1.40	0				
	7.00	205	1.01	2.08		65										
	7.50		0.01	0.25												
16.3	0.00	113	0.56		2.49	185	0.36	186	1.000	450	3.50	385	660	0.50	0.938	7.67
	0.50	113	0.56	0.28		185				1550	0.40	201		4.30	1.056	7.67
	1.00	103	0.51	0.27		187				2520	-0.80	13		8.10	0.858	7.67
	3.00	77	0.38	0.89		187				420	0.50	61				
	5.00	42	0.21	0.60		187				2190	-1.40	0				

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Urir Char - Char Lakhi	4.	Cross Section No.	:	9
5.	Decca Location	:	I-22.50; B-38.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	19.02.94
9.	Tidal Condition	:	Neap	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	3.90 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	2.98 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.3	0.00	74	0.37		6.30	205	0.72	206	1.500	450	3.50	873	1900	0.50	0.478	7.65
	7.00	48	0.24	0.45		185										
17.3	0.00	215	1.06		9.26	196	1.01	197	2.100	450	3.50	1400	4073	0.50	0.264	7.67
	0.50	215	1.06	0.53		196				1550	0.40	1316		4.60	0.414	7.67
	1.00	215	1.06	0.53		196				2520	-0.80	742		8.70	0.490	7.67
	3.00	220	1.08	2.14		198				420	0.50	380				
	5.00	210	1.03	2.12		199				2190	-1.40	235				
	7.00	202	0.99	2.03		197										
	8.70	199	0.98	1.68		196										
	9.20		0.01	0.25												


Location : Urir Char - Char Lakhi
SEDIMENT and SALINITY
(CS-9; 19.02.1994; I-22.50, B-38.50)
8.00
6.00
4.00
2.00
0.00
-2.00
Sediment (gm/lt) and Salinity (ppt)
4
5
6
7
8
9
10
11
12
13
14
15
16
17
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (in all depth)


Location : Urir Char - Char Lakhi
GAUGE READING and VELOCITY
(CS-9; 19.02.1994; I-22.50, B-38.50)
Water Level (m.PWD) and Velocity (m/s)
Direction (degree)
Time (hour)
8.00
6.00
4.00
2.00
0.00
-2.00
360
324
288
252
216
180
144
108
72
36
0
4
5
6
7
8
9
10
11
12
13
14
15
16
17
Gauge Reading
Velocity
Direction

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Urir Char - Char Lakhi	4.	Cross Section No.	:	9
5.	Decca Location	:	I-22.50; B-38.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	27.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	6.30 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	6.49 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Gauge Reading	Water Depth	Average Direction	Average Velocity	Suspended Sediment 0.5m below Surface	Suspended Sediment 0.5 depth	Suspended Sediment 0.5m above Bed Level	Average Sediment Content	Salinity 0.5m below Surface	Salinity 0.5 depth	Salinity 0.5m above Bed Level	Average Salinity	Cross Sectional Area	Total Discharge	Sediment Transport Cross Section
hrs	m.PWD	m	degree	m/s	gm/lt	gm/lt	gm/lt	gm/lt	ppt	ppt	ppt	ppt	m2	m^3/s	kg/m2/sec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	2.00	8.00	291	0.14	0.83	3.42	3.54	2.60	7.70	7.70	7.70	7.70	5658	121	313
7	0.20	7.00	15	-0.33	0.36	0.47	4.90	1.91	7.70	7.71	7.71	7.71	1448	-466	890
8	-1.05	6.50	23	-0.30	0.34	0.29	0.28	0.30	7.71	7.71	7.71	7.71	627	-189	57
9	-1.85	6.00	20	-0.22	0.28	0.90	0.28	0.49	7.71	7.71	7.71	7.71	347	-74	36
10	-2.10	5.60	22	-0.04	0.18	1.38	0.20	0.59	7.71	7.71	7.71	7.71	277	-10	6
11	-1.70	5.80	39	-1.47	0.18	0.16	0.19	0.18	7.71	7.71	7.71	7.71	408	-594	105
12	2.00	9.40	34	-1.73	2.99	3.31	3.71	3.34	7.71	7.71	7.71	7.71	5135	-8887	29652
13	3.35	11.00	209	1.10	2.57	2.14	2.65	2.45	7.71	7.71	7.71	7.71	10667	11728	28765
14	4.10	11.40	210	1.05	6.38	6.21	6.14	6.24	7.71	7.71	7.71	7.71	14615	15405	96202
15	4.15	11.50	212	1.09	2.39	3.34	2.86	2.86	7.71	7.71	7.71	7.71	14836	16188	46361
16	3.45	11.00	213	1.32	5.72	3.90	5.35	4.99	7.71	7.71	7.71	7.71	11200	14714	73414
17	2.80	9.70	213	1.14	2.58	2.39	2.76	2.57	7.71	7.71	7.71	7.71	8564	9739	25067
18	1.00	8.50	216	0.26	0.48	0.48	0.49	0.48	7.71	7.71	7.71	7.71	2437	637	306
19	-0.50	7.50	26	-0.20	0.48	1.83	4.31	2.21	7.71	7.71	7.71	7.71	797	-159	352

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Urir Char - Char Lakhi	4.	Cross Section No.	:	9
5.	Decca Location	:	I-22.50; B-38.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	27.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	6.30 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	6.49 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	2	0.02		1.14	250	0.14	291	2.000	450	3.50	43	121	0.50	0.832	7.70
	0.50	2	0.02	0.01		250				1550	0.40	39		4.00	3.418	7.70
	1.00	6	0.04	0.01		285				2520	-0.80	21		7.50	3.536	7.70
	3.00	40	0.20	0.24		305				420	0.50	11				
	5.00	32	0.16	0.37		315				2190	-1.40	6				
	7.00	40	0.20	0.37		315										
	7.50	40	0.20	0.10		320										
	8.00		0.01	0.05												
7	0.00	96	0.48		2.34	14	0.33	15	0.200	450	3.50	-375	-466	0.50	0.358	7.70
	0.50	96	0.48	0.24		14				1550	0.40	-67		3.50	0.470	7.71
	1.00	84	0.42	0.22		14				2520	-0.80	0		6.50	4.900	7.71
	3.00	80	0.40	0.82		17				420	0.50	-24				
	5.00	68	0.34	0.74		15				2190	-1.40	0				
	6.50	12	0.07	0.30		15										
	7.00		0.01	0.02												
8	0.00	87	0.43		1.97	23	0.30	23	-1.050	450	3.50	-189	-189	0.50	0.338	7.71
	0.50	87	0.43	0.22		23				1550	0.40	0		3.25	0.290	7.71
	1.00	83	0.41	0.21		23				2520	-0.80	0		6.00	0.278	7.71
	3.00	59	0.30	0.71		23				420	0.50	0				
	5.00	55	0.28	0.57		23				2190	-1.40	0				
	6.00	33	0.17	0.22		23										
	6.50		0.01	0.04												
9	0.00	71	0.35		1.31	22	0.22	20	-1.850	450	3.50	-74	-74	0.50	0.284	7.71
	0.50	71	0.35	0.18		22				1550	0.40	0		3.00	0.904	7.71
	1.00	65	0.32	0.17		22				2520	-0.80	0		5.50	0.278	7.71

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Urir Char - Char Lakhi	4.	Cross Section No.	:	9
5.	Decca Location	:	I-22.50; B-38.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	27.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	6.30 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	6.49 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	2	0.02		1.14	250	0.14	291	2.000	450	3.50	43	121	0.50	0.832	7.70
	3.00	48	0.24	0.57		20				420	0.50	0				
	5.00	22	0.11	0.36		18				2190	-1.40	0				
	5.50	3	0.02	0.03		14										
	6.00		0.01	0.01												
10	0.00	17	0.09		0.20	23	0.04	22	-2.100	450	3.50	-10	-10	0.50	0.180	7.71
	0.50	17	0.09	0.04		23				1550	0.40	0		2.80	1.376	7.71
	1.00	11	0.06	0.04		22				2520	-0.80	0		5.10	0.200	7.71
	3.00	3	0.02	0.08		21				420	0.50	0				
	5.10	1	0.01	0.03		21				2190	-1.40	0				
	5.60		0.01	0.00												
11	0.00	239	1.18		8.54	42	1.47	39	-1.700	450	3.50	-594	-594	0.50	0.180	7.71
	0.50	239	1.18	0.59		42				1550	0.40	0		2.90	0.164	7.71
	1.00	293	1.44	0.65		42				2520	-0.80	0		5.30	0.188	7.71
	3.00	342	1.68	3.12		37				420	0.50	0				
	5.30	328	1.61	3.78		32				2190	-1.40	0				
	5.80		0.01	0.40												
12	0.00	391	1.92		16.30	32	1.73	34	2.000	450	3.50	-3194	-8887	0.50	2.986	7.71
	0.50	391	1.92	0.96		32				1550	0.40	-2894		4.70	3.312	7.71
	1.00	380	1.86	0.95		32				2520	-0.80	-1531		8.90	3.712	7.71
	3.00	378	1.85	3.72		30				420	0.50	-838				
	5.00	356	1.75	3.60		35				2190	-1.40	-429				
	7.00	354	1.74	3.48		35										
	8.90	329	1.61	3.18		40										
	9.40		0.01	0.41												

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DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Urir Char - Char Lakhi	4.	Cross Section No.	:	9
5.	Decca Location	:	I-22.50; B-38.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	27.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	6.30 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	6.49 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	2	0.02		1.14	250	0.14	291	2.000	450	3.50	43	121	0.50	0.832	7.70
13	0.00	141	0.70		12.10	215	1.10	209	3.350	450	3.50	2627	11728	0.50	2.566	7.71
	0.50	141	0.70	0.35		215				1550	0.40	3438		5.50	2.144	7.71
	1.00	203	1.00	0.42		213				2520	-0.80	3001		10.50	2.648	7.71
	3.00	207	1.02	2.02		211				420	0.50	972				
	5.00	253	1.24	2.26		209				2190	-1.40	1690				
	7.00	249	1.22	2.47		205										
	9.00	252	1.24	2.46		203										
	10.50	241	1.18	1.82		200										
	11.00		0.01	0.30												
14	0.00	173	0.85		12.02	205	1.05	210	4.100	450	3.50	2912	15405	0.50	6.384	7.71
	0.50	173	0.85	0.43		205				1550	0.40	4326		5.70	6.210	7.71
	1.00	192	0.95	0.45		207				2520	-0.80	4269		10.90	6.140	7.71
	3.00	213	1.05	1.99		209				420	0.50	1214				
	5.00	230	1.13	2.18		211				2190	-1.40	2684				
	7.00	280	1.38	2.51		213										
	9.00	231	1.14	2.51		215										
	10.90	147	0.73	1.77		216										
	11.40		0.01	0.18												
15	0.00	224	1.10		12.55	210	1.09	212	4.150	450	3.50	3030	16188	0.50	2.386	7.71
	0.50	224	1.10	0.55		210				1550	0.40	4534		5.75	3.344	7.71
	1.00	237	1.17	0.57		212				2520	-0.80	4504		11.00	2.862	7.71
	3.00	243	1.19	2.36		212				420	0.50	1272				
	5.00	236	1.16	2.35		212				2190	-1.40	2847				
	7.00	231	1.14	2.30		214										

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Urir Char - Char Lakhi	4.	Cross Section No.	:	9
5.	Decca Location	:	I-22.50; B-38.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	27.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	6.30 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	6.49 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

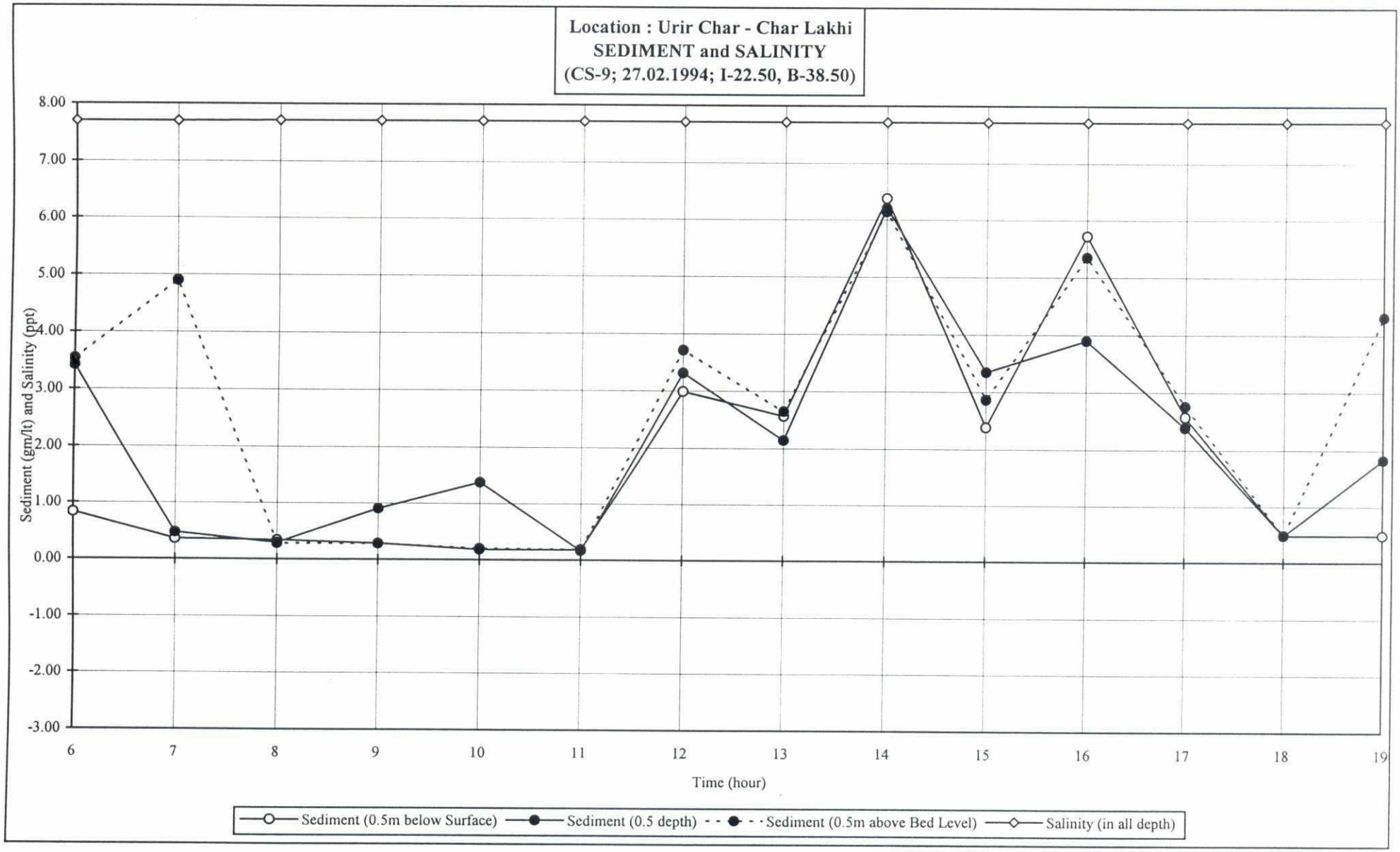
Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	2	0.02		1.14	250	0.14	291	2.000	450	3.50	43	121	0.50	0.832	7.70
	9.00	214	1.05	2.19		212										
	11.00	192	0.95	2.00		212										
	11.50		0.01	0.24												
16	0.00	267	1.31		14.48	213	1.32	213	3.450	450	3.50	3213	14714	0.50	5.722	7.71
	0.50	267	1.31	0.66		213				1550	0.40	4285		5.50	3.896	7.71
	1.00	276	1.36	0.67		213				2520	-0.80	3816		10.50	5.352	7.71
	3.00	303	1.49	2.84		213				420	0.50	1210				
	5.00	301	1.48	2.97		213				2190	-1.40	2190				
	7.00	296	1.45	2.93		214										
	9.00	276	1.36	2.81		214										
	10.50	118	0.58	1.45		214										
	11.00		0.01	0.15												
17	0.00	286	1.40		11.04	212	1.14	213	2.800	450	3.50	2562	9739	0.50	2.576	7.71
	0.50	286	1.40	0.70		212				1550	0.40	2969		4.85	2.388	7.71
	1.00	279	1.37	0.69		212				2520	-0.80	2260		9.20	2.758	7.71
	3.00	276	1.36	2.73		212				420	0.50	846				
	5.00	252	1.24	2.59		213				2190	-1.40	1102				
	7.00	223	1.10	2.34		213										
	9.20	117	0.58	1.84		214										
	9.70		0.01	0.15												
18	0.00	57	0.29		2.24	214	0.26	216	1.000	450	3.50	371	637	0.50	0.478	7.71
	0.50	57	0.29	0.14		214				1550	0.40	194		4.25	0.478	7.71
	1.00	59	0.30	0.15		214				2520	-0.80	13		8.00	0.486	7.71
	3.00	66	0.33	0.62		216				420	0.50	59				

Y2B

DISCHARGE MEASUREMENT

1.	Type of Survey	:	Discharge Measurement	2.	Name of Vessel	:	M. V. Anwesa
3.	Location	:	Urir Char - Char Lakhi	4.	Cross Section No.	:	9
5.	Decca Location	:	I-22.50; B-38.50	6.	Reference File Name	:	3,4 (1993-94)D/SSD
7.	Season	:	Premonsoon	8.	Date	:	27.02.94
9.	Tidal Condition	:	Spring	10.	Gauge used	:	Urir Char
11.	Current Meter No.	:	SEBA F-507	12.	Propeller No.	:	2.105.250.125
13.	Tide Range	:	6.30 m	14.	X-section Direction	:	300 degrees
15.	Reference Tide Range	:	6.49 m	16.	Equation of Velocity	:	V = 0.2444n + 0.0068 n < 17.76

Time	Depth Under Water	Rev/50 Seconds	Point Velocity	Sub-depth Discharge	Unit Discharge	Flow Direction	Average Velocity	Average Direction	Gauge Reading	Channel Subsection Width	Channel Subsection Depth	Subsection Discharge	Total Discharge	Depth Under Water	Suspended Sediment	Salinity
hrs	m		m/s		m^2/s	o	m/s	o	m(PWD)	m	m	m^3/s	m^3/s	m	gm/lt	ppt
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	0.00	2	0.02		1.14	250	0.14	291	2.000	450	3.50	43	121	0.50	0.832	7.70
	5.00	48	0.24	0.57		216				2190	-1.40	0				
	7.00	51	0.26	0.50		220										
	8.00	33	0.17	0.21		221										
	8.50		0.01	0.04												
19	0.00	42	0.21		1.50	30	0.20	26	-0.500	450	3.50	-159	-159	0.50	0.478	7.71
	0.50	42	0.21	0.11		30				1550	0.40	0		3.75	1.830	7.71
	1.00	48	0.24	0.11		28				2520	-0.80	0		7.00	4.314	7.71
	3.00	56	0.28	0.52		25				420	0.50	0				
	5.00	38	0.19	0.47		23				2190	-1.40	0				
	7.00	14	0.08	0.27		20										
	7.50		0.01	0.02												


Location : Urir Char - Char Lakhi
SEDIMENT and SALINITY
(CS-9; 27.02.1994; I-22.50, B-38.50)
Sediment (gm/lt) and Salinity (ppt)
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Time (hour)
Sediment (0.5m below Surface)
Sediment (0.5 depth)
Sediment (0.5m above Bed Level)
Salinity (in all depth)

Location : Urir Char - Char Lakhi
GAUGE READING, VELOCITY and DIRECTION
(CS-9; 27.02.1994; I-22.50, B-38.50)