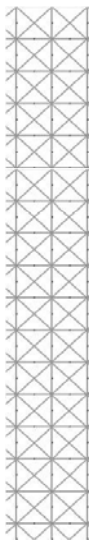

Package-7

Sl. No.	Land Slide Zone No.	Raod Marking (KM)	Design Chainage (KM)	Number of Bore-holes
1	LS-NEW	298+350	295+775	1
2	D04	309+020	305+980	2
3	D09	317+570	314+270	2
4	D10	318+750	315+375	2
5	D11	319+205	315+850	2
6	D13	324+915	321+230	3
7	D14	326+500	322+875	1
8	D18	331+095	327+260	3
9	D22	335+100	332+010	2

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



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.  2nd 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)		298+350		Sliding Zone		LS-New		No. of Core (C)				19								
Borehole No.		1		Commencement Date		28.08.2017		No. of SP Test (S)				3								
Ground Elevation (m)		1016.000		Completion Date		31.08.2017		No. of Undisturbed (U)				0								
Method of Boring		Rotary Drilling		Standing Water Level		7.64 M BELOW G.L.		No. of Disturbed (D)				1 (D - 1 & S - 0)								
Borehole Diameter		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								
Deep Greyish, highly fracture Poor Sandy Shale. 0.00 m to 8.00 m		1016.0000	To		1015.5000		-	D	-	-	-	-	-	-	-	-	Brownish	Partial	Measurement not possible due to heavy broken small pieces	
					1015.0000	1014.9600	-	S	4cm / 51B	Re	Re	>100	97	-	-	-				
					1015.0000	1014.0000	1.00	R1	-	-	-	-	-	14	14	NIL				
					1014.0000	1013.9800	-	S	2cm / 41B	Re	Re	>100	85	-	-	-				
					1014.0000	1013.0000	1.00	R2	-	-	-	-	-	19	19	NIL				
					1013.0000	1013.0000	-	S	Hammar Rebound			>100	-	-	-	-				
					1013.0000	1012.0000	1.00	R3	-	-	-	-	-	25	25	NIL				
					1012.0000	1011.0000	1.00	R4	-	-	-	-	-	20	20	NIL				
					1011.0000	1010.0000	1.00	R5	-	-	-	-	-	20	20	NIL				
					1010.0000	1009.0000	1.00	R6	-	-	-	-	-	16	16	NIL				
					1009.0000	1008.0000	1.00	R7	-	-	-	-	-	19	19	NIL				
Highly Weathered, Deep greyish / Light greyish, highly fracture alternative Sandstone & Shale. 8.00 m to 16.00 m		1008.0000	To		1008.0000	1007.0000	1.00	R8	-	-	-	-	-	16	16	NIL	Brownish	Partial	40°	
					1007.0000	1006.0000	1.00	R9	-	-	-	-	-	20	20	NIL			65°	
					1006.0000	1005.0000	1.00	R10	-	-	-	-	-	24	24	NIL			20°	
					1005.0000	1004.0000	1.00	R11	-	-	-	-	-	24	24	NIL			25°	
					1004.0000	1003.0000	1.00	R12	-	-	-	-	-	27	27	NIL			80°	
					1003.0000	1002.0000	1.00	R13	-	-	-	-	-	26	26	NIL			10°	
					1002.0000	1001.0000	1.00	R14	-	-	-	-	-	20	20	NIL			25°	
					1001.0000	1000.0000	1.00	R15	-	-	-	-	-	17	17	NIL			Measurement not possible due to heavy broken small pieces	
					1000.0000	999.0000	1.00	R16	-	-	-	-	-	21	21	NIL				
Light Greyish, highly fracture moderately strong Shaley Sandstone. 16.00 m to 20.00 m		1000.0000	To		999.0000	998.0000	1.00	R17	-	-	-	-	-	21	21	NIL	Brownish	Partial		
					998.0000	997.0000	1.00	R18	-	-	-	-	-	22	22	NIL				
					997.0000	996.0000	1.00	R19	-	-	-	-	-	20	20	NIL				
					996.0000														70°	
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																				
Slip Plane - 8 m																				

➤ **LS- New (BH-1)_CHAINAGE(km)- 298+350**



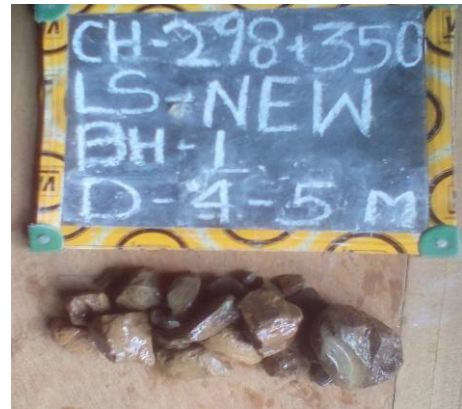
PICTURE 1: BH-1 (Depth-1.00 to 2.00m)



PICTURE 2: BH-1 (Depth-2.00 to 3.00m)



PICTURE 3: BH-1 (Depth-3.00 to 4.00m)



PICTURE 4: BH-1 (Depth-4.00 to 5.00m)



PICTURE 5: BH-1 (Depth-5.00 to 6.00m)



PICTURE 6: BH-1 (Depth-6.00 to 7.00m)



PICTURE 7: BH-1 (Depth-7.00 to 8.00m)



PICTURE 8: BH-1 (Depth-8.00 to 9.00m)



PICTURE 9: BH-1 (Depth-9.00 to 10.00m)



PICTURE 10: BH-1 (Depth-10.00 to 11.00m)



PICTURE 11: BH-1 (Depth-11.00 to 12.00m)



PICTURE 12: BH-1 (Depth-12.00 to 13.00m)



PICTURE 13: BH-1 (Depth-14.00 to 15.00m)



PICTURE 14: BH-1 (Depth-15.00 to 16.00m)



PICTURE 15: BH-1 (Depth-16.00 to 17.00m)



PICTURE 16: BH-1 (Depth-17.00 to 18.00m)



PICTURE 17: BH-1 (Depth-18.00 to 19.00m)



PICTURE 18: BH-1 (Depth-19.00 to 20.00m)

***Bore Log & Core Samples
Photographs
LS-D04***



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.												
Client Name		M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.										 2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpcipl.com												
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)		309+020			Sliding Zone			LS_D04			No. of Core (C)				24									
Borehole No.		2			Commencement Date			02.07.2017			No. of SP Test (S)				1									
Ground Elevation (m)		649.6810			Completion Date			12.07.2017			No. of Undisturbed (U)				0									
Method of Boring		Rotary Drilling			Standing Water Level			19.90 M BELOW G.L.			No. of Disturbed (D)				1 (D - 1 & S - 0)									
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													
Brownish, Silty Clay with little sand & stone bats mixed. (C1) 0.00 m to 1.00 m		649.6810			649.1810		-	D	-	-	-	-	-	-	-	-	Brownish	Partial	-					
Light Brownish / Greyish, Fine grained highly fracture weak Sandy Shale. 1.00 m to 3.00 m		648.6810			648.6810	648.6510	-	S	3 cm / 38 B	Re	Re	>100	97	-	-	-			-	-				
					648.6810	647.6810	1.00	R1	-	-	-	-	-	19	19	Nil			-					
					647.6810	646.6810	1.00	R2	-	-	-	-	-	30	30	Nil	-	-						
Light Brownish / Light Greyish, Fine grained highly fracture moderately Strong Sandy Shale / Shaley Sandstone. 3.00 m to 8.00 m		646.6810			646.6810	645.6810	1.00	R3	-	-	-	-	-	53	53	Nil	Light Greyish	Completely	-					
					645.6810	644.6810	1.00	R4	-	-	-	-	-	45	45	Nil			30°					
					644.6810	643.6810	1.00	R5	-	-	-	-	-	71	71	Nil			30°					
					643.6810	642.6810	1.00	R6	-	-	-	-	-	71	71	11			34°, 25°					
					642.6810	641.6810	1.00	R7	-	-	-	-	-	72	72	Nil			30°					
Slightly Weathered, Dark greyish, Fine grained Strong Sandy Shale. 8.00 m to 18.00 m		641.6810			641.6810	640.6810	1.00	R8	-	-	-	-	-	79	79	29	Greyish Colour	Partial	78°, 80°					
					640.6810	639.6810	1.00	R9	-	-	-	-	-	75	75	38			28°					
					639.6810	638.6810	1.00	R10	-	-	-	-	-	78	78	48			-					
					638.6810	637.6810	1.00	R11	-	-	-	-	-	74	74	55			-					
					637.6810	636.6810	1.00	R12	-	-	-	-	-	83	83	81			-					
					636.6810	635.6810	1.00	R13	-	-	-	-	-	77	77	76			25°					
					635.6810	634.6810	1.00	R14	-	-	-	-	-	80	80	62			-					
					634.6810	633.6810	1.00	R15	-	-	-	-	-	78	78	74			-					
					633.6810	632.6810	1.00	R16	-	-	-	-	-	83	83	72			-					
					632.6810	631.6810	1.00	R17	-	-	-	-	-	81	81	75			-					
					Light Yellowish / Light Greyish, Fine grained Slightly fracture moderately Strong Shaley Sandstone. 18.00 m to 22.00 m		631.6810			631.6810	630.6810	1.00	R18	-	-	-			-	-	75	75	Nil	Greyish Colour
630.6810	629.6810	1.00	R19	-						-	-	-	-	78	78	17	75°, 80°							
629.6810	628.6810	1.00	R20	-						-	-	-	-	80	80	27	75°							
628.6810	627.6810	1.00	R21	-						-	-	-	-	74	74	15	-							
Dark greyish, Fine grained Strong Shale. 22.00 m to 25.00 m		627.6810			627.6810	626.6810	1.00	R22	-	-	-	-	-	78	78	28	Greyish Colour	Partial	30°					
					626.6810	625.6810	1.00	R23	-	-	-	-	-	81	81	10			55°					
					625.6810	624.6810	1.00	R24	-	-	-	-	-	85	85	13			57°					
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																								
Silt Plane - 6.00 m																								

➤ **LS- D4 (BH-1 & BH-2) & CHAINAGE(km)- 309+020**



PICTURE 19: BH-1 (Depth-0.20 to 1.00m)



PICTURE 20: BH-1 (Depth-1.00 to 2.00m)



PICTURE 21: BH-1 (Depth-2.00 to 3.00m)



PICTURE 22: BH-1 (Depth-3.00 to 4.00m)



PICTURE 23: BH-1 (Depth-4.00 to 5.00m)



PICTURE 24: BH-1 (Depth-5.00 to 6.00m)



PICTURE 25: BH-1 (Depth-6.00 to 7.00m)



PICTURE 26: BH-1 (Depth-7.00 to 8.00m)



PICTURE 27: BH-1 (Depth-8.00 to 9.00m)



PICTURE 28: BH-1 (Depth-9.00 to 10.00m)



PICTURE 29: BH-1 (Depth-10.00 to 11.00m)



PICTURE 30: BH-1 (Depth-11.00 to 12.00m)



PICTURE 31: BH-1 (Depth-12.00 to 13.00m)



PICTURE 32: BH-1 (Depth-13.00 to 14.00m)



PICTURE 33: BH-1 (Depth-14.00 to 15.00m)



PICTURE 34: BH-1 (Depth-15.00 to 16.00m)



PICTURE 35: BH-1 (Depth-16.00 to 17.00m)



PICTURE 36: BH-1 (Depth-17.00 to 18.00m)



PICTURE .37: BH-1 (Depth-18.00 to 19.00m)



PICTURE 38: BH-1 (Depth-19.00 to 20.00m)



PICTURE 39: BH-2 (Depth-1.00 to 2.00m)



PICTURE 40: BH-2 (Depth-2.00 to 3.00m)



PICTURE 41: BH-2 (Depth-3.00 to 4.00m)



PICTURE 42: BH-2 (Depth-4.00 to 5.00m)



PICTURE 43: BH-2 (Depth-5.00 to 6.00m)



PICTURE 44: BH-2 (Depth-6.00 to 7.00m)



PICTURE 45: BH-2 (Depth-7.00 to 8.00m)



PICTURE 46: BH-2 (Depth-8.00 to 9.00m)



PICTURE 47: BH-2 (Depth-9.00 to 10.00m)



PICTURE 48: BH-2 (Depth-10.00 to 11.00m)



PICTURE 49: BH-2 (Depth-11.00 to 12.00m)



PICTURE 50: BH-2 (Depth-12.00 to 13.00m)



PICTURE 51: BH-2 (Depth-13.00 to 14.00m)



PICTURE 52: BH-2 (Depth-14.00 to 15.00m)



PICTURE 53: BH-2 (Depth-15.00 to 16.00m)



PICTURE 54: BH-2 (Depth-16.00 to 17.00m)



PICTURE 55: BH-2 (Depth-17.00 to 18.00m)



PICTURE 56: BH-2 (Depth-18.00 to 19.00m)



PICTURE 57: BH-2 (Depth-19.00 to 20.00m)



PICTURE 58: BH-2 (Depth-20.00 to 21.00m)



PICTURE 59: BH-2 (Depth-21.00 to 22.00m)



PICTURE 60: BH-2 (Depth-22.00 to 23.00m)



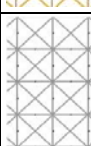
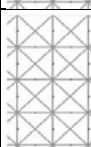
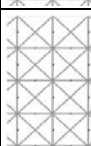
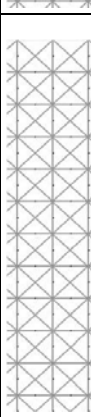
PICTURE 61: BH.2 (Depth 23.00 to 24.00m)

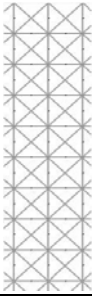


PICTURE 62: BH-2 (Depth 24.00 to 25.00m)

***Bore Log & Core Samples
Photographs
LS-D09***



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.																						
Client Name		M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.						 2 nd Floor,NATARAJ BHAWAN,Haripal,Hooghly,712405. (WB) www.bpcipl.com																						
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)		317+570		Sliding Zone		LS_D9		No. of Core (C)				19																		
Borehole No.		1		Commencement Date		10.07.2017		No. of SP Test (S)				1																		
Ground Elevation (m)		323.8450		Completion Date		17.07.2017		No. of Undisturbed (U)				0																		
Method of Boring		Rotary Drilling		Standing Water Level		17.00 M BELOW G.L.		No. of Disturbed (D)				0																		
Borehole Diameter		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									15cm	15cm	15cm																
Greyish / Dark greyish, fine grained highly fracture Poor Sandstone. 0.00 m to 5.00 m		323.8450	318.8450		323.8450		1.00	R1	-	-	-	-	-	NIL	NIL	NIL	-	Completely	Measurement not possible due to heavy broken small pieces											
					322.8450		-	S	2cm / 38B	Re	Re	>100	97	-	-	-														
					322.8450		322.8250		1.00	R2	-	-	-	-	-	8				8	NIL									
					321.8450		320.8450		1.00	R3	-	-	-	-	-	16				16	NIL									
					320.8450		319.8450		1.00	R4	-	-	-	-	-	17				17	NIL									
					319.8450		318.8450		1.00	R5	-	-	-	-	-	22				22	NIL									
Dark Greyish, Boulders / cobbles / gravels size Very Soft Shale. 5.00 m to 7.00 m		318.8450	316.8450		318.8450		1.00	R6	-	-	-	-	-	28	28	NIL	-	Completely	Measurement not possible due to heavy broken small pieces											
					317.8450		1.00	R7	-	-	-	-	-	33	33	NIL														
Greyish / Dark greyish, fine grained highly fracture Sandy Shale. 7.00 m to 9.00 m		316.8450	314.8450		316.8450		1.00	R8	-	-	-	-	-	29	29	NIL	-	Completely		Measurement not possible due to heavy broken small pieces										
					315.8450		1.00	R9	-	-	-	-	-	32	32	NIL														
Greyish / Dark greyish, fine grained highly fracture strong Sandy Shale. 9.00 m to 12.00 m		314.8450	311.8450		314.8450		1.00	R10	-	-	-	-	-	56	56	NIL	-	Completely			Measurement not possible due to heavy broken small pieces									
					313.8450		1.00	R11	-	-	-	-	-	61	61	NIL														
					312.8450		1.00	R12	-	-	-	-	-	79	79	NIL														
Dark Greyish, Strong Shale. 12.00 m to 20.00 m		311.8450	303.8450		311.8450		1.00	R13	-	-	-	-	-	79	79	23	Greyish	Partial	70° 80°											
					310.8450		1.00	R14	-	-	-	-	-	73	73	43			-											
					309.8450		1.00	R15	-	-	-	-	-	75	75	NIL			0°-5°											
					308.8450		1.00	R16	-	-	-	-	-	70	70	NIL			24°											
					307.8450		1.00	R17	-	-	-	-	-	66	66	NIL			80° 55°											
					306.8450		1.00	R18	-	-	-	-	-	79	79	18			47° 55° 67°											
					305.8450		1.00	R19	-	-	-	-	-	72	72	NIL			80°											
					304.8450		1.00	R20	-	-	-	-	-	80	80	NIL			52°											
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been 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.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)	317+570		Sliding Zone		LS_D9		No. of Core (C)		20									
Borehole No.	2		Commencement Date		22.07.2017		No. of SP Test (S)		0									
Ground Elevation (m)	339.7420		Completion Date		29.07.2017		No. of Undisturbed (U)		0									
Method of Boring	Rotary Drilling		Standing Water Level		10.86 M BELOW G.L.		No. of Disturbed (D)		0									
Borehole Diameter	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								
Light Brownish / Greyish, fine grained highly fracture Poor Sandy Shale. 0.00 m to 14.00 m	339.7420	325.7420		339.7420	338.7420	1.00	R1	-	-	-	-	-	19	19	NIL	-	Completely	70°
	338.7420			337.7420	1.00	R2	-	-	-	-	-	14	14	NIL				
	337.7420			336.7420	1.00	R3	-	-	-	-	-	21	21	NIL				
	336.7420			335.7420	1.00	R4	-	-	-	-	-	33	33	NIL				
	335.7420			334.7420	1.00	R5	-	-	-	-	-	42	42	NIL				
	334.7420			333.7420	1.00	R6	-	-	-	-	-	30	30	NIL				
	333.7420			332.7420	1.00	R7	-	-	-	-	-	17	17	NIL				
	332.7420			331.7420	1.00	R8	-	-	-	-	-	27	27	NIL				
	331.7420			330.7420	1.00	R9	-	-	-	-	-	15	15	NIL				
	330.7420			329.7420	1.00	R10	-	-	-	-	-	19	19	NIL				
	329.7420			328.7420	1.00	R11	-	-	-	-	-	27	27	NIL				
	328.7420			327.7420	1.00	R12	-	-	-	-	-	21	21	NIL				
	327.7420			326.7420	1.00	R13	-	-	-	-	-	31	31	NIL				
	326.7420			325.7420	1.00	R14	-	-	-	-	-	38	38	NIL				
Greyish / Dark greyish, fine grained moderately fracture Strong Sandy Shale / Shaley Sandstone. 14.00 m to 20.00 m	325.7420	319.7420		325.7420	324.7420	1.00	R15	-	-	-	-	-	73	73	14	Greyish	Partial	Measurement not possible due to heavy broken small pieces
	324.7420			323.7420	1.00	R16	-	-	-	-	-	74	74	15				
	323.7420			322.7420	1.00	R17	-	-	-	-	-	70	70	11				
	322.7420			321.7420	1.00	R18	-	-	-	-	-	75	75	10				
	321.7420			320.7420	1.00	R19	-	-	-	-	-	45	45	NIL				
	320.7420			319.7420	1.00	R20	-	-	-	-	-	35	35	NIL				
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																		

Slip Plane - 14.2 m

➤ LS- D09 (BH-1 & BH-2) & CHAINAGE(km)- 317+570



PICTURE 63: BH-1 (Depth-1.00 to 2.00m)



PICTURE 64: BH-1 (Depth-2.00 to 3.00m)



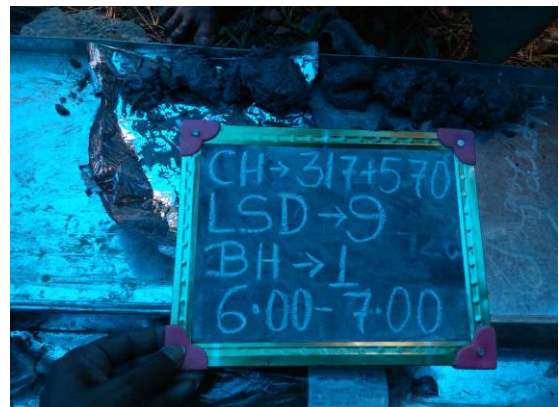
PICTURE 65: BH-1 (Depth-3.00 to 4.00m)



PICTURE 66: BH-1 (Depth-4.00 to 5.00m)



PICTURE 67: BH-1 (Depth-5.00 to 6.00m)



PICTURE 68: BH-1 (Depth-6.00 to 7.00m)



PICTURE 69: BH-1 (Depth-7.00 to 8.00m)



PICTURE 70: BH-1 (Depth-8.00 to 9.00m)



PICTURE 71: BH-1 (Depth-9.00 to 10.00m)



PICTURE 72: BH-1 (Depth-10.00 to 11.00m)



PICTURE 73: BH-1 (Depth-11.00 to 12.00m)



PICTURE 74: BH-1 (Depth-12.00 to 13.00m)



PICTURE 75: BH-1 (Depth-13.00 to 14.00m)



PICTURE 76: BH-1 (Depth-14.00 to 15.00m)



PICTURE 77: BH-1 (Depth-15.00 to 16.00m)



PICTURE 78: BH-1 (Depth-16.00 to 17.00m)



PICTURE 79: BH-1 (Depth-17.00 to 18.00m)



PICTURE 80: BH-1 (Depth-18.00 to 19.00m)



PICTURE 81: BH-2 (Depth-0.00 to 1.00m)



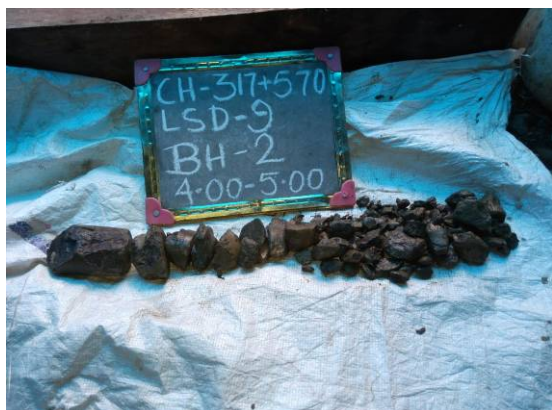
PICTURE 82: BH-2 (Depth-1.00 to 2.00m)



PICTURE 83: BH-2 (Depth-2.00 to 3.00m)



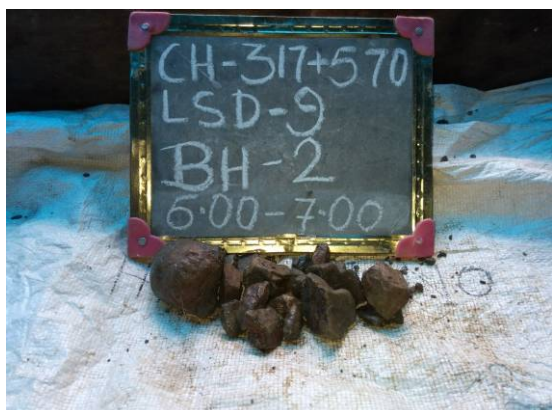
PICTURE 84: BH-2 (Depth-3.00 to 4.00m)



PICTURE 85: BH-2 (Depth-4.00 to 5.00m)



PICTURE 86: BH-2 (Depth-5.00 to 6.00m)



PICTURE 87: BH-2 (Depth-6.00 to 7.00m)



PICTURE 88: BH-2 (Depth-7.00 to 8.00m)



PICTURE 89: BH-2 (Depth-8.00 to 9.00m)



PICTURE 90: BH-2 (Depth-9.00 to 10.00m)



PICTURE 91: BH-2 (Depth-10.00 to 11.00m)



PICTURE 92: BH-2 (Depth-11.00 to 12.00m)



PICTURE 93: BH-2 (Depth-12.00 to 13.00m)



PICTURE 94: BH-2 (Depth-13.00 to 14.00m)



PICTURE 95: BH-2 (Depth-14.00 to 15.00m)



PICTURE 96: BH-2 (Depth-15.00 to 16.00m)



PICTURE 97: BH-2 (Depth-16.00 to 17.00m)



PICTURE 98: BH-2 (Depth-17.00 to 18.00m)

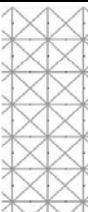
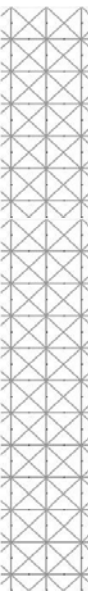


PICTURE 99: BH-2 (Depth-18.00 to 19.00m)



PICTURE 100: BH-1 (Depth-19.00 to 20.00m)

***Bore Log & Core Samples
Photographs
LS-D10***

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)	318+750		Sliding Zone		LS_D10		No. of Core (C)		15									
Borehole No.	1		Commencement Date		17.07.2017		No. of SP Test (S)		0									
Ground Elevation (m)	445.9250		Completion Date		19.07.2017		No. of Undisturbed (U)		0									
Method of Boring	Rotary Drilling		Standing Water Level		4.82 M BELOW G.L.		No. of Disturbed (D)		0									
Borehole Diameter	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 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 Brownish / Greyish, highly fracture Sandy Shale. 0.00 m to 3.00 m	445.9250	442.9250		445.9250	444.9250	1.00	R1	-	-	-	-	-	20	20	NIL	-	Completely	Measurement not possible due to heavy broken small pieces
				444.9250	443.9250	1.00	R2	-	-	-	-	-	23	23	NIL			
				443.9250	442.9250	1.00	R3	-	-	-	-	-	23	23	NIL			
Greyish / Dark greyish, highly fracture Poor Shale. 3.00 m to 15.00 m	442.9250	430.9250		442.9250	441.9250	1.00	R4	-	-	-	-	-	20	20	NIL	Greyish	Partial	
				441.9250	440.9250	1.00	R5	-	-	-	-	-	25	25	NIL			
				440.9250	439.9250	1.00	R6	-	-	-	-	-	16	16	NIL			
				439.9250	438.9250	1.00	R7	-	-	-	-	-	25	25	NIL			
				438.9250	437.9250	1.00	R8	-	-	-	-	-	23	23	NIL			
				437.9250	436.9250	1.00	R9	-	-	-	-	-	29	29	NIL			
				436.9250	435.9250	1.00	R10	-	-	-	-	-	32	32	NIL			
				435.9250	434.9250	1.00	R11	-	-	-	-	-	24	24	NIL			
				434.9250	433.9250	1.00	R12	-	-	-	-	-	31	31	NIL			
				433.9250	432.9250	1.00	R13	-	-	-	-	-	22	22	NIL			
				432.9250	431.9250	1.00	R14	-	-	-	-	-	32	32	NIL			
				431.9250	430.9250	1.00	R15	-	-	-	-	-	24	24	NIL			
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																		
Slip Plane - Did Not Identify																		

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)	318+750		Sliding Zone		LS_D10		No. of Core (C)		20									
Borehole No.	2		Commencement Date		22.07.2017		No. of SP Test (S)		0									
Ground Elevation (m)	464.8260		Completion Date		27.07.2017		No. of Undisturbed (U)		0									
Method of Boring	Rotary Drilling		Standing Water Level		11.11 M BELOW G.L.		No. of Disturbed (D)		0									
Borehole Diameter	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								
Greyish / Light Brownish, highly fracture Poor Shale. 0.00 m to 7.00 m	464.8260			464.8260	463.8260	1.00	R1	-	-	-	-	-	16	16	NIL	Greyish	Partial	Measurement not possible due to heavy broken small pieces
				463.8260	462.8260	1.00	R2	-	-	-	-	-	25	25	NIL			
				462.8260	461.8260	1.00	R3	-	-	-	-	-	22	22	NIL			
				461.8260	460.8260	1.00	R4	-	-	-	-	-	23	23	NIL			
				460.8260	459.8260	1.00	R5	-	-	-	-	-	29	29	NIL			
				459.8260	458.8260	1.00	R6	-	-	-	-	-	32	32	NIL			
				458.8260	457.8260	1.00	R7	-	-	-	-	-	32	32	NIL			
Greyish / Light Brownish, highly fracture Poor Sandy Shale. 7.00 m to 20.00 m	457.8260			457.8260	456.8260	1.00	R8	-	-	-	-	-	31	31	NIL			
				456.8260	455.8260	1.00	R9	-	-	-	-	-	39	39	NIL			
				455.8260	454.8260	1.00	R10	-	-	-	-	-	38	38	NIL			
				454.8260	453.8260	1.00	R11	-	-	-	-	-	36	36	NIL			
				453.8260	452.8260	1.00	R12	-	-	-	-	-	29	29	NIL			
				452.8260	451.8260	1.00	R13	-	-	-	-	-	28	28	NIL			
				451.8260	450.8260	1.00	R14	-	-	-	-	-	28	28	NIL			
				450.8260	449.8260	1.00	R15	-	-	-	-	-	28	28	NIL			
				449.8260	448.8260	1.00	R16	-	-	-	-	-	29	29	NIL			
				448.8260	447.8260	1.00	R17	-	-	-	-	-	29	29	NIL			
				447.8260	446.8260	1.00	R18	-	-	-	-	-	26	26	NIL			
				446.8260	445.8260	1.00	R19	-	-	-	-	-	33	33	NIL			
				445.8260	444.8260	1.00	R20	-	-	-	-	-	36	36	NIL			
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																		
Slip Plane - Did Not Identify																		

➤ LS- D10 (BH-1 & BH-2) & CHAINAGE(km)- 318+750



PICTURE 101: BH-1 (Depth-0.00 to 1.00m)



PICTURE 102: BH-1 (Depth-1.00 to 2.00m)



PICTURE 103: BH-1 (Depth-2.00 to 3.00m)



PICTURE 104: BH-1 (Depth-3.00 to 4.00m)



PICTURE 105: BH-1 (Depth-4.00 to 5.00m)



PICTURE 106: BH-1 (Depth-5.00 to 6.00m)



PICTURE 107: BH-1 (Depth-6.00 to 7.00m)



PICTURE 108: BH-2 (Depth-7.00 to 8.00m)



PICTURE 109: BH-1 (Depth-8.00 to 9.00m)



PICTURE 110: BH-1 (Depth-9.00 to 10.00m)



PICTURE 111: BH-1 (Depth-10.00 to 11.00m)



PICTURE 112: BH-1 (Depth-11.00 to 12.00m)



PICTURE 113: BH-1 (Depth-12.00 to 13.00m)



PICTURE 115: BH-1 (Depth-13.00 to 14.00m)



PICTURE 116: BH-1 (Depth-14.00 to 15.00m)



PICTURE 117: BH-2 (Depth-0.00 to 1.00m)



PICTURE 118: BH-2 (Depth-1.00 to 2.00m)



PICTURE 119: BH-2 (Depth-2.00 to 3.00m)



PICTURE 120: BH-2 (Depth-3.00 to 4.00m)



PICTURE 121: BH-2 (Depth-4.00 to 5.00m)



PICTURE 122: BH-2 (Depth-5.00 to 6.00m)



PICTURE 123: BH-2 (Depth-6.00 to 7.00m)



PICTURE 124: BH-2 (Depth-7.00 to 8.00m)



PICTURE 125: BH-2 (Depth-8.00 to 9.00m)



PICTURE 126: BH-2 (Depth-9.00 to 10.00m)



PICTURE 127: BH-2 (Depth-10.00 to 11.00m)



PICTURE 128: BH-2 (Depth-11.00 to 12.00m)



PICTURE 129: BH-2 (Depth-12.00 to 13.00m)



PICTURE 130: BH-2 (Depth-13.00 to 14.00m)



PICTURE 131: BH-2 (Depth-14.00 to 15.00m)



PICTURE 132: BH-2 (Depth-15.00 to 16.00m)



PICTURE 133: BH-2 (Depth-16.00 to 17.00m)



PICTURE 134: BH-2 (Depth-17.00 to 18.00m)



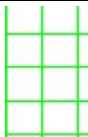
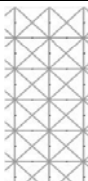
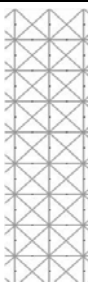
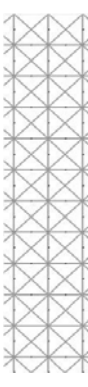
PICTURE 135: BH-2 (Depth-18.00 to 19.00m)

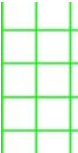
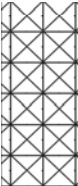
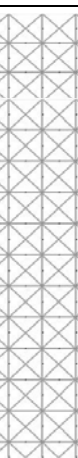


PICTURE 136: BH-2 (Depth-19.00 to 20.00m)

***Bore Log & Core Samples
Photographs
LS-D11***



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.  2nd 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)		319+205		Sliding Zone		LS_D11		No. of Core (C)		14									
Borehole No.		1		Commencement Date		11.07.2017		No. of SP Test (S)		6									
Ground Elevation (m)		420.8220		Completion Date		14.07.2017		No. of Undisturbed (U)		0									
Method of Boring		Rotary Drilling		Standing Water Level		12.15 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)		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									
Hard, Brownish, Clayey Silt with good % stone dust of claystone / siltstone mixed. (CL) 0.00 m to 3.00 m	420.8220			420.3220	-	D	-	-	-	-	-	-	-	-	-	-	-	Soil	
				419.8220	-	S	10	25	28	53	-	-	-	-	-	-	-		
				418.8220	-	S	17	27	31	58	-	-	-	-	-	-	-		-
Completely Weathered, Dark greyish, Very Weak Shale. 3.00 m to 5.00 m	417.8220			417.8220	-	S	3cm / 37B	Re	Re	>100	97	-	-	-	-	-	-	Yellowish	
				417.8220	1.00	R1	-	-	-	-	-	NIL	NIL	NIL	-	-	-		
				416.8220	-	S	2cm / 48B	Re	Re	>100	97	-	-	-	-	-	-		-
				416.8220	1.00	R2	-	-	-	-	-	NIL	NIL	NIL	-	-	-		
Greyish / Brownish, highly fracture Very Poor Shale. 5.00 m to 10.00 m	415.8220			415.8220	-	S	Hummar Rebound			>100		-	-	-	-	-	-	Pertial	
				415.8220	1.00	R3	-	-	-	-	-	24	24	NIL	-	-	-		
				414.8220	1.00	R4	-	-	-	-	-	28	28	NIL	-	-	-		
				413.8220	1.00	R5	-	-	-	-	-	48	48	NIL	-	-	-		
				412.8220	1.00	R6	-	-	-	-	-	32	32	NIL	-	-	-		
				411.8220	1.00	R7	-	-	-	-	-	NIL	NIL	NIL	-	-	-		
				410.8220	-	S	Hummar Rebound			>100		-	-	-	-	-	-		
				410.8220	1.00	R8	-	-	-	-	-	21	21	NIL	-	-	-		
Moderately Weathered, Dark greyish / Brownish, highly fracture Poor Shale / Sandy Shale. 10.00 m to 20.00 m	410.8220			409.8220	1.00	R9	-	-	-	-	-	26	26	NIL	-	-	-	Greyish	
				408.8220	1.00	R10	-	-	-	-	-	33	33	NIL	-	-	-		
				407.8220	1.00	R11	-	-	-	-	-	35	35	NIL	-	-	-		
				406.8220	1.00	R12	-	-	-	-	-	72	72	NIL	-	-	-		
				405.8220	1.00	R13	-	-	-	-	-	31	31	15	-	-	-		
				404.8220	1.00	R14	-	-	-	-	-	28	28	NIL	-	-	-		
				403.8220	1.00	R15	-	-	-	-	-	23	23	NIL	-	-	-		
				402.8220	1.00	R16	-	-	-	-	-	26	26	NIL	-	-	-		
				401.8220	1.00	R17	-	-	-	-	-	25	25	NIL	-	-	-		
				400.8220	1.00	R17	-	-	-	-	-	25	25	NIL	-	-	-		
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																			
Slip Plane - 15 m																			
** Mesurement 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.																								
Client Name :		M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.				 2 nd Floor,NATARAJ BHAWAN,Haripal,Hooghly,712405. (WB)																								
Work Order No. :		NHIDCL/NH-54/DPR-Add. Survey/2016/168 dated on 16.12.2016				www.bpciopl.com																								
BORE / CORE LOG DATA SHEET																														
Job Code - P160																														
Chainage (km)		319+205		Sliding Zone		LS_D11		No. of Core (C)		16																				
Borehole No.		2		Commencement Date		18.07.2017		No. of SP Test (S)		4																				
Ground Elevation (m)		443.7450		Completion Date		23.07.2017		No. of Undisturbed (U)		0																				
Method of Boring		Rotary Drilling		Standing Water Level		14.50 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)		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, Brownish, Clayey Silt with good % stone dust of siltstone / claystone mixed. (CL) 0.00 m to 2.00 m		443.7450	441.7450		443.2450		-	D	-	-	-	-	-	-	-	-	-	Brownish	Partial	Soil										
					442.7450	442.2950	-	S	10	12	18	30	-	-	-	-														
Completely Weathered, Brownish, Very Weak Claystone / Siltstone. 2.00 m to 4.00 m		441.7450	439.7450		441.7450	441.6450	-	S	10cm / 62B	Re	Re	>100	84	-	-	-														
		441.7450			440.7450	1.00	R1	-	-	-	-	-	NIL	NIL	NIL															
		440.7450			440.6250	-	S	12cm / 55B	Re	Re	>100	78	-	-	-															
		440.7450			439.7450	1.00	R2	-	-	-	-	-	NIL	NIL	NIL															
Brownish / Greyish, fine grained highly fracture Poor Sandstone. 4.00 m to 7.00 m		439.7450	436.7450		439.7450	439.6850	-	S	6cm / 42B	Re	Re	>100	74	-	-	-														
		439.7450			438.7450	1.00	R3	-	-	-	-	-	16	16	NIL															
		438.7450			437.7450	1.00	R4	-	-	-	-	-	51	51	22															
		437.7450			436.7450	1.00	R5	-	-	-	-	-	16	16	NIL															
Brownish / Greyish, fine grained highly fracture Poor Sandy Shale. 7.00 m to 20.00 m		436.7450	423.7450		436.7450	435.7450	1.00	R6	-	-	-	-	-	20	20	NIL	-	Completely	**											
		435.7450			434.7450	1.00	R7	-	-	-	-	-	19	19	NIL															
		434.7450			433.7450	1.00	R8	-	-	-	-	-	21	21	NIL															
		433.7450			432.7450	1.00	R9	-	-	-	-	-	14	14	NIL															
		432.7450			431.7450	1.00	R10	-	-	-	-	-	18	18	NIL															
		431.7450			430.7450	1.00	R11	-	-	-	-	-	24	24	NIL															
		430.7450			429.7450	1.00	R12	-	-	-	-	-	18	18	NIL															
		429.7450			428.7450	1.00	R13	-	-	-	-	-	19	19	NIL															
		428.7450			427.7450	1.00	R14	-	-	-	-	-	26	26	NIL															
		427.7450			426.7450	1.00	R15	-	-	-	-	-	27	27	NIL															
		426.7450			425.7450	1.00	R16	-	-	-	-	-	20	20	NIL															
		425.7450			424.7450	1.00	R17	-	-	-	-	-	25	25	NIL															
		424.7450			423.7450	1.00	R18	-	-	-	-	-	25	25	NIL															
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																														
Slip Plane - 15 m																														
** Mesurement not possible due to heavy broken small pieces																														

➤ LS- D11 (BH-1 & BH-2) & CHAINAGE(km)- 319+205



PICTURE 137: BH-1 (Depth-5.00 to 6.00m)



PICTURE 138: BH-1 (Depth-6.00 to 7.00m)



PICTURE 139: BH-1 (Depth-7.00 to 8.00m)



PICTURE 140: BH-1 (Depth-8.00 to 9.00m)



PICTURE 141: BH-1 (Depth-10.00 to 11.00m)



PICTURE 142: BH-1 (Depth-11.00 to 12.00m)



PICTURE 143: BH-1 (Depth-12.00 to 13.00m)



PICTURE 144: BH-1 (Depth-13.00 to 14.00m)



PICTURE 145: BH-1 (Depth-14.00 to 15.00m)



PICTURE 146: BH-1 (Depth-15.00 to 16.00m)



PICTURE 147: BH-1 (Depth-16.00 to 17.00m)



PICTURE 148: BH-1 (Depth-17.00 to 18.00m)



PICTURE 149: BH-1 (Depth-18.00 to 19.00m)



PICTURE 150: BH-1 (Depth-19.00 to 20.00m)



PICTURE 151: BH-2 (Depth-4.00 to 5.00m)



PICTURE 152: BH-2 (Depth-5.00 to 6.00m)



PICTURE 153: BH-2 (Depth-6.00 to 7.00m)



PICTURE 154: BH-2 (Depth-7.00 to 8.00m)



PICTURE 155: BH-2 (Depth-8.00 to 9.00m)



PICTURE 156: BH-2 (Depth-9.00 to 10.00m)



PICTURE 157: BH-2 (Depth-10.00 to 11.00m)



PICTURE 158: BH-2 (Depth-11.00 to 12.00m)



PICTURE 159: BH-2 (Depth-12.00 to 13.00m)



PICTURE 160: BH-2 (Depth-13.00 to 14.00m)



PICTURE 161: BH-2 (Depth-14.00 to 15.00m)



PICTURE 162: BH-2 (Depth-15.00 to 16.00m)



PICTURE 163: BH-2 (Depth-16.00 to 17.00m)



PICTURE 164: BH-2 (Depth-17.00 to 18.00m)



PICTURE 165: BH-2 (Depth-18.00 to 19.00m)

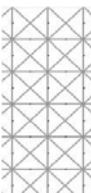
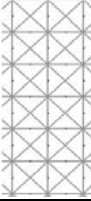
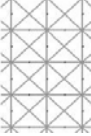
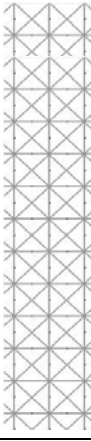


PICTURE 166: BH-2 (Depth-19.00 to 20.00m)

***Bore Log & Core Samples
Photographs
LS-D13***



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.																						
Client Name :				M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.				 2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpci.org																						
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)		324+915		Sliding Zone		LS_D13		No. of Core (C)				20																		
Borehole No.		1		Commencement Date		31.07.2017		No. of SP Test (S)				2																		
Ground Elevation (m)		173.5820		Completion Date		04.08.2017		No. of Undisturbed (U)				0																		
Method of Boring		Rotary Drilling		Standing Water Level		3.71 M BELOW G.L.		No. of Disturbed (D)				0																		
Borehole Diameter		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																
Greyish / Dark greyish, Fine grained highly fracture Weak Sandstone. 0.00 m to 2.00 m		173.5820	171.5820		173.5820		1.00	R1	-	-	-	-	-	20	20	NIL	Greyish	Partial	*											
					172.5820		1.00	R2	-	-	-	-	-	49	42	NIL														
					171.5820		1.00	R3	-	-	-	-	-	86	86	66														
Fresh, Grey / Dark grey, Fine grained moderately Strong Sandstone. 2.00 m to 8.00 m		171.5820	165.5820		171.5820		1.00	R4	-	-	-	-	-	85	85	74	Greyish	Partial	5°											
						169.5820		1.00	R5	-	-	-	-	-	74	74			73	-										
						168.5820		1.00	R6	-	-	-	-	-	73	73			48	70°										
						167.5820		1.00	R7	-	-	-	-	-	72	72			46	5°										
						166.5820		1.00	R8	-	-	-	-	-	73	73			45	55°										
						165.5820		1.00	R9	-	-	-	-	-	70	70			28	-										
						164.5820		1.00	R10	-	-	-	-	-	71	71			NIL	5°										
Light Brownish / Grey, Fine grained Strong Sandy Shale. 8.00 m to 10.00 m		165.5820	163.5820		165.5820		1.00	R11	-	-	-	-	-	23	23	NIL	Greyish	Partial	-											
						164.5820		1.00	R12	-	-	-	-	-	26	26			NIL	*										
						163.5820		1.00	R13	-	-	-	-	-	19	19			NIL											
						162.5820		1.00	R14	-	-	-	-	-	24	24			NIL											
						161.5820		1.00	R15	-	-	-	-	-	23	23			NIL											
						160.5820		1.00	R16	-	-	-	-	-	34	34			NIL											
						159.5820		1.00	R17	-	-	-	-	-	33	33			NIL											
						158.5820		1.00	R18	-	-	-	-	-	35	35			NIL											
						157.5820		1.00	R19	-	-	-	-	-	18	18			NIL											
						156.5820		1.00	R20	-	-	-	-	-	21	21			NIL											
						155.5820		1.00	S	Hammer Rebound			>100	-	-	-			50°											
						154.5820		-	S	Hammer Rebound			>100	-	-	-														
						153.5820		-	S	Hammer Rebound			>100	-	-	-														
					Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																									
Slip Plane - 11.5 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.																				
Client Name		M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.				 2 nd Floor,NATARAJ BHAWAN,Haripal,Hooghly,712405. (WB) www.bpci.com																				
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)		324+915		Sliding Zone		LS_D13		No. of Core (C)				25														
Borehole No.		2		Commencement Date		19.07.2017		No. of SP Test (S)				0														
Ground Elevation (m)		195.4660		Completion Date		27.07.2017		No. of Undisturbed (U)				0														
Method of Boring		Rotary Drilling		Standing Water Level		6.82 M BELOW G.L.		No. of Disturbed (D)				0														
Borehole Diameter		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																
Dark Grey, Fine grained highly fracture Poor Sandy Shale. 0.00 m to 4.00 m	195.4660			195.4660		1.00	R1	-	-	-	-	-	20	20	NIL	Greyish	Partial	**								
				194.4660		1.00	R2	-	-	-	-	-	21	21	NIL											
				193.4660		1.00	R3	-	-	-	-	-	23	23	NIL											
				192.4660		1.00	R4	-	-	-	-	-	22	22	NIL											
Light Grey / Dark Grey, Fine grained Strong Sandy Shale. 4.00 m to 6.00 m	191.4660			191.4660		1.00	R5	-	-	-	-	-	73	73	62			Greyish	Partial	48°						
				190.4660		1.00	R6	-	-	-	-	-	88	88	71											
Grey / Light Brownish, Fine grained highly fracture Poor Sandy Shale. 6.00 m to 11.00 m	185.4660			189.4660		1.00	R7	-	-	-	-	-	41	41	NIL					Greyish	Partial	**				
				188.4660		1.00	R8	-	-	-	-	-	28	28	NIL											
				187.4660		1.00	R9	-	-	-	-	-	40	40	NIL											
				186.4660		1.00	R10	-	-	-	-	-	24	24	NIL											
				185.4660		1.00	R11	-	-	-	-	-	29	29	NIL											
				184.4660		1.00	R12	-	-	-	-	-	76	76	24											
Grey, Fine grained slightly fracture Strong Sandy Shale. 11.00 m to 14.00 m	180.4660			183.4660		1.00	R13	-	-	-	-	-	75	75	11							Greyish	Partial	**		
				182.4660		1.00	R14	-	-	-	-	-	76	76	12											
				181.4660		1.00	R15	-	-	-	-	-	28	28	NIL											
Dark Greyish / Brownish, Fine grained highly fracture Poor Sandy Shale. 14.00 m to 25.00 m	177.4660			180.4660		1.00	R16	-	-	-	-	-	18	18	NIL									Greyish	Partial	80°
				179.4660		1.00	R17	-	-	-	-	-	18	18	NIL											
				178.4660		1.00	R18	-	-	-	-	-	21	21	NIL											
				177.4660		1.00	R19	-	-	-	-	-	47	47	NIL											
				176.4660		1.00	R20	-	-	-	-	-	51	51	NIL											
				175.4660		1.00	R21	-	-	-	-	-	44	44	NIL											
				174.4660		1.00	R22	-	-	-	-	-	15	15	10											
				173.4660		1.00	R23	-	-	-	-	-	20	20	NIL											
				172.4660		1.00	R24	-	-	-	-	-	19	19	NIL											
				171.4660		1.00	R25	-	-	-	-	-	18	18	NIL											
				Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																						
Slip Plane - 12.5 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.															
Client Name :		M/s National Highways and Infrastructure Development Corporation Limited. (NHIDCL), Delhi.						 2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpcipl.com															
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)		324+915		Sliding Zone		LS_D13		No. of Core (C)				30											
Borehole No.		3		Commencement Date		31.07.2017		No. of SP Test (S)				2											
Ground Elevation (m)		214.2130		Completion Date		07.08.2017		No. of Undisturbed (U)				0											
Method of Boring		Rotary Drilling		Standing Water Level		10.39 M BELOW G.L.		No. of Disturbed (D)				0											
Borehole Diameter		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	SPT Angle of Fracture			
		From	To			From	To			15cm	15cm	15cm											
Dark Grey, Highly fracture Weak Shale. 0.00 m to 7.00 m		214.2130			214.2130	213.2130	1.00	R1	-	-	-	-	-	23	23	NIL	Greyish	100% water loss	*				
					212.2130	1.00	R2	-	-	-	-	-	19	19	NIL								
					211.2130	1.00	R3	-	-	-	-	-	28	28	NIL								
					210.2130	1.00	R4	-	-	-	-	-	26	26	NIL								
					209.2130	1.00	R5	-	-	-	-	-	33	33	NIL								
					208.2130	1.00	R6	-	-	-	-	-	29	29	NIL								
					207.2130	1.00	R7	-	-	-	-	-	26	26	NIL								
Grey / Dark Grey, Fine grained highly fracture moderately Strong Sandy Shale. 7.00 m to 18.00 m		207.2130		207.2130	206.2130	1.00	R8	-	-	-	-	-	35	35	NIL	*							
				205.2130	1.00	R9	-	-	-	-	-	10	10	NIL									
				204.2130	1.00	R10	-	-	-	-	-	23	23	NIL									
				203.2130	1.00	R11	-	-	-	-	-	20	20	NIL									
				202.2130	1.00	R12	-	-	-	-	-	21	21	NIL									
				201.2130	1.00	R13	-	-	-	-	-	22	22	NIL									
				200.2130	1.00	R14	-	-	-	-	-	22	22	NIL									
				199.2130	1.00	R15	-	-	-	-	-	23	23	NIL									
				198.2130	1.00	R16	-	-	-	-	-	16	16	NIL									
				198.2130	-	S	Hammer Rebound			-	-	-	-	-									
				197.2130	1.00	R17	-	-	-	-	-	17	17	NIL									
				197.2130	-	S	Hammer Rebound			-	-	-	-	-									
				196.2130	1.00	R18	-	-	-	-	-	27	27	NIL									
		Dark Greyish, Fine grained moderately fracture Strong Sandstone. 18.00 m to 22.00 m		196.2130		196.2130	195.2130	1.00	R19	-	-	-	-	-	75					75	NIL	*	
						194.2130	1.00	R20	-	-	-	-	-	76	76					26			
	193.2130			1.00		R21	-	-	-	-	-	73	73	26									
	192.2130			1.00		R22	-	-	-	-	-	71	71	22									
	192.2130			1.00		R23	-	-	-	-	-	23	23	NIL									
Slightly Weathered, Grey / Dark grey, Fine grained highly fracture Weak Shaley Sandstone. 22.00 m to 30.00 m		192.2130		191.2130	190.2130	1.00	R24	-	-	-	-	-	25	25	NIL	*							
				189.2130	1.00	R25	-	-	-	-	-	26	26	NIL									
				188.2130	1.00	R26	-	-	-	-	-	27	27	NIL									
				187.2130	1.00	R27	-	-	-	-	-	27	27	NIL									
				186.2130	1.00	R28	-	-	-	-	-	24	24	NIL									
				185.2130	1.00	R29	-	-	-	-	-	22	22	NIL									
				184.2130	1.00	R30	-	-	-	-	-	28	28	NIL									
		Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																					
		Slip Plane - 8 m																					
		** Measurement not possible due to heavy broken small pieces																					

➤ LS- D13 (BH-1, BH-2 & BH-3) & CHAINAGE(km)- 324+915



PICTURE 167: BH-1 (Depth-0.00 to 1.00m)



PICTURE 168: BH-1 (Depth-1.00 to 2.00m)



PICTURE 169: BH-1 (Depth-2.00 to 3.00m)



PICTURE 170: BH-1 (Depth-3.00 to 4.00m)



PICTURE 171: BH-1 (Depth-4.00 to 5.00m)



PICTURE 172: BH-1 (Depth-5.00 to 6.00m)



PICTURE 173: BH-1 (Depth-6.00 to 7.00m)



PICTURE 174: BH-1 (Depth-7.00 to 8.00m)



PICTURE 175: BH-1 (Depth-8.00 to 9.00m)



PICTURE 176: BH-1 (Depth-9.00 to 10.00m)



PICTURE 177: BH-1 (Depth-11.00 to 12.00m)



PICTURE 178: BH-1 (Depth-12.00 to 13.00m)



PICTURE 179: BH-1 (Depth-13.00 to 14.00m)



PICTURE 180: BH-1 (Depth-14.00 to 15.00m)



PICTURE 181: BH-1 (Depth-15.00 to 16.00m)



PICTURE 182: BH-1 (Depth-16.00 to 17.00m)



PICTURE 183: BH-1 (Depth-17.00 to 18.00m)



PICTURE 184: BH-1 (Depth-18.00 to 19.00m)



PICTURE 185: BH-1 (Depth-19.00 to 20.00m)



PICTURE 186: BH-2 (Depth-0.00 to 1.00m)



PICTURE 187: BH-2 (Depth-1.00 to 2.00m)



PICTURE 188: BH-2 (Depth-2.00 to 3.00m)



PICTURE 189: BH-2 (Depth-3.00 to 4.00m)



PICTURE 190: BH-2 (Depth-4.00 to 5.00m)



PICTURE 191: BH-2 (Depth-5.00 to 6.00m)



PICTURE 192: BH-2 (Depth-6.00 to 7.00m)



PICTURE 193: BH-2 (Depth-7.00 to 8.00m)



PICTURE 194: BH-2 (Depth-8.00 to 9.00m)



PICTURE 195: BH-2 (Depth-9.00 to 10.00m)



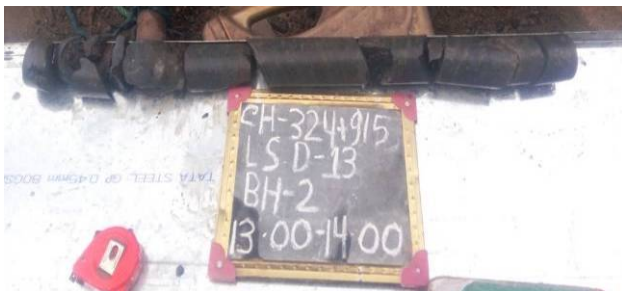
PICTURE 196: BH-2 (Depth-10.00 to 11.00m)



PICTURE 197: BH-2 (Depth-11.00 to 12.00m)



PICTURE 198: BH-2 (Depth-12.00 to 13.00m)



PICTURE 199: BH-2 (Depth-13.00 to 14.00m)



PICTURE 200: BH-2 (Depth-14.00 to 15.00m)



PICTURE 201: BH-2 (Depth-15.00 to 16.00m)



PICTURE 202: BH-2 (Depth-16.00 to 17.00m)



PICTURE 203: BH-2 (Depth-17.00 to 18.00m)



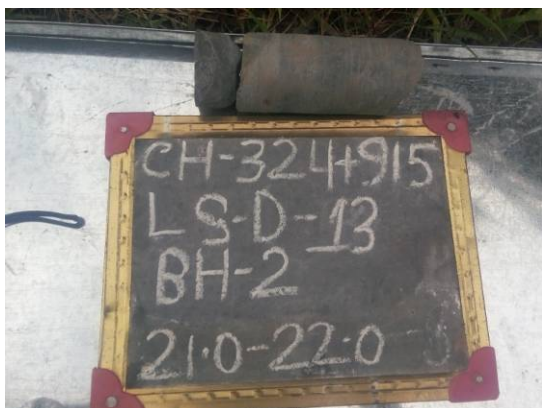
PICTURE 204: BH-2 (Depth-18.00 to 19.00m)



PICTURE 205: BH-2 (Depth-19.00 to 20.00m)



PICTURE 206: BH-2 (Depth-20.00 to 21.00m)



PICTURE 207: BH-2 (Depth-21.00 to 22.00m)



PICTURE 208: BH-2 (Depth-22.00 to 23.00m)



PICTURE 209: BH-2 (Depth-23.00 to 24.00m)



PICTURE 210: BH-2 (Depth-24.00 to 25.00m)



PICTURE 211: BH-3 (Depth-0.00 to 1.00m)



PICTURE 212: BH-3 (Depth-1.00 to 2.00m)



PICTURE 213: BH-3 (Depth-2.00 to 3.00m)



PICTURE 214: BH-3 (Depth-3.00 to 4.00m)



PICTURE 215: BH-3 (Depth-4.00 to 5.00m)



PICTURE 216: BH-3 (Depth-5.00 to 6.00m)



PICTURE 217: BH-3 (Depth-6.00 to 7.00m)



PICTURE 218: BH-3 (Depth-7.00 to 8.00m)



PICTURE 219: BH-3 (Depth-8.00 to 9.00m)



PICTURE 220: BH-3 (Depth-9.00 to 10.00m)



PICTURE 221: BH-3 (Depth-10.00 to 11.00m)



PICTURE 222: BH-3 (Depth-11.00 to 12.00m)



PICTURE 223: BH-3 (Depth-12.00 to 13.00m)



PICTURE 224: BH-3 (Depth-13.00 to 14.00m)



PICTURE 225: BH-3 (Depth-14.00 to 15.00m)



PICTURE 226: BH-3 (Depth-15.00 to 16.00m)



PICTURE 227: BH-3 (Depth-16.00 to 17.00m)



PICTURE 228: BH-3 (Depth-17.00 to 18.00m)



PICTURE 229: BH-3 (Depth-18.00 to 19.00m)



PICTURE 230: BH-3 (Depth-19.00 to 20.00m)



PICTURE 231: BH-3 (Depth-20.00 to 21.00m)



PICTURE 232: BH-3 (Depth-21.00 to 22.00m)



PICTURE 233: BH-3 (Depth-22.00 to 23.00m)



PICTURE 234: BH-3 (Depth-23.00 to 24.00m)



PICTURE 235: BH-3 (Depth-24.00 to 25.00m)



PICTURE 236: BH-3 (Depth-25.00 to 26.00m)



PICTURE 237: BH-3 (Depth-26.00 to 27.00m)



PICTURE 238: BH-3 (Depth-27.00 to 28.00m)



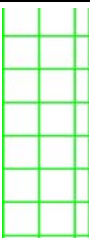
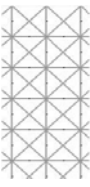
PICTURE 239: BH-3 (Depth-28.00 to 29.00m)



PICTURE 240: BH-3 (Depth-29.00 to 30.00m)

***Bore Log & Core Samples
Photographs
LS-D14***



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)	326+500		Sliding Zone		LS_D14		No. of Core (C)		7									
Borehole No.	1		Commencement Date		27.07.2017		No. of SP Test (S)		8									
Ground Elevation (m)	157.4617		Completion Date		29.07.2017		No. of Undisturbed (U)		0									
Method of Boring	Rotary Drilling		Standing Water Level		9.60 M BELOW G.L.		No. of Disturbed (D)		6 (D - 1 & S - 5)									
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 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, Yellowish, Sandy Clayey Silt with little broken Siltstone pices mixed. (CL) 0.00 m to 4.00 m	157.4617	153.4617		156.9617	-	D	-	-	-	-	-	-	-	-	-	-	-	Soil
	156.4617			156.0117	-	S	4	6	11	17	-	-	-	-	-	-		
	155.4617			155.0117	-	S	5	8	13	21	-	-	-	-	-	-		
	154.4617			154.0117	-	S	9	17	20	37	-	-	-	-	-	-		
Light Yellow / Grey, Fine grined Poor Sandstone. 4.00 m to 6.00 m	153.4617	151.4617		153.4617	-	S	7cm / 55B	Re	Re	>100	74	-	-	-	-	-	-	*
	153.4617			152.4617	1.00	R1	-	-	-	-	-	11	11	NIL	Greyish	Partial		
	152.4617			152.4317	-	S	3cm / 44B	Re	Re	>100	70	-	-	-				
	152.4617			151.4617	1.00	R2	-	-	-	-	-	13	13	NIL				
Compacted, Yellowish, Sandy Clayey Silt with traces of gravel. (CL) 6.00 m to 9.00 m	151.4617	148.4617		151.4617	1.00	R3	-	-	-	-	-	NIL	NIL	NIL	Greyish	Partial	-	
	150.4617			150.3817	-	S	8cm / 60B	Re	Re	>100	64	-	-	-			-	-
	150.4617			149.4617	1.00	R4	-	-	-	-	-	NIL	NIL	NIL			-	
	149.4617			149.4317	-	S	3cm / 45B	Re	Re	>100	62	-	-	-			-	-
	149.4617			148.4617	1.00	R5	-	-	-	-	-	NIL	NIL	NIL			-	
	148.4617			148.4417	-	S	2cm / 52B	Re	Re	>100	60	-	-	-			-	-
Light Brownish, Fine grained highly fracture Poor Sandstone. 9.00 m to 11.00 m	148.4617	146.4617		148.4617	1.00	R6	-	-	-	-	-	15	15	NIL	Greyish	Partial	55°	
	147.4617			146.4617	1.00	R7	-	-	-	-	-	NIL	NIL	NIL			-	
	146.4617			145.4617	1.00	R8	-	-	-	-	-	25	25	NIL			-	
Light Grey, Fine grained fracture Poor Sandy Shale. 11.00 m to 15.00 m	146.4617	142.4617		145.4617	1.00	R9	-	-	-	-	-	24	24	NIL	Greyish	Partial	38°	
	144.4617			143.4617	1.00	R10	-	-	-	-	-	21	21	NIL			*	
	143.4617			142.4617	1.00	R11	-	-	-	-	-	20	20	NIL				
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																		
Slip Plane - 7m																		
** Measurement not possible due to heavy broken small pieces																		

➤ LS- D14 (BH-1) & CHAINAGE(km)- 326+500



PICTURE 241: BH-1 (Depth-4.00 to 5.00m)



PICTURE 242: BH-1 (Depth-5.00 to 6.00m)



PICTURE 243: BH-1 (Depth-9.00 to 10.00m)



PICTURE 244: BH-1 (Depth-11.00 to 12.00m)



PICTURE 245: BH-1 (Depth-12.00 to 13.00m)

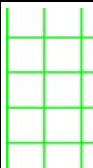
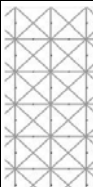
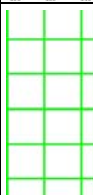
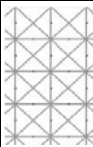


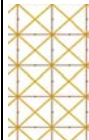
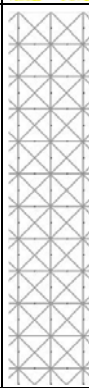
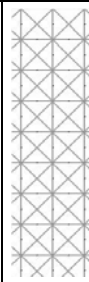
PICTURE 246: BH-1 (Depth-13.00 to 14.00m)

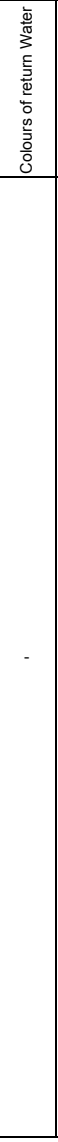


PICTURE 247: BH-1 (Depth-14.00 to 15.00m)

***Bore Log & Core Samples
Photographs
LS-D18***

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.  2nd 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)		331+095			Sliding Zone			LS_D18			No. of Core (C)				11						
Borehole No.		1			Commencement Date			15.07.2017			No. of SP Test (S)				5						
Ground Elevation (m)		286.5340			Completion Date			17.07.2017			No. of Undisturbed (U)				0						
Method of Boring		Rotary Drilling			Standing Water Level			Not Found			No. of Disturbed (D)				2 (D - 1 & S - 1)						
Borehole Diameter		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 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										
Filled Up Materials (Brownish / Greyish, Clayey Silt with good % of claystone pieces.) 0.00 m to 1.00 m		286.5340			286.0340	-	D	-	-	-	-	-	-	-	-	-	-	-	-	-	
Light Brownish / Greyish, Fine grained highly fracture Poor Shale & Sandstone. 1.00 m to 6.00 m		285.5340		285.5340	285.5040	-	S	3cm / 63B	Re	Re	>100	97	-	-	-	100% Water Loss	Measurement not possible due to heavy broken small pieces				
		285.5340		284.5340	1.00	R1	-	-	-	-	-	20	20	NIL							
		284.5340		284.5340	-	S	Hammar Rebound			>100	-	-	-	-							
		284.5340		283.5340	1.00	R2	-	-	-	-	-	17	17	NIL							
		283.5340		282.5340	1.00	R3	-	-	-	-	-	12	12	NIL							
		282.5340		281.5340	1.00	R4	-	-	-	-	-	20	20	NIL							
		281.5340		280.5340	1.00	R5	-	-	-	-	-	18	18	NIL							
Compacted, Yellowish / Brownish, Clayey Silt with good % of claystone mixed. (CL) 6.00 m to 7.00 m		280.5340		280.5340		1.00	R6	-	-	-	-	-	NIL	NIL	NIL	100% Water Loss	Measurement not possible due to heavy broken small pieces				
	279.5340	279.4740		-	S	6cm / 45B	Re	Re	>100	64	-	-	-								
Greyish / Brownish, Fine grained highly fracture Very Poor Sandy Shale. 7.00 m to 11.00 m		279.5340		279.5340		1.00	R7	-	-	-	-	-	16	16	NIL			100% Water Loss	Measurement not possible due to heavy broken small pieces		
				278.5340	1.00	R8	-	-	-	-	-	18	18	NIL							
				277.5340	1.00	R9	-	-	-	-	-	18	18	NIL							
				276.5340	1.00	R10	-	-	-	-	-	20	20	NIL							
				275.5340	1.00	R11	-	-	-	-	-	NIL	NIL	NIL							
Compacted, Greyish / Brownish, Sandy Clayey Silt with good % of claystone mixed. (CL) 11.00 m to 13.00 m		275.5340		275.5340	274.5340	-	S	4cm / 38B	Re	Re	>100	55	-	-	-	100% Water Loss	Measurement not possible due to heavy broken small pieces				
				274.4940	1.00	R12	-	-	-	-	-	NIL	NIL	NIL							
				273.5340	-	S	7cm / 50B	Re	Re	>100	54	-	-	-							
Dark Grey, Highly fracture Poor Shale. 13.00 m to 15.00 m		273.5340		273.5340		1.00	R13	-	-	-	-	-	16	16	NIL			100% Water Loss	Measurement not possible due to heavy broken small pieces		
				272.5340	1.00	R14	-	-	-	-	-	20	20	NIL							
		271.5340		271.5340																	
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																					
Slip Plane - 8 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)	331+095		Sliding Zone		LS_D18		No. of Core (C)		16									
Borehole No.	2		Commencement Date		22.07.2017		No. of SP Test (S)		5									
Ground Elevation (m)	319.4620		Completion Date		30.07.2017		No. of Undisturbed (U)		0									
Method of Boring	Rotary Drilling		Standing Water Level		Not Found		No. of Disturbed (D)		4 (D - 0 & S - 4)									
Borehole Diameter	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 (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, Yellowish, Poor Shaley Sandstone. 0.00 m to 3.00 m	319.4620	316.4620		319.4620	318.4620	1.00	R1	-	-	-	-	-	15	15	NIL	-	100% Water Loss	Measurement not possible due to heavy broken small pieces
	318.4620			317.4620	1.00	R2	-	-	-	-	-	14	14	NIL				
	317.4620			316.4620	1.00	R3	-	-	-	-	-	17	17	NIL				
Dense, Grey, Medium to fine grained Stone Dust. (SC-SM) 3.00 m to 7.00 m	316.4620	312.4620		316.4620	316.0120	-	S	10	15	19	34	31	-	-	-			
	315.4620			315.0120	-	S	13	18	21	39	33	-	-	-				
	314.4620			314.0120	-	S	14	19	22	41	33	-	-	-				
	313.4620			313.0120	-	S	14	18	23	41	32	-	-	-				
Grey, Fine grained moderately Strong Sandy Shale. 7.00 m to 14.00 m	312.4620	305.4620		312.4620	312.4420	-	S	2cm / 52B	Re	Re	>100	64	-	-	-			
	312.4620			311.4620	1.00	R4	-	-	-	-	-	40	40	NIL				
	311.4620			310.4620	1.00	R5	-	-	-	-	-	31	31	NIL				
	310.4620			309.4620	1.00	R6	-	-	-	-	-	78	78	33				
	309.4620			308.4620	1.00	R7	-	-	-	-	-	76	76	15				
	308.4620			307.4620	1.00	R8	-	-	-	-	-	33	33	10				
	307.4620			306.4620	1.00	R9	-	-	-	-	-	75	75	52				
	306.4620			305.4620	1.00	R10	-	-	-	-	-	76	76	71				
Grey, Fine grained highly fracture moderately Strong Sandy Shale. 14.00 m to 20.00 m	305.4620	299.4620		305.4620	304.4620	1.00	R11	-	-	-	-	-	26	26	NIL			
	304.4620			303.4620	1.00	R12	-	-	-	-	-	27	27	NIL				
	303.4620			302.4620	1.00	R13	-	-	-	-	-	40	40	NIL				
	302.4620			301.4620	1.00	R14	-	-	-	-	-	29	29	NIL				
	301.4620			300.4620	1.00	R15	-	-	-	-	-	41	41	26				
	300.4620			299.4620	1.00	R16	-	-	-	-	-	29	29	NIL				
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been 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.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)	331+095		Sliding Zone		LS_D18		No. of Core (C)		20											
Borehole No.	3		Commencement Date		03.07.2017		No. of SP Test (S)		2											
Ground Elevation (m)	347.1950		Completion Date		08.07.2017		No. of Undisturbed (U)		0											
Method of Boring	Rotary Drilling		Standing Water Level		Not Found M BELOW G.L.		No. of Disturbed (D)		0											
Borehole Diameter	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										
Highly Weathered, Brownish / Grey, Very Poor Shaley Sandstone. 0.00 m to 4.00 m	347.1950	343.1950		347.1950	346.1950	1.00	R1	-	-	-	-	-	19	19	NIL		100% Water Loss	Measurement not possible due to heavy broken small pieces		
				346.1950	1.00	R2	-	-	-	-	-	18	18	NIL						
				345.1950	1.00	R3	-	-	-	-	-	15	15	NIL						
				344.1950	1.00	R4	-	-	-	-	-	20	20	NIL						
Greyish / Brownish, highly fracture Poor Sandy Shale. 4.00 m to 20.00 m	343.1950	327.1950		343.1950	342.1950	1.00	R5	-	-	-	-	-	22	22	NIL				34°	Measurement not possible due to heavy broken small pieces
				342.1950	1.00	R6	-	-	-	-	-	20	20	NIL						
				341.1950	1.00	R7	-	-	-	-	-	18	18	NIL						
				340.1950	1.00	R8	-	-	-	-	-	20	20	NIL						
				339.1950	1.00	R9	-	-	-	-	-	16	16	NIL						
				338.1950	1.00	R10	-	-	-	-	-	15	15	NIL						
				337.1950	1.00	R11	-	-	-	-	-	14	14	NIL						
				336.1950	1.00	R12	-	-	-	-	-	18	18	NIL						
				335.1950	1.00	R13	-	-	-	-	-	16	16	NIL						
				334.1950	1.00	R14	-	-	-	-	-	20	20	NIL						
				333.1950	1.00	R15	-	-	-	-	-	22	22	NIL						
				332.1950	1.00	R16	-	-	-	-	-	20	20	NIL						
				331.1950	1.00	R17	-	-	-	-	-	15	15	NIL						
				330.1950	1.00	R18	-	-	-	-	-	28	28	NIL						
				329.1950	1.00	R19	-	-	-	-	-	30	30	NIL						
				328.1950	1.00	R20	-	-	-	-	-	28	28	NIL						
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																				
Slip Plane - 10 m																				

➤ LS- D18 (BH-1,BH-2 & BH-3) & CHAINAGE(km)- 331+095



PICTURE 248: BH-1 (Depth-1.00 to 2.00m)



PICTURE 249: BH-1 (Depth-2.00 to 3.00m)



PICTURE 250: BH-1 (Depth-3.00 to 4.00m)



PICTURE 251: BH-1 (Depth-5.00 to 6.00m)



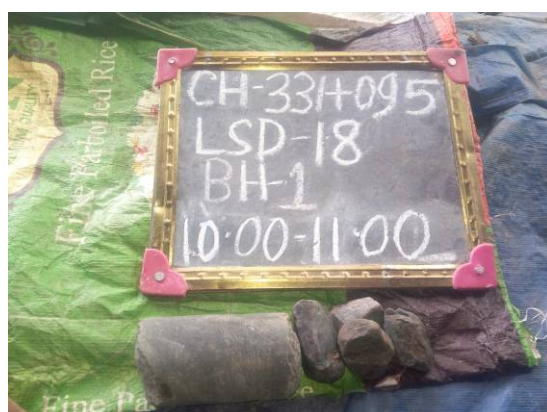
PICTURE 252: BH-1 (Depth-7.00 to 8.00m)



PICTURE 253: BH-1 (Depth-8.00 to 9.00m)



PICTURE 254: BH-1 (Depth-9.00 to 10.00m)



PICTURE 255: BH-1 (Depth-10.00 to 11.00m)



PICTURE 256: BH-1 (Depth-13.00 to 14.00m)



PICTURE 257: BH-1 (Depth-14.00 to 15.00m)



PICTURE 258: BH-2 (Depth-0.00 to 1.00m)



PICTURE 259: BH-2 (Depth-1.00 to 2.00m)



PICTURE 260: BH-1 (Depth-2.00 to 3.00m)



PICTURE 261: BH-2 (Depth-7.00 to 8.00m)



PICTURE 262: BH-2 (Depth-8.00 to 9.00m)



PICTURE 263: BH-2 (Depth-9.00 to 10.00m)



PICTURE 264: BH-2 (Depth-10.00 to 11.00m)



PICTURE 265: BH-2 (Depth-11.00 to 12.00m)



PICTURE 266: BH-2 (Depth-2.00 to 3.00m)



PICTURE 267: BH-2 (Depth-12.00 to 13.00m)



PICTURE 268: BH-2 (Depth-13.00 to 14.00m)



PICTURE 269: BH-2 (Depth-14.00 to 15.00m)



PICTURE 270: BH-2 (Depth-15.00 to 16.00m)



PICTURE 271: BH-2 (Depth-16.00 to 17.00m)



PICTURE 272: BH-2 (Depth-17.00 to 18.00m)



PICTURE 273: BH-2 (Depth-18.00 to 19.00m)



PICTURE 274: BH-2 (Depth-19.00 to 20.00m)



PICTURE 275: BH-3 (Depth-0.00 to 1.00m)



PICTURE 276: BH-3 (Depth-1.00 to 2.00m)



PICTURE 277: BH-3 (Depth-2.00 to 3.00m)



PICTURE 278: BH-3 (Depth-3.00 to 4.00m)



PICTURE 279: BH-3 (Depth-4.00 to 5.00m)



PICTURE 280: BH-3 (Depth-5.00 to 6.00m)



PICTURE 281: BH-3 (Depth-6.00 to 7.00m)



PICTURE 282: BH-3 (Depth-7.00 to 8.00m)



PICTURE 283: BH-3 (Depth-8.00 to 9.00m)



PICTURE 284: BH-3 (Depth-9.00 to 10.00m)



PICTURE 285: BH-3 (Depth-10.00 to 11.00m)



PICTURE 286: BH-3 (Depth-11.00 to 12.00m)



PICTURE 287: BH-3 (Depth-13.00 to 14.00m)



PICTURE 288: BH-3 (Depth-14.00 to 15.00m)



PICTURE 289: BH-3 (Depth-15.00 to 16.00m)



PICTURE 290: BH-3 (Depth-16.00 to 17.00m)



PICTURE 291: BH-3 (Depth-17.00 to 18.00m)



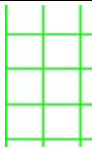
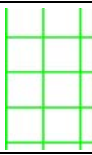
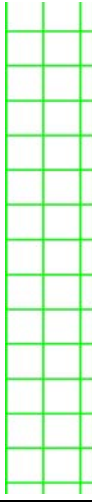
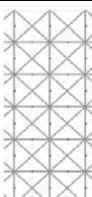
PICTURE 292: BH-1 (Depth-18.00 to 19.00m)



PICTURE 293: BH-3 (Depth-19.00 to 20.00m)

***Bore Log & Core Samples
Photographs
LS-D22***



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.												
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						2 nd Floor, NATARAJ BHAWAN, Haripal, Hooghly, 712405. (WB) www.bpci.com												
BORE / CORE LOG DATA SHEET																				
Job Code - P160																				
Chainage (km)		335+100		Sliding Zone		LS_D22		No. of Core (C)				3								
Borehole No.		1		Commencement Date		01.08.2017		No. of SP Test (S)				9								
Ground Elevation (m)		423.0923		Completion Date		02.08.2017		No. of Undisturbed (U)				0								
Method of Boring		Rotary Drilling		Standing Water Level		Not Found		No. of Disturbed (D)				8 (D - 1 & S - 7)								
Borehole Diameter		150 & 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 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, Reddish, Clayey Silt with little broken siltstone pieces. (CL) 0.00 m to 3.00 m		423.0923	420.0923		422.5923		-	D	-	-	-	-	-	-	-	-	-	-	-	
					422.0923	421.6423	-	S	3	4	6	10	-	-	-	-	-	-		
					421.0923	420.6423	-	S	4	6	10	16	-	-	-	-	-	-		
Hard, Reddish, Clayey Silt with little broken siltstone pieces. (CL) 3.00 m to 6.00 m		420.0923	417.0923		420.0923		-	U*	-	-	-	-	-	-	-	-	-	-		
					419.6423	-	S	8	12	22	34	-	-	-	-	-	-			
					418.0923	417.6423	-	S	15	21	33	54	-	-	-	-	-	-		
Compacted, Brownish / Greyish, Clayey Silt with little sand / stone dust mixed. (CL) 6.00 m to 11.00 m		417.0923	412.0923		417.0923		-	S	10cm / 49B	Re	Re	>100	67	-	-	-	-	-		
					416.9923	1.00	R1	-	-	-	-	-	NIL	NIL	NIL	-	Full Water Loss	Measurement not possible due to heavy broken small pieces		
					416.0923	-	S	44	3cm / 30B	Re	>100	64	-	-	-					
					415.9123	1.00	R2	-	-	-	-	-	NIL	NIL	NIL					
					415.0923	-	S	56	6cm / 40B	Re	>100	62	-	-	-					
					414.8823	1.00	R3	-	-	-	-	-	NIL	NIL	NIL					
					414.0923	-	S	4cm / 50B	Re	Re	>100	60	-	-	-					
					414.0523	1.00	R4	-	-	-	-	-	NIL	NIL	NIL					
					413.0923	1.00	R5	-	-	-	-	-	NIL	NIL	NIL					
					412.0923	-	S	2cm / 35B	Re	Re	>100	57	-	-	-					
	412.0723																			
Brownish / Greyish, highly fracture Very poor Shaley Sandstone / Sandy Shale. 11.00 m to 15.00 m		412.0923	408.0923		412.0923		1.00	R6	-	-	-	-	-	18	18	NIL	-	Full Water Loss	Measurement not possible due to heavy broken small pieces	
					411.0923	1.00	R7	-	-	-	-	-	16	16	NIL					
					410.0923	1.00	R8	-	-	-	-	-	NIL	NIL	NIL					
					409.0923	1.00	R9	-	-	-	-	-	15	15	NIL					
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																				
Slip Plane - 10 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.pl.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)	335+100		Sliding Zone		LS_D22		No. of Core (C)		13										
Borehole No.	2		Commencement Date		04.08.2017		No. of SP Test (S)		4										
Ground Elevation (m)	434.7912		Completion Date		07.08.2017		No. of Undisturbed (U)		0										
Method of Boring	Rotary Drilling		Standing Water Level		Not Found		No. of Disturbed (D)		4 (D - 1 & S - 1)										
Borehole Diameter	150 & 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 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, Reddish / Brownish, Clayey Silt with some broken siltstone / claystone mixed. (CL) 0.00 m to 2.00 m	434.7912	432.7912		434.2912	-	D	-	-	-	-	-	-	-	-	-	-	-	-	
				433.3412	-	S	10	12	15	27	-	-	-	-	-	-	-	-	-
Yellowish / Brownish, Fine grained highly fracture Poor Sandstone. 2.00 m to 15.00 m	432.7912	419.7912		432.7912	-	S	2cm / 40B	Re	Re	>100	-	-	-	-	-	-	-	-	
				432.7712	-	S	2cm / 40B	Re	Re	>100	-	-	-	-	-	-	-	-	-
				431.7912	1.00	R1	-	-	-	-	-	17	17	NIL	-	100 % Water loss	Measurement not possible due to heavy broken small pieces		
				431.7512	-	S	4cm / 52B	Re	Re	>100	-	-	-	-					
				430.7912	1.00	R2	-	-	-	-	-	18	18	NIL					
				430.7912	-	S	Hammer Rebound			>100	-	-	-	-					
				429.7912	1.00	R3	-	-	-	-	-	15	15	NIL					
				428.7912	1.00	R4	-	-	-	-	-	13	13	NIL					
				427.7912	1.00	R5	-	-	-	-	-	17	17	NIL					
				426.7912	1.00	R6	-	-	-	-	-	20	20	NIL					
				425.7912	1.00	R7	-	-	-	-	-	27	27	NIL					
				424.7912	1.00	R8	-	-	-	-	-	45	45	23					
				423.7912	1.00	R9	-	-	-	-	-	21	21	11					
				422.7912	1.00	R10	-	-	-	-	-	20	20	NIL					
				421.7912	1.00	R11	-	-	-	-	-	22	22	NIL					
				420.7912	1.00	R12	-	-	-	-	-	24	24	NIL					
	419.7912	1.00	R13	-	-	-	-	-	26	26	NIL								
Re: Refusal R : Run RQD : Rock Quality Designation TCR : Total Core Recovery U* : UDS Could not been Collected (Slipped)																			
Slip Plane - 8 m.																			

➤ LS- D22 (BH-1 & BH-2) & CHAINAGE(km)- 335+100



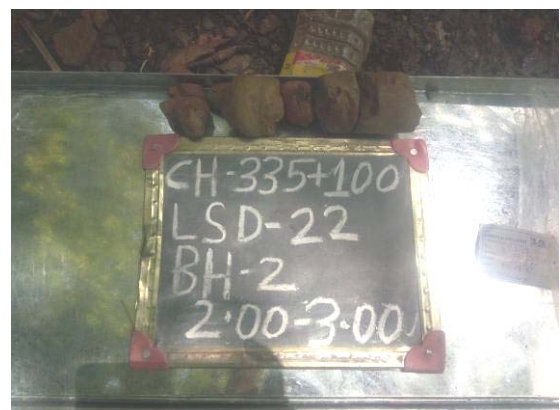
PICTURE 294: BH-1 (Depth-11.00 to 12.00m)



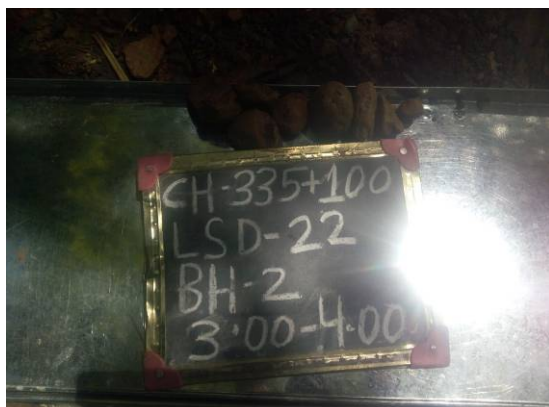
PICTURE 295: BH-1 (Depth-12.00 to 13.00m)



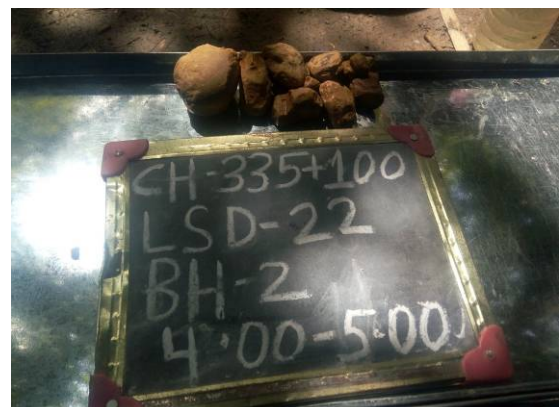
PICTURE 296: BH-1 (Depth-14.00 to 15.00m)



PICTURE 297: BH-2 (Depth-2.00 to 3.00m)



PICTURE 298: BH-2 (Depth-3.00 to 4.00m)



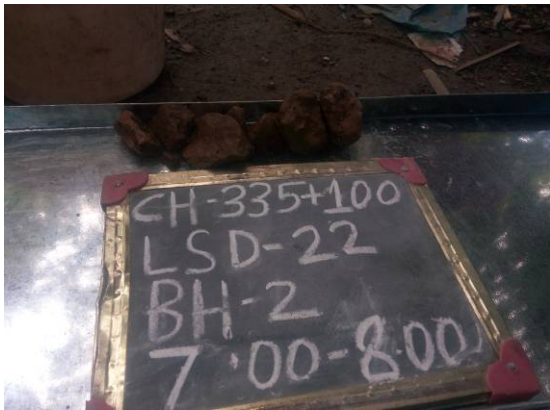
PICTURE 299: BH-2 (Depth-4.00 to 5.00m)



PICTURE 300: BH-2 (Depth-5.00 to 6.00m)



PICTURE 301: BH-2 (Depth-6.00 to 7.00m)



PICTURE 302: BH-2 (Depth-7.00 to 8.00m)



PICTURE 303: BH-2 (Depth-8.00 to 9.00m)



PICTURE 304: BH-2 (Depth-9.00 to 10.00m)



PICTURE 305: BH-2 (Depth-10.00 to 11.00m)



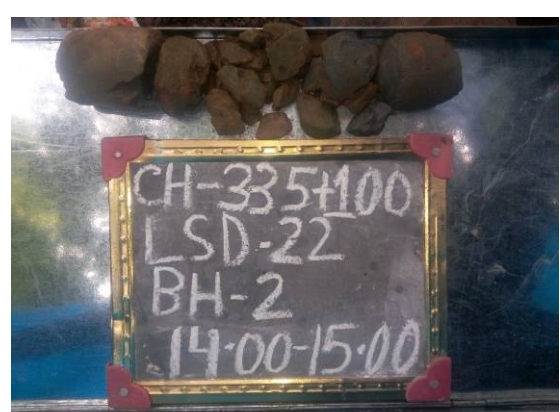
PICTURE 306: BH-2 (Depth-11.00 to 12.00m)



PICTURE 307: BH-2 (Depth-12.00 to 13.00m)



PICTURE 308: BH-2 (Depth-13.00 to 14.00m)



PICTURE 309: BH-2 (Depth-14.00 to 15.00m)