4.6 Site conditions

4.6.1 General

The Project site is located approximately 150km northwest from Dhaka, adjacent to north boundary of the existing Bheramara Thermal Power Plant approximately 20km northwest from Kushtia City, in the Khulna administrative division of western Bangladesh.
Normally the climate of the Bheramara area is said to be broadly classified into four seasons; winter from December to February, summer from March to May, the monsoon season from June to September, and autumn from October to November. Winter a relatively dry season with little rain, having an average temperature of about 20°C. In summer, the whole country is covered with a tropical cyclone and much rainfall, and the temperature rises to a level of 20°C to 30°C.

4.6.2 Site Location

The Project site is officially situated in Bahirchar union, Bheramara upazila, Kushtia district in the Khulna administrative division of western Bangladesh as shown in the Figure I-4-6-1. In Bahirchar Union, the site is situated in the right bank of Padma River, approximately 400m east from the bank, and approximately 600m north from the Pump Station of G.K. (Ganges - Kobadak) Irrigation Project. The site is also situated approximately 1.8km south from Hardinge Bridge (rail way)/Lalon Shah Bridge (road) and approximately 350m east from the Bheramara Bypass Road toward Kushtia City. Farmland is laid between the Bypass and the site.

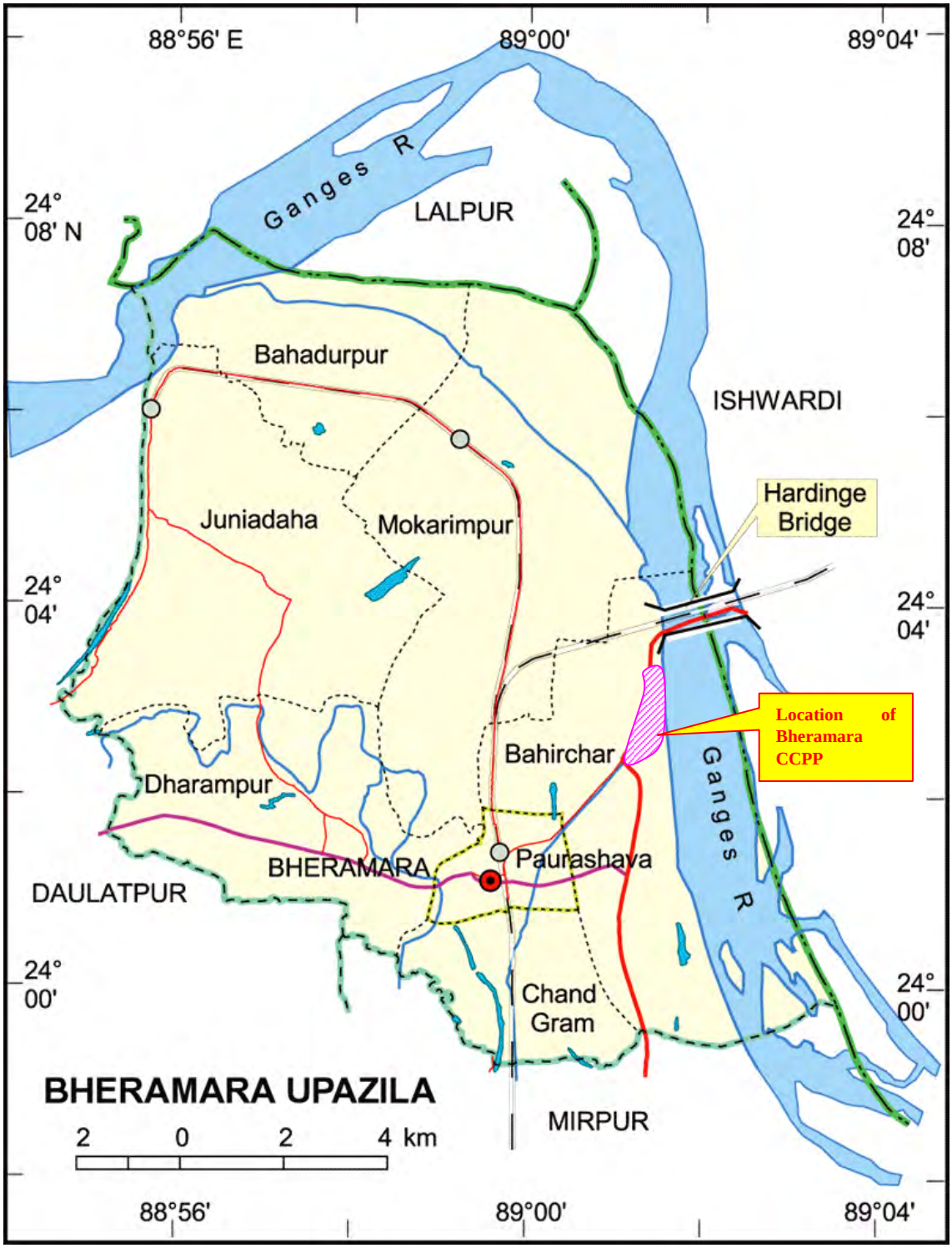


Figure I-4-6-1 Project Site Location

4.6.3 Site Planning

As shown in the Figure I-4-6-2 on the following page, the boundary separated BWDB owned area from private farm land has already been settled between BWDB and Land Office. The boundary between NWPGCL/ BPDB and BWDB has also been settled.

NWPGCL/BPDB are preparing acquisition of the land located adjacent to north boundary of the existing Bheramara Power Station from BWDB, and this land acquisition will be smoothly carried out without any problem.
Land acquisition for gas pipe between CGS and new Bheramara Power Station should be required. NWPGCL/BPDB is conducting coordination with Land Office and other related interested party.
As shown in the Figure I-4-6-2, two (2) candidate sites of SITE-A and SITE-B are nominated for the construction of new power plant. SITE-A is situated close to north boundary of the existing Bheramara Thermal Power Plant. SITE-B is situated north east side between the existing oil tank yard and the right bank of Padma River. The comparison of 2 candidate sites is shown in the Table I-4-6-1.

Table I-4-6-1 Comparison of 2 sites

	SITE-A	SITE-B
Cost (Construction) (Transmission Line) (Gas Pipeline)	Base	Same
	Connecting line to the existing line is shorter.	Connecting line to the existing line is longer.
	Connecting line is shorter.	Connecting line is longer.
Economical (Compensation)	BWDB and BPDB property Land acquisition is not necessary	BWDB and BPDB property Land acquisition is not necessary, but compensation for relocation of long term residents
Technical (Area)	Enough area for construction, but limited free hand for site layout	Enough area for construction, and free hand for site layout
Environment (Terrestrial Ecosystem) (Residents)	Base	Same
	8 families live in quarters. They are staffs of existing power station and not farmer.	72 families live on the site. Almost all of them lost houses caused by flood or something and are not farmer.

(1) Evaluation from technical and economical points of view
From technical point of view, there is no significant difference between SITE-A and SITE-B. However, from economical point of view, SITE-B is less efficient because compensation for relocation of the residents should be required.

(2) Evaluation from Environmental point of view
There is no significant difference between SITE-A and SITE-B in growth of Terrestrial Ecosystem. However, relocation of the residents should be required for SITE-B. Relocation seriously damage on livelihood of the socially vulnerable residents, who lost houses caused by flood or something.

(3) Site selection
SITE-A is more efficient from economical point of view, and is free from relocation of the socially vulnerable residents, which is serious issue from environmental point of view. From technical point of view, there is no significant difference between SITE-A and SITE-B, therefore, SITE-A was selected for the construction site.

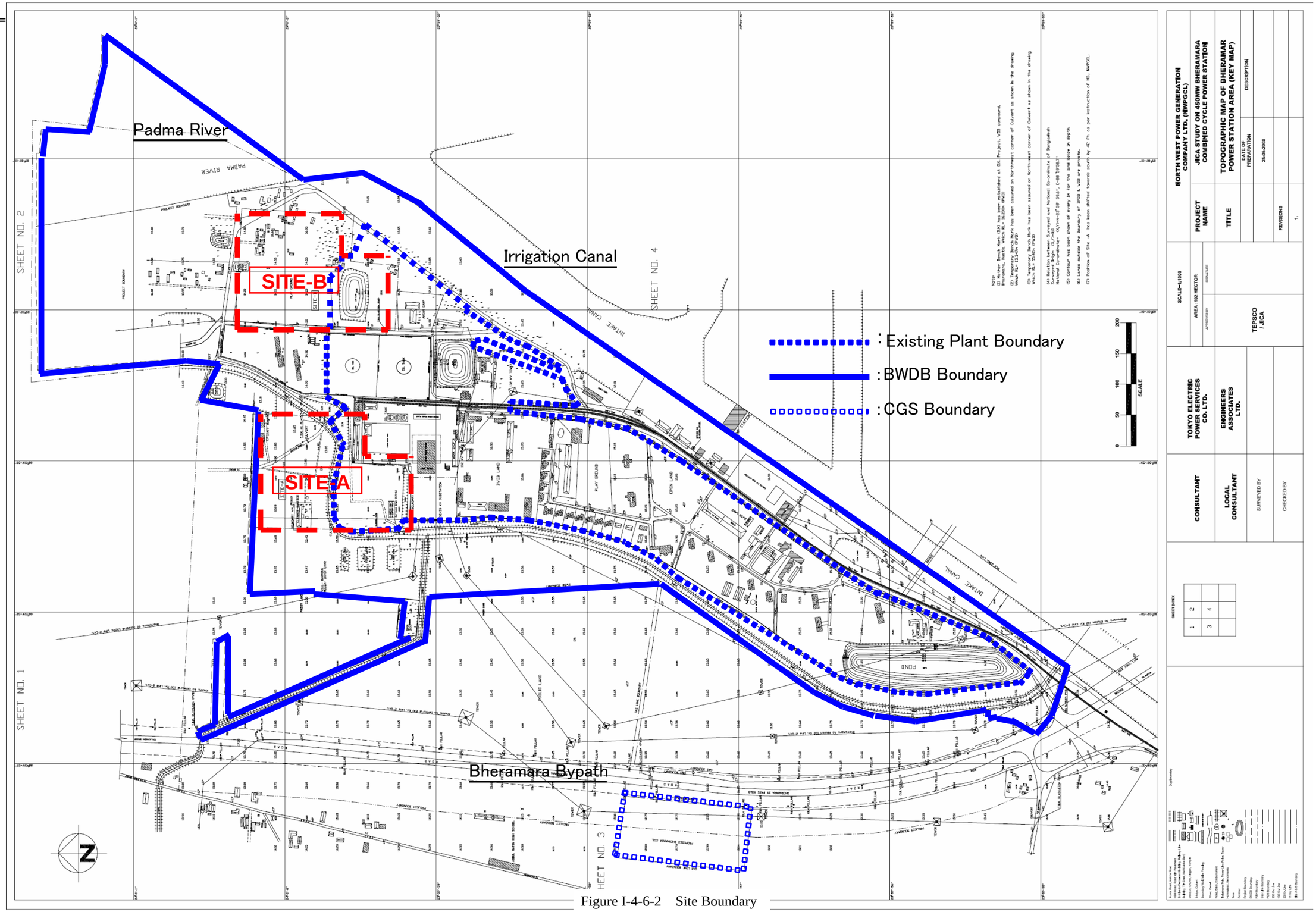


Figure I-4-6-2 Site Boundary

4.6.4 Topography and Soil Conditions

(1) Topographic Survey

Topographic survey has been conducted and the topographic map of Bheramara Power Station Area has been completed as drawing "Topographic Map of Bheramra Power Station Area" in ATTACHMENT 2.

The existing buildings, structures and the boundary of NWPGCL's owned premise are shown in the above drawing.

Surveyed ground levels are following;

Existing power station area:	approximately between EL+15.1m and EL+15.9m
Surrounding farmland:	approximately between EL+13.0m and EL+13.8m
Toward the bank of Padma River:	approximately between EL+13.7m and EL+14.5m

(2) Soil Conditions

The project area is situated in the western part of the Bengal Fore deep, which is surrounded on its north by the Shilling Plateau in Assam in India and on its west side by the Rajmahal Hills in India. The eastern limits of the Bengal Fore deep are the Tripura Hills to the east and the Chittagong Hills to the south- east. The Bengal Fore deep is floored with Quaternary sediments deposited by the rivers of the Ganges (Padma), Brahammaputra (Jamuna), the Meghna and their numerous associated streams and distributaries. The Bengal Basin is subsiding owing mainly to compaction of the recent sediments and is possibly due to structural down warping.

Soil investigation has been conducted to obtain soil properties for foundation design. Regarding the subsoil formation of the project area, soil conditions are concluded as followings.

1) The layers of soil have been found regular in between the Boreholes.
2) The entire sub soil formation of the project site, through out up to the depth of the investigation, is of non-plastic nature.
3) These non-plastic soil comprises silty soil, sand-silt mix and finally silty fine sand up to the depth of the investigation.
4) The top layer of the non-plastic silty soil, extending roughly to the depth of 3.0m/4.0m (BH-1, BH-2, BH-3 & BH-4), 5.0m (BH-4) to 8.0m (BH-5, BH-6, BH-7 & BH-8) generally have been observed to be in a very loose to loose state.
5) Further below, the layers of the non-cohesive silty soil & sand-silt mix extending to a variable depth of 8.00m to 10.0m (BH-3, BH-5 & BH-9), 12.0m/13.0m (BH-1, BH-4, BH-6 & BH-7) to 19.0m (BH-2 & BH-8) generally have been found in a medium dense and occasionally in a loose state.
6) The subsequent deep layers of the non-cohesive sand-silt mix and silty fine sand generally have been observed in a dense and very dense state.
7) Due to the poor relative density as well as the poor bearing capacities of the investigated soils roughly up to the depth of 4.00m /5.0m (BH-1, BH-2, BH-3 & BH-4) to 7.0/8.0m (BH-5, BH-6, BH-7 & BH-8) measured from the EGL, the shallow foundations are not feasible to be provided, for the existing subsoil condition.

Due to non-plastic behavior and non cohesive nature of the investigated soil throughout the depth of 30.0 m, Unconfined Compression Test could have not been performed. However, the soil of the site is typical Quaternary sand sediments. The non-cohesive sand-silt mix and silty fine sand have been observed in a dense state from the depth of 20m. The power plant

structures such as Power House and others could be constructed with pile foundation supported by this dense layer.
Bore hole location is shown in the Figure I-4-6-3.

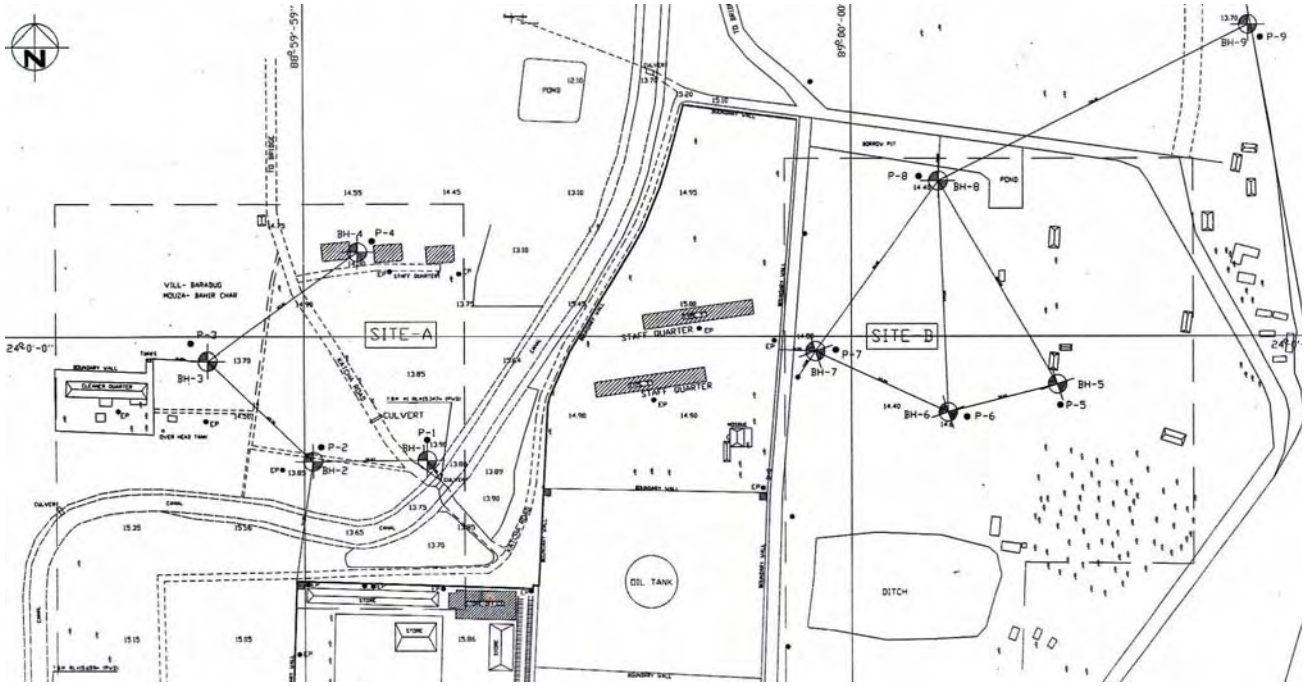


Figure I-4-6-3 Borehole location map

Bore logs and longitudinal cross sections are shown in the following pages.
Detailed result of the soil investigation is shown in the Attachment 1 of Soil investigation report.

Client : TEPSCO
Project : Feasibility Study on 450 M.W. combined cycle power Station at Bheramara.
Location :Bheramara Power Station Area, Kustia, Bheramara.

Borehole No. : BH-1 (One)
Boring Depth : 30.0m.
R.L. : 13.90m.
G.W.L. : 3.60m below
Date : 09-06-2008 & 10-06-2008

Sample Depth (Thick)	Depth (m.)	Sample Type & No.	Description of Materials	BORE LOG	Standard Penetration Test Values 15 cm	15 cm	15 cm	30 cm	S. P. T. 10 20 30 40 50 60 70
			Extg. G.L.						
(3.0)	1.0	D-1	Blackish ash very loose SILT, some fine sand.		2	2	4	6	
	2.0	D-2			2	4	5	9	
3.0	3.0	D-3			4	5	7	12	
	4.0	D-4	Ash coloured medium dense & loose SILT, & fine SAND		4	5	9	14	
(5.0)	5.0	D-5			6	7	11	18	
	6.0	D-6			3	4	6	10	
	7.0	D-7			3	5	5	11	
8.0	8.0	D-8			5	7	9	16	
	9.0	D-9	Ash coloured medium dense & dense silt little, fine SAND.		6	9	12	21	
	10.0	D-10			6	10	14	24	
	11.0	D-11			9	10	15	27	
(7.0)	12.0	D-12			12	16	20	36	
	13.0	D-13			13	18	22	40	
	14.0	D-14			15	20	25	45	
	15.0	D-15			6	9	11	20	
15.0	16.0	D-16	Ash coloured medium dense to dense SILT, little fine sand		6	10	12	22	
	17.0	D17			7	12	15	27	
(4.0)	18.0	D18			9	13	18	31	
	19.0	D-19			9	14	20	34	
19.0	20.0	D-20	Ash coloured dense to very dense SILTY FINE SAND.		11	16	23	39	
	21.0	D-21			12	17	25	42	
	22.0	D-22			12	19	26	45	
	23.0	D-23			12	20	28	48	
	24.0	D-24			14	23	31	54	
(8.0)	25.0	D-25			14	24	32	56	
	26.0	D-26			16	26	34	60	
	27.0	D27			16	26	35	61	
	28.0	D-28			16	27	37	64	
	29.0	D-29			18	30	40	70	
30.0	30.0	D-30			19	32	44	76	

Client : TEPSCO
Project : Feasibility Study on 450 M.W. combined cycle power Station at Bheramara.
Location :Bheramara Power Station Area, Kustia, Bheramara.

Borehole No. : BH-2 (Two)
Boring Depth : 30.0m.
R.L. : 13.82m.
G.W.L. : 2.85m below
Date : 14-06-2008 & 15-06-2008

Sample Depth (Thick)	Depth (m.)	Sample Type & No.	Description of Materials	BORE LOG	Standard Penetration Test Values 15 cm	15 cm	15 cm	30 cm	S. P. T. 10 20 30 40 50 60 70
			Extg. G.L.						
	1.0	D-1			0	1	2	3	
(4.0)	2.0	D-2	Blackish ash very loose SILT, little fine sand.		1	2	2	4	
	3.0	D-3			2	3	4	7	
4.0	4.0	D-4			3	4	6	10	
	5.0	D-5	Ash coloured occasionally loose medium dense SILT, little/some fine SAND		5	6	9	15	
	6.0	D-6			5	7	10	17	
	7.0	D-7			5	5	7	13	
	8.0	D-8			6	9	12	21	
(11.0)	9.0	D-9			6	8	10	18	
	10.0	D-10	Ash coloured medium dense SILT& fine SAND		7	10	12	22	
	11.0	D-11			7	9	14	23	
	12.0	D-12			8	10	14	24	
	13.0	D-13			8	11	15	26	
	14.0	D-14			7	10	14	24	
	15.0	D-15			7	9	12	21	
15.0	16.0	D-16			8	9	13	22	
	17.0	D17	Ash coloured medium dense SILT, little/some fine sand		9	10	14	24	
(4.0)	18.0	D18			10	12	15	27	
	19.0	D-19			10	13	17	30	
19.0	20.0	D-20			12	15	20	35	
	21.0	D-21			14	18	24	42	
	22.0	D-22			14	20	27	47	
	23.0	D-23			16	23	31	54	
	24.0	D-24			12	19	24	43	
(11.0)	25.0	D-25			11	16	20	36	
	26.0	D-26	Ash coloured dense to very dense SILTY FINE SAND.		12	18	23	41	
	27.0	D27			14	21	25	46	
	28.0	D-28			14	23	28	51	
	29.0	D-29			15	24	30	54	
	30.0	D-30			15	26	34	60	
30.0									

Client : TEPSCO
Project : Feasibility Study on 450 M.W. combined cycle power Station at Bheramara.
Location :Bheramara Power Station Area, Kustia, Bheramara.

Borehole No. : BH-3 (Three)
Boring Depth : 30.0m.
R.L. : 13.70m.
G.W.L. : 3.10m below
Date : 16-06-2008 & 17-06-2008

Sample Depth (Thick)	Depth (m.)	Sample Type & No.	Description of Materials	BORE LOG	Standard Penetration Test Values 15 cm	15 cm	15 cm	30 cm	S. P. T.
			Extg. G.L.						10 20 30 40 50 60 70
(3.0)	1.0	D-1	Blackish very loose SILT, little fine sand.		1	2	3	5	
	2.0	D-2			2	3	5	7	
3.0	3.0	D-3			3	5	6	11	
	4.0	D-4			3	6	7	13	
(5.0)	5.0	D-5	Ash coloured occasionally loose medium dense SILT, little/some fine SAND		1	2	2	4	
	6.0	D-6			3	6	11	17	
	7.0	D-7			4	8	16	24	
8.0	8.0	D-8			14	23	27	50	
	9.0	D-9			14	24	29	53	
	10.0	D-10			15	24	30	54	
	11.0	D-11			16	26	33	59	
	12.0	D-12			14	20	30	50	
(12.0)	13.0	D-13	Ash coloured very dense and dense SILT& fine SAND		12	19	29	48	
	14.0	D-14			11	18	25	43	
	15.0	D-15			9	15	19	34	
	16.0	D-16			10	16	18	34	
	17.0	D17			10	17	21	38	
	18.0	D18			10	19	23	42	
20.0	19.0	D-19			10	20	24	44	
	20.0	D-20			12	22	25	47	
	21.0	D-21			13	24	28	52	
	22.0	D-22			13	25	30	55	
	23.0	D-23			12	19	23	42	
(10.0)	24.0	D-24	Ash coloured dense to very dense SILTY FINE SAND.		12	21	26	47	
	25.0	D-25			12	22	28	50	
	26.0	D-26			14	25	33	58	
	27.0	D27			14	26	34	60	
	28.0	D-28			14	26	35	61	
	29.0	D-29			14	28	36	64	
30.0	30.0	D-30							

Client : TEPSCO
Project : Feasibility Study on 450 M.W. combined cycle power Station at Bheramara.
Location :Bheramara Power Station Area, Kustia, Bheramara.

Borehole No. : BH-4 (Four)
Boring Depth : 30.0m.
R.L. : 14.30m.
G.W.L. : 2.90m below
Date : 17-06-2008 & 18-06-2008

Sample Depth (Thick)	Depth (m.)	Sample Type & No.	Description of Materials	BORE LOG	Standard Penetration Test Values 15 cm	15 cm	15 cm	30 cm	S. P. T. 10 20 30 40 50 60 70
			Extg. G.L.						
(3.0)	1.0	D-1	Blackish ash very loose SILT, little fine sand.		2	2	3	5	
	2.0	D-2			2	3	5	8	
3.0	3.0	D-3			4	5	7	12	
	4.0	D-4			4	6	8	14	
	5.0	D-5			3	4	5	9	
(7.0)	6.0	D-6	Ash coloured medium dense and dense SILT, little/some fine SAND		2	2	3	5	
	7.0	D-7			4	5	6	11	
	8.0	D-8			5	7	9	16	
	9.0	D-9			6	8	10	18	
10.0	10.0	D-10			7	9	11	20	
	11.0	D-11			8	9	12	21	
	12.0	D-12			8	10	13	23	
	13.0	D-13			9	12	16	28	
	14.0	D-14			9	14	19	23	
(12.0)	15.0	D-15	Ash coloured medium dense to dense SILT& fine SAND		10	15	23	38	
	16.0	D-16			10	16	26	42	
	17.0	D17			8	12	15	27	
	18.0	D18			9	14	18	32	
	19.0	D-19			11	17	22	39	
	20.0	D-20			12	20	26	46	
22.0	21.0	D-21			12	22	30	52	
	22.0	D-22			14	25	33	58	
	23.0	D-23			12	20	29	49	
	24.0	D-24			10	18	25	43	
(8.0)	25.0	D-25	Ash coloured very dense SILTY FINE SAND.		9	16	21	37	
	26.0	D-26			12	20	25	45	
	27.0	D27			12	23	29	52	
	28.0	D-28			14	26	33	59	
	29.0	D-29			14	28	36	64	
30.0	30.0	D-30							

Client : TEPSCO
Project : Feasibility Study on 450 M.W. combined cycle power Station at Bheramara.
Location :Bheramara Power Station Area, Kustia, Bheramara.

Borehole No. : BH-5 (Five)
Boring Depth : 30.0m.
R.L. : 14.60m.
G.W.L. : 5.10m below
Date : 19-06-2008 & 20-06-2008

Sample Depth (Thick)	Depth (m.)	Sample Type & No.	Description of Materials	BORE LOG	Standard Penetration Test Values 15 cm	15 cm	15 cm	30 cm	S. P. T. 10 20 30 40 50 60 70
			Extg. G.L.						
	1.0	D-1	Ash coloured very loose & loose SILT, little/some fine sand.		1	1	2	3	
	2.0	D-2			1	2	2	4	
	3.0	D-3			2	3	4	7	
(8.0)	4.0	D-4			2	3	3	6	
	5.0	D-5			2	2	3	5	
	6.0	D-6			3	3	4	7	
	7.0	D-7			3	4	5	9	
8.0	8.0	D-8			4	7	10	17	
	9.0	D-9	Ash coloured medium dense and dense SILT& fine SAND		7	13	16	29	
	10.0	D-10			8	14	18	32	
	11.0	D-11			10	16	21	37	
	12.0	D-12			10	12	16	28	
	13.0	D-13			9	15	19	34	
	14.0	D-14			11	16	21	37	
	15.0	D-15			8	10	15	25	
(16.0)	16.0	D-16			8	11	16	27	
	17.0	D17			9	12	17	29	
	18.0	D18			10	15	18	33	
	19.0	D-19			9	14	17	31	
	20.0	D-20			8	12	16	28	
	21.0	D-21			8	12	17	29	
	22.0	D-22			10	13	18	31	
	23.0	D-23			9	12	16	28	
24	24.0	D-24			10	14	17	31	
	25.0	D-25			10	15	19	34	
	26.0	D-26	Ash coloured dense to very dense SILTY FINE SAND.		10	16	20	36	
	27.0	D27			12	17	22	39	
(6.0)	28.0	D-28			12	19	25	44	
	29.0	D-29			12	20	26	46	
30.0	30.0	D-30			14	23	30	53	

Client : TEPSCO
Project : Feasibility Study on 450 M.W. combined cycle power Station at Bheramara.
Location :Bheramara Power Station Area, Kustia, Bheramara.

Borehole No. : BH-6 (Six)
Boring Depth : 30.0m.
R.L. : 14.40m.
G.W.L. : 5.0m below
Date : 20-06-2008 & 21-06-2008

Sample Depth (Thick)	Depth (m.)	Sample Type & No.	Description of Materials	BORE LOG	Standard Penetration Test Values 15 cm	15 cm	15 cm	30 cm	S. P. T. 10 20 30 40 50 60 70
			Extg. G.L.						
	1.0	D-1			1	1	2	3	
	2.0	D-2			1	2	2	4	
	3.0	D-3			1	2	3	5	
(8.0)	4.0	D-4	Ash coloured very loose SILT, little fine sand.		2	2	3	5	
	5.0	D-5			1	2	2	4	
	6.0	D-6			2	2	3	5	
	7.0	D-7			2	3	3	6	
8.0	8.0	D-8			2	2	3	5	
	9.0	D-9			3	5	6	11	
	10.0	D-10			3	6	7	13	
(4.0)	11.0	D-11	Ash coloured medium dense SILT& fine SAND		6	10	14	24	
12.0	12.0	D-12			8	18	20	38	
	13.0	D-13			7	17	19	36	
	14.0	D-14			9	18	20	38	
	15.0	D-15			10	20	23	43	
	16.0	D-16			10	22	26	48	
(12.0)	17.0	D17			12	23	28	51	
	18.0	D18			10	18	21	39	
	19.0	D-19	Ash coloured medium dense to medium dense SILT& very fine SAND		12	14	18	32	
	20.0	D-20			12	13	17	30	
	21.0	D-21			7	10	14	24	
	22.0	D-22			8	10	14	24	
	23.0	D-23			8	10	15	25	
24.0	24.0	D-24			10	12	16	28	
	25.0	D-25			10	13	17	30	
	26.0	D-26			11	15	20	35	
	27.0	D27			12	18	22	40	
(6.0)	28.0	D-28	Ash coloured dense to very dense SILTY FINE SAND.		14	20	24	44	
	29.0	D-29			14	21	26	47	
30.0	30.0	D-30			14	23	30	53	

Client : TEPSCO
Project : Feasibility Study on 450 M.W. combined cycle power Station at Bheramara.
Location :Bheramara Power Station Area, Kustia, Bheramara.

Borehole No. : BH-7 (Seven)
Boring Depth : 30.0m.
R.L. : 14.50m.
G.W.L. : 4.90m below
Date : 21-06-2008 & 22-06-2008

Sample Depth (Thick)	Depth (m.)	Sample Type & No.	Description of Materials	BORE LOG	Standard Penetration Test Values 15 cm	15 cm	15 cm	30 cm	S. P. T.
			Extg. G.L.						10 20 30 40 50 60 70
	1.0	D-1			1	1	2	3	
	2.0	D-2			1	2	3	5	
	3.0	D-3			2	3	4	7	
(8.0)	4.0	D-4	Ash coloured very loose SILT, little fine sand.		1	2	2	4	
	5.0	D-5			2	2	3	5	
	6.0	D-6			2	2	4	6	
	7.0	D-7			2	2	3	5	
8.0	8.0	D-8			2	3	5	8	
	9.0	D-9			3	4	9	13	
(4.0)	10.0	D-10			6	8	12	20	
	11.0	D-11	Ash coloured loose to medium dense dense SILT, little/some fine SAND		8	12	16	28	
12.0	12.0	D-12			10	18	22	40	
	13.0	D-13			12	20	25	45	
	14.0	D-14			12	21	26	47	
	15.0	D-15			10	23	29	52	
	16.0	D-16			10	18	20	38	
(12.0)	17.0	D17			9	14	19	33	
	18.0	D18			11	17	21	38	
	19.0	D-19	Ash coloured dense SILT & fine SAND		12	19	23	42	
	20.0	D-20			10	16	19	35	
	21.0	D-21			9	12	18	30	
	22.0	D-22			11	12	20	32	
	23.0	D-23			12	14	23	37	
24.0	24.0	D-24			12	15	25	40	
	25.0	D-25			14	17	27	44	
	26.0	D-26			14	18	28	46	
	27.0	D27			12	23	29	52	
(6.0)	28.0	D-28	Ash coloured dense to very dense SILTY FINE SAND.		14	21	31	52	
	29.0	D-29			16	23	34	57	
30.0	30.0	D-30			16	24	36	60	

Client : TEPSCO
Project : Feasibility Study on 450 M.W. combined cycle power Station at Bheramara.
Location :Bheramara Power Station Area, Kustia, Bheramara.

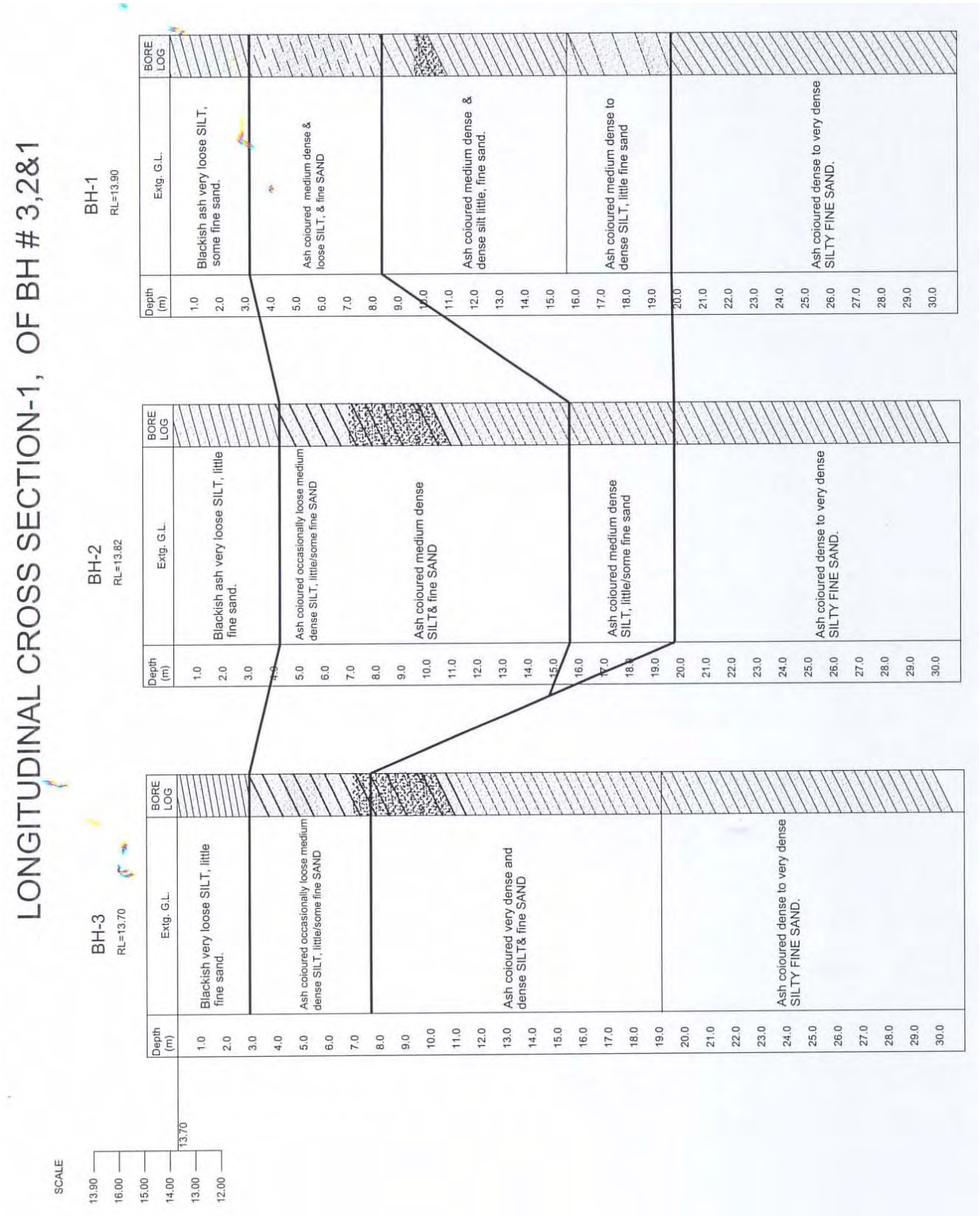
Borehole No. : BH-8 (Eight)
Boring Depth : 30.0m.
R.L. : 14.40m.
G.W.L. : 4.40m below
Date : 22-06-2008 & 23-06-2008

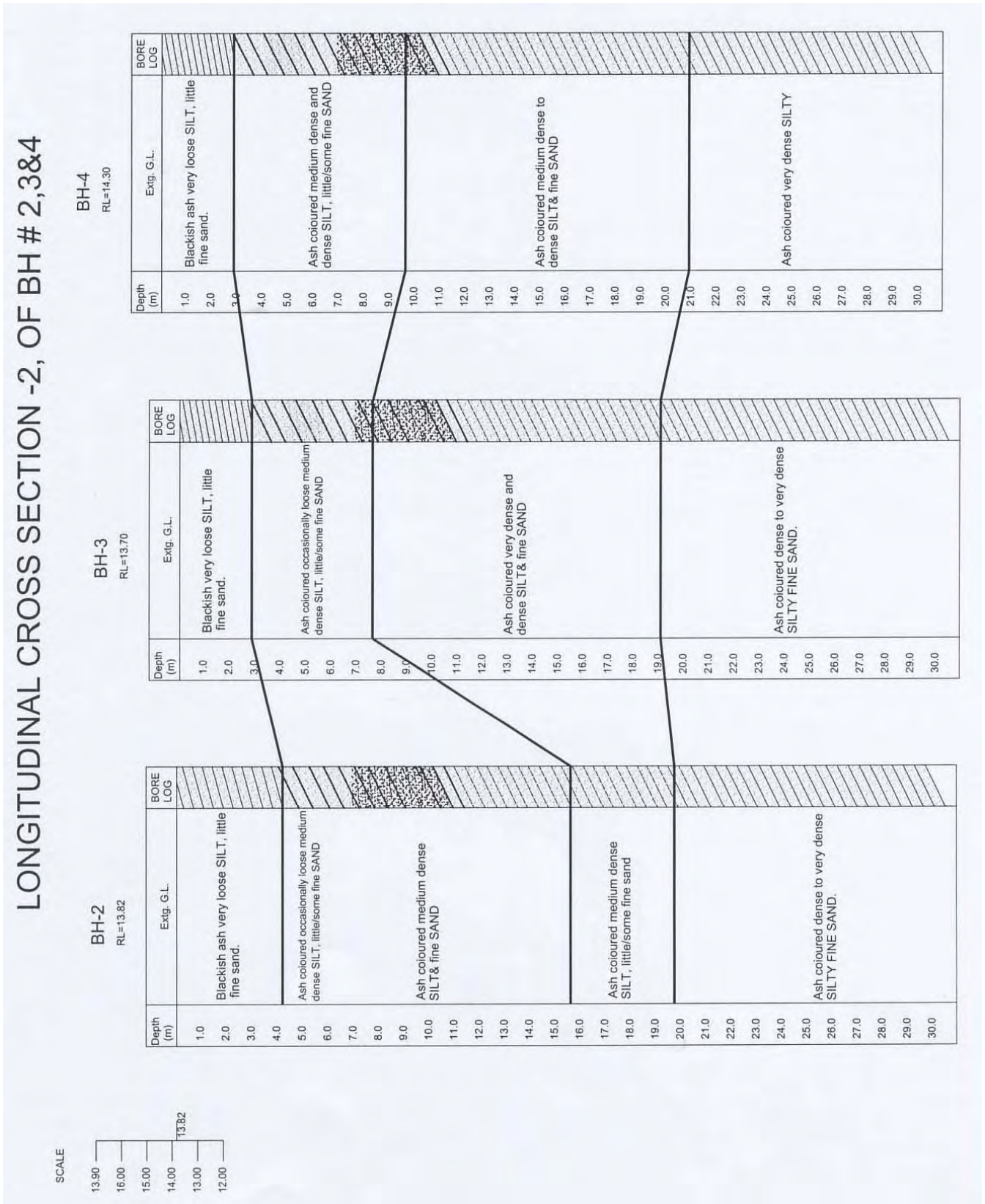
Sample Depth (Thick)	Depth (m.)	Sample Type & No.	Description of Materials	BORE LOG	Standard Penetration Test Values 15 cm	15 cm	15 cm	30 cm	S. P. T.
			Extg. G.L.						10 20 30 40 50 60 70
	1.0	D-1			1	2	3	4	
	2.0	D-2			2	2	3	5	
	3.0	D-3			3	4	4	8	
(8.0)	4.0	D-4	Ash coloured very loose SILT, little fine sand.		2	3	3	6	
	5.0	D-5			2	2	2	4	
	6.0	D-6			2	2	3	5	
	7.0	D-7			3	3	4	7	
8.0	8.0	D-8			4	6	9	15	
	9.0	D-9			6	9	13	22	
	10.0	D-10			6	11	16	27	
	11.0	D-11			5	9	12	21	
	12.0	D-12			5	8	10	18	
	13.0	D-13	Ash coloured medium dense to dense SILT& fine SAND		6	9	12	21	
	14.0	D-14			8	10	13	23	
(15.0)	15.0	D-15			10	12	14	26	
	16.0	D-16			9	11	12	23	
	17.0	D17			10	11	13	24	
	18.0	D18			8	12	14	26	
	19.0	D-19			9	14	17	31	
	20.0	D-20			11	17	21	38	
	21.0	D-21			11	17	22	39	
	22.0	D-22			12	18	23	41	
23.0	23.0	D-23			12	19	25	44	
	24.0	D-24			12	21	27	48	
	25.0	D-25	Ash coloured dense to very dense SILTY FINE SAND.		12	21	28	49	
	26.0	D-26			13	22	30	52	
(7.0)	27.0	D27			14	24	31	55	
	28.0	D-28			14	25	34	59	
	29.0	D-29			14	25	36	61	
30.0	30.0	D-30			16	27	39	66	

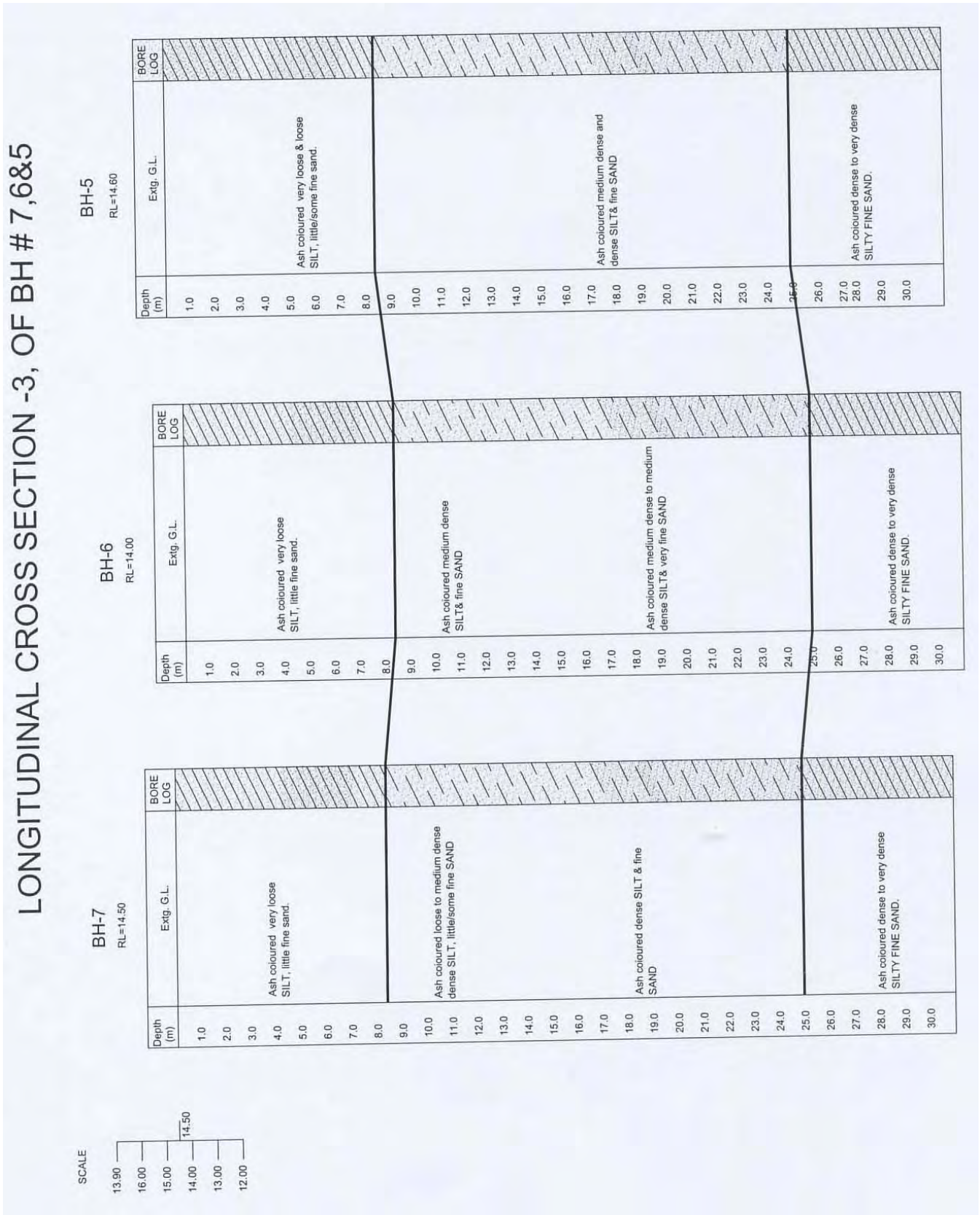
Client : TEPSCO
Project : Feasibility Study on 450 M.W. combined cycle power Station at Bheramara.
Location :Bheramara Power Station Area, Kustia, Bheramara.

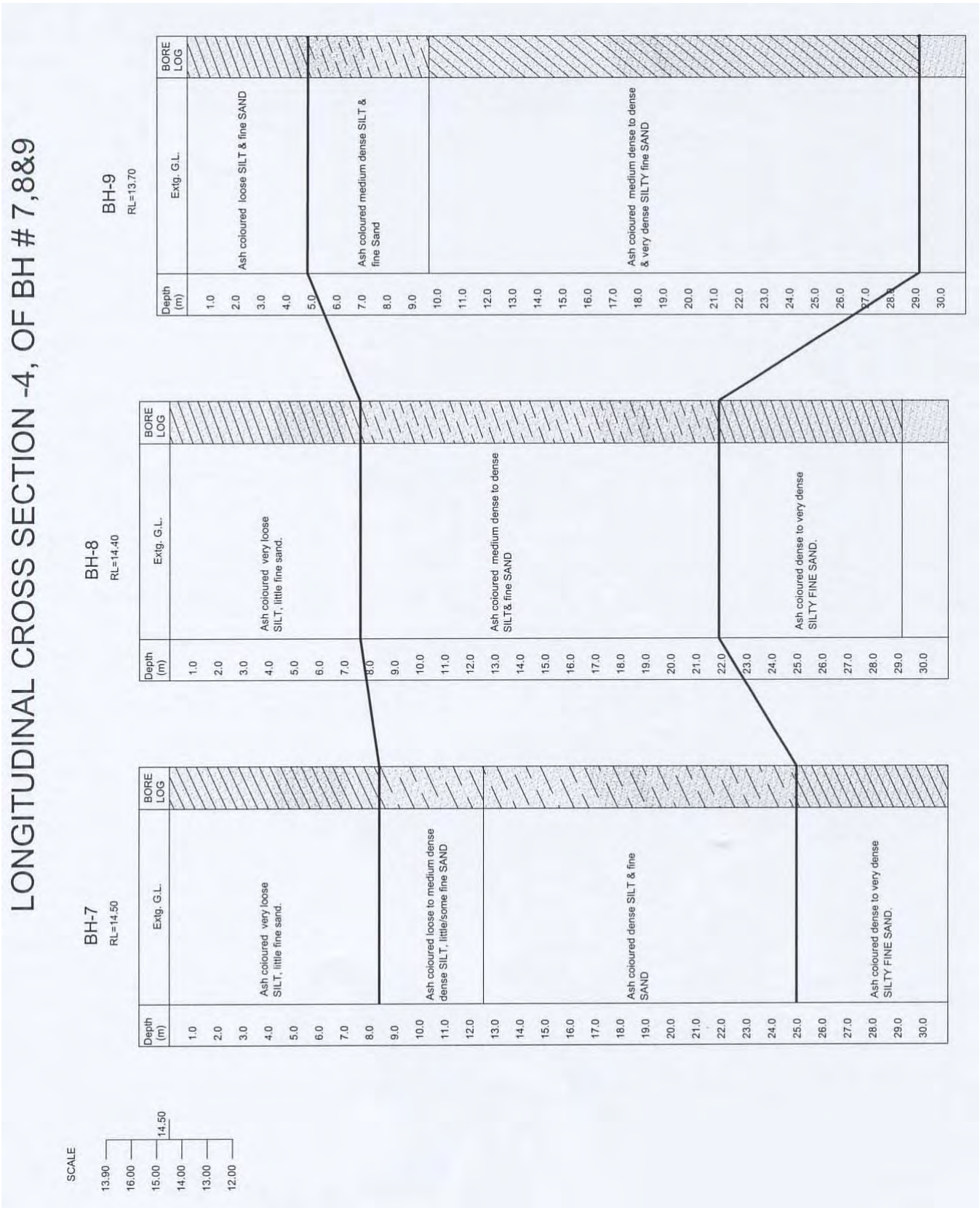
Borehole No. : BH-9 (Nine)
Boring Depth : 30.0m.
R.L. : 13.70m.
G.W.L. : 5.25m below
Date : 23-06-2008 & 24-06-2008

Sample Depth (Thick)	Depth (m.)	Sample Type & No.	Description of Materials	BORE LOG	Standard Penetration Test Values 15 cm	15 cm	15 cm	30 cm	S. P. T. 10 20 30 40 50 60 70
			Extg. G.L.						
	1.0	D-1	Ash coloured loose SILT & fine SAND		1	2	2	4	
	2.0	D-2			2	3	3	6	
(5.0)	3.0	D-3			3	4	5	9	
	4.0	D-4			3	4	4	8	
5.0	5.0	D-5			2	3	4	7	
	6.0	D-6	Ash coloured medium dense SILT & fine Sand		4	5	7	12	
(5.0)	7.0	D-7			4	6	8	14	
	8.0	D-8			6	8	11	19	
	9.0	D-9			7	9	13	22	
10.0	10.0	D-10	Ash coloured medium dense to dense & very dense SILTY fine SAND		8	11	16	27	
	11.0	D-11			10	13	19	32	
	12.0	D-12			10	15	21	36	
	13.0	D-13			11	16	22	38	
	14.0	D-14			13	18	24	42	
	15.0	D-15			12	17	20	37	
	16.0	D-16			12	16	18	34	
	17.0	D17			10	14	19	31	
	18.0	D18			10	15	19	34	
	19.0	D-19			11	15	22	39	
(20.0)	20.0	D-20			11	19	25	44	
	21.0	D-21			11	18	21	39	
22.0	22.0	D-22			9	17	19	36	
	23.0	D-23			9	16	18	34	
	24.0	D-24			10	17	20	37	
	25.0	D-25			11	19	22	41	
	26.0	D-26			11	21	24	45	
	27.0	D27			12	22	25	47	
	28.0	D-28			12	23	27	50	
	29.0	D-29			13	25	30	55	
30.0	30.0	D-30			14	26	32	58	


LONGITUDINAL CROSS SECTION-1, OF BH # 3,2&1
SCALE
13.90
16.00
15.00
14.00
13.70
13.00
12.00
BH-3
RL=13.70
BH-2
RL=13.82
BH-1
RL=13.90
Depth (m)
Extg. G.L.
BORE LOG
Blackish very loose SILT, little fine sand.
Ash coioured occasionally loose medium dense SILT, little/some fine SAND
Ash coioured very dense and dense SILT& fine SAND
Ash coioured dense to very dense SILTY FINE SAND.
Blackish very loose SILT, little fine sand.
Ash coioured occasionally loose medium dense SILT, little/some fine SAND
Ash coioured medium dense SILT& fine SAND
Ash coioured medium dense SILT, little/some fine sand
Ash coioured dense to very dense SILTY FINE SAND.
Blackish ash very loose SILT, some fine sand.
Ash coioured medium dense & loose SILT, & fine SAND
Ash coioured medium dense & dense silt little, fine sand.
Ash coioured medium dense to dense SILT, little fine sand
Ash coioured dense to very dense SILTY FINE SAND.


LONGITUDINAL CROSS SECTION -2, OF BH # 2,3&4
BH-2
RL=13.82
BH-3
RL=13.70
BH-4
RL=14.30
Depth (m)
Extg. G.L.
BORE LOG
Blackish ash very loose SILT, little fine sand.
Ash coloured occasionally loose medium dense SILT, little/some fine SAND
Ash coloured medium dense SILT& fine SAND
Ash coloured very dense and dense SILT& fine SAND
Ash coloured medium dense to dense SILT& fine SAND
Ash coloured medium dense SILT, little/some fine sand
Ash coloured dense to very dense SILTY FINE SAND.
Ash coloured very dense SILTY
SCALE
13.90
16.00
15.00
14.00
13.82
13.00
12.00


LONGITUDINAL CROSS SECTION -3, OF BH # 7,6&5
SCALE
13.90
16.00
15.00
14.50
14.00
13.00
12.00
BH-7
RL=14.50
BH-6
RL=14.00
BH-5
RL=14.60
Depth (m)
Extg. G.L.
BORE LOG
Ash coloured very loose SILT, little fine sand.
Ash coloured loose to medium dense SILT, little/some fine SAND
Ash coloured dense SILT & fine SAND
Ash coloured dense to very dense SILTY FINE SAND.
Ash coloured very loose SILT, little fine sand.
Ash coloured medium dense SILT& fine SAND
Ash coloured medium dense to medium dense SILT& very fine SAND
Ash coloured dense to very dense SILTY FINE SAND.
Ash coloured very loose & loose SILT, little/some fine sand.
Ash coloured medium dense and dense SILT& fine SAND
Ash coloured dense to very dense SILTY FINE SAND.


LONGITUDINAL CROSS SECTION -4, OF BH # 7,8&9
BH-7
RL=14.50
BH-8
RL=14.40
BH-9
RL=13.70
Depth (m)
Extg. G.L.
BORE LOG
Ash coloured very loose SILT, little fine sand.
Ash coloured loose to medium dense dense SILT, little/some fine SAND
Ash coloured dense SILT & fine SAND
Ash coloured dense to very dense SILTY FINE SAND.
Ash coloured very loose SILT, little fine sand.
Ash coloured medium dense to dense SILT& fine SAND
Ash coloured dense to very dense SILTY FINE SAND.
Ash coloured loose SILT & fine SAND
Ash coloured medium dense SILT & fine Sand
Ash coloured medium dense to dense & very dense SILTY fine SAND
SCALE
13.90
16.00
15.00
14.50
14.00
13.00
12.00