River Research Institute

WATER TESTING REPORT

ANALYSIS OF WATER SAMPLE IN CONNECTION WITH THE "MONITORING SURVEY IN THE JAMUNA RIVER"

LOCATION

1. **JAMUNA RIVER AT ARICHA, JAMUNA BRIDGE, SARIAKANDI, BALASHI FERRY GHAT, PACHIGHAT, AND MAGRIR CHAR**
2. **TEESTA RIVER AT BIDYANANDO GOV. PRIMARY SCHOOL**
3. **DHARLA RIVER AT DHARLA BRIDGE**




DHAKA LABORATORY

REPORT NUMBER: DHAKA - 09 (2023-2024) - WATER

RIVER RESEARCH INSTITUTE

DHAKA OFFICE

72, GREEN ROAD, DHAKA-1205

(FOR OFFICIAL USE ONLY)

CONTENTS

REPORT

1. INTRODUCTION

This report represents the water sample analysis of 60 samples collected from Jamuna River at Aricha, Jamuna Bridge, Sariakandi, Balashi Ferry Ghat, Pachighat, and Magrir Char, Teesta River at Bidyanando Gov. Primary School and Dharla River at Dharla Bridge locations by the Survey and Data Consultant (SDC). The samples were collected in a 1-litre plastic bottle, sealed, and sent to Dhaka Laboratory of River Research Institute (RRI), 72, Green Road, Dhaka-1205, to determine their Suspended Sediment Concentrations and Turbidity.

2. LABORATORY TESTING

2.1 Suspended Sediment Concentration Test: The suspended sediment concentration of each sample was determined by the membrane filtration method. The water samples were filtered by a vacuum filtration unit with a pre-weighted cellulose nitrate filter paper of pore size 0.45µm to separate the suspended solids from the water. The filtered papers were placed inside a forced convection laboratory oven at 100°C until all the water evaporated, leaving the sediment in the filter papers. The residual sediments were then weighted with the filter paper in a precision balance. Sediment weights were calculated from the differences between the pre and post-measured weights. The result of the sediment concentrations was then calculated in parts-per-million (ppm) by weight and presented in Attachment-I.

2.2 Turbidity Test: The individual water sample was mixed in a high-energy mixing machine for 5 minutes to homogenize the water with all its contents. The homogenized water samples' turbidity was measured using an automated Turbidity Meter in the Nephelometric Turbidity Unit (NTU). Each sample was tested three times, and the average turbidity of the samples is shown in Attachment-I.

3. APPENDIX

A. Bill of this Report no.: Dhaka -09 (2023-2024)-Water.
B. List of Research personnel associated with testing works, preparation, and publication of the report.
C. Requisition of the works.

30.11.2023

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30.11.2023

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Attachment- I

Water Testing Report

Sl. No.	Sampling Location	Total Depth (m)	Sampling Depth (m)	Sample ID	Suspended Sediment Concentration (mg L^{-1})	Turbidity (NTU)
1	Jamuna River at Aricha E- 781460 N- 2637170 Date: 11/10/2023 Transect ID: 3 km-1	10.33	2.07	D1	574	340.00
2			4.13	D2	581	366.33
3			6.20	D3	704	310.33
4			8.26	D4	534	302.67
5			10.13	D5	1852	440.00
6	Jamuna River at Aricha E- 783173 N- 2638465 Date: 11/10/2023 Transect ID: 3 km-2	5.21	1.04	D1	2319	271.00
7			2.08	D2	1424	276.67
8			3.13	D3	794	261.67
9			4.17	D4	1284	295.67
10			5.01	D5	1774	270.33
11	Jamuna River at Jamuna Bridge E- 779306 N- 2700323 Date:10/10/2023 Transect ID: 67 km-1	5.46	0.32	D1	594	320.00
12			0.65	D2	504	324.33
13			0.97	D3	494	335.67
14			1.30	D4	599	318.33
15			1.42	D5	519	361.67
16	Jamuna River at Jamuna Bridge E- 780829 N- 2699992 Date: 10/10/2023 Transect ID: 67 km-2	5.46	1.09	D1	744	394.67
17			2.18	D2	811	380.00
18			3.28	D3	150	386.33
19			4.37	D4	1004	446.00
20			5.26	D5	1449	405.00
21	Jamuna River at Jamuna Bridge E- 783392 N- 2700398 Date: 10/10/2023 Transect ID: 67 km-3	7.62	1.52	D1	539	254.33
22			3.05	D2	689	243.33
23			4.57	D3	1440	257.00
24			6.10	D4	1086	248.67
25			7.42	D5	1730	333.33

30.11.2023

30.11.2023

Sl. No.	Sampling Location	Total Depth (m)	Sampling Depth (m)	Sample ID	Suspended Sediment Concentration (mg L^{-1})	Turbidity (NTU)
26	Jamuna River at Sariakandi E- 761604 N- 2750205 Date: 14/10/2023 Transect ID: 120 km-1	4.48	0.90	D1	1182	624.00
27			1.79	D2	1224	606.67
28			2.69	D3	1319	638.00
29			3.58	D4	1432	606.67
30			4.28	D5	2440	633.33
31	Jamuna River at Sariakandi E- 765100 N- 2750527 Date: 14/10/2023 Transect ID: 120 km-2	9.21	1.84	D1	689	371.67
32			3.68	D2	649	409.33
33			5.53	D3	779	380.00
34			7.37	D4	796	380.00
35			9.01	D5	1907	453.67
36	Jamuna River at Balashi Ferry Ghat Gaibandha E- 763645 N- 2801948 Date: 18/10/2023 Transect ID: 172km-1	4.42	0.88	D1	2874	330.00
37			1.77	D2	1652	363.33
38			2.65	D3	1089	366.67
39			3.54	D4	1080	381.67
40			4.22	D5	4649	470.00
41	Jamuna River at Pachighat E- 767277 N- 2801676 Date: 18/10/2023 Transect ID: 172km-2	4.71	0.94	D1	494	274.00
42			1.88	D2	899	375.67
43			2.83	D3	974	356.67
44			3.77	D4	1011	340.00
45			4.51	D5	3608	538.00
46	Jamuna River at Magrir Char E- 772250 N-2801473 Date: 18/10/2023 Transect ID: 172km-3	7.02	1.40	D1	609	227.00
47			2.81	D2	1051	280.33
48			4.21	D3	976	290.00
49			5.62	D4	820	284.33
50			6.82	D5	1004	269.33
51	Teesta River at Bidyanondo Govt. Primary School E- 753488 N- 2847295 Date: 21/10/2023 Transect ID: Teesta-1	2.84	0.57	D1	1702	688.00
52			1.14	D2	1594	672.67
53			1.70	D3	1598	690.00
54			2.27	D4	1674	644.33
55			2.64	D5	1799	664.33

30.11.2023

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Sl. No.	Sampling Location	Total Depth (m)	Sampling Depth (m)	Sample ID	Suspended Sediment Concentration (mg L^{-1})	Turbidity (NTU)
56	Dharla River at Dharla Bridge E-767862 N- 2858267 Date: 22/10/2023 Transect ID: Dharla-1	1.92	0.38	D1	159	43.17
57			0.77	D2	89	40.37
58			1.15	D3	99	44.52
59			1.54	D4	114	42.17
60			1.72	D5	544	48.80

30.11.2023

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30.11.2023

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River Research Institute

Water Analysis Bill

DHAKA LABORATORY
River Research Institute
72, Green Road, Dhaka-1205

Client: **Chief Executive Officer (CEO)**
Survey and Data Consultant (SDC)
House# 16, Road# 03, Block# E, Section# 6
Mirpur, Dhaka-1216

Bill No.: DHAKA - 09 (2023-2024)-WATER
Date: 30/11/2023

Name of the River: Jamuna; Teesta; and Dharla.
Name of the Locations: Aricha, Jamuna Bridge, Sariakandi, Balashi Ferry Ghat, Pachighat, Magrir Char; Bidyanando Gov. Primary School; and Dharla Bridge Respectively.
Duration of Sample Collection: October 2023

Report No.: DHAKA - 09 (2023-2024)-WATER

Sl . No.	Name of Sediment Tests	Rate Per Sample in Taka	No. of Sample Tested	Cost in Taka	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
1	Sediment Concentration	825.00	60	49500.00	
2	Turbidity	375.00	60	22500.00	
Total				**72000.00**	
(In words: Taka Seventy Two Thousand Only)					

*Rate includes 10% of Printing and Binding Cost, 10% of Testing and Consultancy Fee and 15% of VAT.

30.11.2023

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30.11.2023

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List of research personnel associated with testing works, preparation and publication of the report:

Sl. No.	Name	Designation
1.	Dr. Engr. Moniruzzaman Khan Eusufzai	Principal Scientific Officer
2.	Physicist Nayan Chandra Ghosh, M.Phil.	Senior Scientific Officer
3.	Engr. Sajia Afrin	Senior Scientific Officer
4.	Khandaker Mostafizur Rahman	Soil Technician-C
5.	Md. Moustofa	Soil Technician-C
6.	Md. Abdul Malek Miah	Model Technician-C
7.	Md. Shah Alam	Soil Technician-B
8.	Md. Shamsul Haque	Soil Technician-B
9.	Abu Fattah Mohammad Rakibuzzaman	Computer Operator

Survey & Data Consultant (SDC)

House # 16, Road # 03, Block – E, Section -6, Mirpur, Dhaka- 1216
Phone: +880 670 972299, +880 1817 521914

Memo No.: SDC/Lab-RRI/20231030/251 Date: October 30, 2023.

To : The Director General
River Research Institute
Dhaka Liaison Office
72, Green Road, Dhaka.

Subject : Regarding Water sample submission of Jamuna River for Lab test.

Dear Sir,

With due respect, please be informed that our organization "Survey & Data Consultant" working with JICA Consultants PACIFIC CONSULTANTS CO., LTD. (PCKK) for monitoring survey in the Jamuna River under the **Monitoring Survey in the Jamuna River.** In the survey part we collect some water samples from the Jamuna River for **Suspended Sediment concentration and Turbidity measurement**. Herewith we are submitting nos. (1.0 liter capacity Bottles) samples for **Sediments & Turbidity** measurement in your lab.

With best regards.

Your's faithfully,

(Md. Tanjim Mamun Niloy)
CEO
Survey & Data Consultant.

Enclose: Water sample bottle - 60 nos.

RECEIVED
30 OCT 2023
Dhaka Office
River Research Institute
72, Green Road, Dhaka-1215.

Survey & Data Consultant ★ Mirpur, Dhaka ★