

DAFTAR PUSTAKA

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Lampiran 1 Drill Hole Record Pit Koro South 02-02

PT. PUMA JAYA UTAMA DRILLING EXPLORATION MINING SERVICE		DRILL HOLE RECORD		HOLE No. BH_Koro_02								
PROJECT : Geotechnical Investigation and Monitoring Services Petea Mining Area and Sorowako, South Sulawesi		Contract No. 4600061569		SHEET : 1								
METHOD : Rotary Core Drilling Rig & No. : Mobile Jacro JOB NO : GI 001		CO-ORDINATES : N 9716460 E 316024 INCLINATION : - 90°		Logged : HV DATE : 20/01/2021 Checked : DATE : Date From : 19/01/2021 to 21/01/2021 GROUND LEVEL : 660 m AMSL								
Casing Depth (m)	Water Level (m)/Shift Start/End	TCR %	SCR %	RQD %	Fracture Index	Samples Or Field Test	Depth (m)	Legend	USCS	Soil and Rock Description	SPT N Value	ROCK Geological Strength Index
		100	100				0			Top Soil, Clayey SILT, firm, dark brown, moist, low plasticity, with few roots.		
		100	100				2			LIMONITE, Silty CLAY, fir., yellowish brown, moist, high plasticity, calcite laminated, with few iron crust.		
		100	100				4		CH	LIMONITE, Silty CLAY, firm, yellow, moist, high plasticity. with few iron crust.		
		100	100				6		CH	LIMONITE, Clayey SILT, soft, yellow to brown, moist, high plasticity, with few fine sand		
		100	100				8		MH	SAPROLITE, Clay SILT, firm, brown to yellowish brown, moist, high plasticity, infilling black and calcite, with few find sand		
		100	100				10		MH	SAPROLITE, Clay SILT with sand, firm, yellowish brown, moist, low plasticity, sand is fine to medium grained size, infilling black and calcite, pendolite coule at 13.20 - 13.30 m depth.		
		100	100				12		MH	SAPROLITE, Silty CLAY, firm to stiff, greenish brown, moist, high plasticity, infilling black and calcite.		
		100	100				14		ML	Well graded gravel with clay, very dense, brown, garvel is medium to coarse grained size, angular to sub angular.		
		100	100				16		CH	SAPROLITE, Silty CLAY, firm to stiff, greenish brown, moist, high plasticity, infilling black and calcite.		
		100	100				18		GW-GC	SAPROLITE, Clay SILT, firm, yellowish brown, moist, high plasticity, infilling black and calcite, with few of find sand grains size.		
		100	100				20		CH			
		100	100				22		MH			

● Small Distributed Sample
▲ Large Distributed Sample

sample
ndistributed Sample
e Undistributed Sample
ple
ple (70mm)

▽ In-situ Vane Shear Test
▼ Water Level
↓ Standard Penetration Test
■ Piezometer Tip
□ Observation Well Tip
⊥ Permeability Test

KEY

▲ Torvane
▼ Pocket Penetrometer
+ Lab Vane
■ CIU Triaxial
⊕ Lab Vane Remoulded
— Est. from CPT, $N_{kt} = 15$
— Normally Consolidated Profile

● UU Triaxial Onshore
● UU Triaxial Offshore
○ UU Remoulded
◆ In Situ Vane
◆ In Situ Vane Remoulded
— Est. from CPT, $N_{kt} = 20$
— Design Profile

REMARKS :



PT. PUMA JAYA UTAMA DRILLING EXPLORATION MINING SERVICE		DRILL HOLE RECORD		HOLE No. BH_Koro_02								
PROJECT : Geotechnical Investigation and Monitoring Services Petea Mining Area and Sorowako, South Sulawesi		Contract No. 4600061569		SHEET : 2								
METHOD : Rotary Core Drilling Rig & No. : Mobile jacro JOB NO : GI 001		CO-ORDINATES : N 9716460 E 316024 INCLINATION : - 90°		Logged : HV DATE : 21/01/2021 Checked : DATE : Date From : 19/01/2021 to 21/01/2021 GROUND LEVEL : 660 m AMSL								
Casing Depth (m)	Water Level (m)/Shift Start/End	TCR %	SCR %	RQD %	Fracture Index	Samples Or Field Test	Depth (m)	Legend	USCS	Soil and Rock Description	SPT N Value	ROCK Geological Strength Index
	05/12/2020 ▼ 23.75	100	100				21.6			Continued		
		100	100				22.0					
							22.4					
							22.8					
							23.2					
							23.6		ML	SAPROLITE, Clayey Silt with Gravel, stiff, yellowish brown, low plasticity, mottled with reddish with trace of fine to medium grained gravel, sub angular to angular.		
							24.0					
							24.4					
							24.8					
							25.2					
		20	20				25.6					
							26.0					
							26.4					
							26.8					
							27.2					
		31	31				27.6		GW-GM	Well graded gravel with clay, very dense, brown, gravel is medium to coarse grained size, angular to sub angular,		
							28.0					
							28.4					
							28.8					
							29.2					
		23	23				29.6					
							30.0					

● Small Distributed Sample
▲ Large Distributed Sample
◆ Sample

□ Undistributed Sample
□ Undistributed Sample
□ pie
□ pie (70mm)

▽ In-situ Vane Shear Test
▼ Water Level
↓ Standard Penetration Test
■ Piezometer Tip
□ Observation Well Tip
⊕ Permeability Test

KEY

▲ Torvane
▼ Pocket Penetrometer
+ Lab Vane
■ CIU Triaxial
⊕ Lab Vane Remoulded
— Est. from CPT, $N_{kt}=15$
— Normally Consolidated Profile

● UU Triaxial Onshore
● UU Triaxial Offshore
○ UU Remoulded
◆ In Situ Vane
◇ In Situ Vane Remoulded
— Est. from CPT, $N_{kt}=20$
— Design Profile

REMARKS :



Lampiran 2 Drill Hole Record Pit Koro South 02-03

 PT. PUNA JAYA UTAMA DRILLING · EXPLORATION · MINING SERVICE				DRILL HOLE RECORD				HOLE No. BH_Koro_03				
PROJECT : Geotechnical Investigation and Monitoring Services Petea Mining Area and Sorowako, South Sulawesi				Contract No. 4600061569				SHEET : 1				
METHOD : Rotary Core Drilling Rig & No : Mobile Jacro JOB NO : GI 001				CO-ORDINATES : N 9716398 E 315737 INCLINATION : - 90°				Logged : HV DATE : 15/01/2021 Checked : DATE : Date From : 23/12/2020 to 15/01/2021 GROUND LEVEL : 689 m AMSL				
Casing Depth (m)	Water Level (m)/Shift Start/End	TCR %	SCR %	RQD %	Recoverd Sampling	Samples Or Field Test	Depth (m)	Legend	USCS	Soil and Rock Description	SPT N Value	ROCK Geological Strength Index
0		30	30				0			Fill Material, gravel with silt, medium dense, dark grey, gravel is medium to coarse garned size, angular to sub angular, peridotite coule at 1.40 - 1.50 m depth		
1		100	100			SPT-1 (2,3,4) N=7	1					
2		100	100				2					
3		100	100			SPT-2 (2,3,5) N=8	3			LIMONITE, Silty CLAY, firm to stiff, reddish brown to brown, moist, high plasticity, infilling black, calcite laminated.		
4		100	100				4					
5		100	100			UDS-1 5 - 5.50	5					
6		100	100			SPT-3 (4,4,10) N=14	6					
7		100	100				7			Core Loss		
8		100	100			SPT-4 (4,5,10) N=15	8			GRAVEL with silt, medium dense, brown, gravel is medium to coarse garned size, angular to sub angular.		
9		100	100			UDS-2 9 - 9.50	9			SAPROLITE, Organic soil, stiff, brown to black, moist, high plasticity, infilling black and calcite.		
10		100	100			SPT-5 (4,5,7) N=12	10					
11		100	100				11					
12		100	100			SPT-6 (3,5,7) N=12	12			SAPROLITE, Silty CLAY, stiff, brown to dark brown, moist, high plasticity, infilling black and calcite.		
13		100	100			UDS-3 13 - 13.50	13					
14	1500/2021	100	100			SPT-7 (3,4,6) N=10	14					
15		100	100				15			SAPROLITE, Organic soil, stiff, black, moist, high plasticity, infilling black and calcite.		
16		100	100			SPT-8 (2,2,10) N=12	16			Core Loss		
17		100	100				17			SAPROLITE, Organic soil, stiff to very stiff, black, moist, high plasticity, infilling black and calcite, hydrocarbon odour		
18		100	100			SPT-9 (7,5,12) N=18	18					
19		100	100				19					
20		100	100			SPT-10 (5,5,10) N=50	20			PERIDOTITE, medium strong to strong, dark grey slightly weathered. Joint are very closed its closed, 40 degree, infilling with silica		
21		100	100				21			SAPROLITE, Clayey SILT, stiff to very stiff, greenish brown, moist, high plasticity, mottled with reddish, infilling black and calcite, consist of fine to medium sand		
22		100	100			SPT-11 (6,5,13) N=22	22					

 Small Distributed Sample
 Large Distributed Sample
 Undistributed Sample
 e Undistributed Sample
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 ple (70mm)

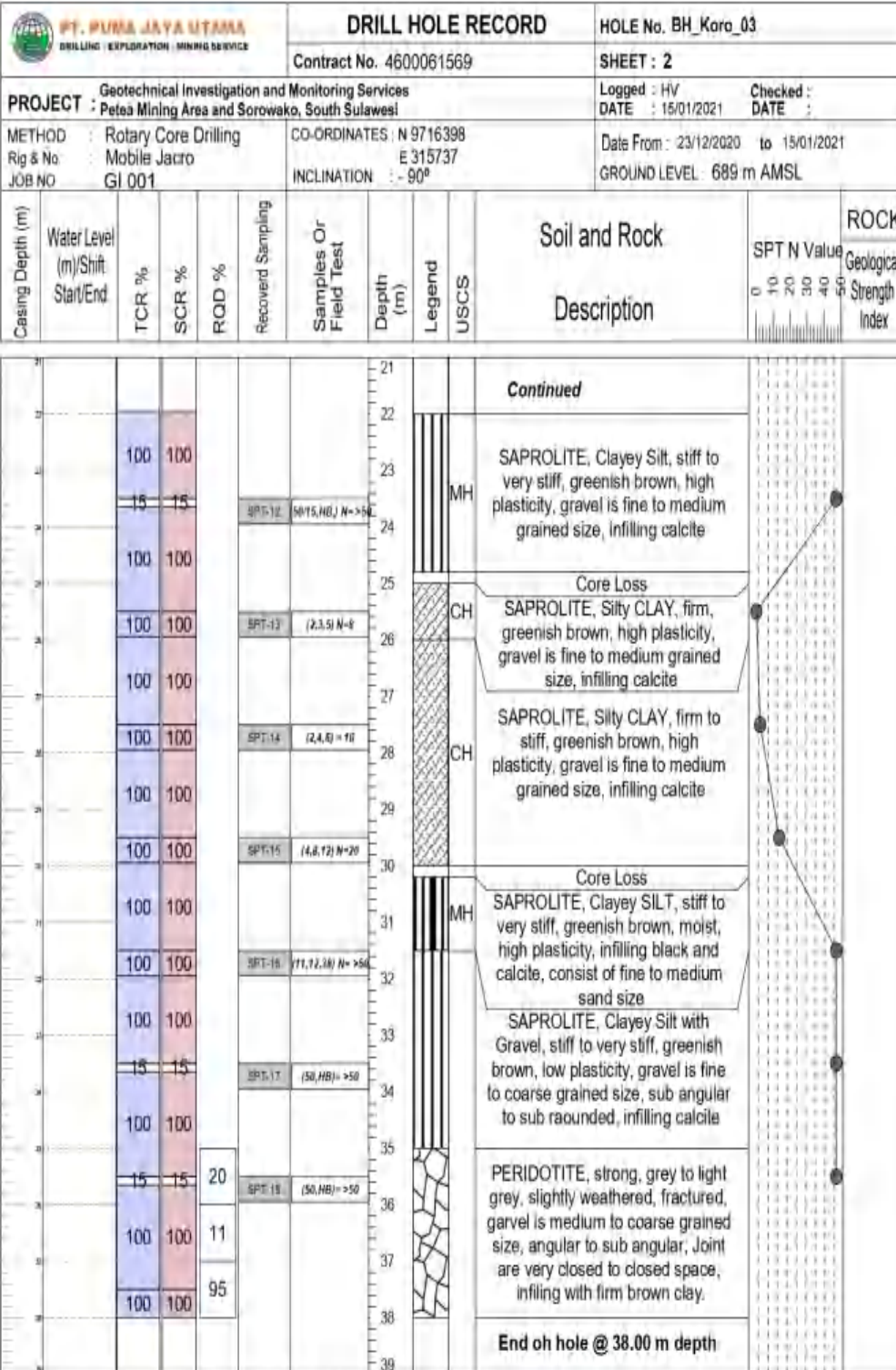
 In-situ Vane Shear Test
 Water Level
 Standard Penetration Test
 Piezometer Tip
 Observation Well Tip
 Permeability Test

KEY
 Torvand
 Pocket Penetrometer
 Lab Vane
 CU Triaxial
 Lab Vane Remoulded
 Est. from CPT, N₆₀=15
 Normally Consolidated Profile

 UU Triaxial Onshore
 UU Triaxial Offshore
 UU Remoulded
 In Situ Vane
 In Situ Vane Remoulded
 Est. from CPT, N₆₀=20
 Design Profile

REMARKS :





Lampiran 3 Drill Hole Record Pit Koro South 02-04

PT. PUNJA JAYA UTAMA DRILLING - EXPLORATION - MINING SERVICE		DRILL HOLE RECORD		HOLE No. BH_Koro_04								
PROJECT : Geotechnical Investigation and Monitoring Services Petea Mining Area and Sorowako, South Sulawesi		Contract No. 4600061569		SHEET : 1								
METHOD : Rotary Core Drilling Rig & No. : Mobile Drill JOB NO : GI 001		CO-ORDINATES : N 9716338 E 316078 INCLINATION : - 90°		Logged : HV DATE : 15/12/2020 Checked : DATE : Date From : 10/12/2020 to 15/12/2020 GROUND LEVEL : 459 m AMSL								
Casing Depth (m)	Water Level (m)/Shift Start/End	TCR %	SCR %	RQD %	Recovered Sampling	Samples Or Field Test	Depth (m)	Legend	USCS	Soil and Rock Description	SPT N Value	Defect Description
0		100	100				0		ML	Top Soil, Clayey SILT, soft, dark brown, moist, low plasticity, with trace of roots		
1		100	100				1		MH	LIMONITE, Clayey SILT, soft, brown, moist, high plasticity, infilling black, with trace of medium to coarse grained gravel		
2		100	100				2					
3		100	100				3					
4		100	100				4			Core Loss		
5		100	100				5					
6		100	100				6		MH	LIMONITE, Clayey SILT, soft, brown, moist, high plasticity, with trace of fine to medium grained sand size.		
7		100	100				7					
8		100	100				8					
9		100	100				9					
10		100	100				10		ML	LIMONITE, Clayey SILT, soft to firm, brown, moist, high plasticity, with trace of fine to medium grained sand size.		
11		100	100				11					
12		100	100				12					
13		100	100				13		CH	SAPROLITE, Silty CLAY, stiff to very stiff, yellowish brown to greenish brown, moist, high plasticity, infilling black and calcite.		
14		100	100				14					
15		100	100				15		CH	SAPROLITE, Silty CLAY, soft, brown, moist, high plasticity, infilling black and calcite.		
16		100	100				16					
17		100	100				17		CH	SAPROLITE, Silty CLAY, soft to firm, brown, moist, high plasticity, infilling black and calcite.		
18		100	100				18					
19		100	100				19					
20		100	100				20		ML	SAPROLITE, Clayey SILT with sand, firm to stiff, greenish brown, moist, low plasticity, sand is fine to medium grained size, infilling black and calcite.		
21		100	100				21					
22		100	100				22			Core Loss		
23		100	100				23		MH	SAPROLITE, Clayey SILT, firm to soft, greenish brown, moist, high plasticity, with trace of fine to medium grained size.		
24		100	100				24					



Optimized using trial version
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Small Distributed Sample Water Level Standard Penetration Test Piezometer Tip Observation Well Tip Permeability Test pie (76mm)	KEY ▲ Torvane ▼ Pocket Penetrometer + Lab Vane ■ CIU Triaxial ⊕ Lab Vane Remoulded — Est. from CPT, $N_{60} = 15$ — Normally Consolidated Profile	● UU Triaxial Onshore ○ UU Triaxial Offshore ○ UU Remoulded ◆ In Situ Vane ◆ In Situ Vane Remoulded — Est. from CPT, $N_{60} = 20$ — Design Profile	REMARKS :
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 PT. PUNA JAYA UTAMA DRILLING - EXPLORATION - MINING SERVICE				DRILL HOLE RECORD				HOLE No. BH_Koro_04				
Contract No. 4600061569				SHEET : 2								
PROJECT : Geotechnical Investigation and Monitoring Services Petea Mining Area and Sorowako, South Sulawesi				Logged : HV DATE : 15/12/2020		Checked : DATE :						
METHOD : Rotary Core Drilling Rig & No. Mobile Drill JOB NO. GI 001		CO-ORDINATES : N 9716338 E 316078 INCLINATION : 90°		Date From : 10/12/2020 to 15/12/2020 GROUND LEVEL : 688 m AMSL								
Casing Depth (m)	Water Level (m)/Shift Start/End	TCR %	SCR %	ROD %	Recover Sampling	Samples Or Field Test	Depth (m)	Legend	USCS	Soil and Rock Description	SPT N Value	Defect Description
											0 10 20 30 40 50	
24		100	100				24		MH	SAPROLITE, Clayey SILT, very soft to soft, brown, moist, high plasticity, infilling black and calcite.		
25		100	100				25					
26		100	100				26					
27		100	100				27					
28		100	100				28		MH	SAPROLITE, Clayey SILT, stiff to very stiff, yellowish moist, moist, high plasticity, infilling black and calcite, with medium to coarse grained gravel.		
29		100	100				29					
30		100	100				30					
31		100	100				31					
32		100	100				32		ML	SAPROLITE, Clayey SILT, firm, yellowish moist, moist, low plasticity, infilling black and calcite, with medium to coarse grained gravel.		
33		100	100				33					
34		100	100				34			Core Loss		
35		100	100				35			PERIDOTITE, strong, grey to light grey, slightly weathered, fractured, gravel is medium to coarse grained size, angular to sub angular, Joint are very closed to closed space, infilling with firm brown silt.		
36		100	100				36			Core Loss		
37		100	100				37		CH	PERIDOTITE, strong, grey to light grey, slightly weathered, fractured, gravel is medium to coarse grained size, angular to sub angular, Joint are very closed to closed space, infilling with firm brown silt.		
38		5	5				38					
39		100	100				39					
40		15	15				40			SAPROLITE, Silty CLAY with gravel, firm to stiff, yellowish brown to greenish brown, moist, high plasticity, medium to coarse grained gravel, sub angular to angular, infilling black and calcite.		
41		100	100				41					
42		5	5				42			PERIDOTITE, strong, grey to light grey, slightly weathered, high fractured, gravel is medium to coarse grained size, angular to sub angular, Joint are very closed to closed space, infilling with firm brown silt.		
43		100	100				43					
44		5	5				44					
45		100	100				45					

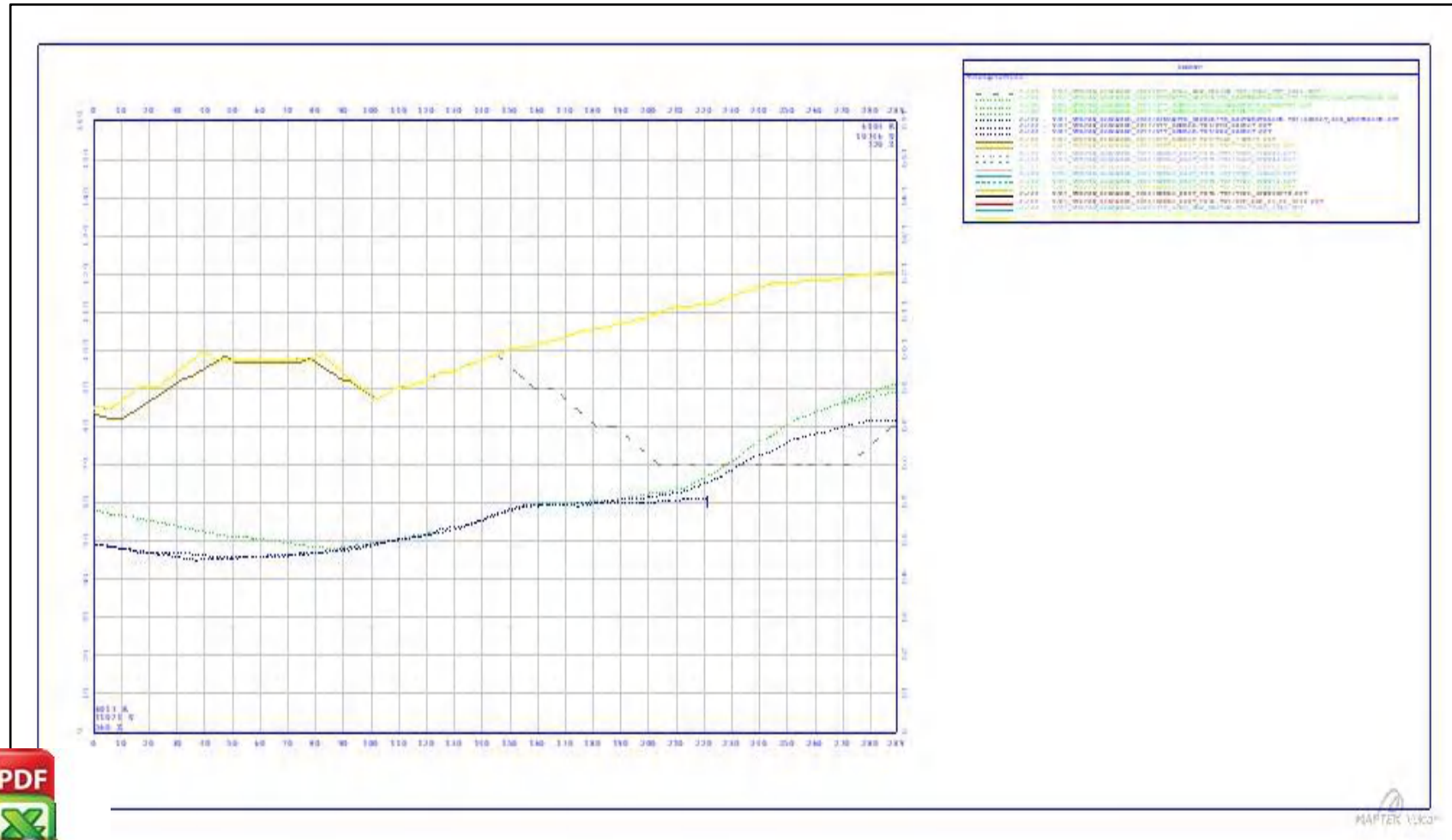
Continued

End of borehole @ 45.00 m depth

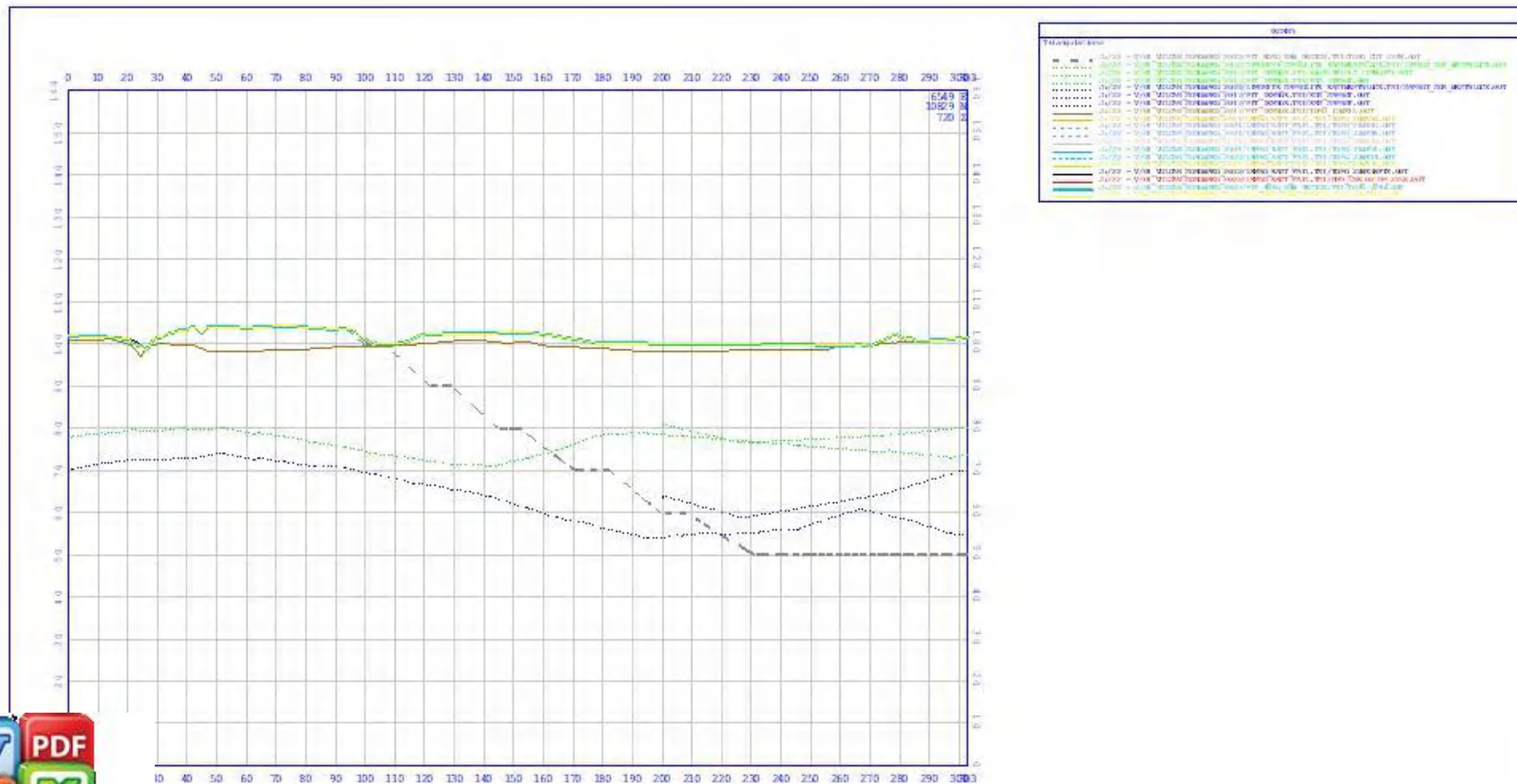
Small Distributed Sample Large Distributed Sample Undistributed Sample Undistributed Sample Pie Pie (70mm)		In-situ Vane Shear Test Water Level Standard Penetration Test Piezometer Tip Observation Well Tip Permeability Test		KEY Torque Pocket Penetrometer Lab Vane CU Triaxial Lab Vane Remoulded Est. from CPT, $N_{kt} = 15$ Normally Consolidated Profile		UU Triaxial Onshore UU Triaxial Offshore UU Remoulded In Situ Vane In Situ Vane Remoulded Est. from CPT, $N_{kt} = 20$ Design Profile		REMARKS :



Lampiran 4 Penampang Pit Koro South 02-02 (A-A')



Lampiran 5 Penampang Pit Koro South 02-03 (B-B')



Lampiran 6 Penampang Pit Koro South 02-04 (C-C')

