

CLAUSE NO.	TECHNICAL REQUIREMENTS 		
D-1-12(C)	GEOTECHNICAL DATA Annexure (C)		
TALCHER TPP STAGE-III (2X660 MW) EPC PACKAGE	TECHNICAL SPECIFICATIONS SECTION-VI, PART-B DOC NO. CS-4540-	SUB-SECTION-D-1-12 (C) CIVIL WORKS BORE HOLE DATA	PAGE 1 OF 263

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 02/09/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 1

Co-ordinates E=1321
N=4260

Field Test	Nos	Samples	Nos	Commencement Date : 20/08/17
Penetrometer (SPT)	2	Undisturbed (UDS)	0	Completion Date : 23/08/17
Cone (Pc)		Penetrometer (SPT)	2	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 71.273 m.
		Water Sample (WS)	0	Water Struck At : Standing Water Level : 1.80 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m Very dense, yellowish grey, silty sand with boulder. (SM)								DS-1	0.50
1.10m		100	5.0 cm	Refusal				*SPT-1	1.00-1.05
		100	2.0 cm	Refusal				*SPT-2	1.10-1.12
		NX rotary drilling from 1.10m to 16.10m						R1	CR=56% RQD=NIL
								R2	CR=52% RQD=NIL
								R3	CR=60% RQD=16%
								R4	CR=64% RQD=NIL
								R5	CR=66% RQD=18%
								R6	CR=72% RQD=NIL
								R7	CR=68% RQD=NIL
								R8	CR=72% RQD=NIL
								R9	CR=70% RQD=32%
								R10	CR=84% RQD=32%
								R11	CR=76% RQD=23%
								R12	CR=78% RQD=16%
								R13	CR=82% RQD=24%
								R14	CR=76% RQD=23%
								R15	CR=83% RQD=36%
								R16	CR=78% RQD=48%
								R17	CR=88% RQD=24%
								R18	CR=85% RQD=52%
								R19	CR=96% RQD=80%
16.10m									16.10

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

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 17/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 2

Co-ordinates E=1420 N=4257

Field Test	Nos	Samples	Nos	Commencement Date : 29/07/17
Penetrometer (SPT)	4	Undisturbed (UDS)	1	Completion Date : 02/08/17
Cone (Pc)		Penetrometer (SPT)	4	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	3	Level Of Ground : 72.492 m.
		Water Sample (WS)	1	Water Struck At :
				Standing Water Level : 1.20 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m								DS-1	0.50
Medium dense, brownish yellow silty sand with kankars. (SM)		10	8	16	24			UDS-1	1.00-1.45
								WS-1	1.20
								SPT-1	1.45-1.90
3.00m		6	10	22	32			DS-2	2.50
Hard, deep yellow, silty clay / clayey silt with sand mixture. (CI)		100	10.0	cm	Penth.	Refusal		SPT-2	3.00-3.45
								DS-3	4.00
4.80m		100	2.0	cm	Penth.	Refusal		SPT-3	4.50-4.60
Highly weathered, greyish yellow, fine to medium grained, fractured sandstone.		NX	rotary	drilling	from	4.60m	to	*SPT-4	4.80-4.82 4.80
								R1	CR=28% RQD=NIL 5.55
								R2	CR=32% RQD=NIL 6.30
								R3	CR=26% RQD=NIL 7.05
								R4	CR=30% RQD=NIL 7.80
								R5	CR=30% RQD=NIL 8.55
								R6	CR=28% RQD=NIL 9.30
								R7	CR=30% RQD=NIL 10.05
								R8	CR=27% RQD=NIL 10.80
								R9	CR=28% RQD=NIL 11.50
								R10	CR=75% RQD=53% 12.25
								R11	CR=85% RQD=19% 13.00
								R12	CR=76% RQD=20% 13.75
								R13	CR=72% RQD=NIL 14.50
11.50m								R14	CR=75% RQD=NIL 15.25
Slightly weathered / fresh, deep grey, fine to medium grained, fractured sandstone.									
15.25m									

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

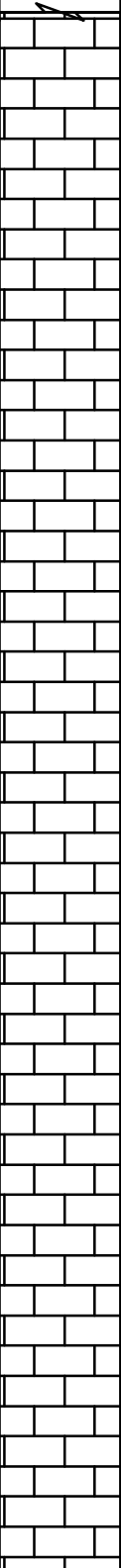
Job No : 3975 Created by : Chandrani Created on : 17/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 2

Co-ordinates E=1420
N=4257

Field Test	Nos	Samples	Nos	Commencement Date : 29/07/17
Penetrometer (SPT)	4	Undisturbed (UDS)	1	Completion Date : 02/08/17
Cone (Pc)		Penetrometer (SPT)	4	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	3	Level Of Ground : 72.492 m
		Water Sample (WS)	0	Water Struck At : Standing Water Level : 1.20 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
Slightly weathered / fresh, deep grey, fine to medium grained, fractured sandstone.								R15	CR=85% RQD=NIL 16.00
								R16	CR=89% RQD=NIL 16.75
								R17	CR=81% RQD=NIL 18.25
								R18	CR=61% RQD=NIL 19.75
								R19	CR=85% RQD=NIL 20.50
								R20	CR=83% RQD=NIL 21.25
								R21	CR=80% RQD=NIL 22.75
								R22	CR=87% RQD=NIL 24.25
								R23	CR=92% RQD=25% 25.75
								R24	CR=81% RQD=NIL 27.25
								R25	CR=85% RQD=NIL 28.75
								R26	CR=86% RQD=08% 30.05
N.B. - '*' means sample could not be recovered.									

Job No : 3975

Created by : Chandrani

Created on : 22/09/2017

Sheet No:

BORE HOLE NO. 3

Co-ordinates

Field Test	Nos	Samples	Nos	Commencement Date :	19/08/17
Penetrometer (SPT)	4	Undisturbed (UDS)	1	Completion Date :	20/08/17
Cone (Pc)		Penetrometer (SPT)	4	Bore Hole Diameter :	150 mm. / N. X.
		Disturbed (DS)	2	Level Of Ground :	70.643 m.
Vane (V)		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 Filled up soil consists of deep brownish grey, silty sand with brick bats.								DS-1	0.50
1.65m Very stiff to hard, greyish brown, silty clay with fine sand mixture. (CI)					16			*UDS-1	1.00-1.45
2.30m Very dense, yellowish brown, silty fined sand with rock dust. (SM)					>100			SPT-1	1.55-2.00
2.55m					57			SPT-2	2.10-2.30
					5.0 cm Pentn.			*SPT-3	2.45-2.48
					3.0 cm Pentn.			DS-2	2.50
					3.0 cm Pentn.			*SPT-4	2.55-2.58
					3.0 cm Pentn.			R1	CR=24% RQD=NIL
					NX rotary drilling from 2.55m to 20.00m			R2	CR=28% RQD=NIL
								R3	CR=36% RQD=NIL
								R4	CR=46% RQD=NIL
								R5	CR=40% RQD=16%
								R6	CR=42% RQD=18%
								R7	CR=48% RQD=NIL
								R8	CR=50% RQD=30%
								R9	CR=56% RQD=16%
								R10	CR=45% RQD=17%
								R11	CR=48% RQD=22%

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

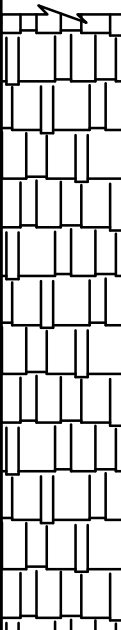
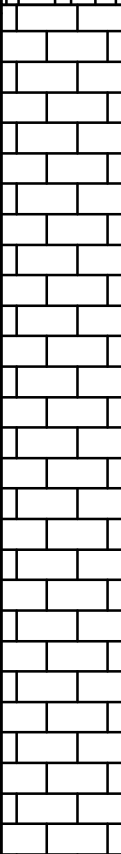
Job No : 3975 Created by : Chandrani Created on : 22/09/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 3

Co-ordinates E=1510
N=4270

Field Test	Nos	Samples	Nos	Commencement Date : 19/08/17
Penetrometer (SPT)	4	Undisturbed (UDS)	1	Completion Date : 20/08/17
Cone (Pc)		Penetrometer (SPT)	4	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 70.643 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)
Moderately weathered, yellowish brown, fine to medium grained, highly to moderately fractured sandstone.									R12	10.75 CR=57% RQD=40%
										11.50 CR=62% RQD=20%
										12.25 CR=46% RQD=16%
										13.00 CR=49% RQD=18%
										13.75 CR=48% RQD=22%
										14.50 CR=69% RQD=20%
Slightly weathered, brownish grey, medium grained, moderately fractured sandstone.									R17	15.25 CR=64% RQD=NIL
										16.00 CR=79% RQD=48%
										16.75 CR=62% RQD=36%
										17.50 CR=64% RQD=23%
										18.25 CR=76% RQD=33%
										19.00 CR=78% RQD=38%
										20.00
N.B. — '*' means sample could not be recovered.										

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 17/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 4

Co-ordinates E=1607
N=4245

Field Test	Nos	Samples	Nos	Commencement Date : 04/08/17
Penetrometer (SPT)	3	Undisturbed (UDS)	1	Completion Date : 06/08/17
Cone (Pc)		Penetrometer (SPT)	3	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 70.719 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.30 m.

DESCRIPTION	SYMBOL	N-VALUE					SAMPLES	
		EACH DIVN. = 15cm.					Ref. No	Depth (m)
0.00m Dense, yellowish brown, silty sand / sandy silt. (SM)		4	16	24	40		DS-1	0.50
							UDS-1	1.00-1.45
							SPT-1	1.45-1.90
							DS-2	2.50
3.00m Very dense, yellowish grey, clayey silty sand with decomposed rock. (SM)		45	56		≥100		SPT-2	3.00-3.22
4.00m		100			Refusal		*SPT-3	4.00-4.02
					2.0 cm Pentn.		R1	CR=68% RQD=23%
							R2	CR=68% RQD=15%
							R3	CR=79% RQD=31%
							R4	CR=92% RQD=NIL
							R5	CR=75% RQD=40%
							R6	CR=91% RQD=24%
							R7	CR=79% RQD=15%
							R8	CR=73% RQD=15%
							R9	CR=87% RQD=37%
							R10	CR=88% RQD=17%
							R11	CR=83% RQD=15%
								13.00
							R12	CR=84% RQD=24%
								14.50
							R13	CR=83% RQD=29%
								16.00
							R14	CR=82% RQD=33%
								17.50
10.00m Slightly weathered / fresh, greyish yellow, medium to fine grained, fractured sandstone.								
17.50m Fresh, deep grey, medium to fine grained, fractured sandstone.								
N.B. - '*' means sample could not be recovered.								

NX rotary drilling from 4.00m to 17.50m

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 28/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 6

Co-ordinates E=1218
N=3946

Field Test	Nos	Samples	Nos	Commencement Date : 14/08/17
Penetrometer (SPT)	3	Undisturbed (UDS)	1	Completion Date : 17/08/17
Cone (Pc)		Penetrometer (SPT)	3	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	3	Level Of Ground : 71.242 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.9 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m Filled up soil consists of yellowish grey, silty sand with gravels & boulders.								DS-1	0.50
								DS-2	1.00
1.60m Hard, light grey, silty clay. Obs. decomposed rock. (CI)		16	51	33	>100			*UDS-1	2.00-2.20
		5.0	cm	Pentn.				SPT-1	2.30-2.65
3.00m Very dense, yellowish grey, silty sand with decomposed rock. (SM)		100	3.0	cm	>100			DS-3	3.00
3.70m		100	Refusal					*SPT-2	3.60-3.63
			2.0	cm	Pentn.			*SPT-3	3.70-3.72
								R1	3.70
								R2	4.40
								R3	5.15
								R4	5.90
								R5	6.65
								R6	7.40
								R7	8.15
								R8	8.90
								R9	9.65
								R10	10.40
								R11	11.15
								R12	11.90
								R13	12.65
								R14	13.40
								R15	14.15
								R16	14.90
								R17	15.65
								R18	16.40
								R19	17.15
								R20	17.90
								R21	18.65
								R22	19.40
									20.00

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

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 17/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 7

Co-ordinates E=1140 N=4009

Field Test	Nos	Samples	Nos	Commencement Date : 11/08/17
Penetrometer (SPT)	5	Undisturbed (UDS)	1	Completion Date : 12/08/17
Cone (Pc)		Penetrometer (SPT)	5	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 71.120 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 Brownish grey, silty sand. Obs. boulders. (SM)								DS-1	0.50
1.50m		9	13	14	27			*UDS-1	1.00-1.45
Stiff to very stiff, brownish grey, silty clay. Obs. kankars. (CI)								SPT-1	1.60-2.05
3.70m		4	6	8	14			DS-2	2.50
Very dense, brownish grey, silty sand with decomposed rock. (SM)								SPT-2	3.00-3.45
4.70m		48	52		>100			SPT-3	4.00-4.25
Highly weathered, brownish grey, medium to fine grained fractured sandstone		100	10.0 cm	Penth.	>100			*SPT-4	4.40-4.44
5.25m		100	4.0 cm	Penth.	Refusal			*SPT-5	4.70-4.74
Slightly weathered, brownish grey to deep grey, medium to fine grained fractured sandstone.			4.0 cm	Penth.				R1	4.70
8.25m		NX rotary drilling from 4.70m to 15.00m						R2	CR=28% RQD=NIL 5.25
								R3	CR=65% RQD=44% 6.00
								R4	CR=76% RQD=48% 6.75
								R5	CR=71% RQD=22% 7.50
								R6	CR=68% RQD=NIL 8.25
								R7	CR=84% RQD=74% 9.00
								R8	CR=81% RQD=52% 9.75
								R9	CR=88% RQD=21% 11.00
								R10	CR=87% RQD=72% 12.50
								R11	CR=86% RQD=23% 14.00
15.00m									CR=81% RQD=64% 15.00
Fresh, deep grey, fine grained, fractured rock									

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

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 17/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 8

Co-ordinates E=1110
N=3920

Field Test	Nos	Samples	Nos	Commencement Date : 09/08/17
Penetrometer (SPT)	4	Undisturbed (UDS)	1	Completion Date : 11/08/17
Cone (Pc)		Penetrometer (SPT)	4	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 71.142 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.80 m

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m Medium dense, brownish grey, silty medium sand. Obs. kankars & traces of clay binders. (SM)		8	11	12	23			DS-1	0.50
2.00m Very dense, yellowish grey, silty fine to medium grained sand. Obs. decomposed rock. (SM)		28	32	40	>100			*UDS-1	1.00-1.45
		100	9.0	cm	Penth.			SPT-1	1.45-1.90
3.80m		100	4.0	cm	Penth.			DS-2	2.50
			3.0	cm	Penth.			SPT-2	2.80-3.19
					Refusal			*SPT-3	3.50-3.54
					Refusal			*SPT-4	3.80-3.83
								R1	3.80
									CR=42% RQD=NIL
								R2	4.50
									CR=52% RQD=NIL
								R3	5.25
									CR=64% RQD=NIL
								R4	6.00
									CR=70% RQD=NIL
								R5	6.75
									CR=69% RQD=NIL
								R6	7.50
									CR=68% RQD=NIL
								R7	8.25
									CR=80% RQD=76%
								R8	9.00
									CR=92% RQD=22%
								R9	9.75
									CR=88% RQD=80%
									11.00
								R10	12.50
									CR=83% RQD=70%
								R11	14.00
									CR=84% RQD=20%
								R12	15.00
									CR=85% RQD=72%
15.00m									15.00

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

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 03/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 9

Co-ordinates E=1100
N=3826

Field Test	Nos	Samples	Nos	Commencement Date : 22/07/17
Penetrometer (SPT)	3	Undisturbed (UDS)	1	Completion Date : 24/07/17
Cone (Pc)		Penetrometer (SPT)	3	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 71.497 m.
		Water Sample (WS)	0	Water Struck At : Standing Water Level : 1.52 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
Grey, Silty sand. Obs. gravels. (SM)	0.00m								
Medium, yellowish grey, silty clay with sand mixture & kankars. (CI)	0.40m							DS-1	0.50
	1.05m							UDS-1	0.70-1.05
Loose, yellowish grey, silty sand / sandy silt. Obs. kankars. (SM)	2.50m							SPT-1	1.05-1.50
Very dense, yellowish grey, silty sand with decomposed rock. (SM)	2.70m							DS-2	2.00
								SPT-2	2.50-2.56
								*SPT-3	2.70-2.72
								R1	CR=29% RQD=NIL
								R2	CR=27% RQD=NIL
								R3	CR=29% RQD=NIL
								R4	CR=24% RQD=14%
								R5	CR=28% RQD=NIL
								R6	CR=27% RQD=NIL
								R7	CR=27% RQD=NIL
								R8	CR=21% RQD=NIL
								R9	CR=35% RQD=NIL
								R10	CR=84% RQD=NIL
								R11	CR=88% RQD=NIL
								R12	CR=82% RQD=24%
								R13	CR=80% RQD=29%
								R14	CR=81% RQD=66%

Highly weathered, yellowish grey, medium grained, highly fractured sandstone.

Fresh, deep grey, medium grained, fractured sandstone.

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

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 03/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 10

Co-ordinates E=1044
N=3785

Field Test	Nos	Samples	Nos	Commencement Date : 20/07/17
Penetrometer (SPT)	3	Undisturbed (UDS)	1	Completion Date : 22/07/17
Cone (Pc)		Penetrometer (SPT)	3	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	1	Level Of Ground : 71.425 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, yellowish grey, silty sand. Obs. kankars. (SM)								*UDS-1	0.50-0.95
								DS-1	1.25
								SPT-1	1.50-1.95
2.50m Very dense, yellowish grey, silty sand with kankars. Obs. decomposed rock dust. (SM)								*SPT-2	2.50-2.56
2.80m								*SPT-3	2.80-2.83
3.50m Highly weathered, yellowish grey, medium grained, fractured sandstone.								R1	CR=37% RQD=21%
								R2	CR=56% RQD=24%
								R3	CR=52% RQD=NIL
								R4	CR=57% RQD=NIL
5.75m Moderately weathered, yellowish grey, medium grained, fractured sandstone.								R5	CR=73% RQD=62%
								R6	CR=81% RQD=NIL
								R7	CR=83% RQD=34%
								R8	CR=89% RQD=80%
								R9	CR=92% RQD=84%
								R10	CR=82% RQD=74%
								R11	CR=84% RQD=80%
14.00m Slightly weathered / fresh, grey, fine to medium grained, slightly fractured sandstone.									
N.B. - '*' means sample could not be recovered.									

Sheet No:

BORE HOLE NO. 11

Co-ordinates	E=1137 N=3769
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Penetrometer (SPT)	3	Undisturbed (UDS)	1
Cone (Pc)		Penetrometer (SPT)	3
		Disturbed (DS)	1
Vane (V)		Water Sample (WS)	0

Commencement Date :	17/07/17
Completion Date :	20/07/17
Bore Hole Diameter :	150 mm. / N. X.
Level Of Ground :	69.845 m.
Water Struck At :	
Standing Water Level :	0.40 m.

Soft, brownish grey, silty clay / clayey silt with kankars & sand mixture. (Cl)

Very dense, yellowish grey, silty sand with decomposed rock. (SM)

Moderately weathered, yellowish grey, medium grained, fractured sandstone.

Slightly weathered / fresh, light grey, medium grained, fractured sandstone.

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

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 17/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 12

Co-ordinates E=1155 N=3672

Field Test	Nos	Samples	Nos	Commencement Date : 04/08/17
Penetrometer (SPT)	4	Undisturbed (UDS)	2	Completion Date : 07/08/17
Cone (Pc)		Penetrometer (SPT)	4	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 69.812 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 2.20 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES			
		EACH DIVN. = 15cm.						Ref. No	Depth (m)		
Filled up soil consists of kankars, boulders.	0.00m 0.40m								DS-1	0.50	
Stiff to very stiff, light grey, silty clay with traces of sand mixture. (CI)		4	4	5		9			UDS-1	1.00-1.45	
									SPT-1	1.45-1.90	
		5	7	11		18			DS-2	2.50	
Very dense, yellowish brown, silty sand with decomposed rock. (SM)	4.50m 5.00m	28	32	40		>100			UDS-2	4.00-4.45	
									SPT-3	4.45-4.80	
Highly weathered, yellowish brown, medium to fine grained fractured sandstone.	5.75m								*SPT-4	5.00-5.03	5.00
Slightly weathered / fresh, light grey, fine grained, fractured sandstone.		NX rotary drilling from 5.00m to 20.00m							R1	CR=25% RQD=NIL	5.75
									R2	CR=56% RQD=NIL	6.50
									R3	CR=82% RQD=16%	7.25
									R4	CR=78% RQD=NIL	8.00
									R5	CR=89% RQD=24%	8.75
									R6	CR=68% RQD=24%	9.50
									R7	CR=84% RQD=22%	10.25
									R8	CR=76% RQD=33%	11.00
									R9	CR=90% RQD=18%	11.75
									R10	CR=77% RQD=52%	12.50
									R11	CR=91% RQD=24%	13.25
									R12	CR=96% RQD=NIL	14.00
									R13	CR=83% RQD=38%	15.50
									R14	CR=89% RQD=18%	17.00
									R15	CR=88% RQD=61%	18.50
									R16	CR=99% RQD=95%	20.00
N.B. - '*' means sample could not be recovered.	20.00m										

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 17/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 13

Co-ordinates E=1290 N=3713

Field Test	Nos	Samples	Nos	Commencement Date : 30/07/17
Penetrometer (SPT)	5	Undisturbed (UDS)	2	Completion Date : 31/07/17
Cone (Pc)		Penetrometer (SPT)	5	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 68.955 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									
Stiff, deep grey, silty clay. Obs. kankars. (CI)								DS-1	0.50
								UDS-1	1.00-1.45
								SPT-1	1.45-1.90
								DS-2	2.50
3.00m									
Dense to very dense, silty fine to medium grained sand with decomposed rock. (SM)								*UDS-2	3.00-3.10
								SPT-2	3.10-3.55
								SPT-3	4.10-4.49
								*SPT-4	4.60-4.64
4.75m								*SPT-5	4.75-4.78
Moderately to slightly weathered, brownish grey to grey, medium to fine grained, fractured sandstone.								R1	CR=48% RQD=17%
								R2	CR=67% RQD=20%
								R3	CR=80% RQD=64%
								R4	CR=77% RQD=20%
								R5	CR=82% RQD=32%
								R6	CR=80% RQD=20%
								R7	CR=90% RQD=22%
								R8	CR=93% RQD=87%
								R9	CR=97% RQD=93%
7.75m									
Fresh, grey, fine grained, fractured sandstone.									
13.50m									

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

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 03/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 14

Co-ordinates E=1143 N=3758

Field Test	Nos	Samples	Nos	Commencement Date : 25/07/17
Penetrometer (SPT)	4	Undisturbed (UDS)	1	Completion Date : 26/07/17
Cone (Pc)		Penetrometer (SPT)	4	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	3	Level Of Ground : 68.122 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.30 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m Yellowish brown, silty clay with sand mixture. (CI)								DS-1	0.50
1.45m						6		UDS-1	1.00-1.45
		2	2	4				SPT-1	1.45-1.90
Medium, yellowish grey, silty clay. (CI)						8		DS-2	2.50
		3	4	4				SPT-2	3.00-3.45
4.00m								DS-3	4.00
Very dense, yellowish grey, silty sand with decomposed rock. (SM)		64	40			>100		SPT-3	4.50-4.70
5.00m		100	5.0			Refusal		*SPT-4	5.00-5.03
			3.0			cm Pentn.		R1	5.00
Moderately to slightly weathered, yellowish grey, medium grained, fractured sandstone.								R2	5.75
6.50m								R3	6.50
								R4	7.25
								R5	8.00
								R6	8.75
								R7	9.50
								R8	11.00
								R9	12.50
									13.00
13.00m									

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

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 03/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 15

Co-ordinates E=1523 N=3681

Field Test	Nos	Samples	Nos	Commencement Date : 26/07/17
Penetrometer (SPT)	4	Undisturbed (UDS)	1	Completion Date : 28/07/17
Cone (Pc)		Penetrometer (SPT)	4	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 67.092 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.20 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m								DS-1	0.50
Medium to stiff, yellowish brown, silty clay / clayey silt with sand mixture. (CI)		2	4	4	8			UDS-1	1.00-1.45
								SPT-1	1.45-1.90
								DS-2	2.50
4.00m		2	4	7	11			SPT-2	3.00-3.45
4.30m		70	5.0	cm	Pentn.			SPT-3	4.20-4.25
Moderately weathered, greyish yellow, medium grained, fractured sandstone. 5.00m		100	2.0	cm	Refusal			*SPT-4	4.30-4.32
								R1	CR=53% RQD=NIL
Slightly weathered, yellowish grey, medium grained, fractured sandstone. 6.50m								R2	CR=69% RQD=20%
								R3	CR=72% RQD=NIL
								R4	CR=81% RQD=17%
Fresh, grey, medium grained, fractured sandstone. 12.50m								R5	CR=84% RQD=19%
								R6	CR=80% RQD=24%
								R7	CR=84% RQD=35%
								R8	CR=86% RQD=47%
N.B. - '*' means sample could not be recovered.									

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 03/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 16

Co-ordinates E=1064 N=3629

Field Test	Nos	Samples	Nos	Commencement Date : 22/07/17
Penetrometer (SPT)	5	Undisturbed (UDS)	2	Completion Date : 25/07/17
Cone (Pc)		Penetrometer (SPT)	5	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	4	Level Of Ground : 70.314 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 2.50 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
Filled up soil consists of brownish grey, silty sand.								DS-1	0.50
								UDS-1	1.00-1.45
								SPT-1	1.45-1.90
Hard, deep grey, silty clay. Obs. calcareous nodules. (CI)								DS-2	2.50
								SPT-2	3.00-3.45
								DS-3	3.80
Hard, yellowish grey, silty clay. Obs. sand mixture. (CI)								UDS-2	4.10-4.55
								SPT-3	4.55-5.00
								DS-4	5.40
Very dense, yellowish grey, silty sand with decomposed rock. (SM)								SPT-4	5.80-5.97
								*SPT-5	6.50-6.53
								R1	CR=58% RQD=NIL
								R2	CR=64% RQD=NIL
								R3	CR=68% RQD=21%
								R4	CR=72% RQD=20%
								R5	CR=76% RQD=32%
								R6	CR=72% RQD=16%
								R7	CR=70% RQD=NIL
								R8	CR=80% RQD=NIL
								R9	CR=76% RQD=NIL
								R10	CR=72% RQD=NIL
								R11	CR=80% RQD=32%
								R12	CR=78% RQD=28%
								R13	CR=72% RQD=16%
								R14	CR=80% RQD=NIL
								R15	CR=76% RQD=NIL
								R16	CR=72% RQD=NIL
								R17	CR=78% RQD=NIL
								R18	CR=76% RQD=NIL
									20.00

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

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 03/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 17

Co-ordinates E=1122 N=3606

Field Test	Nos	Samples	Nos	Commencement Date : 26/07/17
Penetrometer (SPT)	7	Undisturbed (UDS)	2	Completion Date : 27/07/17
Cone (Pc)		Penetrometer (SPT)	7	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	3	Level Of Ground : 70.782 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 2.40 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m								DS-1	0.50
Very stiff, grey, silty clay. Obs. kankars. (CI)						20		UDS-1	1.00-1.45
		6	9	11				SPT-1	1.45-1.90
						19		DS-2	2.50
		6	9	10				SPT-2	3.00-3.45
						26		UDS-2	4.00-4.45
		6	11	15				SPT-3	4.45-4.90
						28		DS-3	5.50
		8	12	16				SPT-4	6.00-6.45
						>100		SPT-5	6.80-6.92
		100	12.0	cm	Pentn.	Refusal		*SPT-6	7.20-7.24
6.80m		100	4.0	cm	Pentn.	Refusal		*SPT-7	7.40-7.44
7.40m		100	4.0	cm	Pentn.	Refusal		R1	7.40-7.44
Very dense, brownish grey, silty fine sand with decomposed rock. (SM)								R2	8.00
								R3	8.75
								R4	9.50
								R5	10.25
								R6	11.00
								R7	11.75
								R8	12.50
								R9	13.25
								R10	14.00
								R11	15.50
Moderately to slightly weathered, brownish grey to deep grey, fine to medium grained, highly fractured sandstone.								R12	17.00
								R13	18.50
									20.00
Slightly weathered / fresh, alternative deep grey to light grey, fine to medium grained, highly fractured sandstone.									
12.50m									
N.B. - '*' means sample could not be recovered.									
20.00m									

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 03/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 18

Co-ordinates E=1086 N=3556

Field Test	Nos	Samples	Nos	Commencement Date : 17/07/17
Penetrometer (SPT)	6	Undisturbed (UDS)	2	Completion Date : 22/07/17
Cone (Pc)		Penetrometer (SPT)	6	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	5	Level Of Ground : 70.128 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 2.75 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
Filled up soil consists of light grey, fly ash.									
								DS-1	0.50
								UDS-1	1.00-1.45
								SPT-1	1.45-1.90
								DS-2	2.50
								SPT-2	3.00-3.45
								DS-3	3.80
								UDS-2	4.20-4.65
								SPT-3	4.65-5.10
								DS-4	5.50
								SPT-4	6.00-6.45
								DS-5	7.00
								SPT-5	7.20-7.30
								*SPT-6	7.50-7.53
								R1	CR=78% RQD=23%
								R2	CR=75% RQD=29%
								R3	CR=64% RQD=NIL
								R4	CR=68% RQD=24%
								R5	CR=72% RQD=20%
								R6	CR=76% RQD=16%
								R7	CR=72% RQD=58%
								R8	CR=74% RQD=22%
								R9	CR=80% RQD=40%
								R10	CR=84% RQD=40%
								R11	CR=82% RQD=40%

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 12/09/2017 Sheet No:

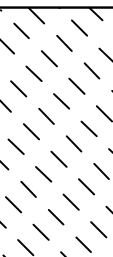
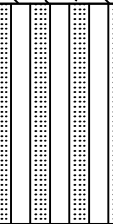
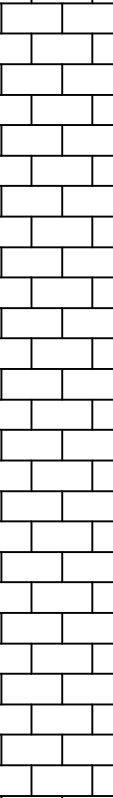
BORE LOG DATA SHEET

BORE HOLE NO. 19

Co-ordinates E=1319
N=3415

Field Test	Nos	Samples	Nos	Commencement Date : 19/08/17
Penetrometer (SPT)	5	Undisturbed (UDS)	2	Completion Date : 20/08/17
Cone (Pc)		Penetrometer (SPT)	5	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	3	Level Of Ground : 67.452 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 2.20 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m								DS-1	0.50
Filled up soil consists of brownish grey, silty clay followed by ash from 0.80m.								*UDS-1	1.00-1.45
		2	3	4				SPT-1	1.55-2.00
2.50m								DS-2	2.50
Stiff, greyish yellow, silty clay with sand mixture. (CI)		2	4	4				SPT-2	3.00-3.45
								UDS-2	4.00-4.45
		4	6	7				SPT-3	4.45-4.90
5.80m								DS-3	5.50
Very dense, yellowish brown, silty sand with decomposed rock. (SM)								SPT-4	6.00-6.08
6.20m		100						*SPT-5	6.20-6.22 6.20
		100						R1	CR=40% RQD=23% 7.00
								R2	CR=53% RQD=17% 7.75
Highly to moderately weathered, yellowish brown, medium to fine grained, fractured sandstone.								R3	CR=59% RQD=NIL 8.50
								R4	CR=45% RQD=17% 9.25
9.25m								R5	CR=64% RQD=16% 10.00
								R6	CR=67% RQD=15% 10.75
								R7	CR=68% RQD=40% 11.50
								R8	CR=72% RQD=24% 12.25
								R9	CR=85% RQD=48% 13.00
								R10	CR=83% RQD=32% 13.15
								R11	CR=84% RQD=53% 15.00
15.00m									
N.B. - '*' means sample could not be recovered.									

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). CETEST											
Job No : 3975			Created by : Chandrani			Created on : 03/08/2017			Sheet No:		
BORE LOG DATA SHEET				BORE HOLE NO. 20				Co-ordinates		E=1399 N=3412	
Field Test		Nos	Samples		Nos	Commencement Date : 21/07/17					
Penetrometer (SPT)		7	Undisturbed (UDS)		2	Completion Date : 23/07/17					
Cone (Pc)			Penetrometer (SPT)		7	Bore Hole Diameter : 150 mm. / N. X.					
Vane (V)			Disturbed (DS)		3	Level Of Ground : 68.317 m.					
			Water Sample (WS)		0	Water Struck At : Standing Water Level : 3.40 m.					
DESCRIPTION			SYMBOL	N-VALUE				SAMPLES			
				EACH DIVN. = 15cm.				Ref. No	Depth (m)		
0.00m											
Filled up soil consists of brownish grey, silty clay with ash.									DS-1	0.50	
1.00m									UDS-1	1.00-1.45	
Filled up soil consists of brownish grey, silty sand / sandy silt.											
2.60m					3	3	4		SPT-1	2.00-2.45	
Medium to stiff, deep grey, silty clay with sand mixture. Obs. kankars. (CI)									DS-2	3.00	
					3	4	4			SPT-2	3.50-3.95
										UDS-2	4.10-4.55
					3	4	5			SPT-3	4.55-5.00
5.10m											
Very dense, grey, silty sand, decomposed rock. Obs. traces of clay. (SM)					20	41	53		SPT-4	5.40-5.78	
										DS-3	6.00
					46	61				SPT-5	6.30-6.50
7.20m					104	4.0	cm Refusal	*SPT-6	6.90-6.94		
Highly to moderately weathered, grey, medium grained, fractured sandstone.					101	4.0	cm Refusal	*SPT-7	7.20-7.24	7.20	
						4.0	cm Pentn.	R1	CR=47% RQD=30%	↓	
								R2	CR=44% RQD=20%	↓	
								R3	CR=56% RQD=15%	↓	
								R4	CR=47% RQD=NIL	↓	
								R5	CR=28% RQD=NIL	↓	
								R6	CR=27% RQD=NIL	↓	
								R7	CR=29% RQD=NIL	↓	
								R8	CR=33% RQD=NIL	↓	
								R9	CR=32% RQD=NIL	↓	
15.00m								R10	CR=36% RQD=NIL	15.00	
N.B. - '*' means sample could not be recovered.											

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 03/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 21

Co-ordinates E=1299 N=3336

Field Test	Nos	Samples	Nos	Commencement Date : 17/07/17
Penetrometer (SPT)	5	Undisturbed (UDS)	2	Completion Date : 20/07/17
Cone (Pc)		Penetrometer (SPT)	5	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	3	Level Of Ground : 67.346 m.
		Water Sample (WS)	1	Water Struck At :
				Standing Water Level : 2.45 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m									
Filled up soil consists of brownish grey, silty clay followed by ash from 0.60m to 2.40m.								DS-1	0.50
								*UDS-1	1.00-1.45
		3	3	3		6		SPT-1	1.60-2.05
								WS-1	2.45
								DS-2	2.50
2.40m									
Stiff, grey, silty clay with sand mixture. (CI)								UDS-2	3.00-3.45
		3	4	6		10		SPT-2	3.45-3.90
4.30m									
Very dense, grey, silty sand with decomposed rock. (SM)								DS-3	4.50
								SPT-3	5.00-5.35
		16	29	64		>100			
						5.0 cm Pentn.		*SPT-4	5.60-5.64
		53				Refusal		*SPT-5	5.80-5.84
5.80m		51				4.0 cm Pentn.			
Highly to moderately weathered, yellowish grey to grey, fine grained fractured sandstone.						Refusal		R1	CR=40% RQD=31%
						4.0 cm Pentn.			
								R2	CR=58% RQD=47%
								R3	CR=42% RQD=24%
								R4	CR=25% RQD=NIL
								R5	CR=28% RQD=NIL
10.00m								R6	CR=38% RQD=NIL

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

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 08/09/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 22

Co-ordinates E=1024
N=4670

Field Test	Nos	Samples	Nos	Commencement Date : 24/08/17
Penetrometer (SPT)	7	Undisturbed (UDS)	3	Completion Date : 25/08/17
Cone (Pc)		Penetrometer (SPT)	7	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	3	Level Of Ground : 74.312 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 4.50 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m									
Filled up soil consists of silty clay with boulders & ash.								DS-1	0.50
								*UDS-1	1.00-1.10
		4	7	22		29		SPT-1	1.25-1.70
								DS-2	2.50
4.00m									
								UDS-2	4.00-4.45
		4	6	8		14		SPT-3	4.45-4.90
								DS-3	5.50
Stiff to very stiff, light grey, silty clay. Obs. kankars. (CI)									
								SPT-4	6.00-6.45
		5	7	9		16			
								*UDS-3	7.00-7.10
7.00m									
								SPT-5	7.10-7.55
		20	36	48		84		*SPT-6	7.80-7.84
								*SPT-7	8.10-8.14
Very dense, grey, silty fine grained sand with decomposed rock. (SM)									
								R1	CR=48% RQD=17%
								R2	CR=69% RQD=31%
								R3	CR=74% RQD=41%
8.10m									
Moderately to slightly weathered, deep grey, fine grained, fractured sandstone.									
10.00m									
N.B. - '*' means sample could not be recovered.									

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 29/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 23

Co-ordinates E=855 N=4610

Field Test	Nos	Samples	Nos	Commencement Date : 20/08/17
Penetrometer (SPT)	6	Undisturbed (UDS)	2	Completion Date : 20/08/17
Cone (Pc)		Penetrometer (SPT)	6	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	3	Level Of Ground : 72.812 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.20 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
Filled up soil consists of silty clay with road materials.								DS-1	0.50
								UDS-1	1.00-1.45
		3	4	5			9	SPT-1	1.45-1.90
								DS-2	2.50
							11	SPT-2	3.00-3.45
		4	5	6				UDS-2	4.00-4.45
							14	SPT-3	4.45-4.90
		5	6	8				DS-3	5.50
							17	SPT-4	6.00-6.45
		7	8	9				SPT-5	7.00-7.10
								*SPT-6	7.30-7.34
								R1	CR=62% RQD=16%
								R2	CR=61% RQD=52%
								R3	CR=71% RQD=54%
								R4	CR=76% RQD=17%
								R5	CR=79% RQD=72%
								R6	CR=88% RQD=60%
								R7	CR=82% RQD=75%
								R8	CR=84% RQD=22%
								R9	CR=82% RQD=42%
								R10	CR=86% RQD=70%
									15.00

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

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 08/09/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 24

Co-ordinates E=867 N=4703

Field Test	Nos	Samples	Nos	Commencement Date : 22/08/17
Penetrometer (SPT)	5	Undisturbed (UDS)	2	Completion Date : 23/08/17
Cone (Pc)		Penetrometer (SPT)	5	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	3	Level Of Ground : 73.124 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 2.30 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m									
Filled up soil consists of grey to brownish grey, silty clay with boulder & coal dust.								DS-1	0.50
								*UDS-1	1.00-1.45
		2	3	4				SPT-1	1.60-2.05
2.20m								DS-2	2.50
Stiff, light grey, silty clay. Obs. kankars. (CI)								SPT-2	3.00-3.45
		3	5	5				UDS-2	4.00-4.45
								SPT-3	4.45-4.90
		4	5	7				DS-3	5.50
5.90m									
Very dense, brownish grey, silty fine sand with decomposed rock. (SM)								SPT-4	6.00-6.22
6.40m								*SPT-5	6.40-6.44
								R1	CR=33% RQD=NIL
								R2	CR=49% RQD=NIL
Highly to moderately weathered, brownish grey, fine grained, fractured sandstone.								R3	CR=48% RQD=15%
								R4	CR=64% RQD=28%
8.50m								R5	CR=45% RQD=27%
								R6	CR=61% RQD=NIL
								R7	CR=63% RQD=21%
Slightly weathered / fresh, grey to blackish grey, fine grained, fractured sandstone.								R8	CR=68% RQD=NIL
								R9	CR=71% RQD=NIL
								R10	CR=92% RQD=76%
								R11	CR=82% RQD=20%
								R12	CR=83% RQD=47%
15.00m									
N.B. - '*' means sample could not be recovered.									

BORE LOG DATA SHEET **BORE HOLE NO. 25** Co-ordinates E=783 N=4670

Field Test	Nos	Samples	Nos	Commencement Date : 07/08/17
Penetrometer (SPT)	7	Undisturbed (UDS)	2	Completion Date : 09/08/17
Cone (Pc)		Penetrometer (SPT)	7	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	4	Level Of Ground : 70.552 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 deep grey to brownish grey, silty sand. Obs. kankars.								DS-1	0.50
0.80m								UDS-1	1.00-1.45
		3	5	6	11			SPT-1	1.45-1.90
Stiff, grey, silty clay. (CI)								DS-2	2.50
		5	7	8	15			SPT-2	3.00-3.45
4.00m					>100			*UDS-2	4.00-4.10
Very dense, brownish grey, silty medium to fine grained sand & decomposed rock. (SM)		42	58	12.0	cm Pentn.			SPT-3	4.10-4.37
		100		4.0	cm Pentn.			*SPT-4	4.60-4.64
4.90m		100			Refusal			*SPT-5	4.90-4.93
Completely weathered, yellowish grey, fine grained rock fragment collected as sludge.				3.0	cm Pentn.			R1	CR=NIL RQD=NIL
		50			Refusal			DS-3	
				3.0	cm Pentn.			*SPT-6	5.50-5.53
					Refusal			R2	CR=NIL RQD=NIL
6.25m		50		3.0	cm Pentn.			*SPT-7	6.25-6.28
Moderately weathered, yellowish grey to deep grey, medium to fine grained, fractured sandstone.								R3	CR=41% RQD=23%
									7.00
								R4	CR=46% RQD=20%
									7.75
7.75m								R5	CR=51% RQD=20%
									8.50
								R6	CR=56% RQD=31%
									9.25
								R7	CR=68% RQD=34%
									10.00
								R8	CR=72% RQD=31%
									10.75
								R9	CR=73% RQD=37%
									11.50
11.50m N.B. - '*' means sample could not be recovered.									

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 08/09/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 26

Co-ordinates E=781
N=4713

Field Test	Nos	Samples	Nos	Commencement Date : 23/08/17
Penetrometer (SPT)	5	Undisturbed (UDS)	2	Completion Date : 24/08/17
Cone (Pc)		Penetrometer (SPT)	5	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 70.588 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)
Filled up soil consists of silty clay with fly ash.								DS-1	0.50
								UDS-1	1.00-1.45
								SPT-1	1.45-1.90
								DS-2	2.50
								SPT-2	3.00-3.45
								UDS-2	4.00-4.45
								SPT-3	4.45-4.90
								SPT-4	5.10-5.35
Very dense, brownish grey, silty medium grained sand with decomposed rock. (SM)								*SPT-5	5.50-5.54
								R1	5.50
								R2	6.25
								R3	7.00
								R4	7.75
								R5	8.50
								R6	9.25
								R7	10.00
								R8	10.75
								R9	11.50
								R10	12.25
								R11	13.00
								R12	14.00
									15.00

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

BORE HOLE NO. 28

Co-ordinates

Field Test	Nos	Samples	Nos	Commencement Date :	13/08/17
Penetrometer (SPT)	5	Undisturbed (UDS)	2	Completion Date :	14/08/17
Cone (Pc)		Penetrometer (SPT)	5	Bore Hole Diameter :	150 mm. / N. X.
		Disturbed (DS)	3	Level Of Ground :	71.903 m.
Vane (V)		Water Sample (WS)	0	Water Struck At :	
				Standing Water Level :	1.80 m.

[illegible]

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 29/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 29

Co-ordinates E=596
N=4668

Field Test	Nos	Samples	Nos	Commencement Date : 23/08/17
Penetrometer (SPT)	4	Undisturbed (UDS)	1	Completion Date : 24/08/17
Cone (Pc)		Penetrometer (SPT)	4	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 69.262 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.06 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
Filled up soil consists of blackish grey, silty clay with ash.								DS-1	0.50
								UDS-1	1.00-1.45
								SPT-1	1.45-1.90
Stiff, steel grey, silty clay. (CI)								DS-2	2.50
								SPT-2	3.00-3.45
Very dense, yellowish brown, silty sand with deocomposed rock. (SM)								SPT-3	4.00-4.20
								*SPT-4	4.50-4.52
								R1	CR=41% RQD=13%
								R2	CR=44% RQD=28%
Moderately weathered, light grey, medium grained, fractured sandstone.								R3	CR=42% RQD=20%
								R4	CR=44% RQD=16%
								R5	CR=43% RQD=17%
								R6	CR=61% RQD=28%
								R7	CR=52% RQD=37%
								R8	CR=62% RQD=16%
								R9	CR=60% RQD=27%
								R10	CR=62% RQD=31%
								R11	CR=63% RQD=20%
								R12	CR=68% RQD=32%
								R13	CR=71% RQD=52%
								R14	CR=79% RQD=25%
									15.00

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

BORE HOLE NO. 30

Co-ordinates

Field Test	Nos	Samples	Nos	Commencement Date :	23/08/17
Penetrometer (SPT)	6	Undisturbed (UDS)	2	Completion Date :	24/08/17
Cone (Pc)		Penetrometer (SPT)	6	Bore Hole Diameter :	150 mm. / N. X.
		Disturbed (DS)	3	Level Of Ground :	73.442 m.
Vane (V)		Water Sample (WS)	0	Water Struck At :	
				Standing Water Level :	1.45 m.

DESCRIPTION	SYMBOL	N-VALUE							SAMPLES	
		EACH DIVN. = 15cm.							Ref. No	Depth (m)
0.00m									DS-1	0.50
Filled up soil consists of blackish grey to brownish grey, silty clay / clayey silt with ash & boulders									*UDS-1	1.00-1.45
		4	6	90					SPT-1	1.60-1.95
				5.0	cm	Pentn.				
2.50m									DS-2	2.50
Very stiff, brownish grey, silty clay. (CI)									SPT-2	3.00-3.45
		5	7	9						
						16			UDS-2	4.00-4.45
									SPT-3	4.45-4.90
		7	9	11						
						20				
5.30m									SPT-4	5.30-5.55
Very dense, grey, silty medium grained sand. Obs. decomposed rock. (SM)										
		36	64							
5.80m									*SPT-5	5.70-5.74
Moderately weathered, yellowish grey, fine grained, fractured sandstone.									*SPT-6	5.85-5.88
		100							R1	CR=45% RQD=NIL
						4.0	cm	Pentn.	R2	CR=48% RQD=NIL
7.25m									R3	CR=62% RQD=15%
Moderately to slightly weathered, yellowish grey, fine grained, fractured sandstone.									R4	CR=52% RQD=25%
									R5	CR=77% RQD=49%
									R6	CR=80% RQD=21%
									R7	CR=84% RQD=77%
									R8	CR=80% RQD=28%
									R9	CR=83% RQD=45%
Slightly weathered / fresh, yellowish grey to deep grey, fine grained, fractured sandstone.									R10	CR=92% RQD=21%
									R11	CR=82% RQD=56%
									R12	CR=92% RQD=85%
15.00m										15.00
N.B. - '*' means sample could not be recovered.										

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 29/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 31

Co-ordinates E=747
N=4828

Field Test	Nos	Samples	Nos	Commencement Date : 18/08/17
Penetrometer (SPT)	5	Undisturbed (UDS)	2	Completion Date : 20/08/17
Cone (Pc)		Penetrometer (SPT)	5	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 71.993 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.25 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m								DS-1	0.50
Filled up soil consists of silty clay with boulders, moorum & ash.								*UDS-1	1.00-1.35
		7	15	12		27		SPT-1	1.45-1.90
2.00m								DS-2	2.50
Stiff, deep grey, silty clay. (CI)		4	5	5		10		SPT-2	3.00-3.45
4.00m								*UDS-2	4.00-4.30
Very dense, brownish grey, silty sand with decomposed rock. (SM)		16	29	32		61		SPT-3	4.55-5.00
		100	5.0	cm	Penth.	>100		*SPT-4	5.30-5.35
5.60m		100	3.0	cm	Penth.	>100		*SPT-5	5.60-5.63
								R1	5.60-5.63
								R2	5.60-5.63
Highly to moderately weathered, brownish grey to grey, medium to fine grained, fractured sandstone.								R3	6.25
								R4	7.00
								R5	7.75
								R6	8.50
								R7	9.25
9.25m								R8	10.00
								R9	10.75
								R10	11.50
								R11	12.25
								R12	13.00
								R13	13.75
									14.50
									15.00
15.00m									
N.B. - '*' means sample could not be recovered.									

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 29/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 32

Co-ordinates E=637
N=4914

Field Test	Nos	Samples	Nos	Commencement Date : 21/08/17
Penetrometer (SPT)	4	Undisturbed (UDS)	1	Completion Date : 22/08/17
Cone (Pc)		Penetrometer (SPT)	4	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	1	Level Of Ground : 70.335 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 0.80 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m								DS-1	0.50
Very stiff to hard, brownish grey, silty clay with sand mixture. (CI)		8	9	10	19			UDS-1	1.00-1.45
					42			SPT-1	1.45-1.90
2.95m		16	19	23				SPT-2	2.50-2.95
Very dense, brownish grey, silty sand with decomposed rock. (SM)		100	4.0	cm	Penth.			*SPT-3	3.20-3.24
3.40m		100			Penth.			*SPT-4	3.40-3.43
Moderately weathered, brownish grey, fine grained, fractured sandstone.			3.0	cm	Penth.			R1	CR=42% RQD=NIL
4.75m		NX rotary drilling from 3.40m to 15.00m						R2	CR=41% RQD=13%
								R3	CR=73% RQD=56%
								R4	CR=72% RQD=63%
								R5	CR=76% RQD=58%
								R6	CR=75% RQD=22%
								R7	CR=77% RQD=50%
								R8	CR=82% RQD=57%
								R9	CR=81% RQD=38%
									10.00
								R10	CR=85% RQD=20%
									11.50
								R11	CR=81% RQD=48%
									13.00
								R12	CR=83% RQD=23%
									14.50
								R13	CR=84% RQD=72%
									15.00
15.00m									
Fresh, light grey, fine grained, fractured sandstone.									
N.B. - '*' means sample could not be recovered.									

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 29/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 33

Co-ordinates E=512
N=4853

Field Test	Nos	Samples	Nos	Commencement Date : 21/08/17
Penetrometer (SPT)	4	Undisturbed (UDS)	1	Completion Date : 22/08/17
Cone (Pc)		Penetrometer (SPT)	4	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 70.642 m.
		Water Sample (WS)	1	Water Struck At :
				Standing Water Level : 1.10 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
Blackish grey, silty clay. (CI)	0.00m							DS-1	0.50
	0.70m							UDS-1	1.00-1.45
								WS-1	1.10
Stiff to very stiff, steel grey, silty clay. (CI)		3	5	7	12			SPT-1	1.45-1.90
								DS-2	2.50
		4	7	9	16			SPT-2	3.00-3.45
Very dense, yellowish brown, silty sand with decomposed rock. (SM)	3.50m							SPT-3	3.80-3.94
	4.20m	100	14.0	cm	Penth.			*SPT-4	4.20-4.23 4.20
		100	3.0	cm	Penth.			R1	CR=44% RQD=24% 5.00
								R2	CR=42% RQD=14% 5.75
Moderately weathered, yellowish brown, medium grained fractured sandstone.		NX rotary drilling from 4.20m to 15.00m						R3	CR=42% RQD=NIL 6.50
								R4	CR=50% RQD=14% 7.25
								R5	CR=60% RQD=13% 8.00
	8.00m							R6	CR=56% RQD=NIL 8.75
								R7	CR=48% RQD=16% 9.50
								R8	CR=54% RQD=30% 10.25
								R9	CR=40% RQD=NIL 11.00
Moderately to slightly weathered, light grey, medium grained, fractured sandstone.								R10	CR=61% RQD=15% 11.75
								R11	CR=56% RQD=17% 12.50
								R12	CR=55% RQD=17% 13.25
								R13	CR=53% RQD=35% 14.00
								R14	CR=62% RQD=37% 14.50
	15.00m							R15	CR=71% RQD=46% 15.00

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

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 19/08/2017 Sheet No:

BORE LOG DATA SHEET **BORE HOLE NO. 34** Co-ordinates E=1032 N=3212

Field Test	Nos	Samples	Nos	Commencement Date : 12/08/17
Penetrometer (SPT)	3	Undisturbed (UDS)	1	Completion Date : 13/08/17
Cone (Pc)		Penetrometer (SPT)	3	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 67.594 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 Filled up soil consists of silty sand with moorm & brick pieces.								DS-1	0.50
0.80m Stiff, yellowish brown, clayey sandy silt. (CI)						8		UDS-1	1.00-1.45
		3	4	4				SPT-1	1.45-1.90
2.50m Medium dense, yellowish brown, silty sand with clay binders. (SM)						20		DS-2	2.50
		5	7	13				SPT-2	3.00-3.45
4.00m Highly to moderately weathered, yellowish brown to whitish grey, medium grained, fractured sandstone.						Refusal		*SPT-3	4.00-4.03 4.00
		100						R1	CR=30% RQD=16%
						3.0 cm Pentn.			4.75
						NX rotary drilling from 4.00m to 10.00m		R2	CR=46% RQD=NIL
									5.50
								R3	CR=44% RQD=14%
									6.25
								R4	CR=48% RQD=20%
									7.00
								R5	CR=60% RQD=22%
									7.75
								R6	CR=62% RQD=40%
									8.50
								R7	CR=72% RQD=44%
									9.25
								R8	CR=76% RQD=56%
									10.00
10.00m N.B. - '*' means sample could not be recovered.									

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 19/08/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 35

Co-ordinates E=972 N=3163

Field Test	Nos	Samples	Nos	Commencement Date : 13/08/17
Penetrometer (SPT)	4	Undisturbed (UDS)	1	Completion Date : 14/08/17
Cone (Pc)		Penetrometer (SPT)	4	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 67.392 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.00 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m Filled up soil consists of silty sand with boulders & brick bats.									
0.80m								DS-1	0.70
Medium to stiff, yellowish brown, silty clay with grey patches. Obs. boulders. (Cl)								UDS-1	1.00-1.45
		2	3	4				SPT-1	1.45-1.90
3.90m Hard, yellowish brown, silty clay with decomposed rock. (Cl)									
4.30m									
Highly to moderately weathered, yellowish brown to brownish grey, medium grained, fractured sandstone.									
8.00m									
Moderately to slightly weathered, brownish grey, medium grained, fractured sandstone.									
10.00m									

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

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 08/09/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 36

Co-ordinates E=925 N=3070

Field Test	Nos	Samples	Nos	Commencement Date : 22/08/17
Penetrometer (SPT)	5	Undisturbed (UDS)	1	Completion Date : 23/08/17
Cone (Pc)		Penetrometer (SPT)	5	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	3	Level Of Ground : 68.212 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									
Filled up soil consists of light grey, silty sand, fly ash mixed.								DS-1	0.50
								*UDS-1	1.00-1.45
								SPT-1	1.55-2.00
2.00m								DS-2	2.50
Very stiff, light brownish grey, silty clay with fine sand mixture. (CI)								SPT-2	3.10-3.55
3.70m								DS-3	3.80
Very dense, greyish brown, silty sand with rock dust. (SM)								SPT-3	4.00-4.18
4.40m								*SPT-4	4.25-4.28
								*SPT-5	4.40-4.42 4.40
Highly weathered, yellowish brown, fine grained, highly fractured sandstone.								R1	CR=21% RQD=NIL
								R2	CR=22% RQD=NIL
6.00m								R3	CR=26% RQD=13%
Highly to moderately weathered, yellowish brown to grey, fine grained, highly fractured sandstone.								R4	CR=38% RQD=31%
								R5	CR=37% RQD=NIL
								R6	CR=28% RQD=NIL
9.00m								R7	CR=56% RQD=16%
Moderately weathered, yellowish brown to grey, fine grained, highly fractured sandstone.									
10.00m									
N.B. - '*' means sample could not be recovered.									

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 08/09/2017 Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO. 37

Co-ordinates E=875 N=3159

Field Test	Nos	Samples	Nos	Commencement Date : 23/08/17
Penetrometer (SPT)	4	Undisturbed (UDS)	1	Completion Date : 24/08/17
Cone (Pc)		Penetrometer (SPT)	4	Bore Hole Diameter : 150 mm. / N. X.
Vane (V)		Disturbed (DS)	4	Level Of Ground : 68.414 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.30 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN. = 15cm.						Ref. No	Depth (m)
0.00m									
Loose, yellowish brown, silty sand. (SM)								DS-1	0.50
								*UDS-1	1.00-1.45
								SPT-1	1.60-2.05
2.70m								DS-2	2.60
Very stiff to hard, deep grey, silty clay with calcareous nodules. Obs. decomposed rock pieces. (CI)								SPT-2	2.80-3.25
								SPT-3	3.40-3.50
								*SPT-4	3.55-3.58 3.55
3.55m								R1	CR=29% RQD=NIL
Highly to moderately weathered, yellowish brown, medium grained, highly to moderately fractured sandstone.									4.25
								R2	CR=42% RQD=16%
									5.00
								R3	CR=44% RQD=16%
									5.75
								R4	CR=46% RQD=38%
									6.50
								R5	CR=45% RQD=19%
									7.25
								R6	CR=53% RQD=21%
8.00m									8.00
Slightly weathered, grey, fine grained, moderately fractured sandstone.								R7	CR=64% RQD=24%
									8.75
								R8	CR=61% RQD=20%
10.00m									9.50
N.B. - '*' means sample could not be recovered.								R9	CR=64% RQD=28%
									10.00

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 20/09/2017 Sheet No:

BORE LOG DATA SHEET BORE HOLE NO. CST- 01(M) Co-ordinates E=1469 N=3904

Field Test	Nos	Samples	Nos	Commencement Date : 16/08/17
Penetrometer (SPT)	2	Undisturbed (UDS)	1	Completion Date : 17/08/17
Cone (Pc)		Penetrometer (SPT)	2	Bore Hole Diameter : 150 mm./ N.X.
Vane (V)		Disturbed (DS)	1	Level Of Ground : 69.906 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level :

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN=15CM						Ref. No	Depth (m)
0.00m Greyish yellow, silty clay with kankars. Obs. sand mixture. (CI)								DS-1	0.60
1.50m Very dense, greyish brown, silty sand with decomposed rock. (SM)		35	54	11				UDS-1	1.00-1.45
1.90m		100	3.0	cm	Penth.			SPT-1	1.45-1.78
Highly to moderately weathered, yellowish brown, fine to medium grained, fractured rock.			3.0	cm	Penth.			*SPT-2	1.90-1.93
3.25m								R1	CR=35% RQD=NIL
								R2	CR=44% RQD=20%
								R3	CR=62% RQD=40%
								R4	CR=56% RQD=23%
								R5	CR=72% RQD=42%
								R6	CR=52% RQD=16%
								R7	CR=64% RQD=17%
								R8	CR=80% RQD=44%
								R9	CR=66% RQD=20%
								R10	CR=80% RQD=NIL
								R11	CR=76% RQD=32%
								R12	CR=69% RQD=22%
								R13	CR=84% RQD=18%
								R14	CR=84% RQD=40%
								R15	CR=78% RQD=24%
								R16	CR=80% RQD=14%
								R17	CR=72% RQD=52%
								R18	CR=91% RQD=37%
								R19	CR=94% RQD=48%
9.25m Slightly weathered / fresh, brownish grey, medium to fine grained, fractureed rock.									
16.00m									

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

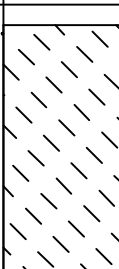
Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 21/09/2017 Sheet No:

BORE LOG DATA SHEET **BORE HOLE NO. CST- 03(M)** Co-ordinates E=1305 N=3987

Field Test	Nos	Samples	Nos	Commencement Date : 09/08/17
Penetrometer (SPT)	2	Undisturbed (UDS)	0	Completion Date : 10/08/17
Cone (Pc)		Penetrometer (SPT)	2	Bore Hole Diameter : 150 mm./ N.X.
Vane (V)		Disturbed (DS)	1	Level Of Ground : 70.006 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level :

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN=15CM						Ref. No	Depth (m)
0.00m Very dense, greyish yellow, silty sand with decomposed rock. (SM)		76	8.0	cm	Refusal			DS-1 *SPT-1	0.50 0.60-0.68
1.00m		100	2.0	cm	Refusal			*SPT-2 R1	1.00-1.02 CR=53% RQD=29%
Moderately weathered, brownish yellow, medium to fine grained, fractured rock.		NX rotary drilling from 1.00m to 16.00m						R2	CR=56% RQD=51%
3.00m								R3	CR=65% RQD=51%
Moderately weathered, deep grey, medium to fine grained, fractured rock.								R4	CR=67% RQD=36%
4.20m								R5	CR=48% RQD=35%
Slightly weathered / fresh, yellowish grey, medium to fine grained, fractured rock								R6	CR=65% RQD=28%
6.25m								R7	CR=87% RQD=45%
								R8	CR=72% RQD=64%
								R9	CR=82% RQD=56%
								R10	CR=83% RQD=82%
								R11	CR=84% RQD=74%
Slightly weathered / fresh, deep grey, fine grained, fractured rock.								R12	CR=85% RQD=82%
								R13	CR=81% RQD=73%
								R14	CR=83% RQD=72%
16.00m N.B. - '*' means sample could not be recovered.									

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW).										CETEST		
Job No : 3975			Created by : Chandrani			Created on : 22/09/2017			Sheet No:			
BORE LOG DATA SHEET				BORE HOLE NO. PMT- 02				Co-ordinates			E=1317 N=3914	
Field Test		Nos	Samples		Nos	Commencement Date :		13/08/17				
Penetrometer (SPT)		2	Undisturbed (UDS)		0	Completion Date :		14/08/17				
Cone (Pc)			Penetrometer (SPT)		2	Bore Hole Diameter :		N.X.				
Vane (V)			Disturbed (DS)		1	Level Of Ground :		70.132 m.				
			Water Sample (WS)		0	Water Struck At :						
						Standing Water Level :		2.10 m.				
DESCRIPTION				SYMBOL	N-VALUE					SAMPLES		
					EACH DIVN=15CM					Ref. No	Depth (m)	
0.00m												
Stiff, light grey, silty clay / clayey silt with sand mixture & decomposed rock. (CI)					3	4	6	10	DS-1	0.50		
									SPT-1	1.50-1.95		
2.00m				100	Refusal							
Moderately to slightly weathered, yellowish grey, medium to fine grained, slightly fractured rock.				2.0 cm Pentn.					*SPT-2	2.00-2.02 2.00		
				NX rotary drilling from 2.00m to 12.50m					R1	CR=54% RQD=30%		2.75
									R2	CR=58% RQD=48%		3.50
									R3	CR=67% RQD=53%		4.25
									R4	CR=53% RQD=40%		5.00
									R5	CR=69% RQD=32%		5.75
									R6	CR=89% RQD=47%		6.50
									R7	CR=95% RQD=64%		7.25
									R8	CR=87% RQD=56%		8.75
									R9	CR=86% RQD=84%		10.25
									R10	CR=90% RQD=80%		11.75
5.75m												
Fresh, deep grey, fine grained, fractured rock.								R11	CR=91% RQD=82%		12.50	
N.B. - '*' means sample could not be recovered.												
12.50m												

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 22/09/2017 Sheet No:

BORE LOG DATA SHEET **BORE HOLE NO. PMT-03** Co-ordinates E=1504 N=3979

Field Test	Nos	Samples	Nos	Commencement Date : 16/08/17
Penetrometer (SPT)	2	Undisturbed (UDS)	0	Completion Date : 17/08/17
Cone (Pc)		Penetrometer (SPT)	2	Bore Hole Diameter : N.X.
Vane (V)		Disturbed (DS)	1	Level Of Ground : 70.180 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.90 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN=15CM						Ref. No	Depth (m)
0.00m Filled up soil consists of brownish yellow, silty clay.								DS-1	0.50
0.70m Very dense, brownish yellow, silty sand with decomposed rock. (SM)		39	61	≥ 100				SPT-1	1.00-1.17
1.20m		100	2.0	cm Pentn. Refusal				*SPT-2	1.20-1.22
			2.0	cm Pentn.				R1	1.20
Highly to moderately weathered, deep yellow, medium to fine grained, highly fractured rock.								R2	1.75
2.50m								R3	2.50
								R4	3.25
								R5	4.00
								R6	5.50
								R7	7.00
								R8	8.50
								R9	10.00
								R10	11.50
									12.50

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

Project : Preliminary G. I. Work for Talcher Thermal Power Project-III (2x660 MW). **CETEST**

Job No : 3975 Created by : Chandrani Created on : 22/09/2017 Sheet No:

BORE LOG DATA SHEET **BORE HOLE NO. PMT-04** Co-ordinates E=1400 N=4240

Field Test	Nos	Samples	Nos	Commencement Date : 12/08/17
Penetrometer (SPT)	4	Undisturbed (UDS)	0	Completion Date : 13/08/17
Cone (Pc)		Penetrometer (SPT)	4	Bore Hole Diameter : N.X.
Vane (V)		Disturbed (DS)	2	Level Of Ground : 72.312 m.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.20 m.

DESCRIPTION	SYMBOL	N-VALUE						SAMPLES	
		EACH DIVN=15CM						Ref. No	Depth (m)
0.00m								DS-1	0.50
Medium dense, silty sand / sandy silt with decomposed rock & clay mixture. (SM)		3	4	8	12			SPT-1	1.50-1.95
					20			DS-2	2.50
		5	8	12	Refusal			SPT-2	3.00-3.45
3.50m		69			5.0 cm Pentn.			*SPT-3	3.50-3.55
Very dense, silty sand / sandy silt with decomposed rock & clay mixture. (SM)		100			Refusal			*SPT-4	4.00-4.02
4.00m					2.0 cm Pentn.			R1	4.00
Highly to moderately weathered, greyish yellow, medium to fine grained, fractured rock.		NX rotary drilling from 4.00m to 12.0m						R2	4.75
								R3	5.50
								R4	6.25
6.25m								R5	7.00
Moderately to slightly weathered, greyish yellow, medium to fine grained, fractured rock.								R6	7.75
								R7	8.50
								R8	9.25
9.00m								R9	10.00
Slightly weathered / fresh, deep grey, fine grained, slightly fractured rock.								R10	10.75
								R11	11.50
12.00m									12.00
N.B. - '*' means sample could not be recovered.									

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 1						CO-ORDINATES: East: 1413.2			North: 3923.08		
SITE LOCATION: Tr Yard						START DATE: 5/26/2009			END DATE: 5/28/2009		
GROUND REDUCED LEVEL: 69.930						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.45						CASING DIA: 150mm upto 2.00m & Nx from 2.00 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1			Stiff greyish brown Clay with low plasticity	1	UDS				Recovered	---	---		
2	67.93		Completely weathered deeply decomposed light yellowish Sandstone	2 2.1	SPT RC				8 cm in 100 blows, N>100	---	---		
3			Moderately weathered light yellowish medium grained Sandstone	3.1	RC					68	16		
4	65.83		Moderately weathered light yellowish fine grained Siltstone with carbonaceous Clay	4.1	RC					65	12		
5	65.43			5.1	RC					88	36		
6			Moderately to slightly weathered dark medium grained yellowish brown Sandstone	6.1	RC					75	60		
7	62.83			7.1	RC					77	77		
8	61.83		Slightly weathered light greyish fine grained Sandstone	8.1	RC					78	40		
9			Moderately to slightly weathered light greyish fine grained Sandstone	9.1	RC					79	54		
10										68	11		

SPT N = STANDARD PENETRATION TEST VALUE RQD = ROCK QUALITY DESIGNATION UDS = UNDISTURBED SOIL SAMPLE
 RC = ROCK CORE DS = DISTURBED SAMPLE VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 1						CO-ORDINATES: East: 1413.2			North: 3923.08		
SITE LOCATION: Tr Yard						START DATE: 5/26/2009			END DATE: 5/28/2009		
GROUND REDUCED LEVEL: 69.930						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.45						CASING DIA: 150mm upto 2.00m & Nx from 2.00 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N° Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11	59.83			10.1	RC					77	48		
				11.1	RC					88	88		
12	57.83			12.1	RC					81	27		
13	56.83			13.1	RC					75	0		
14				14.1	RC					75	18		
15				15.1	RC					85	27		
16	53.83			16.1	RC					80	68		
17	52.83			17.1	RC					80	0		
18	51.83			18.1	RC					80	42		
19				19.1	RC					80	0		
20	49.93												

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 2						CO-ORDINATES: East: 1500			North: 3923.02		
SITE LOCATION: Tr Yard						START DATE: 5/28/2009			END DATE: 5/30/2009		
GROUND REDUCED LEVEL: 69.977						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 3.35						CASING DIA: 150mm upto 3.20m & Nx from 3.20 to 16.20m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1			Stiff yellowish brown Clay with low plasticity	1.5	UDS				Recovered	---	---		
2				2.4	SPT				8 cm in 100blows, N>100	---	---		
3	67.477		Completely weathered deeply decomposing light yellowish brown Sandstone	3.2									
4	66.777		Highly to moderately weathered yellowish brown fine grained Siltstone with Sandstone patches	4.2						42	10		
5				5.2						64	12		
6	64.777			6.2						85	77		
7			Slightly weathered yellowish brown fine grained Sandstone	7.2						86	62		
8				8.2						92	88		
9	61.777			9.2						90	24		
10			Slightly weathered medium grained yellowish brown Sandstone							78	56		

SPT N = STANDARD PENETRATION TEST VALUE				RQD = ROCK QUALITY DESIGNATION				UDS = UNDISTURBED SOIL SAMPLE			
RC = ROCK CORE				DS = DISTURBED SAMPLE				VST = VANE SHEAR TEST			

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 16.2 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 2						CO-ORDINATES: East: 1500			North: 3923.02			
SITE LOCATION: Tr Yard						START DATE: 5/28/2009			END DATE: 5/30/2009			
GROUND REDUCED LEVEL: 69.977						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 3.35						CASING DIA: 150mm upto 3.20m & Nx from 3.20 to 16.20m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
10	59.777			10.2						78	56		
11										78	42		
12			Slightly weathered light greyish compacted Sandstone	11.2						90	90		
13	57.777 57.477		Medium grained Sandstone with Clay patches	12.2						90	70		
14			Slightly weathered greyish fine grained compacted Sandstone	13.2						83	52		
15	56.777			14.2						92	75		
16			Slightly weathered dark greyish compacted medium to coarse grained Sandstone	15.2						92	67		
17	53.777												
18													
19													
20													

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 16.2 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 3						CO-ORDINATES: East: 1306.11 North: 3967.14					
SITE LOCATION: TG Hall						START DATE: 6/15/2009 END DATE: 6/22/2009					
GROUND REDUCED LEVEL: 70.695						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.05						CASING DIA: 150mm upto 2.75m & Nx from 2.75 to 30.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
	70.495		Filled up soil consisting of Sand										
1			Stiff greyish Sandyclay	1.5	UDS				Recovered	---	---		
2													
3	68.495		Very dense greyish Clayey sand	2.75	SPT	5	5	48	53	---	---		
4	67.495		Moderately weathered light yellowish fine grained Sandstone with Siltstone patches	3.2						67	32		
5	66.495		Slightly weathered light yellowish fine grained Sandstone with thin layer of Shale	4.2						94	94		
6	65.495			5.2						93	93		
7			Slightly weathered light yellowish brown fine grained Sandstone	6.2						100	100		
8				7.2						95	80		
9	62.495		Slightly weathered greyish fine grained Sandstone	8.2						80	72		
10				9.2						84	84		

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 3
	Borehole termination at 30 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 3						CO-ORDINATES: East: 1306.11 North: 3967.14					
SITE LOCATION: TG Hall						START DATE: 6/15/2009			END DATE: 6/22/2009		
GROUND REDUCED LEVEL: 70.695						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.05						CASING DIA: 150mm upto 2.75m & Nx from 2.75 to 30.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery (%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11			Slightly weathered greyish fine grained Sandstone (continued)	10.2						84	84		
				11.2						95	87		
12	58.495			12.2						92	72		
			Moderately weathered greyish laminated Shale	13.2						95	37		
14	57.495			14.2						92	0		
			Highly to moderately weathered greyish fine to medium grained Sandstone with Siltstone patches	15.2						99	78		
15	56.495			16.2						88	0		
			Slightly weathered greyish fine grained Sandstone	17.2						94	0		
16	55.405			18.2						86	0		
			Moderately weathered greyish fine to medium grained Sandstone with Siltstone patches	19.2						85	0		
17	52.495			20.2						68	31		
			Highly to moderately weathered greyish Siltstone with patches of Shale										
18	51.495												
			Moderately weathered greyish fine to medium grained Sandstone										
19													
20													

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 3
	Borehole termination at 30 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 3						CO-ORDINATES: East: 1306.11			North: 3967.14		
SITE LOCATION: TG Hall						START DATE: 6/15/2009			END DATE: 6/22/2009		
GROUND REDUCED LEVEL: 70.695						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.05						CASING DIA: 150mm upto 2.75m & Nx from 2.75 to 30.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
21	49.495		Moderately weathered greyish fine to medium grained Sandstone (continued)	20.2						68	31		
				21.2							65	32	
22	48.495		Slightly weathered greyish Siltstone with patches of Shale	22.2						95	70		
23				23.2							73	47	
24			Moderately to slightly weathered greyish Siltstone to fine grained Sandstone	24.2						83	74		
25				25.2							85	50	
26	44.495		Slightly weathered greyish fine grained Sandstone	26.2						68	17		
27				27.2							93	76	
28			Highly to moderately weathered greyish Siltstone to Sandstone	28.2						85	71		
29	41.495			29.2							82	75	
30	40.695									80	0		

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
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Borehole termination at 30 m

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 4						CO-ORDINATES: East: 1384.37 North: 3966.57					
SITE LOCATION: TG Hall						START DATE: 5/21/2009			END DATE: 5/23/2009		
GROUND REDUCED LEVEL: 70.367						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 0.65						CASING DIA: 150mm upto 3.00m & Nx from 3.00 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery (%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1			Stiff to very stiff greyish brown Clayey Sand	1.5	UDS				Recovered	—	—		
2													
3	67.367		Completely weathered deeply decomposed brownish Sandstone	3	SPT				13 cm in 100blows, N>100	—	—		
4	66.867		Moderately weathered light brownish Siltstone	3.5						100	19		
5	65.867		Highly to moderately weathered light greyish medium grained Sandstone	4.5						86	0		
6	64.867			5.5						84	0		
7				6.5						80	47		
8			Highly to moderately weathered medium grained greyish Siltstone to fine grained Sandstone	7.5						88	52		
9				8.5						84	0		
10				9.5						90	0		

SPT N = STANDARD PENETRATION TEST VALUE				RQD = ROCK QUALITY DESIGNATION				UDS = UNDISTURBED SOIL SAMPLE			
RC = ROCK CORE				DS = DISTURBED SAMPLE				VST = VANE SHEAR TEST			

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 4						CO-ORDINATES: East: 1384.37			North: 3966.57			
SITE LOCATION: TG Hall						START DATE: 5/21/2009			END DATE: 5/23/2009			
GROUND REDUCED LEVEL: 70.367						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 0.65						CASING DIA: 150mm upto 3.00m & Nx from 3.00 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
10.5			Highly to moderately weathered medium grained greyish Siltstone to fine grained Sandstone (continued)							90	0		
11.5										82	0		
12.5										70	0		
13.5										83	0		
14.5										88	0		
15.5					Highly to moderately weathered light greyish medium grained Sandstone							81	11
16.5										82	0		
17.5										85	0		
18.5			Highly to moderately weathered light greyish Siltstone to fine grained Sandstone							85	0		
19.5										78	0		
20.5										78	0		

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 5						CO-ORDINATES: East: 1451.33			North: 3966.91		
SITE LOCATION: TG Hall						START DATE: 5/28/2009			END DATE: 6/2/2009		
GROUND REDUCED LEVEL: 70.704						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 2.35						CASING DIA: 150mm upto 2.90m & Nx from 2.90 to 30.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1	69.204		Filled up soil consisting of Clay with Gravel & Kankar	1.5	UDS				Recovered	---	---		
2			Stiff greyish Clay with low plasticity										
3	67.804		Completely weathered yellowish brown Sandstone	2.9	SPT				10 cm in 100 blows, N>100	---	---		
	67.504			3.2	RC								
4			Moderately weathered, brownish fine grained Sandstone with close spaced bedding planes	4.2	RC					70	36		
5	65.504			5.2	RC					68	32		
6	64.504		Highly to moderately weathered light brown medium grained Sandstone	6.2	RC					92	0		
7			Moderately weathered light brown medium grained Sandstone	7.2	RC					86	28		
8	62.504			8.2	RC					78	14		
9			Moderately to slightly weathered greyish medium grained Sandstone	9.2	RC					94	41		
10										88	16		

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 3
	Borehole termination at 30 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC, Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 5						CO-ORDINATES: East: 1451.33 North: 3966.91					
SITE LOCATION: TG Hall						START DATE: 5/28/2009 END DATE: 6/2/2009					
GROUND REDUCED LEVEL: 70.704						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 2.35						CASING DIA: 150mm upto 2.90m & Nx from 2.90 to 30.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11	60.504		Moderately weathered greyish sandstone with patches of shale	10.2	RC					88	16		
										93	28		
12	59.504			11.2	RC					82	10		
										90	22		
13	57.504		Light greyish Shale	13.2	RC					78	0		
14	56.504			14.2	RC					91	12		
15			Moderately weathered light greyish medium grained Sandstone	15.2	RC					88	0		
16	54.504			16.2	RC					87	0		
17										90	37		
18	53.504			17.2	RC					84	17		
	52.504		Light greyish fine grained Shale	18.2	RC								
19	52.004									92	31		
20			Highly to moderately weathered greyish medium grained Sandstone	19.2	RC								

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 3
	Borehole termination at 30 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 5						CO-ORDINATES: East: 1451.33 North: 3966.91					
SITE LOCATION: TG Hall						START DATE: 5/28/2009 END DATE: 6/2/2009					
GROUND REDUCED LEVEL: 70.704						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 2.35						CASING DIA: 150mm upto 2.90m & Nx from 2.90 to 30.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N° Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
21	50.504		Highly to moderately weathered greyish fine grained Siltstone	20.2	RC					92	31		
										90	13		
22	49.504		Highly to moderately weathered greyish fine to medium grained Sandstone	21.2	RC					94	29		
23	48.504		Moderately weathered greyish medium grained Sandstone with patches of Shale	22.2	RC					90	27		
24	47.504			23.2	RC					80	21		
25				24.2	RC					90	0		
26				25.2	RC					92	0		
27			Highly to moderately weathered greyish fine grained Sandstone with patches of Clay	26.2	RC					90	0		
28				27.2	RC					85	0		
29				28.2	RC					90	10		
30	41.504			29.2	RC					90	0		
	40.704		Highly to moderately weathered greyish fine to coarse grained Sandstone										

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 3 OF 3
	Borehole termination at 30 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 6						CO-ORDINATES: East: 1506.46 North: 3967.48					
SITE LOCATION: TG Hall						START DATE: 5/28/2009 END DATE: 5/30/2009					
GROUND REDUCED LEVEL: 70.401						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 2.75						CASING DIA: 150mm upto 3.50m & Nx from 3.50 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1			Filled up soil consisting of Clay with Kankar pieces										
	69.001			1.4	SPT	10	23	15	38	---	---		
2			Medium dense to dense yellowish brown Silty Sand										
3				3	SPT	20	35	50	85	---	---		
	66.901												
4			Completely weathered yellowish brown Sandstone	4.5	SPT				11 cm in 100 blows, N>100	---	---		
5													
6				6	SPT RC				9 cm in 100 blows, N>100	---	---		
	64.301			6.1						75	12		
7				7.1	RC					75	13		
8			Highly to moderately weathered yellowish brown sandstone	8.1	RC					90	20		
9													
				9.1	RC					83	0		
10													

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 6						CO-ORDINATES: East: 1506.46			North: 3967.48			
SITE LOCATION: TG Hall						START DATE: 5/28/2009			END DATE: 5/30/2009			
GROUND REDUCED LEVEL: 70.401						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 2.75						CASING DIA: 150mm upto 3.50m & Nx from 3.50 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N' Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS	
				Sample Depth (m)	SAMPLE TYPE	15	15	15						
11	60.301		Highly to moderately weathered greyish Siltstone laminated with Clay portions & consisting of fragments of Coal	10.1	RC					85	23			
	11.1			RC						88	0			
12	58.301			12.1	RC						76	10		
13			Highly to moderately weathered light greyish to yellowish brown fine to medium grained sandstone	13.1	RC					92	0			
14				14.1	RC						89	0		
15	55.301			15.1	RC						82	0		
16				16.1	RC						75	0		
17			Highly to moderately weathered brownish green Claystone with Siltstone patches	17.1	RC					85	47			
18				18.1	RC						82	12		
19				19.1	RC						99	0		
20	50.401													

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 7						CO-ORDINATES: East: 1561.94 North: 3968.06					
SITE LOCATION: TG Hall						START DATE: 5/21/2009			END DATE: 5/23/2009		
GROUND REDUCED LEVEL: 70.222						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 0.95						CASING DIA: 150mm upto 2.00m & Nx from 2.00 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
	70.072		Concrete pieces										
1			Yellowish brown Sandy Clay										
	68.822			1.4	RC								
2			Moderately weathered light brown fine to medium grained sandstone.							69	17		
	67.822			2.4	RC								
3				3.4	RC					80	76		
4			Slightly weathered light greyish Silt to fine grained Sandstone							90	57		
				4.4	RC								
5				5.4	RC					90	82		
	64.822												
6			Moderately to slightly weathered light greyish medium grained Sandstone							86	40		
				6.4	RC								
7				7.4	RC					69	47		
	62.822												
8			Slightly weathered light greyish Siltstone							85	41		
	61.822			8.4	RC								
9			Moderately weathered greyish medium grained Sandstone							86	61		
				9.4	RC					90	0		
10													

SPT N = STANDARD PENETRATION TEST VALUE		RQD = ROCK QUALITY DESIGNATION		UDS = UNDISTURBED SOIL SAMPLE	
RC = ROCK CORE		DS = DISTURBED SAMPLE		VST = VANE SHEAR TEST	

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 7						CO-ORDINATES: East: 1561.94 North: 3968.06						
SITE LOCATION: TG Hall						START DATE: 5/21/2009 END DATE: 5/23/2009						
GROUND REDUCED LEVEL: 70.222						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 0.95						CASING DIA: 150mm upto 2.00m & Nx from 2.00 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery (%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11				10.4	RC					90	0		
				11.4	RC					88	13		
12				12.4	RC					86	0		
	57.822			13.4	RC					90	12		
13				14.4	RC					90	0		
	56.822			15.4	RC					96	0		
14				16.4	RC					93	0		
				17.4	RC					88	0		
15				18.4	RC					95	10		
	54.822			19.4	RC					56	0		
16													
17										55	0		
18													
	52.822												
19													
20													
	50.222												

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 8						CO-ORDINATES: East: 1292.96			North: 4012.71			
SITE LOCATION: Boiler						START DATE: 6/15/2009			END DATE: 6/19/2009			
GROUND REDUCED LEVEL: 71.121						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 0.65						CASING DIA: 150mm upto 3.00m & Nx from 3.00 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1	70.921		Filled up soil										
2			Loose greyish Clayey sand with gravel.	1.5	UDS				Recovered	—	—		
3	68.121			3	SPT	30			11cm in 100 blows N>100	40	20		
4				4	RC				80	0			
5				5	RC				65	34			
6				6	RC				76	0			
7	64.121			7	RC				47	0			
8	63.121			8	RC				52	12			
9				9	RC				61	28			
10													

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 8						CO-ORDINATES: East: 1292.96 North: 4012.71						
SITE LOCATION: Boiler						START DATE: 6/15/2009 END DATE: 6/19/2009						
GROUND REDUCED LEVEL: 71.121						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 0.65						CASING DIA: 150mm upto 3.00m & Nx from 3.00 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
10				10	RC					57	0		
11			Highly to moderately weathered greyish fine grained Sandstone. (continued)	11	RC					91	0		
12	61.121		Highly weathered greyish Siltstone with Sandstone patches	12	RC					86	0		
13	58.121		Highly weathered greyish Siltstone with clay patches.	13	RC					90	19		
14	57.121			14	RC					87	17		
15				15	RC					93	0		
16			Highly weathered greyish fine grained Sandstone.	16	RC					96	11		
17				17	RC					90	0		
18	53.121			18	RC					99	12		
19			Highly weathered greyish Siltstone with patches of SHALES.	19	RC					96	0		
20	51.121												

SPT N = STANDARD PENETRATION TEST VALUE			RQD = ROCK QUALITY DESIGNATION			UDS = UNDISTURBED SOIL SAMPLE		
RC = ROCK CORE			DS = DISTURBED SAMPLE			VST = VANE SHEAR TEST		

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
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Borehole termination at 20 m

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 9				CO-ORDINATES: East: 1327.16 North: 4038.11							
SITE LOCATION: Boiler				START DATE: 5/4/2009				END DATE: 5/5/2009			
GROUND REDUCED LEVEL: 71.323				DRILLING METHOD: Rotary							
GROUND WATER TABLE DEPTH: 0.6				CASING DIA: 150mm upto 3.50m & Nx from 3.50 to 20.0m BGL							

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N° Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1	71.123		Concrete filling										
2			Stiff blakish brown Sandyclay	1.5	UDS				Recovered	---	---		
3	69.223		Medium dense brownish Silty sand	3	SPT	6	8	14	22	---	---		
	67.723			3.45	SPT				15 cm in 100	---	---		
4	67.623		Completely weathered brownish Sandstone	3.7	RC				blows, N>100				
5			Highly to moderately weathered light greyish fine to medium grained Sandstone	4.7	RC					55	0		
6	65.623			5.7	RC					64	64		
7				6.7	RC					76	75		
8			Moderately to slightly weathered light greyish fine to medium grained Sandstone	7.7	RC					78	70		
9	62.623			8.7	RC					77	40		
10			Highly to moderately weathered greyish Siltstone with Sandstone patches	9.7	RC					51	0		
										71	12		

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 9						CO-ORDINATES: East: 1327.16 North: 4038.11						
SITE LOCATION: Boiler						START DATE: 5/4/2009 END DATE: 5/5/2009						
GROUND REDUCED LEVEL: 71.323						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 0.6						CASING DIA: 150mm upto 3.50m & Nx from 3.50 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery (%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11	59.623		Highly to moderately weathered greyish Siltstone with Sandstone patches (continued)	10.7	RC					71	12		
										75	11		
12	58.623		Moderately weathered greyish fine to medium grained Sandstone	11.7	RC					83	14		
13	57.623		Highly to moderately weathered grey Siltstone	12.7	RC					80	0		
14	56.623		Highly to moderately weathered greyish Siltstone with fine grained Sandstone patches	13.7	RC					72	10		
15				14.7	RC					80	0		
16			15.7	RC					79	0			
17			Highly to moderately weathered greyish greyish medium to coarse grained Sandstone(weak rock)	16.7	RC					74	0		
18			17.7	RC					80	0			
19	52.623		18.7	RC					73	0			
20	51.323		19.7						83	0			

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 10						CO-ORDINATES: East: 1418.78 North: 4011.11					
SITE LOCATION: Boiler						START DATE: 5/21/2009 END DATE: 5/28/2009					
GROUND REDUCED LEVEL: 70.777						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1						CASING DIA: 150mm upto 3.00m & Nx from 3.00 to 30.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N' Field	Core Recovery (%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1	69.277		Filled up soil consisting of Clay with Kankar & Gravel	1.5	UDS				Recovered	---	---		
2			Stiff greyish brown Clay with low plasticity										
3	67.777 67.657		Completely weathered deeply decomposed Sandstone	3	SPT				15cm in 100 blows, N>100	63	32		
4			Moderately weathered yellowish brown fine grained Sandstone	4	RC					91	44		
5	65.777		Moderately weathered yellowish brown medium grained Sandstone	5	RC					90	26		
6	64.777		Moderately weathered light greyish Siltstone	6	RC					88	0		
7	63.777		Moderately weathered light greyish medium grained Sandstone	7	RC					90	0		
8			Moderately weathered light greyish medium grained Sandstone	8	RC					90	0		
9			Moderately weathered light greyish medium grained Sandstone	9	RC					82	0		
10	60.777												

SPT N = STANDARD PENETRATION TEST VALUE			RQD = ROCK QUALITY DESIGNATION			UDS = UNDISTURBED SOIL SAMPLE		
RC = ROCK CORE			DS = DISTURBED SAMPLE			VST = VANE SHEAR TEST		

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 3
	Borehole termination at 30 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 10					CO-ORDINATES: East: 1418.78 North: 4011.11							
SITE LOCATION: Boiler					START DATE: 5/21/2009				END DATE: 5/28/2009			
GROUND REDUCED LEVEL: 70.777					DRILLING METHOD: Rotary							
GROUND WATER TABLE DEPTH: 1					CASING DIA: 150mm upto 3.00m & Nx from 3.00 to 30.0m BGL							

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS	
				Sample Depth (m)	SAMPLE TYPE	15	15	15						
11	59.777		Highly to moderately weathered light greyish Sandstone	10	RC					91	0			
12					11	RC					86	0		
13	57.777		Highly to moderately weathered light greyish medium grained Sandstone		12	RC					90	0		
14						13	RC					85	0	
15			Highly to moderately weathered light greyish to whitish fine grained Sandstone	14	RC					91	0			
16	54.777				15	RC					82	0		
17			Highly to moderately weathered light greyish white Siltstone with patches of Sandstone		16	RC					85	0		
18	52.777					17	RC					55	0	
19	51.777		Highly to moderately weathered light greyish medium greyish Sandstone	18	RC					64	0			
20					19	RC					80	11		
			Highly to moderately weathered dark greyish fine grained Sandstone											

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 3
	Borehole termination at 30 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 10						CO-ORDINATES: East: 1418.78 North: 4011.11					
SITE LOCATION: Boiler						START DATE: 5/21/2009 END DATE: 5/28/2009					
GROUND REDUCED LEVEL: 70.777						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1						CASING DIA: 150mm upto 3.00m & Nx from 3.00 to 30.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
20				20	RC					82	0		
21				21	RC					74	0		
22			Highly to moderately weathered dark greyish fine grained Sandstone (continued)	22	RC					90	0		
23				23	RC					89	0		
24	46.777			24	RC					85	0		
25	45.777		Highly to moderately weathered greyish brown fine grained Sandstone	25	RC					59	13		
26			Moderately to slightly weathered greyish fine grained Sandstone	26	RC					90	33		
27	43.777			27	RC					73	0		
28	42.777		Highly to moderately weathered greyish medium to coarse grained Sandstone.	28	RC					73	0		
29				29	RC					92	22		
30	40.777		Highly to moderately weathered greyish fine grained Sandstone.										

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 3 OF 3
	Borehole termination at 30 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 11						CO-ORDINATES: East: 1490.41 North: 4013.42					
SITE LOCATION: Boiler						START DATE: 5/26/2009 END DATE: 5/28/2009					
GROUND REDUCED LEVEL: 70.714						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.45						CASING DIA: 150mm upto 2.00m & Nx from 2.00 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1			Very dense yellowish brown Silty sand.	1.4	SPT	22	37	41	76	---	---		
2	68.714												
3	67.514		Completely weathered yellowish brown Sandstone	3.1	SPT				10cm in 100 blows, N>100	---	---		
4				3.2						65	37		
5			Moderately to weathered light brown Siltstone	4.2						70	41		
6	65.514			5.2						84	64		
7			Slightly weathered medium to coarse grained yellowish brown Sandstone	6.2						82	68		
8				7.2						85	25		
9	62.514			8.2						82	55		
10	61.514		Slightly weathered light greyish brown Siltstone.										
			Moderately weathered yellowish brown medium grained Sandstone.	9.2						70	14		

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 11						CO-ORDINATES: East: 1490.41 North: 4013.42						
SITE LOCATION: Boiler						START DATE: 5/26/2009 END DATE: 5/28/2009						
GROUND REDUCED LEVEL: 70.714						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 1.45						CASING DIA: 150mm upto 2.00m & Nx from 2.00 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery (%)	RQD (%)	Other Tests	REMARKS		
				Sample Depth (m)	SAMPLE TYPE	15	15	15							
11	59.514		Moderately weathered yellowish brown medium grained Sandstone. (continued)	10.2						70	14				
				11.2							82	10			
12	58.514		Moderately weathered light greyish fine grained Sandstone.								90	26			
					12.2							96	42		
13			Slightly weathered dark greyish medium grained Sandstone.	13.2											
14					14.2							98	77		
15	55.514				15.2							90	47		
16	54.514			Slightly weathered dark greyish Siltstone.								90	42		
			16.2												
17	53.514		Slightly weathered light greyish coarse grained Sandstone.							91	74				
					17.2										
18			Slightly weathered light greyish fine grained Siltstone.							84	41				
					18.2							90	59		
19	51.514		Slightly weathered light greyish medium grained Sandstone.												
					19.2							87	22		
20	50.714														

SPT N = STANDARD PENETRATION TEST VALUE RQD = ROCK QUALITY DESIGNATION UDS = UNDISTURBED SOIL SAMPLE
 RC = ROCK CORE DS = DISTURBED SAMPLE VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD
 PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

Logged by :
Akash

Checked by :
S. Padhi

Job No:

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Borehole termination at 20 m

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 12						CO-ORDINATES: East: 1283.28 North: 4075.82					
SITE LOCATION: Boiler						START DATE: 6/22/2009 END DATE: 6/25/2009					
GROUND REDUCED LEVEL: 71.798						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 0.85						CASING DIA: 150mm upto 2.20m & Nx from 2.20 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
	71.348		Filled up soil										
1			Loose greyish brown Sandy Clay	1.5	UDS				Recovered	---	---		
2	69.598		Completely weathered light yellowish brown Sandstone	2.2	SPT				9 cm in 100 blows.N>100	---	---		
	69.348			2.45	RC								
3				3.45	RC					51	20		
4			Moderately weathered light yellowish brown fine grained Sandstone	4.45	RC					80	65		
5				5.45	RC					89	81		
6	66.348			6.45	RC					99	99		
7			Slightly weathered light greyish Siltstone	7.45	RC					92	92		
8	64.348			8.45	RC					100	100		
9			Slight weathered light to fresh greyish fine grained Sandstone	9.45	RC					95	87		
10	62.348		Slightly weathered to fresh greyish Siltstone to fine grained Sandstone patches							84	84		

SPT N = STANDARD PENETRATION TEST VALUE				RQD = ROCK QUALITY DESIGNATION				UDS = UNDISTURBED SOIL SAMPLE			
RC = ROCK CORE				DS = DISTURBED SAMPLE				VST = VANE SHEAR TEST			

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 12						CO-ORDINATES: East: 1283.28			North: 4075.82		
SITE LOCATION: Boiler						START DATE: 6/22/2009			END DATE: 6/25/2009		
GROUND REDUCED LEVEL: 71.798						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 0.85						CASING DIA: 150mm upto 2.20m & Nx from 2.20 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11			Slightly weathered to fresh greyish Siltstone to fine grained Sandstone patches (continued)	10.45	RC					84	84		
				11.45	RC					98	98		
12										60	45		
	59.348			12.45	RC								
13			Highly weathered greyish Siltstone							54	0		
	58.348			13.45	RC								
14			Highly weathered greyish fine grained Sandstone							60	0		
	57.348			14.45	RC								
15			Moderately weathered greyish Siltstone							60	0		
				15.45	RC					74	19		
16													
	55.348			16.45	RC								
17			Moderately weathered greyish fine grained Sandstone							65	10		
				17.45	RC								
18										71	36		
	53.348			18.45	RC								
19			Slightly weathered greyish Siltstone							81	81		
				19.45	RC					82	71		
20	51.798												

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 13						CO-ORDINATES: East: 1363.83			North: 4078.14		
SITE LOCATION: Boiler						START DATE: 5/5/2009			END DATE: 6/8/2009		
GROUND REDUCED LEVEL: 71.701						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 0.85						CASING DIA: 150mm upto 1.90m & Nx from 1.90 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N° Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1	70.701		Filled up Soil consisting of Clay with Boulders & Concrete pieces										
2	69.801		Very dense yellowish brown Clayey sand with boulder pieces	1.5	SPT				12 cm in 100 blows, N>100				
3	68.801		Moderately weathered light brown medium grained Sandstone	1.9	RC					66	42		
4				2.9	RC					86	42		
5				3.9	RC					85	0		
6	65.801			4.9	RC					84	34		
7			Moderately to slightly weathered light greyish Siltstone with fine grained Sandstone patches	5.9	RC					89	10		
8				6.9	RC					89	10		
9				7.9	RC					95	13		
10				8.9	RC					95	0		
				9.9	RC								

SPT N = STANDARD PENETRATION TEST VALUE		RQD = ROCK QUALITY DESIGNATION		UDS = UNDISTURBED SOIL SAMPLE	
RC = ROCK CORE		DS = DISTURBED SAMPLE		VST = VANE SHEAR TEST	

	ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
		Job No:	PAGE 1 OF 2
	Borehole termination at 20 m		

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 13						CO-ORDINATES: East: 1363.83 North: 4078.14						
SITE LOCATION: Boiler						START DATE: 5/5/2009 END DATE: 6/8/2009						
GROUND REDUCED LEVEL: 71.701						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 0.85						CASING DIA: 150mm upto 1.90m & Nx from 1.90 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS	
				Sample Depth (m)	SAMPLE TYPE	15	15	15						
11			Moderately to slightly weathered light greyish Siltstone with fine grained Sandstone patches (continued)	10.9	RC					94	0			
										94	0			
12				11.9	RC					87	11			
13				12.9	RC					90	0			
14				13.9	RC					88	0			
15	56.801		Slightly weathered greyish medium grained Sandstone	14.9	RC					85	15			
16				15.9	RC					89	30			
17	54.801			16.9	RC					85	79			
18	53.801			Slightly weathered greyish coarse grained Sandstone	17.9	RC					99	91		
19					18.9	RC					95	63		
20	51.701		Slightly weathered greyish Silt to fine grained Sandstone							95	0			

SPT N = STANDARD PENETRATION TEST VALUE			RQD = ROCK QUALITY DESIGNATION			UDS = UNDISTURBED SOIL SAMPLE		
RC = ROCK CORE			DS = DISTURBED SAMPLE			VST = VANE SHEAR TEST		

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
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Borehole termination at 20 m

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 14						CO-ORDINATES: East: 1451.3 North: 4044.21					
SITE LOCATION: Boiler						START DATE: 6/1/2009 END DATE: 4/6/2009					
GROUND REDUCED LEVEL: 71.049						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 0.95						CASING DIA: 150mm upto 2.00m & Nx from 2.00 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N' Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1	70.599		Filled up soil consisting of Clayey Sand										
1.5			Loose yellowish brown Silty Sand	1.5	UDS				Recovered	---	---		
2	69.049			2	RC					53	0		
3				3	RC					76	22		
4				4	RC					88	82		
5	66.049			5	RC					76	34		
6				6	RC					70	0		
7				7	RC					50	0		
8	63.049			8	RC					51	0		
9	62.049			9	SPT				11cm in 100 blows N>100	---	---		
10	61.049		Highly weathered greyish Claystone with Siltstone patches										
			Completely weathered, deeply decomposed greyish Siltstone										

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash Job No:	Checked by : S. Padhi PAGE 1 OF 2
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Borehole termination at 20 m

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 14						CO-ORDINATES: East: 1451.3 North: 4044.21					
SITE LOCATION: Boiler						START DATE: 8/1/2009 END DATE: 4/6/2009					
GROUND REDUCED LEVEL: 71.049						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 0.95						CASING DIA: 150mm upto 2.00m & Nx from 2.00 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N' Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11		[Pattern]	Completely weathered deeply decomposed greyish Siltstone in the form Silty sand	11	SPT				11cm in 100 blows N>100	---	---		
12				12	SPT				11cm in 100 blows N>100	---	---		
13	58.049			13	SPT RC				10cm in 100 blows N>100	---	---		
14		[Pattern]	Highly weathered dark greyish medium grained Sandstone	13.1	RC					46	0		
15				14.1	RC					48	15		
16				15.1	RC					62	0		
17	54.049			16.1	RC					47	0		
18		[Pattern]	Highly to moderately weathered grey Siltstone	17.1	RC					58	29		
19	52.049			18.1	RC					60	0		
20	51.049			19.1						72	72		
SPT N = STANDARD PENETRATION TEST VALUE RQD = ROCK QUALITY DESIGNATION UDS = UNDISTURBED SOIL SAMPLE RC = ROCK CORE DS = DISTURBED SAMPLE VST = VANE SHEAR TEST													

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
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Borehole termination at 20 m

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 15						CO-ORDINATES: East: 1477.91 North: 4075.6					
SITE LOCATION: Boiler						START DATE: 5/3/2009 END DATE: 6/3/2009					
GROUND REDUCED LEVEL: 71.067						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.15						CASING DIA: 150mm upto 4.50m & Nx from 4.50 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N' Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1	70.667		Fill up soil										
2			Boulder pieces embeded in Clay	1.5	SPT				11cm in 100 blows N>100				
3	68.267			3	SPT	3	6	11	17				
4			Medium dense to very greyish Clayey Sand with Gravel										
5	66.567			4.5	SPT	18	24	31	55				
6			Very dense greyish Silty sand	6	SPT				13cm in 100 blows N>100				
7	64.067			7.5	SPT				12cm in 100 blows N>100				
8	63.067		Completely weathered greyish Rock	8	RC								
9	62.067		Highly weathered light greyish fine grained Sandstone							56	10		
10			Highly weathered greyish fine to medium grained Sandstone	9	RC					56	0		

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 15						CO-ORDINATES: East: 1477.91 North: 4075.6					
SITE LOCATION: Boiler						START DATE: 5/3/2009 END DATE: 6/3/2009					
GROUND REDUCED LEVEL: 71.067						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.15						CASING DIA: 150mm upto 4.50m & Nx from 4.50 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N' Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
10				10	RC					49	23		
11			Highly weathered greyish fine to medium grained Sandstone (continued)	11	RC					60	21		
12	59.067		Moderately weathered brownish fine to medium grained Sandstone	12	RC					61	39		
13	58.367		Moderately weathered light greyish Siltstone	13	RC					69	53		
14	57.567		Highly weathered brownish Siltstone to medium grained Sandstone	14	RC					48	15		
15	56.067		Highly to moderately weathered brownish with greyish medium to coarse grained Sandstone patch	15	RC					56	0		
16				16	RC					71	49		
17	54.067		Highly weathered greyish fine to medium grained Sandstone	17	RC					72	0		
18	53.067		Highly to moderately weathered greyish Siltstone	18	RC					84	21		
19	52.067		Moderately weathered greyish medium grained Sandstone	19	RC					70	13		
20	51.067												

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 16						CO-ORDINATES: East: 1270.53 North: 4118.82						
SITE LOCATION: ESP						START DATE: 6/15/2009			END DATE: 6/18/2009			
GROUND REDUCED LEVEL: 72.520						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 0.9						CASING DIA: 150mm upto 3.70m & Nx from 3.70 to 20.9m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	ROD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1	71.02		Medium dense to very greyish Clayey Sand with Gravel	1.5	SPT					12cm in 100 blows N>100	---	---	
2	69.82		Completely weathered yellowish brown rock.	2.5	SPT					8cm in 100 blows N>100	---	---	
3			Slightly weathered greyish fine grained Sandstone.	2.7	RC						65	44	
4	3.7			RC							80	54	
5	4.7			RC							95	78	
6	5.7			RC							83	27	
7	6.7			RC							94	0	
8	7.7			RC							87	0	
9	8.7			RC							69	0	
10	9.7			RC							84	0	
11	10.7			RC							85	0	
12	11.7			RC							84	0	
13	12.7			RC							87	0	
14	13.7			RC							87	0	
15	14.7	RC							91	0			

SPT N = STANDARD PENETRATION TEST VALUE				ROD = ROCK QUALITY DESIGNATION				UDS = UNDISTURBED SOIL SAMPLE			
RC = ROCK CORE				DS = DISTURBED SAMPLE				VST = VANE SHEAR TEST			

	ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by:	Checked by:
		Akash	S. Padhi
		Job No:	PAGE 1 OF 2

Borehole termination at 20 m

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 16						CO-ORDINATES: East: 1270.53			North: 4118.82			
SITE LOCATION: ESP						START DATE: 6/15/2009			END DATE: 6/18/2009			
GROUND REDUCED LEVEL: 72.520						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 0.9						CASING DIA: 150mm upto 3.70m & Nx from 3.70 to 20.9m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery (%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
16			Slightly weathered greyish fine grained Sandstone. (continued)	15.7	RC					91	0		
17										91	0		
18										92	0		
19										93	0		
20	52.52									97	0		
20						19.7	RC					74	0
21				20	RC								
22													
23													
24													
25													
26													
27													
28													
29													
30													

SPT N = STANDARD PENETRATION TEST VALUE			RQD = ROCK QUALITY DESIGNATION			UDS = UNDISTURBED SOIL SAMPLE		
RC = ROCK CORE			DS = DISTURBED SAMPLE			VST = VANE SHEAR TEST		

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC									
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)									
BOREHOLE ID: BH 17					CO-ORDINATES: East: 1325.4 North: 4148.92				
SITE LOCATION: ESP					START DATE: 6/25/2009 END DATE: 6/27/2009				
GROUND REDUCED LEVEL: 72.109					DRILLING METHOD: Rotary				
GROUND WATER TABLE DEPTH: 1					CASING DIA: 150mm upto 1.75m & Nx from 1.75 to 20.0m BGL				

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth	SAMPLE	15	15	15					
1	71.259		Field of soil consisting of pebbles.										
1.4			Completely weathered yellowish brown rock.	1.4	SPT	29			12cm in 100 blows N>100	—	—		
1.75	70.359			1.75	RC								
2										84	62		
2.75			Highly to moderately weathered light yellowish Siltstone to fine grained Sandstone.	2.75	RC					78	0		
3.75	68.359			3.75	RC					95	0		
4.75				4.75	RC					68	40		
5.75			Moderately to slightly weathered light greyish Siltstone to fine grained Sandstone.	5.75	RC					75	66		
6.75				6.75	RC					72	59		
7.75	64.359			7.75	RC					91	43		
8.75	63.359		Slightly weathered greyish fine grained Sandstone.	8.75	RC					99	43		
9.75			Slightly weathered greyish Siltstone	9.75	RC					92	52		

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 3
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 17						CO-ORDINATES: East: 1325.4			North: 4148.92		
SITE LOCATION: ESP						START DATE: 6/25/2009			END DATE: 6/27/2009		
GROUND REDUCED LEVEL: 72.109						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1						CASING DIA: 150mm upto 1.75m & Nx from 1.75 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N' Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11	60.359		Slightly weathered greyish Siltstone (continued)	10.75	RC					92	52		
12				11.75	RC					90	90		
13			Slightly weathered greyish Sandstone.	12.75	RC					96	96		
14	58.359			13.75	RC					93	40		
15	57.359		Slightly weathered greyish fine grained Sandstone.	14.75	RC					99	99		
16	56.359			15.75	RC					90	82		
17			Slightly weathered greyish Siltstone with clay patches.	16.75	RC					99	99		
18				17.75	RC					96	96		
19			Slightly weathered weathered greyish Siltstone.	18.75	RC					93	88		
20	52.109									97	97		

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 3
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 17						CO-ORDINATES: East: 1325.4			North: 4148.92		
SITE LOCATION: ESP						START DATE: 6/25/2009			END DATE: 6/27/2009		
GROUND REDUCED LEVEL: 72.109						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1						CASING DIA: 150mm upto 1.75m & Nx from 1.75 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N' Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
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	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 18						CO-ORDINATES: East: 1413.04			North: 4115.92			
SITE LOCATION: ESP						START DATE: 6/3/2009			END DATE: 6/4/2009			
GROUND REDUCED LEVEL: 71.857						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 1.05						CASING DIA: 150mm upto 3.0m & Nx from 3.00 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1	70.857		Field of soil consisting of clayey sand with gravel.										
2			Stiff to hard brownish sandy clay with gravel.	1.5	UDS				Recovered	---	---		
3	69.157		Completely weathered deeply decomposed yellowish brown Sandstone.	2.7	SPT				10cm in 100 blows N>100	---	---		
	68.757			3.1	RC					50	0		
4				4.1	RC					54	45		
5			Highly to moderately weathered fine to medium grained yellowish brown Sandstone.	5.1	RC					84	22		
6				6.1	RC					85	15		
7	64.757			7.1	RC					85	0		
8	63.757		Moderately weathered light greyish fine to medium grained Sandstone.	8.1	RC					92	0		
9			Moderately weathered light gray silt stone.	9.1	RC					95	0		
10													

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
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	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 18						CO-ORDINATES: East: 1413.04 North: 4115.92						
SITE LOCATION: ESP						START DATE: 6/3/2009			END DATE: 6/4/2009			
GROUND REDUCED LEVEL: 71.857						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 1.05						CASING DIA: 150mm upto 3.0m & Nx from 3.00 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery (%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
10	61.757			10.1	RC					93	51		
11				11.1	RC					85	58		
12			Slightly weathered dark greyish fine grain Sandstone.	12.1	RC					91	58		
13				13.1	RC					92	0		
14	57.757			14.1	RC					93	67		
15	56.757		Slightly weathered dark greyish fine to medium grain Sandstone.	15.1	RC					96	0		
16			Moderately weathered dark greyish medium to coarse grain Sandstone.	16.1	RC					96	0		
17	55.757			17.1	RC					85	0		
18			Moderately weathered greyish Siltstone.	18.1	RC					91	0		
19	53.757			19.1	RC					85	0		
20	51.857		Moderately weathered greyish medium grained Sandstone.										

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
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	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 19						CO-ORDINATES: East: 1502.29 North: 4113.5					
SITE LOCATION: ESP						START DATE: 6/8/2009 END DATE: 6/11/2009					
GROUND REDUCED LEVEL: 71.574						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.55						CASING DIA: 150mm upto 2.00m & Nx from 2.00 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery (%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1			Medium stiff greyish sandy clay.	1.5	UDS				Recovered	---	---		
2	69.574		Completely weathered deeply decomposed brownish to greyish Sandstone.	2	SPT				13cm in 100 blows N>100	---	---		
	69.424		Moderately weathered brownish to greyish fine to medium grained Sandstone.	2.15	RC					78	61		
3				3.15	RC								
	68.424		Moderately weathered greyish Siltstone.							78	44		
4				4.15	RC								
	67.424									84	58		
5				5.15	RC								
										96	96		
6			Moderately to slightly weathered light greyish compacted fine to medium grained Sandstone.	6.15	RC								
				7.15	RC					82	48		
7													
										91	63		
8				8.15	RC								
	63.424									75	40		
9			Slightly weathered greyish fine grained Sandstone.	9.15	RC								
										80	44		
10													

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 19						CO-ORDINATES: East: 1502.29 North: 4113.5					
SITE LOCATION: ESP						START DATE: 6/8/2009 END DATE: 6/11/2009					
GROUND REDUCED LEVEL: 71.574						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.55						CASING DIA: 150mm upto 2.00m & Nx from 2.00 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11	61.424		Slightly weathered greyish Siltstone.	10.15	RC					90	22		
12	60.424		11.15	RC					85	0			
13			12.15	RC					93	17			
14	58.424		13.15	RC					80	0			
15	57.424		14.15	RC					83	0			
16	57.074		Dark greyish Siltstone.	15.15	RC					70	0		
17			16.15	RC					76	0			
18			17.15	RC					71	0			
19			18.15	RC					62	0			
20	51.574		19.15	RC					71	18			

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

	ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
		Job No:	PAGE 2 OF 2
	Borehole termination at 20 m		

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 20						CO-ORDINATES: East: 1263.41 North: 4184.35					
SITE LOCATION: ESP						START DATE: 6/23/2009 END DATE: 6/27/2009					
GROUND REDUCED LEVEL: 72.319						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.05						CASING DIA: 150mm upto 1.50m & Nx from 1.50 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
	72.019		Filled up soil										
1	71.419		Greyish sand with pebbles.										
2	70.519		Completely weathered yellowish brown Sandstone.	1.5	SPT	28			11cm in 100 blows N>100	--	--		
				1.8	RC								
			Moderately weathered light yellowish fine grained Sandstone.							79	21		
3	69.519			2.8	RC								
			Moderately weathered light greyish Siltstone.							85	56		
4	68.519			3.8	RC								
										91	78		
5				4.8	RC								
										100	100		
6				5.8	RC								
										96	76		
7				6.8	RC								
			Slightly weathered to fresh light greyish fine grained Siltstone							99	99		
8				7.8	RC								
										97	97		
9				8.8	RC								
										99	91		
10				9.8	RC					96	94		

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

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CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 21						CO-ORDINATES: East: 1374.24			North: 4180.08			
SITE LOCATION: Chimney						START DATE: 6/20/2009			END DATE: 6/23/2009			
GROUND REDUCED LEVEL: 72.092						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 1.1						CASING DIA: 150mm upto 2.10m & Nx from 2.10 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1	71.442		Filled up soil										
			Greyish brown Sandy clay with pebbles.										
2	70.592		Completely weathered yellowish brown Sandstone.	1.5	SPT	32			13cm in 100 blows N>100	--	--		
	69.992		2.1	RC					85	13			
3			3.1	RC					93	0			
4	67.992		4.1	RC					86	0			
5	66.992		5.1	RC					90	0			
6	65.992		6.1	RC					57	0			
7			7.1	RC					88	0			
8			8.1	RC					92	34			
9			9.1	RC					90	0			
10													

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 3
	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 21					CO-ORDINATES: East: 1374.24 North: 4180.08							
SITE LOCATION: Chimney					START DATE: 6/20/2009				END DATE: 6/23/2009			
GROUND REDUCED LEVEL: 72.092					DRILLING METHOD: Rotary							
GROUND WATER TABLE DEPTH: 1.1					CASING DIA: 150mm upto 2.10m & Nx from 2.10 to 20.0m BGL							

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11	61.992		Highly weathered greyish fine grained Sandstone.	10.1	RC					92	0		
12	60.992		11.1	RC						74	10		
13			Highly weathered coarse grained Sandstone.	12.1	RC					58	0		
14	58.992		13.1	RC						60	10		
15			Highly weathered greyish Siltstone with clay patches.	14.1	RC					82	50		
16	57.992		15.1	RC						95	86		
17			Moderately weathered greyish fine grained Sandstone.	16.1	RC					84	54		
18	56.992		17.1	RC						81	37		
19			Slightly weathered greyish fine grained Sandstone.	18.1	RC					90	90		
20	55.992		19.1	RC						86	0		
			Highly to moderately weathered greyish fine grained Sandstone.										

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 3
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 21						CO-ORDINATES: East: 1374.24			North: 4180.08		
SITE LOCATION: Chimney						START DATE: 6/20/2009			END DATE: 6/23/2009		
GROUND REDUCED LEVEL: 72.092						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.1						CASING DIA: 150mm upto 2.10m & Nx from 2.10 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N° Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
20.1	51.292		Higly to moderately weathered greyish fine grained Sandstone. (continued)	20.1	RC					86	0		
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

	ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD	Logged by :
	PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Akash
		Checked by : S. Padhi
	Job No:	PAGE 3 OF 3

Borehole termination at 20 m

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 22						CO-ORDINATES: East: 1451.54 North: 4151.98					
SITE LOCATION: Chimney						START DATE: 6/5/2009 END DATE: 6/8/2009					
GROUND REDUCED LEVEL: 72.194						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.98						CASING DIA: 150mm upto 1.98m & Nx from 1.98 to 20.0m RGT					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
	71.894		Filled up soil consisting of brick and concrete pieces										
1			Very dense yellowish brown clayey sand.	1	SPT	20	28	33	61	---	---		
	70.744												
2			Completely weathered deeply decomposed brownish Sandstone.	2	SPT	38			10cm in 100 blows N>100	---	---		
3				3.3	RC								
4				4.3	RC					47	10		
5				5.3	RC					69	19		
6			Highly to moderately weathered yellowish brown fine to medium grained Sandstone.	6.3	RC					85	10		
7				7.3	RC					87	13		
8										92	0		
	63.894			8.3	RC								
9			Highly weathered light greyish Siltstone	9.3	RC					83	0		
10										92	0		

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 22						CO-ORDINATES: East: 1451.54 North: 4151.98					
SITE LOCATION: Chimney						START DATE: 6/5/2009			END DATE: 6/8/2009		
GROUND REDUCED LEVEL: 72.194						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.98						CASING DIA: 150mm upto 1.98m & Nx from 1.98 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N° Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
10	61.894			10.3	RC					92	0		
11										92	0		
12			Highly weathered light greyish medium grained Sandstone.	11.3	RC					96	0		
13				12.3	RC					87	0		
14	58.894		Highly weathered light greyish fine to medium grained Sandstone.	13.3	RC					95	0		
15	57.894		Highly weathered light greyish medium to coarse grained Sandstone.	14.3	RC					77	14		
16	56.894			15.3	RC					78	39		
17			Moderately to slightly weathered greyish Siltstone.	16.3	RC					92	63		
18	54.894			17.3	RC					93	58		
19			Slightly weathered greyish medium grained Sandstone.	18.3	RC					88	37		
20	52.894			19.3	RC					80	38		
20	52.194		Slightly weathered greyish Siltstone to fine grained Sandstone.										

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 23						CO-ORDINATES: East: 1492.04 North: 4181.92						
SITE LOCATION: ESP						START DATE: 6/8/2009 END DATE: 6/10/2009						
GROUND REDUCED LEVEL: 71.784						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 1.35						CASING DIA: 150mm upto 2.10m & Nx from 2.10 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1	70.784		Filled up soil consisting at Clay with gravel										
2	69.684		Completely weathered deeply decomposed brownish Sandstone.	1.25	SPT				12cm in 100 blows N>100	---	---		
3	68.584		Highly weathered yellowish brown, medium to coarse grained Sandstone.	2.2	SPT RC				10cm in 100 blows N>100	---	---		
4				3.2	RC					76	0		
5				4.2	RC					78	0		
6				5.2	RC					79	0		
7				6.2	RC					86	12		
8				7.2	RC					95	0		
9				8.2	RC					95	0		
10				9.2	RC					97	0		
										88	11		

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 23					CO-ORDINATES: East: 1492.04 North: 4181.92							
SITE LOCATION: ESP					START DATE: 6/8/2009				END DATE: 6/10/2009			
GROUND REDUCED LEVEL: 71.784					DRILLING METHOD: Rotary							
GROUND WATER TABLE DEPTH: 1.35					CASING DIA: 150mm upto 2.10m & Nx from 2.10 to 20.0m BGL							

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11	60.584		Highly to moderately weathered light yellowish brown medium to coarse grained Sandstone. (continued)	10.2	RC					88	11		
12				11.2	RC					86	0		
12			Moderately to slightly weathered greyish Siltstone.	12.2	RC					90	68		
13				12.2	RC					92	28		
13	58.584			13.2	RC								
14			Slightly weathered greyish medium grained Sandstone	14.2	RC					85	57		
15	56.984			14.2	RC					87	56		
15			Slightly weathered greyish Siltstone	15.2	RC								
16	56.084			15.2	RC					83	38		
16	55.584		Slightly weathered greyish fine to medium grained Sandstone	16.2	RC								
17			Slightly weathered greyish Sandstone.	16.2	RC					92	22		
17	54.584			17.2	RC								
18	54.084		Greyish medium grained Sandstone.	17.2	RC					92	25		
18	53.584		Greyish Siltstone.	18.2	RC								
19				18.2	RC					93	46		
19			Slightly weathered greyish medium grained Sandstone with some patches of Siltstone	19.2	RC					100	46		
20	51.784			19.2	RC								

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 24						CO-ORDINATES: East: 1293.53			North: 4225.03		
SITE LOCATION: ESP						START DATE: 6/19/2009			END DATE: 6/22/2009		
GROUND REDUCED LEVEL: 72.383						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 0.85						CASING DIA: 150mm upto 2.00m & Nx from 2.00 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
	72.183		Concrete pieces										
1			Very dense greyish silty gravel.	1	SPT	22	24	28	52				
	70.883												
2	70.383		Completely weathered yellowish brown Sandstone.	1.9	SPT				10cm in 100 blows N>100				
				2	RC					83	60		
3				3	RC								
			Highly to moderately weathered light yellowish fine to medium grained Sandstone.							85	12		
4				4	RC					93	12		
5	67.383			5	RC								
										90	29		
6			Highly to moderately weathered light yellowish Siltstone	6	RC					80	10		
7	65.383			7	RC								
			Highly to moderately weathered light greyish fine grained Sandstone.							90	37		
8	64.383			8	RC								
			Highly weathered light greyish fine grained Sandstone.							85	0		
9	63.383			9	RC								
			Highly weathered greyish Siltstone.							90	11		
10													

SPT N = STANDARD PENETRATION TEST VALUE				RQD = ROCK QUALITY DESIGNATION				UDS = UNDISTURBED SOIL SAMPLE			
RC = ROCK CORE				DS = DISTURBED SAMPLE				VST = VANE SHEAR TEST			

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 24						CO-ORDINATES: East: 1293.53 North: 4225.03						
SITE LOCATION: ESP						START DATE: 6/19/2009			END DATE: 6/22/2009			
GROUND REDUCED LEVEL: 72.383						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 0.85						CASING DIA: 150mm upto 2.00m & Nx from 2.00 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
10			Highly weathered greyish Siltstone. (continued)	10	RC					91	0		
11				11	RC					84	34		
12	60.383			12	RC					82	58		
13			Highly to moderately weathered light yellowish fine to medium grained Sandstone.	13	RC					84	22		
14				14	RC					85	20		
15				15	RC					49	0		
16				16	RC					84	0		
17				17	RC					85	0		
18				18	RC					90	0		
19				19	RC					90	0		
20	52.383												

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 25						CO-ORDINATES: East: 1386.16 North: 4272.92					
SITE LOCATION: ESP						START DATE: 6/24/2009 END DATE: 6/29/2009					
GROUND REDUCED LEVEL: 73.157						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.05						CASING DIA: 150mm upto 2.50m & Nx from 2.50 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
	72.657		Fill up soil with kankar.										
1			Greyish sandy clay	1.5	UDS				Recovered	---	---		
2													
	70.657		Completely weathered yellowish brown Sandstone.	2.5	SPT				13cm in 100 blow N>100	---	---		
	70.527			2.65	RC								
3										84	33		
4			Highly to moderately weathered yellowish brown fine Sandstone.	3.65	RC								
5				4.65	RC					87	0		
6				5.65	RC					91	21		
	67.507		Highly to moderately weathered light greyish fine grained Sandstone.	6.65	RC					90	22		
7				7.65	RC					87	0		
8			Highly to moderately weathered yellowish brown fine grained Sandstone to greyish Siltstone.	8.65	RC					91	0		
	65.507			9.65	RC					92	42		
9			Moderately to slightly weathered yellowish brown fine grained Sandstone.							84	12		
10													

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 3
	Borehole termination at 30 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 25						CO-ORDINATES: East: 1386.16 North: 4272.92					
SITE LOCATION: ESP						START DATE: 6/24/2009 END DATE: 6/29/2009					
GROUND REDUCED LEVEL: 73.157						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.05						CASING DIA: 150mm upto 2.50m & Nx from 2.50 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11			Moderately to slightly weathered yellowish brown fine grained Sandstone. (continued)	10.65	RC					84	12		
				11.65	RC					92	14		
12										92	21		
	60.507		Slightly weathered dark greyish Siltstone with patches of SHALE	12.65	RC								
13										93	72		
	59.507		Highly to moderately weathered greyish Siltstone	13.65	RC					99	0		
14													
				14.65	RC					94	13		
15			Highly to moderately weathered dark greyish fine grained Sandstone.	15.65	RC								
	57.507									80	11		
16			Highly to moderately weathered dark greyish Siltstone.	16.65	RC					81	0		
	56.507									94	0		
17													
				17.65	RC								
18										70	12		
				18.65	RC								
19													
				19.65	RC					78	0		
20													

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 3
	Borehole termination at 30 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 25						CO-ORDINATES: East: 1386.16 North: 4272.92					
SITE LOCATION: ESP						START DATE: 6/24/2009			END DATE: 6/29/2009		
GROUND REDUCED LEVEL: 73.157						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.05						CASING DIA: 150mm upto 2.50m & Nx from 2.50 to 20.0m BGT					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
21			Highly to moderately weathered dark greyish Giltstone. (continued)	20.65	RC					78	0		
										90	0		
22				21.65	RC					82	0		
										89	0		
23				22.65	RC								
										90	0		
24				23.65	RC								
										92	0		
25				24.65	RC								
										80	0		
26				25.65	RC								
										87	0		
27			26.65	RC									
									88	0			
28			27.65	RC									
									91	0			
29			28.65	RC									
									84	0			
30	43.157			29.65	RC								

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 3 OF 3
	Borehole termination at 30 m	

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 26						CO-ORDINATES: East: 1476.59 North: 4225.03					
SITE LOCATION: Chimney						START DATE: 6/6/2009 END DATE: 6/10/2009					
GROUND REDUCED LEVEL: 72.30						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 1.4						CASING DIA: 150mm upto 2.40m & Nx from 2.40 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N° Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1	70.8		Brownish to brownish sandy clay	1	UDS				Recovered	---	---		
2			Very dense yellowish clayey sand with gravel.	2.4	SPT	30			12cm in 100 blows N>100	---	---		
3	69.3		Highly weathered yellowish brown medium grained Sandstone.	3	RC					46	34		
4	68.3			4	RC					51	35		
5			Moderately weathered yellowish brown coarse grained Sandstone.	5	RC					65	15		
6	66.5			5.8	RC					60	30		
6	66.1		Moderately weathered brownish Siltstone.	6	RC					57	0		
7				7	RC					71	14		
8			Moderately weathered light brown filled spathic Sandstone.	8	RC					68	31		
9	63.8			9	RC					70	0		
10	62.8		Moderately weathered with coarse grained Sandstone patches of clay.										
	62.3												
			Moderately weathered light brown Siltstone.										

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 26						CO-ORDINATES: East: 1476.59 North: 4225.03						
SITE LOCATION: Chimney						START DATE: 6/6/2009			END DATE: 6/10/2009			
GROUND REDUCED LEVEL: 72.30						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 1.4						CASING DIA: 150mm upto 2.40m & Nx from 2.40 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11	61.3		Highly weathered greyish Siltstone to fine grained Sandstone.	10	RC					72	0		
12	60.3		Highly weathered light brown medium grained Sandstone.	11	RC					74	0		
13				12	RC					73	0		
14	58.3		Highly weathered greyish medium grained Sandstone.	13	RC					85	0		
15	57.3		Highly weathered greyish Siltstone.	14	RC					75	0		
16				15	RC					78	22		
17				16	RC					80	21		
18			Highly to moderately weathered greyish fine grained Sandstone.	17	RC					87	0		
19				18	RC					82	10		
20	52.3			19	RC					---	---		

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 20 m	



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 69.136 m

EAST: E or X = 1381.14

NORTH: N or Y = 3813.05

TYPE OF BORING: Rotary

BORING NO: BH 42

DIAMETER OF BORING: 150mm upto 4.30m & Nx from 4.30m to 20.00m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: Switch Yard

DATE STARTED: 20/7/09

COMPLETED: 30/7/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Medium stiff to stiff yellowish to greyish Clay													
1				1.5	UDS	1	---	---	---							
2																
3				3	SPT	1	3	4	4	8						
4	65.136			4	SPT	2	36	100	---	N > 100						
	64.836		Completely weathered brownish Sandstone	4.3	RC		---	---	---				73	0		
5			Highly to moderately weathered brownish fine grained Sandstone	5.3	RC		---	---	---				71	0		
6				6.3	RC		---	---	---				77	0		
7				7.3	RC		---	---	---				92	0		
8				8.3	RC		---	---	---				78	0		
9	60.836		Highly to moderately weathered greyish fine grained Sandstone	9.3	RC		---	---	---				81	10		
10																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 69.136 m

EAST: E or X = 1381.14

NORTH: N or Y = 3813.05

TYPE OF BORING: Rotary

BORING NO: BH 42

DIAMETER OF BORING: 150mm upto 4.30m & Nx from 4.30m to 20.00m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: Switch Yard

DATE STARTED: 20/7/09

COMPLETED: 30/7/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10	58.836															
11			Moderately weathered greyish coarse to fine grained Sandstone consisting of pink feldspar & purple bands	10.3	RC		---	---	---				86	11		
12				11.3	RC		---	---	---				79	23		
13	56.836		Moderately weathered greyish coarse grained Sandstone to Shale with light pink laminations	12.3	RC		---	---	---				87	25		
14	55.836		Moderately weathered greyish Shale	13.3	RC		---	---	---				86	11		
15	54.836		Highly to moderately weathered greyish Siltstone with some portions Shale	14.3	RC		---	---	---				72	0		
16				15.3	RC		---	---	---				83	10		
17	52.836		Moderately weathered greyish, medium to coarse grained Sandstone with pink feldspar	16.3	RC		---	---	---				84	11		
18	51.836		Highly to moderately weathered greyish Siltstone	17.3	RC		---	---	---				85	32		
19				18.3	RC		---	---	---				90	0		
20	49.836		Highly to moderately weathered coarse grained Sandstone with laminated Shale	19.3	RC		---	---	---				52	0		
	49.136															

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.962 m

EAST: E or X = 1252.77

NORTH: N or Y = 4320.05

TYPE OF BORING: Rotary

BORING NO: BH 49

DIAMETER OF BORING: 150mm upto 1.20m & Nx from 1.20 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: Track Hopper

DATE STARTED: 5/8/09

COMPLETED: 7/8/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Stiff greyish Clayey Sand (SC)													
1	71.062		Completely weathered brownish Sandstone	0.9	SPT	1	38	---	---	11cm in 100 blows N>100				---		
	70.762		Highly to moderately weathered yellowish brown fine to medium grained Sandstone	1.2	RC	1	---	---	---				65	0		
2				2.2	RC	2	---	---	---				81	11		
3				3.2	RC	3	---	---	---				83	0		
4				4.2	RC	4	---	---	---				91	14		
5	66.762		Moderately weathered light greyish Siltstone	5.2	RC	5	---	---	---				84	21		
6	65.762		Highly to moderately weathered greyish fine grained Sandstone	6.2	RC	6	---	---	---				88	62		
7				7.2	RC	7	---	---	---				89	80		
8				8.2	RC	8	---	---	---				80	0		
9	62.762		Highly to moderately weathered greyish Siltstone	9.2	RC	9	---	---	---				88	79		
10																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.962 m

EAST: E or X = 1252.77

NORTH: N or Y = 4320.05

TYPE OF BORING: Rotary

BORING NO: BH 49

DIAMETER OF BORING: 150mm upto 1.20m & Nx from 1.20 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: Track Hopper

DATE STARTED: 5/8/09

COMPLETED: 7/8/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10			Highly to moderately weathered greyish Siltstone (<i>continued</i>)	10.2	RC	10	---	---	---				88	79		
11				11.2	RC	11	---	---	---				88	26		
12	59.762			12.2	RC	12	---	---	---				87	0		
13	58.762		Highly to moderately weathered greyish fine grained Sandstone	13.2	RC	13	---	---	---				84	0		
14	57.762		Highly to moderately weathered greyish Siltstone	14.2	RC	14	---	---	---				86	0		
15			Highly to moderately weathered greyish medium grained Sandstone	15.2	RC	15	---	---	---				89	0		
16				16.2	RC	16	---	---	---				91	0		
17				17.2	RC	17	---	---	---				86	0		
18				18.2	RC	18	---	---	---				83	10		
19	52.762			19.2	RC	19	---	---	---				88	0		
20	51.962		Highly to moderately weathered greyish Siltstone										84	0		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.826 m

EAST: E or X = 1377.25

NORTH: N or Y = 4331.52

TYPE OF BORING: Rotary

BORING NO: BH 50

DIAMETER OF BORING: 150mm upto 1.70m & Nx from 1.70 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: AUX Boiler

DATE STARTED: 4/8/09

COMPLETED: 5/8/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Greyish Sandy Clay (CI)													
1																
	70.426			1.4	SPT	1	32	---	---	10cm in 100blows N>100				---		
	70.126		Completely weathered deeply decomposed Brownish Sandstone	1.7	RC		---	---	---							
2			Highly to moderately weathered reddish brown to greyish brown fine to coarse grained Sandstone										71	23		
				2.7	RC		---	---	---				69	14		
3																
				3.7	RC		---	---	---				74	46		
4																
				4.7	RC		---	---	---							
5													82	15		
				5.7	RC		---	---	---							
6													86	37		
	65.126			6.7	RC		---	---	---							
7			Moderately to slightly weathered greyish Siltstone										89	35		
				7.7	RC		---	---	---							
8													91	45		
				8.7	RC		---	---	---							
9													91	55		
	62.126			9.7	RC		---	---	---							
10													93	72		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.826 m

EAST: E or X = 1377.25

NORTH: N or Y = 4331.52

TYPE OF BORING: Rotary

BORING NO: BH 50

DIAMETER OF BORING: 150mm upto 1.70m & Nx from 1.70 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: AUX Boiler

DATE STARTED: 4/8/09

COMPLETED: 5/8/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10			Slightly weathered greyish fine grained Sandstone (continued)													
	61.126															
11			Slightly weathered greyish Siltstone	10.7	RC		---	---	---				93	72		
													92	92		
12				11.7	RC		---	---	---				94	89		
	59.126															
13			Moderately to slightly weathered greyish Siltstone with fine grained Sandstone patches	12.7	RC		---	---	---				93	42		
				13.7	RC		---	---	---				97	37		
14				14.7	RC		---	---	---				95	23		
	56.126															
16			Moderately to slightly weathered greyish Siltstone with fine grained Sandstone patches	15.7	RC		---	---	---				90	53		
				16.7	RC		---	---	---				90	11		
17				17.7	RC		---	---	---				91	24		
				18.7	RC		---	---	---				95	10		
19																
20	51.826															

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.887 m

EAST: E or X = 1457.05

NORTH: N or Y = 4330.21

TYPE OF BORING: Rotary

BORING NO: BH 51

DIAMETER OF BORING: 150mm upto 2.30m & Nx from 2.30 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: ASH Silo

DATE STARTED: 31/7/09

COMPLETED: 5/8/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Greyish Sandy clay (Cl)													
1				1.5	UDS	1	---	---	---	Recovered						
2	69.887			2	SPT	1	---	---	---	14cm in 100 blows N>100						
	69.587		Completely weathered deeply decomposed yellowish brown Sandstone	2.3	RC		---	---	---							
3			Highly weathered yellowish brown Sandstone	3.3	RC		---	---	---				41	0		
4				4.3	RC		---	---	---				41	0		
	67.587		Highly weathered yellowish Siltstone	5.3	RC		---	---	---				43	0		
5				6.3	RC		---	---	---				46	13		
	66.587		Highly weathered yellowish Sandstone	7.3	RC		---	---	---				49	10		
6				8.3	RC		---	---	---				58	22		
	63.587		Highly to moderately weathered greyish Sandstone	9.3	RC		---	---	---				61	12		
7																
	62.587		Highly to moderately weathered greyish Siltstone										74	0		
8																
9																
10																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.887 m

EAST: E or X = 1457.05

NORTH: N or Y = 4330.21

TYPE OF BORING: Rotary

BORING NO: BH 51

DIAMETER OF BORING: 150mm upto 2.30m & Nx from 2.30 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: ASH Silo

DATE STARTED: 31/7/09

COMPLETED: 5/8/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10																
	61.587												74	0		
			Highly to moderately weathered greyish fine grained Sandstone	10.3	RC		---	---	---				63	0		
11																
				11.3	RC		---	---	---				78	12		
12																
				12.3	RC		---	---	---				68	23		
13																
	58.587															
			Highly to moderately weathered greyish Siltstone	13.3	RC		---	---	---				63	0		
14																
	57.587															
			Highly to moderately weathered greyish Siltstone with Sandstone patches	14.3	RC		---	---	---				73	0		
15																
				15.3	RC		---	---	---				66	0		
16																
				16.3	RC		---	---	---				64	10		
17																
	54.587															
			Highly to moderately weathered greyish Sandstone with Siltstone patches	17.3	RC		---	---	---				62	0		
18																
				18.3	RC		---	---	---				63	0		
19																
	52.587															
			Highly to moderately weathered greyish Shale	19.3	RC		---	---	---				58	0		
20	51.887															

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.108 m

EAST: E or X = 1293.585

NORTH: N or Y = 4403.211

TYPE OF BORING: Rotary

BORING NO: BH 52

DIAMETER OF BORING: 150mm upto 3.30m & Nx from 3.30 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: FO Tank

DATE STARTED: 6/8/09

COMPLETED: 8/8/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Greyish brown Clayey Sand (SC)													
1				1.5	UDS	1	---	---	---	Recovered						
2																
3	68.108			3	SPT	1	40	---	---	12cm in 100 blows N>100						
	67.808		Completely weathered deeply decomposed Yellowish brown Sandstone	3.3	RC		---	---	---				70	23		
4			Highly to moderately weathered yellowish brown fine grained Sandstone	4.3	RC		---	---	---				81	72		
5				5.3	RC		---	---	---				85	70		
6				6.3	RC		---	---	---				82	46		
7				7.3	RC		---	---	---				91	49		
8																
	62.808		Highly to moderately weathered greyish fine grained Sandstone	8.3	RC		---	---	---				84	0		
9																
	61.808		Moderately weathered greyish Siltstone	9.3	RC		---	---	---				87	34		
10																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.108 m

EAST: E or X = 1293.585

NORTH: N or Y = 4403.211

TYPE OF BORING: Rotary

BORING NO: BH 52

DIAMETER OF BORING: 150mm upto 3.30m & Nx from 3.30 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: FO Tank

DATE STARTED: 6/8/09

COMPLETED: 8/8/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10			Moderately weathered greyish Siltstone (continued)	10.3	RC		---	---	---				84	84		
11	59.808		Highly to moderately weathered greyish Siltstone with Small patches of fine grained Sandstone	11.3	RC		---	---	---				86	11		
12				12.3	RC		---	---	---				88	32		
13				13.3	RC		---	---	---				89	20		
14				14.3	RC		---	---	---				86	0		
15				15.3	RC		---	---	---				85	10		
16				16.3	RC		---	---	---				89	0		
17				17.3	RC		---	---	---				87	27		
18			Slightly weathered greyish Siltstone with Small amount of fine grained Sandstone	18.3	RC		---	---	---				96	29		
19	51.808			19.3	RC		---	---	---				98	98		
20	51.108															

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.163 m

EAST: E or X = 1364.14

NORTH: N or Y = 4400.57

TYPE OF BORING: Rotary

BORING NO: BH 53

DIAMETER OF BORING: 150mm upto 2.50m & Nx from 2.50 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: FO Tank

DATE STARTED: 7/8/09

COMPLETED: 10/8/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Medium stiff brownish Clayey Sand (SC)													
1				1.5	UDS	1	---	---	---	Recovered						
2	68.963		Completely weathered brownish Siltstone	2.2	SPT	1	38	---	---	11cm in 100 blows N>100						
	68.663		Highly to moderately weathered yellowish brown Siltstone	2.5	RC		---	---	---				66	20		
3				3.5	RC		---	---	---				87	79		
4			Slightly weathered yellowish brown Sandstone	4.5	RC		---	---	---				88	80		
5	66.663		Slightly weathered yellowish brown Siltstone	5.5	RC		---	---	---				83	60		
6				6.5	RC		---	---	---				89	68		
7	64.663		Slightly weathered yellowish brown fine grained Sandstone	7.5	RC		---	---	---				94	42		
8	63.663		Slightly weathered greyish Siltstone with Sandstone patches	8.5	RC		---	---	---				93	93		
9				9.5	RC		---	---	---				93	88		
10																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.163 m

EAST: E or X = 1364.14

NORTH: N or Y = 4400.57

TYPE OF BORING: Rotary

BORING NO: BH 53

DIAMETER OF BORING: 150mm upto 2.50m & Nx from 2.50 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: FO Tank

DATE STARTED: 7/8/09

COMPLETED: 10/8/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10																
	60.663															
			Slightly weathered greyish Sandstone	10.5	RC		---	---	---				96	80		
11																
				11.5	RC		---	---	---				95	72		
12																
				12.5	RC		---	---	---				95	44		
13																
				13.5	RC		---	---	---				97	96		
14																
	56.663															
			Moderately to Slightly weathered greyish Siltstone	14.5	RC		---	---	---				95	0		
15																
				15.5	RC		---	---	---				92	0		
16																
				16.5	RC		---	---	---				96	10		
17																
				17.5	RC		---	---	---				95	35		
18																
	52.663															
			Moderately to Slightly weathered greyish Sandstone	18.5	RC		---	---	---				86	0		
19																
				19.5	RC		---	---	---				80	0		
20	51.163															

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.057 m

EAST: E or X = 1226.91

NORTH: N or Y = 4500

TYPE OF BORING: Rotary

BORING NO: BH 54

DIAMETER OF BORING: 150mm upto 1.50m & Nx from 1.50 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: CHP Area

DATE STARTED: 13/8/09

COMPLETED: 18/8/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Greyish Clayey Sand (SC)													
1																
	69.757			1.3	SPT	1	35	---	---	4cm in 100blows						
	69.557		Completely weathered deeply decomposed yellowish brown Sandstone	1.5	RC	1	---	---	---	N>100				---		
2			Highly to moderately weathered yellowish brown Sandstone										66	10		
3				2.5	RC	2	---	---	---				78	0		
	67.557		Slightly weathered greyish Sandstone	3.5	RC	3	---	---	---				87	29		
4				4.5	RC	4	---	---	---				91	34		
5				5.5	RC	5	---	---	---				94	94		
6				6.5	RC	6	---	---	---				89	89		
7				7.5	RC	7	---	---	---				85	47		
8				8.5	RC	8	---	---	---				83	0		
9			Highly to moderately weathered greyish Siltstone										77	20		
	62.557			9.5	RC	9	---	---	---							
10																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.057 m

EAST: E or X = 1226.91

NORTH: N or Y = 4500

TYPE OF BORING: Rotary

BORING NO: BH 54

DIAMETER OF BORING: 150mm upto 1.50m & Nx from 1.50 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: CHP Area

DATE STARTED: 13/8/09

COMPLETED: 18/8/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10																
	60.557												77	20		
			Highly to moderately weathered greyish Sandstone	10.5	RC	10	---	---	---				84	0		
11																
				11.5	RC	11	---	---	---				85	0		
12																
				12.5	RC	12	---	---	---				80	0		
13																
				13.5	RC	13	---	---	---				84	0		
14																
	56.557															
			Highly to moderately weathered greyish Sandstone	14.5	RC	14	---	---	---				84	0		
15																
				15.5	RC	15	---	---	---				84	0		
16																
				16.5	RC	16	---	---	---				79	0		
17																
				17.5	RC	17	---	---	---				85	0		
18																
				18.5	RC	18	---	---	---				82	0		
19																
				19.5	RC	19	---	---	---				86	0		
20	51.057															

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 73.928 m

EAST: E or X = 1170.952

NORTH: N or Y = 4431.048

TYPE OF BORING: Rotary

BORING NO: BH 55

DIAMETER OF BORING: 150mm upto 4.25m & Nx from 4.25 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: CHP Area

DATE STARTED: 7/8/09

COMPLETED: 12/8/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Filled up Soil													
1																
1.5	72.428		Greyish Clayey Sand (SC)	1.5	UDS	1	---	---	---	Recovered						
2																
3				3	SPT	1	3	4	6	10						
3.9	70.428		Completely weathered yellowish brown Sandstone	3.9	SPT	2	46	---	---	9cm in 100 blows N>100						
4.25	69.678		Moderately to slightly weathered greyish fine grained Sandstone	4.25	RC	1	---	---	---				86	29		
5.25				5.25	RC	2	---	---	---				95	70		
6.25	67.678		Slightly weathered greyish fine grained Sandstone	6.25	RC	3	---	---	---				96	80		
7.25	66.678		Slightly weathered greyish Siltstone	7.25	RC	4	---	---	---				85	76		
8.25				8.25	RC	5	---	---	---				87	47		
9.25				9.25	RC	6	---	---	---				89	88		
10																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 73.928 m

EAST: E or X = 1170.952

NORTH: N or Y = 4431.048

TYPE OF BORING: Rotary

BORING NO: BH 55

DIAMETER OF BORING: 150mm upto 4.25m & Nx from 4.25 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: CHP Area

DATE STARTED: 7/8/09

COMPLETED: 12/8/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10	63.678		Slightly weathered greyish Siltstone with Shale	10.25	RC	7	---	---	---				89	88		
11				11.25	RC	8	---	---	---				93	62		
12				12.25	RC	9	---	---	---				86	80		
13	61.678		Slightly weathered greyish Shale with Sandstone	12.25	RC	9	---	---	---				86	58		
14	60.678			13.25	RC	10	---	---	---				89	75		
15			Moderately to Slightly weathered greyish fine to medium grained Sandstone	14.25	RC	11	---	---	---				89	12		
16	58.678			15.25	RC	12	---	---	---				89	33		
17	57.678		Moderately to Slightly weathered greyish Siltstone	16.25	RC	13	---	---	---				87	26		
18				17.25	RC	14	---	---	---				86	47		
19				18.25	RC	15	---	---	---				87	11		
20	53.928			19.25	RC	16	---	---	---				81	32		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 73.926 m

EAST: E or X = 1077.728

NORTH: N or Y = 4523.986

TYPE OF BORING: Rotary

BORING NO: BH 70

DIAMETER OF BORING: 150mm upto 4.60m & Nx from 4.60 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: CHP Area

DATE STARTED: 1/9/09

COMPLETED: 5/9/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Filled up Soil & concrete													
1	73.326		Filled up Ash dust													
2	71.926		Greyish coloured Clay	1.5	SPT	1	2	3	6	9				---		
3				3	UDS	1	---	---	---	Recovered				---		
4	70.426		Completely weathered Siltstone of yellowish grey colour	3.5	SPT	2	28	---	---	13cm in 100 blows N >100				---		
5	69.326		Moderately weathered yellowish coloured Siltstone	4.5 4.6	SPT RC	2 1	---	---	---	10cm in 100 blows N >100				---		
6				5.6	RC	2	---	---	---				76	0		
7	67.326		Moderately weathered grey coloured Siltstone	6.6	RC	3	---	---	---				80	0		
8				7.6	RC	4	---	---	---				84	0		
9				8.6	RC	5	---	---	---				83	0		
10				9.6	RC	6	---	---	---				85	0		
													86	23		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 73.926 m

EAST: E or X = 1077.728

NORTH: N or Y = 4523.986

TYPE OF BORING: Rotary

BORING NO: BH 70

DIAMETER OF BORING: 150mm upto 4.60m & Nx from 4.60 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: CHP Area

DATE STARTED: 1/9/09

COMPLETED: 5/9/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10			Moderately weathered grey coloured Siltstone (continued)													
				10.6	RC	7	---	---	---				86	23		
11													85	0		
	62.326			11.6	RC	8	---	---	---				86	0		
12			Slightly weathered grey coloured Siltstone with fine grained Sandstone patches.													
				12.6	RC	9	---	---	---				85	13		
13																
				13.6	RC	10	---	---	---				97	0		
14																
				14.6	RC	11	---	---	---				91	0		
15																
				15.6	RC	12	---	---	---				95	12		
16																
				16.6	RC	13	---	---	---				93	29		
17																
				17.6	RC	14	---	---	---				91	0		
18																
				18.6	RC	15	---	---	---				94	0		
19																
				19.6	RC	16	---	---	---				100	0		
20	53.926															

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



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PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.668 m

EAST: E or X = 1253.37

NORTH: N or Y = 4427.7

TYPE OF BORING: Rotary

BORING NO: BH 71

DIAMETER OF BORING: 150mm upto 1.30m & Nx from 1.30 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: CHP Area

DATE STARTED: 4/9/09

COMPLETED: 5/9/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Filled up Concrete													
1	71.268		Completely weathered yellowish brown Siltstone	1	SPT	1	38	---	---	12cm in 100 blows N >100						
1.3					RC		---	---	---							
2				2.3	RC		---	---	---				84	0		
3				3.3	RC		---	---	---				88	74		
4	68.368		Slightly weathered grey coloured fine grained Sandstone	4.3	RC		---	---	---				100	72		
5	67.368		Slightly weathered grey coloured Shale & Siltstone	5.3	RC		---	---	---				95	79		
6	66.368		Slightly weathered grey coloured Siltstone with Fine grained Sandstone patches	6.3	RC		---	---	---				91	13		
7	65.368		Slightly weathered grey coloured fine grained Sandstone	7.3	RC		---	---	---				98	36		
8	64.368		Slightly weathered dark grey Siltstone	8.3	RC		---	---	---				97	74		
9	63.368		Slightly weathered dark grey fine grained Sandstone with some light grey coloured Shale	9.3	RC		---	---	---				96	72		
10	62.368		Slightly weathered grey coloured Siltstone				---	---	---				98	98		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

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N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.668 m

EAST: E or X = 1253.37

NORTH: N or Y = 4427.7

TYPE OF BORING: Rotary

BORING NO: BH 71

DIAMETER OF BORING: 150mm upto 1.30m & Nx from 1.30 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: CHP Area

DATE STARTED: 4/9/09

COMPLETED: 5/9/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10			Slightly weathered grey coloured Siltstone (continued)	10.3	RC		---	---	---				98	98		
11	60.368												96	90		
12			Slightly weathered grey coloured Siltstone with Fine grained Sandstone patches	11.3	RC		---	---	---				97	97		
13	59.368												97	32		
14			Slightly weathered grey coloured fine grained Siltstone with Sandstone patches	12.3	RC		---	---	---				93	25		
15	58.368												93	77		
16			Slightly weathered grey coloured Siltstone	13.3	RC		---	---	---				97	81		
17													96	44		
18	54.368												93	93		
19			Slightly weathered grey coloured fine grained Sandstone with Siltstone patches.	17.3	RC		---	---	---				100	100		
20	53.368												100	100		
			Grey coloured Siltstone	18.3	RC		---	---	---							
				19.3	RC		---	---	---							
	51.668															

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

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ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 71.762 m

EAST: E or X = 1252.92

NORTH: N or Y = 4382.05

TYPE OF BORING: Rotary

BORING NO: BH 72

DIAMETER OF BORING: 150mm upto 1.60m & Nx from 1.60 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: CHP Area

DATE STARTED: 31/8/09

COMPLETED: 3/9/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Filled up soil													
1	71.262		Completely weathered dirty yellow weathered Siltstone													
2	70.162		Moderately weathered dirty yellow Siltstone	1.5 1.6	SPT RC	1	---	---	---	10cm in 100 blows N >100						
3				2.6	RC		---	---	---				84	53		
4				3.6	RC		---	---	---				81	65		
5	66.762			4.6	RC		---	---	---				88	11		
6	66.162		Slightly weathered grey coloured Siltstone	5.6	RC		---	---	---				96	20		
7	65.162		Slightly weathered grey coloured Shale with Siltstone	6.6	RC		---	---	---				95	31		
8	64.162		Slightly weathered grey coloured Siltstone	7.6	RC		---	---	---				97	42		
9	63.162		Slightly weathered grey coloured Shale with Siltstone	8.6	RC		---	---	---				97	25		
10			Slightly weathered grey coloured Siltstone with fine grained Sandstone patches	9.6	RC		---	---	---				94	13		
													98	0		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

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N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

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EAST: E or X = 1252.92

NORTH: N or Y = 4382.05

TYPE OF BORING: Rotary

BORING NO: BH 72

DIAMETER OF BORING: 150mm upto 1.60m & Nx from 1.60 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: CHP Area

DATE STARTED: 31/8/09

COMPLETED: 3/9/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10																
	61.162												98	0		
11			Slightly weathered grey coloured fine grained Sandstone	10.6	RC		---	---	---				95	24		
12				11.6	RC		---	---	---				94	85		
13				12.6	RC		---	---	---				96	45		
	58.162			13.6	RC		---	---	---				97	35		
14			Slightly weathered grey coloured Siltstone with fine grained Sandstone and patches of Shale	14.6	RC		---	---	---				99	78		
15			Slightly weathered grey coloured Siltstone with fine grained Sandstone patches	15.6	RC		---	---	---				95	38		
16			Slightly weathered grey coloured fine grained Sandstone	16.6	RC		---	---	---				97	32		
17			Slightly weathered grey coloured Siltstone & fine grained Sandstone	17.6	RC		---	---	---				96	0		
18			Slightly weathered grey coloured Shale with Siltstone	18.6	RC		---	---	---				98	35		
19			Slightly weathered grey coloured Siltstone with fine grained Sandstone patches	19.6	RC		---	---	---				100	50		
20	51.762															

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 73						CO-ORDINATES: East: 1564.61 North: 4050.12					
SITE LOCATION: CPU Area						START DATE: 9/9/2009 END DATE: 9/12/2009					
GROUND REDUCED LEVEL: 70.54						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 2.4						CASING DIA: 150mm upto 2.20m & Nx from 2.20 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery (%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
1			Grey coloured Clay	1.5	UDS				Recovered				
2	68.54		Completely weathered yellowish weathered Siltstone	2	SPT				13cm in 100 blows N >100				
	68.34			2.2	RC								
3			Moderately weathered light yellow to grey coloured Siltstone	3.2	RC					89	37		
4				4.2	RC					88	38		
	66.34			5.2	RC					94	15		
5				6.2	RC					89	50		
6			Moderately to slightly weathered dirty grey coloured fine grained Sandstone	7.2	RC					90	0		
7				8.2	RC					89	0		
8				9.2	RC					85	0		
9										85	0		
10	61.34		Moderately weathered Dirty grey coloured Siltstone										

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2

Borehole termination at 20 m

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 73						CO-ORDINATES: East: 1564.61 North: 4050.12					
SITE LOCATION: CPU Area						START DATE: 9/9/2009 END DATE: 9/12/2009					
GROUND REDUCED LEVEL: 70.54						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 2.4						CASING DIA: 150mm upto 2.20m & Nx from 2.20 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery(%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11	60.34		Moderately weathered dirty grey coloured fine grained Sandstone	10.2	RC					85	0		
										84	48		
12	59.34		Slightly weathered dirty grey coloured fine to medium grained Sandstone with some patches of Siltstone	11.2	RC					90	0		
										90	0		
13	58.34		Slightly weathered dirty grey coloured fine grained Sandstone with some Shale	12.2	RC					90	0		
										90	0		
14	57.34		Moderately weathered dirty grey coloured fine grained Sandstone	13.2	RC					87	0		
										93	10		
15	56.34		Slightly weathered dirty grey coloured Siltstone	14.2	RC					90	10		
										91	0		
16	54.34		Slightly weathered dirty grey coloured fine grained Sandstone	16.2	RC					91	0		
										92	12		
17	53.34			17.2	RC					81	12		
										90	18		
18				18.2	RC								
19			Slightly weathered dirty grey coloured Siltstone	19.2	RC								
20	50.54												

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 20 m	



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 69.053 m

EAST: E or X = 1298.54

NORTH: N or Y = 3769.57

TYPE OF BORING: Rotary

BORING NO: BH 77

DIAMETER OF BORING: 150mm upto 4.50m & Nx from 4.50 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: SWITCH YARD

DATE STARTED: 10/9/09

COMPLETED: 12/9/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Filled by Sandstone rock (Stray)													
1	68.403		Greyish coloured Clay	1.5	SPT	1	2	2	3	5						
2																
3				3	SPT	2	3	5	8	13						
4	64.953		Completely weathered dirty yellow coloured weathered Sandstone	4.1	SPT	3	38	44	---	9cm in 100 blows N >100						
5	64.553		Slightly weathered dirty yellowish fine grained Sandstone patches	4.5	RC		---	---	---				94	87		
6				5.5	RC		---	---	---				94	80		
7	62.553		Slightly weathered grey coloured Siltstone with Sandstone	6.5	RC		---	---	---				92	86		
8	61.553		Slightly weathered grey coloured Siltstone	7.5	RC		---	---	---				96	96		
9	60.553		Slightly weathered fine grained Sandstone with Clay patches	8.5	RC		---	---	---				97	47		
10	59.553			9.5	RC		---	---	---				97	97		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

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N: ____

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GROUND SURFACE ELEVATION: 69.053 m

EAST: E or X = 1298.54

NORTH: N or Y = 3769.57

TYPE OF BORING: Rotary

BORING NO: BH 77

DIAMETER OF BORING: 150mm upto 4.50m & Nx from 4.50 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: SWITCH YARD

DATE STARTED: 10/9/09

COMPLETED: 12/9/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10																
			Slightly weathered grey coloured fine grained Sandstone with Clay patches (<i>continued</i>)	10.5	RC		---	---	---				97	97		
11													93	93		
	57.553															
			Slightly weathered fine grained sandstone with some Shale intercalation	11.5	RC		---	---	---				84	51		
12																
	56.553															
			Slightly weathered grey coloured Shale & Siltstone	12.5	RC		---	---	---				90	68		
13																
	55.553															
			Slightly weathered grey coloured Sandstone	13.5	RC		---	---	---				95	43		
14																
	54.553															
			Slightly weathered fine grained Sandstone with Siltstone patches	14.5	RC		---	---	---				95	95		
15																
				15.5	RC		---	---	---				92	92		
16																
	52.553															
			Slightly weathered grey coloured Siltstone with some patches of Sandstone	16.5	RC		---	---	---				91	76		
17																
				17.5	RC		---	---	---							
18																
				18.5	RC		---	---	---				96	96		
19																
				19.5	RC		---	---	---				98	98		
20	49.053												100	100		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD

CLIENT: NTPC											
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)											
BOREHOLE ID: BH 81						CO-ORDINATES: East: 1227.45 North: 4090.27					
SITE LOCATION: T P						START DATE: 9/7/2009 END DATE: 9/9/2009					
GROUND REDUCED LEVEL: 72.238						DRILLING METHOD: Rotary					
GROUND WATER TABLE DEPTH: 2.3						CASING DIA: 150mm upto 3.20m & Nx from 3.20 to 20.0m BGL					

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N' Field	Core Recovery (%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
	71.538		Filled up soil										
1				1.5	UDS				Recovered				
2			Greyish coloured Clay										
3	69.338		Completely weathered yellowish brown weathered Siltstone	2.9	SPT	38			13cm in 100 blows N >100				
	69.038			3.2	RC								
4			Moderately to slightly weathered yellowish brown Siltstone with fine grained Sandstone patches	4.2	RC					77	57		
5				5.2	RC					92	85		
	67.038			6.2	RC					95	90		
7			Slightly weathered grey coloured Siltstone with fine grained Sandstone patches	7.2	RC					100	100		
8				8.2	RC					95	35		
9				9.2	RC					96	98		
	63.038		Slightly weathered grey coloured Siltstone							87	56		
10													

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

 ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 1 OF 2
	Borehole termination at 20 m	

CLIENT: NTPC												
PROJECT NAME: Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)												
BOREHOLE ID: BH 81						CO-ORDINATES: East: 1227.45 North: 4090.27						
SITE LOCATION: T P						START DATE: 9/7/2009			END DATE: 9/9/2009			
GROUND REDUCED LEVEL: 72.238						DRILLING METHOD: Rotary						
GROUND WATER TABLE DEPTH: 2.3						CASING DIA: 150mm upto 3.20m & Nx from 3.20 to 20.0m BGL						

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE		BLOWS/15cm			N Field	Core Recovery (%)	RQD (%)	Other Tests	REMARKS
				Sample Depth (m)	SAMPLE TYPE	15	15	15					
11	62.038		Slightly weathered Grey coloured fine grained Sandstone	10.2	RC					87	56		
										90	90		
12	61.038		Slightly weathered grey coloured fine grained Sandstone with some Shale intercalation	11.2	RC					93	34		
										97	97		
13	60.038		Slightly weathered grey coloured fine to medium grained Sandstone	12.2	RC					97	97		
										97	97		
14													
15	58.038		Slightly weathered grey coloured Siltstone	14.2	RC					88	52		
										97	18		
16													
17	55.038		Slightly weathered grey coloured Siltstone with fine grained Sandstone patches	16.2	RC					95	86		
										97	81		
18										96	79		
										95	95		
19				17.2	RC								
				18.2	RC								
				19.2	RC								
20	52.238												

SPT N = STANDARD PENETRATION TEST VALUE	RQD = ROCK QUALITY DESIGNATION	UDS = UNDISTURBED SOIL SAMPLE
RC = ROCK CORE	DS = DISTURBED SAMPLE	VST = VANE SHEAR TEST

ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004	Logged by : Akash	Checked by : S. Padhi
	Job No:	PAGE 2 OF 2
	Borehole termination at 20 m	



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 70.759 m

EAST: E or X = 700

NORTH: N or Y = 4900

TYPE OF BORING: Rotary

BORING NO: BH 84

DIAMETER OF BORING: 150mm upto 3.20m & Nx from 3.20 to 25.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 25 m

SOIL SAMPLER USED: _____

LOCATION: Reservoir Area

DATE STARTED: 11/10/09

COMPLETED: 11/12/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Grayish coloured clay													
1				1.5	UDS	1	---	---	---	Recovered				---		
2																
3				3	SPT	1	8	---	---					---		
3.2	67.559		Highly to moderately weathered yellowish coloured fine grained sand stone with some Siltstone		RC		---	---	---				50	30		
4				4.2	RC		---	---	---				50	41		
5				5.2	RC		---	---	---				53	28		
6				6.2	RC		---	---	---				66	15		
7				7.2	RC		---	---	---				68	56		
8				8.2	RC		---	---	---				72	47		
8.2	62.559		Moderately weathered greyish coloured fine grained sand stone with some patches of shales.		RC											
9				9.2	RC		---	---	---				74	59		
10																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 25 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 70.759 m

EAST: E or X = 700

NORTH: N or Y = 4900

TYPE OF BORING: Rotary

BORING NO: BH 84

DIAMETER OF BORING: 150mm upto 3.20m & Nx from 3.20 to 25.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 25 m

SOIL SAMPLER USED: _____

LOCATION: Reservoir Area

DATE STARTED: 11/10/09

COMPLETED: 11/12/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10			Moderately weathered greyish coloured fine grained sand stone with some patches of shales. (continued)	10.2	RC		---	---	---				74	59		
11				11.2	RC		---	---	---				73	66		
12				12.2	RC		---	---	---				80	14		
13	58.559		Moderately weathered greyish coloured fine grained Sandstone with patches of Siltstone	12.2	RC		---	---	---				81	47		
14				13.2	RC		---	---	---				80	54		
15				14.2	RC		---	---	---				78	10		
16				15.2	RC		---	---	---				81	67		
17			Moderately weathered greyish coloured shales with some Siltstone patches	16.2	RC		---	---	---				84	79		
18				17.2	RC		---	---	---				73	0		
19	53.559		Moderately weathered greyish coloured Siltstone	18.2	RC		---	---	---				70	29		
20	52.259			19.2	RC		---	---	---				73	58		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 25 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 70.759 m

EAST: E or X = 700

NORTH: N or Y = 4900

TYPE OF BORING: Rotary

BORING NO: BH 84

DIAMETER OF BORING: 150mm upto 3.20m & Nx from 3.20 to 25.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 25 m

SOIL SAMPLER USED: _____

LOCATION: Reservoir Area

DATE STARTED: 11/10/09

COMPLETED: 11/12/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
20	50.559		Moderately weathered greyish coloured silt stone with some fine grained Sandstone patches	20.2	RC		---	---	---				73	58		
21				21.2	RC		---	---	---				76	57		
22				22.2	RC		---	---	---				71	0		
23				23.2	RC		---	---	---				78	63		
24				24.2	RC		---	---	---				77	13		
25	45.759												90	10		
26																
27																
28																
29																
30																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 25 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 70.67 m

EAST: E or X = 600

NORTH: N or Y = 4700

TYPE OF BORING: Rotary

BORING NO: BH 87

DIAMETER OF BORING: 150mm upto 5.20m & Nx from 5.20 to 25.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 25 m

SOIL SAMPLER USED: _____

LOCATION: Reservoir Area

DATE STARTED: 11/11/09

COMPLETED: 13/11/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Yellowish coloured clay													
1																
2				1.5	UDS	1	---	---	---	Recovered						
3				3	SPT	1	3	3	5	8						
4	66.87		Completely weathered yellowish coloured fine grained Sandstone	3.8	SPT	2	23	32	---	10 cm in 100blows N>100						
5				4.5	SPT	3	34	---	---	11 cm in 100blows N>100						
6	65.47		Highly to moderately fine grained Sandstone and Siltstone	5.2	RC		---	---	---				53	24		
7				6.2	RC		---	---	---				53	0		
8				7.2	RC		---	---	---				56	0		
9				8.2	RC		---	---	---				61	0		
10				9.2	RC		---	---	---				62	0		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 25 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 70.67 m

EAST: E or X = 600

NORTH: N or Y = 4700

TYPE OF BORING: Rotary

BORING NO: BH 87

DIAMETER OF BORING: 150mm upto 5.20m & Nx from 5.20 to 25.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 25 m

SOIL SAMPLER USED: _____

LOCATION: Reservoir Area

DATE STARTED: 11/11/09

COMPLETED: 13/11/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10	60.47		Moderately weathered light greyish coloured fine grained Sandstone with Siltstone patches	10.2	RC		---	---	---				62	0		
11				11.2	RC		---	---	---				64	15		
12				12.2	RC		---	---	---				69	19		
13				13.2	RC		---	---	---				69	0		
14				14.2	RC		---	---	---				71	15		
15				15.2	RC		---	---	---				74	12		
16	54.47		Moderately weathered light greyish coloured shales with some Siltstone	16.2	RC		---	---	---				75	27		
17				17.2	RC		---	---	---				65	0		
18	53.17		Moderately weathered yellowish to grayish coloured Siltstone with some fine grained Sandstone patches	18.2	RC		---	---	---				69	23		
19				19.2	RC		---	---	---				77	14		
20							---	---	---				79	0		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 25 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 70.67 m

EAST: E or X = 600

NORTH: N or Y = 4700

TYPE OF BORING: Rotary

BORING NO: BH 87

DIAMETER OF BORING: 150mm upto 5.20m & Nx from 5.20 to 25.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 25 m

SOIL SAMPLER USED: _____

LOCATION: Reservoir Area

DATE STARTED: 11/11/09

COMPLETED: 13/11/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
20			Moderately weathered yellowish to grayish coloured Siltstone with some fine grained Sandstone patches (continued)	20.2	RC		---	---	---				79	0		
21				21.2	RC		---	---	---				82	12		
22	48.47			22.2	RC		---	---	---				79	37		
23			Moderately weathered greyish coloured fine grained Sandstone and some Siltstone patches	23.2	RC		---	---	---				77	29		
24				24.2	RC		---	---	---				80	72		
25	45.67												90	58		
26																
27																
28																
29																
30																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 25 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 70.923 m

EAST: E or X = 500

NORTH: N or Y = 4600

TYPE OF BORING: Rotary

BORING NO: BH 88

DIAMETER OF BORING: 150mm upto 4.90m & Nx from 4.90 to 25.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 25 m

SOIL SAMPLER USED: _____

LOCATION: Reservoir Area

DATE STARTED: 11/8/09

COMPLETED: 11/10/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Grayish coloured clay													
1																
2																
3																
4																
5	66.023															
6	65.023		Highly weathered yellowish brown Siltstone.													
7			Highly to moderately weathered Siltstone with fine grained Sandstone of yellowish brown colour in patches.													
8																
9	62.023		Moderately weathered greyish coloured Siltstone with intercolation of shales.													
10																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 25 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 70.923 m

EAST: E or X = 500

NORTH: N or Y = 4600

TYPE OF BORING: Rotary

BORING NO: BH 88

DIAMETER OF BORING: 150mm upto 4.90m & Nx from 4.90 to 25.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 25 m

SOIL SAMPLER USED: _____

LOCATION: Reservoir Area

DATE STARTED: 11/8/09

COMPLETED: 11/10/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10																
			Moderately weathered greyish coloured Siltstone with intercolation of shales. (continued)										79	54		
													79	54		
11	60.023		Moderately weathered greyish coloured fine to medium grained Sandstone	10.9	RC		---	---	---							
12				11.9	RC		---	---	---							
13	58.023		Moderately weathered greyish coloured Siltstone.	12.9	RC		---	---	---							
													80	37		
14	57.023		Moderately weathered greyish coloured fine grained Sandstone	13.9	RC		---	---	---							
15				14.9	RC		---	---	---							
	55.423												80	45		
16	54.923		Moderately weathered greyish coloured Siltstone.	15.9	RC		---	---	---							
			Moderately weathered greyish coloured fine grained Sandstone													
17				16.9	RC		---	---	---							
18				17.9	RC		---	---	---							
													84	0		
19				18.9	RC		---	---	---							
20	50.923			19.9	RC		---	---	---				81	0		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 25 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 70.923 m

EAST: E or X = 500

NORTH: N or Y = 4600

TYPE OF BORING: Rotary

BORING NO: BH 88

DIAMETER OF BORING: 150mm upto 4.90m & Nx from 4.90 to 25.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 25 m

SOIL SAMPLER USED: _____

LOCATION: Reservoir Area

DATE STARTED: 11/8/09

COMPLETED: 11/10/09

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
20			Moderately to slightly weathered greyish coloured Siltstone.										80	0		
21				20.9	RC		---	---	---				80	0		
22				21.9	RC		---	---	---				84	0		
23				22.9	RC		---	---	---				83	0		
24	46.923			23.9	RC		---	---	---				84	0		
25	45.923		Moderately to slightly weathered greyish coloured siltstone with fine grained Sandstone patches										86	52		
26																
27																
28																
29																
30																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 25 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 69.559 m

EAST: E or X = 1280.23

NORTH: N or Y = 3842.83

TYPE OF BORING: Rotary

BORING NO: BH 109

DIAMETER OF BORING: 150mm upto 5.00m & Nx from 5.00 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: Service Building

DATE STARTED: 28/3/10

COMPLETED: 30/3/10

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Greyish coloured clay													
1																
2																
3	66.559		Brownish coloured clay	3	UDS	1	---	---	---	Recovered						
4																
5	64.759			4.5	SPT	2	4	4	---	5cm in 100 blow N>100						
5	64.559		Completely weathered yellowish brown coloured fine grained Sandstone patches.	5	RC		---	---	---				69	47		
6			Moderately weathered yellowish brown coloured fine grained Sandstone with some Siltstone.	6	RC		---	---	---				85	85		
7				7	RC		---	---	---				87	79		
8	61.359			8	RC		---	---	---				86	38		
9	60.559		Moderately weathered greyish coloured fine grained Sandstone with intercolation of Shales.	9	RC		---	---	---				93	87		
10	59.759		Slightly weathered greyish coloured fine grained Sandstone.													

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 69.559 m

EAST: E or X = 1280.23

NORTH: N or Y = 3842.83

TYPE OF BORING: Rotary

BORING NO: BH 109

DIAMETER OF BORING: 150mm upto 5.00m & Nx from 5.00 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: Service Building

DATE STARTED: 28/3/10

COMPLETED: 30/3/10

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10			Slightly weathered greyish coloured Shales. (continued)	10	RC		---	---	---				91	83		
11	58.759		Slightly weathered greyish coloured fine grained Sandstone with some Siltstone patches	11	RC		---	---	---				92	36		
12				12	RC		---	---	---				98	45		
13				13	RC		---	---	---				97	85		
14				14	RC		---	---	---				90	58		
15				15	RC		---	---	---				90	77		
16				16	RC		---	---	---							
17	53.059		Slightly weathered greyish coloured Shales.	17	RC		---	---	---				87	25		
18	51.559			18	RC		---	---	---				93	52		
19			Slightly weathered greyish coloured fine grained Sandstone.	19	RC		---	---	---				89	0		
20	49.559						---	---	---				95	0		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 69.285 m

EAST: E or X = 1556.13

NORTH: N or Y = 3840.53

TYPE OF BORING: Rotary

BORING NO: BH 110

DIAMETER OF BORING: 150mm upto 5.60m & Nx from 5.60 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: T.G Hall

DATE STARTED: 31/3/10

COMPLETED: 4/3/10

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Greyish coloured clay													
1																
2																
3																
4																
5	65.085		Completely weathered yellowish brown coloured fine grained Sandstone with Siltstone patches													
6	63.685		Moderately weathered yellowish brown coloured fine grained Sandstone with Siltstone patches	5.6	RC		---	---	---				61	10		
7				6.6	RC		---	---	---				71	11		
8	61.685		Moderately weathered greyish coloured fine grained Sandstone with Siltstone patches	7.6	RC		---	---	---				70	0		
9				8.6	RC		---	---	---				70	0		
10	60.085		Moderately weathered greyish coloured fine grained Sandstone.	9.6	RC		---	---	---				75	0		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 69.285 m

EAST: E or X = 1556.13

NORTH: N or Y = 3840.53

TYPE OF BORING: Rotary

BORING NO: BH 110

DIAMETER OF BORING: 150mm upto 5.60m & Nx from 5.60 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: T.G Hall

DATE STARTED: 31/3/10

COMPLETED: 4/3/10

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10			Moderately weathered greyish coloured fine grained Sandstone. (continued)													
11				10.6	RC		---	---	---				75	0		
12				11.6	RC		---	---	---				82	0		
13				12.6	RC		---	---	---				79	0		
14	55.685		Moderately weathered greyish coloured Siltstone.	13.6	RC		---	---	---				80	0		
15	54.685		Moderately weathered greyish coloured fine grained Sandstone.	14.6	RC		---	---	---				78	0		
16				15.6	RC		---	---	---				82	0		
17				16.6	RC		---	---	---				85	0		
18				17.6	RC		---	---	---				86	0		
19				18.6	RC		---	---	---				89	0		
20	49.285			19.6	RC		---	---	---				76	0		
													85	0		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 70.143 m

EAST: E or X = 1343.25

NORTH: N or Y = 3896.45

TYPE OF BORING: Rotary

BORING NO: BH 111

DIAMETER OF BORING: 150mm upto 3.20m & Nx from 3.20 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: Boiler

DATE STARTED: 27/3/10

COMPLETED: 30/3/10

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Brownish gray coloured clay													
1																
2																
3																
3.2	66.943															
3.2			Moderately weathered yellowish brown coloured fine grained Sandstone.													
4																
5																
6																
7																
7.2	62.943															
7.2			Moderately weathered greyish coloured fine grained Sandstone													
8																
9																
9.2																
10																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 70.143 m

EAST: E or X = 1343.25

NORTH: N or Y = 3896.45

TYPE OF BORING: Rotary

BORING NO: BH 111

DIAMETER OF BORING: 150mm upto 3.20m & Nx from 3.20 to 20.0m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 20 m

SOIL SAMPLER USED: _____

LOCATION: Boiler

DATE STARTED: 27/3/10

COMPLETED: 30/3/10

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10																
	59.743			10.2	RC		---	---	---				66	17		
			Moderately weathered greyish coloured Siltstone										70	38		
11	59.143			11.2	RC		---	---	---				67	0		
			Moderately to slightly weathered greyish coloured fine grained Sandstone.										62	0		
12				12.2	RC		---	---	---				62	0		
13				13.2	RC		---	---	---				62	0		
14				14.2	RC		---	---	---				61	0		
15				15.2	RC		---	---	---				82	0		
16				16.2	RC		---	---	---				83	0		
17				17.2	RC		---	---	---				84	0		
18				18.2	RC		---	---	---				86	0		
19				19.2	RC		---	---	---				90	0		
20	50.143															

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 20 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 70.217 m

EAST: E or X = 791.35

NORTH: N or Y = 4831.26

TYPE OF BORING: Rotary

BORING NO: BH 115

DIAMETER OF BORING: 150mm upto 6.10m & Nx from 6.10 to 24.10m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 24.1 m

SOIL SAMPLER USED: _____

LOCATION: Water Treatment Plant

DATE STARTED: 17/4/10

COMPLETED: 21/4/10

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
0			Filled up soil													
1				1.5	SPT	1	3	3	5	8				---		
2																
3	67.417		Greyish coloured clay	3	SPT	2	4	5	7	12				---		
4																
5				4.5	UDS	1	---	---	---	Recovered				---		
6	64.117			6	SPT RC	3	---	---	---	10cm in 100 blow N>100				---		
7			Moderately weathered yellowish brown coloured fine grained Sandstone.	6.1									64	10		
8				7.1	RC		---	---	---				66	39		
9				8.1	RC		---	---	---				77	74		
10				9.1	RC		---	---	---				74	74		

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 24.1 m

For O.I.C & R. PVT. LTD



ORBITAL INFRASTRUCTURE CONSULTANCY & RESEARCH PRIVATE LTD

PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 70.217 m

EAST: E or X = 791.35

NORTH: N or Y = 4831.26

TYPE OF BORING: Rotary

BORING NO: BH 115

DIAMETER OF BORING: 150mm upto 6.10m & Nx from 6.10 to 24.10m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 24.1 m

SOIL SAMPLER USED: _____

LOCATION: Water Treatment Plant

DATE STARTED: 17/4/10

COMPLETED: 21/4/10

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
10			Moderately weathered yellowish brown coloured fine grained Sandstone. (continued)	10.1	RC		---	---	---				86	86		
11	59.117		Moderately weathered greyish coloured laminated Shales with some Siltstone.	11.1	RC		---	---	---				71	0		
12				12.1	RC		---	---	---				77	0		
13				13.1	RC		---	---	---				79	40		
14	56.717		Moderately weathered greyish coloured fine grained Sandstone with some Siltstone patches	14.1	RC		---	---	---				76	58		
15				15.1	RC		---	---	---				74	49		
16				16.1	RC		---	---	---				78	68		
17				17.1	RC		---	---	---				77	63		
18				18.1	RC		---	---	---				80	36		
19				19.1	RC		---	---	---				84	84		
20																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 24.1 m

For O.I.C & R. PVT. LTD



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PLOT NO. 1134, MAHANADI BIHAR, CUTTAK - 753 004

PH: 0671- 2443588 Tele Fax: 0671 - 2443408

N: ____

PROJECT NAME Geotechnical Investigation for NTPC Talcher Thermal Stage III (2 x 660 MW)

GROUND SURFACE ELEVATION: 70.217 m

EAST: E or X = 791.35

NORTH: N or Y = 4831.26

TYPE OF BORING: Rotary

BORING NO: BH 115

DIAMETER OF BORING: 150mm upto 6.10m & Nx from 6.10 to 24.10m BGL

TYPE OF BIT USED: Double tube

TOTAL HOLE DEPTH: 24.1 m

SOIL SAMPLER USED: _____

LOCATION: Water Treatment Plant

DATE STARTED: 17/4/10

COMPLETED: 21/4/10

DEPTH (m)	Reduced Level (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE			BLOWS/15cm			"N" Field	Water Level	Bulk Density gmc/cc	Recovery Length/ Recovery (%)	RQD (%)	Fracture Frequency per Meter	Serial Number of Recovered
				Sample Depth (m)	SAMPLE TYPE	Sample Number	15 cm	15 cm	15 cm							
20			Moderately weathered greyish coloured fine grained Sandstone with some Siltstone patches (continued)	20.1	RC		---	---	---				86	58		
21				21.1	RC		---	---	---				84	84		
22				22.1	RC		---	---	---				80	65		
23				23.1	RC		---	---	---				85	85		
24	46.117			24.1			---	---	---					---		
25																
26																
27																
28																
29																
30																

Remarks: Boring, field test and sample collection conducted as per B.I.S Specification only.
Ref: I.S : 1892; 1498; 2131 & 2132.
SPT : Standard Penetration Test & UDS : Undisturbed soil sample.

Borehole termination at 24.1 m

For O.I.C & R. PVT. LTD