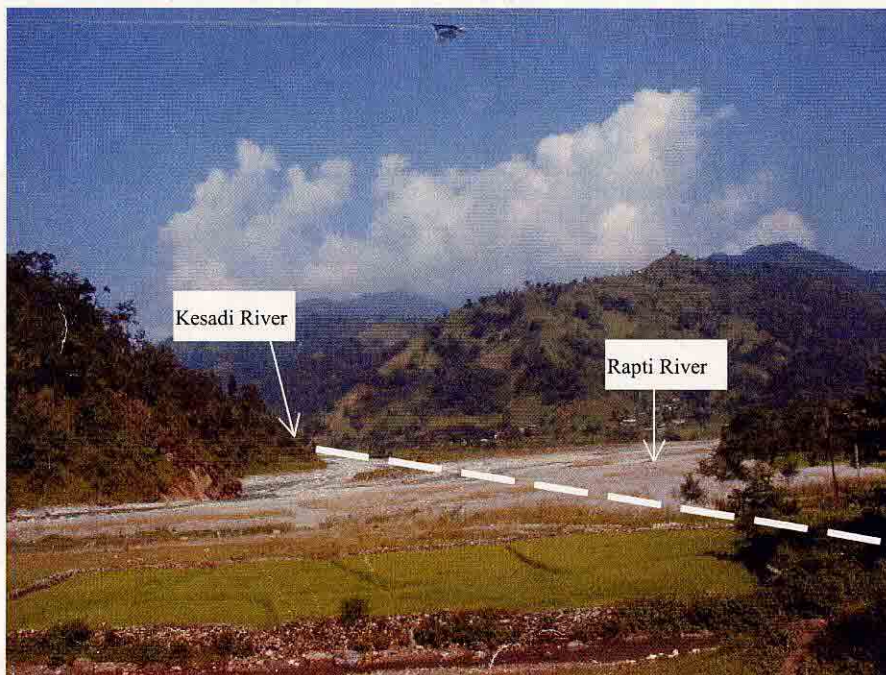




#### Mahabharat Thrust (MT)

Main sheared zone appears to be 30 to 50m in width, however several sheared and fractured zones of less width are distributed associating with MT.

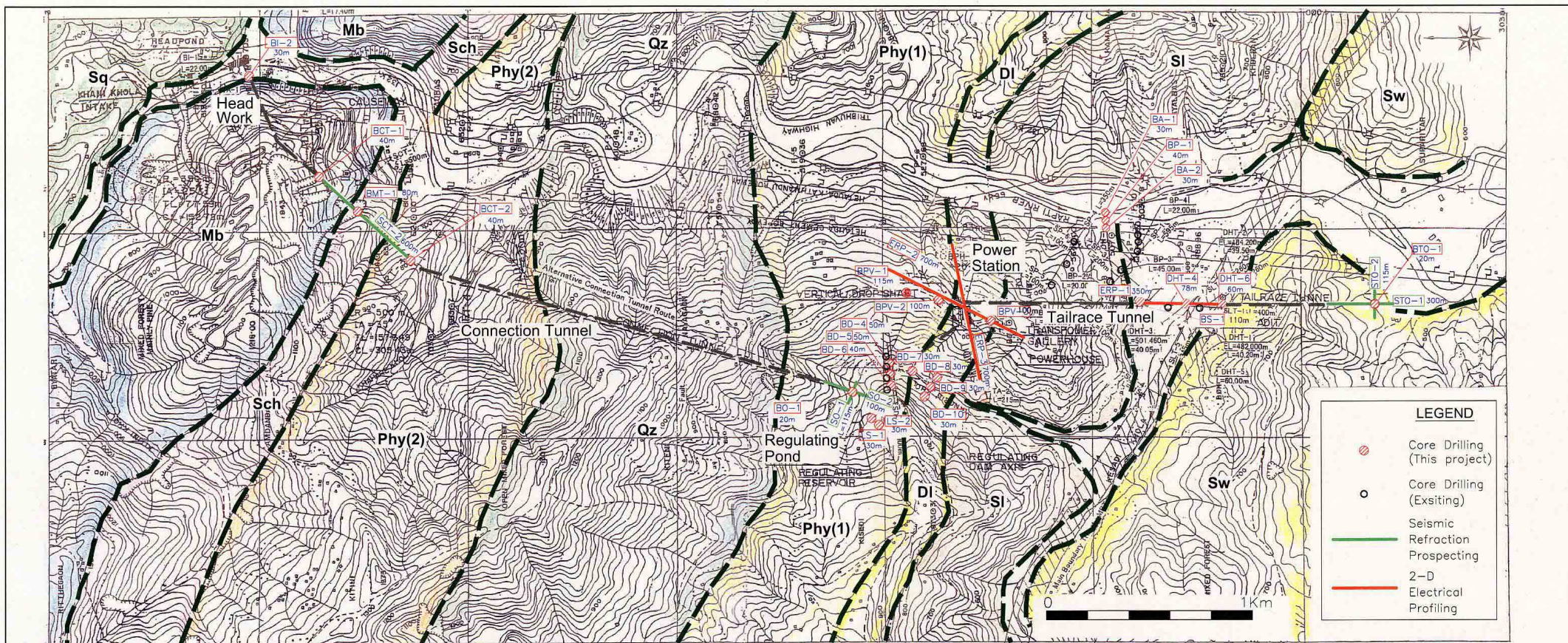


#### Main Boundary Thrust (MBT)

The sheared zone appears to be around 200m in width, however less-sheared zones of Siwalik sandstone are distributed within the MBT.

Figure B2.2.5 Thrust Faulting in Project Area





AGE GROUP	FORMATION	SYMBOL	ROCK TYPE	GEOLOGY	Structure	Demanded Data for Detailed Design	Core Boring	Geophysical Prospecting						Borehole Test		In-situ Rock Test				Laboratory Test					Engineering Works	Remarks																						
								Seismic Refraction Prospecting			2-D Electrical Resistivity Prospecting			Standard Penetration Test	Lugeon Test	Rock Shear Test		Plate Loading Test		River-bed Material Test		Unit Weight	Absorption	Ultrasonic measure			Uniaxial strength	Tensile strength																				
Cenozoic	Recent Deposits	Rd	Riverbed deposits	Sand and gravels with boulders	Headworks	Depth of sound rock	BI-2	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																			
		Ta	Talus and/or Terrace	Talus deposits and terrace deposits.		Vertical Adit	Rock grade	BS-1	110	-	-	-	-	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																		
	Swak Group	(Main Boundary Thrust)	Sw	Conglomerate, Sandstone, Mudstone	Sandstone, mudstone, and small portions of conglomerates. Relatively soft and fractured near MBT.	Power House	Geological information for layout and designing of underground structures	BPV-1	115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																		
								BPV-2A	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-															
			BPV-2B	79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																		
			BPV-3	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																		
			BPH-1	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																		
			DHT-4	78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																		
			Robang Formation	Qz	Quartzite	Quartzite. Intercalation of thin phyllite at some localities. Massive and compact in general.	Tailrace Tunnel	Depth of sound rock around tunnel portal	DHT-6	60	STO-1	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																
									BTO-1	20	STO-2	115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Paleozoic	Upper Nawakot Group	Phy (2)	Phyllite (2)	Blue green slatic phyllites, generally chloritic. Intercalation of calcareous beds. Relatively compact in general.	Bridges	Depth of sound rock near abutment and pier	BA-1	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																			
							BA-2	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-															
		BP-1	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																			
		Phy (1)	Phyllite (1)	Blue green phyllites, generally chloritic. Relatively compact in general.	Connection Tunnels	Geological condition of ridges to decide tunnel route	BCT-1	40	SCT-1	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																		
							BCT-2	40	SO-1	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																
		BO-1	20	SO-2	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																			
		BMT-1	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																		
		BD-4	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																		
BD-5	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																				
Pre-Cambrian	Blimphed Group	DI	Siliceous Dolomite	Light-to-dark and greenish gray siliceous dolomites. Intercalation of thin crystalline limestone and calc-phyllites. Massive and relatively well bedded.	Regulating Pondage	Contour map of sound rock	BD-6	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																		
							BD-7	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-															
		SI	Slate(Phyllitic)	Dark gray slates and phyllites together with black carbonaceous slate. Fractured and weathered near MBT.	Regulating Pondage	Permeability of dam foundation. Rock properties for designing	BD-8	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																		
							BD-9	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-															
		Sq	Schist, Quarzite	Dark green to gray colored two mica and biotite schist with intercalation of quartzite and garnets. Strongly folded and fractured at places.	Regulating Pondage	Permeability of dam foundation. Rock properties for designing	BD-10	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																		
							LS-1	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-															
		LS-2	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																	
		Total							26		1,272	5		1,245	3		1,750	101		68	3		3	6	6	86	80	100	81	98	445	-	-															
																													THE UPGRADING FEASIBILITY STUDY ON THE DEVELOPMENT OF THE KULEKHANI III HYDROPOWER PROJECT IN THE KINGDOM OF NEPAL										Figure B3.1.1 Location Map of Geological Investigation									

THE UPGRADING FEASIBILITY STUDY ON THE DEVELOPMENT OF THE KULEKHANI III HYDROPOWER PROJECT IN THE KINGDOM OF NEPAL

JAPAN INTERNATIONAL COOPERATION AGENCY

Figure B3.1.1  
Location Map of Geological Investigation



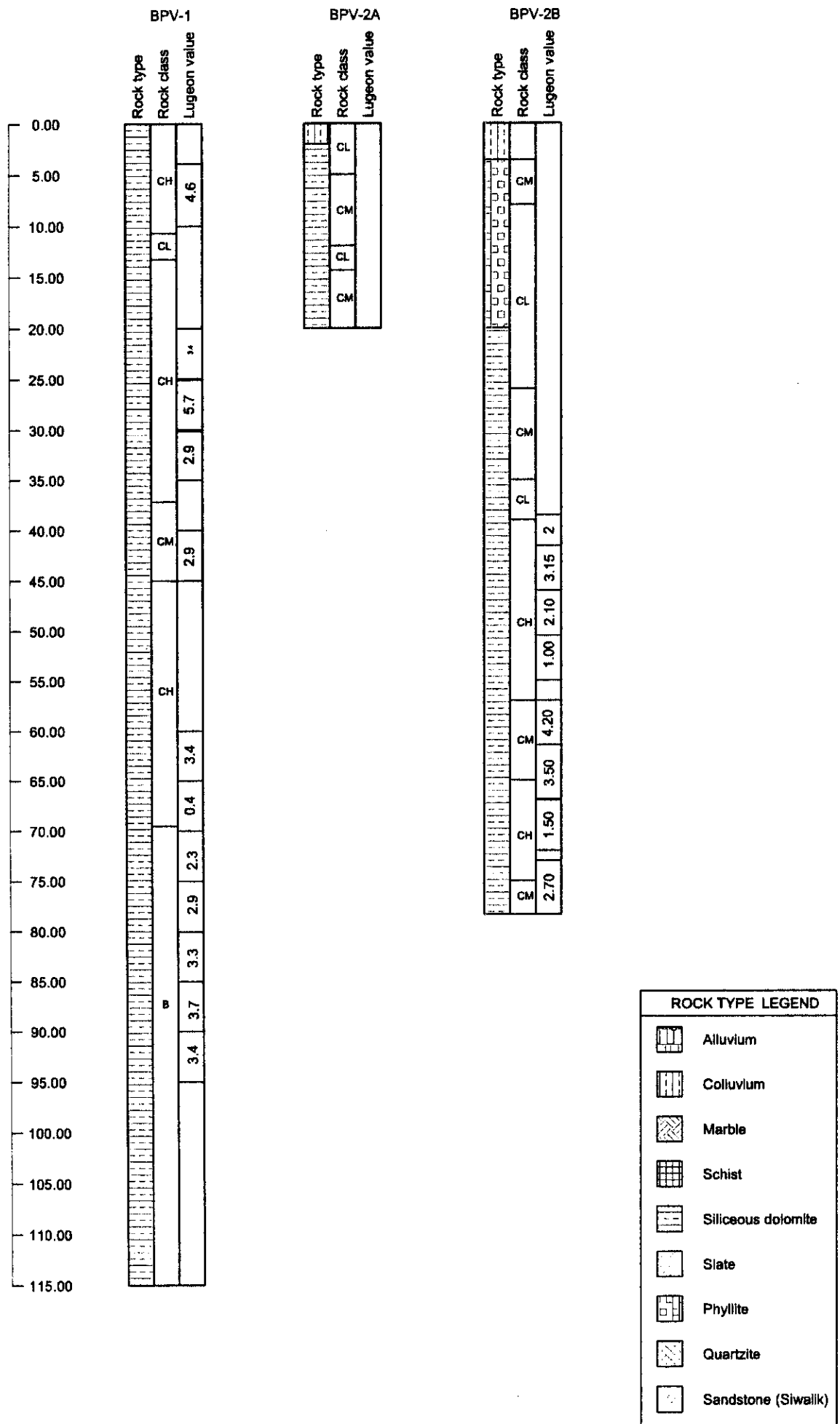


Figure B3.1.2 Simplified Drill Logs (1)