

Data sheet for collection of geotechnical data of Mangti Landslide
**INPUT DATA FORM FOR COLLECTION OF
 GEOTECHNICAL PARAMETERS OF ROCKS**

Name of Project **ENGINEERING GEOLOGICAL STUDIES OF MANGTI LANDSLIDE
 AND ITS ENVIRON, PITHORAGARH UTTARANCHAL**

Site of Survey: From 394m right of Mangti Landslide
 Station No. **0-5 m** Date: 14/11/03
 Data collected by: Anand,H.Mehta
 Rock type: **BIOTITE GNEISS**

STRIKE AND DIP OF STRUCTURAL ANISOTROPIES

	Strike	Dip Amount	Dip Direction
Set 1	303º	40º	33º
Set 2			
Set 3			
Set 4			

SPACING OF DISCONTINUITIES

	Set 1	Set 2	Set 3	Set 4
Very Wide	Over 2 m.			
Wide	0.6 - 2 m			
Moderate	200 - 600 mm.	✓		
Close	60 - 200 mm.			
Very close	< 60 mm.			

**WALL ROCK
 CONDITION**

	Set 1	Set 2	Set 3	Set 4
	Slightly Weathered			

WATER CONDITION

	Set 1	Set 2	Set 3	Set 4
	Dry			

<u>CONDITIONS OF DISCONTINUITIES</u>				
PERSISTENCE (Continuity)	Set 1	Set 2	Set 3	Set 4
Very low <1 m				
Low 1 – 3 m				
Medium 3 – 10 m	✓			
High 10 – 20 m				
Very High > 20 m.				
SEPERATION (Aperture)				
Very tight joints < 0.1 mm.				
Tight joints 0.1 - 0.5 mm.	✓			
Moderately open joints 0.5 - 2.5 mm.				
Open joints 2.5 - 10.0 mm.				
Very wide aperture > 10 mm.				
ROUGHNESS				
Very rough surface				
Rough surface				
Slightly rough surface	✓			
Smooth surface				
Slickensided surface				
FILLING (Gouge)	Nil			
Type				
Thickness				
Uniaxial compressive strength (Mpa)	36.73, RQD – 75 – 90%			
Seepage				

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 GEOTECHNICAL PARAMETERS OF ROCKS**

Name of Project **ENGINEERING GEOLOGICAL STUDIES OF MANGTI LANDSLIDE
 AND ITS ENVIRON, PITHORAGARH UTTARANCHAL**
 Site of Survey: From 394m right of Mangti Landslide
 Station No. **10 – 17m** Date: 14/11/03
 Data collected by: Anand.H.Mehta
 Rock type: **BIOTITE GNEISS**

STRIKE AND DIP OF STRUCTURAL ANISOTROPIES

	Strike	Dip Amount	Dip Direction
Set 1	303°	40°	33°
Set 2	280°	80°	190°
Set 3	20°	75°	290°
Set 4	295°	45°	25°

SPACING OF DISCONTINUITIES

	Set 1	Set 2	Set 3	Set 4
Very Wide	Over 2 m.			
Wide	0.6 - 2 m	✓		✓
Moderate	200 - 600 mm.		✓	
Close	60 - 200 mm.			
Very close	< 60 mm.			
WALL ROCK CONDITION	Set 1 Slightly Weathered	Set 2	Set 3 Slightly Weathered	Set 4 Slightly Weathered

WATER CONDITION

	Set 1	Set 2	Set 3	Set 4
	Damp		Damp	Dry

CONDITIONS OF DISCONTINUITIES				
PERSISTENCE (Continuity)	Set 1	Set 2	Set 3	Set 4
Very low <1 m.				
Low 1 – 3 m.				
Medium 3 – 10 m	✓	✓	✓	✓
High 10 – 20 m.				
Very High > 20 m.				
SEPERATION (Aperture)				
Very tight joints < 0.1 mm.				
Tight joints 0.1 - 0.5 mm.	✓			✓
Moderately open joints 0.5 - 2.5 mm.			✓	
Open joints 2.5 - 10.0 mm.				
Very wide aperture > 10 mm.				
ROUGHNESS				
Very rough surface				
Rough surface				
Slightly rough surface	✓			✓
Smooth surface			✓	
Slickensided surface				
FILLING (Gouge)	Nil	Nil		
Type				
Thickness				
Uniaxial compressive strength (Mpa)- 36.73, RQD – 90-100%				
Seepage				

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**INPUT DATA FORM FOR COLLECTION OF
 GEOTECHNICAL PARAMETERS OF ROCKS**

Name of Project **ENGINEERING GEOLOGICAL STUDIES OF MANGTI LANDSLIDE
 AND ITS ENVIRON, PITHORAGARH UTTARANCHAL**

Site of Survey: From 394m right of Mangti Landslide
 Station No. **20 – 21 m & 28.5 - 30**
 Date collected by: Anand.H.Mehta
 Date: 14/11/03
 Rock type: **BIOTITE GNEISS**

STRIKE AND DIP OF STRUCTURAL ANISOTROPIES

	Strike	Dip Amount	Dip Direction
Set 1	303°	40°	33°
Set 2			
Set 3			
Set 4			

SPACING OF DISCONTINUITIES

	Set 1	Set 2	Set 3	Set 4
Very Wide	Over 2 m.			
Wide	0.6 - 2 m			
Moderate	200 - 600 mm.	✓		
Close	60 - 200 mm.			
Very close	< 60 mm.			

**WALL ROCK
 CONDITION**

	Set 1	Set 2	Set 3	Set 4
	Slightly Weathered			

WATER CONDITION

	Set 1	Set 2	Set 3	Set 4
	Damp			

CONDITIONS OF DISCONTINUITIES				
PERSISTENCE (Continuity)	Set 1	Set 2	Set 3	Set 4
Very low <1 m.				
Low 1 – 3 m.	✓			
Medium 3 – 10 m				
High 10 – 20 m.				
Very High > 20 m.				
SEPERATION (Aperture)				
Very tight joints < 0.1 mm.				
Tight joints 0.1 - 0.5 mm.	✓			
Moderately open joints 0.5 - 2.5 mm.				
Open joints 2.5 - 10.0 mm.				
Very wide aperture > 10 mm.				
ROUGHNESS				
Very rough surface				
Rough surface				
Slightly rough surface	✓			
Smooth surface				
Slickensided surface				
FILLING (Gouge)				
Type	Nll			
Thickness				
Uniaxial compressive strength (Mpa)-	36.73	RQD – 90-100%		
Seepage				

Data sheet for collection of geotechnical data of Mangti Landslide

INPUT DATA FORM FOR COLLECTION OF GEOTECHNICAL PARAMETERS OF ROCKS

Name of Project **ENGINEERING GEOLOGICAL STUDIES OF MANGTI LANDSLIDE AND ITS ENVIRON, PITHORAGARH UTTARANCHAL**

Site of Survey: From 394m right of Mangti Landslide

Station No. **34 – 40m** Date: 14/11/03

Data collected by: Anand.H.Mehta

Rock type: **BIOTITE GNEISS**

STRIKE AND DIP OF STRUCTURAL ANISOTROPIES			Set 1	Set 2	Set 3	Set 4
	Strike	Dip Amount	Dip Direction			
Set 1	320°	45°	50°			
Set 2	15°	75°	285°			
Set 3						
Set 4						
SPACING OF DISCONTINUITIES						
	Set 1	Set 2	Set 3	Set 4		
Very Wide	Over 2 m.					
Wide	0.6 - 2 m	✓				
Moderate	200 - 600 mm.					
Close	60 - 200 mm.	✓				
Very close	< 60 mm.					
WALL ROCK CONDITION	Set 1	Set 2	Set 3	Set 4		
	Slightly Weathered	Slightly Weathered				
WATER CONDITION	Set 1	Set 2	Set 3	Set 4		
	Dry	Dry				

CONDITIONS OF DISCONTINUITIES				
PERSISTENCE (Continuity)	Set 1	Set 2	Set 3	Set 4
Very low	<1 m.			
Low	1 – 3 m			
Medium	3 – 10 m	✓		
High	10 – 20 m	✓		
Very High	> 20 m			
SEPERATION (Aperture)				
Very tight joints	< 0.1 mm			
Tight joints	0.1 - 0.5 mm	✓		
Moderately open joints	0.5 - 2.5 mm			✓
Open joints	2.5 - 10.0 mm			
Very wide aperture	> 10 mm			
ROUGHNESS				
Very rough surface				
Rough surface				
Slightly rough surface				
Smooth surface	✓	✓		
Slickensided surface				
FILLING (Gouge)	Nil	Nil		
Type				
Thickness				
Uniaxial compressive strength (Mpa)-	53.27, RQD – 90 – 100%			
Seepage				

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 GEOTECHNICAL PARAMETERS OF ROCKS**

Name of Project **ENGINEERING GEOLOGICAL STUDIES OF MANGTI LANDSLIDE
 AND ITS ENVIRON, PITHORAGARH UTTARANCHAL**

Site of Survey: From 394m right of Mangti Landslide
 Station No. **40 - 44 m** Date: 14/11/03
 Data collected by: Anand. H Mehta
 Rock type: **BIOTITE GNEISS**



STRIKE AND DIP OF STRUCTURAL ANISOTROPIES

	Strike	Dip Amount	Dip Direction
Set 1	320°	45°	50°
Set 2			
Set 3			
Set 4			

SPACING OF DISCONTINUITIES

	Set 1	Set 2	Set 3	Set 4
Very Wide	Over 2 m.			
Wide	0.6 - 2 m			
Moderate	200 - 600 mm.	✓		
Close	60 - 200 mm.			
Very close	< 60 mm.			

**WALL ROCK
 CONDITION**

Set 1	Set 2	Set 3	Set 4
Slightly Weathered			

WATER CONDITION

Set 1	Set 2	Set 3	Set 4
Dry			

CONDITIONS OF DISCONTINUITIES				
PERSISTENCE (Continuity)	Set 1	Set 2	Set 3	Set 4
Very low <1 m				
Low 1 – 3 m				
Medium 3 – 10 m	✓			
High 0 – 20 m				
Very High > 20 m				
SEPERATION (Aperture)				
Very tight joints < 0.1 mm				
Tight joints 0.1 - 0.5 mm				
Moderately open joints 0.5 - 2.5 mm	✓			
Open joints 2.5 - 10.0 mm				
Very wide aperture > 10 mm				
ROUGHNESS				
Very rough surface				
Rough surface				
Slightly rough surface				
Smooth surface				
Stickensided surface	✓			
FILLING (Gouge)				
Type	Gauge Material			
Thickness	1-2mm			
Uniaxial compressive strength (Mpa)- 53,27, RQD – 90 – 100%				
Seepage				

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Name of Project **ENGINEERING GEOLOGICAL STUDIES OF MANGTI LANDSLIDE
 AND ITS ENVIRON, PITHORAGARH UTTARANCHAL**

Site of Survey: From 394m right of Mangti Landslide
 Station No. **44 – 53 m** Date: 14/11/03
 Data collected by: S.K.Sharma & A.H.Mehta
 Rock type: **BIOTITE GNEISS**

STRIKE AND DIP OF STRUCTURAL ANISOTROPIES

	Strike	Dip Amount	Dip Direction
Set 1	270°	70°	0°
Set 2			
Set 3			
Set 4			

SPACING OF DISCONTINUITIES

	Set 1	Set 2	Set 3	Set 4
Very Wide				
Wide	Over 2 m.			
Moderate	0.6 - 2 m			
Close	200 - 600 mm.	✓		
Very close	60 - 200 mm.			
	< 60 mm.			

**WALL ROCK
 CONDITION**

Set 1	Set 2	Set 3	Set 4
Slightly Weathered			

WATER CONDITION

Set 1	Set 2	Set 3	Set 4
Damp			

CONDITIONS OF DISCONTINUITIES				
PERSISTENCE (Continuity)	Set 1	Set 2	Set 3	Set 4
Very low <1 m				
Low 1 – 3 m				
Medium 3 – 10 m	✓			
High 10 – 20 m				
Very High > 20 m				
SEPERATION (Aperture)				
Very tight joints < 0.1 mm				
Tight joints 0.1 - 0.5 mm				
Moderately open joints 0.5 - 2.5 mm	✓			
Open joints 2.5 - 10.0 mm				
Very wide aperture > 10 mm				
ROUGHNESS				
Very rough surface				
Rough surface				
Slightly rough surface	✓			
Smooth surface				
Slickensided surface				
FILLING (Gouge)				
Type	Loose Soil and Gauge Material			
Thickness				
Uniaxial compressive strength (Mpa)-	53.27, RQD – 90 – 100%			
Seepage				