GEO TECHNICAL INVESTIGATION REPORT

REPORT NO.: CTL/MECH/251031007
DATE OF REPORT: 08.11.2025

REPORT SUBMITTED TO

The Executive Engineer
ADB, PWD, Rudrapur

Letter Ref. No.: CTR, Dated: 31.10.2025

Name of Work: Proposed construction of 75m span single lane Steel truss pedestrian bridge at gram panchayat- chauramehta to gurudwara, dist- champawat, Uttarakhand.

SUBMITTED BY
CIVIL TECH LABORATORY

Khasra No.-48, Vill-Belda Salhapur, Near RTO office, Roorkee,
Dist-Haridwar, Uttarakhand-247667
Email: civiltechlabuk@gmail.com, Mob: +91-8076576367, 9911860667

An ISO 9001:2015 & ISO 14001:2015 Certified Laboratory

CIVIL TECH LABORATORY

Kh. No. 48, Vill.- Belda, Near RTO Office, Roorkee, Distt.- Haridwar, U.K.- 247667
+91-9911860667, 8076576367 civiltechlabuk@gmail.com
An ISO 9001 : 2015 & ISO 14001 : 2015 Certified Laboratary

ACKNOWLEDGEMENT

PROJECT NAME: - Proposed Construction of 75m Span Single Lane Steel Truss Pedestrian Bridge at Gram Panchayat-Chauramehta to Gurudwara, Dist- Champawat, Uttarakhand.

We are thankful for providing us the opportunity to prepare and submit the Geotech Investigation Report and we appreciate the co-operation & assistance provided by the client. Looking forward to provide, many such reliable & timely services in future.

Authorised Signatory

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1.0 INTRODUCTION:

1.1 This report covers the result of field & laboratory test conducted at the proposed site for "**Construction of 75m Span Single Lane Steel Truss Pedestrian Bridge at Gram Panchayat- Chauramehta to Gurudwara, Dist- Champawat, Uttarakhand".** These investigations have been made to assess the nature of soil strata and to find out the safe allowable pressure of the soil required for the safe and economical design and execution of engineering works.

1.2 The boring points were decided by the Engineer-in-charge of the site i.e **two boreholes (BH-1 & BH-2)** upto a depth of 20.00m each. It is informed by the client that the boring was conducted in accordance to IS: 1892 – 2021. Disturbed and Undisturbed Soil Samples were collected along with conducting the standard penetration test at an interval of 1.5 m or change of strata which ever met earlier starting from boring points up to the termination of bore holes.

2.0 REFERENCES:

Sl. No.	Relevant IS Codes/Specifications	Description
1.	IS: 1892 :2021	For sub-surface investigation of soil for foundation
2.	IS: 2131 :1981	For Standard Penetration Test
3.	IS: 2132 :1986	For sampling of Undisturbed and Disturbed Samples
4.	IS: 2720 & their Parts	For all Laboratory Tests on collected Soil Samples

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5.	IS:1498 : 1970	**For Classification & Identification Of Soils**
6.	IS 8764:1998	**Method for determination of point load strength index of rocks**
7.	IS 12070:1987	**Design and construction of shallow foundations on rocks**
8.	IS: 1904 :2021	**For Permissible Maximum Settlement**
9.	IS 1893 (P-1): 2016	**Criteria for Earthquake Resistant Design of Structures**

3.0 FIELD INVESTIGATION:

3.1 Nominal Nx size bore have been done at the proposed site. During boring visual observation about the strata in different layers have been recorded. Undisturbed and disturbed soil samples have been recovered from bore holes in the following way.

3.1.1 UNDISTURBED SOIL SAMPLES:

These samples have been collected by the open drive sampler. After recovery of soil samples from the bore holes, the ends of the tube have been cleaned, waxed and marked properly. The depth of undisturbed soil samples have been indicated on the Laboratory test result sheets. The soil sampling have been done as per IS: 1892 – 2021.

3.1.2 DISTURBED SOIL SAMPLES:

The depth of the disturbed soil samples have been indicated on the laboratory test results and were collected in polythene bags & properly labeled.

3.2 STANDARD PENETRATION TEST:

The standard penetration test have been conducted in the bore holes at an interval of 1.5 meter as per latest IS: 2131 – 1981 i.e. "Method for standard penetration test for soils", as informed by the client.

In this, the standard split spoon sampler is driven into the soil at required depth, with the help of drive weight of 63.5 kg falling freely under gravity through a vertical height of 75 cm. The number of blows for every 15 cm is recorded. The number of blows for the first 15 cm is neglected due to local disturbance and as a seating drive, and the number of blows for next 30 cm are recorded as penetration blows 'N' of the soil at the depth. The samples were properly sealed, labeled, recorded and carefully transported to laboratory for testing. The results of the standard penetration test have been indicated on the laboratory test result sheet as well as on the bore log chart.

3.3 ROCK CORES:

The core drilling in rock strata was done with diamond driller bit and the core recovery was measured to determine the Rock Quality Designation (RQD) for every core run at the time of boring.

The Rock Quality Designation (RQD) is defined as the ratio of cumulative length of core pieces greater than 100 mm to the total length of the core run in percentage.

4.0 LABORATORY WORK

4.1 UNDISTURBED SOIL SAMPLES:

The undisturbed soil samples collected from the bore holes have been tested for the following to determine the Engineering properties of soil as per requirement.

a) **Natural water content** is determined by oven drying method as per IS 2720(Part II)-1973. The results are reported in results sheets attached.

b) **Dry and Bulk density** of soil strata is obtained using Shelby tubes in accordance with IS 2720 (Part XXIX)-1975. The results are reported in results sheets attached.

c) **Particle Size Analysis test** by hydrometer methods performed in accordance with IS 2720 (Part IV) - 1985 on the part of soil samples obtained after the sieve analysis. The results are reported in results sheets attached.

d) **Atterberg Limit's test** are performed in accordance with IS 2720 (Part V) – 1985 and results are reported in results sheets attached.

e) **Specific Gravity tests** are performed in accordance with IS 2720 (Part III Section1) -1980 and the results are reported in results sheets attached.

f) **Tri-axial Compression Test** under Unconsolidated Un-drained (UU) condition as per IS: 2720 (Part-XI)-1993 R.A 2016 are performed on the undisturbed soil samples obtained during the field investigation. The results are reported in results sheets attached.

g) **Direct Shear Test** is performed as per IS 2720 (Part XIII)-1986 R.A 2016 on the undisturbed soil samples obtained during the field investigation. The results and the density of samples are reported in results sheets attached.

h) **Consolidation Test** is performed as per IS 2720 (Part XV)-1986, on the undisturbed soil samples obtained during the field investigation. The results in the form of compression index (Cc) are reported in results sheets attached.

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i) **Determination of Point Load index of Rock Core: -** The Point Load test was performed in laboratory as per IS 8764:1998, the rock core samples were used for point load test and hydraulic point load tester machine were used for the point load index.

j) **Determination of Uniaxial Compressive Strength: -** With the help of point load index the Uniaxial Compressive Strength can be determine and which is used for safe bearing capacity of Rocks.

4.2 DISTURBED SOIL SAMPLES:

These samples have been tested for the following if required:

a) Sieve Analysis

b) Atterberg's Limit

All the laboratory tests have been carried out as per relevant I.S. codes & have been tabulated at laboratory result sheet.

5.0 WATER TABLE:

Water table was observed during boring operation at about of 0.50m depth below existing ground level in BH-01 and at about of 0.20m depth below existing ground level in BH-02, at the time of investigation.

6.0 SOIL CLASSIFICATION:

Soil classification has been done with the help of the soil properties obtained by laboratory test as per I.S. 1498 "Method of classification of soil for general engineering purpose".

7.0 GENERAL NATURE OF SOIL STRATA:

The general nature of soil strata comprises of Soft Rock and weathered rock, at the time of sub soil exploration as per I.S. specification. Filled-up soil was not observed at the time of investigation.

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8.0 LIQUEFACTION

"Liquefaction is a state primarily in ***saturated cohesionless soils*** wherein the effective shear strength is reduced to negligible value for all the engineering purposes when the pore pressure approaches total confining pressure during earthquake shaking. In this condition soil tends to behave like a fluid mass".

The soil under consideration is of seismic Zone IV but having only rocks throughout the depth, therefore the liquefaction analysis is not applicable.

9.0 ESTIMATION OF SAFE BEARING CAPACITY ON ROCKS:

Foundations bearing on rock has been done by following methods.

i) **BASED ON PRESUMPTIVE VALUES:** The classification of rock mass for assessing safe bearing pressure as per IS: 12070-1987 clause 5.2 Table 2 is as follows:

Material	$q_{net\ safe}$, T/m^2
Massive crystalline bedrock including Granite, Diorite, Gneiss, trap rock	1000
Foliated rocks such as Schists or Slate in sound condition	400
Bedded Limestone in sound condition	400
Sedimentary rock, including hard Shales and Sandstones	250
Soft or broken bed rock (excluding shale), and soft Limestone	100
Soft Shale	40

Correction factors are to be applied on the above presumptive values for saturation and orientation of joints as per IS: 12070-1987 Clause 9.0

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ii) **ROCK MASS RATING (RMR)** : RMR is used to give net allowable pressure as per below mentioned table. This will ensure settlement of raft foundation up to 6 m thickness to be less than 12 mm. Depending upon the quality of rock as assessed from the RMR values, the net safe allowable bearing pressures are specified in IS: 12070 -1987 Clause 5.3.1 Table 3.

Classification No.	I	II	III	IV	V
Description of rock	Very Good	Good	Fair	Poor	Very Poor
RMR VALUE	100-81	80-61	60-41	40-21	20-0
$q_{net\ safe}$ (T/m^2)	600-448	440-288	280-141	135-48	45-30

iii) **POINT LOAD INDEX TEST** : The point load Index (I_s) is determined using IS 8764: 1998 and shall be calculated from the following formula:

$$I_s(50) = \frac{P}{\sqrt{D^{1.5} D^*}}, \text{MN/m}^2$$

$I_s(50)$ = Point Load Index for standard core size in MN/m^2,(kgf/cm^2)

P = Failure Load in N (kgf)

D = Core Diameter in mm

D* =Standard core diameter = 50mm

The mean value of strength index shall be determined by systematically deleting two highest and lowest values from the ten or more valid tests and calculating the mean of the remaining values. If significantly fewer specimens are tested only the highest and lowest values are to be deleted and the mean calculated from those remaining.

Uniaxial Compressive Strength Test :

The uniaxial compressive strength of rock may be predicted from the following correlation based on Point Load Index test :

$$q_c = 22\, I_s(50)$$

Where,

q_c = Uniaxial Compressive Strength in MN/m^2,(kgf/cm^2)

$I_s(50)$ = Corrected Point Load Strength

Further Safe bearing capacity on rock has been estimated as per IS 12070-1987, based on core strength value method as per clause 6.2. All correction factors have also been incorporated as per clause 9.2.

9.0 CORRECTION FACTORS :

For getting the allowable bearing pressure the safe bearing pressure obtained from Point Load Index test should be multiplied with the correction factor(s) given below according to the geological conditions:

Allowances should be made for submerged conditions, cavities and slopes as given below:

9.1 Submerged Condition Under Water Table:

a)	Rock with discontinuous joints with opening less than 1 mm wide	0.75
b)	Rock with continuous joints with opening 1 to 5 mm wide and filled with clay;	0.75- 0.50
c)	Limestone/Dolomite deposit with major cavities filled with soil	0.67- 0.50

9.2 Cavities:

Major cavities inside limestone = 0.50
(core recovery less than 70 percent)

9.3 Slope:

a)	Fair orientation of continuous joints in the slope	1.00 - 0.50
b)	Unfavourable orientation of continuous joints in slope	0.50- 0.33

RECOMMENDATION AND CONCLUSION

1. **The strata in the effective zone below footing level comprises of Soft Rock only.**
2. **The water table was observed during boring operation at about of 0.50m depth below existing ground level in BH-01 and at about of 0.20m depth below existing ground level in BH-02.**
3. **The value of gross safe bearing pressure below existing ground level is tabulated below:**

RECOMMENDATION -FOR ROCK SAMPLES

Borehole	Rock Layer depth	Core	Point Load Strength Index, N/mm2	Corrected Gross Safe bearing pressure, qsc (T/m2)
BH-01	0.00-1.50	CR- 6.67%, RQD- 0%	0.52	30.03
	1.50-3.00	CR- 18.67%, RQD- 18.67%	0.85	49.09
	3.00-4.50	CR- 30.67%, RQD- 30.67%	0.97	56.02
	4.50-6.00	CR- 10.67%, RQD- 0%	0.92	53.13
	6.00-7.50	CR- 8.67%, RQD- 0%	0.89	51.40
	7.50-9.00	CR- 8.67%, RQD- 0%	0.95	54.86
BH-02	0.00-1.50	CR- 14%, RQD- 0%	0.65	37.54
	1.50-3.00	CR- 8%, RQD- 0%	0.61	35.23
	3.00-4.50	CR- 7.33%, RQD- 0%	0.72	41.58
	4.50-6.00	CR- 8%, RQD- 0%	0.74	42.74
	6.00-7.50	CR- 13.33%, RQD- 8.67%	0.86	49.67
	7.50-9.00	CR- 14.67%, RQD- 7.33%	0.91	52.55

Note:- 1. The above recommendations are based on the field investigation data results and the laboratory tests results of the samples collected from the boreholes and our experience in this regard. If the actual sub-soil conditions during excavation for the foundations differ from that has been reported, a reference should be made to us for suggestions. The recommendations should be taken as guidelines for the designer and designer should take into consideration all the factor required as per codes.

CIVIL TECH LABORATORY

Kh. No. 48, Vill.- Belda, Near RTO Office, Roorkee, Distt.- Haridwar, U.K.- 247667
+91-9911860667, 8076576367 civiltechlabuk@gmail.com
GSTIN NO.: 05AARFC6759M1ZO, PAN No.: AARFC6759M
An ISO 9001 : 2015 & ISO 14001 : 2015 Certified Laboratary

ANNEXURE- I

BORE LOG & LABORATORY TEST RESULTS

Project : Geotechnical Investigation Work for Proposed Construction of 75m Span Single Lane Steel Truss Pedestrian Bridge at Gram Panchayat- Chauramehta to Gurudwara, Dist- Champawat, Uttarakhand

Location:	Chauramehta, Ritha Sahib			Date of Starting :	09.10.2025	Date of Completion : 13.10.2025
Bore Hole No : BH-01	Depth of Bore Hole : 20.00 m	Dia. of Bore Hole : Nx		Depth of Water Table :	0.50 m	

S. No.	Depth of Bore Hole	Nature of soil Sample	% Passing on IS Sieve				Atterberg's Limit			Particle Size Analysis				S.P.T. Value	Corrected SPT Value due to Overburden Pressure	Corrected SPT Value due to Dilatancy	IS Group		Natural Moisture Content %	Wet Density gm/cc	Dry Density gm/cc	Specific Gravity 'G'	Void ratio 'e'	Shear Parameters		Compression Index Cc
			4.75 mm	2.00 mm	0.425mm	0.075 mm	LL %	PL %	PI %	Gravel %	Sand %	Silt %	Clay %				Symbol	Hatching							Cohesion 'C' in Kg/cm²	Angle of Internal Friction	
1	0.00-1.50	S.P.T./Core	CR- 6.67%, RQD- 0%											Refusal			Soft Rock		-	-	-	-	-	-	-	-
2	1.50-3.00	Core	CR- 18.67%, RQD- 18.67%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
3	3.00-4.50	Core	CR- 30.67%, RQD- 30.67%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
4	4.50-6.00	Core	CR- 10.67%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
5	6.00-7.50	Core	CR- 8.67%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
6	7.50-9.00	Core	CR- 8.67%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
7	9.00-10.50	Core	CR- 10%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
8	10.50-12.00	Core	CR- 15.33%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
9	12.00-13.50	Core	CR- 14%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
10	13.50-15.00	Core	CR- 10.67%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
11	15.00-16.50	Core	CR- 15.33%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
12	16.50-18.00	Core	CR- 15.33%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
13	18.00-20.00	Core	CR- 18.5%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-

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ANNEXURE- I

BORE LOG & LABORATORY TEST RESULTS

Project : Geotechnical Investigation Work for Proposed Construction of 75m Span Single Lane Steel Truss Pedestrian Bridge at Gram Panchayat- Chauramehta to Gurudwara, Dist- Champawat, Uttarakhand

Location:	Chauramehta, Ritha Sahib			**Date of Starting :**	14.10.2025	**Date of Completion :** 22.10.2025
Bore Hole No : BH-02	**Depth of Bore Hole : 20.00 m**	**Dia. of Bore Hole : Nx**		**Depth of Water Table :**	0.20 m	

S. No.	Depth of Bore Hole	Nature of soil Sample	% Passing on IS Sieve				Atterberg's Limit			Particle Size Analysis				S.P.T. Value	Corrected SPT Value due to Overburden Pressure	Corrected SPT Value due to Dilatancy	IS Group		Natural Moisture Content %	Wet Density gm/cc	Dry Density gm/cc	Specific Gravity 'G'	Void ratio 'e'	Shear Parameters		Compression Index Cc
			4.75 mm	2.00 mm	0.425mm	0.075 mm	LL %	PL %	PI %	Gravel %	Sand %	Silt %	Clay %				Symbol	Hatching						Cohesion 'C' in Kg/cm²	Angle of Internal Friction	
1	0.00-1.50	S.P.T./Core	CR- 14%, RQD- 0%											Refusal			Soft Rock		-	-	-	-	-	-	-	-
2	1.50-3.00	Core	CR- 8%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
3	3.00-4.50	Core	CR- 7.33%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
4	4.50-6.00	Core	CR- 8%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
5	6.00-7.50	Core	CR- 13.33%, RQD- 8.67%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
6	7.50-9.00	Core	CR- 14.67%, RQD- 7.33%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
7	9.00-10.50	Core	CR- 20%, RQD- 18%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
8	10.50-12.00	Core	CR- 8%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
9	12.00-13.50	Core	CR- 9.33%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
10	13.50-15.00	Core	CR- 12%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
11	15.00-16.50	Core	CR- 16.67%, RQD- 16.67%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
12	16.50-18.00	Core	CR- 9.33%, RQD- 0%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-
13	18.00-20.00	Core	CR- 16%, RQD- 9.5%											-	-	-	Soft Rock		-	-	-	-	-	-	-	-

ANNEXURE- II

FIELD BORELOG				
Project : Geotechnical Investigation Work for Proposed Construction of 75m Span Single Lane Steel Truss Pedestrian Bridge at Gram Panchayat- Chauramehta to Gurudwara, Dist- Champawat, Uttarakhand				
Bore Hole No : BH-01		**Depth of Bore Hole : 20.00 m**		
Depth of Water Table :		**0.5m**		
S. No.	**Depth of Bore Hole**	**Nature of soil Sample**	**Hatching**	**Lithological Description**
1	0.00-1.50	S.P.T./Core		Soft rock / sandstone
2	1.50-3.00	Core		
3	3.00-4.50	Core		
4	4.50-6.00	Core		
5	6.00-7.50	Core		
6	7.50-9.00	Core		
7	9.00-10.50	Core		
8	10.50-12.00	Core		
9	12.00-13.50	Core		
10	13.50-15.00	Core		
11	15.00-16.50	Core		
12	16.50-18.00	Core		
13	18.00-20.00	Core		

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FIELD BORELOG

Project : Geotechnical Investigation Work for Proposed Construction of 75m Span Single Lane Steel Truss Pedestrian Bridge at Gram Panchayat- Chauramehta to Gurudwara, Dist- Champawat, Uttarakhand

Bore Hole No : BH-02	**Depth of Bore Hole : 20.00 m**
Depth of Water Table :	**0.2m**

S. No.	Depth of Bore Hole	Nature of soil Sample	Hatching	Lithological Description
1	0.00-1.50	S.P.T./Core		Soft rock / sandstone
2	1.50-3.00	Core		
3	3.00-4.50	Core		
4	4.50-6.00	Core		
5	6.00-7.50	Core		
6	7.50-9.00	Core		
7	9.00-10.50	Core		
8	10.50-12.00	Core		
9	12.00-13.50	Core		
10	13.50-15.00	Core		
11	15.00-16.50	Core		
12	16.50-18.00	Core		
13	18.00-20.00	Core		

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ANNEXURE- III

Calculation of Gross Safe bearing pressure for Rock Samples

Borehole	Rock Layer depth	Core	Point Load Strength Index, N/mm2	UCS, N/mm2 (Clause 7.2 of IS 8764-1998)	Rock discontinuities empirical coefficient, Nj (Table 6.2 of IS 12070-1987)	Gross Safe bearing pressure, qs (N/mm2)	Correction Factors			Corrected Gross Safe bearing pressure, qsc (N/mm2)	Corrected Gross Safe bearing pressure, qsc (T/m2)
							For Water, CFw	For Cavities, CFc	For Slope, CFs		
BH-01	0.00-1.50	CR- 6.67%, RQD- 0%	0.52	11.44	0.25	2.86	0.5	0.5	0.42	0.30	30.03
	1.50-3.00	CR- 18.67%, RQD- 18.67%	0.85	18.70	0.25	4.68	0.5	0.5	0.42	0.49	49.09
	3.00-4.50	CR- 30.67%, RQD- 30.67%	0.97	21.34	0.25	5.34	0.5	0.5	0.42	0.56	56.02
	4.50-6.00	CR- 10.67%, RQD- 0%	0.92	20.24	0.25	5.06	0.5	0.5	0.42	0.53	53.13
	6.00-7.50	CR- 8.67%, RQD- 0%	0.89	19.58	0.25	4.90	0.5	0.5	0.42	0.51	51.40
	7.50-9.00	CR- 8.67%, RQD- 0%	0.95	20.90	0.25	5.23	0.5	0.5	0.42	0.55	54.86
	9.00-10.50	CR- 10%, RQD- 0%	0.98	21.56	0.25	5.39	0.5	0.5	0.42	0.57	56.60
	10.50-12.00	CR- 15.33%, RQD- 0%	1.03	22.66	0.25	5.67	0.5	0.5	0.42	0.59	59.48
	12.00-13.50	CR- 14%, RQD- 0%	0.98	21.56	0.25	5.39	0.5	0.5	0.42	0.57	56.60
	13.50-15.00	CR- 10.67%, RQD- 0%	1.05	23.10	0.25	5.78	0.5	0.5	0.42	0.61	60.64
	15.00-16.50	CR- 15.33%, RQD- 0%	1.13	24.86	0.25	6.22	0.5	0.5	0.42	0.65	65.26
	16.50-18.00	CR- 15.33%, RQD- 0%	1.09	23.98	0.25	6.00	0.5	0.5	0.42	0.63	62.95
	18.00-20.00	CR- 18.5%, RQD- 0%	1.18	25.96	0.25	6.49	0.5	0.5	0.42	0.68	68.15

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Kh. No. 48, Vill.- Belda, Near RTO Office, Roorkee, Distt.- Haridwar, U.K.- 247667
+91-9911860667, 8076576367 civiltechlabuk@gmail.com
GSTIN NO.: 05AARFC6759M1ZO, PAN No.: AARFC6759M
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Calculation of Gross Safe bearing pressure for Rock Samples

Borehole	Rock Layer depth	Core	Point Load Strength Index, N/mm2	UCS, N/mm2 (Clause 7.2 of IS 8764-1998)	Rock discontinuities empirical coefficient, Nj (Table 6.2 of IS 12070-1987)	Gross Safe bearing pressure, qs (N/mm2)	Correction Factors			Corrected Gross Safe bearing pressure, qsc (N/mm2)	Corrected Gross Safe bearing pressure, qsc (T/m2)
							For Water, CFw	For Cavities, CFc	For Slope, CFs		
BH-02	0.00-1.50	CR- 14%, RQD- 0%	0.65	14.30	0.25	3.58	0.5	0.5	0.42	0.38	37.54
	1.50-3.00	CR- 8%, RQD- 0%	0.61	13.42	0.25	3.36	0.5	0.5	0.42	0.35	35.23
	3.00-4.50	CR- 7.33%, RQD- 0%	0.72	15.84	0.25	3.96	0.5	0.5	0.42	0.42	41.58
	4.50-6.00	CR- 8%, RQD- 0%	0.74	16.28	0.25	4.07	0.5	0.5	0.42	0.43	42.74
	6.00-7.50	CR- 13.33%, RQD- 8.67%	0.86	18.92	0.25	4.73	0.5	0.5	0.42	0.50	49.67
	7.50-9.00	CR- 14.67%, RQD- 7.33%	0.91	20.02	0.25	5.01	0.5	0.5	0.42	0.53	52.55
	9.00-10.50	CR- 20%, RQD- 18%	1.02	22.44	0.25	5.61	0.5	0.5	0.42	0.59	58.91
	10.50-12.00	CR- 8%, RQD- 0%	0.95	20.90	0.25	5.23	0.5	0.5	0.42	0.55	54.86
	12.00-13.50	CR- 9.33%, RQD- 0%	0.96	21.12	0.25	5.28	0.5	0.5	0.42	0.55	55.44
	13.50-15.00	CR- 12%, RQD- 0%	0.98	21.56	0.25	5.39	0.5	0.5	0.42	0.57	56.60
	15.00-16.50	CR- 16.67%, RQD- 16.67%	1.11	24.42	0.25	6.11	0.5	0.5	0.42	0.64	64.10
	16.50-18.00	CR- 9.33%, RQD- 0%	1.03	22.66	0.25	5.67	0.5	0.5	0.42	0.59	59.48
	18.00-20.00	CR- 16%, RQD- 9.5%	1.15	25.30	0.25	6.33	0.5	0.5	0.42	0.66	66.41

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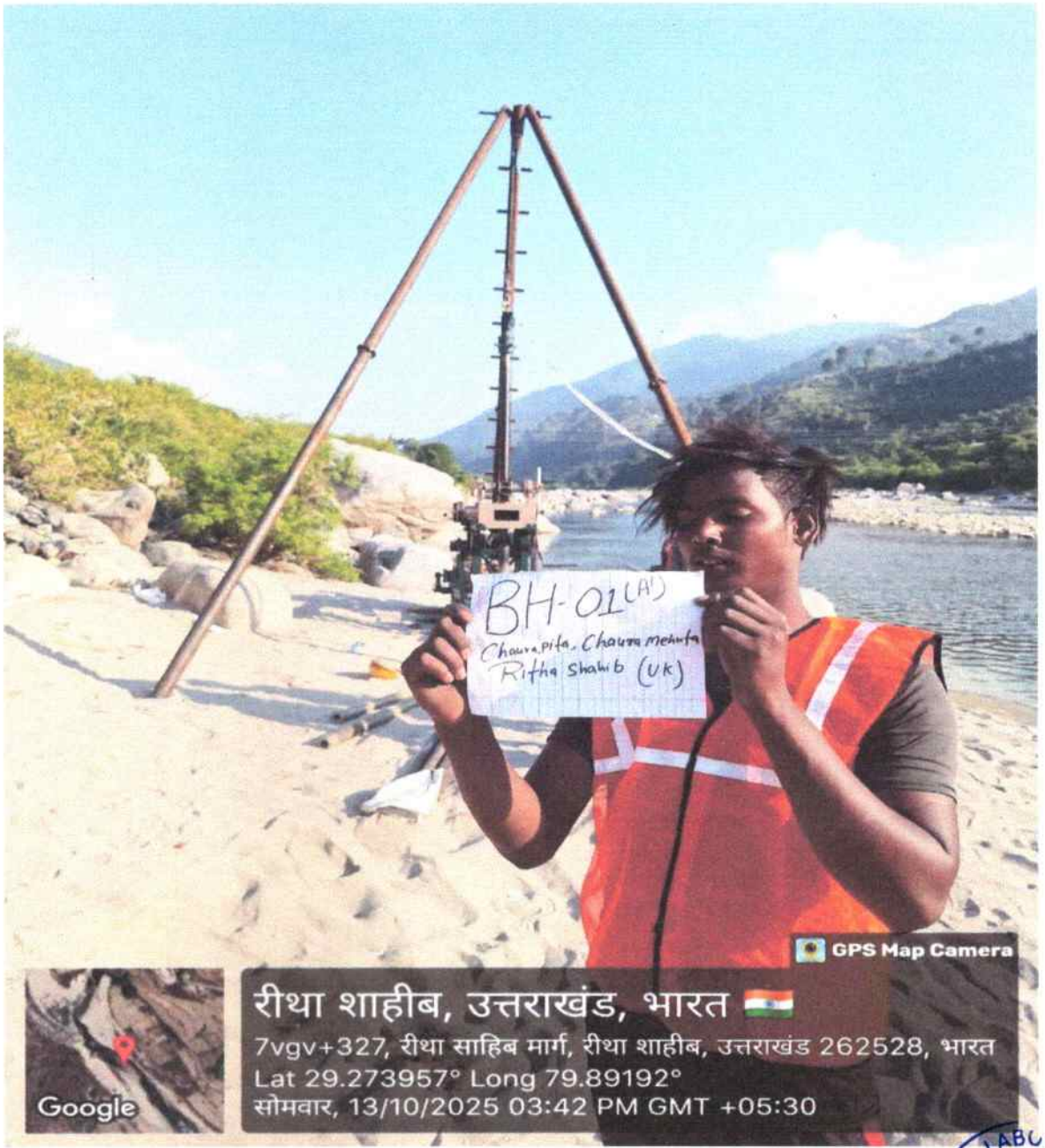
ANNEXURE-(SITE PHOTOGRAPHS)



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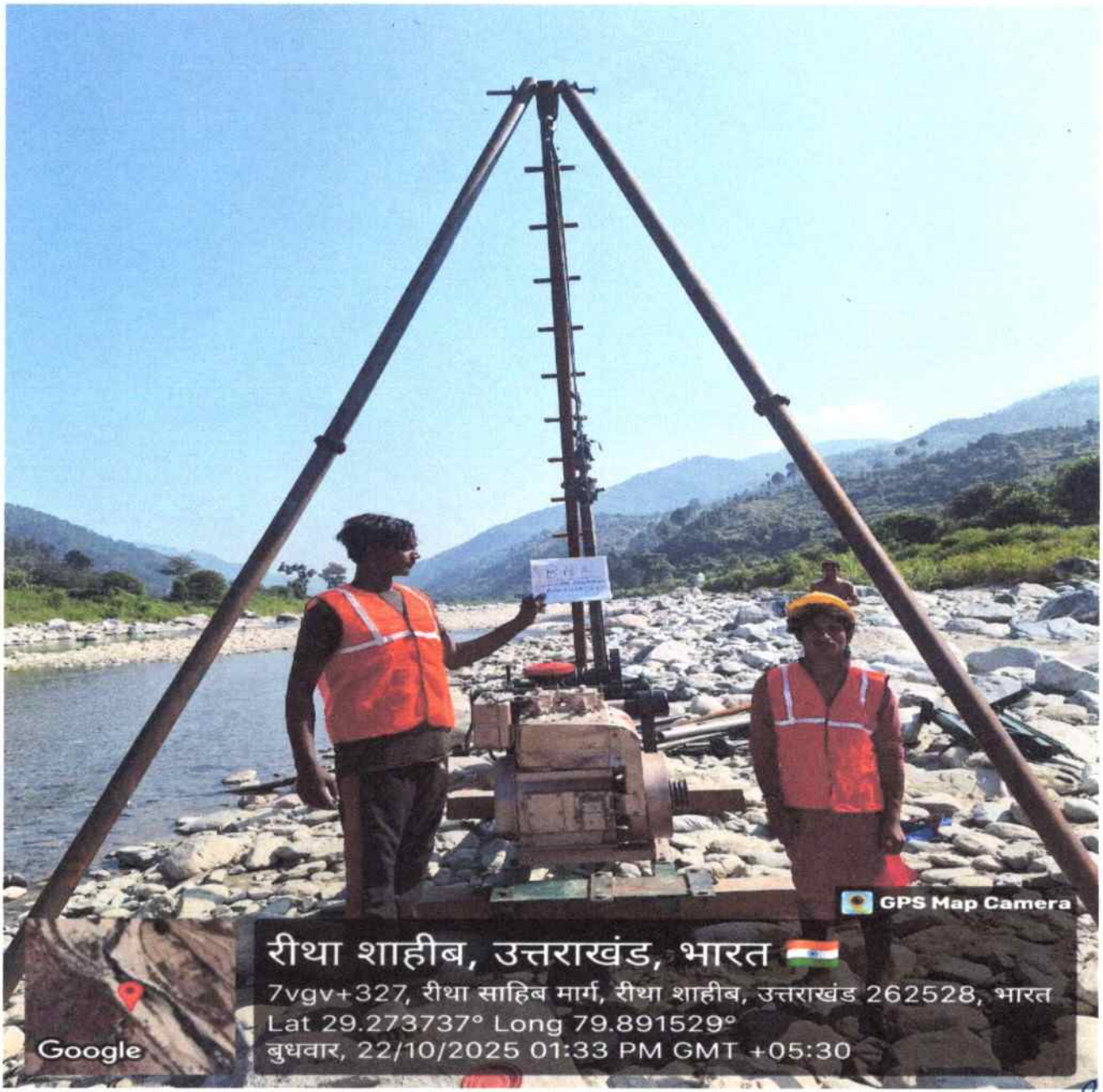

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