DAFTAR PUSTAKA

Arif, Irwandy. 2016. Geoteknik Tambang Mewujudkan Produksi Tambang yang Berkelanjutan dengan Menjaga Kestabilan Lereng. Gramedia Pustaka Utama, Jakarta.

Azizi, 2014. Pengembangan Metode Penentuan Reliabilitas Kestabilan Lereng Tambang Terbuka Batubara di Indonesia. Disertasi Institut Teknologi Bandung (ITB): Bandung.

Bieniawski. 1973. Engineering *Classification of Jointed Rock Masses*. *South Africa Civil Engineering*

Hasil Uji Laboratorium.2022.Pengujian Sampel *Triaxial*. PT. Bumi Indonesia: Kalimantan Timur.

Heryanto, R. Dkk. 1995. Geologi Regional Lembar Malinau. Kalimantan Utara 1:250.000.

Hoek, E. dan Bray, J. 1981. *Rock Slope Engineering*. London and New York: Institution of Mining and Metallurgy.

ISRM (1981): *Rock Characterization Testing and Monitoring ISRM Suggested Method*. E.T. Brown (Ed). Pergamon Press. 5 – 30.

Keputusan menteri energi dan sumber daya mineral. Republik indonesia. Nomor : 1806 k/30/mem/2018. Tanggal : 30 april 2018

Kovari.K dan Tissa.a. 1975. *Multiple failure state and strain controlled triaxial tests* : 15F, 3T, 8R. ROCK MECHANICS, V7, N1, MAR. 1975, P17-P33.

Morgentern, N.R dan Price, V.E. 1965. *The Analysis of The Stability of General Slip Surface*. Geothenique. London.

Prodjosumarto, P. (1993). Pemindahan Tanah Mekanis. Bandung: Jurusan Teknik Pertambangan Institut Teknologi Bandung.

PT. Mitrabara Adiperdana Tbk. 2013. Laporan Eksplorasi.

PT. Mitrabara Adiperdana Tbk. 2013. Pekerjaan Penyelidikan Geoteknik dan Hidrogeologi

SNI 13-7124.2005.Penyusunan Peta Zona Kerentanan. Badan Standarisasi Nasional (BSN): Jakarta.

SNI 4153.2008.Cara Uji Penetrasi Lapangan Dengan SPT. Badan Standarisasi Nasional (BSN): Jakarta.

Suratha, Gde, dan Maryanto. (2015). Peningkatan Wawasan dan Antisipasi Bahay Kelongsoran Lereng. Makalah dalam Geoteknik Terapan pada Tambang Batubara Terbuka. Samarinda, 8-10 Desember : PT Geoservices

Varnes, D.J. 1978. *Slope Movement Types and Processes* **:** *Landslide Analysis and Control, Transportation Research.*

Wyllie, D.C. dan Mah, C.W. 2004. *Rock Slope Engineering* (*Civil and Mining*) *4 th edition.* New York: Spon Press.

L A M P I R A N

Lampiran 1 Tabel Hasil Pengeboran Disposal IPDF Dengan Lubang Bor Berjumlah 8

PT BUMI INDONESIA

Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions

Head Office : Jl. Tantina 1, RT 18. No 26 (Jl. AM. Sangaji) Samarinda. Kalimantan Timur. Telp/Fax (0541) 745244. 0811590455 - 0811558977

Branch Office : Perumahan Delta Mas. Jl. Beruya Raya - Daya . Makassar. - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan

Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id

Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara

STANDAR :

ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	**G.W.L**	: - m	**COORDINATE**	: X = 0439162, Y = 0341371, Z = 80 M
BH-NO	: BH.01 Area Disposal	**TOTAL DEPTH**	: 30.00 m	**LOGING**	: Team PT. BI
DATE	: 17 Mei 2022 - 21 Mei 2022	**DRILL RIG**	: Rotary Core Drilling / Donfeng Power Rig	**CHECKED By**	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)	COREBOX DOCUMENTATION
Rotary Core Drilling		1				Silty CLAY, Grey, Medium Plasticity	SOFT		100		
		2	SPT.1 (1.50 - 1.95) 1 3 3 N = 6			Silty CLAY, Grey, Medium Plasticity			55		
		3				Silty CLAY, Grey, Medium Plasticity	MEDIUM		100		
		4	SPT.2 (3.50 - 3.95) 2 4 6 N = 10			Silty CLAY, Grey, Medium Plasticity			55		
		5			UDS 01	Silty CLAY, Trace of fine Rock, Grey, Medium Plasticity	STIFF		100		
		6	SPT.3 (5.50 - 5.95) 7 9 11 N = 20			Silty CLAY, Grey, Medium Plasticity			55		
		7				Silty CLAY, Grey, Medium Plasticity			100		
		8	SPT.4 (7.50 - 7.95) 3 4 5 N = 9			Silty CLAY, Grey, Medium Plasticity	MEDIUM		55		
		9				Silty CLAY, Grey, Medium Plasticity			100		
		10	SPT.5 (9.50 - 9.95) 3 5 7 N = 12		UDS 02	Silty CLAY, Grey, Medium Plasticity			55		
		11				Silty CLAY, Trace of Fine Coal, Dark Grey , Medium Plasticity			100		
		12	SPT.6 (11.50 - 11.95) 7 12 15 N = 27			Sandy CLAY, Brown, Low Plasticity	STIFF		55		
		13	SPT.7 (13.50 - 13.95) 8 10 12 N = 22		UDS 03	Silty CLAY, Trace of Fine Coal, Dark Grey , Medium Plasticity			99		
		14				Silty CLAY, Trace of Fine Coal, Dark Grey , Medium Plasticity			55		
		15				Silty CLAY, Trace of fine Rock, Brown, Medium Plasticity			100		
		16	SPT.8 (15.50 - 15.69) 6 9 13 N = 22			Silty CLAY, Brown, Medium Plasticity			55		
		17				Sandy CLAY, Trace of Fine Rock, Dark Brown, Low Plasticity			100		
		18	SPT.9 (17.50 - 17.55) 10 12 16 N = 12			Silty CLAY, Greynish Brown, Medium Plasticity	MEDIUM		55		
		19				Silty CLAY, Greynish Brown, Medium Plasticity			100		
		20	SPT.10 (19.50 - 19.94) 12 15 20 N = 35		UDS 04	Silty CLAY, Grey, Medium Plasticity	VERY STIFF		55		

PT BUMI INDONESIA Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions Head Office : Jl. Tuntina 1, RT 18 No 26 (Jl. AW. Sangaji) Samarinda, Kalimantan Timur. Telp/Fax (0541) 745244. 08115590455 - 0811558977 Branch Office : Perumahan Delta Mas, Jl. Berua Raya - Daya, Makassar. - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*	**Location : Long Loreh, Kalimantan Utara** **STANDAR :** **ASTM D5434-97**

PROJECT	: Soil Invetsigation PT. Mitrabara	G.W.L	: - m	COORDINATE	: X = 0439162, Y = 0341371, Z = 80 M
BH-NO	: BH.01 Area Disposal	TOTAL DEPTH	: 30.00 m	LOGING	: Team PT. BI
DATE	: 17 Mei 2022 - 21 Mei 2022	DRILL RIG	: Rotary Core Drilling / Donfeng Power Rig	CHECKED By	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	N¹	N²	N³	N =	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	Recovery (%)	RQD (%)
Rotary Core Drilling		21							Silty CLAY, Trace of fine Rock, Grey, Medium Plasticity	HARD	100	
		22	SPT.11 (21.50 - 21.95)	13	17	25	42		Silty CLAY, Trace of Gravel, Grey, Medium Plasticity		55	
		23							Silty CLAY, Grey, Medium Plasticity		100	
		24	SPT.12 (23.50 - 23.95)	14	19	27	46		Silty CLAY, Grey, Medium Plasticity		55	
		25						DS 01	Clay Stone, Brownish Grey, Low Plasticity	VERY HARD	100	
		26	SPT.13 (25.50 - 25.88)	28	36	24	60		Clay Stone, Brownish Grey, Low Plasticity		55	
		27							Clay Stone, Brownish Grey, Low Plasticity		100	
		28	SPT.14 (27.50 - 27.90)	31	35	25	60		Clay Stone, Brownish Grey, Low Plasticity		55	
		29						UDS 05	Clay Stone, Brownish Grey, Low Plasticity		100	
		30	SPT.15 (29.50 - 29.95)	25	30	30	60		Clay Stone, Brownish Grey, Low Plasticity		55	
									End Of Hole			

SPT GRAPH: 10 20 30 40 50 60

COREBOX DOCUMENTATION

PT BUMI INDONESIA

Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions

Head Office : Jl. Tantina 1, RT 18. No 26 (Jl. AM. Sangaji) Samarinda. Kalimantan Timur. Telp/Fax (0541) 745244. 0811590455 - 0811558977
Branch Office : Perumahan Delta Mas. Jl. Berua Raya - Daya . Makassar. - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan
Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id
Website : www.ptbumiindonesia.co.id - www.tokosurvey.com

Sales - Service - Rental - Kalibrasi - Training

Location : Long Loreh, Kalimantan Utara

STANDAR :

ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	**G.W.L**	: - m	**COORDINATE**	: X = 0439013.570, Y = 03411415
BH-NO	: BH.02 Area Disposal	**TOTAL DEPTH**	: 32.00 m	**LOGING**	: Team PT. BI
DATE	: 27 Mei 2022 - 31 Mei 2022	**DRILL RIG**	: Rotary Core Drilling / Donfeng Power Rig	**CHECKED By**	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)	COREBOX DOCUMENTATION
Rotary Core Drilling		1				Silty CLAY, Brown, Medium Plasticity			100		
		2	SPT.1 (1.50 - 1.95) N¹ 1 N² 2 N³ 3 N = 5			Silty CLAY, Trace of Gravel, Brown, Medium Plasticity			55		
		3			UDS 01	Silty CLAY, Brown, Medium Plasticity	SOFT		100		
		4	SPT.2 (3.50 - 3.95) 2 3 3 N = 6			Silty CLAY, Brown, Medium Plasticity			55		
		5				Silty CLAY, Trace of Gravel, Brown, Medium Plasticity			100		
		6	SPT.3 (5.50 - 5.95) 4 6 8 N = 14			Silty CLAY, Trace of Gravel, Brown, Medium Plasticity			55		
		7				Silty CLAY, Grey, Medium Plasticity	MEDIUM		100		
		8	SPT.4 (7.50 - 7.95) 3 4 5 N = 9			Silty CLAY, Grey, Medium Plasticity			55		
		9			UDS 02	Silty CLAY, Grey, Medium Plasticity	SOFT		100		
		10	SPT.5 (9.50 - 9.95) 2 4 4 N = 8			Silty CLAY, Grey, Medium Plasticity			55		
		11				Silty CLAY, Grey, Medium Plasticity			100		
		12	SPT.6 (11.50 - 11.95) 3 5 7 N = 12			Silty CLAY, Grey, Medium Plasticity			55		
		13			UDS 03	Silty CLAY, Grey, Medium Plasticity	MEDIUM		99		
		14	SPT.7 (13.50 - 13.95) 4 6 8 N = 14			Silty CLAY, Grey, Medium Plasticity			55		
		15				Silty CLAY, Grey, Medium Plasticity			100		
		16	SPT.8 (15.50 - 15.95) 1 3 3 N = 6			Silty CLAY, Grey, Medium Plasticity			55		
		17				Silty CLAY, Grey, Medium Plasticity	SOFT		100		
		18	SPT.9 (17.50 - 17.95) 7 9 13 N = 9		UDS 04	Silty CLAY, Grey, Medium Plasticity			55		
		19				Silty CLAY, Grey, Medium Plasticity			100		
		20	SPT.10 (19.50 - 19.95) 8 10 12 N = 22			Silty CLAY, Grey, Medium Plasticity	STIFF		55		

PT BUMI INDONESIA

Survey Instruments - GPS - Topography & Drilling Explorations - Waterwell - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions

Head Office : Jl. Tentina 1, RT 18, No 26 (Jl. AW. Sangaji) Samarinda, Kalimantan Timur. Telp/Fax (0541) 745244. 0811596455 - 0811558977
Branch Office : Perumahan Delta Mas. Jl. Barua Raya - Daya . Makassar - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan
Email : admin@ptbumiindonesia.co.id - coolbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id
Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara
STANDAR :
ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	G.W.L	: - m	COORDINATE	: X = 0439013.570, Y = 03411415
BH-NO	: BH.02 Area Disposal	TOTAL DEPTH	: 32.00 m	LOGING	: Team PT. BI
DATE	: 27 Mei 2022 - 31 Mei 2022	DRILL RIG	: Rotary Core Drilling / Donfeng Power Rig	CHECKED By	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	N¹	N²	N³	N =	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)	COREBOX DOCUMENTATION
Rotary Core Drilling		21								Silty CLAY, Brown, Medium Plasticity	VERY STIFF		100		
		22	SPT.11 (21.50 - 21.95)	13	20	24	44			Silty CLAY, Brown, Medium Plasticity			55		
		23								Silty CLAY, Grey, Medium Plasticity	VERY HARD		100		
		24	SPT.12 (23.50 - 23.95)	15	21	39	60		UDS 05	Silty CLAY, Grey, Medium Plasticity			55		
		25								Silty CLAY, Grey, Medium Plasticity			100		
		26	SPT.13 (25.50 - 25.75)	35	60		60		DS 01	Clay Stone, Brownish Grey, Low Plasticity			55		
		27								Clay Stone, Brownish Grey, Low Plasticity			100		
		28	SPT.14 (27.50 - 27.95)	20	30	30	60			Clay Stone, Brownish Grey, Low Plasticity			55		
		29								Clay Stone, Brownish Grey, Low Plasticity			100		
		30	SPT.15 (29.50 - 29.95)	18	30	21	51			Clay Stone, Brownish Grey, Low Plasticity			55		
										Clay Stone, Brownish Grey, Low Plasticity			100		
		32	SPT.16 (31.50 - 31.89)	40	41	20	61			Clay Stone, Brownish Grey, Low Plasticity			55		
		33								**END OF HOLE**					
		34													
		35													

PT BUMI INDONESIA

Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions

Head Office : Jl. Tantina 1. RT 18. No 26 (Jl. AM. Sangaji) Samarinda. Kalimantan Timur. Telp/Fax (0541) 745244, 0811590455 - 0811558977

Branch Office : Perumahan Delta Mas. Jl. Berua Raya - Daya . Makassar. - Surabaya (sidoarjo) - Bandong - Papua (jayapura) - Balikpapan

Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id

Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara

STANDAR :

ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	**G.W.L**	: - m	**COORDINATE**	: X = 04329006, Y = 0341488, Z = 80 M
BH-NO	: BH.03 Area Disposal	**TOTAL DEPTH**	: 30.00 m	**LOGING**	: Team PT. BI
DATE	: 23 Mei 2022 - 26 Mei 2022	**DRILL RIG**	: Rotary Core Drilling / Donfeng Power Rig	**CHECKED By**	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)	COREBOX DOCUMENTATION
Rotary Core Drilling		1				Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity	SOFT		100		
		2	SPT.1 (1.50 - 1.95) N¹ 1 N² 2 N³ 3 N = 5			Silty CLAY, Brown, Medium Plasticity			55		
		3				Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity			100		
		4	SPT.2 (3.50 - 3.95) N¹ 2 N² 3 N³ 4 N = 7			Silty CLAY, Brown, Medium Plasticity			55		
		5			UDS 01	Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity	MEDIUM		100		
		6	SPT.3 (5.50 - 5.95) N¹ 5 N² 6 N³ 8 N = 14			Silty CLAY, Brown, Medium Plasticity			55		
		7				Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity			100		
		8	SPT.4 (7.50 - 7.95) N¹ 4 N² 3 N³ 7 N = 10			Silty CLAY, Trace of Clay Stone, Brown, Medium Plasticity			55		
		9				Silty CLAY, Trace of Clay Stone, Brown, Medium Plasticity			100		
		10	SPT.5 (9.50 - 9.95) N¹ 2 N² 3 N³ 5 N = 8		UDS 02	Silty CLAY, Grey, Medium Plasticity	SOFT		55		
		11				Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity			100		
		12	SPT.6 (11.50 - 11.95) N¹ 1 N² 2 N³ 2 N = 4			Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity			55		
		13			UDS 03	Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity			99		
		14	SPT.7 (13.50 - 13.95) N¹ 1 N² 2 N³ 1 N = 3			Silty CLAY, Trace of fine Coal, Dark Grey, Medium Plasticity			55		
		15				Silty CLAY, Trace of fine Sand Stone, Dark Grey, Medium Plasticity	VERY SOFT		100		
		16	SPT.8 (15.50 - 15.69) N¹ 0 N² 1 N³ 1 N = 2			Silty CLAY, Brown, Medium Plasticity			55		
		17			UDS 04	Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity			100		
		18	SPT.9 (17.50 - 17.55) N¹ 1 N² 1 N³ 4 N = 1			Silty CLAY, Greynish Brown, Medium Plasticity			55		
		19				Silty CLAY, Trace of fine Coal, Greynish Brown, Medium Plasticity			100		
		20	SPT.10 (19.50 - 19.94) N¹ 1 N² 2 N³ 3 N = 5			Silty CLAY, Grey, Medium Plasticity	SOFT		55		

PT BUMI INDONESIA
Survey Instruments - GPS - Topography & Drilling Explorations - Waterwell - Soil Test - Soil & Rock Lab - Piling & Boreple - Mining Consultants - Civil Engineering & Constructions
Head Office : Jl. Tanina 1. RT 18. No 26 (Jl. AM. Sangaji) Samarinda. Kalimantan Timur. Telp/Fax (0541) 745244 . 081539455 - 081558977
Branch Office : Perumahan Delta Mas. Jl. Berua Raya - Daya . Makassar · Surabaya (sidoarjo) · Bandung · Papua (jayapura) · Balikpapan
Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id
Website : www.ptbumiindonesia.co.id - www.tokesurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara

STANDAR :

ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	G.W.L	: - m	COORDINATE	: X = 04329006, Y = 0341488, Z = 80 M
BH-NO	: BH.03 Area Disposal	TOTAL DEPTH	: 30.00 m	LOGING	: Team PT. BI
DATE	: 23 Mei 2022 - 26 Mei 2022	DRILL RIG	: Rotary Core Drilling / Donfeng Power Rig	CHECKED By	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)	COREBOX DOCUMENTATION
Rotary Core Drilling		21	SPT.11 (21.50 - 21.95)			Silty CLAY, Brown, Medium Plasticity	MEDIUM		100		
		22	3 5 7 N = 12			Silty CLAY, Brown, Medium Plasticity			55		
		23	SPT.12 (23.50 - 23.95)			Silty CLAY, Grey, Medium Plasticity	STIFF		100		
		24	5 9 13 N = 22			Silty CLAY, Grey, Medium Plasticity			55		
		25	SPT.13 (25.50 - 25.92)		DS 01	Clay Stone, Trace of finr sand, Brownish Grey, Low Plasticity	VERY HARD		100		
		26	25 35 25 N = 60			Clay Stone, Brownish Grey, Low Plasticity			55		
		27	SPT.14 (27.50 - 27.73)			Clay Stone, Brownish Grey, Low Plasticity			100		
		28	35 60 N = 60			Clay Stone, Brownish Grey, Low Plasticity			55		
		29	SPT.15 (29.50 - 29.78)			Sand Stone, Trace of Lean Clay, Brownish Grey, Low Plasticity			100		
		30	20 60 N = 60			Sand Stone, Trace of Lean Clay, Brownish Grey, Low Plasticity			55		
						End Of Hole					

PT BUMI INDONESIA
Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions
Head Office : Jl. Tantina 1. RT 18. No 26 Lil. AM. Sangaji) Samarinda. Kalimantan Timur. Telp/Fax (0541) 745244. 081359455 - 081155897
Branch Office : Perumahan Delta Mas. Jl. Berua Raya - Daya . Makassar. - Surabaya (sidoarjo) - Bandung - Papua (Jayapura) - Balikpapan
Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id
Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara

STANDAR :

ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	**G.W.L**	: - m	**COORDINATE**	: X = 0438945, Y = 0341331, Z = 90 M
BH-NO	: BH.04 Area Disposal	**TOTAL DEPTH**	: 60.00 m	**LOGING**	: Team PT. BI
DATE	: 1 Juni 2022 - 6 Juni 2022	**DRILL RIG**	: Rotary Core Drilling / Donfeng Power Rig	**CHECKED By**	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)
Rotary Core Drilling		1				Silty CLAY, Brown, Medium Plasticity	VERY SOFT		100	
		2	SPT.1 (1.50 - 1.95) 0 N = 0		UDS 01	Silty CLAY, Brown, Medium Plasticity			55	
		3				Silty CLAY, Brown, Medium Plasticity			100	
		4	SPT.2 (3.50 - 3.95) 1 2 3 N = 5			Silty CLAY, Brown, Medium Plasticity	SOFT		55	
		5				Silty CLAY, Brown, Medium Plasticity			100	
		6	SPT.3 (5.50 - 5.95) 2 3 2 N = 5			Silty CLAY, Brown, Medium Plasticity			55	
		7			UDS 02	Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity			100	
		8	SPT.4 (7.50 - 7.95) 3 2 2 N = 4			Silty CLAY, Grey, Medium Plasticity			55	
		9				Silty CLAY, Grey, Medium Plasticity			100	
		10	SPT.5 (9.50 - 9.95) 4 5 7 N = 12			Silty CLAY, Grey, Medium Plasticity			55	
		11				Silty CLAY, Grey, Medium Plasticity			100	
		12	SPT.6 (11.50 - 11.95) 3 5 9 N = 14			Silty CLAY, Grey, Medium Plasticity	MEDIUM		55	
		13				Silty CLAY, Grey, Medium Plasticity			99	
		14	SPT.7 (13.50 - 13.95) 4 6 8 N = 14			Silty CLAY, Grey, Medium Plasticity			55	
		15			UDS 03	Silty CLAY, Grey, Medium Plasticity			100	
		16	SPT.8 (15.50 - 15.69) 7 9 13 N = 22			SAND, Medium Grained, Grey, Non Plasticity	DENSE		55	
		17				SAND, Medium Grained, Grey, Non Plasticity			100	
		18	SPT.9 (17.50 - 17.55) 8 10 15 N = 10			SAND, Medium Grained, Grey, Non Plasticity	MEDIUM		55	
		19				Silty CLAY, Grey, Medium Plasticity			100	
		20	SPT.10 (19.50 - 19.94) 7 8 22 N = 30		UDS 04	Silty CLAY, Brown, Medium Plasticity	VERY STIFF		55	

COREBOX DOCUMENTATION

PT BUMI INDONESIA
Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions
Head Office : Jl. Tantina 1. RT 18. No 26 (Jl. AM. Sangaji) Samarinda. Kalimantan Timur. Telp/Fax (0541) 745244. 0811590455 - 0811558977
Branch Office : Perumahan Delta Mas. Jl. Berua Raya - Daya . Makassar. - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan
Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id
Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara
STANDAR :
ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	**G.W.L**	: - m	**COORDINATE**	: X = 0438945, Y = 0341331, Z = 90 M
BH-NO	: BH.04 Area Disposal	**TOTAL DEPTH**	: 60.00 m	**LOGING**	: Team PT. BI
DATE	: 1 Juni 2022 - 6 Juni 2022	**DRILL RIG**	: Rotary Core Drilling / Donfeng Power Rig	**CHECKED By**	: Adi Gunawan, ST

METODE	G.W.L.	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)
Rotary Core Drilling		21				Silty CLAY, Brown, Medium Plasticity			100	
		22	SPT.11 (21.50 - 21.95) 2 4 4 N = 8			Silty CLAY, Brown, Medium Plasticity	SOFT		55	
		23				Silty CLAY, Grey, Medium Plasticity			100	
		24	SPT.12 (23.50 - 23.95) 5 7 9 N = 16			Silty CLAY, Grey, Medium Plasticity	STIFF		55	
		25				Silty CLAY, Grey, Medium Plasticity			100	
		26	SPT.13 (25.50 - 25.92) 5 3 9 N = 12			Silty CLAY, Grey, Medium Plasticity			55	
		27				Silty CLAY, Grey, Medium Plasticity			100	
		28	SPT.14 (27.50 - 27.73) 3 4 6 N = 10			Silty CLAY, Grey, Medium Plasticity	MEDIUM		55	
		29				Silty CLAY, Grey, Medium Plasticity			100	
		30	SPT.15 (29.50 - 29.78) 4 6 4 N = 10		UDS 06	Silty CLAY, Grey, Medium Plasticity			55	
		31				Silty CLAY, Grey, Medium Plasticity				
		32	SPT.16 (31.50 - 31.95) 10 10 20 N = 30			Silty CLAY, Grey, Medium Plasticity				
		33				Silty CLAY, Grey, Medium Plasticity				
		34	SPT.17 (33.50 - 33.95) 9 15 22 N = 37			Silty CLAY, Grey, Medium Plasticity				
		35			UDS 07	Silty CLAY, Grey, Medium Plasticity	VERY STIFF			
		36	SPT.18 (35.50 - 35.95) 11 18 20 N = 38			Silty CLAY, Grey, Medium Plasticity				
		37				Silty CLAY, Grey, Medium Plasticity				
		38	SPT.19 (37.50 - 37.95) 14 19 11 N = 30			Silty CLAY, Grey, Medium Plasticity				
		39				Clay Stone, Grey, Medium Plasticity				
		40	SPT.20 (39.50 - 39.95) 17 22 20 N = 42		DS 01	Clay Stone, Grey, Medium Plasticity				

COREBOX DOCUMENTATION

PT BUMI INDONESIA
Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions
Head Office : Jl. Tantina 1. RT 18. No 26 Uli. AM. Sangaji) Samarinda. Kalimantan Timur. Telp/Fax (0541) 745244. 0811590455 - 0811558977
Branch Office : Perumahan Delta Mas. Jl. Berua Raya - Daya . Makassar - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan
Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id
Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara

STANDAR :

ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	**G.W.L**	: - m	**COORDINATE**	: X = 0438945, Y = 0341331, Z = 90 M
BH-NO	: BH.04 Area Disposal	**TOTAL DEPTH**	: 60.00 m	**LOGING**	: Team PT. BI
DATE	: 1 Juni 2022 - 6 Juni 2022	**DRILL RIG**	: Rotary Core Drilling / Donfeng Power Rig	**CHECKED By**	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)
		41				Clay Stone, Grey, Medium Plasticity				
			SPT.21 (41.50 - 41.95)							
		42	20 27 30 N = 57			Clay Stone, Grey, Medium Plasticity				
		43				Clay Stone, Grey, Medium Plasticity				
			SPT.22 (43.50 - 43.95)							
		44	20 30 30 N = 60			Clay Stone, Grey, Medium Plasticity				
		45				Clay Stone, Grey, Medium Plasticity				
			SPT.23 (45.50 - 45.95)							
		46	21 19 30 N = 49			Clay Stone, Grey, Medium Plasticity				
		47				Clay Stone, Grey, Medium Plasticity				
			SPT.24 (47.50 - 47.95)							
		48	10 21 25 N = 46			Clay Stone, Grey, Medium Plasticity				
		49				Clay Stone, Grey, Medium Plasticity				
			SPT.25 (49.50 - 49.95)							
		50	30 20 30 N = 50			Clay Stone, Grey, Medium Plasticity	VERY HARD			
		51				Clay Stone, Grey, Medium Plasticity				
			SPT.26 (51.50 - 51.95)							
		52	20 30 26 N = 56			Clay Stone, Grey, Medium Plasticity				
		53				Clay Stone, Grey, Medium Plasticity				
			SPT.27 (53.50 - 53.95)							
		54	19 25 31 N = 56			Clay Stone, Grey, Medium Plasticity				
		55				Clay Stone, Grey, Medium Plasticity				
			SPT.28 (55.50 - 55.88)							
		56	30 41 19 N = 60			Clay Stone, Grey, Medium Plasticity				
		57				Clay Stone, Grey, Medium Plasticity				
			SPT.29 (57.50 - 57.93)							
		58	27 40 20 N = 60			Clay Stone, Grey, Medium Plasticity				
		59				Clay Stone, Grey, Medium Plasticity				
			SPT.30 (59.50 - 59.92)							
		60	25 50 10 N = 60			Clay Stone, Grey, Medium Plasticity				

COREBOX DOCUMENTATION

PT BUMI INDONESIA

Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions

Head Office : Jl. Tantina 1. RT 18. No 26 (Jl. AM. Sangaji) Samarinda. Kalimantan Timur. Telp/Fax (0541) 745244. 081359045S - 0811558977

Branch Office : Perumahan Delta Mas. Jl. Berua Raya - Daya . Makassar - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan

Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id

Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara

STANDAR :

ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	**G.W.L**	: - m	**COORDINATE**	: X = 0438820.116, Y = 0341446.821, Z = 85 M
BH-NO	: BH.05 Area Disposal	**TOTAL DEPTH**	: 60.00 m	**LOGING**	: Team PT. BI
DATE	: 10 Juni 2022 -17 Juni 2022	**DRILL RIG**	: Rotary Core Drilling / Donfeng Power Rig	**CHECKED By**	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)	COREBOX DOCUMENTATION
Rotary Core Drilling		1				Silty CLAY, Grey, Medium Plasticity	SOFT		100		
		2	SPT.1 (1.50 - 1.95) N1=2 N2=1 N3=3 N=4			Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity			55		
		3				Silty CLAY, Grey, Medium Plasticity			100		
		4	SPT.2 (3.50 - 3.95) N1=1 N2=1 N3=2 N=3			Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity			55		
		5			UDS 01	Silty CLAY, Grey, Medium Plasticity			100		
		6	SPT.3 (5.50 - 5.95) N1=2 N2=2 N3=6 N=8			Silty CLAY, Grey, Medium Plasticity	MEDIUM		55		
		7			UDS 02	Silty CLAY, Grey, Medium Plasticity			100		
		8	SPT.4 (7.50 - 7.95) N1=2 N2=3 N3=5 N=8			Silty CLAY, Grey, Medium Plasticity			55		
		9				Silty CLAY, Trace of Clay Stone, Brown, Medium Plasticity			100		
		10	SPT.5 (9.50 - 9.95) N1=3 N2=3 N3=7 N=10			Silty CLAY, Trace of Clay Stone, Brown, Medium Plasticity	SOFT		55		
		11				Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity			100		
		12	SPT.6 (11.50 - 11.95) N1=2 N2=2 N3=2 N=4			Silty CLAY, Grey, Medium Plasticity			55		
		13				Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity			99		
		14	SPT.7 (13.50 - 13.95) N1=3 N2=4 N3=3 N=7		UDS 03	Silty CLAY, Grey, Medium Plasticity			55		
		15				Silty CLAY, Trace of fine Sand Stone, Dark Grey, Medium Plasticity	VERY SOFT		100		
		16	SPT.8 (15.50 - 15.69) N1=4 N2=7 N3=5 N=12			Silty CLAY, Grey, Medium Plasticity			55		
		17				Silty CLAY, Grey, Medium Plasticity			100		
		18	SPT.9 (17.50 - 17.95) N1=7 N2=9 N3=13 N=22			SAND, Fine to Medium Grained, Grey, Non Plasticity			55		
		19			DS 01	SAND, Fine to Medium Grained, Grey, Non Plasticity			100		
		20	SPT.10 (19.50 - 19.95) N1=9 N2=12 N3=15 N=27			SAND, Fine to Medium Grained, Grey, Non Plasticity	SOFT		55		

PT BUMI INDONESIA
Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions
Head Office : Jl. Tantina 1. RT 18. No 26 Lt. AM. Sangaji | Samarinda. Kalimantan Timur. Telp/Fax (0541) 745244. 081159455 - 081155897
Branch Office : Perumahan Delta Mas. Jl. Berua Raya - Daya . Makassar. - Surabaya (sidoarjo) - Bandung - Papua (Jayapura) - Balikpapan
Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id
Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara

STANDAR :

ASTM D5434-97

PROJECT	**: Soil Invetsigation PT. Mitrabara**	**G.W.L**	**: - m**	**COORDINATE**	**: X = 0438820.116, Y = 0341446.821, Z = 85 M**
BH-NO	**: BH.05 Area Disposal**	**TOTAL DEPTH**	**: 60.00 m**	**LOGING**	**: Team PT. BI**
DATE	**: 10 Juni 2022 -17 Juni 2022**	**DRILL RIG**	**: Rotary Core Drilling / Donfeng Power Rig**	**CHECKED By**	**: Adi Gunawan, ST**

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)	COREBOX DOCUMENTATION
Rotary Core Drilling		21				Silty CLAY, Grey, Medium Plasticity			100		
			SPT.11 (21.50 - 21.95)								
		22	4 5 7 N = 12			Silty CLAY, Grey, Medium Plasticity	MEDIUM		55		
		23				Silty CLAY, Grey, Medium Plasticity			100		
			SPT.12 (23.50 - 23.95)								
		24	5 5 6 N = 11			Silty CLAY, Grey, Medium Plasticity			55		
		25			UDS 04	Silty CLAY, Grey, Medium Plasticity			100		
			SPT.13 (25.50 - 25.95)								
		26	7 3 4 N = 7			Silty CLAY, Grey, Medium Plasticity			55		
		27				Silty CLAY, Grey, Medium Plasticity			100		
			SPT.14 (27.50 - 27.95)				SOFT				
		28	2 3 2 N = 5			Silty CLAY, Grey, Medium Plasticity			55		
		29				Silty CLAY, Grey, Medium Plasticity			100		
			SPT.15 (29.50 - 29.95)		UDS 05						
		30	4 2 2 N = 4			Silty CLAY, Grey, Medium Plasticity			55		
Rotary Core Drilling		31				Silty CLAY, Trace of Carbonaceous,Grey, Medium Plasticity			100		
			SPT.16 (31.50 - 31.95)								
		32	2 2 2 N = 4			Silty CLAY, Trace of Carbonaceous,Grey, Medium Plasticity	VERY SOFT		55		
		33				Silty CLAY, Grey, Medium Plasticity			100		
			SPT.17 (33.50 - 33.95)								
		34	8 12 15 N = 27			Silty CLAY, Grey, Medium Plasticity	STIFF		55		
		35			DS 02	Silty CLAY, Grey, Medium Plasticity			100		
			SPT.18 (35.50 - 35.95)								
		36	4 7 4 N = 11			Silty CLAY, Grey, Medium Plasticity			55		
		37				Silty CLAY, Grey, Medium Plasticity			100		
			SPT.19 (37.50 - 37.95)				MEDIUM				
		38	5 5 8 N = 13			Silty CLAY, Grey, Medium Plasticity			55		
		39				Silty CLAY, Grey, Medium Plasticity			100		
			SPT.20 (39.50 - 39.95)		DS 03						
		40	10 18 21 N = 39			SAND, Fine to Medium Grained, Grey, Non Plasticity	DENSE		55		

PT BUMI INDONESIA
Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions
Head Office : Jl. Tantina 1, RT 18, No 26 (Jl. AM. Sangaji) Samarinda, Kalimantan Timur, Telp/Fax (0541) 745244, 0811590455 - 0811558977
Branch Office : Perumahan Delta Mas. Jl. Berua Raya - Daya , Makassar - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan
Email : admin@ptbumiindonesia.co.id - csalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id
Website : www.ptbumiindonesia.co.id - www.tokosurvey.com Sales - Service - Rental - Kalibrasi - Training

Location : Long Loreh, Kalimantan Utara

STANDAR :

ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	**G.W.L**	: - m	**COORDINATE**	: X = 0438820.116, Y = 0341446.821, Z = 85 M
BH-NO	: BH.05 Area Disposal	**TOTAL DEPTH**	: 60.00 m	**LOGING**	: Team PT. BI
DATE	: 10 Juni 2022 -17 Juni 2022	**DRILL RIG**	: Rotary Core Drilling / Donfeng Power Rig	**CHECKED By**	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)
		41				SAND, Fine to Medium Grained, Grey, Non Plasticity	DENSE		100	
		42	SPT.21 (41.50 - 41.95) 6 12 20 N = 32			SAND, Fine to Medium Grained, Grey, Non Plasticity			55	
		43				Silty CLAY, Brownish Grey, Medium Plasticity	STIFF		99	
		44	SPT.22 (43.50 - 43.95) 7 7 9 N = 16			Silty CLAY, Brownish Grey, Medium Plasticity			55	
		45			UDS 06	Silty CLAY, Brownish Grey, Medium Plasticity			100	
		46	SPT.23 (45.50 - 45.95) 9 16 25 N = 41			Silty CLAY, Brownish Grey, Medium Plasticity	HARD		55	
		47				Silty CLAY, Trace of fine Coal, Brownish Grey, Medium Plasticity			100	
		48	SPT.24 (47.50 - 47.95) 13 20 27 N = 47			Silty CLAY, Brownish Grey, Medium Plasticity			55	
		49				Silty CLAY, Brownish Grey, Medium Plasticity			100	
		50	SPT.25 (49.50 - 49.95) 15 21 20 N = 41		DS 04	Silty CLAY, Brownish Grey, Medium Plasticity			55	
		51				Silty CLAY, Brownish Grey, Medium Plasticity			100	
		52	SPT.26 (51.50 - 51.95) 16 25 30 N = 55			Silty CLAY, Brownish Grey, Medium Plasticity			55	
		53				Silty CLAY, Grey, Medium Plasticity	VERY HARD		100	
		54	SPT.27 (53.50 - 53.95) 15 23 36 N = 59		DS 05	Silty CLAY, Grey, Medium Plasticity			55	
		55				Silty CLAY, Grey, Medium Plasticity			100	
		56	SPT.28 (55.50 - 55.89) 35 45 15 N = 60			Clay Stone, Brownish Grey, Medium Plasticity			55	
		57				Clay Stone, Brownish Grey, Medium Plasticity			100	
		58	SPT.29 (57.50 - 57.90) 30 40 28 N = 68			Clay Stone, Brownish Grey, Medium Plasticity			55	
		59				Clay Stone, Brownish Grey, Medium Plasticity			100	
		60	SPT.30 (59.50 - 59.60) 60 N = 60			Clay Stone, Brownish Grey, Medium Plasticity			55	

COREBOX DOCUMENTATION

PT BUMI INDONESIA	Location : Long Loreh, Kalimantan Utara
Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions Head Office : Jl. Tantina 1, RT 18, No 26 (Jl. AM. Sangaji) Samarinda, Kalimantan Timur. Telp/Fax (0541) 745244. 081159045S - 0811558977 Branch Office : Perumahan Delta Mas. Jl. Berua Raya - Daya . Makassar. - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan Email : admin@ptbumiindonesia.co.id - soilbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*	STANDAR : ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	G.W.L	: - m	COORDINATE	: X = 0438768, Y = 0341270, Z = - M
BH-NO	: BH.06 Area Disposal	TOTAL DEPTH	: 64.00 m	LOGING	: Team PT. BI
DATE	: 7 Juni 2022 - 117Juni 2022	DRILL RIG	: Rotary Core Drilling / Donfeng Power Rig	CHECKED By	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	N^1	N^2	N^3	N =	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)	COREBOX DOCUMENTATION
Rotary Core Drilling		1								Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity	MEDIUM		100		
		2	SPT.1 (1.50 - 1.95)	2	3	3	6		UDS 01	Silty CLAY, Brown, Medium Plasticity			55		
		3								SAND, Fine to Medium Grained, Grey, Non Plasticity			100		
		4	SPT.2 (3.50 - 3.95)	3	3	4	7			SAND, Fine to Medium Grained, Grey, Non Plasticity			55		
		5								Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity			100		
		6	SPT.3 (5.50 - 5.95)	3	5	5	10			Silty CLAY, Brown, Medium Plasticity			55		
		7								Silty CLAY, Brown, Medium Plasticity			100		
		8	SPT.4 (7.50 - 7.95)	4	6	7	13			Silty CLAY, Brown, Medium Plasticity			55		
		9								Silty CLAY, Brown, Medium Plasticity	STIFF		100		
		10	SPT.5 (9.50 - 9.95)	6	9	11	20		DS 01	Silty CLAY, Brown, Medium Plasticity			55		
		11								SAND, Fine to Medium Grained, Brown, Non Plasticity			100		
		12	SPT.6 (11.50 - 11.95)	5	7	7	14			SAND, Fine to Medium Grained, Brown, Non Plasticity			55		
		13								SAND, Fine to Medium Grained, Brown, Non Plasticity			99		
		14	SPT.7 (13.50 - 13.95)	7	10	11	21		DS 02	SAND, Fine to Medium Grained, Brown, Non Plasticity			55		
		15								SAND, Fine to Medium Grained, Brown, Non Plasticity			100		
		16	SPT.8 (15.50 - 15.69)	7	10	12	22			SAND, Fine to Medium Grained, Brown, Non Plasticity			55		
		17								SAND, Fine to Medium Grained, Brown, Non Plasticity			100		
		18	SPT.9 (17.50 - 17.55)	9	12	13	25		DS 03	SAND, Fine to Medium Grained, Brown, Non Plasticity			55		
		19								SAND, Fine to Medium Grained, Brown, Non Plasticity			100		
		20	SPT.10 (19.50 - 19.94)	8	9	12	21			Silty CLAY, Trace of Sand Stone, Grey, Medium Plasticity			55		

PT BUMI INDONESIA

Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions

Head Office : Jl. Tanirna 1, RT 18. No 26 (0. AM. Sangaji) Samarinda. Kalimantan Timur. Telp/Fax (0541) 745244. 081359045S - 081155897?

Branch Office : Perumahan Delta Mas. Jl. Berua Raya - Daya . Makassar. - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan

Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id

Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara

STANDAR :

ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	**G.W.L**	: - m	**COORDINATE**	: X = 0438768, Y = 0341270, Z = - M
BH-NO	: BH.06 Area Disposal	**TOTAL DEPTH**	: 64.00 m	**LOGING**	: Team PT. BI
DATE	: 7 Juni 2022 - 117Juni 2022	**DRILL RIG**	: Rotary Core Drilling / Donfeng Power Rig	**CHECKED By**	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)	COREBOX DOCUMENTATION
Rotary Core Drilling		21				Silty CLAY, Grey, Medium Plasticity	VERY STIFF		100		
			SPT.11 (21.50 - 21.95)		DS 04						
		22	13 15 16 N = 31			Silty CLAY, Grey, Medium Plasticity			55		
		23				Silty CLAY, Grey, Medium Plasticity	STIFF		100		
			SPT.12 (23.50 - 23.95)								
		24	10 12 14 N = 26			Silty CLAY, Grey, Medium Plasticity			55		
		25			UDS 02	Silty CLAY, Grey, Medium Plasticity			100		
			SPT.13 (25.50 - 25.92)			Silty CLAY, Grey, Medium Plasticity			55		
		26	11 12 12 N = 24								
		27				Silty CLAY, Grey, Medium Plasticity			100		
			SPT.14 (27.50 - 27.73)			Silty CLAY, Grey, Medium Plasticity			55		
		28	9 10 11 N = 21								
		29				Silty CLAY, Trace of fine Coal, Brown, Medium Plasticity			100		
			SPT.15 (29.50 - 29.78)			Silty CLAY, Grey, Medium Plasticity			55		
		30	5 6 6 N = 12								
Rotary Core Drilling		31				Silty CLAY, Grey, Medium Plasticity	MEDIUM		100		
			SPT.16 (31.50 - 31.95)			Silty CLAY, Grey, Medium Plasticity			55		
		32	7 9 8 N = 17								
		33				Silty CLAY, Trace of Sand Stone, Brown, Medium Plasticity			100		
			SPT.17 (33.50 - 33.95)			Silty CLAY, Trace of Sand Stone, Brown, Medium Plasticity	STIFF		55		
		34	9 9 11 N = 20								
		35				Silty CLAY, Trace of Sand Stone, Brown, Medium Plasticity			100		
			SPT.18 (35.50 - 35.95)			Silty CLAY, Grey, Medium Plasticity	VERY STIFF		55		
		36	12 16 18 N = 34								
		37				Silty CLAY, Grey, Medium Plasticity			100		
			SPT.19 (37.50 - 37.62)			Silty CLAY, Trace of Sand Stone, Brown, Medium Plasticity	VER HARD		55		
		38	60 N = 60								
		39				Silty CLAY, Trace of Sand Stone, Brown, Medium Plasticity			100		
			SPT.20 (39.50 - 39.95)			Silty CLAY, Grey, Medium Plasticity			55		
		40	18 22 26 N = 48								

PT BUMI INDONESIA

Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions

Head Office : Jl. Tantina 1. RT 18. No 26 (Jl. AM. Sangaji) Samarinda. Kalimantan Timur. Telp/Fax (0541) 745248. 08115/90455 - 0811558977

Branch Office : Perumahan Delta Mas. Jl. Berua Raya - Daya . Makassar. - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan

Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id

Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara

STANDAR :

ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	**G.W.L**	: - m	**COORDINATE**	: X = 0438768, Y = 0341270, Z = - M
BH-NO	: BH.06 Area Disposal	**TOTAL DEPTH**	: 64.00 m	**LOGING**	: Team PT. BI
DATE	: 7 Juni 2022 - 117Juni 2022	**DRILL RIG**	: Rotary Core Drilling / Donfeng Power Rig	**CHECKED By**	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH	Recovery (%)	RQD (%)	COREBOX DOCUMENTATION
		41				Igneous Rock, Light Grey, Non Plasticity			100		
			SPT.21 (41.50 - 41.53)								
		42	60 N = 60			Igneous Rock, Light Grey, Non Plasticity			55		
		43				Sand, Medium Grained, Grey, Non Plasticity			99		
			SPT.22 (43.50 - 43.74)								
		44	45 60 N = 60			Sand, Medium Grained, Grey, Non Plasticity			55		
		45				Sand, Medium Grained, with Sand Stone, Grey, Non Plasticity			100		
			SPT.23 (45.50 - 45.95)								
		46	22 25 31 N = 56			Sand, Medium Grained, with Sand Stone, Grey, Non Plasticity			55		
		47				Igneous Rock, Light Grey, Non Plasticity			100		
			SPT.24 (47.50 - 47.53)								
		48	60 N = 60			Igneous Rock, Light Grey, Non Plasticity			55		
		49				Igneous Rock, Light Grey, Non Plasticity			100		
			SPT.25 (49.50 - 49.52)								
		50	60 N = 60			Igneous Rock, Dark Grey, Non Plasticity			55		
		51				SAND, Fine to Medium Grained, Brown, Non Plasticity			100		
			SPT.26 (51.50 - 51.95)								
		52	41 31 27 N = 58			SAND, Fine to Medium Grained, Brown, Non Plasticity			55		
		53				SAND, Fine to Medium Grained, Brown, Non Plasticity	VERY HARD		100		
			SPT.27 (53.50 - 53.93)								
		54	27 31 29 N = 60			Clay Stone, GREY, Medium Plasticity			55		
		55				Igneous Rock, Light Grey, Non Plasticity			100		
			SPT.28 (55.50 - 55.53)								
		56	60 N = 60			Igneous Rock, Light Grey, Non Plasticity			55		
		57				Clay Stone, GREY, Medium Plasticity			100		
			SPT.29 (57.50 - 57.95)								
		58	17 32 15 N = 47			Silty CLAY, GREY, Medium Plasticity			55		
		59				Silty CLAY, trace of Igneous Rock, Light Grey, Medium Plasticity			100		
			SPT.30 (59.50 - 59.56)								
		60	60 N = 60			Silty CLAY, trace of Igneous Rock, Light Grey, Medium Plasticity			55		
		61				Clay Stone, GREY, Medium Plasticity			100		
			SPT.32 (61.50 - 61.52)								
		62	60 N = 60			Igneous Rock, Light Grey, Non Plasticity			55		
		63				Clay Stone, GREY, Medium Plasticity			100		
			SPT.32 (63.50 - 63.56)								
		64	60 N = 60			SAND, Fine to Medium Grained, Brown, Non Plasticity			55		
		65				**END OF HOLE**					

PT BUMI INDONESIA
Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions
Head Office : Jl. Tantina 1. RT 18. No 26 LK. AM. Sangaji) Samarinda. Kalimantan Timur. Telp/Fax (0541) 745244. 0811590455 - 0811558977
Branch Office : Perumahan Delta Mas. Jl. Berua Raya - Daya . Makassar. - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan
Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id
Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara

STANDAR :

ASTM D5434-97

PROJECT	**: Soil Invetsigation PT. Mitrabara**	**G.W.L**	**: - m**	**COORDINATE**	**: X = 0438644,248 Y = 0341401388, Z = - M**
BH-NO	**: BH.07 Area Disposal**	**TOTAL DEPTH**	**: 64.00 m**	**LOGING**	**: Team PT. BI**
DATE	**: 18 Juni 2022 - 28Juni 2022**	**DRILL RIG**	**: Rotary Core Drilling / Donfeng Power Rig**	**CHECKED By**	**: Adi Gunawan, ST**

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)	COREBOX DOCUMENTATION
Rotary Core Drilling		1				Silty CLAY, Brown, Medium Plasticity	SOFT		100		
		2	SPT.1 (1.50 - 1.95) 1 1 1 N = 2			Silty CLAY, Brown, Medium Plasticity			55		
		3				Silty CLAY, Brown, Medium Plasticity			100		
		4	SPT.2 (3.50 - 3.95) 1 1 2 N = 3			Silty CLAY, Brown, Medium Plasticity			55		
		5			UDS 01	Silty CLAY, Brown, Medium Plasticity			100		
		6	SPT.3 (5.50 - 5.95) 1 2 3 N = 5			Silty CLAY, Brown, Medium Plasticity			55		
		7				Silty CLAY, Brown, Medium Plasticity			100		
		8	SPT.4 (7.50 - 7.95) 1 2 4 N = 6			Silty CLAY, Brown, Medium Plasticity			55		
		9				Silty CLAY, Brown, Medium Plasticity			100		
		10	SPT.5 (9.50 - 9.95) 1 2 1 N = 3		UDS 02	Silty CLAY, Brown, Medium Plasticity			55		
		11				Silty CLAY, Grey, Medium Plasticity	MEDIUM		100		
		12	SPT.6 (11.50 - 11.95) 4 4 4 N = 8			Silty CLAY, Trace of Fine Coal, Brown, Medium Plasticity			55		
		13				Silty CLAY, Grey, Medium Plasticity			99		
		14	SPT.7 (13.50 - 13.95) 3 3 5 N = 8			Silty CLAY, Grey, Medium Plasticity			55		
		15			UDS 03	Silty CLAY, Grey, Medium Plasticity			100		
		16	SPT.8 (15.50 - 15.69) 6 7 8 N = 15			Silty CLAY, Grey, Medium Plasticity	STIFF		55		
		17				Silty CLAY, Grey, Medium Plasticity			100		
		18	SPT.9 (17.50 - 17.55) 2 6 10 N = 16			Silty CLAY, Trace of Gravel, Grey, Medium Plasticity			55		
		19				Silty CLAY, Grey, Medium Plasticity			100		
		20	SPT.10 (19.50 - 19.94) 4 5 8 N = 13		UDS 04	Silty CLAY, Grey, Medium Plasticity			55		

PT BUMI INDONESIA
Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions
Head Office : Jl. Tamina 1. RT 18. No 26 (Jl. AM. Sangaji) Samarinda. Kalimantan Timur. Telp/Fax (0541) 745244. 0811580455 - 0811558977
Branch Office : Perumahan Delta Mas. Jl. Bersa Raya - Daya . Makassar. - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan
Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id
Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rentol - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara

STANDAR :
ASTM D5434-97

PROJECT	**: Soil Invetsigation PT. Mitrabara**	**G.W.L**	**: - m**	**COORDINATE**	**: X = 0438644,248 Y = 0341401388, Z = - M**
BH-NO	**: BH.07 Area Disposal**	**TOTAL DEPTH**	**: 64.00 m**	**LOGING**	**: Team PT. BI**
DATE	**: 18 Juni 2022 - 28Juni 2022**	**DRILL RIG**	**: Rotary Core Drilling / Donfeng Power Rig**	**CHECKED By**	**: Adi Gunawan, ST**

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)
Rotary Core Drilling		21				Silty CLAY, Grey, Medium Plasticity	MEDIUM		100	
			SPT.11 (21.50 - 21.95)							
		22	5 5 8 N = 13			Silty CLAY, Grey, Medium Plasticity			55	
		23				SAND,Trace of Fine Coal, light Grey, Non Plasticity	VERY DENSE		100	
			SPT.12 (23.50 - 23.95)							
		24	15 20 31 N = 51			SAND,Trace of Fine Coal, light Grey, Non Plasticity			55	
		25			DS 01	SAND,Trace of Fine Coal, light Grey, Non Plasticity			100	
			SPT.13 (25.50 - 25.95)							
		26	7 6 7 N = 13			Silty CLAY, Trace of Gravel, Grey, Medium Plasticity			55	
		27				Gravel, CLAY, Grey, Medium Plasticity	MEDIUM		100	
			SPT.14 (27.50 - 27.95)							
		28	6 8 5 N = 13			Silty CLAY, Grey, Medium Plasticity			55	
		29			UDS 05	Silty CLAY, Grey, Medium Plasticity			100	
			SPT.15 (29.50 - 29.95)							
		30	3 2 3 N = 5			Silty CLAY, Trace of Gravel, Grey, Medium Plasticity	SOFT		55	
Rotary Core Drilling		31				Silty CLAY, Grey, Medium Plasticity			100	
			SPT.16 (31.50 - 31.95)							
		32	10 21 28 N = 49			Silty CLAY, Trace of Gravely Sand, Grey, Low to Medium Plasticity			55	
		33				Silty CLAY, Grey, Medium Plasticity			100	
			SPT.17 (33.50 - 33.95)							
		34	12 25 30 N = 55			Silty CLAY, Grey, Medium Plasticity			55	
		35			UDS 06	Silty CLAY, Grey, Medium Plasticity	VERY HARD		100	
			SPT.18 (35.50 - 35.95)							
		36	18 20 23 N = 43			Silty CLAY, Grey, Medium Plasticity			55	
		37				Silty CLAY, Grey, Medium Plasticity			100	
			SPT.19 (37.50 - 37.95)							
		38	20 21 30 N = 51			Silty CLAY, Trace of Sand Stone, Brown, Medium Plasticity			55	
		39				Silty CLAY, Trace of Sand Stone, Brown, Medium Plasticity			100	
			SPT.20 (39.50 - 39.95)		UDS 07					
		40	8 8 9 N = 17			Silty CLAY, Grey, Medium Plasticity	STIFF		55	

COREBOX DOCUMENTATION

PT BUMI INDONESIA
Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions
Head Office : Jl. Tantina 1, RT 18. No 26 (Jl. AM. Sangaji) Samarinda. Kalimantan Timur. Telp/Fax (0541) 745244. 081259045S - 081558977
Branch Office : Perumahan Delta Mas. Jl. Beriua Raya - Daya . Makassar. - Surabaya (olibarjo) - Bandung - Papua (jayapura) - Balikpapan
Email : admin@ptbumiindonesia.co.id - coalbaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id
Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara

STANDAR :
ASTM D5434-97

PROJECT	**: Soil Invetsigation PT. Mitrabara**	**G.W.L**	**: - m**	**COORDINATE**	**: X = 0438644,248 Y = 0341401388, Z = - M**
BH-NO	**: BH.07 Area Disposal**	**TOTAL DEPTH**	**: 64.00 m**	**LOGING**	**: Team PT. BI**
DATE	**: 18 Juni 2022 - 28Juni 2022**	**DRILL RIG**	**: Rotary Core Drilling / Donfeng Power Rig**	**CHECKED By**	**: Adi Gunawan, ST**

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)
		41	SPT.21 (41.50 - 41.95)			Silty CLAY, Grey, Medium Plasticity			100	
		42	8 8 9 N = 17			Silty CLAY, Grey, Medium Plasticity			55	
		43				Silty CLAY, Grey, Medium Plasticity			99	
		44	SPT.22 (43.50 - 43.95) 7 8 10 N = 18			Silty CLAY, Grey, Medium Plasticity	STIFF		55	
		45			UDS 08	Silty CLAY, Grey, Medium Plasticity			100	
		46	SPT.23 (45.50 - 45.95) 22 5 9 6 14			Silty CLAY, Grey, Medium Plasticity			55	
		47				Silty CLAY, Grey, Medium Plasticity			100	
		48	SPT.24 (47.50 - 47.95) 8 7 8 N = 15			Silty CLAY, Grey, Medium Plasticity			55	
		49				Silty CLAY, Grey, Medium Plasticity			100	
		50	SPT.25 (49.50 - 49.95) 20 27 30 N = 57		DS 02	Silty CLAY, Grey, Medium Plasticity			55	
		51				SAND, Medium Coarse, Dark Gtey, Non Plasticity	VERY DENSE		100	
		52	SPT.26 (51.50 - 51.95) 15 25 31 N = 56			SAND, Medium Coarse, Dark Gtey, Non Plasticity			55	
		53				SAND, Medium Coarse, Dark Gtey, Non Plasticity			100	
		54	SPT.27 (53.50 - 53.95) 16 30 25 N = 55			Silty CLAY, trace of Igneous Rock, Grey, Medium Plasticity			55	
		55				Silty CLAY, GREY, Medium Plasticity	VERY HARD		100	
		56	SPT.28 (55.50 - 55.95) 25 20 35 N = 55			Clay Stone, GREY, Non Plasticity			55	
		57				Clay Stone, GREY, Non Plasticity			100	
		58	SPT.29 (57.50 - 57.95) 31 30 25 N = 55			SAND, Fine to Medium Grained, Grey, Non Plasticity			55	
		59				SAND, Fine to Medium Grained, Grey, Non Plasticity			100	
		60	SPT.30 (59.50 - 59.90) 42 30 30 N = 60			SAND, Fine to Medium Grained, Grey, Non Plasticity			55	
		61				SAND, Fine to Medium Grained, Grey, Non Plasticity	VERY DENSE		100	
		62	SPT.32 (61.50 - 61.89) 43 35 28 N = 63			SAND, Fine to Medium Grained, Grey, Non Plasticity			55	
		63				SAND, Fine to Medium Grained, Grey, Non Plasticity			100	
		64	SPT.32 (63.50 - 63.93) 47 34 28 N = 62			SAND, Fine to Medium Grained, Grey, Non Plasticity			55	
		65				**END OF HOLE**				

COREBOX DOCUMENTATION

PT BUMI INDONESIA

Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions

Head Office : Jl. Tantina 1, RT 18, No 26 LR. AM. Sangaji | Samarinda, Kalimantan Timur. Telp/Fax (0541) 745244, 0811590455 - 0811558977

Branch Office : Perumahan Delta Mas. Jl. Benua Raya - Daya - Makassar - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan

Email : admin@ptbumiindonesia.co.id - coalkaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id

Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara

STANDAR :

ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	**G.W.L**	: - m	**COORDINATE**	: X = 0438644,248 Y = 0341401388, Z = - M
BH-NO	: BH.08 Area Disposal	**TOTAL DEPTH**	: 62.00 m	**LOGING**	: Team PT. BI
DATE	: 18 Juni 2022 - 8 Juli 2022	**DRILL RIG**	: Rotary Core Drilling / Donfeng Power Rig	**CHECKED By**	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)	COREBOX DOCUMENTATION
Rotary Core Drilling		1				Silty CLAY,Trace of Gravel, Grey, Medium Plasticity	SOFT		100		
			SPT.1 (1.50 - 1.95)		DS 01						
		2	7 11 18 N = 29			SAND, Medium Coarse, Dark Grey, Non Plasticity			55		
		3				SAND, Fine Grained, Dark Grey, Non Plasticity			100		
			SPT.2 (3.50 - 3.95)								
		4	8 14 17 N = 31			SAND, Fine Grained, Dark Grey, Non Plasticity	DENSE		55		
		5				SAND, Fine Grained, Dark Grey, Non Plasticity			100		
			SPT.3 (5.50 - 5.95)								
		6	8 12 12 N = 24			SAND, Fine Grained, Grey, Non Plasticity			55		
		7				SAND, Fine Grained, Grey, Non Plasticity (6.00-6.50) Silty CLAY, Brown, Medium Plasticity (6.50-7.00)			100		
			SPT.4 (7.50 - 7.95)		UDS 01						
		8	1 2 3 N = 5			Silty CLAY, Grey, Medium Plasticity	SOFT		55		
		9				Silty CLAY, Trace of Sand Ston, Grey, Medium Plasticity			100		
			SPT.5 (9.50 - 9.95)								
		10	6 9 18 N = 27			Silty CLAY, Trace of Sand Ston, Grey, Medium Plasticity	STIFF		55		
		11				Silty CLAY, Grey, Medium Plasticity			100		
			SPT.6 (11.50 - 11.95)		DS 02						
		12	5 9 11 N = 20			SAND, Fine Grained, Dark Grey, Non Plasticity			55		
		13				SAND, Fine Grained, Dark Grey, Non Plasticity	MEDIUM DENSE		99		
			SPT.7 (13.50 - 13.95)								
		14	7 12 14 N = 26			SAND, Fine Grained, Dark Grey, Non Plasticity			55		
		15				SAND, Fine Grained, Dark Grey, Non Plasticity			100		
			SPT.8 (15.50 - 15.69)		DS 03						
		16	9 12 16 N = 28			Silty CLAY,Trace of Gravel, Grey, Medium Plasticity			55		
		17				Silty CLAY, Grey, Medium Plasticity			100		
			SPT.9 (17.50 - 17.55)				STIFF				
		18	10 14 17 N = 31			Silty CLAY, Grey, Medium Plasticity			55		
		19				Silty CLAY,Trace of Gravel, Grey, Medium Plasticity			100		
			SPT.10 (19.50 - 19.94)								
		20	8 12 13 N = 25			Silty CLAY,Trace of Gravel, Grey, Medium Plasticity			55		

PT BUMI INDONESIA
Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultants - Civil Engineering & Constructions
Head Office : Jl. Tantina 1, RT 18, No 26 LK. AM. Sangaji | Samarinda, Kalimantan Timur. Telp/Fax (0541) 745244, 0811590455 - 0811558077
Branch Office : Perumahan Delta Mas, Jl. Berua Raya - Daya , Makassar - Surabaya (sidoarjo) - Bandung - Papua (jayapura) - Balikpapan
Email : admin@ptbumiindonesia.co.id - coalkaru@gmail.com - soiltest@ptbumiindonesia.co.id - geotek@ptbumiindonesia.co.id
Website : www.ptbumiindonesia.co.id - www.tokosurvey.com *Sales - Service - Rental - Kalibrasi - Training*

Location : Long Loreh, Kalimantan Utara

STANDAR :

ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	**G.W.L**	: - m	**COORDINATE**	: X = 0438644,248 Y = 0341401388, Z = - M
BH-NO	: BH.08 Area Disposal	**TOTAL DEPTH**	: 62.00 m	**LOGING**	: Team PT. BI
DATE	: 18 Juni 2022 - 8 Juli 2022	**DRILL RIG**	: Rotary Core Drilling / Donfeng Power Rig	**CHECKED By**	: Adi Gunawan, ST

METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)
Rotary Core Drilling		21				Silty CLAY, Grey, Medium Plasticity	VERY STIFF		100	
			SPT.11 (21.50 - 21.95)		DS 04					
		22	10 12 18 N = 30			Silty CLAY, Grey, Medium Plasticity			55	
		23				Silty CLAY, Grey, Medium Plasticity	MEDIUM		100	
			SPT.12 (23.50 - 23.95)							
		24	3 3 5 N = 8			Silty CLAY, Grey, Medium Plasticity			55	
		25				Silty CLAY, Trace of Gravel Sisez Boulder, Grey, Medium Plasticity			100	
			SPT.13 (25.50 - 25.95)		DS 05					
		26	6 9 11 N = 20			SAND, Fine Grained, Dark Grey, Non Plasticity	DENSE		55	
		27				SAND, Fine Grained, Dark Grey, Non Plasticity			100	
			SPT.14 (27.50 - 27.95)							
		28	7 13 15 N = 28			Silty CLAY, Trace of Gravel Sized Boulder, Grey, Medium Plasticity			55	
		29				Silty CLAY, Trace of Gravel Sized Boulder, Grey, Medium Plasticity			100	
			SPT.15 (29.50 - 29.95)							
		30	7 11 12 N = 23			Silty CLAY, Grey, Medium Plasticity			55	
Rotary Core Drilling		31				Silty CLAY, Grey, Medium Plasticity	STIFF		100	
			SPT.16 (31.50 - 31.95)							
		32	6 9 11 N = 20			Silty CLAY, Grey, Medium Plasticity			55	
		33				Silty CLAY, Grey, Medium Plasticity			100	
			SPT.17 (33.50 - 33.95)							
		34	6 12 10 N = 22			Silty CLAY, Grey, Medium Plasticity			55	
		35				Silty CLAY, Grey, Medium Plasticity			100	
			SPT.18 (35.50 - 35.95)		UDS 02					
		36	4 4 5 N = 9			Silty CLAY, Grey, Medium Plasticity	MEDIUM		55	
		37				Silty CLAY, Grey, Medium Plasticity			100	
			SPT.19 (37.50 - 37.95)							
		38	13 16 19 N = 35			SAND, Fine Grained, Dark Grey, Non Plasticity	VERY STIFF		55	
		39				SAND, Fine Grained, Dark Grey, Non Plasticity			100	
			SPT.20 (39.50 - 39.95)							
		40	10 15 20 N = 35			Silty CLAY, Trace of Gravel Sized Boulder, Grey, Medium Plasticity			55	

COREBOX DOCUMENTATION

PT BUMI INDONESIA

Survey Instruments - GPS - Topography & Drilling Explorations - Water well - Soil Test - Soil & Rock Lab - Piling & Borepile - Mining Consultans - Civil Engineering & Constructions

Sales - Service - Rental - Kalibrasi - Training

Location : Long Loreh, Kalimantan Utara

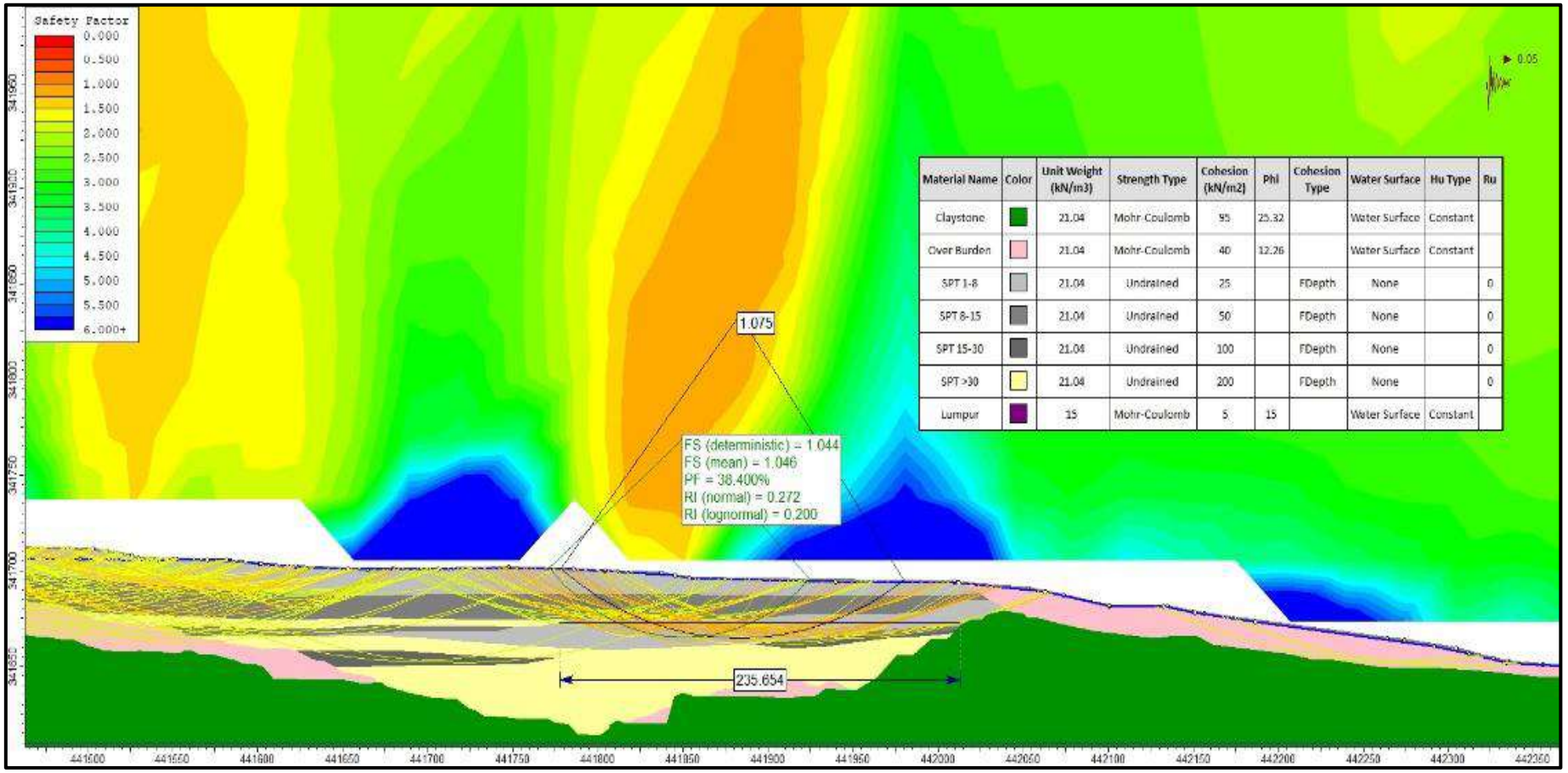
STANDAR :

ASTM D5434-97

PROJECT	: Soil Invetsigation PT. Mitrabara	**G.W.L**	: - m	**COORDINATE**	: X = 0438644,248 Y = 0341401388, Z = - M
BH-NO	: BH.08 Area Disposal	**TOTAL DEPTH**	: 62.00 m	**LOGING**	: Team PT. BI
DATE	: 18 Juni 2022 - 8Juli 2022	**DRILL RIG**	: Rotary Core Drilling / Donfeng Power Rig	**CHECKED By**	: Adi Gunawan, ST

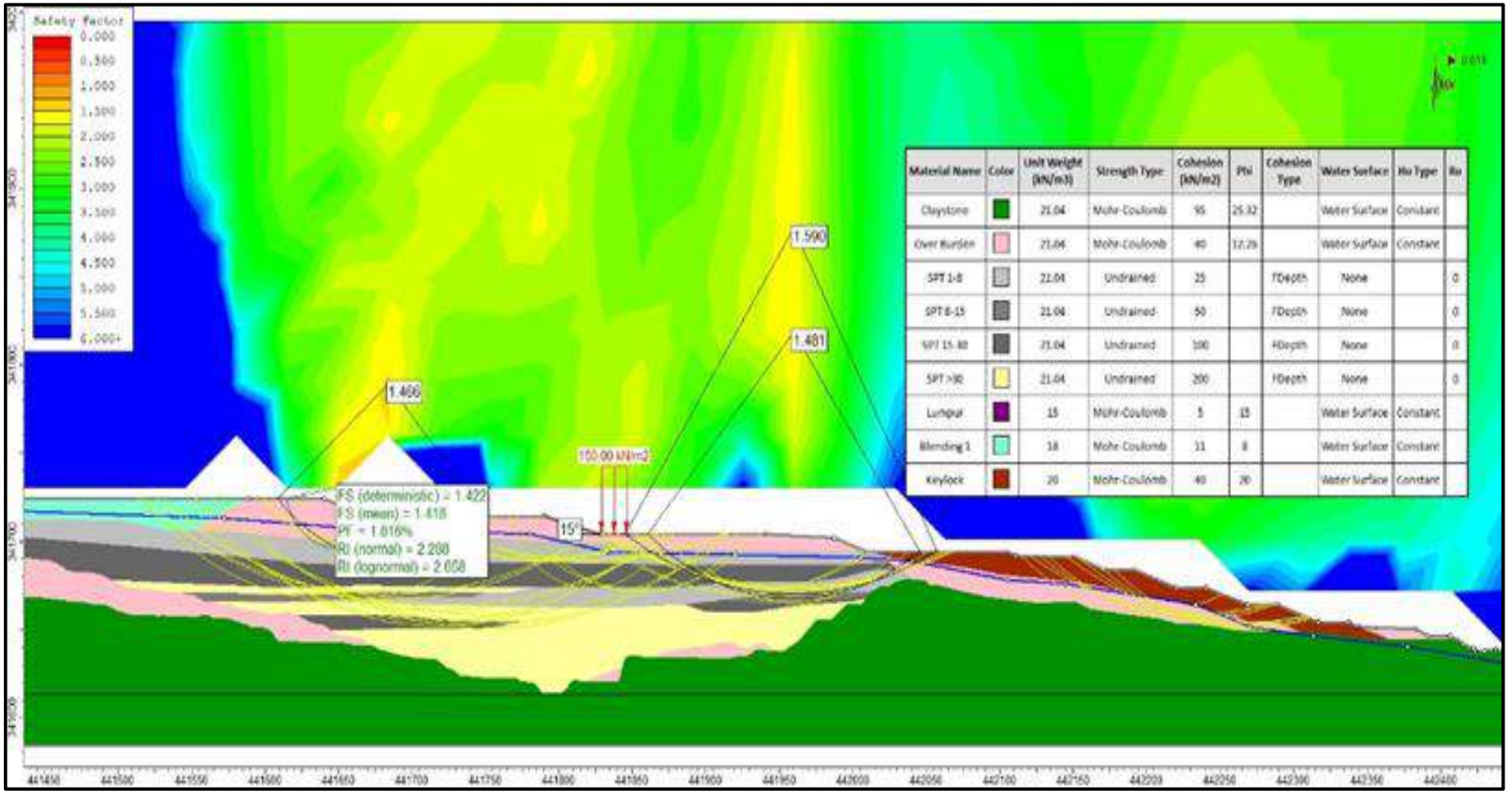
METODE	G.W.L	DEPTH (M)	SAMPLE OR FIELD TEST	GRAPHIC LOG	UNDISTURBED SAMPLES	DESCRIPTION	Material Consistency	SPT GRAPH (10 20 30 40 50 60)	Recovery (%)	RQD (%)	COREBOX DOCUMENTATION
		41				Silty CLAY, Grey, Medium Plasticity			100		
		42	SPT.21 (41.50 - 41.95) 17 25 29 N = 54			Silty CLAY, Grey, Medium Plasticity			55		
		43				Silty CLAY, Grey, Medium Plasticity	VERY HARD		99		
		44	SPT.22 (43.50 - 43.95) 22 23 27 N = 50			Silty CLAY, Grey, Medium Plasticity			55		
		45				Silty CLAY, Grey, Medium Plasticity			100		
		46	SPT.23 (45.50 - 45.95) 19 17 21 6 38			Silty CLAY, Grey, Medium Plasticity			55		
		47				Silty CLAY, Grey, Medium Plasticity			100		
		48	SPT.24 (47.50 - 47.95) 9 14 19 N = 33			Silty CLAY, Grey, Medium Plasticity	VERY STIFF		55		
		49				Silty CLAY, Grey, Medium Plasticity			100		
		50	SPT.25 (49.50 - 49.95) 16 19 23 N = 42			Silty CLAY, Grey, Medium Plasticity			55		
		51				Silty CLAY, Grey, Medium Plasticity			100		
		52	SPT.26 (51.50 - 51.95) 19 24 31 N = 55			Silty CLAY, Grey, Medium Plasticity			55		
		53				Silty CLAY, Grey, Medium Plasticity			100		
		54	SPT.27 (53.50 - 53.95) 23 27 31 N = 58			Silty CLAY, Grey, Medium Plasticity			55		
		55				Silty CLAY, Grey, Medium Plasticity			100		
		56	SPT.28 (55.50 - 55.95) 23 24 30 N = 54			Silty CLAY, Grey, Medium Plasticity			55		
		57				Silty CLAY, Grey, Medium Plasticity	VERY HARD		100		
		58	SPT.29 (57.50 - 57.95) 27 29 31 N = 60			Silty CLAY, Grey, Medium Plasticity			55		
		59				Silty CLAY, Grey, Medium Plasticity			100		
		60	SPT.30 (59.50 - 59.90) 31 60 N = 60			Silty CLAY, Grey, Medium Plasticity			55		
		61				Silty CLAY, Grey, Medium Plasticity			100		
		62	SPT.32 (61.50 - 61.89) 60 N = 60			Silty CLAY, Grey, Medium Plasticity			55		
		63				**END OF HOLE**					
		64									
		65									

Lampiran 2 Pemodelan Aktual *Section* A-A'

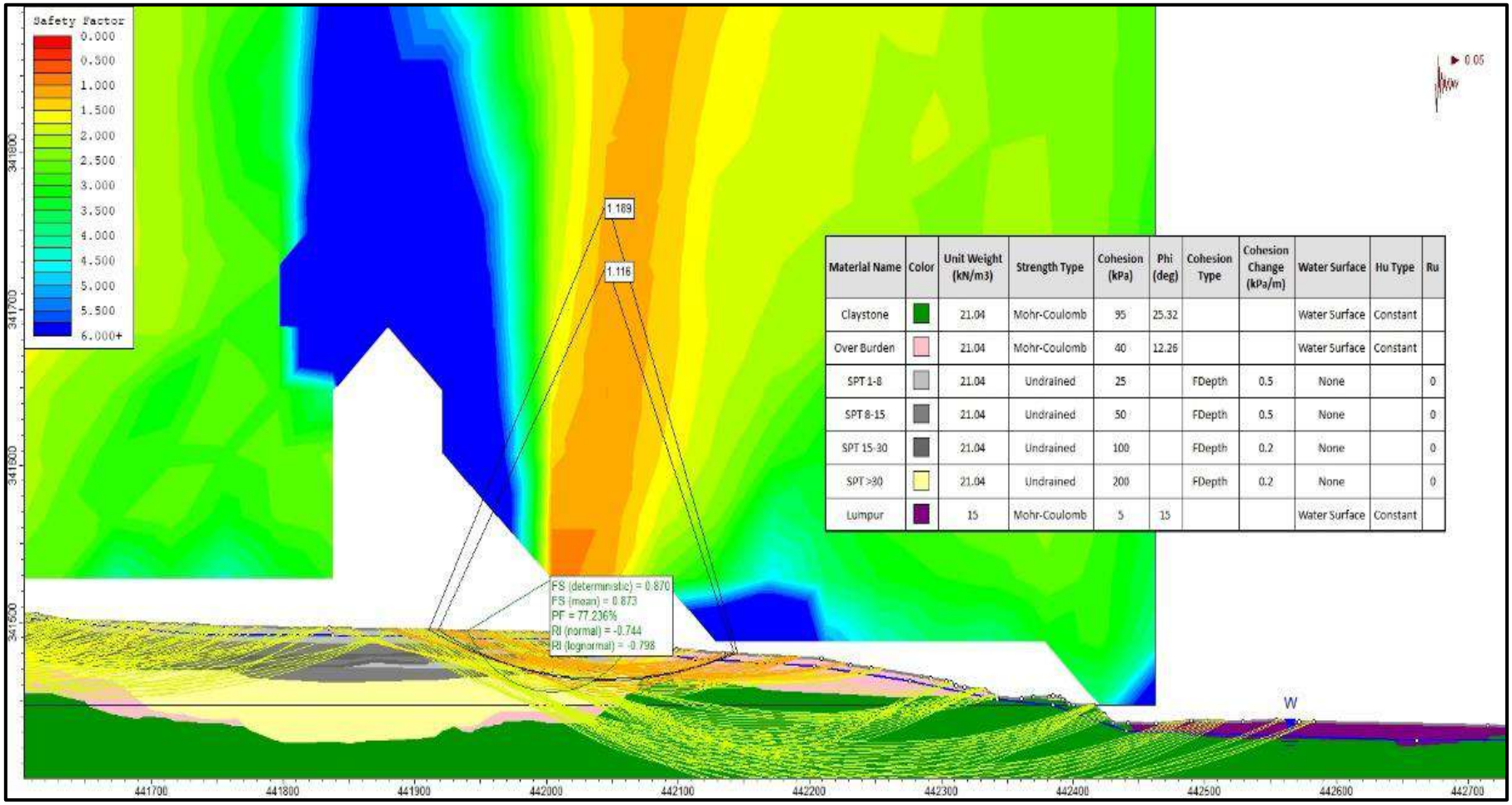


Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kN/m2)	Phi	Cohesion Type	Water Surface	Hu Type	Ru
Claystone		21.04	Mohr-Coulomb	95	25.32		Water Surface	Constant	
Over Burden		21.04	Mohr-Coulomb	40	12.26		Water Surface	Constant	
SPT 1-8		21.04	Undrained	25		FDepth	None		0
SPT 8-15		21.04	Undrained	50		FDepth	None		0
SPT 15-30		21.04	Undrained	100		FDepth	None		0
SPT >30		21.04	Undrained	200		FDepth	None		0
Lumpur		15	Mohr-Coulomb	5	15		Water Surface	Constant	

Lampiran 3 Pemodelan Rekomendasi *Section* A-A'

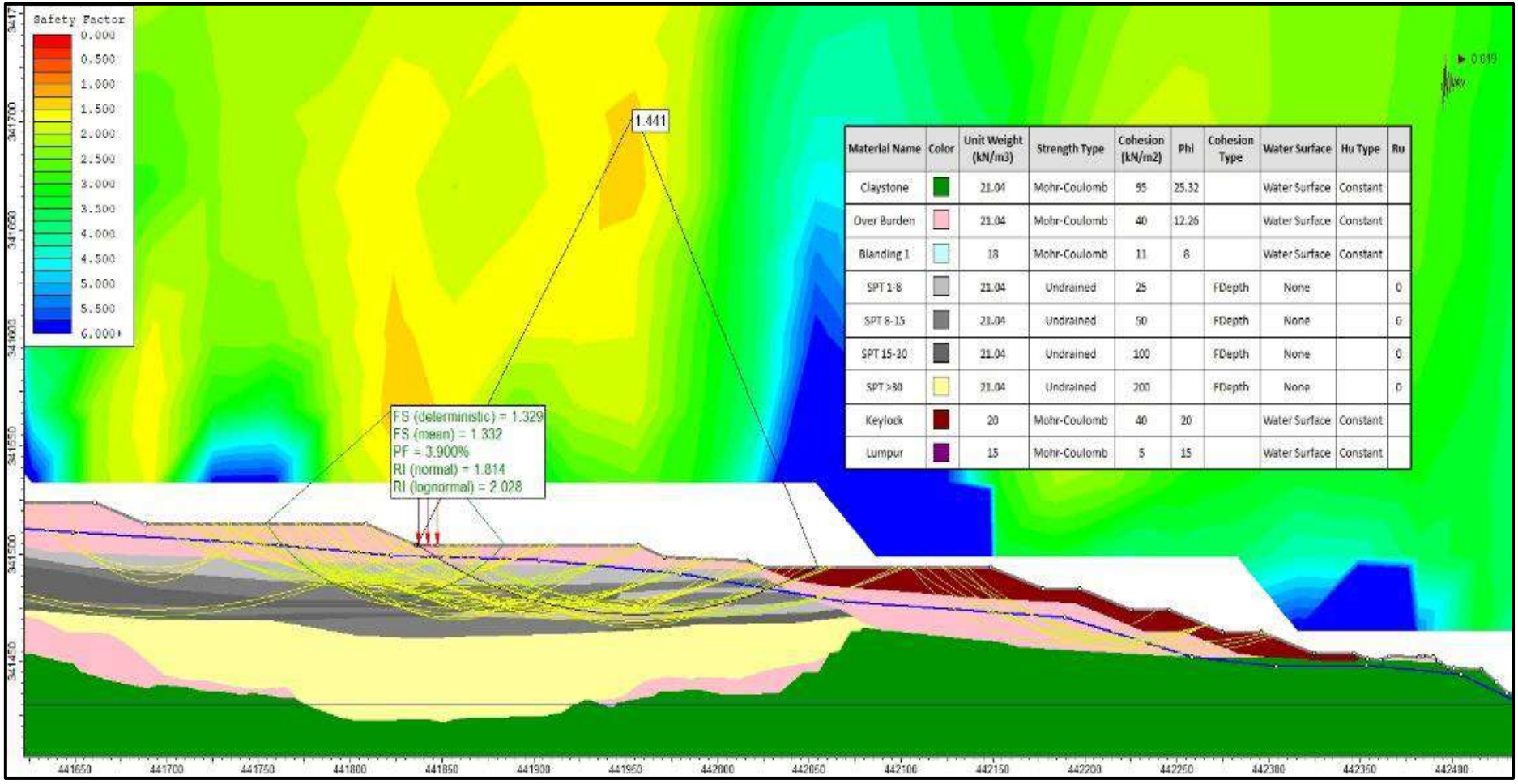


Lampiran 4 Pemodelan Aktual *Section* B-B'



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (deg)	Cohesion Type	Cohesion Change (kPa/m)	Water Surface	Hu Type	Ru
Claystone		21.04	Mohr-Coulomb	95	25.32			Water Surface	Constant	
Over Burden		21.04	Mohr-Coulomb	40	12.26			Water Surface	Constant	
SPT 1-8		21.04	Undrained	25		FDepth	0.5	None		0
SPT 8-15		21.04	Undrained	50		FDepth	0.5	None		0
SPT 15-30		21.04	Undrained	100		FDepth	0.2	None		0
SPT >30		21.04	Undrained	200		FDepth	0.2	None		0
Lumpur		15	Mohr-Coulomb	5	15			Water Surface	Constant	

Lampiran 5 Pemodelan Rekomendasi *Section* B-B'



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kN/m2)	Phi	Cohesion Type	Water Surface	Hu Type	Ru
Claystone		21.04	Mohr-Coulomb	95	25.32		Water Surface	Constant	
Over Burden		21.04	Mohr-Coulomb	40	12.26		Water Surface	Constant	
Blanding 1		18	Mohr-Coulomb	11	8		Water Surface	Constant	
SPT 1-8		21.04	Undrained	25		FDepth	None		0
SPT 8-15		21.04	Undrained	50		FDepth	None		0
SPT 15-30		21.04	Undrained	100		FDepth	None		0
SPT >30		21.04	Undrained	200		FDepth	None		0
Keylock		20	Mohr-Coulomb	40	20		Water Surface	Constant	
Lumpur		15	Mohr-Coulomb	5	15		Water Surface	Constant	

Lampiran 5 Peta – Peta

A. Peta IUP PT. MitrabaraAdiperdana TBK

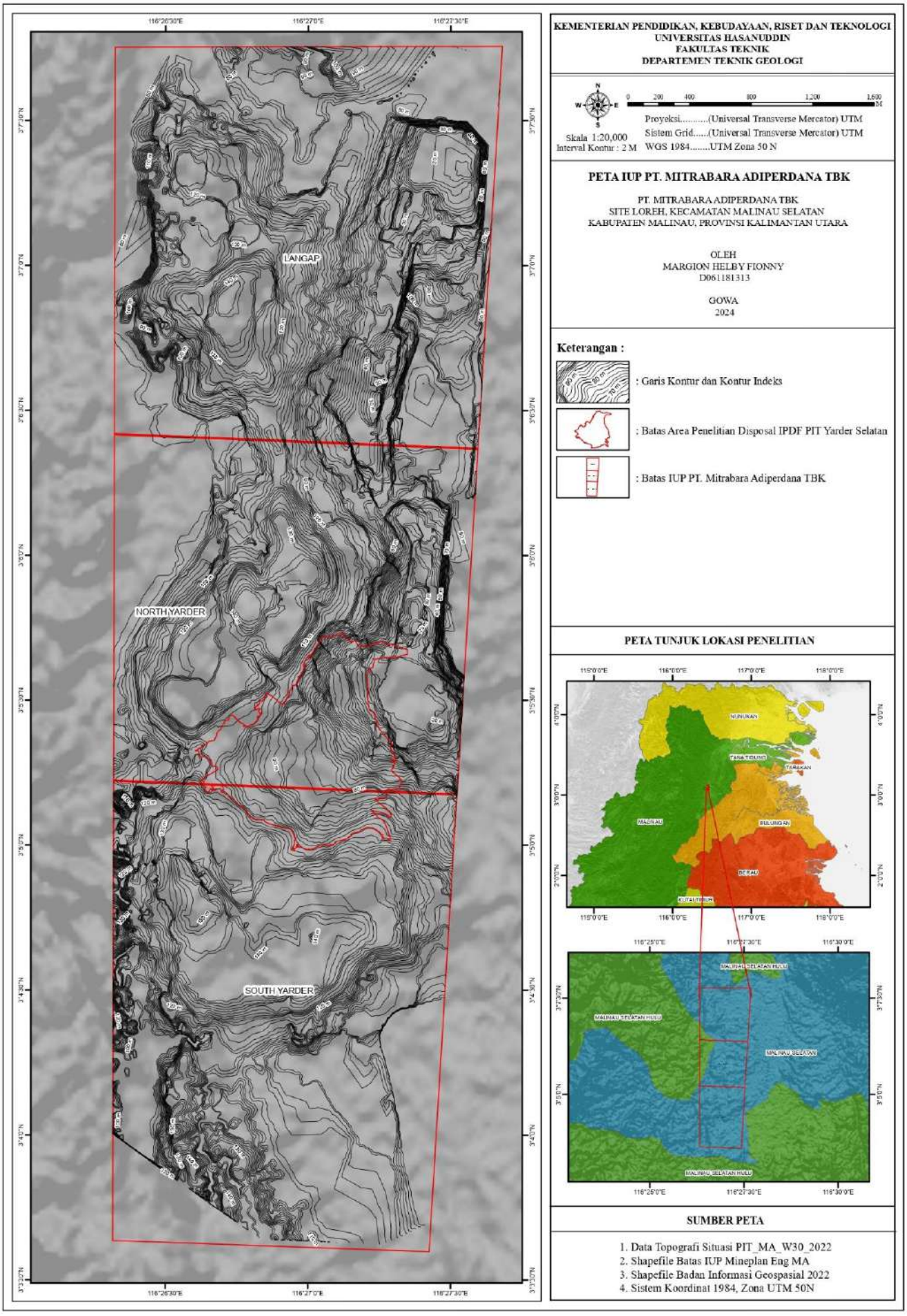
B. Peta Aktual Sebelum Penimbuan Area Disposal IPDF

C. Peta Topografi Aktual Disposal IPDF

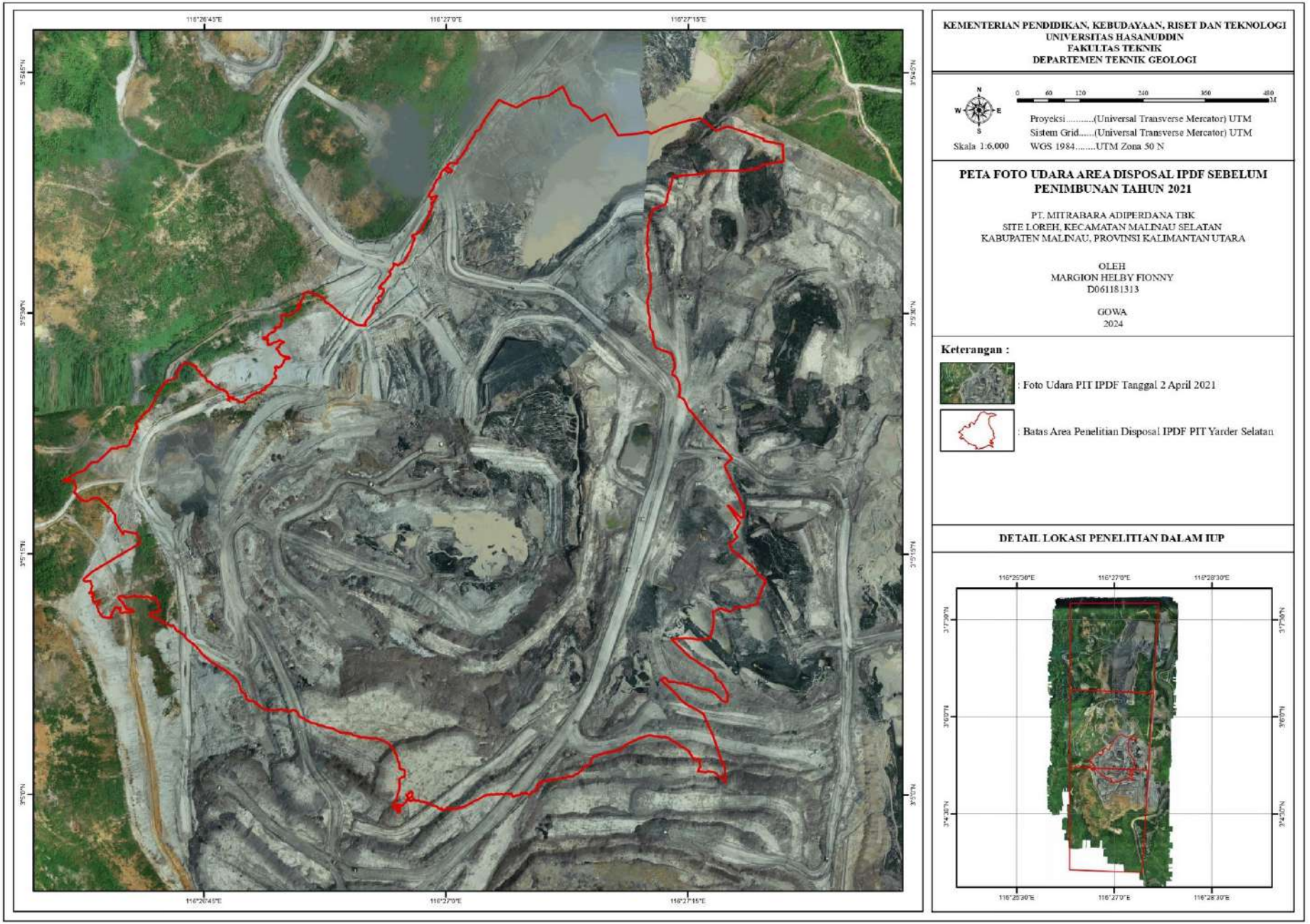
D. Peta Sebaran Kerusakan Disposal IPDF

E. Peta Desain Rekomendasi Disposal IPDF

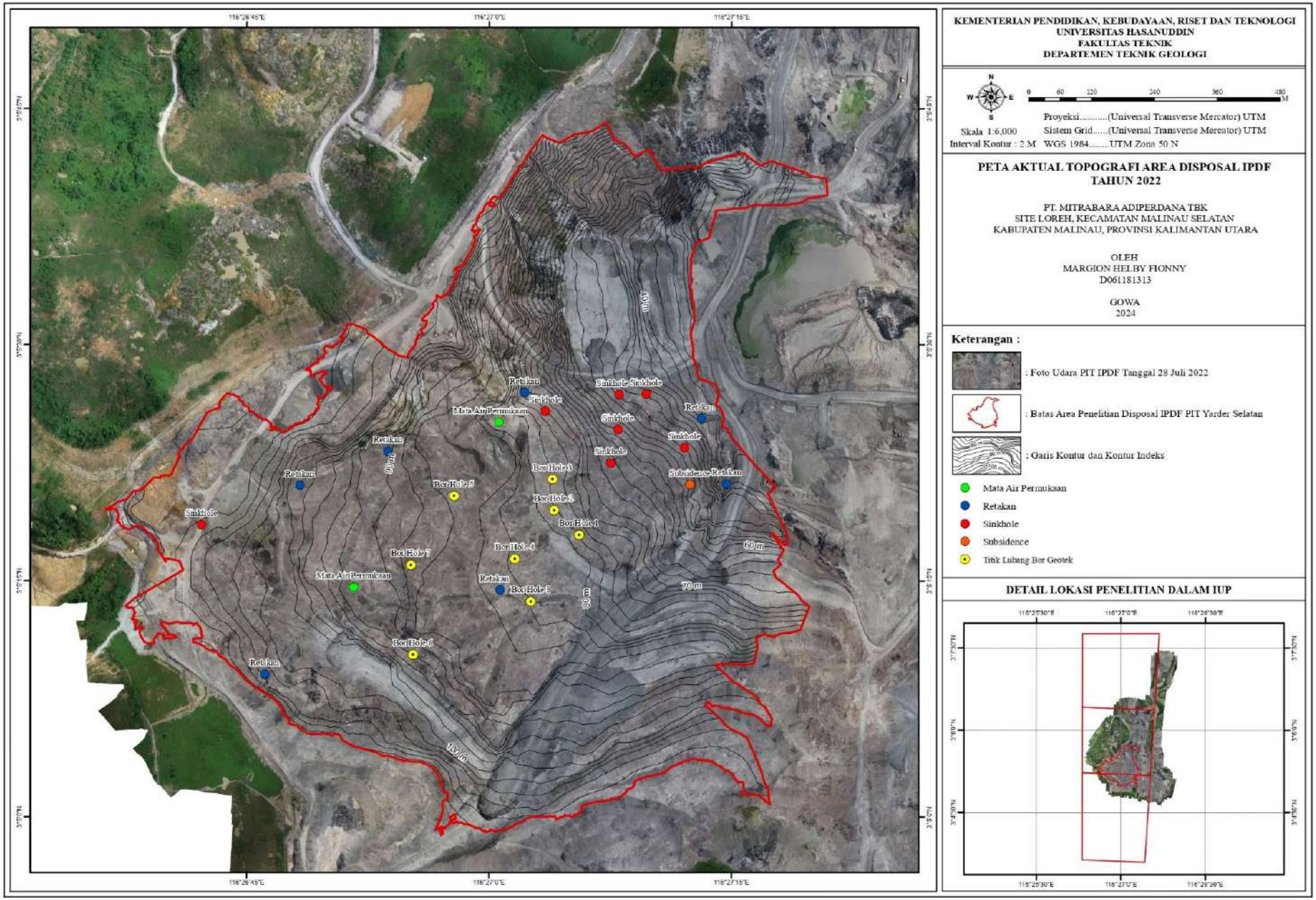
A. Peta IUP PT. MitrabaraAdiperdana TBK



B. Peta Aktual Sebelum Penimbuan Area Disposal IPDF



C. Peta Topografi Aktual Disposal IPDF



D. Peta Sebaran Kerusakan Disposal IPDF

E. Peta Desain Rekomendasi Disposal IPDF