



BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING MANAGEMENT, NOIDA

Date-21-Dec-24

CORRIGENDUM- 11

PROJECTs	:	KODERMA TPS PH-II (2x800 MW)
PACKAGE	:	Induced Draft Cooling Towers (IDCT)
Enquiry No.	:	77/23/6156/MAZ dtd 22.10.2024
SUBJECT	:	Incorporation of Bore Log Data sheet pertaining to IDCT area

Type of Corrigendum			
Technical Corrigendum -	<input checked="" type="checkbox"/>	Commercial Corrigendum -	<input type="checkbox"/>

In reference to the above-mentioned tender enquiry please note the following.

1. Bore Log Data sheet pertaining to IDCT area.

All the other terms and conditions of the tender enquiry remain unchanged. All the bidders are requested to quote accordingly.

Yours faithfully,

For and on behalf of BHEL

Md. Mazhar Wahab
Dy. Manager/BOP

Project : G/I work for 2X800 MW Koderma TPS, Phase-II, Jharkhand.

CETEST

Job No : 4789

Created by : Chandrani

Created on : 02/11/2024

Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO.45

Co-ordinates E=3394.000
N=12941.000

Field Test	Nos	Samples	Nos	Commencement Date : 25/10/2024
Penetrometer (SPT)	10	Undisturbed (UDS)	2	Completion Date : 25/10/2024
Cone (Pc)		Penetrometer (SPT)	10	Bore Hole Diameter : 150 mm. / N.X.
Vane (V)		Disturbed (DS)	7	Level Of Ground : 368.542 M.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.40 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15CM.						Ref. No	Depth (m)
0.00m									
Loose to medium dense, light brownish grey, clayey silty sand.	(I)							DS-1	0.50
		3	4	6	10			SPT-1	1.00-1.45
								UDS-1	2.00-2.45
		4	5	8	13			SPT-2	2.45-2.90
4.00m	(II)	N.X. rotary drilling from 5.00m to 15.00m						DS-2	3.50
								*UDS-2	4.00-4.12
		31	50	5.0	cm	Pentn.		SPT-3	4.30-4.50
		50	3.0	cm	Pentn.	Refusal		*SPT-4	4.80-4.83
5.00m	(IV)	50	2.0	cm	Pentn.	Refusal		*SPT-5	5.00-5.02 5.00
		50	3.0	cm	Pentn.	Refusal		R1	CR=NIL RQD=NIL
		50	3.0	cm	Pentn.	Refusal		DS-3	
		50	3.0	cm	Pentn.	Refusal		*SPT-6	5.75-5.78 5.75
8.75m	(V)	50	3.0	cm	Pentn.	Refusal		R2	CR=NIL RQD=NIL
		50	3.0	cm	Pentn.	Refusal		DS-4	
		50	3.0	cm	Pentn.	Refusal		*SPT-7	6.50-6.53 6.50
		50	3.0	cm	Pentn.	Refusal		R3	CR=NIL RQD=NIL
10.15m	(V)	50	2.0	cm	Pentn.	Refusal		DS-5	
		50	2.0	cm	Pentn.	Refusal		*SPT-8	7.25-7.28 7.25
		50	2.0	cm	Pentn.	Refusal		R4	CR=NIL RQD=NIL
		50	4.0	cm	Pentn.	Refusal		DS-6	
								*SPT-9	8.00-8.02 8.00
								R5	CR=NIL RQD=NIL
								DS-7	
								*SPT-10	8.75-8.79 8.75
								R6	CR=26% RQD=NIL
								R7	CR=32% RQD=NIL



Project : G/I work for 2X800 MW Koderma TPS, Phase-II, Jharkhand.

CETEST

Job No : 4789

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Created on : 02/11/2024

Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO.46

Co-ordinates E=3461.000
N=12946.000

Field Test	Nos	Samples	Nos	Commencement Date : 24/10/2024
Penetrometer (SPT)	12	Undisturbed (UDS)	1	Completion Date : 25/10/2024
Cone (Pc)		Penetrometer (SPT)	12	Bore Hole Diameter : 150 mm. / N.X.
Vane (V)		Disturbed (DS)	7	Level Of Ground : 368.776 M.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.55 m.

DESCRIPTION	SYMBOL	N-VALUE							SAMPLES	
		EACH DIVN. = 15CM.							Ref. No	Depth (m)
0.00m										
Medium, greyish brown, clayey silt with sand & mica / clayey silty sand.	(IIIA)								DS-1	0.50
		2	3	4			7		SPT-1	1.00-1.45
									UDS-1	2.00-2.45
		4	4	4			8		SPT-2	2.45-2.90
		N.X. rotary drilling from 4.00m to 15.00m								
3.60m									DS-2	3.50
Very dense, light grey, silty sand with decomposed rock.	(II)	50	4.0	cm	Penth.				*SPT-3	3.80-3.84
		50							*SPT-4	4.00-4.03 4.00
4.00m									R1	CR=NIL RQD=NIL
Completely weathered, light grey, coarse grained, decomposed & disintegrated rock.	(IV)								DS-3	
		50							*SPT-5	4.75-4.78 4.75
									R2	CR=NIL RQD=NIL
		50							DS-4	
									*SPT-6	5.50-5.52 5.50
									R3	CR=NIL RQD=NIL
		50							DS-5	
									*SPT-7	6.25-6.28 6.25
7.75m	(IV)								R4	CR=NIL RQD=NIL
		50							DS-6	
									*SPT-8	7.00-7.02 7.00
									R5	CR=NIL RQD=NIL
		50							DS-7	
									*SPT-9	7.75-7.78 7.75
									R6	CR=26% RQD=NIL
										8.50
Highly weathered, reddish brown, coarse grained, fractured rock.	(IV)								R7	CR=24% RQD=NIL
										9.25
10.15m	(IV)								R8	CR=22% RQD=NIL
										10.00



Project : G/I work for 2X800 MW Koderma TPS, Phase-II, Jharkhand.

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BORE LOG DATA SHEET

BORE HOLE NO.46

Co-ordinates E=3461.000
N=12946.000

Field Test	Nos	Samples	Nos	Commencement Date : 24/10/2024
Penetrometer (SPT)	12	Undisturbed (UDS)	1	Completion Date : 25/10/2024
Cone (Pc)		Penetrometer (SPT)	12	Bore Hole Diameter : 150 mm. / N.X.
Vane (V)		Disturbed (DS)	7	Level Of Ground : 368.776 M.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.55 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15CM.						Ref. No	Depth (m)
10.15m Highly weathered, reddish brown, coarse grained, fractured rock.	(IV)							R9	CR=20% RQD=NIL
11.50m Completely to highly weathered, grey, coarse grained, fractured rock.	(IV)	50						R10	CR=18% RQD=NIL
		3.0	cm	Penth.				*SPT-10	11.50-11.53 11.50
		50						R11	CR=15% RQD=NIL
		2.0	cm	Penth.				*SPT-11	12.25-12.27 12.25
		50						R12	CR=17% RQD=NIL
		3.0	cm	Penth.				*SPT-12	13.00-13.03 13.00
13.75m Highly weathered, light grey, coarse grained, fractured rock.	(IV)							R13	CR=21% RQD=NIL
15.00m								R14	CR=22% RQD=NIL
								R15	CR=23% RQD=NIL

N.B. - '*' means sample could not be recovered.



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Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO.99

Co-ordinates E=3329.000
N=13209.000

Field Test	Nos	Samples	Nos	Commencement Date : 26/10/2024
Penetrometer (SPT)	5	Undisturbed (UDS)	1	Completion Date : 27/10/2024
Cone (Pc)		Penetrometer (SPT)	5	Bore Hole Diameter : 150 mm. / N.X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 375.110 M.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.70 m.

DESCRIPTION	SYMBOL	N-VALUE							SAMPLES	
		EACH DIVN. = 15CM.							Ref. No	Depth (m)
0.00m Filled up soil consists of coal dust & coal slag.									DS-1	0.50
0.70m										
Very dense, reddish brown, silty sand with kankar & boulder.	(II)	21	25	31	56				SPT-1	1.00-1.45
									*UDS-1	2.00-2.10
		20	22	28	50				SPT-2	2.25-2.70
									DS-2	3.50
4.00m										
Very dense, deep grey, silty sand with decomposed rock. Obs. mica.	(II)	35	50		5.0 cm Pentn.				SPT-3	4.00-4.20
		50			Refusal				*SPT-4	4.35-4.38
		50			3.0 cm Pentn.				*SPT-5	4.50-4.53
4.50m										
Highly weathered, deep grey, coarse grained, fractured rock.	(IV)				3.0 cm Pentn.				R1	CR=22% RQD=NIL
									R2	CR=23% RQD=NIL
									R3	CR=24% RQD=NIL
									R4	CR=27% RQD=13%
6.75m										
Highly weathered, deep grey, coarse grained, fractured rock.	(V)								R5	CR=30% RQD=NIL
									R6	CR=31% RQD=24%
									R7	CR=30% RQD=16%
10.15m										



Project : G/I work for 2X800 MW Koderma TPS, Phase-II, Jharkhand.

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BORE LOG DATA SHEET

BORE HOLE NO.99

Co-ordinates E=3329.000
N=13209.000

Field Test	Nos	Samples	Nos	Commencement Date : 26/10/2024
Penetrometer (SPT)	5	Undisturbed (UDS)	1	Completion Date : 27/10/2024
Cone (Pc)		Penetrometer (SPT)	5	Bore Hole Diameter : 150 mm. / N.X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 375.110 M.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.70 m.

DESCRIPTION	SYMBOL	N-VALUE							SAMPLES	
		EACH DIVN. = 15CM.							Ref. No	Depth (m)
Highly weathered, deep grey, coarse grained, fractured rock.	(V)								R8	CR=31% RQD=17% 10.15m
									R9	CR=30% RQD=18% 10.50
									R10	CR=26% RQD=18% 11.25
									R11	CR=24% RQD=NIL 12.00
									R12	CR=23% RQD=NIL 12.75
									R13	CR=26% RQD=18% 13.50
									R14	CR=28% RQD=20% 14.25
										15.00m
N.B. - '*' means sample could not be recovered.										



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BORE LOG DATA SHEET

BORE HOLE NO.100

Co-ordinates E=3393.000
N=13235.000

Field Test	Nos	Samples	Nos	Commencement Date : 26/10/2024
Penetrometer (SPT)	11	Undisturbed (UDS)	1	Completion Date : 27/10/2024
Cone (Pc)		Penetrometer (SPT)	11	Bore Hole Diameter : 150 mm. / N.X.
Vane (V)		Disturbed (DS)	1	Level Of Ground : 374.250 M.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.10 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15CM.						Ref. No	Depth (m)
0.00m									
Medium dense, light brown to light grey, silty sand with decomposed rock.	(I)	3	5	8	13			DS-1	0.50
								SPT-1	1.00-1.45
		N.X. rotary drilling from 3.00m to 15.00m							
2.00m									
Very dense, light brown to light grey, silty sand with decomposed rock.	(II)	26	39	53	>100			*UDS-1	2.00-2.07
								SPT-2	2.15-2.50
		50			5.0 cm Pentn.			*SPT-3	2.80-2.83
		3.0 cm			Refusal			*SPT-4	3.00-3.02 3.00
3.00m		50			2.0 cm Pentn.			R1	CR=13% RQD=NIL
					Refusal			*SPT-5	3.75-3.78 3.75
		50			3.0 cm Pentn.			R2	CR=16% RQD=NIL
					Refusal			*SPT-6	4.50-4.54 4.50
		50			4.0 cm Pentn.			R3	CR=17% RQD=NIL
					Refusal			*SPT-7	5.25-5.27 5.25
		50			2.0 cm Pentn.			R4	CR=17% RQD=NIL
					Refusal			*SPT-8	6.00-6.02 6.00
		50			2.0 cm Pentn.			R5	CR=20% RQD=NIL
	(IV)								6.75
								R6	CR=16% RQD=NIL
		50			Refusal			*SPT-9	7.50-7.53 7.50
		3.0 cm			Pentn.			R7	CR=20% RQD=NIL
									8.25
								R8	CR=18% RQD=NIL
		50			Refusal			*SPT-10	9.00-9.04 9.00
		4.0 cm			Pentn.			R9	CR=14% RQD=NIL
					Refusal				
9.75m		50						*SPT-11	9.75-9.77 9.75
Highly weathered, light grey, medium to fine grained, fractured rock.	(IV)	2.0 cm			Pentn.				
10.15m									





Project : G/I work for 2X800 MW Koderma TPS, Phase-II, Jharkhand.										CETEST		
Job No : 4789			Created by : Chandrani			Created on : 02/11/2024			Sheet No:			
BORE LOG DATA SHEET					BORE HOLE NO.105					Co-ordinates E=3455.000 N=13288.000		
Field Test		Nos	Samples		Nos	Commencement Date : 27/10/2024						
Penetrometer (SPT)		3	Undisturbed (UDS)		0	Completion Date : 28/10/2024						
Cone (Pc)			Penetrometer (SPT)		3	Bore Hole Diameter : 150 mm. / N.X.						
Vane (V)			Disturbed (DS)		1	Level Of Ground : 373.682 M.						
			Water Sample (WS)		0	Water Struck At :						
						Standing Water Level : 1.05 m.						
DESCRIPTION					SYMBOL	N-VALUE				SAMPLES		
						EACH DIVN. = 15CM.				Ref. No	Depth (m)	
0.00m Very dense, light brownish grey, silty sand with decomposed rock particles.					(II)	35	50	5.0	>100	DS-1	0.30	
						50	4.0	cm	Refusal	SPT-1	0.50-0.70	
1.00m						50	3.0	cm	Refusal	*SPT-2	0.85-0.89	
					(IV)					*SPT-3	1.00-1.03	1.00
										R1	CR=23% RQD=NIL	↓
												1.75
										R2	CR=23% RQD=NIL	↓
												2.50
										R3	CR=24% RQD=NIL	↓
												3.25
										R4	CR=23% RQD=NIL	↓
												4.00
										R5	CR=27% RQD=NIL	↓
												4.75
										R6	CR=24% RQD=NIL	↓
											5.50	
									R7	CR=25% RQD=NIL	↓	
											6.25	
									R8	CR=24% RQD=18%	↓	
											7.00	
					(V)					R9	CR=28% RQD=NIL	↓
												7.75
										R10	CR=26% RQD=NIL	↓
												8.50
									R11	CR=28% RQD=NIL	↓	
											9.25	
									R12	CR=30% RQD=NIL	↓	
											10.00	
10.15m											↺	





Project : G/I work for 2X800 MW Koderma TPS, Phase-II, Jharkhand.										CETEST	
Job No : 4789			Created by : Chandrani			Created on : 02/11/2024			Sheet No:		
BORE LOG DATA SHEET					BORE HOLE NO.105					Co-ordinates E=3455.000 N=13288.000	
Field Test		Nos	Samples		Nos	Commencement Date : 27/10/2024					
Penetrometer (SPT)		3	Undisturbed (UDS)		0	Completion Date : 28/10/2024					
Cone (Pc)			Penetrometer (SPT)		3	Bore Hole Diameter : 150 mm. / N.X.					
Vane (V)			Disturbed (DS)		1	Level Of Ground : 373.682 M.					
			Water Sample (WS)		0	Water Struck At :					
						Standing Water Level : 1.05 m.					
DESCRIPTION				SYMBOL	N-VALUE				SAMPLES		
					EACH DIVN. = 15CM.				Ref. No	Depth (m)	
Highly weathered, light yellowish grey, coarse grained, fractured rock.				(V)					R13	CR=33% RQD=NIL	
									10.15m		10.75
									R14	CR=32% RQD=NIL	
											11.50
									R15	CR=32% RQD=NIL	
											12.25
Slightly weathered to fresh, light blackish grey, coarse to medium grained, fractured rock.				(VI)					R16	CR=84% RQD=NIL	
									12.25m		13.00
									R17	CR=78% RQD=NIL	
											13.75
									R18	CR=82% RQD=NIL	
											14.50
									R19	CR=74% RQD=NIL	
									15.00m		15.00
N.B. - '*' means sample could not be recovered.											





Project : G/I work for 2X800 MW Koderma TPS, Phase-II, Jharkhand.

CETEST

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Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO.106

Co-ordinates E=3529.000
N=13310.000

Field Test	Nos	Samples	Nos	Commencement Date : 27/10/2024
Penetrometer (SPT)	8	Undisturbed (UDS)	0	Completion Date : 29/10/2024
Cone (Pc)		Penetrometer (SPT)	8	Bore Hole Diameter : 150 mm. / N.X.
Vane (V)		Disturbed (DS)	6	Level Of Ground : 371.844 M.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 0.95 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15CM.						Ref. No	Depth (m)
0.00m Very dense, light yellowish brown, silty sand with decomposed rock.	(II)	31	50	8.0	>100	cm	Pentn.	DS-1 SPT-1	0.40 0.50-0.73
		50		4.0	cm	Pentn.		*SPT-2	0.80-0.84
1.00m		50		3.0	cm	Pentn.		*SPT-3	1.00-1.03 1.00
								R1	CR=NIL RQD=NIL
		50						DS-2 *SPT-4	1.75-1.78 1.75
								R2	CR=NIL RQD=NIL
		50						DS-3 *SPT-5	2.50-2.53 2.50
								R3	CR=NIL RQD=NIL
	(IV)	50						DS-4 *SPT-6	3.25-3.27 3.25
								R4	CR=NIL RQD=NIL
		50						DS-5 *SPT-7	4.00-4.02 4.00
								R5	CR=NIL RQD=NIL
4.75m		50						DS-6 *SPT-8	4.75-4.78 4.75
								R6	CR=30% RQD=NIL
	(V)	N.X. rotary drilling from 1.00m to 15.00m						R7	CR=38% RQD=13%
6.25m								R8	CR=43% RQD=NIL
								R9	CR=47% RQD=NIL
	(V)							R10	CR=48% RQD=19%
								R11	CR=48% RQD=NIL
9.25m								R12	CR=54% RQD=22%
	(VI)								10.00
10.15m									



Project : G/I work for 2X800 MW Koderma TPS, Phase-II, Jharkhand.

CETEST

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Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO.106

Co-ordinates E=3529.000
N=13310.000

Field Test	Nos	Samples	Nos	Commencement Date : 27/10/2024
Penetrometer (SPT)	8	Undisturbed (UDS)	0	Completion Date : 29/10/2024
Cone (Pc)		Penetrometer (SPT)	8	Bore Hole Diameter : 150 mm. / N.X.
Vane (V)		Disturbed (DS)	6	Level Of Ground : 371.844 M.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 0.95 m.

DESCRIPTION	SYMBOL	N-VALUE							SAMPLES	
		EACH DIVN. = 15CM.							Ref. No	Depth (m)
Moderately to slightly weathered, light grey, coarse to medium grained, fractured rock.	(VI)								R13	CR=55% RQD=13%
									R14	CR=61% RQD=40%
									R15	CR=63% RQD=40%
									R16	CR=67% RQD=55%
									R17	CR=71% RQD=35%
									R18	CR=77% RQD=54%
									R19	CR=80% RQD=66%