

Package-1

Sl. No.	Land Slide Zone No.	Raod Marking (KM)	Design Chainage (KM)	Number of Bore-holes
1	A03	8+430	8+450	2
2	A05	10+450	10+480	1
3	A11	18+680	18+540	1
4	A12	18+850	18+695	2
5	A14	19+620	19+390	3
6	A15	22+900	22+680	1
7	A21	54+500	55+180	2
8	A22	54+530	55+260	3
9	A25	58+800	58+980	5

***Bore Log & Core Samples
Photographs
LS-A03***



Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpci.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	


BORE / CORE LOG DATA SHEET

Job Code - P160

Chainage (km)	8+430	Sliding Zone	LS_A03	No. of Core (C)	10													
Borehole No.	1	Commencement Date	20.02.2017	No. of SP Test (S)	5													
Ground Elevation (m)	877.259	Completion Date	28.02.2017	No. of Undisturbed (U)	0													
Method of Boring	Rotary Drilling	Standing Water Level	6.00 M BELOW G.L.	No. of Disturbed (D)	4 (D - 1 & S - 3)													
Borehole Diameter	150 mm & 75 mm	Termination Depth	20.02 M BELOW G.L.	No. of Water Sample (W)	1													
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N [*]	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture	
	From	To	From	To			15cm	15cm	15cm									
Stiff to Very Stiff, Brownish Grey, Clayey Sandy Silt / Sandy Clayey Silt with little Pebbles / Gravel size broken Siltstone / Shale pieces mixed. (CL) 0.00 m to 5.20 m	877.259		876.759	-	D	-	-	-	-	-	-	-	-	-	-	-	-	
			875.759	-	S	4	5	8	13	-	-	-	-	-	-	-	-	
			874.259	873.809	-	S	6	8	11	19	-	-	-	-	-	-	-	-
			872.759	872.309	-	U*	-	-	-	-	-	-	-	-	-	-	-	-
Light Greyish / Dark Greyish, Highly fracture fine grained Sandy Shale. 5.20 m to 20.02 m	872.059		872.059	871.989	-	S	7cm/78B	Re	Re	>100	70	-	-	-	-	-	-	
			872.059	870.759	1.30	R1	-	-	-	-	-	31	24	NIL	-	-	-	
			870.759	869.259	1.50	R2	-	-	-	-	-	44	29	21	-	-	70° 80°	
			869.259	867.759	1.50	R3	-	-	-	-	-	58	39	NIL	-	-	80° 75°	
			867.759	866.259	1.50	R4	-	-	-	-	-	70	47	NIL	-	-	-	
			866.259	864.759	1.50	R5	-	-	-	-	-	42	28	NIL	-	-	-	
			864.759	863.259	1.50	R6	-	-	-	-	-	26	17	NIL	-	-	-	
			863.259	863.219	-	S	4cm/55B	Re	Re	>100	53	-	-	-	-	-	-	
			863.259	861.759	1.50	R7	-	-	-	-	-	42	28	NIL	-	-	45°	
			861.759	860.259	1.50	R8	-	-	-	-	-	31	21	7	-	-	60° 80°	
			860.259	858.759	1.50	R9	-	-	-	-	-	45	30	NIL	-	-	-	
			858.759	857.259	1.50	R10	-	-	-	-	-	20	13	NIL	-	-	-	
			857.259	857.239	-	S	2cm/42B	Re	Re	>100	47	-	-	-	-	-	-	

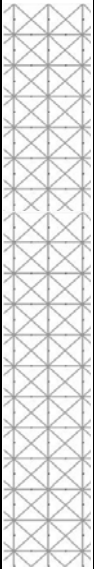
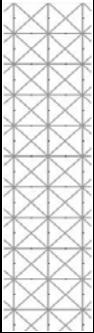
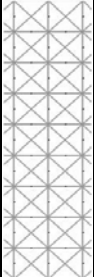
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not be Collected (Slipped)

Slip Plane - Did Not Recognise.

Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpci.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
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BORE / CORE LOG DATA SHEET

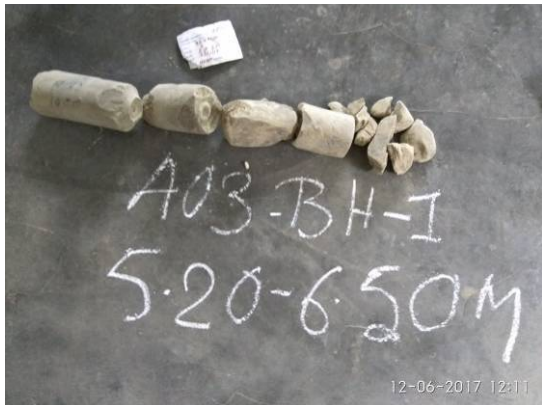
Job Code - P160

Chainage (km)	8+430		Sliding Zone	LS_A03		No. of Core (C)	21													
Borehole No.	2		Commencement Date	02.03.2017		No. of SP Test (S)	4													
Ground Elevation (m)	892.467		Completion Date	13.03.2017		No. of Undisturbed (U)	0													
Method of Boring	Rotary Drilling		Standing Water Level	7.50 M BELOW G.L.		No. of Disturbed (D)	1 (D - 0 & S - 1)													
Borehole Diameter	150 mm & 75 mm		Termination Depth	30.00 M BELOW G.L.		No. of Water Sample (W)	1													
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values (S-2131)	Corrected N*	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture		
	From	To		From	To			15cm	15cm	15cm										
Highly Weathered, Brownish / Yellowish Grey, Highly fracture Shale. 0.00 m to 12.00 m	892.467	880.467		892.467	890.967	1.50	R1	-	-	-	-	-	16	11	NIL	Brownish Colour	-	-		
				890.967	890.907	-	S	6cm / 71B	Re	Re	>100	90	-	-	-				-	-
				890.967	889.467	1.50	R2	-	-	-	-	-	20	13	NIL				-	
				889.467	889.427	-	S	7cm / 78B	Re	Re	>100	78	-	-	-				-	
				889.467	887.967	1.50	R3	-	-	-	-	-	19	13	NIL				-	
				887.967	887.947	-	S	2cm / 42B	Re	Re	>100	72	-	-	-				-	
				887.967	886.467	1.50	R4	-	-	-	-	-	15	10	NIL				-	
				886.467	886.417	-	S	5cm / 62B	Re	Re	>100	67	67	-	-				-	
				886.467	884.967	1.50	R5	-	-	-	-	-	33	22	NIL				-	
				884.967	883.467	1.50	R6	-	-	-	-	-	34	23	NIL				-	
	883.467	881.967	1.50	R7	-	-	-	-	-	34	23	NIL	-							
	881.967	880.467	1.50	R8	-	-	-	-	-	63	42	NIL	-							
Deep Greyish, Slightly fracture Shale. 12.00 m to 22.00 m	880.467	870.467		880.467	878.967	1.50	R9	-	-	-	-	-	82	55	23	Greyish Colour	Partial	65°		
				878.967	877.467	1.50	R10	-	-	-	-	-	119	79	66			55°		
				877.467	875.967	1.50	R11	-	-	-	-	-	124	83	66			65°		
				875.967	874.467	1.50	R12	-	-	-	-	-	119	79	27			64°		
				874.467	872.967	1.50	R13	-	-	-	-	-	135	90	70			50°		
				872.967	871.467	1.50	R14	-	-	-	-	-	118	79	35			60°		
				871.467	870.467	1.00	R15	-	-	-	-	-	80	80	74			50°		
				870.467	868.967	1.50	R16	-	-	-	-	-	120	80	NIL			70°		
Blackish Grey, Moderately fracture Shale with some layer Sandstone observed. 22.00 m to 30.00 m	870.467	862.467		870.467	868.967	1.50	R17	-	-	-	-	-	108	72	NIL	Greyish Colour	Partial	70°		
				868.967	867.467	1.50	R18	-	-	-	-	-	103	69	NIL			-		
				867.467	865.967	1.50	R19	-	-	-	-	-	114	76	10			65°		
				865.967	864.467	1.50	R20	-	-	-	-	-	83	83	15			60°		
				864.467	863.467	1.00	R21	-	-	-	-	-	88	88	73			80°		
				863.467	862.467	1.00	R21	-	-	-	-	-	88	88	73			55°		

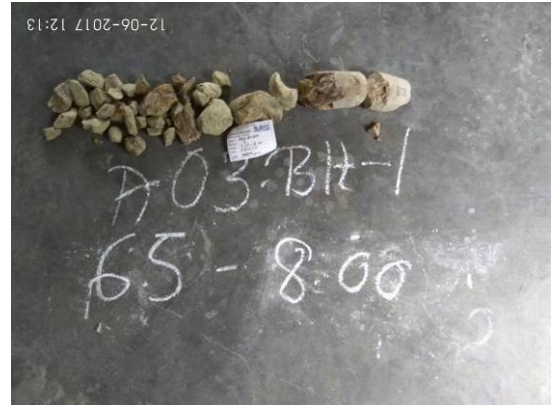
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)

Slip Plane - 9.00 m

➤ LS-A03(BH-1 & BH-2) & CHAINAGE (km)- 8+430



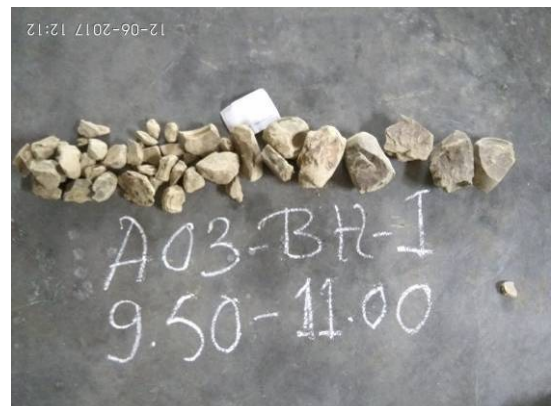
PICTURE 1: BH- 1 (Depth-5.20 to 6.50m)



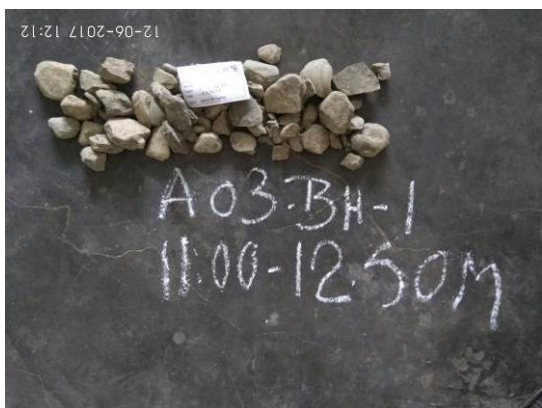
PICTURE 2: BH-1 (Depth-6.50-8.00)



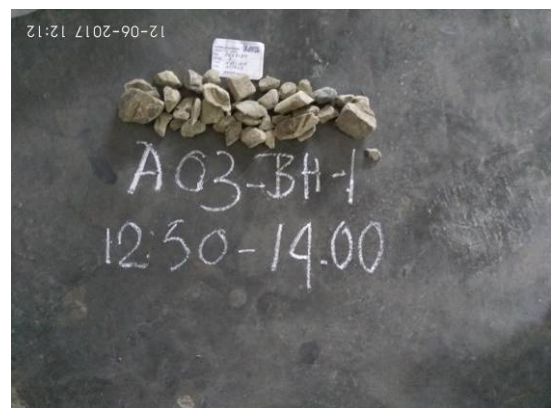
PICTURE 3: BH-1 (Depth-8.00 to 9.50m)



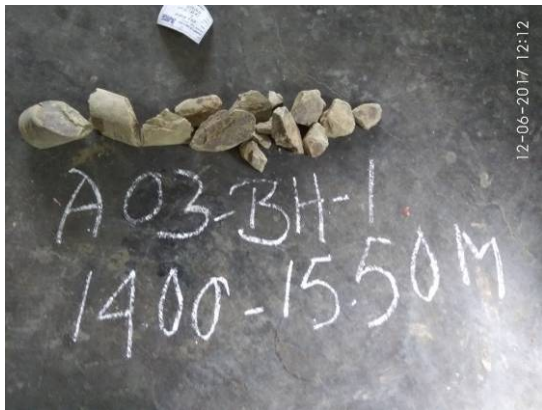
PICTURE 4: BH-1 (Depth-9.50 to 11.00m)



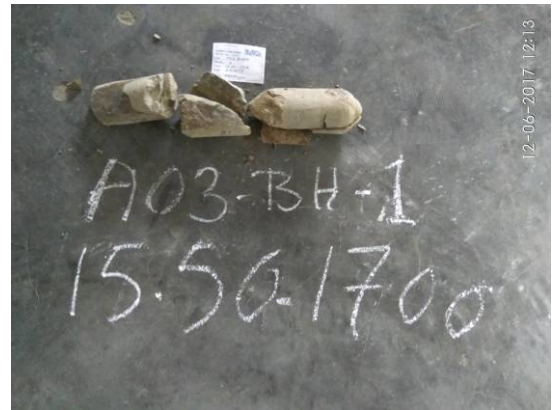
PICTURE 5: BH-1 (Depth-11.00 to 12.50m)



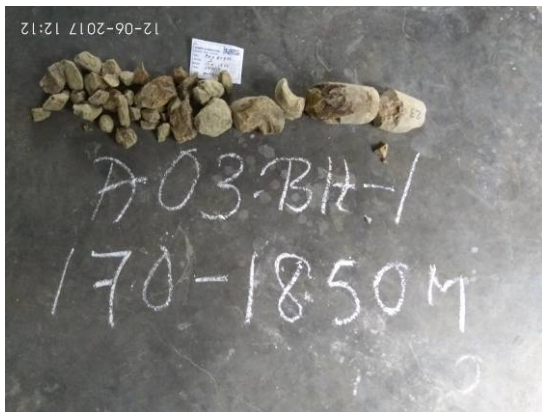
PICTURE 6: BH-1 (Depth-12.50 to 14.00m)



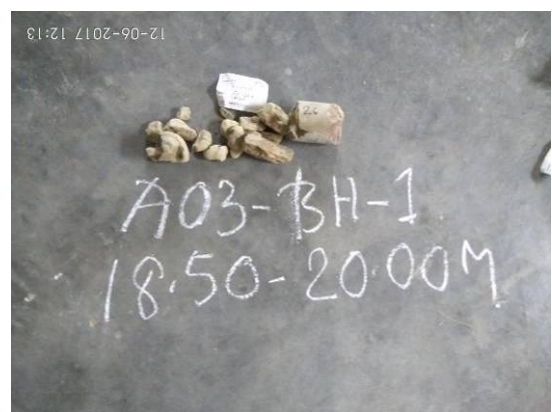
PICTURE 7: BH-1 (Depth-14.00 to 15.50m)



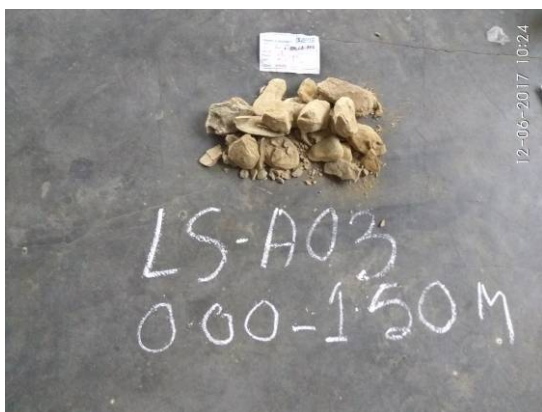
PICTURE 8: BH-1 (Depth-15.50 to 17.00m)



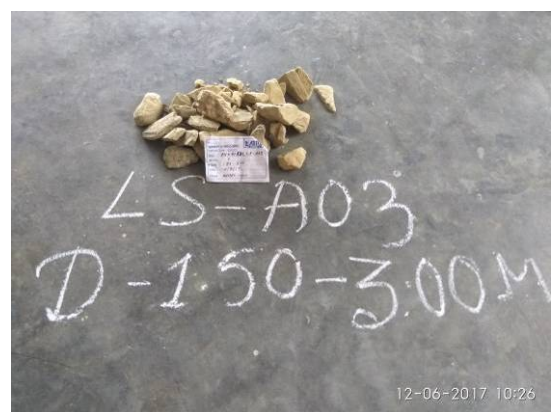
PICTURE 9: BH-1 (Depth-17.00 to 18.50m)



PICTURE 10: BH-1 (Depth-18.50 to 20.00m)



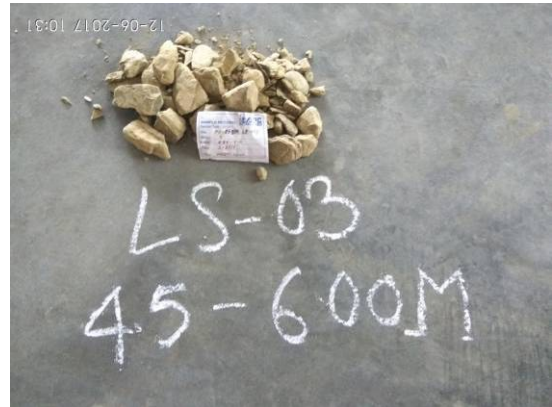
PICTURE 11: BH-2 (Depth-0.00 to 1.50m)



PICTURE 12: BH-2 (Depth-1.50 to 3.00m)



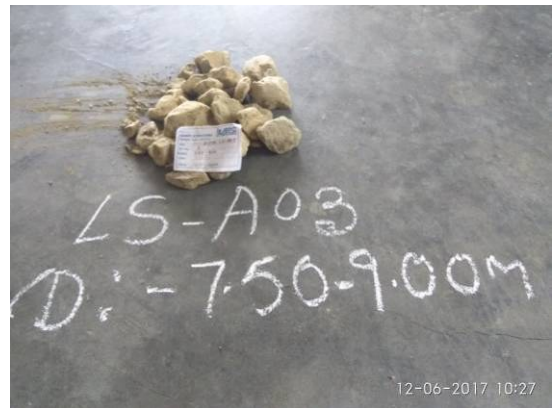
PICTURE 13: BH-2 (Depth-3.00-4.50m)



PICTURE 14: BH-2 (Depth-4.50 to 6.00m)



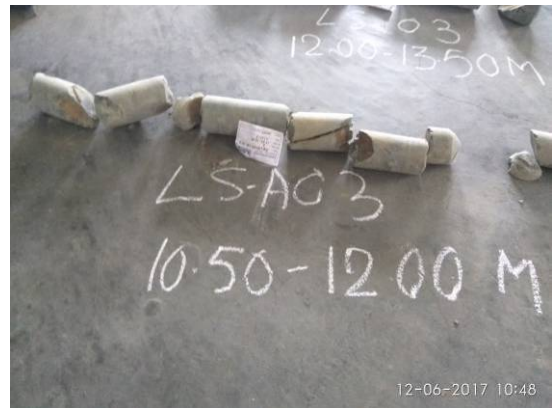
PICTURE 15: BH-2 (Depth-6.00 to 7.50m)



PICTURE 16: BH-2 (Depth-7.50 to 9.00m)



PICTURE 17: BH-2 (Depth-9.00 to 10.50m)



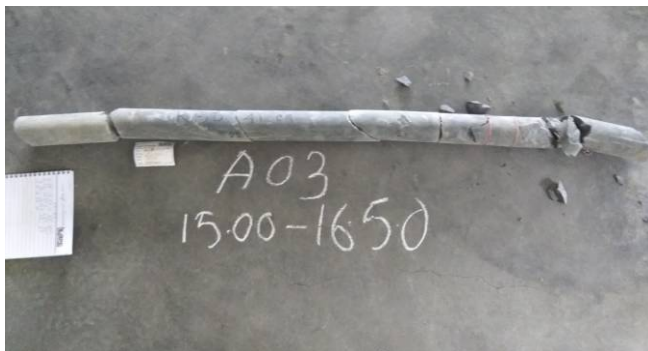
PICTURE 18: BH-2 (Depth-10.50 to 12.00m)



PICTURE 19: BH-2 (Depth-12.00 to 13.50m)



PICTURE 20: BH-2 (Depth-13.50 to 15.00m)



PICTURE 21: BH-2 (Depth-15.00 to 16.50m)



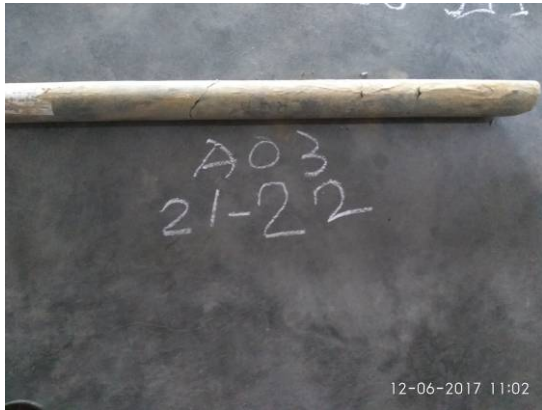
PICTURE 22: BH-2 (Depth-16.50 to 18.00m)



PICTURE 23: BH-2 (Depth-18.00 to 19.50m)



PICTURE 24: BH-2 (Depth-19.50 to 21.00m)



PICTURE 25: BH-2 (Depth-21.00 to 22.00m)



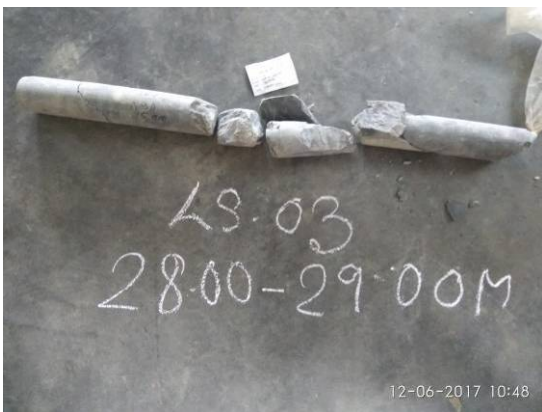
PICTURE 26: BH-2(22.00 to 23.50m)



PICTURE 27: BH-2 (Depth-25.00 to 26.50m)



PICTURE 28: BH-2 (Depth-26.50 to 28.00m)




PICTURE 29: BH-2 (Depth-28.00 to 29.00m)



PICTURE 30: BH-2 (Depth-29.00 to 30.00m)

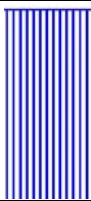
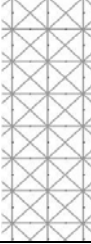

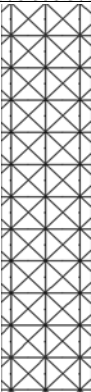
***Bore Log & Core Samples
Photographs
LS-A05***



Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpci.com
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BORE / CORE LOG DATA SHEET

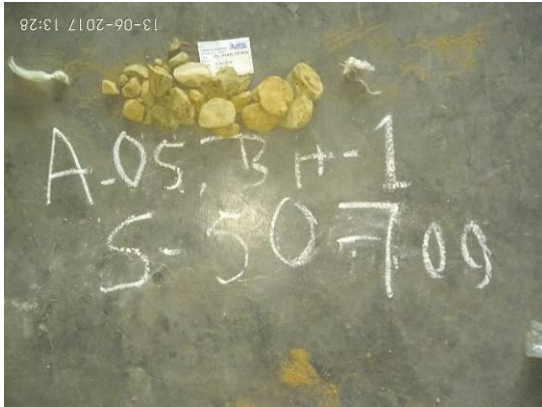
Job Code - P160

Chainage (km)	10+450		Sliding Zone	LS_A05		No. of Core (C)							17					
Borehole No.	1		Commencement Date	01.03.2017		No. of SP Test (S)							5					
Ground Elevation (m)	779.254		Completion Date	7.03.2017		No. of Undisturbed (U)							0					
Method of Boring	Rotary Drilling		Standing Water Level	6.00 M BELOW G.L.		No. of Disturbed (D)							4 (D - 1 & S - 3)					
Borehole Diameter	150 mm & 75 mm		Termination Depth	30.00 M BELOW G.L.		No. of Water Sample (W)							1					
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N*	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture
	From	To		From	To			15cm	15cm	15cm								
Very Stiff to Hard, Brownish / Yellowish, Sandy Silt with traces of Clay & Kankars. (ML) 0.00 m to 5.50 m	779.254	773.754		778.754	-	D	-	-	-	-	-	-	-	-	Brownish		-	
				777.754	777.304	-	S	8	8	8	16	-	-	-				
				776.254	775.804	-	S	14	15	22	37	-	-	-				
				774.754	774.304	-	U*	-	-	-	-	-	-	-				
Highly Weathered, Brownish / Yellowish Grey, Highly fracture Shale. 5.50 m to 10.00 m	773.754	769.254		773.754	773.724	-	S	3cm / 51B	Re	Re	>100	68	-	-	Brownish		-	
				773.754	772.254	1.50	R1	-	-	-	-	-	22	15				NIL
				772.254	772.234	-	S	2cm / 43B	Re	Re	>100	64	-	-				-
				772.254	770.754	1.50	R2	-	-	-	-	-	31	21				NIL
				770.754	769.254	1.50	R3	-	-	-	-	-	34	23				NIL
				769.254	767.754	1.50	R4	-	-	-	-	-	42	28				NIL
Yellowish / Greyish, Slightly fracture Shale. 10.00 m to 20.50 m	769.254	758.754		767.754	766.254	1.50	R5	-	-	-	-	-	47	31	8	55°	65°	
				766.254	764.754	1.50	R6	-	-	-	-	-	58	39	22	55°		
				764.754	763.254	1.50	R7	-	-	-	-	-	65	43	36			
				763.254	761.754	1.50	R8	-	-	-	-	-	72	48	NIL			
				761.754	760.254	1.50	R9	-	-	-	-	-	64	43	NIL			
				760.254	758.754	1.50	R10	-	-	-	-	-	65	43	NIL		45°	
				758.754	757.254	1.50	R11	-	-	-	-	-	22	15	NIL			
				757.254	757.164	-	S	9cm / 51B	Re	Re	>100	45	-	-	-			
				757.254	755.754	1.50	R12	-	-	-	-	-	28	19	NIL			
				755.754	754.254	1.50	R13	-	-	-	-	-	15	10	NIL			
Moderately Weathered, Yellowish / Brownish, Highly fracture Siltstone with Sand observed. 20.50 m to 30.00 m	758.754	749.254		754.254	752.754	1.50	R14	-	-	-	-	-	26	17	NIL			
				752.754	751.254	1.50	R15	-	-	-	-	-	28	19	NIL			
				751.254	750.254	1.00	R16	-	-	-	-	-	37	37	NIL		80°	
				750.254	749.254	1.00	R17	-	-	-	-	-	37	37	32			
				749.254														

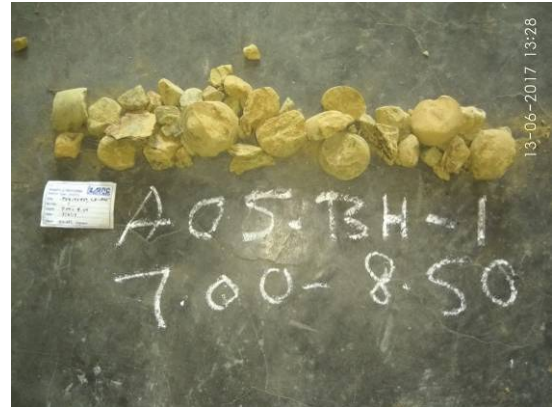
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not be Collected (Slipped)

Slip Plane - Did Not Recognise.

➤ LS- A05 (BH-1) & CHAINAGE(km)- 10+450



PICTURE 31: BH-1 (Depth-5.50 to 7.00m)



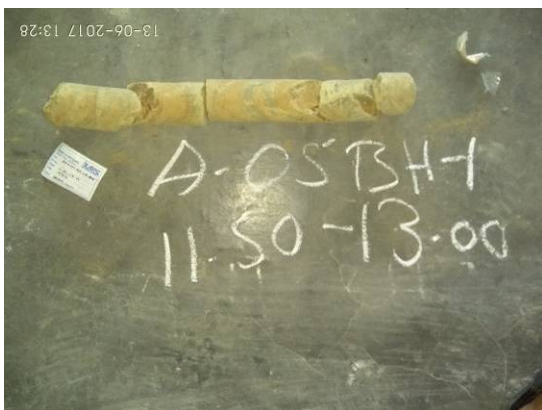
PICTURE 32: BH-1 (Depth-7.00 to 8.50m)



PICTURE 33: BH-1 (Depth-8.50 to 10.00m)



PICTURE 34: BH-1 (Depth-10.00 to 11.50m)



PICTURE 35: BH-1 (Depth-11.50 to 13.00m)



PICTURE 36: BH-1 (Depth-13.00 to 14.50m)



PICTURE 37: BH-1 (Depth-14.50 to 16.00m)



PICTURE 38: BH-1 (Depth-16.00 to 17.50m)



PICTURE 39: BH-1 (Depth-17.50 to 19.00m)



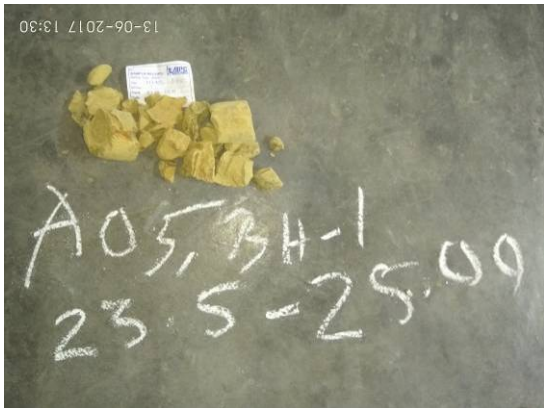
PICTURE 40: BH-1 (Depth-19.00 to 20.50m)



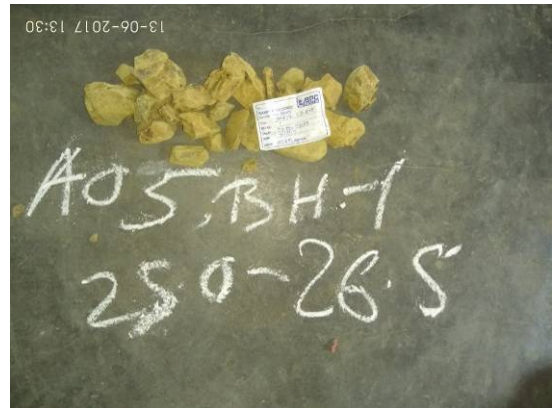
PICTURE 41: BH-1 (Depth-20.50 to 22.00m)



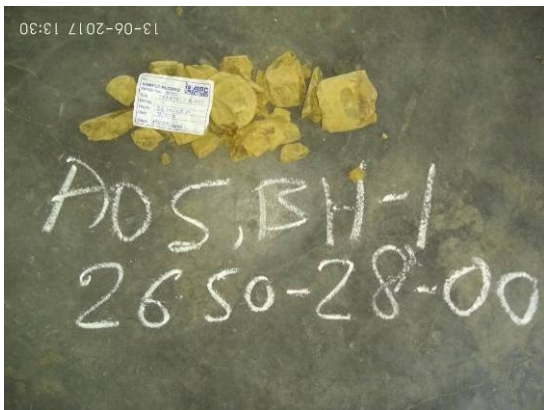
PICTURE 42: BH-1 (Depth-22.00 to 23.50m)



PICTURE 43: BH-1 (23.50 to 25.00m)



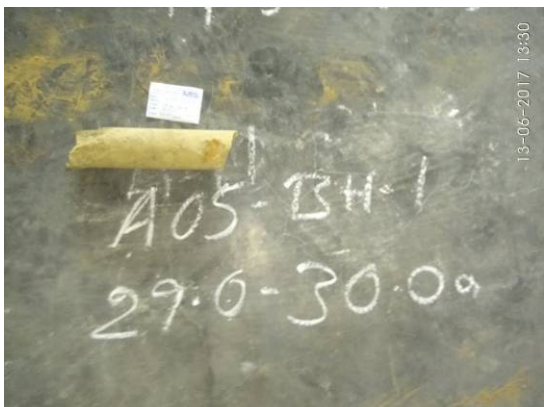
PICTURE 44: BH-1(25.00 to 26.50m)



PICTURE 45: BH-1 (26.50 to 28.00m)




PICTURE 46: BH-1 (28.00 to 29.00m)



PICTURE 46: BH-1(29.00 to 30.00m)




***Bore Log & Core Samples
Photographs
LS-A11***



Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpciip.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	

BORE / CORE LOG DATA SHEET

Job Code - P160

Chainage (km)	18+680		Sliding Zone	LS_A11		No. of Core (C)	8											
Borehole No.	1		Commencement Date	15.03.2017		No. of SP Test (S)	3											
Ground Elevation (m)	354.256		Completion Date	19.03.2017		No. of Undisturbed (U)	0											
Method of Boring	Rotary Drilling		Standing Water Level	4.25 M BELOW G.L.		No. of Disturbed (D)	3 (D - 1 & S - 2)											
Borehole Diameter	150 mm & 75 mm		Termination Depth	15.00 M BELOW G.L.		No. of Water Sample (W)	1											
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values (S-2131)	Corrected N*	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture
	From	To		From	To			15cm	15cm	15cm								
Very Dense, Brownish / Yellowish Grey, Fine grained Silty Sand. (SM) 0.00 m to 3.00 m	354.256	351.256		353.756	-	D	-	-	-	-	-	-	-	-	Brownish Grey	100 % Loss		
				352.756	-	S	20	27	36	63	58	-	-	-				
Completely Weathered, Brownish / Yellowish grey, Fine grained Sandstone. 3.00 m to 4.50 m	351.256	349.756		351.256	351.006	-	S	55	10cm/69B	Re	>100	78	-	-	Brownish Grey	100 % Loss		
				349.756	1.50	R1	-	-	-	-	-	NIL	NIL	NIL				
				349.756	349.706	-	S	5cm/58B	Re	Re	>100	72	-	-				
Fresh, Brownish / Yellowish grey, Fine grained Sandstone. 4.50 m to 15.00 m	349.756	339.256		349.756	348.256	1.50	R2	-	-	-	-	-	55	37	Brownish Grey	100 % Loss		25°
				348.256	1.50	R3	-	-	-	-	-	73	49	NIL				
				346.756	1.50	R4	-	-	-	-	-	90	60	25				
				345.256	1.50	R5	-	-	-	-	-	70	47	7				
				343.756	1.50	R6	-	-	-	-	-	76	51	17		Partial		5° to 10°
				342.256	1.50	R7	-	-	-	-	-	92	61	19				
				340.756	1.50	R8	-	-	-	-	-	85	57	43				
				339.256	1.50	R8	-	-	-	-	-	85	57	43				

Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not be Collected (Slipped)

Slip Plane -Did Not Recognise.

➤ LS- A11 (BH-1) & CHAINAGE(km)-18+680



PICTURE 47: BH-1 (Depth-4.50 to 6.00m)



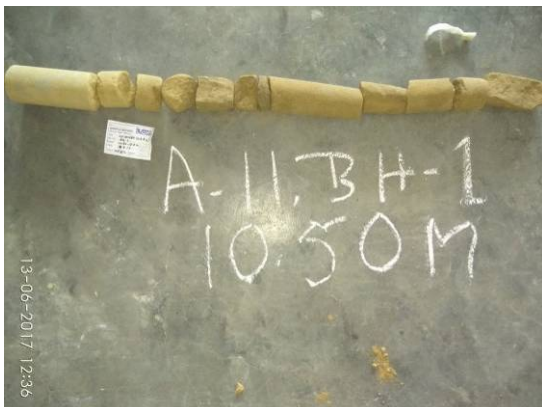
PICTURE 48: BH-1 (Depth-6.00 to 7.50m)



PICTURE 49: BH-1 (Depth-7.50 to 9.00m)



PICTURE 50: BH-1 (Depth-9.00 to 10.50m)




PICTURE 51: BH-1 (Depth-10.50 to 12.00m)



PICTURE 52: BH-1 (Depth-12.00 to 13.50m)

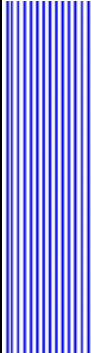

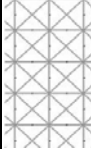
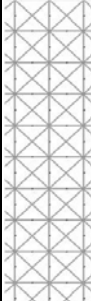
***Bore Log & Core Samples
Photographs
LS-A12***



Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpci.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	


BORE / CORE LOG DATA SHEET

Job Code - P160

Chainage (km)	18+850		Sliding Zone	LS_A12		No. of Core (C)	8											
Borehole No.	1		Commencement Date	22.03.2017		No. of SP Test (S)	7											
Ground Elevation (m)	337.165		Completion Date	25.03.2017		No. of Undisturbed (U)	0											
Method of Boring	Rotary Drilling		Standing Water Level	7.00 M BELOW G.L.		No. of Disturbed (D)	8 (D - 1 & S - 7)											
Borehole Diameter	150 mm & 75 mm		Termination Depth	20.00 M BELOW G.L.		No. of Water Sample (W)	1											
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N"	Total Core Length (cm)	TCR (%)	ROD (%)	Colours of return Water	Water Loss	Angle of Fracture
	From	To		From	To			15cm	15cm	15cm								
Stiff to Very Stiff, Brownish Grey, Clayey Sandy Silt with little broken Shalestone / Sandstone pieces mixed. (ML) 0.00 m to 7.50 m	337.165			336.665	-	D	-	-	-	-	-	-	-	-	Brownish Colour	Partial	-	
				335.665	-	S	3	5	7	12	-	-	-	-				
				334.165	-	S	4	6	8	14	-	-	-	-				
				334.165	-	U*	-	-	-	-	-	-	-	-				
				332.665	-	S	5	5	7	12	-	-	-	-				
				331.165	-	S	7	10	17	27	-	-	-	-				
				330.415	-	U*	-	-	-	-	-	-	-	-				
Dense to Very Dense, Brownish Grey, Clayey Silty Sand with little broken Shalestone / Sandstone pieces mixed. (SC) 7.50 m to 10.00 m	329.665			329.665	-	S	11	16	23	39	29	-	-	Brownish Colour	Partial	-		
				328.165	-	S	18	27	34	61	39	-	-					
				327.165	-													
Moderately Weathered, Light Grey / Dark Grey, Highly fracture fine grained Sandy Shale. 10.00 m to 12.00 m	327.165			327.165	-	S	49	5cm/53B	Re	>100	58	-	-	Brownish Colour	Partial	-		
				326.965	1.00	R1	-	-	-	-	-	32	32				NIL	
				326.165	1.00	R2	-	-	-	-	-	41	41				NIL	
				325.165	1.00	R2	-	-	-	-	-	41	41				NIL	
Blackish Grey, Moderately fracture Shale with some layer Sandstone observed. 12.00 m to 20.00 m	325.165			325.165	1.50	R3	-	-	-	-	-	105	70	24	Brownish Colour	Partial	-	
				323.665	1.50	R4	-	-	-	-	-	106	71	19				
				322.165	1.50	R5	-	-	-	-	-	108	72	33				
				320.665	1.50	R6	-	-	-	-	-	111	74	59				
				319.165	1.00	R7	-	-	-	-	-	73	73	25				
				318.165	1.00	R8	-	-	-	-	-	70	70	11				
				317.165	1.00	R8	-	-	-	-	-	70	70	11				

Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not be Collected (Slipped)

Slip Plane - 10.50 m

Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpci.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	

BORE / CORE LOG DATA SHEET

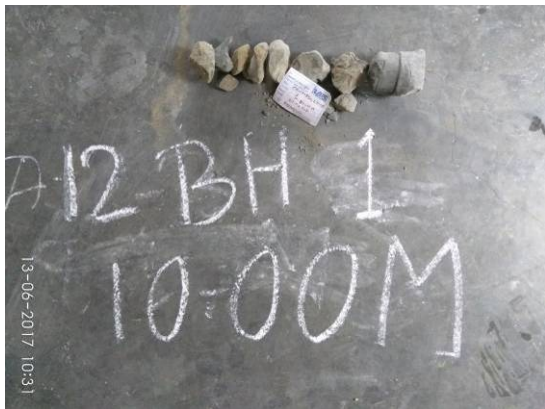
Job Code - P160

Chainage (km)	18+850	Sliding Zone	LS_A12	No. of Core (C)	12												
Borehole No.	2	Commencement Date	18.03.2017	No. of SP Test (S)	3												
Ground Elevation (m)	337.159	Completion Date	20.03.2017	No. of Undisturbed (U)	0												
Method of Boring	Rotary Drilling	Standing Water Level	7.35 M BELOW G.L.	No. of Disturbed (D)	3 (D - 1 & S - 2)												
Borehole Diameter	150 mm & 75 mm	Termination Depth	20.00 M BELOW G.L.	No. of Water Sample (W)	1												
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N"	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture
	From	To	From	To			15cm	15cm	15cm								
Dense, Brownish Grey, Fine grained Silty Sand. (SM) 0.00 m to 2.50 m	337.159		336.659		-	D	-	-	-	-	-	-	-	-	Brownish Colour	100% Water loss	-
		334.659	336.159		-	S	15	21	29	50	51	-	-	-			-
Brownish Grey, Fine grained Silty Sandstone with traces Cobbles & Gravels. 2.50 m to 5.50 m	334.659		334.659	334.459	-	S	42	5cm/52B	Re	>100	81	-	-	-	Brownish Colour	100% Water loss	-
			334.659	333.159	1.50	R1	-	-	-	-	-	15	10	NIL			-
		331.659	333.159	331.659		1.50	R2	-	-	-	-	-	19	13			NIL
Brownish Grey, Highly fracture Fine grained Sandstone. 5.50 m to 10.00 m	331.659		331.659	331.609	-	S	5cm/49B	Re	Re	>100	68	-	-	-	Brownish Colour	100% Water loss	-
			331.659	330.159	1.50	R3	-	-	-	-	-	51	34	13			-
			330.159	328.659	1.50	R4	-	-	-	-	-	69	46	9			-
			328.659	327.159	1.50	R5	-	-	-	-	-	75	50	NIL			5° to 15°
		327.159	327.159		1.50	R6	-	-	-	-	-	76	51	20			50°
Brownish Grey, Fine grained Fresh Sandstone with laminated of Shale. 10.00 m to 13.00 m	327.159		327.159	325.659											Brownish Colour	100% Water loss	35° 30°
		324.159	325.659		1.50	R7	-	-	-	-	-	106	71	59			
Blackish Grey, Fine grained fracture Sandstone with laminated of Shale. 13.00 m to 16.00 m	324.159		324.159	322.659	1.50	R8	-	-	-	-	-	110	73	41	Brownish Colour	Partial	55° 30°
		321.159	322.659		1.50	R9	-	-	-	-	-	94	63	NIL			32° 35°
Blackish Grey, Fine grained Fresh Sandstone. 16.00 m to 20.00 m	321.159		321.159	319.659	1.50	R10	-	-	-	-	-	101	67	46	Brownish Colour	Partial	41° 44°
			319.659	318.159	1.50	R11	-	-	-	-	-	98	65	55			20°
		317.159	318.159	317.159		1.00	R12	-	-	-	-	-	66	66			14

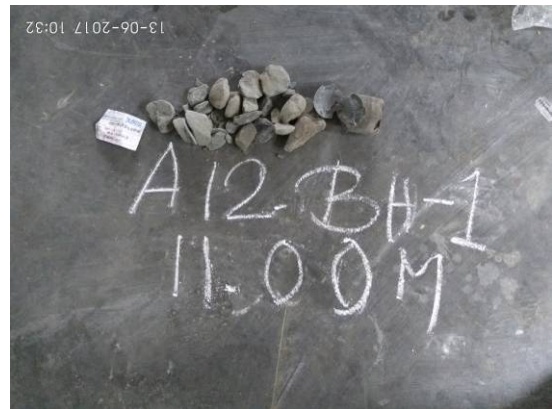
Re: Refusal R: Run RQD: Rock Quality Designation TCR: Total Core Recovery U*: UDS Could not be Collected (Slipped)

Slip Plane - 7 m

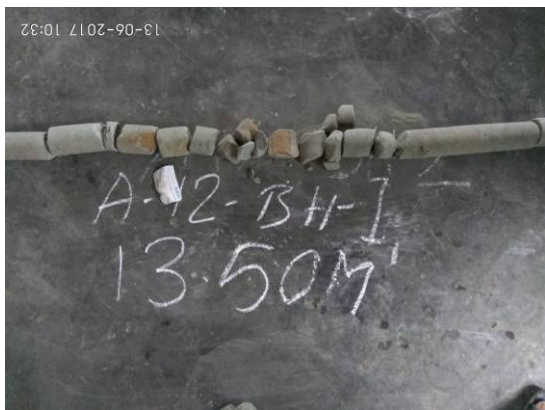
➤ **LS- A12 (BH-1 & BH-2) & CHAINAGE(km)-18+850**



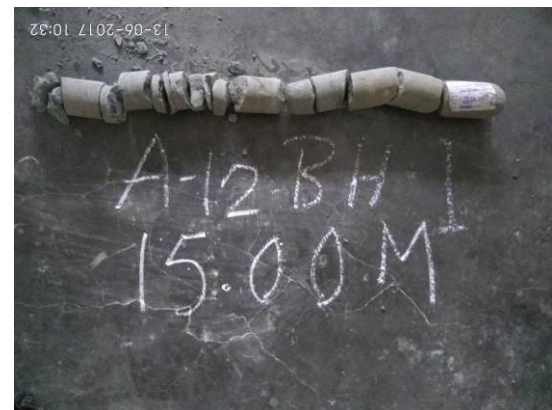
PICTURE 53: BH-1 (Depth-10.00 to 11.00m)



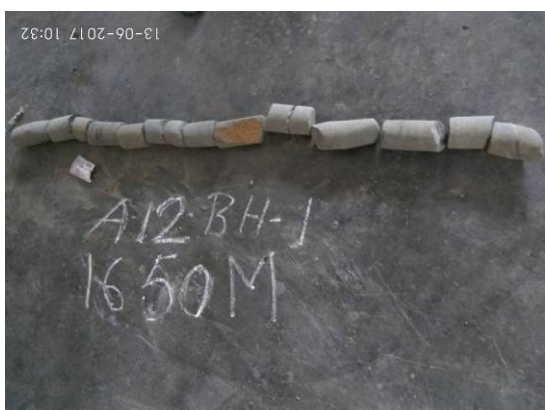
PICTURE 54: BH-1 (Depth-11.00 to 12.00m)



PICTURE 55: BH-1 (Depth-13.50 to 15.00m)



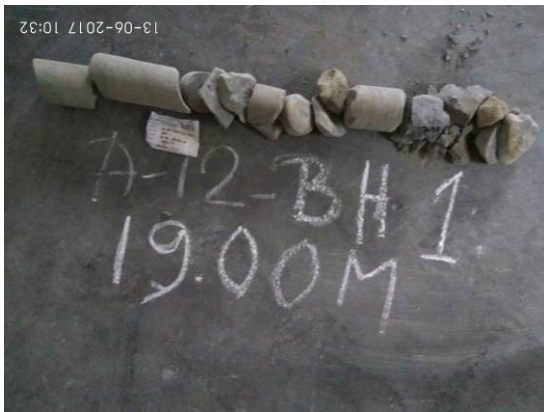
PICTURE 56: BH-1 (Depth-15.00 to 16.50m)



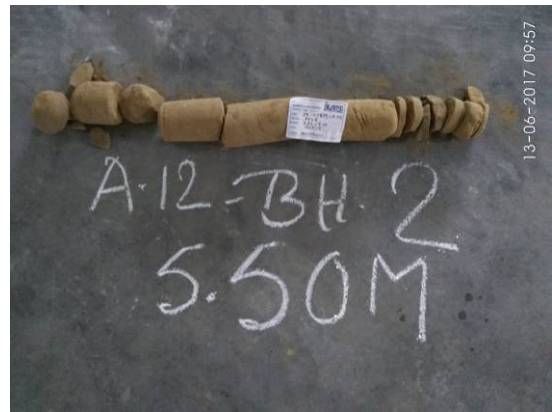
PICTURE 57: BH-1 (Depth-16.50 to 18.00m)



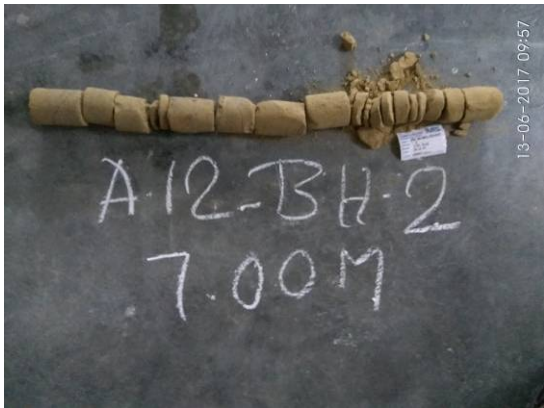
PICTURE 58: BH-1 (Depth-18.00 to 19.00m)



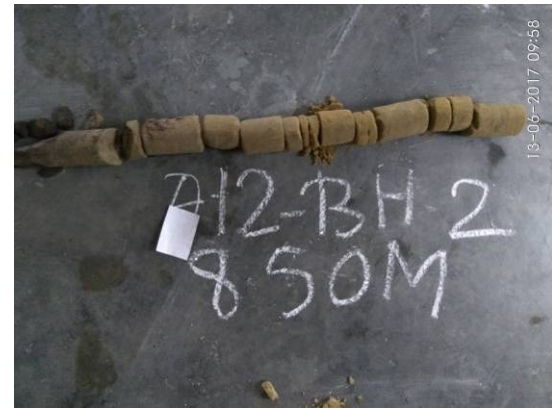
PICTURE 59: BH-1 (Depth-19.00 to 20.00m)



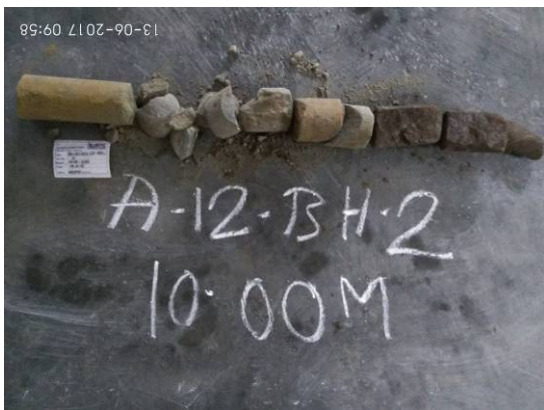
PICTURE 60: BH-2 (Depth-5.50 to 7.00m)



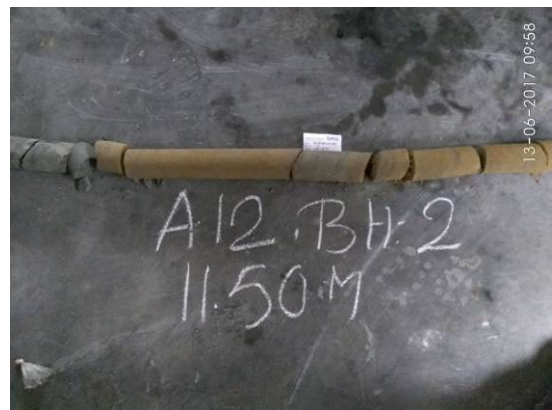
PICTURE 61: BH-2 (Depth-7.00 to 8.50m)



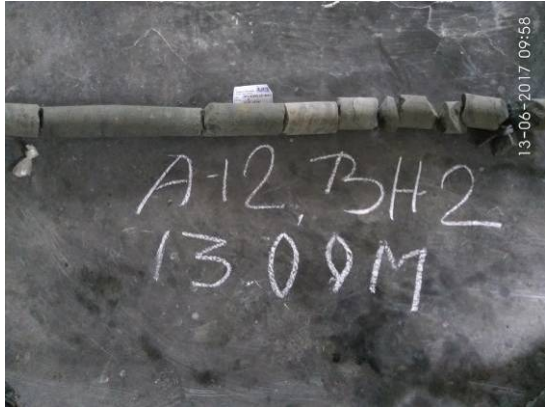
PICTURE 62: BH-2 (Depth-8.50 to 10.00m)



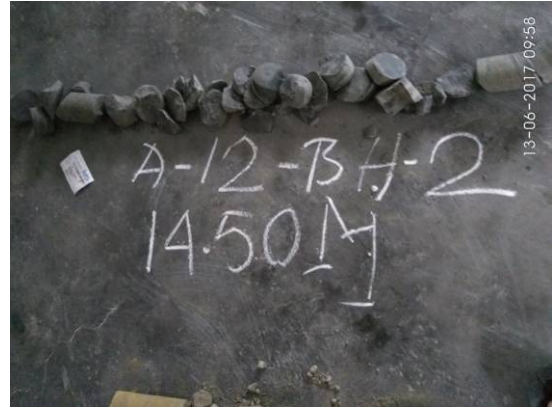
PICTURE 63: BH-2 (Depth-10.00 to 11.50m)



PICTURE 64: BH-2 (Depth-11.50 to 13.00m)



PICTURE 65: BH-2 (Depth-13.00 to 14.50m)



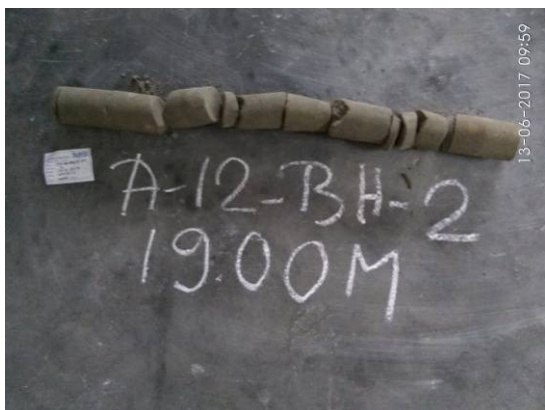
PICTURE 66: BH-2 (Depth-14.50 to 16.00m)



PICTURE 67: BH-2 (Depth-16.00 to 17.50m)




PICTURE 68: BH-2 (Depth-17.50 to 19.00m)



PICTURE 69: BH-2 (Depth-19.00 to 20.00m)

***Bore Log & Core Samples
Photographs
LS-A14***



Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpciopl.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	


BORE / CORE LOG DATA SHEET

Job Code - P160

Chainage (km)	19+620	Sliding Zone	LS_A14	No. of Core (C)	11																
Borehole No.	1	Commencement Date	23.03.2017	No. of SP Test (S)	4																
Ground Elevation (m)	290.654	Completion Date	27.03.2017	No. of Undisturbed (U)	0																
Method of Boring	Rotary Drilling	Standing Water Level	10.20 M BELOW G.L.	No. of Disturbed (D)	5 (D - 1 & S - 4)																
Borehole Diameter	150 mm & 75 mm	Termination Depth	20.00 M BELOW G.L.	No. of Water Sample (W)	1																
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values (S-2131)	Corrected N*	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture				
	From	To	From	To			15cm	15cm	15cm												
Very Stiff to Hard, Light Brownish / Yellowish Grey, Clayey Sandy Silt with traces of broken Shale / Siltstone pices. (CL) 0.00 m to 5.00 m	290.654	285.654	290.154		-	D	-	-	-	-	-	-	-	-	Greyish	Partial	-				
			289.654	289.204	-	S	5	7	9	16	-	-	-	-			-				
			288.154	287.704	-	S	7	10	17	27	-	-	-	-			-				
			286.654	286.204	-	S	11	10	45	55	-	-	-	-			-				
Blackish Grey, Highly fracture Shale with interband of Sandstone. 5.00 m to 8.00 m	285.654	282.654	285.654	285.554	-	S	10Cm / 66B	Re	Re	>100	70	-	-	-			Greyish	Partial	-		
			284.654	284.654	1.00	R1	-	-	-	-	-	30	30	NIL					-		
			283.654	283.654	1.00	R2	-	-	-	-	-	56	56	NIL					-		
			282.654	282.654	1.00	R3	-	-	-	-	-	60	60	38					20°		
Dark Grey, Slightly fracture Shale. 8.00 m to 20.00 m	282.654	270.654	282.654	281.154	1.50	R4	-	-	-	-	-	107	71	45					Greyish	Partial	30° 45°
			281.154	279.654	1.50	R5	-	-	-	-	-	105	70	21							42°
			279.654	278.154	1.50	R6	-	-	-	-	-	106	71	35							25° 40°
			278.154	276.654	1.50	R7	-	-	-	-	-	105	70	7	37°						
			276.654	275.154	1.50	R8	-	-	-	-	-	105	70	8	40° 45°						
			275.154	273.654	1.50	R9	-	-	-	-	-	107	71	NIL	40° 35°						
			273.654	272.154	1.50	R10	-	-	-	-	-	109	73	21	55° 45°						
			272.154	270.654	1.50	R11	-	-	-	-	-	108	72	NIL	28° 32°						

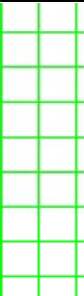


Re: Refusal R: Run RQD: Rock Quality Designation TCR: Total Core Recovery U*: UDS Could not be Collected (Slipped)

Slip Plane - 7.00 m

Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpcipl.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	


BORE / CORE LOG DATA SHEET

Job Code - P160

Chainage (km)	19+620		Sliding Zone	LS_A14		No. of Core (C)	10													
Borehole No.	2		Commencement Date	28.03.2017		No. of SP Test (S)	4													
Ground Elevation (m)	305.467		Completion Date	31.03.2017		No. of Undisturbed (U)	0													
Method of Boring	Rotary Drilling		Standing Water Level	3.50 M BELOW G.L.		No. of Disturbed (D)	4 (D - 1 & S - 3)													
Borehole Diameter	150 mm & 75 mm		Termination Depth	20.00 M BELOW G.L.		No. of Water Sample (W)	1													
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N"	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture		
	From	To		From	To			15cm	15cm	15cm										
Very Stiff to Hard, Brownish grey, Clayey Sandy Silt with traces of broken Shale / Siltstone pieces. (CL) 0.00 m to 5.00 m	305.467	300.467		304.967	-	D	-	-	-	-	-	-	-	-	-	-	-	-		
				304.467	-	S	5	7	10	17	-	-	-	-	-	-	-	-	-	
				302.467	-	S	10	17	22	39	-	-	-	-	-	-	-	-	-	-
				300.967	-	S	12	21	27	48	-	-	-	-	-	-	-	-	-	-
Blackish / Grey, Fine grained fracture Shale . 5.00 m to 8.00 m	300.467	297.467		300.367	-	S	3Cm / 66B	Re	Re	>100	70	-	-	-	-	-	-	-		
				300.337	1.40	R1	-	-	-	-	-	67	30	29	-	-	-	25°		
				298.967	1.50	R2	-	-	-	-	-	81	54	25	-	-	-	35°		
Slightly Weathered, Blackish / Grey, Fine grained slightly fracture Shale . 8.00 m to 20.00 m	297.467	285.467		297.467	1.50	R3	-	-	-	-	-	108	72	65	-	-	-	30° 35°		
				295.967	1.50	R4	-	-	-	-	-	109	73	35	-	-	-	30°		
				294.467	1.50	R5	-	-	-	-	-	113	75	51	-	-	-	30° 35°		
				292.967	1.50	R6	-	-	-	-	-	122	81	51	-	-	-	45°		
				291.467	1.50	R7	-	-	-	-	-	111	74	60	-	-	-	32° 35°		
				289.967	1.50	R8	-	-	-	-	-	119	79	49	-	-	-	37°		
				288.467	1.50	R9	-	-	-	-	-	119	79	71	-	-	-	32° 30°		
				286.967	1.50	R10	-	-	-	-	-	108	72	11	-	-	-	40° 30°		

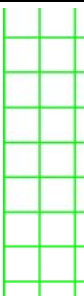


Re: Refusal R: Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not be Collected (Slipped)

Slip Plane - Did Not Recognise.

Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpcipl.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	

BORE / CORE LOG DATA SHEET

Job Code - P160

Chainage (km)	19+620		Sliding Zone	LS_A14		No. of Core (C)	10													
Borehole No.	3		Commencement Date	29.03.2017		No. of SP Test (S)	4													
Ground Elevation (m)	322.384		Completion Date	02.04.2017		No. of Undisturbed (U)	0													
Method of Boring	Rotary Drilling		Standing Water Level	7.00 M BELOW G.L.		No. of Disturbed (D)	4 (D - 1 & S - 3)													
Borehole Diameter	150 mm & 75 mm		Termination Depth	20.00 M BELOW G.L.		No. of Water Sample (W)	1													
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N"	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture		
	From	To		From	To			15cm	15cm	15cm										
Hard, Brownish Grey, Clayey Sandy Silt with traces of broken Shale / Siltstone pieces. (CL) 0.00 m to 5.00 m	322.384	317.384		321.884	-	-	D	-	-	-	-	-	-	-	-	-	-	-		
				320.884	-	S	7	13	19	32	-	-	-	-	-	-	-	-	-	
				319.384	-	S	9	17	25	42	-	-	-	-	-	-	-	-	-	-
				317.884	-	S	13	21	29	50	-	-	-	-	-	-	-	-	-	-
Blackish / Grey, Highly fracture fine grained Shale. 5.00 m to 10.00 m	317.384	312.384		316.884	-	-	S	4Cm / 61B	Re	Re	>100	68	-	-	-	-	-	-		
				316.884	1.50	R1	-	-	-	-	-	35	23	NIL	Greyesh	Partial	-	-	-	
				315.384	1.50	R2	-	-	-	-	-	51	34	NIL			-			
				313.884	1.50	R3	-	-	-	-	-	48	32	NIL			48° 30°			
Dark Grey, Slightly fracture Shale with thinly interbedded of Sandstone. 10.00 m to 20.00 m	312.384	302.384		312.384	1.50	R4	-	-	-	-	-	105	70	65			5°			
				310.884	1.50	R5	-	-	-	-	-	108	72	NIL	50° 45°					
				309.384	1.50	R6	-	-	-	-	-	106	71	NIL	40° 35°					
				307.884	1.50	R7	-	-	-	-	-	111	74	25	33°					
				306.384	1.50	R8	-	-	-	-	-	116	77	15	40° 35°					
				304.884	1.50	R9	-	-	-	-	-	117	78	NIL	38°					
	303.384	1.00	R10	-	-	-	-	-	81	81	NIL	30° 25°								

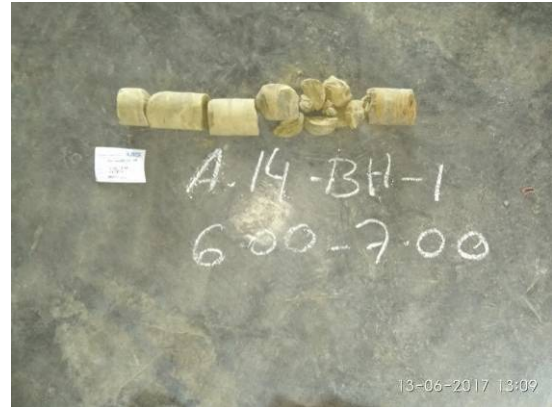
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not be Collected (Slipped)

Slip Plane - 7.00 m

➤ **LS- A14 (BH-1,BH-2 & BH-3) & CHAINAGE(km)- 19+620**



PICTURE 70: BH-1 (Depth-5.00 to 6.00m)



PICTURE 71: BH-1 (Depth-6.00 to 7.00m)



PICTURE 72: BH-1 (Depth-7.00 to 8.00m)



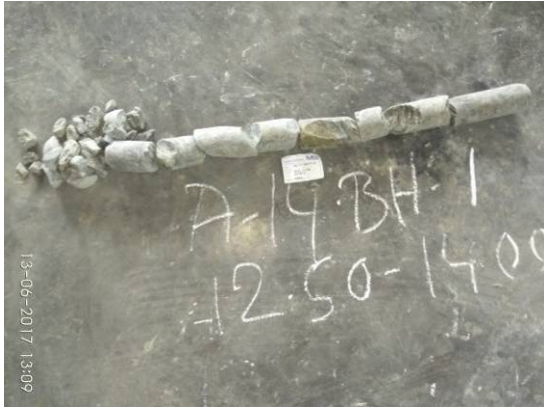
PICTURE 73: BH-1 (Depth-8.00 to 9.50m)



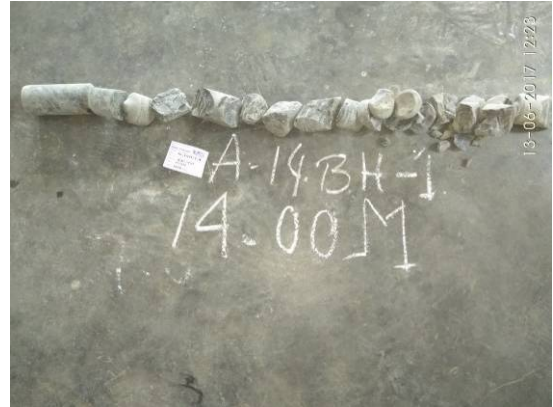
PICTURE 74: BH-1 (Depth-9.50 to 11.00m)



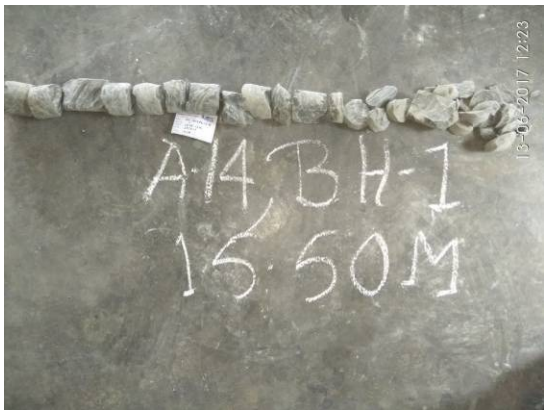
PICTURE 75: BH-1 (Depth-11.00 to 12.50m)



PICTURE 76: BH-1 (Depth-12.50 to 14.00m)



PICTURE 77: BH-1 (Depth-14.00 to 15.50m)



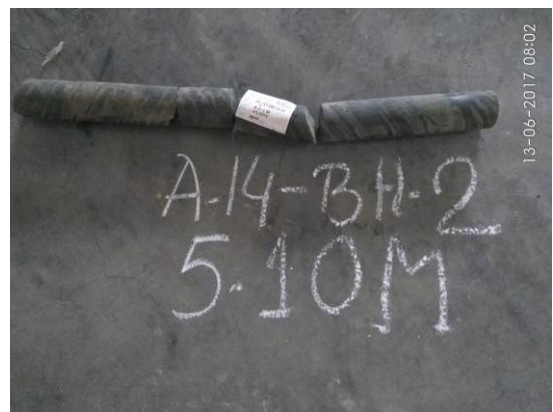
PICTURE 78: BH-1 (Depth-15.50 to 17.00m)



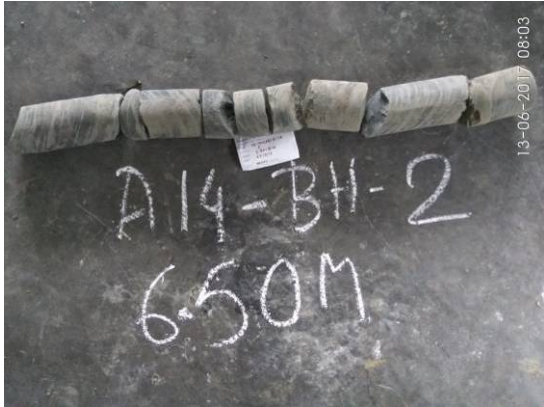
PICTURE 79: BH-1 (Depth-17.00 to 18.50m)



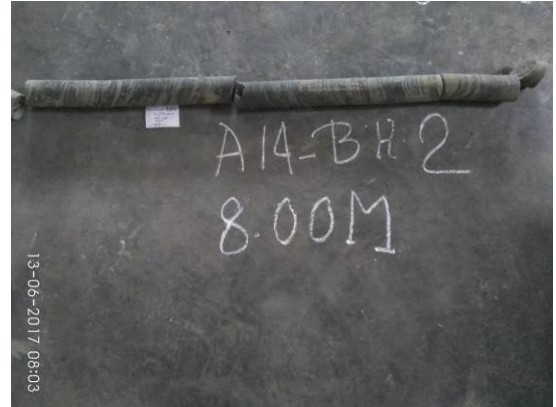
PICTURE 80: BH-1 (Depth-18.50 to 20.00m)



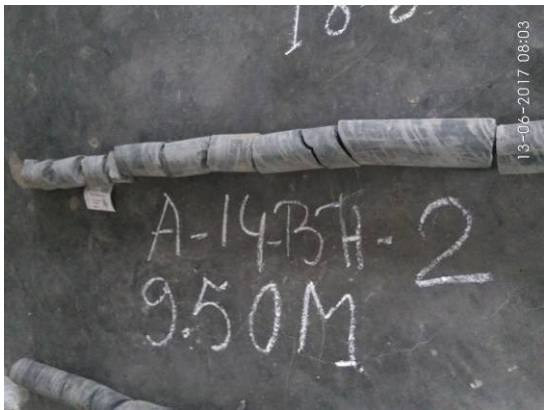
PICTURE 81: BH-2 (Depth-5.10 to 6.50m)



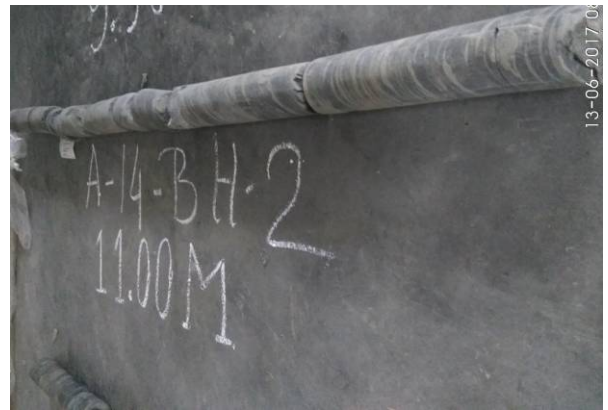
PICTURE 82: BH-2 (Depth-6.50 to 8.00m)



PICTURE 83: BH-2 (Depth-8.00 to 9.50m)



PICTURE 84: BH-2 (Depth-9.50 to 11.00m)



PICTURE 85: BH-2 (Depth-11.00 to 12.50m)



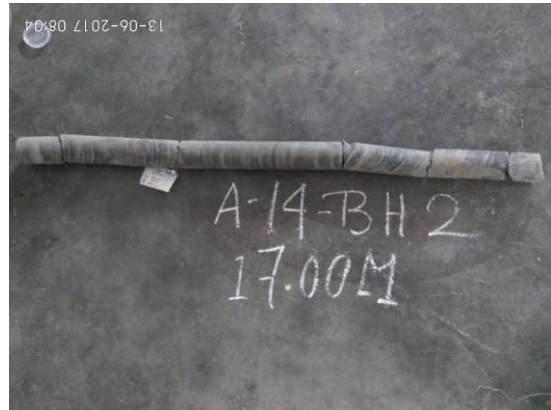
PICTURE 86: BH-2 (Depth-12.50 to 14.00m)



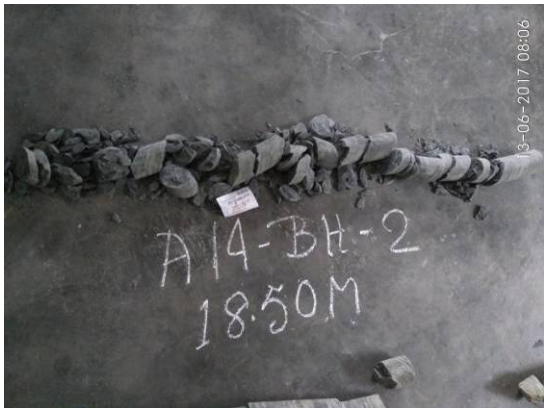
PICTURE 87: BH-2 (Depth-14.00 to 15.50m)



PICTURE 88: BH-2 (Depth-15.50 to 17.00m)



PICTURE 89: BH-2 (Depth-17.00 to 19.50m)



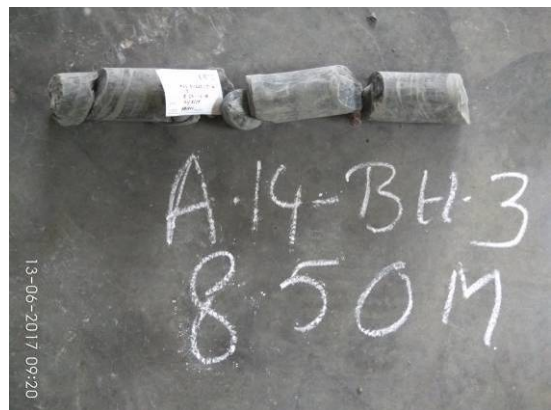
PICTURE 90: BH-2 (Depth-18.50 to 20.00m)



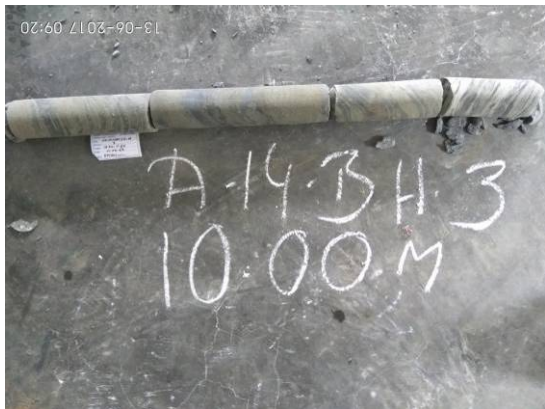
PICTURE 91: BH-3 (Depth-5.50 to 7.00m)



PICTURE 92: BH-3 (Depth-7.00 to 8.50m)



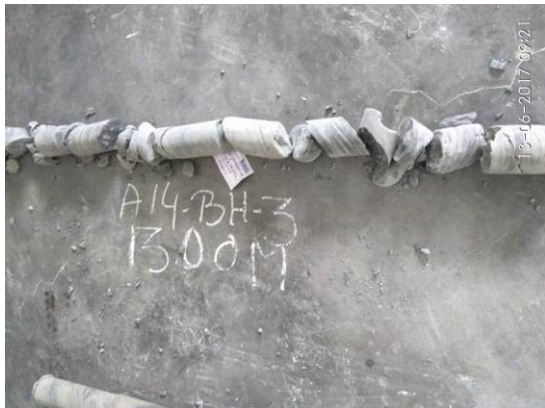
PICTURE 93: BH-3 (Depth-8.50 to 10.00m)



PICTURE 94: BH-3 (Depth-10.00 to 11.50m)



PICTURE 95: BH-3 (Depth-11.50 to 13.00m)



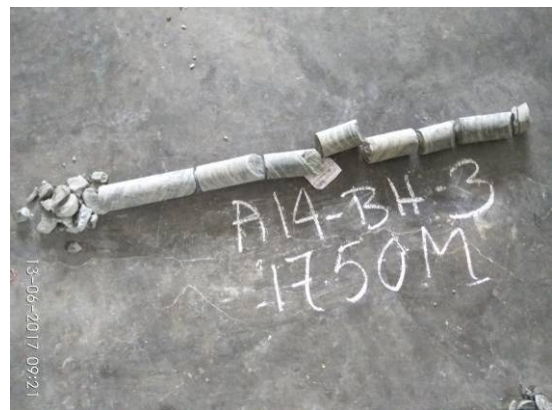
PICTURE 96: BH-3 (Depth-13.00 to 14.50m)



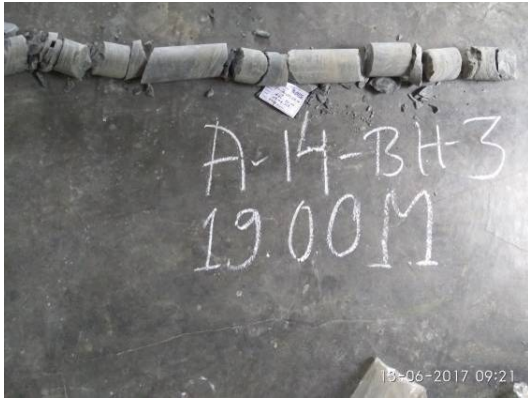
PICTURE 97: BH-3 (Depth-14.50 to 16.00m)



PICTURE 98: BH-3 (Depth-16.00 to 17.50m)




PICTURE 99: BH-3 (Depth-17.50 to 19.00m)



PICTURE 100: BH-3 (Depth-19.00 to 20.00m)

***Bore Log & Core Samples
Photographs
LS-A15***



Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpci.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	

BORE / CORE LOG DATA SHEET

Job Code - P160

Chainage (km)	22+900	Sliding Zone	LS_A15	No. of Core (C)	6											
Borehole No.	1	Commencement Date	29.03.2017	No. of SP Test (S)	4											
Ground Elevation (m)	172.584	Completion Date	31.03.2017	No. of Undisturbed (U)	0											
Method of Boring	Rotary Drilling	Standing Water Level	4.50 M BELOW G.L.	No. of Disturbed (D)	4 (D - 1 & S - 3)											
Borehole Diameter	150 mm & 75 mm	Termination Depth	15.00 M BELOW G.L.	No. of Water Sample (W)	1											
Description of Soil Stratum & Rock Methodology	Stratum Elevation As per R.L (m)		Elevation As per R.L (m)	Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N"	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture
	From	To				From	To	15cm								
Stiff to Very Stiff, Brownish Grey, Clayey Sandy Silt / Clayey Silty Sand with good % of broken Shale pices mixed. (CI-SC) 0.00 m to 6.00 m	172.584		172.084	-	D	-	-	-	-	-	-	-	-	Greyish	Partial	-
			171.084	-	S	4	7	8	15	-	-	-	-			-
			170.634	-	S	6	9	12	21	-	-	-	-			-
			169.584	-	S	6	9	12	21	-	-	-	-			-
Brownish / Grey, Pebbles & Gravels size very poor Siltstone with infilling Silty Clay. 6.00 m to 9.00 m	166.584		166.584	-	S	5Cm / 59B	Re	Re	>100	67	-	-	-	Greyish	Partial	*
			166.534	1.50	R1	-	-	-	-	-	22	15	NIL			
			165.084	-	S	3Cm / 42B	Re	Re	>100	63	-	-	-			
			165.054	1.50	R2	-	-	-	-	-	20	13	NIL			
Moderately Weathered, Dark greyish, highly fracture Shale. 9.00 m to 15.00 m	163.584		163.584	-	S	3Cm / 37B	Re	Re	>100	60	-	-	-	Greyish	Partial	*
			163.554	1.50	R3	-	-	-	-	-	28	19	NIL			
			162.084	1.50	R4	-	-	-	-	-	35	23	NIL			
			160.584	1.50	R5	-	-	-	-	-	38	25	NIL			
			159.084	1.50	R6	-	-	-	-	-	45	30	NIL			

Re: Refusal R: Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not be Collected (Slipped)

Slip Plane - 9.00 m ** Measurement not possible due to heavy broken small pieces.

➤ LS- A15 (BH-1) & CHAINAGE(km)- 22+900



PICTURE 101: BH-1 (Depth-9.00 to 10.50m)



PICTURE 102: BH-1 (Depth-10.50 to 12.00m)




PICTURE 103: BH-1 (Depth-12.00 to 13.50m)



PICTURE 104: BH-1 (Depth-13.50 to 15.00m)




***Bore Log & Core Samples
Photographs
LS-A21***



Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpci.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	


BORE / CORE LOG DATA SHEET

Job Code - P160

Chainage (km)	54+500		Sliding Zone	LS_A21		No. of Core (C)	11											
Borehole No.	1		Commencement Date	04.04.2017		No. of SP Test (S)	3											
Ground Elevation (m)	1160.524		Completion Date	08.04.2017		No. of Undisturbed (U)	0											
Method of Boring	Rotary Drilling		Standing Water Level	7.80 M BELOW G.L.		No. of Disturbed (D)	3 (D - 1 & S - 2)											
Borehole Diameter	150 mm & 75 mm		Termination Depth	20.00 M BELOW G.L.		No. of Water Sample (W)	1											
Description of Soil Stratam & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N"	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture
	From	To		From	To			15cm	15cm	15cm								
Medium Dense to Dense, Brownish grey, Clayey Sand with good % of broken Claystone / Shale mixed. (SC) 0.00 m to 3.70 m	1160.524			1160.024	-	D	-	-	-	-	-	-	-	-	-	-	-	-
				1159.024	-	S	7	11	16	27	29	-	-	-	-	-	-	-
		1156.824		1157.524	-	S	9	19	26	45	40	-	-	-	-	-	-	-
Light Yellowish grey, Fine grained highly fracture Sandstone. 3.70 m to 9.50 m	1156.824			1156.824	-	S	3Cm / 46B	Re	Re	>100	75	-	-	-	-	-	-	-
				1156.824	1.30	R1	-	-	-	-	-	27	21	8	Greyish	Partial	Measurement not possible due to heavy broken small peices	55°
				1155.524	1.50	R2	-	-	-	-	-	44	29	26				
				1154.024	1.50	R3	-	-	-	-	-	72	48	39				
				1152.524	1.50	R4	-	-	-	-	-	97	65	31				
				1151.024	1.50	R5	-	-	-	-	-	107	71	49				
Dark Grey, Fine grained Shale with thinly laminated Sandstone. 9.50 m to 20.00 m	1151.024			1149.524	1.50	R6	-	-	-	-	-	105	70	17				
				1148.024	1.50	R7	-	-	-	-	-	115	77	25				
				1146.524	1.50	R8	-	-	-	-	-	106	71	7				
				1145.024	1.50	R9	-	-	-	-	-	89	59	15				
				1143.524	1.50	R10	-	-	-	-	-	113	75	37				
				1142.024	1.50	R11	-	-	-	-	-	108	72	28				
		1140.524		1140.524	1.50	R11	-	-	-	-	-	108	72	28				

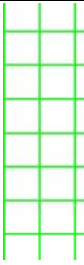

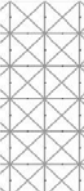
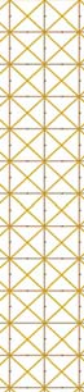
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)

Slip Plane - 8m

Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpcipl.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	

BORE / CORE LOG DATA SHEET

Job Code - P160

Chainage (km)	54+500		Sliding Zone	LS_A21		No. of Core (C)	8											
Borehole No.	2		Commencement Date	29.03.2017		No. of SP Test (S)	6											
Ground Elevation (m)	1195.013		Completion Date	31.03.2017		No. of Undisturbed (U)	1											
Method of Boring	Rotary Drilling		Standing Water Level	8.80 M BELOW G.L.		No. of Disturbed (D)	7 (D - 1 & S - 6)											
Borehole Diameter	150 mm & 75 mm		Termination Depth	20.00 M BELOW G.L.		No. of Water Sample (W)	1											
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N"	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture
	From	To		From	To			15cm	15cm	15cm								
Stiff to Very Stiff, Brownish / Yellowish grey, Sandy Clayey Silt with little broken Claystone / Shale. (CL) 0.00 m to 4.50 m	1195.013	1190.513		1194.513	-	D	-	-	-	-	-	-	-	-	Greyish	Partial	Soil	
				1193.513	-	S	4	4	6	10	-	-	-					
				1192.013	-	S	5	7	11	18	-	-	-					
				1191.013	-	U	-	-	-	-	-	-	-					
Dense to Very Dense, Brownish / Yellowish grey, Clayey Silty Sand with good % of broken Claystone / Shale mixed. (SC) 4.50 m to 9.00 m	1190.513	1186.013		1190.513	-	S	11	16	24	40	33	-	-	Greyish	Partial	Soil		
				1189.013	-	S	12	18	27	45	34	-	-					
				1188.013	-	U*	-	-	-	-	-	-	-					
				1187.513	-	S	17	22	36	58	40	-	-					
Brownish / Grey, Weak Shale. 9.00 m to 12.00 m	1186.013	1183.013		1186.013	-	S	6cm / 71B	Re	Re	>100	60	-	-	Greyish	Partial	Soil		
				1185.953	1.50	R1	-	-	-	-	-	48	32				NIL	
				1184.513	1.50	R2	-	-	-	-	-	63	42				33	
Dark Greyish, Fine grained Slightly fracture Sandstone with inter bedded Shale. 12.00 m to 20.00 m	1183.013	1175.013		1183.013	1.50	R3	-	-	-	-	-	114	76	71	Greyish	Partial	Soil	
				1181.513	1.50	R4	-	-	-	-	-	124	83	81				
				1180.013	1.50	R5	-	-	-	-	-	124	83	40				
				1178.513	1.50	R6	-	-	-	-	-	123	82	80				
				1177.013	1.00	R7	-	-	-	-	-	88	88	72				
				1176.013	1.00	R8	-	-	-	-	-	103	103	95				
				1175.013	1.00	R8	-	-	-	-	-	103	103	95				

Re: Refusal R: Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not be Collected (Slipped)

Slip Plane - 10.50 m

➤ LS- A21 (BH-1 & BH-2) & CHAINAGE(km)- 54+500



PICTURE 105: BH-1 (Depth-3.70 to 5.00m)



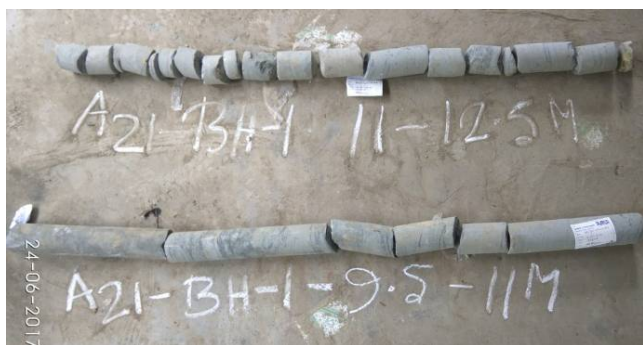
PICTURE 106: BH-1 (Depth-5.00 to 6.50m)



PICTURE 107: BH-1 (Depth-6.50 to 8.00m)



PICTURE 108: BH-1 (Depth-8.00 to 9.50m)



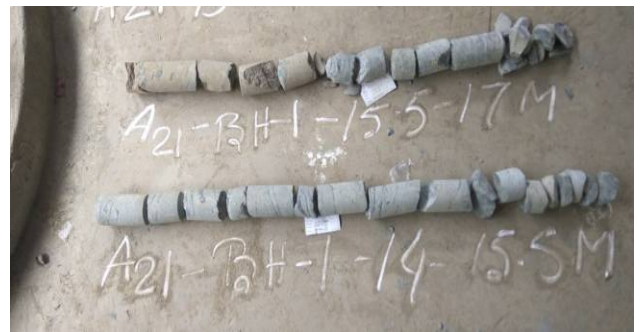
PICTURE 109: BH-1 (Depth-9.50 to 11.00m)



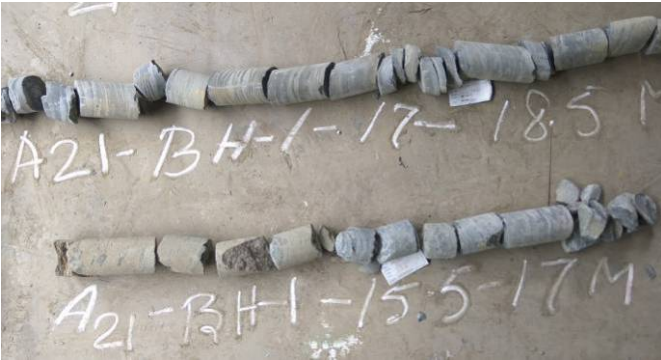
PICTURE 110: BH-1 (Depth-11.00 to 12.50m)



PICTURE 111: BH-1 (Depth-12.50 to 14.00m)



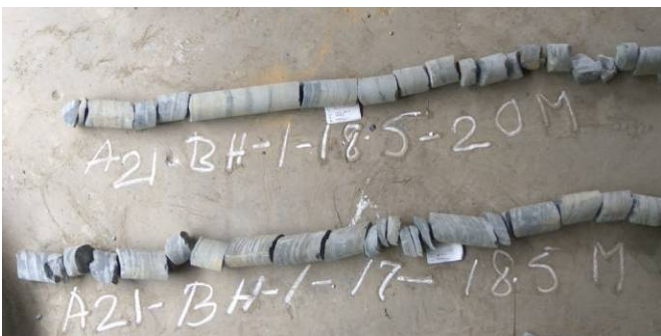
PICTURE 112: BH-1 (Depth-14.00 to 15.50m)



PICTURE 113: BH-1 (Depth-15.50 to 17.00m)



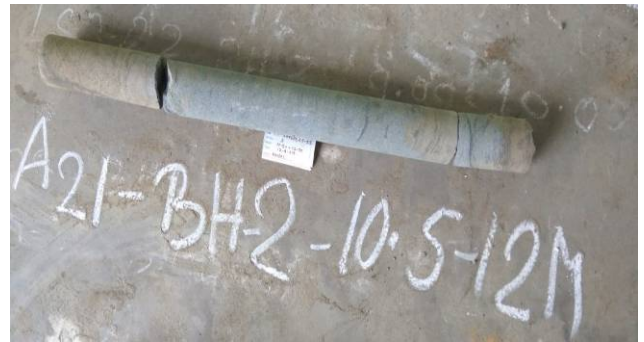
PICTURE 114: BH-1 (Depth-17.00 to 18.50m)



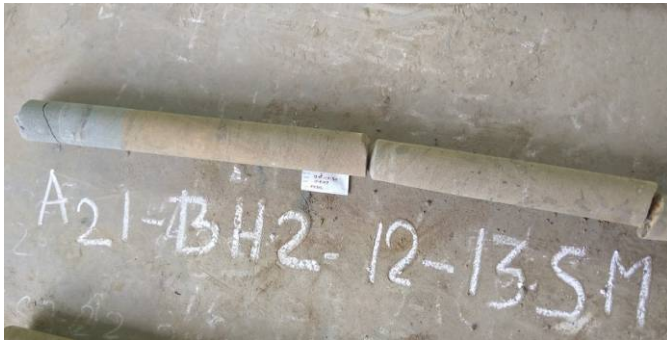
PICTURE 115: BH-1 (Depth-8.50 to 20.00m)



PICTURE 116: BH-2 (Depth-9.00 to 10.50m)



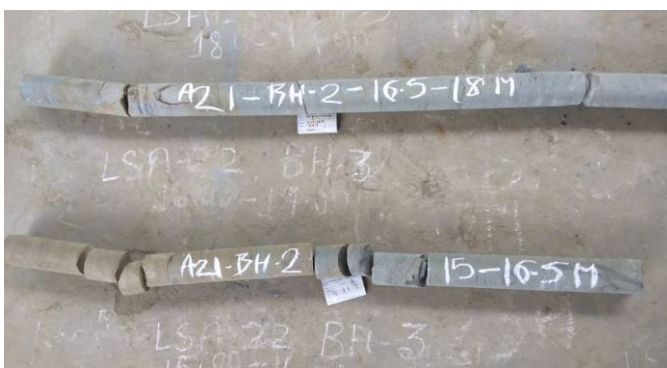
PICTURE 117: BH-2 (Depth-10.50 to 12.00m)



PICTURE 118: BH-2 (Depth-12.00 to 13.50m)



PICTURE 119: BH-2 (Depth-13.50 to 18.00m)



PICTURE 120: BH-2 (Depth-15.00 to 16.50m)



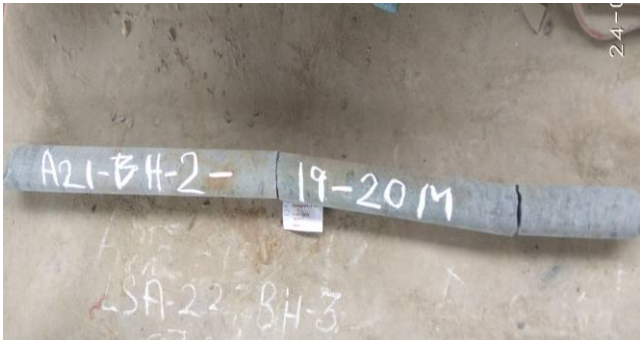
PICTURE 121: BH-2 (Depth-16.50 to 18.00m)



PICTURE 122: BH-2 (Depth-18.00 to 19.00m)




PICTURE 123: BH-2 (Depth-18.50 to 20.00m)



PICTURE 124: BH-2 (Depth-19.00 to 20.00m)

***Bore Log & Core Samples
Photographs
LS-A22***



Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpci.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	


BORE / CORE LOG DATA SHEET

Job Code - P160

Chainage (km)	54+530	Sliding Zone	LS_A22	No. of Core (C)	13												
Borehole No.	1	Commencement Date	03.04.2017	No. of SP Test (S)	1												
Ground Elevation (m)	1154.1087	Completion Date	07.04.2017	No. of Undisturbed (U)	0												
Method of Boring	Rotary Drilling	Standing Water Level	7.00 M BELOW G.L.	No. of Disturbed (D)	1 (D - 1 & S - 0)												
Borehole Diameter	150 mm & 75 mm	Termination Depth	20.00 M BELOW G.L.	No. of Water Sample (W)	1												
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N*	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture
	From	To	From	To			15cm	15cm	15cm								
Light Yellowish grey / Dark grey, Fine grained Sandstone with laminated of Shale. 0.00 m to 5.50 m	1154.1087		1153.6087		-	D	-	-	-	-	-	-	-	-	-	100 % water loss	-
			1153.1087	1153.0587	-	S	5cm / 61B	Re	Re	>100	97	-	-	-	Blackish Gray		-
			1153.1087	1151.6087	1.50	R1	-	-	-	-	-	66	44	17			25°
			1151.6087	1150.1087	1.50	R2	-	-	-	-	-	111	74	24			70°
			1150.1087	1148.6087	1.50	R3	-	-	-	-	-	111	74	27			43° 60°
Light Yellowish grey, Fine grained Sandstone . 5.50 m to 11.50 m	1148.6087		1148.6087	1147.1087	1.50	R4	-	-	-	-	-	109	73	15		Blackish Gray	-
			1147.1087	1145.6087	1.50	R5	-	-	-	-	-	104	69	39	25°		
			1145.6087	1144.1087	1.50	R6	-	-	-	-	-	97	65	25	25°		
			1144.1087	1142.6087	1.50	R7	-	-	-	-	-	60	40	18	25°		
Dark grey, Fine grained highly fracture Shale with laminated of Siltstone. 11.50 m to 20.00 m	1142.6087		1142.6087	1141.1087	1.50	R8	-	-	-	-	-	66	44	NIL	Partial	-	
			1141.1087	1139.6087	1.50	R9	-	-	-	-	-	47	31	NIL		70°	
			1139.6087	1138.1087	1.50	R10	-	-	-	-	-	59	39	NIL		40°	
			1138.1087	1136.6087	1.50	R11	-	-	-	-	-	53	35	7		50°	
			1136.6087	1135.1087	1.50	R12	-	-	-	-	-	68	45	27		-	
			1135.1087	1134.1087	1.00	R13	-	-	-	-	-	61	61	39		-	


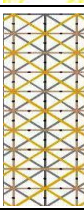


Re: Refusal R: Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not be Collected (Slipped)

Slip Plane - 10.5 m.

Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpci.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	


BORE / CORE LOG DATA SHEET

Job Code - P160

Chainage (km)	54+530		Sliding Zone	LS_A22		No. of Core (C)	15											
Borehole No.	2		Commencement Date	11.04.2017		No. of SP Test (S)	2											
Ground Elevation (m)	1190.3570		Completion Date	19.04.2017		No. of Undisturbed (U)	0											
Method of Boring	Rotary Drilling		Standing Water Level	10.15 M BELOW G.L.		No. of Disturbed (D)	2 (D - 1 & S - 1)											
Borehole Diameter	150 mm & 75 mm		Termination Depth	25.00 M BELOW G.L.		No. of Water Sample (W)	1											
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N"	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture
	From	To		From	To			15cm	15cm	15cm								
Loose, Brownish / Yellowish grey, Clayey Silty Sand with good % of broken Claystone / Siltstone peices mixed. (SC) 0.00 m to 3.00 m	1190.3570			1189.8570		-	D	-	-	-	-	-	-	-	-	-	-	-
		1187.3570			1188.8570	1188.4070	-	S	2	3	4	7	-	-	-	-	-	-
Light Yellowish grey, Alternative weak Shale & Sandstone. 3.00 m to 6.00 m	1187.3570			1187.3570		-	S	5cm / 61B	Re	Re	>100	78	-	-	-	-	-	-
				1187.3570	1185.8570	1.50	R1	-	-	-	-	-	48	32	28	Brownish	Partial	-
				1185.8570	1184.3570	1.50	R2	-	-	-	-	-	69	46	16			35°
Moderately Weathered, Dark grey, Fine grained fracture Strong Sandstone with laminated Shale. 6.00 m to 16.50 m	1184.3570			1184.3570		1.50	R3	-	-	-	-	116	77	60	63°			
				1182.8570		1.50	R4	-	-	-	-	121	81	70	-			
				1181.3570		1.50	R5	-	-	-	-	136	91	69	65°			
				1179.8570		1.50	R6	-	-	-	-	124	83	69	-			
				1178.3570		1.50	R7	-	-	-	-	106	71	40	-			
				1176.8570		1.50	R8	-	-	-	-	118	79	74	40°			
				1175.3570		1.50	R9	-	-	-	-	117	78	52	-			
Slightly Weathered, Dark grey, Fine grained Strong Sandstone. 16.50 m to 20.00 m	1173.8570			1173.8570		1.50	R10	-	-	-	-	111	74	49	65°			
				1172.3570		1.50	R11	-	-	-	-	109	73	43	-			
				1170.8570		1.50	R12	-	-	-	-	120	80	47	75°			
				1169.3570		1.50	R13	-	-	-	-	116	77	50	75°			
				1167.8570		1.50	R14	-	-	-	-	112	75	55	-			
				1166.3570		1.00	R15	-	-	-	-	82	82	63	-			


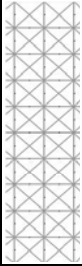

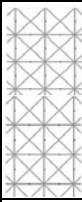
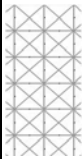

Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not be Collected (Slipped)

Slip Plane - 17.5 m.

Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpcipl.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	

BORE / CORE LOG DATA SHEET

Job Code - P160

Chainage (km)	54+530		Sliding Zone	LS_A22		No. of Core (C)	25										
Borehole No.	3		Commencement Date	25.04.2017		No. of SP Test (S)	5										
Ground Elevation (m)	1208.9230		Completion Date	01.05.2017		No. of Undisturbed (U)	0										
Method of Boring	Rotary Drilling		Standing Water Level	9.80 M BELOW G.L.		No. of Disturbed (D)	4 (D - 1 & S - 3)										
Borehole Diameter	150 mm & 75 mm		Termination Depth	30.00 M BELOW G.L.		No. of Water Sample (W)	1										
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			Corrected N*	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture
	From	To		From	To			15cm	15cm	15cm							
Dense to Very Dense, Brownish grey, Clayey Silty Sand with good % of broken Claystone / Siltstone pieces mixed. (SC) 0.00 m to 3.00 m	1208.9230			1208.4230		-	D	-	-	-	-	-	-	-	-	-	Soil
				1207.9230		-	S	11	17	25	42	44	-	-	-	-	
				1206.9230	1206.4730	-	S	12	22	31	53	48	-	-	-	-	
Fresh, Brownish grey, Fine grained slightly fracture Strong Shale with laminated Sandstone. 3.00 m to 10.00 m	1205.9230			1205.9230	1205.8530	-	S	7cm/59B	Re	Re	>100	78	-	-	-	Brownish	Not Possible
				1205.9230	1204.9230	1.00	R1	-	-	-	-	-	42	42	NIL		
				1204.9230	1203.9230	1.00	R2	-	-	-	-	-	63	63	32		
				1203.9230	1202.9230	1.00	R3	-	-	-	-	-	94	94	16		
				1202.9230	1201.9230	1.00	R4	-	-	-	-	-	98	98	67		
				1201.9230	1200.9230	1.00	R5	-	-	-	-	-	90	90	42		
				1200.9230	1199.9230	1.00	R6	-	-	-	-	-	87	87	34		
				1199.9230	1198.9230	1.00	R7	-	-	-	-	-	61	61	41		
				1198.9230	1197.9230	1.00	R8	-	-	-	-	-	94	94	94		
				1197.9230	1196.9230	1.00	R9	-	-	-	-	-	77	77	54		
Fresh, Dark grey, Fine grained slightly fracture Strong Sandstone with laminated Shale. 10.00 m to 21.00 m	1196.9230			1196.9230	1195.9230	1.00	R10	-	-	-	-	93	93	72	Partial	-	
				1195.9230	1194.9230	1.00	R11	-	-	-	-	97	97	81			
				1194.9230	1193.9230	1.00	R12	-	-	-	-	86	86	52			
				1193.9230	1192.9230	1.00	R13	-	-	-	-	82	82	23			
				1192.9230	1191.9230	1.00	R14	-	-	-	-	93	93	78			
				1191.9230	1190.9230	1.00	R15	-	-	-	-	81	81	74			
				1190.9230	1189.9230	1.00	R16	-	-	-	-	81	81	79			
				1189.9230	1188.9230	1.00	R17	-	-	-	-	70	70	65			
				1188.9230	1187.9230	1.00	R18	-	-	-	-	70	70	62			
				1187.9230	1186.9230	1.00	R19	-	-	-	-	NIL	NIL	NIL			
Completely Weathered, Dark grey, Very Soft Shale. 21.00 m to 23.00 m	1187.9230			1186.9230		-	S	5 cm penetration in 51 blow			>100	-	-	-	Greyish	-	
				1186.9230	1186.8730	1.00	R20	-	-	-	-	NIL	NIL	NIL			
				1185.9230	1185.8530	-	S	7 cm penetration in 55 blow			>100	-	-	-			
Slightly Weathered, Light Brownish grey, Slightly fracture Shale with laminated Sandstone. 23.00 m to 27.00 m	1185.9230			1185.9230	1184.9230	1.00	R21	-	-	-	-	70	70	23	Partial	-	
				1184.9230	1183.9230	1.00	R22	-	-	-	-	72	72	38			
				1183.9230	1182.9230	1.00	R23	-	-	-	-	75	75	54			
				1182.9230	1181.9230	1.00	R24	-	-	-	-	72	72	54			
Fresh, Brownish grey, Fine grained slightly fracture Strong Sandstone with laminated Shale. 27.00 m to 30.00 m	1181.9230			1181.9230	1180.9230	1.00	R25	-	-	-	-	70	70	18	Partial	-	
				1180.9230	1179.9230	1.00	R26	-	-	-	-	76	76	16			
				1179.9230	1178.9230	1.00	R27	-	-	-	-	72	72	18			

Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not be Collected (Slipped)

Slip Plane - 21 m.

➤ **LS- A22 (BH-1, BH-2 & BH-3) & CHAINAGE(km)- 54+530**



PICTURE 125: BH-1 (Depth-1.00 to 2.50m)



PICTURE 126: BH-1 (Depth-2.50 to 4.00m)



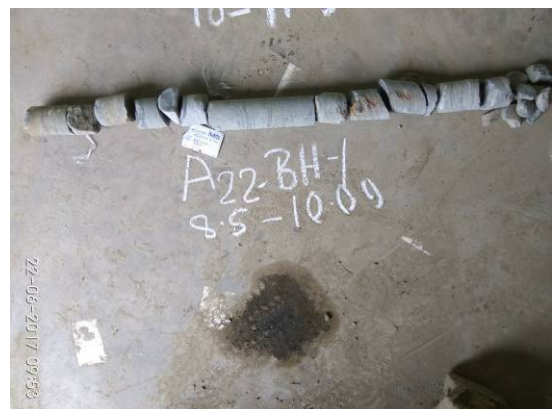
PICTURE 127: BH-1 (Depth-4.00 to 5.50m)



PICTURE 128: BH-1 (Depth-5.50 to 7.00m)



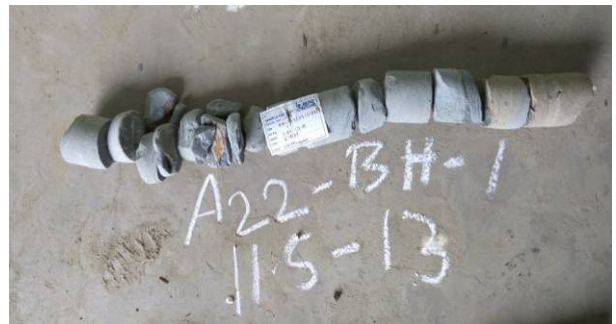
PICTURE 129: BH-1 (Depth-7.00 to 8.50m)



PICTURE 130: BH-1 (Depth-8.50 to 10.00m)



PICTURE 140: BH-1 (Depth-10.00 to 11.50m)



PICTURE 141: BH-1 (Depth-11.50 to 13.00m)



PICTURE 142: BH-1 (Depth-13.00 to 14.50m)



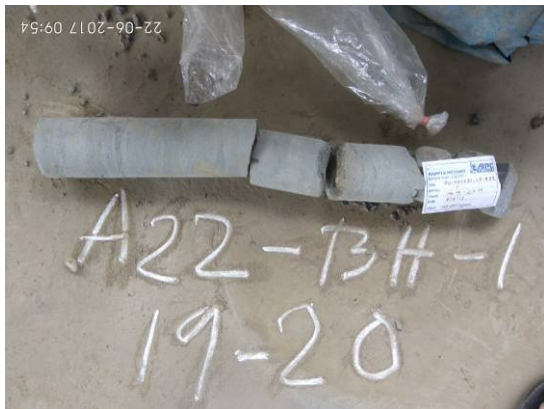
PICTURE 143: BH-1 (Depth-14.50 to 16.00m)



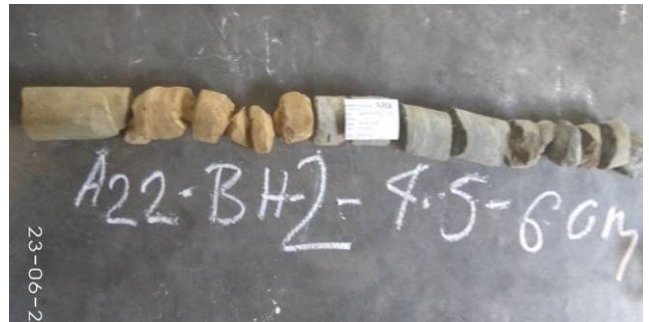
PICTURE 144: BH-1 (Depth-16.00 to 17.50m)



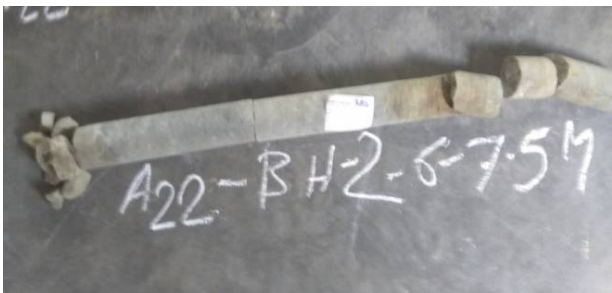
PICTURE 145: BH-1 (Depth-17.50 to 19.00m)



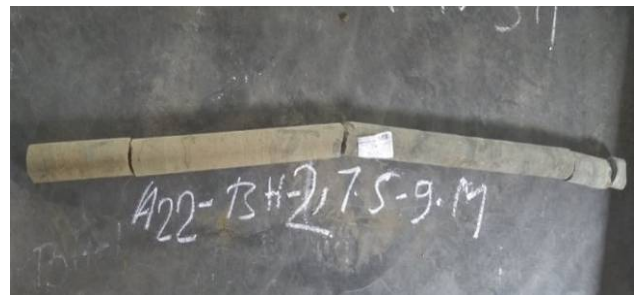
PICTURE 146: BH-1 (Depth-19.00 to 20.00m)



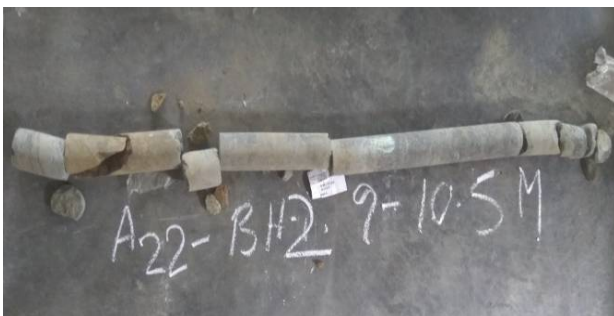
PICTURE 147: BH-2 (Depth-4.50 to 6.00m)



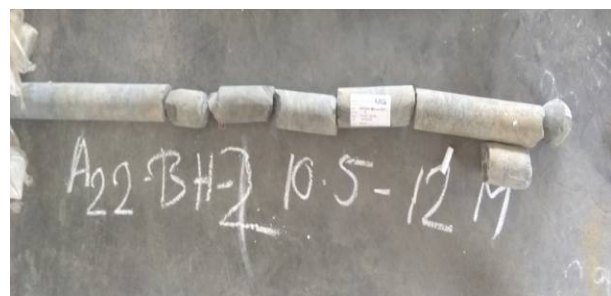
PICTURE 148: BH-2 (Depth-6.00 to 7.50m)



PICTURE 149: BH-2 (Depth-7.50 to 9.00m)



PICTURE 150: BH-2 (Depth-9.00 to 10.50m)



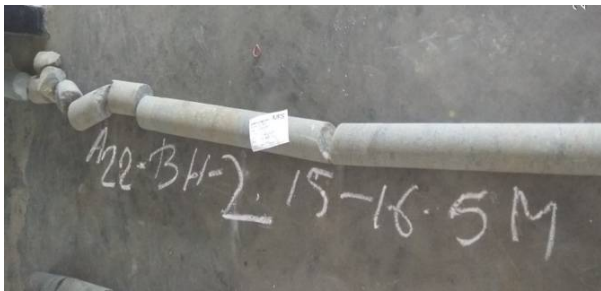
PICTURE 151: BH-2 (Depth-10.50 to 12.00m)



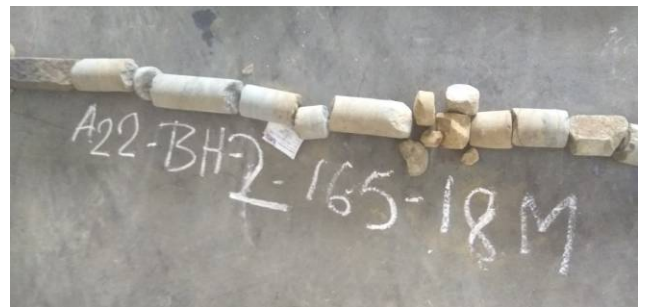
PICTURE 152: BH-2 (Depth-12.00 to 13.50m)



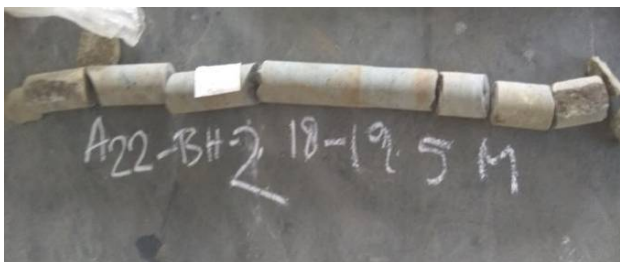
PICTURE 153: BH-2 (Depth-13.50 to 15.00m)



PICTURE 154: BH-2 (Depth-15.00 to 16.50m)



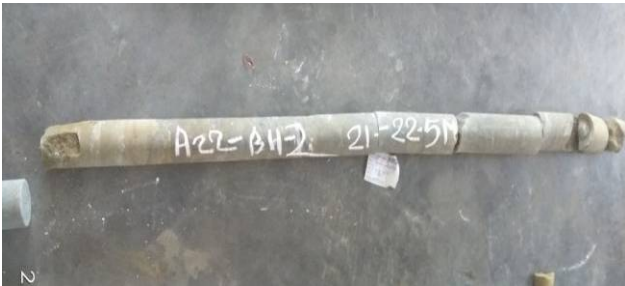
PICTURE 155: BH-2 (Depth-16.50 to 18.00m)



PICTURE 156: BH-2 (Depth-18.00 to 19.50m)



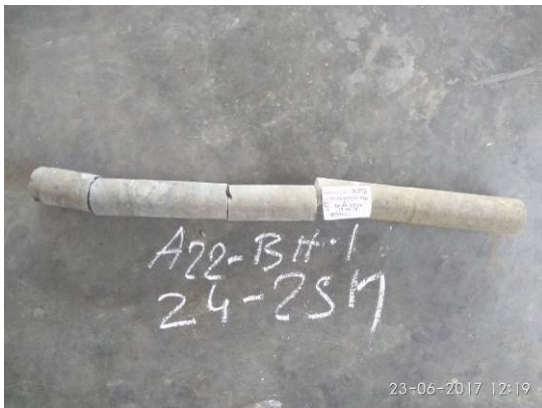
PICTURE 157: BH-2 (Depth-19.50 to 21.00m)



PICTURE 158: BH-2 (Depth-21.00 to 22.50m)



PICTURE 159: BH-2 (Depth-22.50 to 24.00m)



PICTURE 160: BH-2 (Depth-24.00 to 25.00m)



PICTURE 161: BH-3 (Depth-3.00 to 4.00m)



PICTURE 162: BH-3 (Depth-4.00 to 5.00m)



PICTURE 163: BH-3 (Depth-5.00 to 6.00m)



PICTURE 164: BH-3 (Depth-6.00 to 7.00m)



PICTURE 165: BH-3 (Depth-7.00 to 8.00m)



PICTURE 166: BH-3 (Depth-8.00 to 9.00m)



PICTURE 167: BH-3 (Depth-9.00 to 10.00m)



PICTURE 168: BH-3 (Depth-10.00 to 11.00m)



PICTURE 169: BH-3 (Depth-11.00 to 12.00m)



PICTURE 170: BH-3 (Depth-12.00 to 13.00m)



PICTURE 171: BH-3 (Depth-13.00 to 14.00m)



PICTURE 172: BH-3 (Depth-14.00 to 15.00m)



PICTURE 173: BH-3 (Depth-15.00 to 16.00m)



PICTURE 174: BH-3 (Depth-16.00 to 17.00m)



PICTURE 175: BH-3 (Depth-17.00 to 18.00m)



PICTURE 176: BH-3 (Depth-19.00 to 20.00m)



PICTURE 177: BH-3 (Depth-20.00 to 21.00m)



PICTURE 178: BH-3 (Depth-23.00 to 24.00m)



PICTURE 179: BH-3 (Depth-24.00 to 25.00m)



PICTURE 180: BH-3 (Depth-25.00 to 26.00m)




PICTURE 181: BH-3 (Depth-28.00 to 29.00m)



PICTURE 182: BH-3 (Depth-29.00 to 30.00m)




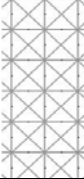
***Bore Log & Core Samples
Photographs
LS-A25***



Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpci.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	

BORE / CORE LOG DATA SHEET


Job Code - P160

Chainage (km)	58+800		Sliding Zone	LS_A25		No. of Core (C)	27											
Borehole No.	1		Commencement Date	17.04.2017		No. of SP Test (S)	3											
Ground Elevation (m)	1069.4870		Completion Date	28.04.2017		No. of Undisturbed (U)	0											
Method of Boring	Rotary Drilling		Standing Water Level	12.90 M BELOW G.L.		No. of Disturbed (D)	4 (D - 1 & S - 3)											
Borehole Diameter	150 mm & 75 mm		Termination Depth	30.00 M BELOW G.L.		No. of Water Sample (W)	1											
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N*	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture
	From	To		From	To			15cm	15cm	15cm								
Dense, Light Yellowish grey, Fine grained Silty Sand with little broken Sandstone / Siltstone pieces & observed Clay. (SC-SM) 0.00 m to 3.00 m	1069.4870			1068.9870		-	D	-	-	-	-	-	-	-	-	-	-	-
				1068.4870		-	S	10	15	21	36	38	-	-	-	-	-	-
				1067.4870	1066.0370	-	S	11	17	26	43	40	-	-	-	-	-	-
Light Brownish grey, Fine grained moderately fracture rounded to sub rounded Sandstone. 3.00 m to 11.00 m	1066.4870			1066.4870	1066.3670	-	S	12cm / 58B	Re	Re	>100	78	-	-	-	-	-	-
				1066.4870	1065.4870	1.00	R1	-	-	-	-	-	43	43	NIL	-	-	-
				1065.4870	1064.4870	1.00	R2	-	-	-	-	-	25	25	NIL	-	-	-
				1064.4870	1063.4870	1.00	R3	-	-	-	-	-	30	30	10	-	-	30°
				1063.4870	1062.4870	1.00	R4	-	-	-	-	-	33	33	10	-	-	32°
				1062.4870	1061.4870	1.00	R5	-	-	-	-	-	56	56	37	-	-	50°
				1061.4870	1060.4870	1.00	R6	-	-	-	-	-	39	39	NIL	-	-	**
				1060.4870	1059.4870	1.00	R7	-	-	-	-	-	36	36	NIL	-	-	-
				1059.4870	1058.4870	1.00	R8	-	-	-	-	-	32	32	NIL	-	-	-
	Dark grey, Fracture Shale with some layer thinly bedded laminated Sandstone observed. 11.00 m to 24.00 m	1058.4870				1058.4870	1057.4870	1.00	R9	-	-	-	-	44	44	NIL	-	-
			1057.4870	1056.4870		1.00	R10	-	-	-	-	-	41	41	NIL	-	-	48°
			1056.4870	1055.4870		1.00	R11	-	-	-	-	-	40	40	NIL	-	-	-
			1055.4870	1054.4870		1.00	R12	-	-	-	-	-	39	39	NIL	-	-	-
			1054.4870	1053.4870		1.00	R13	-	-	-	-	-	37	37	10	-	-	54°
			1053.4870	1052.4870		1.00	R14	-	-	-	-	-	33	33	NIL	-	-	-
			1052.4870	1051.4870		1.00	R15	-	-	-	-	-	35	35	NIL	-	-	75°
			1051.4870	1050.4870		1.00	R16	-	-	-	-	-	43	43	NIL	-	-	-
			1050.4870	1049.4870		1.00	R17	-	-	-	-	-	43	43	NIL	-	-	**
			1049.4870	1048.4870		1.00	R18	-	-	-	-	-	44	44	12	-	-	-
			1048.4870	1047.4870		1.00	R19	-	-	-	-	-	47	47	16	-	-	-
			1047.4870	1046.4870		1.00	R20	-	-	-	-	-	61	61	23	-	-	60°
			1046.4870	1045.4870		1.00	R21	-	-	-	-	-	46	46	10	-	-	-
Blackish, Moderately fracture Strong Shale. 24.00 m to 30.00 m	1045.4870			1045.4870	1044.4870	1.00	R22	-	-	-	-	33	33	NIL	-	-	**	
				1044.4870	1043.4870	1.00	R23	-	-	-	-	-	37	37	NIL	-	-	-
				1043.4870	1042.4870	1.00	R24	-	-	-	-	-	43	43	NIL	-	-	-
				1042.4870	1041.4870	1.00	R25	-	-	-	-	-	40	40	NIL	-	-	-
				1041.4870	1040.4870	1.00	R26	-	-	-	-	-	42	42	NIL	-	-	80°
				1040.4870	1039.4870	1.00	R27	-	-	-	-	-	55	55	18	-	-	75°

Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not be Collected (Slipped)





Slip Plane - 11 m

** Measurement not possible due to heavy broken small peices.

Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpciopl.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	

BORE / CORE LOG DATA SHEET


Job Code - P160

Chainage (km)	58+800		Sliding Zone	LS_A25		No. of Core (C)	12													
Borehole No.	2		Commencement Date	06.04.2017		No. of SP Test (S)	8													
Ground Elevation (m)	1047.824		Completion Date	14.04.2017		No. of Undisturbed (U)	2													
Method of Boring	Rotary Drilling		Standing Water Level	12.20 M BELOW G.L.		No. of Disturbed (D)	9(D - 1 & S - 8)													
Borehole Diameter	150 mm & 75 mm		Termination Depth	30.00 M BELOW G.L.		No. of Water Sample (W)	1													
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N"	Total Core Length (cm)	TCR (%)	ROD (%)	Colours of return Water	Water Loss	Angle of Fracture		
	From	To		From	To			15cm	15cm	15cm										
Loose , Light Brownish grey / Yellowish, Fine grained Silty Sand with traces of broken Siltstone pieces & clay. (SC-SM) 0.00 m to 5.50 m	1047.824			1047.324		-	D	-	-	-	-	-	-	-	Brownish Colour	Partial	-	-		
				1046.324	1045.874	-	S	2	3	4	7	-	-	-					-	-
				1045.824	1045.374	-	U	-	-	-	-	-	-	-					-	-
				1044.824	1044.374	-	S	3	3	6	9	-	-	-					-	-
				1042.824	1042.374	-	U	-	-	-	-	-	-	-					-	-
Medium Dense to Dense , Brownish Grey, Fine grained Silty Sand with traces of broken Siltstone pieces. (SM) 5.50 m to 13.00 m From 12.00 m to 12.45 m Very dense layer observed.	1042.324	1042.324		1041.824	1041.374	-	S	8	10	14	24	22	-	-	Brownish Colour	Partial	-	-		
				1040.324	1039.874	-	S	9	13	18	31	25	-	-					-	
				1039.824	1039.374	-	U*	-	-	-	-	-	-	-					-	
				1038.824	1038.374	-	S	10	14	23	37	27	-	-					-	
				1037.324	1036.874	-	S	15	19	30	49	32	-	-					-	
				1035.824	1035.374	-	S	20	29	38	67	39	-	-					-	
Moderately Weathered , Brownish Grey, Fine grained highly fracture Sandstone . 13.00 m to 25.00 m	1034.824			1034.824		-	S	7cm / 62B	Re	Re	>100	54	-	-	Greyish Colour	Partial	-	-		
				1034.824	1033.324	1.50	R1	-	-	-	-	-	33	22					NIL	
				1033.324	1031.824	1.50	R2	-	-	-	-	-	38	25					NIL	
				1031.824	1030.324	1.50	R3	-	-	-	-	-	44	29					NIL	
				1030.324	1028.824	1.50	R4	-	-	-	-	-	34	23					NIL	
				1028.824	1027.324	1.50	R5	-	-	-	-	-	41	27					NIL	
				1027.324	1025.824	1.50	R6	-	-	-	-	-	51	34					NIL	
				1025.824	1024.324	1.50	R7	-	-	-	-	-	53	35					NIL	
				1024.324	1022.824	1.50	R8	-	-	-	-	-	63	42					NIL	
				1022.824	1021.324	1.50	R9	-	-	-	-	-	113	75					73	
Fresh , Light Brownish grey, Fine grained Strong Sandstone with thinly bedded laminated Shale. 25.00 m to 30.00 m	1022.824			1021.324	1019.824	1.50	R10	-	-	-	-	-	147	98	97	-	-			
				1019.824	1018.824	1.00	R11	-	-	-	-	-	70	70	43	-	-			
				1018.824	1017.824	1.00	R12	-	-	-	-	-	79	79	74	-	-			
				1017.824																

Re: Refusal R: Run RQD: Rock Quality Designation TCR: Total Core Recovery U*: UDS Could not be Collected (Slipped)




Slip Plane - 14 m.

** Measurement not possible due to heavy broken small pieces.

Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpci.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	


BORE / CORE LOG DATA SHEET

Job Code - P160

Chainage (km)	58+800		Sliding Zone	LS_A25		No. of Core (C)	26												
Borehole No.	3		Commencement Date	21.04.2017		No. of SP Test (S)	4												
Ground Elevation (m)	1039.654		Completion Date	30.04.2017		No. of Undisturbed (U)	0												
Method of Boring	Rotary Drilling		Standing Water Level	7.35 M BELOW G.L.		No. of Disturbed (D)	5 (D - 1 & S - 4)												
Borehole Diameter	150 mm & 75 mm		Termination Depth	30.00 M BELOW G.L.		No. of Water Sample (W)	1												
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N"	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture	
	From	To		From	To			15cm	15cm	15cm									
Medium Dense to Dense, Brownish / Yellowish grey, Fine grained Silty Sand with traces of broken sandstone pieces & clay. (SC-SM) 0.00 m to 4.00 m	1039.654			1039.154		-	D	-	-	-	-	-	-	-	-	-	-	-	
				1038.654	1038.204	-	S	4	5	6	11	-	-	-	-	-	-	-	
				1038.154	1037.704	-	U*	-	-	-	-	-	-	-	-	-	-	-	-
				1037.654	1037.204	-	S	5	7	10	17	20	-	-	-	-	-	-	-
				1036.654	1036.204	-	S	13	16	22	38	34	-	-	-	-	-	-	-
Moderately Weathered, Grey / Dark grey, Fine grained slightly fracture Sandstone with thinly bedded laminated shale. 4.00 m to 20.00 m	1035.654			1035.654	1035.534	-	S	12cm / 58B	Re	Re	>100	74	-	-	-	-	-		
				1034.654	1034.654	1.00	R1	-	-	-	-	-	74	74	16	Brownish Colour		50° 50°	
				1033.654	1033.654	1.00	R2	-	-	-	-	-	75	75	NIL			55° 54°	
				1032.654	1032.654	1.00	R3	-	-	-	-	-	81	81	22			45° 50°	
				1031.654	1031.654	1.00	R4	-	-	-	-	-	79	79	10			30°	
				1030.654	1030.654	1.00	R5	-	-	-	-	-	90	90	NIL			30° 35°	
				1029.654	1029.654	1.00	R6	-	-	-	-	-	90	90	12			20° 40°	
				1028.654	1028.654	1.00	R7	-	-	-	-	-	82	82	56			-	
				1027.654	1027.654	1.00	R8	-	-	-	-	-	90	90	64			35°	
				1026.654	1026.654	1.00	R9	-	-	-	-	-	80	80	36			35°	
				1025.654	1025.154	1.50	R10	-	-	-	-	-	79	53	60			-	
				1024.654	1024.654	1.00	R11	-	-	-	-	-	87	87	60			30°	
				1023.654	1023.654	1.00	R12	-	-	-	-	-	92	92	37			60°	
				1022.654	1022.654	1.00	R13	-	-	-	-	-	84	84	45			30°	
				1021.654	1021.654	1.00	R14	-	-	-	-	-	94	94	65			-	
				1020.654	1020.654	1.00	R15	-	-	-	-	-	93	93	61			-	
		1019.654	1019.654	1.00	R16	-	-	-	-	-	83	83	72		-				
Fresh, Dark grey, Fine grained Strong Sandstone with thinly bedded laminated Shale. 20.00 m to 30.00 m	1019.654			1019.654	1018.654	1.00	R17	-	-	-	-	78	78	34	Greyish Colour		30°		
				1018.654	1017.654	1.00	R18	-	-	-	-	75	75	36			35°		
				1017.654	1016.654	1.00	R19	-	-	-	-	73	73	52			-		
				1016.654	1015.654	1.00	R20	-	-	-	-	76	76	52			35°		
				1015.654	1014.654	1.00	R21	-	-	-	-	83	83	33			50° 55°		
				1014.654	1013.654	1.00	R22	-	-	-	-	81	81	30			50°		
				1013.654	1012.654	1.00	R23	-	-	-	-	83	83	24			55°		
				1012.654	1011.654	1.00	R24	-	-	-	-	70	70	22			-		
				1011.654	1010.654	1.00	R25	-	-	-	-	73	73	37			55°		
				1010.654	1009.654	1.00	R26	-	-	-	-	71	71	15			53°		

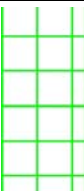



Re: Refusal R: Run RQD: Rock Quality Designation TCR: Total Core Recovery U*: UDS Could not be Collected (Slipped)

Slip Plane - 7 m.

Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpcipl.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	

BORE / CORE LOG DATA SHEET


Job Code - P160

Chainage (km)	58+800		Sliding Zone	LS_A25		No. of Core (C)	26													
Borehole No.	4		Commencement Date	02.05.2017		No. of SP Test (S)	3													
Ground Elevation (m)	1048.513		Completion Date	12.05.2017		No. of Undisturbed (U)	1													
Method of Boring	Rotary Drilling		Standing Water Level	10.55 M BELOW G.L.		No. of Disturbed (D)	4 (D - 1 & S - 3)													
Borehole Diameter	150 mm & 75 mm		Termination Depth	30.00 M BELOW G.L.		No. of Water Sample (W)	1													
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N ^r	Total Core Length (cm)	TCR (%)	RQD (%)	Colours of return Water	Water Loss	Angle of Fracture		
	From	To		From	To			15cm	15cm	15cm										
Filled Up Soil Medium Stiff to Stiff, Brownish, Clayey Sandy Silt with broken sandstone pieces mixed. (CL) 0.00 m to 4.00 m	1048.513	1044.513		1048.013	1048.013	-	D	-	-	-	-	-	-	-	-	-	-	-		
	1047.513			1047.063	-	S	2	3	5	8	-	-	-	-	-	-	-	-	-	
	1046.513			1046.063	-	S	3	4	7	11	-	-	-	-	-	-	-	-	-	-
	1045.513			1045.063	-	U*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brownish / greyish, Fine grained highly fracture Sandstone with thinly bedded laminated Shale. 4.00 m to 13.00 m	1044.513	1035.513		1044.513	1044.433	-	S	8cm / 61B	Re	Re	>100	74	-	-	-	-	-	-		
	1044.513			1043.513	1.00	R1	-	-	-	-	-	16	16	NIL	Greyish Colour	Partital				45°
	1043.513			1042.513	1.00	R2	-	-	-	-	-	25	25	NIL						**
	1042.513			1041.513	1.00	R3	-	-	-	-	-	39	39	NIL						73° 69°
	1041.513			1040.513	1.00	R4	-	-	-	-	-	54	54	NIL						5° 48°
	1040.513			1039.513	1.00	R5	-	-	-	-	-	66	66	NIL						**
	1039.513			1038.513	1.00	R6	-	-	-	-	-	30	30	NIL						62°
	1038.513			1037.513	1.00	R7	-	-	-	-	-	38	38	NIL						**
	1037.513			1036.513	1.00	R8	-	-	-	-	-	42	42	NIL						46°
	1036.513			1035.513	1.00	R9	-	-	-	-	-	32	32	NIL						53°
Slightly Weathered, Dark grey, Fine grained moderately fracture Sandstone with thinly bedded laminated Shale. 13.00 m to 24.00 m	1035.513	1024.513		1035.513	1034.513	1.00	R10	-	-	-	-	42	42	NIL						30°
	1034.513			1033.513	1.00	R11	-	-	-	-	-	34	34	10	80°					
	1033.513			1032.513	1.00	R12	-	-	-	-	-	42	42	NIL	50°					
	1032.513			1031.513	1.00	R13	-	-	-	-	-	41	41	16	53° 60°					
	1031.513			1030.513	1.00	R14	-	-	-	-	-	35	35	10	60° 70°					
	1030.513			1029.513	1.00	R15	-	-	-	-	-	30	30	NIL	50°					
	1029.513			1028.513	1.00	R16	-	-	-	-	-	41	41	21	-					
	1028.513			1027.513	1.00	R17	-	-	-	-	-	40	40	12	45°					
	1027.513			1026.513	1.00	R18	-	-	-	-	-	38	38	13	70°					
	1026.513			1025.513	1.00	R19	-	-	-	-	-	43	43	NIL	35° 50°					
Fresh, Brownish grey, Fine grained slightly fracture Strong Shale with thinly bedded laminated Shale. 24.00 m to 30.00 m	1024.513	1018.513		1024.513	1023.513	1.00	R20	-	-	-	-	52	52	24	**					
	1023.513			1022.513	1.00	R21	-	-	-	-	-	71	71	NIL	-					
	1022.513			1021.513	1.00	R22	-	-	-	-	-	72	72	NIL	30°					
	1021.513			1020.513	1.00	R23	-	-	-	-	-	75	75	NIL	-					
	1020.513			1019.513	1.00	R24	-	-	-	-	-	72	72	10	-					
	1019.513			1018.513	1.00	R25	-	-	-	-	-	45	45	NIL	**					

Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not be Collected (Slipped)



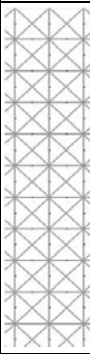
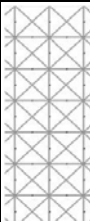
Slip Plane - 8 m.

** Measurement not possible due to heavy broken small pieces.

Project Name :	Consultancy Services for additional Topographical, Geotechnical Survey for widening and upgradation of NH-54 from km 8.00 to km 380.00 in the State of Mizoram.	BPC Consultant INDIA (P) Ltd.  2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpcipl.com
Client Name :	M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.	
Work Order No. :	NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016	

BORE / CORE LOG DATA SHEET

Job Code - P160

Chainage (km)	58+800		Sliding Zone	LS_A25		No. of Core (C)	21													
Borehole No.	5		Commencement Date	02.05.2017		No. of SP Test (S)	9													
Ground Elevation (m)	1053.195		Completion Date	12.05.2017		No. of Undisturbed (U)	0													
Method of Boring	Rotary Drilling		Standing Water Level	14.05 M BELOW G.L.		No. of Disturbed (D)	10 (D - 1 & S - 10)													
Borehole Diameter	150 mm & 75 mm		Termination Depth	30.00 M BELOW G.L.		No. of Water Sample (W)	1													
Description of Soil Stratum & Rock Methology	Stratum Elevation As per R.L (m)		Hatching Pattern	Elevation As per R.L (m)		Run Length (m)	Type of Sample	SPT Values (Blows for every 15 cm penetration)			N Values IS-2131	Corrected N*	Total Core Length (cm)	TCR (%)	ROD (%)	Colours of return Water	Water Loss	Angle of Fracture		
	From	To		From	To			15cm	15cm	15cm										
Hard, Brownish / Yellowish, Clayey Silt / Silty Clay with Cobbles / gravels size Siltstone / Claystone mixed. (CL) 0.00 m to 9.00 m	1053.195	1044.195		1052.695	-	-	D	-	-	-	-	-	-	-	-	-	-	-		
	1052.195			1051.745	-	S	19	24	31	55	-	-	-	-	-	-	-	-	-	
	1051.195			1050.745	-	S	34	32	37	69	-	-	-	-	-	-	-	-	-	-
	1050.195			1049.745	-	S	25	34	46	80	-	-	-	-	-	-	-	-	-	-
	1049.195			1048.745	-	S	20	25	35	60	-	-	-	-	-	-	-	-	-	-
	1048.195			1047.745	-	S	22	27	37	64	-	-	-	-	-	-	-	-	-	-
	1047.195			1046.745	-	S	25	30	33	63	-	-	-	-	-	-	-	-	-	-
	1046.195			1045.745	-	S	23	29	36	65	-	-	-	-	-	-	-	-	-	-
	1045.195			1044.745	-	S	21	27	37	64	-	-	-	-	-	-	-	-	-	-
Light Brownish / Yellowish, Fine grained highly fracture Sandstone. 9.00 m to 12.00 m	1044.195	1041.195		1044.195	-	-	S	12cm / 72B	Re	Re	>100	60	-	-	-	-	-	-		
	1044.195			1044.075	-	R1	-	-	-	-	-	24	24	NIL	-	-	-	**		
	1043.195			1042.195	1.00	R2	-	-	-	-	-	35	35	NIL	-	-	-	50° 30°		
	1042.195			1041.195	1.00	R3	-	-	-	-	-	48	48	NIL	-	-	-	30°		
Dark Grey, Fine grained highly to moderately fracture Shale with thinly bedded laminated Sandstone. 12.00 m to 23.00 m	1041.195	1030.195		1041.195	1040.195	1.00	R4	-	-	-	-	-	52	52	15	-	-	30°		
	1040.195			1039.195	1.00	R5	-	-	-	-	-	40	40	20	-	-	25°			
	1039.195			1038.195	1.00	R6	-	-	-	-	-	33	33	NIL	-	-	30°			
	1038.195			1037.195	1.00	R7	-	-	-	-	-	34	34	NIL	-	-	50°			
	1037.195			1036.195	1.00	R8	-	-	-	-	-	41	41	12	-	-	-			
	1036.195			1035.195	1.00	R9	-	-	-	-	-	35	35	NIL	-	-	60°			
	1035.195			1034.195	1.00	R10	-	-	-	-	-	32	32	NIL	-	-	-			
	1034.195			1033.195	1.00	R11	-	-	-	-	-	48	48	NIL	-	-	50°			
	1033.195			1032.195	1.00	R12	-	-	-	-	-	29	29	NIL	-	-	-			
	1032.195			1031.195	1.00	R13	-	-	-	-	-	28	28	NIL	-	-	-			
Dark Grey, Fine grained slightly fracture Shale with thinly bedded laminated Sandstone. 23.00 m to 30.00 m	1031.195	1023.195		1031.195	1030.195	1.00	R14	-	-	-	-	-	31	31	NIL	-	-	50°		
	1030.195			1029.195	1.00	R15	-	-	-	-	-	71	71	NIL	-	-	52°			
	1029.195			1028.195	1.00	R16	-	-	-	-	-	72	72	NIL	-	-	55°			
	1028.195			1027.195	1.00	R17	-	-	-	-	-	75	75	12	-	-	75°			
	1027.195			1026.195	1.00	R18	-	-	-	-	-	33	33	NIL	-	-	-			
	1026.195			1025.195	1.00	R19	-	-	-	-	-	40	40	NIL	-	-	-			
	1025.195			1024.195	1.00	R20	-	-	-	-	-	39	39	NIL	-	-	-			
1024.195	1023.195	1.00	R21	-	-	-	-	-	72	72	26	-	-	-	Not found					

Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not be Collected (Slipped)

Slip Plane - 12 m.

** Measurement not possible due to heavy broken small pieces.

➤ LS- A25 (BH-1,BH-2,BH-3,BH-4 & BH-5) & CHAINAGE(km)- 58+800



PICTURE 183: BH-1 (Depth-3.00 to 4.00m)



PICTURE 184: BH-1 (Depth-4.00 to 5.00m)



PICTURE 185: BH-1 (Depth-5.00 to 6.00m)



PICTURE 186: BH-1 (Depth-6.00 to 7.00m)



PICTURE 187: BH-1 (Depth-7.00 to 8.00m)



PICTURE 188: BH-1 (Depth-8.00 to 9.00m)



PICTURE 189: BH-1 (Depth-9.00 to 10.00m)



PICTURE 190: BH-1 (Depth-10.00 to 11.00m)



PICTURE 191: BH-1 (Depth-11.00 to 12.00m)



PICTURE 192: BH-1 (Depth-12.00 to 13.00m)



PICTURE 193: BH-1 (Depth-13.00 to 14.00m)



PICTURE 194: BH-1 (Depth-14.00 to 15.00m)



PICTURE 195: BH-1 (Depth-15.00 to 16.00m)



PICTURE 196: BH-1 (Depth-16.00 to 17.00m)



PICTURE 197: BH-1 (Depth-17.00m to 18.00m)



PICTURE 198: BH-1 (Depth-18.00 to 19.00m)



PICTURE 199: BH-1 (Depth-19.00 to 20.00m)



PICTURE 200: BH-1 (Depth-21.00 to 22.00m)



PICTURE 201: BH-1 (Depth-22.00 to 23.00m)



PICTURE 202: BH-1 (Depth-23.00 to 24.00m)



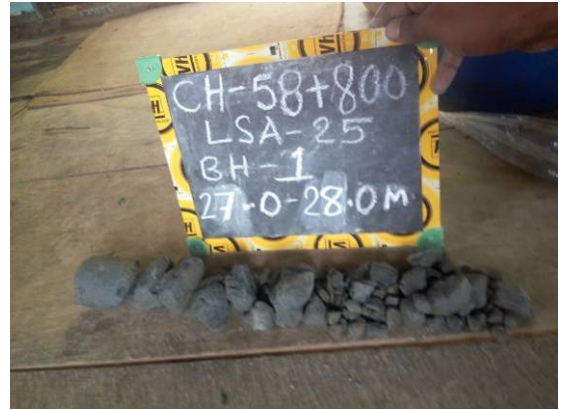
PICTURE 203: BH-1 (Depth-24.00m to 25.00m)



PICTURE 204: BH-1 (Depth-25.00 to 26.00m)



PICTURE 205: BH-1 (Depth-26.00 to 27.00m)



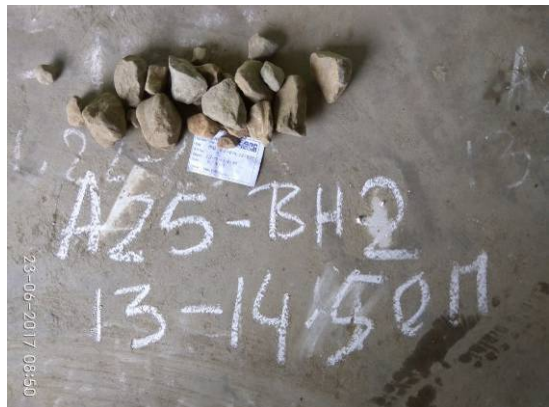
PICTURE 206: BH-1 (Depth-27.00 to 28.00m)



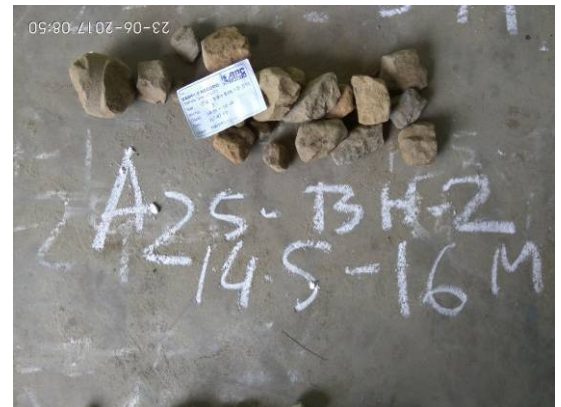
PICTURE 207: BH-1 (Depth-28.00 to 29.00m)



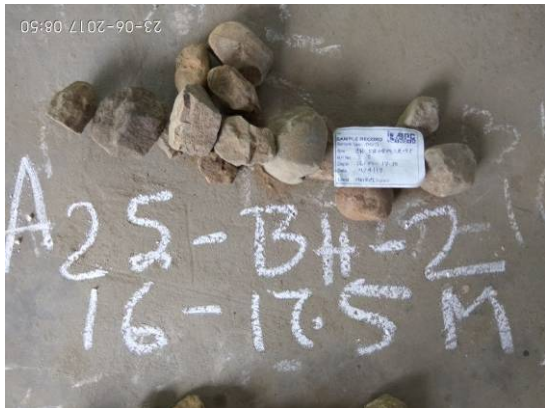
PICTURE 208: BH-1 (Depth-29.00 to 30.00m)



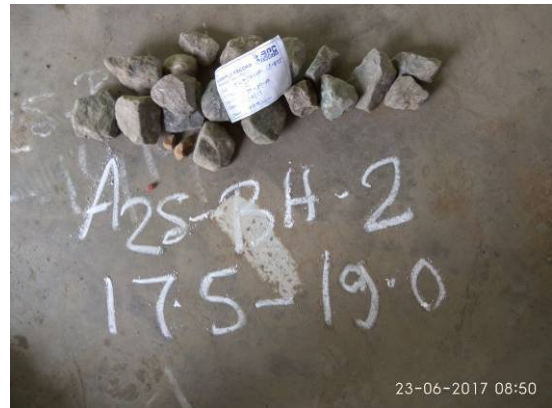
PICTURE 209: BH-2 (Depth-13.00m to 14.50m)



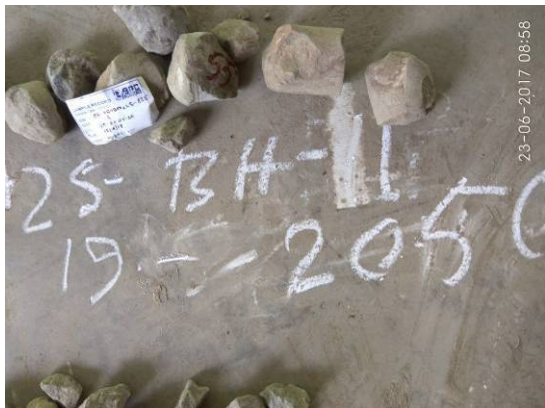
PICTURE 210: BH-2 (Depth-14.50 to 16.00m)



PICTURE 211: BH-2 (Depth-16.00 to 17.50m)



PICTURE 212: BH-2 (Depth-17.50 to 19.00m)



PICTURE 213: BH-2 (Depth-19.00 to 20.50m)



PICTURE 214: BH-2 (Depth-20.50 to 22.00m)



PICTURE 215: BH-2 (Depth-22.00m to 23.50m)



PICTURE 216: BH-2 (Depth-23.50 to 25.00m)



PICTURE 217: BH-2 (Depth-25.00 to 26.50m)



PICTURE 218: BH-2 (Depth-26.50 to 28.00m)



PICTURE 219: BH-2 (Depth-28.00 to 29.00m)



PICTURE 220: BH-2 (Depth-29.00 to 30.00m)



PICTURE 221: BH-3 (Depth-4.00m to 5.00m)



PICTURE 222: BH-3 (Depth-5.00 to 6.00m)



PICTURE 223: BH-3 (Depth-7.00 to 8.00m)



PICTURE 224: BH-3 (Depth-8.00 to 9.00m)



PICTURE 225: BH-3 (Depth-9.00 to 10.00m)



PICTURE 226: BH-3 (Depth-10.00 to 11.00m)



PICTURE 227: BH-3 (Depth-11.00 to 12.00m)



PICTURE 228: BH-3 (Depth-12.00 to 13.00m)



PICTURE 229: BH-3 (Depth-13.00 to 14.00m)



PICTURE 230: BH-3 (Depth-14.00 to 15.00m)



PICTURE 231: BH-3 (Depth-15.00 to 16.00m)



PICTURE 232: BH-3 (Depth-16.00 to 17.00m)



PICTURE 233: BH-3 (Depth-17.00 to 18.00m)



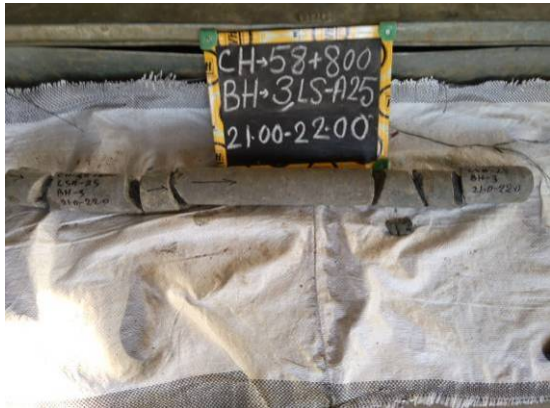
PICTURE 234: BH-3 (Depth-18.00 to 19.00m)



PICTURE 235: BH-3 (Depth-19.00 to 20.00m)



PICTURE 236: BH-3 (Depth-20.00 to 21.00m)



PICTURE 237: BH-3 (Depth-21.00 to 22.00m)



PICTURE 238: BH-3 (Depth-22.00 to 23.00m)



PICTURE 239: BH-3 (Depth-23.00 to 24.00m)



PICTURE 240: BH-3 (Depth-24.00 to 25.00m)



PICTURE 241: BH-3 (Depth-25.00 to 26.00m)



PICTURE 242: BH-3 (Depth-26.00 to 27.00m)



PICTURE 243: BH-3 (Depth-27.00 to 28.00m)



PICTURE 244: BH-3 (Depth-28.00 to 29.00m)



PICTURE 245: BH-3 (Depth-29.00 to 30.00m)



PICTURE 246: BH-4 (Depth-4.00 to 5.00m)



PICTURE 247: BH-4 (Depth-5.00 to 6.00m)



PICTURE 248: BH-4 (Depth-6.00 to 7.00m)



PICTURE 249: BH-4 (Depth-7.00 to 8.00m)



PICTURE 250: BH-4 (Depth-8.00 to 9.00m)



PICTURE 251: BH-4 (Depth-9.00 to 10.00m)



PICTURE 252: BH-4 (Depth-10.00 to 11.00m)



PICTURE 253: BH-4 (Depth-11.00 to 12.00m)



PICTURE 254: BH-4 (Depth-12.00 to 13.00m)



PICTURE 255: BH-4 (Depth-13.00 to 14.00m)



PICTURE 256: BH-4 (Depth-14.00 to 15.00m)



PICTURE 257: BH-4 (Depth-15.00 to 16.00m)



PICTURE 258: BH-4 (Depth-16.00 to 17.00m)



PICTURE 259: BH-4 (Depth-17.00 to 18.00m)



PICTURE 260: BH-4 (Depth-18.00 to 19.00m)



PICTURE 261: BH-4 (Depth-19.00 to 20.00m)



PICTURE 262: BH-4 (Depth-20.00 to 21.00m)



PICTURE 263: BH-4 (Depth-21.00 to 22.00m)



PICTURE 264: BH-4 (Depth-22.00 to 23.00m)



PICTURE 265: BH-4 (Depth-23.00 to 24.00m)



PICTURE 266: BH-4 (Depth-24.00 to 25.00m)



PICTURE 267: BH-4 (Depth-25.00 to 26.00m)



PICTURE 268: BH-4 (Depth-26.00 to 27.00m)



PICTURE 269: BH-4 (Depth-27.00 to 28.00m)



PICTURE 270: BH-4 (Depth-28.00 to 29.00m)



PICTURE 271: BH-4 (Depth-29.00 to 30.00m)



PICTURE 272: BH-5 (Depth-9.00 to 10.00m)



PICTURE 273: BH-5 (Depth-10.00 to 11.00m)



PICTURE 274: BH-5 (Depth-11.00 to 12.00m)



PICTURE 275: BH-5 (Depth-12.00 to 13.00m)



PICTURE 276: BH-5 (Depth-13.00 to 14.00m)



PICTURE 277: BH-5 (Depth-14.00 to 15.00m)



PICTURE 278: BH-5 (Depth-15.00 to 16.00m)



PICTURE 279: BH-5 (Depth-16.00 to 17.00m)



PICTURE 280: BH-5 (Depth-17.00 to 18.00m)



PICTURE 281: BH-5 (Depth-18.00 to 19.00m)



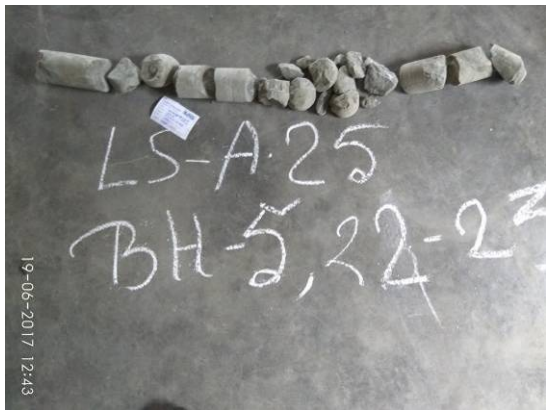
PICTURE 282: BH-5 (Depth-19.00 to 20.00m)



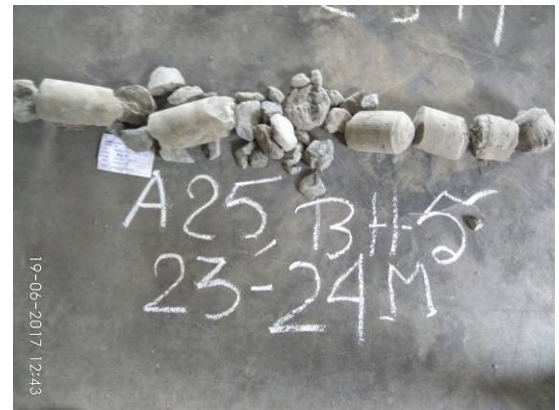
PICTURE 283: BH-5 (Depth-20.00 to 21.00m)



PICTURE 284: BH-5 (Depth-21.00 to 22.00m)



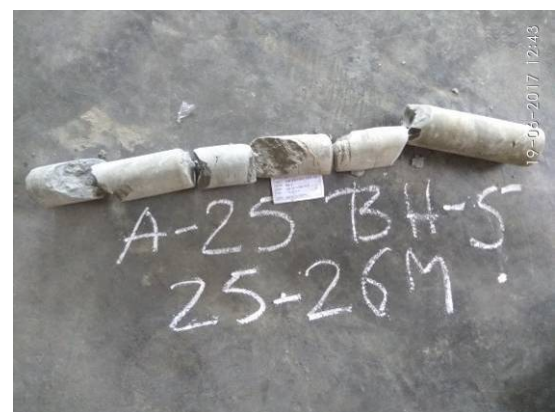
PICTURE 285: BH-5 (Depth-22.00 to 23.00m)



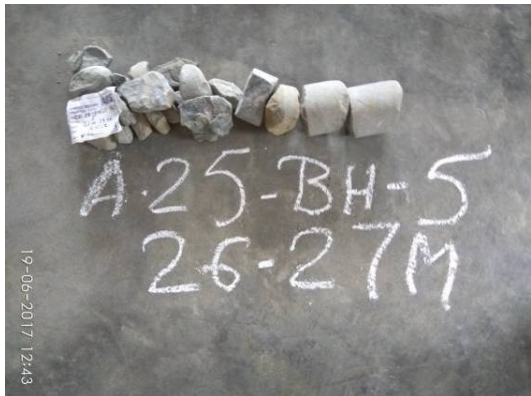
PICTURE 286: BH-5 (Depth-23.00 to 24.00m)



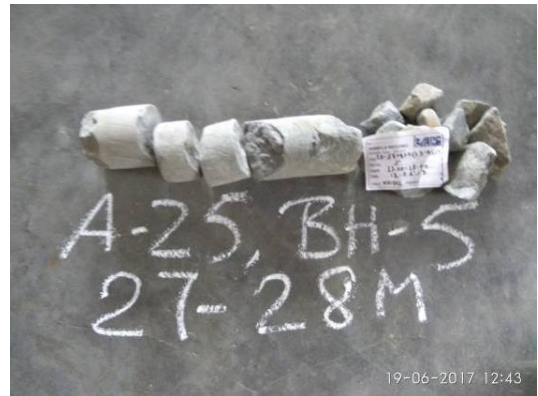
PICTURE 287: BH-5 (Depth-24.00 to 25.00m)



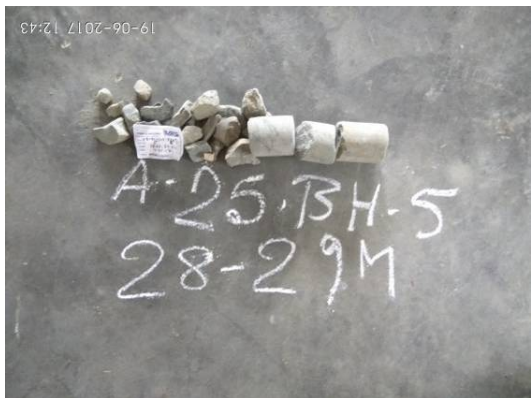
PICTURE 288: BH-5 (Depth-25.00 to 26.00m)



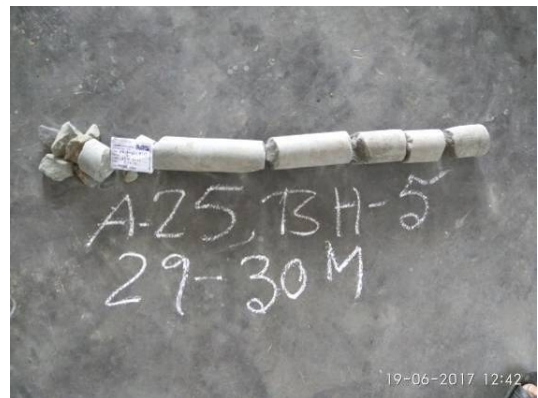
PICTURE 289: BH-5 (Depth-26.00 to 27.00m)



PICTURE 290: BH-5 (Depth-27.00 to 28.00m)



PICTURE 291: BH-5 (Depth-28.00 to 29.00m)



PICTURE 292: BH-5 (Depth-29.00 to 30.00m)
