URBAN DEVELOPMENT DIRECTORATE (UDD)

Ministry of Housing and Public Works
Government of the People's Republic of Bangladesh

REPORT ON DATA RELATING TO GEOTECHNICAL AND GEOPHYSICAL SURVEY
Under
ENGINEERING GEOLOGICAL AND GEOPHYSICAL SURVEYS UNDER PREPARATION OF DEVELOPMENT PLAN FOR MEHERPUR ZILLA

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Submitted by

CENTER FOR GEOSERVICES & RESEARCH

IN JOINTVENTURE WITH

CREATIVE SOIL INVESTIGATION

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1. INTRODUCTION

1.1. Background

Bangladesh is situated in a region that is highly susceptible to natural disasters due to its geographical location, diverse land features, extensive river network, and monsoon climate. This highlights the importance of conducting a comprehensive ***Subsurface Geotechnical and Geophysical Study*** to support sustainable urban development. The success of such initiatives relies on the inclusion of subsurface geotechnical and geophysical information as essential resources.

Additionally, effective land use planning is crucial for modern urban development, yet Bangladesh currently lacks widespread implementation of comprehensive land use strategies. Therefore, it is vital to assess both the surface and subsurface geological conditions, along with the associated geological hazards and risks in the area, before initiating any land use planning efforts. A thorough geotechnical and geophysical site characterization, combined with potential risk analysis, is key to ensuring resilient urban development in the face of potential challenges.

To create a safe and resilient urban environment, it is essential to conduct a detailed analysis of the geological and geotechnical characteristics of the site. This process includes a comprehensive risk assessment to identify and understand potential hazards. The development plan must integrate detailed information about the subsurface geophysics and geotechnical properties to accurately evaluate the soil conditions in the project area. Furthermore, it is critical to assess natural geological risks such as earthquakes, liquefaction, and landslides, and to incorporate their potential impact into infrastructure design.

To achieve the objectives of the ***Subsurface Geotechnical and Geophysical Study***, part of the ***Preparation of Development Plan for Meherpur Zilla***, the following objectives need to be pursued: follows:

- GIS and RS-based geomorphological and/or geological map of the project area
- Sub-surface lithological 3D model development and relevant interpretation
- Soil classification map using geophysical and geotechnical investigations
- Engineering geological map based on Average Shear Wave (AVS30)
- Seismic Hazard Assessment (PGA/PGV, and SA) map of the project area
- Engineering properties and bearing capacity of subsoil
- Liquefaction susceptibility map construction of the study area
- Geological Suitability Map.

1.2. Client: About Urban Development Directorate (UDD)

In response to rapid urbanization, population growth and economic development in the early 1960s, there was a need to establish a regional and central office for physical planning. As a result, the **Urban Development Directorate (UDD)** was founded on July 17, 1965, under the administrative control of the Works, Power, and Irrigation Department. The main functions of UDD include:

i. Advising the Government on urbanization, land use planning and land development policies.
ii. Preparing and coordinating regional plans, master plans, and detailed layout and site plans for existing and new urban centers, excluding areas covered by town development authorities of Dhaka, Chittagong, Khulna, and Rajshahi.

iii. Conducting socio-economic research and data collection to determine future urban development locations and patterns.
iv. Developing urban development programs for execution by sectoral agencies and obtaining approval from the National Council. Assisting agencies in selecting implementation sites.
v. Being the focal point in the Government for internationally aided physical planning and human settlement programs.
vi. Organizing seminars and workshops to raise awareness about physical planning and disseminating information through regular publication of research and planning materials on urbanization and human settlement planning and development.
vii. Providing in-service training for officers and staff of organizations involved in spatial planning and development.
viii. Advising existing urban development authorities on their operations at their request.

1.3. Location and Accessibility

Meherpur Sadar Upazila: Meherpur Sadar Upazila covers an area of 276.15 square kilometers. It is situated between 23°40' and 23°52' north latitudes and 88°34' and 88°47' east longitudes. The upazila is bounded by Gangni upazila and west Bengal state of India on the north, damurhuda and mujibnagar upazilas on the south, Gangni and alamdanga upazilas on the east, West Bengal state of India on the west (Source: Banglapedia).

Mujibnagar Upazila: Mujibnagar Upazila is situated in an area spanning 111.51 square kilometers and located in between 23°36' and 23°45' north latitudes and in between 88°34' and 88°43' east longitudes. It is bounded by meherpur sadar upazila on the north, damurhuda and Meherpur Sadar upazilas on the east, West Bengal of India on the south and on the west.

Gangni Upazila: Gangni Upazila with an area of 363.95 sq km and located between 23°44' and 23°52' north latitudes and in between 88°34' and 88°47' east longitudes. It is bounded by daulatpur (kushtia) upazila on the north, alamdanga and meherpur sadar upazilas on the south, Daulatpur (Kushtia), mirpur (Kushtia) and Alamdanga upazilas on the east, Meherpur Sadar upazila and west bengal state of India on the west (Source: Banglapedia).

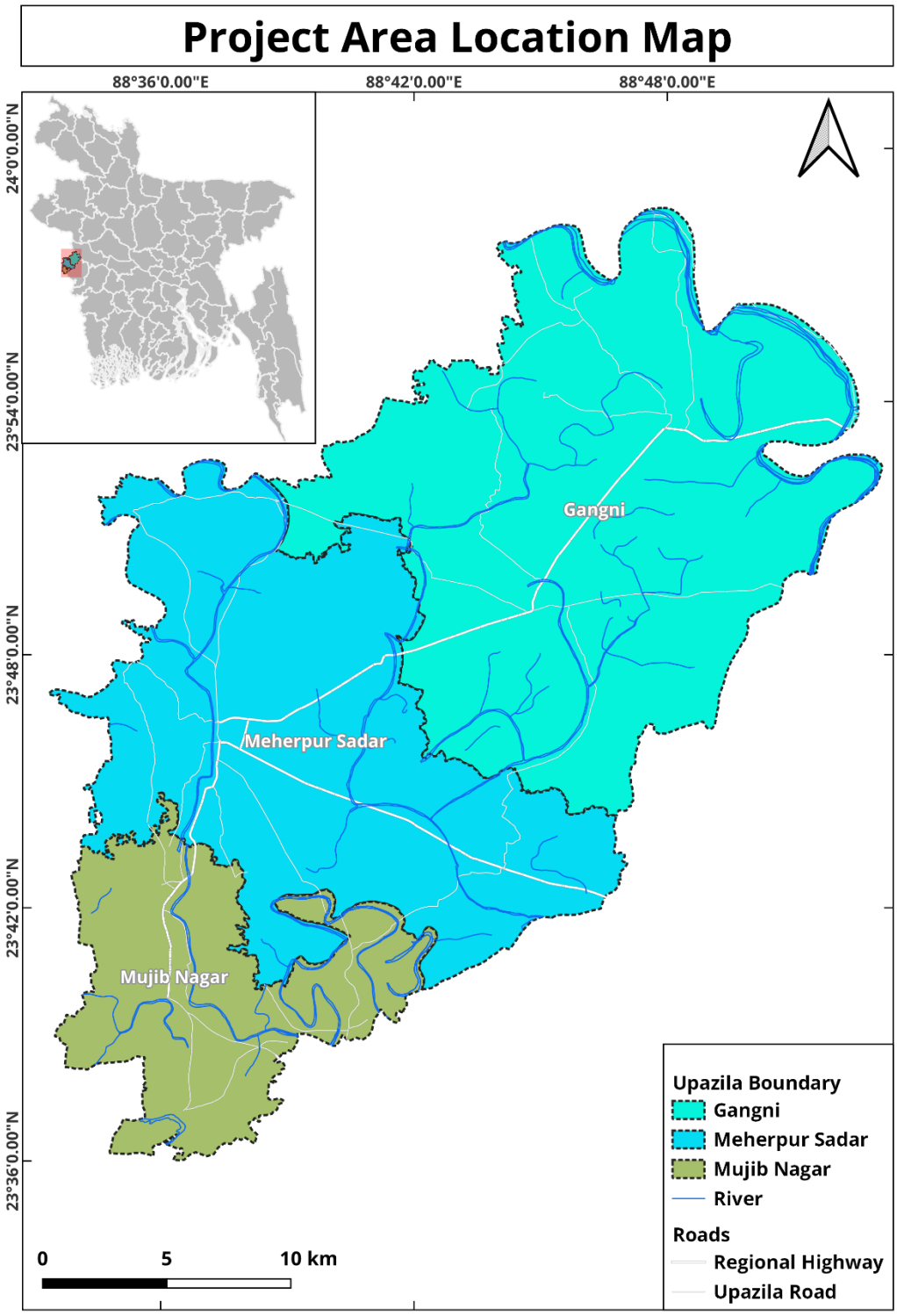


Figure 1 Location Map of the Project Area Presenting 3 Upazilas of Meherpur Zilla.

2. AIMS AND OBJECTIVES

The primary objective of this project is to carry out a comprehensive subsurface geotechnical and geophysical study in the Gangni, Mujibnagar, and Meherpur Sadar Upazilas located in Meherpur district. This study is an essential component of the development plan being formulated for these three Upazilas. The insights gained from this research will inform key decision-making processes regarding land-use, infrastructure development and environmental management in the area. In order to achieve the objective, the following specific objectives need to be accomplished:

- GIS based geological/ geomorphological map of the project area
- Sub-surface lithological 3D model development and relevant interpretation
- Soil classification map using geophysical and geotechnical investigations
- Engineering geological map based on Average Shear Wave (AVS30)
- Seismic hazard assessment (PGA/PGV, and SA) map of the project area
- Foundation layers delineation and developing engineering properties of the sub-soil
- Liquefaction susceptibility map construction of the study area
- Formulation of Policies and plans for mitigation of different types of hazards, minimizing the adverse impacts of climate change and recommend possible adaptation strategies for the region.

3. METHODOLOGY

3.1. Strategic Methodology

The methodology consists of both field and laboratory investigations. To conduct this project work engineering geological and geophysical data of soil have been collected, analysed and interpreted. Engineering geological/Geotechnical data have been collected from field investigations i.e., boring, standard penetration test (SPT), and laboratory investigations i.e., soil physical properties test, direct shear test and triaxial test of soil sample. Geophysical data will be collected from down-hole seismic test (PS logging); multi-channel analysis of surface wave (MASW) and Singles Microtremor survey. The total works are conducted through the following methodology (flowchart)-

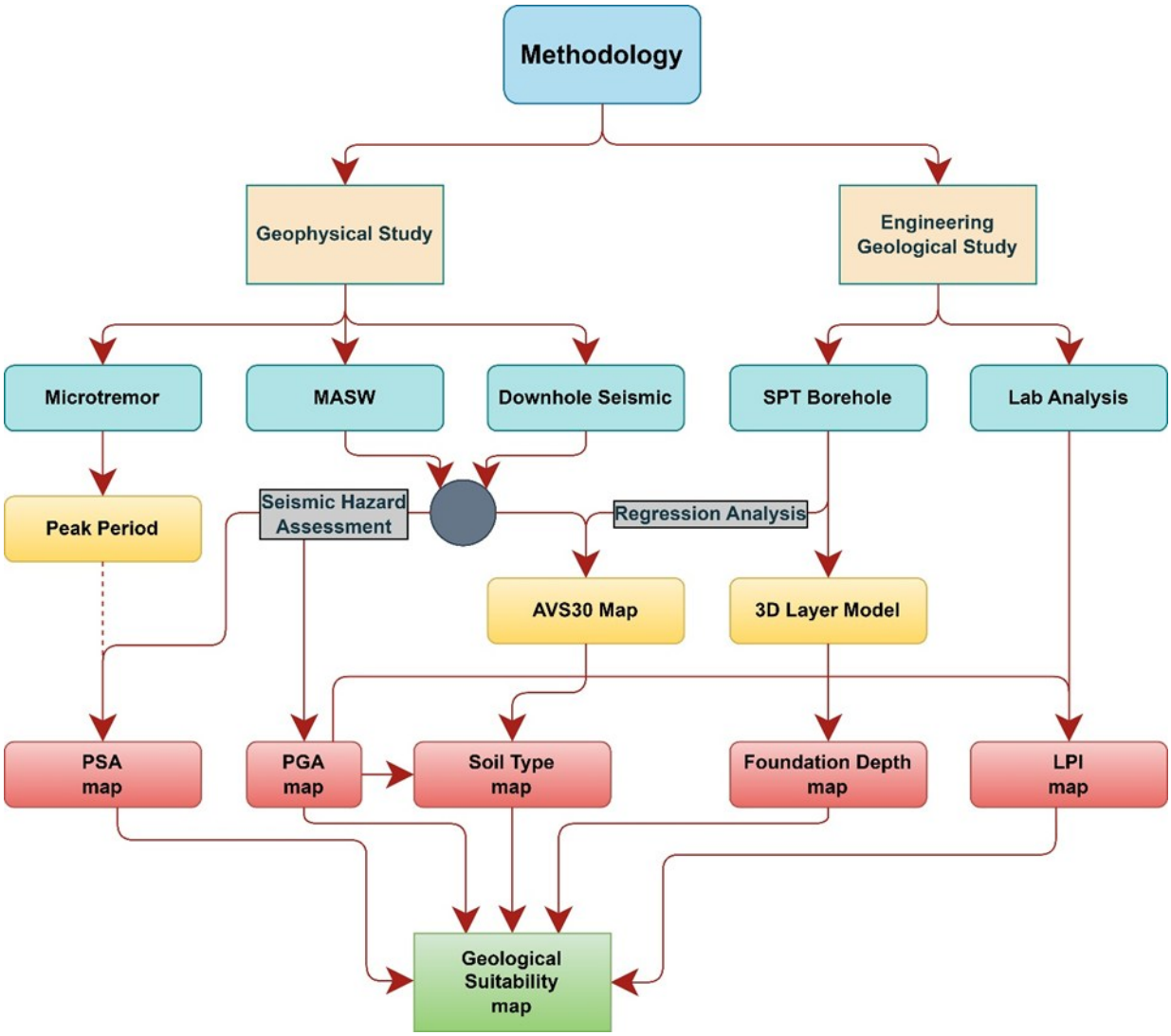


Figure 2 Block Diagram of Strategic Methodology.

However, following numbers of tests (Table 1) have been conducted for collecting both engineering geological and geophysical data in the Project area (as per ToR):

Table 1 Number of tests conducted in the Project

Area (approx. 600 sq km)	**Name of Investigation Methods**			
	SPT	**PS-logging**	**MASW**	**Microtremor**
Meherpur Sadar Upazila	17	4	5	5
Mujibnagar Upazila	10	2	3	3
Gangni Upazila	03 (Secondary-28 nos.)	1 (Secondary=6 nos.)	3 (Secondary=5 nos.)	7
Total	**30**	**7**	**11**	**15**

Test locations of the project area are shown in following figure-

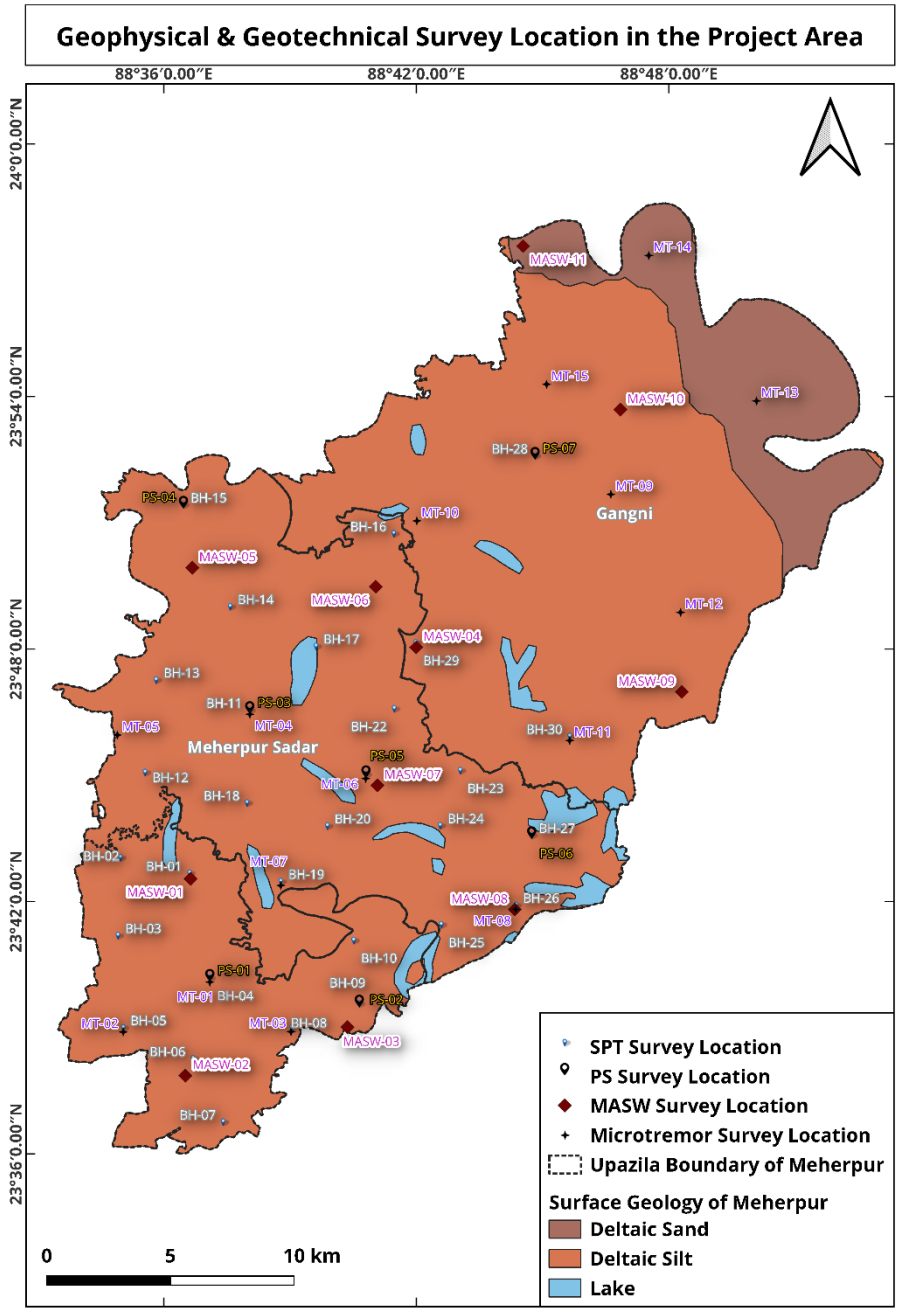


Figure 3 Test Location Map of three (3) Upazilas of Meherpur District.

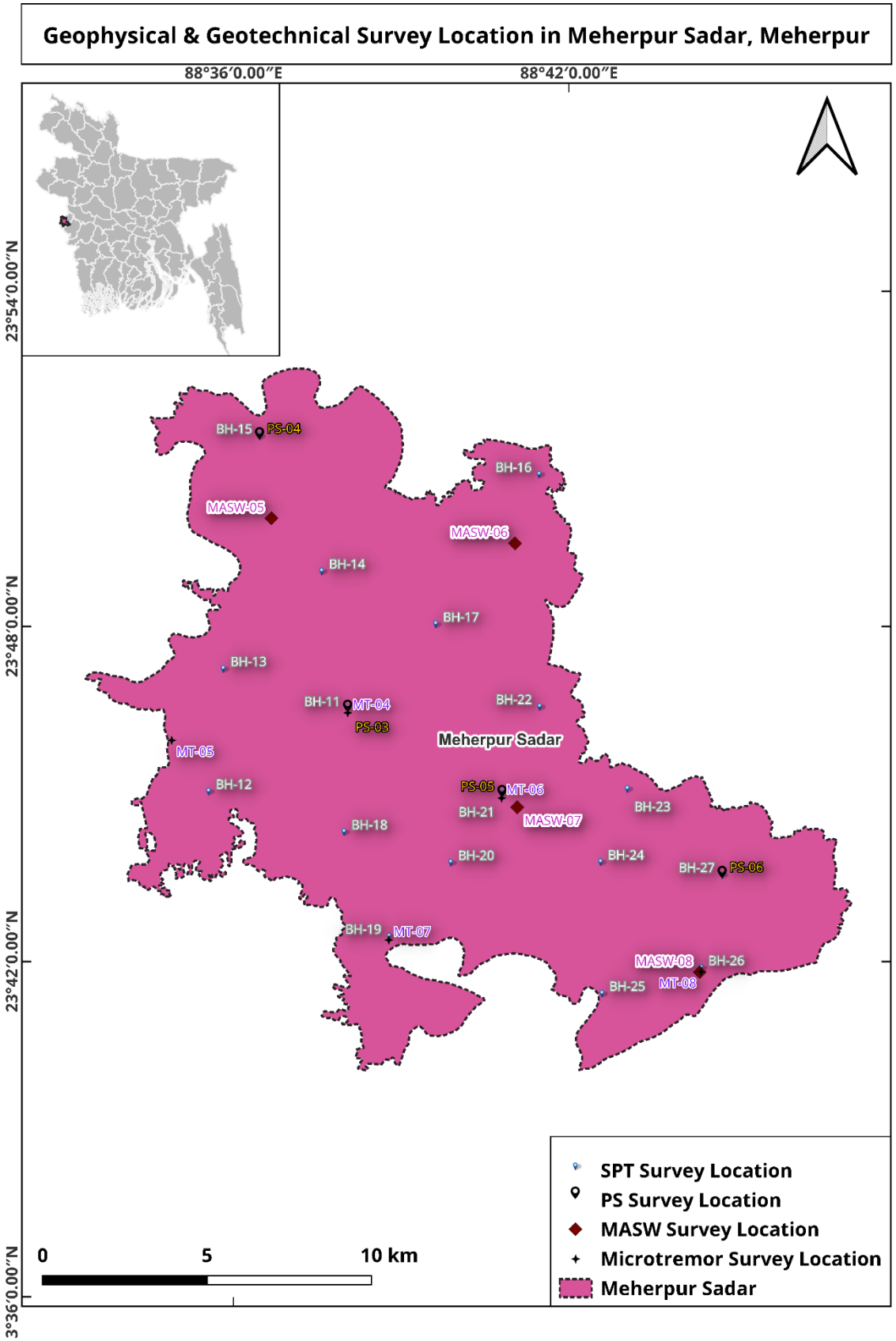


Figure 4 Test Location Map of Meherpur Sadar Upazila, Meherpur.

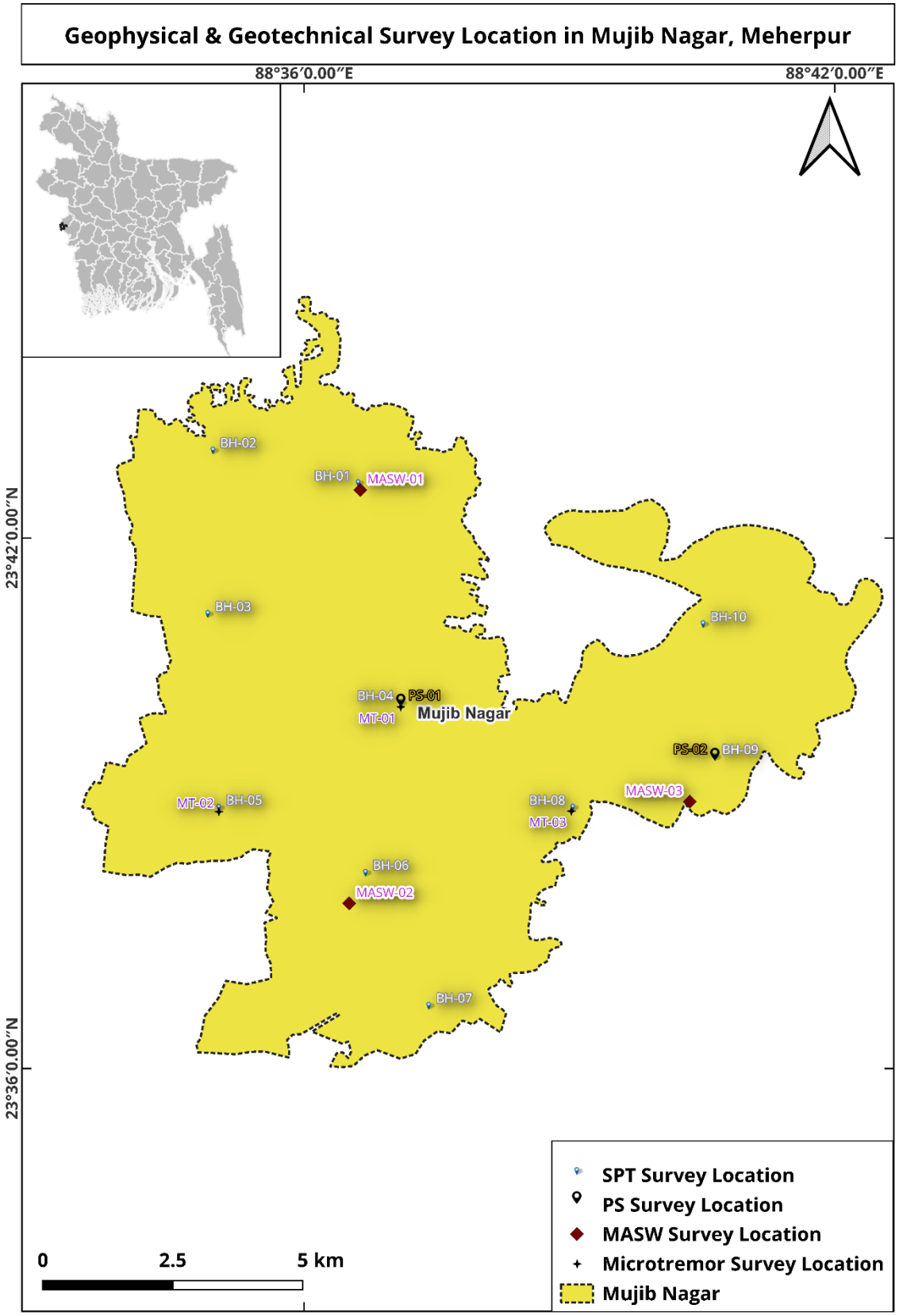


Figure 5 Test Location Map of Mujibnagar Upazila, Meherpur.

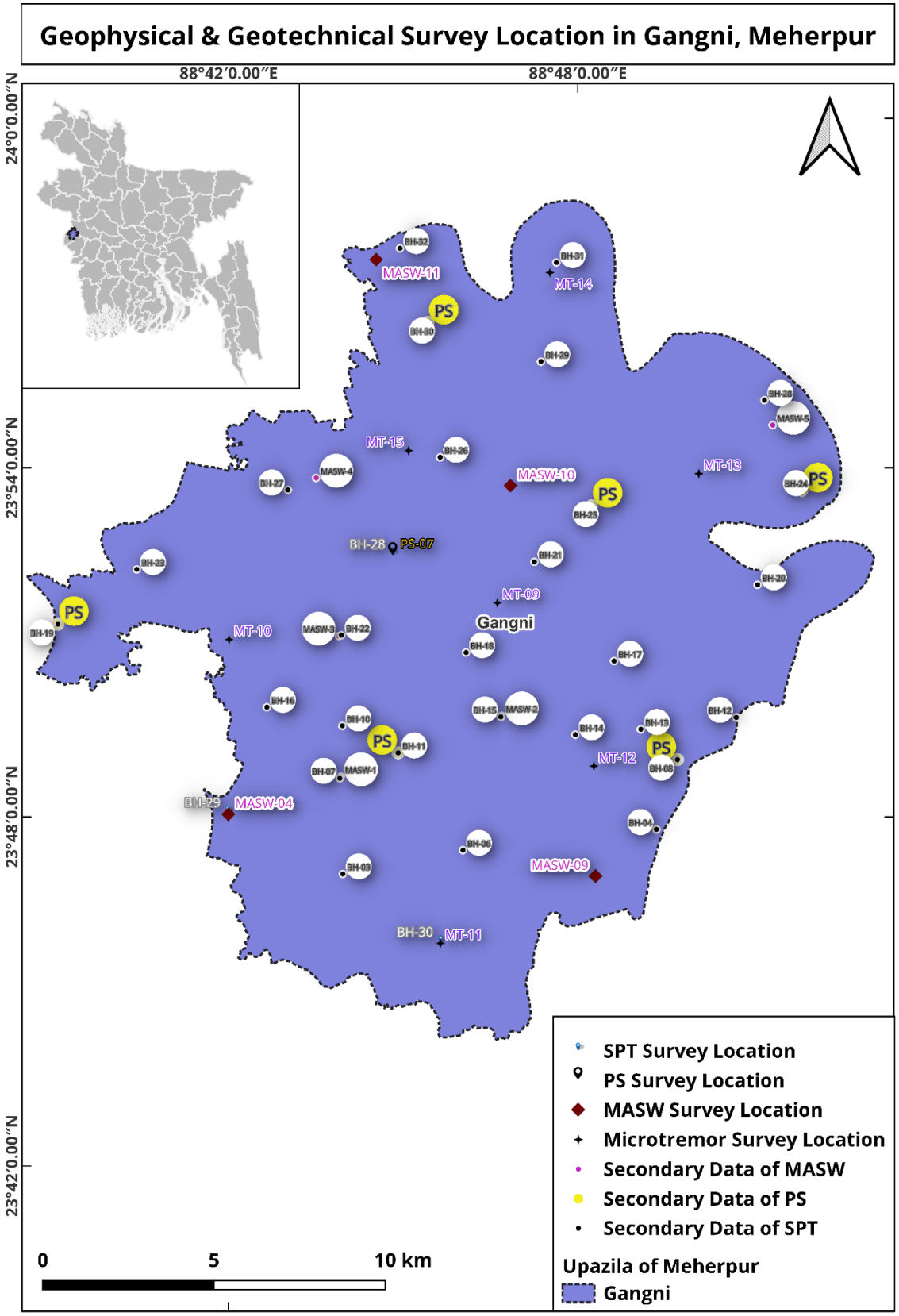


Figure 6 Test Location Map of Gangni Upazila, Meherpur.

3.2. Geophysical and Geotechnical Test

3.2.1. Detail Test Procedure of Downhole Seismic Survey (PS-logging)

The seismic downhole test is a method used to directly measure the shear wave velocity profile of soil strata. It involves measuring the travel time of an elastic wave from the ground surface to various depths below the ground. To generate the seismic wave, a wooden plank is struck with a 5 kg sledge hammer. The plank is placed about 1 m horizontally from the top of the borehole and is struck on both ends to generate shear wave energy in opposite directions, polarized parallel to the plank.

The shear wave generated from the plank is detected by a tri-axial geophone, which is lowered 1 m below the ground surface and attached to the borehole wall using an air bladder if necessary. Measurements are taken at 1 m intervals as the geophone is lowered to 30 m below the ground surface. At each depth, 9 sets of data (3 times hammer hit in three directions) are collected and used to calculate the shear wave velocity. The first arrival time of the elastic wave from the source to the receivers at each testing depth can be obtained from the downhole seismic test.

Instrument List

The PS-logging test equipment are listed below-

1. One Freedom NDT PC
2. Highly Sensitive Tri-axial Geophones.
3. Two set Cable/Airline Spool
4. Wooden Plank.
5. 5 kg weight Hammer.

Figure 7 (a) Freedom Data PC with P-SV Downhole Source and 1 Tri-axial Geophone Receiver used in Cross hole Seismic Investigations; (b) Main Component of the Freedom Data PC; (c) Impact directions which are on the left, right and vertical directions; (d) Triaxial geophone behavior; (e) computer with cables which are connected to the geophone; (f) Field Data Acquisition by PS-logger.

Analysis and Calculation from PS Logging

The P-wave is characterized by higher frequency and lower amplitude, while the shear wave is characterized by lower frequency but higher amplitude. The travel time of the S-wave is calculated from the first cross as we hit in both directions of the wooden plank, generating opposite phase shear waves in radial and transverse directions, which cross at some points. The recorded travel time then corrected using the Source Saint Distance (R) and Depth of the Geophone (D).

$$t_c = \frac{D * t}{R}$$

From the Corrected Travel Time t_c, Travel time Difference between top and bottom of the layer (Δt) provides layer's Shear wave velocity using following equation

$$V_i = \frac{H_i}{\Delta t}$$

Besides, the average shear wave velocity up to 30 m depth has been determined using the following equation.

$$T_{30} = \sum \frac{H_i}{V_i}$$

$$AVS_{30} = \frac{30}{T_{30}}$$

Where

H_i: Thickness of i^{th} Layer and $30 = \sum H_i$

V_i: $S-$ wave velocity of i^{th} Layer

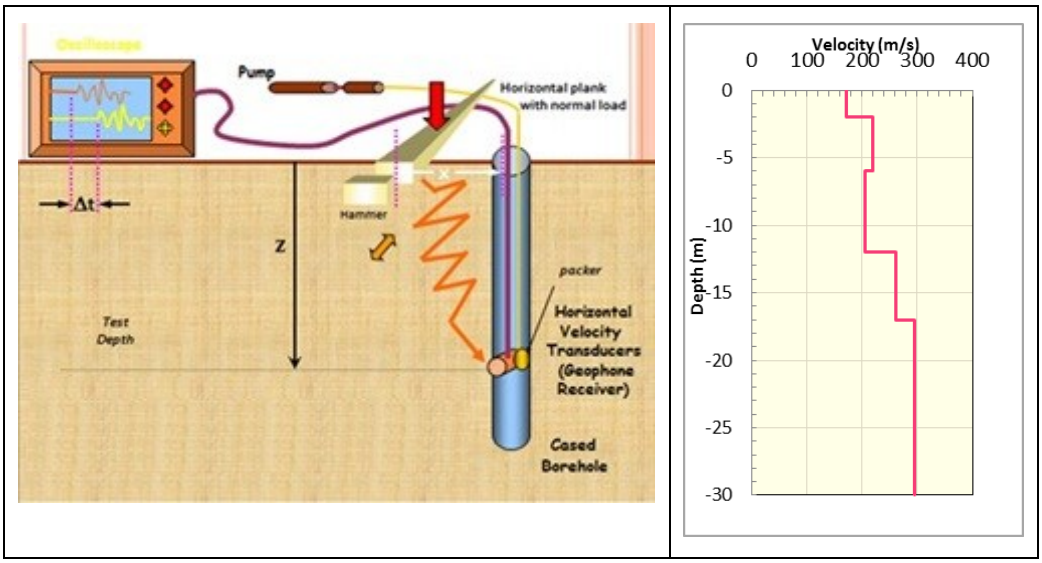


Figure 8 Acquisition of Shear Wave Velocity and Profiles by Downhole Seismic Survey.

3.2.2. Detail Test Procedure of Multi-Channel Analysis of Surface Wave (MASW)

The active MASW method was introduced in geophysics in 1999. It is the most common type of MASW survey and can produce a 2D VS profile. This method uses an active seismic source, such as a sledgehammer, and a linear receiver array to collect data in a roll-along mode. It measures surface waves propagating horizontally along the surface of measurement directly from the impact point to the receivers. The resulting VS information is presented in either 1D (depth) or 2D (depth and surface location) format, and it is a cost-effective and time-efficient way to gather data. The maximum depth of investigation (z max) is typically in the range of 10–30 m, but this can vary depending on the site and the type of active source used.

Seismic energy for active source surface wave surveys can be generated in various ways, but using a sledgehammer to impact a striker plate on the ground is the chosen method due to its low cost and availability. A trigger switch is used as the interface between the hammer and the seismograph to signal when the energy is generated. When the sledgehammer hits the ground, a signal is sent to the seismograph to initiate recording.

Typically, 12-24 channels are used during field work with a 2-4m interval and 1-2m source (sledgehammer) offset. In this study, the spread consists of 24 channels with a 2-meter interval and a 1m source offset (active Source). The data has been recorded using a geophone with a 0.065 m/s sample interval and a 2-second record length for Active Source Data Acquisition, and a 2ms sample interval with a 1-minute record length (total 10 minutes) for Passive Source Data Acquisition. The natural frequency of the geophone is 4-10 Hz, and the geophone spread configuration is as follows:

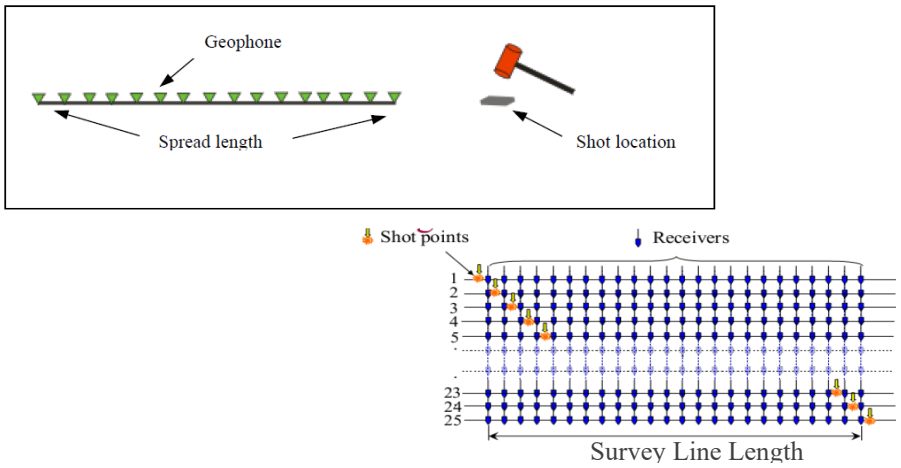


Figure 9 Schematic of Linear Active Source Spread Configuration.

Figure 10 MASW Field Data Acquisition.

For active sources at each station, one data point is acquired by stacking (3 hammer hits) to enhance data quality. Passive source data is acquired 10 times with 1-minute recording length.

Analysis of MASW

MASW uses the frequency-dependent property of surface wave velocity, known as dispersion, to profile the shear wave velocity (Vs). It examines the frequency content in the data gathered from a geophone array spread out over a moderate distance.

The processing of MASW is outlined in Figure 3.7. The main idea behind MASW is to place several sensors on the ground surface to capture propagating Rayleigh waves, which make up two-thirds of the total seismic energy generated by impact sources. In case the ground being tested is not uniform, the observed waves will be dispersive, meaning that the waves propagate towards receivers with different phase velocities depending on their respective wavelengths (see Figure 3.7).

From field observation, the data in space-time domain is transformed to frequency-velocity domain by slant-stack and Fast Fourier transform using

$$S(\omega, c) = \int e^{-i\frac{\omega}{c}x} U(x, \omega) dx$$

where U (x, ω) is the normalized complex spectrum obtained from the Fourier transform of *u (x, t)*, ω is the angular frequency, c is the testing-phase velocity and S (ω, c) is the slant-stack amplitude for each ω and c which can be viewed as the coherency in linear arrival pattern along the offset range for that specific combination of ω and c. When c is equal to the true phase velocity of each frequency component, the S (ω, c) will show the maximum value. Calculating S (ω, c) over the frequency and phase-velocity range of interest generates the phase-velocity spectrum where dispersion curves can be identified as high-amplitude bands. The dispersion curve is, then, used in inversion process to determine the shear wave velocity profile of the ground.

In theory, a phase-velocity spectrum can be calculated for a known layer model **m** and the field setup geometry. This process is called forward modeling. The inversion process tries to adjust assumed layer model as much as possible through several iterations in order to make the calculated spectrum looks similar to the dispersion curve obtained from the field test. Once the algorithm can match the calculated with the measured one, the assumed model will be considered as the true profile.

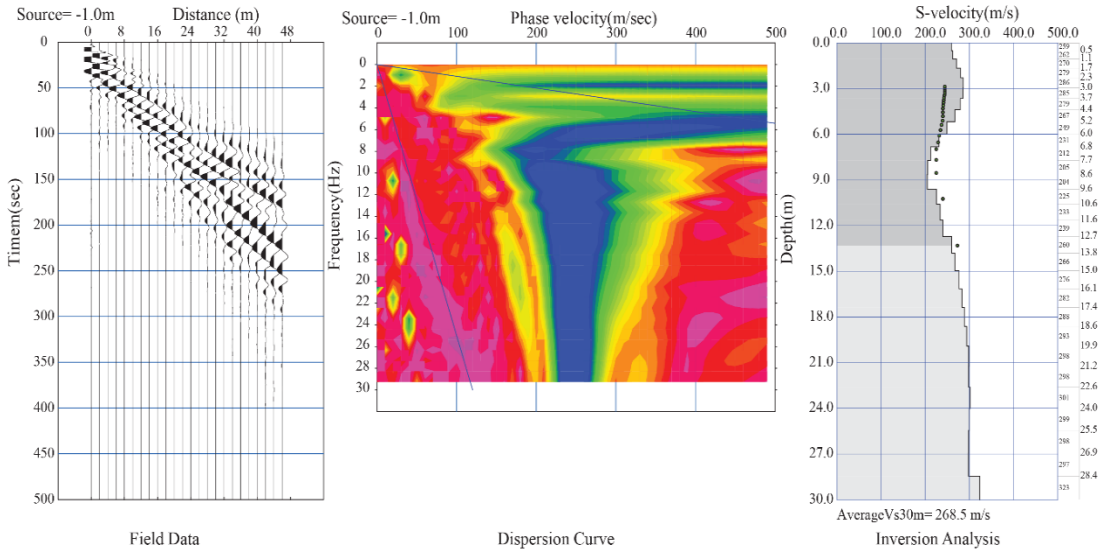


Figure 11 MASW Data Processing (Modified from Park et al., 1999).

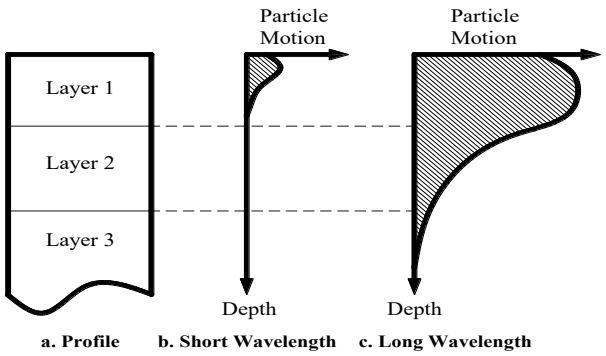
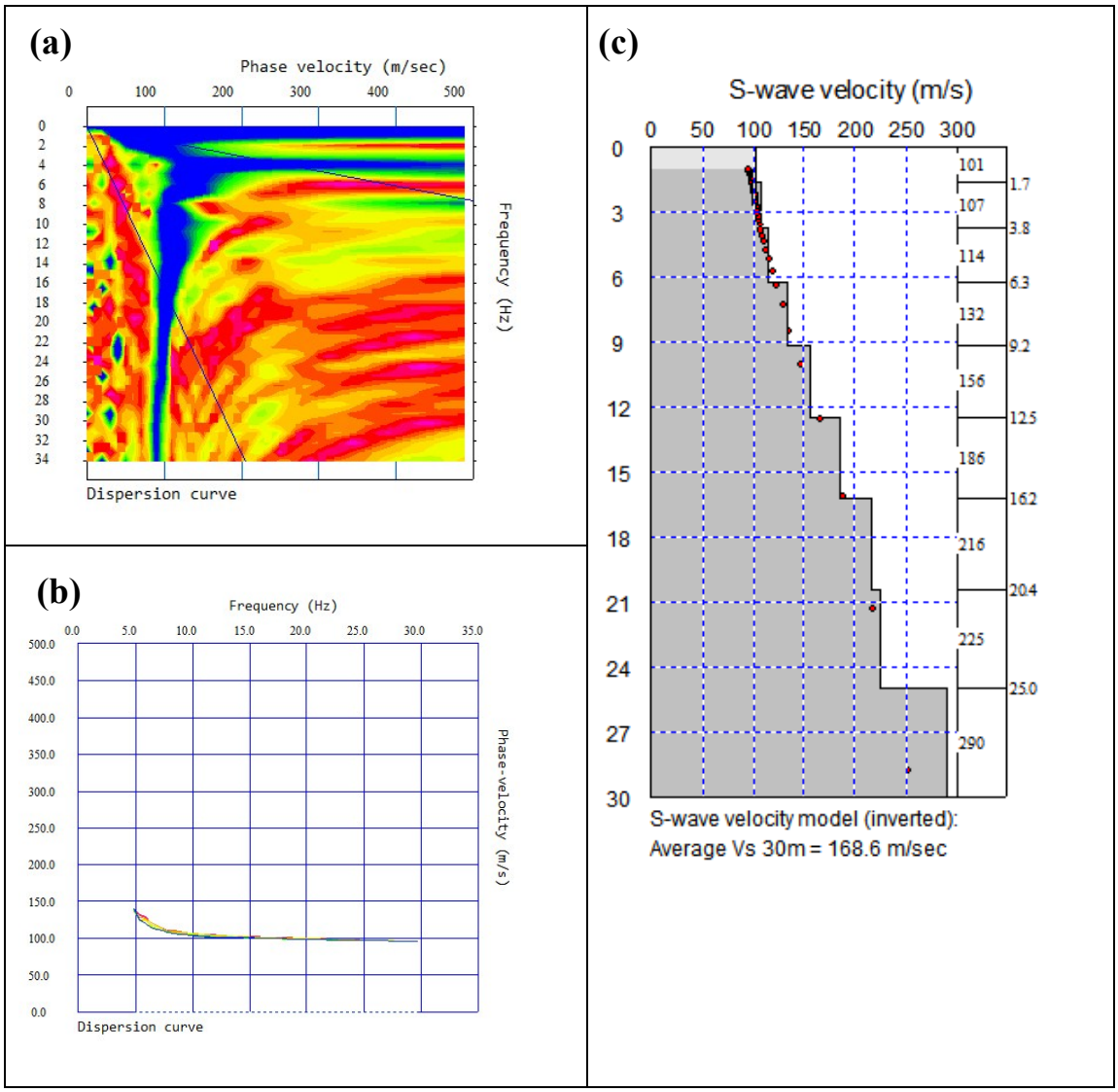


Figure 12 Wave Dispersion in Layer Media.



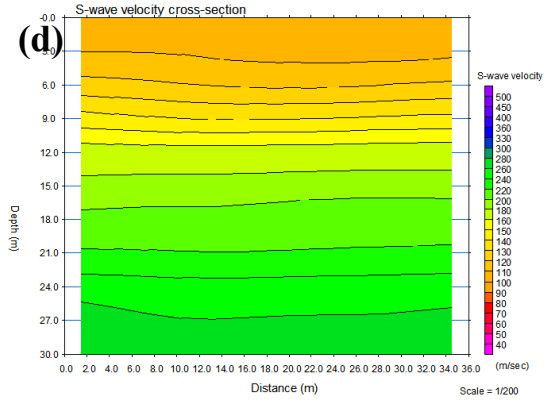


Figure 13 Active Source MASW Analysis (a) Phase Velocity Diagram; (b) Dispersion Curve; (c) 1D Layer Model; (d) 2D Layer Model.

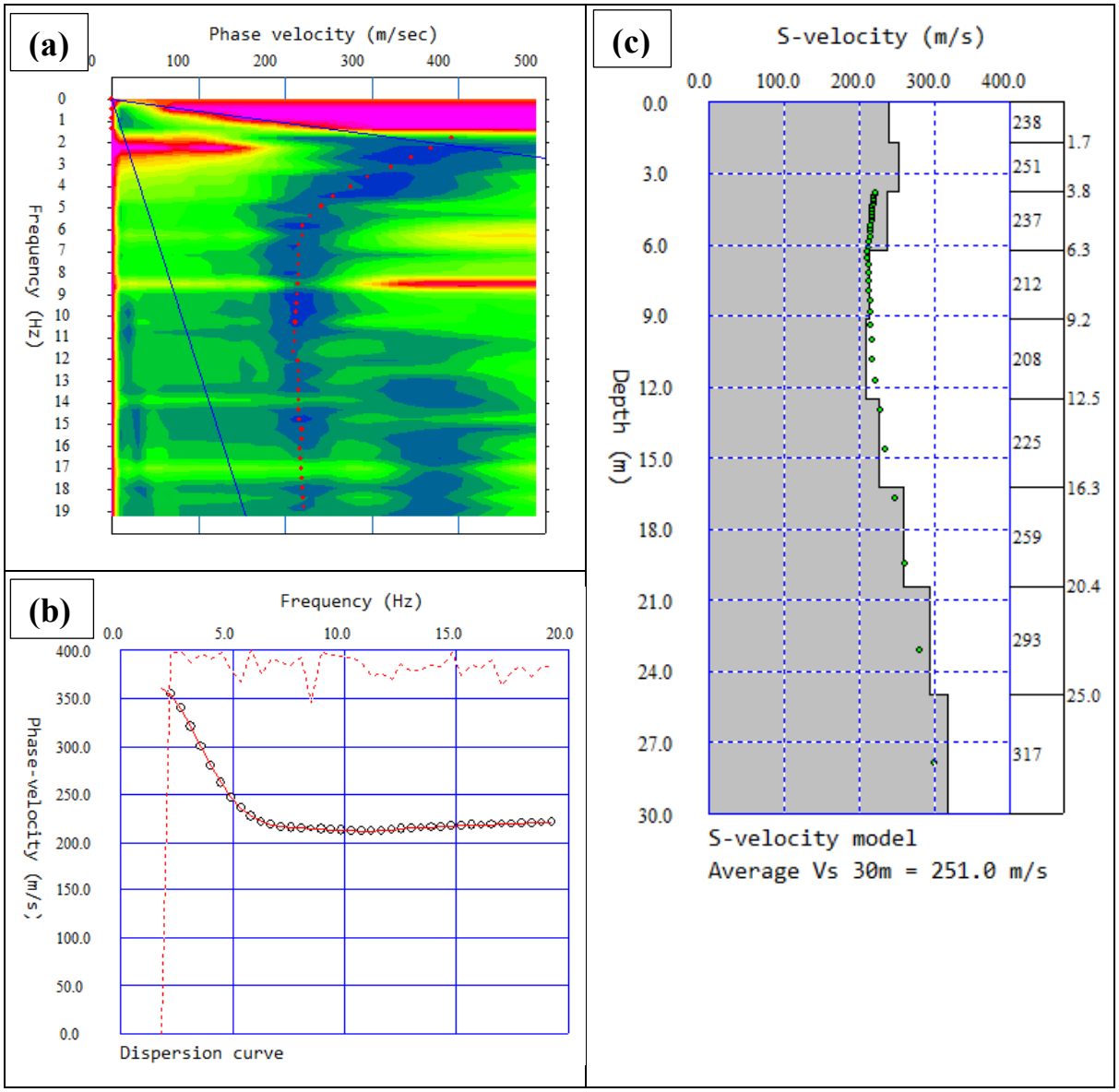


Figure 14 Passive Source MASW Analysis (a) Phase Velocity Diagram; (b) Dispersion Curve; (c) 1D Layer Model.

In Addition, when passive source is used. In the phase velocity analysis, SPAC (Spatial Autocorrelation) method (Okada & Suto, 2003) is employed. (Okada & Suto, 2003) shows Spatial autocorrelation function ρ (ω, r) is expressed by Bessel function.

$$\rho(\omega, r) = J_0(\frac{\omega r}{c(\omega)})$$

Where, r is the distance between receivers, ω is the angular frequency, c(ω) is the phase velocity of the waves, J_0 is the first kind of Bessel function. The phase velocity can be obtained at each frequency using equation.

These calculations are carried out along the measuring line and the acquired data was transformed into a Phase Velocity Diagram via Seis-Imager Software. Figure 3.10 (a) and Figure 3.11 (a) shows an example of Phase Velocity Diagram for Active Source and Passive Source. From Phase velocity diagram the dispersion curve was drawn. Figure 3.10 (b) and Figure 3.11 (b) shows an example of dispersion curve of the survey, the frequency range between 5 and 30 Hz (Active) and 5to 30Hz (passive). A one-dimensional inversion using a non-linear least square method has been applied to the phase velocity curves and one-dimensional S-wave velocity structures drawn example in Figure 3.10 (c) and Figure 3.11 (c). SeisImager software can also give a 2-D velocity model a sample of which is shown in Figure 3.11 (d).

Calculation of AVS 30 From MASW

The AVS30 can be calculated as follows:

$T_{30} = \sum(Hi/Vi)$

AVS 30= $(30/ T_{30})$

Where,
Hi= Thickness of the i^{th} layer and $\sum Hi= 30$
Vi= S wave velocity of the i^{th} layer

3.2.3. Detail Test Procedure of Microtremor Measurement (Single Microtremor)

Microtremor method is a practical and economical seismic survey since it has potential to explore deep soils without a borehole. Microtremors are the phenomenon of very small vibrations of the ground surface even during ordinary quiet time as a result of a complex stacking process of various waves propagating from remote man-made vibration sources caused by traffic systems or machineries in industrial plants and from natural vibrations caused by tidal and volcanic activities. Observation of microtremors can give useful information of dynamic properties of the site such as predominant period, amplitude, peak ground acceleration and shear wave velocity.

Single Microtremor observation Method

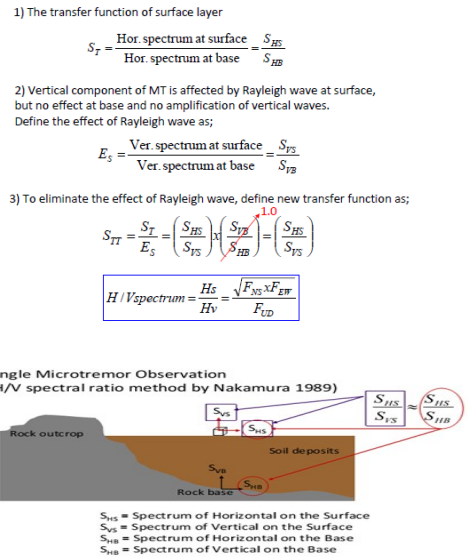


Figure 15 Fundamental of Single Microtremor Observation.

Field Data Acquisition System

Microtremor observations are performed using portable equipment, which is equipped with a super-sensitive sensor, a wire comprising a jack in one site and USB port in another site, and a laptop computer is also used. The microtremor equipment has been set on the free surface on the ground without any minor tilting of the equipment. The N-S and E-W directions are properly maintained following the directions arrowed on the body of the equipment. The sampling frequency for all equipment's is set at 200Hz. The low-pass filter of 40Hz is set in the data acquisition unit. Like the seismometer or accelerometer, the velocity sensor used can measure three components of vibrations: two horizontal and one vertical. The natural period of the sensor is 2 sec. A global positioning system (GPS) is used for recording the coordinates of the observation the available frequency response range for the sensor is 0.5-20Hz. sites. The length of record for each observation was 10~20 min. In all fields of this project this data acquisition system has be applied.

Figure 16 Field Data Acquisition of Single Microtremor Measurement.

3.2.4. Detail Test Procedure of Standard Penetration Test (SPT)

The Standard Penetration Test (SPT) is a widely used method for testing the geotechnical engineering properties of subsurface soils in situ. The test procedure, which involves manual boring, is described in the British Standard BS EN ISO 22476-3, ASTMD1586. Below is a brief description of the SPT N-value test procedure.

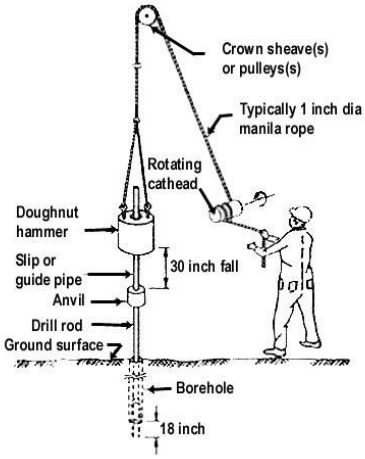


Figure 17 SPT Sampler with Hammer & Rope.

In our field, a test is conducted using a thick-walled sample tube, which has an outside diameter of 51 mm and an inside diameter of 35 mm. The tube is approximately 650 mm long. It is driven into the ground at the bottom of a borehole using a slide hammer weighing 63.5 kg (140 lb.) and falling through a distance of 760 mm (30 in). The sample tube is driven 150 mm into the ground initially. Then, the number of blows required for the tube to penetrate each subsequent 150 mm (6 in) up to a depth of 450 mm (18 in) is recorded. The sum of the number of blows required for the second and third 6 in. of penetration is known as the "standard penetration resistance" or the "N-value". It is recommended that SPT should be conducted at each 1.5m interval depth.

The main objective of SPT is as follows:

- Boring and documenting of soil stratification.
- Sampling (both disturbed and undisturbed).
- Documenting of SPT N-value
- Documenting of ground water table.

3.2.5. Detail Test Procedure of Grain Size Analysis (Sieve and Hydrometer)

Purpose:

This test is performed to determine the percentage of different grain sizes contained within a soil. The mechanical or sieve analysis is performed to determine the distribution of the course, larger-sized particles, and the hydrometer method is used to determine the distribution of the finer particles.

Standard Reference:

ASTM D 422 - Standard Test Method for Particle-Size Analysis of Soils.

Significance:

The distribution of different grain sizes affects the engineering properties of soil. Grain size analysis provides the grain size distribution, and it is required in classifying the soil.

Equipment:

Balance, set of sieves, Cleaning brush, Sieve shaker, Mixer (blender), 152 Hydrometer, Sedimentation cylinder, Control cylinder, Thermometer, Beaker, Timing device.

Sieve Analysis:

Write down the weight of each sieve as well as the bottom pan to be used in the analysis.

Record the weight of the given dry soil sample.

Make sure that all the sieves are clean and assemble them in the ascending order of sieve numbers (4 sieves at top and #200 sieve at bottom). Place the pan below #200 sieve. Carefully pour the soil sample into the top sieve and place the cap over it.

Place the sieve stack in the mechanical shaker and shake for 10 minutes.

Remove the stack from the shaker and carefully weigh and record the weight of each sieve with its retained soil. In addition, remember to weigh and record the weight of the bottom pan with its retained fine soil.

Hydrometer Analysis Test:

For hydrometer analysis, 50gms of the oven dry sample is taken and 125.00 mL of the dispersing agent (sodium hexametaphosphate (40 g/L)) solution is added and the mixture is stirred until the soil is thoroughly wet. The soil is left to soak for at least ten minutes. While the soil is soaking, 125mL of dispersing agent into the control cylinder is added and the cylinder is filled by distilled water to the mark of 1000 cc. the reading at the top of the meniscus formed by the hydrometer stem is taken. A reading less than zero is recorded as a negative (-) correction and a reading between zero and sixty is recorded as a positive (+) correction. This reading is called the zero correction. The meniscus correction is the difference between the top of the meniscus and the level of the solution in the control jar (Usually about +1). The control cylinder is shaken in such a way that the contents are mixed thoroughly. The hydrometer and thermometer are inserted into the control cylinder and the zero correction and temperature are noted respectively. the soil slurry into a mixer by adding more distilled water are transferred, if necessary, until mixing cup is at least half full. Then the solution for a period of two minutes is mixed. Immediately the soil slurry into the empty sedimentation cylinder is transferred. Distilled water up to the mark is added. After an elapsed time of one minute and forty seconds, very slowly and carefully the hydrometer is inserted for the first reading. The reading is taken by observing the top of the meniscus formed by the suspension and the hydrometer stem. Hydrometer readings after elapsed time of 2 and 5, 8, 15, 30, 60 minutes and 24 hours are recorded. For hydrometer analysis, meniscus correction to the actual hydrometer reading is applied and corrected hydrometer reading is calculated. From those corrected hydrometer reading, the percent finer is calculated and the grain size curve diameter versus the adjusted percent finer are plotted on the semi-logarithmic sheet.

3.2.6. Detail Test Procedure for Specific Gravity

Purpose:

This lab is performed to determine the specific gravity of soil by using a pycnometer. Specific gravity is the ratio of the mass of unit volume of soil at a stated temperature to the mass of the same volume of gas-free distilled water at a stated temperature.

Standard Reference:

ASTM D 854-00 – Standard Test for Specific Gravity of Soil Solids by Water Pycnometer.

Significance:

The specific gravity of a soil is used in the phase relationship of air, water, and solids in a given volume of the soil.

Equipment:

Pycnometer, Balance, Vacuum pump, Funnel, Spoon.

Specific gravity of soil particles (Gs) is defined as the ratio of the mass of given volume of soil particles to the mass of an equal volume' of water at 40c. The specific gravity for most natural soils falls in general range of 2.60 to 2.80. To determine the specific gravity of soil sample, 25gm of oven dried soil sample is thoroughly pulverized and is placed in a calibrated pycnometer. Water is poured inside the pycnometer until its top is slightly below the calibrated mark. The mixture is then boiled thoroughly in order in eliminate all the air bubbles. More water is then added to the mixture till its over-night. The temperature is then recorded, and the bottle is weighed.

The specific gravity Gs is given by:

$$G_S = \frac{G_W \, X \, W_S}{W_S - W_1 + W_2}$$

Where:

Gs = Specific gravity of water

Ws = The weight of oven dry soil (25 gm)

W1= Weight of flask + soil + water

W2 = Weight of flask + water

3.2.7. Detail Test Procedure of Atterberg Limits

Purpose:

This lab is performed to determine the plastic and liquid limits of fine-grained soil. The liquid limit (LL) is arbitrarily defined as the water content, in percent, at which a pat of soil in a standard cup and cut by a groove of standard dimensions will flow together at the base of the groove for a distance of 13 mm (1/2in.) when subjected to 25 shocks from the cup being dropped 10 mm in a standard liquid limit apparatus operated at a rate of two shocks per second. The plastic limit (PL) is the water content, in

percent, at which a soil can no longer be deformed by rolling into 3.2 mm (1/8 in.) diameter threads without crumbling.

Standard Reference:

ASTM D 4318 - Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

Significance:

The Swedish soil scientist *Albert Atterberg* originally defined seven "limits of consistency" to classify fine-grained soils, but in current engineering practice only two of the limits, the liquid and plastic limits, are commonly used. (A third limit, called the shrinkage limit, is used occasionally.) The Atterberg limits are based on the moisture content of the soil. The plastic limit is the moisture content that defines where the soil changes from a semi-solid to a plastic (flexible) state. The liquid limit is the moisture content that defines where the soil changes from a plastic to a viscous fluid state. The shrinkage limit is the moisture content that defines where the soil volume will not be reduced if the moisture content is reduced. A wide variety of soil engineering properties have been correlated to the liquid and plastic limits, and these Atterberg limits are also used to classify fine-grained soil according to the Unified Soil Classification system or AASHTO system.

Equipment:

Liquid limit device, Porcelain (evaporating) dish, Flat grooving tool with gage, eight moisture cans, Balance, Glass plate, Spatula, Wash bottle filled with distilled water, Drying oven set at 105°C.

Liquid Limit:

About 100 gm of wet soil sample was thoroughly pasted with water placed on the cup of the liquid limit device, and a sharp groove was made along the center line with a standard grooving tool. The cup was then dropped twice per second until the groove was closed to a half inch. The water content of the soil of the cup was measured at this stage. Three water contents with different numbers of blows closing the groove to a half inch were recorded. A flow curve of water content vs number of blows was drawn in a semi-logarithmic graph. From the flow curve, the water content at blows was recorded as the liquid limit.

Plastic Limit:

The plastic limit test was performed on the soils tested for liquid limit. The soil was further dried, and a thread of 1/8 inch diameter was rolled until crumbles first occurred. At this stage, the water content is determined and taken as the plastic limit.

The plasticity index has been calculated using the relation (ASTM D4318) as given below:

Plasticity Index (PI) = Liquid Limit (LL) – Plastic Limit (PL)

3.2.8. Detail Test Procedure of Direct Shear Test

Purpose:
To determine the shearing strength of the soil using the direct shear apparatus.

Standard Reference:
ASTM D 3080- to measure the shear strength properties of soil.

Significance:
In many engineering problems such as design of foundation, retaining walls, slab bridges, pipes, sheet piling, the value of the angle of internal friction and cohesion of the soil involved are required for the design. Direct shear test is used to predict these parameters quickly. The laboratory report covers the laboratory procedures for determining these values for cohesion less soils.

Equipment:
Direct shear box apparatus, loading frame (motor attached), Dial gauge, proving ring, Tamper, Straight edge, Balance to weigh up to 200 mg, Aluminum container and Spatula.

Shear strength equation,

$\tau f = c + \sigma f \tan ø$

Where τf = shearing resistance of soil at failure

c = apparent cohesion of soil

σf = total normal stress on failure plane

ø = angle of shearing resistance of soil (angle of internal friction)

3.2.9. Detail Test Procedure of Unconfined Compression Strength

Purpose:
To determine shear parameters of cohesive soil.

Standard Reference:
ASTM D2166- To determine shear parameters of cohesive soil.

Significance:
It is not always possible to conduct the bearing capacity test in the field. Sometimes it is cheaper to take the undisturbed soil sample and test its strength in the laboratory. Also to choose the best material for the embankment, one has to conduct strength tests on the samples selected. Under these conditions it is easy to perform the unconfined compression test on undisturbed and remolded soil sample. Now we will investigate experimentally the strength of a given soil sample.

Equipment:
Loading frame of capacity of 2 t, with constant rate of movement. Proving ring of 0.01 kg sensitivity for soft soils; 0.05 kg for stiff soils. Soil trimmer, Frictionless end plates of 75 mm diameter (Perspex plate with silicon grease coating), Evaporating dish (Aluminum container).

Soil sample of 75 mm length, Dial gauge (0.01 mm accuracy), Balance of capacity 200 g and sensitivity to weigh 0.01 g, Oven, Sample extractor and split sampler, Dial gauge (sensitivity 0.01mm), Vernier calipers.

For soils, the undrained shear strength (su) is necessary for the determination of the bearing capacity of foundations, dams, etc. The undrained shear strength (su) of clays is commonly determined from an unconfined compression strength test. The undrained shear strength (su) of a cohesive soil is equal to one-half the unconfined compressive strength (qu) when the soil is under the $\phi = 0$ condition (f = the angle of internal friction). The most critical condition for the soil usually occurs immediately after

construction, which represents undrained conditions, when the undrained shear strength is basically equal to the cohesion(c).

This is expressed as:

su = c = qu/2

Then, as time passes, the pore water in the soil slowly dissipates, and the inter-granular stress increases, so that the drained shear strength (s), given by s = c + σ tan ϕ, must be used. Where:
σ' = inter-granular pressure acting perpendicular to the shear plane; and σ' = (s - u), σ = total pressure, and u = pore water pressure; ϕ and c are drained shear strength parameters.

3.2.10. Detail Test Procedure of Triaxial Test (Unconsolidated- Undrained)

Purpose:
To find the shear of the soil by Undrained Triaxial Test.

Standard Reference:
ASTM D2850-70- To find the shear of the soil by Undrained Triaxial Test.

Significance:
The standard consolidated undrained test is compression test, in which the soil specimen is first consolidated under all round pressure in the triaxial cell before failure is brought about by increasing the major principal stress. It may be performed with or without measurement of pore pressure although for most applications the measurement of pore pressure is desirable.

Equipment:
3.8 cm (1.5 inch) internal diameter 12.5 cm (5 inches) long sample tubes, Rubber ring, an open-ended cylindrical section former, 3.8 cm inside Dia, fitted with a small rubber tube in its side, Stop clock, Moisture content test apparatus, A balance of 250 gm capacity and accurate to 0.01 gm.

As Uc = B. σ3 and Ud = A. σd

Total u = B. σ3 + A. σd

u = B. σ3 + A. (σ1 - σ3)

Calculate axial strain. ε =L/ΔL

ΔL = Vertical deformation of the specimen.

™ Calculate vertical load on the specimen.

You will get it directly from the force transducers.

™ Calculate corrected area of the specimen (Ac) − ε = 1. A0 Ac

A0 = Initial cross-sectional area i.e. π x D2/4

Calculate the stress σ on the specimen. σ =Ac/Load

4. GEOLOGY OF THE STUDY AREA

4.1. Subsurface Geology

Surface Geological units of Meherpur Zilla:

According to surface geological units, Meherpur Districts is divided into 3 zones. Those are:

1. Deltaic Sand
2. Deltaic Silt
3. Lake

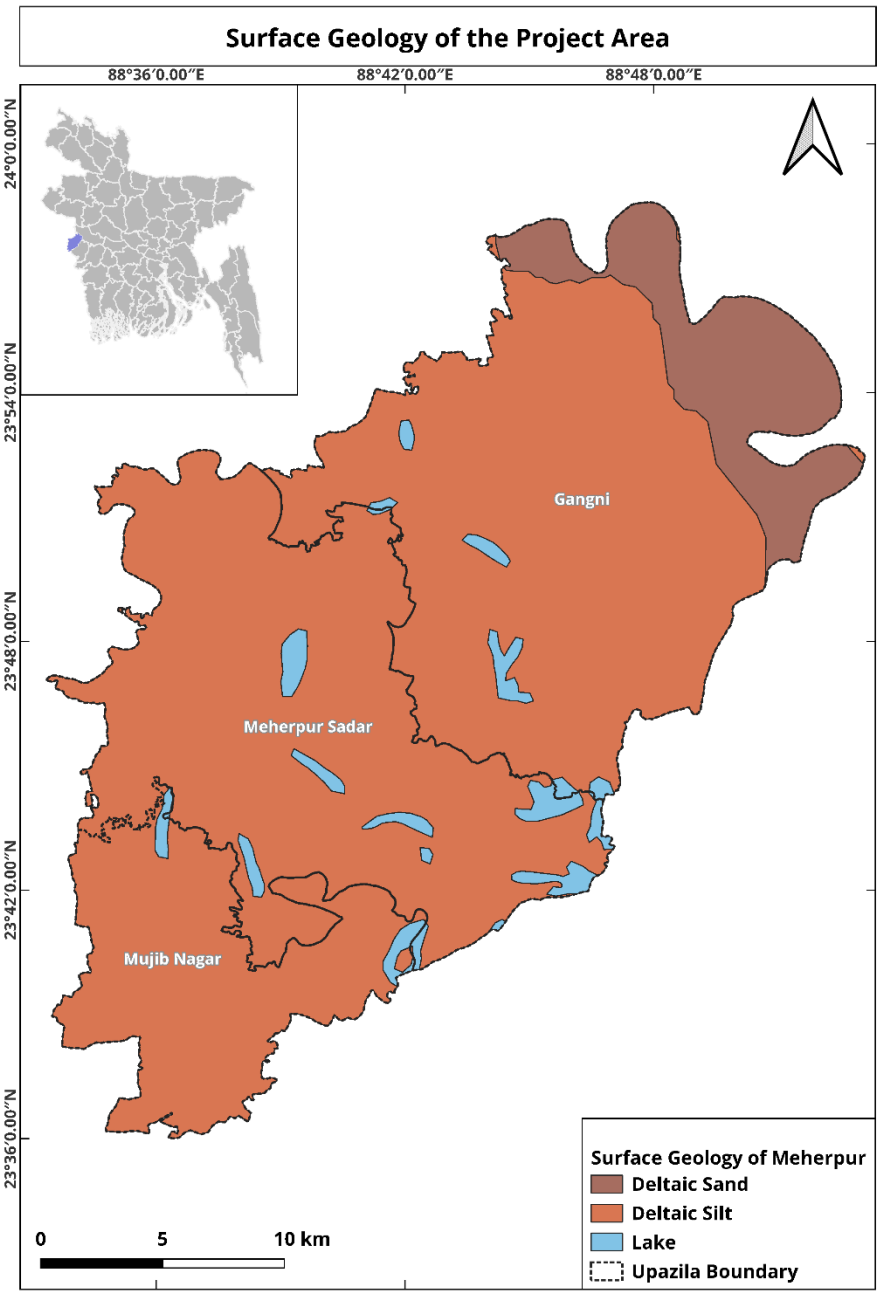


Figure 18 Surface Geology of the Project Area

Deltaic Sand: Deltaic sand is sand that is deposited in a delta, which is a landform where a river meets a body of water or sea. Deltaic sand is a type of deltaic deposit, which is a sedimentary deposit formed by the accumulation of sediment in a delta.

Deltaic Silt: Deltaic silt is a type of sediment that accumulates in a delta, which is a landform created by a river depositing sediment into a body of water. Silt is a type of sediment that consists of very small particles.

Lakes: Lake is a large area of water surrounded by land.

5. ENGINEERING GEOLOGICAL MAPPING

5.1. Engineering Geological Mapping

There are many types of "Engineering Geological Map" depending on intended purpose. For instance, when the target is to know suitable foundation soil layer for a planned building, an engineering geology map should have a property of some geotechnical strength, in another case, when it is necessary to know groundwater potential for a water resource development, a map is created on the basis of permeability of soil as a focal point.

In this study, the target is estimation/evaluation of earthquake phenomenon; so seismic and engineering characteristics of soil is required for the engineering geology map to analyze seismic hazard. Basic information needed for seismic hazard assessment is ground motion at the ground surface; the ground motion can be usually calculated using S-wave velocity. Hence, the engineering geological map is created on the basis of S-wave velocity.

It is notable that in seismic ground motion analysis, especially calculation of amplification of soil, is examined by an empirical method that uses average S-wave velocity of ground in the top 30m depth (hereinafter referred to as "V_{s30}"), because the limited point data that is boring/PS logging data should be expanded to the study area in order to make ground model.

Therefore, "soil type map based on V_{s30}" is defined as the "Engineering Geological Map" in this study.

5.1.1. Shear Wave Velocity Estimation

Estimation of shear wave velocity (Vs) and mapping is a way to characterize varying site conditions, and it can also be used to model earthquake-related ground shaking. Estimation of Vs aims to generate a map of estimated average shear wave velocities for the upper 30m of the subsurface, AVs30. Field measurement of Vs of near surface layers implying near surface seismic surveys like Downhole seismic test (PS Logging) and multi-channel analysis of surface wave (MASW) can serve the purpose. V_s of subterranean layers can be obtained by another mean — determination of shear wave velocity from SPT N value from empirical relation between V_s and N value. Because of near surface seismic tests are expensive and so conducted in limited number while SPT tests could be done more extensively, a probabilistic correlation between V_s obtained from near surface seismic and SPT tests (58 Borehole- 30

primary data and 28 secondary data) are used for to depicting extrapolated gestalt picture of AV_{s30} distribution throughout the study area from point data (AV_{s30} at each borehole). The resulting velocities can be more confidently used for AV_{s30} mapping. Further this map can be used for seismic site response analysis i.e., to determine peak ground acceleration (PGA) and spectral acceleration (SA) values of both bedrock and ground surface.

As a part of engineering geological or AV_{s30} mapping, as mentioned earlier, of the study area, shear wave velocity (Vs) of the local near surface geological units were obtained by PS Logging, Multi-channel analysis of surface wave (MASW) and SPT test. The shear wave velocity is a fundamental parameter required to define the dynamic properties of soils. A viable formula for velocity determination at the project area was adopted by probabilistic correlation between Vs yielded from PS Logging and SPT tests. Then the AV_{s30} categories assigned to the generalized geologic units were used to generate a AV_{s30} map. Finally, the hybridized AV_{s30} map has been used for seismic site response analysis — PGA and SA mapping, which is hopefully believed to pave the way to the structural engineers and planners to sustainable infrastructure development at Meherpur District (Gangni, Meherpur sadar and Muzibnagar Upazila) Area.

N Value and V_s Correlation

Correlations between SPT resistance and shear wave velocity have been proposed for a number of different soil types (Ohba and Toriumi,1970; Imai and Yoshimura, 1970; Fujiwara, 1972; Ohsaki and Iwasaki, 1973; Imai, 1977; Ohta and Goto, 1978; Seed and Idriss, 1981; Imai and Tonouchi, 1982; Sykora and Stokoe, 1983; Jinan, 1987; Lee, 1990; Sisman, 1995; Iyisan, 1996; Kayabalı, 1996; Jafari et al., 1997; Pitilakis et al., 1999; Kiku et al., 2001; Jafari et al., 2002; Andrus et al., 2006; Hasançebi and Ulusay, 2007; Hanumantharao and Ramana, 2008; Dikmen, 2009). A summary of empirical relationships between SPT resistance and V_s in the literature is presented in for different soil types. In these relationships, SPT-N_{60} blow count is mostly considered and use a power–law relationship between Vs and SPT N-value. In these relationships, the values of the exponent, which control the curvature of the relationship, are more consistent than the constant that controls the amplitude. This accounts for the generally similar shapes of the curves.

The shear wave velocity of the Study area soil has been determined from down-hole seismic (PS Logging) method using at 13 (7 primary data and 6 secondary data) locations and MASW at 16 (11 primary data and 5 secondary data) locations point. The shear wave velocity (Vs30) determines from SPT blow counts (N) and down-hole seismic tests have been considered during the development of empirical relationships. The following power–law expression based on regression has been obtained to derive Vs from N (red dashed line in Figure 19).

$Vs = 116.47x^{0.2138}$…….. (1)

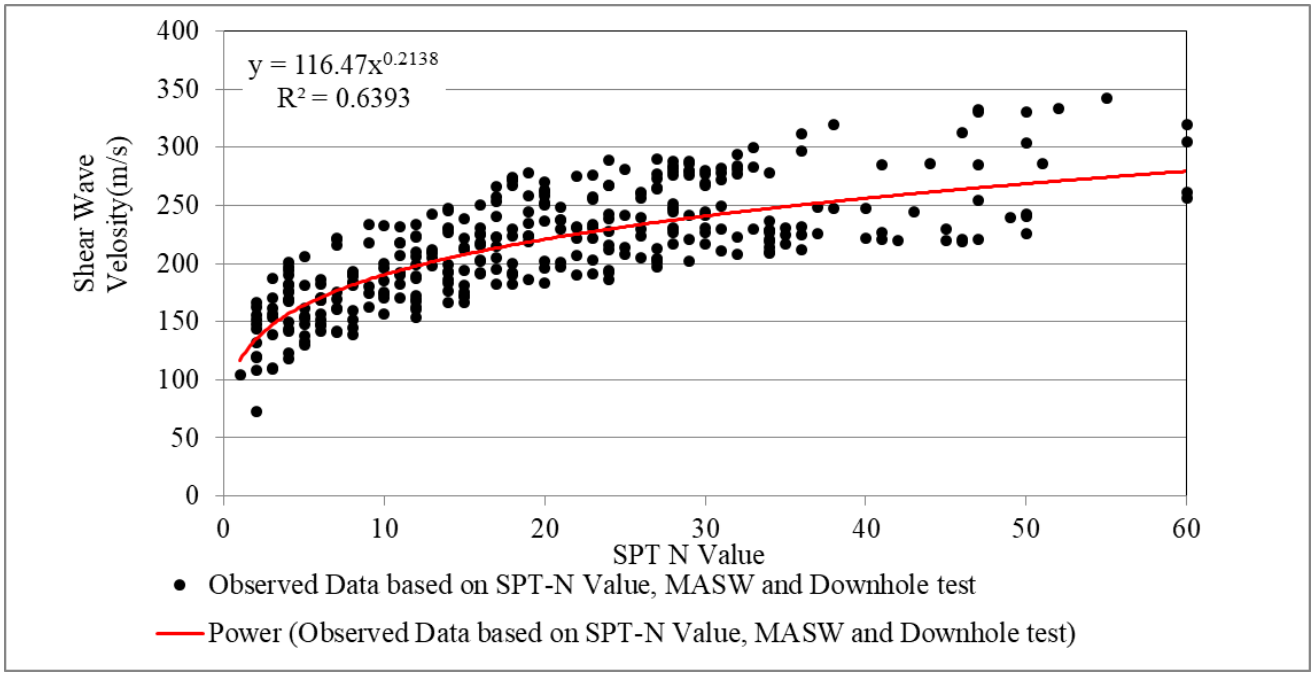


Figure 19 Regression analysis between measured SPT-N value and shear wave velocity (Vs) obtained from MASW and down-hole seismic test (PS Logging)

The shear wave velocity has been measured by down-hole tests compared with those estimated using empirical models for different soil types. The relationship proposed for project area soil in this study (red dash line in Figure 19) is quite compatible with the following equation (Equation 2), which has similar trend, introduced by Jinan (1987) (Green dashed line in Figure 20).

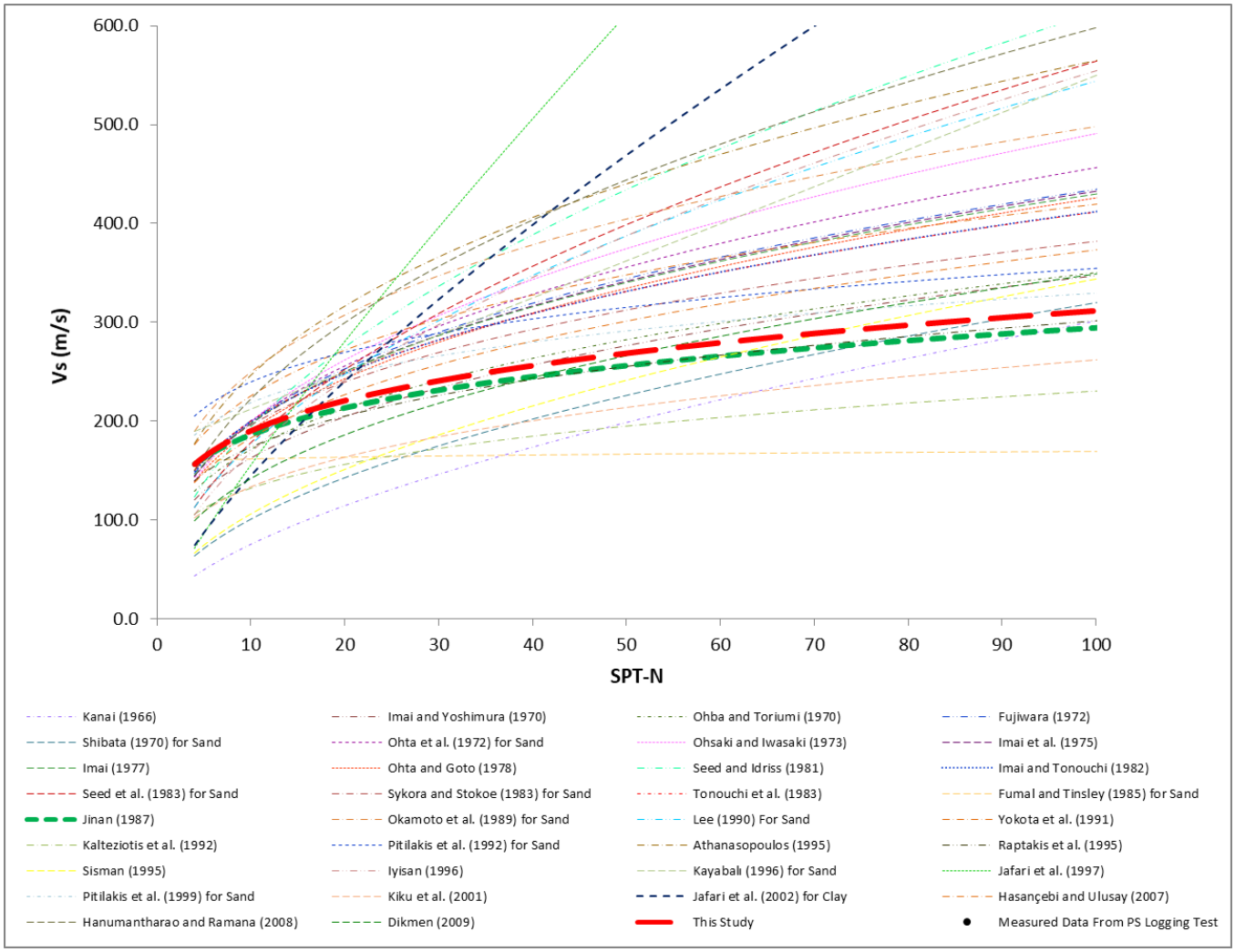


Figure 20 SPT-N value and Vs empirical relations for all soils in study area

The distribution of the shear wave velocity data with respect to SPT-N value at the same depth with SPT application and SPT-based geophysical test is considered in the interpretations.

$Vs = 116.1(N+0.3185)^{0.202}$…… (2)

Based on this equation 2, shear wave velocity (Vs) at every 1.5m interval have been calculated at every borehole drilled in the project area.

Vs 30 Calculation

Near surface shear wave velocity is crucial for earthquake-hazard assessment studies (Wald & Mori 2000; Kanli et al. 2006). The average shear wave velocity of the upper 30 m (AV_{s30}) can be computed in accordance with the following expression:

$$V_s{}^{30} = \frac{30}{\sum_{i=1}^{N}(h_i / v_i)} \quad \text{……(3)}$$

where h_i and v_i denote the thickness (in meters) and shear-wave velocity of the i^{th} formation or layer respectively in a total of N existing in the top 30 m. V_{s30} was accepted for site classification in the USA

(NEHRP) by the UBC (Uniform Building Code) in 1997 (Dobry et al, 2000). Using the aforementioned equation 3, AV_{s30} at every borehole was calculated. Figure ***21***21 represents AVs30 map of the project area.

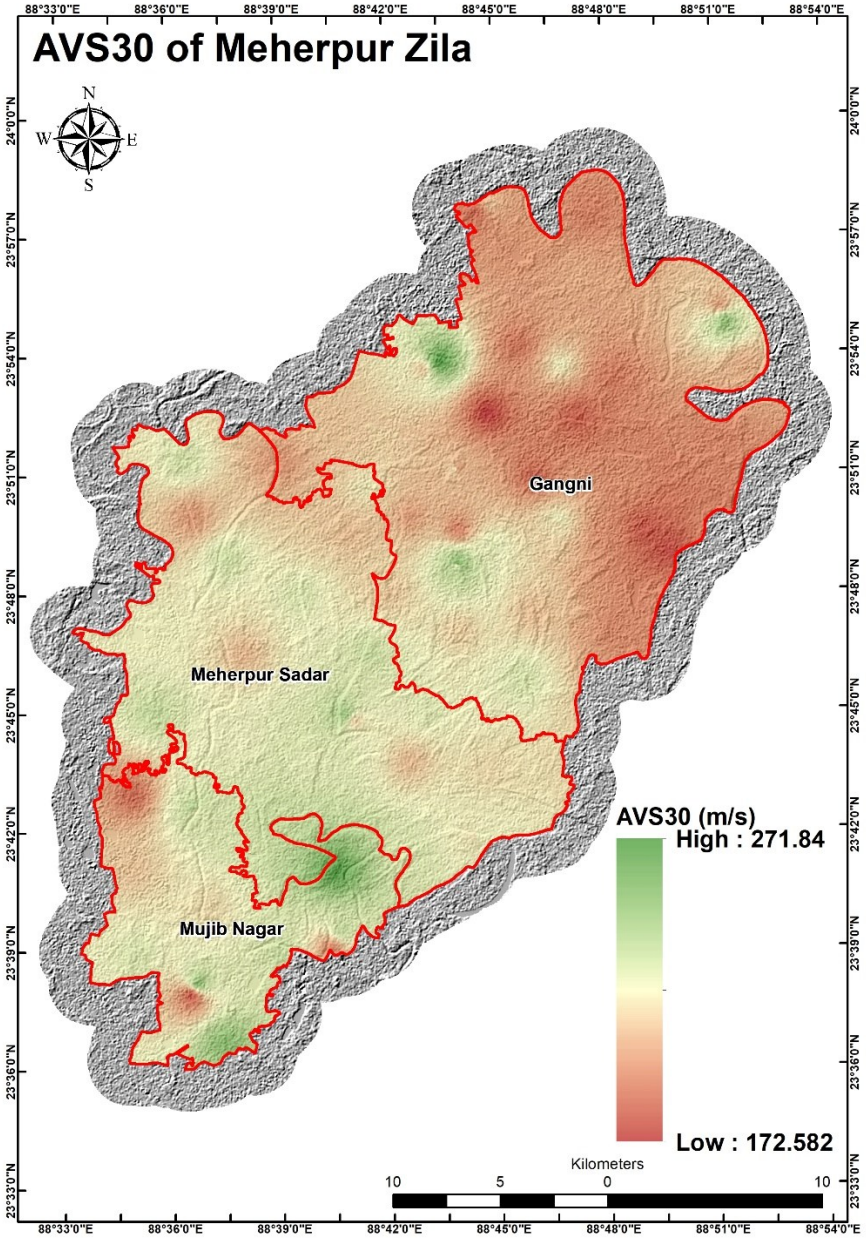


Figure 21 Engineering geological map of the Meherpur District Area

From the figure it can be clearly visualized that the red hue area of northern Meherpur zila Area represents the Very Low shear wave velocity zone ranging from 172.582 to 180.0 m/s; Most of the area is comprising with the white to Light Green color areas represent shear wave velocity ranging from 180 to 271.84 m/s. Vs30 of soil is a very use full tool for soil type classification.

5.2. Soil Type Determination based on Vs30

An important part of this study is the soil classification of the project area. The area has been investigated and classified according to a method provided by NEHRP (stands for National Earthquake Hazard Reduction Program, USA) Provisions. NEHRP Provisions describe first defining the site class based on AV_{s30}as shown in

Table 22.

Table 2 Definition of site class based on Vs30 — according to NEHRP (National Earthquake Hazard Reduction Program, USA) provisions.

Site Class	Site class description	Shear wave velocity (m/sec)	
		Minimum	Maximum
A	**HARD ROCK** Eastern United States only	1500	
B	**ROCK**	760	1500
C	**VERY DENSE SOIL AND SOFT ROCK** Unstrained shear strength u_s> 2000psf (u_s≥ 100kPa) or N ≥ 50 blows/ft	360	760
D	**STIFF SOILS** Stiff soil with undrained shear strength 1000psf ≤ u_s ≤ 2000psf (50KPa < u_s< 100KPa) or 15 ≤ N ≤ 50 blows/ft	180	360
E	**SOFT SOILS** Profile with more than 10 ft (3m) of soft clay defined as soil with plasticity index Pl > 20, moisture content w > 40% and undrained shear strength u_s< 1000psf (50kpa) (N ≤ 15 blows/ft)	100	180
F	**SOILS REQUIRING SITE SPECIFIC EVALUATIONS** 1. Soils vulnerable potential failures or collapse under seismic loading: e.g., liquefiable soils, quick and highly sensitive clays, collapse weakly connected soils. 2. Peats and/or highly organic clays: (10ft (3m) or thicker layer) 3. Very high plasticity clays: (25ft (8m) or thicker layer with plasticity index > 75) 4. Very thick soft/medium stiff clays: (120ft (36m) or thicker layer)	<100	

Table 3 Site Classification Based on Soil Properties

Site Class	Description of soil profile up to 30 meters depth	Shear wave velocity (m/sec)	
		Minimum	Maximum
SA	Rock or other rock-like geological formation, including at most 5 m of weaker material at the surface.	> 800	
SB	Deposits of very dense sand, gravel, or very stiff clay, at least several tens of metres in thickness, characterized by a gradual increase of mechanical properties with depth.	360	800
SC	Deep deposits of dense or medium dense sand, gravel or stiff clay with thickness from several tens to many hundreds of metres.	180	360
SD	Deposits of loose-to-medium cohesion less soil (with or without some soft cohesive layers), or of predominantly soft-to-firm cohesive soil.	<180	
SE	A soil profile consisting of a surface alluvium layer with Vs values of type SC or SD and thickness varying between about 5 m and 20 m, underlain by stiffer material with Vs > 800 m/s.	-	-
S_1	Deposits consisting, or containing a layer at least 10 m thick, of soft clays/silts with a high plasticity index (PI > 40) and high water content	<100 (indicative)	
S_2	Deposits of liquefiable soils, of sensitive clays, or any other soil profile not included in types SA to SE or S_1	-	-

(Source: BANGLADESH NATIONAL BUILDING CODE 2020)

In this study, the ground of each grid was classified based on the NEHRP (National Earthquake Reduction Program) Provisions in USA. NEHRP Provisions classify the ground to five classes from A to E based on Vs30. According to NEHRP, our study area shows E and D type soil and according to Bangladesh National Building code, our study area shows SC and SD type soil. Both D type and SC type soil represent 180 to 360 m/sec Shear wave velocity. Velocity range of the soils of the project area is 172.582 to 271.84 m/s i.e., they belong to the class D and E according to the provision.

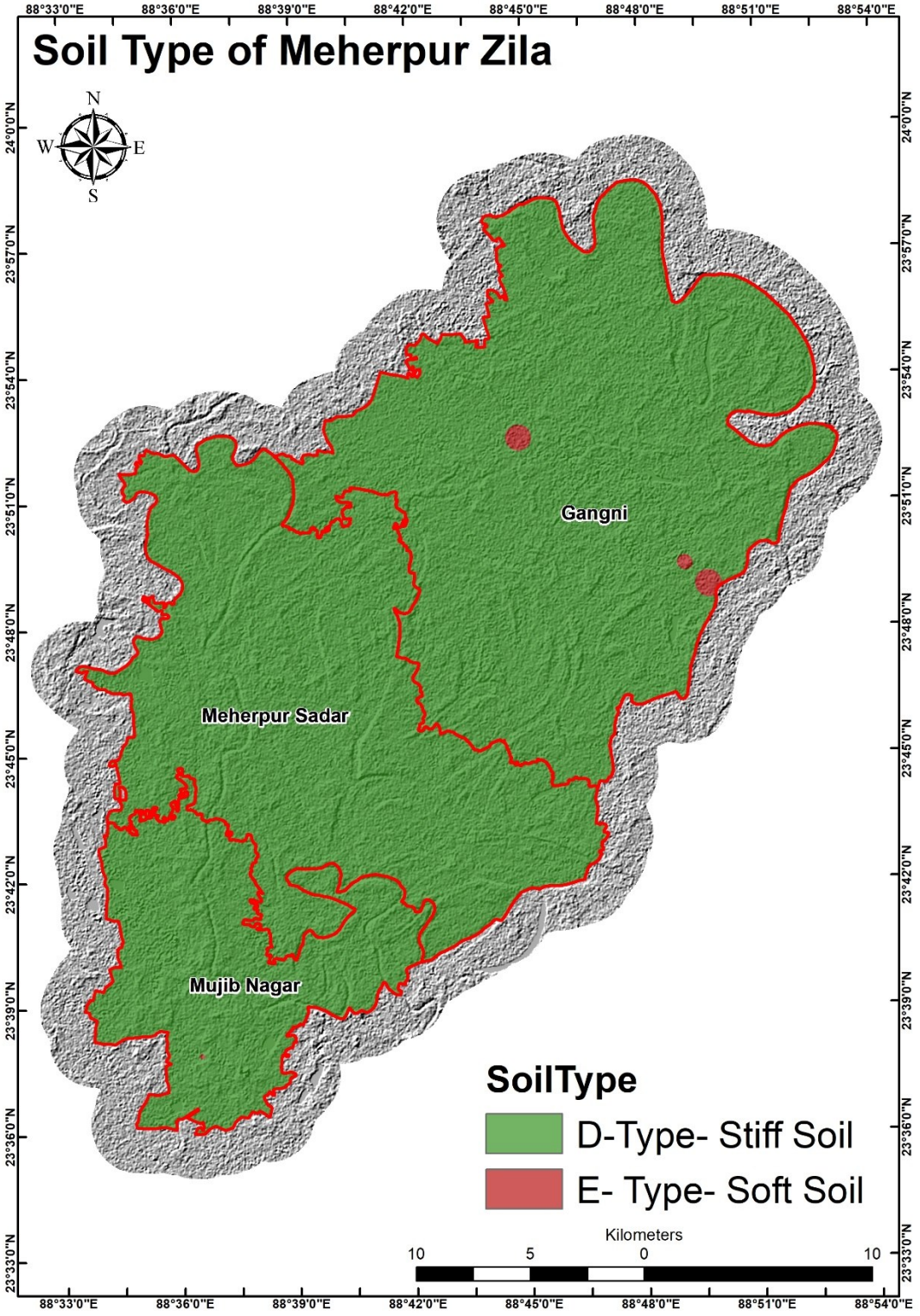


Figure 22 Soil classification map of Meherpur District Area according to NEHRP (stands for National Earthquake Hazard Reduction Program, USA) provisions based on the average shear wave velocity distribution down to 30 m

6. CONCLUSION

Bangladesh is divided into four seismic zones: Zone IV, which is a high-risk zone; Zone III, categorized as a risk zone; Zone II, identified as a moderate risk zone; and Zone I, designated as a low-risk zone. The Meherpur district is situated in Zone I (BNBC, 2020). Conducting geotechnical and geophysical studies, along with seismic hazard assessments, is essential for developing effective urban planning strategies. In this regard, obtaining subsurface geotechnical and geophysical information is crucial for building durable and sustainable urban environments.

To facilitate this, the "Subsurface Geotechnical and Geophysical Studies" module is a key component of the project titled "Preparation of Development Plan for Meherpur Zilla," initiated by the Urban Development Directorate.

During the project, we carried out both geotechnical and geophysical investigations. The geotechnical survey included thirty (30) Standard Penetration Test (SPT) boreholes, which reached depths of up to 30 meters in selected locations. Additionally, we collected soil samples for laboratory analysis. For the geophysical survey, we conducted seven (7) Downhole Seismic Tests (PS-logging), eleven (11) Multi-channel Analysis of Surface Waves (MASW) tests, and fifteen (15) single-point Microtremor tests using advanced instruments.

We successfully completed laboratory tests on both disturbed and undisturbed samples, which included 60 Specific Gravity Analyses, 37 Atterberg Limits Calculations, 90 Grain Size Analyses, 15 Direct Shear Test, 15 Unconfined Compressive Strength Tests, and 15 Triaxial Tests. Additionally, we conducted geophysical data analysis and processing to assess the subsurface conditions of the area.

Finally, the geotechnical and geophysical database will provide a comprehensive understanding of the subsurface and surface conditions in areas targeted for urban development or significant infrastructure projects. Based on these findings, appropriate management techniques and necessary adaptation strategies can be implemented before or after development activities.

7. REFERENCES

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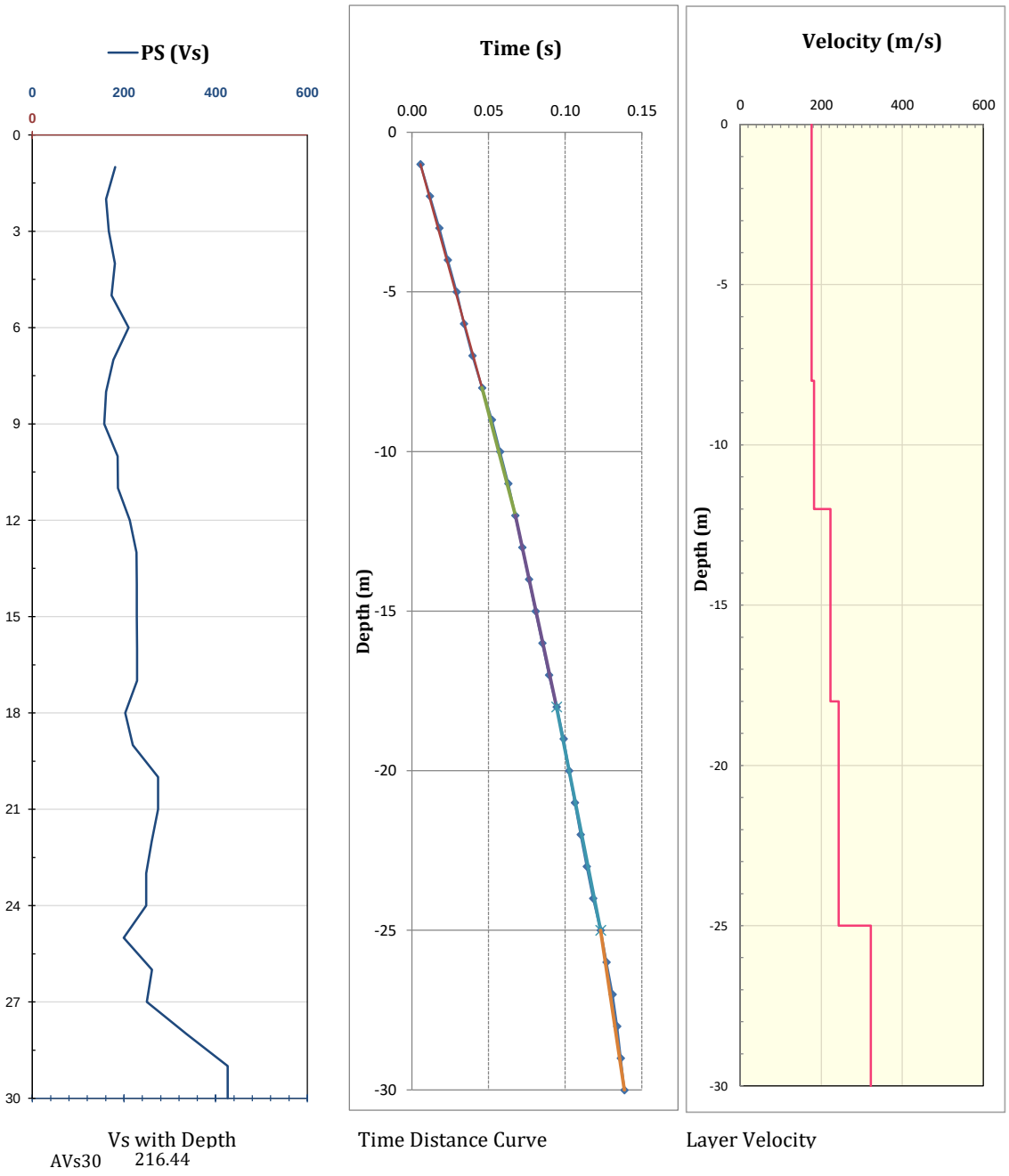
ix. *Okada, H., 2003, The microtremor survey method, Society of Exploration Geophysicist, Tulsa*
x. *Park CB, Miller RD, Xia J. Multi-channel analysis of surface waves. Geophysics 1999; 64(3):800–8.*

8. APPENDICES

Survey and Data Analysis Result of Downhole Seismic Survey (PS-logging)

PS-1; (BH-04) Vobanipur Govt. Primary School, Mujibnagar, Meherpur



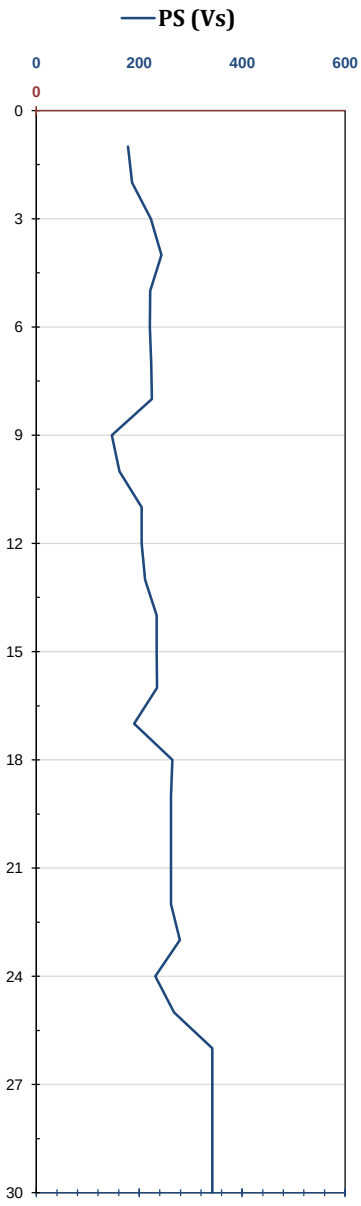
Vs with Depth

AVs30 216.44

Time Distance Curve

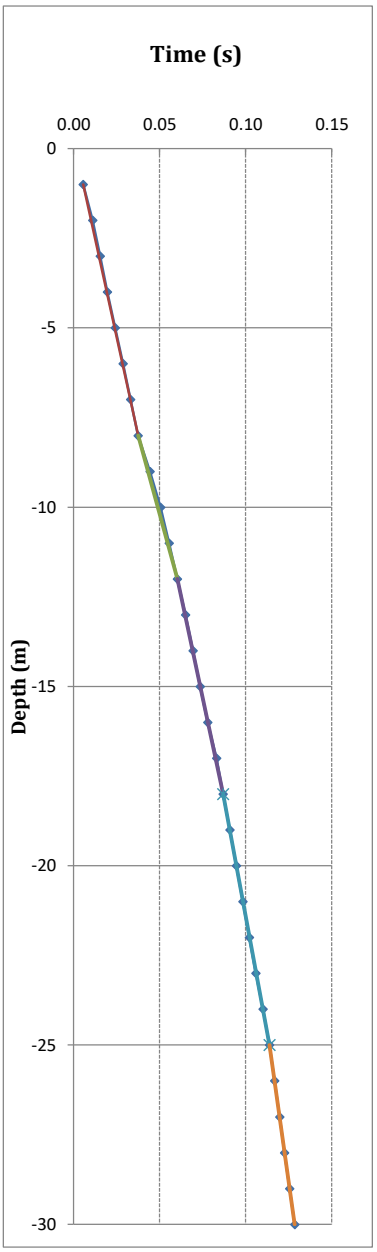
Layer Velocity

PS-2; (BH-09) Mohajonpur Uttarpara Govt. Primary School, Mujibnagar, Meherpur

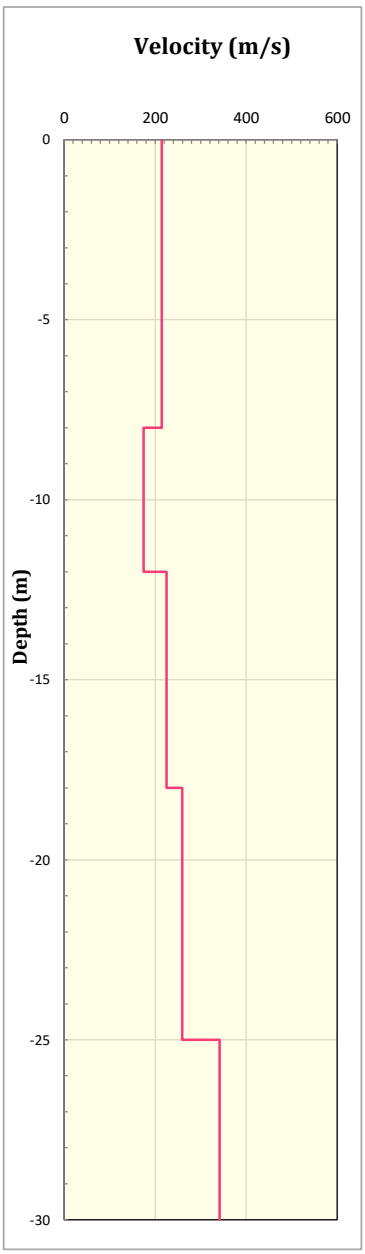


Vs with Depth

AVs30 233.50

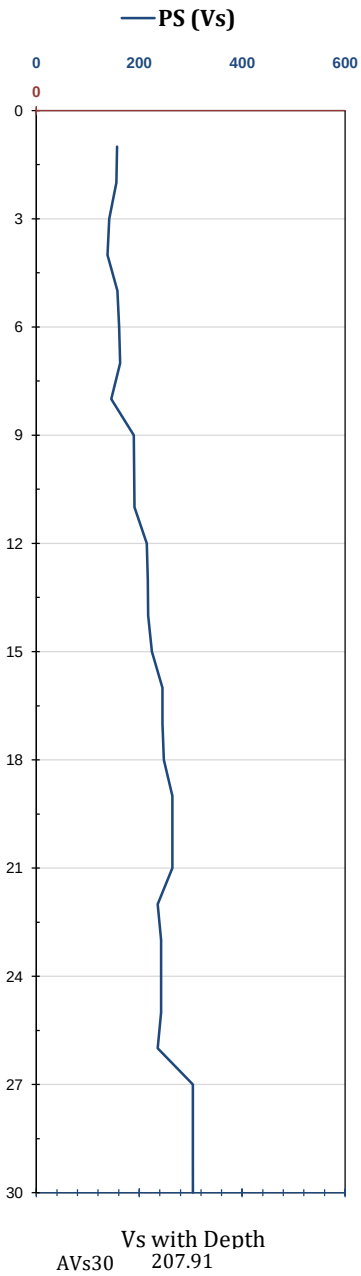


Time Distance Curve



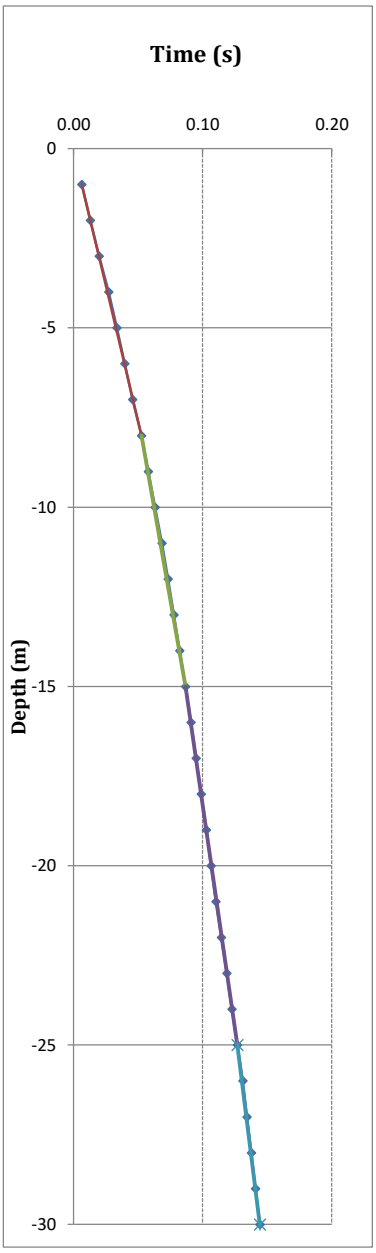
Layer Velocity

PS-3; (BH-11) Meherpur Govt. High School, Meherpur

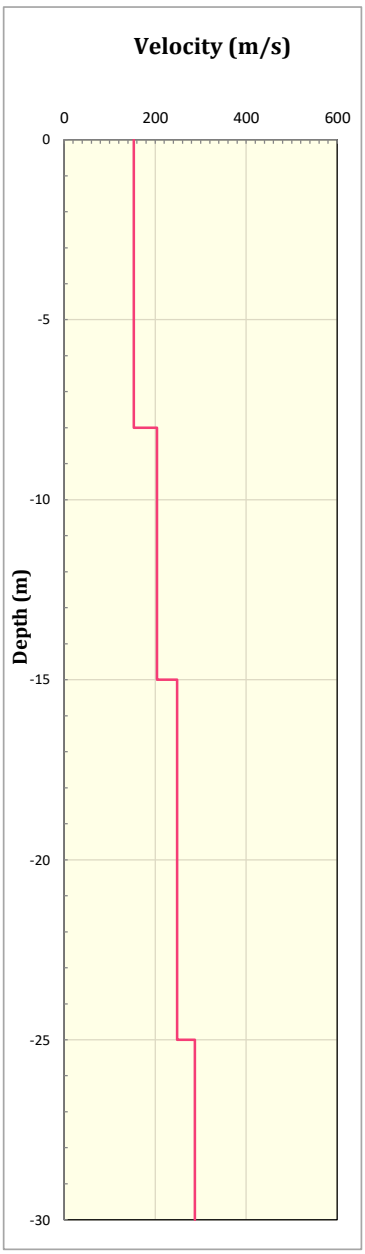


Vs with Depth

AVs30 207.91

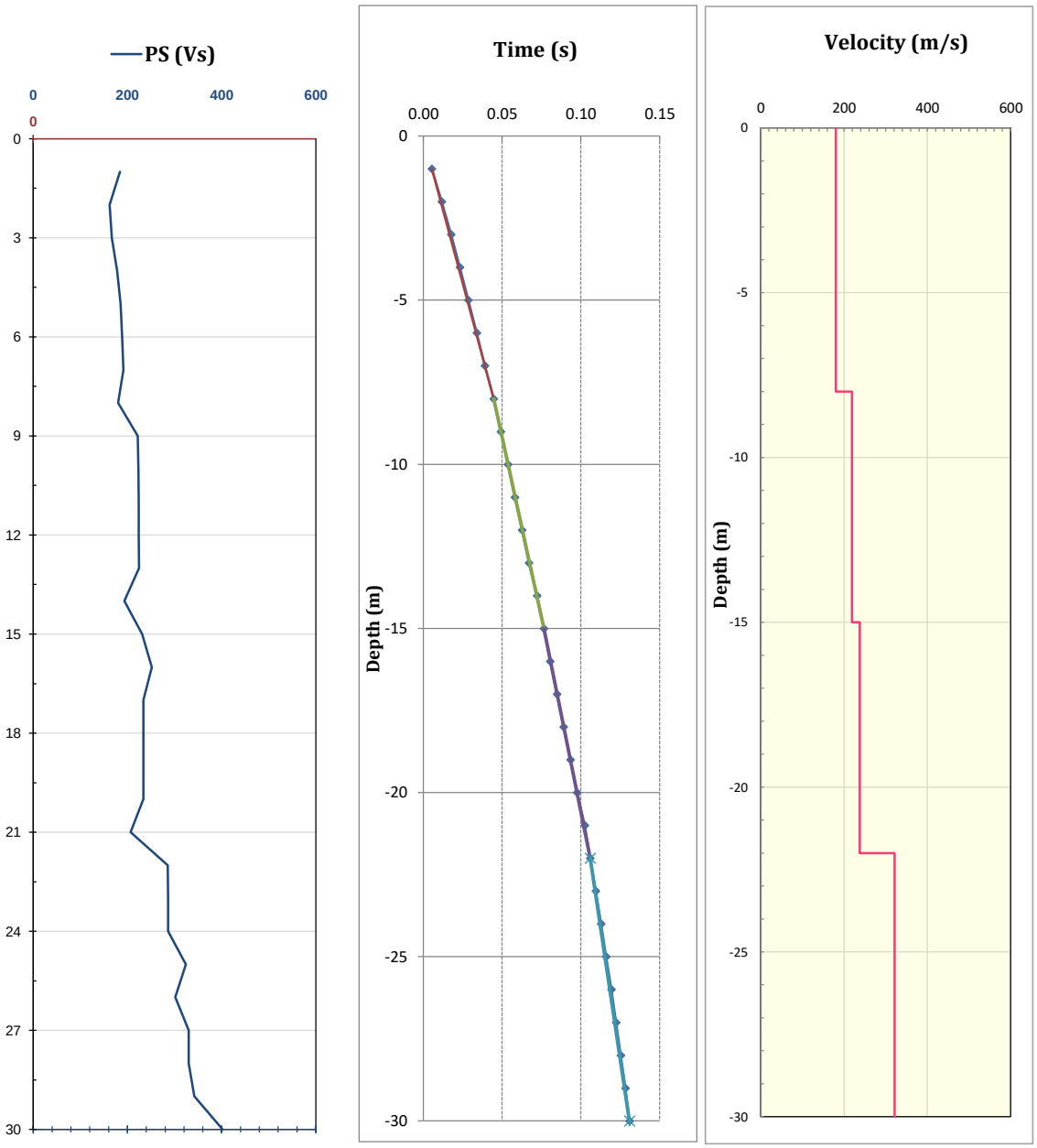


Time Distance Curve



Layer Velocity

PS-4; (BH-15) Sholmari Govt. Primary School, Meherpur



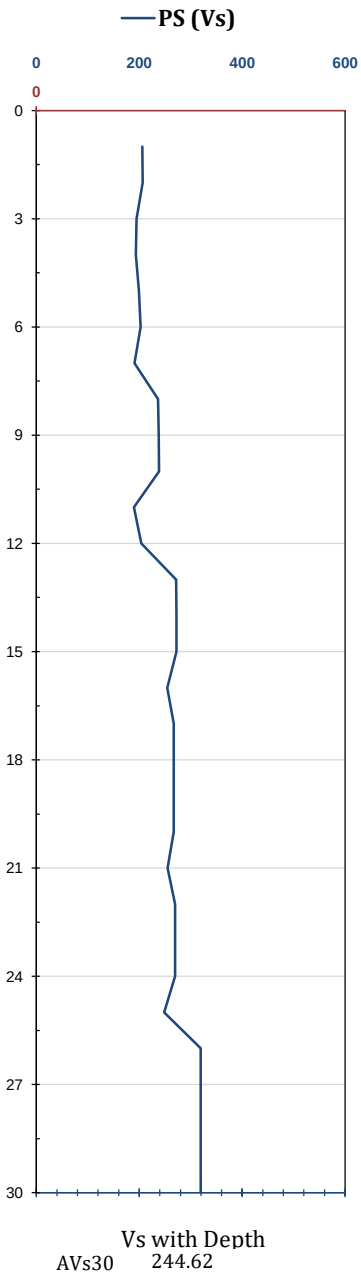
Vs with Depth

AVs30 229.35

Time Distance Curve

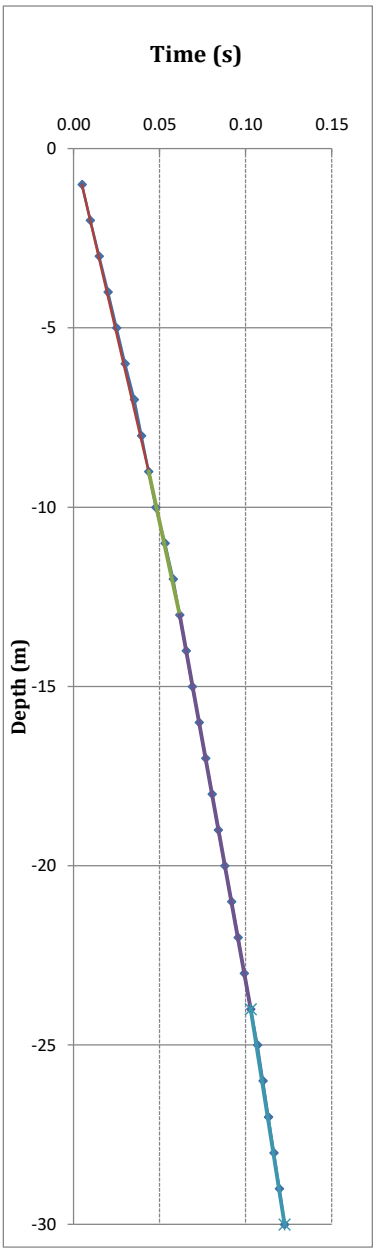
Layer Velocity

PS-5; (BH-21) Amjhupi Girls Govt. Primary School, Meherpur

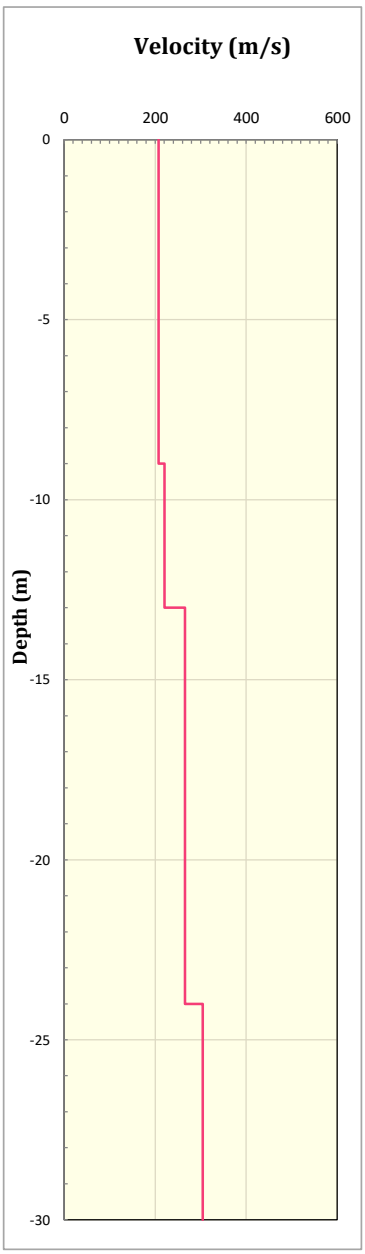


Vs with Depth

AVs30 244.62

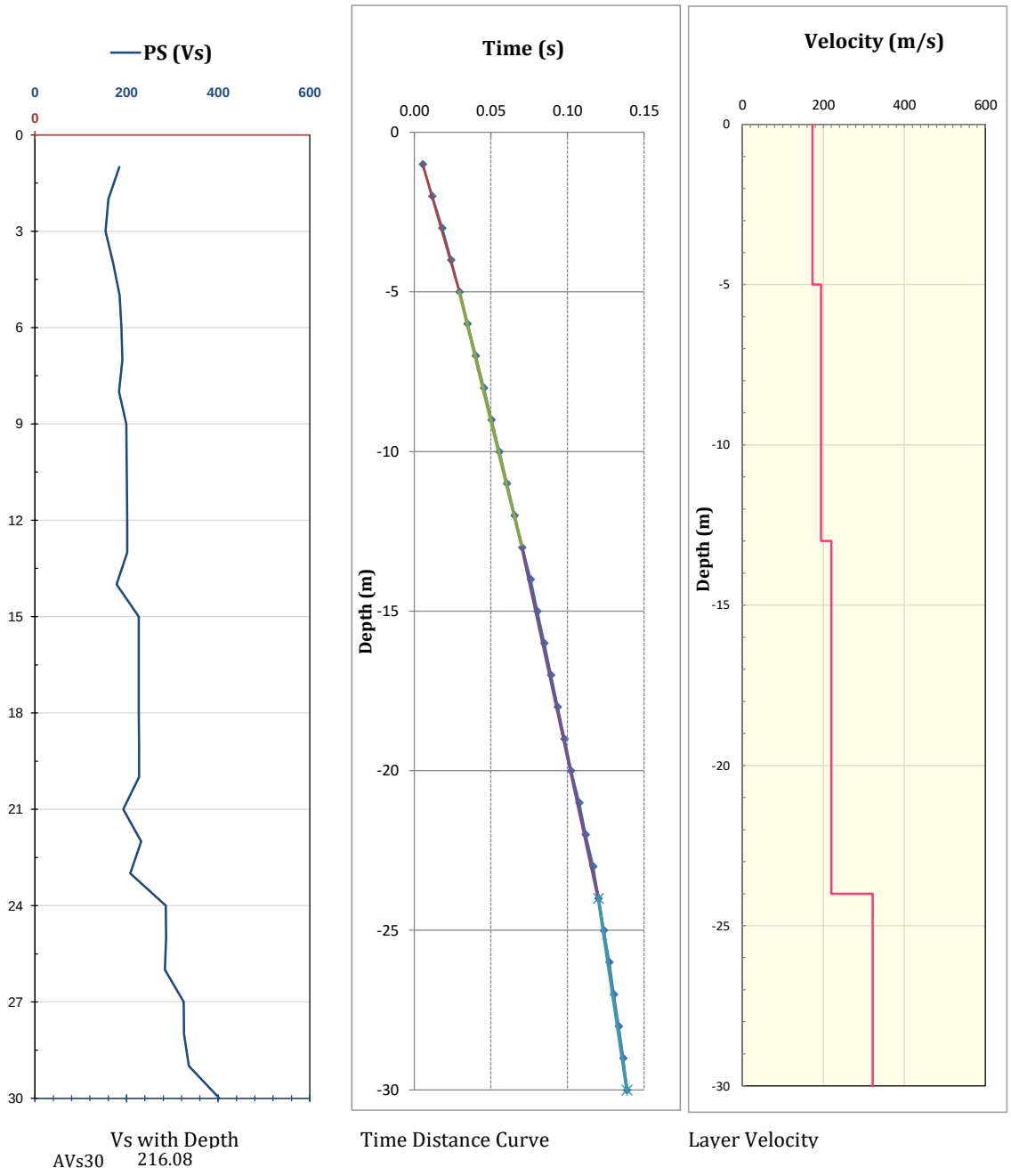


Time Distance Curve



Layer Velocity

PS-6; (BH-27) Patkelpota Govt. Primary School, Meherpur



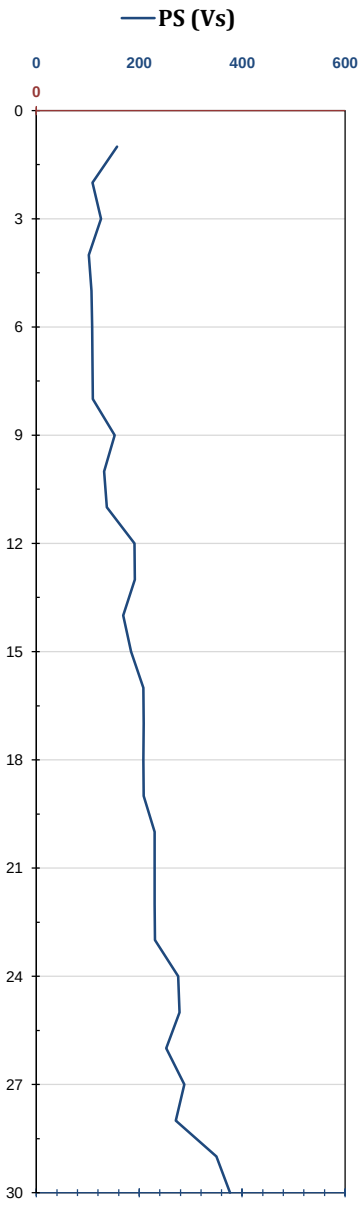
Vs with Depth

AVs30 216.08

Time Distance Curve

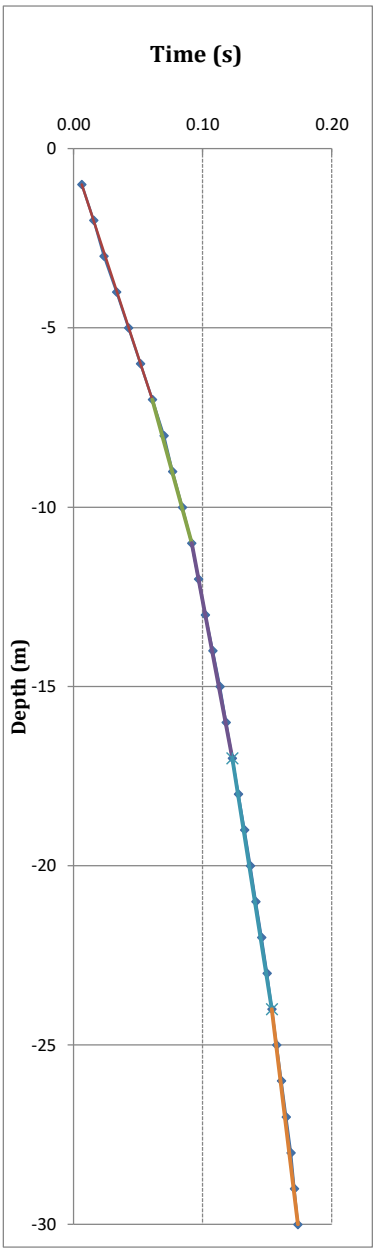
Layer Velocity

PS-7; (BH-28) Near Durlovpur Mosjid, Gangni, Meherpur

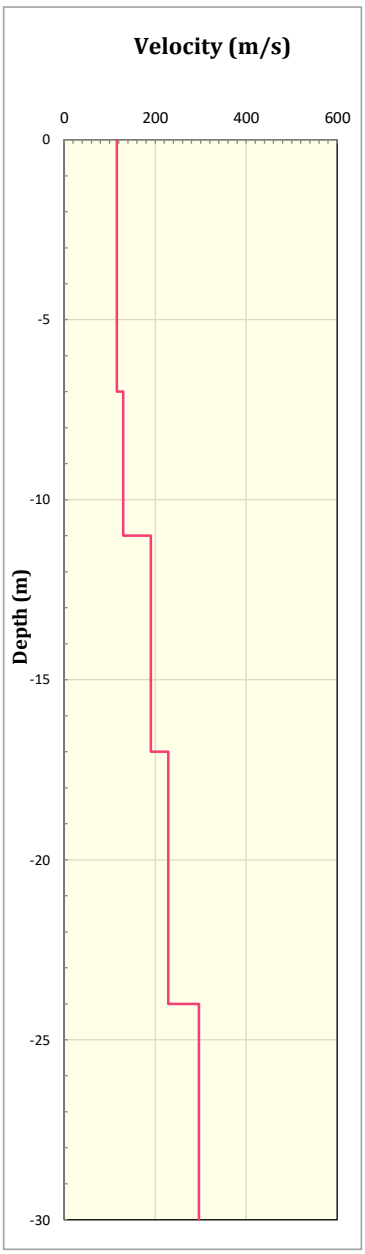


Vs with Depth

AVs30 172.58



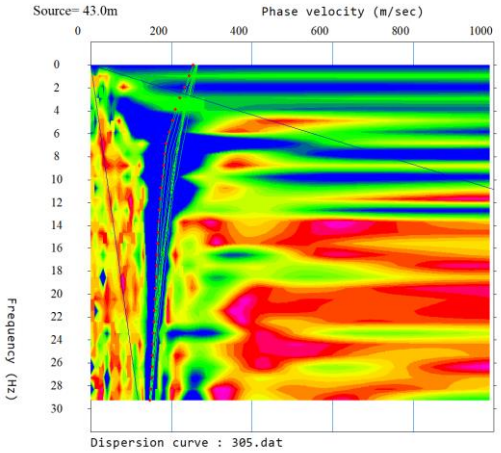
Time Distance Curve

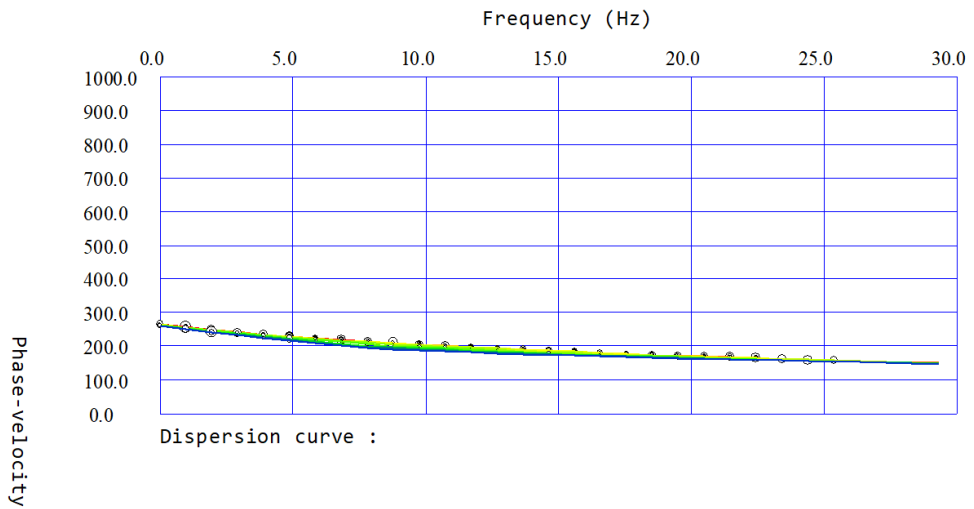


Layer Velocity

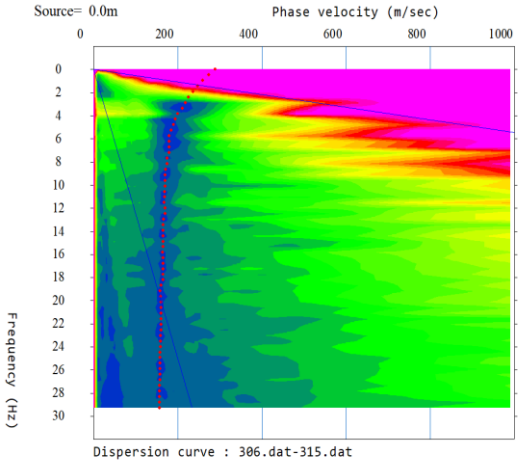
Survey and Data Analysis Result of Multichannel Analysis of Surface Wave (MASW)

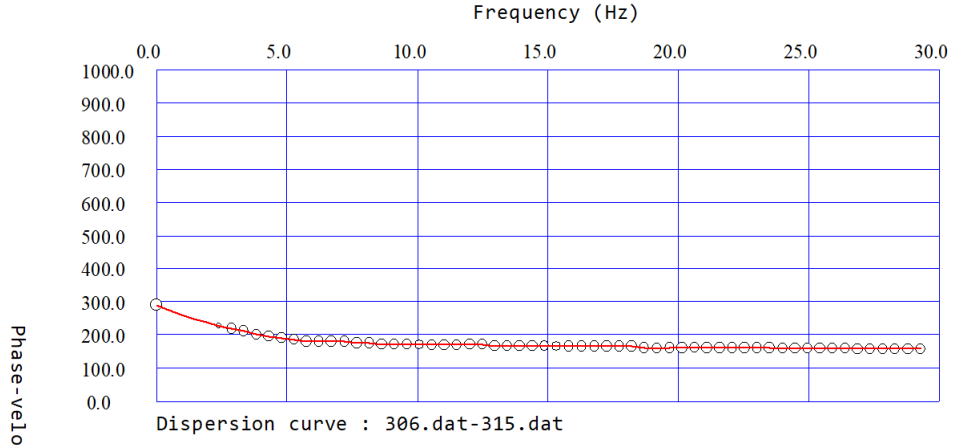
MASW ID: MASW-01	Location: Dariapur Playground, Mujibnagar.	Lat: 23.709083, Long: 88.610578



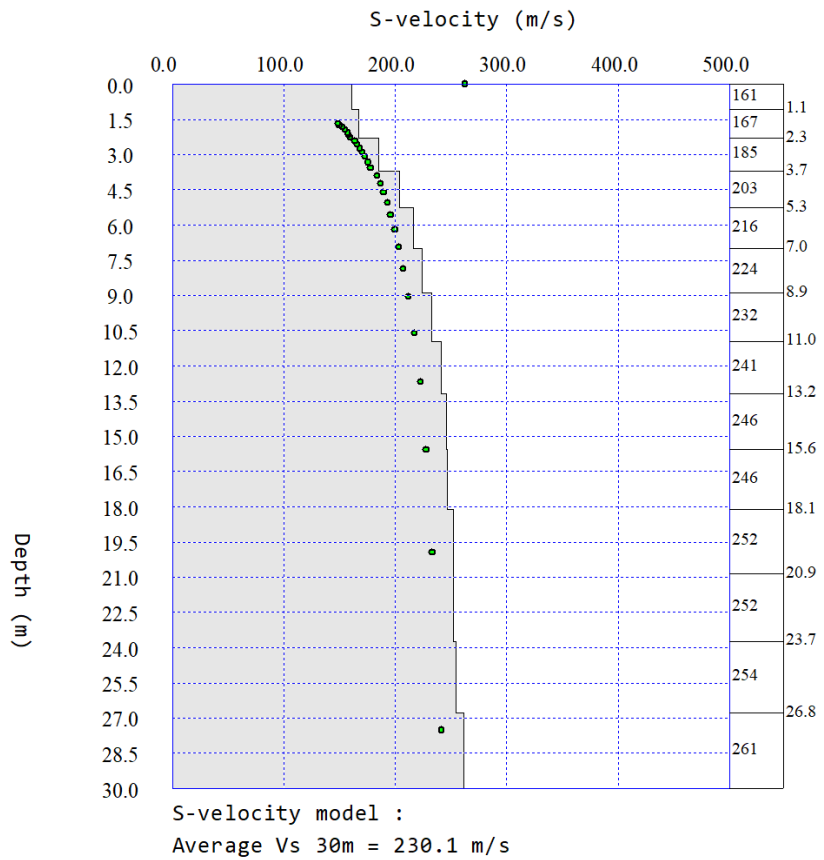
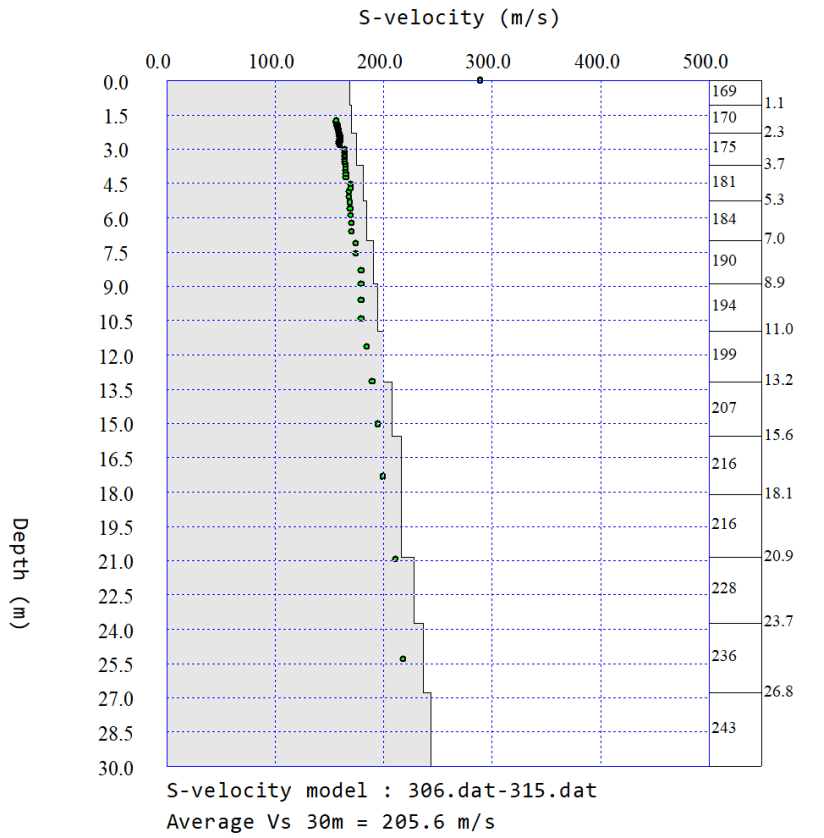


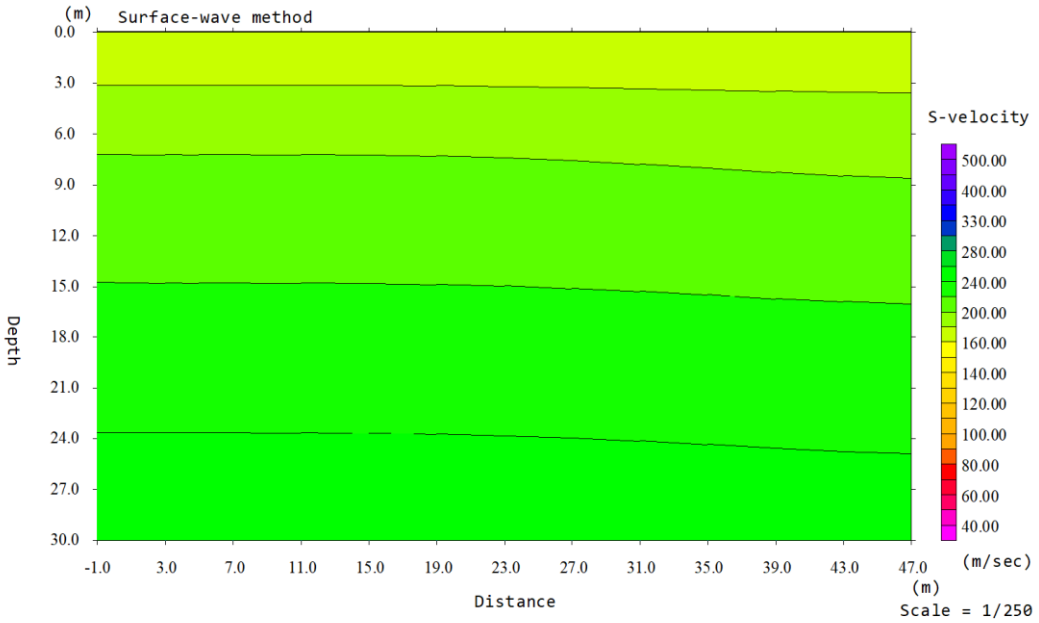
Phase Velocity and Dispersion Curve Active Source



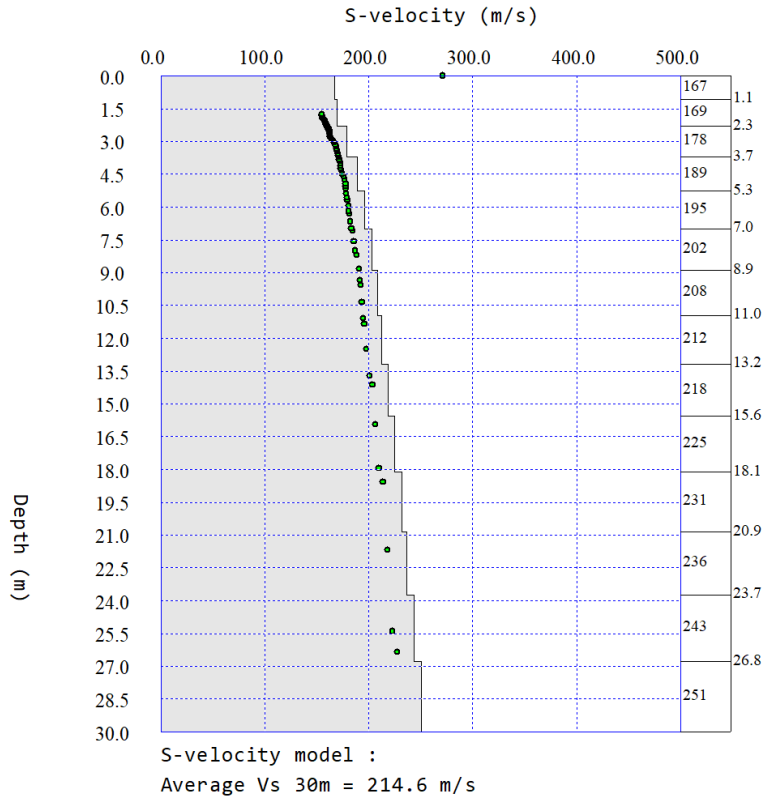


Phase Velocity and Dispersion Curve : Passive Source

AVS30: Active Source	AVS30: Passive Source
	

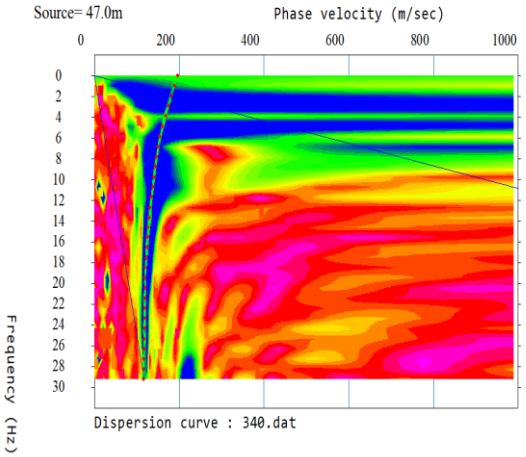


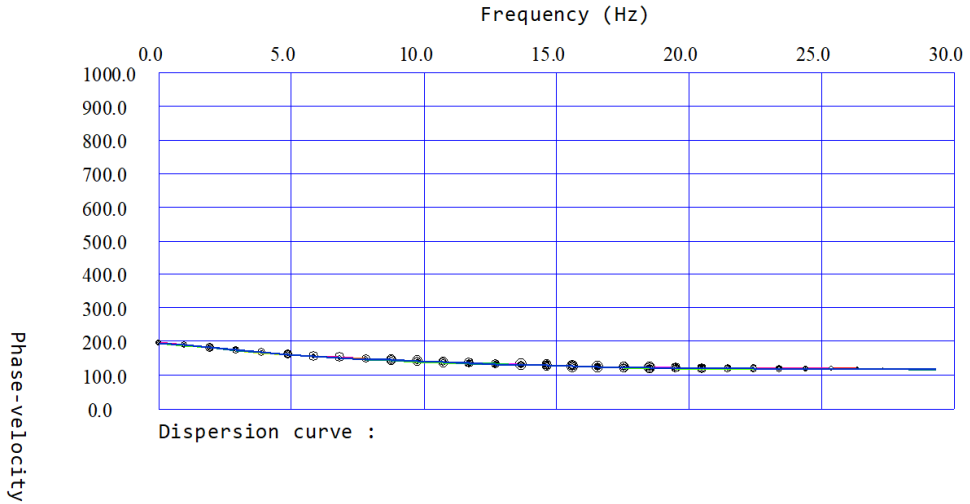
2D Velocity Profile



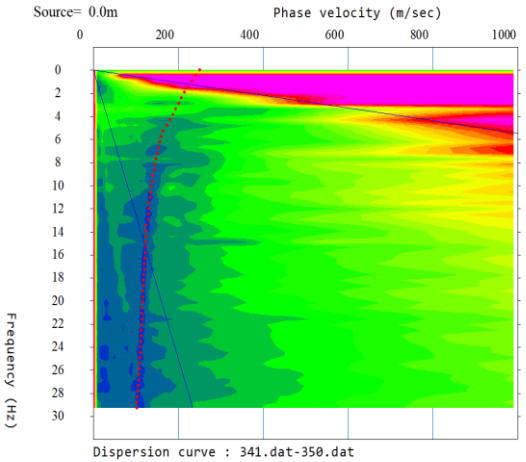
AVS30 (Active and Passive Source Combined)

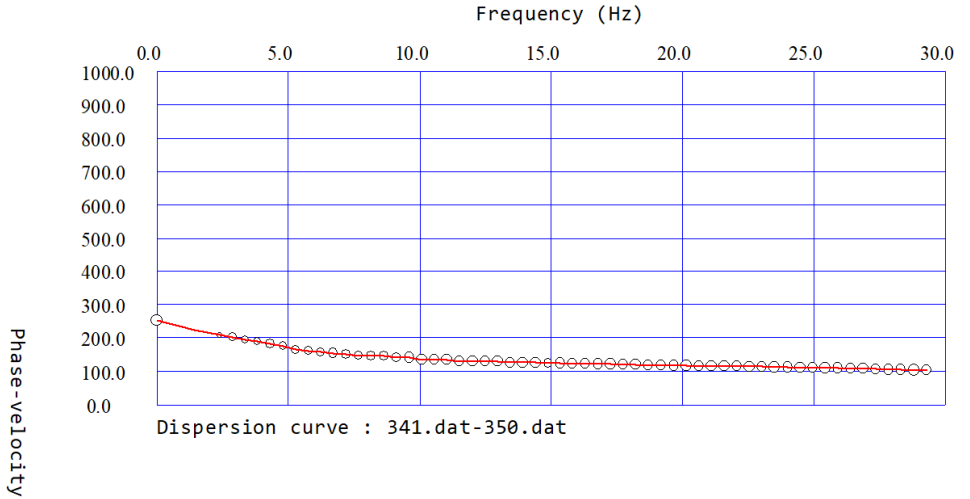
MASW ID: MASW-02	Location: Anandabash Playground behind Anandabash Girls High School, Mujibnagar.	Lat: 23.631182, Long: 88.6084891



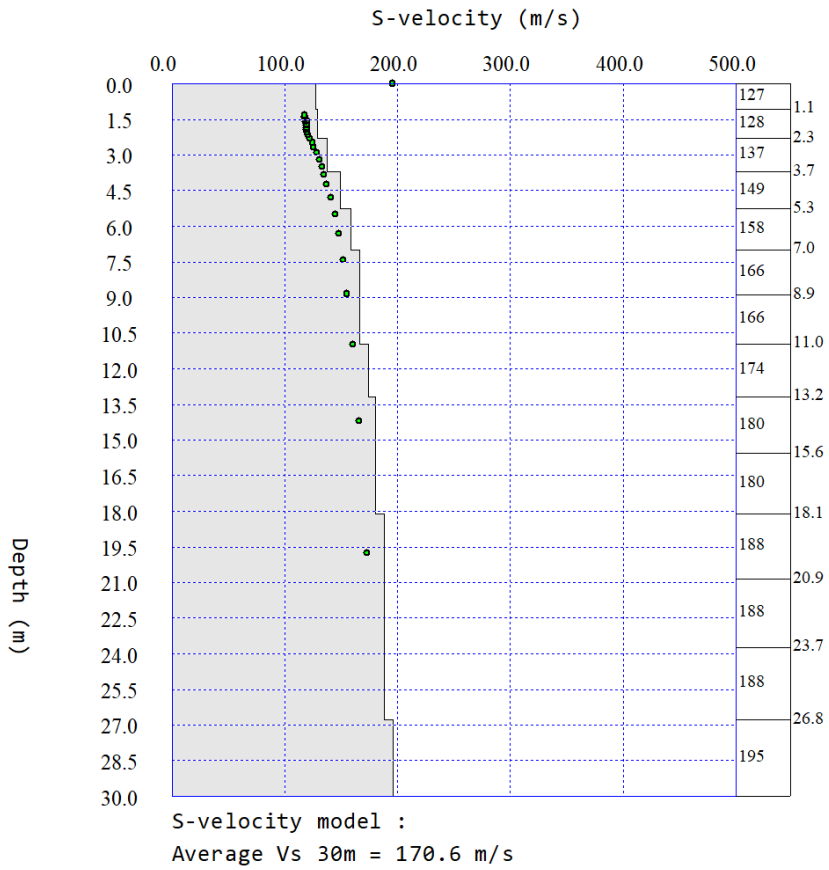
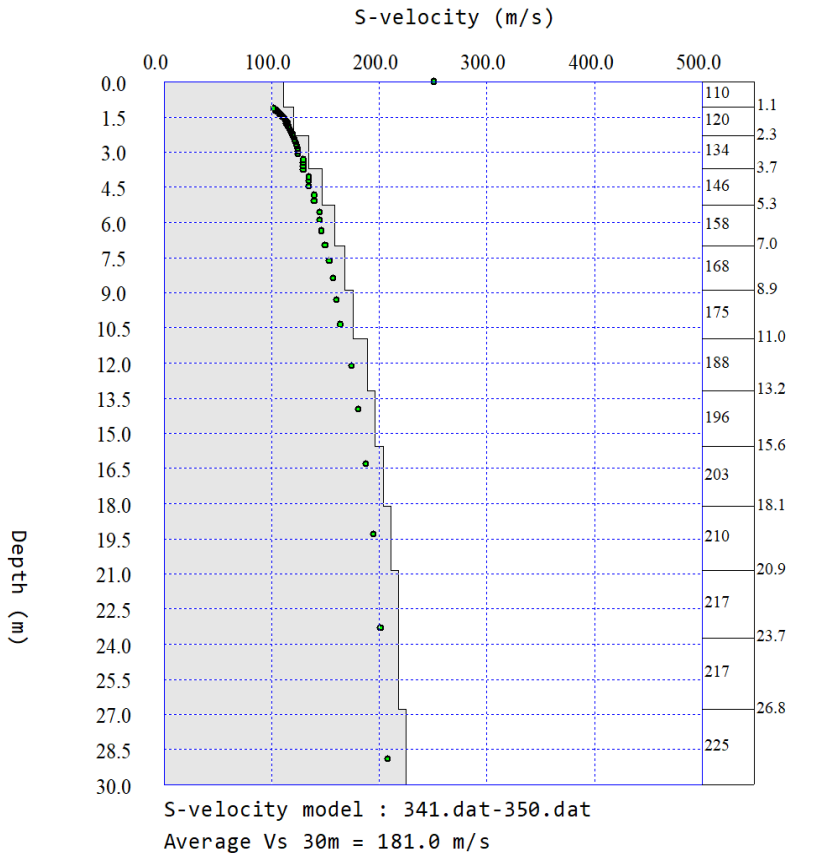


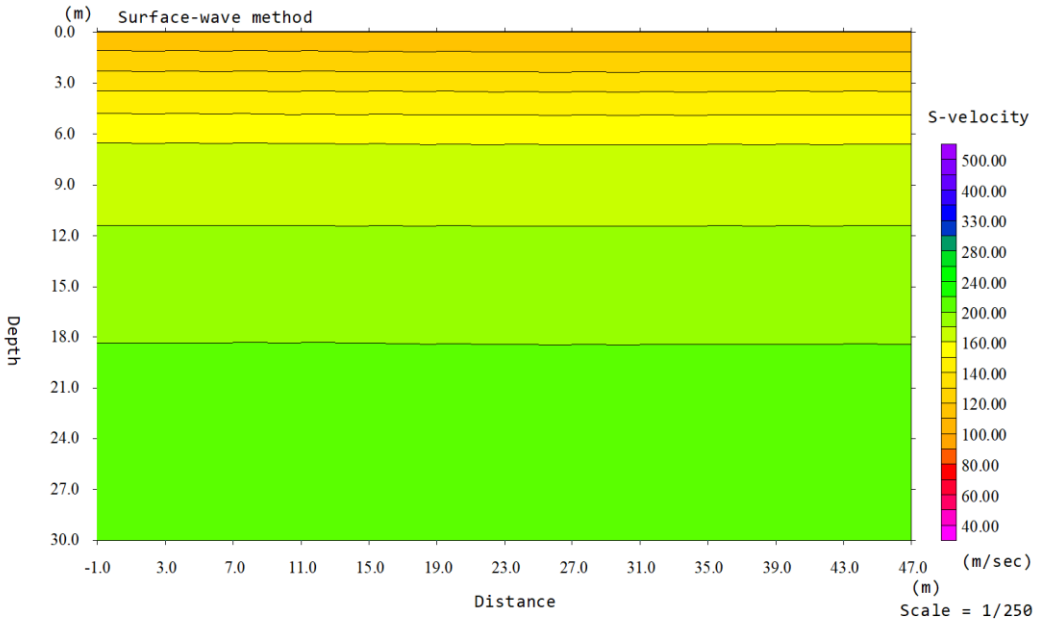
Phase Velocity and Dispersion Curve Active Source



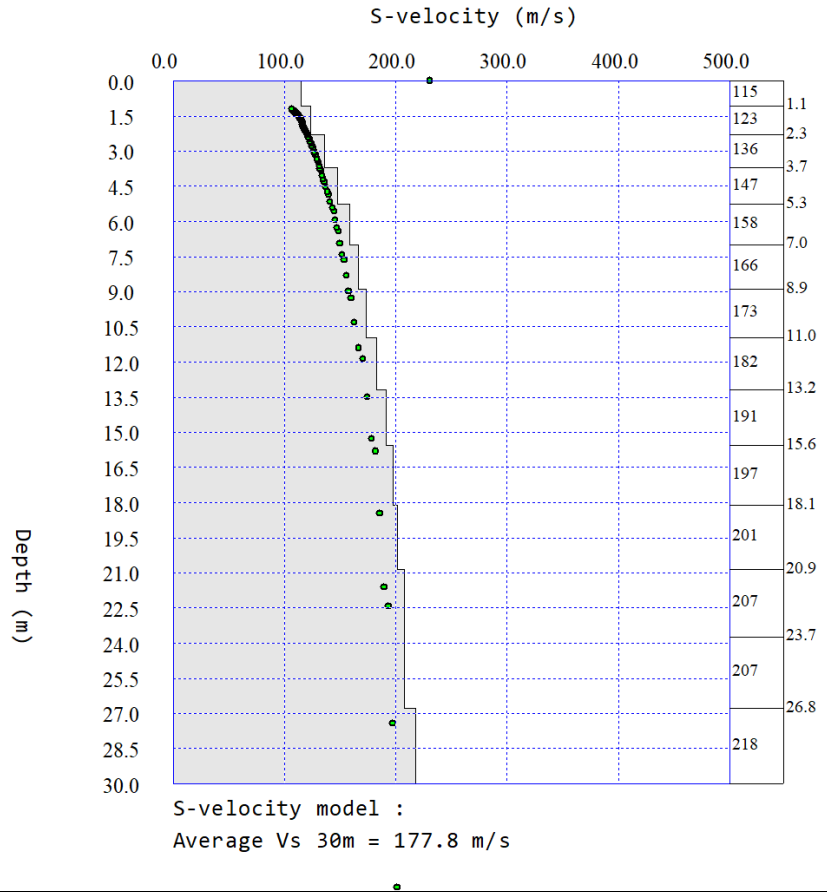


Phase Velocity and Dispersion Curve : Passive Source

AVS30: Active Source	AVS30: Passive Source
	

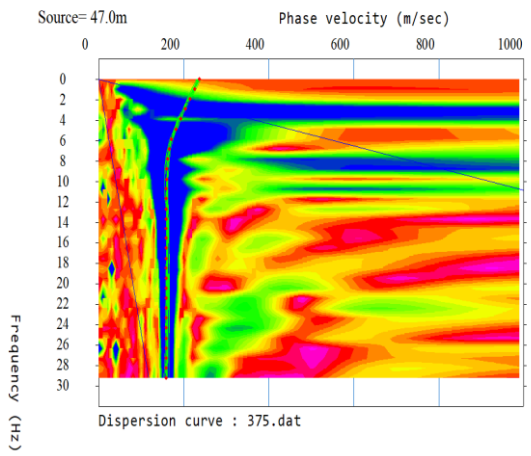


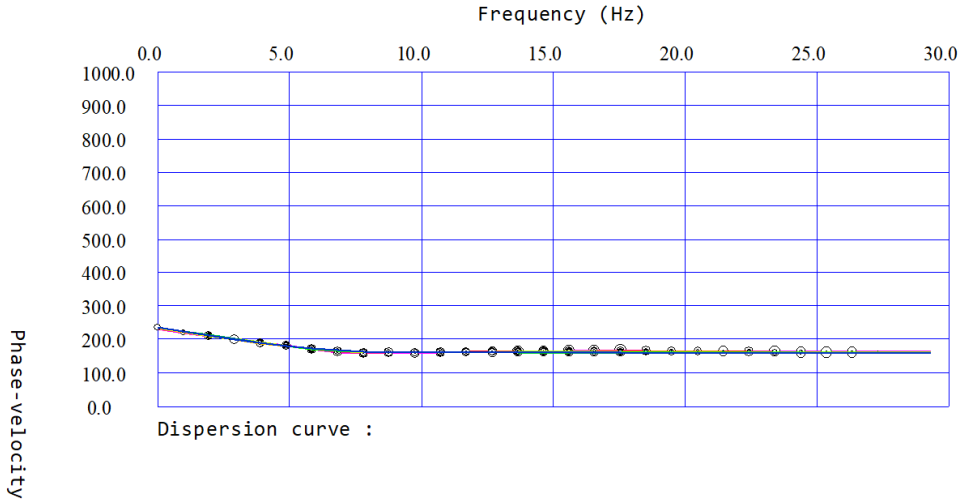
2D Velocity Profile



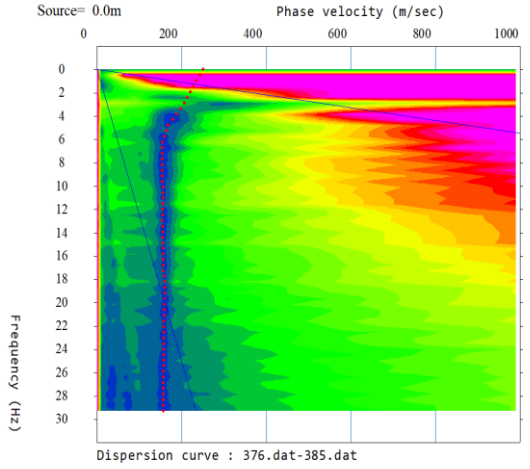
AVS30 (Active and Passive Source Combined)

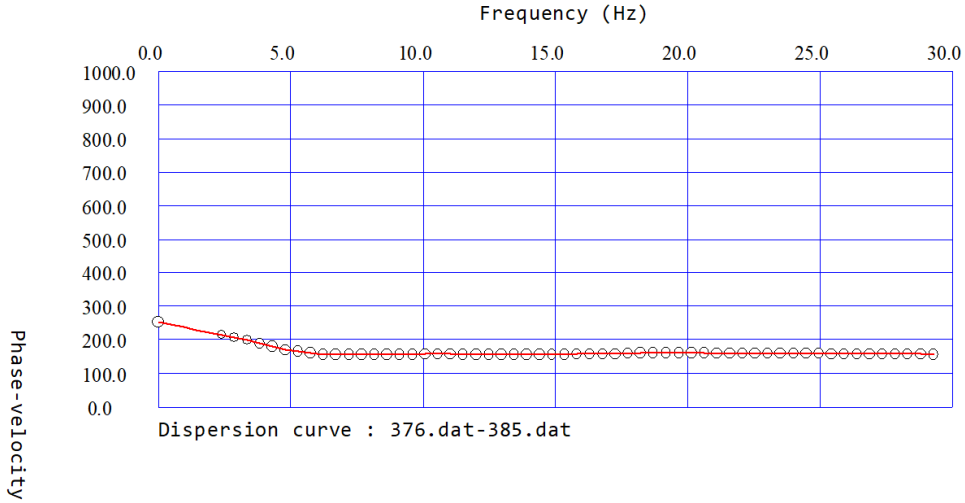
MASW ID: MASW-03	Location: Mohajonpur Secondary School Playground	Lat: 23.650352, Long: 88.672655



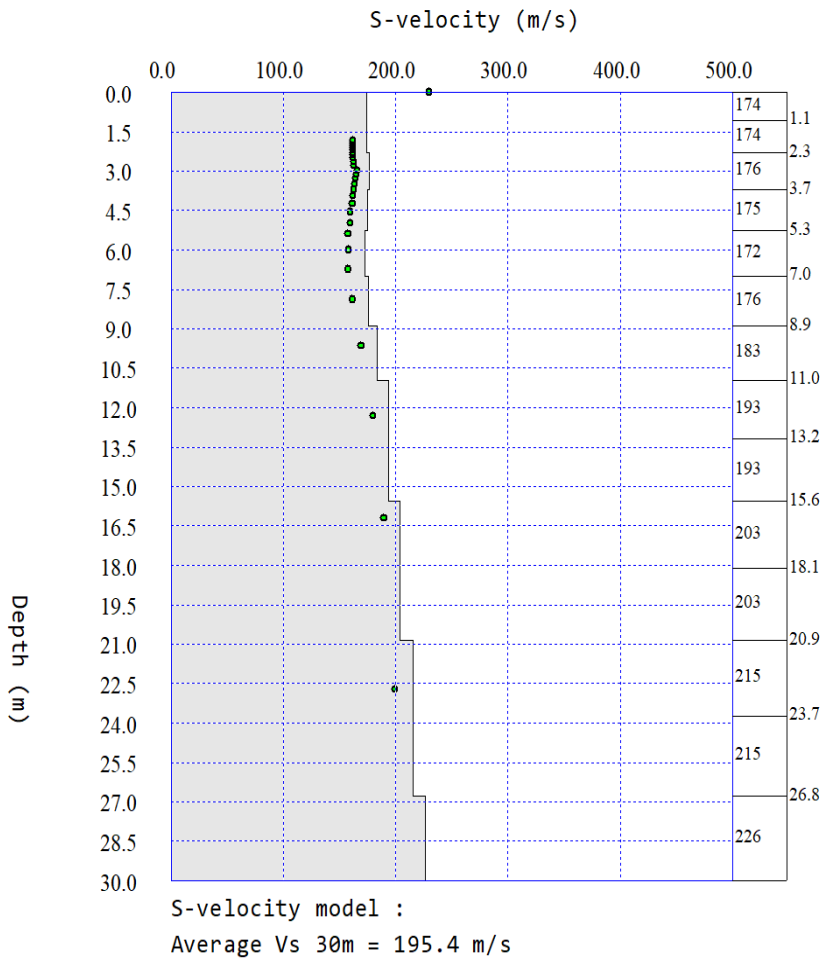
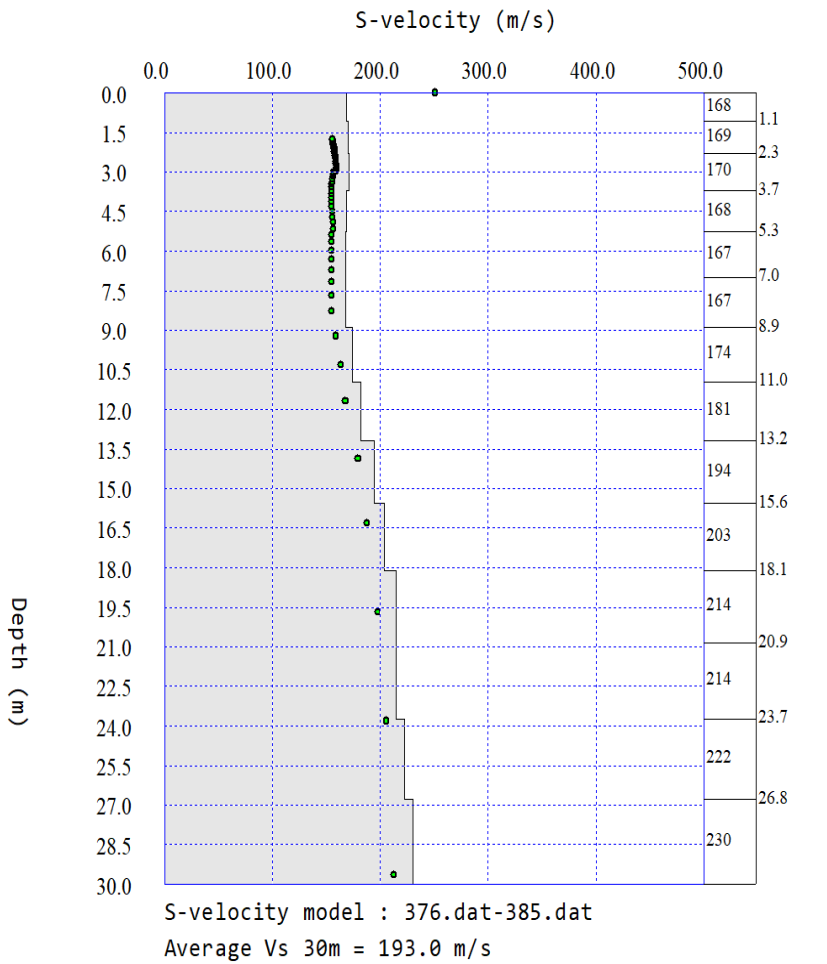


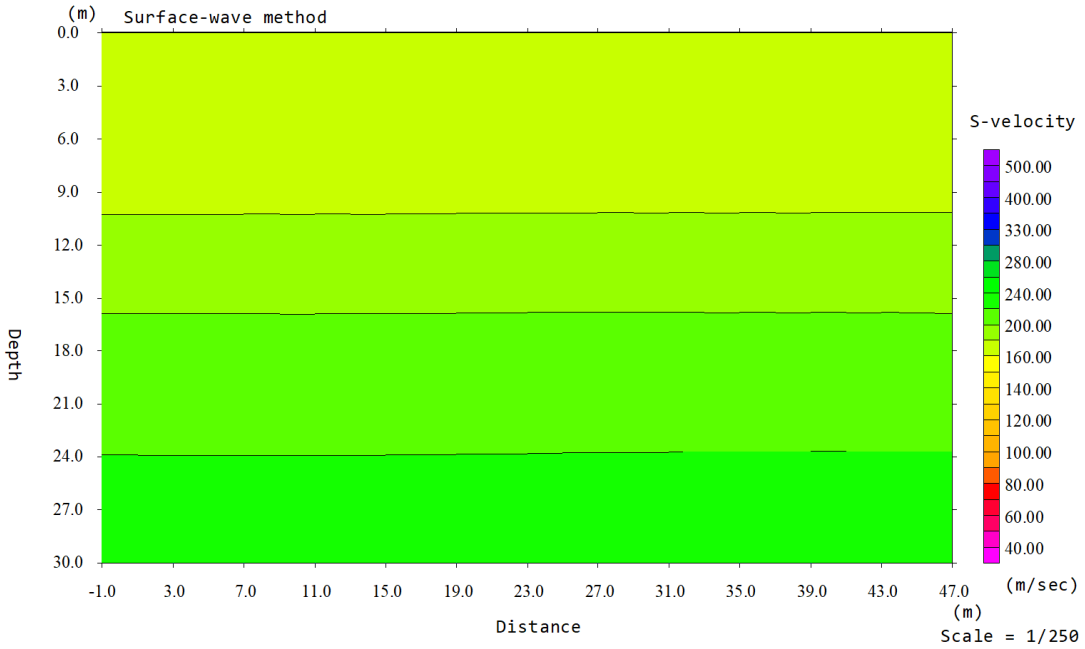
Phase Velocity and Dispersion Curve Active Source



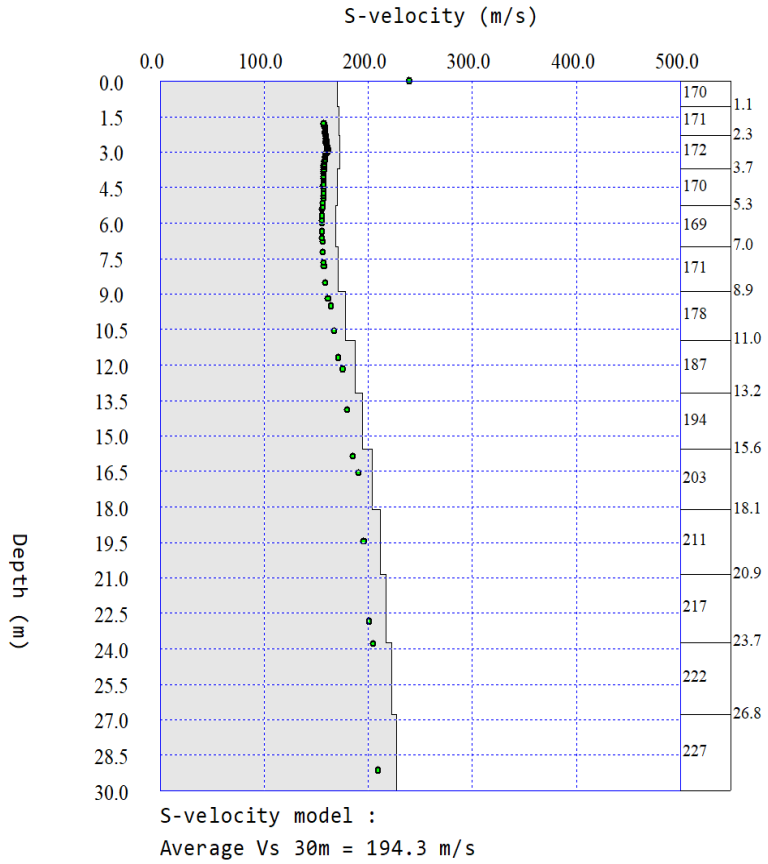


Phase Velocity and Dispersion Curve : Passive Source

AVS30: Active Source		AVS30: Passive Source
		

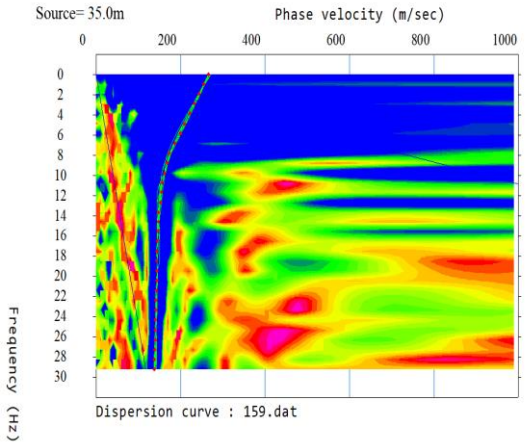


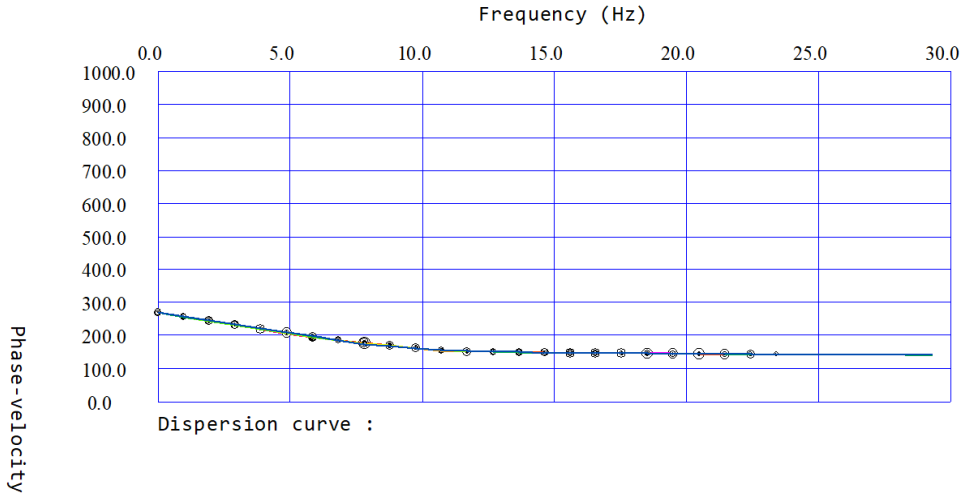
2D Velocity Profile



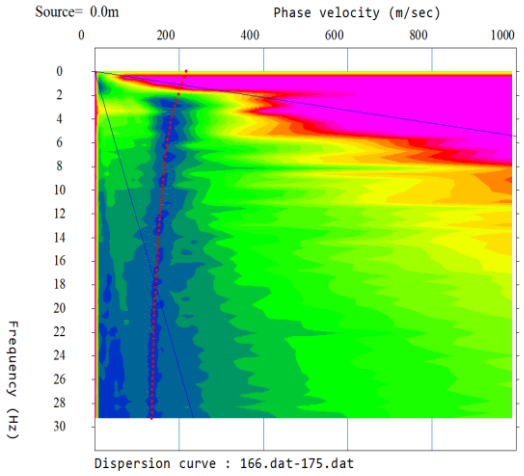
AVS30 (Active and Passive Source Combined)

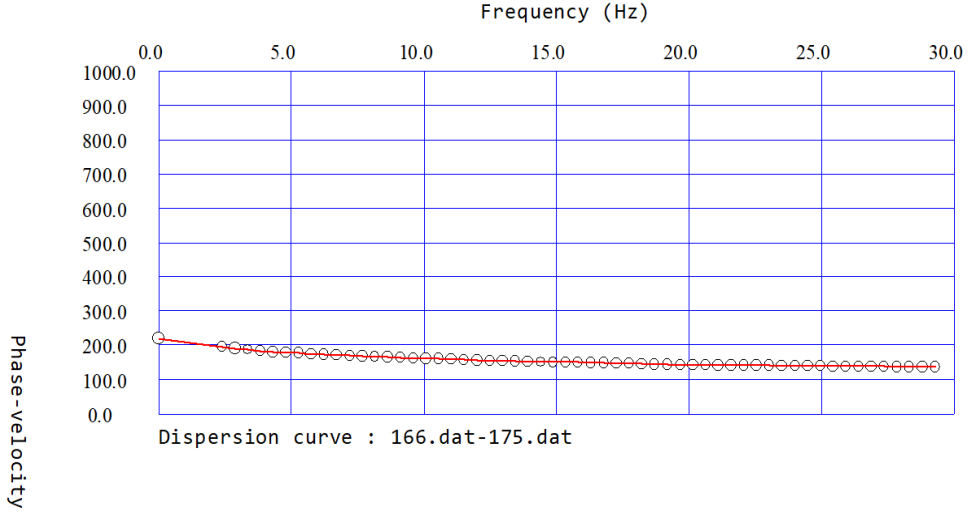
MASW ID: MASW-04	Location: Garadob, Gangni.	Lat: 25.169848, Long: 92.027290



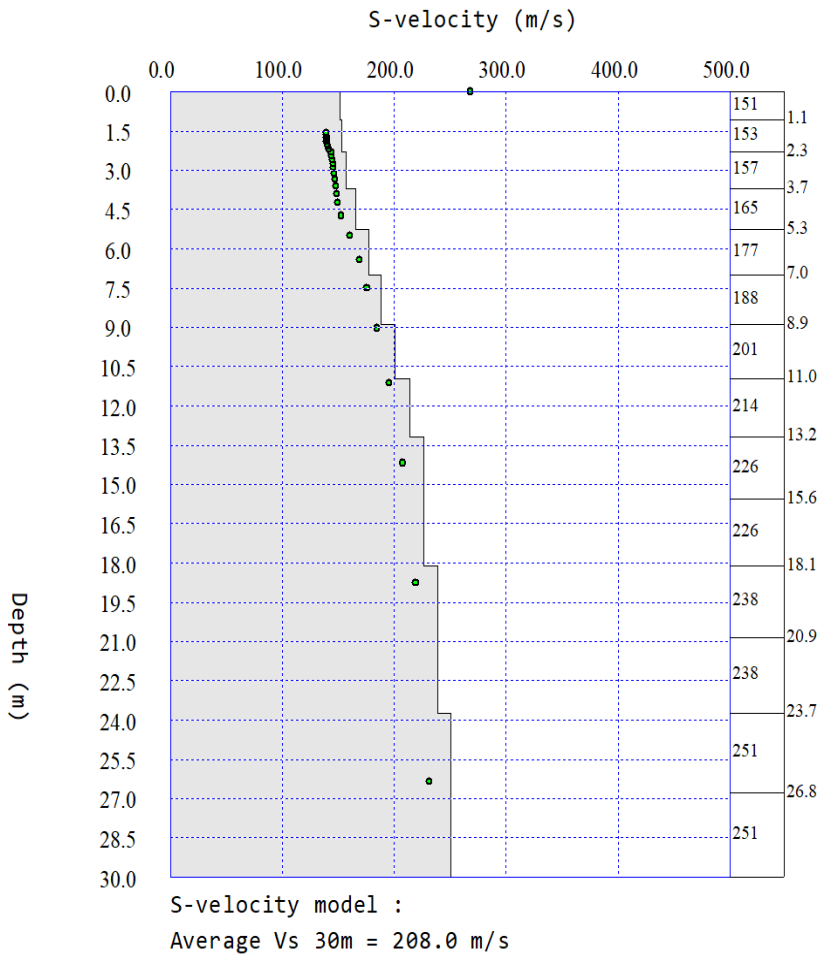
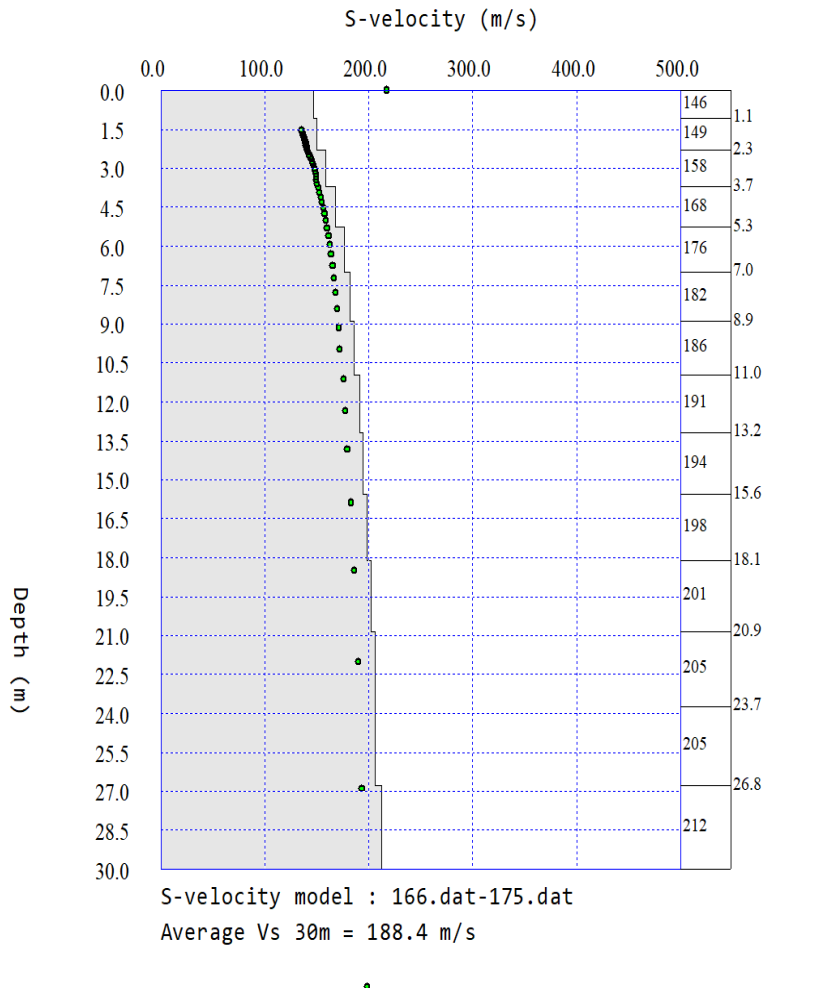


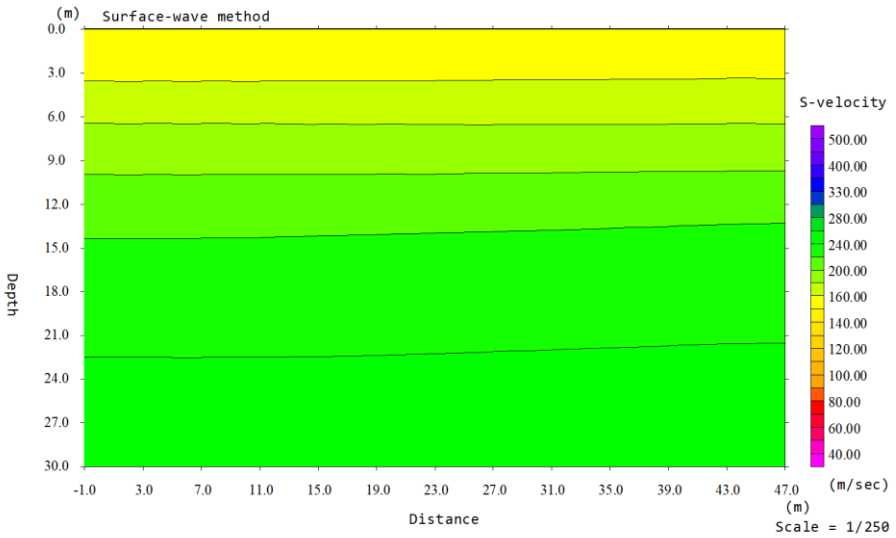
Phase Velocity and Dispersion Curve Active Source



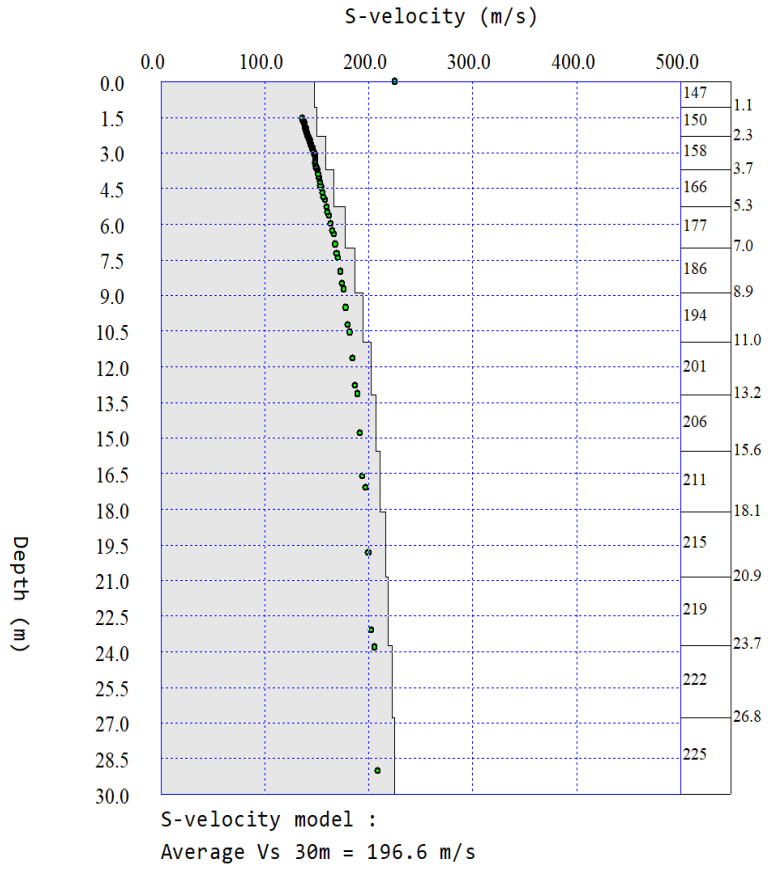


Phase Velocity and Dispersion Curve : Passive Source

AVS30: Active Source	AVS30: Passive Source
	

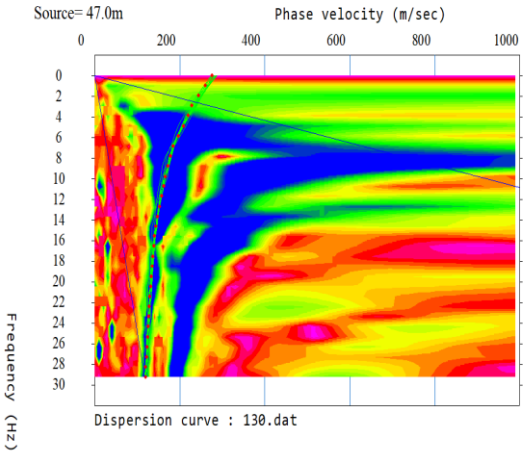


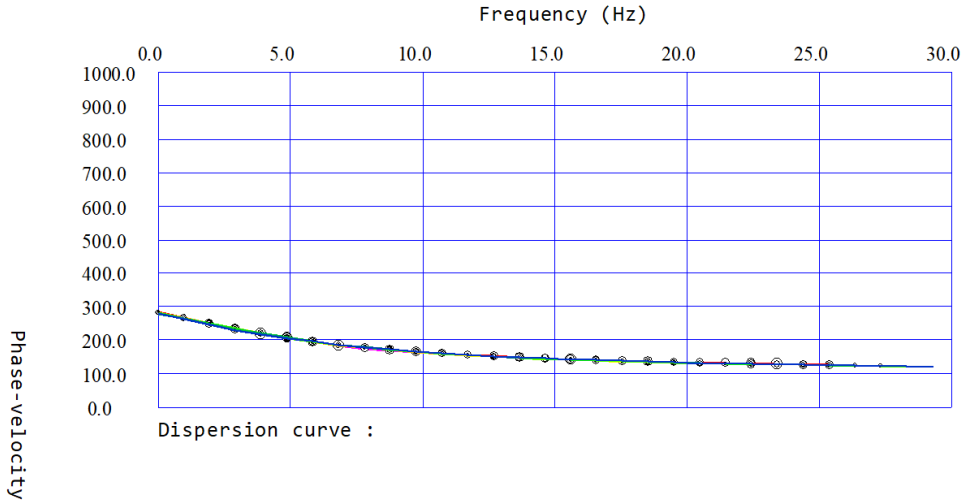
2D Velocity Profile



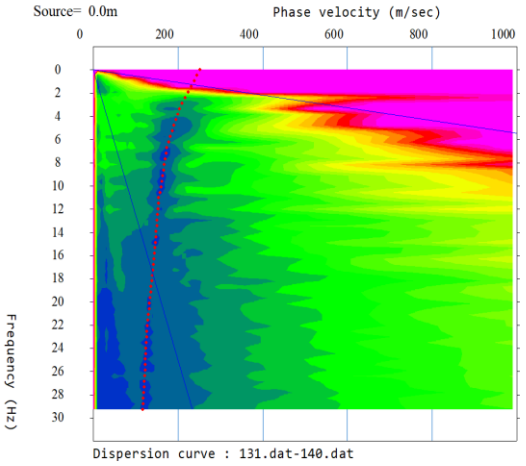
AVS30 (Active and Passive Source Combined)

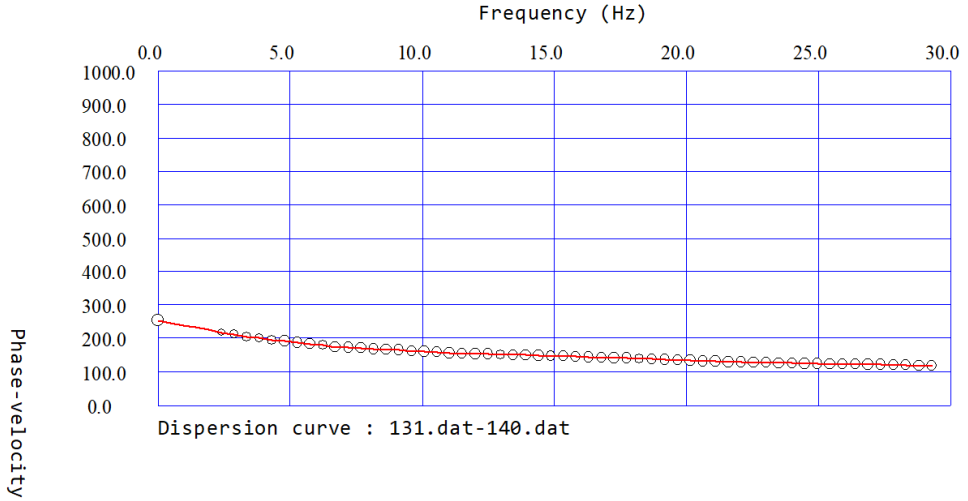
MASW ID: MASW-05	Location: Teroghoria Eid Gagh Math,Meherpur Sadar.	Lat: 23.832305, Long: 88.61128



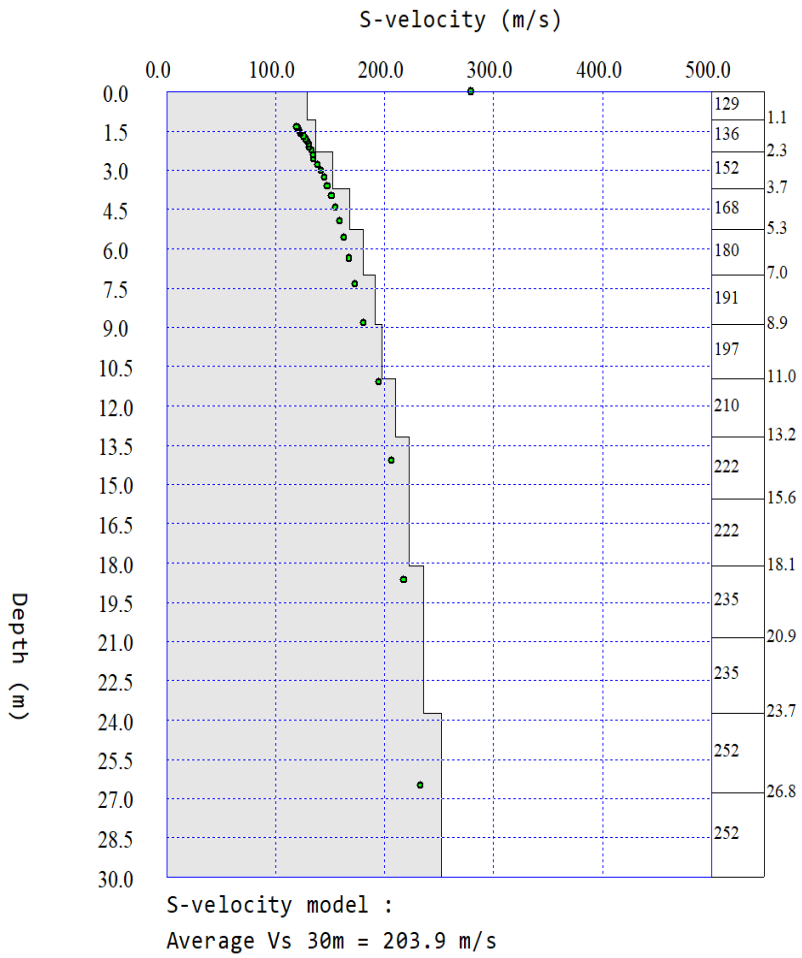
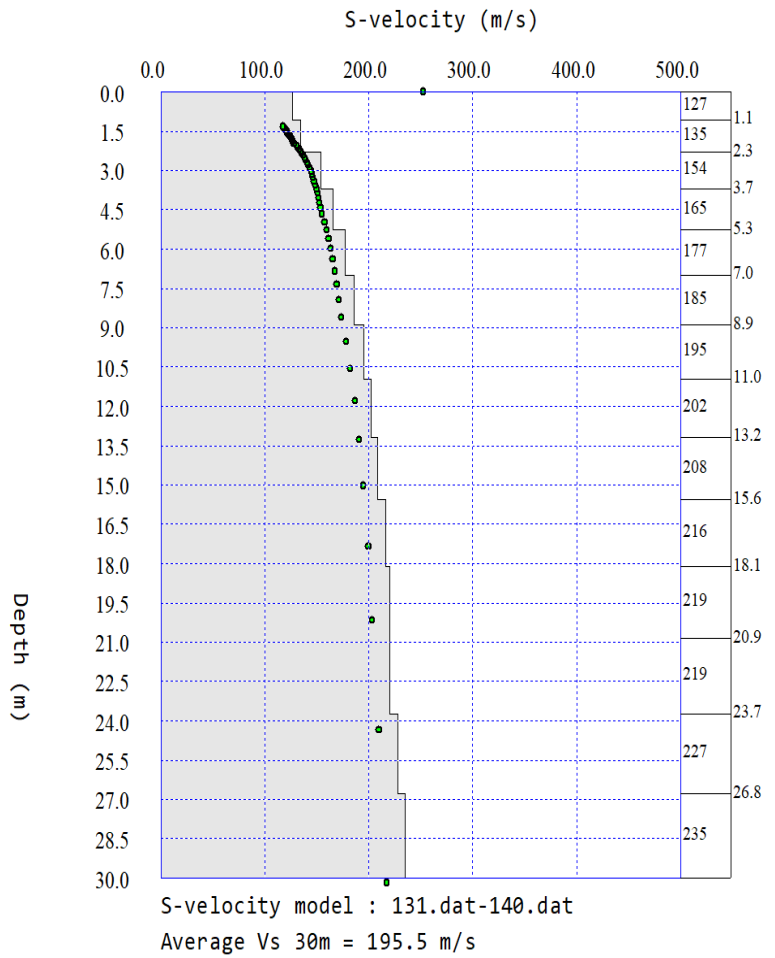


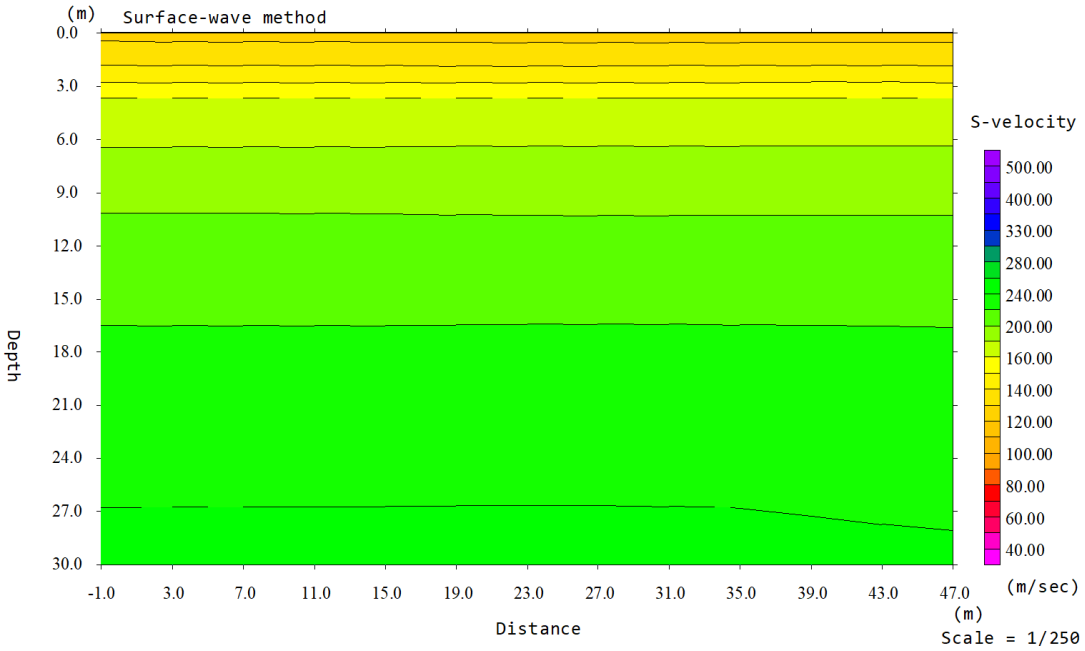
Phase Velocity and Dispersion Curve Active Source



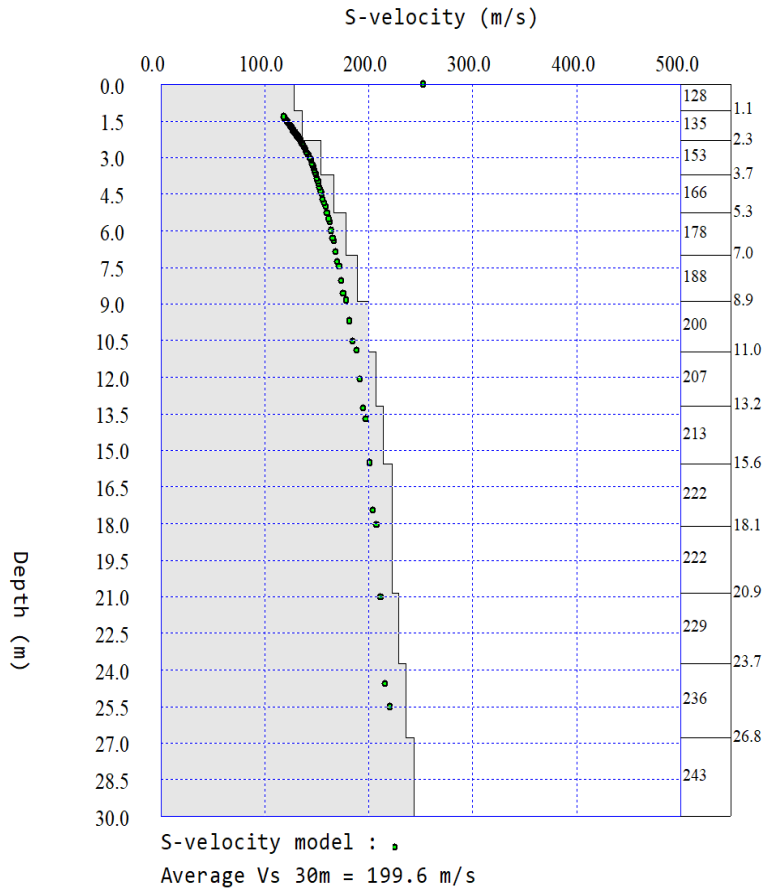


Phase Velocity and Dispersion Curve : Passive Source

AVS30: Active Source	AVS30: Passive Source
	

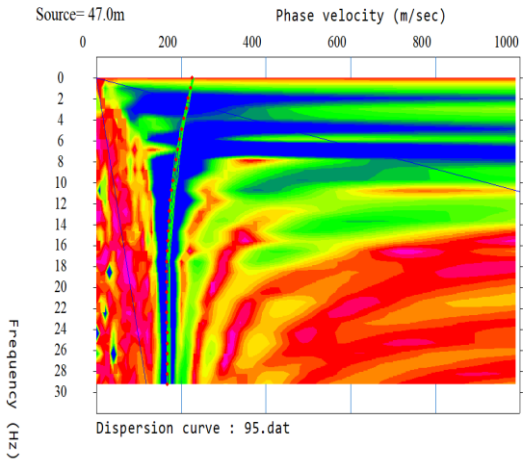


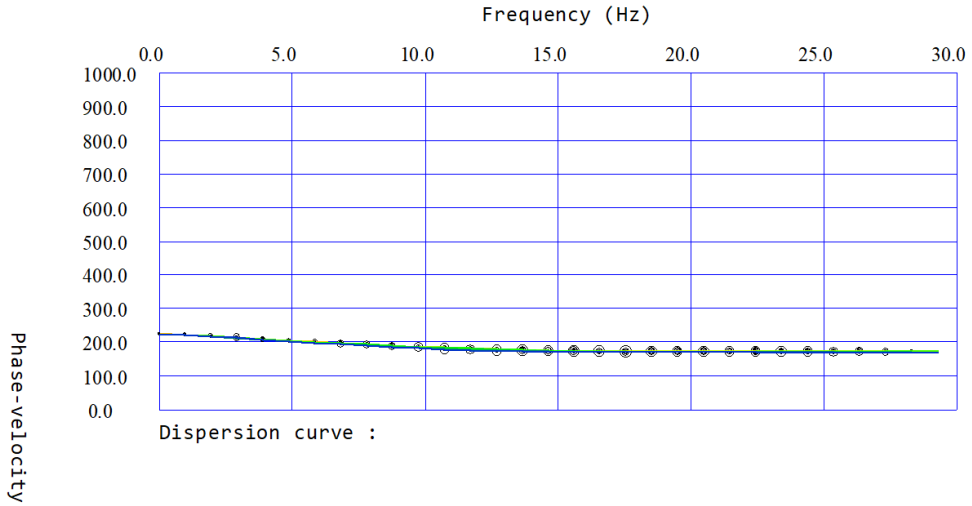
2D Velocity Profile



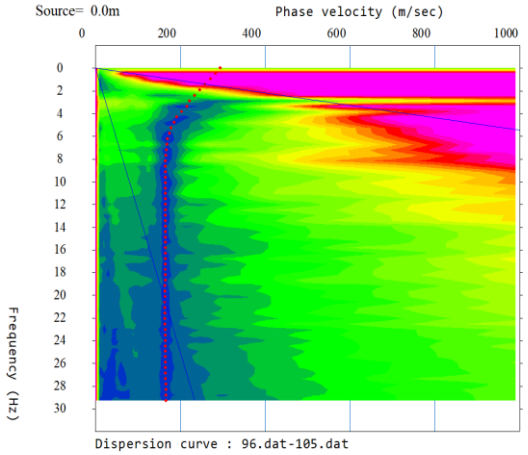
AVS30 (Active and Passive Source Combined)

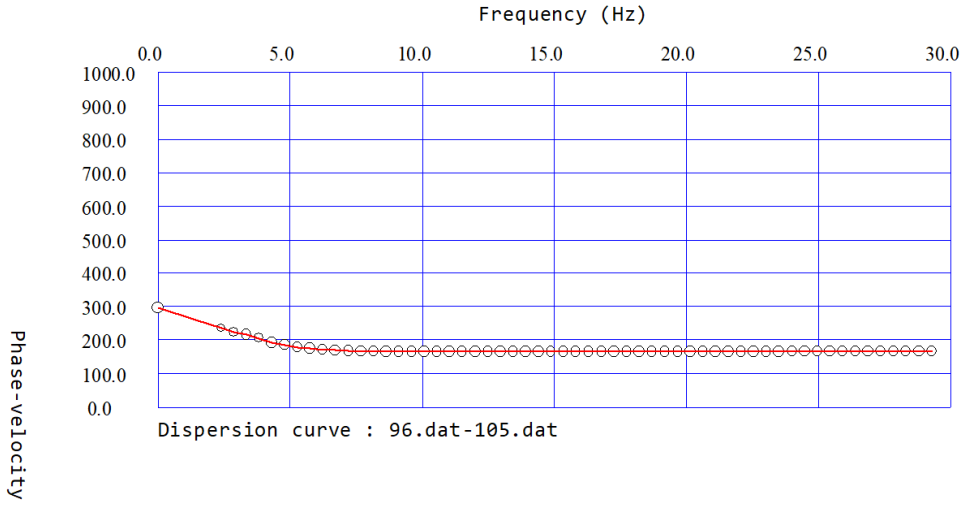
MASW ID: MASW-06	Location: Shampur, Meherpur Sadar.	Lat: 23.824802, Long: 88.683888



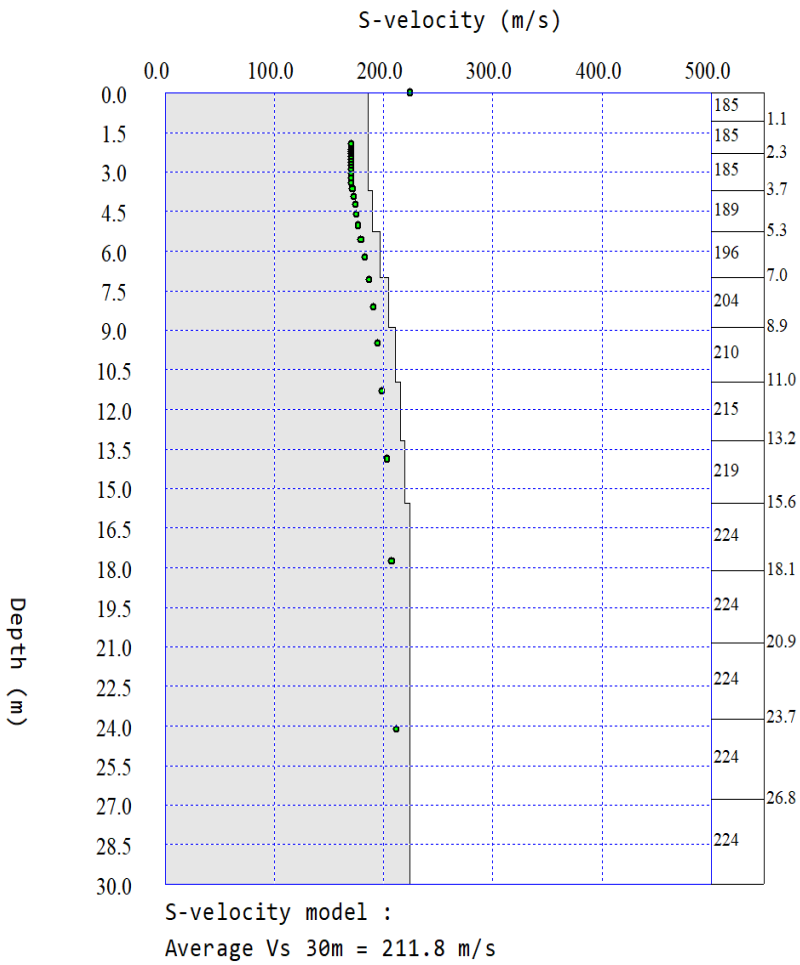
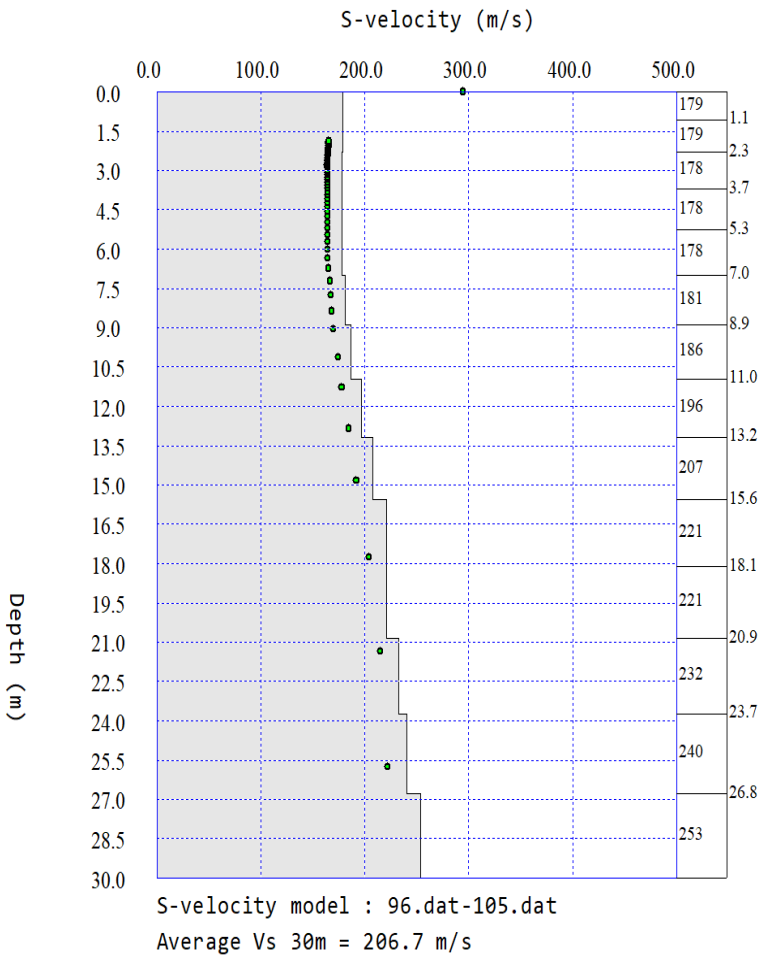


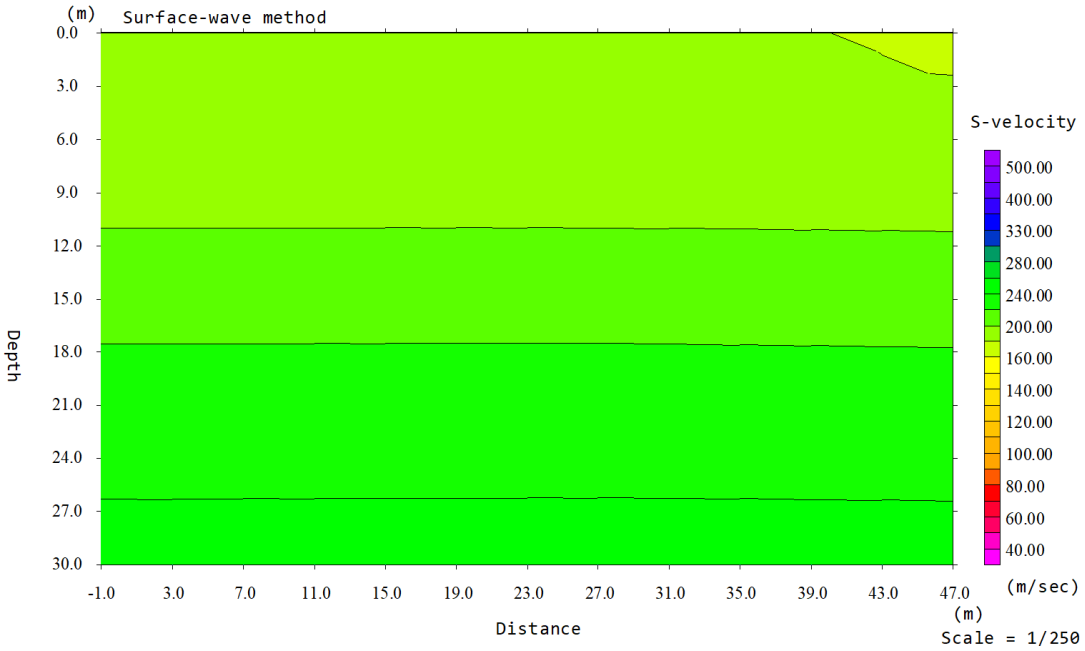
Phase Velocity and Dispersion Curve Active Source



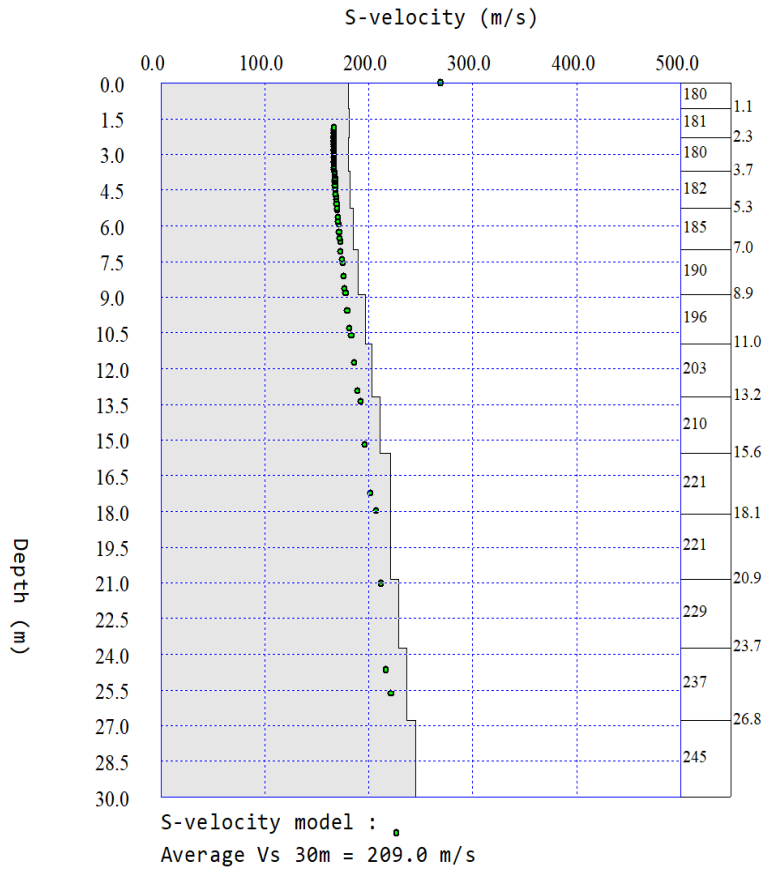


Phase Velocity and Dispersion Curve : Passive Source

AVS30: Active Source	AVS30: Passive Source
	

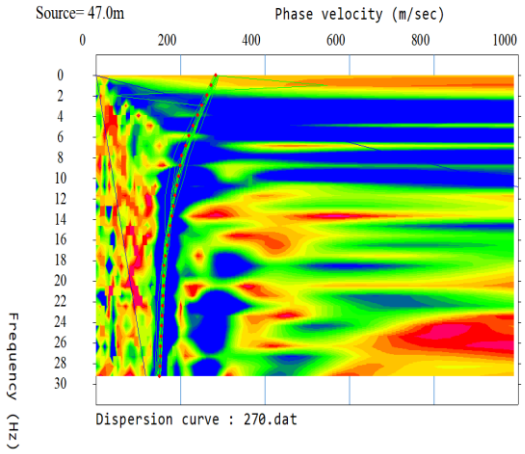


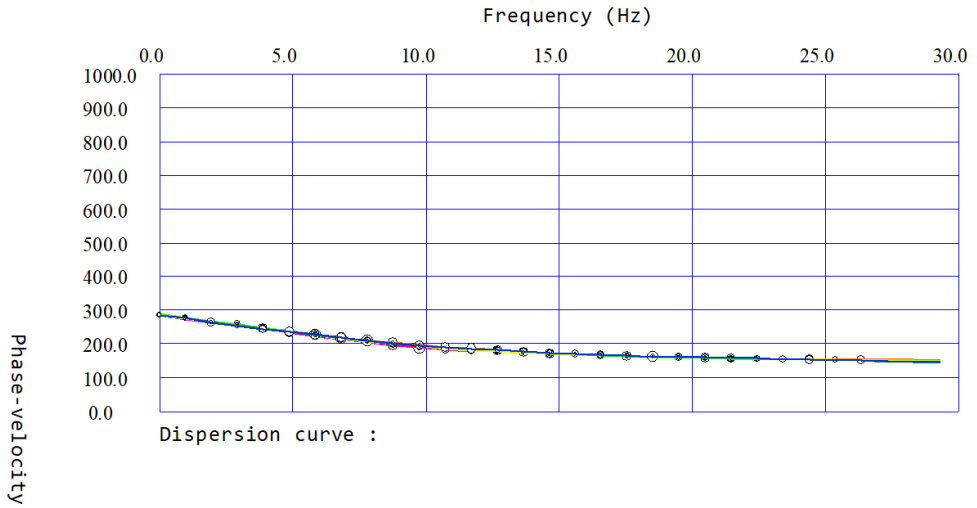
2D Velocity Profile



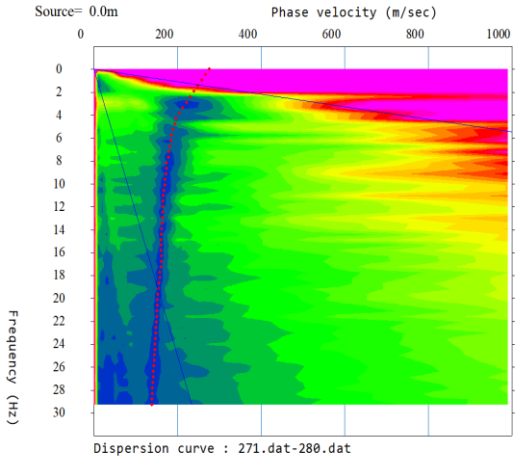
AVS30 (Active and Passive Source Combined)

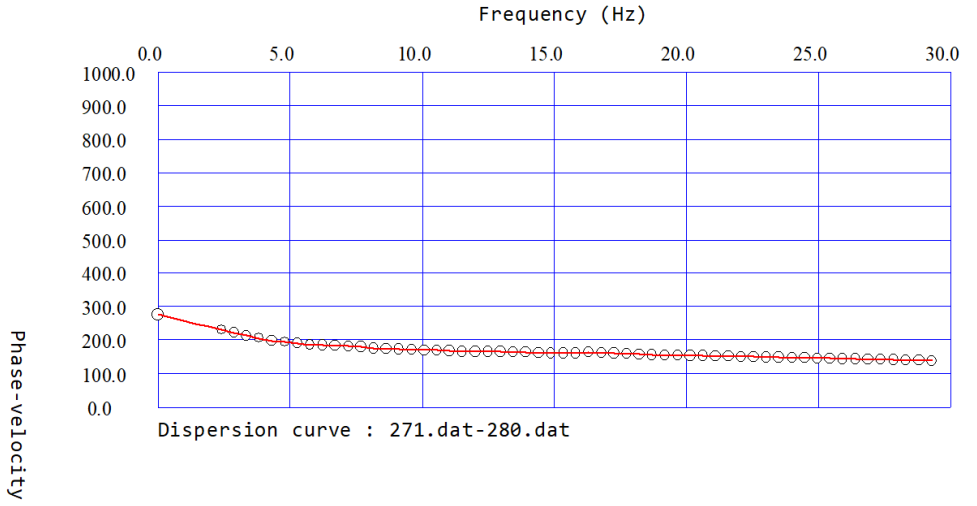
MASW ID: MASW-07	Location: Amjhupi High School, Meherpur Sadar.	Lat: 23.74608, Long: 88.68457



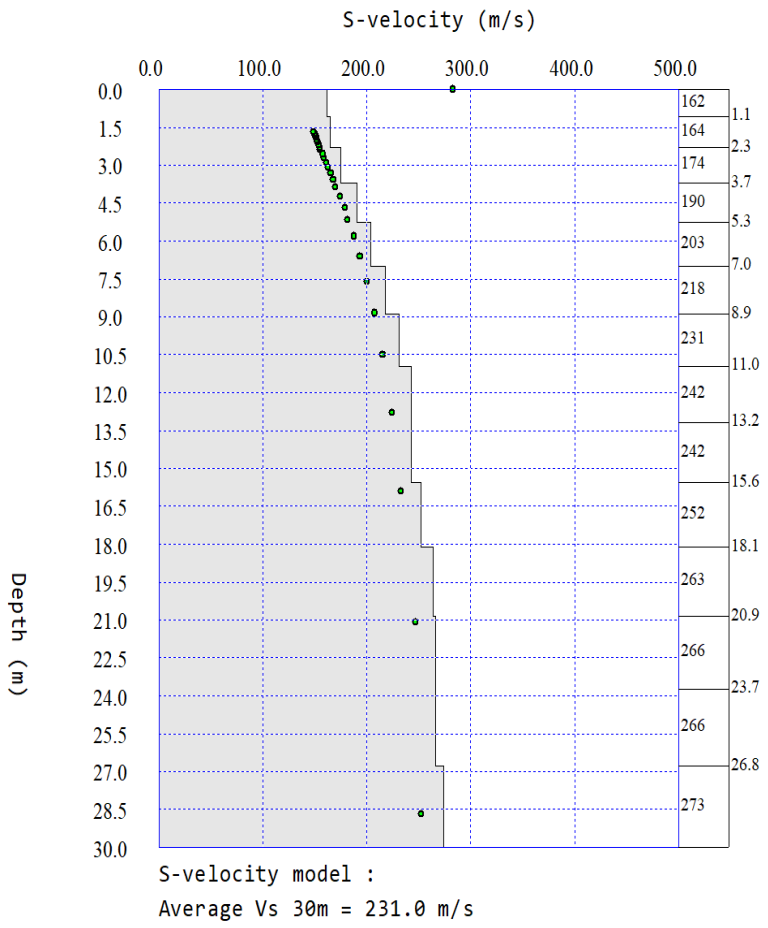
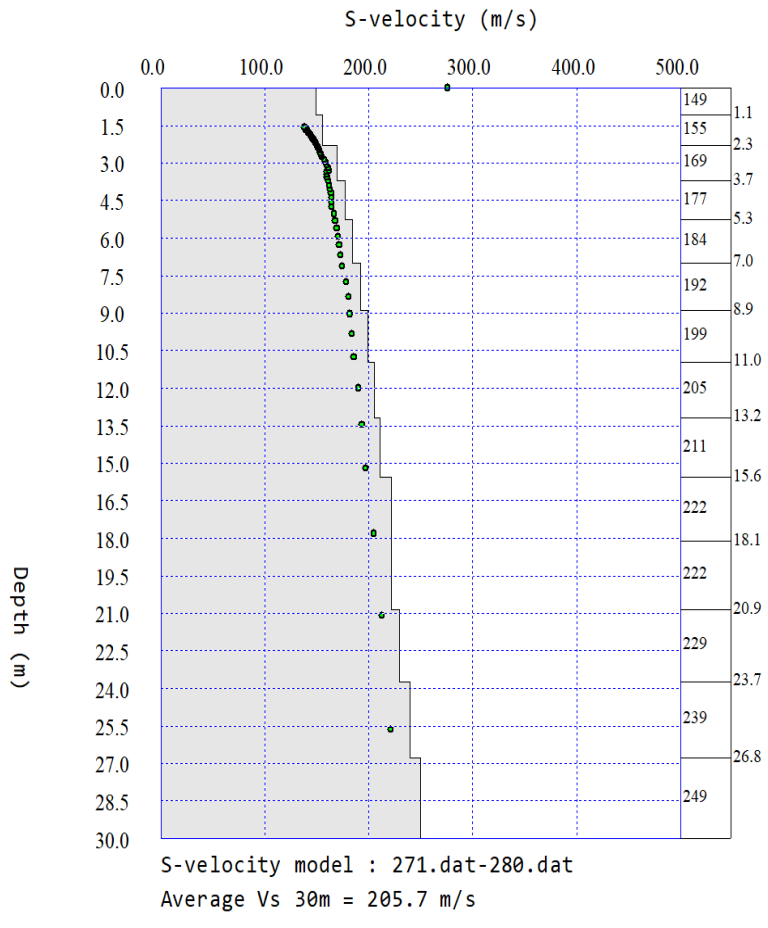


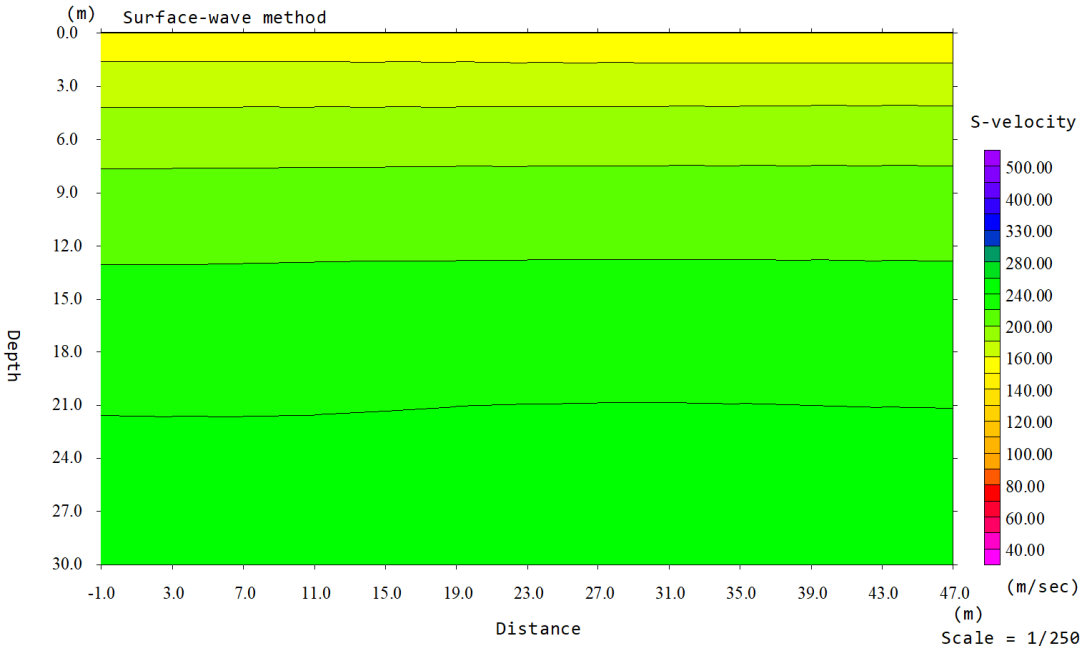
Phase Velocity and Dispersion Curve Active Source



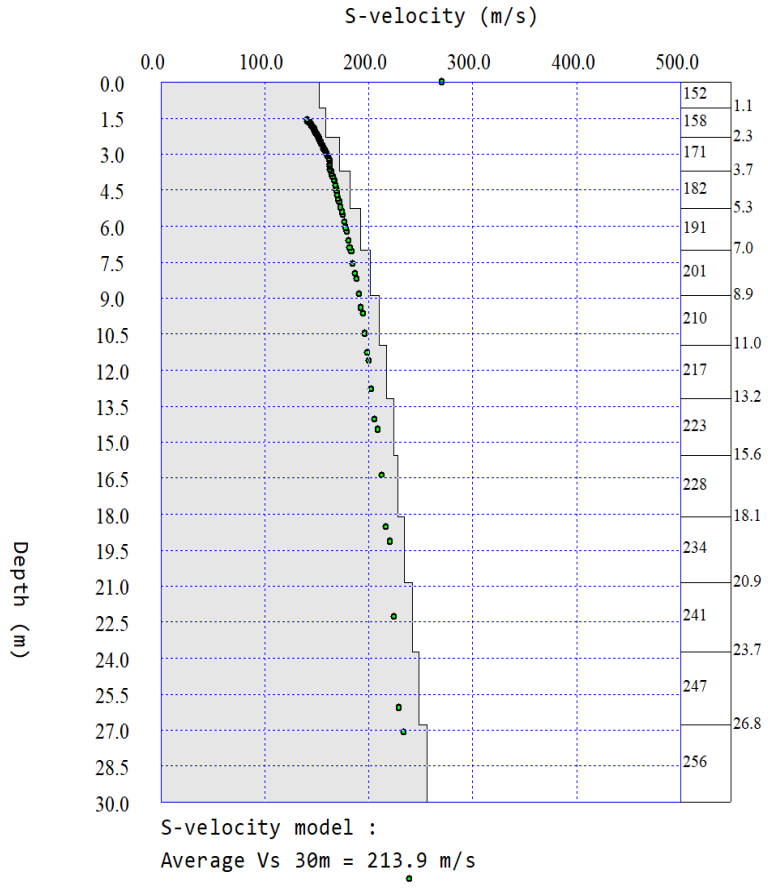


Phase Velocity and Dispersion Curve : Passive Source

AVS30: Active Source	AVS30: Passive Source
	

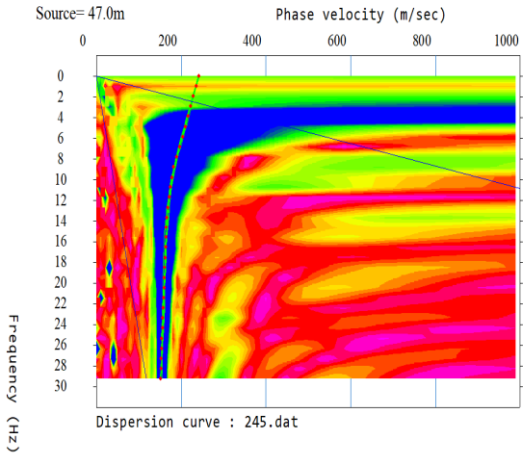


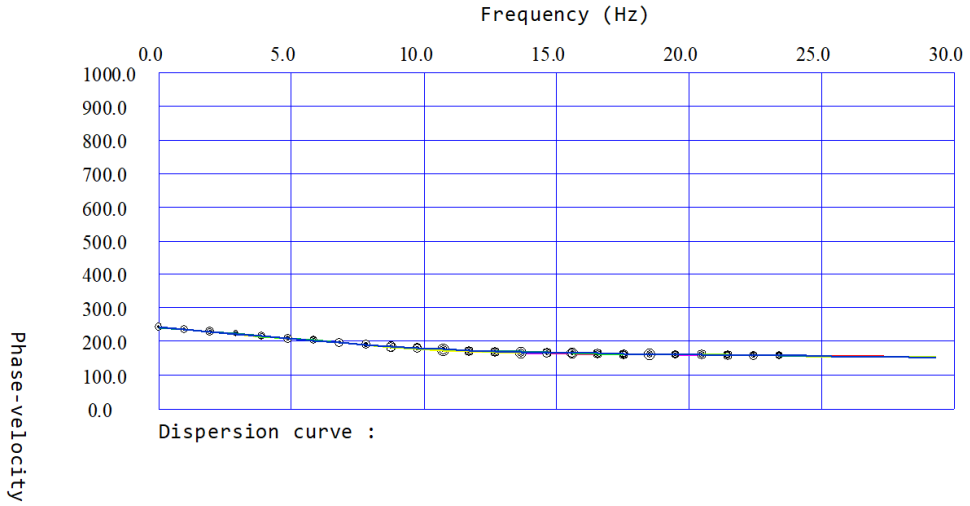
2D Velocity Profile



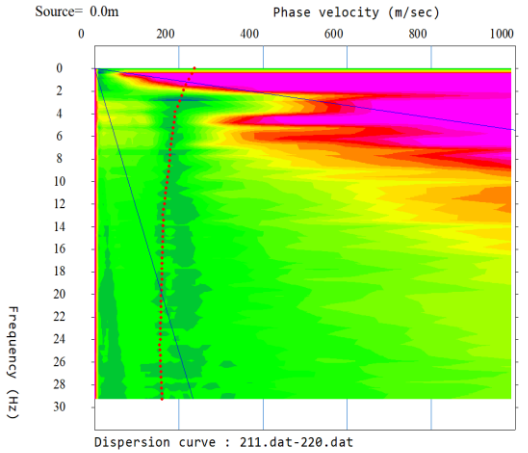
AVS30 (Active and Passive Source Combined)

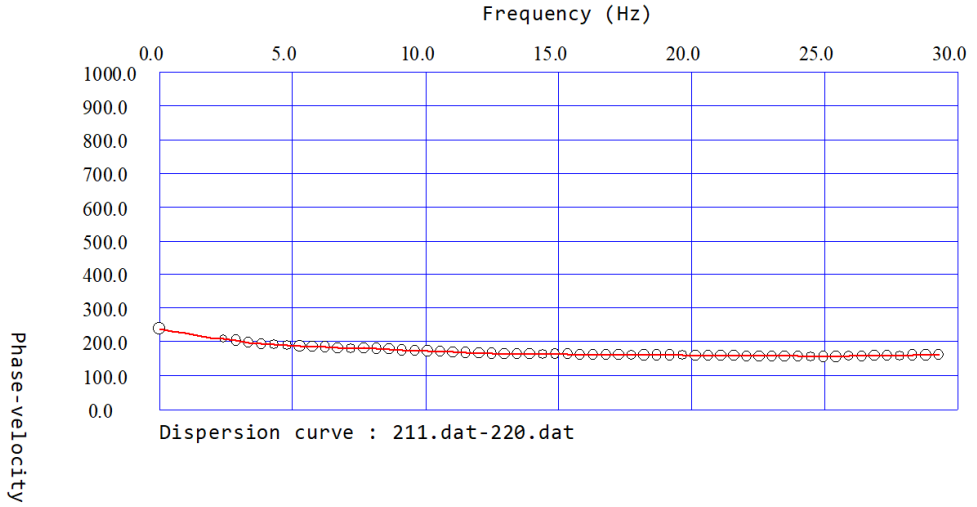
MASW ID: MASW-08	Location: Baliarpur Purbopara, Meherpur Sadar.	Lat: 25.075080, Long: 91.869280



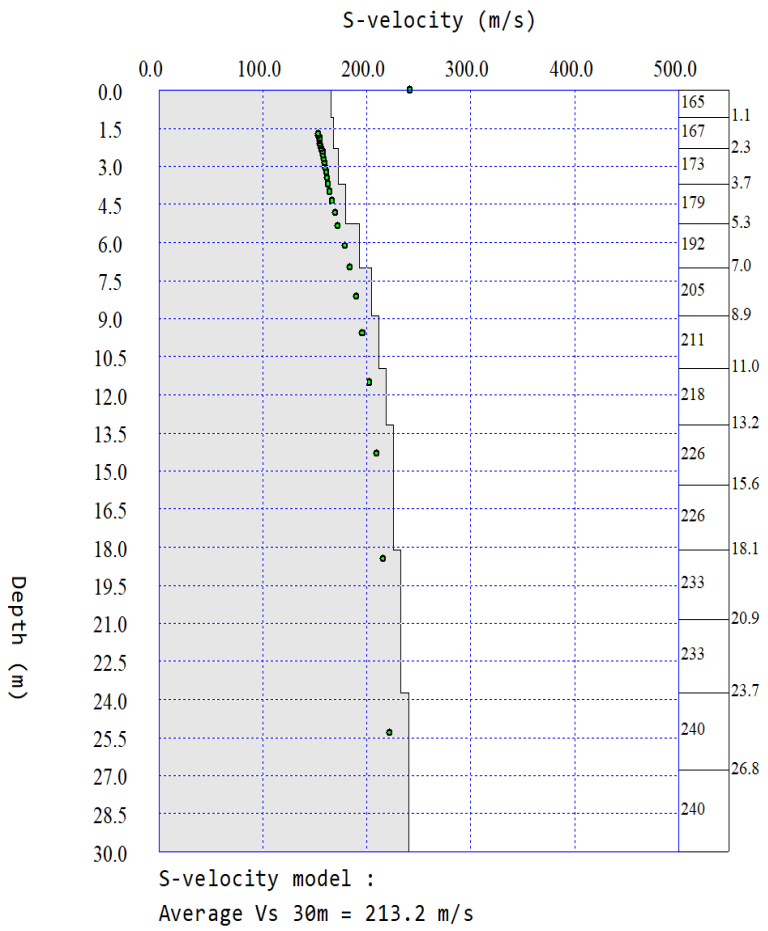
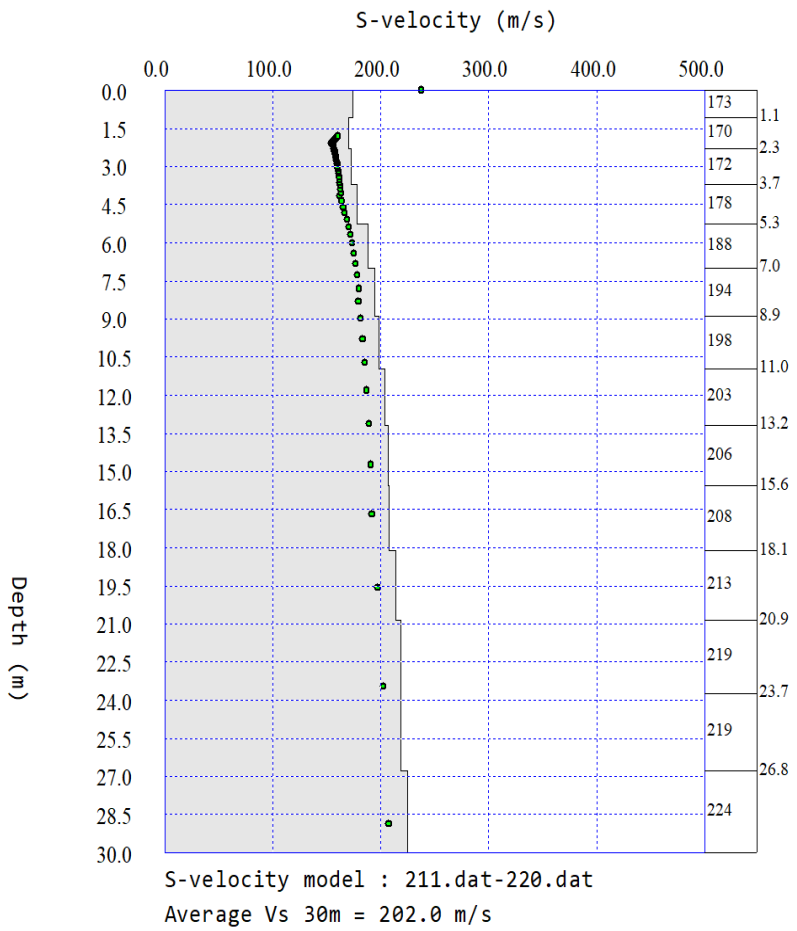


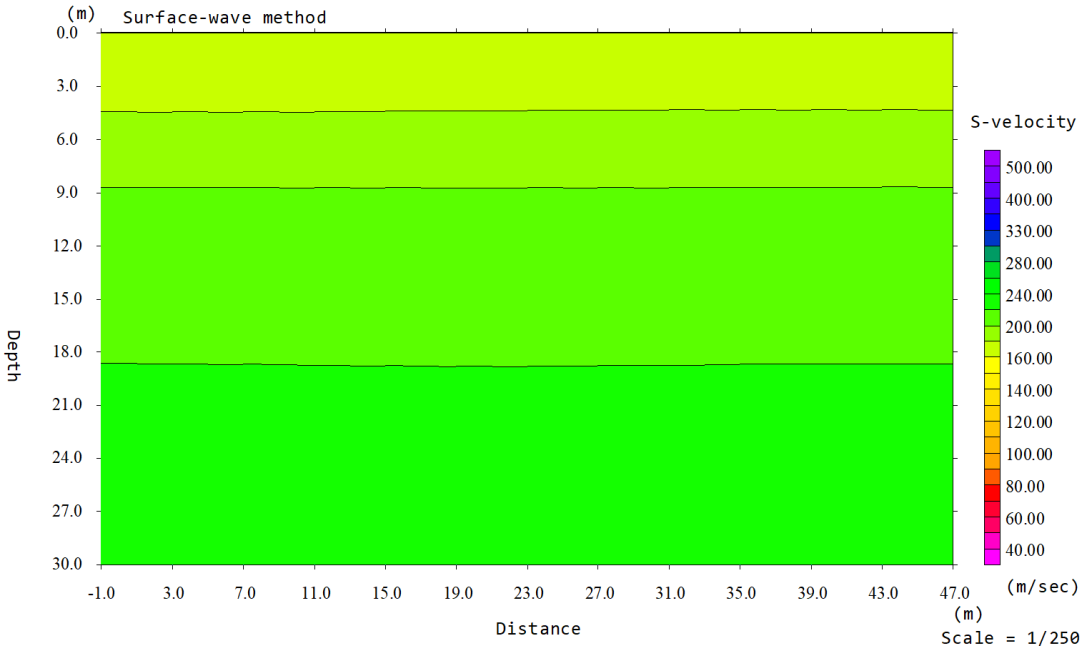
Phase Velocity and Dispersion Curve Active Source



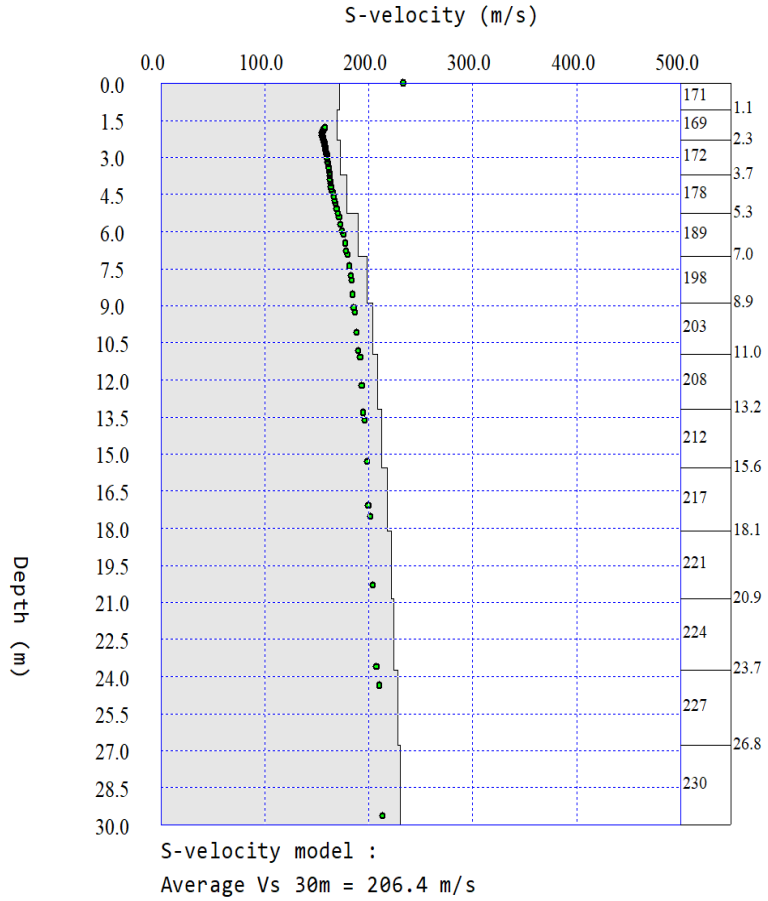


Phase Velocity and Dispersion Curve : Passive Source

AVS30: Active Source		AVS30: Passive Source
		

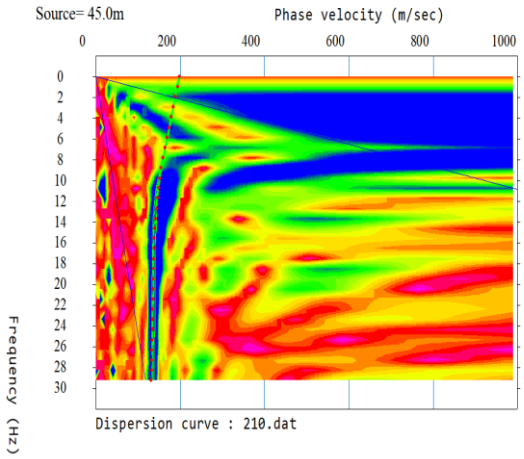


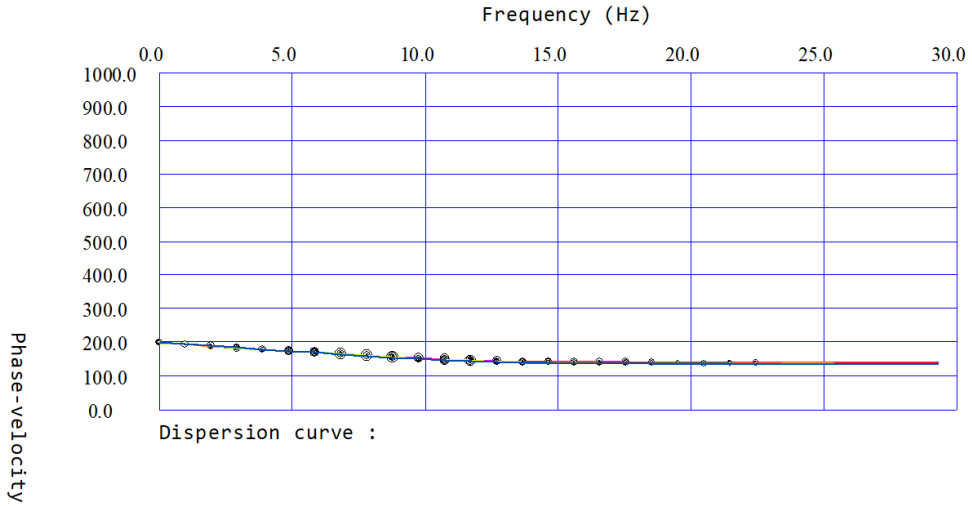
2D Velocity Profile



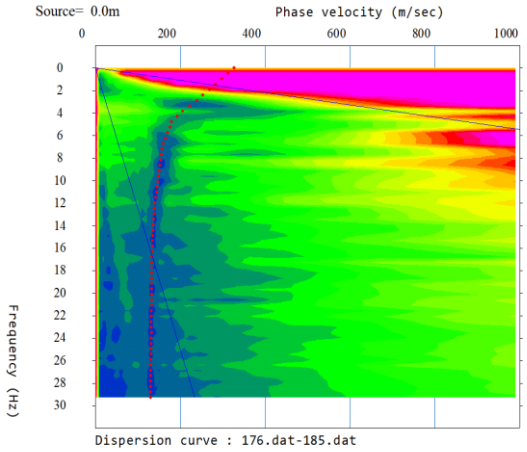
AVS30 (Active and Passive Source Combined)

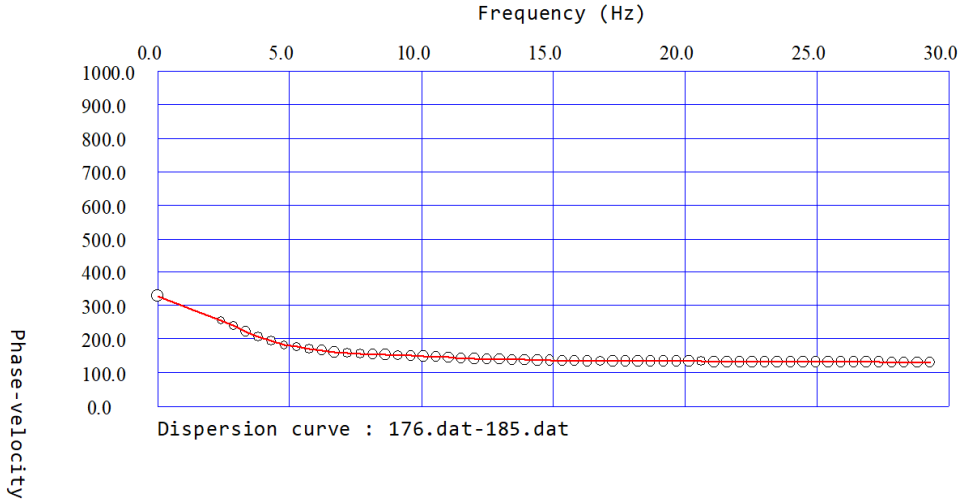
MASW ID: MASW-09	Location: Sanghat Chandamari High School, Gangni.	Lat: 23.783093, Long: 88.805058



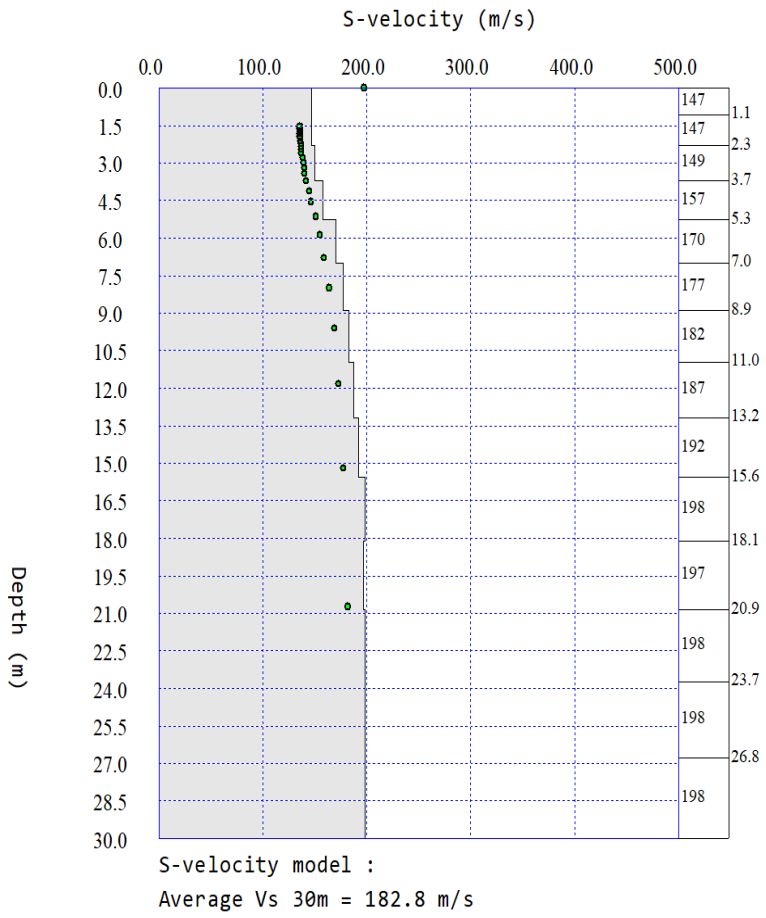
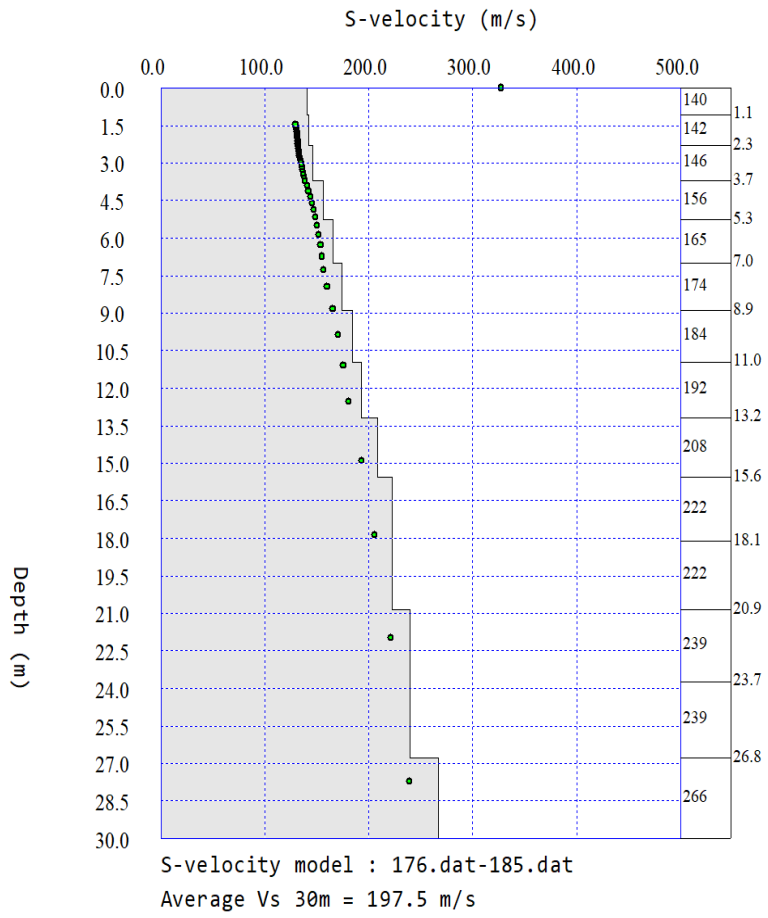


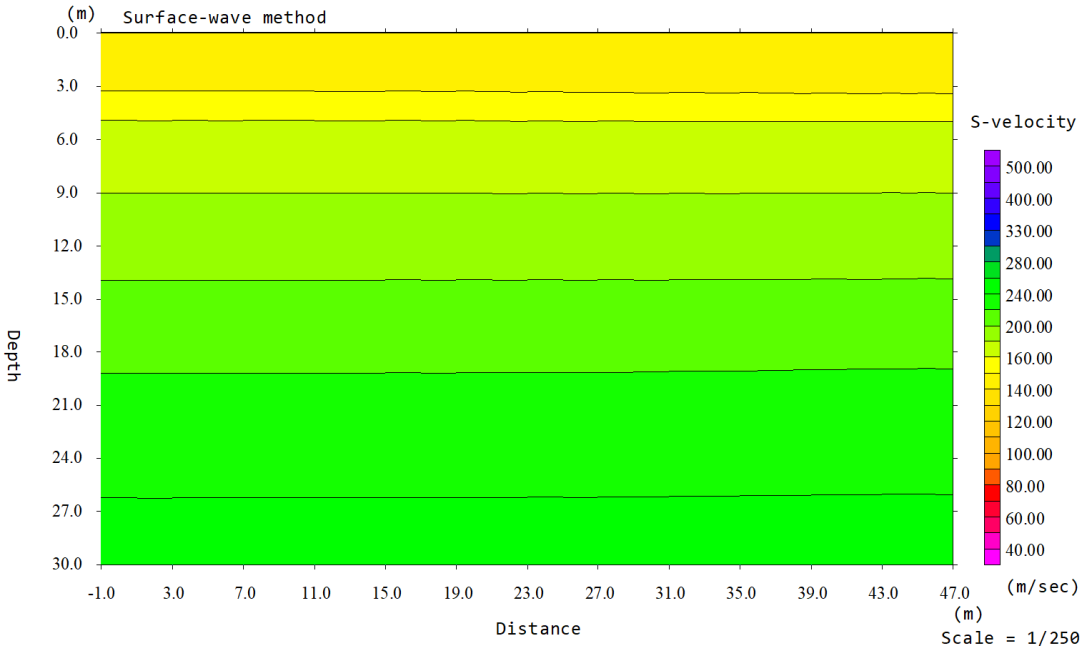
Phase Velocity and Dispersion Curve Active Source



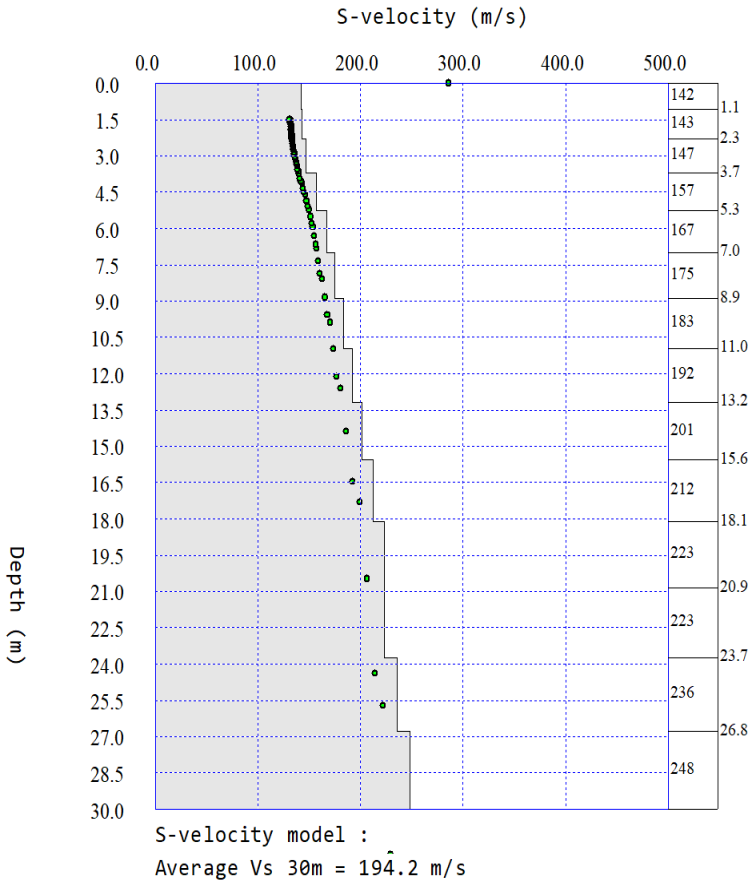


Phase Velocity and Dispersion Curve : Passive Source

AVS30: Active Source	AVS30: Passive Source
	

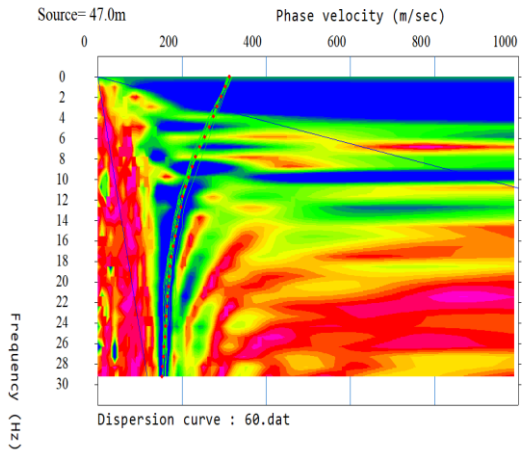


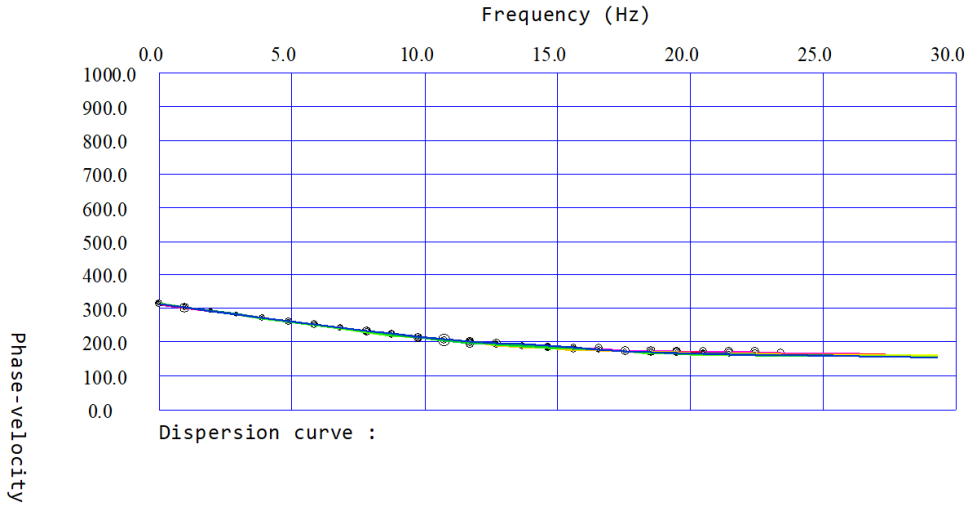
2D Velocity Profile



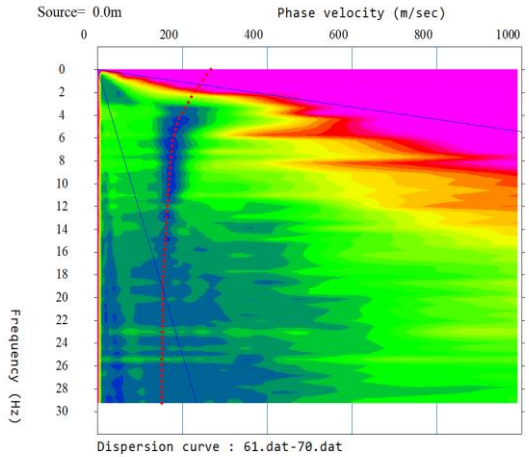
AVS30 (Active and Passive Source Combined)

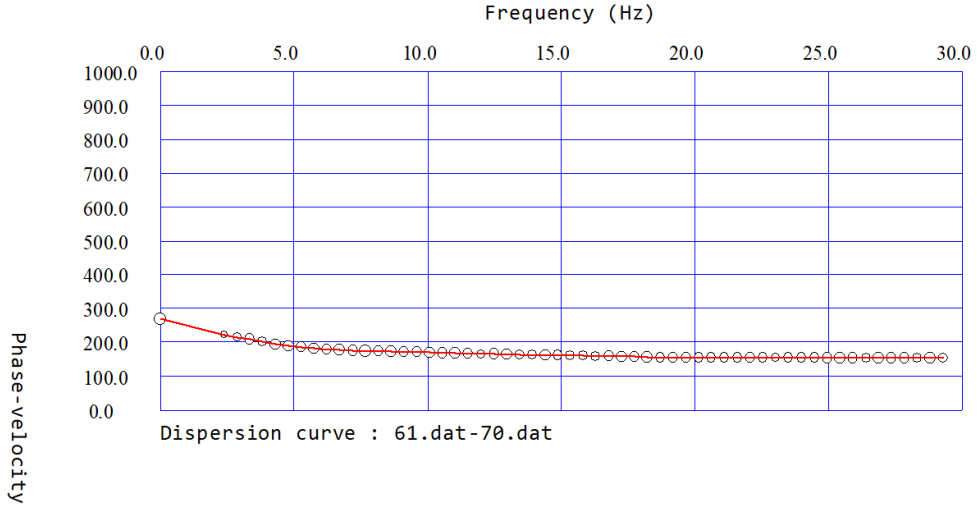
MASW ID: MASW-10	Location: Debipur Government Primary School.	Lat: 23.894892, Long: 88.780725



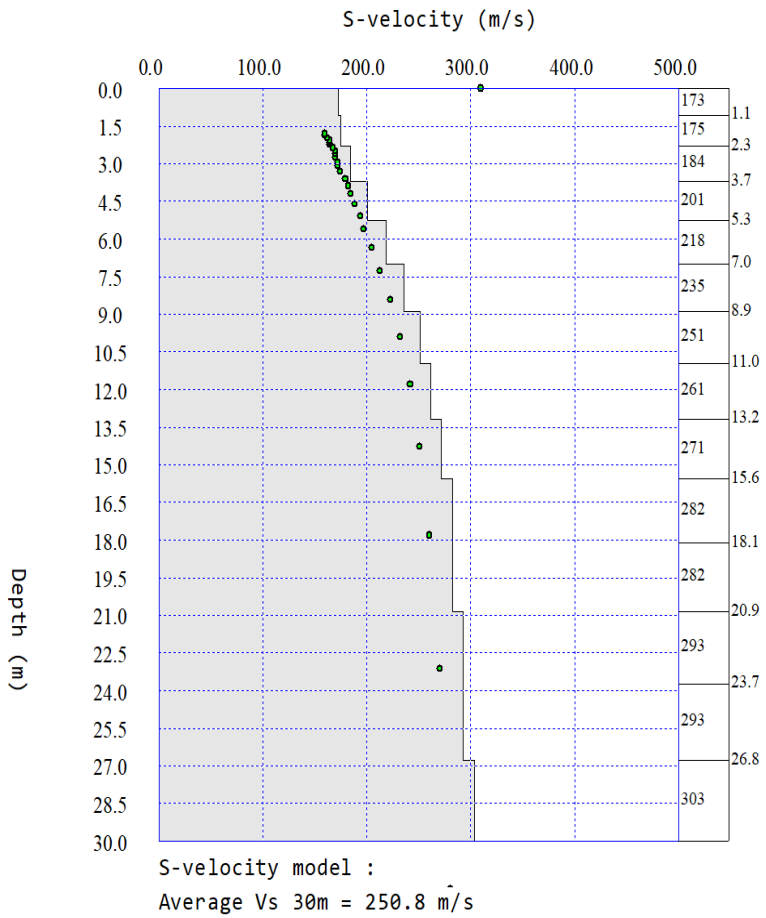
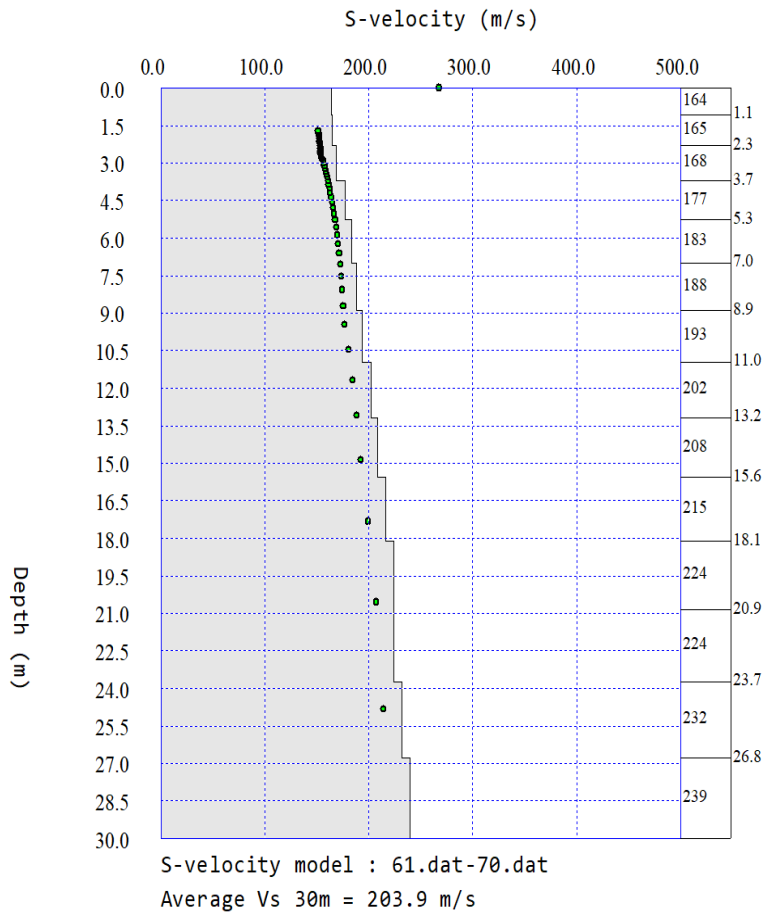


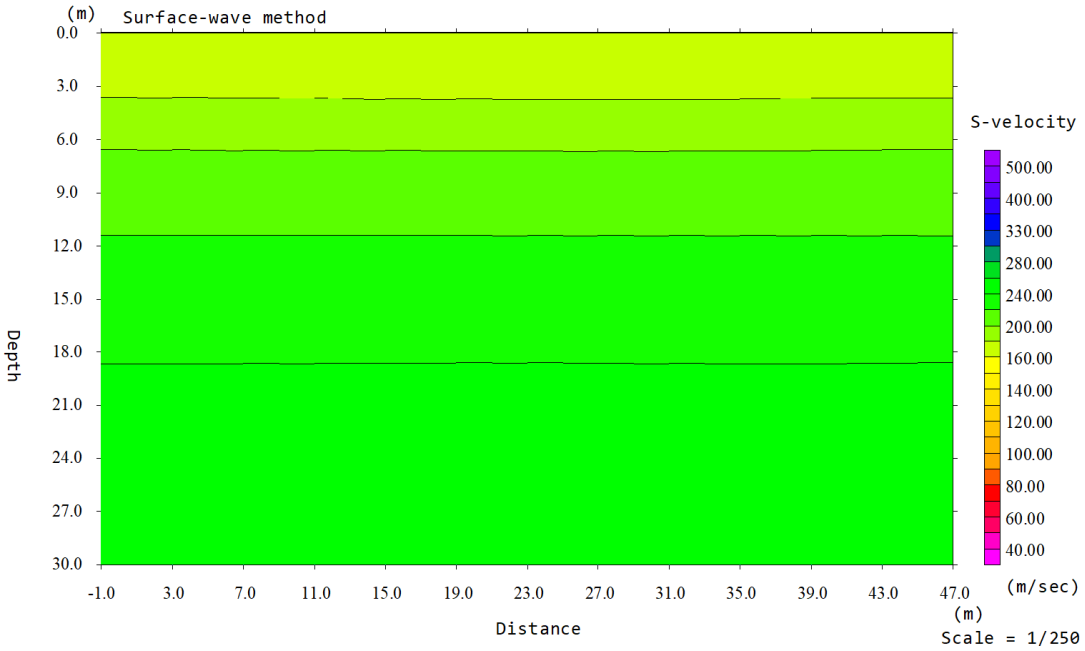
Phase Velocity and Dispersion Curve Active Source



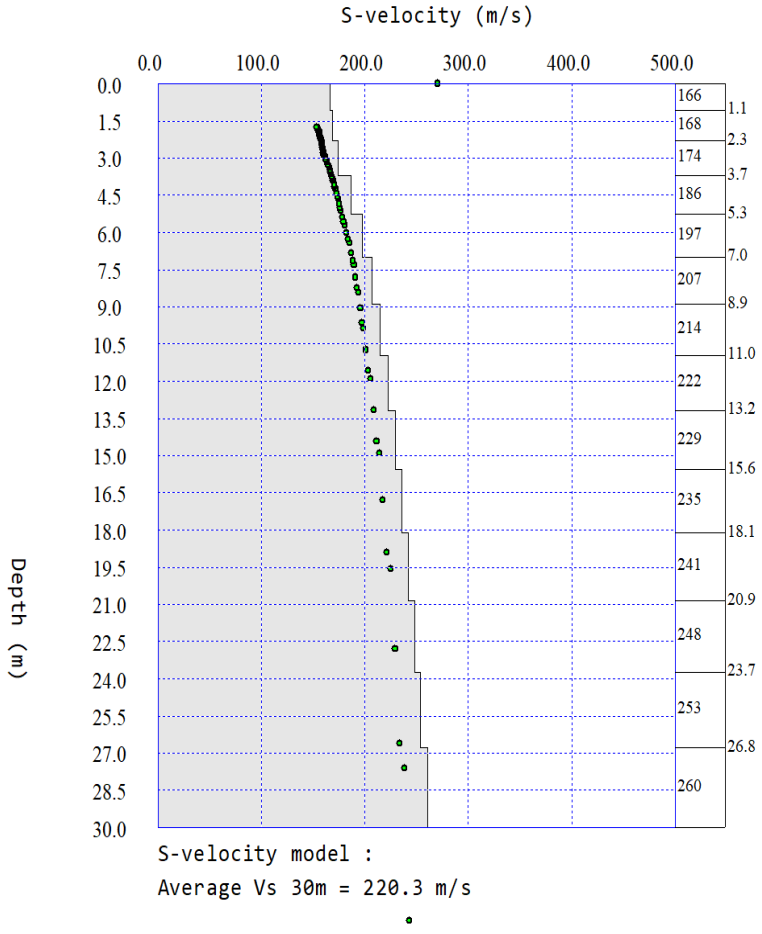


Phase Velocity and Dispersion Curve : Passive Source

AVS30: Active Source		AVS30: Passive Source
		

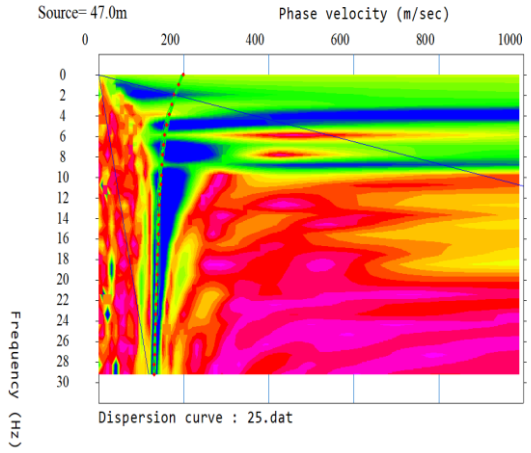


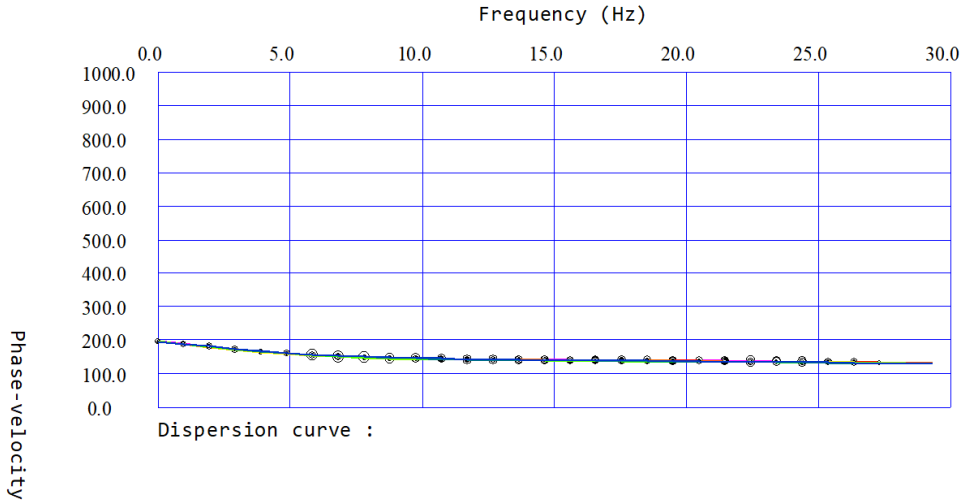
2D Velocity Profile



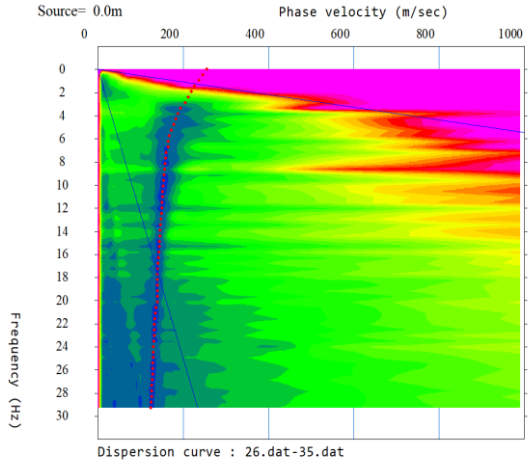
AVS30 (Active and Passive Source Combined)

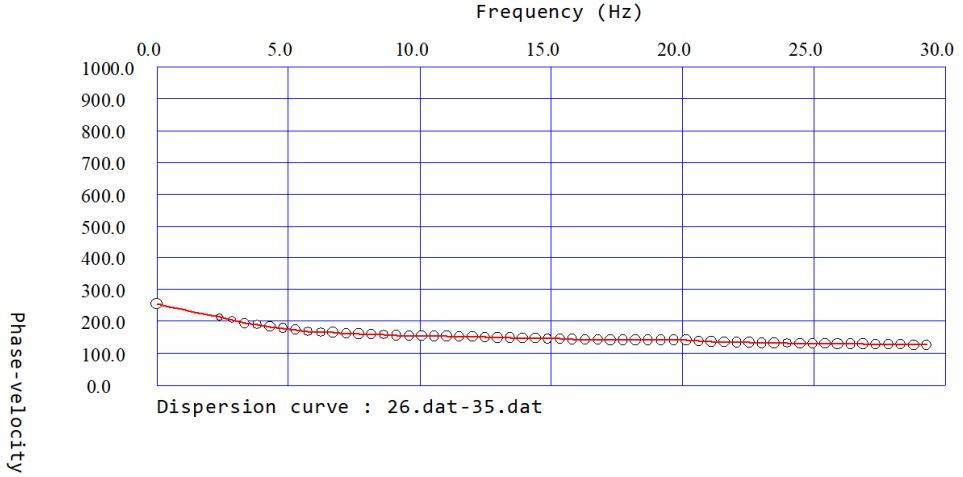
MASW ID: MASW-11	Location: Kazipur Football Maath, Gangni.	Lat: 23.959642, Long: 88.742225



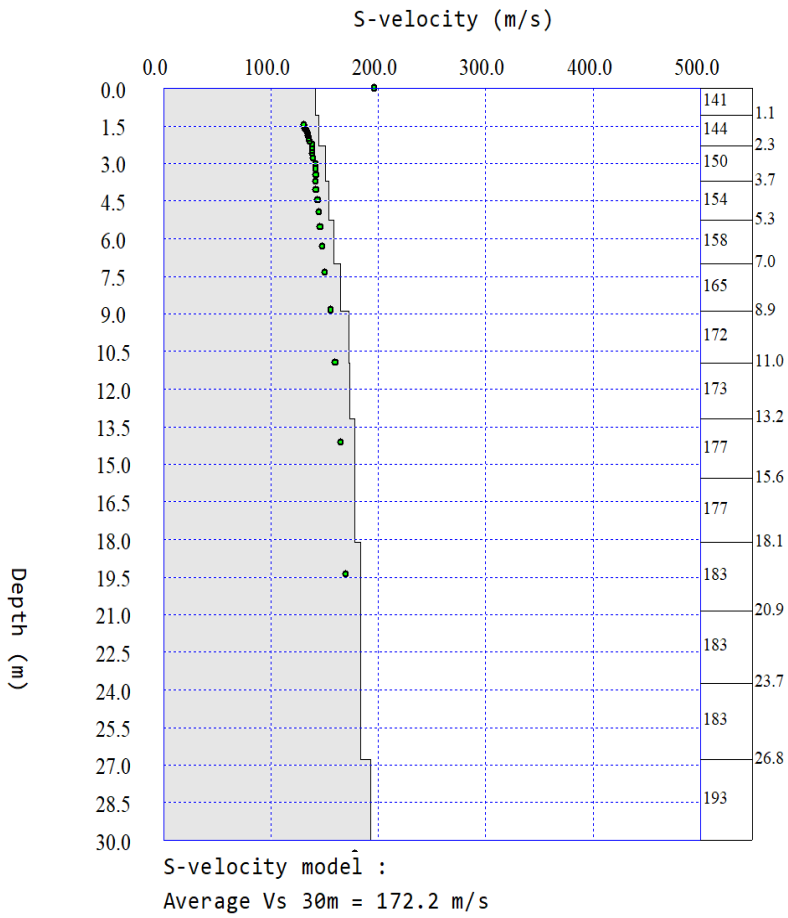
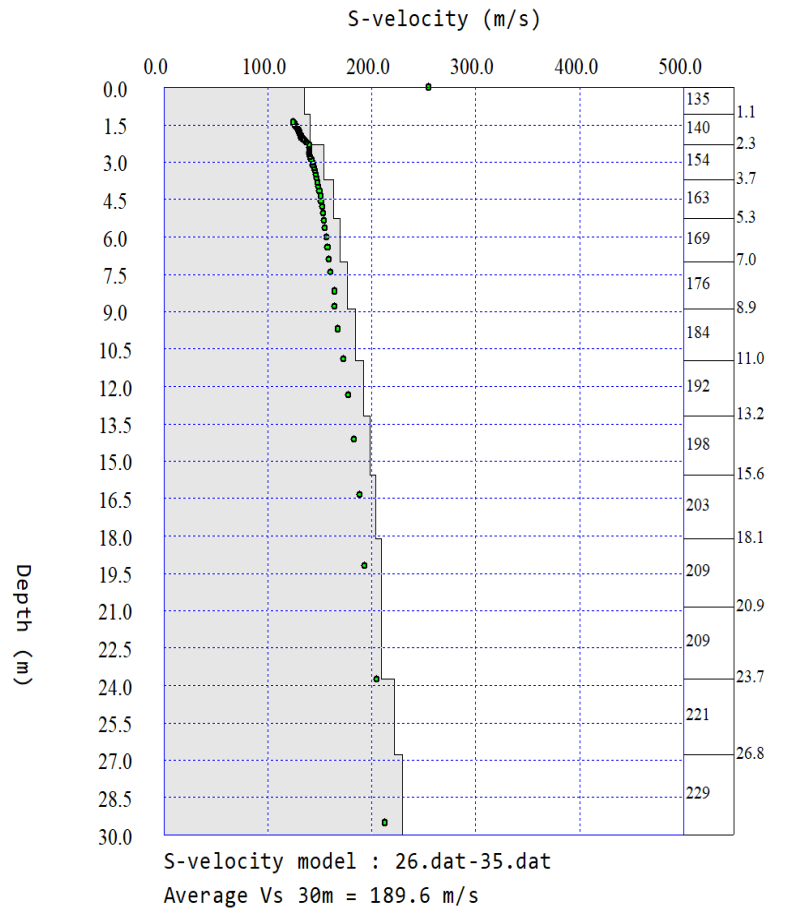


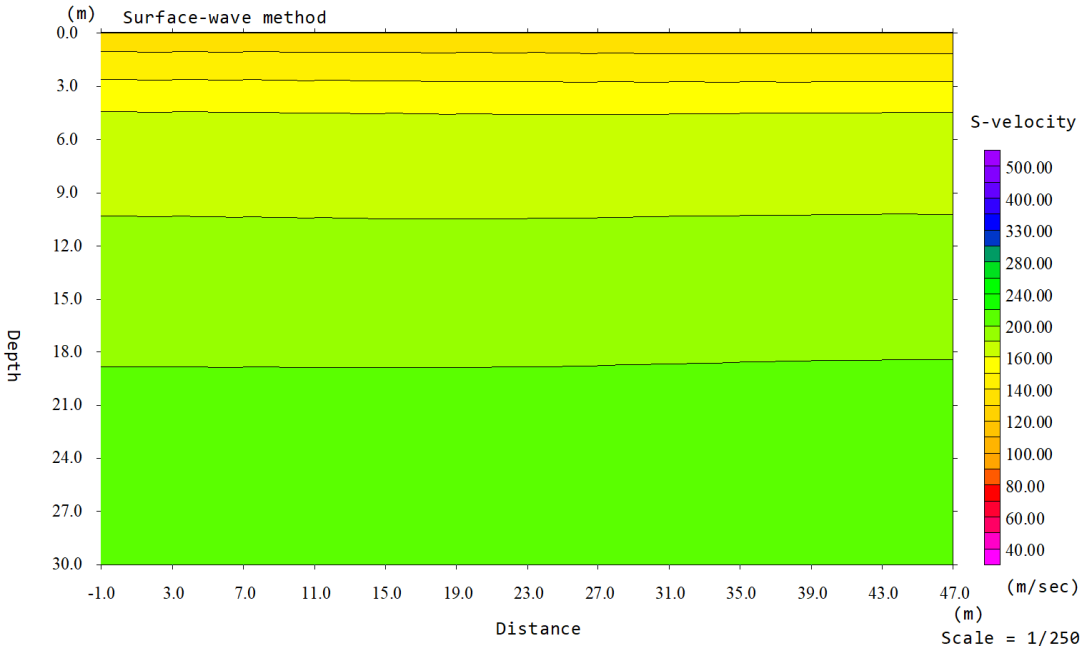
Phase Velocity and Dispersion Curve Active Source



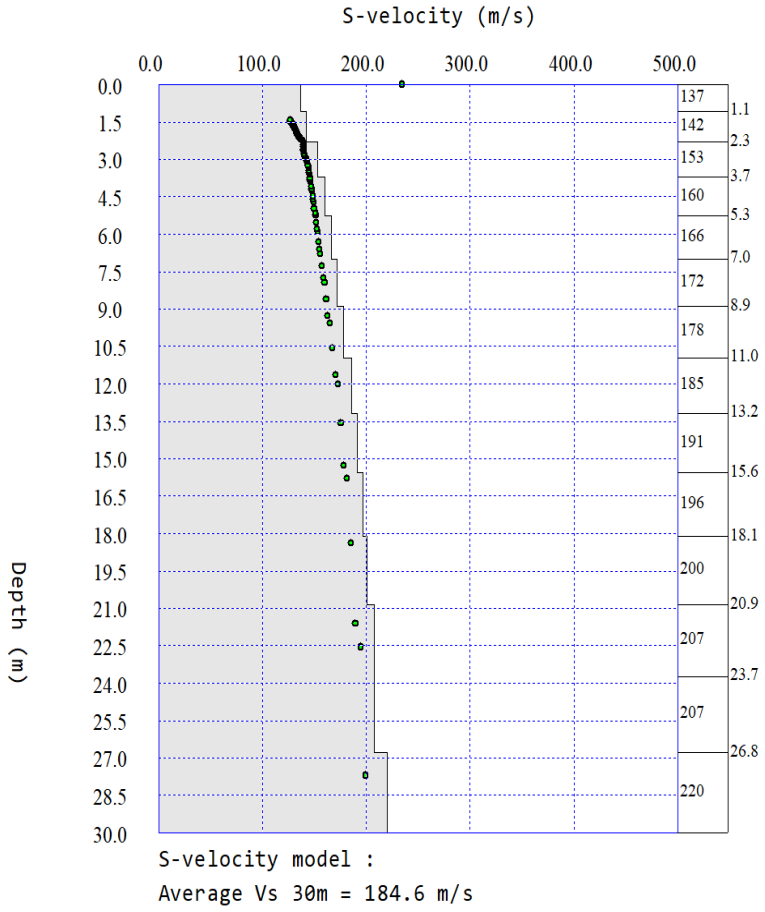


Phase Velocity and Dispersion Curve : Passive Source

AVS30: Active Source	AVS30: Passive Source
	

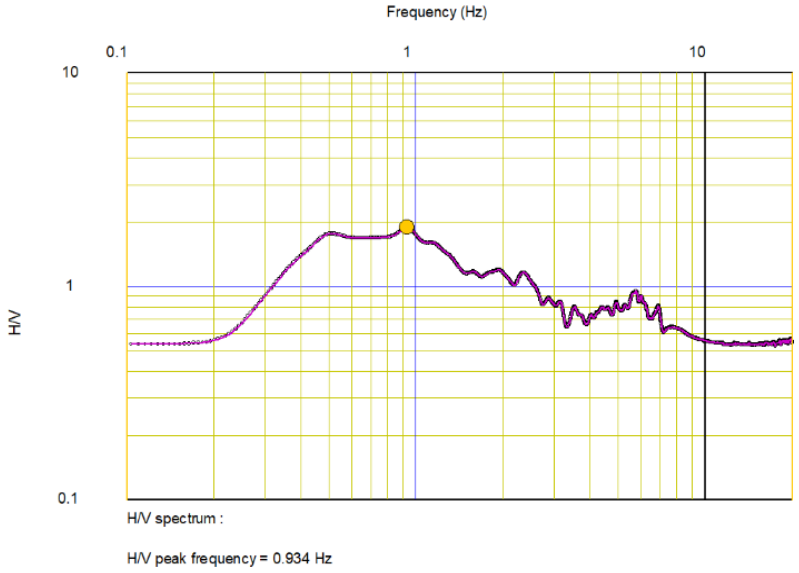
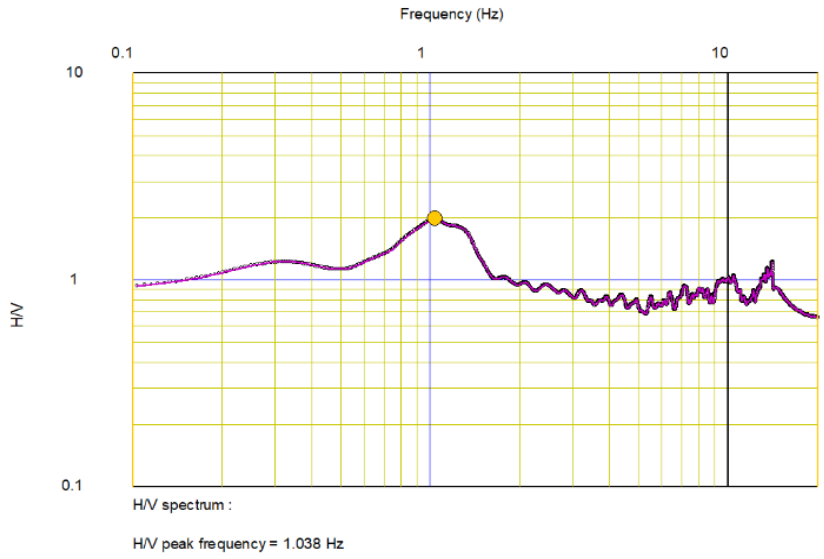


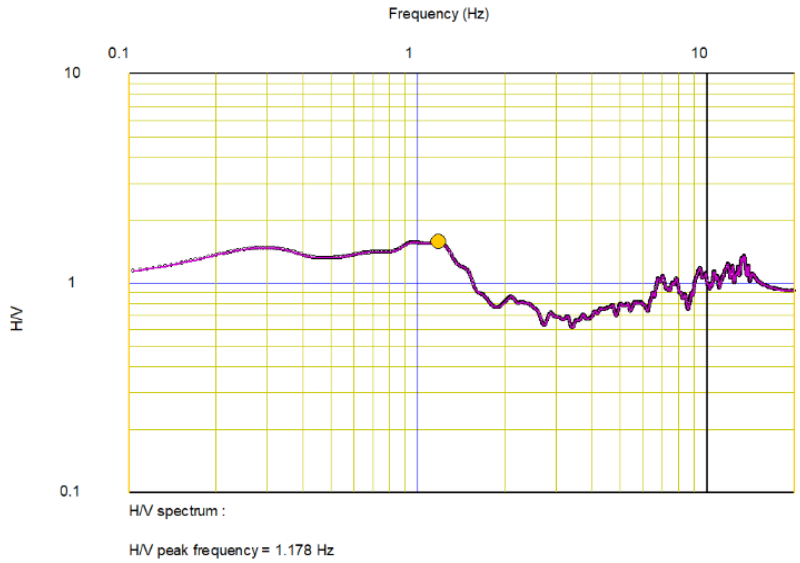
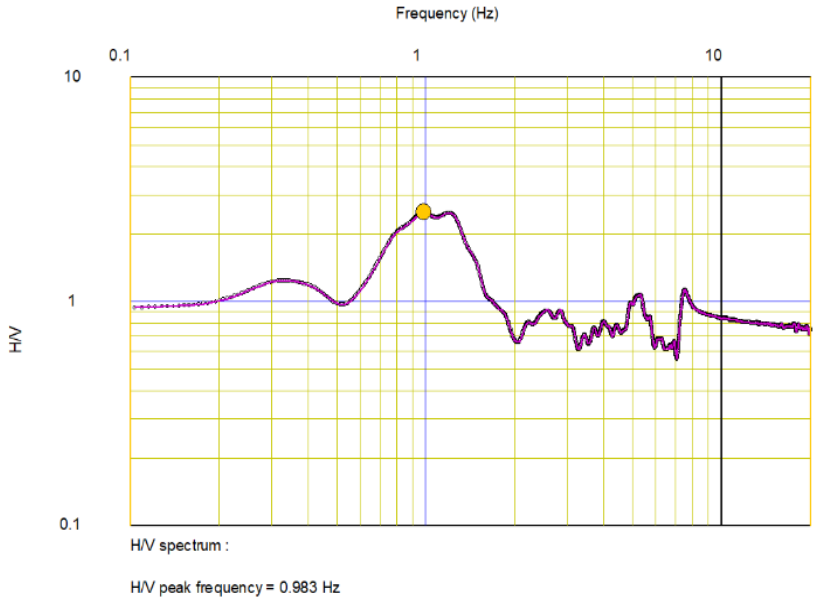
2D Velocity Profile

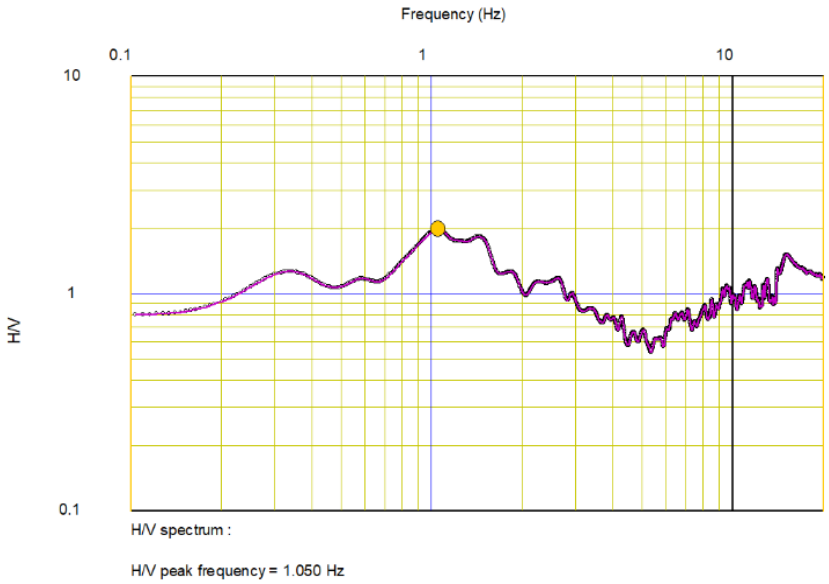
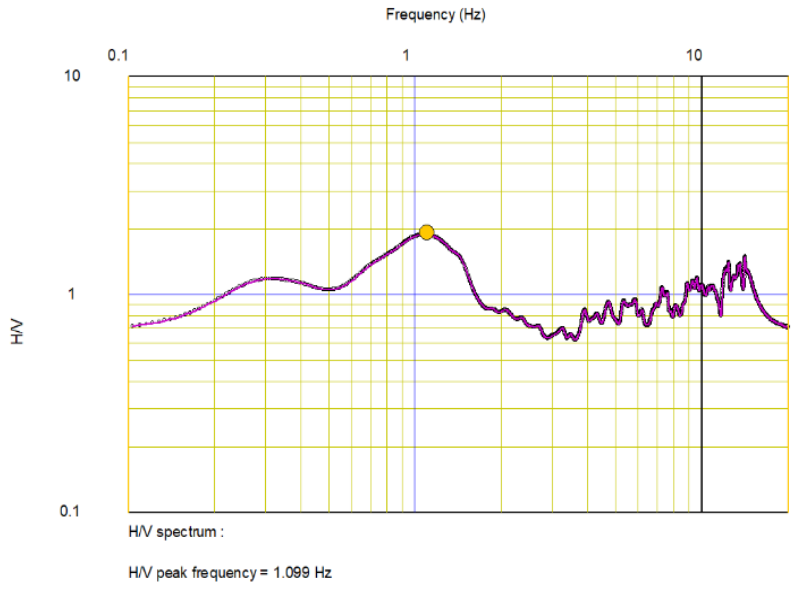


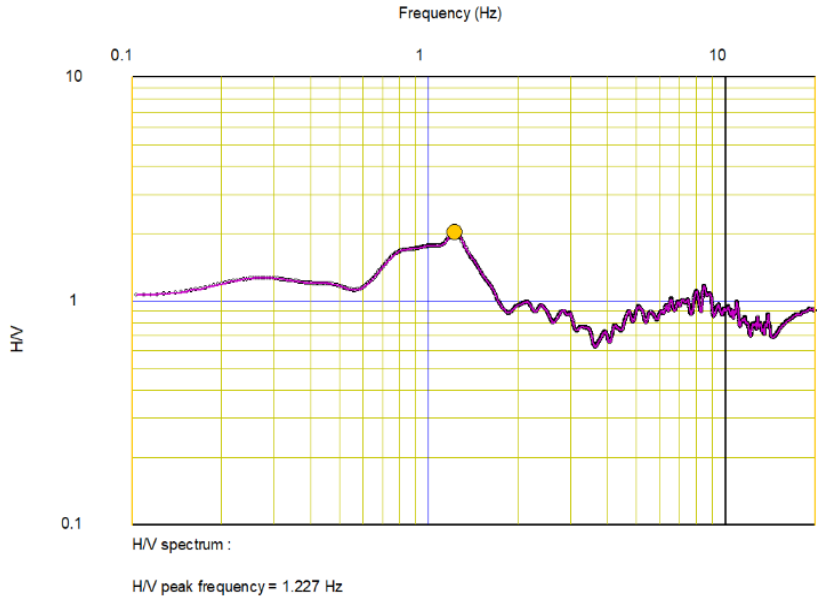
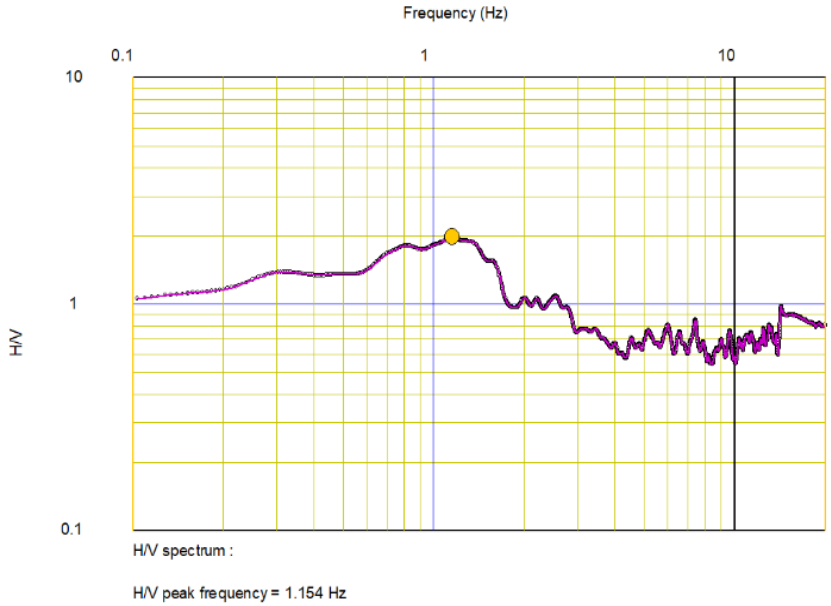
AVS30 (Active and Passive Source Combined)

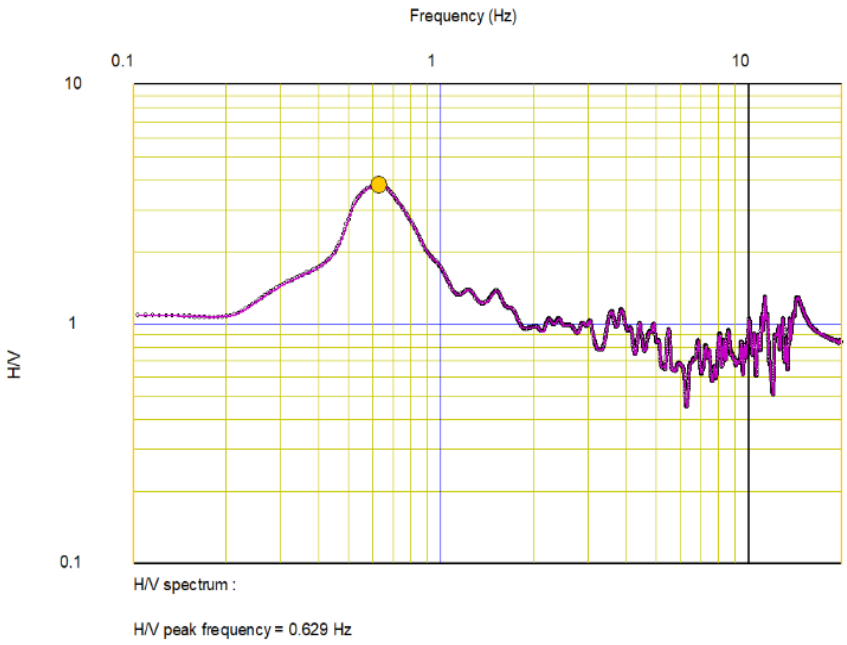
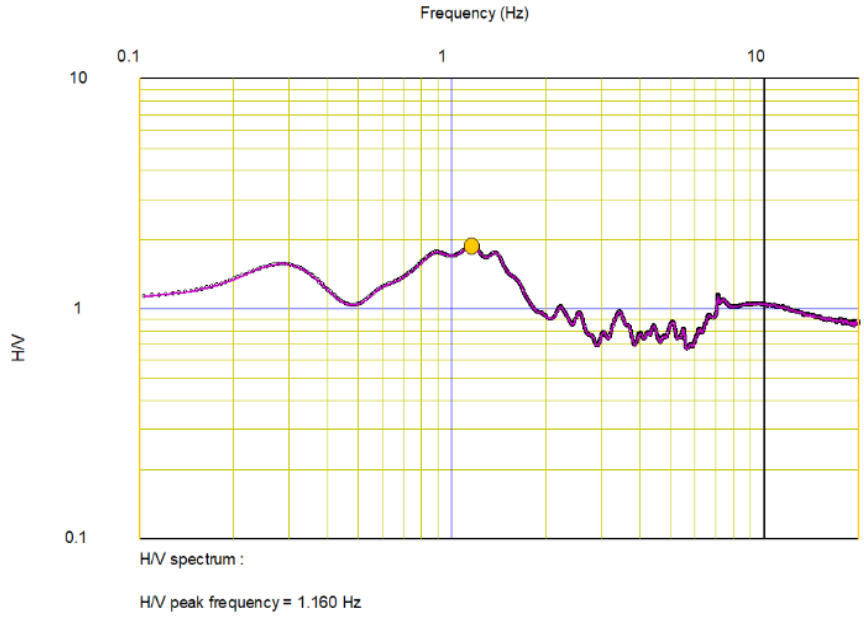
Survey and Data Analysis Result of Microtremor Measurement

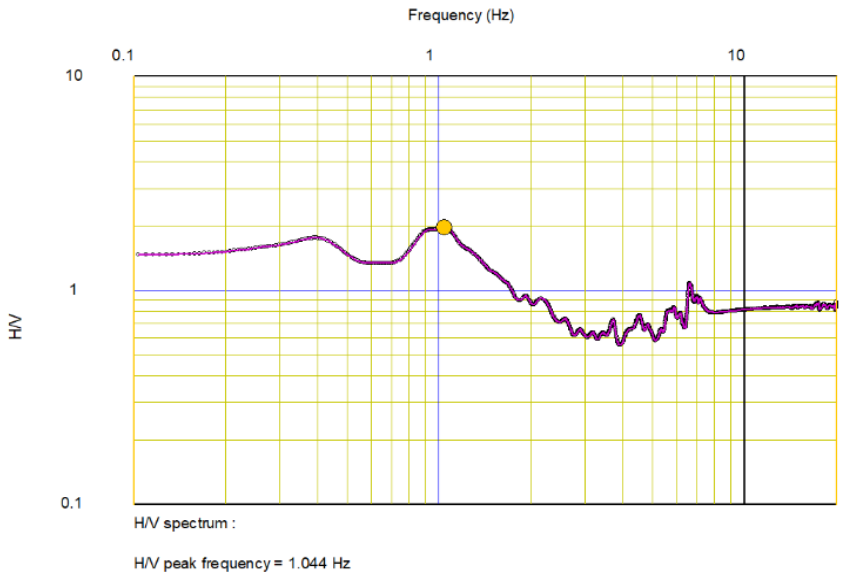
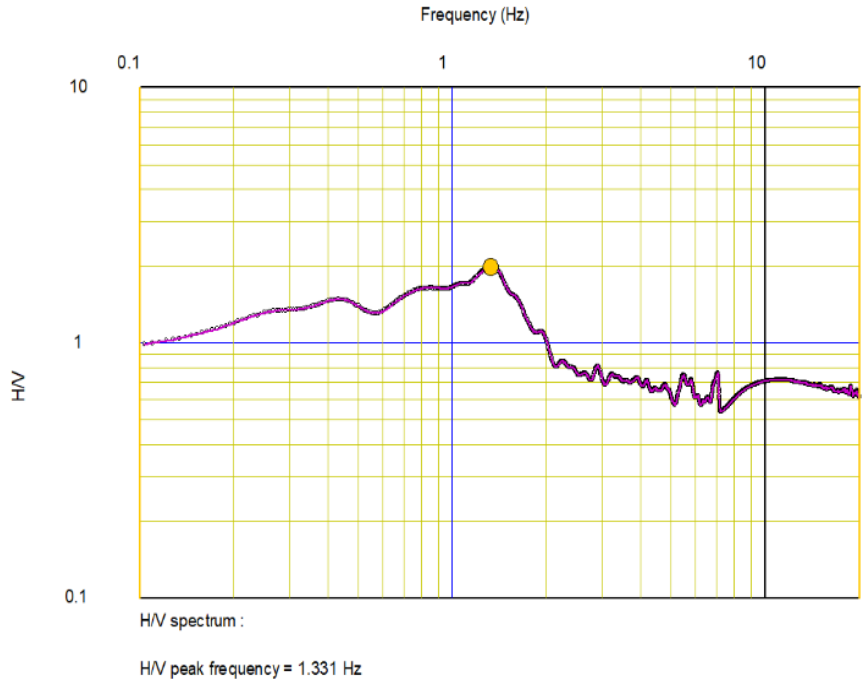
MT-1	Location: Vobanipur Primary School, Mujibnagar. Lat: 23.6681886, Long: 88.6182097
	
MT-2	Location: Sonapur Govt Primary School, Mujibnagar. Lat: 23.6484357, Long: 88.5839227
	

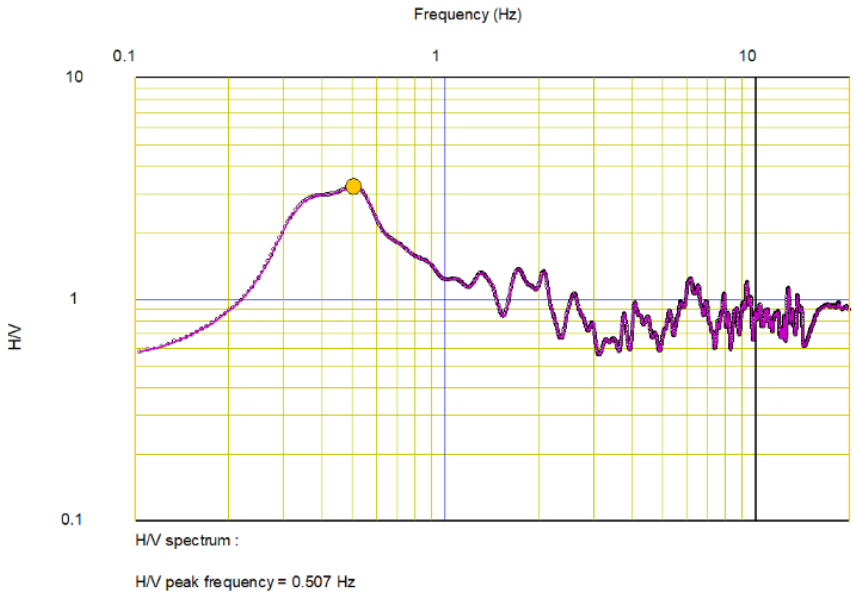
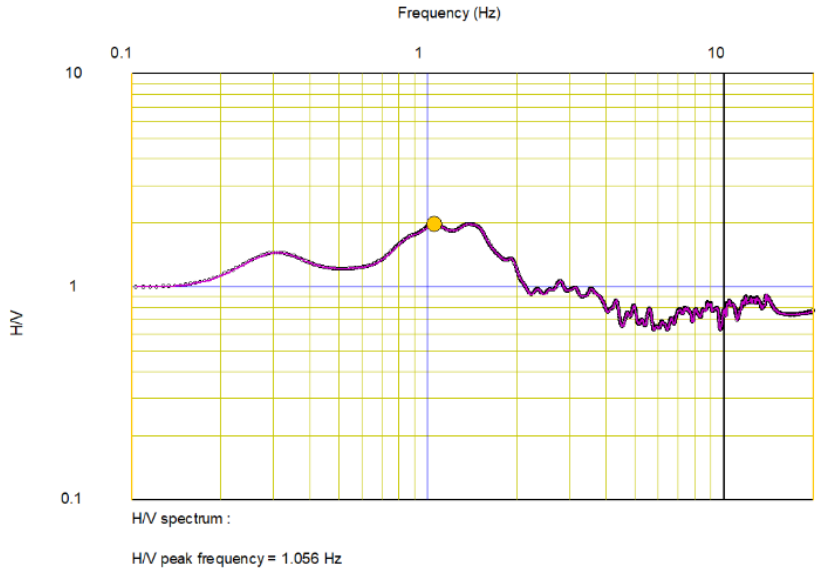
MT-3	Location: Dholmary Primary School, Mujibnagar. Lat: 23.6485396, Long: 88.6503493
	
MT-4	Location: Meherpur Govt High School, Meherpur Sadar. Lat: 23.7742131, Long:88.6340626
	

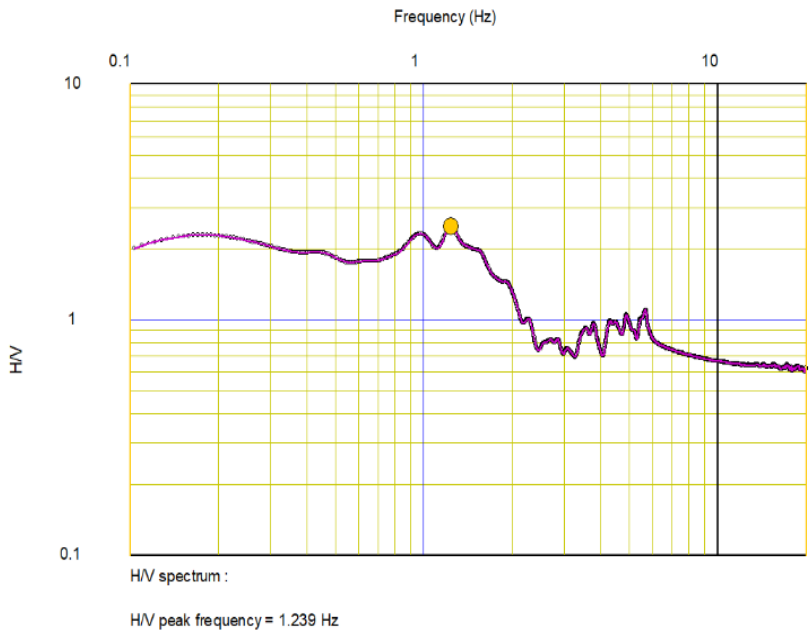
MT-5	Location: Buripota Primary School, Meherpur Sadar. Lat: 23.7660193, Long: 88.5815818
	
MT-6	Location: Amjhupi Girls Govt. Primary School, Meherpur Sadar. Lat: 22.816391, Long: 89.941130
	

MT-7	Location: Ashrafpur Govt Primary School, Meherpur Sadar. Lat: 23.7064439, Long:88.6463092
	
MT-8	Location: Boliarpur Govt. Primary School, Meherpur Sadar. Lat: 23.696989, Long: 88.7393638
	

MT-9	Location: Jorepukuria Secondary School, Gangni. Lat: 23.861312, Long: 88.7769724
	
MT-10	Location: Nowpara Primary School, Gangni. Lat: 23.8508191, Long: 88.700172
	

MT-11	Location: Bhatpara Govt. Primary School, Gangni. Lat: 23.7638196, Long: 88.7606622
	
MT-12	Location: K. A. B. High School, Gangni. Lat: 23.8145666, Long: 88.8045911
	

MT-13	Location: Motmura Govt Primary School, Gangni. Lat: 23.8982973, Long: 88.8346479
	
MT-14	Location: Betbaria Girl's School, Gangni. Lat: 23.9558882, Long: 88.7920199
	

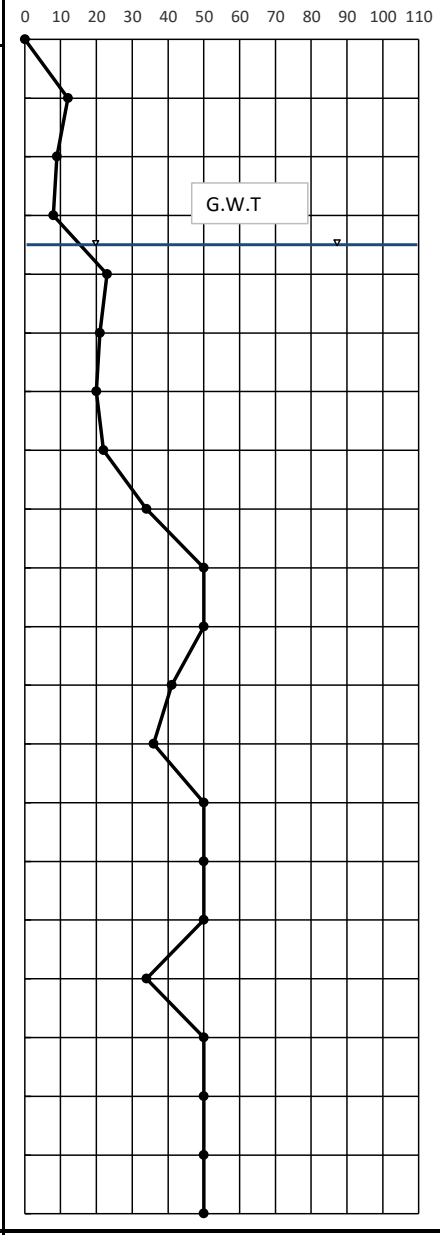
MT-15	Location: Karamdi Secondary School, Gangni. Lat: 23.9049062, Long: 88.7515474
	

Standard Penetration Test (SPT) Logsheet

GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-01	**Ground Water Level:**	**4.8m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**25/09/2024**
Boring Depth:	30m	**Completed on:**	**25/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Dariapur High School, Mujibnagar, Meherpur**	**Coordinates:**	**Lat. 23.709654**, **Long. 88.610168**

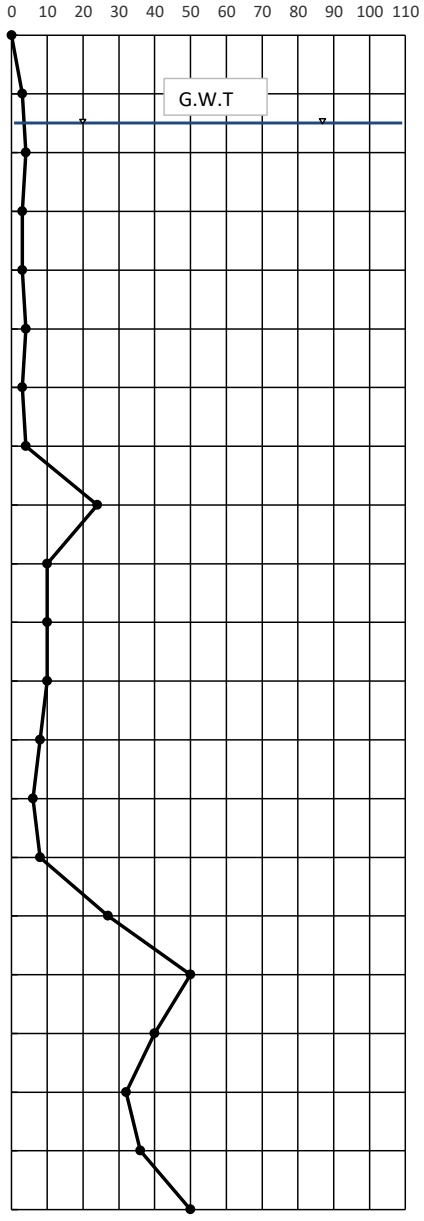
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Stiff **SILT** with Little Very Fine Sand			4.5	4	5	7	12
3.0					2	4	5	9
4.5					2	3	5	8
6.0	Gray Medium Dense very Fine to Fine **SAND**			6	5	8	15	23
7.5					4	7	14	21
9.0					4	7	13	20
10.5					5	7	15	22
12.0	Gray Dense to very Dense fine to very Fine **SAND** WITH Little Silt			13.5	8	12	22	34
13.5					16	50	0	50 6"Over
15.0					10	27	23	50 3"Over
16.5					13	16	25	41
18.0					10	15	21	36
19.5					20	50	0	50 6"Over
21.0					15	50	0	50 10"Over
22.5					27	50	0	50 9"Over
24.0					12	15	19	34
25.5	Gray Very Dense Fine to very Fine **SAND** with Little Silt			6	15	50	0	50 6"Over
27.0					50	0	0	50 13"Over
28.5					50	0	0	50 14"Over
30.0					18	29	21	50



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-02	**Ground Water Level:**	**2.4m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**23/09/2024**
Boring Depth:	30m	**Completed on:**	**23/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Near Dariapur BDR Camp, Mujibnagar , Meherpur**	**Coordinates:**	**Lat. 23.7158137**, **Long. 88.5828122**

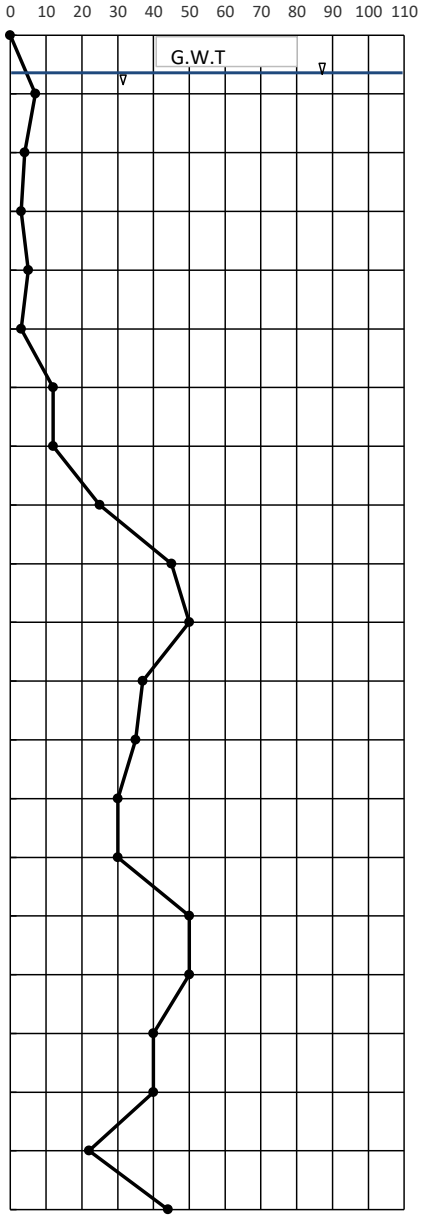
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray to Gray Soft Clayey **SILT**, little very fine sand			10.5	1	1	2	3
3.0					1	2	2	4
4.5					1	1	2	3
6.0					1	1	2	3
7.5					1	2	2	4
9.0					1	1	2	3
10.5					1	2	2	4
12.0	Gray Loose to Medium Dense Very Fine **SAND** with Little Silt			4.5	8	12	12	24
13.5					2	4	6	10
15.0					2	4	6	10
16.5	Gray Medium Stiff Clayey **SILT**			6	3	5	5	10
18.0					3	4	4	8
19.5					2	3	3	6
21.0					3	4	4	8
22.5	Gray Dense to very Dense Fine **SAND**			9	6	9	18	27
24.0					18	50	0	50 6"Over
25.5					13	15	25	40
27.0					10	14	18	32
28.5					12	16	20	36
30.0					15	25	25	50



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-03	**Ground Water Level:**	**1m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**24/09/2024**
Boring Depth:	30m	**Completed on:**	**24/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt / Sand / Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Near Gourinagar Nagarmath Bottola, Mujibnagar, Meherpur**	**Coordinates:**	**Lat. 23.684995**, **Long. 88.581826**

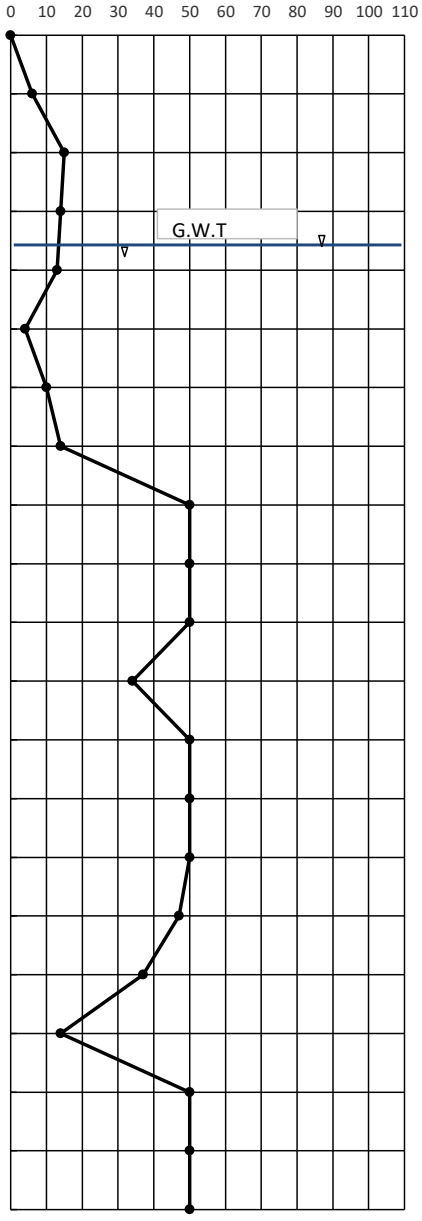
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray to Gray very Loose to loose Very Fine **SAND**			3	2	3	4	7
3.0					1	2	2	4
4.5	Gray Soft to medium stiff **CLAY**			4.5	1	1	2	3
6.0					1	2	3	5
7.5					1	1	2	3
9.0	Gray Medium Dense Very Fine **SAND** with Little Silt and mica			4.5	4	5	7	12
10.5					3	6	6	12
12.0					6	9	16	25
13.5	Gray Dense to Very Dense Fine to Medium **SAND**			18	15	20	25	45
15.0					10	30	20	50 4"Over
16.5					10	15	22	37
18.0					8	13	22	35
19.5					8	11	19	30
21.0					9	13	17	30
22.5					16	50	0	50 8"Over
24.0					15	30	20	50 2"Over
25.5					13	18	22	40
27.0					14	18	22	40
28.5					6	9	13	22
30.0					8	17	27	44



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-04	**Ground Water Level:**	**5.5m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**16/09/2024**
Boring Depth:	30m	**Completed on:**	**17/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Vobanipur Govt. Primary School, Mujibnagar, Meherpur**	**Coordinates:**	**Lat. 23.668205**, **Long. 88.6182135**

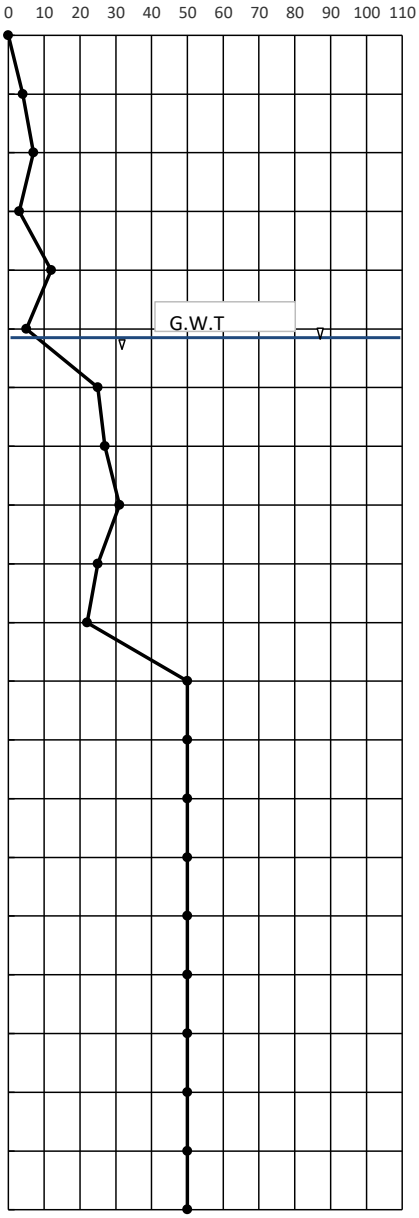
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Loose Very Fine **SAND** with Sufficient Silt			1.5	2	3	3	6
3.0	Brownish Gray Stiff **SILT** with Very Fine Sand			3	3	6	9	15
4.5					4	6	8	14
6.0					3	6	7	13
7.5	Gray Loose to Medium Dense Very Fine to medium **SAND** with Trace of Silt			6	2	2	2	4
9.0					4	4	6	10
10.5					5	6	8	14
12.0					10	40	10	50 5"Over
13.5					15	50	0	50 7"Over
15.0					14	30	20	50 3"Over
16.5					10	14	20	34
18.0	Gray Dense to Very Dense Very Fine to medium **SAND** with Trace of Silt			13.5	20	50	0	50 8"Over
19.5					24	40	10	50 5"Over
21.0					15	50	0	50 7"Over
22.5					10	15	32	47
24.0					8	12	25	37
25.5	Brownish Gray Stiff **SILT** with Little Very Fine Sand			1.5	5	6	8	14
27.0	Gray Very Dense medium to very Fine **SAND**			4.5	18	40	10	50 5"Over
28.5					22	50	0	50 7"Over
30.0					24	50	0	50



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-05	**Ground Water Level:**	**7.3m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**09-12-24**
Boring Depth:	30m	**Completed on:**	**09-12-24**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Sonapur Govt. Primary School, Mujibnagar, Meherpur**	**Coordinates:**	**Lat. 23.6484837**, **Long. 88.5839159**

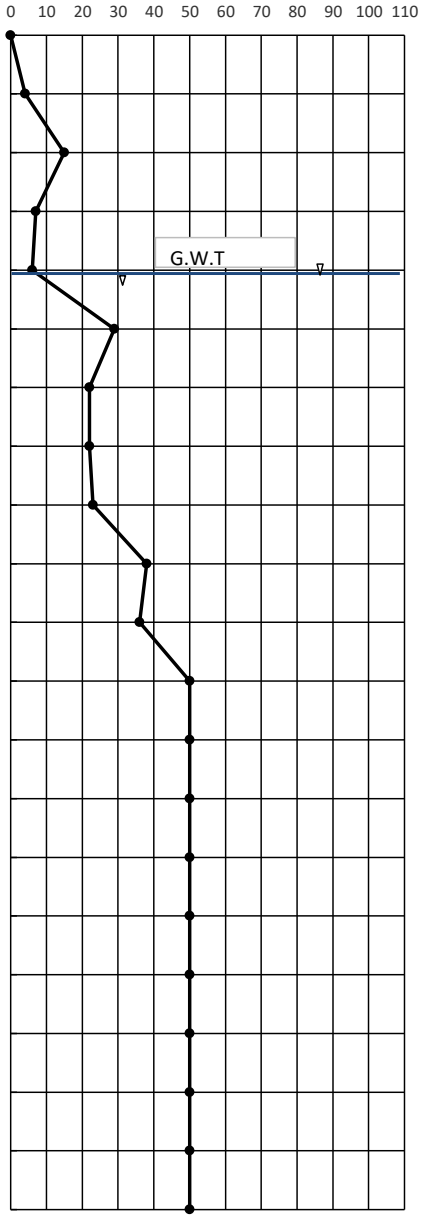
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Very Loose to Loose Fine **SAND**			3	1	2	2	4
3.0					2	3	4	7
4.5	Brownish Gray Stiff Silty **CLAY** with Little Very Fine Sand			3	1	1	2	3
6.0					3	4	8	12
7.5	Gray Loose to Medium Dense Fine **SAND** with Little Silt			9	2	2	3	5
9.0					6	10	15	25
10.5					10	12	15	27
12.0					8	13	18	31
13.5					8	10	15	25
15.0					6	9	13	22
16.5	Gray Very Dense Fine to Medium **SAND** trace silt			15	15	50	0	50 6"Over
18.0					18	50	0	50 7"Over
19.5					20	35	15	50 5"Over
21.0					20	25	25	50 2"Over
22.5					20	28	22	50 3"Over
24.0					20	30	20	50 4"Over
25.5					22	35	15	50 5"Over
27.0					20	32	18	50 5"Over
28.5					24	40	10	50 5"Over
30.0					28	50	0	50



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-06	**Ground Water Level:**	**6.091m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**13/092024**
Boring Depth:	30m	**Completed on:**	**14/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Anandabas Markajul Ulum Madrasa, Mujibnagar, Meherpur**	**Coordinates:**	**Lat. 23.6362041**, **Long. 88.611549**

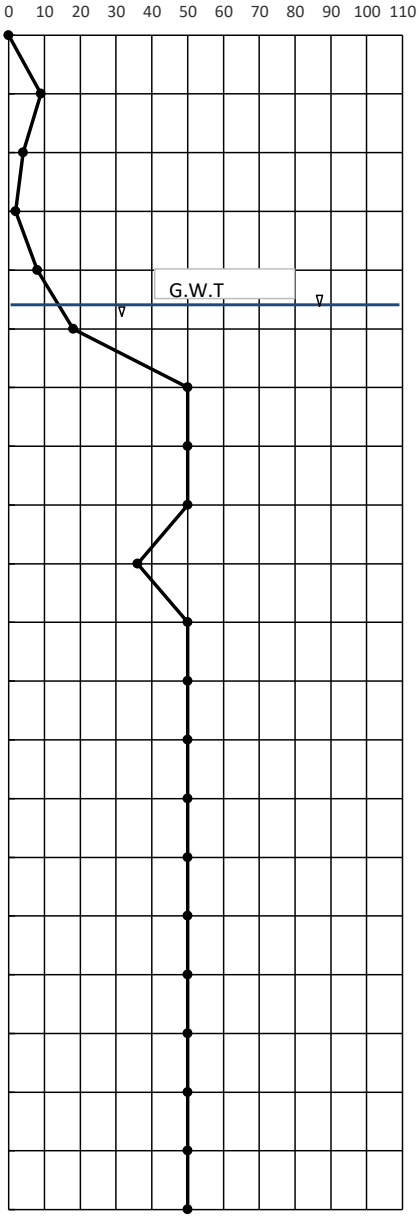
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5					1	2	2	4
3.0	Brownish Gray Medium Stiff Clayey **SILT**			6	4	6	9	15
4.5					2	3	4	7
6.0					2	2	4	6
7.5					6	13	16	29
9.0					4	8	14	22
10.5	Gray Medium Dense to Dense Fine SAND with Little Silt			9	7	10	12	22
12.0					5	8	15	23
13.5					8	16	22	38
15.0					9	16	20	36
16.5					12	25	25	50 1"Over
18.0					13	25	25	50 3"Over
19.5					23	50	0	50 9"Over
21.0					25	50	0	50 10"Over
22.5	Gray Very Dense Fine **SAND**			15	20	50	0	50 9"Over
24.0					23	50	0	50 8"Over
25.5					50	0	0	50 12"Over
27.0					25	50	0	50 10"Over
28.5					32	50	0	50 7"Over
30.0					37	50	0	50



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-07	**Ground Water Level:**	**6.7m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**09-11-24**
Boring Depth:	30m	**Completed on:**	**09-12-24**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt | Sand | Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Joypur Govt. Primary School, Mujibnagar, Meherpur**	**Coordinates:**	**Lat. 23.6111496**, **Long. 88.6234667**

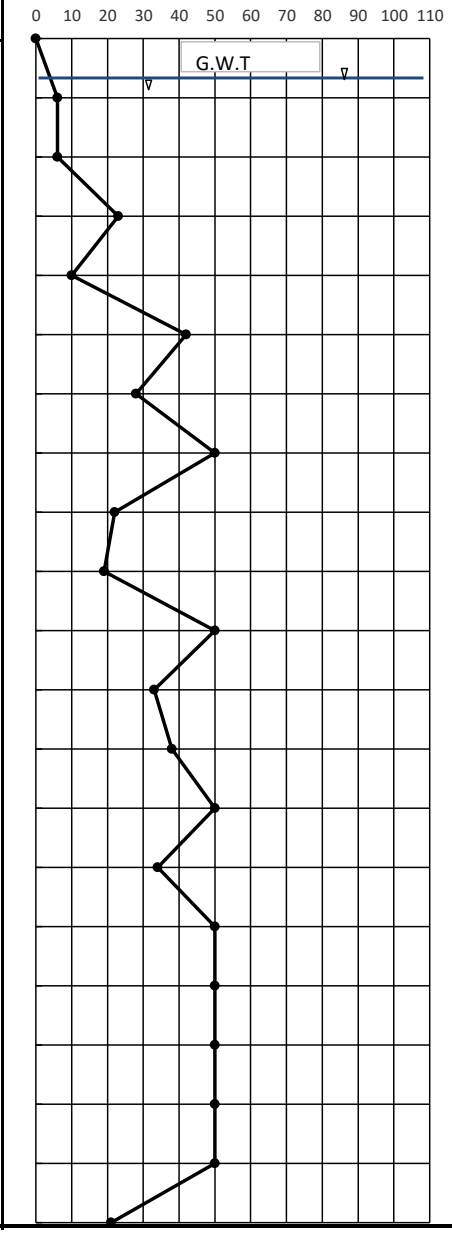
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Gray Very Soft to Medium Stiff **SILT** with Very Fine Sand			6	4	4	5	9
3.0					1	2	2	4
4.5					1	1	1	2
6.0					2	3	5	8
7.5	Gray very Dense Fine to Medium **SAND**			24	5	8	10	18
9.0					10	25	25	50 2"Over
10.5					23	50	0	50 6"Over
12.0					28	50	0	50 8"Over
13.5					9	16	20	36
15.0					10	50	0	50 6"Over
16.5					18	50	0	50 7"Over
18.0					16	30	20	50 4"Over
19.5					24	50	0	50 9"Over
21.0					18	50	0	50 6"Over
22.5					22	50	0	50 8"Over
24.0					31	50	0	50 8"Over
25.5					29	50	0	50 9"Over
27.0					26	50	0	50 6"Over
28.5					28	50	0	50 7"Over
30.0					30	50	0	50



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-08	**Ground Water Level:**	**1m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**14/09/2024**
Boring Depth:	30m	**Completed on:**	**15/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt | Sand | Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Dholmary Govt. Primary School**	**Coordinates:**	**Lat. 23.648497**, **Long. 88.506179**

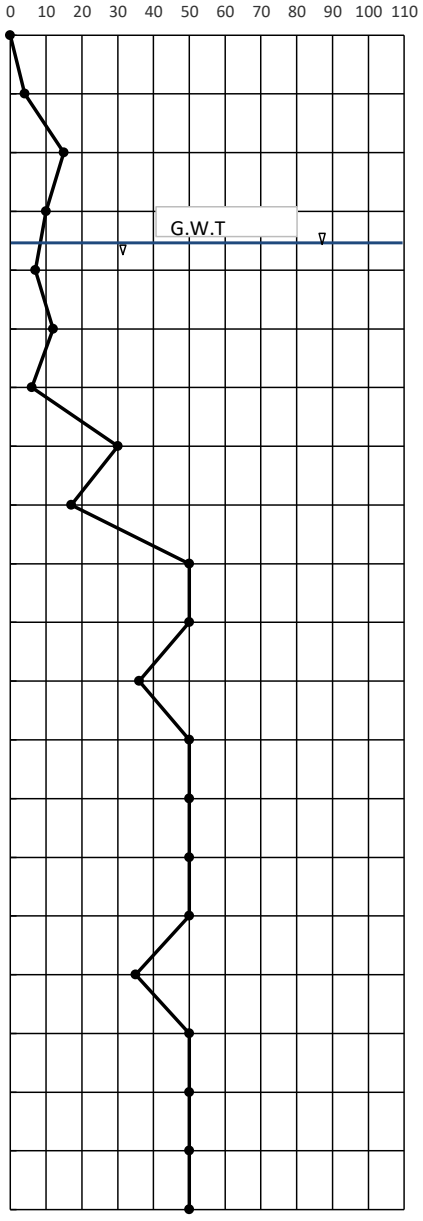
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Loose To Medium Dense Very Fine **SAND** with Sufficient Silt			6	2	3	3	6
3.0					2	2	4	6
4.5					5	10	13	23
6.0					2	4	6	10
7.5	Gray Dense Fine **SAND** with Trace Silt			15	10	18	24	42
9.0					4	12	16	28
10.5					10	20	30	50
12.0					7	10	12	22
13.5					4	9	10	19
15.0					10	18	32	50
16.5					10	15	18	33
18.0					12	16	22	38
19.5					12	20	30	50
21.0					11	15	19	34
22.5	Gray Very Dense Fine **SAND**			7.5	15	30	20	50 4"Over
24.0					12	29	21	50 4"Over
25.5					18	50	0	50 6"Over
27.0					17	50	0	50 7"Over
28.5					15	26	24	50 3"Over
30.0	Gray Very Stiff Clayey **SILT**			1.5	6	9	12	21



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-09	**Ground Water Level:**	**5.5m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**17/09/2024**
Boring Depth:	30m	**Completed on:**	**18/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Mohajonpur Uttarpara Govt. Primary School**	**Coordinates:**	**Lat. 23.658003**, **Long. 88.6774004**

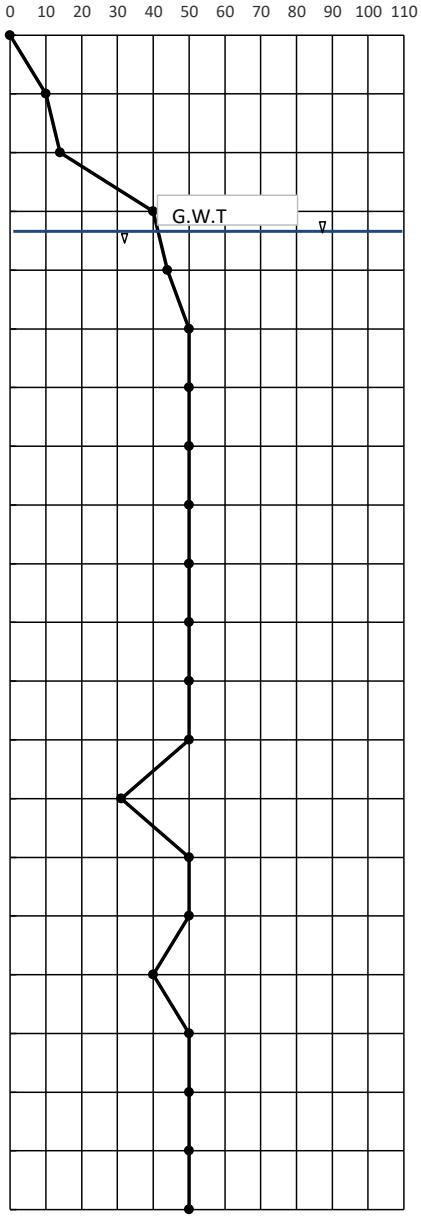
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Medium Stiff to Stiff **SILT**			6	1	2	2	4
3.0					3	7	8	15
4.5					2	4	6	10
6.0					2	3	4	7
7.5	Gray Medium Dense Very Fine **SAND** with Sufficient Silt			4.5	3	5	7	12
9.0					2	3	3	6
10.5					11	14	16	30
12.0	Gray Very Stiff Silty **CLAY**			1.5	4	7	10	17
13.5	Gray Very Dense Fine to Medium **SAND** with Organic Traces			18	18	50	0	50 7"Over
15.0					25	50	0	50 9"Over
16.5					10	17	19	36
18.0					12	30	20	50 4"Over
19.5					13	25	25	50 2"Over
21.0					12	29	21	50 4"Over
22.5					21	50	0	50 8"Over
24.0					10	15	20	35
25.5					16	27	23	50 2"Over
27.0					10	18	32	50 1"Over
28.5					27	40	10	50 5"Over
30.0					50	0	0	50



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-10	**Ground Water Level:**	**4.9m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**28/09/2024**
Boring Depth:	30m	**Completed on:**	**28/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Komorpur Govt .Primary School**	**Coordinates:**	**Lat. 23.683074**, **Long. 88.675168**

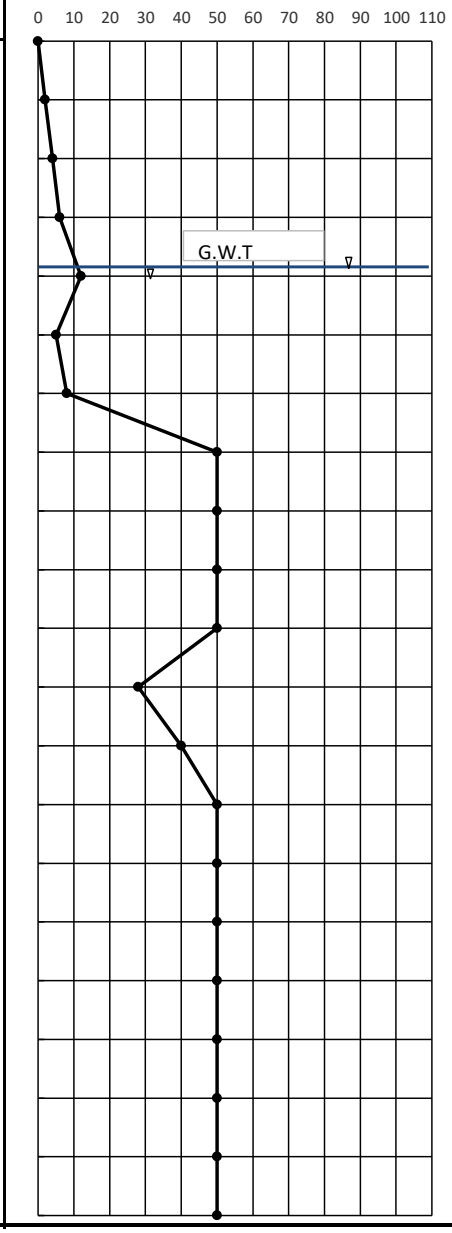
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Stiff **SILT** with Clay			3	2	5	5	10
3.0					3	6	8	14
4.5					10	18	22	40
6.0					12	20	24	44
7.5					14	27	23	50 3"Over
9.0					16	50	0	50 6"Over
10.5					17	50	0	50 6"Over
12.0					20	50	0	50 8"Over
13.5					14	50	0	50 7"Over
15.0					50	0	0	50 12"Over
16.5	Gray Dense to Very Dense Fine to Medium **SAND** with Trace of Silt			27	50	0	0	50 14"Over
18.0					33	50	0	50 9"Over
19.5					5	12	19	31
21.0					12	23	27	50
22.5					18	28	22	50 5"Over
24.0					7	16	24	40
25.5					12	50	0	50 6"Over
27.0					13	50	0	50 7"Over
28.5					14	35	15	50 3"Over
30.0					20	32	18	50



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-11	**Ground Water Level:**	**5.8m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**19/09/2024**
Boring Depth:	30m	**Completed on:**	**20/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Meherpur Govt. High School**	**Coordinates:**	**Lat. 23.684995, Long. 88.581826**

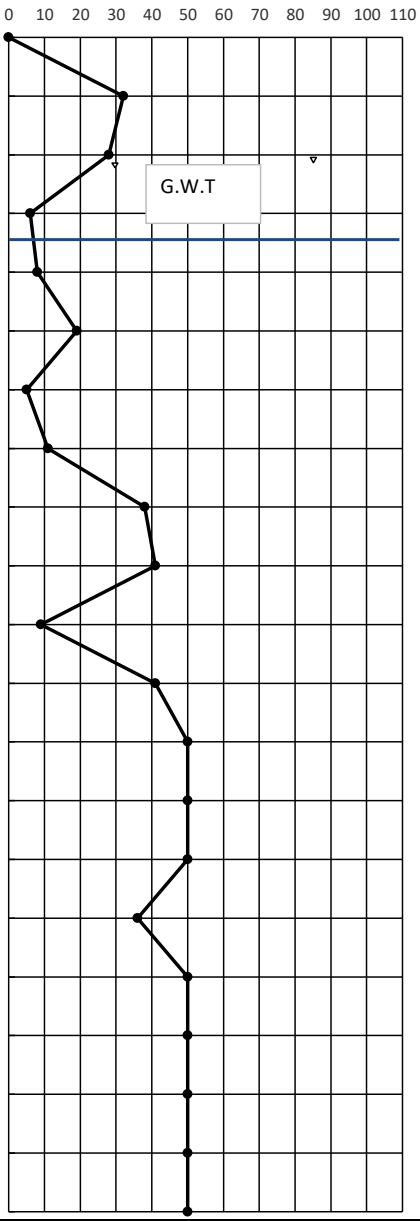
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Very Soft Clayey **SILT**			1.5	1	1	1	2
3.0				1.5	1	2	2	4
4.5					2	3	3	6
6.0				4.5	3	5	7	12
7.5					2	2	3	5
9.0				1.5	2	4	4	8
10.5	Gray Very Dense Very Fine to Fine **SAND** occationally Medium sand				16	40	10	50 5"Over
12.0					13	27	23	50 3"Over
13.5					16	50	0	50 9"Over
15.0					14	50	0	50 6"Over
16.5					10	12	16	28
18.0					16	18	22	40
19.5				21	18	25	25	50 4"Over
21.0					22	40	10	50 5"Over
22.5					28	50	0	50 6"Over
24.0					50	0	0	50 12"Over
25.5					50	0	0	50 12"Over
27.0					30	50	0	50 9"Over
28.5					18	50	0	50 8"Over
30.0					16	50	0	50



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-12	**Ground Water Level:**	**5.1m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**22/09/2024**
Boring Depth:	30m	**Completed on:**	**22/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt | Sand | Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Shalika High School Meherpur Sadar**	**Coordinates:**	**Lat.** 23.749598 / **Long.** 88.592546

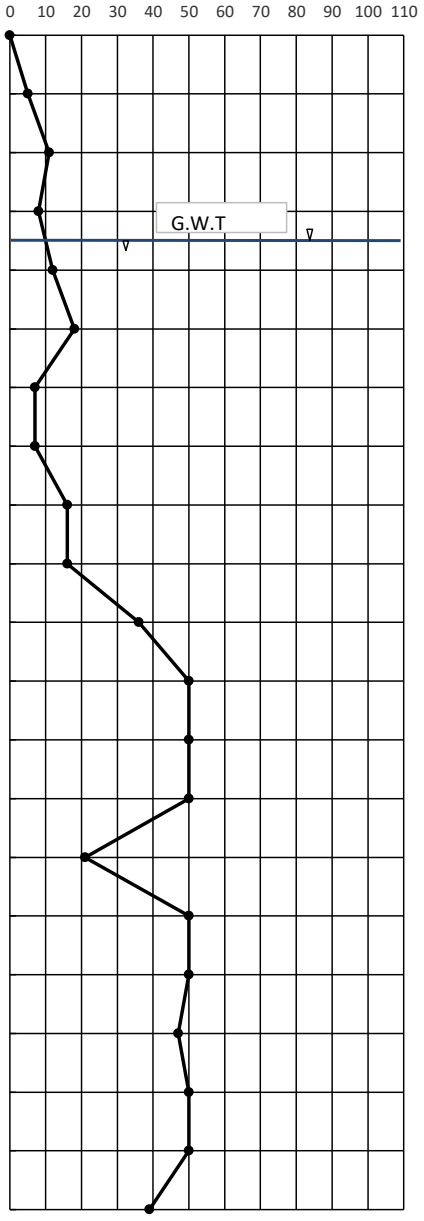
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray to Gray Medium Stiff to Stiff Silty **CLAY**			10.5	5	11	21	32
3.0					8	12	16	28
4.5					2	2	4	6
6.0					2	3	5	8
7.5					5	7	12	19
9.0					2	2	3	5
10.5					2	4	7	11
12.0	Gray Dense Fine to Very Fine **SAND** with Little Silt			3	10	16	22	38
13.5					13	18	23	41
15.0	Gray very Dense medium to Very Fine **SAND**			16.5	3	3	6	9
16.5					10	17	24	41
18.0					10	18	32	50
19.5					10	22	28	50 1"Over
21.0					12	25	25	50 2"Over
22.5					8	16	20	36
24.0					13	50	0	50 6"Over
25.5					18	50	0	50 6"Over
27.0					22	50	0	50 8"Over
28.5					20	50	0	50 10"Over
30.0					16	50	0	50



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-13	**Ground Water Level:**	**5.18m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**21/09/2024**
Boring Depth:	30m	**Completed on:**	**21/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Harirampur Secondary School, Meherpur Sadar**	**Coordinates:**	**Lat. 23.7861621**, **Long. 88.5969308**

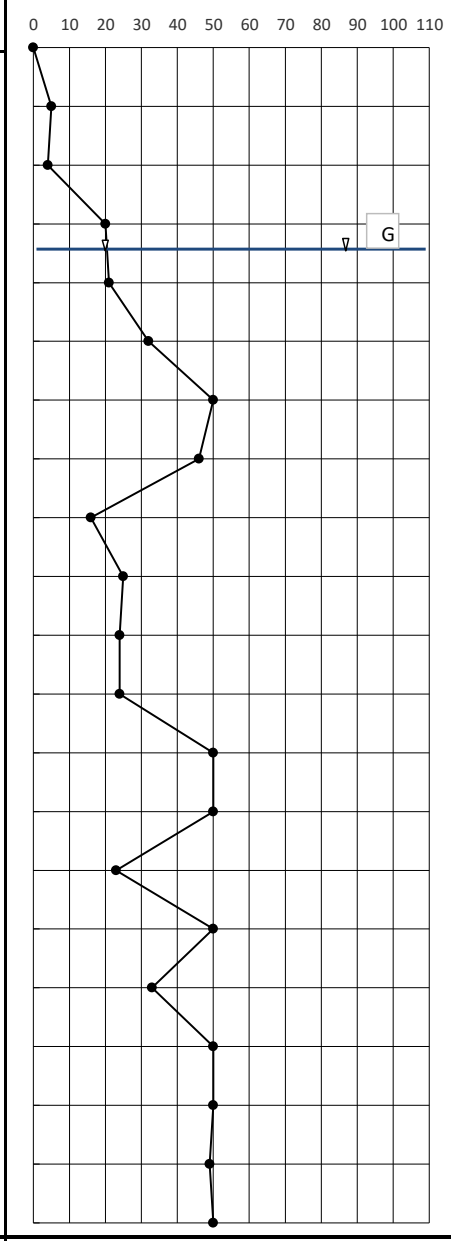
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray to Gray Loose to Medium Dense Very Fine **SAND** with Little Silt			13.5	2	2	3	5
3.0					3	4	7	11
4.5					3	3	5	8
6.0					3	5	7	12
7.5					4	7	11	18
9.0					2	3	4	7
10.5					2	2	5	7
12.0					3	6	10	16
13.5					3	5	11	16
15.0	Gray Dense to Very Dense Fine **SAND**			16.5	5	15	21	36
16.5					20	50	0	50 6"Over
18.0					24	50	0	50 7"Over
19.5					18	50	0	50 8"Over
21.0					6	9	12	21
22.5					14	30	20	50 2"Over
24.0					10	18	32	50
25.5					16	22	25	47
27.0					15	30	20	50 5"Over
28.5					11	17	33	50 3"Over
30.0					10	13	26	39



GEOTECHNICAL BOREHOLE LOG

Borehole No:	BH- 14	**Ground Water Level:**	**4.57 m**
Method of Boring and Diameter:	Percussion (100 mm)	**Started on:**	**16/09/2024**
Boring Depth:	30m	**Completed on:**	**16/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development for Meherpur Zilla		
Location:	**Ujalpur High School, Meherpur Sadar**	**Coordinates:**	**Lat. 23.8152581**, **Long. 88.62626**

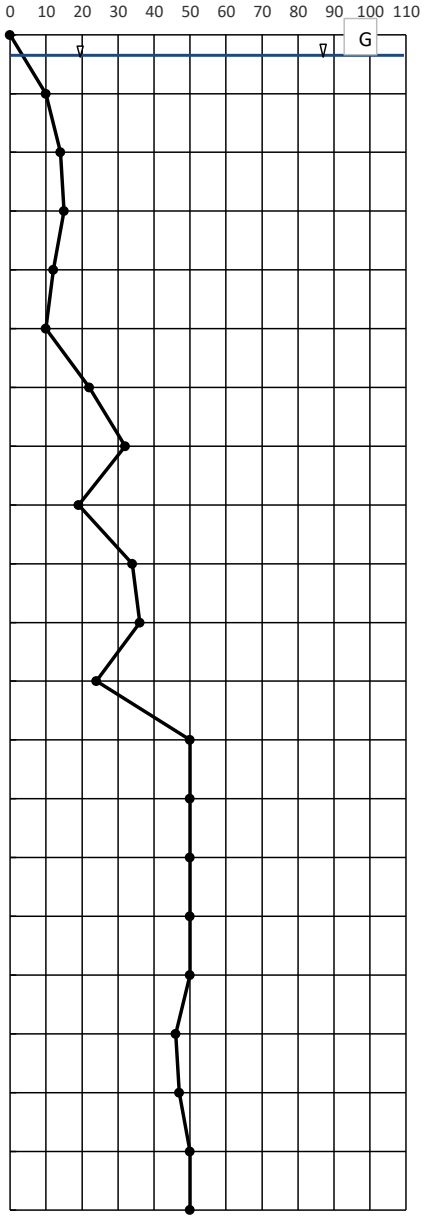
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Soft to Medium Stiff Clayey **SILT** with Little Organic Matter			3	2	2	3	5
3.0					2	2	2	4
4.5	Dark Gray Medium Dense to Dense Medium **SAND** with Little Clay & Mica			13.5	4	8	12	20
6.0					6	7	14	21
7.5					8	14	18	32
9.0					13	22	28	50
10.5					13	20	26	46
12.0					4	6	10	16
13.5					7	11	14	25
15.0					5	10	14	24
16.5					8	10	14	24
18.0	Bluish Gray Dense to Very Dense Medium to Fine **SAND** trace Clay			13.5	16	50	0	50 7"Over
19.5					20	50	0	50 6"Over
21.0					7	10	13	23
22.5					18	25	25	50
24.0					12	14	19	33
25.5					15	20	30	50 3"Over
27.0					15	50	0	50 6"Over
28.5					18	22	27	49
30.0					12	20	30	50



GEOTECHNICAL BOREHOLE LOG

Borehole No:	BH-15	**Ground Water Level:**	**0.30 m**
Method of Boring and Diameter:	Percussion (100 mm)	**Started on:**	**15/09/2024**
Boring Depth:	30m	**Completed on:**	**16/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt | Sand | Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Sholmary Govt. Primary School, Meherpur Sadar**	**Coordinates:**	**Lat. 23.8555441**, **Long. 88.6077649**

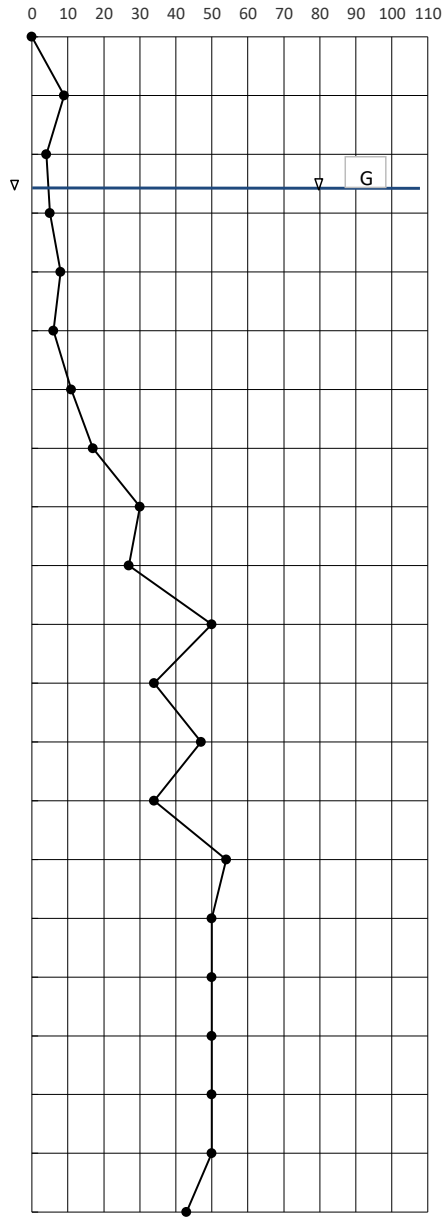
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Gray Medium to Dense Fine to Medium SAND Little Silt			16.5	2	4	6	10
3.0					4	6	8	14
4.5					6	6	9	15
6.0					4	5	7	12
7.5					3	4	6	10
9.0					7	9	13	22
10.5					7	14	18	32
12.0					4	7	12	19
13.5					7	14	20	34
15.0					10	11	25	36
16.5					5	10	14	24
18.0	Gray Medium Dense to Dense Very Fine to Fine **SAND** Trace of Silt			13.5	15	50	-	50 6"Over
19.5					18	50	-	50 6"Over
21.0					26	50	-	50 7"Over
22.5					18	30	20	50 3"Over
24.0					20	35	15	50 4"Over
25.5					17	20	26	46
27.0					10	22	25	47
28.5					12	30	20	50 4"Over
30.0					12	25	25	50



GEOTECHNICAL BOREHOLE LOG

Borehole No:	BH-16	**Ground Water Level:**	**3.66 m**
Method of Boring and Diameter:	Percussion (100 mm)	**Started on:**	**14/09/2024**
Boring Depth:	30m	**Completed on:**	**14/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Kaligangni Govt. Primary School, Meherpur Sadar**	**Coordinates:**	**Lat. 23.844148**, **Long. 88.691053**

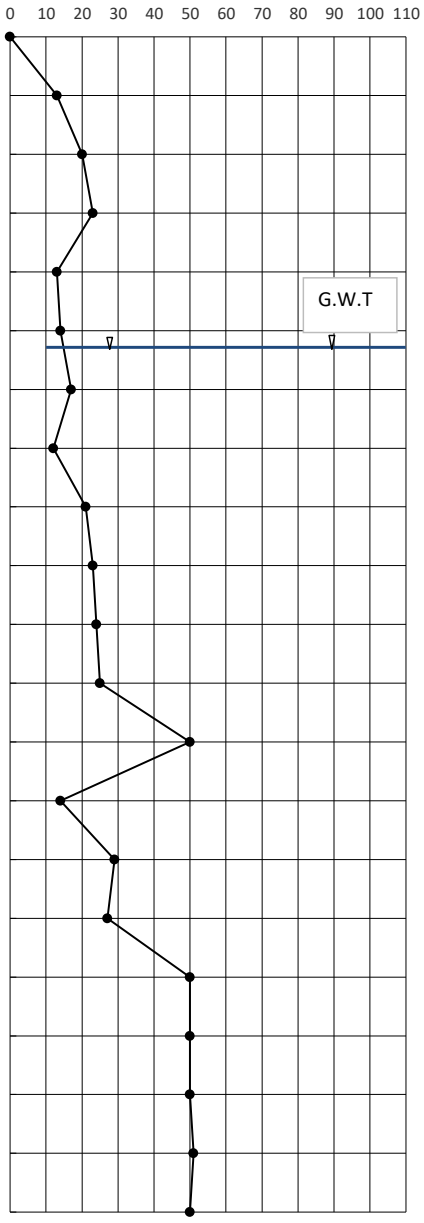
Depth	Visual Description	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Medium Stiff to Stiff Silty **CLAY** with Little Organic Matter	9	3	4	5	9
3.0			1	1	3	4
4.5			1	2	3	5
6.0			2	3	5	8
7.5			2	2	4	6
9.0			3	5	6	11
10.5	Bluish Gray Medium Dense Fine **SAND** with Little Clay & Organic Matter	4.5	4	7	10	17
12.0			8	13	17	30
13.5			7	11	16	27
15.0	Gray Dense to Very Dense Fine to Medium **SAND**	16.5	15	23	27	50
16.5			10	14	20	34
18.0			13	20	27	47
19.5			13	15	19	34
21.0			18	24	30	54
22.5			20	50	0	50 6"Over
24.0			12	20	30	50 2"Over
25.5			20	30	20	50 4"Over
27.0			20	30	20	50 4"Over
28.5			14	25	25	50
30.0			13	18	25	43



GEOTECHNICAL BOREHOLE LOG

Borehole No:	BH-17	**Ground Water Level:**	**7.92 m**
Method of Boring and Diameter:	Percussion (100 mm)	**Started on:**	**20/09/2024**
Boring Depth:	30m	**Completed on:**	**21/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Ramnagar Govt. Primary School, Meherpur Sadar**	**Coordinates:**	**Lat. 23.7994972**, **Long. 88.6602618**

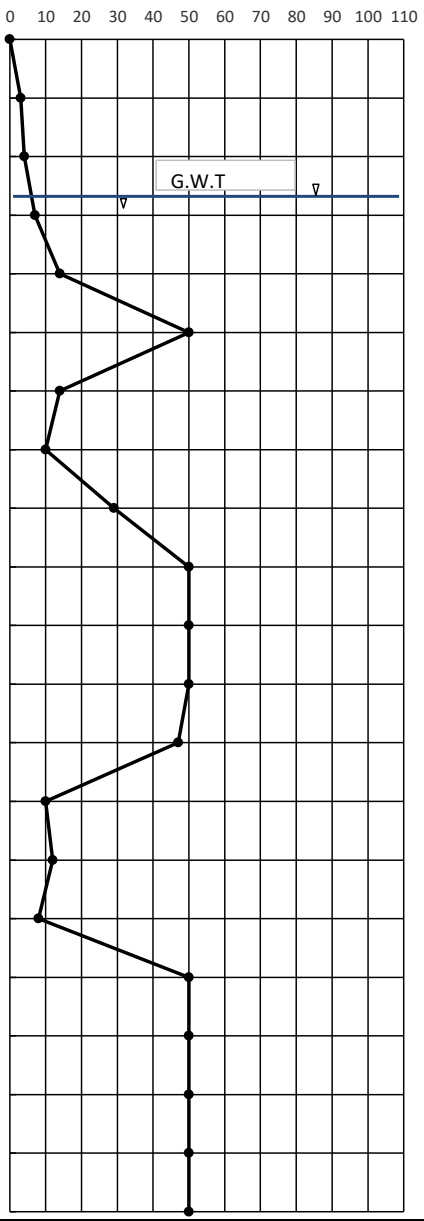
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Bluish Gray Medium Dense to Dense Fine to Medium **SAND** Trace Silt, mica & Clay			22.5	3	5	8	13
3.0					5	8	12	20
4.5					9	10	13	23
6.0					3	6	7	13
7.5					3	6	8	14
9.0					6	8	9	17
10.5					5	5	7	12
12.0					6	8	13	21
13.5					7	11	12	23
15.0					6	12	12	24
16.5					9	11	14	25
18.0					20	50	0	50 6"Over
19.5					4	5	9	14
21.0					5	12	17	29
22.5					7	12	15	27
24.0	Gray Very Dense Medium to Coarse **SAND** with Trace of Clay & Little Mica			7.5	22	50	0	50 8"Over
25.5					20	50	0	50 6"Over
27.0					16	20	30	50 2"Over
28.5					10	25	26	51
30.0					20	30	20	50



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-18	**Ground Water Level:**	**4.2m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**25/09/2024**
Boring Depth:	30m	**Completed on:**	**26/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt | Sand | Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Amdah Primary School**	**Coordinates:**	**Lat. 23.7375161**, **Long. 88.6329218**

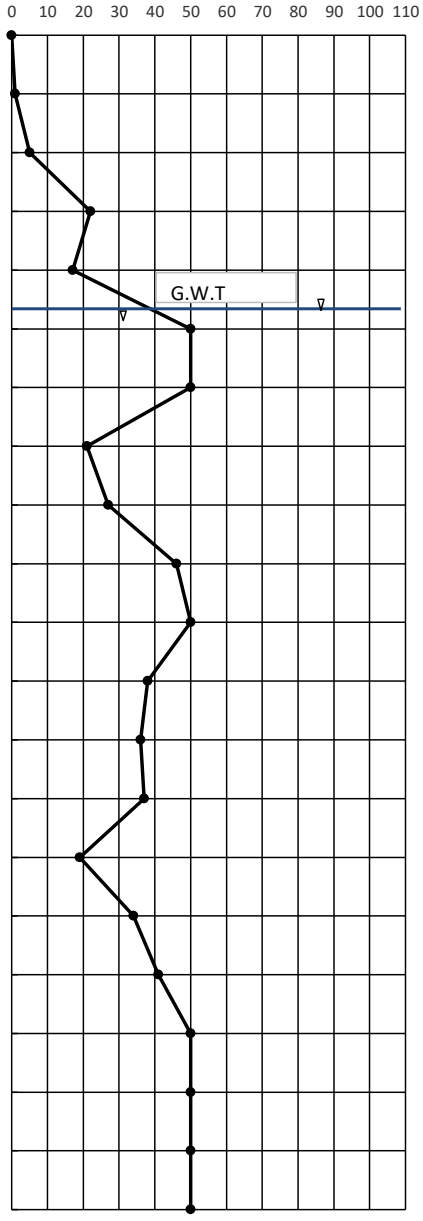
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Soft to Stiff **CLAY** with Sufficient Silt			4.5	1	1	2	3
3.0					1	2	2	4
4.5					2	3	4	7
6.0	Gray Medium Dense to very Dense Fine to Very Fine **SAND**			4.5	3	6	8	14
7.5					13	50	0	50
9.0					4	6	8	14
10.5	Gray Stiff **CLAY** with Little Silt			1.5	2	4	6	10
12.0	Gray Dense to very Dense Fine to Very Fine **SAND**			7.5	8	13	16	29
13.5					13	50	0	50 8"Over
15.0					15	22	28	50 3"Over
16.5					13	25	25	50 1"Over
18.0					15	23	24	47
19.5	Gray Medium Stiff to Stiff **CLAY** with Sufficient Silt			4.5	3	4	6	10
21.0					5	5	7	12
22.5					3	3	5	8
24.0	Gray Very Dense Fine to Medium **SAND**			7.5	18	50	0	50 6"Over
25.5					18	50	0	50 7"Over
27.0					23	50	0	50 9"Over
28.5					50	0	0	50 12"Over
30.0					50	0	0	50



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-19	**Ground Water Level:**	**6.7m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**27/09/2024**
Boring Depth:	30m	**Completed on:**	**27/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Ashrafpur Govt. Primary School, Meherpur Sadar**	**Coordinates:**	**Lat. 23.7063712**, **Long. 88.6463158**

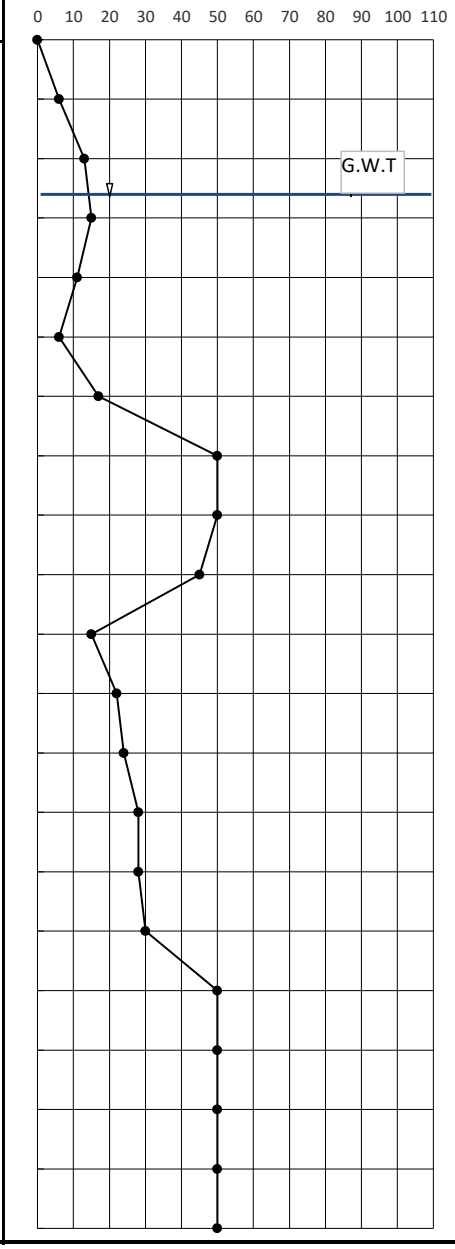
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Very Soft **CLAY**			3	1	0	1	1
3.0					1	2	3	5
4.5	Brownish Gray Loose to Medium Dense Fine to very Fine **SAND**			3	4	9	13	22
6.0					2	6	11	17
7.5	Brownish Gray Dense to Very Dense Very Fine **SAND** with Little Silt			18	16	50	0	50 6"Over
9.0					12	32	18	50 4"Over
10.5					4	8	13	21
12.0					5	12	15	27
13.5					8	18	28	46
15.0					7	20	30	50
16.5					9	18	20	38
18.0					7	15	21	36
19.5					9	14	23	37
21.0					4	6	13	19
22.5					6	13	21	34
24.0					8	14	27	41
25.5	Gray Very Dense Very Fine to Fine **SAND**			6	12	50	0	50 7"Over
27.0					50	0	0	50 12"Over
28.5					27	50	0	50 10"Over
30.0					16	22	28	50



GEOTECHNICAL BOREHOLE LOG

Borehole No:	BH-20	**Ground Water Level:**	**4.27 m**
Method of Boring and Diameter:	Percussion (100 mm)	**Started on:**	**21/09/2024**
Boring Depth:	30m	**Completed on:**	**22/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Kola Govt. Primary School, Meherpur Sadar**	**Coordinates:**	**Lat. 23.7283846**, **Long. 88.6647428**

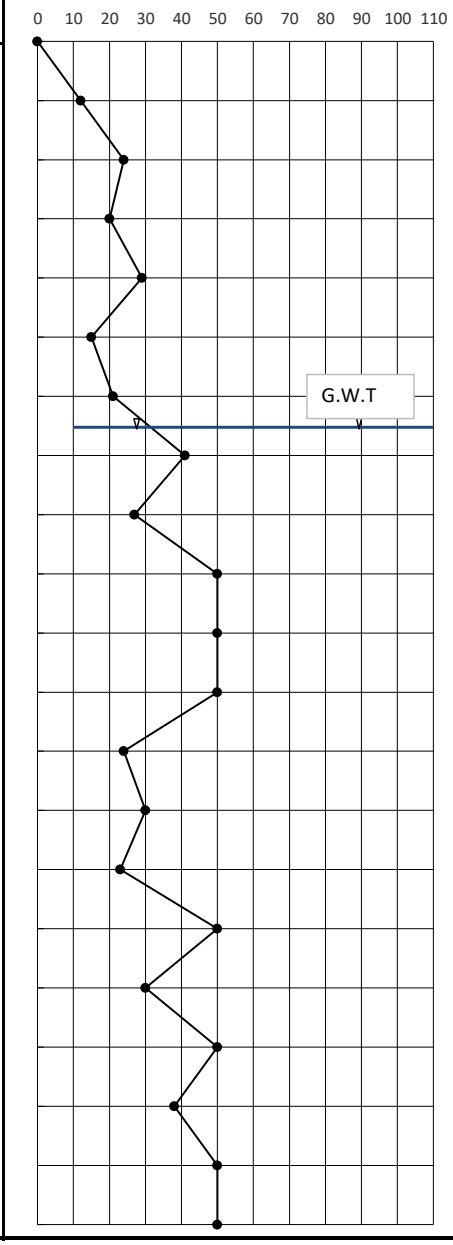
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Medium Stiff Clayey **SILT** with Little Organic Matter			1.5	2	3	3	6
3.0	Gray Medium Dense Fine to Very Fine **SAND** with Little Silt			4.5	3	5	8	13
4.5					5	7	8	15
6.0					3	4	7	11
7.5	Gray Medium Stiff Silty **CLAY**			1.5	2	2	4	6
9.0	Bluish Gray Medium Dense to Dense Fine to Very Fine **SAND** with Little Silt			16.5	5	7	10	17
10.5					18	23	27	50 3"Over
12.0					14	24	26	50 2"Over
13.5					16	20	25	45
15.0					7	7	8	15
16.5					7	9	13	22
18.0					11	11	13	24
19.5					6	13	15	28
21.0					8	13	15	28
22.5					8	14	16	30
24.0					12	25	25	50
25.5	Bluish Gray Very Dense Medium to Fine **SAND**			6	13	30	20	50 3"Over
27.0					22	50	0	50 7"Over
28.5					15	30	20	50
30.0					17	50	0	50



GEOTECHNICAL BOREHOLE LOG

Borehole No:	BH-21	**Ground Water Level:**	**9.75 m**
Method of Boring and Diameter:	Percussion (100 mm)	**Started on:**	**09-12-24**
Boring Depth:	30m	**Completed on:**	**09-12-24**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Amjhupi Girls Govt. Primary School, Meherpur Sadar**	**Coordinates:**	**Lat. 23.7488266**, **Long. 88.6800397**

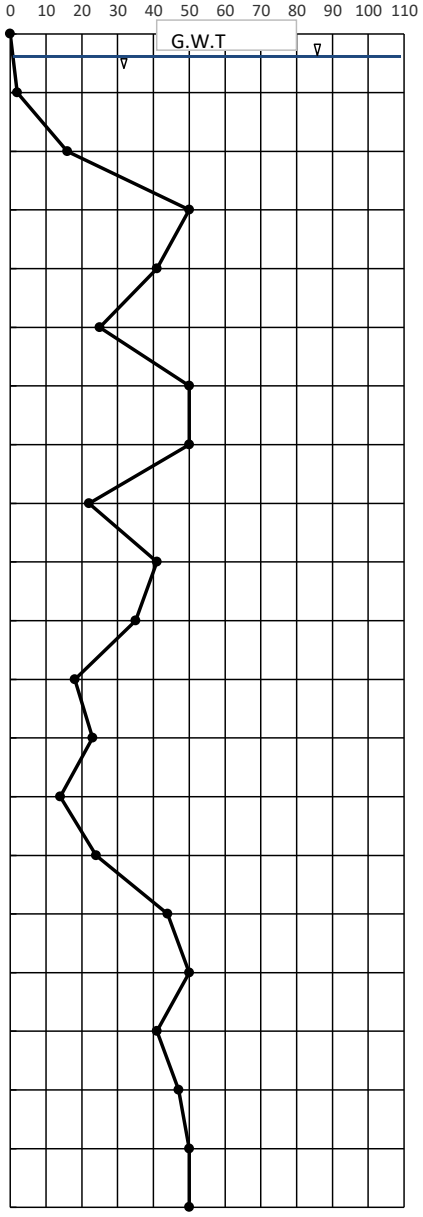
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Very Stiff Clayey **SILT** with Trace of Organic Matter			3	3	5	7	12
3.0					7	10	14	24
4.5	Bluish Gray Medium Dense Medium to Fine **SAND** Trace of Iron Pigments			9	4	8	12	20
6.0					8	13	16	29
7.5					5	7	8	15
9.0					4	9	12	21
10.5					9	18	23	41
12.0					6	12	15	27
13.5	Gray Dense to Very Dense Fine to Medium **SAND**			18	20	50	0	50 6"Over
15.0					25	50	0	50 7"Over
16.5					20	50	0	50 8"Over
18.0					7	10	14	24
19.5					11	13	17	30
21.0					7	10	13	23
22.5					20	50	0	50 7"Over
24.0					9	13	17	30
25.5					12	50	0	50 6"Over
27.0					14	18	20	38
28.5					18	50	0	50 6"Over
30.0					17	22	28	50



GEOTECHNICAL BOREHOLE LOG

Bore Hole No:	BH-22	**Ground Water Level:**	**0.61m**
Method of Boring and Diameter:	Percussion (100mm)	**Started on:**	**09-11-24**
Boring Depth:	30m	**Completed on:**	**09-11-24**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Khoksha Govt. Primary School, Meherpur**	**Coordinates:**	**Lat. 23.7748401**, **Long. 88.6912091**

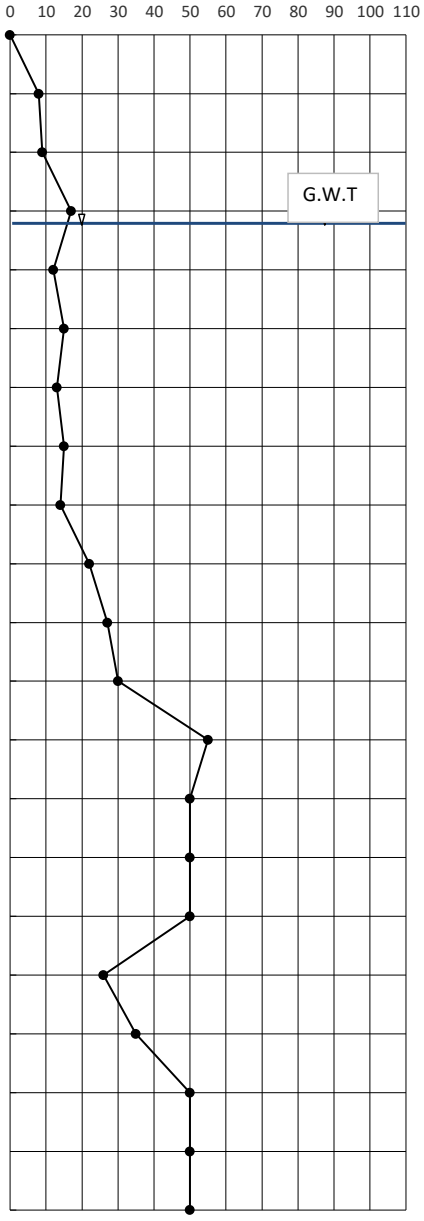
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Bluish Gray Very Soft **CLAY**			1.5	1	1	1	2
3.0					4	6	10	16
4.5					12	22	28	50
6.0					13	18	23	41
7.5					10	11	14	25
9.0					18	35	15	50 4"Over
10.5					18	28	22	50 2"Over
12.0	Brownish Gray Medium Dense to Dense Medium to Fine **SAND**			21	4	9	13	22
13.5					10	18	23	41
15.0					9	15	20	35
16.5					5	8	10	18
18.0					9	11	12	23
19.5					5	7	7	14
21.0					6	12	12	24
22.5					13	20	24	44
24.0	Bluish Gray Dense to Very Dense Coarse to Medium **SAND**			7.5	20	30	20	50 2"Over
25.5					13	18	23	41
27.0					16	21	26	47
28.5					18	50	0	50 6"Over
30.0					17	50	0	50



GEOTECHNICAL BOREHOLE LOG

Borehole No:	BH-23	**Ground Water Level:**	**4.88 m**
Method of Boring and Diameter:	Percussion (100 mm)	**Started on:**	**24/09/2024**
Boring Depth:	30m	**Completed on:**	**25/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Hijuli Govt. Primary School, Meherpur Sadar**	**Coordinates:**	**Lat. 23.7503449**, **Long. 88.7173481**

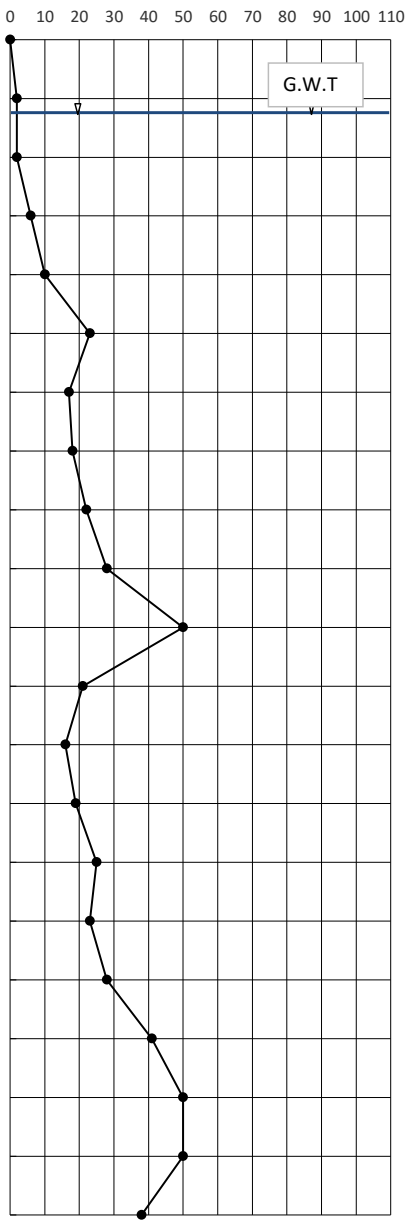
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Medium Stiff to Stiff **SILT** with Little Fine Sand			3	2	4	4	8
3.0					3	4	5	9
4.5	Bluish Gray Medium Dense Fine to Medium **SAND** Trace of Mica & Clay			13.5	4	7	10	17
6.0					4	6	6	12
7.5					3	6	9	15
9.0					4	5	8	13
10.5					6	7	8	15
12.0					5	6	8	14
13.5					7	10	12	22
15.0					8	12	15	27
16.5					8	13	17	30
18.0	Bluish Gray Dense to Very Dense Fine to Medium **SAND** Trace of Clay & Mica			13.5	10	25	30	55
19.5					10	22	28	50 1"Over
21.0					8	22	28	50 1"Over
22.5					12	50	0	50 6"Over
24.0					9	12	14	26
25.5					8	15	20	35
27.0					20	50	0	50 8"Over
28.5					15	50	0	50 6"Over
30.0					15	28	22	50



GEOTECHNICAL BOREHOLE LOG

Borehole No:	BH-24	**Ground Water Level:**	**1.52 m**
Method of Boring and Diameter:	Percussion (100 mm)	**Started on:**	**23/09/2024**
Boring Depth:	30m	**Completed on:**	**24/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Road Site of Roghunathpur Area, Roghunathpur, Maherpur Sadar**	**Coordinates:**	**Lat. 23.7285247**, **Long. 88.7094087**

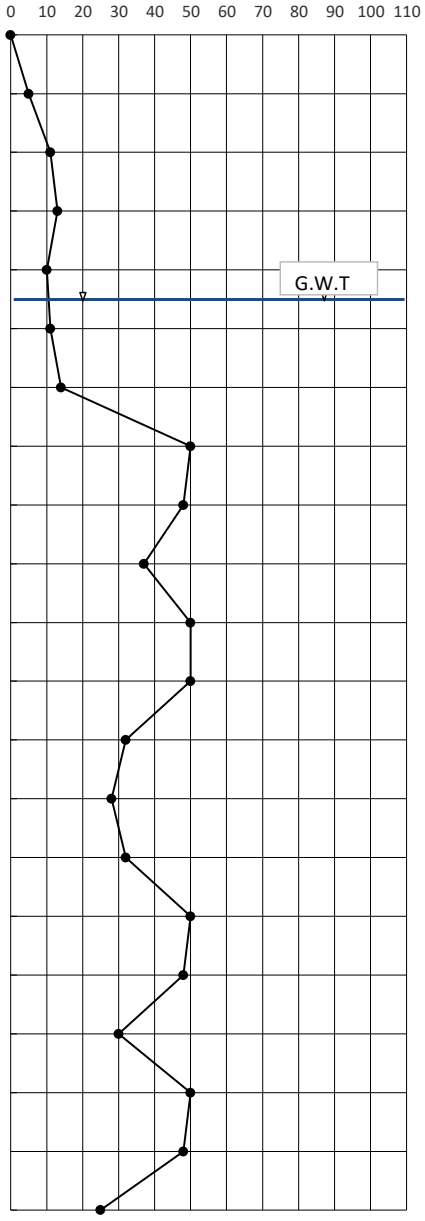
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Spoon 15cm	Spoon 15cm	Spoon 15cm	N-Values 30cm
1.5	Bluish Gray Very Soft to medium Stiff **CLAY** with Organic Matter			4.5	1	1	1	2
3.0					1	1	1	2
4.5					2	3	3	6
6.0	Bluish Gray to Gray Medium Dense to Dense Very Fine to Fine **SAND** with Trace of Mica			19.5	2	4	6	10
7.5					6	10	13	23
9.0					6	7	10	17
10.5					7	8	10	18
12.0					8	10	12	22
13.5					10	13	15	28
15.0					15	24	26	50
16.5					6	9	12	21
18.0					6	7	9	16
19.5					8	8	11	19
21.0					10	12	13	25
22.5					8	10	13	23
24.0					7	12	16	28
25.5	Bluish Gray Dense to very Dense Medium to Fine **SAND** Trace of Organic Matter			6	11	18	23	41
27.0					15	50	0	50 6"Over
28.5					15	35	15	50 5"Over
30.0					10	14	24	38



GEOTECHNICAL BOREHOLE LOG

Borehole No:	BH-25	**Ground Water Level:**	**6.71 m**
Method of Boring and Diameter:	Percussion (100 mm)	**Started on:**	**22/09/2024**
Boring Depth:	30m	**Completed on:**	**23/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Kathalpota Govt. Primary School, Meherpur Sadar**	**Coordinates:**	**Lat. 23.6892956**, **Long. 88.7098221**

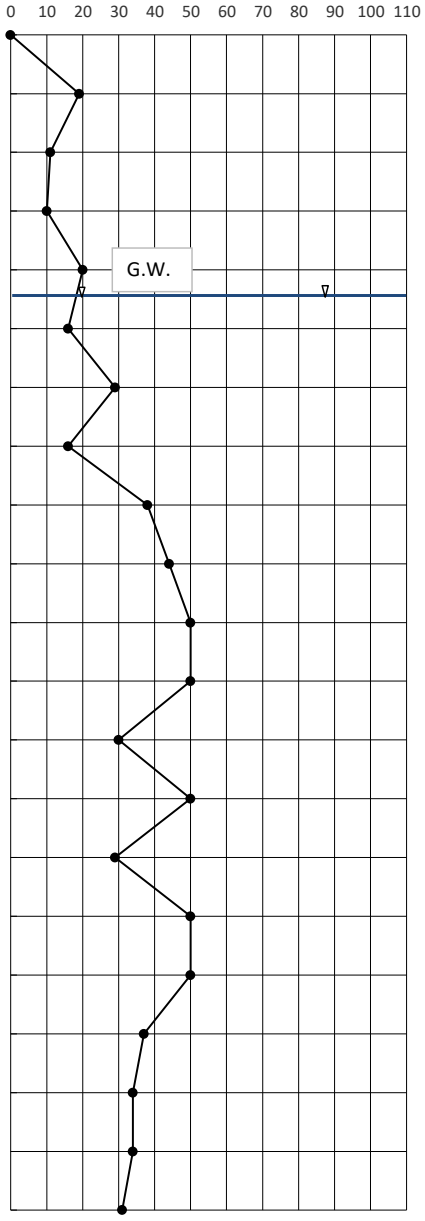
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Brownish Gray Medium Stiff Silty **CLAY** Trace Organic Matter			3	1	2	3	5
3.0					4	5	6	11
4.5	Gray Medium Dense Fine to Medium **SAND** Little Silt, mica & organic matter			6	3	6	7	13
6.0					5	5	5	10
7.5					3	5	6	11
9.0					3	7	7	14
10.5	Bluish Gray Dense to very Dense Medium to Fine **SAND** Little Mica & Clay			21	13	25	25	50
12.0					15	20	28	48
13.5					13	17	20	37
15.0					15	50	0	50 6"Over
16.5					17	50	0	50 6"Over
18.0					7	14	18	32
19.5					6	12	16	28
21.0					15	15	17	32
22.5					14	50	0	50 6"Over
24.0					12	23	25	48
25.5					8	13	17	30
27.0					12	20	30	50
28.5					13	22	26	48
30.0					8	12	13	25



GEOTECHNICAL BOREHOLE LOG

Borehole No:	BH-26	**Ground Water Level:**	**6.71 m**
Method of Boring and Diameter:	Percussion (100 mm)	**Started on:**	**26/09/2024**
Boring Depth:	30m	**Completed on:**	**27/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt | Sand | Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Baliarpur (Purbopara) Govt. Primary School, Meherpur Sadar**	**Coordinates:**	**Lat. 23.6969634**, **Long. 88.7393762**

Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Yellowish Gray Very Stiff **SILT**			1.5	4	9	10	19
3.0					4	5	6	11
4.5					2	4	6	10
6.0	Gray to Bluish Gray Medium Dense Medium to Fine **SAND** Little Clyey Silt			9	5	8	12	20
7.5					3	8	8	16
9.0					6	13	16	29
10.5					5	6	10	16
12.0	Bluish Gray Dense to Very Dense Fine to medium **SAND**			19.5	15	18	20	38
13.5					17	20	24	44
15.0					15	22	28	50
16.5					18	50	0	50 6"Over
18.0					10	13	17	30
19.5					13	35	15	50 4"Over
21.0					12	13	16	29
22.5					18	50	0	50 7"Over
24.0					20	50	0	50 8"Over
25.5					10	17	20	37
27.0					13	14	20	34
28.5					14	14	20	34
30.0					10	14	17	31

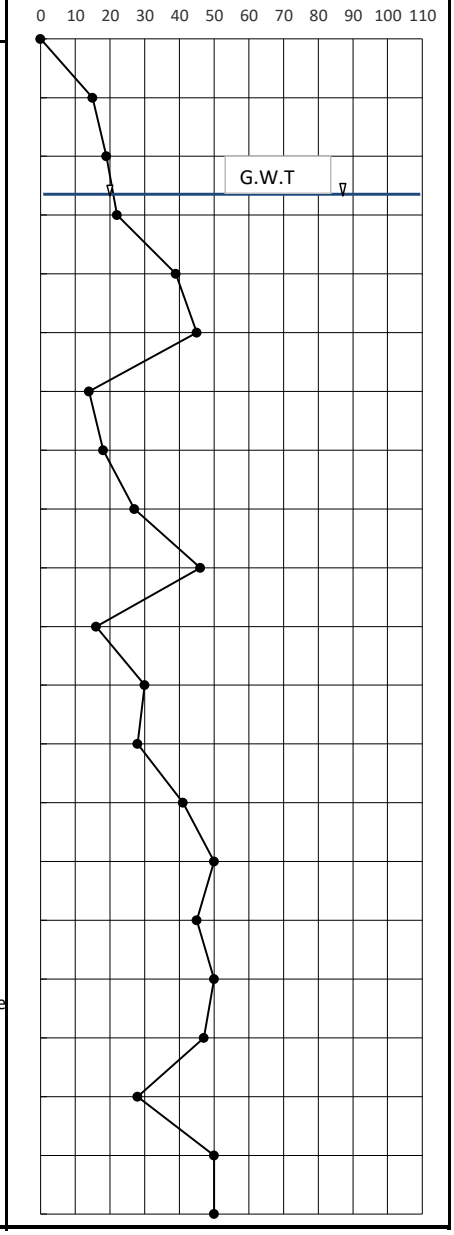


GEOTECHNICAL BOREHOLE LOG

Borehole No:	BH-27	**Ground Water Level:**	**3.96 m**
Method of Boring and Diameter:	Percussion (100 mm)	**Started on:**	**18/09/2024**
Boring Depth:	30m	**Completed on:**	**18/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt | Sand | Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Patkelpota Govt. Primary School, Meherpur**	**Coordinates:**	**Lat. 23.7246763**, **Long. 88.7456695**

Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	Value 30cm
1.5	Brownish Gray Medium Dense To Dense Fine **SAND** with Silt & Little Mica			18	4	6	9	15
3.0					3	7	12	19
4.5					4	8	14	22
6.0					9	17	22	39
7.5					12	20	25	45
9.0					3	5	9	14
10.5					5	8	10	18
12.0					6	12	15	27
13.5					14	20	26	46
15.0					8	8	8	16
16.5					10	13	17	30
18.0					10	12	16	28
19.5	Bluish Gray Dense to Very Dense Coarse to Medium **SAND** with Clay			12	12	18	23	41
21.0					13	22	28	50
22.5					12	20	25	45
24.0					20	50	0	50
25.5					13	23	24	47
27.0					10	12	16	28
28.5					12	20	30	50
30.0					17	50	0	50

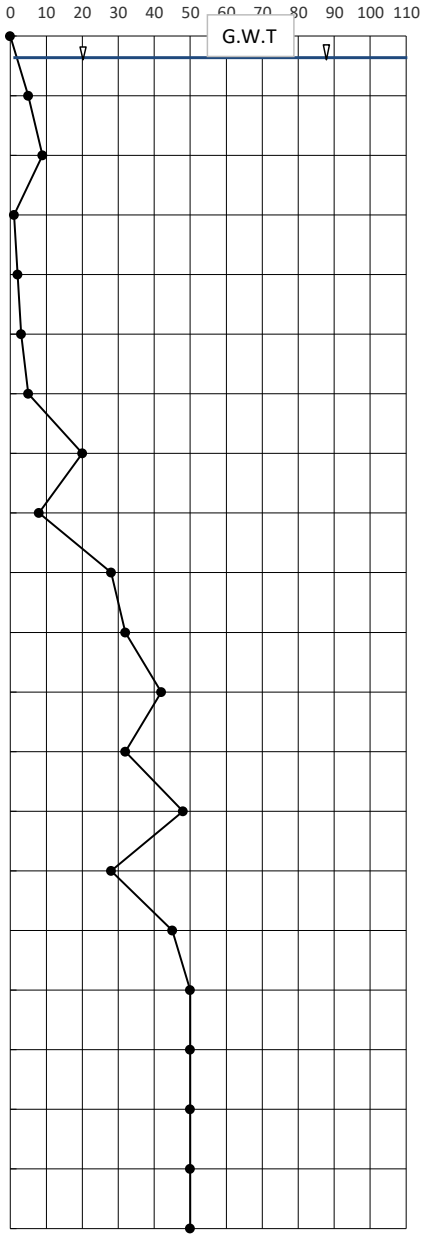
5"Ove



GEOTECHNICAL BOREHOLE LOG

Borehole No:	BH-28	**Ground Water Level:**	**0.46 m**
Method of Boring and Diameter:	Percussion (100 mm)	**Started on:**	**19/09/2024**
Boring Depth:	30m	**Completed on:**	**19/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Near Durlovpur Masjid Road Site in Durlovpur Village, Gangni**	**Coordinates:**	**Lat. 23.8749166**, **Long. 88.7469947**

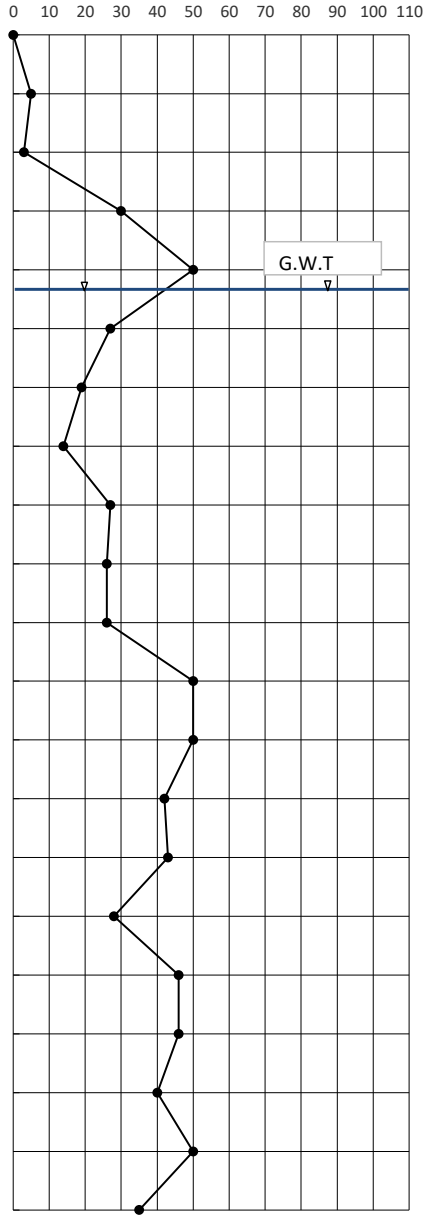
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	N-Values 30cm
1.5	Bluish Gray Soft to Medium Stiff **CLAY** Little Sand & Trace Organic Matter			9	1	2	3	5
3.0					2	3	6	9
4.5					1	0	1	1
6.0					1	1	1	2
7.5					1	1	2	3
9.0					1	1	3	5
10.5	Bluish Gray Medium Dense Fine **SAND** Little Clay & Trace Organic Matter			1.5	5	7	13	20
12.0	Bluish Gray Medium Stiff **CLAY** Trace Organic Matter			1.5	3	4	4	8
13.5	Bluish Gray Dense Fine to Medium **SAND** with Clay			10.5	9	12	16	28
15.0					10	14	18	32
16.5					12	18	24	42
18.0					12	14	18	32
19.5					13	22	26	48
21.0					10	12	16	28
22.5					13	20	25	45
24.0	Bluish Gray Very Dense Medium to Coarse **SAND** with Trace of Clay			7.5	17	50	0	50 6"Over
25.5					15	50	0	50 6"Over
27.0					16	50	0	50 6"Over
28.5					20	50	0	50 7"Over
30.0					20	30	20	50



GEOTECHNICAL BOREHOLE LOG

Borehole No:	BH-29	**Ground Water Level:**	**6.71 m**
Method of Boring and Diameter:	Percussion (100 mm)	**Started on:**	**13/09/2024**
Boring Depth:	30m	**Completed on:**	**13/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt, Sand, Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Garadob Govt. Primary School, Gangni**	**Coordinates:**	**Lat. 23.8009408**, **Long. 88.6997816**

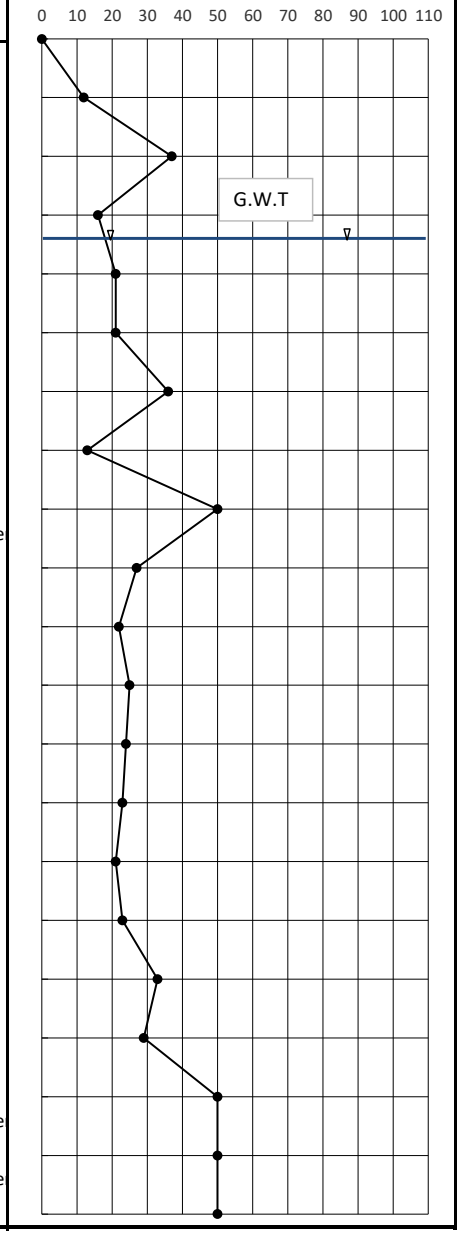
Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon 15cm	15cm	15cm	Val 30cm
1.5	Brownish Gray Medium Stiff **CLAY** with Little Organic Matter			3	2	2	3	5
3.0					1	1	2	3
4.5	Bluish Gray Medium Dense To dense Very Fine to Fine **SAND**			12	11	15	15	30
6.0					15	50	0	50 'Ov
7.5					7	12	15	27
9.0					9	9	10	19
10.5					4	6	8	14
12.0					7	10	17	27
13.5					7	11	15	26
15.0					6	10	16	26
16.5	Bluish Gray Dense to Very Dense Medium to Fine **SAND**			15	10	20	30	50
18.0					10	22	28	50
19.5					9	18	24	42
21.0					7	17	26	43
22.5					12	13	15	28
24.0					13	19	27	46
25.5					15	20	26	46
27.0					14	18	22	40
28.5					25	50	0	50 'Ov
30.0					15	15	20	35



GEOTECHNICAL BOREHOLE LOG

Borehole No:	BH-30	**Ground Water Level:**	**4.88 m**
Method of Boring and Diameter:	Percussion (100 mm)	**Started on:**	**25/09/2024**
Boring Depth:	30m	**Completed on:**	**26/09/2024**
Client:	Urban Development Directorate (UDD)	**Legend:**	Clay/Silt | Sand | Shale
Project:	Preparation of Development Plan for Meherpur Zilla		
Location:	**Bhatpara Govt. Primary School, Gangni**	**Coordinates:**	**Lat. 23.7638714**, **Long. 88.7607088**

Depth	Visual Description	Symbols	Sample	Thickness(m)	Standard Penetration Test: Blows on Spoon Values 15cm	15cm	15cm	30cm
1.5	Brownish Gray Stiff to Hard **SILT** Trace of Organic Matter			3	2	5	7	12
3.0					7	15	22	37
4.5	Gray Medium Dense To Dense Very Fine to Fine **SAND** Little Silt			22.5	5	6	10	16
6.0					6	9	12	21
7.5					4	8	13	21
9.0					10	16	20	36
10.5					5	6	7	13
12.0					15	30	20	50 4"Ove
13.5					7	12	15	27
15.0					6	10	12	22
16.5					7	10	15	25
18.0					6	9	15	24
19.5					9	10	13	23
21.0					6	9	12	21
22.5					8	9	14	23
24.0					8	15	18	33
25.5					11	13	16	29
27.0	Bluish Gray Very Dense Coarse **SAND** with Clay			4.5	15	30	20	50 4"Ove
28.5					20	50	0	50 6"Ove
30.0					20	30	20	50



Laboratory Test Result of
Grain Size Analysis- Mechanical/ Sieve

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

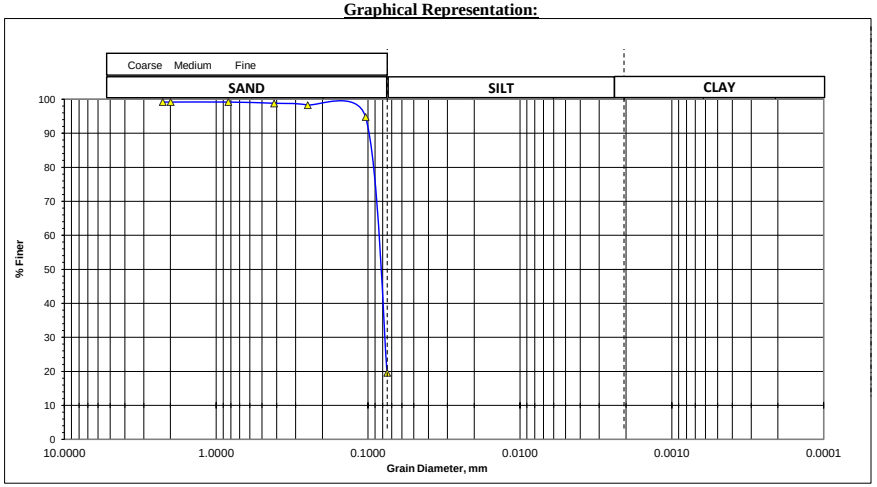
Location: Dariapur High School, Mujibnagar, Meherpur.

Borehole No: BH-01(M) **Sampled Date:** 25/09/2024

Sample No : D-09 **Test Date :** 24/11/2024

Depth (m) : 13.5

Graphical Representation:



Fines or % of silt and clay =	18.95
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	81
(0.075 to 0.002mm & 0.002mm size) =	19

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

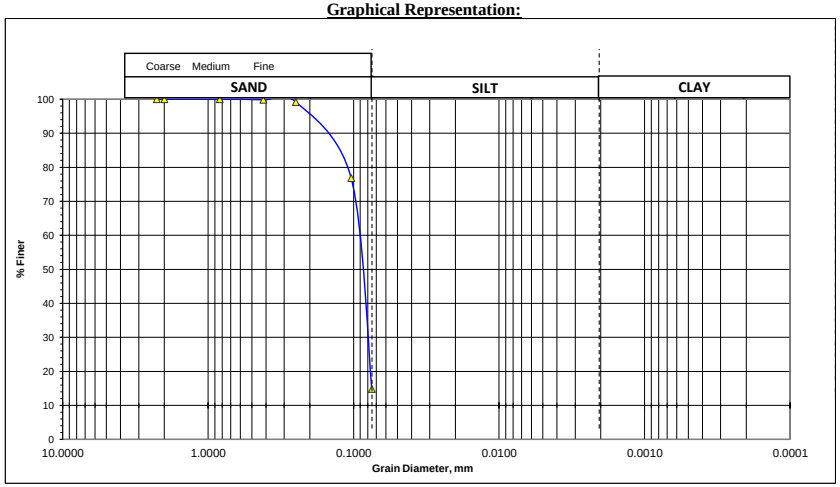
Location: Dariapur High School, Mujibnagar, Meherpur.

Borehole No: BH-01(M) **Sampled Date:** 25/09/2024

Sample No : D-13 **Test Date :** 24/11/2024

Depth (m) : 19.5

Graphical Representation:



Fines or % of silt and clay =	14.77
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	85
(0.075 to 0.002mm & 0.002mm size) =	15

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

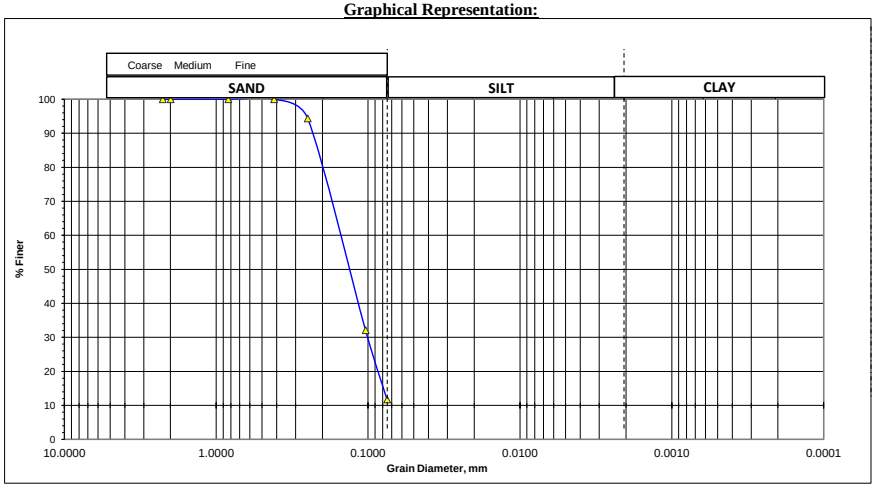
Location: Dariapur High School, Mujibnagar, Meherpur.

Borehole No: BH-01(M) **Sampled Date:** 25/09/2024

Sample No : D-19 **Test Date :** 24/11/2024

Depth (m) : 28.5

Graphical Representation:



Fines or % of silt and clay =	12.16
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	88
(0.075 to 0.002mm & 0.002mm size) =	12

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

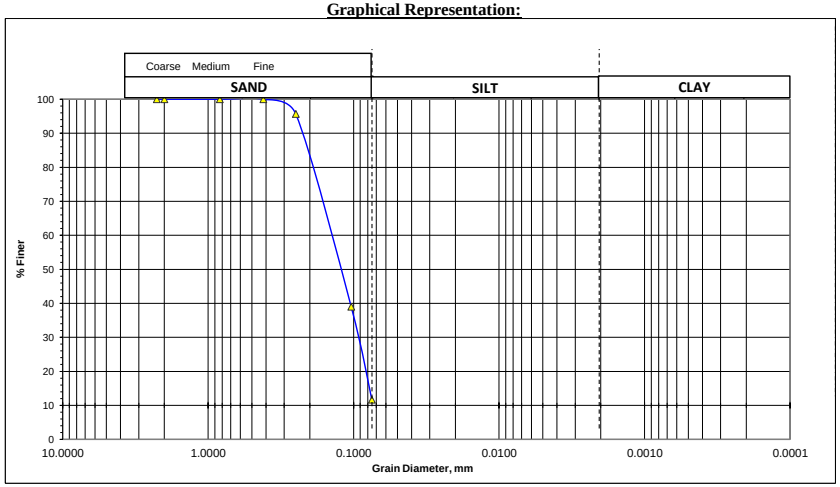
Location: Near Dariapur BDR Camp, Mujibnagar, Meherpur.

Borehole No: BH-02(M) **Sampled Date:** 23/09/2024

Sample No : D-16 **Test Date :** 24/11/2024

Depth (m) : 24.0

Graphical Representation:



Fines or % of silt and clay =	12.03
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	88
(0.075 to 0.002mm & 0.002mm size) =	12

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

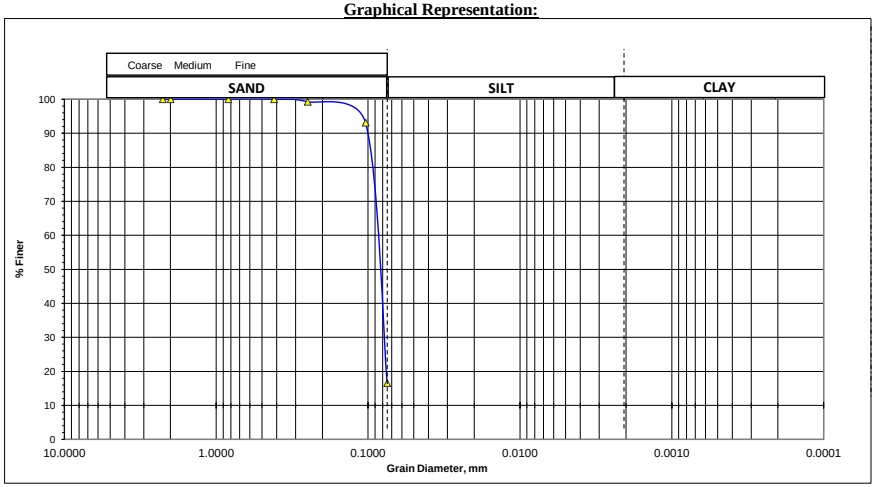
Location: Near Dariapur BDR Camp, Mujibnagar, Meherpur.

Borehole No: BH-02(M) **Sampled Date:** 23/09/2024

Sample No : D-20 **Test Date :** 24/11/2024

Depth (m) : 30.0

Graphical Representation:



Fines or % of silt and clay =	16.65
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	83
(0.075 to 0.002mm & 0.002mm size) =	17

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

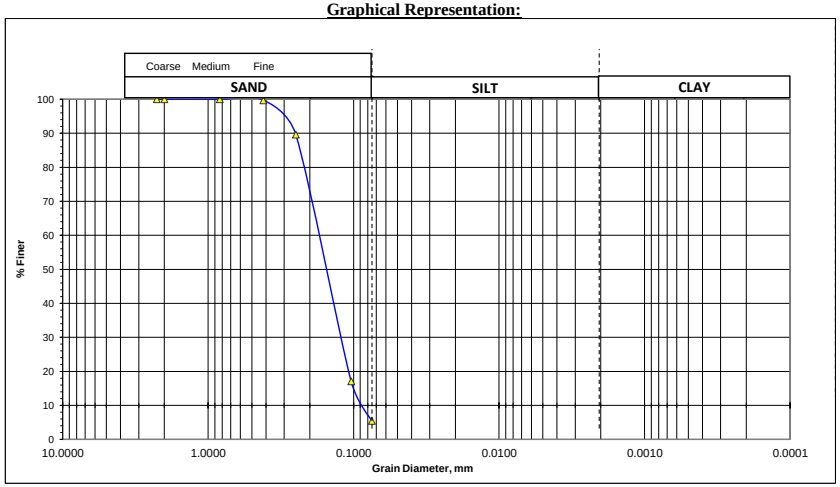
Location: Near Gourinagar Nagarmath Bottola Mujibnagar, Meherpur.

Borehole No: BH-03(M) **Sampled Date:** 24/09/2024

Sample No : D-09 **Test Date :** 24/11/2024

Depth (m) : 13.5

Graphical Representation:



Fines or % of silt and clay =	5.84
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	94
(0.075 to 0.002mm & 0.002mm size) =	6

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

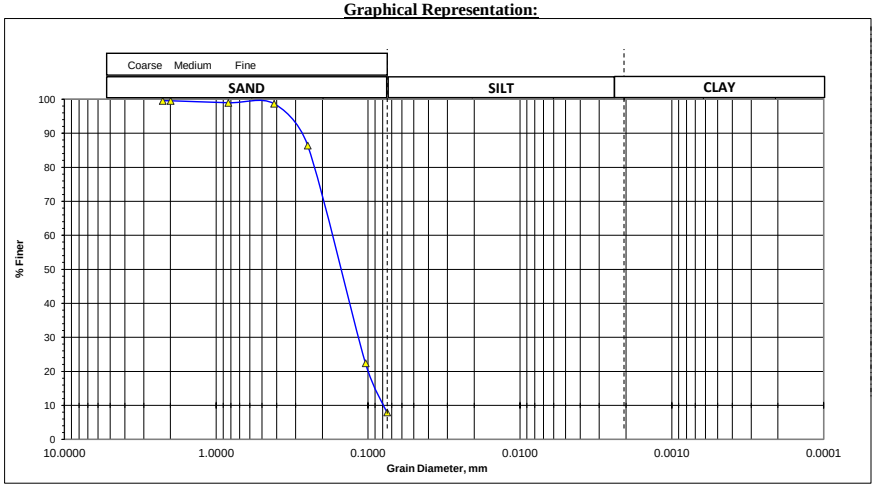
Location: Near Gourinagar Nagarmath Bottola Mujibnagar, Meherpur.

Borehole No: BH-03(M) **Sampled Date:** 24/09/2024

Sample No : D-15 **Test Date :** 24/11/2024

Depth (m) : 22.5

Graphical Representation:



Fines or % of silt and clay =	8.14
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	92
(0.075 to 0.002mm & 0.002mm size) =	8

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

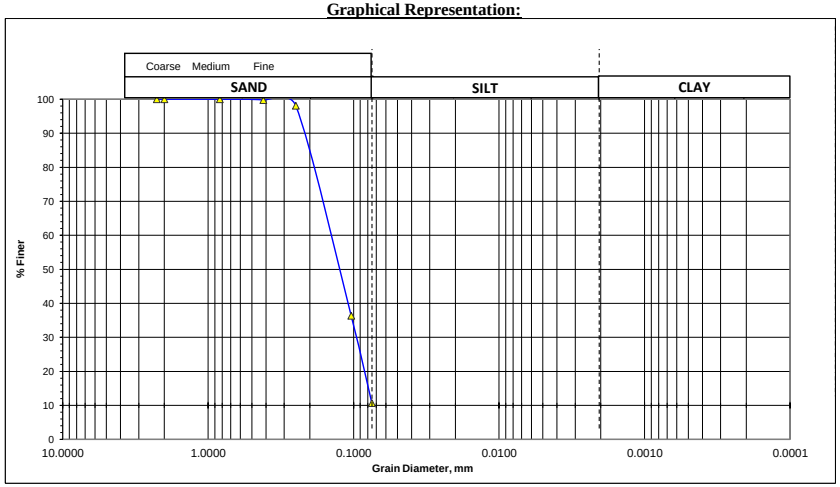
Location: Vobanipur Govt. Primary School, Meherpur.

Borehole No: BH-04(M) **Sampled Date:** 16/09/2024

Sample No : D-12 **Test Date :** 24/11/2024

Depth (m) : 18.0

Graphical Representation:



Fines or % of silt and clay =	11.16
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	89
(0.075 to 0.002mm & 0.002mm size) =	11

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

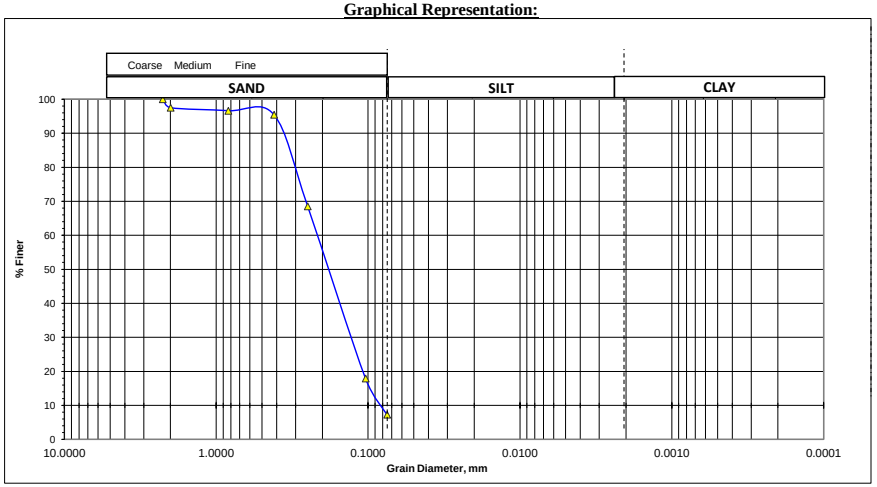
Location: Vobanipur Govt. Primary School, Meherpur.

Borehole No: BH-04(M) **Sampled Date:** 16/09/2024

Sample No : D-20 **Test Date :** 24/11/2024

Depth (m) : 30.0

Graphical Representation:



Fines or % of silt and clay =	7.63
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	92
(0.075 to 0.002mm & 0.002mm size) =	8

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

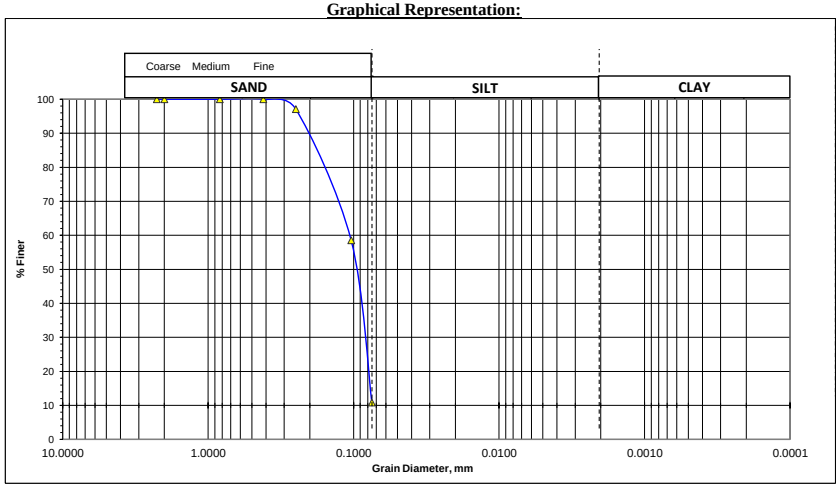
Location: Sonapur Govt. Primary School Mujibnagar, Meherpur.

Borehole No: BH-05(M) **Sampled Date:** 12/09/2024

Sample No : D-09 **Test Date :** 24/11/2024

Depth (m) : 13.5

Graphical Representation:



Fines or % of silt and clay =	11.15
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	89
(0.075 to 0.002mm & 0.002mm size) =	11

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

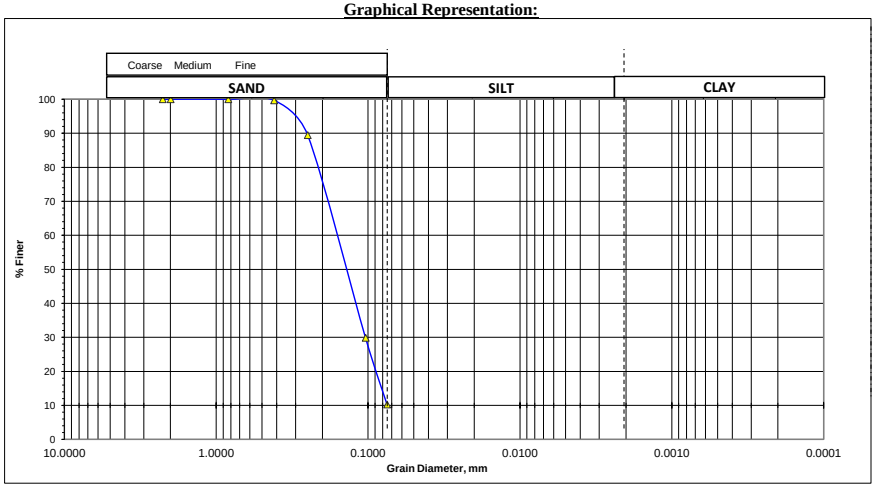
Location: Sonapur Govt. Primary School Mujibnagar, Meherpur.

Borehole No: BH-05(M) **Sampled Date:** 12/09/2024

Sample No : D-14 **Test Date :** 24/11/2024

Depth (m) : 21.0

Graphical Representation:



Fines or % of silt and clay =	10.63
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	89
(0.075 to 0.002mm & 0.002mm size) =	11

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

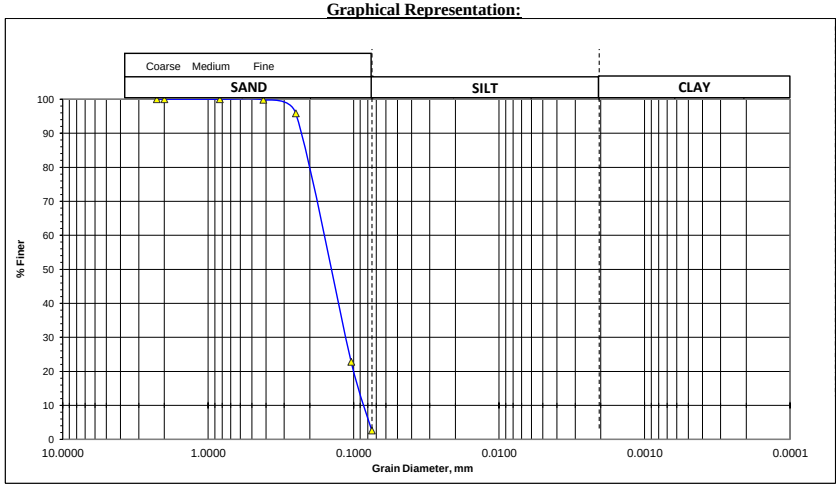
Location: Anandabas Markajul Ulum Madrasa Mujibnagar, Meherpur.

Borehole No: BH-06(M) **Sampled Date:** 13/09/2024

Sample No : D-14 **Test Date :** 24/11/2024

Depth (m) : 21.0

Graphical Representation:



Fines or % of silt and clay =	2.75
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	97
(0.075 to 0.002mm & 0.002mm size) =	3

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

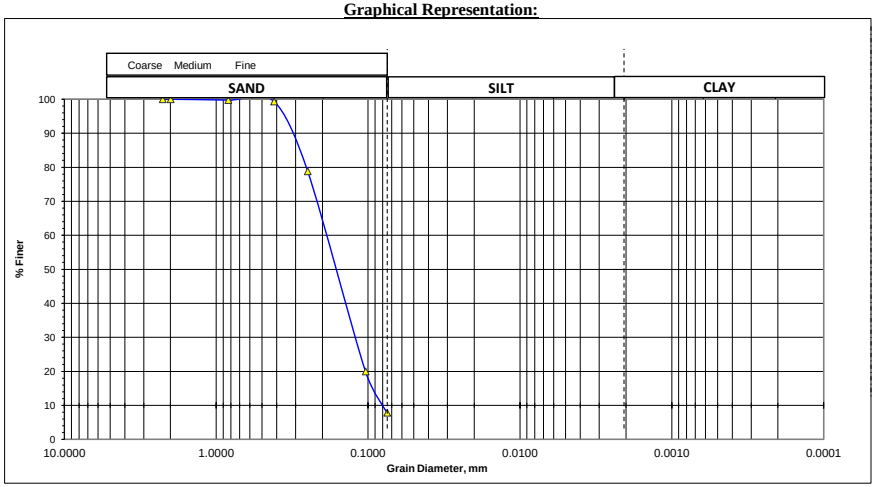
Location: Anandabas Markajul Ulum Madrasa Mujibnagar, Meherpur.

Borehole No: BH-06(M) **Sampled Date:** 13/09/2024

Sample No : D-20 **Test Date :** 24/11/2024

Depth (m) : 30.0

Graphical Representation:



Fines or % of silt and clay =	8.20
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	92
(0.075 to 0.002mm & 0.002mm size) =	8

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

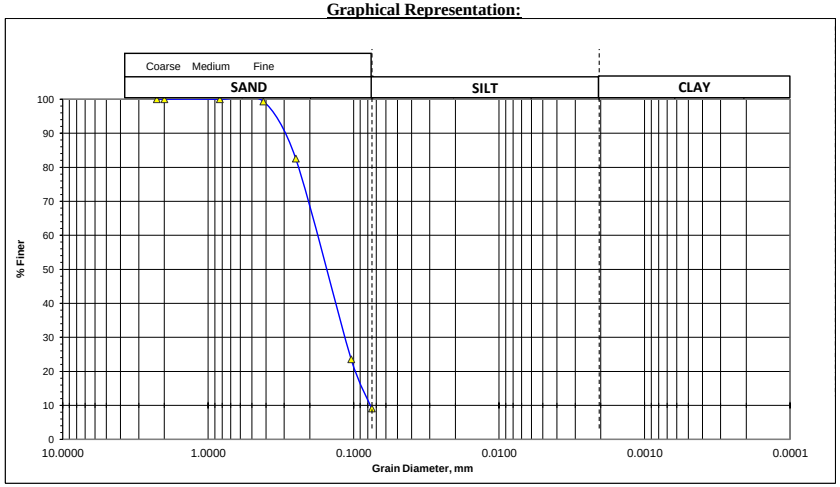
Location: Joypur Govt. Primary School Mujibnagar, Meherpur.

Borehole No: BH-07(M) **Sampled Date:** 11/09/2024

Sample No : D-13 **Test Date :** 24/11/2024

Depth (m) : 19.5

Graphical Representation:



Fines or % of silt and clay =	9.46
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	91
(0.075 to 0.002mm & 0.002mm size) =	9

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

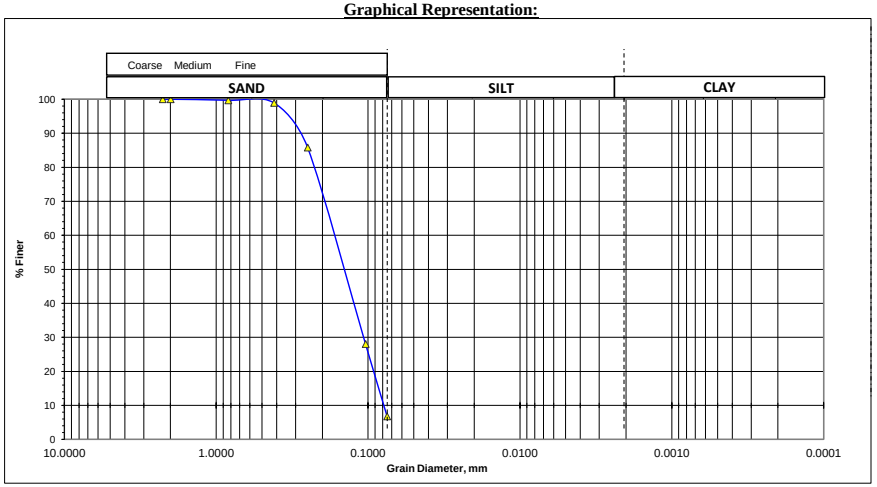
Location: Joypur Govt. Primary School Mujibnagar, Meherpur.

Borehole No: BH-07(M) **Sampled Date:** 11/09/2024

Sample No : D-17 **Test Date :** 24/11/2024

Depth (m) : 25.5

Graphical Representation:



Fines or % of silt and clay =	6.51
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	93
(0.075 to 0.002mm & 0.002mm size) =	7

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

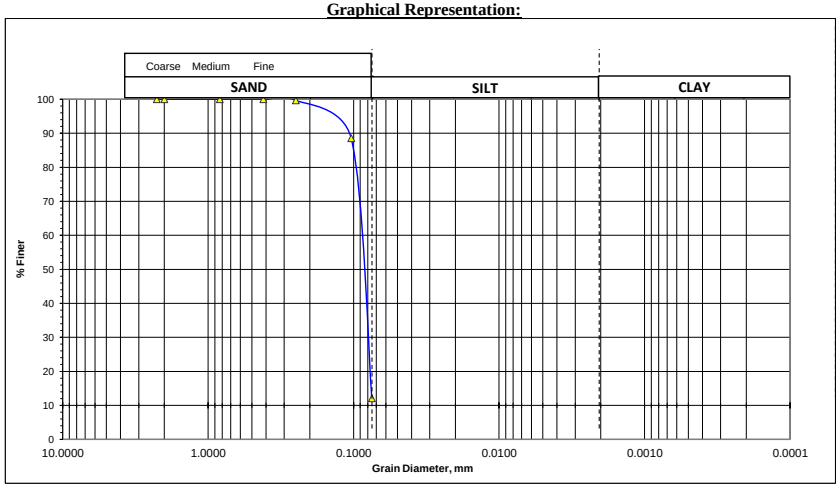
Location: Dholmary Govt. Primary School, Meherpur.

Borehole No: BH-08(M) **Sampled Date:** 14/09/2024

Sample No : D-04 **Test Date :** 26/11/2024

Depth (m) : 6.0

Graphical Representation:



Fines or % of silt and clay =	12.48
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	88
(0.075 to 0.002mm & 0.002mm size) =	12

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

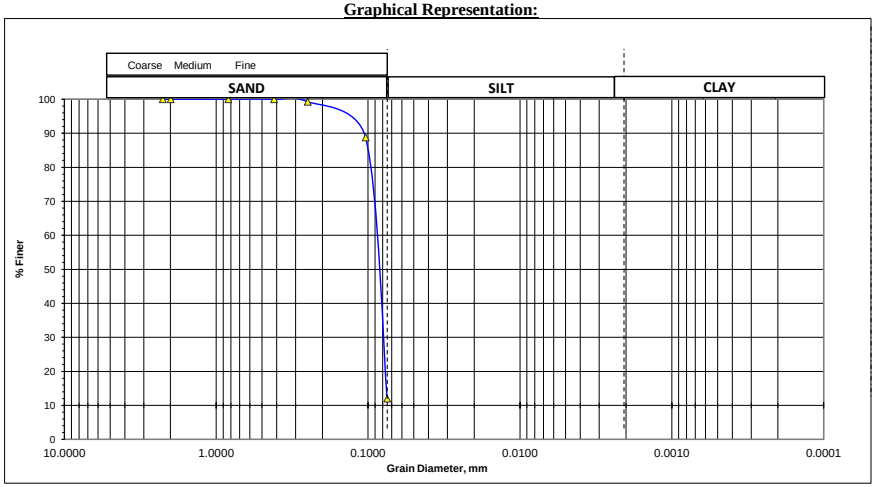
Location: Dholmary Govt. Primary School, Meherpur.

Borehole No: BH-08(M) **Sampled Date:** 14/09/2024

Sample No : D-09 **Test Date :** 26/11/2024

Depth (m) : 13.5

Graphical Representation:



Fines or % of silt and clay =	12.16
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	88
(0.075 to 0.002mm & 0.002mm size) =	12

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

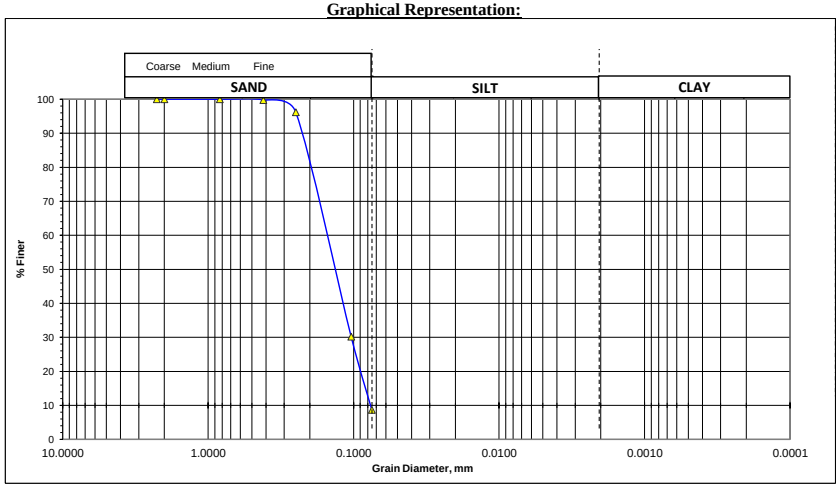
Location: Dholmary Govt. Primary School, Meherpur.

Borehole No: BH-08(M) **Sampled Date:** 14/09/2024

Sample No : D-17 **Test Date :** 26/11/2024

Depth (m) : 25.5

Graphical Representation:



Fines or % of silt and clay =	9.08
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	91
(0.075 to 0.002mm & 0.002mm size) =	9

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

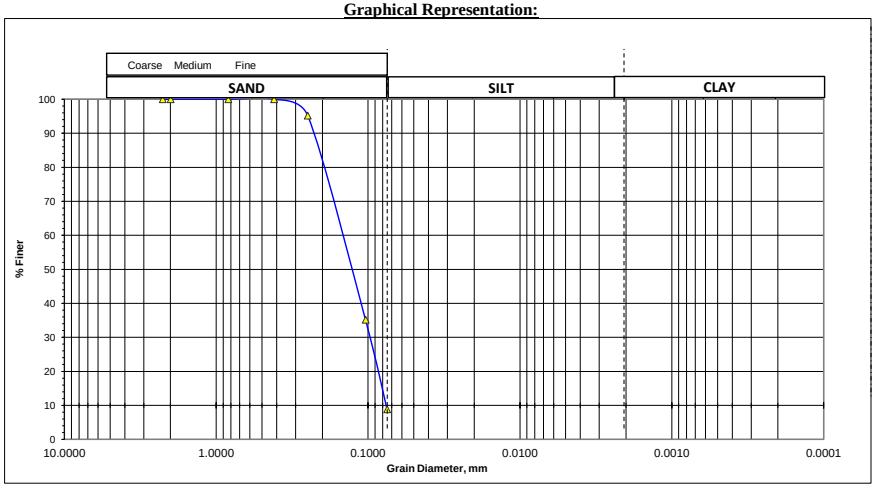
Location: Mohajonpur Uttarpara Govt. Primary School, Meherpur.

Borehole No: BH-09(M) **Sampled Date:** 17/09/2024

Sample No : D-13 **Test Date :** 26/11/2024

Depth (m) : 19.5

Graphical Representation:



Fines or % of silt and clay =	9.34
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	91
(0.075 to 0.002mm & 0.002mm size) =	9

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

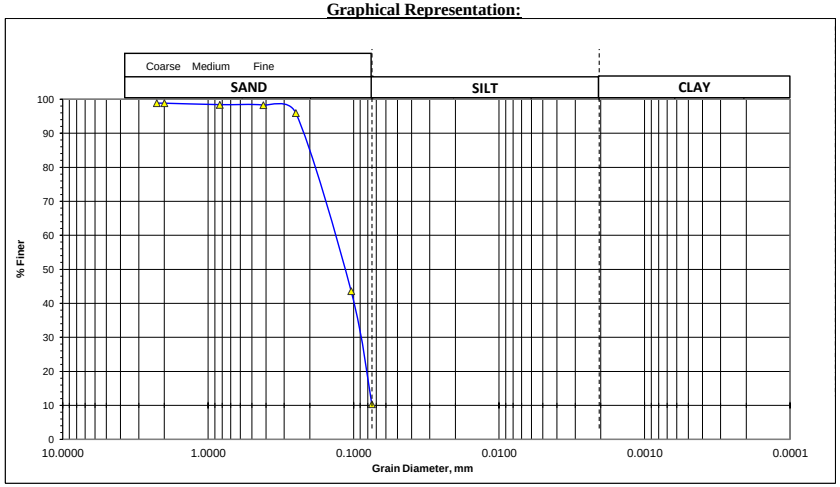
Location: Mohajonpur Uttarpara Govt. Primary School, Meherpur.

Borehole No: BH-09(M) **Sampled Date:** 17/09/2024

Sample No : D-19 **Test Date :** 26/11/2024

Depth (m) : 28.5

Graphical Representation:



Fines or % of silt and clay =	10.77
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	89
(0.075 to 0.002mm & 0.002mm size) =	11

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

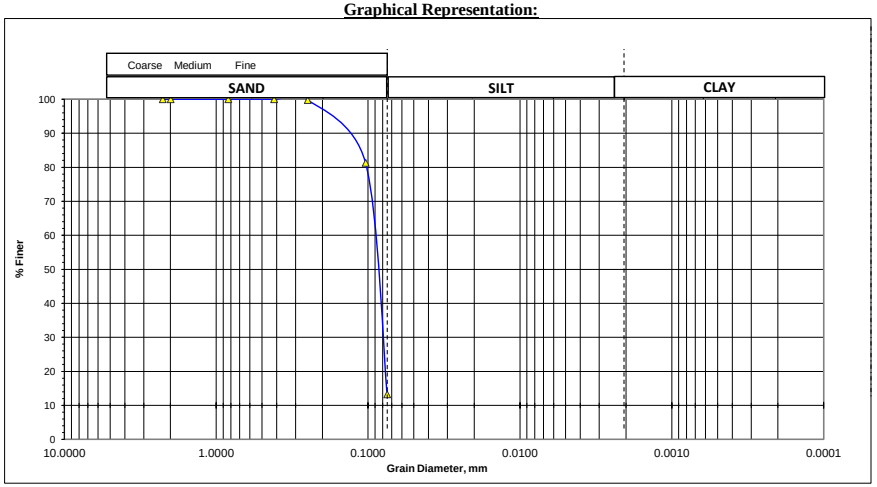
Location: Komorpur Govt .Primary School, Meherpur.

Borehole No: BH-10(M) **Sampled Date:** 28/09/2024

Sample No : D-07 **Test Date :** 26/11/2024

Depth (m) : 10.5

Graphical Representation:



Fines or % of silt and clay =	13.84
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	86
(0.075 to 0.002mm & 0.002mm size) =	14

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

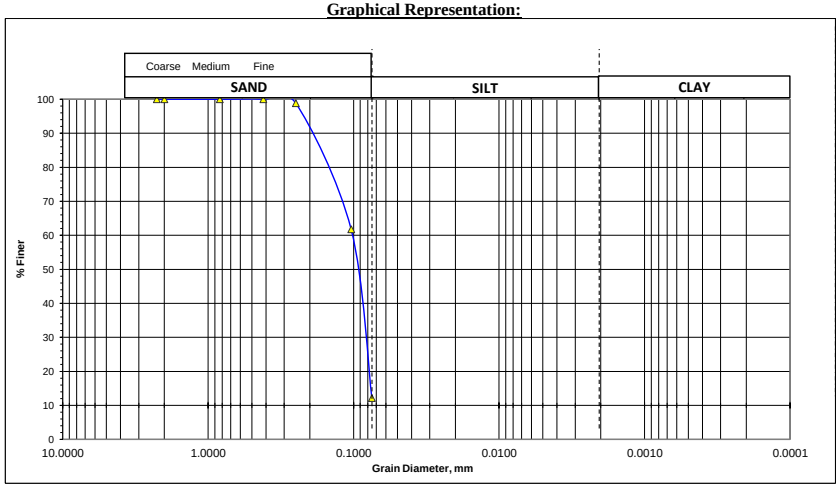
Location: Komorpur Govt .Primary School, Meherpur.

Borehole No: BH-10(M) **Sampled Date:** 28/09/2024

Sample No : D-12 **Test Date :** 26/11/2024

Depth (m) : 18.0

Graphical Representation:



Fines or % of silt and clay =	12.71
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	87
(0.075 to 0.002mm & 0.002mm size) =	13

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

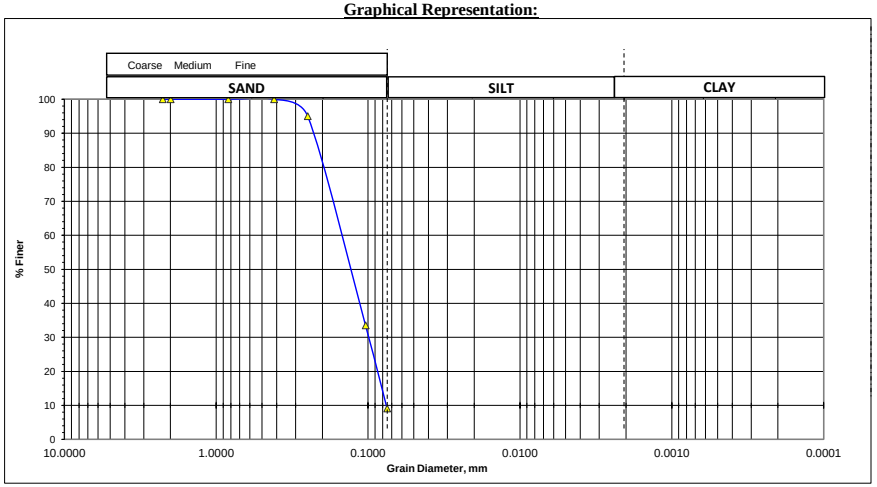
Location: Komorpur Govt .Primary School, Meherpur.

Borehole No: BH-10(M) **Sampled Date:** 28/09/2024

Sample No : D-19 **Test Date :** 26/11/2024

Depth (m) : 28.5

Graphical Representation:



Fines or % of silt and clay =	9.55
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	90
(0.075 to 0.002mm & 0.002mm size) =	10

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

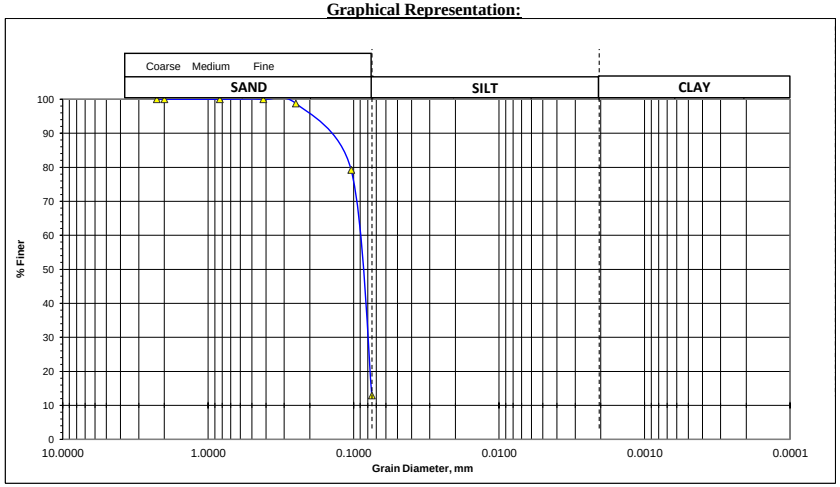
Location: Meherpur Govt. High School, Meherpur.

Borehole No: BH-11(M) **Sampled Date:** 19/09/2024

Sample No : D-07 **Test Date :** 26/11/2024

Depth (m) : 10.5

Graphical Representation:



Fines or % of silt and clay =	13.41
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	87
(0.075 to 0.002mm & 0.002mm size) =	13

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

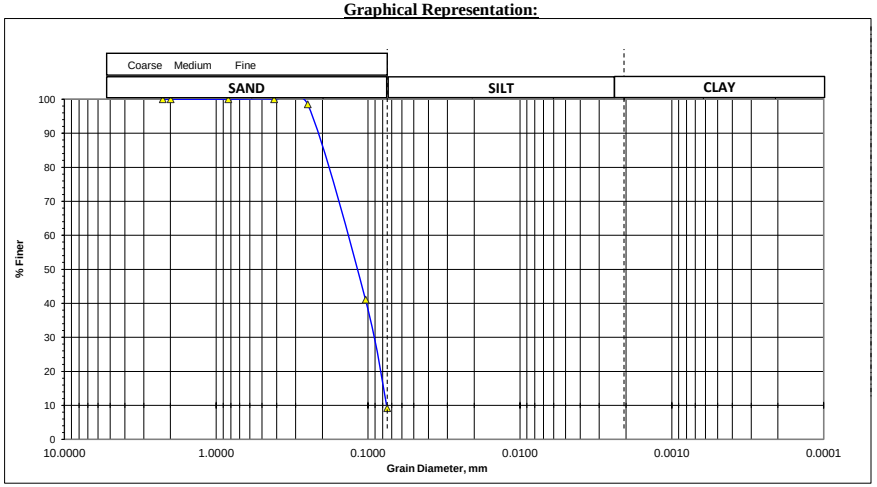
Location: Meherpur Govt. High School, Meherpur.

Borehole No: BH-11(M) **Sampled Date:** 19/09/2024

Sample No : D-19 **Test Date :** 26/11/2024

Depth (m) : 28.5

Graphical Representation:



Fines or % of silt and clay =	9.72
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	90
(0.075 to 0.002mm & 0.002mm size) =	10

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

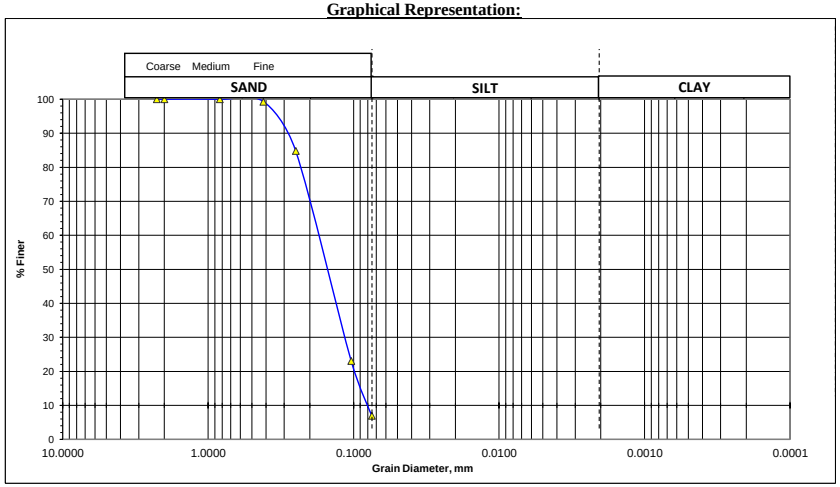
Location: Shalika High School, Meherpur.

Borehole No: BH-12(M) **Sampled Date:** 22/09/2024

Sample No : D-16 **Test Date :** 26/11/2024

Depth (m) : 24.0

Graphical Representation:



Fines or % of silt and clay =	7.05
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	93
(0.075 to 0.002mm & 0.002mm size) =	7

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

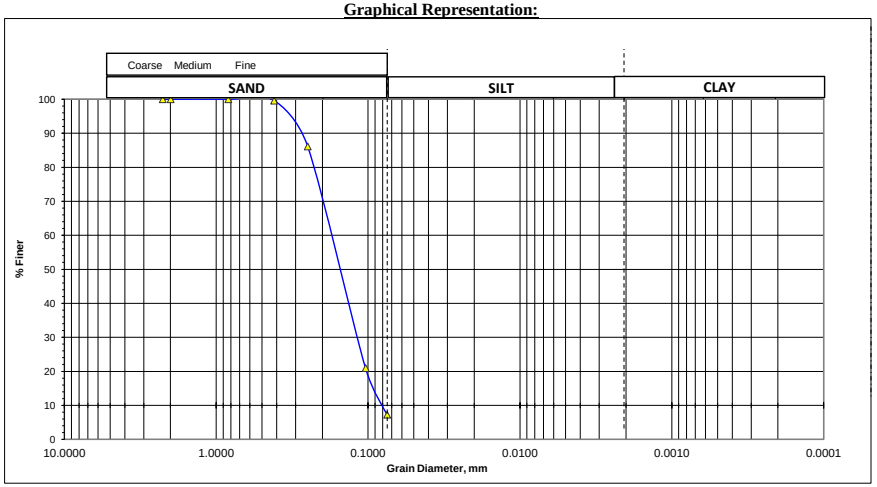
Location: Shalika High School, Meherpur.

Borehole No: BH-12(M) **Sampled Date:** 22/09/2024

Sample No : D-18 **Test Date :** 26/11/2024

Depth (m) : 27.0

Graphical Representation:



Fines or % of silt and clay =	7.83
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	92
(0.075 to 0.002mm & 0.002mm size) =	8

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

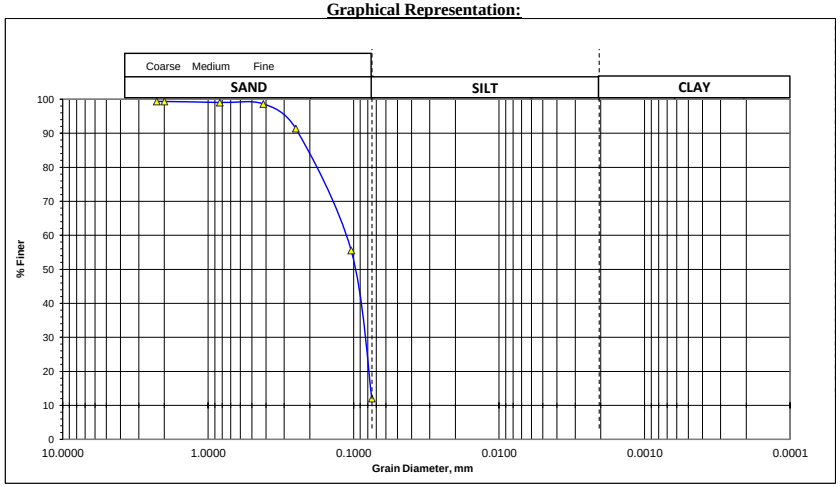
Location: Harirampur Secondary School, Meherpur.

Borehole No: BH-13(M) **Sampled Date:** 21/09/2024

Sample No : D-13 **Test Date :** 26/11/2024

Depth (m) : 19.5

Graphical Representation:



Fines or % of silt and clay =	12.51
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	87
(0.075 to 0.002mm & 0.002mm size) =	13

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

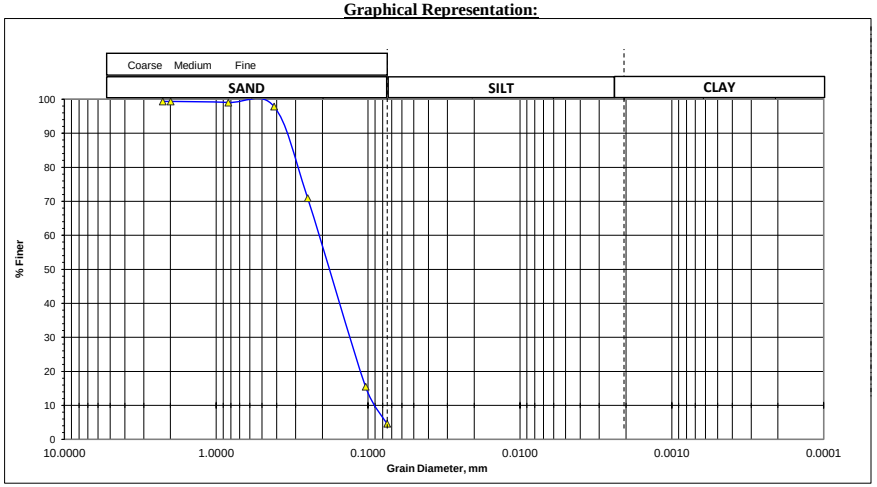
Location: Harirampur Secondary School, Meherpur.

Borehole No: BH-13(M) **Sampled Date:** 21/09/2024

Sample No : D-20 **Test Date :** 26/11/2024

Depth (m) : 30.0

Graphical Representation:



Fines or % of silt and clay =	5.06
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	95
(0.075 to 0.002mm & 0.002mm size) =	5

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

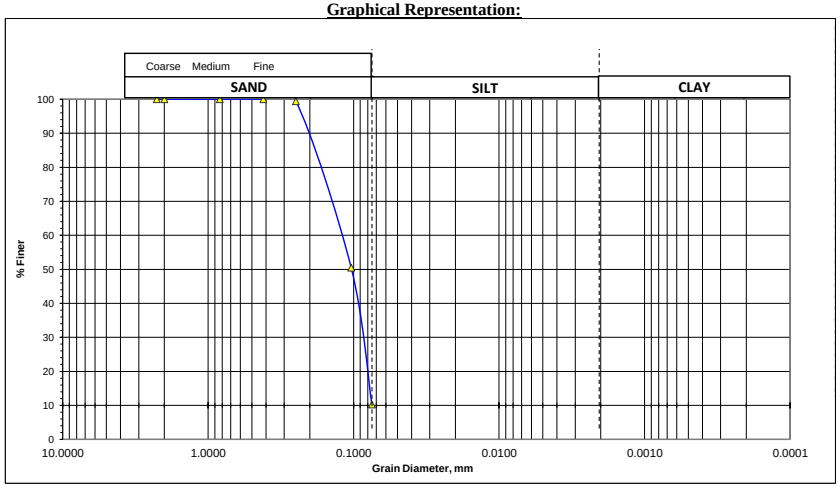
Location: Ujalpur High School, Meherpur.

Borehole No: BH-14(M) **Sampled Date:** 16/09/2024

Sample No : D-08 **Test Date :** 26/11/2024

Depth (m) : 12.0

Graphical Representation:



Fines or % of silt and clay =	10.76
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	89
(0.075 to 0.002mm & 0.002mm size) =	11

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

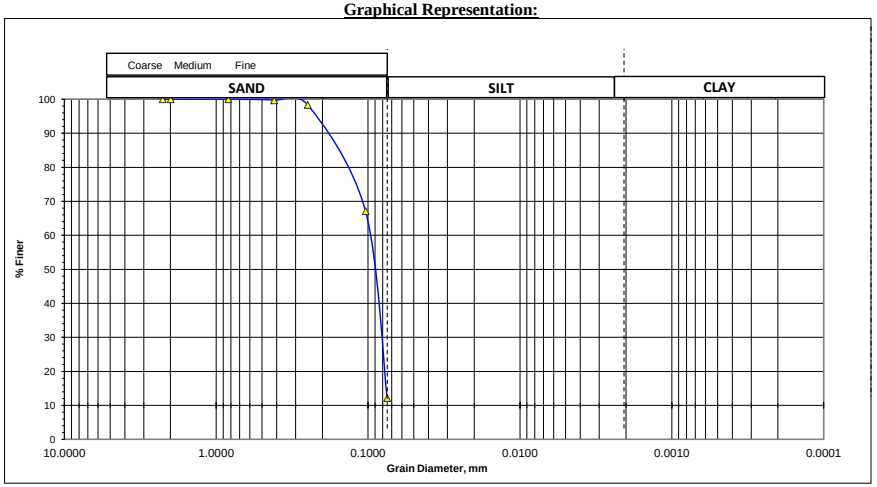
Location: Ujalpur High School, Meherpur.

Borehole No: BH-14(M) **Sampled Date:** 16/09/2024

Sample No : D-11 **Test Date :** 26/11/2024

Depth (m) : 16.5

Graphical Representation:



Fines or % of silt and clay =	12.63
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	87
(0.075 to 0.002mm & 0.002mm size) =	13

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

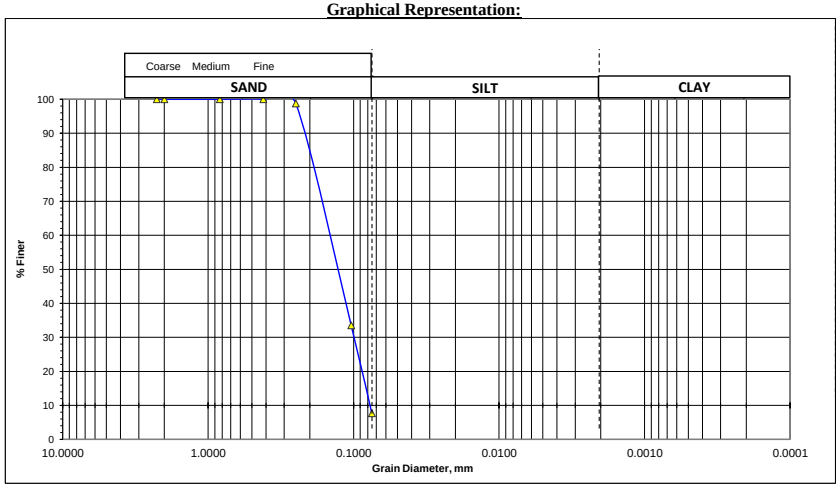
Location: Ujalpur High School, Meherpur.

Borehole No: BH-14(M) **Sampled Date:** 16/09/2024

Sample No : D-16 **Test Date :** 26/11/2024

Depth (m) : 24.0

Graphical Representation:



Fines or % of silt and clay =	8.17
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	92
(0.075 to 0.002mm & 0.002mm size) =	8

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

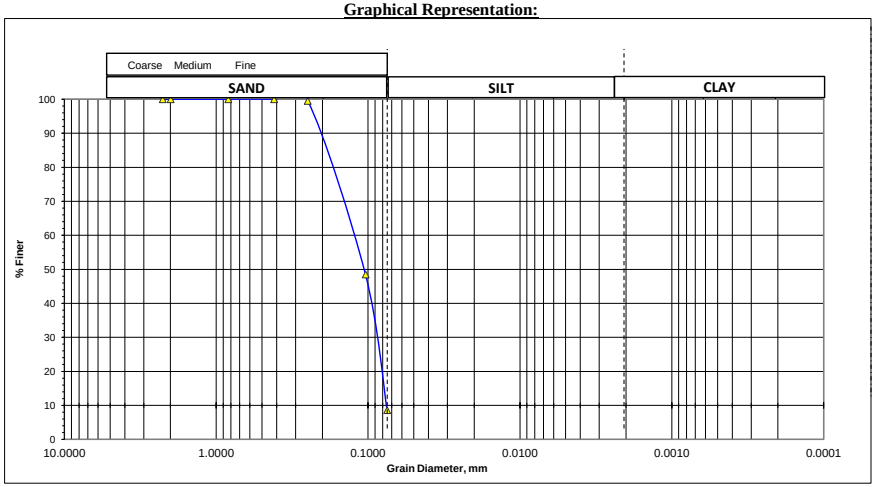
Location: Sholmary Govt. Primary School, Meherpur.

Borehole No: BH-15(M) **Sampled Date:** 15/09/2024

Sample No : D-07 **Test Date :** 28/11/2024

Depth (m) : 10.5

Graphical Representation:



Fines or % of silt and clay =	9.10
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	91
(0.075 to 0.002mm & 0.002mm size) =	9

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

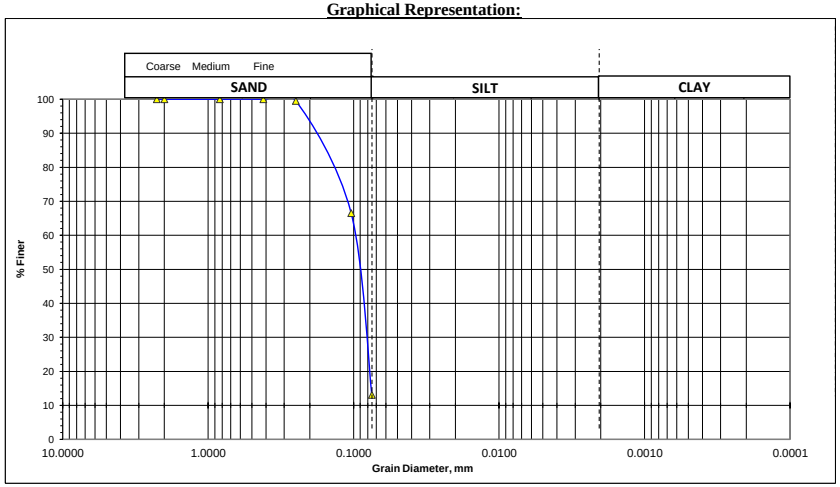
Location: Sholmary Govt. Primary School, Meherpur.

Borehole No: BH-15(M) **Sampled Date:** 15/09/2024

Sample No : D-12 **Test Date :** 28/11/2024

Depth (m) : 18.0

Graphical Representation:



Fines or % of silt and clay =	13.49
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	87
(0.075 to 0.002mm & 0.002mm size) =	13

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

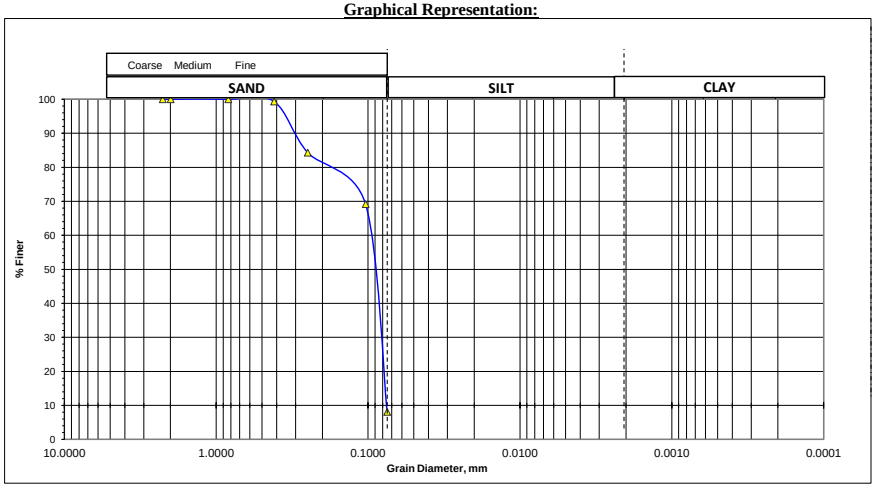
Location: Sholmary Govt. Primary School, Meherpur.

Borehole No: BH-15(M) **Sampled Date:** 15/09/2024

Sample No : D-19 **Test Date :** 28/11/2024

Depth (m) : 28.5

Graphical Representation:



Fines or % of silt and clay =	8.76
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	91
(0.075 to 0.002mm & 0.002mm size) =	9

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

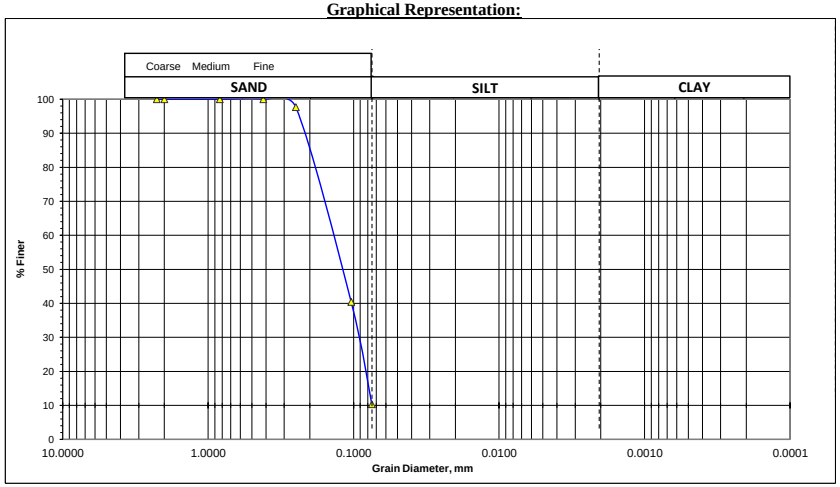
Location: Kaligangni Govt. Primary School, Meherpur.

Borehole No: BH-16(M) **Sampled Date:** 14/09/2024

Sample No : D-10 **Test Date :** 28/11/2024

Depth (m) : 15.0

Graphical Representation:



Fines or % of silt and clay =	10.66
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	89
(0.075 to 0.002mm & 0.002mm size) =	11

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

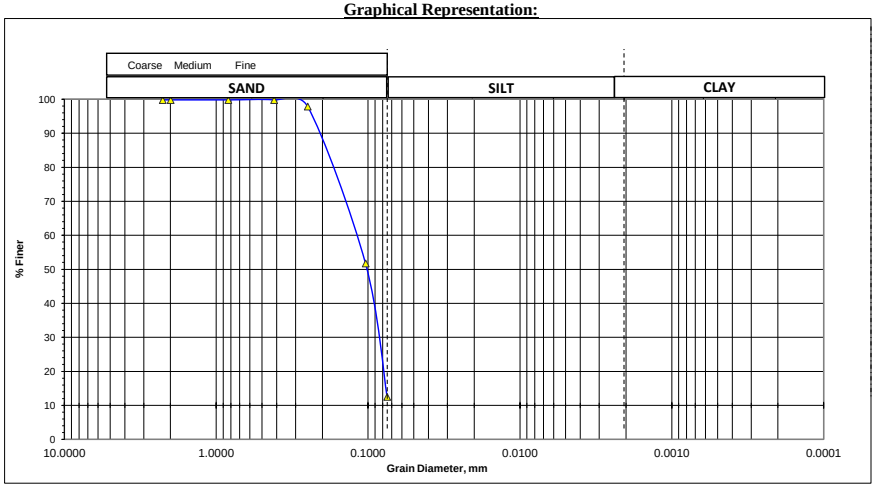
Location: Kaligangni Govt. Primary School, Meherpur.

Borehole No: BH-16M) **Sampled Date:** 14/09/2024

Sample No : D-17 **Test Date :** 28/11/2024

Depth (m) : 25.5

Graphical Representation:



Fines or % of silt and clay =	13.22
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	87
(0.075 to 0.002mm & 0.002mm size) =	13

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

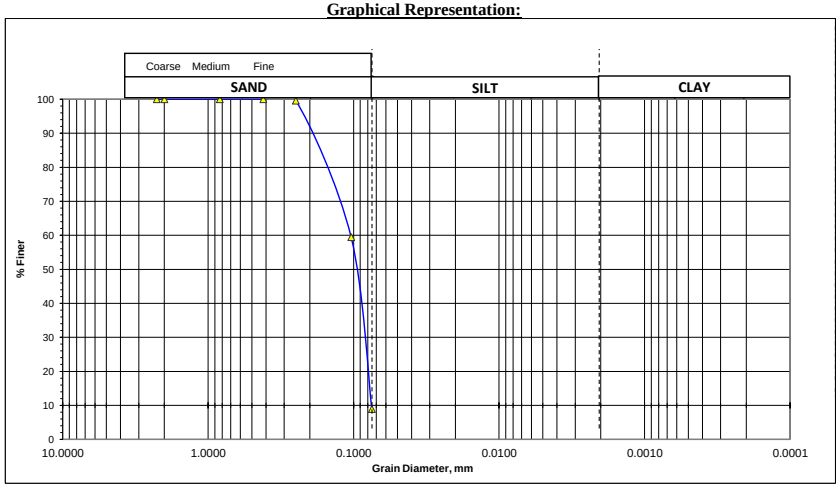
Location: Ramnagar Govt. Primary School, Meherpur.

Borehole No: BH-17(M) **Sampled Date:** 21/09/2024

Sample No : D-03 **Test Date :** 28/11/2024

Depth (m) : 4.5

Graphical Representation:



Fines or % of silt and clay =	9.46
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	91
(0.075 to 0.002mm & 0.002mm size) =	9

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

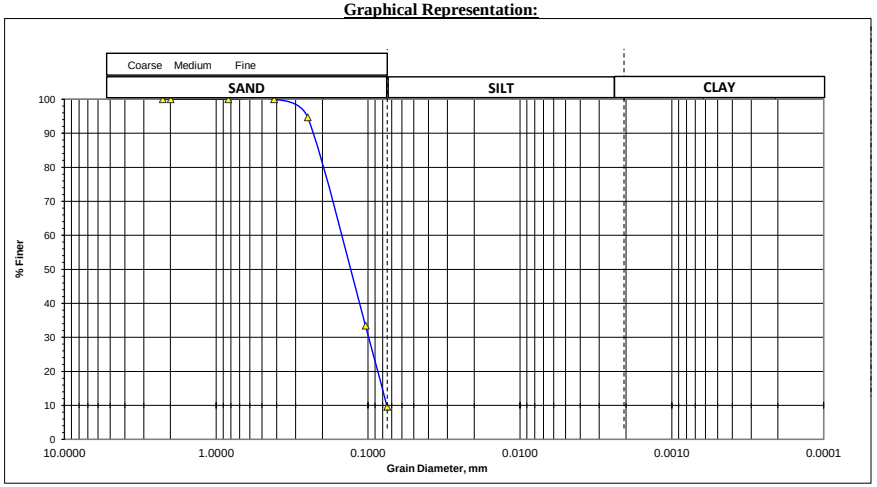
Location: Ramnagar Govt. Primary School, Meherpur.

Borehole No: BH-17M) **Sampled Date:** 21/09/2024

Sample No : D-12 **Test Date :** 28/11/2024

Depth (m) : 18.0

Graphical Representation:



Fines or % of silt and clay =	10.03
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	90
(0.075 to 0.002mm & 0.002mm size) =	10

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

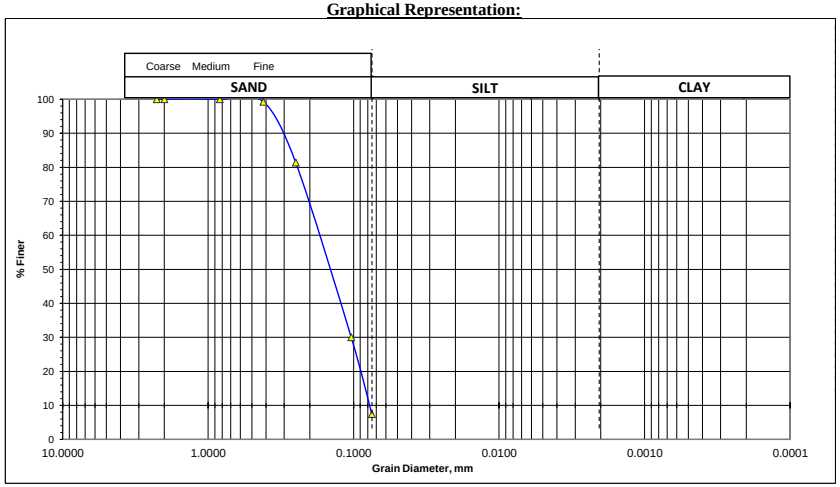
Location: Ramnagar Govt. Primary School, Meherpur.

Borehole No: BH-17(M) **Sampled Date:** 21/09/2024

Sample No : D-18 **Test Date :** 28/11/2024

Depth (m) : 27.0

Graphical Representation:



Fines or % of silt and clay =	7.68
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	92
(0.075 to 0.002mm & 0.002mm size) =	8

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

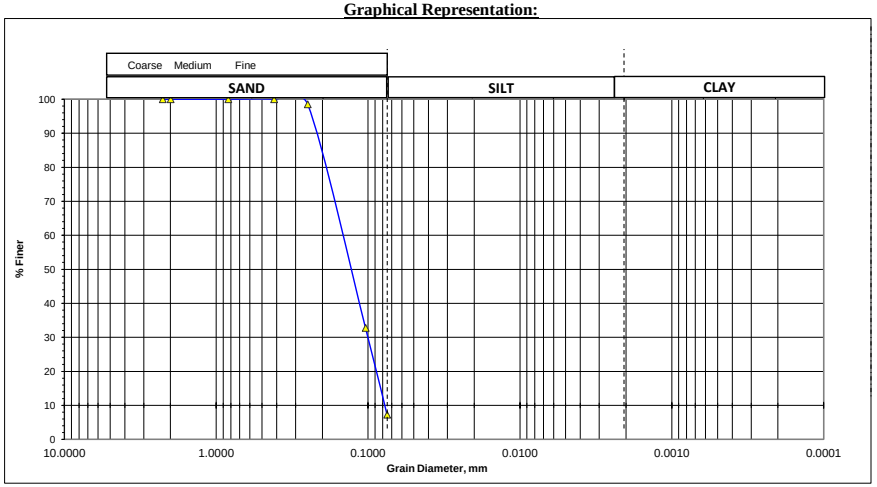
Location: Amdah Primary School, Meherpur.

Borehole No: BH-18M) **Sampled Date:** 25/09/2024

Sample No : D-04 **Test Date :** 28/11/2024

Depth (m) : 6.0

Graphical Representation:



Fines or % of silt and clay =	7.64
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	92
(0.075 to 0.002mm & 0.002mm size) =	8

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

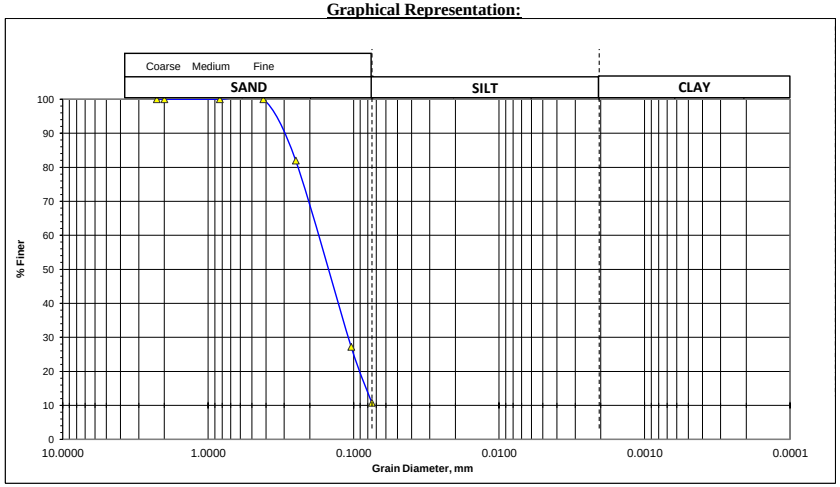
Location: Amdah Primary School, Meherpur.

Borehole No: BH-18(M) **Sampled Date:** 25/09/2024

Sample No : D-19 **Test Date :** 28/11/2024

Depth (m) : 28.5

Graphical Representation:



Fines or % of silt and clay =	11.41
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	89
(0.075 to 0.002mm & 0.002mm size) =	11

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

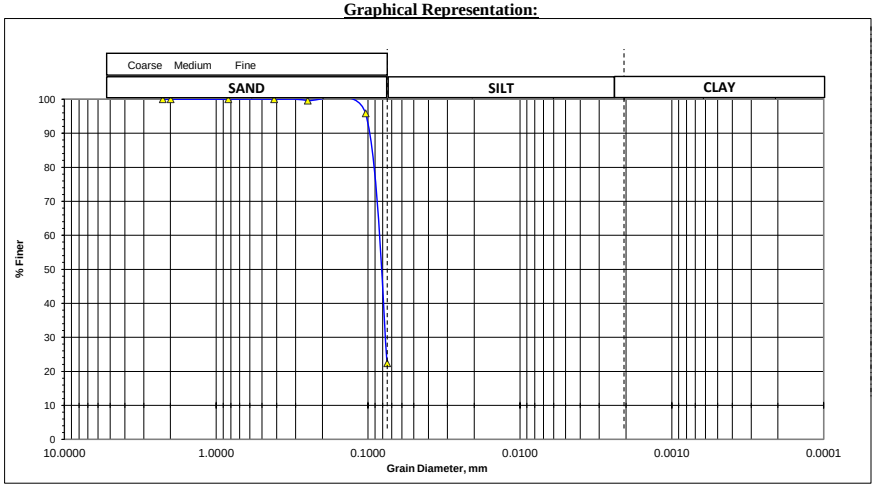
Location: Ashrafpur Govt. Primary School, Meherpur.

Borehole No: BH-19M) **Sampled Date:** 27/09/2024

Sample No : D-06 **Test Date :** 28/11/2024

Depth (m) : 9.0

Graphical Representation:



Fines or % of silt and clay =	22.76
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	77
(0.075 to 0.002mm & 0.002mm size) =	23

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

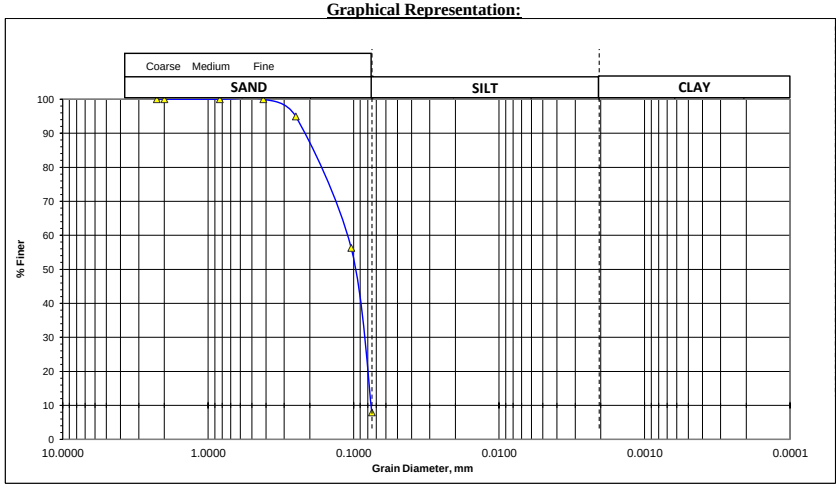
Location: Ashrafpur Govt. Primary School, Meherpur.

Borehole No: BH-19(M) **Sampled Date:** 27/09/2024

Sample No : D-11 **Test Date :** 28/11/2024

Depth (m) : 16.5

Graphical Representation:



Fines or % of silt and clay =	8.44
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	92
(0.075 to 0.002mm & 0.002mm size) =	8

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

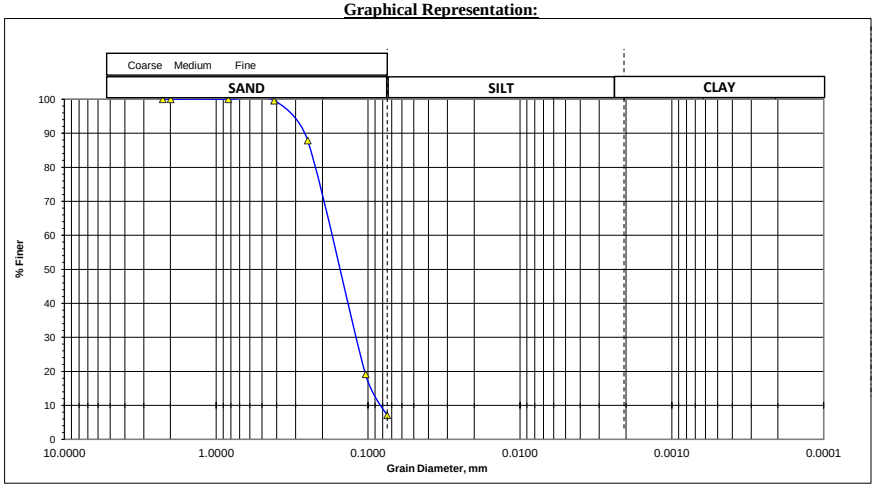
Location: Ashrafpur Govt. Primary School, Meherpur.

Borehole No: BH-19M) **Sampled Date:** 27/09/2024

Sample No : D-19 **Test Date :** 28/11/2024

Depth (m) : 28.5

Graphical Representation:



Fines or % of silt and clay =	7.67
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	92
(0.075 to 0.002mm & 0.002mm size) =	8

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

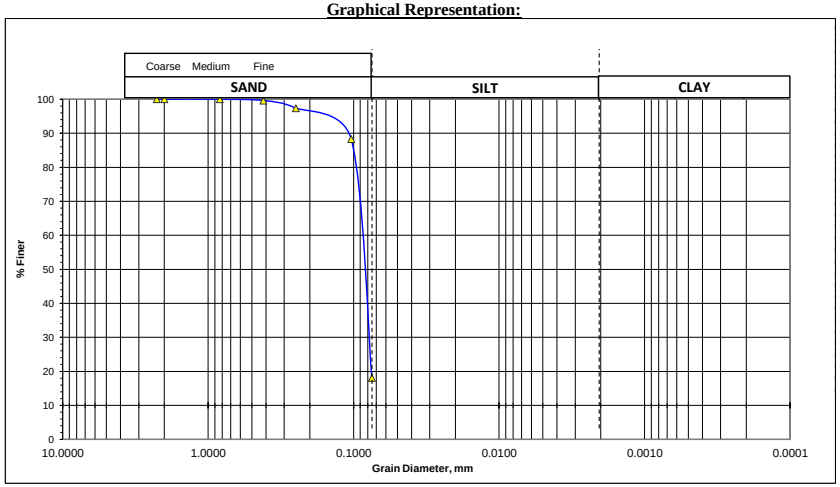
Location: Kola Govt. Primary School, Meherpur.

Borehole No: BH-20(M) **Sampled Date:** 21/09/2024

Sample No : D-09 **Test Date :** 28/11/2024

Depth (m) : 13.5

Graphical Representation:



Fines or % of silt and clay =	18.36
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	82
(0.075 to 0.002mm & 0.002mm size) =	18

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

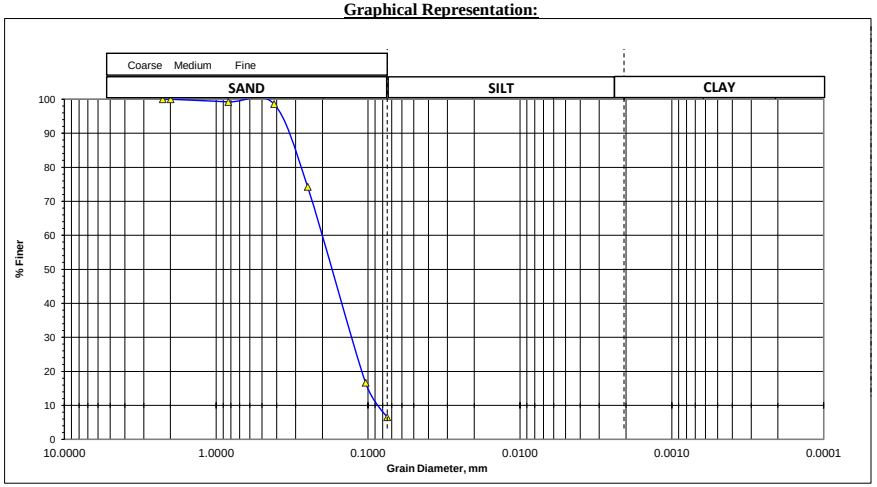
Location: Kola Govt. Primary School, Meherpur.

Borehole No: BH-20M) **Sampled Date:** 21/09/2024

Sample No : D-20 **Test Date :** 28/11/2024

Depth (m) : 30.0

Graphical Representation:



Fines or % of silt and clay =	7.06
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	93
(0.075 to 0.002mm & 0.002mm size) =	7

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

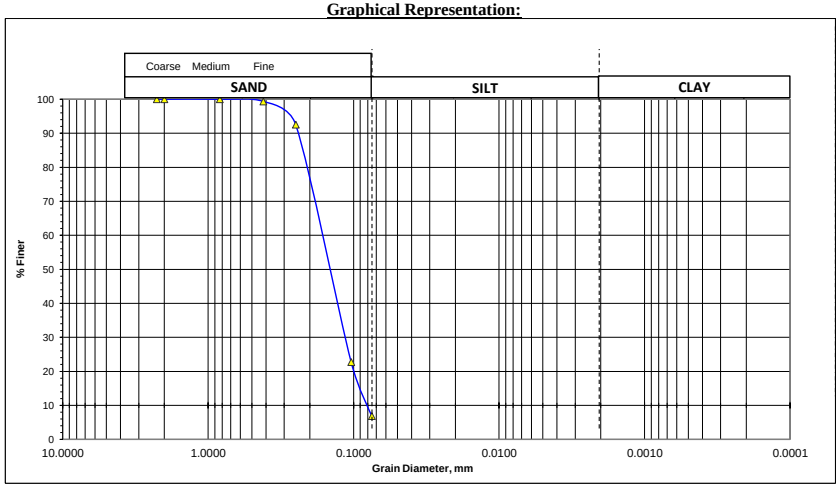
Location: Amjhupi Girls Govt. Primary School, Meherpur.

Borehole No: BH-21(M) **Sampled Date:** 12/09/2024

Sample No : D-04 **Test Date :** 28/11/2024

Depth (m) : 6.0

Graphical Representation:



Fines or % of silt and clay =	6.22
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	94
(0.075 to 0.002mm & 0.002mm size) =	6

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

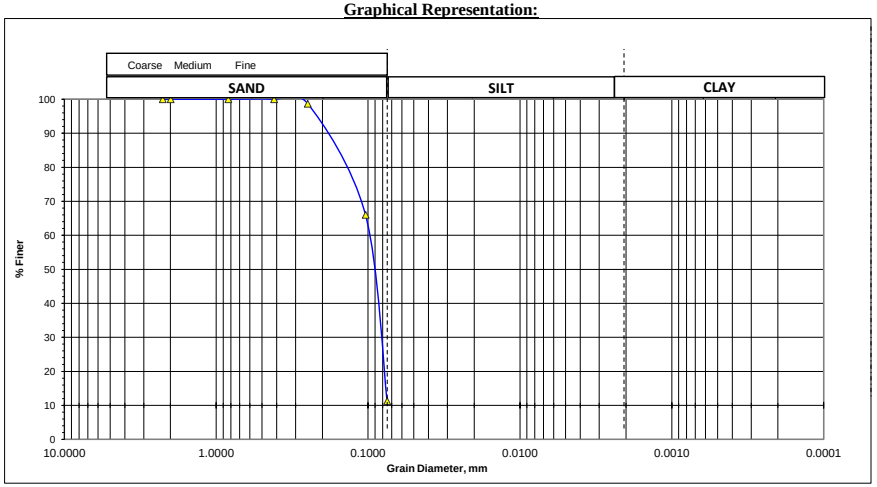
Location: Amjhupi Girls Govt. Primary School, Meherpur.

Borehole No: BH-21M) **Sampled Date:** 12/09/2024

Sample No : D-10 **Test Date :** 28/11/2024

Depth (m) : 15.0

Graphical Representation:



Fines or % of silt and clay =	11.74
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	88
(0.075 to 0.002mm & 0.002mm size) =	12

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

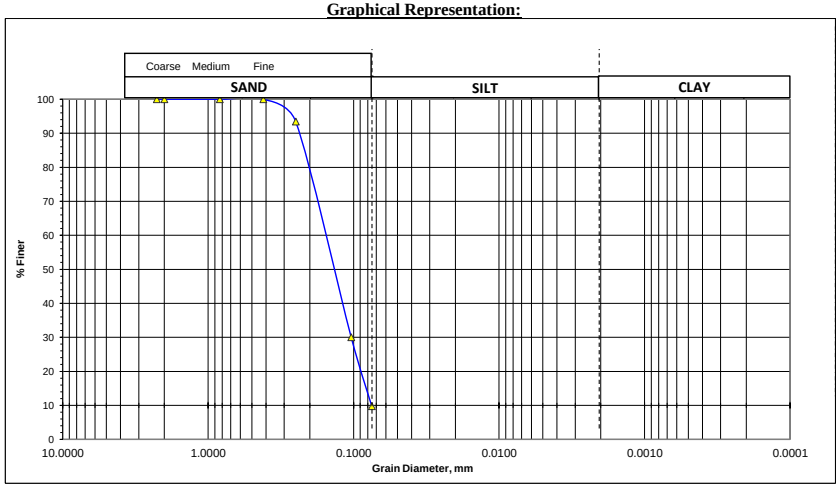
Location: Amjhupi Girls Govt. Primary School, Meherpur.

Borehole No: BH-21(M) **Sampled Date:** 12/09/2024

Sample No : D-15 **Test Date :** 28/11/2024

Depth (m) : 22.5

Graphical Representation:



Fines or % of silt and clay =	10.16
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	90
(0.075 to 0.002mm & 0.002mm size) =	10

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

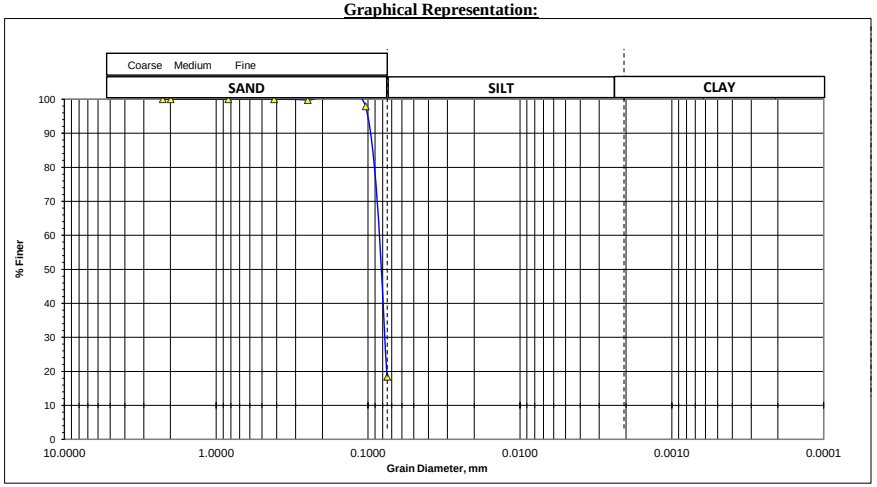
Location: Khoksha Govt. Primary School, Meherpur.

Borehole No: BH-22M) **Sampled Date:** 11/09/2024

Sample No : D-06 **Test Date :** 2/12/2024

Depth (m) : 9.0

Graphical Representation:



Fines or % of silt and clay =	18.71
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	81
(0.075 to 0.002mm & 0.002mm size) =	19

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

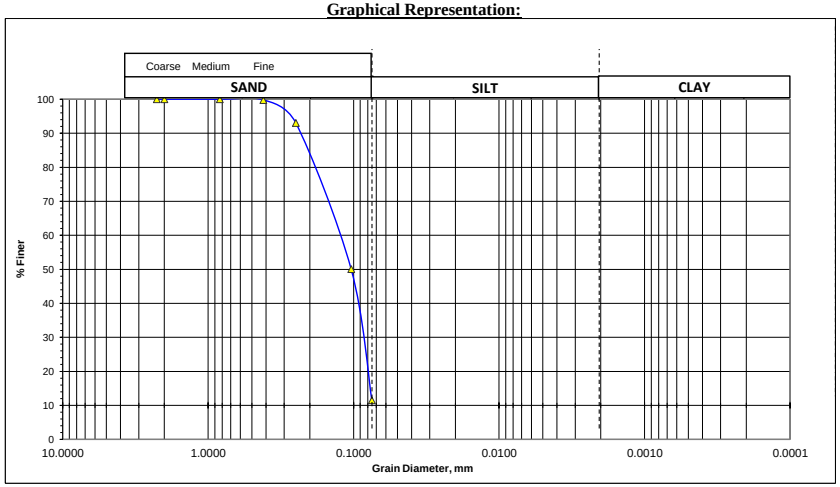
Location: Khoksha Govt. Primary School, Meherpur.

Borehole No: BH-22(M) **Sampled Date:** 11/09/2024

Sample No : D-16 **Test Date :** 2/12/2024

Depth (m) : 24.0

Graphical Representation:



Fines or % of silt and clay =	12.31
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	88
(0.075 to 0.002mm & 0.002mm size) =	12

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

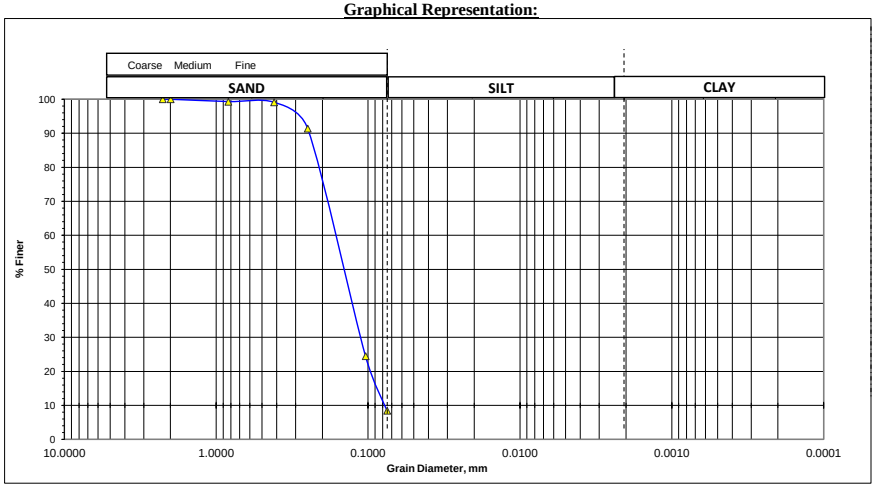
Location: Khoksha Govt. Primary School, Meherpur.

Borehole No: BH-22M) **Sampled Date:** 11/09/2024

Sample No : D-19 **Test Date :** 2/12/2024

Depth (m) : 28.5

Graphical Representation:



Fines or % of silt and clay =	9.04
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	91
(0.075 to 0.002mm & 0.002mm size) =	9

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

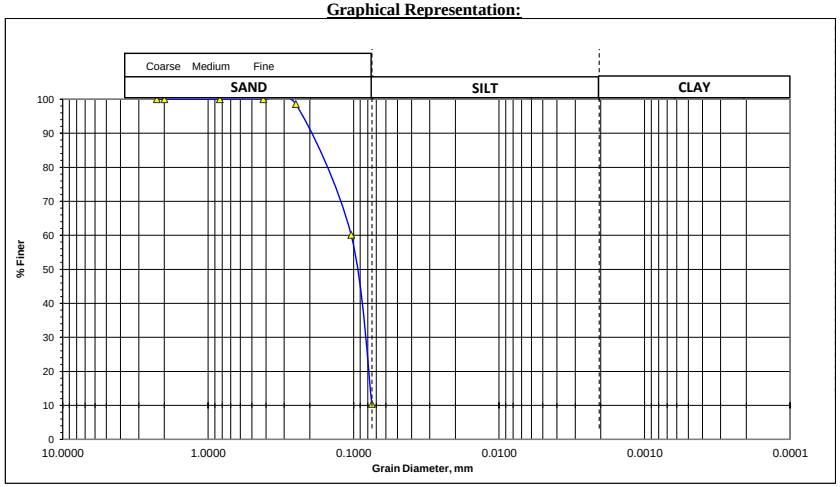
Location: Hijuli Govt. Primary School, Meherpur.

Borehole No: BH-23(M) **Sampled Date:** 24/09/2024

Sample No : D-07 **Test Date :** 2/12/2024

Depth (m) : 10.5

Graphical Representation:



Fines or % of silt and clay =	10.76
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	89
(0.075 to 0.002mm & 0.002mm size) =	11

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

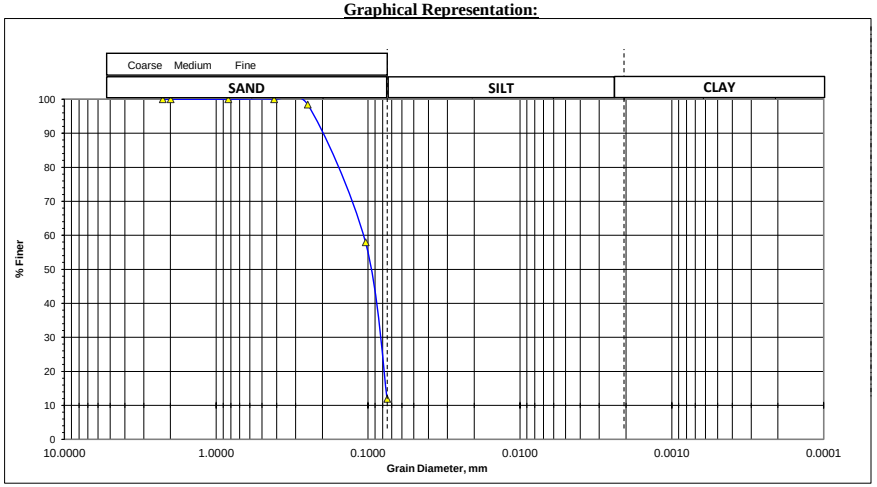
Location: Hijuli Govt. Primary School, Meherpur.

Borehole No: BH-23M) **Sampled Date:** 24/09/2024

Sample No : D-15 **Test Date :** 2/12/2024

Depth (m) : 22.5

Graphical Representation:



Fines or % of silt and clay =	12.43
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	88
(0.075 to 0.002mm & 0.002mm size) =	12

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

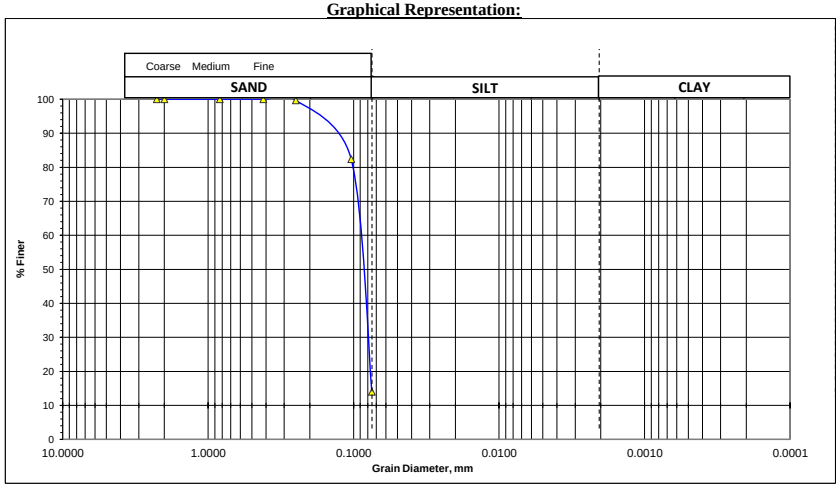
Location: Hijuli Govt. Primary School, Meherpur.

Borehole No: BH-23(M) **Sampled Date:** 24/09/2024

Sample No : D-18 **Test Date :** 2/12/2024

Depth (m) : 27.0

Graphical Representation:



Fines or % of silt and clay =	14.53
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	85
(0.075 to 0.002mm & 0.002mm size) =	15

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

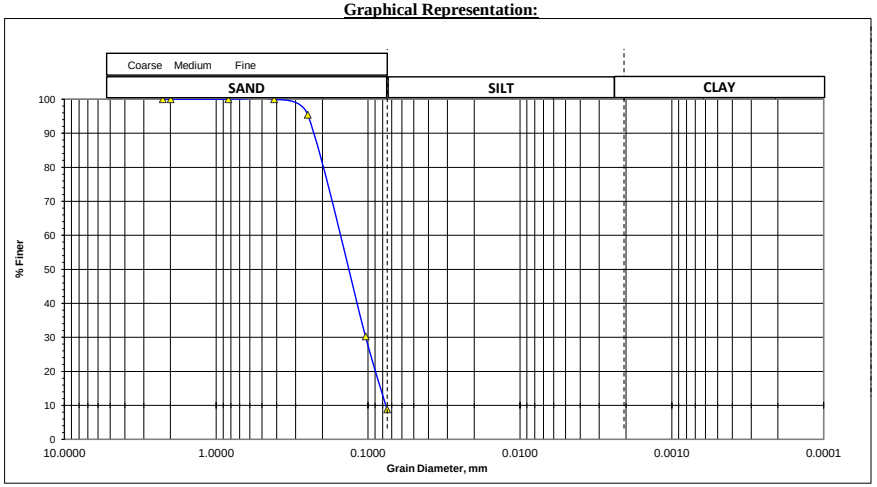
Location: Road Site of Roghunathpur Area Roghunathpur, Meherpur.

Borehole No: BH-24M) **Sampled Date:** 23/09/2024

Sample No : D-10 **Test Date :** 2/12/2024

Depth (m) : 15.0

Graphical Representation:



Fines or % of silt and clay =	8.76
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	91
(0.075 to 0.002mm & 0.002mm size) =	9

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

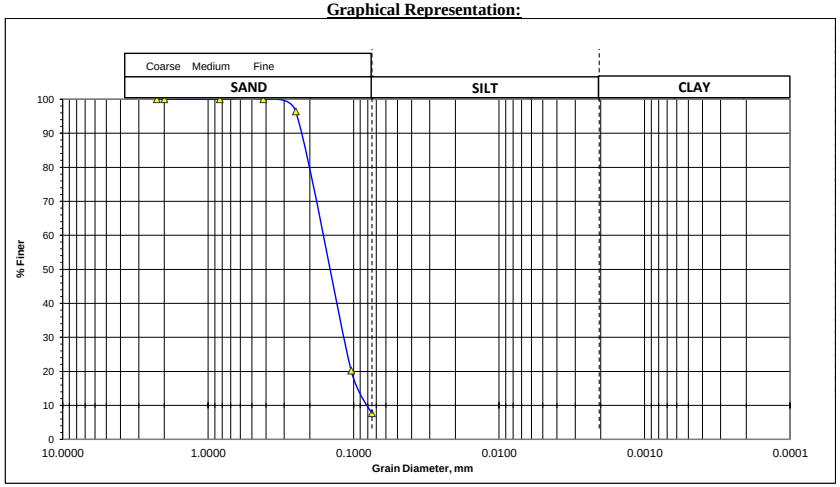
Location: Road Site of Roghunathpur Area Roghunathpur, Meherpur.

Borehole No: BH-24(M) **Sampled Date:** 23/09/2024

Sample No : D-18 **Test Date :** 2/12/2024

Depth (m) : 27.0

Graphical Representation:



Fines or % of silt and clay =	8.11
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	92
(0.075 to 0.002mm & 0.002mm size) =	8

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

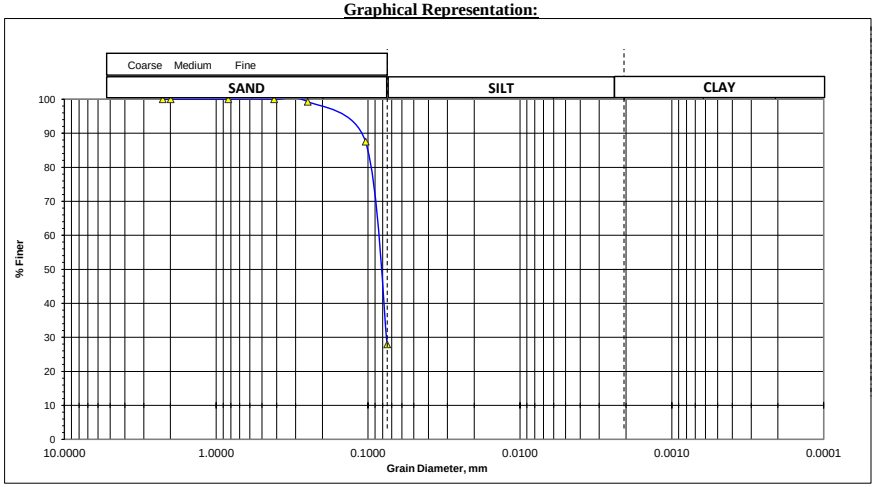
Location: Kathalpota Govt. Primary School, Meherpur.

Borehole No: BH-25M) **Sampled Date:** 22/09/2024

Sample No : D-11 **Test Date :** 2/12/2024

Depth (m) : 16.5

Graphical Representation:



Fines or % of silt and clay =	28.42
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	72
(0.075 to 0.002mm & 0.002mm size) =	28

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

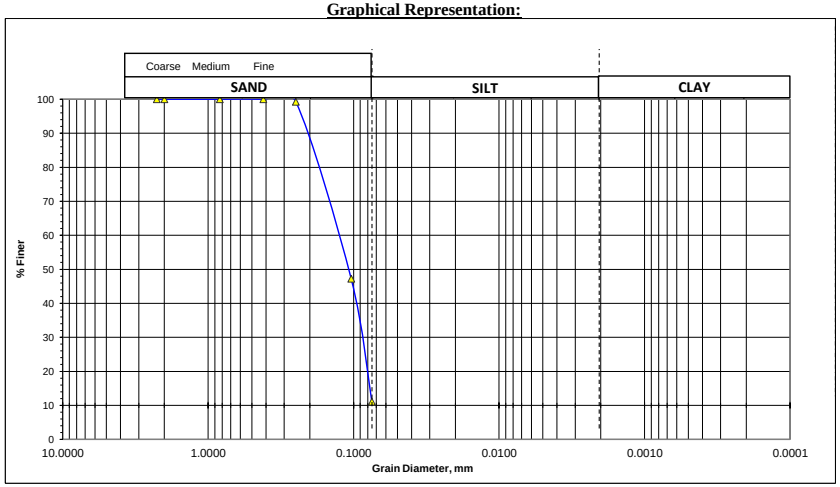
Location: Kathalpota Govt. Primary School, Meherpur.

Borehole No: BH-25(M) **Sampled Date:** 22/09/2024

Sample No : D-15 **Test Date :** 2/12/2024

Depth (m) : 22.5

Graphical Representation:



Fines or % of silt and clay =	11.78
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	88
(0.075 to 0.002mm & 0.002mm size) =	12

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

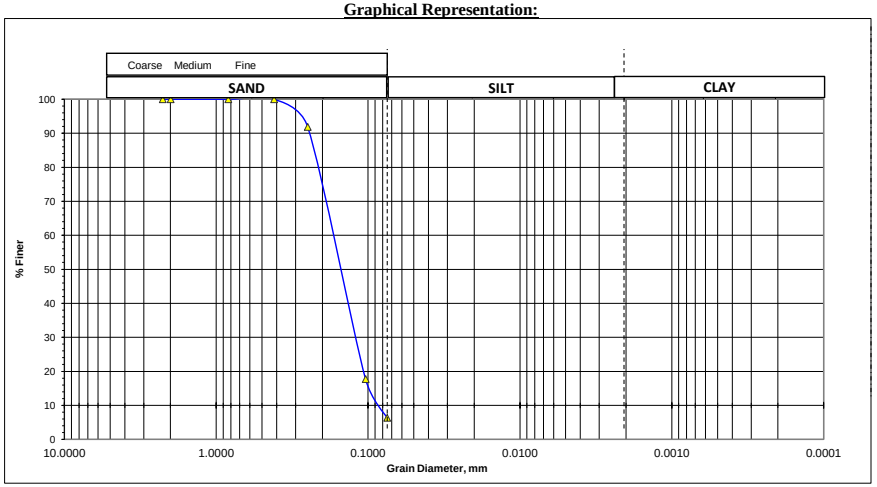
Location: Kathalpota Govt. Primary School, Meherpur.

Borehole No: BH-25M) **Sampled Date:** 22/09/2024

Sample No : D-19 **Test Date :** 2/12/2024

Depth (m) : 18.5

Graphical Representation:



Fines or % of silt and clay =	6.82
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	93
(0.075 to 0.002mm & 0.002mm size) =	7

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

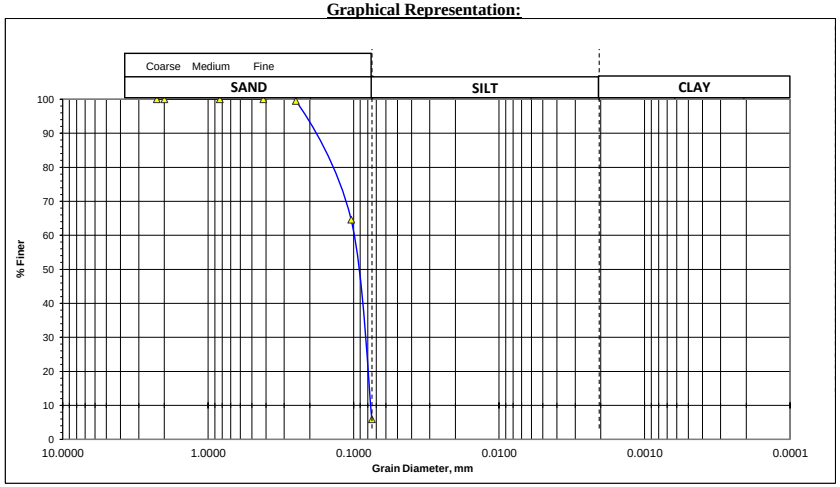
Location: Baliarpur (Purbopara) Govt. Primary School, Meherpur.

Borehole No: BH-26(M) **Sampled Date:** 26/09/2024

Sample No : D-09 **Test Date :** 2/12/2024

Depth (m) : 13.5

Graphical Representation:



Fines or % of silt and clay =	6.21
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	94
(0.075 to 0.002mm & 0.002mm size) =	6

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

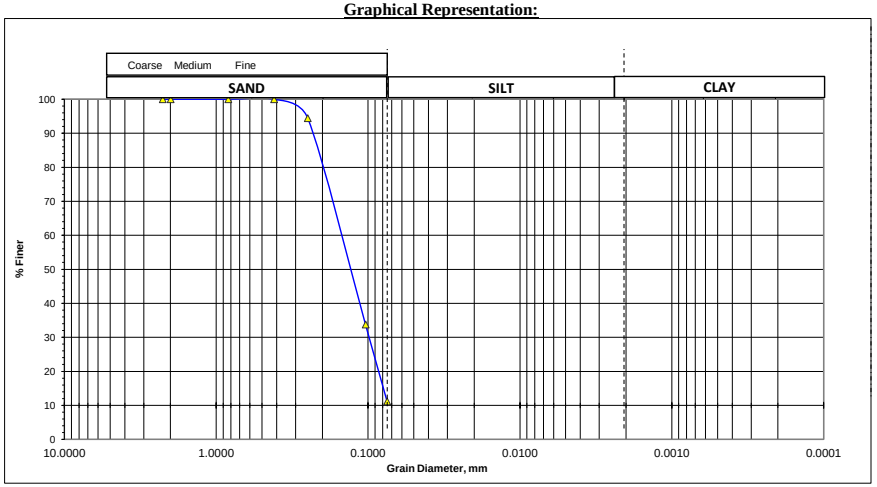
Location: Baliarpur (Purbopara) Govt. Primary School, Meherpur.

Borehole No: BH-26M) **Sampled Date:** 26/09/2024

Sample No : D-15 **Test Date :** 2/12/2024

Depth (m) : 22.5

Graphical Representation:



Fines or % of silt and clay =	11.88
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	88
(0.075 to 0.002mm & 0.002mm size) =	12

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

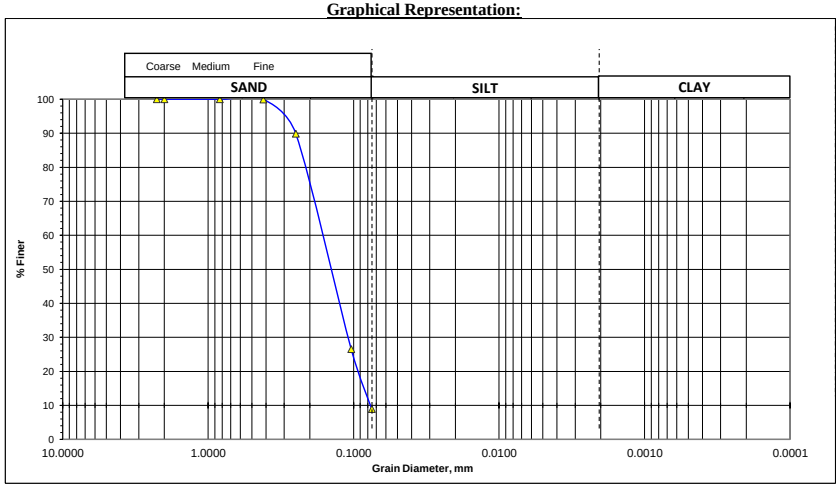
Location: Baliarpur (Purbopara) Govt. Primary School, Meherpur.

Borehole No: BH-26(M) **Sampled Date:** 26/09/2024

Sample No : D-19 **Test Date :** 2/12/2024

Depth (m) : 18.5

Graphical Representation:



Fines or % of silt and clay =	9.43
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	91
(0.075 to 0.002mm & 0.002mm size) =	9

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

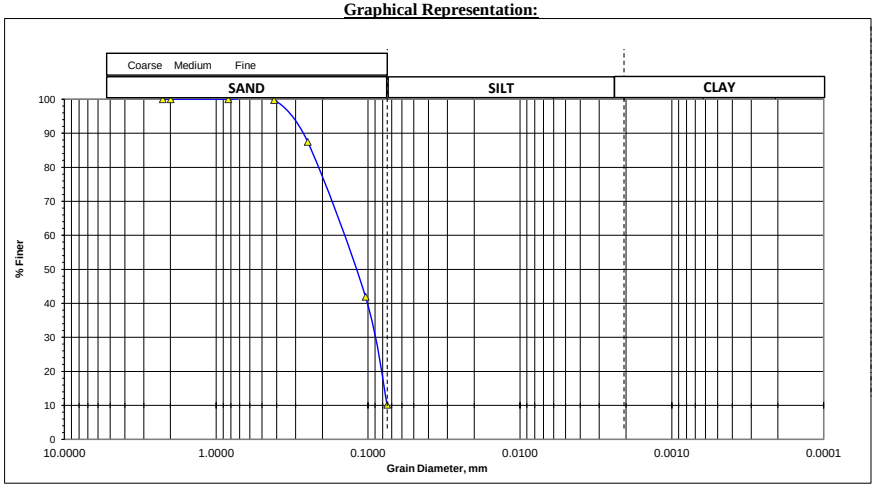
Location: Patkelpota Govt. Primary School, Meherpur.

Borehole No: BH-27M) **Sampled Date:** 18/09/2024

Sample No : D-10 **Test Date :** 2/12/2024

Depth (m) : 15.0

Graphical Representation:



Fines or % of silt and clay =	10.87
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	89
(0.075 to 0.002mm & 0.002mm size) =	11

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

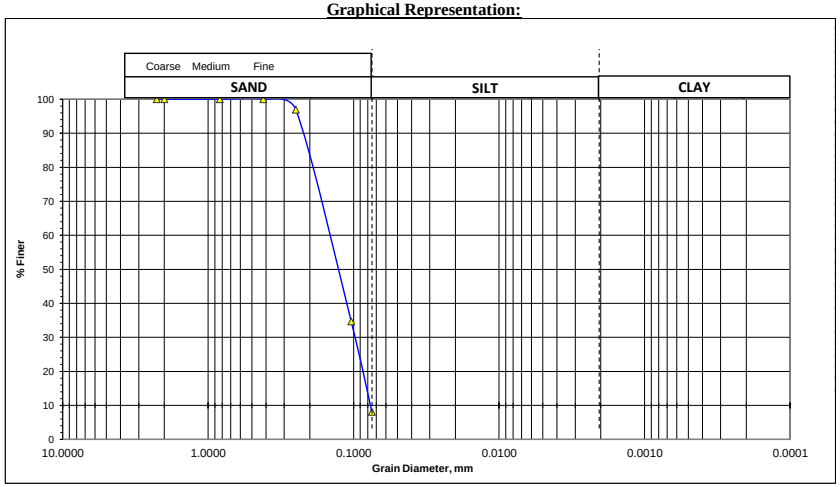
Location: Patkelpota Govt. Primary School, Meherpur.

Borehole No: BH-27(M) **Sampled Date:** 18/09/2024

Sample No : D-17 **Test Date :** 2/12/2024

Depth (m) : 25.5

Graphical Representation:



Fines or % of silt and clay =	8.31
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	92
(0.075 to 0.002mm & 0.002mm size) =	8

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

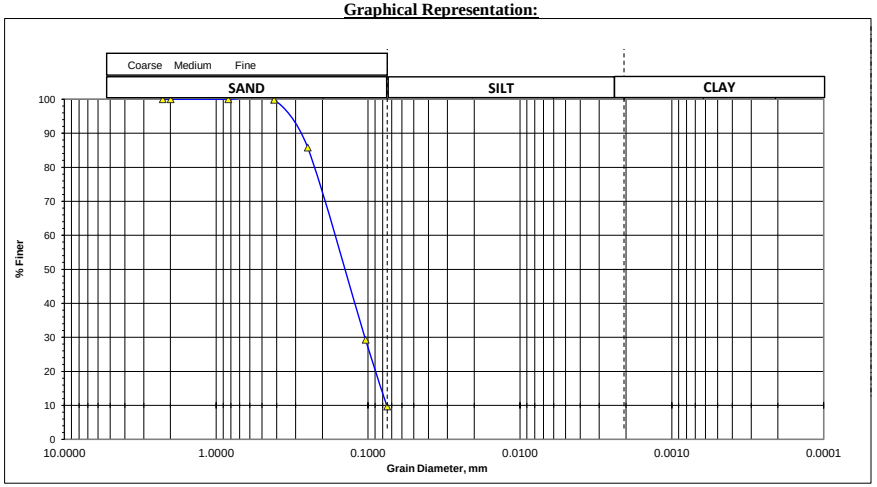
Location: Patkelpota Govt. Primary School, Meherpur.

Borehole No: BH-27M) **Sampled Date:** 18/09/2024

Sample No : D-20 **Test Date :** 2/12/2024

Depth (m) : 30.0

Graphical Representation:



Fines or % of silt and clay =	10.31
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	90
(0.075 to 0.002mm & 0.002mm size) =	10

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

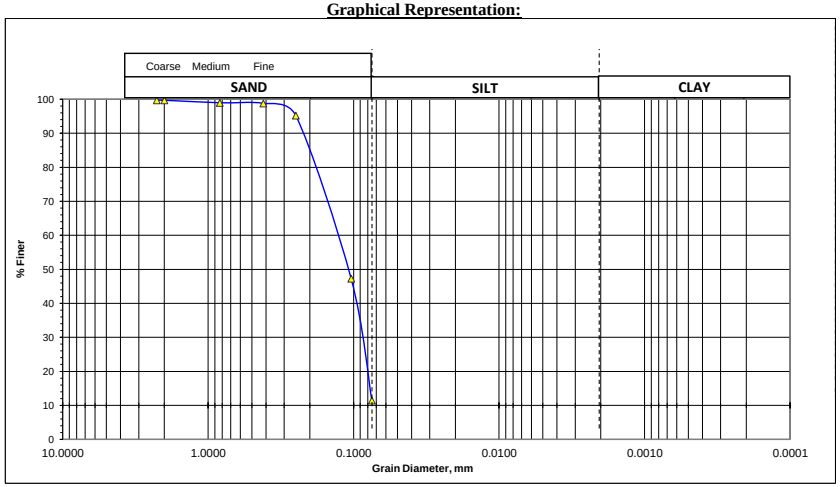
Location: Near Durlovpur Masjid Road Site in Durlovpur Village Gangni , Meherpur.

Borehole No: BH-28(M) **Sampled Date:** 19/09/2024

Sample No : D-13 **Test Date :** 4/12/2024

Depth (m) : 19.5

Graphical Representation:



Fines or % of silt and clay =	11.86
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	88
(0.075 to 0.002mm & 0.002mm size) =	12

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

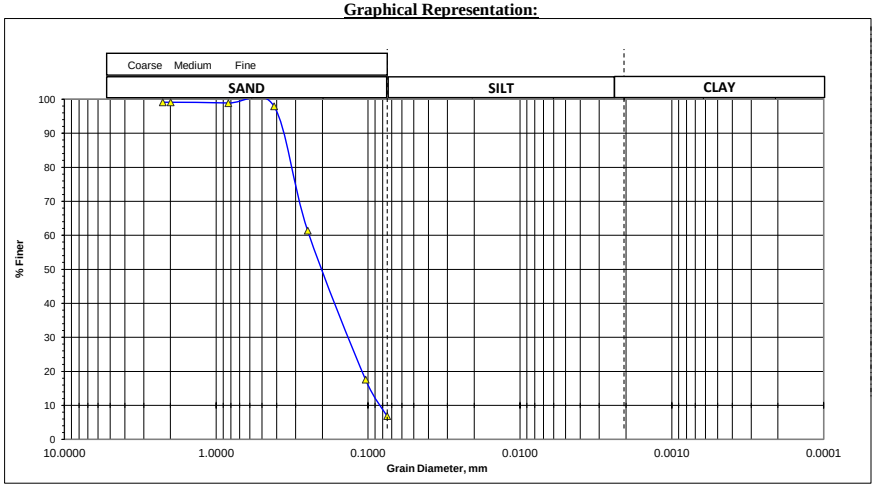
Location: Near Durlovpur Masjid Road Site in Durlovpur Village Gangni , Meherpur.

Borehole No: BH-28M) **Sampled Date:** 18/09/2024

Sample No : D-17 **Test Date :** 2/12/2024

Depth (m) : 25.5

Graphical Representation:



Fines or % of silt and clay =	6.52
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	93
(0.075 to 0.002mm & 0.002mm size) =	7

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

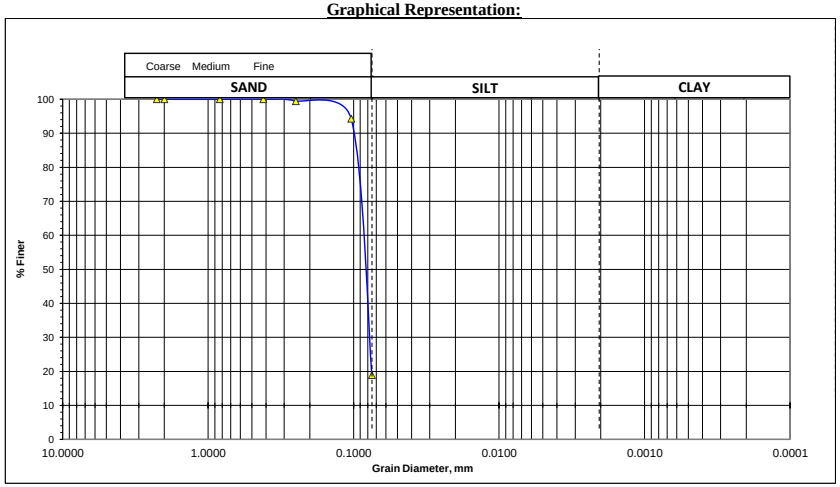
Location: Garadob Govt. Primary School, Meherpur.

Borehole No: BH-29(M) **Sampled Date:** 13/09/2024

Sample No : D-04 **Test Date :** 4/12/2024

Depth (m) : 6.0

Graphical Representation:



Fines or % of silt and clay =	19.28
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	81
(0.075 to 0.002mm & 0.002mm size) =	19

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

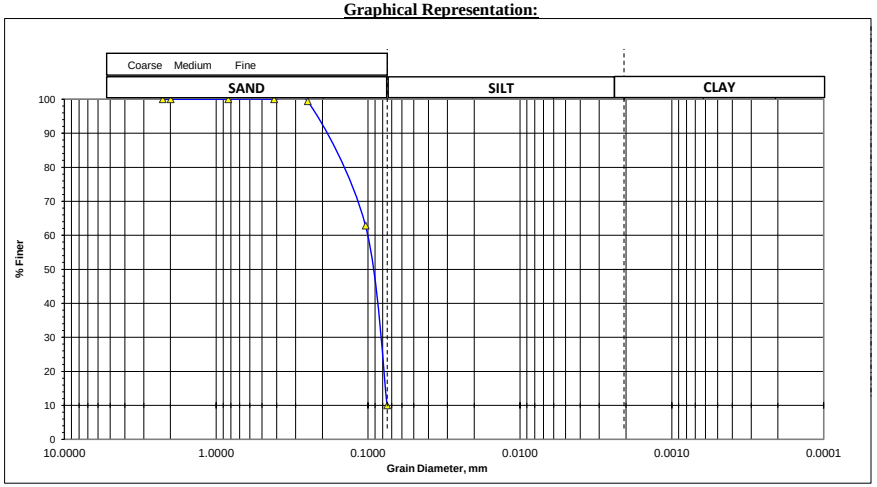
Location: Garadob Govt. Primary School, Meherpur.

Borehole No: BH-29M) **Sampled Date:** 13/09/2024

Sample No : D-11 **Test Date :** 4/12/2024

Depth (m) : 16.5

Graphical Representation:



Fines or % of silt and clay =	10.40
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	90
(0.075 to 0.002mm & 0.002mm size) =	10

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

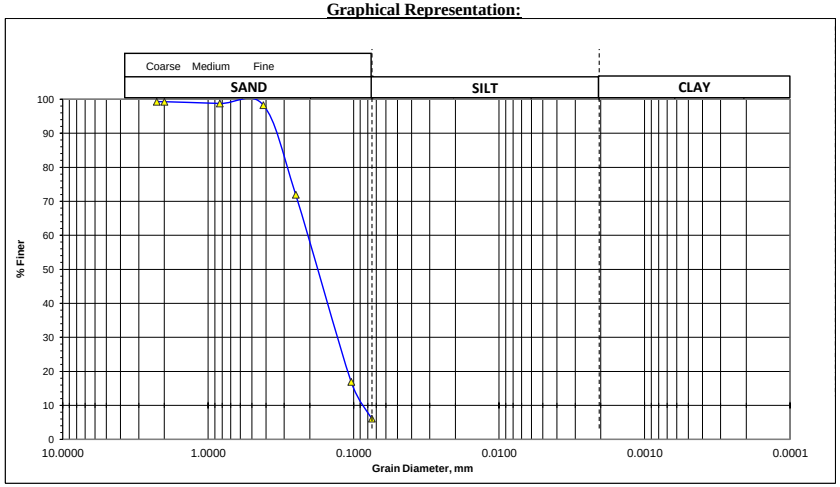
Location: Garadob Govt. Primary School, Meherpur.

Borehole No: BH-29(M) **Sampled Date:** 13/09/2024

Sample No : D-19 **Test Date :** 4/12/2024

Depth (m) : 28.5

Graphical Representation:



Fines or % of silt and clay =	6.62
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	93
(0.075 to 0.002mm & 0.002mm size) =	7

GRAIN SIZE ANALYSIS

Client : Urban Development Directorate (UDD).

Project : Preparation of Development Plan for Meherpur Zilla

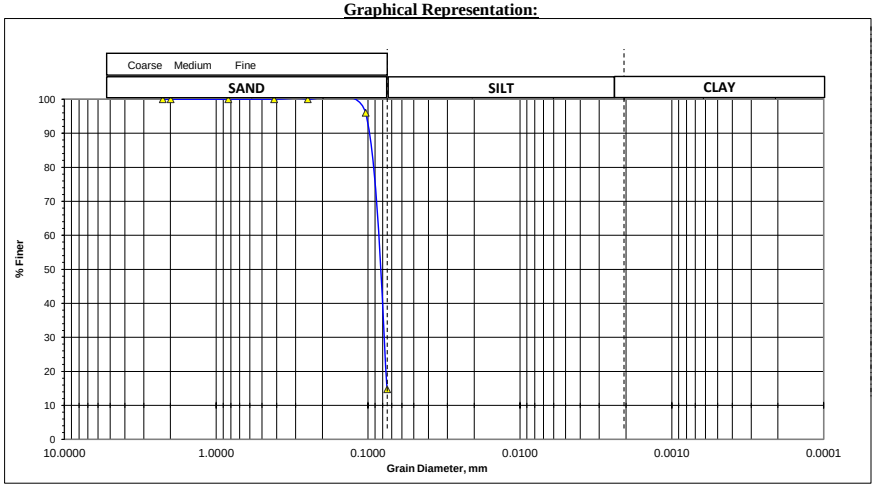
Location: Bhatpara Govt. Primary School, Meherpur.

Borehole No: BH-30M) **Sampled Date:** 25/09/2024

Sample No : D-08 **Test Date :** 4/12/2024

Depth (m) : 12.0

Graphical Representation:



Fines or % of silt and clay =	15.04
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	85
(0.075 to 0.002mm & 0.002mm size) =	15

GRAIN SIZE ANALYSIS

Client : Local Government Engineering Department (LGED).

Project : Preparation of Development Plan for Meherpur Zilla

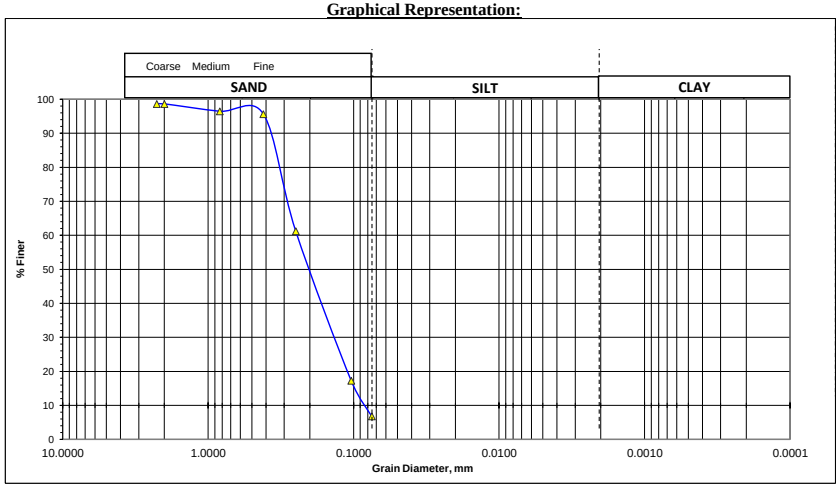
Location: Bhatpara Govt. Primary School, Meherpur.

Borehole No: BH-30(M) **Sampled Date:** 25/09/2024

Sample No : D-16 **Test Date :** 4/12/2024

Depth (m) : 24.0

Graphical Representation:



Fines or % of silt and clay =	7.18
Mean Diameter(mm), D_{50} =	0.195
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	93
(0.075 to 0.002mm & 0.002mm size) =	7

GRAIN SIZE ANALYSIS

Client : **Urban Development Directorate (UDD).**

Project : **Preparation of Development Plan for Meherpur Zilla**

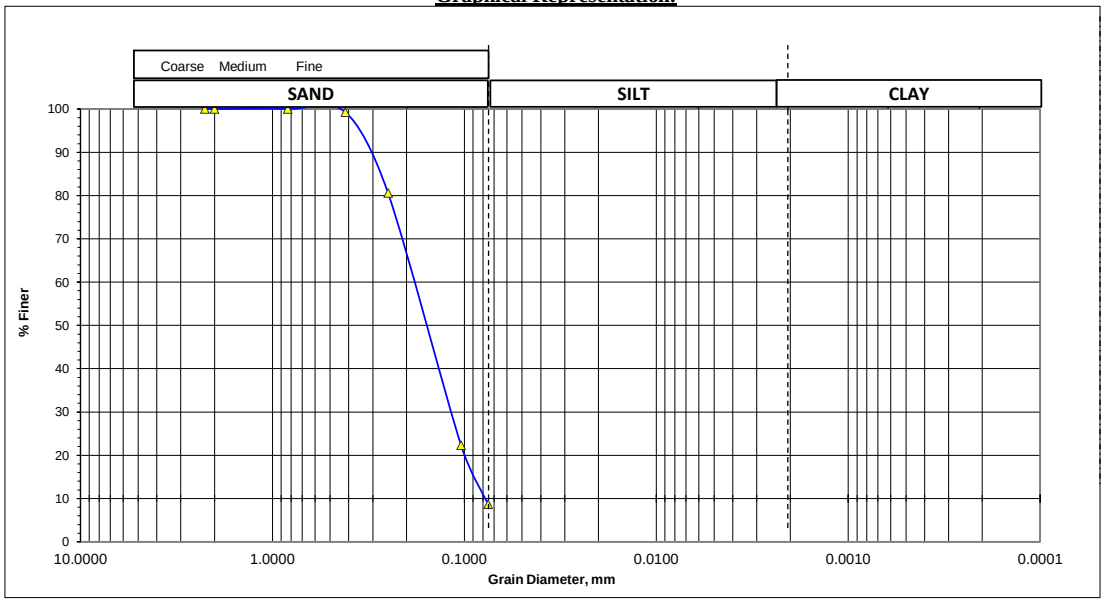
Location: **Bhatpara Govt. Primary School, Meherpur.**

Borehole No: BH-30M) **Sampled Date:** 25/09/2024

Sample No : D-20 **Test Date :** 4/12/2024

Depth (m) : 30.0

Graphical Representation:



Fines or % of silt and clay =	9.32
Mean Diameter(mm), D_{50} =	0.160
Silt-Factor, f = 1.76xsqrt(D_{50}) =	0.70
% Particles (from the grain -size analysis graph).	
(0.075mm size) =	91
(0.075 to 0.002mm & 0.002mm size) =	9

Laboratory Test Result of
Grain Size Analysis- Hydrometer

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

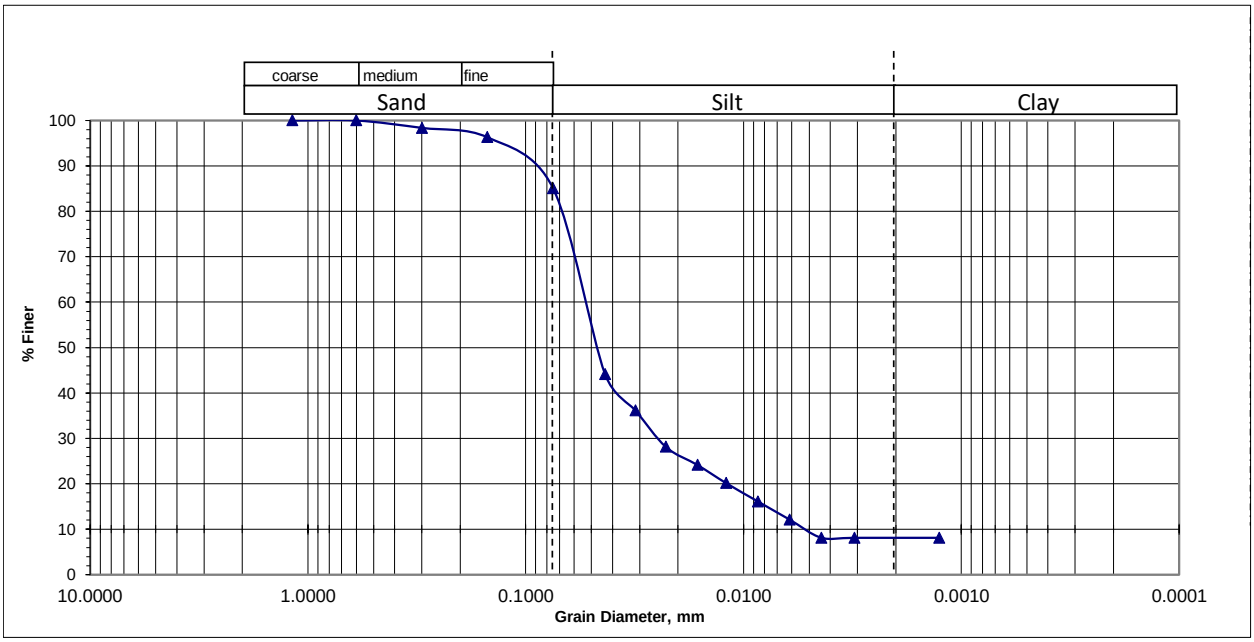
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Near Dariapur BDR Camp, Mujibnagar, Meherpur.**

Bore Hole No : BH-02 Sample No. D6 Sampled Date: 23/09/2024

Depth (m) : 9.0 Test Date : 24/11/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 15% Silt (0.075 to 0.002mm size)= 77% & Clay (0.002mm size) = 8%

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

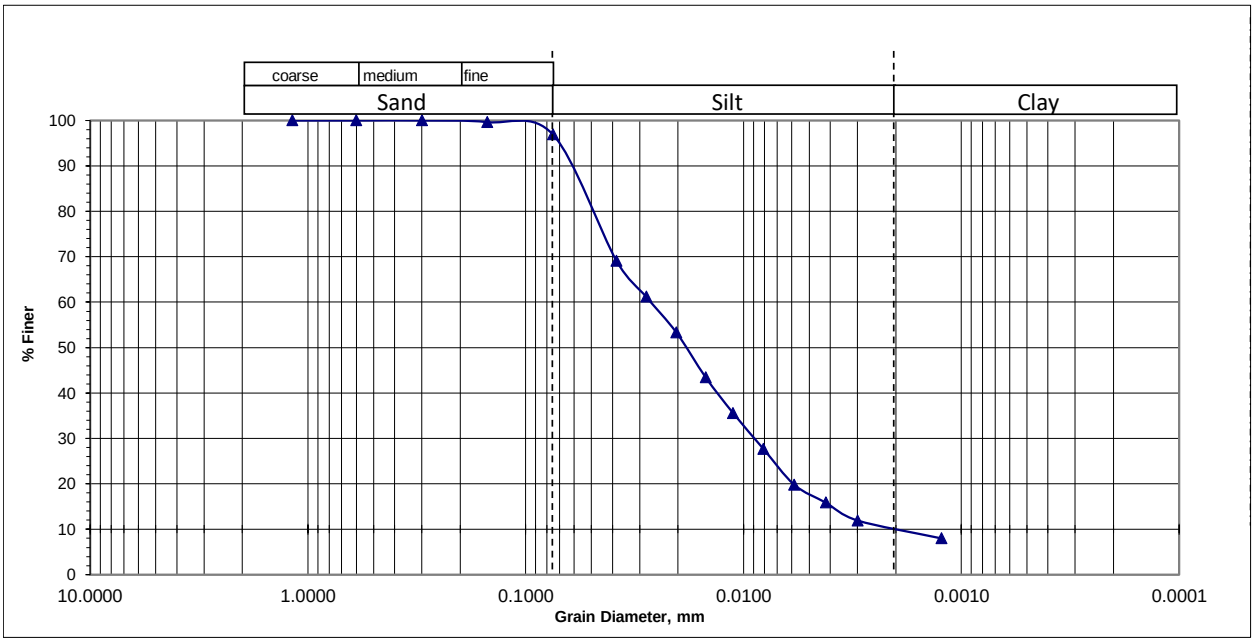
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Near Gourinagar Nagarmath Bottola, Mujibnagar, Meherpur.**

Bore Hole No : BH-03 Sample No. D5 Sampled Date: 24/09/2024

Depth (m) : 7.5 Test Date : 24/11/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 3% Silt (0.075 to 0.002mm size)= 87% & Clay (0.002mm size) = 10%

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

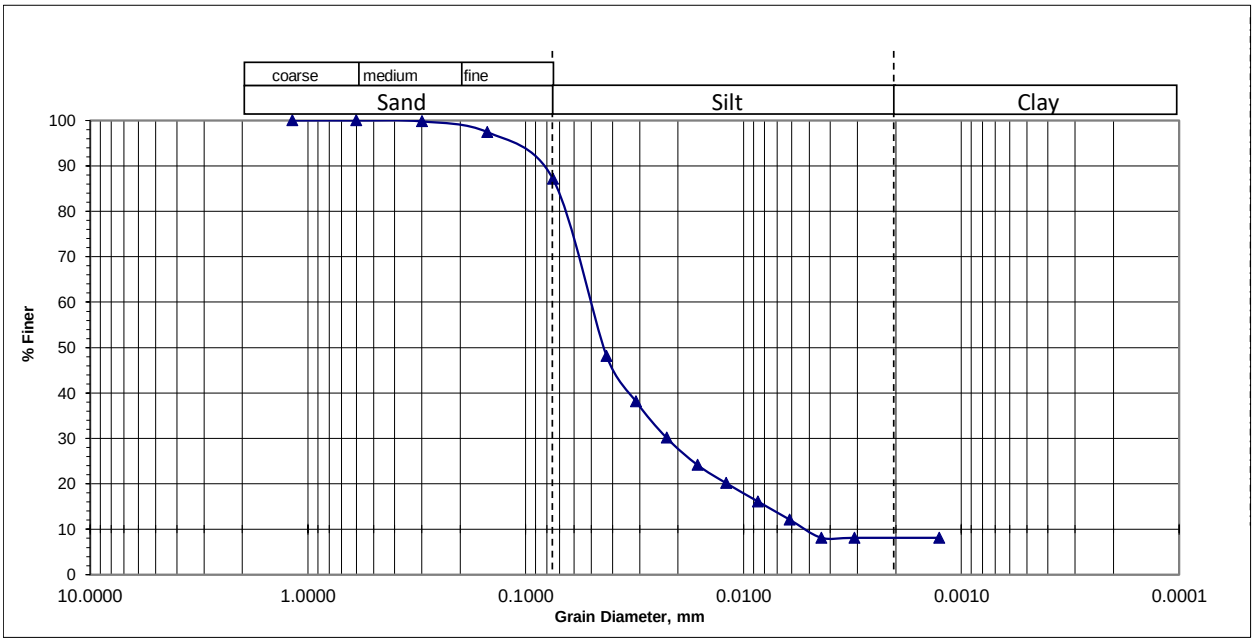
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Vobanipur Govt. Primary School, Mujibnagar, Meherpur.**

Bore Hole No : BH-04 Sample No. D17 Sampled Date: 16/09/2024

Depth (m) : 25.5 Test Date : 24/11/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 13% Silt (0.075 to 0.002mm size)= 79% & Clay (0.002mm size) = 8%

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

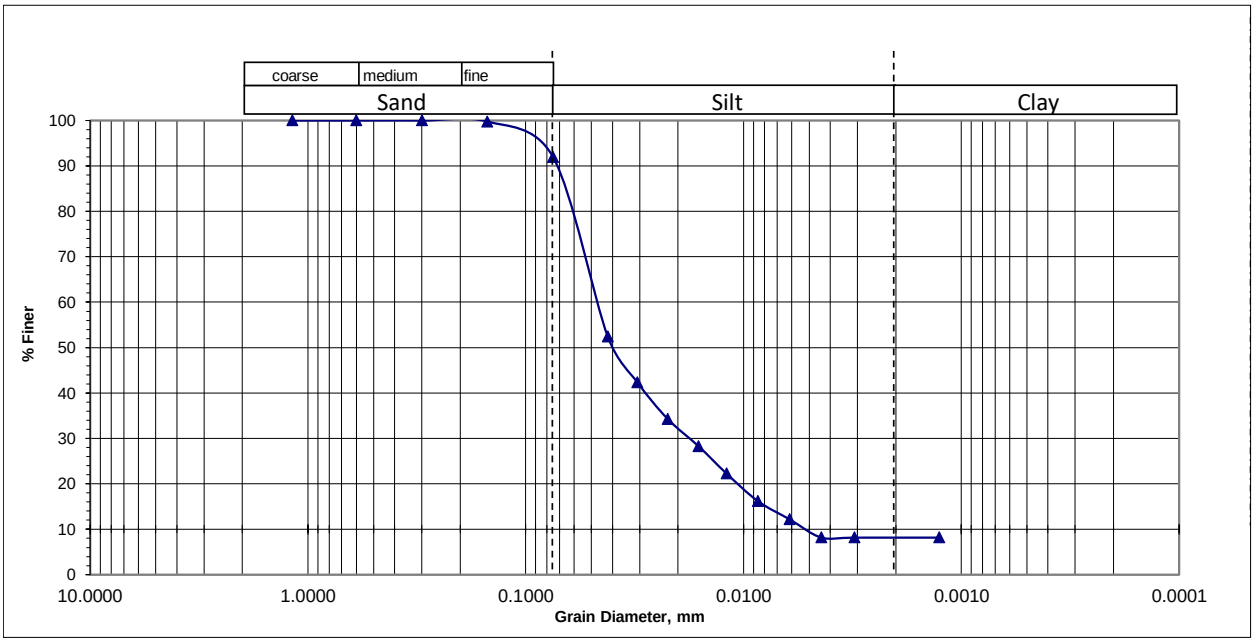
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Sonapur Govt. Primary School, Mujibnagar, Meherpur.**

Bore Hole No : BH-05 Sample No. D4 Sampled Date: 12/09/2024

Depth (m) : 6.0 Test Date : 24/11/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 8% Silt (0.075 to 0.002mm size)= 84% & Clay (0.002mm size) = 8%

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

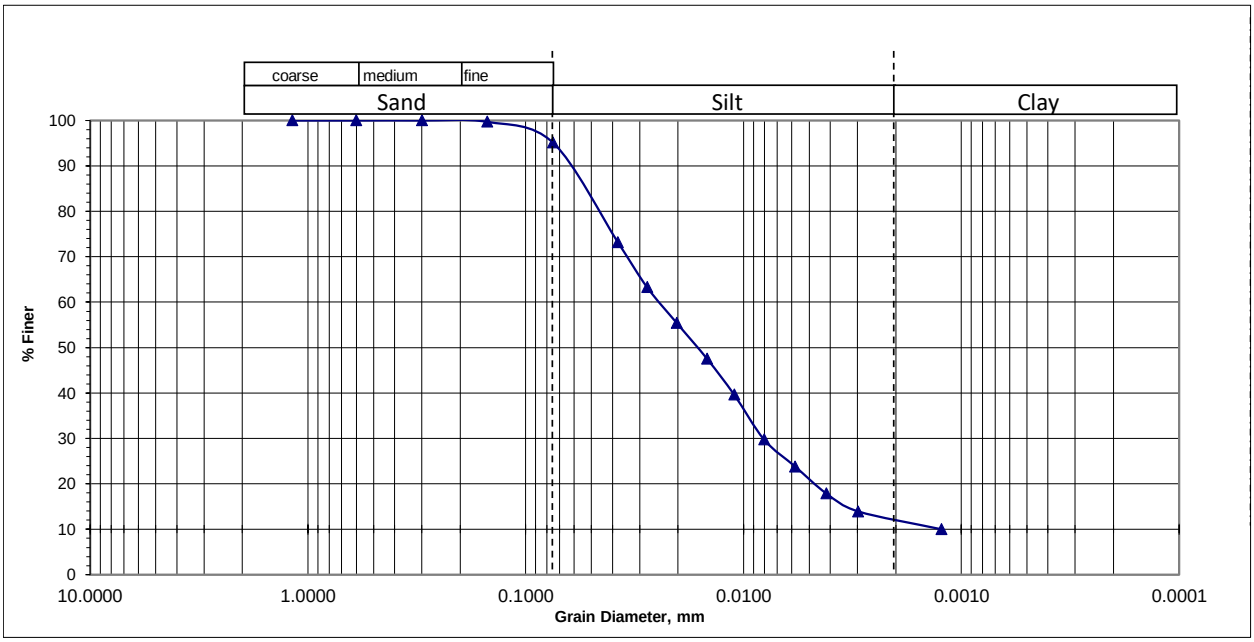
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Anandabas Markajul Ulum Madrasa, Mujibnagar, Meherpur.**

Bore Hole No : BH-06 Sample No. D4 Sampled Date: 13/09/2024

Depth (m) : 6.0 Test Date : 24/11/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 5% Silt (0.075 to 0.002mm size)= 83% & Clay (0.002mm size) = 12%

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

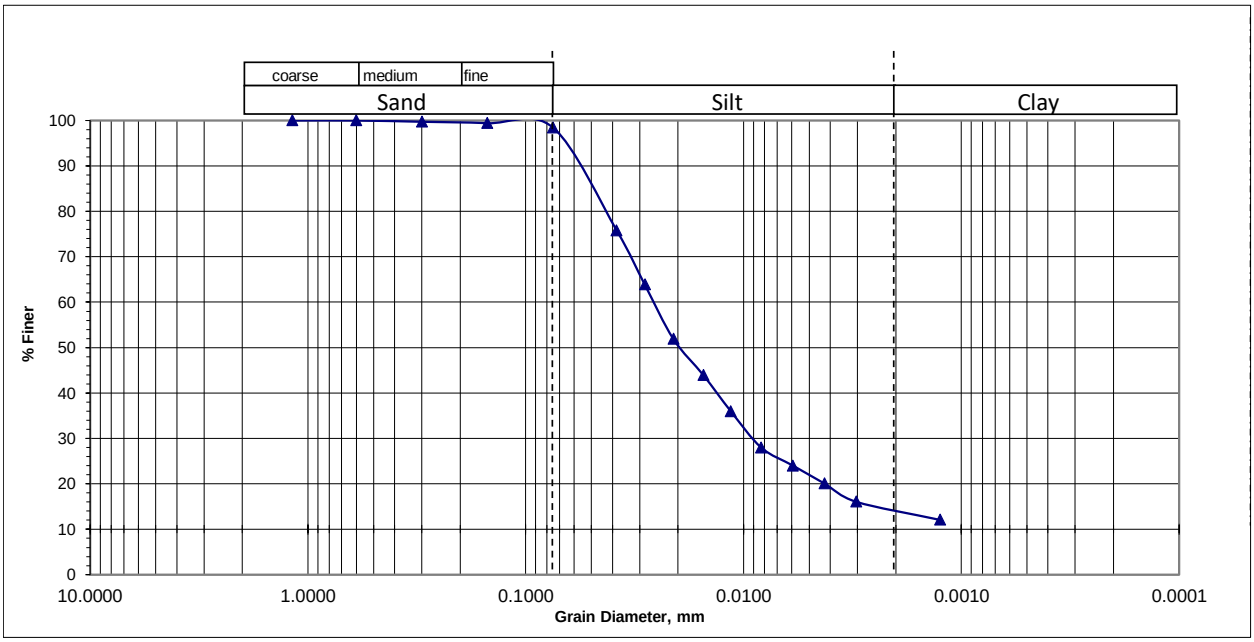
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Joypur Govt. Primary School, Mujibnagar, Meherpur.**

Bore Hole No : BH-07 Sample No. D1 Sampled Date: 11/09/2024

Depth (m) : 1.5 Test Date : 24/11/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 2% Silt (0.075 to 0.002mm size)= 84% & Clay (0.002mm size) = 14%

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

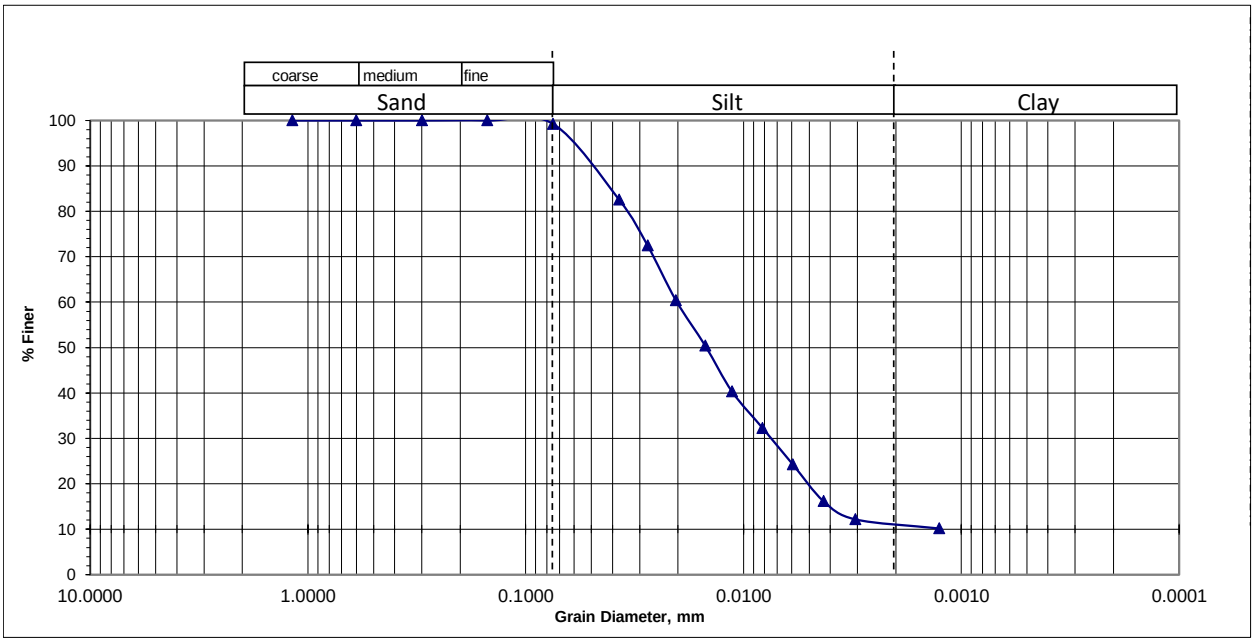
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Mohajonpur Uttarpara Govt. Primary School, Meherpur.**

Bore Hole No : BH-09 Sample No. D4 Sampled Date: 17/09/2024

Depth (m) : 6.0 Test Date : 26/11/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 1% Silt (0.075 to 0.002mm size)= 88% & Clay (0.002mm size) = 11%

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

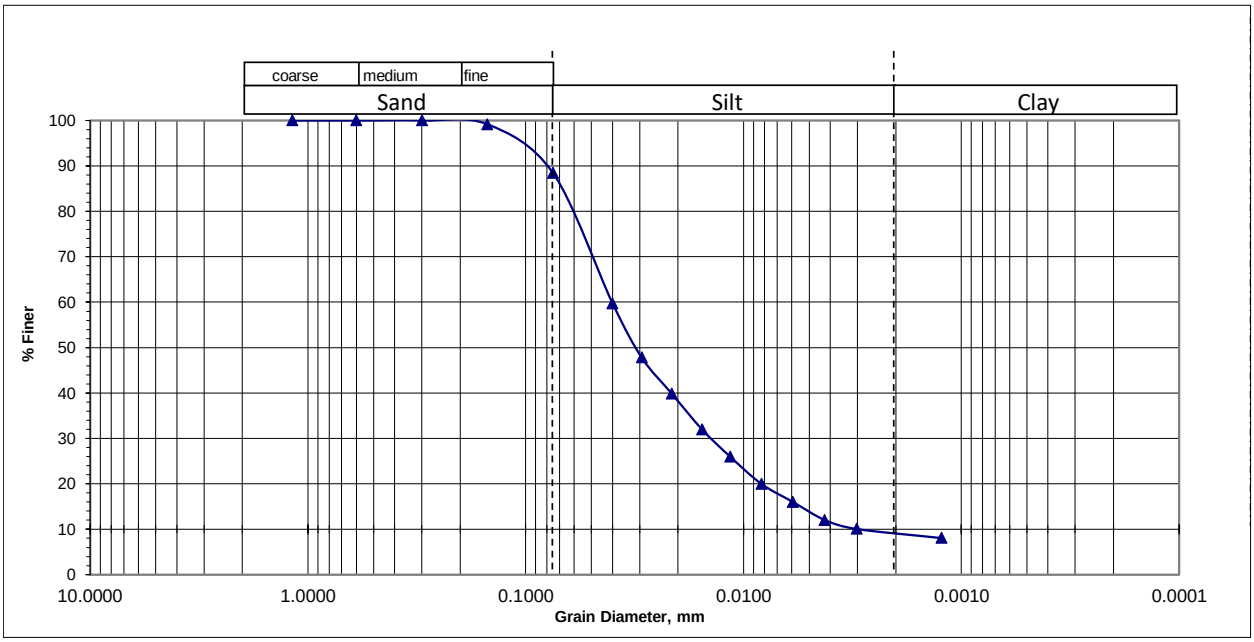
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Meherpur Govt. High School, Meherpur.**

Bore Hole No : BH-11 Sample No. D3 Sampled Date: 19/09/2024

Depth (m) : 4.5 Test Date : 26/11/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 12% Silt (0.075 to 0.002mm size)= 79% & Clay (0.002mm size) = 9%

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

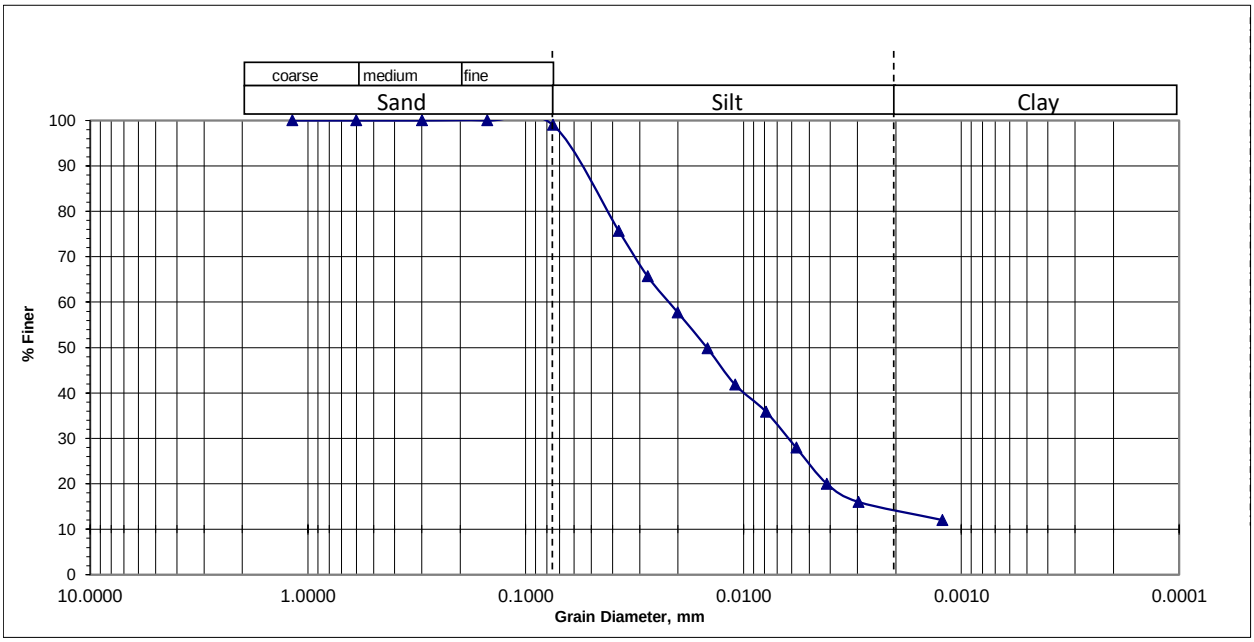
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Shalika High School Meherpur Sadar, Meherpur.**

Bore Hole No : BH-12 Sample No. D3 Sampled Date: 22/09/2024

Depth (m) : 4.5 Test Date : 26/11/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 1% Silt (0.075 to 0.002mm size)= 85% & Clay (0.002mm size) = 14%

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

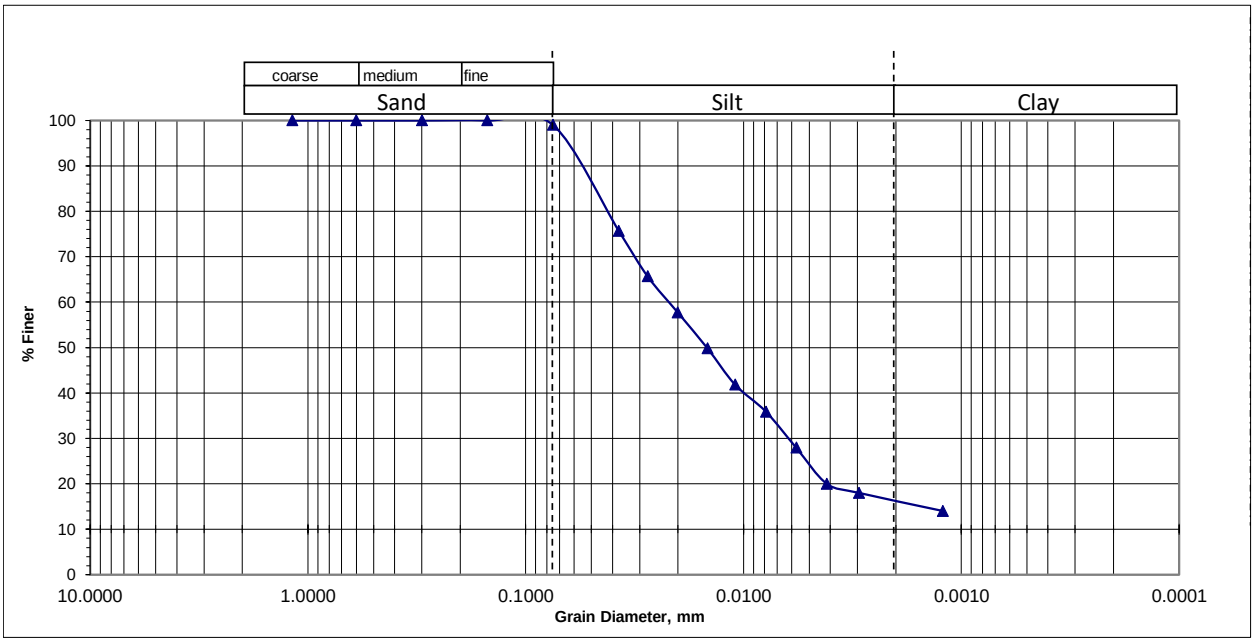
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Shalika High School Meherpur Sadar, Meherpur.**

Bore Hole No : BH-12 Sample No. D5 Sampled Date: 22/09/2024

Depth (m) : 7.5 Test Date : 26/11/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 1% Silt (0.075 to 0.002mm size)= 83% & Clay (0.002mm size) = 16%

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

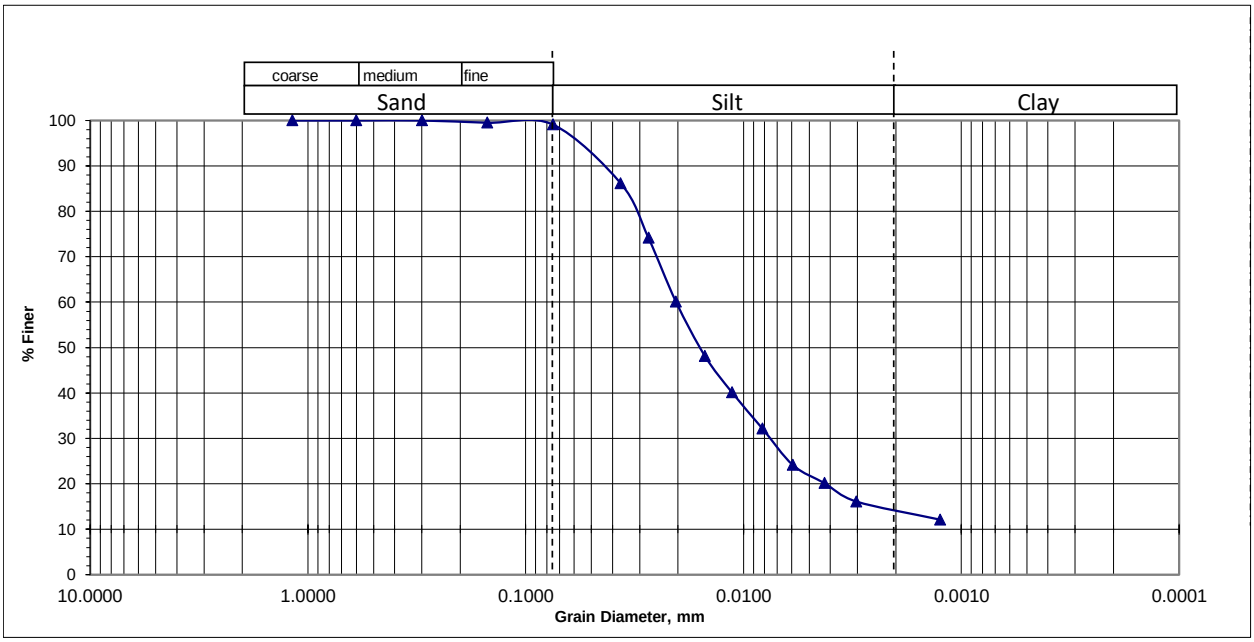
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Kaligangni Govt. Primary School, Meherpur Sadar, Meherpur.**

Bore Hole No : BH-16 Sample No. D2 Sampled Date: 14/09/2024

Depth (m) : 3.0 Test Date : 26/11/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 1% Silt (0.075 to 0.002mm size)= 85% & Clay (0.002mm size) = 14%

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

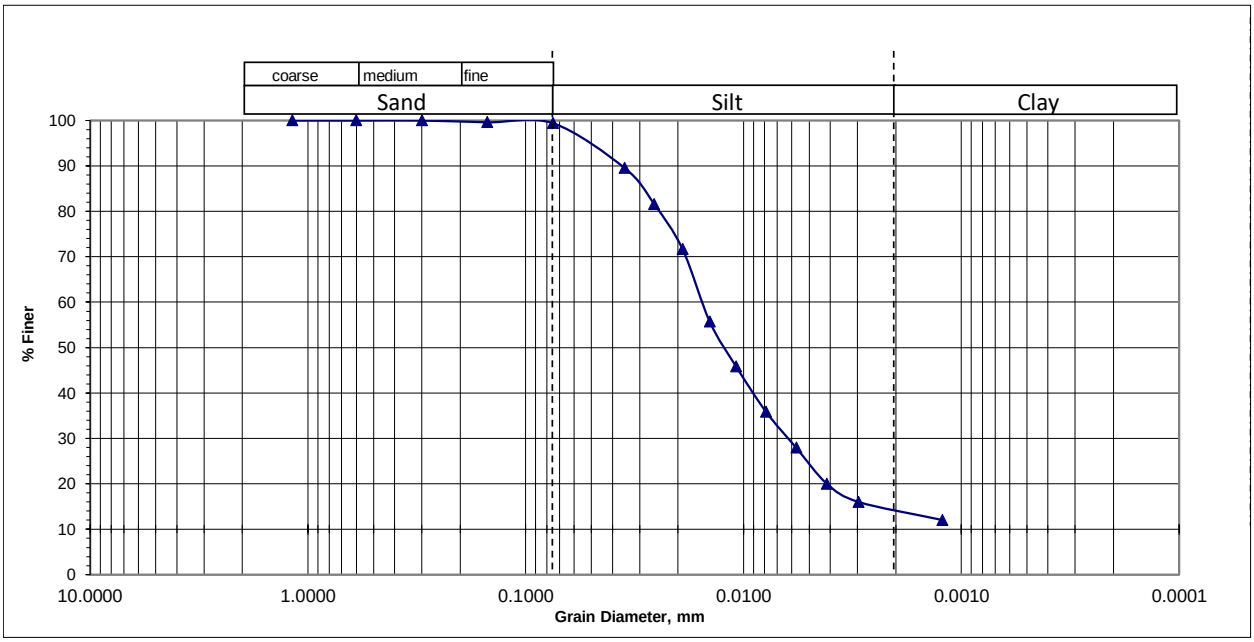
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Amdah Primary School, Meherpur.**

Bore Hole No : BH-18 Sample No. D14 Sampled Date: 25/09/2024

Depth (m) : 21.0 Test Date : 28/11/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 1% Silt (0.075 to 0.002mm size)= 85% & Clay (0.002mm size) = 14%

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

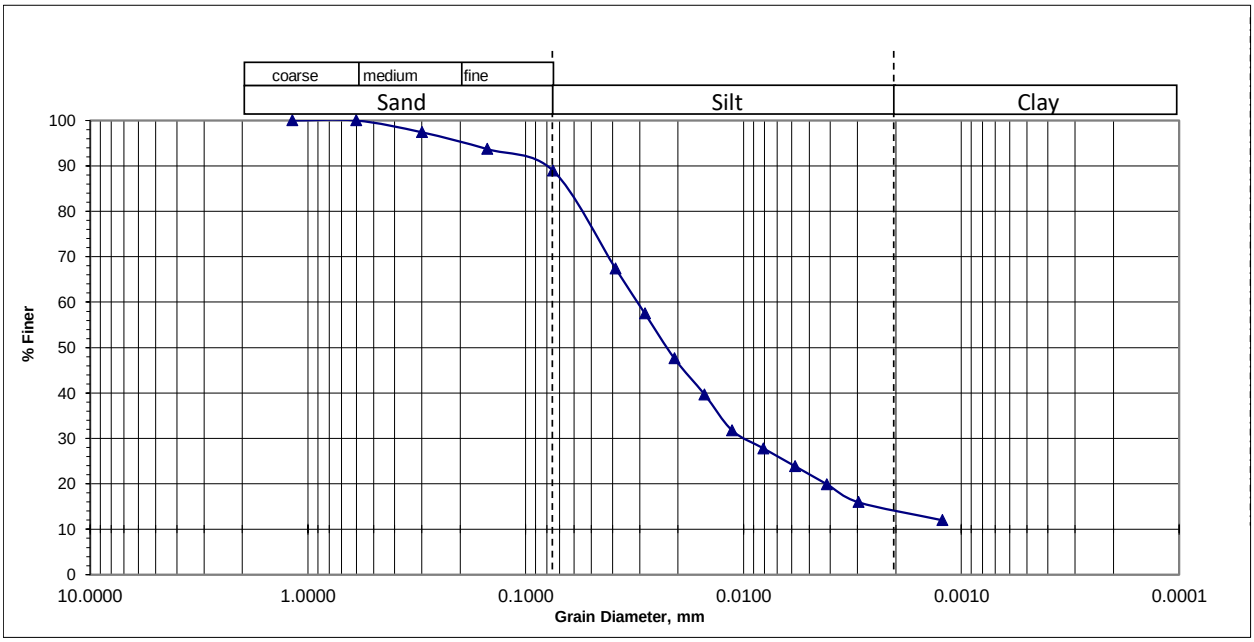
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Kola Govt. Primary School, Meherpur Sadar, Meherpur.**

Bore Hole No : BH-20 Sample No. D5 Sampled Date: 21/09/2024

Depth (m) : 7.5 Test Date : 28/11/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 11% Silt (0.075 to 0.002mm size)= 75% & Clay (0.002mm size) = 14%

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

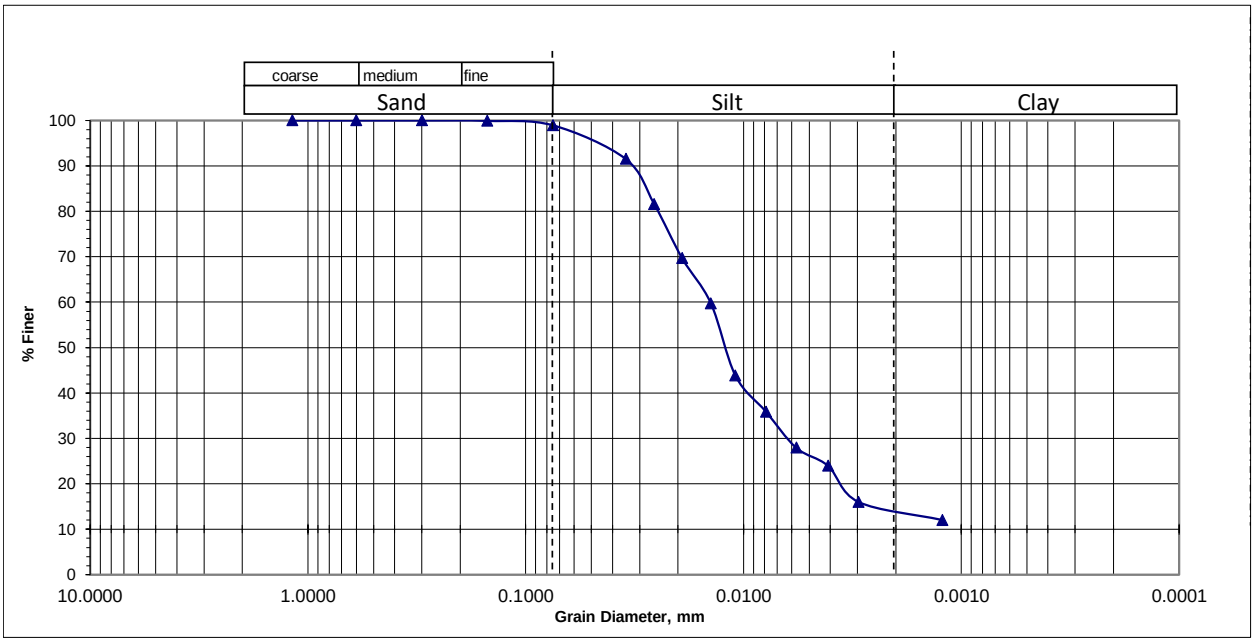
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Road Site of Roghunathpur Area, Roghunathpur, Meherpur.**

Bore Hole No : BH-24 Sample No. D2 Sampled Date: 23/09/2024

Depth (m) : 3.0 Test Date : 2/12/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 1% Silt (0.075 to 0.002mm size)= 85% & Clay (0.002mm size) = 14%

GRAIN SIZE ANALYSIS BY HYDROMETER

Client: **Urban Development Directorate (UDD)**

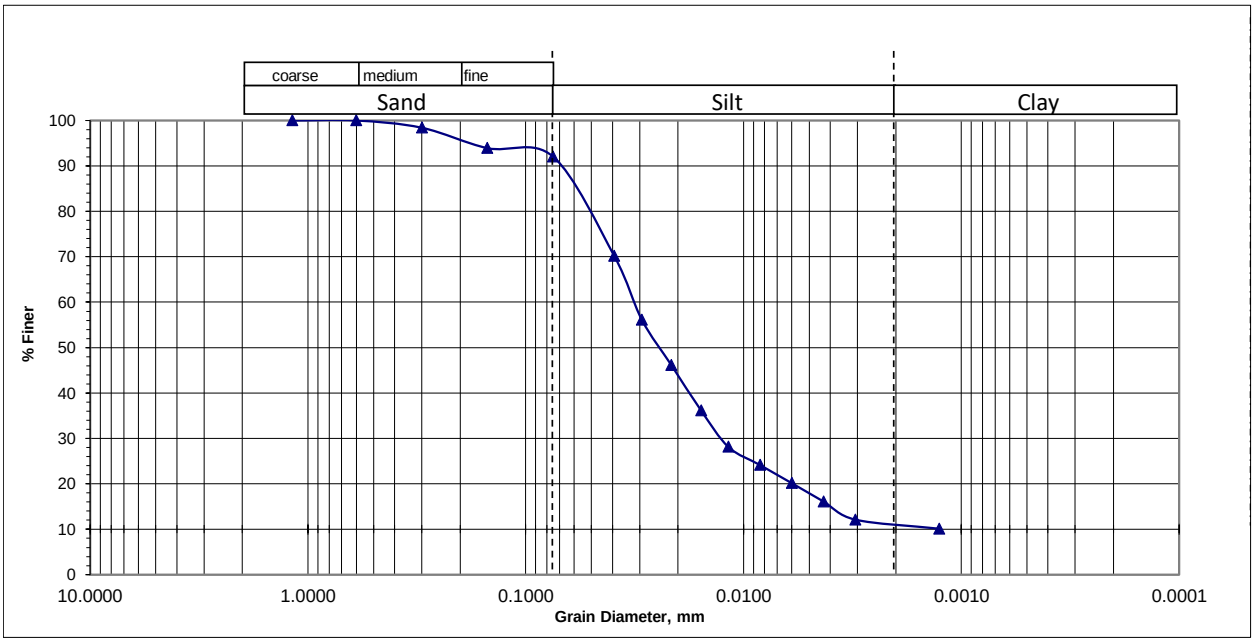
Project: **Preparation of Development Plan for Meherpur Zilla**

Location: **Near Durlovpur Masjid Road Site in Durlovpur Village, Meherpur.**

Bore Hole No : BH-28 Sample No. D2 Sampled Date: 19/09/2024

Depth (m) : 3.0 Test Date : 2/12/2024

Graphical Representation:



Mean Diameter, D_{50} = 0.04 mm

Silt-Factor, f = 1.76xsqrt(D_{50}) = 0.35

% Particles (from the grain -size analysis graph).

Sand (0.075mm size)= 8% Silt (0.075 to 0.002mm size)= 81% & Clay (0.002mm size) = 11%

Laboratory Test Result of
Specific Gravity

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-01** Sample No. : **D9** Depth (m) : **13.5**

Location:Dariapur High School Mujibnagar, Meherpur. Sampled Date : 25/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 25/11/2024

TEST DATA :

PYCNOMETER NO.			1		
Wt. of Soil (oven dry weight), W_o in gm			10.00		
Observed Temperature, T_x in deg.Centigrade			30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)			89.90		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm			96.1		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$			2.63		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio :	2.71/2.63 >or = 1.02	0.000		
	Ratio :	2.73/2.71 < or = 1.02			
		Avg. Gs (at T_x)	2.63		
Density of Water at T_x deg.Cent., in gm/cc			0.9957		
Density of Water at 20 deg.Cent., in gm/cc			0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)			2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-01** Sample No. : **D13** Depth (m) : **19.5**

Location:Dariapur High School Mujibnagar, Meherpur. Sampled Date : 25/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 25/11/2024

TEST DATA :

PYCNOMETER NO.			2		
Wt. of Soil (oven dry weight), W_o in gm			10.00		
Observed Temperature, T_x in deg.Centigrade			30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)			78.22		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm			84.5		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$			2.69		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio :	2.71/2.63 >or = 1.02	0.000		
	Ratio :	2.73/2.71 < or = 1.02			
		Avg. Gs (at T_x)	2.69		
Density of Water at T_x deg.Cent., in gm/cc			0.9957		
Density of Water at 20 deg.Cent., in gm/cc			0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)			2.68		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-02** Sample No. : **D6** Depth (m) : **9.0**

Location:Near Dariapur BDR Camp Mujibnagar , Meherpur. Sampled Date : 23/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 25/11/2024

TEST DATA :

PYCNOMETER NO.		3		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		87.20		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		93.4		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.63		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02			
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02	0.000		
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.63		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-02** Sample No. : **D16** Depth (m) : **24.0**

Location:Near Dariapur BDR Camp Mujibnagar, Meherpur. Sampled Date : 23/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 25/11/2024

TEST DATA :

PYCNOMETER NO.		4		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		89.96		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		96.2		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.66		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02			
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02	0.000		
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.66		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.66		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-03** Sample No. : **D5** Depth (m) : **7.5**

Location:Near Gourinagar Nagarmath Bottola Mujibnagar, Meherpur. Sampled Date : 24/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 25/11/2024

TEST DATA :

PYCNOMETER NO.		5		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.40		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		94.7		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.70		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02			
	Avg. Gs (at T_x)	2.70		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.70		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-03** Sample No. : **D9** Depth (m) : **13.5**

Location:Near Gourinagar Nagarmath Bottola Mujibnagar, Meherpur. Sampled Date : 24/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 25/11/2024

TEST DATA :

PYCNOMETER NO.		6		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.50		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		94.8		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.70		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02			
	Avg. Gs (at T_x)	2.70		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.70		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-04** Sample No. : **D12** Depth (m) : **18.0**

Location:Vobanipur Govt. Primary School, Mujibnagar, Meherpur. Sampled Date : 16/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 25/11/2024

TEST DATA :

PYCNOMETER NO.		7		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.41		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		94.66		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.67		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.67		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.66		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-04** Sample No. : **D17** Depth (m) : **25.5**

Location:Vobanipur Govt. Primary School Mujibnagar, Meherpur. Sampled Date : 16/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 25/11/2024

TEST DATA :

PYCNOMETER NO.		8		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.99		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95.2		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.64		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.64		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-05** Sample No. : **D4** Depth (m) : **6.0**

Location:Sonapur Govt. Primary School Mujibnagar, Meherpur. Sampled Date : 12/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 25/11/2024

TEST DATA :

PYCNOMETER NO.		9		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		89.67		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95.84		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.61		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.61		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.61		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-05** Sample No. : **D9** Depth (m) : **13.5**

Location:Sonapur Govt. Primary School Mujibnagar, Meherpur. Sampled Date : 12/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 25/11/2024

TEST DATA :

PYCNOMETER NO.		10		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		87.63		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		93.84		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.64		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.64		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-06** Sample No. : **D4** Depth (m) : **6.0**

Location:Anandabas Markajul Ulum Madrasa, Meherpur. Sampled Date : 13/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 25/11/2024

TEST DATA :

PYCNOMETER NO.		11		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		78.60		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		84.89		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.70		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02			
	Avg. Gs (at T_x)	2.70		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.69		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-06** Sample No. : **D14** Depth (m) : **21.0**

Location:Anandabas Markajul Ulum Madrasa, Meherpur. Sampled Date : 13/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 25/11/2024

TEST DATA :

PYCNOMETER NO.		12		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		87.92		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		94.22		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.70		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02			
	Avg. Gs (at T_x)	2.70		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.70		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-07** Sample No. : **D1** Depth (m) : **1.5**

Location:Joypur Govt. Primary School Mujibnagar, Meherpur. Sampled Date : 11/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 25/11/2024

TEST DATA :

PYCNOMETER NO.		13		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		89.57		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95.8		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.65		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.65		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.65		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-07** Sample No. : **D13** Depth (m) : **19.5**

Location:Joypur Govt. Primary School Mujibnagar, Meherpur. Sampled Date : 11/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 25/11/2024

TEST DATA :

PYCNOMETER NO.		14		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		76.90		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		83.1		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.63		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.63		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-08** Sample No. : **D4** Depth (m) : **6.0**

Location:Dholmary Govt. Primary School, Meherpur. Sampled Date : 14/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		1		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.50		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		94.73		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.65		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.65		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.65		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-08** Sample No. : **D9** Depth (m) : **13.5**

Location:Dholmary Govt. Primary School, Meherpur. Sampled Date : 14/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		2		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		78.10		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		84.38		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.69		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.69		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.68		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-09** Sample No. : **D4** Depth (m) : **6.0**

Location:Mohajonpur Uttarpara Govt. Primary School, Meherpur. Sampled Date : 17/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		3		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.60		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		94.77		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.61		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02			
	Avg. Gs (at T_x)	2.61		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.61		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-09** Sample No. : **D13** Depth (m) : **19.5**

Location:Mohajonpur Uttarpara Govt. Primary School, Meherpur. Sampled Date : 17/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		4		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		89.81		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95.98		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.61		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02			
	Avg. Gs (at T_x)	2.61		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.61		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-10** Sample No. : **D7** Depth (m) : **10.5**

Location:Komorpur Govt .Primary School, Meherpur. Sampled Date : 28/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		5		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.30		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		94.53		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.65		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02			
	Avg. Gs (at T_x)	2.65		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.65		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-10** Sample No. : **D12** Depth (m) : **18.0**

Location:Komorpur Govt .Primary School, Meherpur. Sampled Date : 28/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		6		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.50		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		94.67		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.61		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02			
	Avg. Gs (at T_x)	2.61		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.61		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-11** Sample No. : **D3** Depth (m) : **4.5**

Location:Meherpur Govt. High School, Meherpur. Sampled Date : 19/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		7		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		87.64		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		93.88		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.66		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.66		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.66		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-11** Sample No. : **D19** Depth (m) : **28.5**

Location:Meherpur Govt. High School, Meherpur. Sampled Date : 19/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		8		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		89.00		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95.27		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.68		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.68		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.68		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-12** Sample No. : **D3** Depth (m) : **4.5**

Location:Shalika High School, Meherpur. Sampled Date : 22/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		9		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		89.46		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95.7		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.66		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.66		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.66		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-12** Sample No. : **D16** Depth (m) : **24.0**

Location:Shalika High School , Meherpur. Sampled Date : 22/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		10		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		87.40		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		93.6		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.63		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.63		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-13** Sample No. : **D5** Depth (m) : **7.5**

Location:Harirampur Secondary School, Meherpur. Sampled Date : 21/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		11		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		78.60		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		84.8		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.63		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.63		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-13** Sample No. : **D13** Depth (m) : **19.5**

Location:Harirampur Secondary School, Meherpur. Sampled Date : 21/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		12		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.10		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		94.34		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.66		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.66		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.66		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-14** Sample No. : **D8** Depth (m) : **12.0**

Location:Ujalpur High School, Meherpur. Sampled Date : 16/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		1		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		89.45		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95.7		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.67		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.67		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.66		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-14** Sample No. : **D11** Depth (m) : **16.5**

Location:Ujalpur High School, Meherpur. Sampled Date : 16/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		2		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		77.38		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		83.57		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.62		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.62		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.62		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-15** Sample No. : **D7** Depth (m) : **10.5**

Location:Sholmary Govt. Primary School, Meherpur. Sampled Date : 15/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 28/11/2024

TEST DATA :

PYCNOMETER NO.		1		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.83		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.61		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.61		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.61		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-15** Sample No. : **D12** Depth (m) : **18.0**

Location:Sholmary Govt. Primary School, Meherpur. Sampled Date : 15/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		2		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		77.31		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		83.54		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.65		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.65		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.65		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-16** Sample No. : **D2** Depth (m) : **3.0**

Location:Kaligangni Govt. Primary School, Meherpur. Sampled Date : 14/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 28/11/2024

TEST DATA :

PYCNOMETER NO.		3		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		87.10		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		93.31		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.64		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.64		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-16** Sample No. : **D10** Depth (m) : **15.0**

Location:Kaligangni Govt. Primary School, Meherpur. Sampled Date : 14/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 27/11/2024

TEST DATA :

PYCNOMETER NO.		4		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		89.90		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		96.15		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.67		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.67		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.66		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-17** Sample No. : **D3** Depth (m) : **4.5**

Location:Ramnagar Govt. Primary School, Meherpur. Sampled Date : 20/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 28/11/2024

TEST DATA :

PYCNOMETER NO.			5		
Wt. of Soil (oven dry weight), W_o in gm			10.00		
Observed Temperature, T_x in deg.Centigrade			30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)			88.60		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm			94.84		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$			2.66		
Variation of Specific Gravity Values & Average	Ratio :	2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio :	2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)		Avg. Gs (at T_x)	2.66		
Density of Water at T_x deg.Cent., in gm/cc			0.9957		
Density of Water at 20 deg.Cent., in gm/cc			0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)			2.66		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-17** Sample No. : **D12** Depth (m) : **18.0**

Location:Ramnagar Govt. Primary School, Meherpur. Sampled Date : 20/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 28/11/2024

TEST DATA :

PYCNOMETER NO.			6		
Wt. of Soil (oven dry weight), W_o in gm			10.00		
Observed Temperature, T_x in deg.Centigrade			30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)			88.09		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm			94.33		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$			2.66		
Variation of Specific Gravity Values & Average	Ratio :	2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio :	2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)		Avg. Gs (at T_x)	2.66		
Density of Water at T_x deg.Cent., in gm/cc			0.9957		
Density of Water at 20 deg.Cent., in gm/cc			0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)			2.66		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-18** Sample No. : **D14** Depth (m) : **21.0**

Location:Amdah Primary School, Meherpur. Sampled Date : 25/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 28/11/2024

TEST DATA :

PYCNOMETER NO.		7		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.70		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		94.94		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.66		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.66		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.66		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-18** Sample No. : **D19** Depth (m) : **28.5**

Location:Amdah Primary School, Meherpur. Sampled Date : 25/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 28/11/2024

TEST DATA :

PYCNOMETER NO.		8		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.81		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95.01		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.63		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.63		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-19** Sample No. : **D6** Depth (m) : **9.0**

Location:Ashrafpur Govt. Primary School, Meherpur. Sampled Date : 27/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 28/11/2024

TEST DATA :

PYCNOMETER NO.			9		
Wt. of Soil (oven dry weight), W_o in gm			10.00		
Observed Temperature, T_x in deg.Centigrade			30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)			89.55		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm			95.86		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$			2.71		
Variation of Specific Gravity Values & Average	Ratio :	2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio :	2.73/2.71 < or = 1.02			
		Avg. Gs (at T_x)	2.71		
Density of Water at T_x deg.Cent., in gm/cc			0.9957		
Density of Water at 20 deg.Cent., in gm/cc			0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)			2.71		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-19** Sample No. : **D11** Depth (m) : **16.5**

Location:Ashrafpur Govt. Primary School, Meherpur. Sampled Date : 27/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 28/11/2024

TEST DATA :

PYCNOMETER NO.			10		
Wt. of Soil (oven dry weight), W_o in gm			10.00		
Observed Temperature, T_x in deg.Centigrade			30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)			87.70		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm			93.97		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$			2.68		
Variation of Specific Gravity Values & Average	Ratio :	2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio :	2.73/2.71 < or = 1.02			
		Avg. Gs (at T_x)	2.68		
Density of Water at T_x deg.Cent., in gm/cc			0.9957		
Density of Water at 20 deg.Cent., in gm/cc			0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)			2.68		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-20** Sample No. : **D5** Depth (m) : **7.5**

Location:Kola Govt. Primary School, Meherpur. Sampled Date : 21/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 28/11/2024

TEST DATA :

PYCNOMETER NO.		11		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		78.63		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		84.91		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.69		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.69		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.68		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-20** Sample No. : **D9** Depth (m) : **13.5**

Location:Kola Govt. Primary School, Meherpur. Sampled Date : 21/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 28/11/2024

TEST DATA :

PYCNOMETER NO.		12		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.47		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		94.7		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.65		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.65		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.65		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-21** Sample No. : **D4** Depth (m) : **6.0**

Location:Amjhupi Girls Govt. Primary School, Meherpur. Sampled Date : 12/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 28/11/2024

TEST DATA :

PYCNOMETER NO.		1		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		89.74		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95.97		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.65		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.65		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.65		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-21** Sample No. : **D10** Depth (m) : **15.0**

Location:Amjhupi Girls Govt. Primary School, Meherpur. Sampled Date : 12/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 28/11/2024

TEST DATA :

PYCNOMETER NO.		2		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		77.20		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		83.39		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.62		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.62		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.62		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-22** Sample No. : **D6** Depth (m) : **9.0**

Location:Khoksha Govt. Primary School, Meherpur. Sampled Date : 11/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.		1		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.70		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.70		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02			
	Avg. Gs (at T_x)	2.70		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.70		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-22** Sample No. : **D16** Depth (m) : **24.0**

Location:Khoksha Govt. Primary School, Meherpur. Sampled Date : 11/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 28/11/2024

TEST DATA :

PYCNOMETER NO.		2		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		77.20		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		83.39		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.62		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02			
	Avg. Gs (at T_x)	2.62		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.62		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-23** Sample No. : **D7** Depth (m) : **10.5**

Location:Hijuli Govt. Primary School, Meherpur. Sampled Date : 24/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.		3		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		87.02		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		93.24		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.65		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02			
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.65		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.64		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-23** Sample No. : **D15** Depth (m) : **22.5**

Location:Hijuli Govt. Primary School, Meherpur. Sampled Date : 11/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.		4		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		89.50		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95.7		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.63		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02			
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.63		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-24** Sample No. : **D2** Depth (m) : **3.0**

Location:Road Site of Roghunathpur Area, Meherpur. Sampled Date : 23/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.		5		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		89.15		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95.39		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.66		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.66		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.66		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-24** Sample No. : **D10** Depth (m) : **15.0**

Location:Road Site of Roghunathpur Area, Meherpur. Sampled Date : 23/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.		6		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.00		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		94.28		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.69		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.69		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.68		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-25** Sample No. : **D11** Depth (m) : **16.5**

Location:Kathalpota Govt. Primary School, Meherpur. Sampled Date : 22/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.			7		
Wt. of Soil (oven dry weight), W_o in gm			10.00		
Observed Temperature, T_x in deg.Centigrade			30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)			88.29		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm			94.5		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$			2.64		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02		0.000		
	Avg. Gs (at T_x)		2.64		
Density of Water at T_x deg.Cent., in gm/cc			0.9957		
Density of Water at 20 deg.Cent., in gm/cc			0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)			2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-25** Sample No. : **D15** Depth (m) : **22.5**

Location:Kathalpota Govt. Primary School, Meherpur. Sampled Date : 22/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.			8		
Wt. of Soil (oven dry weight), W_o in gm			10.00		
Observed Temperature, T_x in deg.Centigrade			30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)			88.90		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm			95.09		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$			2.62		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02		0.000		
	Avg. Gs (at T_x)		2.62		
Density of Water at T_x deg.Cent., in gm/cc			0.9957		
Density of Water at 20 deg.Cent., in gm/cc			0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)			2.62		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-26** Sample No. : **D9** Depth (m) : **13.5**

Location:Baliarpur (Purbopara) Govt. Primary School, Meherpur. Sampled Date : 26/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.		9		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		89.82		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		96.01		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.62		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.62		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.62		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-26** Sample No. : **D15** Depth (m) : **22.5**

Location:Baliarpur (Purbopara) Govt. Primary School, Meherpur. Sampled Date : 26/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.		10		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		87.81		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		93.97		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.60		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.71/2.63 >or = 1.02 Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.60		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.60		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-27** Sample No. : **D10** Depth (m) : **15.0**

Location:Patkelpota Govt. Primary School, Meherpur. Sampled Date : 18/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.		11		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		78.53		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		84.71		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.62		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.62		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.61		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-27** Sample No. : **D17** Depth (m) : **25.5**

Location:Patkelpota Govt. Primary School, Meherpur. Sampled Date : 18/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.		12		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.09		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		94.29		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.63		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/	Ratio : 2.73/2.71 < or = 1.02			
Smalllest value of Gs)< or = 1.02)	Avg. Gs (at T_x)	2.63		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-28** Sample No. : **D2** Depth (m) : **3.0**

Location:Near Durlovpur Masjid Road Site in Durlovpur Village, Meherpur. Sampled Date : 19/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.		1		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		88.90		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95.1		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.63		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02			
	Avg. Gs (at T_x)	2.63		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-28** Sample No. : **D17** Depth (m) : **25.5**

Location:Near Durlovpur Masjid Road Site in Durlovpur Village, Meherpur. Sampled Date : 19/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.		2		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		77.15		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		83.4		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.67		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02	0.000		
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02			
	Avg. Gs (at T_x)	2.67		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.66		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-29** Sample No. : **D4** Depth (m) : **6.0**

Location:Garadob Govt. Primary School, Meherpur. Sampled Date : 13/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.		3		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		87.00		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		93.21		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.64		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02			
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.64		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-29** Sample No. : **D11** Depth (m) : **16.5**

Location:Garadob Govt. Primary School, Meherpur. Sampled Date : 13/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.		4		
Wt. of Soil (oven dry weight), W_o in gm		10.00		
Observed Temperature, T_x in deg.Centigrade		30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)		89.49		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm		95.7		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$		2.64		
Variation of Specific Gravity Values & Average	Ratio : 2.71/2.63 >or = 1.02			
(According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio : 2.73/2.71 < or = 1.02	0.000		
	Avg. Gs (at T_x)	2.64		
Density of Water at T_x deg.Cent., in gm/cc		0.9957		
Density of Water at 20 deg.Cent., in gm/cc		0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)		2.63		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-30** Sample No. : **D8** Depth (m) : **12.0**

Location:Bhatpara Govt. Primary School, Meherpur. Sampled Date : 25/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.			5		
Wt. of Soil (oven dry weight), W_o in gm			10.00		
Observed Temperature, T_x in deg.Centigrade			30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)			87.40		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm			93.66		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$			2.67		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio :	2.71/2.63 >or = 1.02	0.000		
	Ratio :	2.73/2.71 < or = 1.02			
		Avg. Gs (at T_x)	2.67		
Density of Water at T_x deg.Cent., in gm/cc			0.9957		
Density of Water at 20 deg.Cent., in gm/cc			0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)			2.67		

SPECIFIC GRAVITY OF SOIL AS PER ASTM D-854

Client : Urban Development Directorate (UDD)

Project : Preparation of Development Plan for Meherpur Zilla

Bore Hole No. : **BH-30** Sample No. : **D16** Depth (m) : **24.0**

Location:Bhatpara Govt. Primary School, Meherpur. Sampled Date : 25/09/2024

Pycnometer Type : Volumetric Flask/Stoppered Bottle Capacity : 50mL Test Date : 1/12/2024

TEST DATA :

PYCNOMETER NO.			6		
Wt. of Soil (oven dry weight), W_o in gm			10.00		
Observed Temperature, T_x in deg.Centigrade			30		
Wt.of Pycnometer + water, Wa (at T_x) in gm (from Calibration Data of Pycnometer)			88.00		
Wt.of Pycnometer + water+soil, W_b (at T_x) in gm			94.2		
Specific Gravity, G (at T_x) = $W_o/(W_o+W_a-W_b)$			2.63		
Variation of Specific Gravity Values & Average (According to some specification average value shall be calculated only if (Largest value of Gs)/ Smalllest value of Gs)< or = 1.02)	Ratio :	2.71/2.63 >or = 1.02	0.000		
	Ratio :	2.73/2.71 < or = 1.02			
		Avg. Gs (at T_x)	2.63		
Density of Water at T_x deg.Cent., in gm/cc			0.9957		
Density of Water at 20 deg.Cent., in gm/cc			0.9974		
Specific Gravity, G (at 20 deg.Cent.) = (Density of Water at T_x/Density of Water at 20 deg.cent.) x G (at T_x)			2.63		

Laboratory Test Result of
Atterberg Limits

Atterberg Limits of Soil (ASTM Designation:D4318)

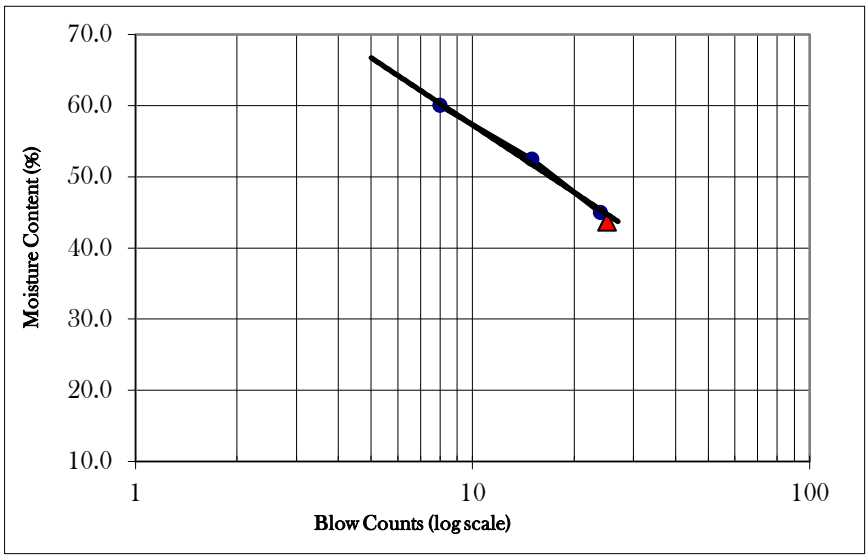
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Near Dariapur BDR Camp, Mujibnagar, Meherpur.
Sample Information:

Sample Date:	23/09/2024
Test Date:	24/11/2024
Boring Number	BH-02(M)
Sample Number	D-01
Depth of Sample(m)	1.5

Determination of Liquid Limit			
Cup Number	A-01	A-02	A-03
Weight of Cup (g)	20.11	20.24	20.37
Weight of Wet Soil and Cup (g)	65.76	68.72	62.21
Weight of Dry Soil and Cup (g)	48.64	52.04	49.24
Moisure Content (%)	60.0	52.5	44.9
Blow Counts	8	15	24

Determination of Plastic Limit		
Cup Number	A-04	A-05
Weight of Cup (g)	23.35	23.2
Weight of Wet Soil and Cup (g)	31.87	30.79
Weight of Dry Soil and Cup (g)	29.8	29.04
Moisure Content (%)	32.1	30.0

Compilation of Test Results



Liquid Limit	44
Plastic Limit	31
Plasticity Index	13

Atterberg Limits of Soil (ASTM Designation:D4318)

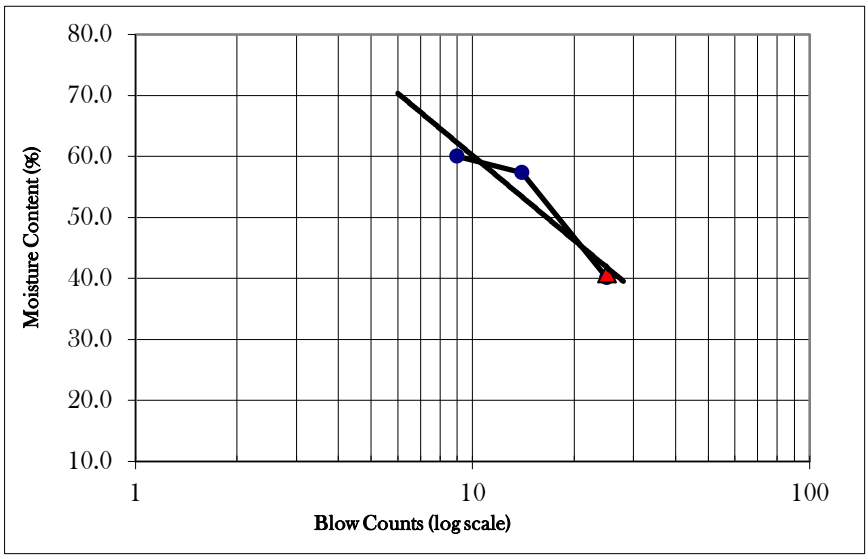
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Near Dariapur BDR Camp, Mujibnagar, Meherpur.
Sample Information:

Sample Date:	23/09/2024
Test Date:	24/11/2024
Boring Number	BH-02(M)
Sample Number	D-04
Depth of Sample(m)	6.0

Determination of Liquid Limit			
Cup Number	A-07	A-08	A-09
Weight of Cup (g)	23.35	24.53	23.48
Weight of Wet Soil and Cup (g)	65	69.8	65.05
Weight of Dry Soil and Cup (g)	49.38	53.3	53.15
Moisure Content (%)	60.0	57.4	40.1
Blow Counts	9	14	25

Determination of Plastic Limit		
Cup Number	A-10	A-11
Weight of Cup (g)	20.52	23.16
Weight of Wet Soil and Cup (g)	28.66	30.97
Weight of Dry Soil and Cup (g)	26.76	29.16
Moisure Content (%)	30.4	30.2

Compilation of Test Results



Liquid Limit	41
Plastic Limit	30
Plasticity Index	11

Atterberg Limits of Soil (ASTM Designation:D4318)

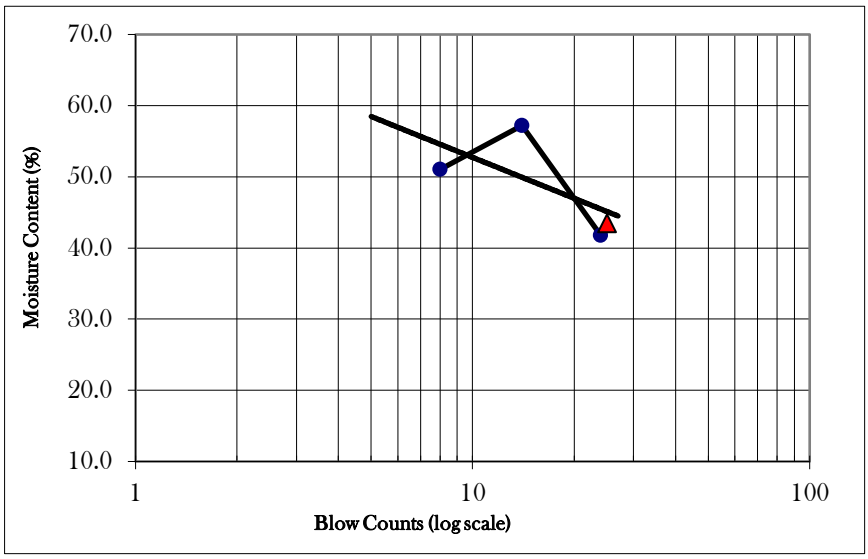
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Near Gourinagar Nagarmath Bottola Mujibnagar, Meherpur.
Sample Information:

Sample Date:	24/09/2024
Test Date:	24/11/2024
Boring Number	BH-03(M)
Sample Number	D-03
Depth of Sample(m)	4.5

Determination of Liquid Limit			
Cup Number	A-13	A-14	A-15
Weight of Cup (g)	23.1	23.01	23.87
Weight of Wet Soil and Cup (g)	70.94	70	70.27
Weight of Dry Soil and Cup (g)	54.78	52.9	56.6
Moisure Content (%)	51.0	57.2	41.8
Blow Counts	8	14	24

Determination of Plastic Limit		
Cup Number	A-16	A-17
Weight of Cup (g)	23.53	23.39
Weight of Wet Soil and Cup (g)	30.06	29.91
Weight of Dry Soil and Cup (g)	28.63	28.45
Moisure Content (%)	28.0	28.9

Compilation of Test Results



Liquid Limit	43
Plastic Limit	28
Plasticity Index	15

Atterberg Limits of Soil (ASTM Designation:D4318)

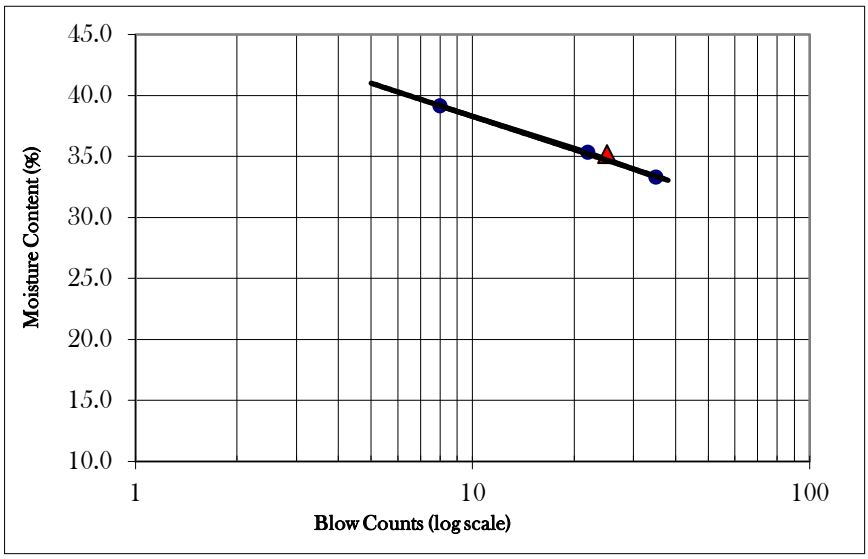
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Near Gourinagar Nagarmath Bottola Mujibnagar, Meherpur.
Sample Information:

Sample Date:	24/09/2024
Test Date:	24/11/2024
Boring Number	BH-03(M)
Sample Number	D-04
Depth of Sample(m)	6.0

Determination of Liquid Limit			
Cup Number	A-19	A-20	A-21
Weight of Cup (g)	23.44	11.56	23.04
Weight of Wet Soil and Cup (g)	55.23	52.22	68.2
Weight of Dry Soil and Cup (g)	46.29	41.61	56.92
Moisure Content (%)	39.1	35.3	33.3
Blow Counts	8	22	35

Determination of Plastic Limit		
Cup Number	A-22	A-23
Weight of Cup (g)	20.46	23.43
Weight of Wet Soil and Cup (g)	25.55	29.03
Weight of Dry Soil and Cup (g)	24.52	28.02
Moisure Content (%)	25.4	22.0

Compilation of Test Results



Liquid Limit	35
Plastic Limit	24
Plasticity Index	11

Atterberg Limits of Soil (ASTM Designation:D4318)

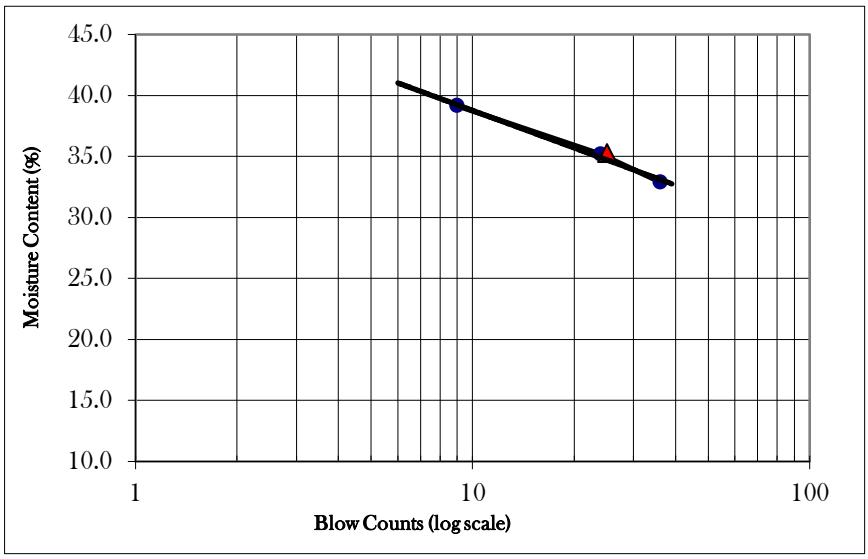
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Vobanipur Govt. Primary School Mujibnagar, Meherpur.
Sample Information:

Sample Date:	16/09/2024
Test Date:	24/11/2024
Boring Number	BH-04(M)
Sample Number	D-02
Depth of Sample(m)	3.0

Determination of Liquid Limit			
Cup Number	B-01	B-02	B-03
Weight of Cup (g)	22.9	13.15	23.19
Weight of Wet Soil and Cup (g)	62.92	59.6	67.86
Weight of Dry Soil and Cup (g)	51.66	47.51	56.8
Moisure Content (%)	39.2	35.2	32.9
Blow Counts	9	24	36

Determination of Plastic Limit		
Cup Number	B-04	B-05
Weight of Cup (g)	23.37	22.78
Weight of Wet Soil and Cup (g)	29.91	28.89
Weight of Dry Soil and Cup (g)	28.74	27.74
Moisure Content (%)	21.8	23.2

Compilation of Test Results



Liquid Limit	35
Plastic Limit	22
Plasticity Index	13

Atterberg Limits of Soil (ASTM Designation:D4318)

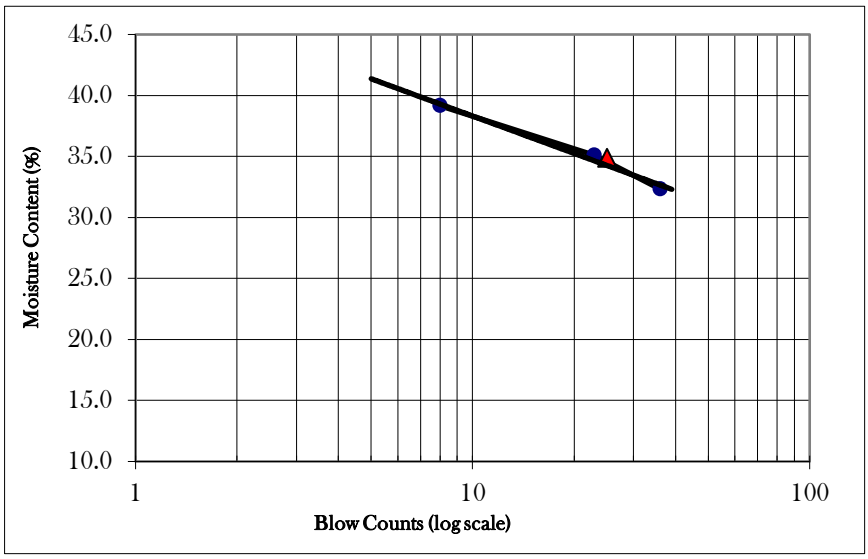
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Sonapur Govt. Primary School Mujibnagar, Meherpur.
Sample Information:

Sample Date:	12/09/2024
Test Date:	24/11/2024
Boring Number	BH-05(M)
Sample Number	D-03
Depth of Sample(m)	4.5

Determination of Liquid Limit			
Cup Number	B-07	B-08	B-09
Weight of Cup (g)	19.99	23.04	21.28
Weight of Wet Soil and Cup (g)	65.41	67.25	67.66
Weight of Dry Soil and Cup (g)	52.63	55.76	56.33
Moisure Content (%)	39.2	35.1	32.3
Blow Counts	8	23	36

Determination of Plastic Limit		
Cup Number	B-10	B-11
Weight of Cup (g)	20.71	10.96
Weight of Wet Soil and Cup (g)	26.7	17.26
Weight of Dry Soil and Cup (g)	25.62	16.11
Moisure Content (%)	22.0	22.3

Compilation of Test Results



Liquid Limit	35
Plastic Limit	22
Plasticity Index	13

Atterberg Limits of Soil (ASTM Designation:D4318)

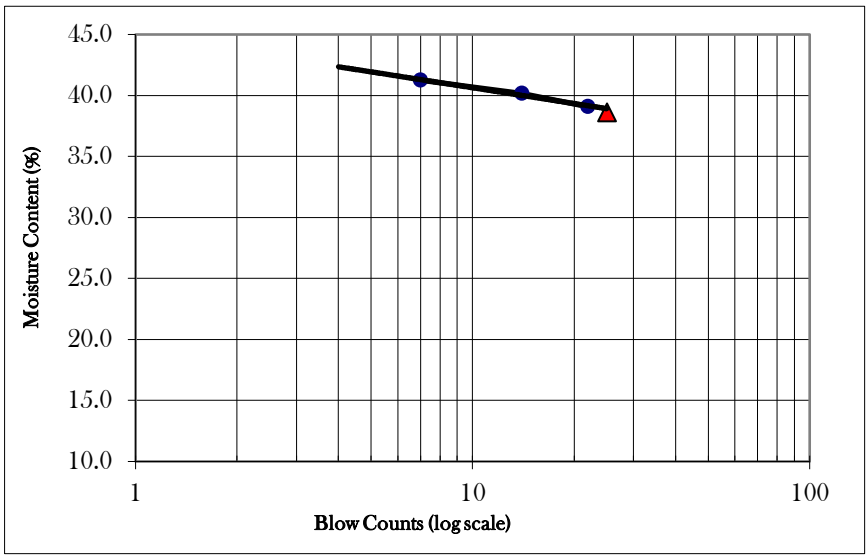
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Sonapur Govt. Primary School Mujibnagar, Meherpur.
Sample Information:

Sample Date:	12/09/2024
Test Date:	24/11/2024
Boring Number	BH-05(M)
Sample Number	D-04
Depth of Sample(m)	6.0

Determination of Liquid Limit			
Cup Number	B-13	B-14	B-15
Weight of Cup (g)	22.7	19.63	23.33
Weight of Wet Soil and Cup (g)	52.32	60.16	71.7
Weight of Dry Soil and Cup (g)	43.67	48.55	58.11
Moisure Content (%)	41.2	40.1	39.1
Blow Counts	7	14	22

Determination of Plastic Limit		
Cup Number	B-16	B-17
Weight of Cup (g)	20.61	22.79
Weight of Wet Soil and Cup (g)	28.12	30.13
Weight of Dry Soil and Cup (g)	26.56	28.63
Moisure Content (%)	26.2	25.7

Compilation of Test Results



Liquid Limit	39
Plastic Limit	26
Plasticity Index	13

Atterberg Limits of Soil (ASTM Designation:D4318)

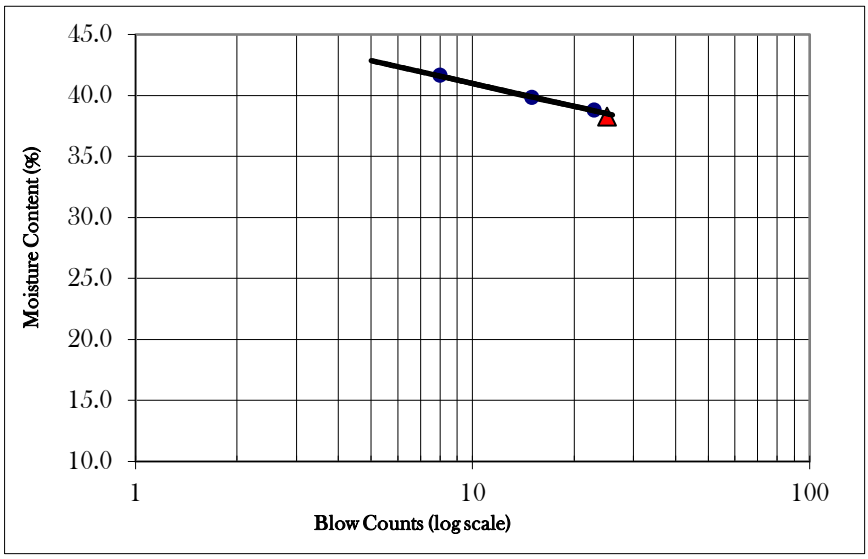
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Anandabas Markajul Ulum Madrasa, Mujibnagar, Meherpur.
Sample Information:

Sample Date:	13/09/2024
Test Date:	25/11/2024
Boring Number	BH-06(M)
Sample Number	D-01
Depth of Sample(m)	1.5

Determination of Liquid Limit			
Cup Number	C-01	C-02	C-03
Weight of Cup (g)	23.1	11.64	20.26
Weight of Wet Soil and Cup (g)	53.93	57.19	71.9
Weight of Dry Soil and Cup (g)	44.87	44.22	57.47
Moisure Content (%)	41.6	39.8	38.8
Blow Counts	8	15	23

Determination of Plastic Limit		
Cup Number	C-04	C-05
Weight of Cup (g)	11.68	20.24
Weight of Wet Soil and Cup (g)	20.32	27.55
Weight of Dry Soil and Cup (g)	18.47	26.01
Moisure Content (%)	27.2	26.7

Compilation of Test Results



Liquid Limit	38
Plastic Limit	27
Plasticity Index	11

Atterberg Limits of Soil (ASTM Designation:D4318)

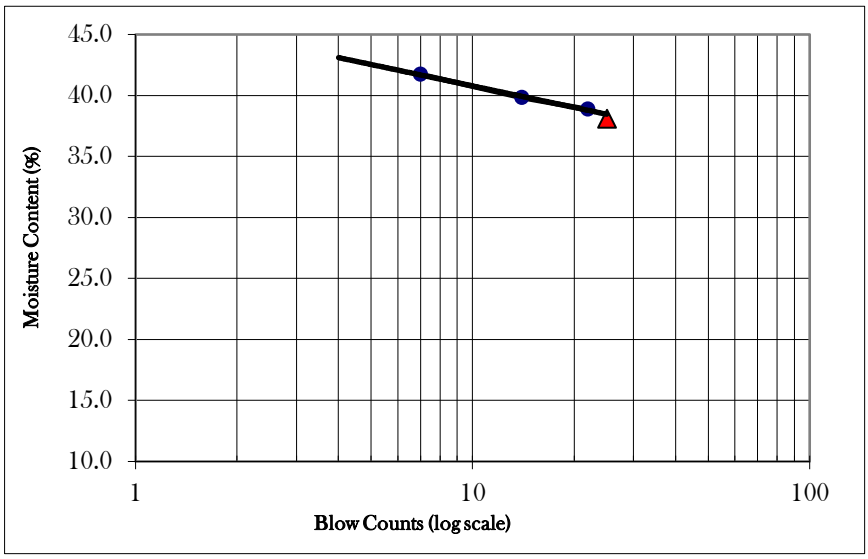
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Anandabas Markajul Ulum Madrasa, Mujibnagar, Meherpur.
Sample Information:

Sample Date:	13/09/2024
Test Date:	25/11/2024
Boring Number	BH-06(M)
Sample Number	D-03
Depth of Sample(m)	4.5

Determination of Liquid Limit			
Cup Number	C-07	C-08	C-09
Weight of Cup (g)	11.89	19.7	23.19
Weight of Wet Soil and Cup (g)	56.99	55	68.68
Weight of Dry Soil and Cup (g)	43.71	44.95	55.95
Moisure Content (%)	41.7	39.8	38.9
Blow Counts	7	14	22

Determination of Plastic Limit		
Cup Number	C-10	C-11
Weight of Cup (g)	20.75	12.34
Weight of Wet Soil and Cup (g)	29.45	19.53
Weight of Dry Soil and Cup (g)	27.74	18.09
Moisure Content (%)	24.5	25.0

Compilation of Test Results



Liquid Limit	38
Plastic Limit	25
Plasticity Index	13

Atterberg Limits of Soil (ASTM Designation:D4318)

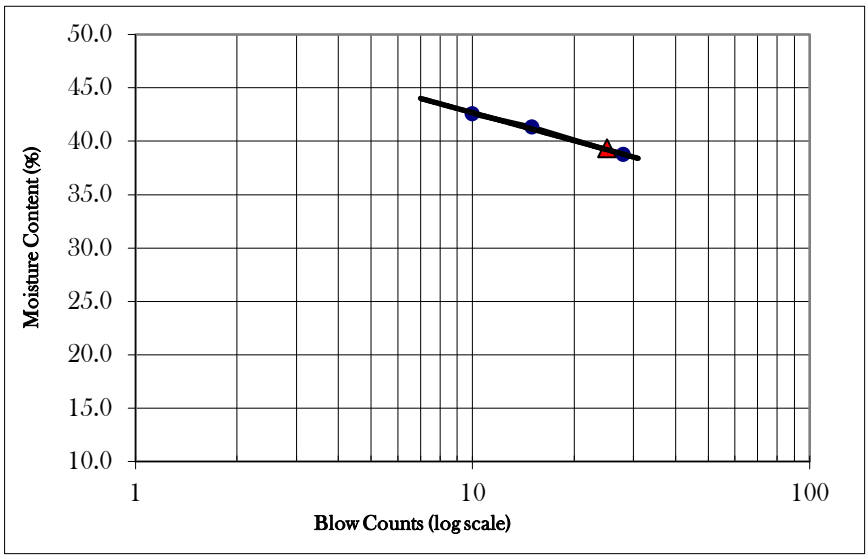
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Joypur Govt. Primary School, Mujibnagar, Meherpur.
Sample Information:

Sample Date:	11/09/2024
Test Date:	25/11/2024
Boring Number	BH-07(M)
Sample Number	D-03
Depth of Sample(m)	4.5

Determination of Liquid Limit			
Cup Number	C-13	C-14	C-15
Weight of Cup (g)	20.68	23.19	20.73
Weight of Wet Soil and Cup (g)	65.73	70.77	62.08
Weight of Dry Soil and Cup (g)	52.28	56.86	50.54
Moisure Content (%)	42.6	41.3	38.7
Blow Counts	10	15	28

Determination of Plastic Limit		
Cup Number	C-16	C-17
Weight of Cup (g)	23.36	22.65
Weight of Wet Soil and Cup (g)	30.13	30.71
Weight of Dry Soil and Cup (g)	28.71	29.05
Moisure Content (%)	26.5	25.9

Compilation of Test Results



Liquid Limit	39
Plastic Limit	26
Plasticity Index	13

Atterberg Limits of Soil (ASTM Designation:D4318)

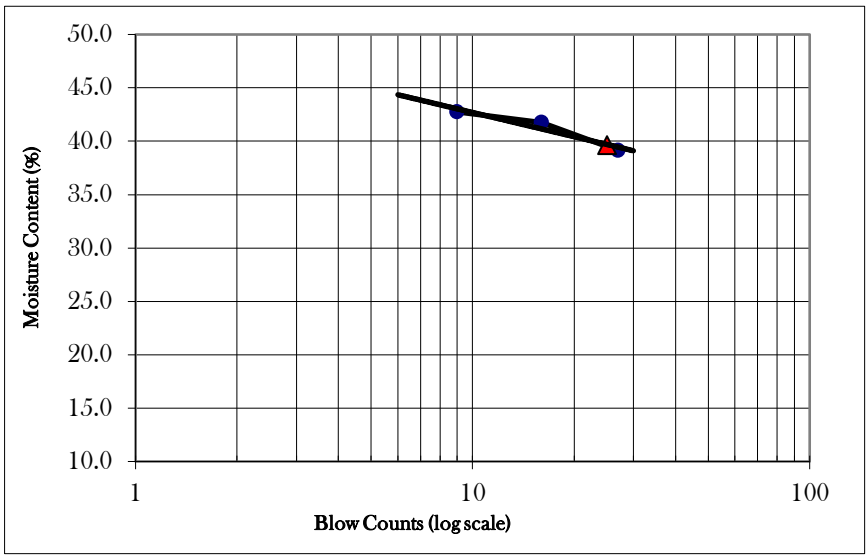
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Joypur Govt. Primary School, Mujibnagar, Meherpur.
Sample Information:

Sample Date:	11/09/2024
Test Date:	25/11/2024
Boring Number	BH-07(M)
Sample Number	D-04
Depth of Sample(m)	6.0

Determination of Liquid Limit			
Cup Number	C-19	C-20	C-21
Weight of Cup (g)	11.27	20.02	20.66
Weight of Wet Soil and Cup (g)	53.95	62.82	61.62
Weight of Dry Soil and Cup (g)	41.17	50.21	50.1
Moisure Content (%)	42.7	41.8	39.1
Blow Counts	9	16	27

Determination of Plastic Limit		
Cup Number	C-22	C-23
Weight of Cup (g)	19.94	11.5
Weight of Wet Soil and Cup (g)	28.17	19.02
Weight of Dry Soil and Cup (g)	26.45	17.51
Moisure Content (%)	26.4	25.1

Compilation of Test Results



Liquid Limit	40
Plastic Limit	26
Plasticity Index	14

Atterberg Limits of Soil (ASTM Designation:D4318)

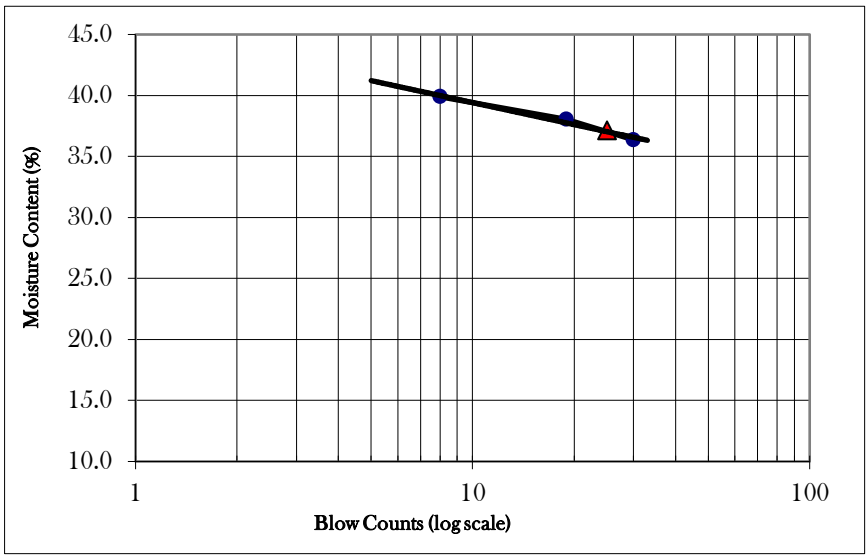
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Dholmary Govt. Primary School, Meherpur.
Sample Information:

Sample Date:	14/09/2024
Test Date:	26/11/2024
Boring Number	BH-08(M)
Sample Number	D-20
Depth of Sample(m)	30.0

Determination of Liquid Limit			
Cup Number	A-01	A-02	A-03
Weight of Cup (g)	20.11	20.32	20.37
Weight of Wet Soil and Cup (g)	68.68	65.37	66.12
Weight of Dry Soil and Cup (g)	54.83	52.95	53.92
Moisure Content (%)	39.9	38.1	36.4
Blow Counts	8	19	30

Determination of Plastic Limit		
Cup Number	A-04	A-05
Weight of Cup (g)	23.35	23.2
Weight of Wet Soil and Cup (g)	29.06	29.64
Weight of Dry Soil and Cup (g)	27.92	28.37
Moisure Content (%)	24.9	24.6

Compilation of Test Results



Liquid Limit	37
Plastic Limit	25
Plasticity Index	12

Atterberg Limits of Soil (ASTM Designation:D4318)

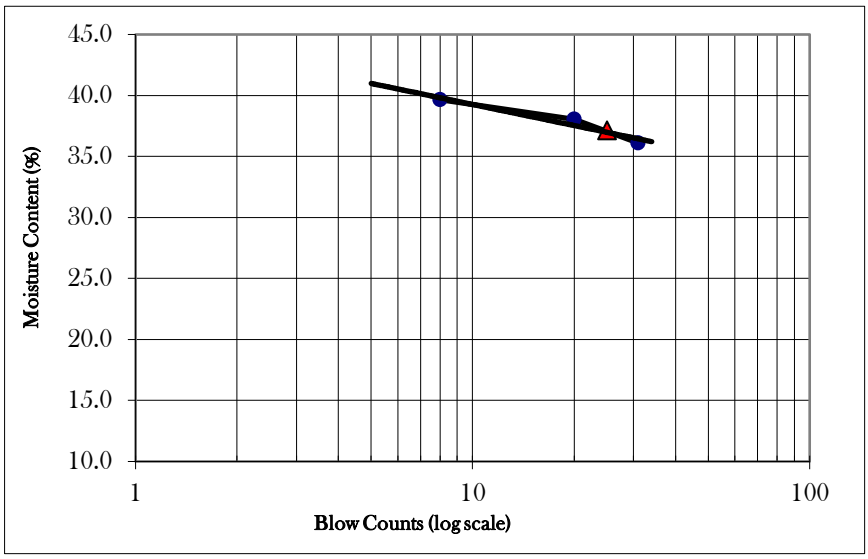
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Mohajonpur Uttarpara Govt. Primary School, Meherpur.
Sample Information:

Sample Date:	17/09/2024
Test Date:	26/11/2024
Boring Number	BH-09(M)
Sample Number	D-03
Depth of Sample(m)	4.5

Determination of Liquid Limit			
Cup Number	B-13	B-14	B-15
Weight of Cup (g)	22.7	19.63	23.33
Weight of Wet Soil and Cup (g)	71.9	71.48	69.51
Weight of Dry Soil and Cup (g)	57.93	57.19	57.26
Moisure Content (%)	39.7	38.0	36.1
Blow Counts	8	20	31

Determination of Plastic Limit		
Cup Number	B-16	B-17
Weight of Cup (g)	20.61	22.79
Weight of Wet Soil and Cup (g)	26.36	28.71
Weight of Dry Soil and Cup (g)	25.23	27.55
Moisure Content (%)	24.5	24.4

Compilation of Test Results



Liquid Limit	37
Plastic Limit	24
Plasticity Index	13

Atterberg Limits of Soil (ASTM Designation:D4318)

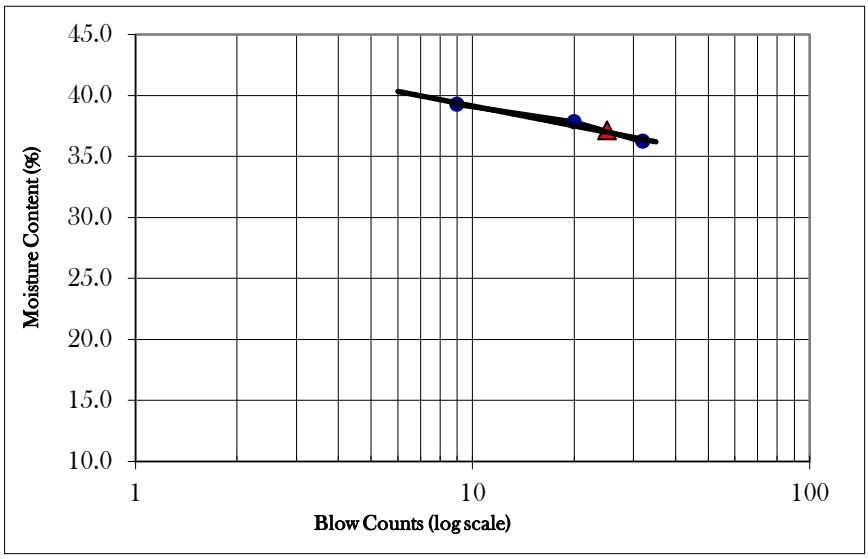
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Mohajonpur Uttarpara Govt. Primary School, Meherpur.
Sample Information:

Sample Date:	17/09/2024
Test Date:	26/11/2024
Boring Number	BH-09(M)
Sample Number	D-04
Depth of Sample(m)	6.0

Determination of Liquid Limit			
Cup Number	A-07	A-08	A-09
Weight of Cup (g)	23.35	24.53	23.48
Weight of Wet Soil and Cup (g)	71.8	70.4	72.46
Weight of Dry Soil and Cup (g)	58.14	57.81	59.44
Moisure Content (%)	39.3	37.8	36.2
Blow Counts	9	20	32

Determination of Plastic Limit		
Cup Number	A-10	A-11
Weight of Cup (g)	20.52	23.16
Weight of Wet Soil and Cup (g)	26.09	30.05
Weight of Dry Soil and Cup (g)	25.01	28.72
Moisure Content (%)	24.1	23.9

Compilation of Test Results



Liquid Limit	37
Plastic Limit	24
Plasticity Index	13

Atterberg Limits of Soil (ASTM Designation:D4318)

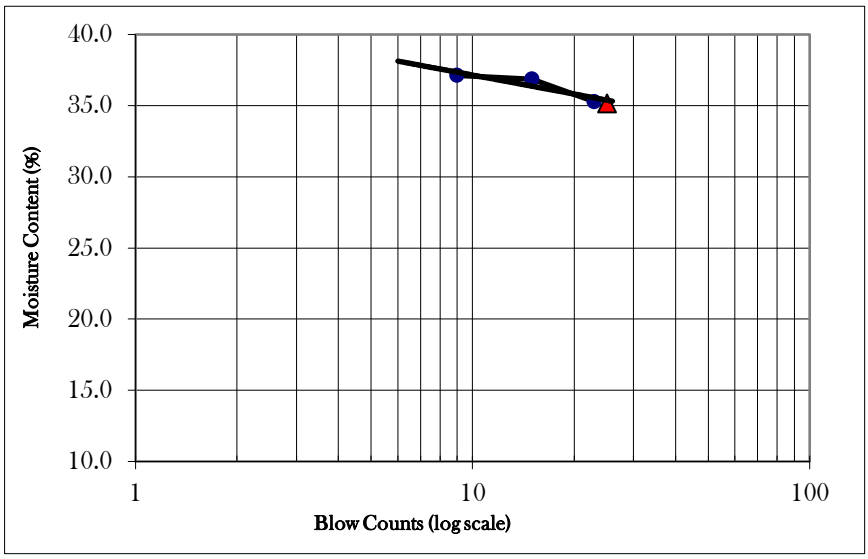
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Komorpur Govt .Primary School, Meherpur.
Sample Information:

Sample Date:	28/09/2024
Test Date:	26/11/2024
Boring Number	BH-10(M)
Sample Number	D-01
Depth of Sample(m)	1.5

Determination of Liquid Limit			
Cup Number	A-13	A-14	A-15
Weight of Cup (g)	23.1	23.01	23.87
Weight of Wet Soil and Cup (g)	62.55	57.61	60.8
Weight of Dry Soil and Cup (g)	51.87	48.29	51.17
Moisure Content (%)	37.1	36.9	35.3
Blow Counts	9	15	23

Determination of Plastic Limit		
Cup Number	A-16	A-17
Weight of Cup (g)	23.53	23.39
Weight of Wet Soil and Cup (g)	28.63	28.94
Weight of Dry Soil and Cup (g)	27.61	27.81
Moisure Content (%)	25.0	25.6

Compilation of Test Results



Liquid Limit	35
Plastic Limit	25
Plasticity Index	10

Atterberg Limits of Soil (ASTM Designation:D4318)

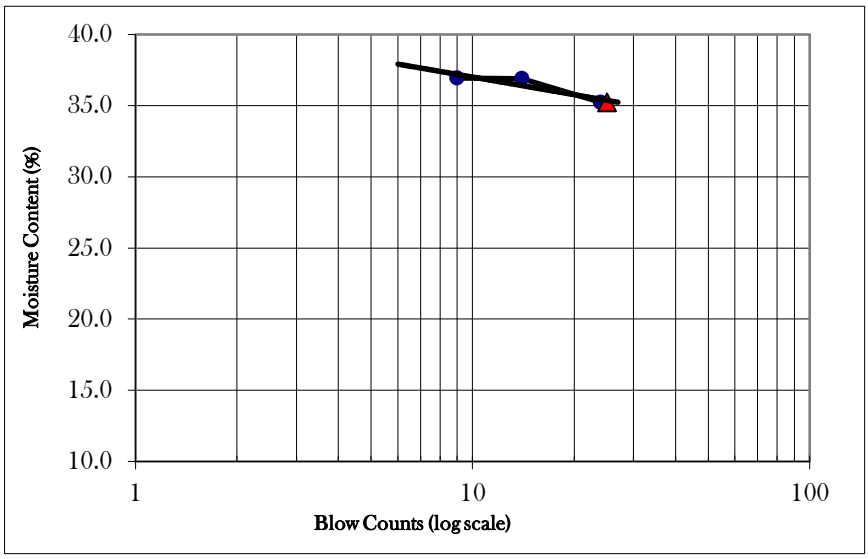
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Meherpur Govt. High School, Meherpur.
Sample Information:

Sample Date:	19/09/2024
Test Date:	27/11/2024
Boring Number	BH-11(M)
Sample Number	D-01
Depth of Sample(m)	1.5

Determination of Liquid Limit			
Cup Number	A-19	A-20	A-21
Weight of Cup (g)	23.44	11.56	23.04
Weight of Wet Soil and Cup (g)	66.37	49.01	72.86
Weight of Dry Soil and Cup (g)	54.79	38.92	59.88
Moisure Content (%)	36.9	36.9	35.2
Blow Counts	9	14	24

Determination of Plastic Limit		
Cup Number	A-22	A-23
Weight of Cup (g)	20.46	23.43
Weight of Wet Soil and Cup (g)	25.61	28.19
Weight of Dry Soil and Cup (g)	24.65	27.31
Moisure Content (%)	22.9	22.7

Compilation of Test Results



Liquid Limit	35
Plastic Limit	23
Plasticity Index	12

Atterberg Limits of Soil (ASTM Designation:D4318)

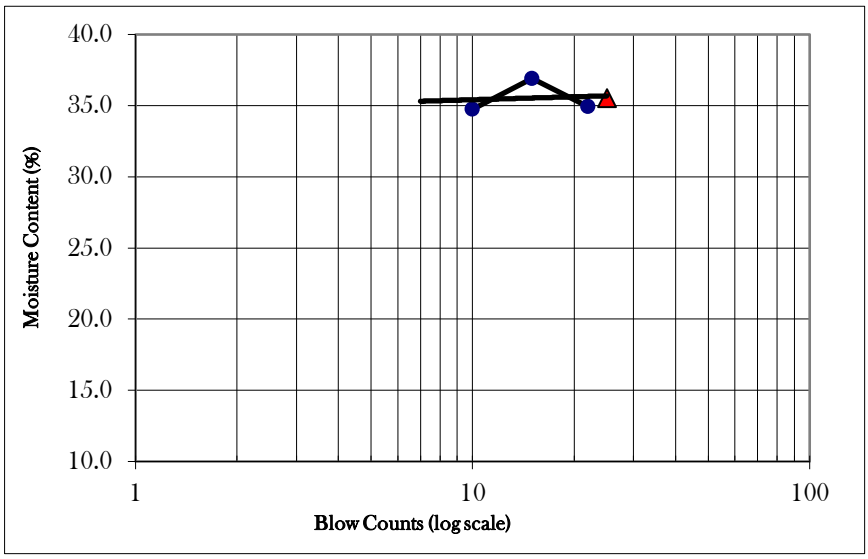
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Meherpur Govt. High School, Meherpur.
Sample Information:

Sample Date:	19/09/2024
Test Date:	27/11/2024
Boring Number	BH-11(M)
Sample Number	D-04
Depth of Sample(m)	6.0

Determination of Liquid Limit			
Cup Number	B-01	B-02	B-03
Weight of Cup (g)	20.9	13.15	23.19
Weight of Wet Soil and Cup (g)	67.59	43.9	64.28
Weight of Dry Soil and Cup (g)	55.55	35.61	53.64
Moisure Content (%)	34.7	36.9	34.9
Blow Counts	10	15	22

Determination of Plastic Limit		
Cup Number	B-04	B-05
Weight of Cup (g)	23.37	22.78
Weight of Wet Soil and Cup (g)	28.4	26.8
Weight of Dry Soil and Cup (g)	27.43	26.03
Moisure Content (%)	23.9	23.7

Compilation of Test Results



Liquid Limit	36
Plastic Limit	24
Plasticity Index	12

Atterberg Limits of Soil (ASTM Designation:D4318)

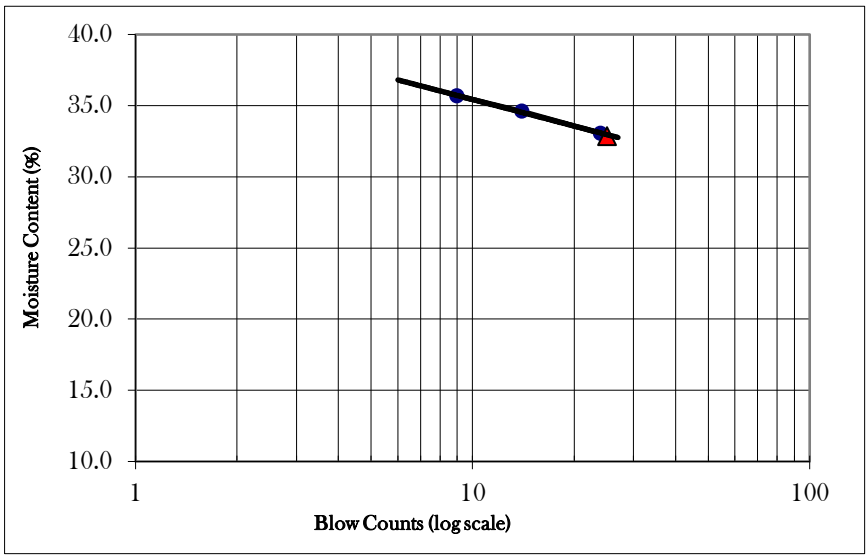
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Shalika High School Meherpur Sadar, Meherpur.
Sample Information:

Sample Date:	22/09/2024
Test Date:	27/11/2024
Boring Number	BH-12(M)
Sample Number	D-01
Depth of Sample(m)	1.5

Determination of Liquid Limit			
Cup Number	B-07	B-08	B-09
Weight of Cup (g)	19.99	23.04	21.28
Weight of Wet Soil and Cup (g)	64.25	77.4	65.2
Weight of Dry Soil and Cup (g)	52.61	63.43	54.29
Moisure Content (%)	35.7	34.6	33.1
Blow Counts	9	14	24

Determination of Plastic Limit		
Cup Number	B-10	B-11
Weight of Cup (g)	20.71	10.96
Weight of Wet Soil and Cup (g)	26.61	16.21
Weight of Dry Soil and Cup (g)	25.4	15.17
Moisure Content (%)	25.8	24.7

Compilation of Test Results



Liquid Limit	33
Plastic Limit	25
Plasticity Index	8

Atterberg Limits of Soil (ASTM Designation:D4318)

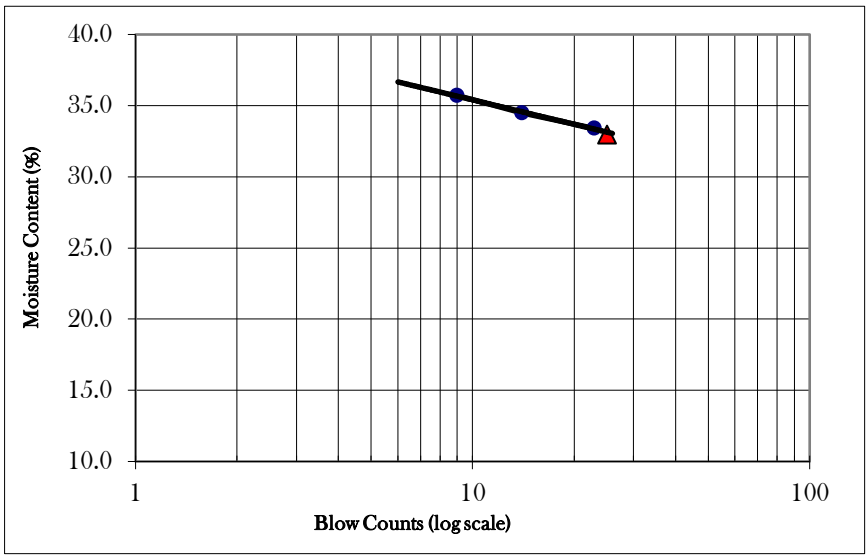
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Shalika High School Meherpur Sadar, Meherpur.
Sample Information:

Sample Date:	22/09/2024
Test Date:	27/11/2024
Boring Number	BH-12(M)
Sample Number	D-04
Depth of Sample(m)	6.0

Determination of Liquid Limit			
Cup Number	C-01	C-02	C-03
Weight of Cup (g)	23.1	11.64	20.26
Weight of Wet Soil and Cup (g)	67.86	63.6	62.72
Weight of Dry Soil and Cup (g)	56.08	50.28	52.09
Moisure Content (%)	35.7	34.5	33.4
Blow Counts	9	14	23

Determination of Plastic Limit		
Cup Number	C-04	C-05
Weight of Cup (g)	11.68	20.24
Weight of Wet Soil and Cup (g)	17.34	24.25
Weight of Dry Soil and Cup (g)	16.24	23.47
Moisure Content (%)	24.1	24.1

Compilation of Test Results



Liquid Limit	33
Plastic Limit	24
Plasticity Index	9

Atterberg Limits of Soil (ASTM Designation:D4318)

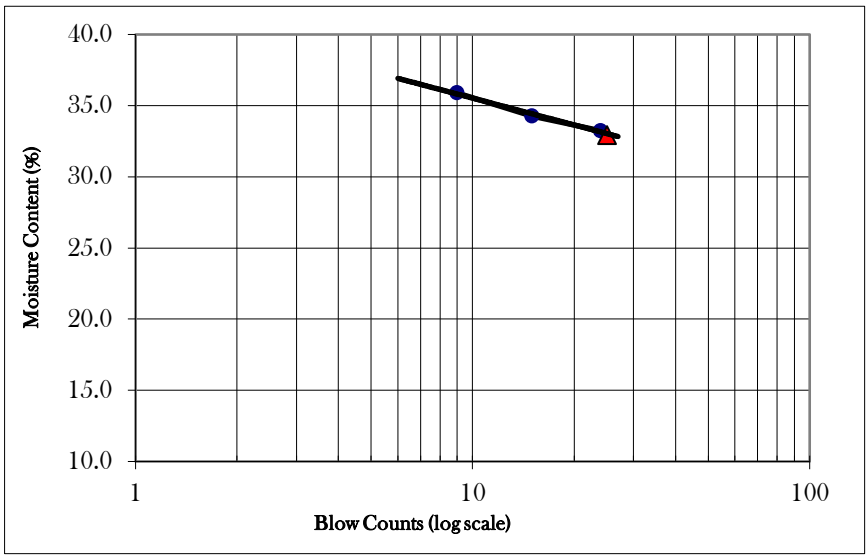
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Ujalpur High School, Meherpur Sadar, Meherpur.
Sample Information:

Sample Date:	16/09/2024
Test Date:	27/11/2024
Boring Number	BH-14(M)
Sample Number	D-02
Depth of Sample(m)	3.0

Determination of Liquid Limit			
Cup Number	C-07	C-08	C-09
Weight of Cup (g)	11.89	19.7	23.19
Weight of Wet Soil and Cup (g)	61.75	73.35	74.7
Weight of Dry Soil and Cup (g)	48.58	59.66	61.85
Moisure Content (%)	35.9	34.3	33.2
Blow Counts	9	15	24

Determination of Plastic Limit		
Cup Number	C-10	C-11
Weight of Cup (g)	20.75	12.34
Weight of Wet Soil and Cup (g)	26.19	18.63
Weight of Dry Soil and Cup (g)	25.17	17.44
Moisure Content (%)	23.1	23.3

Compilation of Test Results



Liquid Limit	33
Plastic Limit	23
Plasticity Index	10

Atterberg Limits of Soil (ASTM Designation:D4318)

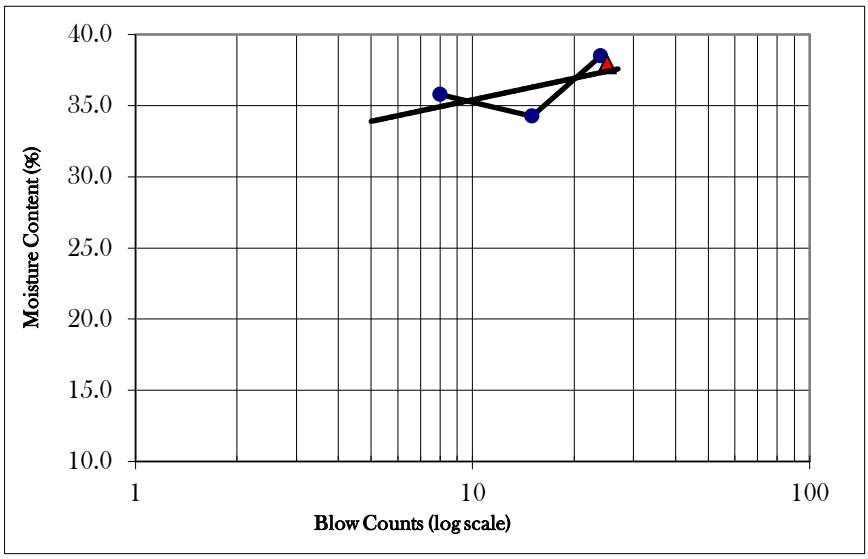
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Kaligangni Govt. Primary School, Meherpur Sadar, Meherpur.
Sample Information:

Sample Date:	14/09/2024
Test Date:	29/11/2024
Boring Number	BH-16(M)
Sample Number	D-01
Depth of Sample(m)	1.5

Determination of Liquid Limit			
Cup Number	A-01	A-02	A-03
Weight of Cup (g)	20.11	20.31	20.37
Weight of Wet Soil and Cup (g)	60.55	65.5	56.64
Weight of Dry Soil and Cup (g)	49.89	53.97	46.56
Moisure Content (%)	35.8	34.3	38.5
Blow Counts	8	15	24

Determination of Plastic Limit		
Cup Number	A-04	A-05
Weight of Cup (g)	23.35	23.2
Weight of Wet Soil and Cup (g)	32.65	31.42
Weight of Dry Soil and Cup (g)	30.71	29.74
Moisure Content (%)	26.4	25.7

Compilation of Test Results



Liquid Limit	38
Plastic Limit	26
Plasticity Index	12

Atterberg Limits of Soil (ASTM Designation:D4318)

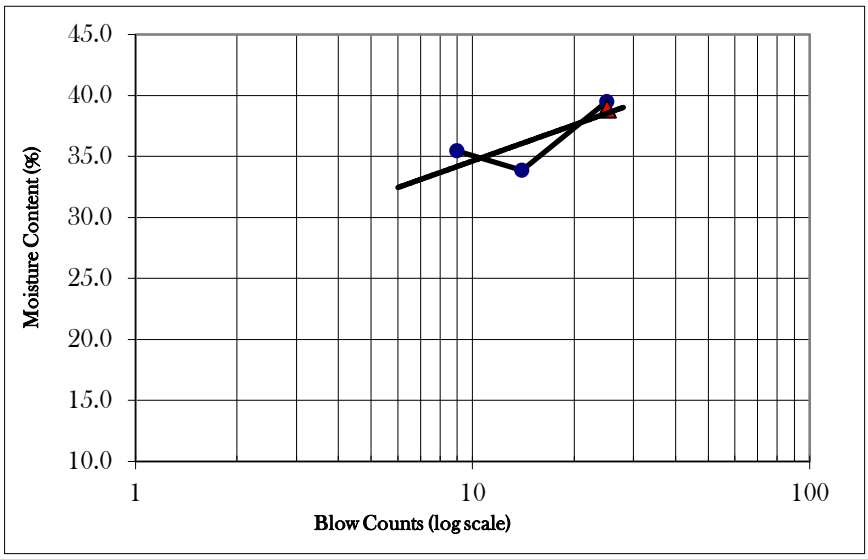
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Kaligangni Govt. Primary School, Meherpur Sadar, Meherpur.
Sample Information:

Sample Date:	14/09/2024
Test Date:	29/11/2024
Boring Number	BH-16(M)
Sample Number	D-03
Depth of Sample(m)	4.5

Determination of Liquid Limit			
Cup Number	A-07	A-08	A-09
Weight of Cup (g)	23.35	24.53	23.48
Weight of Wet Soil and Cup (g)	71.89	65.8	72.4
Weight of Dry Soil and Cup (g)	59.19	55.36	58.55
Moisure Content (%)	35.4	33.9	39.5
Blow Counts	9	14	25

Determination of Plastic Limit		
Cup Number	A-10	A-11
Weight of Cup (g)	20.52	23.16
Weight of Wet Soil and Cup (g)	28.66	30.39
Weight of Dry Soil and Cup (g)	26.88	28.86
Moisure Content (%)	28.0	26.8

Compilation of Test Results



Liquid Limit	39
Plastic Limit	27
Plasticity Index	12

Atterberg Limits of Soil (ASTM Designation:D4318)

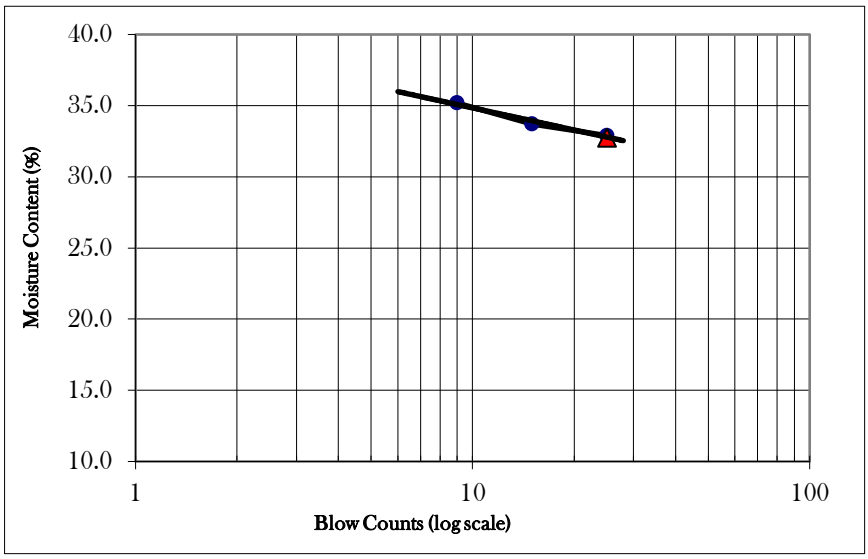
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Amdah Primary School, Meherpur.
Sample Information:

Sample Date:	25/09/2024
Test Date:	29/11/2024
Boring Number	BH-18(M)
Sample Number	D-03
Depth of Sample(m)	4.5

Determination of Liquid Limit			
Cup Number	A-13	A-14	A-15
Weight of Cup (g)	23.1	23.01	23.87
Weight of Wet Soil and Cup (g)	66.9	65.56	65.8
Weight of Dry Soil and Cup (g)	55.5	54.83	55.42
Moisure Content (%)	35.2	33.7	32.9
Blow Counts	9	15	25

Determination of Plastic Limit		
Cup Number	A-16	A-17
Weight of Cup (g)	23.53	23.39
Weight of Wet Soil and Cup (g)	31.92	31.67
Weight of Dry Soil and Cup (g)	30.27	30.03
Moisure Content (%)	24.5	24.7

Compilation of Test Results



Liquid Limit	33
Plastic Limit	25
Plasticity Index	8

Atterberg Limits of Soil (ASTM Designation:D4318)

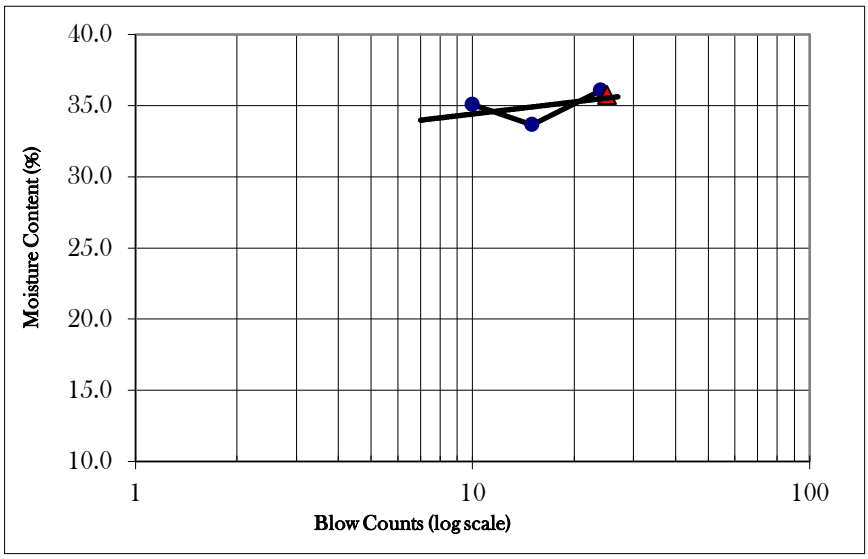
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Amdah Primary School, Meherpur.
Sample Information:

Sample Date:	25/09/2024
Test Date:	29/11/2024
Boring Number	BH-18(M)
Sample Number	D-07
Depth of Sample(m)	10.5

Determination of Liquid Limit			
Cup Number	A-19	A-20	A-21
Weight of Cup (g)	23.44	11.56	23.04
Weight of Wet Soil and Cup (g)	70.68	61.09	72.88
Weight of Dry Soil and Cup (g)	58.41	48.62	59.67
Moisure Content (%)	35.1	33.6	36.1
Blow Counts	10	15	24

Determination of Plastic Limit		
Cup Number	A-22	A-23
Weight of Cup (g)	20.46	23.43
Weight of Wet Soil and Cup (g)	28.66	31.42
Weight of Dry Soil and Cup (g)	26.98	29.81
Moisure Content (%)	25.8	25.2

Compilation of Test Results



Liquid Limit	36
Plastic Limit	26
Plasticity Index	10

Atterberg Limits of Soil (ASTM Designation:D4318)

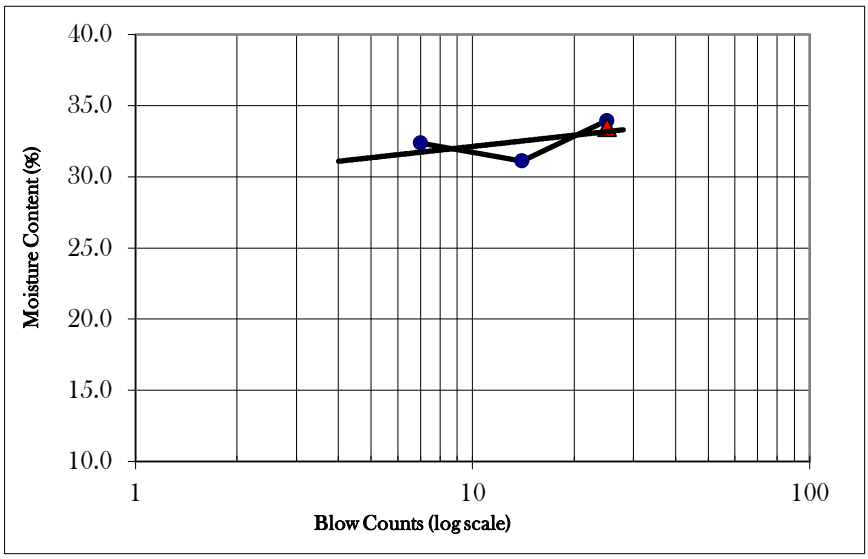
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Ashrafpur Govt. Primary School, Meherpur.
Sample Information:

Sample Date:	27/09/2024
Test Date:	29/11/2024
Boring Number	BH-19(M)
Sample Number	D-01
Depth of Sample(m)	1.5

Determination of Liquid Limit			
Cup Number	B-01	B-02	B-03
Weight of Cup (g)	22.9	13.15	23.19
Weight of Wet Soil and Cup (g)	56.8	45.48	66.4
Weight of Dry Soil and Cup (g)	48.51	37.81	55.45
Moisure Content (%)	32.4	31.1	33.9
Blow Counts	7	14	25

Determination of Plastic Limit		
Cup Number	B-04	B-05
Weight of Cup (g)	23.37	22.78
Weight of Wet Soil and Cup (g)	27.58	27.2
Weight of Dry Soil and Cup (g)	26.7	26.3
Moisure Content (%)	26.4	25.6

Compilation of Test Results



Liquid Limit	33
Plastic Limit	26
Plasticity Index	7

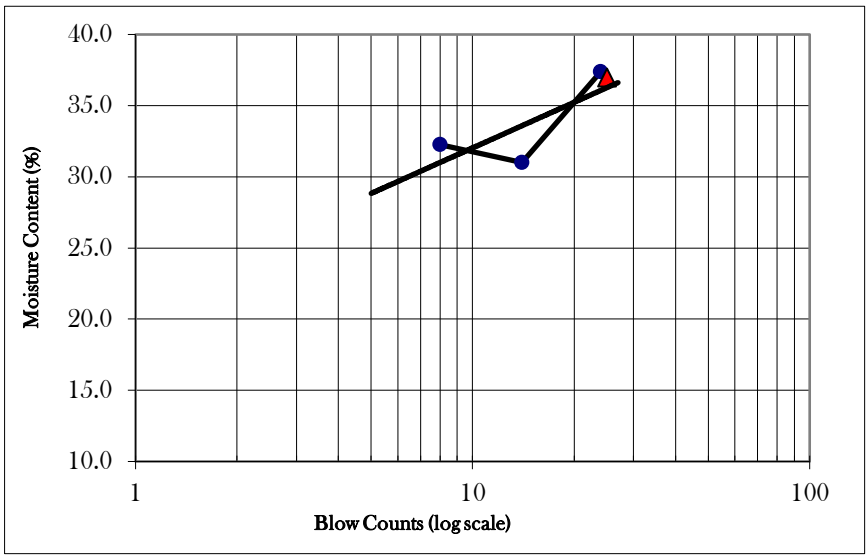
Atterberg Limits of Soil (ASTM Designation:D4318)

Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Kola Govt. Primary School, Meherpur.
Sample Information:
Sample Date: 21/09/2024
Test Date: 29/11/2024
Boring Number BH-20(M)
Sample Number D-01
Depth of Sample(m) 1.5

Determination of Liquid Limit			
Cup Number	B-07	B-08	B-09
Weight of Cup (g)	19.99	23.04	21.28
Weight of Wet Soil and Cup (g)	55.2	60.18	69.97
Weight of Dry Soil and Cup (g)	46.61	51.39	56.72
Moisure Content (%)	32.3	31.0	37.4
Blow Counts	8	14	24

Determination of Plastic Limit		
Cup Number	B-10	B-11
Weight of Cup (g)	20.71	10.96
Weight of Wet Soil and Cup (g)	25.18	15.68
Weight of Dry Soil and Cup (g)	24.25	14.7
Moisure Content (%)	26.3	26.2

Compilation of Test Results



Liquid Limit	37
Plastic Limit	26
Plasticity Index	11

Atterberg Limits of Soil (ASTM Designation:D4318)

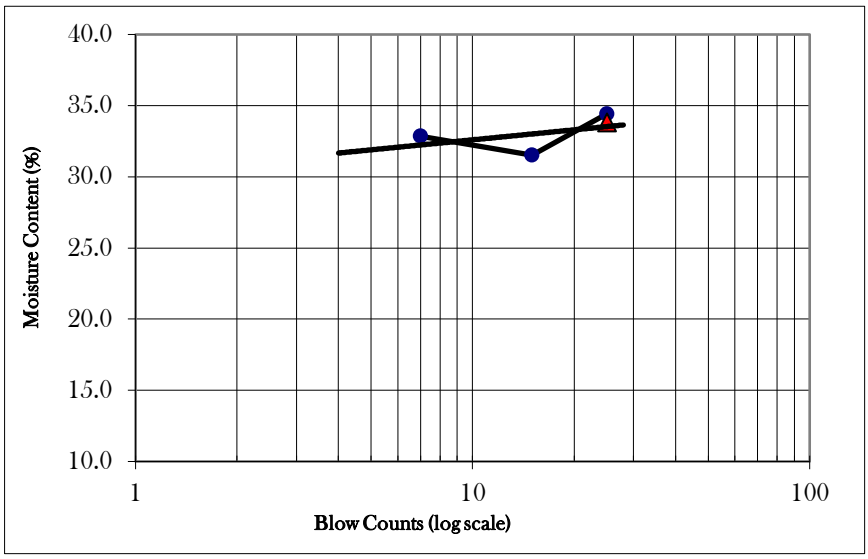
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Amjhupi Girls Govt. Primary School, Meherpur.
Sample Information:

Sample Date:	12/09/2024
Test Date:	29/11/2024
Boring Number	BH-21(M)
Sample Number	D-01
Depth of Sample(m)	1.5

Determination of Liquid Limit			
Cup Number	B-13	B-14	B-15
Weight of Cup (g)	22.7	19.63	23.33
Weight of Wet Soil and Cup (g)	72.3	63.15	66.29
Weight of Dry Soil and Cup (g)	60.04	52.72	55.29
Moisure Content (%)	32.8	31.5	34.4
Blow Counts	7	15	25

Determination of Plastic Limit		
Cup Number	B-16	B-17
Weight of Cup (g)	20.61	22.79
Weight of Wet Soil and Cup (g)	28.05	29.7
Weight of Dry Soil and Cup (g)	26.62	28.37
Moisure Content (%)	23.8	23.8

Compilation of Test Results



Liquid Limit	34
Plastic Limit	24
Plasticity Index	10

Atterberg Limits of Soil (ASTM Designation:D4318)

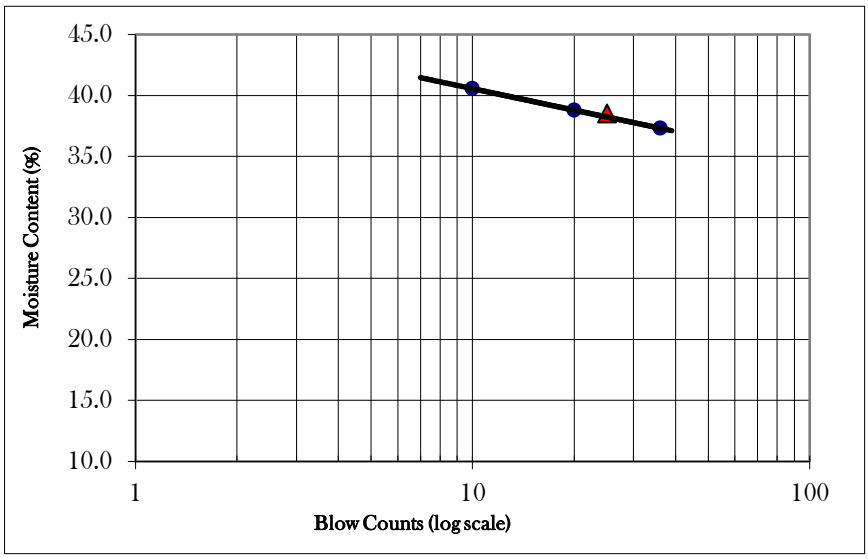
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Khoksha Govt. Primary School, Meherpur.
Sample Information:

Sample Date:	11/09/2024
Test Date:	2/12/2024
Boring Number	BH-22(M)
Sample Number	D-01
Depth of Sample(m)	1.5

Determination of Liquid Limit			
Cup Number	A-01	A-02	A-03
Weight of Cup (g)	20.11	20.31	20.37
Weight of Wet Soil and Cup (g)	63.81	62.63	64.56
Weight of Dry Soil and Cup (g)	51.2	50.8	52.55
Moisure Content (%)	40.6	38.8	37.3
Blow Counts	10	20	36

Determination of Plastic Limit		
Cup Number	A-04	A-05
Weight of Cup (g)	23.35	23.2
Weight of Wet Soil and Cup (g)	28.49	28.25
Weight of Dry Soil and Cup (g)	27.35	27.12
Moisure Content (%)	28.5	28.8

Compilation of Test Results



Liquid Limit	39
Plastic Limit	29
Plasticity Index	10

Atterberg Limits of Soil (ASTM Designation:D4318)

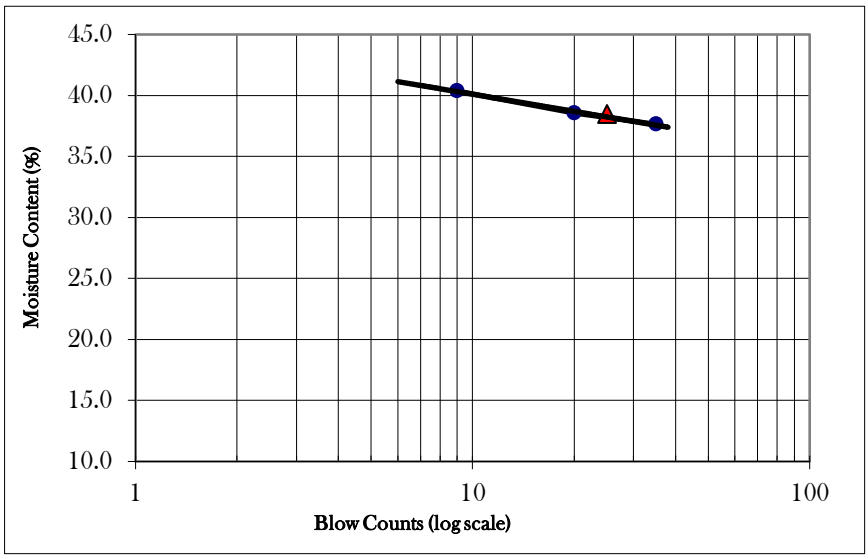
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Road Site of Roghunathpur Area, Meherpur.
Sample Information:

Sample Date:	23/09/2024
Test Date:	2/12/2024
Boring Number	BH-24(M)
Sample Number	D-01
Depth of Sample(m)	1.5

Determination of Liquid Limit			
Cup Number	A-07	A-08	A-09
Weight of Cup (g)	23.35	24.53	23.48
Weight of Wet Soil and Cup (g)	61.29	65.37	64.88
Weight of Dry Soil and Cup (g)	50.38	54	53.56
Moisure Content (%)	40.4	38.6	37.6
Blow Counts	9	20	35

Determination of Plastic Limit		
Cup Number	A-10	A-11
Weight of Cup (g)	20.52	23.16
Weight of Wet Soil and Cup (g)	27.17	27.86
Weight of Dry Soil and Cup (g)	25.69	26.85
Moisure Content (%)	28.6	27.4

Compilation of Test Results



Liquid Limit	38
Plastic Limit	28
Plasticity Index	10

Atterberg Limits of Soil (ASTM Designation:D4318)

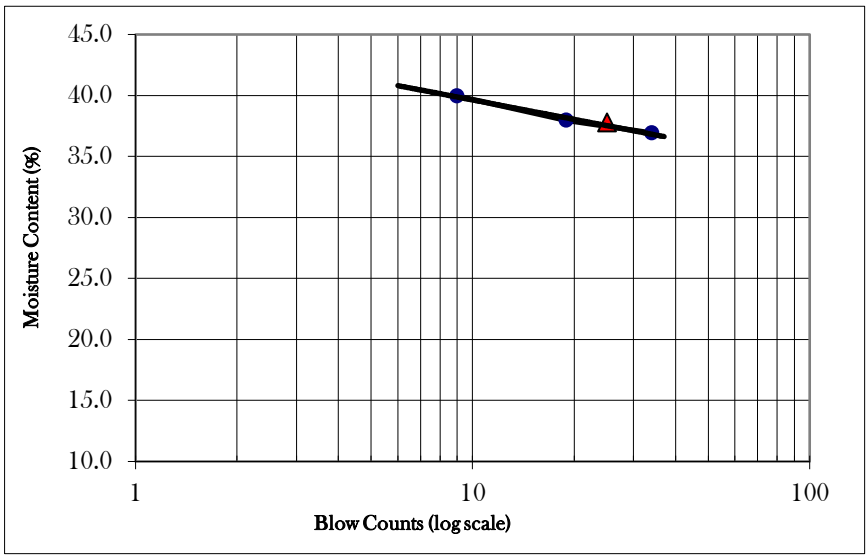
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Road Site of Roghunathpur Area, Meherpur.
Sample Information:

Sample Date:	23/09/2024
Test Date:	2/12/2024
Boring Number	BH-24(M)
Sample Number	D-03
Depth of Sample(m)	4.5

Determination of Liquid Limit			
Cup Number	A-13	A-14	A-15
Weight of Cup (g)	23.1	23.01	23.87
Weight of Wet Soil and Cup (g)	69.09	59.27	66.4
Weight of Dry Soil and Cup (g)	55.96	49.29	54.93
Moisure Content (%)	40.0	38.0	36.9
Blow Counts	9	19	34

Determination of Plastic Limit		
Cup Number	A-16	A-17
Weight of Cup (g)	23.53	23.39
Weight of Wet Soil and Cup (g)	29.24	29.21
Weight of Dry Soil and Cup (g)	28.01	27.94
Moisure Content (%)	27.5	27.9

Compilation of Test Results



Liquid Limit	38
Plastic Limit	28
Plasticity Index	10

Atterberg Limits of Soil (ASTM Designation:D4318)

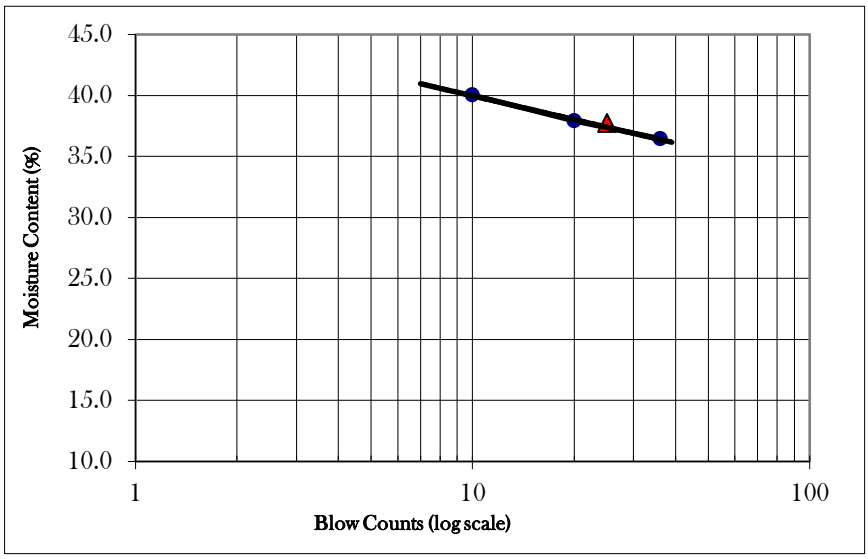
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Kathalpota Govt. Primary School, Meherpur.
Sample Information:

Sample Date:	22/09/2024
Test Date:	2/12/2024
Boring Number	BH-25(M)
Sample Number	D-01
Depth of Sample(m)	1.5

Determination of Liquid Limit			
Cup Number	A-19	A-20	A-21
Weight of Cup (g)	23.44	11.56	23.04
Weight of Wet Soil and Cup (g)	79.24	54.38	61.07
Weight of Dry Soil and Cup (g)	63.29	42.61	50.91
Moisure Content (%)	40.0	37.9	36.5
Blow Counts	10	20	36

Determination of Plastic Limit		
Cup Number	A-22	A-23
Weight of Cup (g)	20.46	23.43
Weight of Wet Soil and Cup (g)	27.4	30.26
Weight of Dry Soil and Cup (g)	25.95	28.77
Moisure Content (%)	26.4	27.9

Compilation of Test Results



Liquid Limit	38
Plastic Limit	27
Plasticity Index	11

Atterberg Limits of Soil (ASTM Designation:D4318)

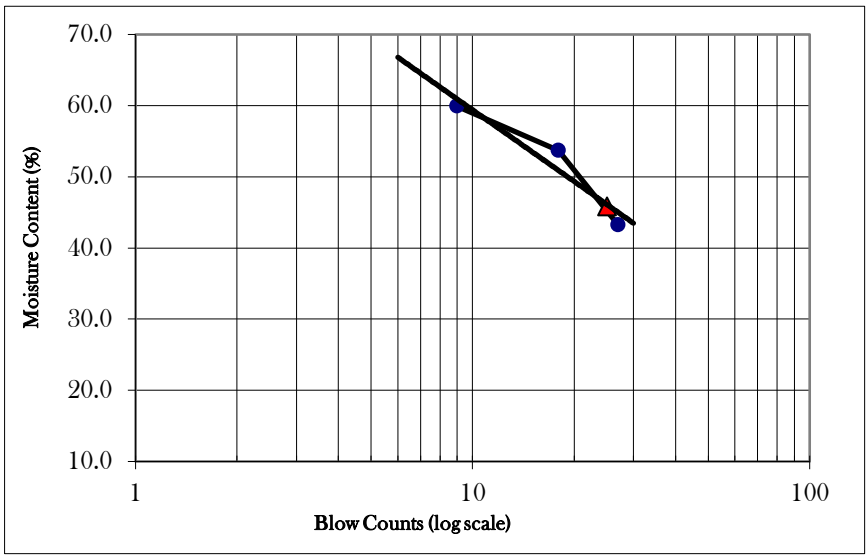
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Near Durlovpur Masjid Road Site in Durlovpur Village, Meherpur.
Sample Information:

Sample Date:	19/09/2024
Test Date:	5/12/2024
Boring Number	BH-28(M)
Sample Number	D-03
Depth of Sample(m)	4.5

Determination of Liquid Limit			
Cup Number	A-01	A-02	A-03
Weight of Cup (g)	20.11	20.31	20.37
Weight of Wet Soil and Cup (g)	52.68	55.13	61.7
Weight of Dry Soil and Cup (g)	40.48	42.97	49.22
Moisure Content (%)	59.9	53.7	43.3
Blow Counts	9	18	27

Determination of Plastic Limit		
Cup Number	A-04	A-05
Weight of Cup (g)	23.35	23.2
Weight of Wet Soil and Cup (g)	29.33	30.39
Weight of Dry Soil and Cup (g)	27.75	28.46
Moisure Content (%)	35.9	36.7

Compilation of Test Results



Liquid Limit	46
Plastic Limit	36
Plasticity Index	10

Atterberg Limits of Soil (ASTM Designation:D4318)

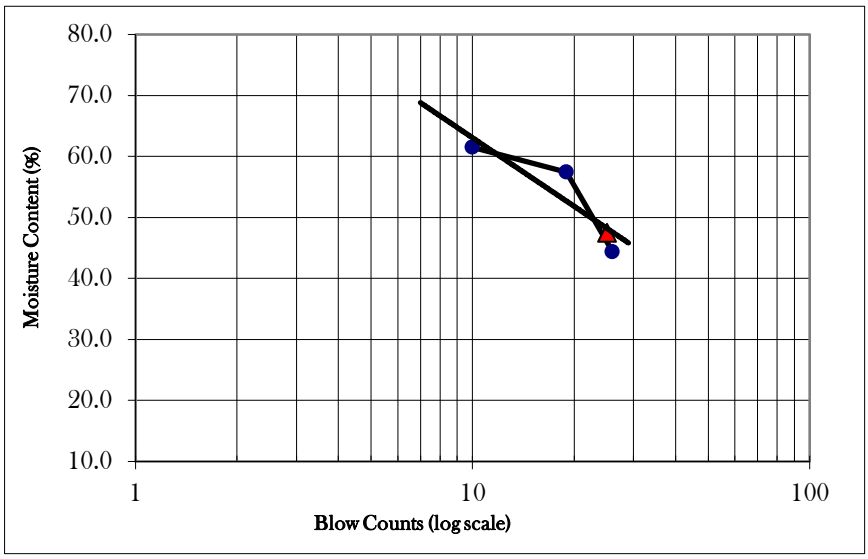
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Near Durlovpur Masjid Road Site in Durlovpur Village, Meherpur.
Sample Information:

Sample Date:	19/09/2024
Test Date:	5/12/2024
Boring Number	BH-28(M)
Sample Number	D-04
Depth of Sample(m)	6.0

Determination of Liquid Limit			
Cup Number	A-07	A-08	A-09
Weight of Cup (g)	23.35	24.53	23.48
Weight of Wet Soil and Cup (g)	66.37	63.04	64.98
Weight of Dry Soil and Cup (g)	49.99	48.99	52.22
Moisure Content (%)	61.5	57.4	44.4
Blow Counts	10	19	26

Determination of Plastic Limit		
Cup Number	A-10	A-11
Weight of Cup (g)	20.52	23.16
Weight of Wet Soil and Cup (g)	27.62	30.66
Weight of Dry Soil and Cup (g)	25.99	28.59
Moisure Content (%)	29.8	38.1

Compilation of Test Results



Liquid Limit	48
Plastic Limit	34
Plasticity Index	14

Atterberg Limits of Soil (ASTM Designation:D4318)

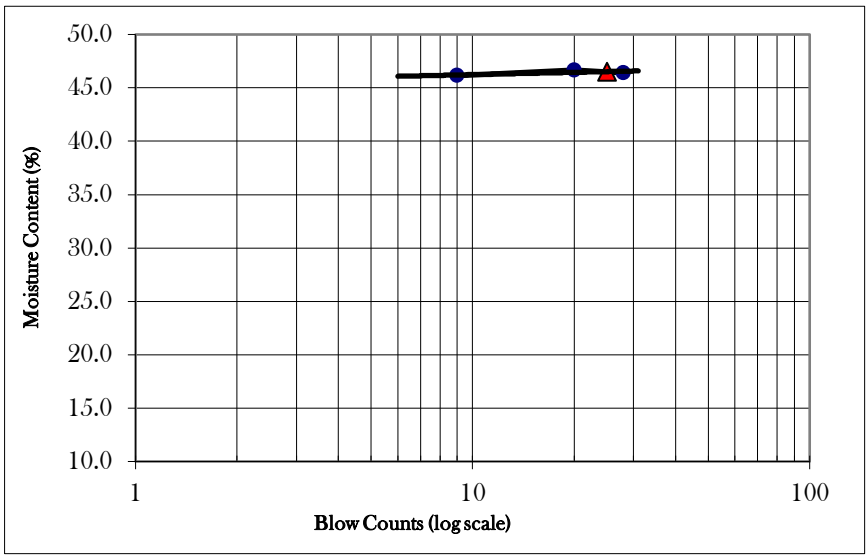
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Garadob Govt. Primary School, Meherpur.
Sample Information:

Sample Date:	13/09/2024
Test Date:	5/12/2024
Boring Number	BH-29(M)
Sample Number	D-01
Depth of Sample(m)	1.5

Determination of Liquid Limit			
Cup Number	A-13	A-14	A-15
Weight of Cup (g)	23.1	23.01	23.87
Weight of Wet Soil and Cup (g)	60.03	60	58.86
Weight of Dry Soil and Cup (g)	48.37	48.23	47.77
Moisure Content (%)	46.1	46.7	46.4
Blow Counts	9	20	28

Determination of Plastic Limit		
Cup Number	A-16	A-17
Weight of Cup (g)	23.53	23.39
Weight of Wet Soil and Cup (g)	31.1	29.95
Weight of Dry Soil and Cup (g)	29.15	28.21
Moisure Content (%)	34.7	36.1

Compilation of Test Results



Liquid Limit	46
Plastic Limit	35
Plasticity Index	11

Atterberg Limits of Soil (ASTM Designation:D4318)

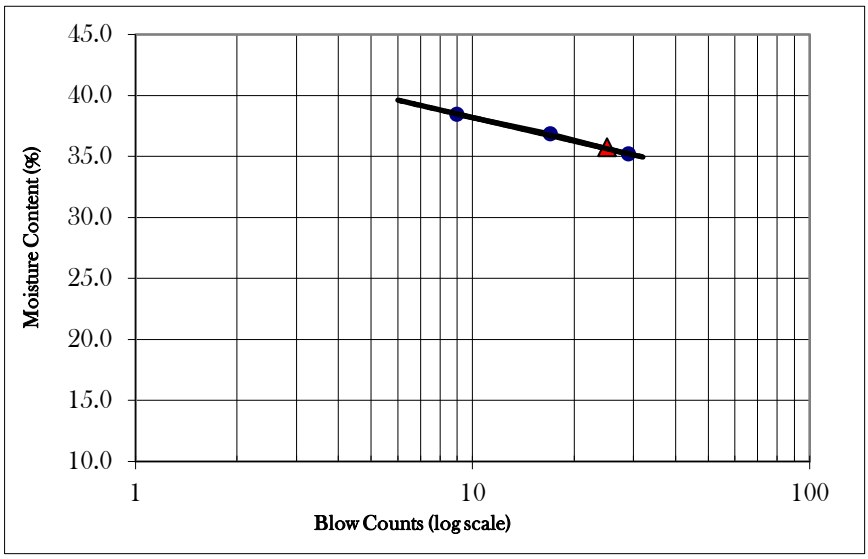
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Garadob Govt. Primary School, Meherpur.
Sample Information:

Sample Date:	13/09/2024
Test Date:	5/12/2024
Boring Number	BH-29(M)
Sample Number	D-02
Depth of Sample(m)	3.0

Determination of Liquid Limit			
Cup Number	A-19	A-20	A-21
Weight of Cup (g)	23.44	11.56	23.04
Weight of Wet Soil and Cup (g)	69.25	59.87	69.85
Weight of Dry Soil and Cup (g)	56.53	46.87	57.67
Moisure Content (%)	38.4	36.8	35.2
Blow Counts	9	17	29

Determination of Plastic Limit		
Cup Number	A-22	A-23
Weight of Cup (g)	20.46	23.43
Weight of Wet Soil and Cup (g)	26.99	30
Weight of Dry Soil and Cup (g)	25.7	28.75
Moisure Content (%)	24.6	23.5

Compilation of Test Results



Liquid Limit	36
Plastic Limit	24
Plasticity Index	12

Atterberg Limits of Soil (ASTM Designation:D4318)

Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Bhatpara Govt. Primary School, Meherpur.
Sample Information:

Sample Date:	25/09/2024
Test Date:	5/12/2024
Boring Number	BH-30(M)
Sample Number	D-01
Depth of Sample(m)	1.5

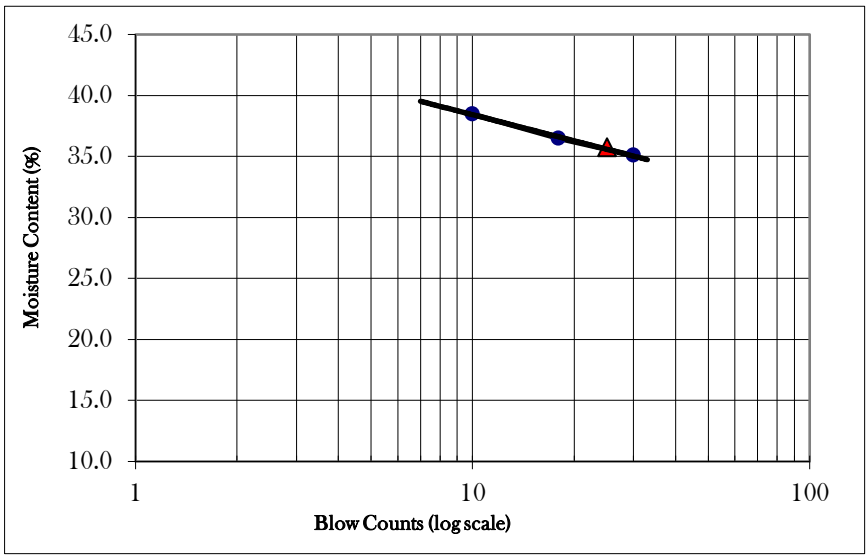
Determination of Liquid Limit

Cup Number	B-01	B-02	B-03
Weight of Cup (g)	22.9	13.15	23.19
Weight of Wet Soil and Cup (g)	69.26	61.8	67.08
Weight of Dry Soil and Cup (g)	56.38	48.79	55.68
Moisure Content (%)	38.5	36.5	35.1
Blow Counts	10	18	30

Determination of Plastic Limit

Cup Number	B-04	B-05
Weight of Cup (g)	23.37	22.78
Weight of Wet Soil and Cup (g)	30.59	29.69
Weight of Dry Soil and Cup (g)	29.11	28.27
Moisure Content (%)	25.8	25.9

Compilation of Test Results



Liquid Limit	36
Plastic Limit	26
Plasticity Index	10

Atterberg Limits of Soil (ASTM Designation:D4318)

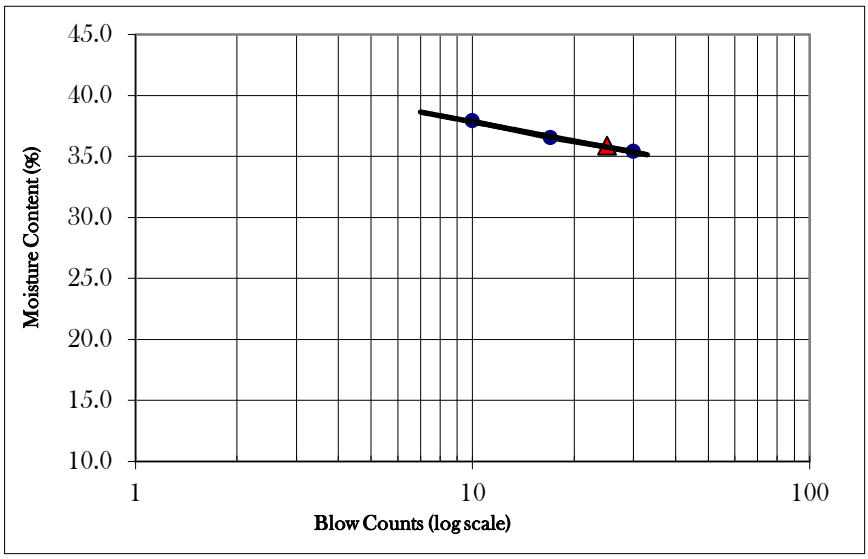
Client:Urban Development Directorate (UDD).
Project:Preparation of Development Plan for Meherpur Zilla.
Location:Bhatpara Govt. Primary School, Meherpur.
Sample Information:

Sample Date:	25/09/2024
Test Date:	5/12/2024
Boring Number	BH-30(M)
Sample Number	D-02
Depth of Sample(m)	3.0

Determination of Liquid Limit			
Cup Number	B-07	B-08	B-09
Weight of Cup (g)	19.99	23.04	21.28
Weight of Wet Soil and Cup (g)	76.94	68.49	67.4
Weight of Dry Soil and Cup (g)	61.29	56.33	55.34
Moisure Content (%)	37.9	36.5	35.4
Blow Counts	10	17	30

Determination of Plastic Limit		
Cup Number	B-10	B-11
Weight of Cup (g)	20.71	10.96
Weight of Wet Soil and Cup (g)	27.78	18.17
Weight of Dry Soil and Cup (g)	26.29	16.66
Moisure Content (%)	26.7	26.5

Compilation of Test Results



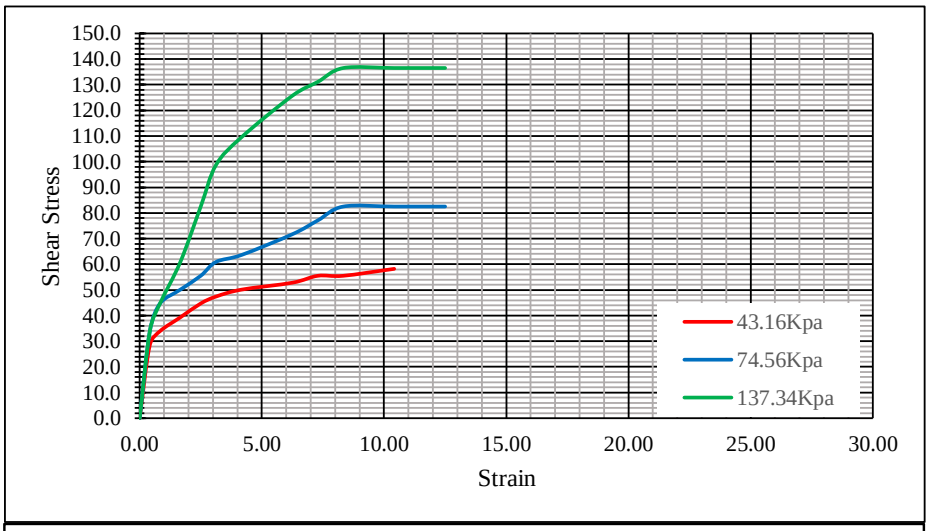
Liquid Limit	36
Plastic Limit	27
Plasticity Index	9

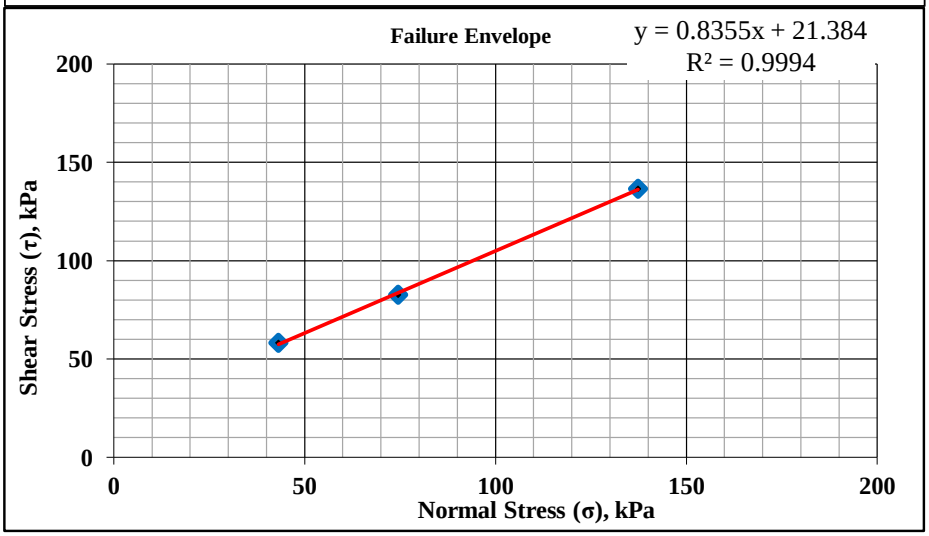
Laboratory Test Result of
Direct Shear Test

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Dariapur High School, Mujibnagar, Meherpur**				
Borehole No.:	**BH-01**	**Sample No.:**	**D-19**	**Depth:**	**28.5m**
Soil Description:	**Very Dense Fine to very Fine SAND**			**Date of Test:**	**26.11.2024**

Direct Shear Test

Specimen No.	Normal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	58.22	3.00	53.45°
2	74.56	82.52	3.00	47.9°
3	137.34	136.52	3.00	44.83°



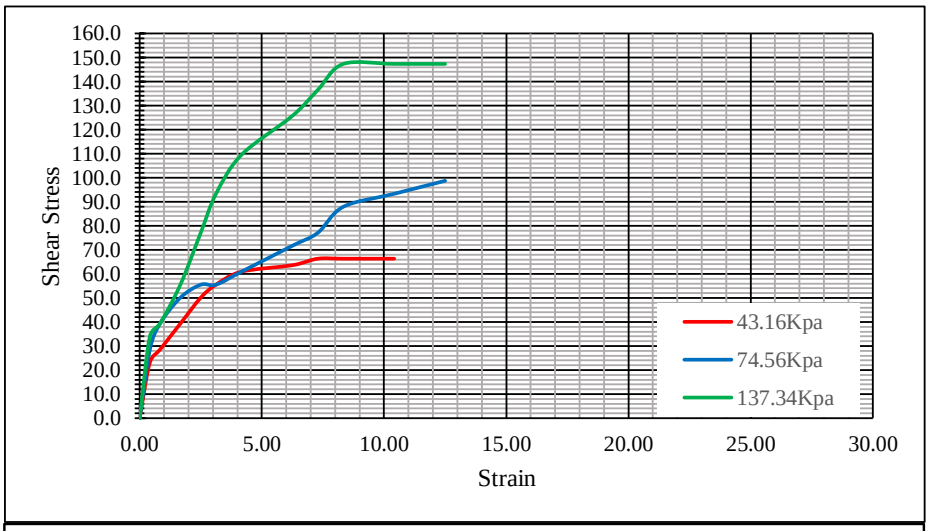


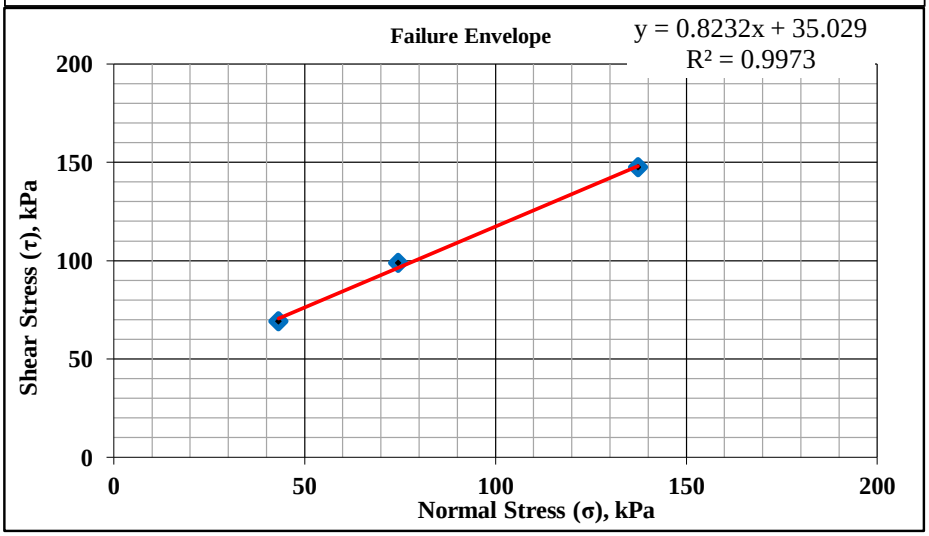
Shear Strength Parameters	
Internal Friction Angle,(φ) =	39.88°
Cohesion (c) =	21.38kPa

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Sonapur Govt. Primary School, Mujibnagar, Meherpur**				
Borehole No.:	**BH-05**	**Sample No.:**	**D-14**	**Depth:**	**21m**
Soil Description:	**Very Dense Fine to Medium SAND**			**Date of Test:**	**26.11.2024**

Direct Shear Test

Specimen No.	Nornal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	69.02	3.00	57.98°
2	74.56	98.72	3.00	52.94°
3	137.34	147.32	3.00	47.01°



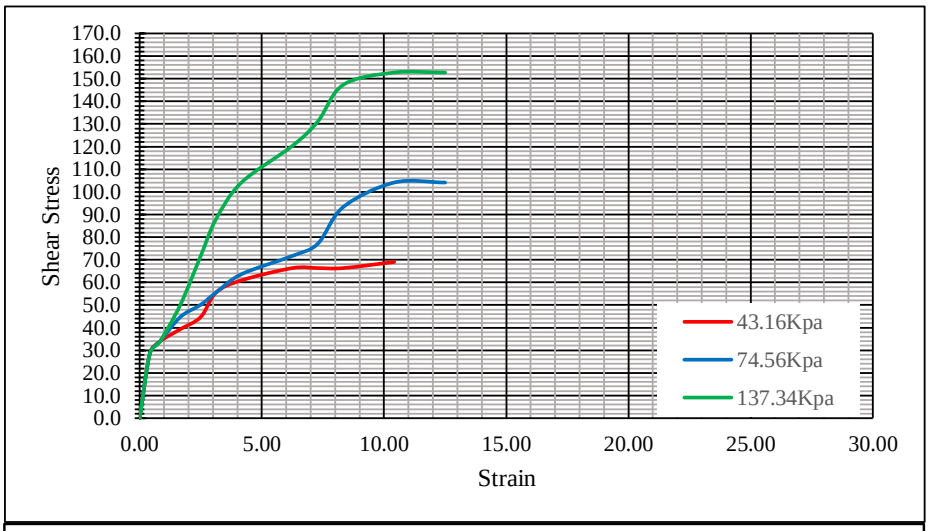


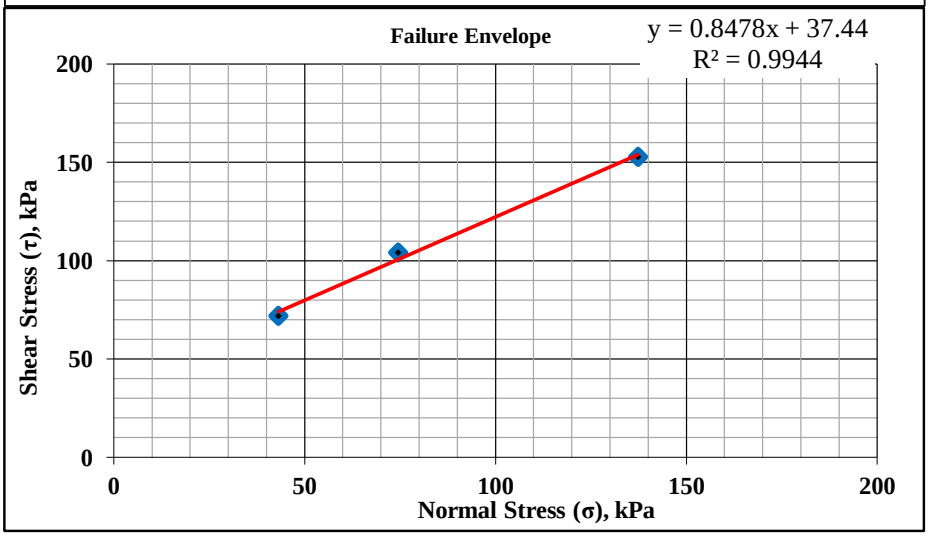
Shear Strength Parameters	
Internal Friction Angle,(φ) =	39.46°
Cohesion (c) =	35.03kPa

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Joypur Govt. Primary School, Mujibnagar, Meherpur**				
Borehole No.:	**BH-07**	**Sample No.:**	**D-17**	**Depth:**	**25.5m**
Soil Description:	**Very Dense Fine to Medium SAND**			**Date of Test:**	**26.11.2024**

Direct Shear Test

Specimen No.	Normal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	71.72	3.00	58.96°
2	74.56	104.12	3.00	54.4°
3	137.34	152.72	3.00	48.04°



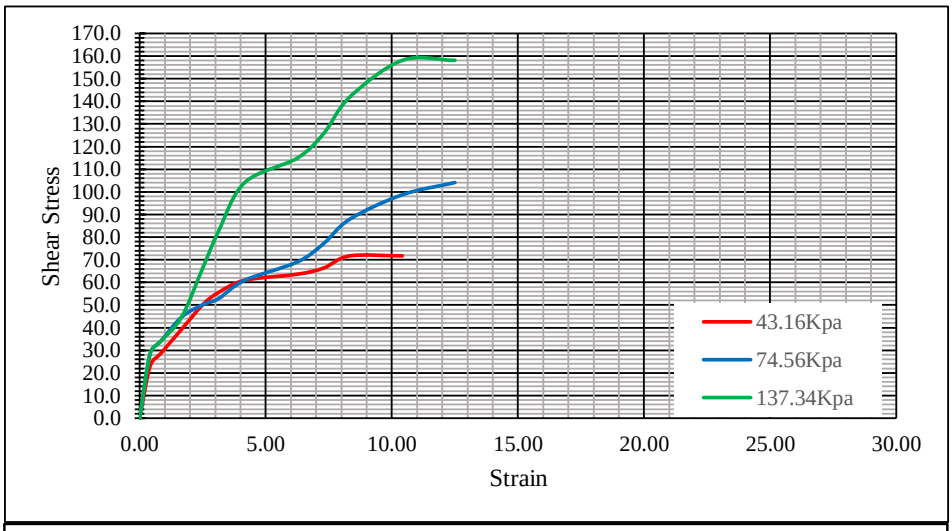


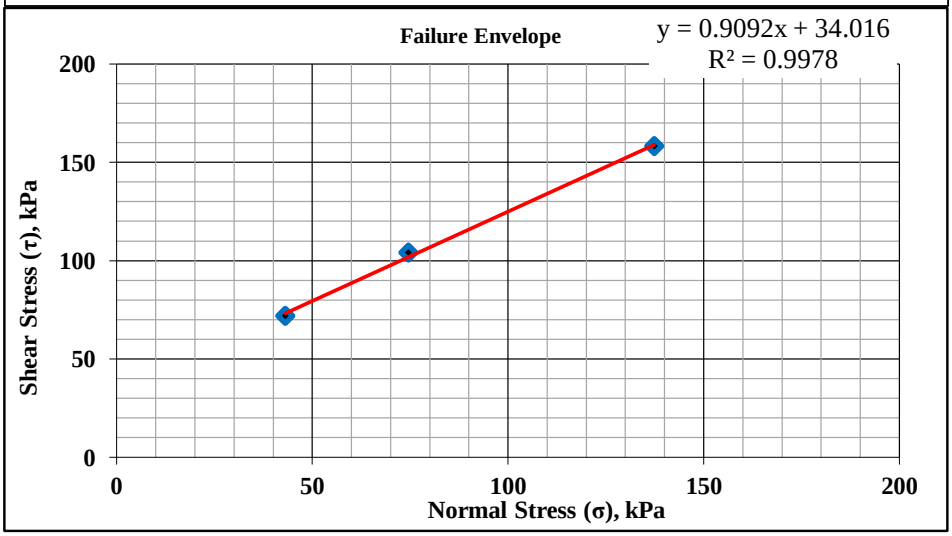
Shear Strength Parameters	
Internal Friction Angle,(φ) =	40.29°
Cohesion (c) =	37.44kPa

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Komorpur Govt .Primary School, Meherpur**				
Borehole No.:	**BH-10**	**Sample No.:**	**D-19**	**Depth:**	**28.5m**
Soil Description:	**Dense to Very Dense Very Fine to very Fine SAND**			**Date of Test:**	**26.11.2024**

Direct Shear Test

Specimen No.	Nornal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	71.72	3.00	58.96°
2	74.56	104.12	3.00	54.4°
3	137.34	158.12	3.00	49.02°



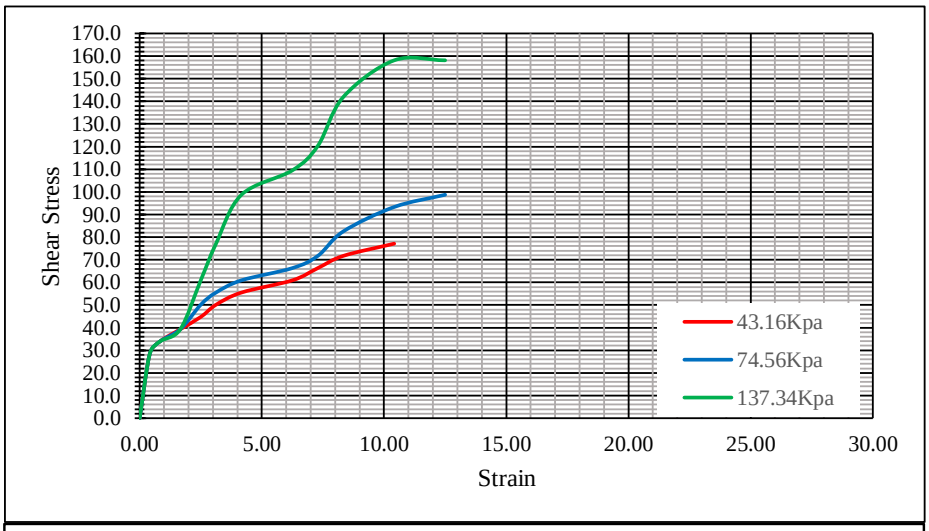


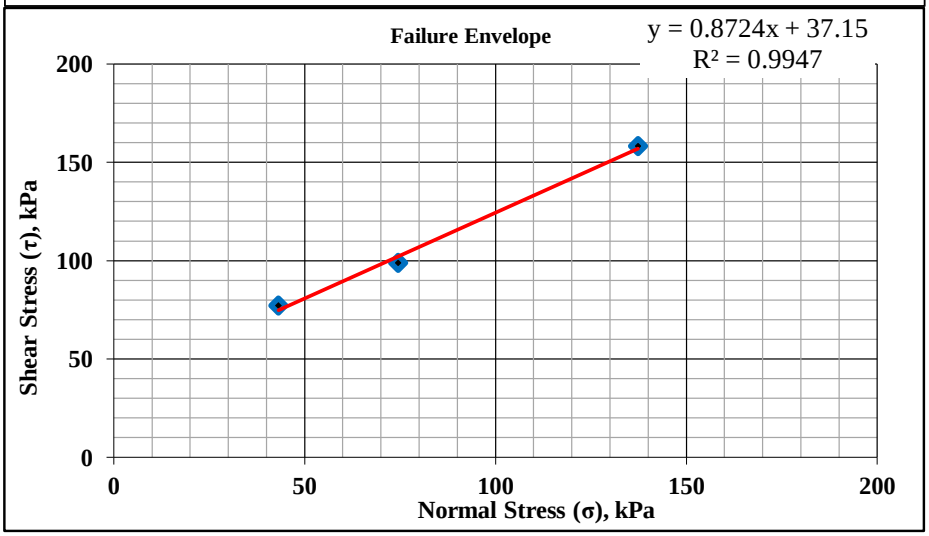
Shear Strength Parameters	
Internal Friction Angle,(φ) =	42.28°
Cohesion (c) =	34.02kPa

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Meherpur Govt. High School**				
Borehole No.:	**BH-11**	**Sample No.:**	**D-19**	**Depth:**	**28.5m**
Soil Description:	**Very Dense Very Fine to Fine SAND**			**Date of Test:**	**26.11.2024**

Direct Shear Test

Specimen No.	Normal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	77.12	3.00	60.76°
2	74.56	98.72	3.00	52.94°
3	137.34	158.12	3.00	49.02°



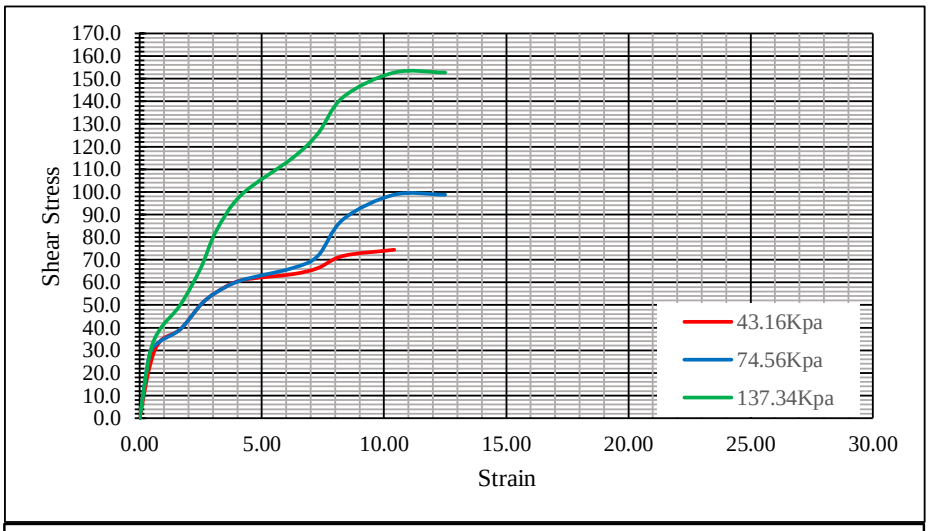


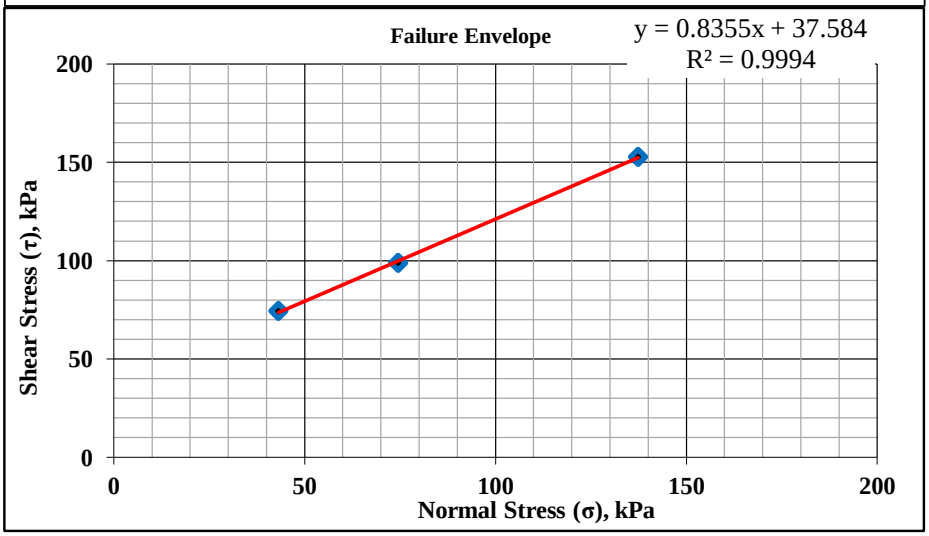
Shear Strength Parameters	
Internal Friction Angle,(φ) =	41.1°
Cohesion (c) =	37.15kPa

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Sholmary Govt. Primary School, Meherpur Sadar**				
Borehole No.:	**BH-15**	**Sample No.:**	**D-7**	**Depth:**	**10.5m**
Soil Description:	**Medium to Dense Fine to Medium SAND**			**Date of Test:**	**28.11.2024**

Direct Shear Test

Specimen No.	Normal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	74.42	3.00	59.89°
2	74.56	98.72	3.00	52.94°
3	137.34	152.72	3.00	48.04°



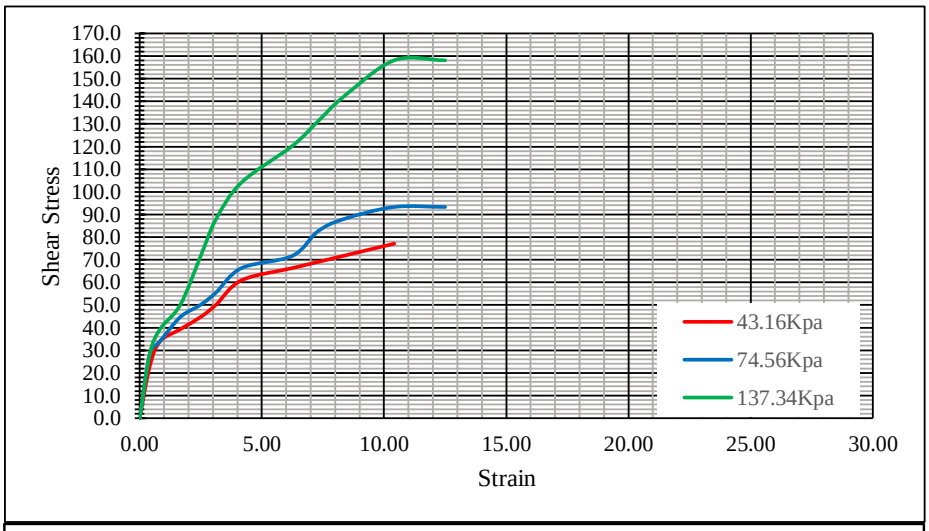


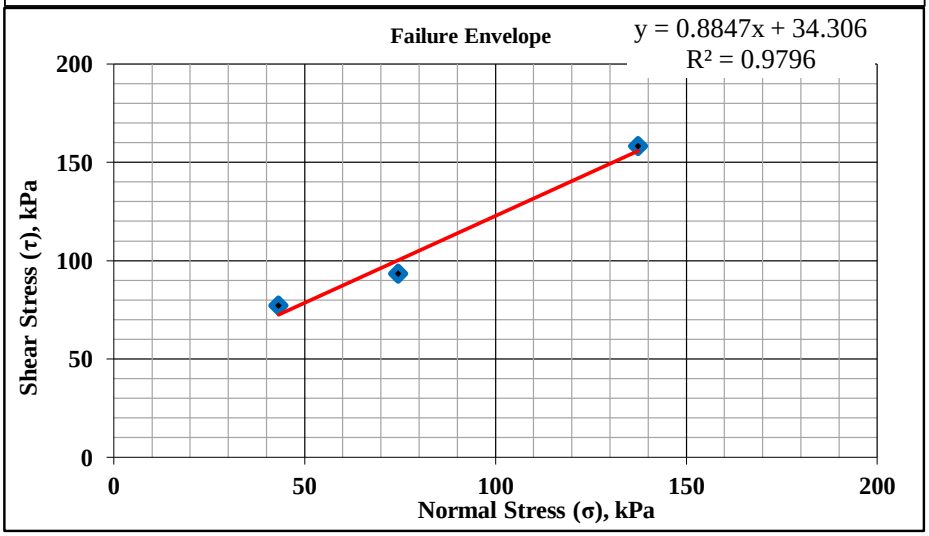
Shear Strength Parameters	
Internal Friction Angle,(φ) =	39.88°
Cohesion (c) =	37.58kPa

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Kaligangni Govt. Primary School, Meherpur Sadar**				
Borehole No.:	**BH-16**	**Sample No.:**	**D-10**	**Depth:**	**15m**
Soil Description:	**Dense to Very Dense Fine to Medium SAND**			**Date of Test:**	**28.11.2024**

Direct Shear Test

Specimen No.	Normal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	77.12	3.00	60.76°
2	74.56	93.32	3.00	51.38°
3	137.34	158.12	3.00	49.02°



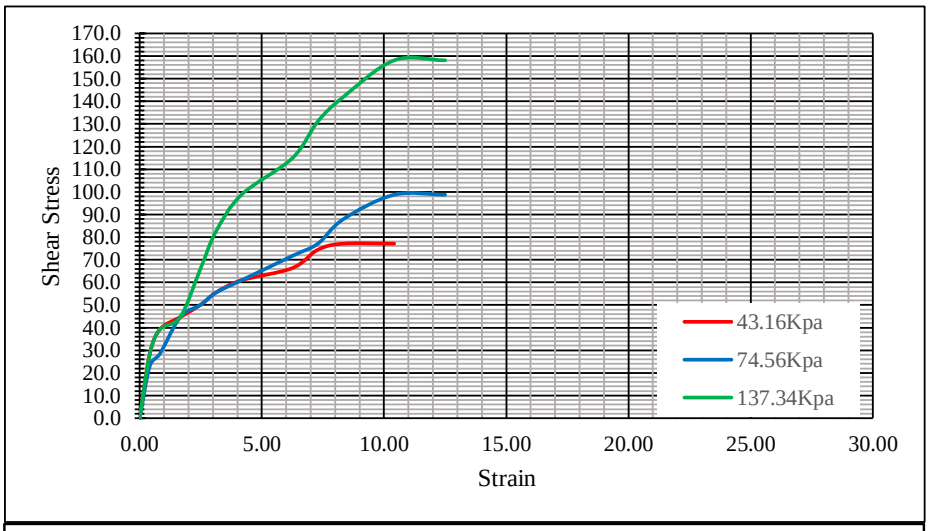


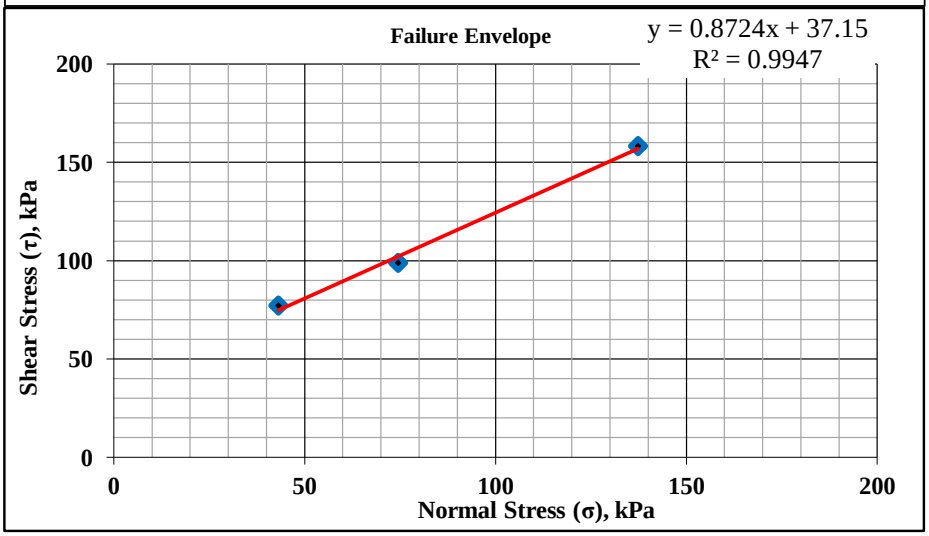
Shear Strength Parameters	
Internal Friction Angle,(φ) =	41.5°
Cohesion (c) =	34.31kPa

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Ramnagar Govt. Primary School, Meherpur Sadar**				
Borehole No.:	**BH-17**	**Sample No.:**	**D-18**	**Depth:**	**27m**
Soil Description:	**Very Dense Medium to Coarse SAND**			**Date of Test:**	**28.11.2024**

Direct Shear Test

Specimen No.	Normal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	77.12	3.00	60.76°
2	74.56	98.72	3.00	52.94°
3	137.34	158.12	3.00	49.02°





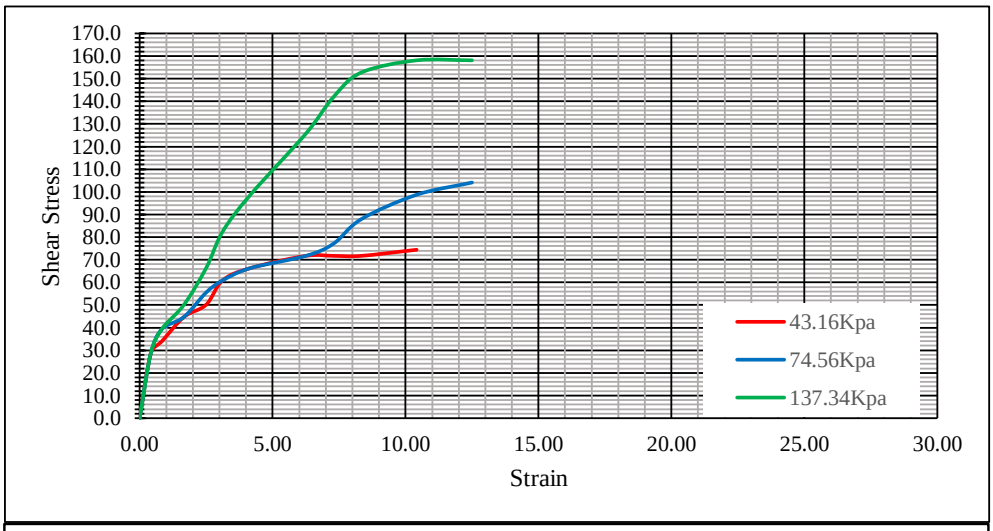
Shear Strength Parameters

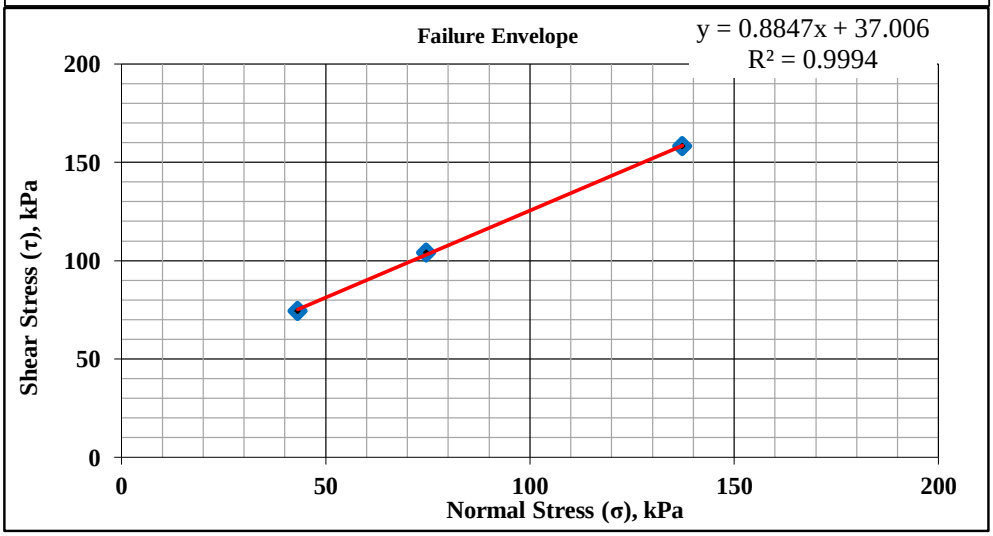
Internal Friction Angle,(φ) =	41.1°
Cohesion (c) =	37.15kPa

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Amdah Primary School, Meherpur**				
Borehole No.:	**BH-18**	**Sample No.:**	**D-4**	**Depth:**	**6m**
Soil Description:	**Medium Dense to very Dense Fine to Very Fine SAND**			**Date of Test:**	**28.11.2024**

Direct Shear Test

Specimen No.	Normal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	74.42	3.00	59.89°
2	74.56	104.12	3.00	54.4°
3	137.34	158.12	3.00	49.02°



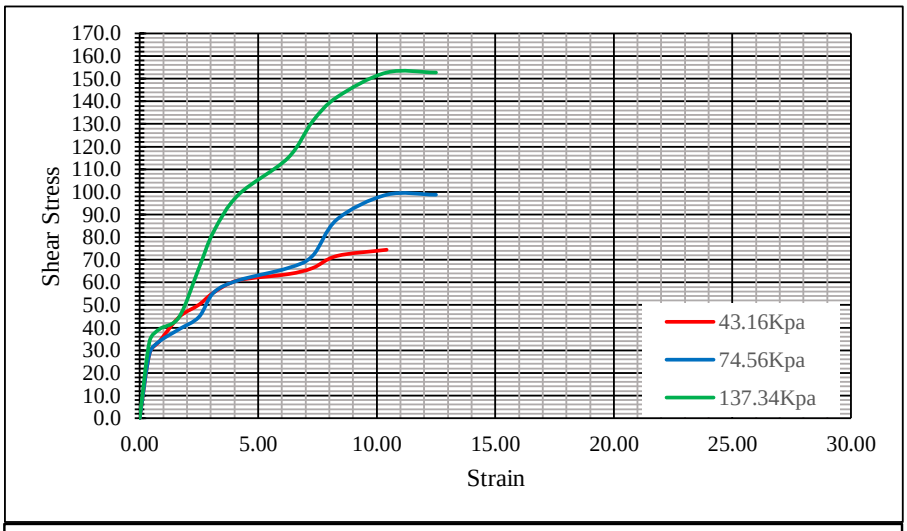


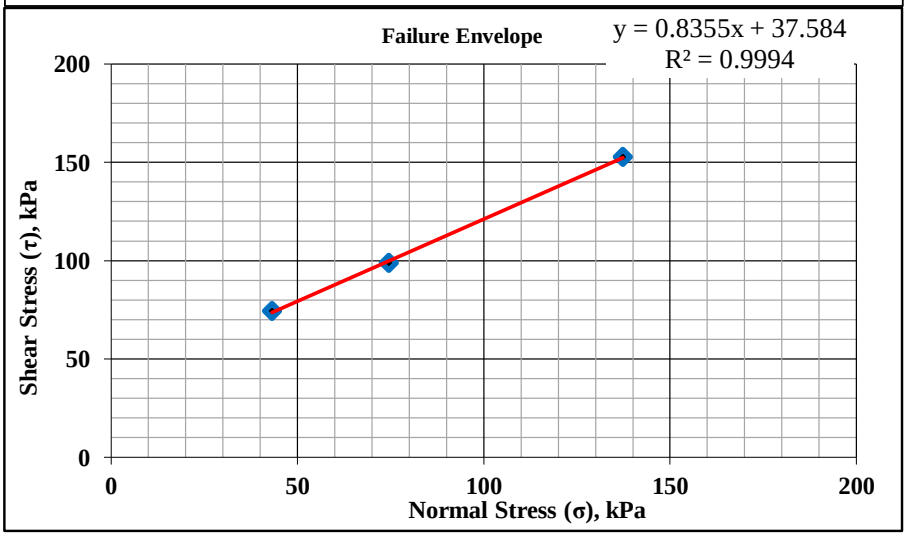
Shear Strength Parameters	
Internal Friction Angle,(φ) =	41.5°
Cohesion (c) =	37.01kPa

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Ashrafpur Govt. Primary School, Meherpur Sadar**				
Borehole No.:	**BH-19**	**Sample No.:**	**D-11**	**Depth:**	**16.5m**
Soil Description:	**Dense to Very Dense Very Fine SAND**			**Date of Test:**	**28.11.2024**

Direct Shear Test

Specimen No.	Normal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	74.42	3.00	59.89°
2	74.56	98.72	3.00	52.94°
3	137.34	152.72	3.00	48.04°



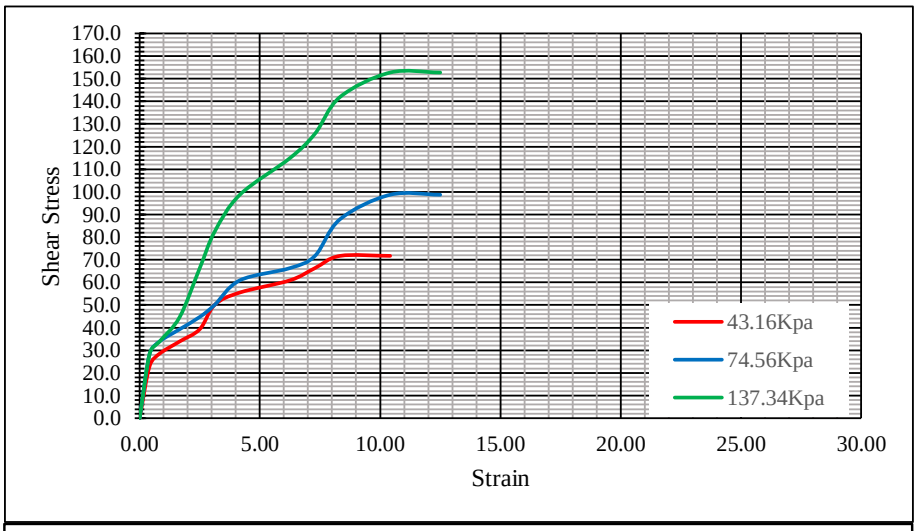


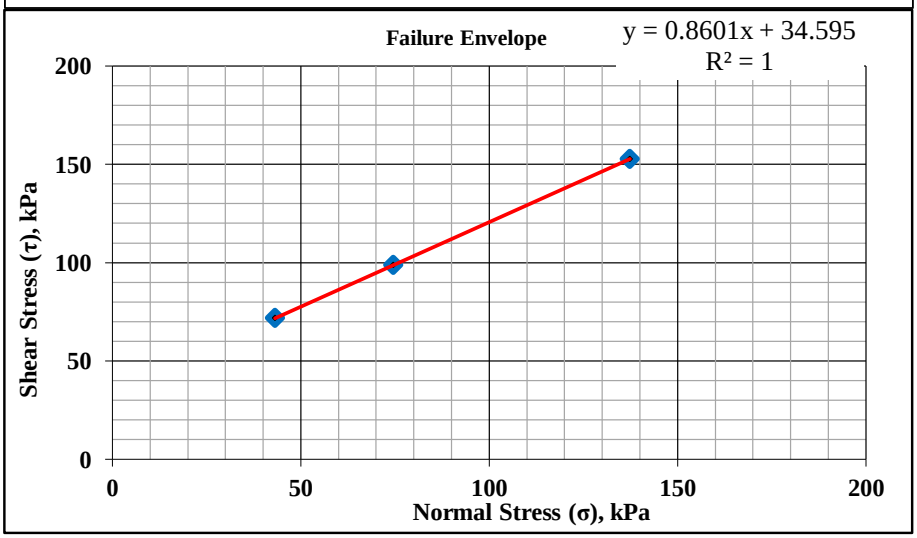
Shear Strength Parameters	
Internal Friction Angle,(φ) =	39.88°
Cohesion (c) =	37.58kPa

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Khoksha Govt. Primary School, Meherpur**				
Borehole No.:	**BH-22**	**Sample No.:**	**D-19**	**Depth:**	**28.5m**
Soil Description:	**Dense to Very Dense Coarse to Medium SAND**			**Date of Test:**	**28.11.2024**

Direct Shear Test

Specimen No.	Normal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	71.72	3.00	58.96°
2	74.56	98.72	3.00	52.94°
3	137.34	152.72	3.00	48.04°



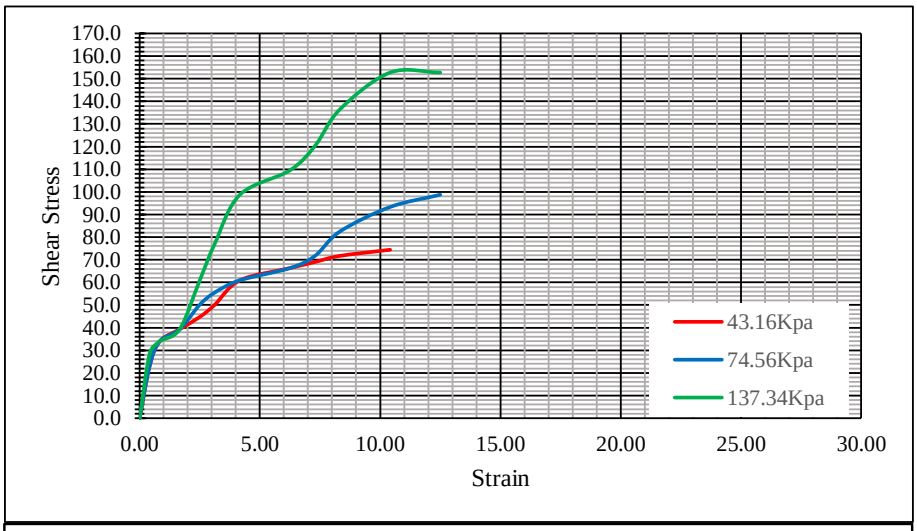


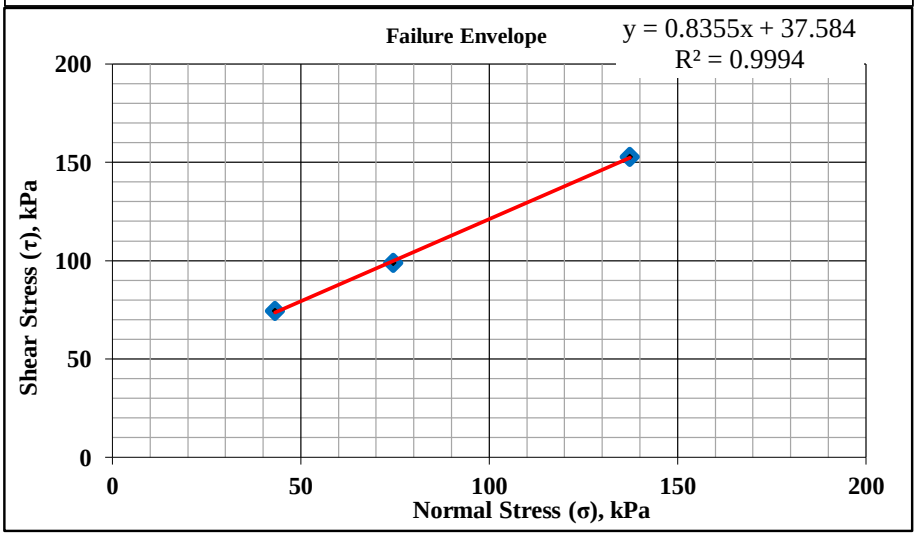
Shear Strength Parameters	
Internal Friction Angle,(φ) =	40.7°
Cohesion (c) =	34.6kPa

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Road Site of Roghunathpur Area, Roghunathpur, Maherpur Sadar**				
Borehole No.:	**BH-24**	**Sample No.:**	**D-10**	**Depth:**	**15m**
Soil Description:	**Medium Dense to Dense Very Fine to Fine SAND**			**Date of Test:**	**28.11.2024**

Direct Shear Test

Specimen No.	Normal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	74.42	3.00	59.89°
2	74.56	98.72	3.00	52.94°
3	137.34	152.72	3.00	48.04°



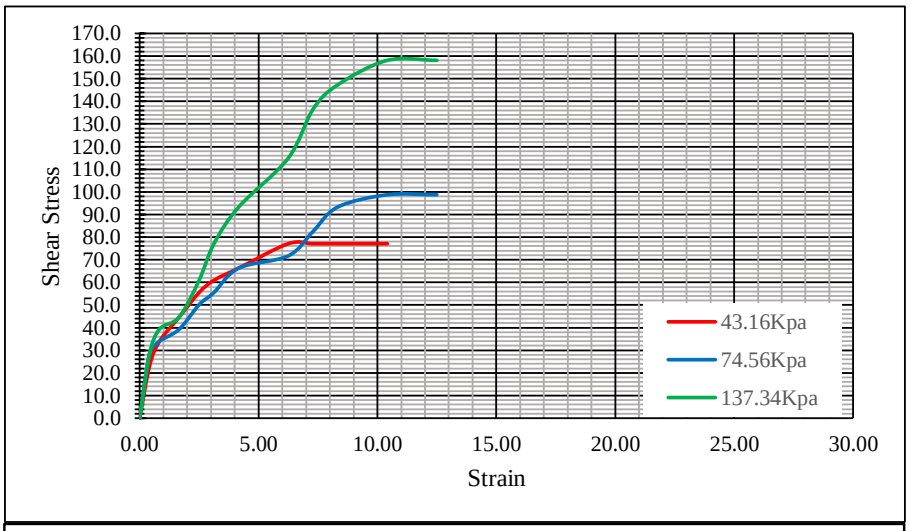


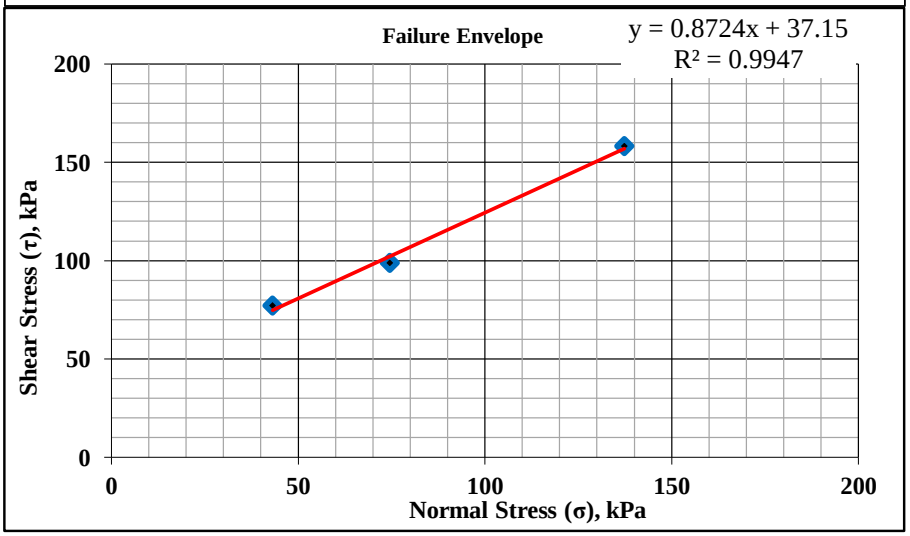
Shear Strength Parameters	
Internal Friction Angle,(φ) =	39.88°
Cohesion (c) =	37.58kPa

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Kathalpota Govt. Primary School, Meherpur Sadar**				
Borehole No.:	**BH-25**	**Sample No.:**	**D-19**	**Depth:**	**28.5m**
Soil Description:	**Dense to very Dense Medium to Fine SAND**			**Date of Test:**	**28.11.2024**

Direct Shear Test

Specimen No.	Normal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	77.12	3.00	60.76°
2	74.56	98.72	3.00	52.94°
3	137.34	158.12	3.00	49.02°



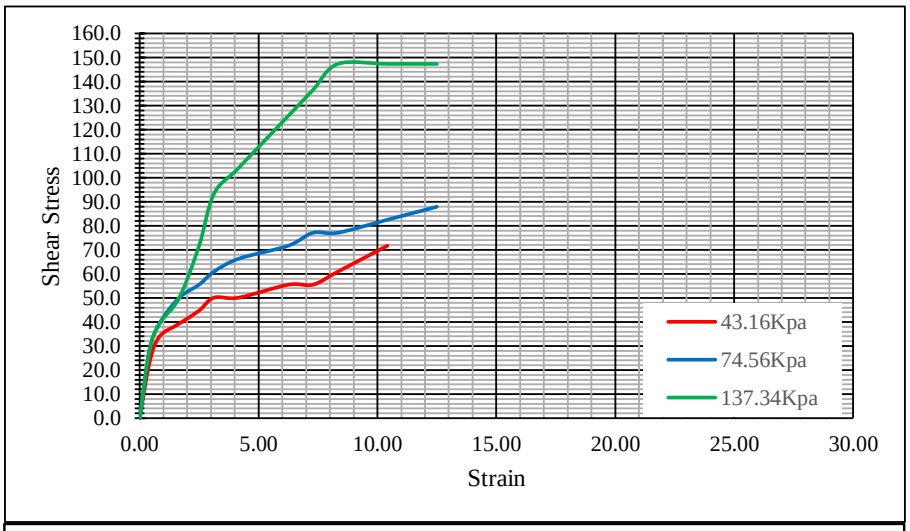


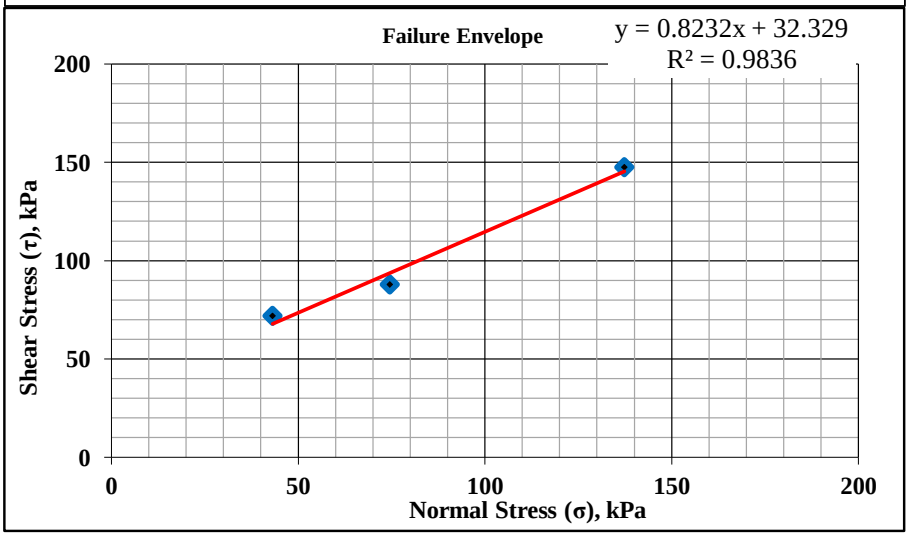
Shear Strength Parameters	
Internal Friction Angle,(φ) =	41.1°
Cohesion (c) =	37.15kPa

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Patkelpota Govt. Primary School, Meherpur**				
Borehole No.:	**BH-28**	**Sample No.:**	**D-13**	**Depth:**	**19.5m**
Soil Description:	**Dense Fine to Medium SAND**			**Date of Test:**	**04.12.2024**

Direct Shear Test

Specimen No.	Normal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	71.72	3.00	58.96°
2	74.56	87.92	3.00	49.7°
3	137.34	147.32	3.00	47.01°



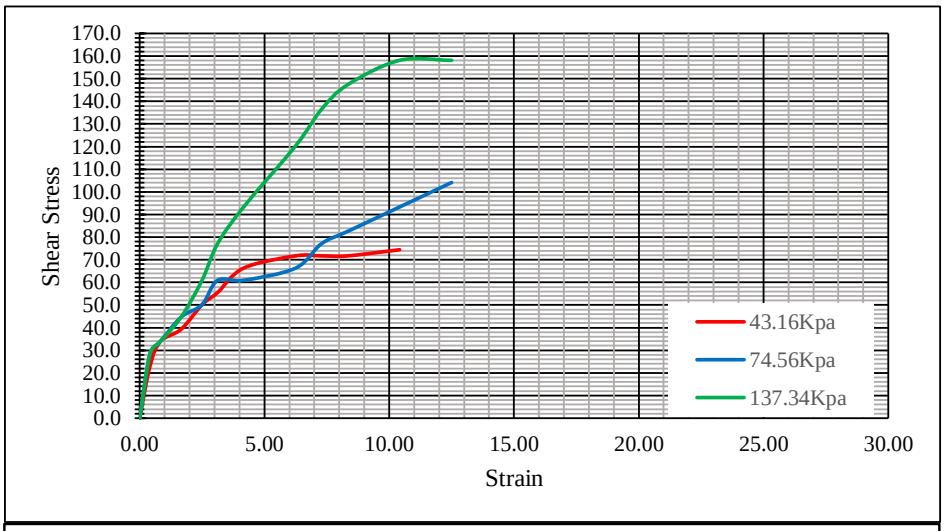


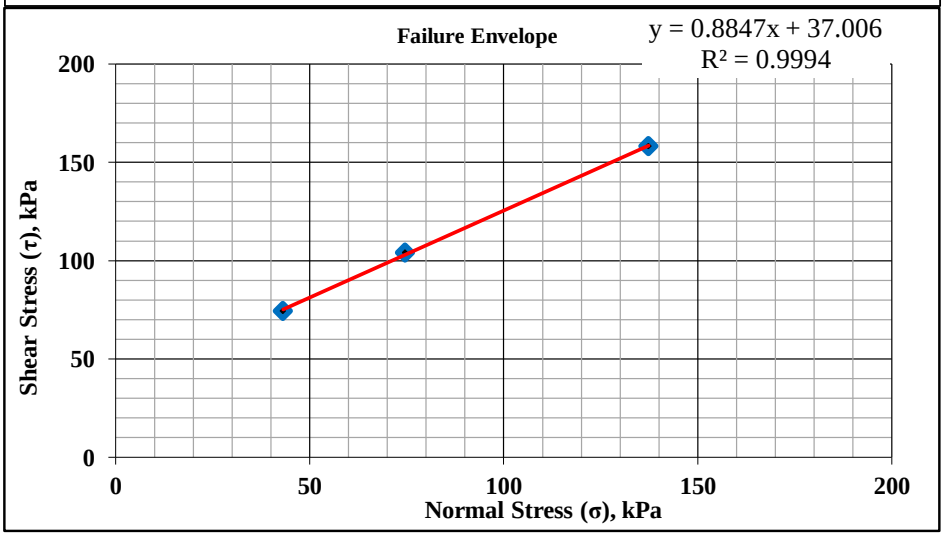
Shear Strength Parameters	
Internal Friction Angle,(φ) =	39.46°
Cohesion (c) =	32.33kPa

Client:	**Urban Development Directorate (UDD)**				
Project:	**Preparation of Development Plan for Meherpur Zilla**				
Location:	**Bhatpara Govt. Primary School, Gangni**				
Borehole No.:	**BH-30**	**Sample No.:**	**D-16**	**Depth:**	**24m**
Soil Description:	**Medium Dense To Dense Very Fine to Fine SAND**			**Date of Test:**	**04.12.2024**

Direct Shear Test

Specimen No.	Normal Stress (σ_n), kPa	Shear Stress (max) (τ), kPa	Displacement (mm)	$\varphi = \tan^{-1}(\tau/\sigma)$ (peak)
1	43.16	74.42	3.00	59.89°
2	74.56	104.12	3.00	54.4°
3	137.34	158.12	3.00	49.02°





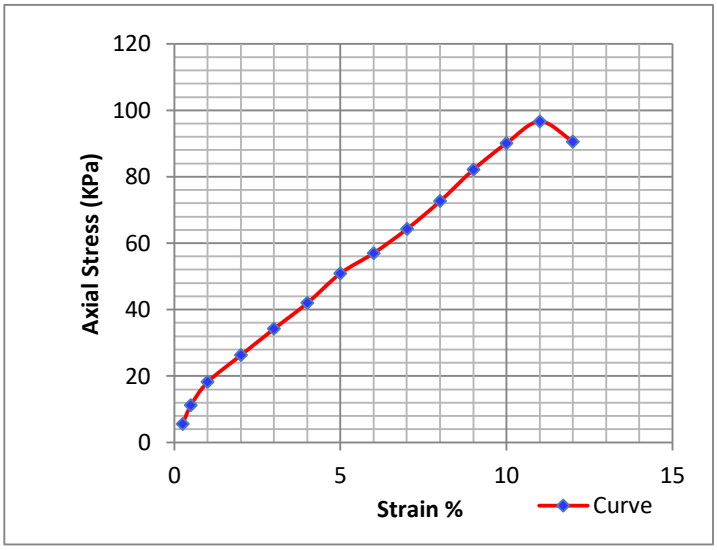
Shear Strength Parameters

Internal Friction Angle,(φ) =	41.5°
Cohesion (c) =	37.01kPa

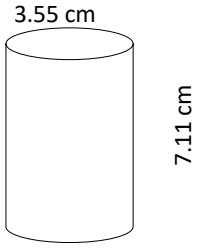
Laboratory Test Result of
Unconfined Compression Strength

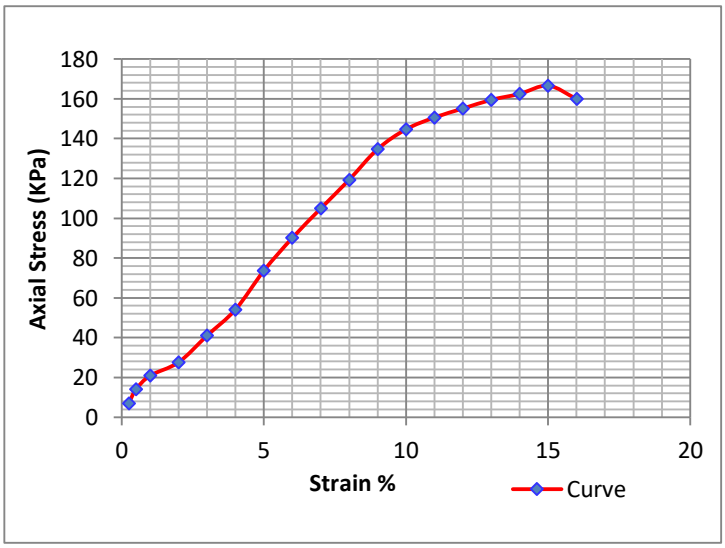
Project :Preparation of Development Plan for Meherpur Zilla Location: Near Dariapur BDR Camp, Mujibnagar &Vobanipur Govt. Primary School, Mujibnagar

UNCONFINED COMPRESSION STRENGTH TEST

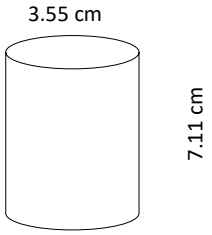


Bore hole No.	BH-02
Sample No.	UD-2
Depth (m)	3.96 to 4.41m
Description of soil	Silty CLAY
qu (Kpa)	96.63
% Strain	11.0
γ_{wet} (gm/cc)	1.96
γ_{Dry} (gm/cc)	1.53
% Moisture	28.26
Cohesion (Kpa)	48.31



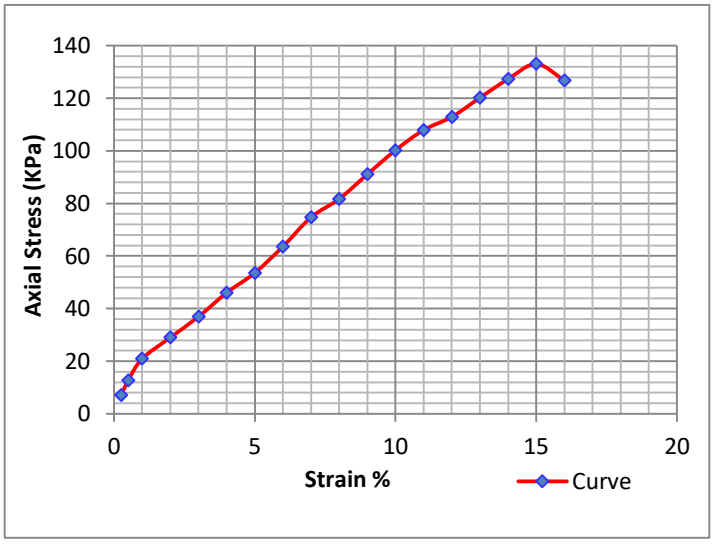


Bore hole No.	BH-04
Sample No.	UD-2
Depth (m)	3.96 to 4.41m
Description of soil	Silty CLAY
qu (Kpa)	166.59
% Strain	15.0
γ_{wet} (gm/cc)	1.85
γ_{Dry} (gm/cc)	1.38
% Moisture	33.71
Cohesion (Kpa)	83.29

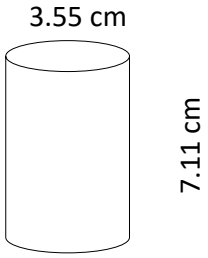


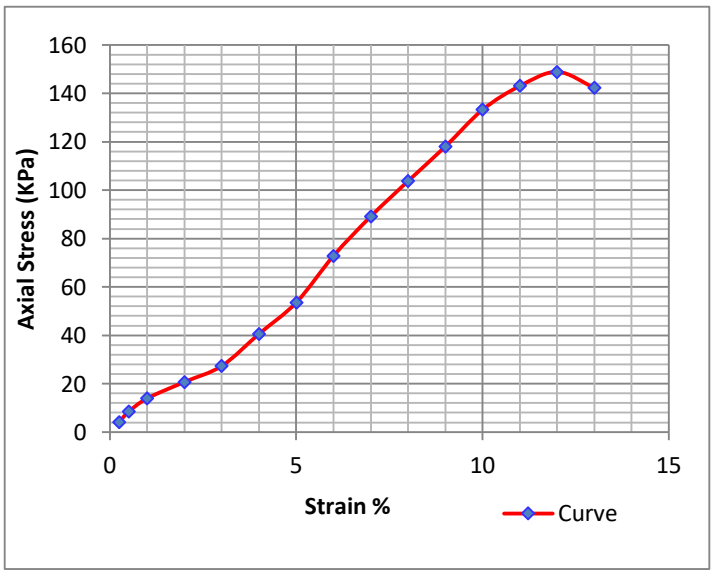
Project :Preparation of Development Plan for Meherpur Zilla Location: Anandabas Markajul Ulum Madrasa, Mujibnagar & Mohajonpur Uttarpara Govt. Primary School, Mujibnagar

UNCONFINED COMPRESSION STRENGTH TEST

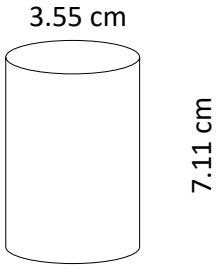


Bore hole No.	BH-06
Sample No.	UD-2
Depth (m)	3.96 to 4.41m
Description of soil	Silty CLAY
qu (Kpa)	133.03
% Strain	15.0
γ_{wet} (gm/cc)	1.96
γ_{Dry} (gm/cc)	1.51
% Moisture	29.76
Cohesion (Kpa)	66.51



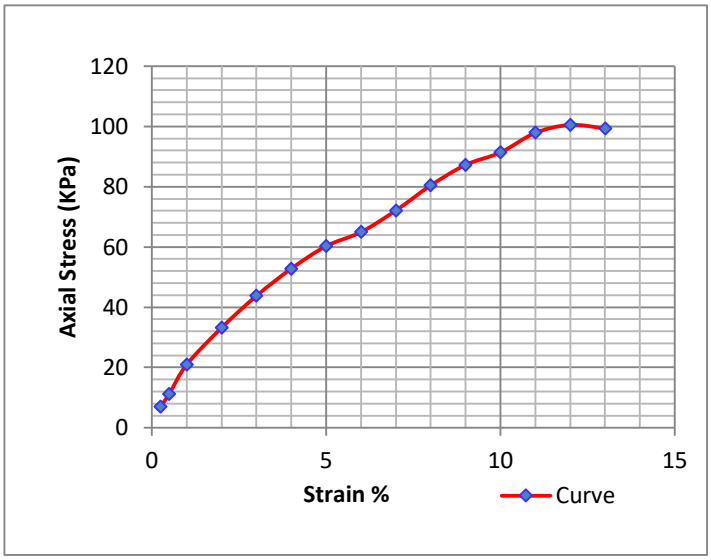


Bore hole No.	BH-09
Sample No.	UD-2
Depth (m)	3.96 to 4.41m
Description of soil	Silty CLAY
qu (Kpa)	148.89
% Strain	12.0
γ_{wet} (gm/cc)	1.93
γ_{Dry} (gm/cc)	1.45
% Moisture	32.78
Cohesion (Kpa)	74.45

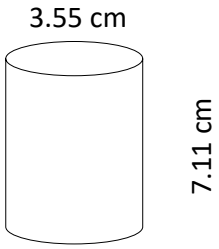


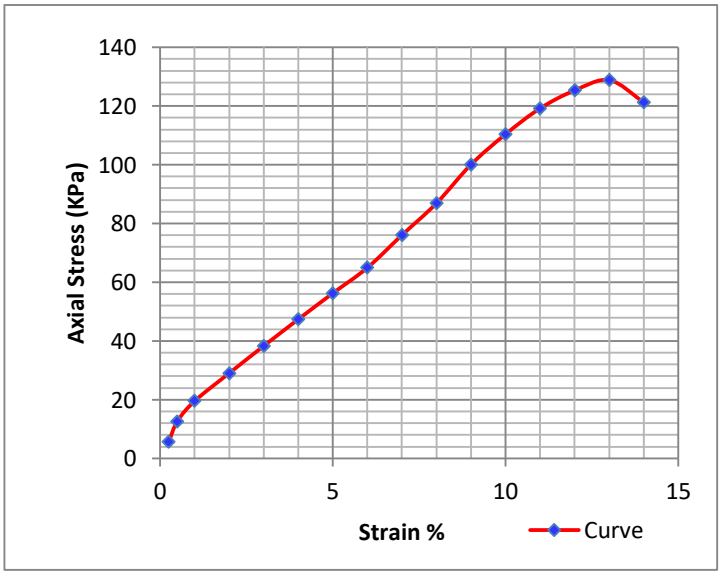
Project :Preparation of Development Plan for Meherpur Zilla Location:
Meherpur Govt. High School, Meherpur & Shalika High School, Meherpur

UNCONFINED COMPRESSION STRENGTH TEST

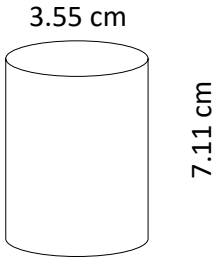


Bore hole No.	BH-11
Sample No.	UD-2
Depth (m)	3.96 to 4.41m
Description of soil	Silty CLAY
qu (Kpa)	100.50
% Strain	12.0
γ_{wet} (gm/cc)	1.91
γ_{Dry} (gm/cc)	1.46
% Moisture	31.17
Cohesion (Kpa)	50.25





Bore hole No.	BH-12
Sample No.	UD-1
Depth (m)	2.10 to 2.55
Description of soil	Silty CLAY
qu (Kpa)	128.80
% Strain	13.0
γ_{wet} (gm/cc)	1.90
γ_{Dry} (gm/cc)	1.45
% Moisture	30.94
Cohesion (Kpa)	64.40

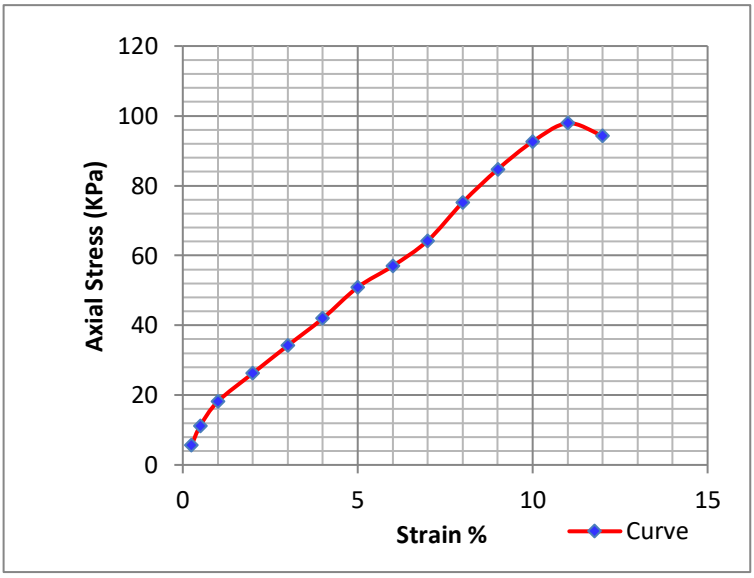


Project :Preparation of Development Plan for Meherpur Zilla

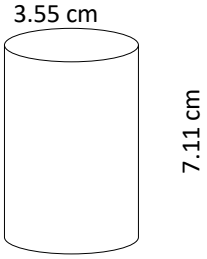
Location: Kaligangni

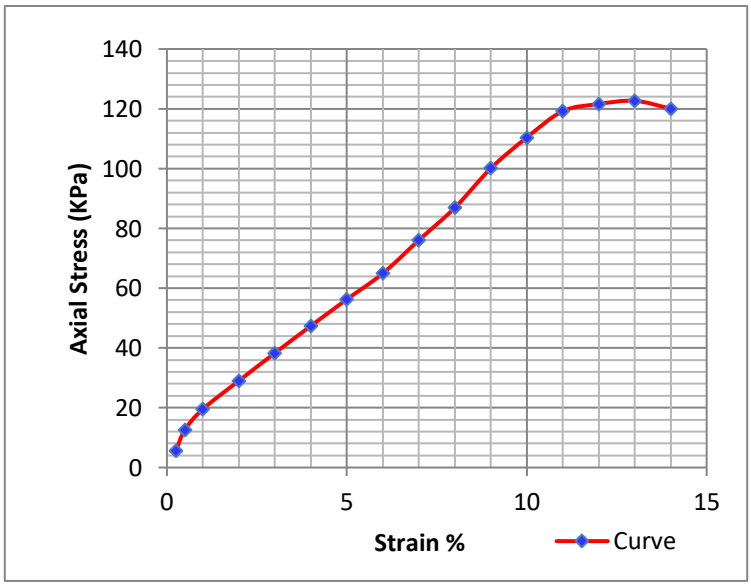
Govt Primary School, Meherpur & Amdah Primary School, Meherpur

UNCONFINED COMPRESSION STRENGTH TEST

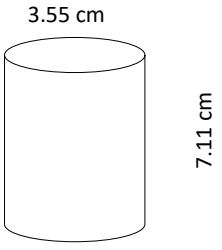


Bore hole No.	BH-16
Sample No.	UD-2
Depth (m)	3.96 to 4.41m
Description of soil	Silty CLAY
qu (Kpa)	97.88
% Strain	11.0
γ_{wet} (gm/cc)	1.96
γ_{Dry} (gm/cc)	1.53
% Moisture	28.26
Cohesion (Kpa)	48.94





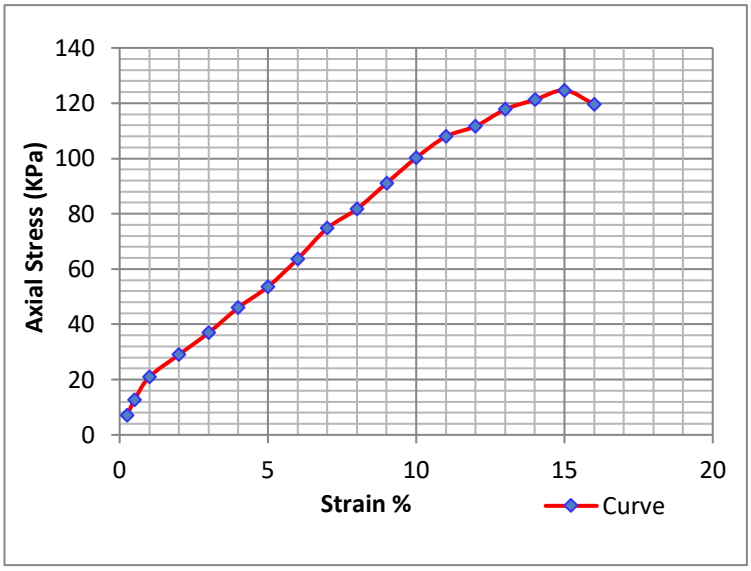
Bore hole No.	BH-18
Sample No.	UD-2
Depth (m)	3.96 to 4.41m
Description of soil	Clayey SILT
qu (Kpa)	122.67
% Strain	13.0
γ_{wet} (gm/cc)	1.90
γ_{Dry} (gm/cc)	1.45
% Moisture	30.94
Cohesion (Kpa)	61.33



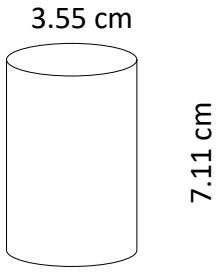
Project :Preparation of Development Plan for Meherpur Zilla Location: Ashrafpur

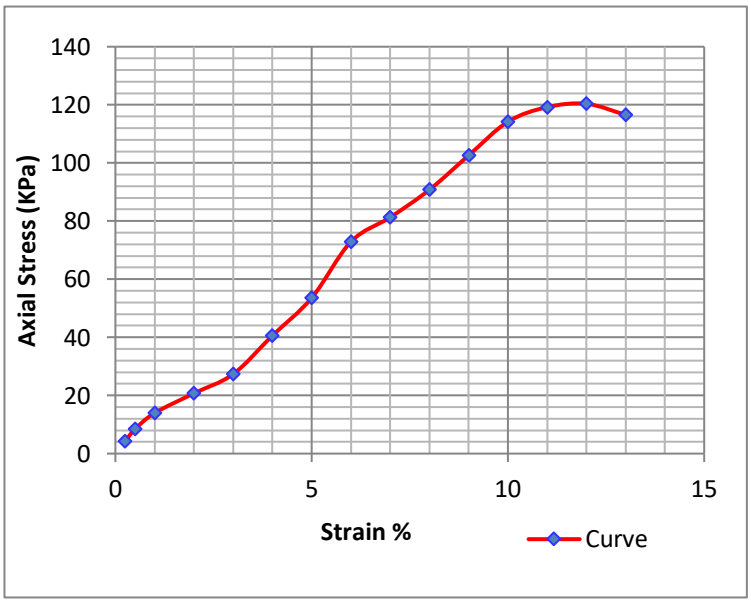
Govt Primary School, Meherpur & Road site of Roghunathpur Area, Meherpur

UNCONFINED COMPRESSION STRENGTH TEST

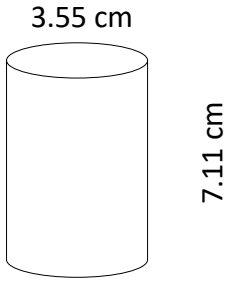


Bore hole No.	BH-19
Sample No.	UD-1
Depth (m)	2.1 to 2.55m
Description of soil	Clayey SILT
qu (Kpa)	124.64
% Strain	15.0
γ_{wet} (gm/cc)	1.96
γ_{Dry} (gm/cc)	1.51
% Moisture	29.76
Cohesion (Kpa)	62.32





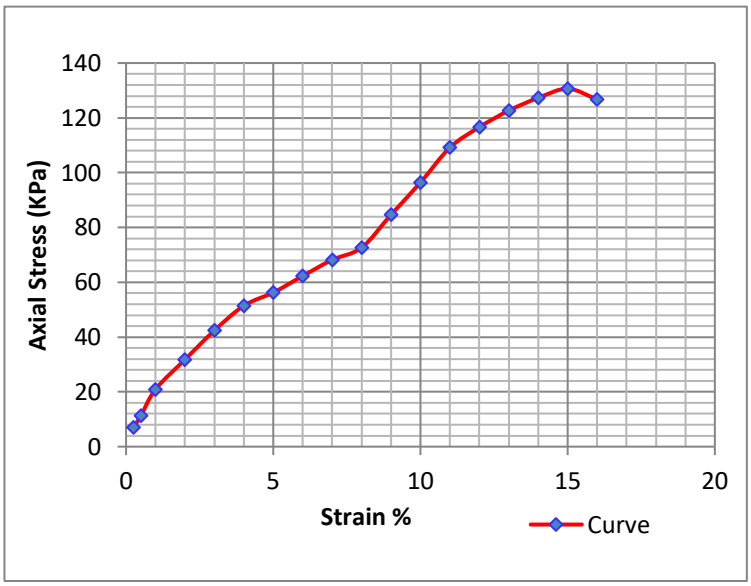
Bore hole No.	BH-24
Sample No.	UD-2
Depth (m)	3.96 to 4.41m
Description of soil	Clayey SILT
qu (Kpa)	120.35
% Strain	12.0
γ_{wet} (gm/cc)	1.93
γ_{Dry} (gm/cc)	1.45
% Moisture	32.78
Cohesion (Kpa)	60.18



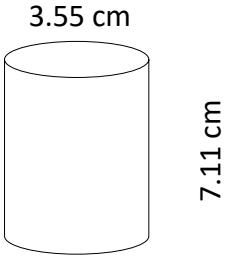
Project :Preparation of Development Plan for Meherpur Zilla | Location: Kathalpota

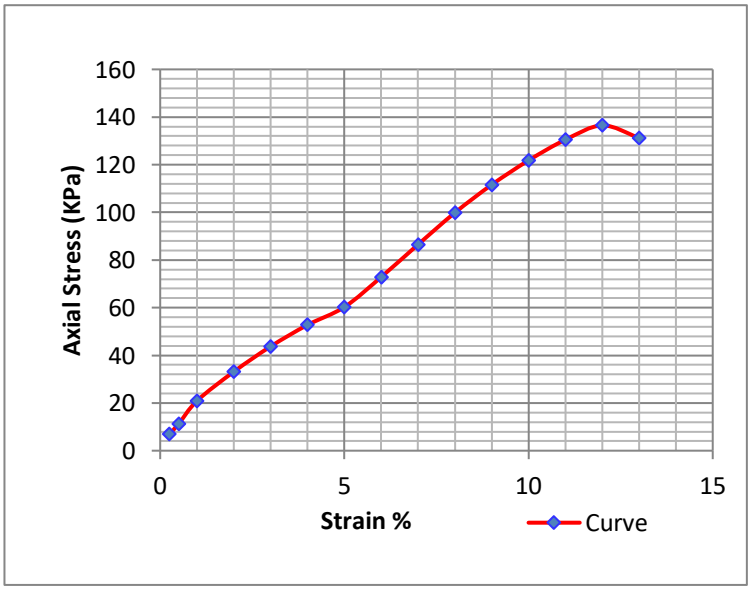
Govt Primary School, Meherpur & Near Durlovpur Mosjid, Gangni, Meherpur

UNCONFINED COMPRESSION STRENGTH TEST

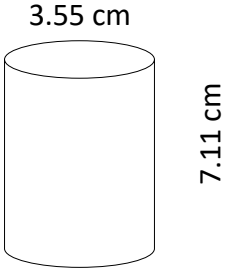


Bore hole No.	BH-25
Sample No.	UD-1
Depth (m)	2.1 to 2.55m
Description of soil	Clayey SILT
qu (Kpa)	130.63
% Strain	15.0
γ_{wet} (gm/cc)	1.85
γ_{Dry} (gm/cc)	1.38
% Moisture	33.71
Cohesion (Kpa)	65.32





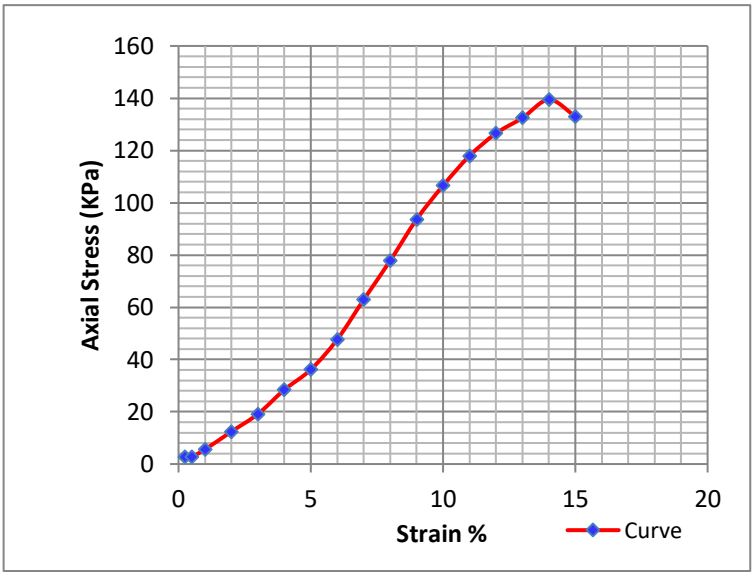
Bore hole No.	BH-28
Sample No.	UD-1
Depth (m)	2.1 to 2.55m
Description of soil	Clayey SILT
qu (Kpa)	136.48
% Strain	12.0
γ_{wet} (gm/cc)	1.91
γ_{Dry} (gm/cc)	1.46
% Moisture	31.17
Cohesion (Kpa)	68.24



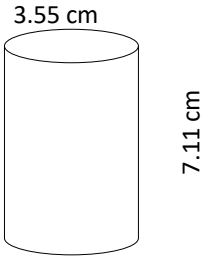
Project :Preparation of Development Plan for Meherpur Zilla

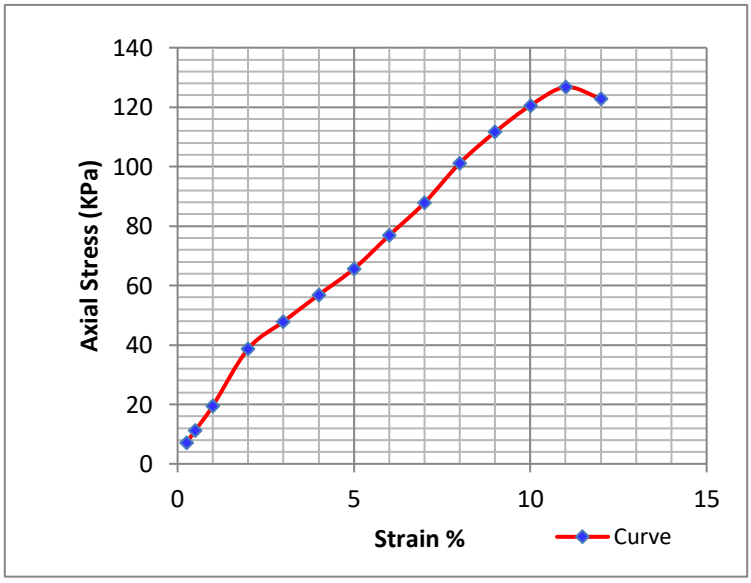
Location: Near Durlovpur Mosjid, Gangni, Meherpur &Garadob Govt. Primary School, Gangni, Meherpur

UNCONFINED COMPRESSION STRENGTH TEST

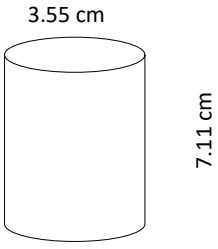


Bore hole No.	BH-28
Sample No.	UD-2
Depth (m)	3.96 to 4.41m
Description of soil	Clayey SILT
qu (Kpa)	139.44
% Strain	14.0
γ_{wet} (gm/cc)	2.08
γ_{Dry} (gm/cc)	1.58
% Moisture	31.26
Cohesion (Kpa)	69.72





Bore hole No.	BH-29
Sample No.	UD-1
Depth (m)	2.1 to 2.55m
Description of soil	Silty CLAY/SILT
qu (Kpa)	120.55
% Strain	10.0
γ_{wet} (gm/cc)	1.67
γ_{Dry} (gm/cc)	1.22
% Moisture	37.44
Cohesion (Kpa)	60.28

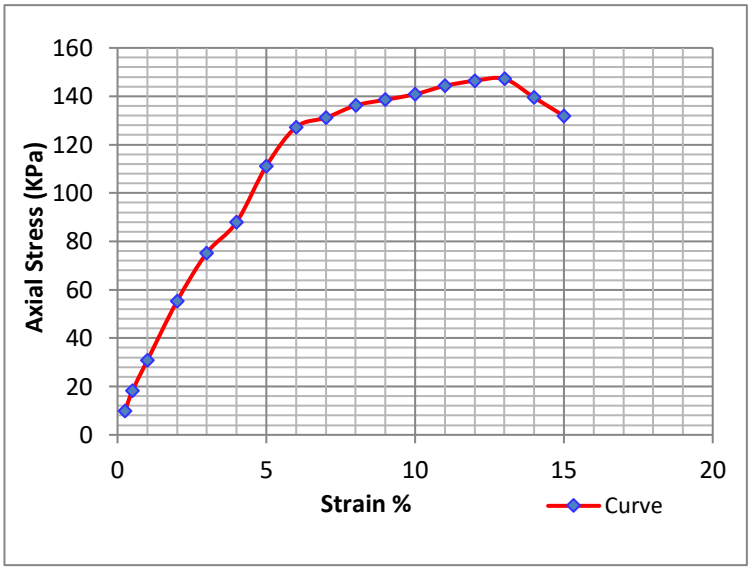


Project :Preparation of Development Plan for Meherpur Zilla

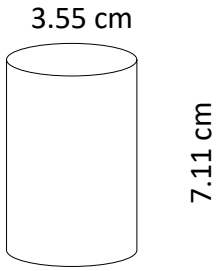
Location: Bhatpara

Govt. Primary School, Gangni, Meherpur

UNCONFINED COMPRESSION STRENGTH TEST



Bore hole No.	BH-30
Sample No.	UD-1
Depth (m)	2.1 to 2.55m
Description of soil	Silty CLAY/SILT
qu (Kpa)	147.20
% Strain	13.0
γ_{wet} (gm/cc)	1.99
γ_{Dry} (gm/cc)	1.55
% Moisture	28.05
Cohesion (Kpa)	73.60



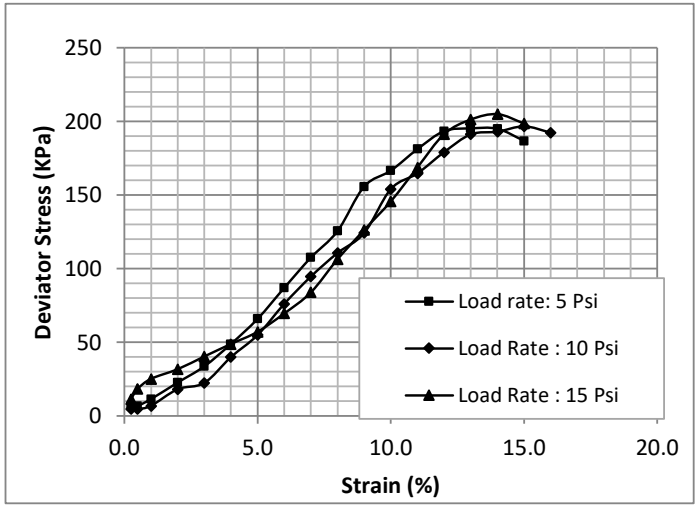
Laboratory Test Result of
Triaxial Test (Unconsolidated- Undrained)

Project :Preparation of Development Plan for Meherpur Zilla
Location: Dariapur High School, Mujibnagar, Meherpur

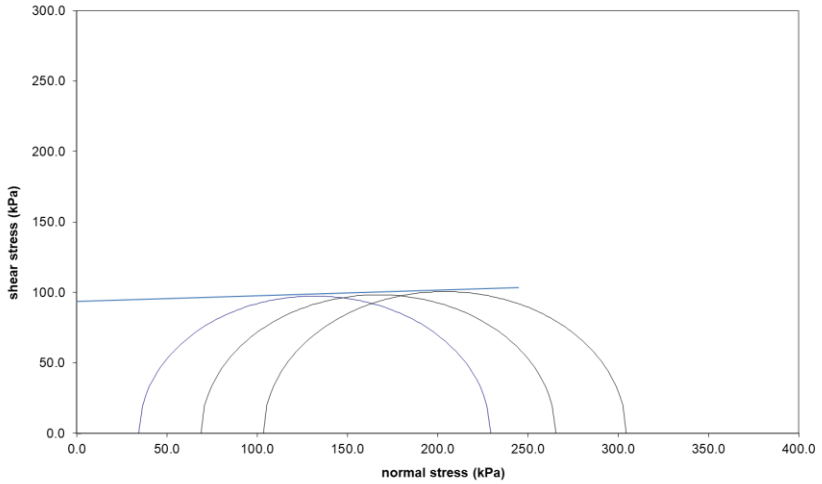
Triaxial Compression Test

(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



MOHRS STRESS DIAGRAM



Symbol	Moisture Content (%)	Dry density (g/cc)
■	31.00	1.52
◆	30.97	1.49
▲	32.57	1.53

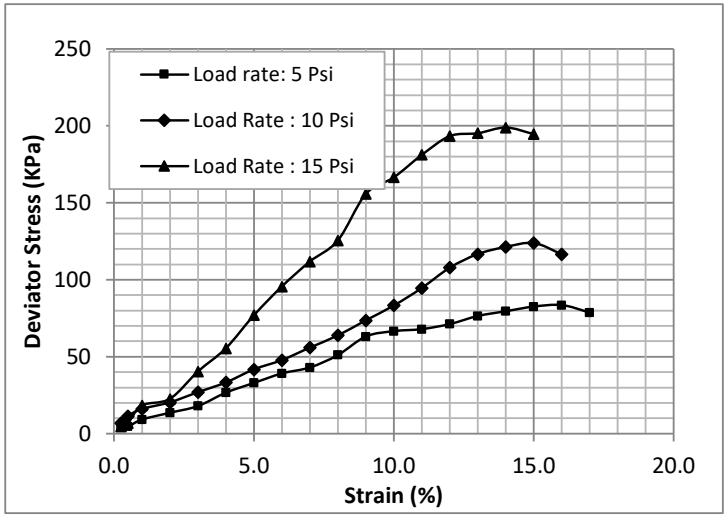
Borehole No.	BH-01
Sample No.	UD-01
Depth (m)	2.10 to 2.55
Cohesion (KPa)	95
Angle of Friction (Degree)	0

Project :Preparation of Development Plan for Meherpur Zilla
Location: Near Dariapur BDR Camp, Mujibnagar , Meherpur

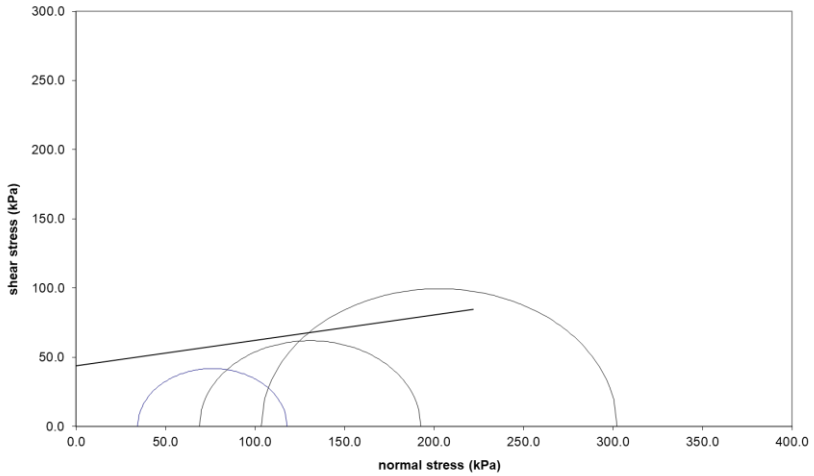
Triaxial Compression Test

(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



MOHRS STRESS DIAGRAM



Symbol	Moisture Content (%)	Dry density (g/cc)
■	37.99	1.36
◆	37.72	1.35
▲	38.93	1.35

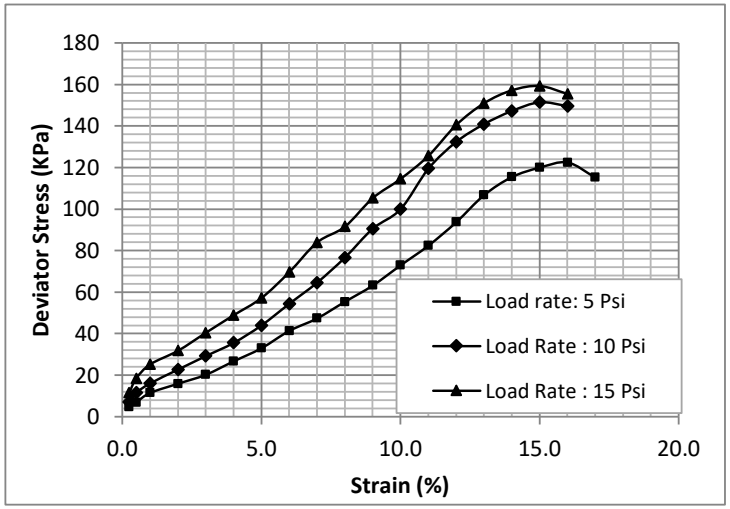
Borehole No.	BH-02
Sample No.	UD-01
Depth (m)	2.10 to 2.55
Cohesion (KPa)	45
Angle of Friction (degree)	10.4

Project :Preparation of Development Plan for Meherpur Zilla
Location: Near Gourinagar Nagarmath Bottola, Mujibnagar, Meherpur

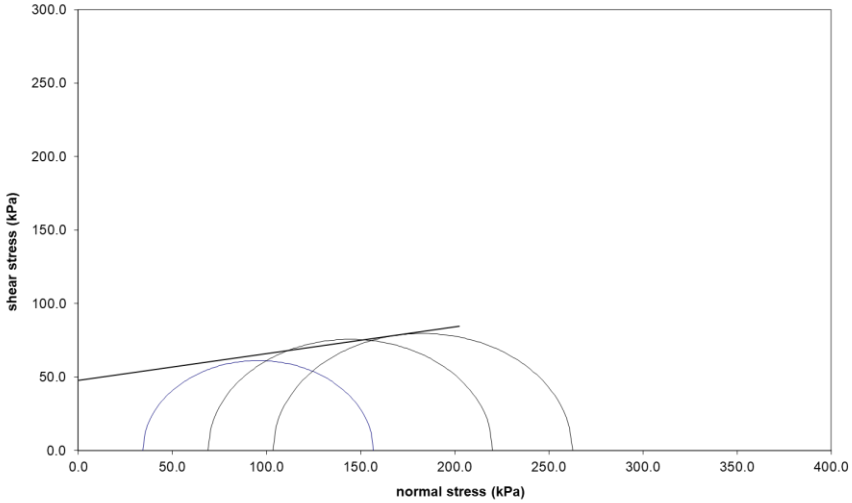
Triaxial Compression Test

(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



MOHRS STRESS DIAGRAM



Symbol	Moisture Content (%)	Dry density (g/cc)
■	28.84	1.44
◆	27.51	1.47
▲	29.22	1.49

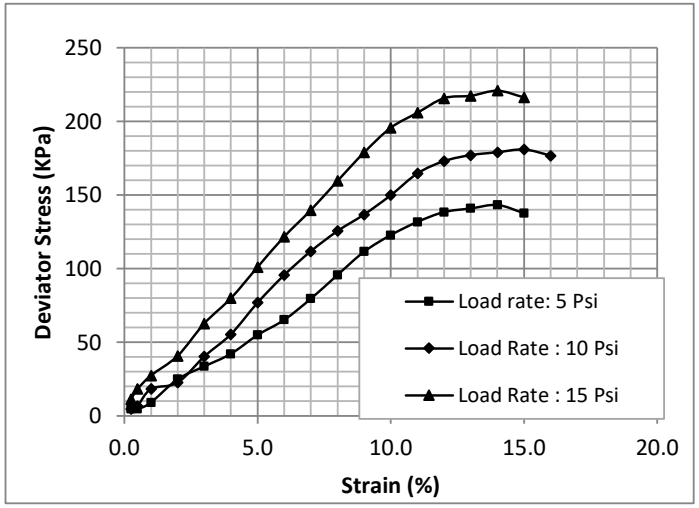
Borehole No.	BH-03
Sample No.	UD-01
Depth (m)	3.96 to 4.41
Cohesion (KPa)	48
Angle of Friction (degree)	10

Project :Preparation of Development Plan for Meherpur Zilla
Location: Vobanipur Govt. Primary School, Mujibnagar, Meherpur

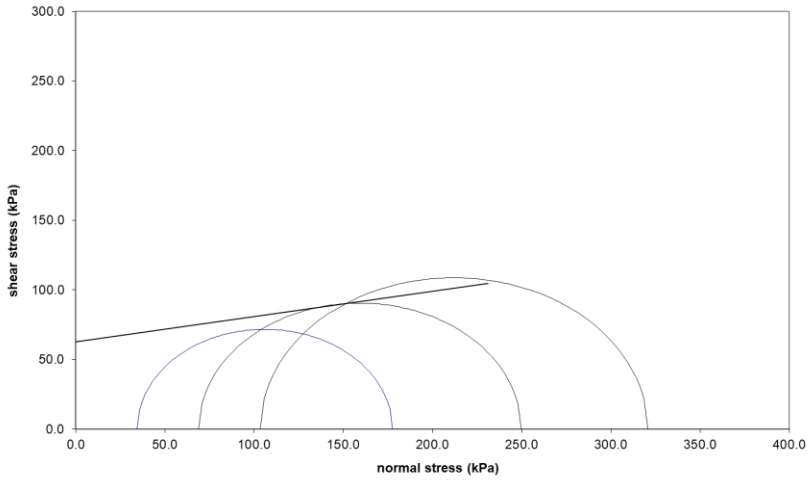
Triaxial Compression Test

(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



MOHRS STRESS DIAGRAM



Symbol	Moisture Content (%)	Dry density (g/cc)
■	31.00	1.52
◆	30.59	1.49
▲	32.23	1.53

Borehole No.	BH-04
Sample No.	UD-01
Depth (m)	2.10 to 2.55
Cohesion (KPa)	65
Angle of Friction (Degree)	10

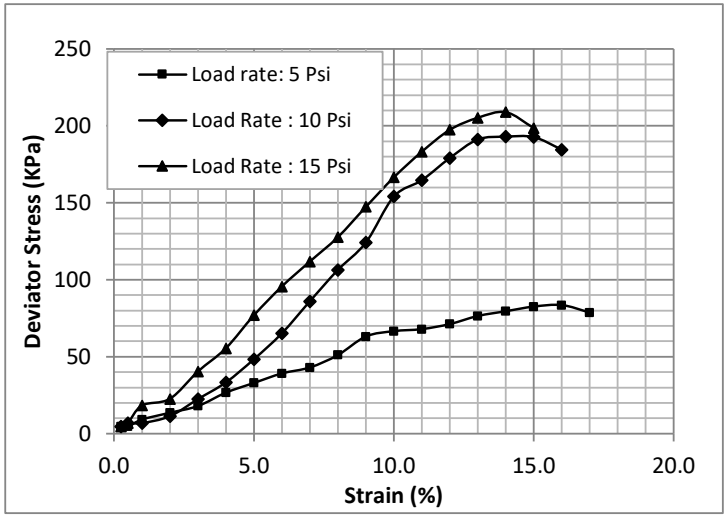
Project :Preparation of Development Plan for Meherpur Zilla

Location: Anandabas Markajul Ulum Madrasa, Mujibnagar, Meherpur

Triaxial Compression Test

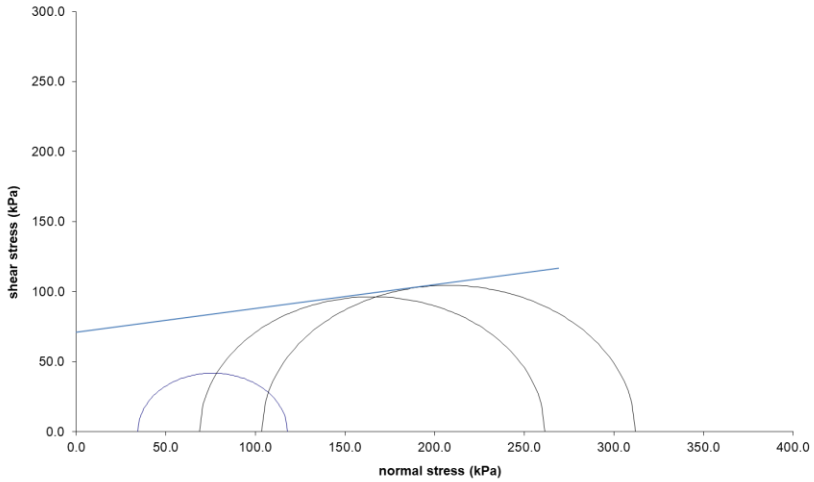
(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



Symbol	Moisture Content (%)	Dry density (g/cc)
	37.99	1.36
	37.72	1.35
	38.93	1.35

MOHRS STRESS DIAGRAM



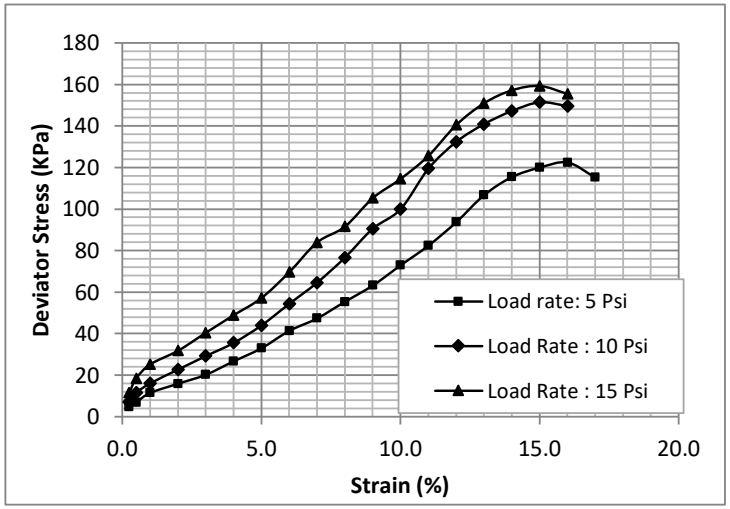
Borehole No.	BH-06
Sample No.	UD-01
Depth (m)	2.10 to 2.55
Cohesion (KPa)	70
Angle of Friction (degree)	10

Project :Preparation of Development Plan for Meherpur Zilla
Location: Joypur Govt. Primary School, Mujibnagar, Meherpur

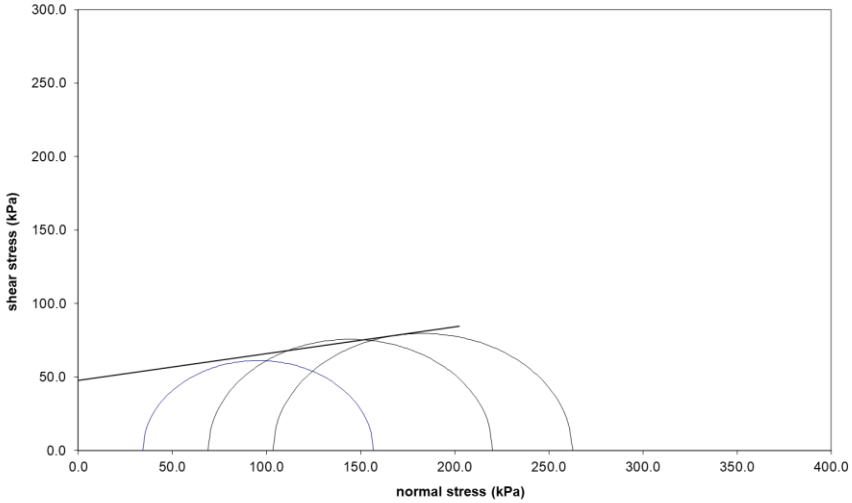
Triaxial Compression Test

(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



MOHRS STRESS DIAGRAM



Symbol	Moisture Content (%)	Dry density (g/cc)
■	28.84	1.44
◆	27.51	1.47
▲	29.22	1.49

Borehole No.	BH-07
Sample No.	UD-01
Depth (m)	3.96 to 4.41
Cohesion (KPa)	48
Angle of Friction (degree)	10

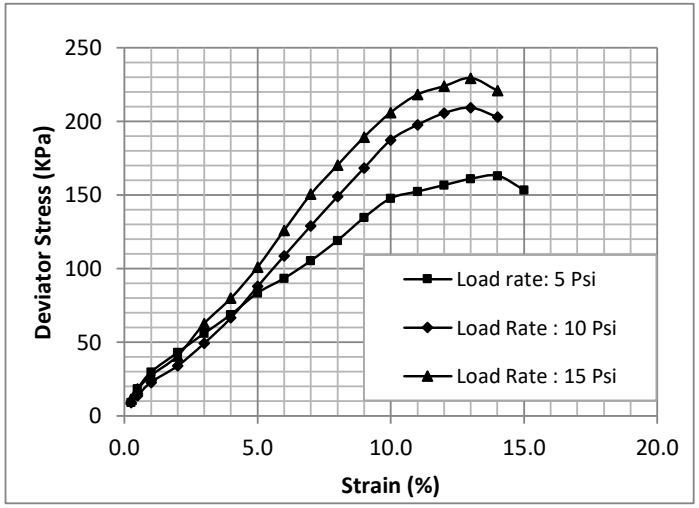
Project :Preparation of Development Plan for Meherpur Zilla

Location: Mohajonpur Uttarpara Govt. Primary School, Mujibnagar, Meherpur

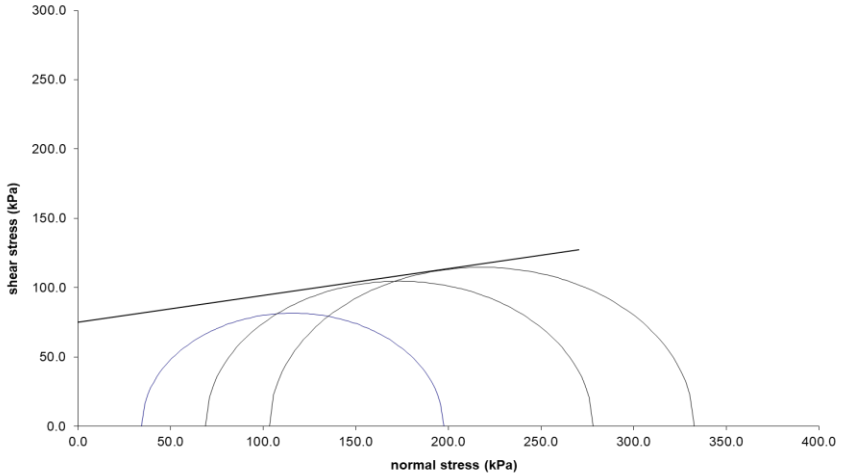
Triaxial Compression Test

(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



MOHRS STRESS DIAGRAM



Symbol	Moisture Content (%)	Dry density (g/cc)
■	31.00	1.52
◆	30.97	1.49
▲	31.54	1.54

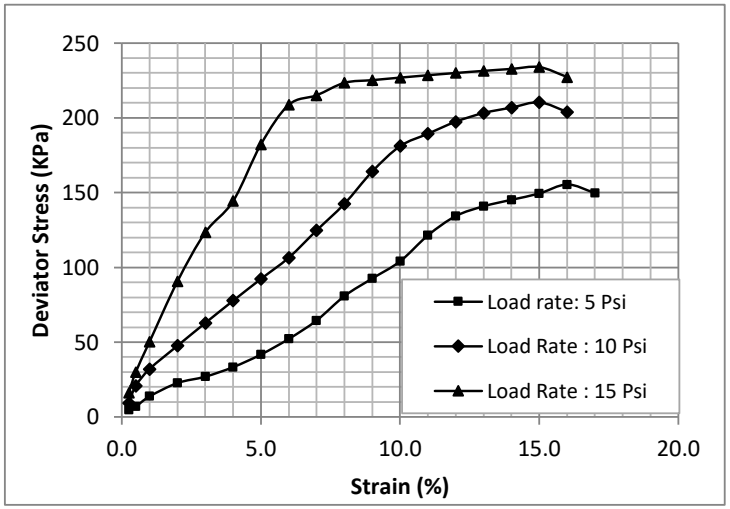
Borehole No.	BH-09
Sample No.	UD-01
Depth (m)	2.10 to 2.55
Cohesion (KPa)	72
Angle of Friction (Degree)	10.4

Project :Preparation of Development Plan for Meherpur Zilla
Location: Komorpur Govt .Primary School, Mujibnagar, Meherpur

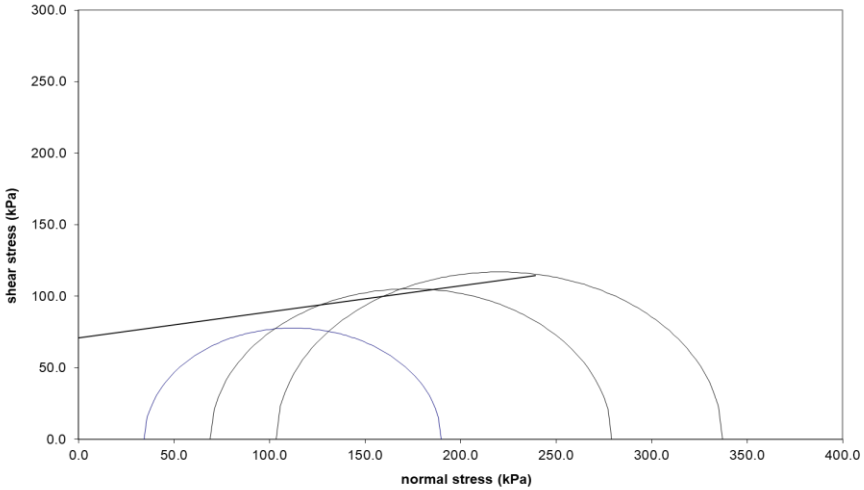
Triaxial Compression Test

(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



MOHRS STRESS DIAGRAM



Symbol	Moisture Content (%)	Dry density (g/cc)
■	38.95	1.34
◆	38.77	1.35
▲	39.97	1.35

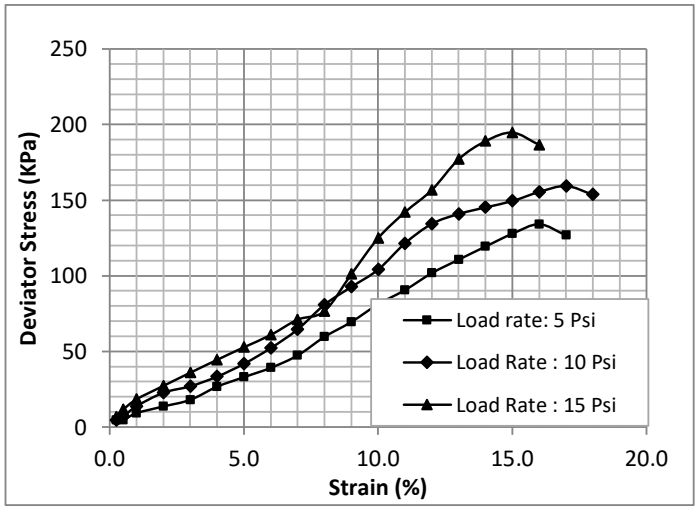
Borehole No.	BH-10
Sample No.	UD-01
Depth (m)	2.10 to 2.55
Cohesion (KPa)	70
Angle of Friction (degree)	9.6

Project :Preparation of Development Plan for Meherpur Zilla
Location: Meherpur Govt. High School, Meherpur

Triaxial Compression Test

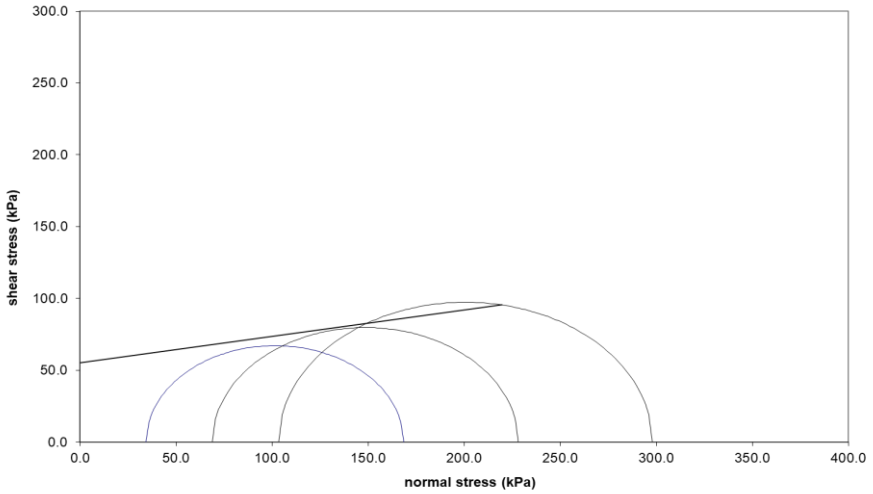
(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



Symbol	Moisture Content (%)	Dry density (g/cc)
■	28.84	1.44
◆	27.51	1.47
▲	29.22	1.49

MOHRS STRESS DIAGRAM



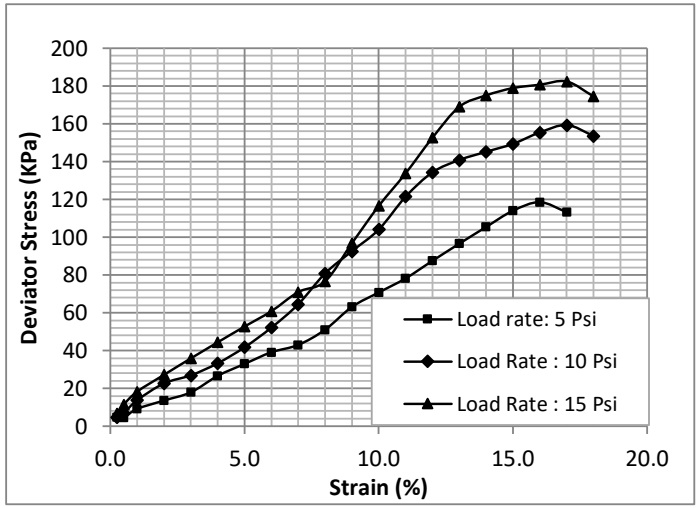
Borehole No.	BH-11
Sample No.	UD-01
Depth (m)	2.10 to 2.55
Cohesion (KPa)	55
Angle of Friction (degree)	10.6

Project :Preparation of Development Plan for Meherpur Zilla
Location: Ujalpur High School, Meherpur

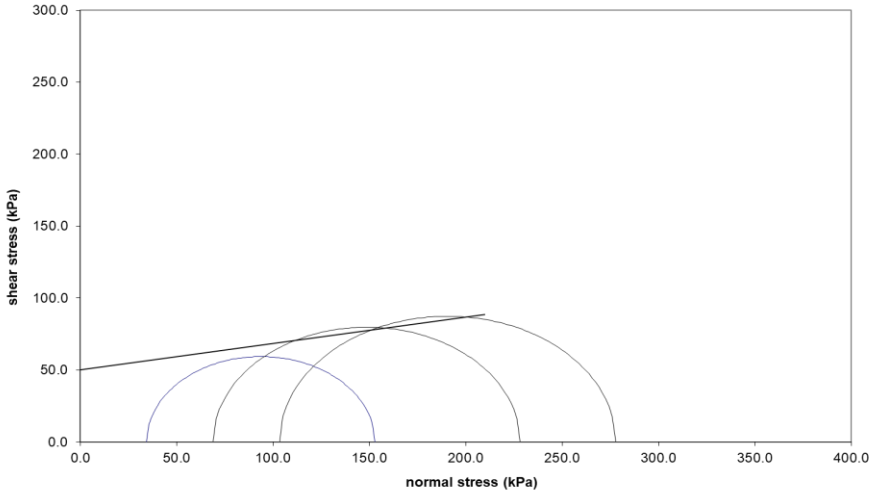
Triaxial Compression Test

(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



MOHRS STRESS DIAGRAM



Symbol	Moisture Content (%)	Dry density (g/cc)
	31.00	1.52
	30.97	1.49
	31.54	1.54

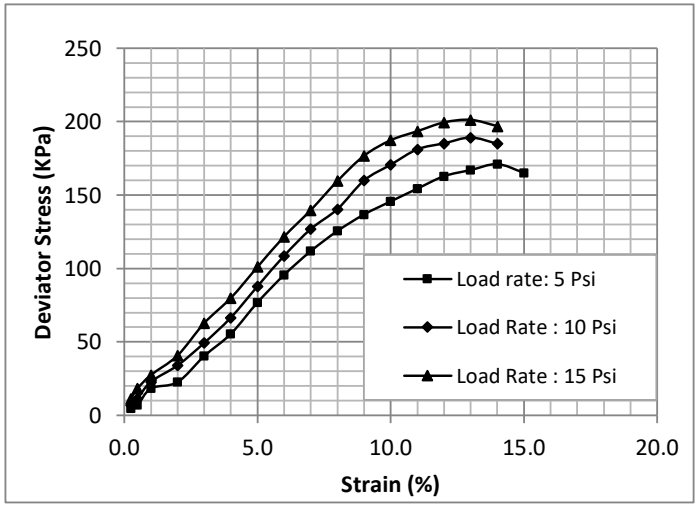
Borehole No.	BH-14
Sample No.	UD-01
Depth (m)	2.10 to 2.55
Cohesion (KPa)	50
Angle of Friction (Degree)	10.4

Project :Preparation of Development Plan for Meherpur Zilla
Location: Kaligangni Govt. Primary School, Meherpur

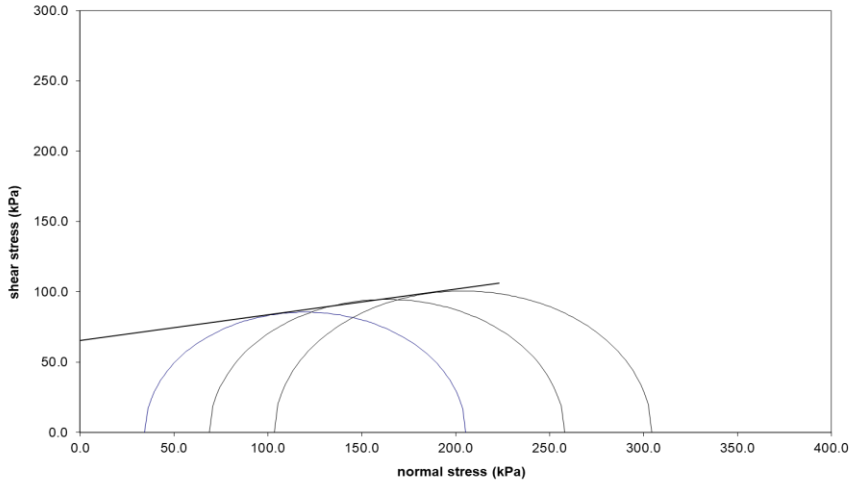
Triaxial Compression Test

(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



MOHRS STRESS DIAGRAM



Symbol	Moisture Content (%)	Dry density (g/cc)
	38.95	1.34
	38.77	1.35
	39.94	1.34

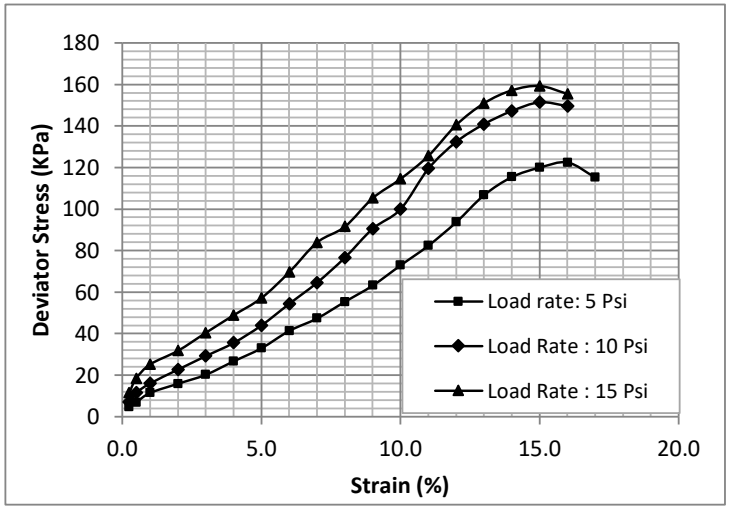
Borehole No.	BH-16
Sample No.	UD-01
Depth (m)	2.10 to 2.55
Cohesion (KPa)	65
Angle of Friction (degree)	10.4

Project :Preparation of Development Plan for Meherpur Zilla
Location: Amdah Primary School, Meherpur

Triaxial Compression Test

(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



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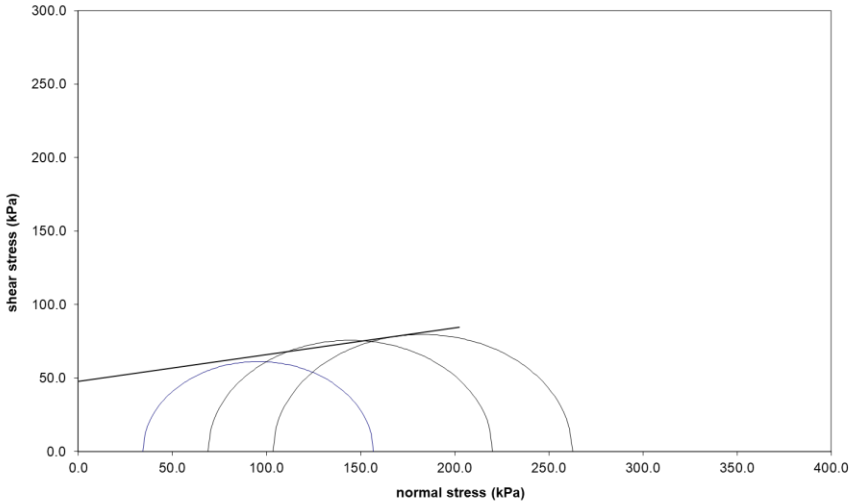


Symbol	Moisture Content (%)	Dry density (g/cc)
■	28.84	1.44
◆	27.51	1.47
▲	29.22	1.49

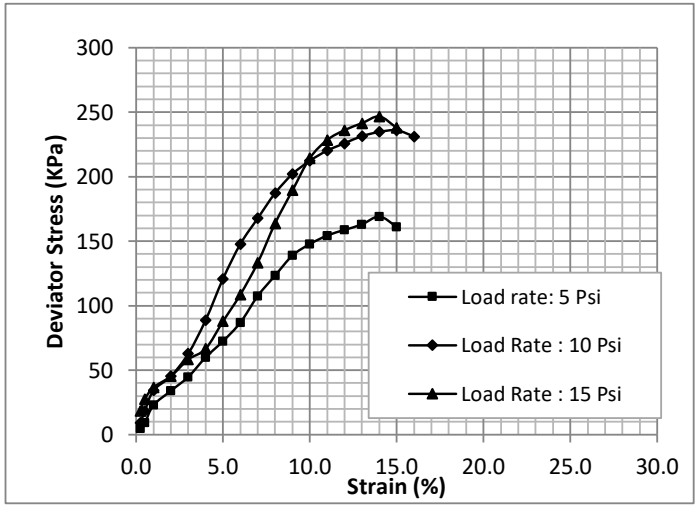
Borehole No.	BH-18
Sample No.	UD-01
Depth (m)	2.10 to 2.55
Cohesion (KPa)	47
Angle of Friction (degree)	10

Project :Preparation of Development Plan for Meherpur Zilla
Location: Nazirpur Model Govt. Primary School, Nazirpur

Triaxial Compression Test

(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



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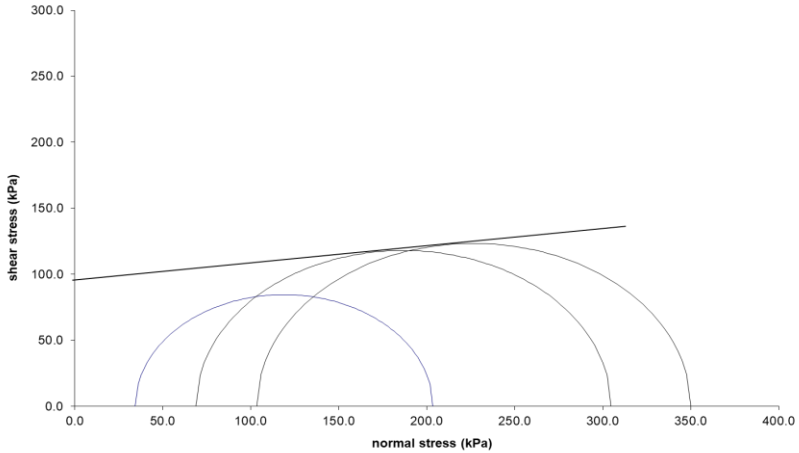


Symbol	Moisture Content (%)	Dry density (g/cc)
	29.52	1.42
	30.04	1.43
	31.22	1.46

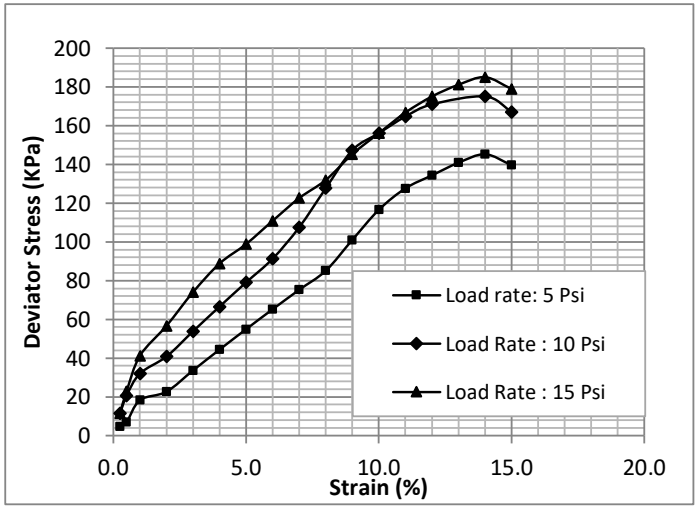
Borehole No.	BH-21
Sample No.	UD-01
Depth (m)	2.10 to 2.55
Cohesion (KPa)	90
Angle of Friction (Degree)	6

Project :Preparation of Development Plan for Meherpur Zilla
Location: Madhyachar Raghunathpur Govt. Primary School, Nazirpur

Triaxial Compression Test

(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



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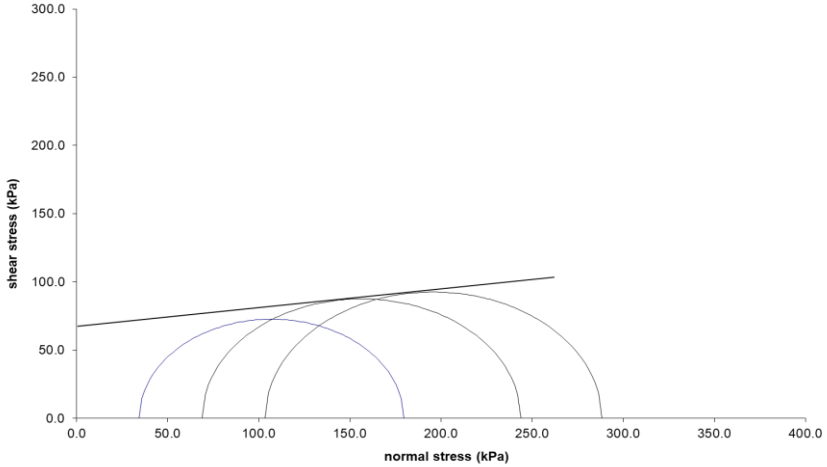


Symbol	Moisture Content (%)	Dry density (g/cc)
	35.65	1.36
	35.35	1.41
	35.49	1.37

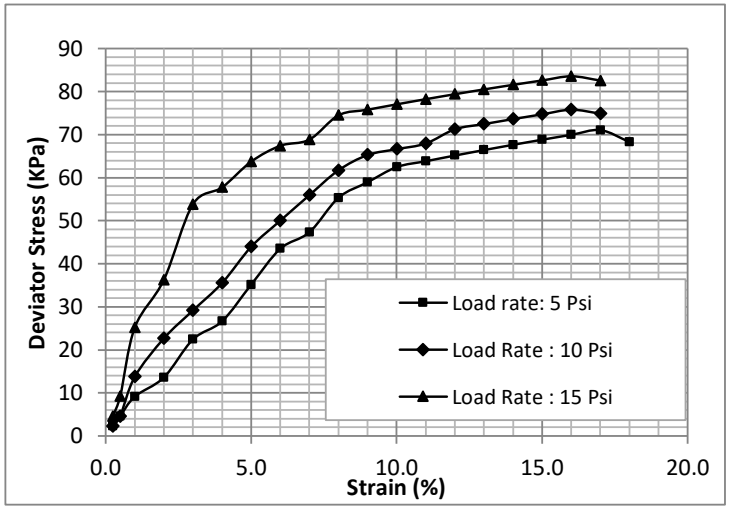
Borehole No.	BH-23
Sample No.	UD-01
Depth (m)	2.10 to 2.55
Cohesion (KPa)	65
Angle of Friction (degree)	10

Project :Preparation of Development Plan for Meherpur Zilla
Location: Akulbala High School, Nazirpur

Triaxial Compression Test

(Unconsolidated Undrained)

STRESS-STRAIN DIAGRAM



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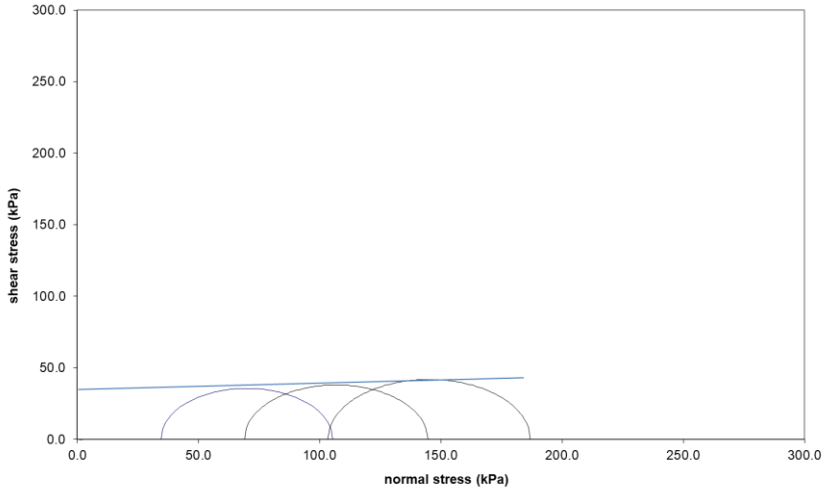

Symbol	Moisture Content (%)	Dry density (g/cc)
■	37.28	1.27
◆	37.73	1.27
▲	38.44	1.34

Borehole No.	BH-24
Sample No.	UD-01
Depth (m)	2.10 to 2.55
Cohesion (KPa)	30
Angle of Friction (degree)	1.5

Summary Sheet of

Laboratory Test Result

SUMMARY OF THE TEST RESULTS

Client : Urban Development Directorate (UDD)

Project: Preparation of Development Plan for Meherpur Zilla

Borehole No	Sample No	Depth in meter	Location	Latitude	Longitude	Moisture Content	Liquid Limit %	Plastic Limit %	Plasticity Index %	Triaxial Compression Test		Direct Shear Test		UCS	Sand %	Silt %	Clay %	Specific Gravity
										Cohesion kPa	0 ◦	Cohesion kPa	0 ◦	Cohesion kPa				
BH-01(M)	D01	1.50	Dariapur High School, Mujibnagar, Meherpur	23.7096540	88.610168													
	UD01	2.55								95	0.00							
	D03	4.50				22.58												
	D09	13.50													81	19		2.63
	D12	18.00				27.18												
	D13	19.50													85	15		2.68
	D19	28.50										21.38	39.88		88	12		
BH-02(M)	D01	1.50	Near Dariapur BDR Camp, Mujibnagar , Meherpur	23.715814	88.582812		44	31	13									
	UD01	2.55								45	10.40							
	UD02	4.41												48.31				
	D04	6.00					41	30	11									
	D06	9.00													15	77	8	2.63
	D13	19.50				34.60												
	D16	24.00													88	12		2.66
	D17	25.50				23.90												
	D20	30.00													83	17		
BH-03(M)	D01	1.50	Near Gourinagar Nagarmath Bottola, Mujibnagar, Meherpur	23.684995	88.581826	29.22												
	UD01	2.55								48	10.00							
	D03	4.50					43	28	15									
	D04	6.00					35	24	11									
	D05	7.50													3	87	10	2.70
	D09	13.50													94	6		2.70
	D13	19.50				23.46												
	D15	22.50													92	8		
BH-04(M)	D01	1.50	Vobanipur Govt. Primary School, Mujibnagar, Meherpur	23.668205	88.618214	25.39												
	UD01	2.55								65	10.00							
	D02	3.00					35	22	13									
	UD02	4.41												83.29				
	D11	16.50				24.27												
	D12	18.00													89	11		2.66
	D17	25.50													13	79	8	2.63
	D20	30.00													92	8		
BH-05(M)	D01	1.50	Sonapur Govt. Primary School, Mujibnagar, Meherpur	23.648484	88.583916													
	D02	3.00				22.56												
	D03	4.50					35	22	13									
	D04	6.00					39	26	13						8	84	8	2.61
	D09	13.50													89	11		2.63
	D14	21.00										35.03	39.46		89	11		
	D15	22.50				25.64												
BH-06(M)	D01	1.50	Anandabas Markajul Ulum Madrasa, Mujibnagar, Meherpur	23.636204	88.611549		38	27	11									
	UD01	2.55								70	10.00							
	D02	3.00				30.06												
	UD02	4.41												66.51				
	D03	4.50					38	25	13									
	D04	6.00													5	83	12	2.69
	D10	15.00				23.74												
	D14	21.00													97	3		2.70
	D20	30.00													92	8		

	D01	1.50														2	84	14	2.65
	UD01	2.55								48	10.00								
	D03	4.50				39	26	13											
BH-07(M)	D04	6.00	Joypur Govt. Primary School, Mujibnagar, Meherpur	23.611150	88.623467	40	26	14											
	D10	15.00			21.70														
	D13	19.50														91	9		2.63
	D15	22.50			22.33														
	D17	25.50										37.44	40.29			93	7		
	D01	1.50																	
	D04	6.00														88	12		2.65
	D09	13.50														88	12		2.68
BH-08(M)	D14	21.00	Dholmary Govt. Primary School	23.648497	88.506179	26.18													
	D16	24.00			24.88														
	D17	25.50														91	9		
	D20	30.00				37	25	12											
	D01	1.50																	
	UD01	2.55								72	10.40								
	UD02	4.41												74.45					
	D03	4.50				37	24	13											
BH-09(M)	D04	6.00	Mohajonpur Uttarpara Govt. Primary School	23.658003	88.677400	37	24	13								1	88	11	2.61
	D08	12.00			31.37														
	D13	19.50														91	9		2.61
	D14	21.00			22.09														
	D19	28.50														89	11		
	D01	1.50				35	25	10											
	UD01	2.55								70	9.60								
	D02	3.00			16.28														
BH-10(M)	D07	10.50	Komorpur Govt . Primary School	23.683074	88.675168											86	14		2.65
	D12	18.00														87	13		2.61
	D15	22.50			30.74														
	D19	28.50										34.02	42.28			90	10		
	D01	1.50				35	23	12											
	UD01	2.55								55	10.60								
	UD02	4.41												50.25					
	D03	4.50														12	79	9	2.66
BH-11(M)	D04	6.00	Meherpur Govt. High School	23.684995	88.581826	36	24	12											
	D07	10.50														87	13		
	D14	21.00			25.98														
	D16	24.00			21.69														
	D19	28.50										37.15	41.10			90	10		2.68
	D01	1.50				33	25	8											
	UD01	2.55												64.40					
	D03	4.50														1	85	14	2.66
	D04	6.00				33	24	9											
BH-12(M)	D05	7.50	Shalika High School, Meherpur	23.749598	88.592546	27.46										1	83	16	
	D06	9.00																	
	D12	18.00																	
	D13	19.50			24.09														
	D16	24.00														93	7		2.63
	D18	27.00														92	8		
	D01	1.50																	
	D05	7.50																	2.63
	D06	9.00			27.55														
BH-13(M)	D11	16.50	Harirampur Secondary School, Meherpur	23.786162	88.596931	24.60													
	D13	19.50														87	13		2.66
	D20	30.00														95	5		
	UD01	2.55								50	10.40								
	D02	3.00				33	23	10											
	D04	6.00			28.08														
BH-14(M)	D08	12.00	Ujalpur High School, Meherpur	23.815258	88.626260											89	11		2.66
	D11	16.50														87	13		2.62
	D15	22.50			20.76														
	D16	24.00														92	8		

BH-15(M)	D01	1.50	Sholmary Govt. Primary School, Meherpur	23.855544	88.607765														
	D04	6.00				23.32													
	D07	10.00										37.58	39.88		91	9		2.61
	D11	16.50				38.88													
	D12	18.00													87	13		2.65
	D19	28.50													91	9		
BH-16(M)	D01	1.50	Kaligangni Govt. Primary School, Meherpur	23.844148	88.691053		28	26	12									
	UD01	2.55								65	10.40							
	D02	3.00													1	85	14	2.63
	UD02	4.41												48.94				
	D03	4.50					39	27	12									
	D04	6.00				27.36												
	D10	15.00										34.31	41.50		89	11		2.66
	D17	25.50													87	13		
	D20	30.00				21.74												
BH-17(M)	D01	1.50	Ramnagar Govt. Primary School, Meherpur	23.799497	88.660262													
	D03	4.50													91	9		2.66
	D06	9.00				30.90												
	D12	18.00													90	10		2.66
	D17	25.50				30.34												
	D18	27.00										37.15	41.10		92	8		
BH-18(M)	UD01	2.55	Amdah Primary School	23.737516	88.632922					47	10.00							
	UD02	4.41												61.33				
	D03	4.50					33	25	8									
	D04	6.00										37.01	41.50		92	8		
	D05	7.50				22.65												
	D07	10.50					36	26	10									
	D13	19.50				34.86												
	D14	21.00													1	85	14	2.66
	D19	28.50													89	11		2.63
BH-19(M)	D01	1.50	Ashrafpur Govt. Primary School, Meherpur	23.706371	88.646316		33	26	7									
	UD01	2.55												62.32				
	D06	9.00													77	23		2.71
	D08	12.00				27.73												
	D11	16.50										37.58	39.88		92	8		2.68
	D13	19.00				22.14												
	D19	28.50													92	8		
BH-20(M)	D01	1.50	Kola Govt. Primary School, Meherpur	23.728385	88.664743		37	26	11									
	D02	3.00				13.81												
	D05	7.50													11	75	14	2.68
	D09	13.50													82	18		2.65
	D12	18.00				22.58												
	D20	30.00													93	7		
BH-21(M)	D01	1.50	Amjhupi Girls Govt. Primary School, Meherpur Sadar	23.748827	88.680040		34	24	10									
	UD01	2.55								90	6.00							
	D03	4.50				10.37												
	D04	6.00													94	6		2.65
	D10	15.00													88	12		2.62
	D15	22.50													90	10		
	D17	25.50				24.89												
BH-22(M)	D01	1.50	Khoksha Govt. Primary School, Meherpur	23.774840	88.691209		39	29	10									
	D06	9.00													81	19		2.70
	D08	12.00				27.60												
	D13	19.50				22.98												
	D16	24.00													88	12		2.62
	D19	28.50										34.60	40.70		91	9		
BH-23(M)	UD01	2.55	Hijuli Govt. Primary School, Meherpur	23.750345	88.717348					65	10.00							
	D02	3.00				24.06												
	D07	10.50													89	11		2.64
	D15	22.50													88	12		2.63
	D16	24.00				26.39												
	D18	27.00													85	15		

	D01	1.50					38	28	10										
	UD01	2.55								30	1.50								
	D02	3.00													1	85	14	2.66	
	UD02	4.41												60.18					
BH-24(M)	D03	4.50	Road Site of Roghunathpur Area, Roghunathpur, Maherpur	23.728525	88.709409		38	28	10										
	D04	6.00				28.52													
	D10	15.00										37.58	39.88		91	9		2.68	
	D12	18.00				23.79													
	D18	27.00													92	8			
	D01	1.50					38	27	11										
	UD01	2.55												65.32					
	D03	4.50				22.98													
BH-25(M)	D11	16.50	Kathalpota Govt. Primary School, Meherpur	23.689296	88.709822										72	28		2.63	
	D15	22.50													88	12		2.62	
	D16	24.00				26.19													
	D19	28.50										37.15	41.10		93	7			
	D01	1.50				16.73													
	D09	13.50													94	6		2.62	
BH-26(M)	D15	22.50	Baliarpur (Purbopara) Govt. Primary School, Meherpur	23.696963	88.739376										88	12		2.60	
	D17	25.50				22.62													
	D19	28.50													91	9			
	D01	1.50																	
	D03	4.50				29.21													
BH-27(M)	D10	15.00	Patkelpota Govt. Primary School, Meherpur	23.724676	88.745670										89	11		2.61	
	D15	22.50				23.26													
	D17	25.50													92	8		2.63	
	D20	30.00													90	10			
	D01	1.50																	
	UD01	2.55												68.24					
	D02	3.00													8	81	11	2.63	
	UD02	4.41												69.72					
BH-28(M)	D03	4.50	Near Durlovpur Masjid Road Site in Durlovpur Village, Gangni	23.874917	88.746995		46	36	10										
	D04	6.00					48	34	14										
	D05	7.50				38.65													
	D08	12.00				32.84													
	D13	19.50										32.33	39.46		88	12			
	D17	25.50													93	7		2.66	
	D01	1.50					46	35	11										
	UD01	2.55												60.28					
	D02	3.00					36	24	12										
BH-29(M)	D04	6.00	Garadob Govt. Primary School, Gangni	23.800941	88.699782										81	19		2.63	
	D07	10.50				30.41													
	D10	15.00				28.93													
	D11	16.50													90	10		2.63	
	D19	28.50													93	7			
	D01	1.50					36	26	10										
	UD01	2.55												73.60					
	D02	3.00					36	27	9										
BH-30(M)	D03	4.50	Bhatpara Govt. Primary School, Gangni	23.763871	88.760709	28.37													
	D07	10.50				28.33													
	D08	12.00													85	15		2.67	
	D16	24.00										37.01	41.50		93	7		2.63	
	D20	30.00													91	9			