

DRILL LOG				HOLE NO. : B - EST - 1				SHEET NO. 1 OF 1								
PROJECT		THE STUDY FLOOD CONTROL AND WATER MANAGEMENT IN L B B				DEPTH : 5.00 M		ELEVATION : - 1.66 M								
SITE		BONE RIVER		COORDINATE		X : 123° 03.725'		INCLINATION : 90°		DRILLING : YBM YSO - 01						
AVERAGE CORE RECOVERY : 50%		Y : 00° 33.658'		DRILLED : MANNA		LOGGED : DWI HARSO		CHECKED : Ir. DAVE . M								
GROUND WATER LEVEL : 0.00 M				DATE : AUGUSTUS 27' 2002				DIA. MAX : 73 MM								
DATE	DEPTH ( M )	ELEVATION ( M )	COLOUM SECTION	SOIL, ROCK TYPE	COLOR	DIP OF FAULT, JOINT, BEDDING GEOLOGICAL BOUNDARY	DESCRIPTION	CORE RECOVERY ( % )	R. Q. D. ( % )	SHEARING BY FAULT	WEATHERING CONDITION	CLASIFICATION		STANDARD PENETRATION TEST	GROUND WATER LEVEL	
												ELEMENTS				( N - Value )
AUGUSTUS 27' 2002	5.00	- 6.66		BONE RIVER	WHITISH GREY		( 0.00 - 5.00 ) m Gravelly SAND, whitish grey, fine to coarse sand, consist of component basalt, grano diorite, tuff, sand stone, sub angular to sub rounded, maximum diameter 0.3 cm well graded.	50						20 40 10 30 50	WATER LEVEL ▲ WATER LEVEL ● BOTTOM OF HOLE	
							BOTTOM OF HOLE									

DRILL LOG		HOLE NO. : B - EST - 2				SHEET NO. 1 OF 1										
PROJECT		THE STUDY FLOOD CONTROL AND WATER MANAGEMENT IN L B B		DEPTH : 5.00 M		ELEVATION : - 1.49 M										
SITE		BONE RIVER		COORDINATE X : 123° 03.742'		INCLINATION : 90°										
AVERAGE CORE RECOVERY: 100%		Y : 00° 31.134'		DRILLED : MANNA		LOGGED : DWI HARSO										
GROUND WATER LEVEL : 0.00 M		DATE : AUGUSTUS 28' 2002		DIA. MAX : 73 MM		CHECKED : Ir. DAVE . M										
DATE	DEPTH ( M )	ELEVATION ( M )	COLOUM SECTION	SOIL, ROCK TYPE	COLOR	DIP OF FAULT, JOINT, BEDDING GEOLOGICAL BOUNDARY	DESCRIPTION	CORE RECOVERY ( % )	R. Q. D. ( % )	SHEARING BY FAULT	WEATHERING CONDITION	CLASIFICATION		STANDARD PENETRATION TEST	GROUND WATER LEVEL	
												HARDNESS	CORE LENGTH AND SHARP			CONDITION OF JOINT PLANNE
AUGUSTUS 28' 2002	5.00	- 6.49		BONE RIVER	BROWNISH GREY		( 0.00 - 5.00 ) m Gravelly SAND, brownish grey, fine to coarse sand, consist of component basalt, grano diorite, tuff, sand stone, sub angular to sub rounded, maximum diameter 5 cm well graded.	100								
							BOTTOM OF HOLE									

DRILL LOG				HOLE NO. : B - EST - 3				SHEET NO. 1 OF 1																		
PROJECT		THE STUDY FLOOD CONTROL AND WATER MANAGEMENT IN L B B				DEPTH : 5.00 M		ELEVATION : - 1.76 M																		
SITE		BONE RIVER		COORDINATE		X : 123° 03.729'		INCLINATION : 90°		DRILLING : YBM YSO - 01																
AVERAGE CORE RECOVERY: 90%				Y : 00° 30.748'		DRILLED : MANNA		LOGGED : DWI HARSO																		
GROUND WATER LEVEL : 0.00 M				DATE : AUGUSTUS 21' 2002		DIA. MAX : 73 MM		CHECKED : Ir. DAVE . M																		
DATE	DEPTH ( M )	ELEVATION ( M )	COLOUM SECTION	SOIL, ROCK TYPE	COLOR	DIP OF FAULT, JOINT, BEDDING GEOLOGICAL BOUNDARY	DESCRIPTION	CORE RECOVERY ( % )	R. Q. D. ( % )	SHEARING BY FAULT	WEATHERING CONDITION	CLASIFICATION		STANDARD PENETRATION TEST				GROUND WATER LEVEL	CORE BARREL BIT CASING	WATER SPRING OBSERVABLE WATER LOSS						
												ELEMENTS		( N - Value )												
												HARDNESS	CONDITION OF JOINT PLANNE	CLASSIFICATION OF ROCK MASS	DEPTH ( M )	BLOW ( CM )	10	20	30	40	50	WATER LEVEL				
AUGUSTUS 21' 2002	0.00 - 5.00	5.00 - 6.76		BONE RIVER	WHITISH GREY		( 0.00 - 5.00 ) m Gravelly SAND, whitish grey, fine to coarse sand, consist of component basalt, grano diorite, tuff, sand stone, sub angular to sub rounded, maximum diameter 0.5 cm well graded.	90																		
							BOTTOM OF HOLE																			

DRILL LOG		HOLE NO. : B - EST - 4				SHEET NO. 1 OF 1										
PROJECT		THE STUDY FLOOD CONTROL AND WATER MANAGEMENT IN L B B		DEPTH : 5.00 M		ELEVATION : - 1.66 M										
SITE		BONE RIVER		COORDINATE X : 123° 03.740'		INCLINATION : 90°										
AVERAGE CORE RECOVERY: 100%		Y : 00° 31.248'		DRILLED : MANNA		LOGGED : DWI HARSO										
GROUND WATER LEVEL : 0.00 M		DATE : AUGUSTUS 28' 2002		DIA. MAX : 73 MM		CHECKED : Ir. DAVE . M										
DATE	DEPTH ( M )	ELEVATION ( M )	COLOUM SECTION	SOIL, ROCK TYPE	COLOR	DIP OF FAULT, JOINT, BEDDING GEOLOGICAL BOUNDARY	DESCRIPTION	CORE RECOVERY ( % )	R. Q. D. ( % )	SHEARING BY FAULT	WEATHERING CONDITION	CLASSIFICATION		STANDARD PENETRATION TEST	GROUND WATER LEVEL	
												ELEMENTS	DEPTH ( M )			CORE BARREL BIT CASING
HARDNESS	CORE LENGTH AND SHARP	CONDITION OF JOINT PLANNE	CLASSIFICATION OF ROCK MASS	( N - Value )			WATER SPRING OBSERVABLE WATER LOSS									
				BLOW ( CM )												
AUGUSTUS 28' 2002	4.00 - 5.66		RIVER DEPOSITE	BROWNISH GREY			( 0.00 - 4.00 ) m Gravelly SAND, brownish grey, fine to coarse sand, consist of component basalt, grano diorite, tuff, sand stone, sub angular to sub rounded, maximum diameter 5 cm well graded.	100								
	5.00 - 6.66		GREY				( 4.00 - 5.00 ) m Gravelly SAND, grey, fine to medium sand, consist component gravel diorite, grano diorite, tuff, sand stone sub angular to sub rounded, max. diamter 3 cm, contain small of silt.									
							BOTTOM OF HOLE									

DRILL LOG				HOLE NO. : B - EST - 5				SHEET NO. 1 OF 1														
PROJECT		THE STUDY FLOOD CONTROL AND WATER MANAGEMENT IN L B B				DEPTH : 15.00 M		ELEVATION : - 1.09 M														
SITE		BONE RIVER		COORDINATE		X : 123° 03.742'		INCLINATION : 90°		DRILLING : YBM YSO - 01												
AVERAGE CORE RECOVERY: 85%				Y : 00° 30.748'				DRILLED : MANNA		LOGGED : DWI HARSO												
GROUND WATER LEVEL : 0.00 M				DATE : AUGUSTUS 15 TO AUGUSTUS 19'02				DIA. MAX : 73 MM		CHECKED : Ir. DAVE M												
DATE	DEPTH ( M )	ELEVATION ( M )	COLOUM SECTION	SOIL, ROCK TYPE	COLOR	DIP OF FAULT, JOINT, BEDDING GEOLOGICAL BOUNDARY	DESCRIPTION	CORE RECOVERY ( % )	R. Q. D. ( % )	SHEARING BY FAULT	WEATHERING CONDITION	CLASSIFICATION		STANDARD PENETRATION TEST				CORE BARREL BIT CASING	GROUND WATER LEVEL			
												HARDNESS	CORE LENGTH AND SHARP	CONDITION OF JOINT PLANNE	CLASSIFICATION OF ROCK MASS	DEPTH ( M )	( N - Value )				WATER LEVEL	BOTTOM OF HOLE
				BLOW (CM)																		
AUGUSTUS 15'2002	0.00 - 5.00	-6.09		RIVER DEPOSITE	GREY		( 0.00 - 5.00 ) m Sandy GRAVEL, grey, fine to coarse sand consist of component, basalt, granit, tuff grano diorite, sandstone, sub angular to sub rounde, maximum diameter 4 cm, well graded.															
AUGUSTUS 16' 2002	5.00 - 12.30	-13.39		RIVER DEPOSITE	GREY		( 5.00 - 12.30 ) m Gravelly SAND, grey, medium sand to coarse sand, consist of component tuff, basalt, garno diorite, granit, sandstone, sub angular to sub rounded, well graded maximum diameter 3 cm.															
AUGUSTUS 17'2002	12.30 - 15.00	-16.09		RIVER DEPOSITE	GREY		( 12.30 - 15.00 ) m Silty SAND, grey, fine sand, non plasticity, wet.															
BOTTOM OF HOLE																						



LOCATION MAP OF SAMPLING POINT

**SUMMARY OF LABORATORY TEST**

**II - 1. EARTH EMBANKMENT MATERIAL**

No.	Location		Sym bol	Unit	DONGGALA			BUATA			BOIDU			BULIIDE		
	Hole No.	Sampling			1	2	3	1	2	3	1	2	3	1	2	3
1	Specific Gravity of Soil		Gs	gr/cm <sup>3</sup>	2.60	2.68	2.65	2.67	2.61	2.71	2.62	2.75	2.74	2.61	2.66	2.67
2	Water content of soil		wn	%	10.74	13.73	15.25	4.55	4.60	5.56	8.42	10.79	11.03	14.54	18.31	17.50
3	Grain Size Analysis			%	10.30	9.88	10.00	3.38	3.69	3.80	1.06	1.59	1.00	0.72	0.68	0.74
	Coarse Grain Size			%	51.21	51.31	51.61	52.91	61.88	51.71	41.77	39.27	41.46	31.57	37.47	32.08
	Fine Grain Size			%	26.42	36.52	37.01	40.17	40.63	41.65	54.40	68.09	55.11	65.31	60.15	64.94
4	Atterberg Limit Test			%	2.14	2.29	1.18	3.38	3.55	2.64	2.77	1.59	2.43	2.40	1.70	2.25
	Liquid Limit	LL		%	35.00	36.70	34.00	35.20	34.00	36.00	36.40	35.80	36.40	37.20	35.40	35.45
	Plastic Limit	PL		%	16.49	16.08	18.16	15.42	15.36	19.16	20.96	15.89	18.14	19.43	18.59	16.60
5	Proctor compaction test			%	18.51	20.62	15.84	19.78	18.64	16.84	13.44	19.91	18.26	17.17	16.81	18.86
	Opt. Water content	W <sub>opt</sub>		%	21.50	22.50	23.00	22.50	22.50	22.50	24.00	24.00	24.50	22.50	23.00	22.00
	Max. dry density	W <sub>dry</sub>	t/m <sup>3</sup>		1.57	1.55	1.49	1.61	1.64	1.59	1.68	1.89	1.58	1.59	1.58	1.57
	Max. wet density		W <sub>wet</sub>	t/m <sup>3</sup>	1.90	1.89	1.83	1.97	1.89	1.94	1.96	1.52	1.95	1.95	1.94	1.92

**II - 2. CONCRETE AGGREGATE**

No.	Location		Symbol	Unit	BOTU			TUPA		
	Hole No.	Sampling			1	2	3	1	2	3
1	Sieve Analysis Aggregate			%	45.34	45.21	45.27	44.42	44.51	50.36
	Gravel			%	47.18	47.59	47.07	39.76	39.61	39.58
	Sand			%	2.55	2.62	2.64	2.60	2.32	2.46
2	Bulk gravity (saturated)		Ga		2.43	2.64	2.57	2.39	2.16	2.34
	Bulk gravity (oven dried)		Gb		2.74	2.75	2.83	2.70	2.56	2.64
	Specific Gravity (Apparents)		Gs		4.61	3.09	3.52	4.82	7.41	4.85
	Absorption		φ	%						