

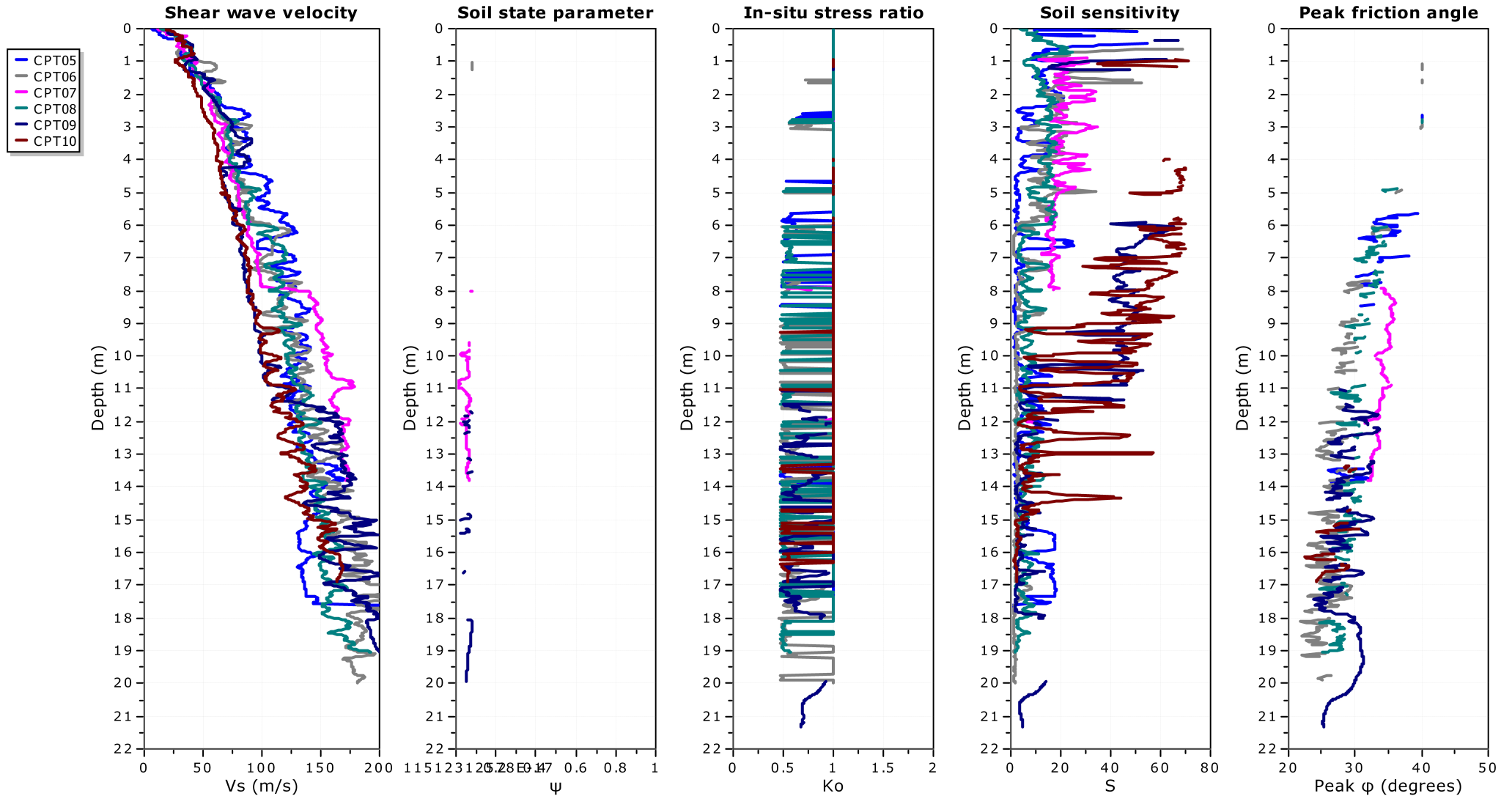
Appendix 21.

SLR Consulting Australia (2020) *Rum Jungle Rehabilitation – Stage 2A Detailed Design – Main Pit Backfill Strategy, Geotechnical Considerations*. Report to the Department of Mines and Energy, Northern Territory. PART F.

Project: Rum Jungle

Location: NT

Overlay estimation plots (3)



APPENDIX G

Backfill Strategy

Legend

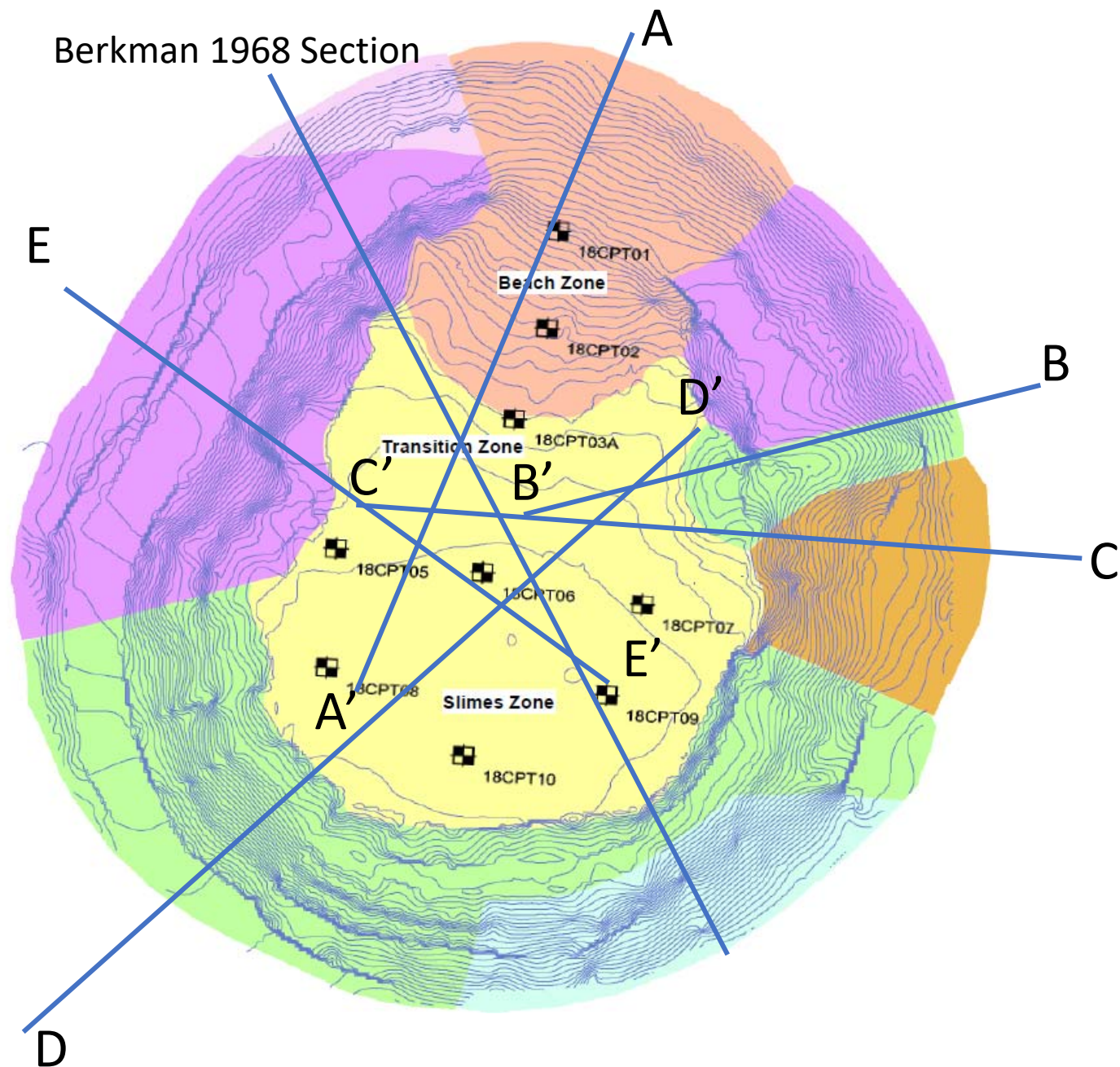
Inferred Fill Materials

- Soil
- Tailings
- Waste Rock

Lithology

- Quartzite Breccia
(Geolsec Formation)
- Mudstone Sequence
(Golden Dyke Formation)
- Black Slate Sequence
(Golden Dyke Formation)
- Coomalie Dolostone

Berkman 1968 Section



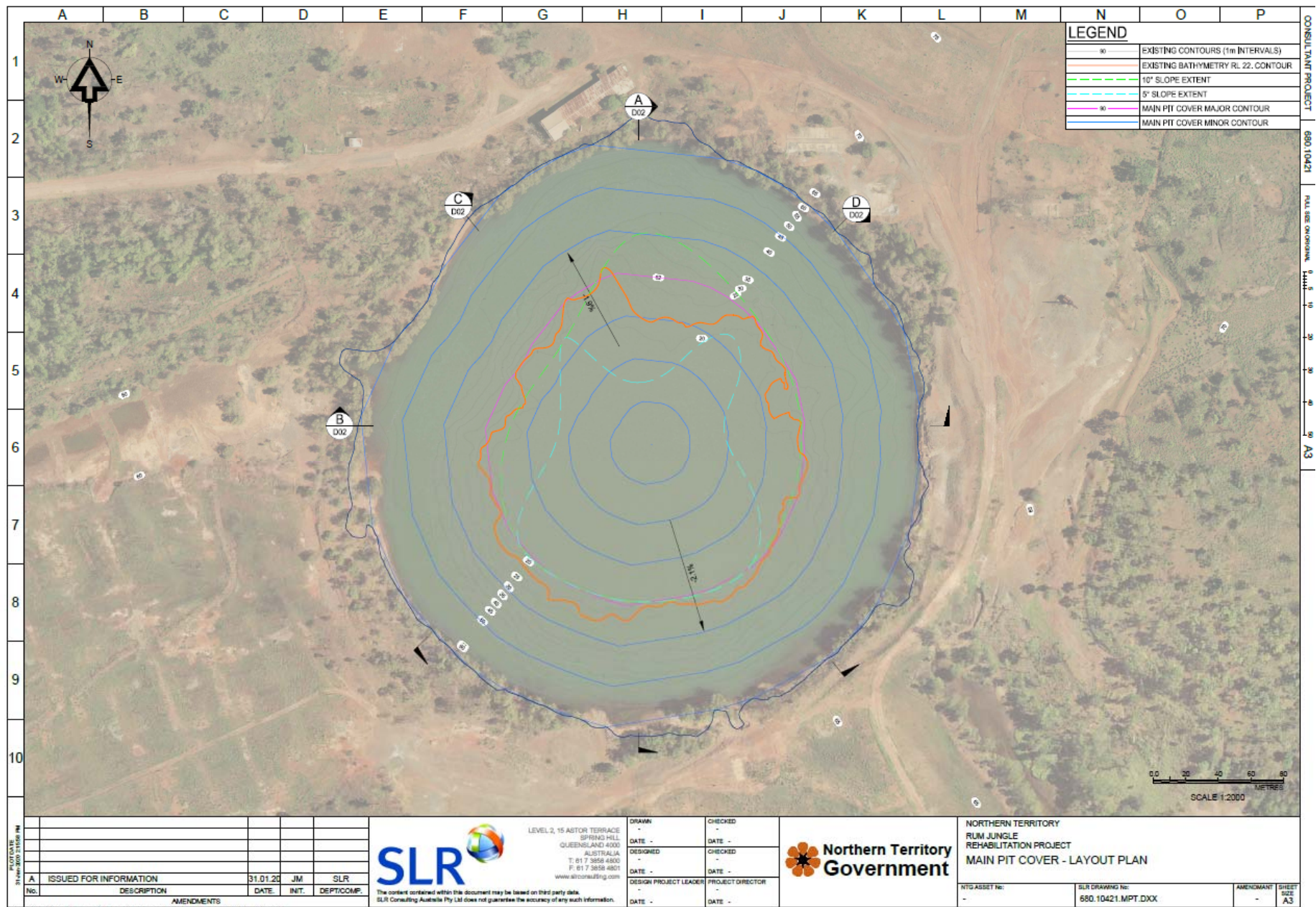
Rum Jungle Mine Site
Scale 1:2,500

Projection: GDA 1994 MGA Zone 62 (m)

0 25 50 100 150 200 Meters

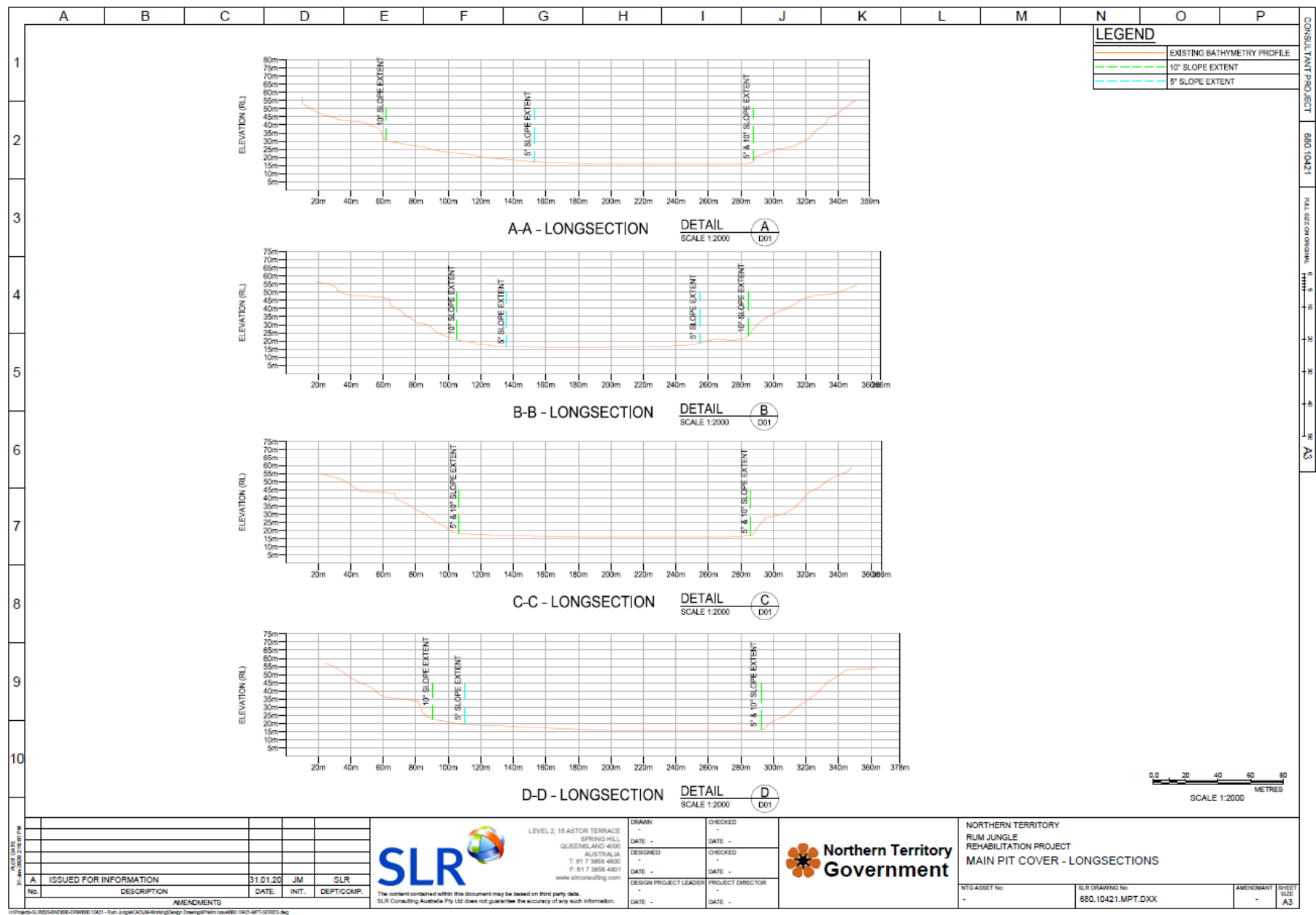


CLIENT Northern Territory Government		PROJECT Rum Jungle Rehabilitation Stage 2a	
DRAWN PD	DATE 05/03/2020	TITLE Plan of Main Pit showing Sections	
CHECKED BT	DATE 05/03/2020		
SCALE		PROJECT No 680.10421	FIGURE No G1
		REV No A4	



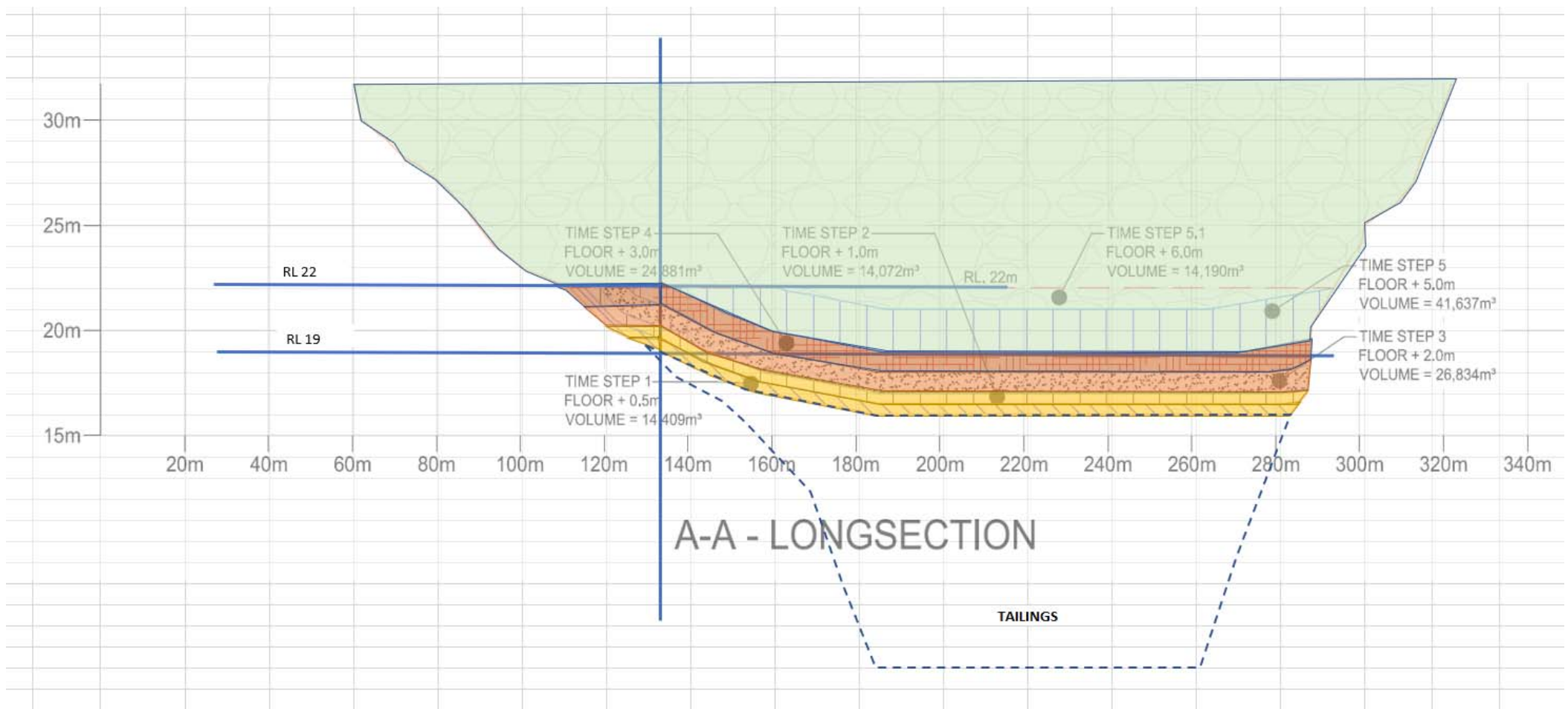
CLIENT Northern Territory Government	
DRAWN PD	DATE 05/03/2020
CHECKED BT	DATE 05/03/2020
SCALE	

PROJECT Rum Jungle Rehabilitation Stage 2a	
TITLE Plan of Main Pit showing Contours	
PROJECT No 680.10421	FIGURE No G2
REV No A4	



\\projects\SLR\2019\2020\680-01\680-01-01 - Rum Jungle\ASSET-Modeling\Design\Drawings\main\main\680-01-01-01-01-01.dwg

	CLIENT Northern Territory Government		PROJECT Rum Jungle Rehabilitation Stage 2a			
	DRAWN PD	DATE 05/03/2020	TITLE Sections through Main Pit			
	CHECKED BT	DATE 05/03/2020				
	SCALE		PROJECT No 680.10421	FIGURE No G3	REV No A4	



- Where the existing pit lake floor is RL 19m AHD or lower, place 3m of Capping (Layers 1 to 4)



CLIENT Northern Territory Government		PROJECT Rum Jungle Rehabilitation Stage 2a	
DRAWN PD	DATE 05/03/2020	TITLE Initial Backfilling Sequence	
CHECKED BT	DATE 05/03/2020		
SCALE		PROJECT No 680.10421	FIGURE No G4
		REV No	A4

Time	Water Table	Surface	Load [kPa]		Description					CAD Vol to RL+22 mAHD UPDATE	
Inc.	RL	RL	Change	Total							
Start:	61	16				Base Case Months	Accelerated Case Months	Cumulative Thickness (m)	Top RL	Vol m^3	Cum. Vol m^3
1	61	16.5	4.595	4.595	0.5m Fine Sand Bedding (Pontoon)	1.6		0.5	16.5	14,409	14,409
2	61	17	4.595	9.19	0.5m Fine Sand Bedding (Pontoon)	1.5		1	17	14,072	28,481
3	61	18	9.19	18.38	1m Unscreened Sand Bedding (Barge)	1.2		2	18	26,834	55,315
4	61	19	9.19	27.57	1m Coarse Sand Bedding (Barge)	1.1		3	19	24,881	80,196
5	61	20	18.38	45.95	1m WR Fill (Barge) Lense	0.4		4	20	22,340	102,536
6	61	22	18.38	64.33	2m WR Fill (Barge) Lense	0.6		8	22	33,485	136,021
7	61	27	36.76	101.09	5m WR Fill (Barge/Conveyor)	2.8		11	27	164,372	300,393
8	61	31	36.76	137.85	4m WR Fill (Barge/Conveyor)	1.3		15	31	155,894	456,287
9	61	35	36.76	174.61	4m WR Fill (Barge/Conveyor)	1.5		19	35	175,795	632,082
10	61	39	36.76	211.37	4m WR Fill (Barge/Conveyor)	1.7		23	39	197,630	829,712
11	61	43	36.76	248.13	4m WR Fill (Barge/Conveyor)	1.9		27	43	220,092	1,049,804
12	61	47	36.76	284.89	4m WR Fill (Barge/Conveyor)	2.1		31	47	251,341	1,301,145
13	61	51	36.76	321.65	4m WR Fill (Barge/Conveyor)	2.4		35	51	287,360	1,588,505
14	61	56	45.95	367.6	5m WR Fill (Barge/Conveyor)	3.5		40	56	408,031	1,996,536
15	61	56.5			0.5m WR Fill (Barge/Conveyor/Dozer)	1.5		40.5	56.5	43,850	2,040,386
15	61	57			0.5m WR Fill (Barge/Conveyor/Dozer)			41	57	44,074	2,084,460
15	61	57.5			0.5m Inert Capping Fill (Barge/Conveyor/Dozer)			41.5	57.5	44,289	2,128,749
15	61	58			0.5m Inert Capping Fill (Barge/Conveyor)			42	58	44,479	2,173,228
57			Allow 1.0m Settlement down to +57 m AHD								
16		57.5			0.5m Inert Capping Fill (Dozer)	0.8			57.5	44,289	2,217,517
16		58			0.5m Inert Capping Fill (Dozer)				58	44,479	2,261,996
					Fill Time	25.8					
									Total	CAD Total	2,261,996
										Waste Rock Only	2,004,264
										-1.0mm Fine Sand	28,481
										Unscreened Sand	26,834
										+1.0mm Coarse Sand	24,881
										Inert Capping	177,536

Backfilling Volume Adjustments (Refer to Report):

- Material lost into surveyed surface of tailings below RL 19 contour
- Immediate fill compression loss during placement (under self-weight)
- Compensation for time dependent creep settlement within fill
- Handling losses
- Compensation for settlement of tailings
- Sensitivity checks on bulking factor variability

		CLIENT Northern Territory Government		PROJECT Rum Jungle Rehabilitation Stage 2a	
		DRAWN PD	DATE 05/03/2020	TITLE Volume Summary	
		CHECKED BT	DATE 05/03/2020		
		SCALE		PROJECT No 680.10421	FIGURE No G5
				REV No	A4

70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40

Layer 15/16 = 2m Capping
Layer 15 = 1m Waste Rock Fill
Layer 14 = 5m Waste Rock Fill
Layer 13 = 4m Waste Rock Fill
Layer 12 = 4m Waste Rock Fill
Layer 11 = 4m Waste Rock Fill
Layer 10 = 4m Waste Rock Fill
Layer 9 = 4m Waste Rock Fill
Layer 8 = 4m Waste Rock Fill
Layer 7 = 5m Waste Rock Fill
Layer 6 = 2m Waste Rock Fill (Lense)
Layer 5 = 1m Waste Rock Fill (Lense)
Layer 4 = 1m Coarse Sand bedding (Sand Borrow 1mm plus)
Layer 3 = 1m Unscreened Sand bedding (Sand Borrow)
Layer 2 = 0.5m Fine Sand bedding (Sand Borrow 1mm minus)
Layer 1 = 0.5m Fine Sand bedding (Sand Borrow 1mm minus)

Placement Method

Dozer

Barge

Spreader Pontoon

Layer 7 = 5m Waste Rock Fill
Layer 6 = 2m Waste Rock Fill (Lense)
Layer 5 = 1m Waste Rock Fill (Lense)
Layer 4 = 1m Coarse Sand bedding (Sand Borrow 1mm plus)
Layer 3 = 1m Unscreened Sand bedding (Sand Borrow)
Layer 2 = 0.5m Fine Sand bedding (Sand Borrow 1mm minus)
Layer 1 = 0.5m Fine Sand bedding (Sand Borrow 1mm minus)

Barge

Placement Method

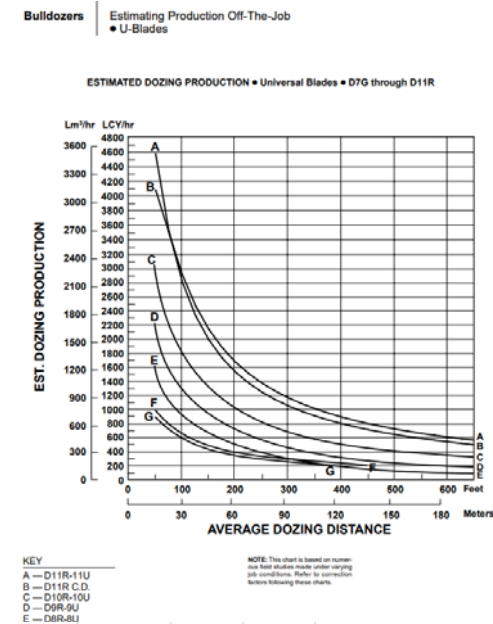
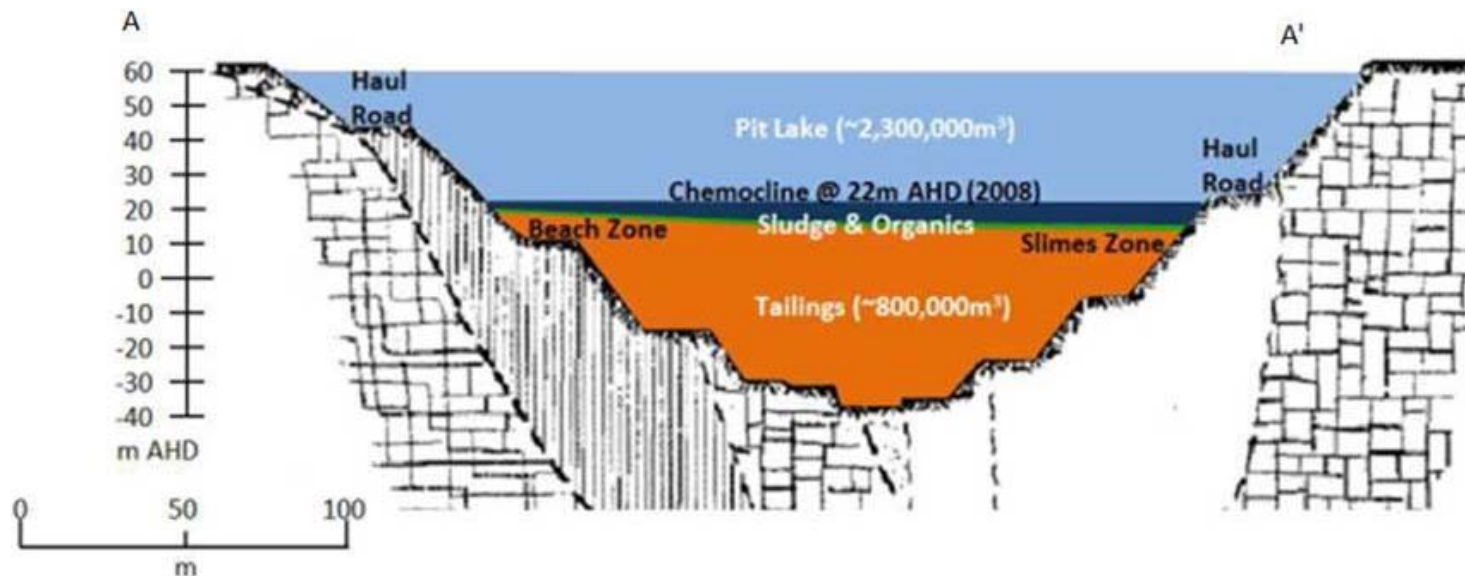
Spreader Pontoon

Surface	Load		Start	Finish	Time		Description	
RL	Change	Total	Date	Date	Increment	Elapsed		
16.0		0.0				0		Months
16.5	4.6	4.6	01/06/2020	18/07/2020	0.129	0.13	0.5m Fine Sand Bedding (Pontoon)	1.6
17.0	4.6	9.2	18/07/2020	02/09/2020	0.126	0.26	0.5m Fine Sand Bedding (Pontoon)	1.5
18.0	9.2	18.4	02/09/2020	10/10/2020	0.103	0.36	1m Unscreened Sand Bedding (Barge)	1.2
19.0	9.2	27.6	10/10/2020	14/11/2020	0.096	0.45	1m Coarse Sand Bedding (Barge)	1.1
20.0	9.2	36.8	14/11/2020	25/11/2020	0.032	0.49	1m WR Fill (Barge) Lense	0.4
22.0	18.4	55.1	25/11/2020	12/12/2020	0.047	0.53	2m WR Fill (Barge) (Lense Max 2m thick)	0.6
27.0	46.0	101.1	12/12/2020	07/03/2021	0.232	0.77	5m WR Fill (Barge/Conveyor)	2.8
31.0	36.8	137.9	07/03/2021	16/04/2021	0.110	0.87	4m WR Fill (Barge/Conveyor)	1.3
35.0	36.8	174.6	16/04/2021	31/05/2021	0.124	1.00	4m WR Fill (Barge/Conveyor)	1.5
39.0	36.8	211.4	31/05/2021	21/07/2021	0.139	1.14	4m WR Fill (Barge/Conveyor)	1.7
43.0	36.8	248.1	21/07/2021	16/09/2021	0.155	1.29	4m WR Fill (Barge/Conveyor)	1.9
47.0	36.8	284.9	16/09/2021	20/11/2021	0.177	1.47	4m WR Fill (Barge/Conveyor)	2.1
51.0	36.8	321.7	20/11/2021	02/02/2022	0.203	1.67	4m WR Fill (Barge/Conveyor)	2.4
56.0	46.0	367.6	02/02/2022	18/05/2022	0.288	1.96	5m WR Fill (Barge/Conveyor)	3.5
58.0	18.4	386.0	18/05/2022	02/07/2022	0.125	2.09	1m WR (Barge/Conveyor) + 1m Inert Capping (Dozer)	1.5
59.0	9.2	395.2	02/07/2022	25/07/2022	0.06	2.15	1m Inert Capping (Dozer)	0.8
59.0	0.0	395.2	25/07/2022	25/07/2032	10.00	12.15	10yr Post Filling	120.0
59.0	0.0	395.2	25/07/2032	25/07/2072	40.00	52.15	50yr Post Filling	480.0
59.0	0.0	395.2	25/07/2072	26/07/2122	50.00	102.15	100yr Post Filling	600.0

Tailings



CLIENT Northern Territory Government		PROJECT Rum Jungle Rehabilitation Stage 2a	
DRAWN PD	DATE 05/03/2020	TITLE Backfilling Sequence and Program	
CHECKED BT	DATE 05/03/2020		
SCALE		PROJECT No 680.10421	FIGURE No G6
		REV No A4	



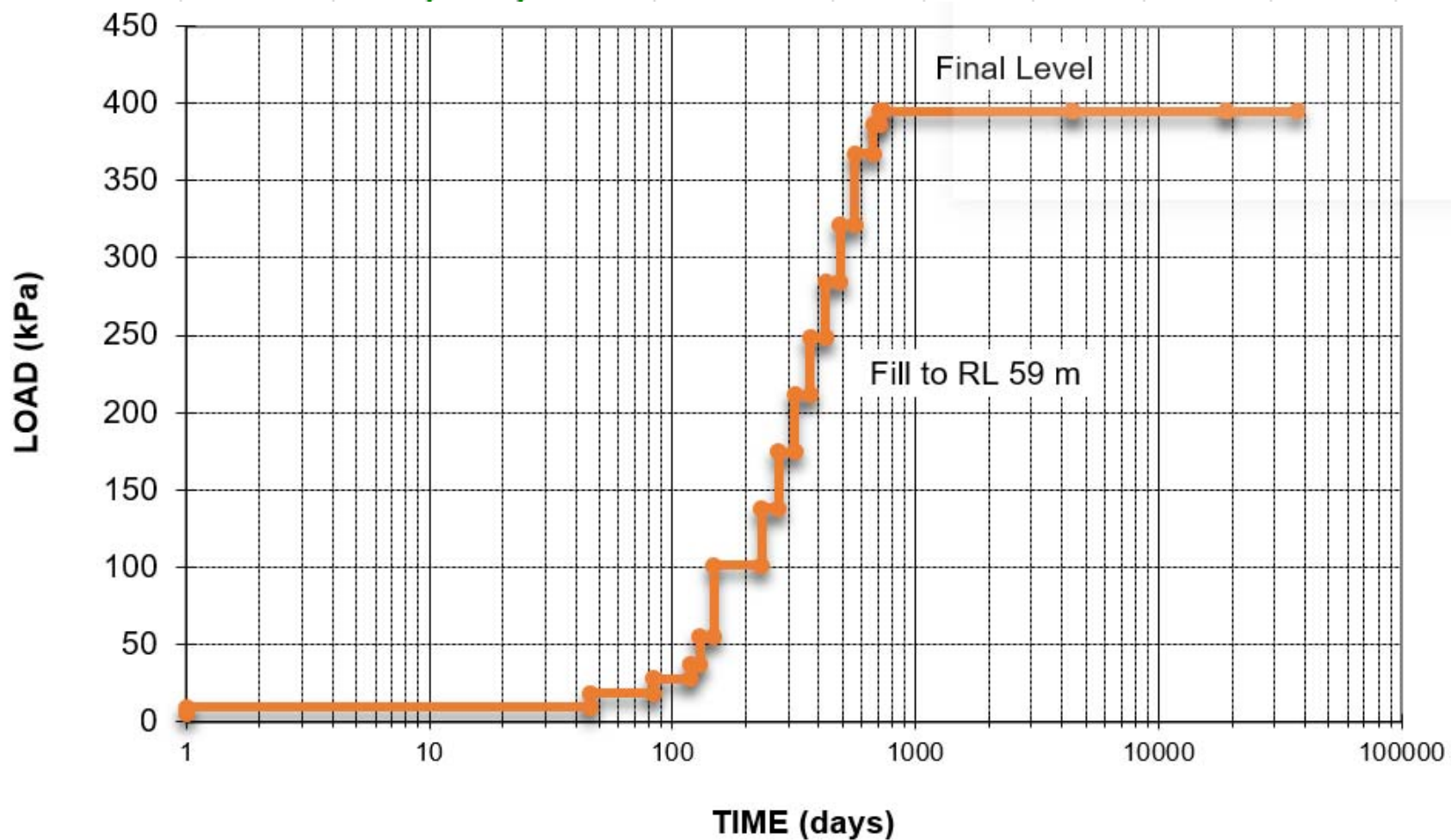
Time Inc.	Water Table RL	Surface RL	Load [kPa]	Change	Total	Start Date	Finish Date	Time [years]	Increment	Elapsed	Description	Months	Cumulative Thickness	Top RL	Vol (m³)
Start:	61	16				01/06/2020				0					
1	61	16.5	4.6	4.6	4.6	01/06/2020	18/07/2020	0.13	0.129	0.129	0.5m Fine Sand Bedding (Pontoon)	1.6	0.5	16.5	14409
2	61	17	4.6	9.2	9.2	18/07/2020	02/09/2020	0.13	0.256	0.256	0.5m Fine Sand Bedding (Pontoon)	1.5	1	17	14072
3	61	18	9.2	18.4	18.4	02/09/2020	10/10/2020	0.10	0.359	0.359	1m Unscreened Sand Bedding (Barge)	1.2	2	18	26834
4	61	19	9.2	27.6	27.6	10/10/2020	14/11/2020	0.10	0.455	0.455	1m Unscreened Sand Bedding (Barge)	1.1	3	19	24881
5	61	20	9.2	36.8	36.8	14/11/2020	25/11/2020	0.03	0.486	0.486	1m Coarse Sand Bedding (Barge)	0.4	4	20	22340
6	61	22	18.4	55.1	55.1	25/11/2020	12/12/2020	0.05	0.533	0.533	2m w/R Fill (Barge) (Lense Max 2m thick)	0.6	6	22	33485
7	61	27	46.0	101.1	101.1	12/12/2020	07/03/2021	0.23	0.765	0.765	5m w/R Fill (Barge/Conveyor)	2.8	11	27	164372
8	61	31	36.8	137.9	137.9	07/03/2021	16/04/2021	0.11	0.875	0.875	4m w/R Fill (Barge/Conveyor)	1.3	15	31	155894
9	61	35	36.8	174.6	174.6	16/04/2021	31/05/2021	0.12	0.999	0.999	4m w/R Fill (Barge/Conveyor)	1.5	19	35	175795
10	61	39	36.8	211.4	211.4	31/05/2021	21/07/2021	0.14	1.138	1.138	4m w/R Fill (Barge/Conveyor)	1.7	23	39	197630
11	61	43	36.8	248.1	248.1	21/07/2021	16/09/2021	0.16	1.293	1.293	4m w/R Fill (Barge/Conveyor)	1.9	27	43	220092
12	61	47	36.8	284.9	284.9	16/09/2021	20/11/2021	0.18	1.471	1.471	4m w/R Fill (Barge/Conveyor)	2.1	31	47	251341
13	61	51	36.8	321.7	321.7	20/11/2021	02/02/2022	0.20	1.673	1.673	4m w/R Fill (Barge/Conveyor)	2.4	35	51	287360
14	61	56	46.0	367.6	367.6	02/02/2022	18/05/2022	0.29	1.961	1.961	5m w/R Fill (Barge/Conveyor)	3.5	40	56	408031
15	61	58	18.4	386.0	386.0	18/05/2022	02/07/2022	0.12	2.086	2.086	1m w/R Fill (Barge/Conveyor) + 1m Inert Capping (Dozer)	1.5	43.5	58.5	176692
16	61	59	9.2	395.2	395.2	02/07/2022	25/07/2022	0.06	2.148	2.148	1m Inert Capping (Dozer)	0.8	45.5	61.5	88768
											Fill Time	25.8			
17	61	59		0	395.2	25/07/2022	25/07/2022	10.00	12.148	12.148	10yr Post Filling		120.0		
18	61	59		0	395.2	25/07/2022	25/07/2022	40.00	52.148	52.148	50yr Post Filling		480		
19	61	59		0	395.2	25/07/2022	26/07/2022	50.00	102.148	102.148	100yr Post Filling		600		
											Total				2,261,996

Placement rate m³/3hr	hrs per day	days per week	Program Contingency %	Placement rate m³/3day	Working weeks	Working months	Comment
60	10	5	40	306	6.7	1.6	Spreader Pontoon
60	10	5	40	306	6.6	1.5	Spreader Pontoon
120	10	5	20	714	5.4	1.2	1x barge @ 150 m³
120	10	5	20	714	5.0	1.1	1x barge @ 150 m³
300	10	5	10	1948	1.6	0.4	Conveyor or 1-2 x barge @ 150 m³ each
300	10	5	10	1948	2.5	0.6	Conveyor or 1-2 x barge @ 150 m³ each
300	10	5	10	1948	12.1	2.8	Conveyor or 1-2 x barge @ 150 m³ each
600	10	5	10	3896	5.7	1.3	Conveyor or 2 x barge @ 150 m³ each
600	10	5	10	3896	6.4	1.5	Conveyor or 2 x barge @ 150 m³ each
600	10	5	10	3896	7.2	1.7	Conveyor or 2 x barge @ 150 m³ each
600	10	5	10	3896	8.1	1.9	Conveyor or 2 x barge @ 150 m³ each
600	10	5	10	3896	9.2	2.1	Conveyor or 2 x barge @ 150 m³ each
600	10	5	10	3896	10.5	2.4	Conveyor or 2 x barge @ 150 m³ each
600	10	5	10	3896	15.0	3.5	Conveyor or 2 x barge @ 150 m³ each
600	10	5	10	3896	6.5	1.5	+ 1-2 x Dozer once draft too shallow
600	10	5	10	3896	3.3	0.8	1-2 x Dozer (D10+)
					111.7	25.8	



CLIENT Northern Territory Government		PROJECT Rum Jungle Rehabilitation Stage 2a	
DRAWN PD	DATE 05/03/2020	TITLE Backfilling Summary	
CHECKED BT	DATE 05/03/2020		
SCALE		PROJECT No 680.10421	FIGURE No G9
		REV No A4	

Description	Depth to Top	RL Top	Thickness (m)	Total Unit Weight (kN/m³)	Cc 1+e ₀	Cv (m²/yr)	Cα (%)	Cc/Cr	Sig ' v Layer Top (kPa)
Tailings	0.00	16.00	56.00	16.00	0.13	10.00	0.450%	6.00	0.00
Rock	56.00	-40.00							346.64



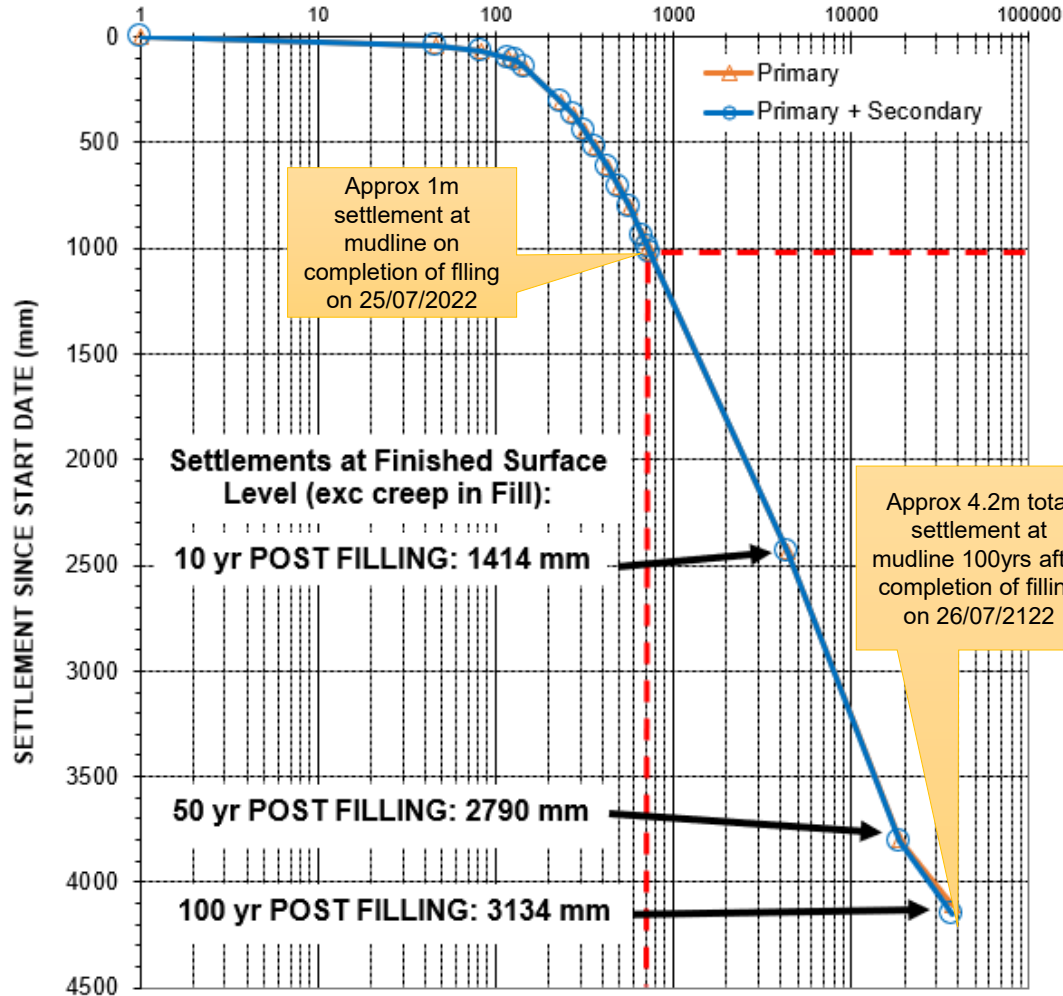
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	DRAWN PD	DATE 05/03/2020	TITLE Settlement Inputs, Stress and Settlement		
	CHECKED BT	DATE 05/03/2020			
	SCALE		PROJECT No 680.10421	FIGURE No G10	REV No A4

Rum Jungle - Main Pit Full Depth Tailings

Section D-D: Fill Duration: 26 months

Base Case – $C_v = 10\text{m}^2/\text{Yr}$

Days since commencement of filling



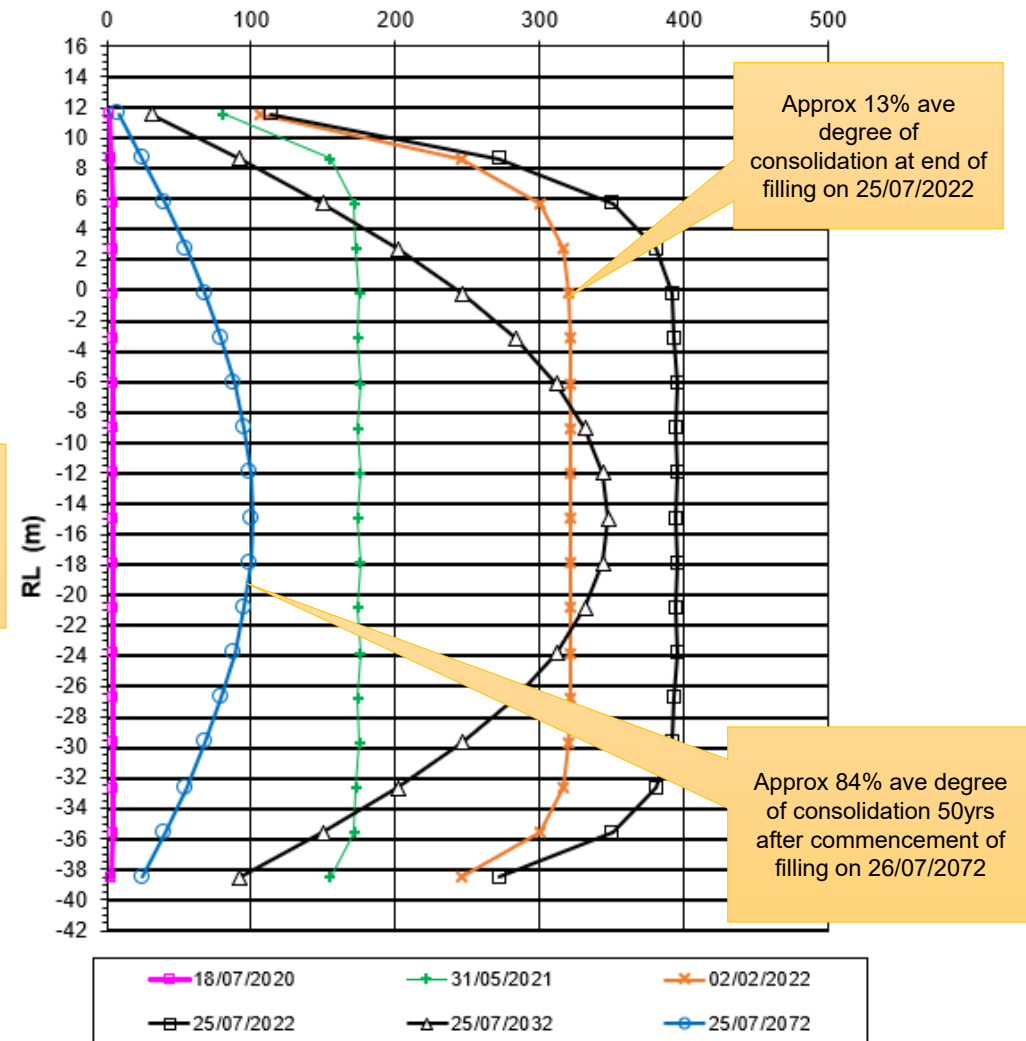
Above settlements are at mud-line and excludes post-construction creep settlement within fill

Rum Jungle - Main Pit Full Depth Tailings

Section D-D: Build time: 26 months

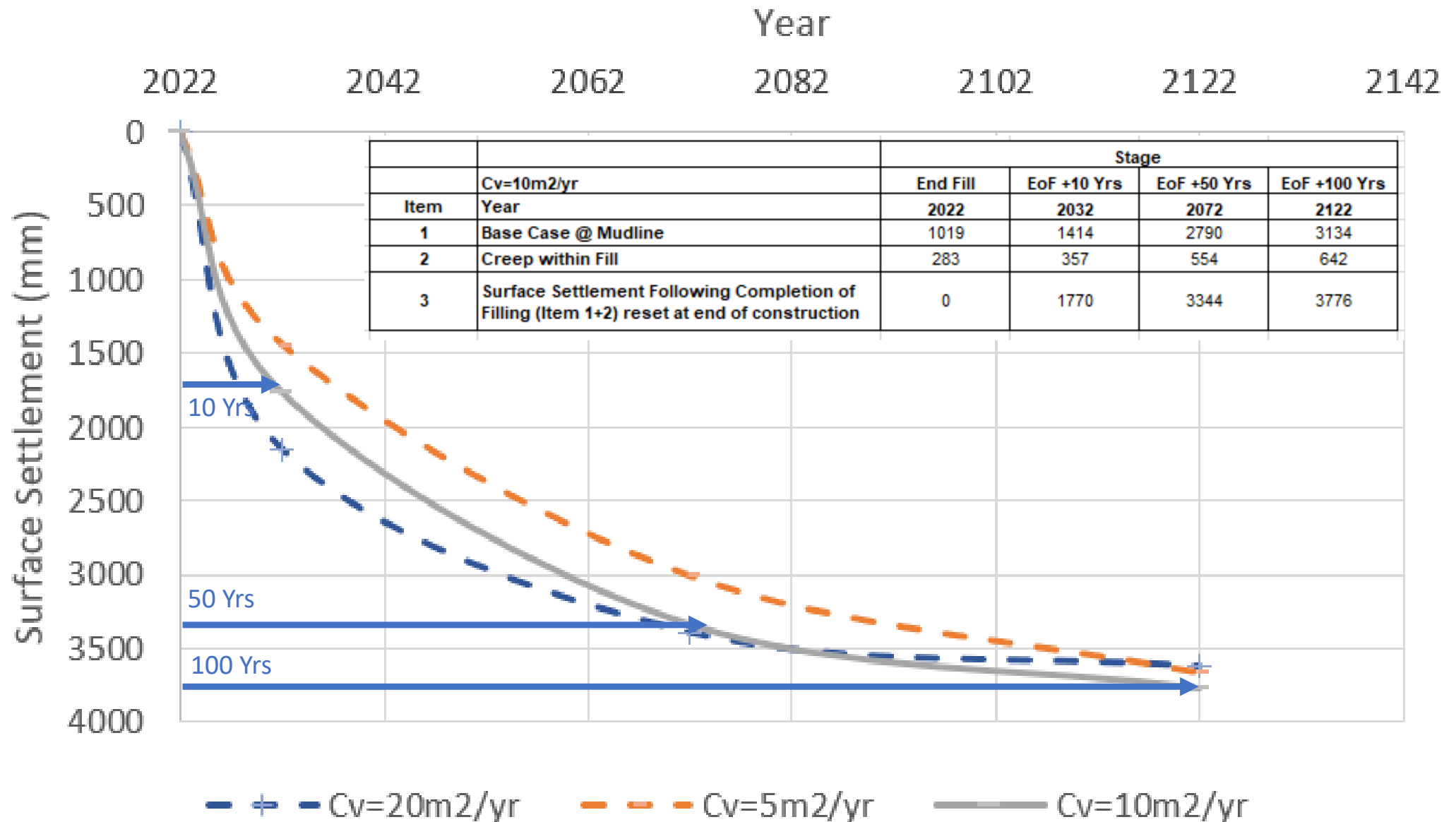
Base Case – $C_v = 10\text{m}^2/\text{Yr}$

Excess Pore Pressure (kPa)



CLIENT Northern Territory Government		PROJECT Rum Jungle Rehabilitation Stage 2a	
DRAWN PD	DATE 05/03/2020	TITLE Settlement Summary and Pore Pressures	
CHECKED BT	DATE 05/03/2020		
SCALE		PROJECT No 680.10421	FIGURE No G11
		REV No A4	

Surface settlement at following completion of filling in 2022 **including** creep settlement within fill



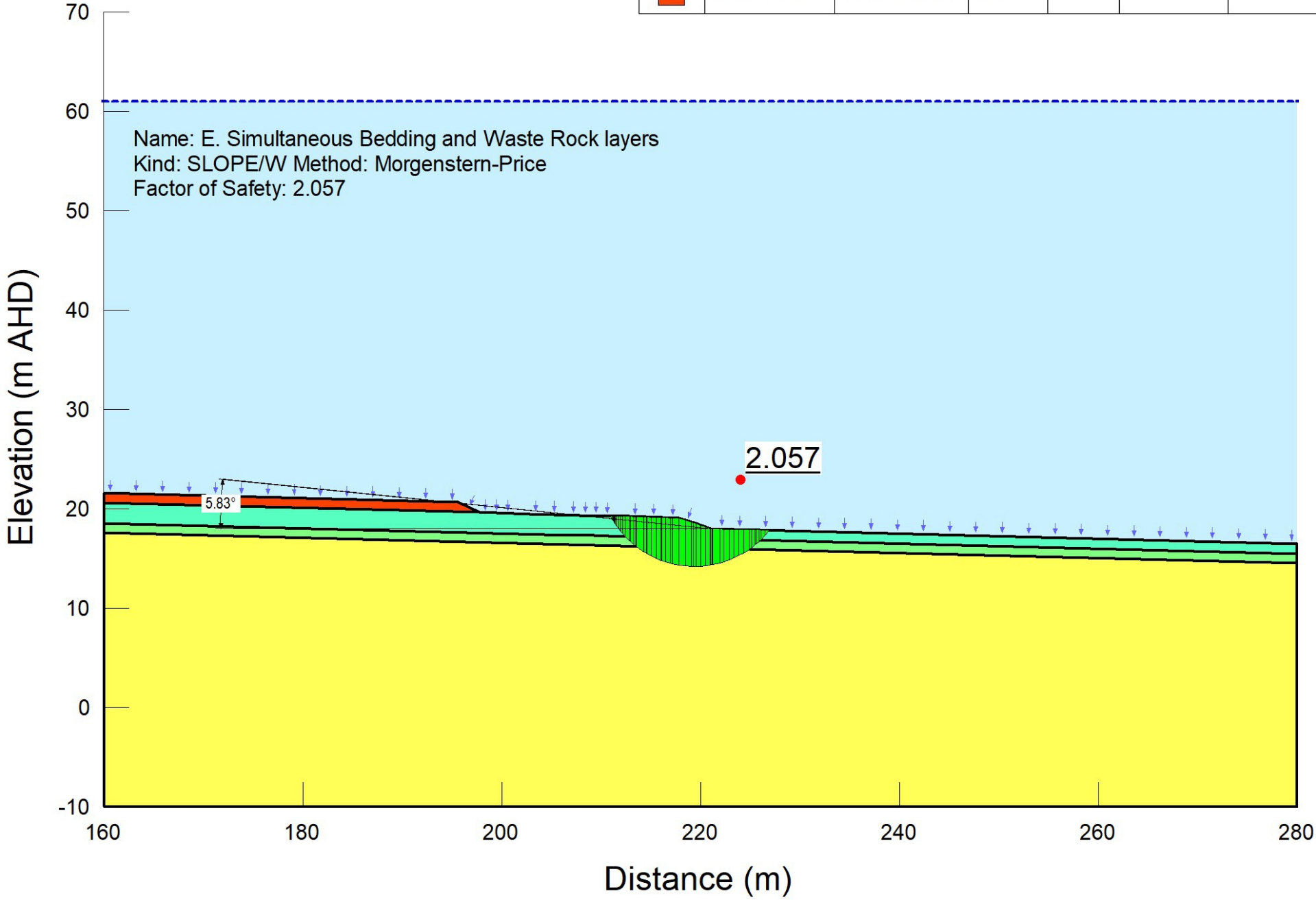
CLIENT Northern Territory Government		PROJECT Rum Jungle Rehabilitation Stage 2a	
DRAWN PD	DATE 05/03/2020	TITLE Settlement Summary	
CHECKED BT	DATE 05/03/2020		
SCALE		PROJECT No 680.10421	FIGURE No G12
		REV No	A4

APPENDIX H

Backfill Stability Plots

File Location: \\AU.SLR.Local\Corporate\Projects-SLR\

Color	Name	Model	Unit Weight (kN/m³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Intermediate Bedding Layer	Mohr-Coulomb	19				0	34	0	1
	Tailings and Slimes	S=f(depth)	16	0.5	1.5	0				1
	Waste Rock	Mohr-Coulomb	19				0	32	0	1



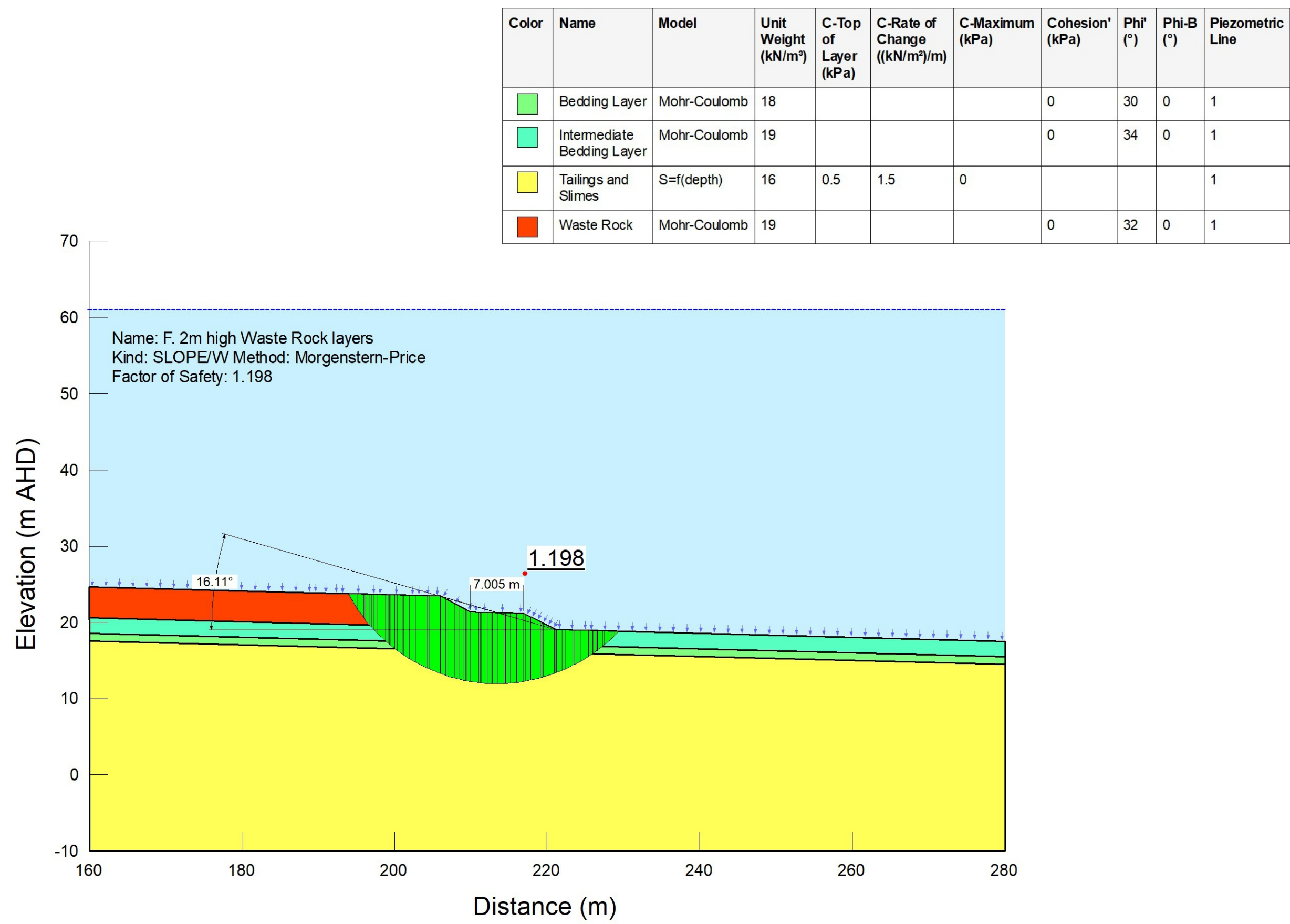
21 PARAP ROAD
PARAP
DARWIN
NORTHERN TERRITORY 0820
AUSTRALIA
T: 61 8 998 0100
www.slrconsulting.com

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Title: Appendix H - 1E
Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
Date: 06/02/2020

Drawn: FC
Reviewed: DO
Size: A3
Datum: m AHD
Version: 1.0

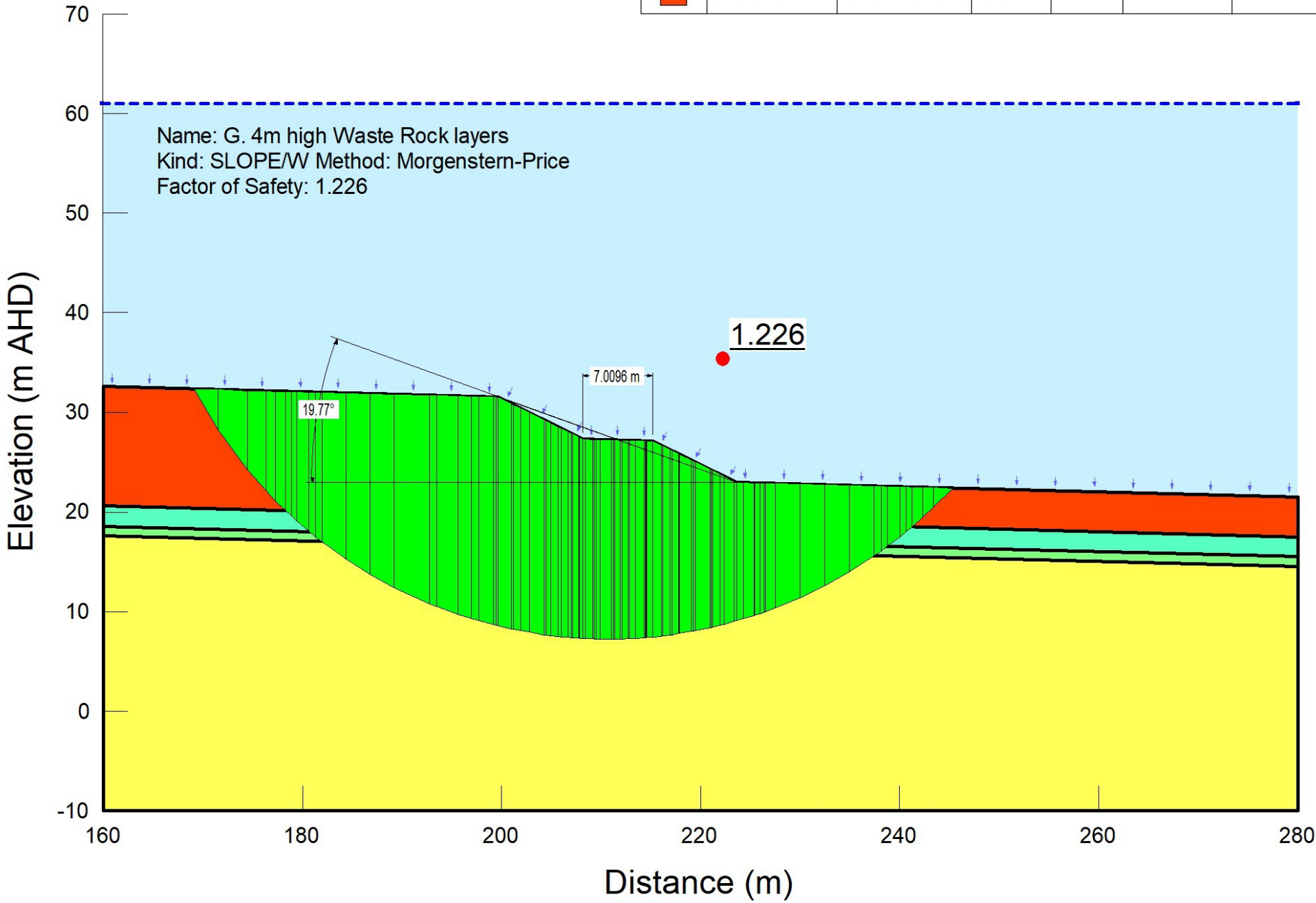




File Location: \\AU.SLR.Local\Corporate\Projects-SLR\

File Location: \\AU\SLR\Local\Corporate\Projects-SLR\

Color	Name	Model	Unit Weight (kN/m³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Intermediate Bedding Layer	Mohr-Coulomb	19				0	34	0	1
	Tailings and Slimes	S=f(depth)	16	0.5	1.5	0				1
	Waste Rock	Mohr-Coulomb	19				0	32	0	1



21 PARAP ROAD
PARAP
DARWIN
NORTHERN TERRITORY 0820
AUSTRALIA
T: 61 8 998 0100
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Title: Appendix H - 1G
Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
Date: 06/02/2020

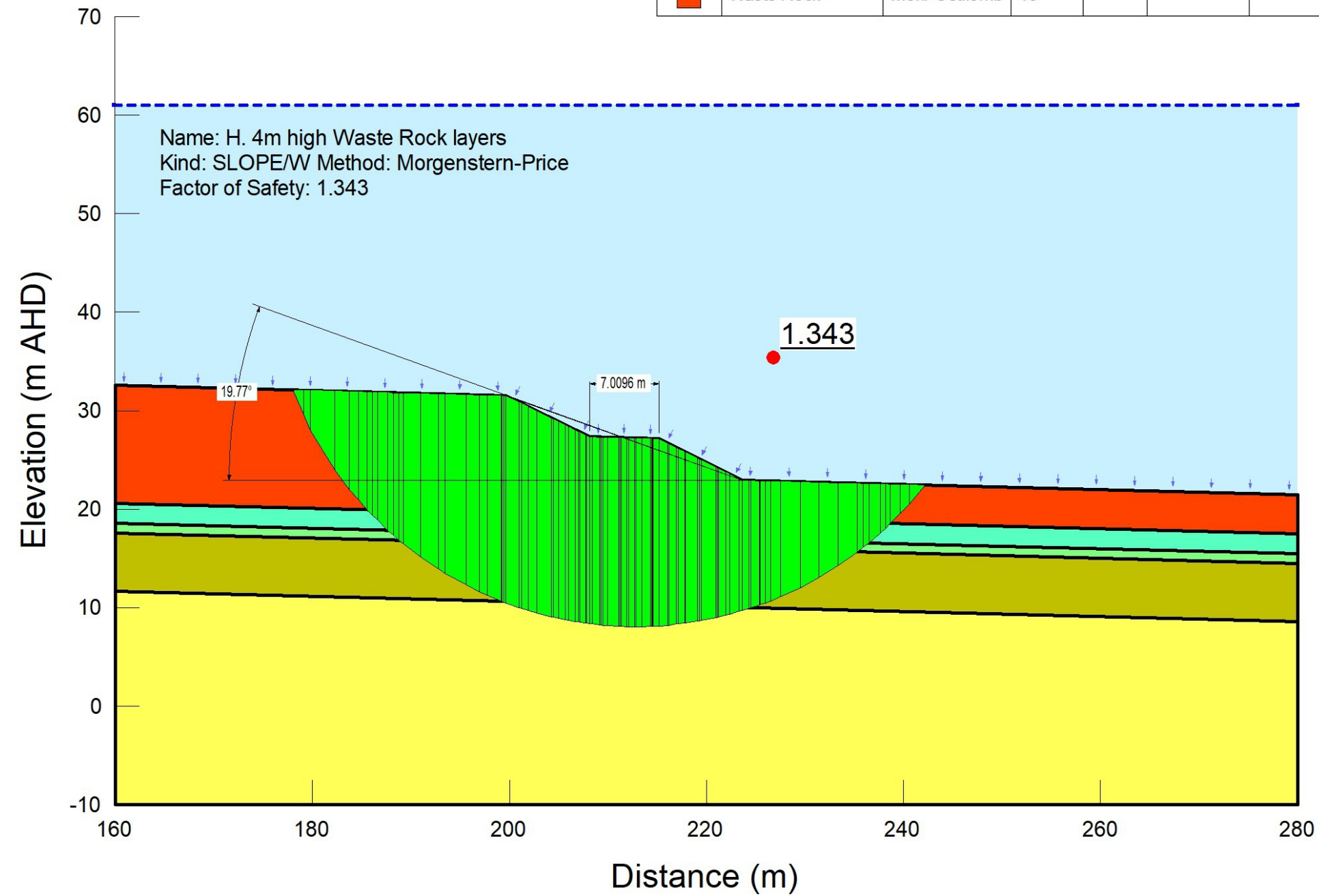
Drawn: FC
Reviewed: DO
Size: A3
Datum: m AHD
Version: 1.0



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File Location: \\AU\SLR\Local\Corporate\Projects-SLR\

Color	Name	Model	Unit Weight (kN/m³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Intermediate Bedding Layer	Mohr-Coulomb	19				0	34	0	1
	Tailings and Slimes'	S=f(depth)	16	11	1.5	0				1
	Tailings and Slimes Strength Gain	S=f(depth)	16	6.25	0.6786	0				1
	Waste Rock	Mohr-Coulomb	19				0	32	0	1



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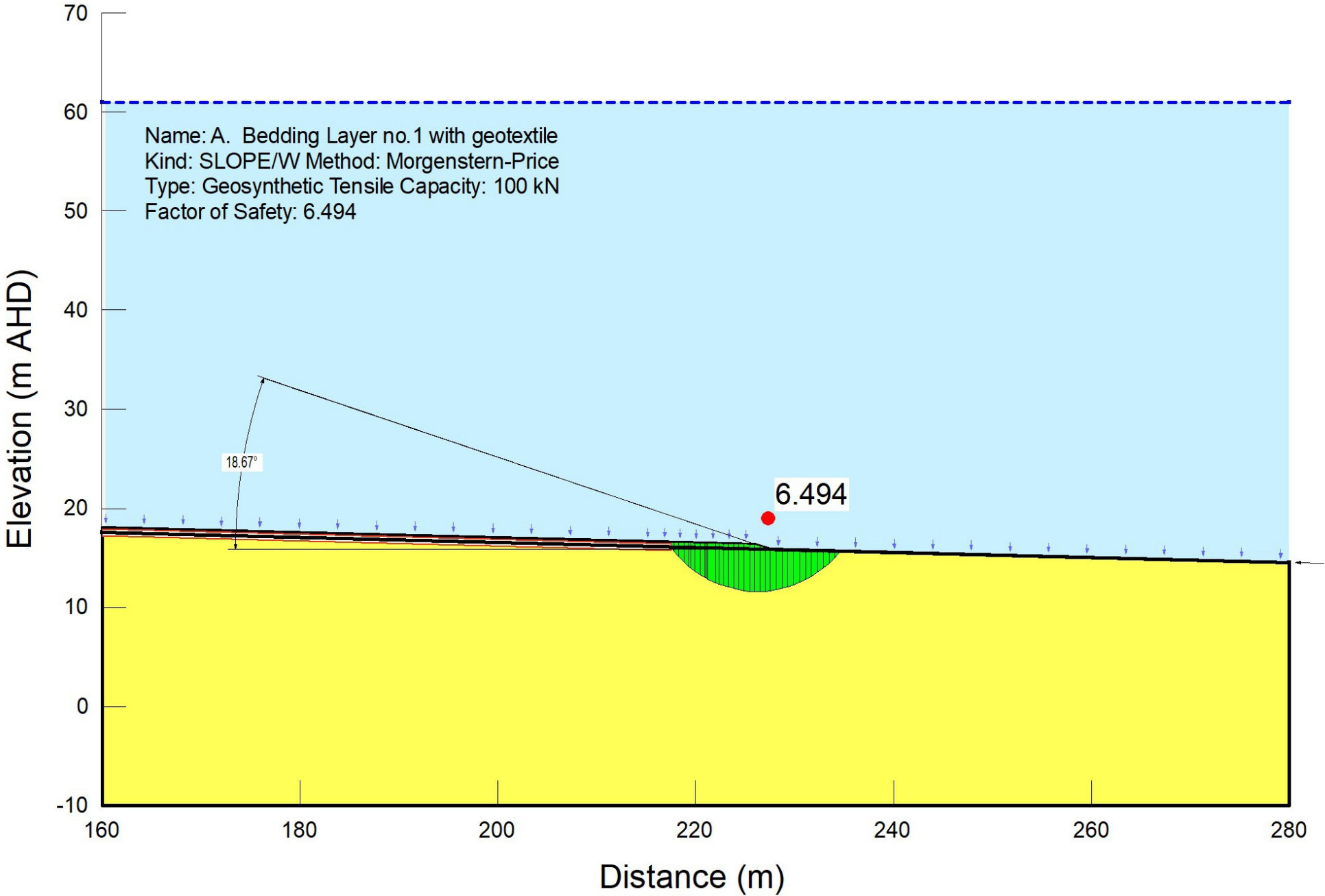
Title: Appendix H - 1G
Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
Date: 06/02/2020

Drawn: FC
Reviewed: DO
Size: A3
Datum: m AHD
Version: 1.0



File Location: \\AU\SLR\Local\Corporate\Projects-SLR\

Color	Name	Model	Unit Weight (kN/m ³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m ²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Tailings and Slimes	S=f(depth)	16	0.5	1.5	0				1



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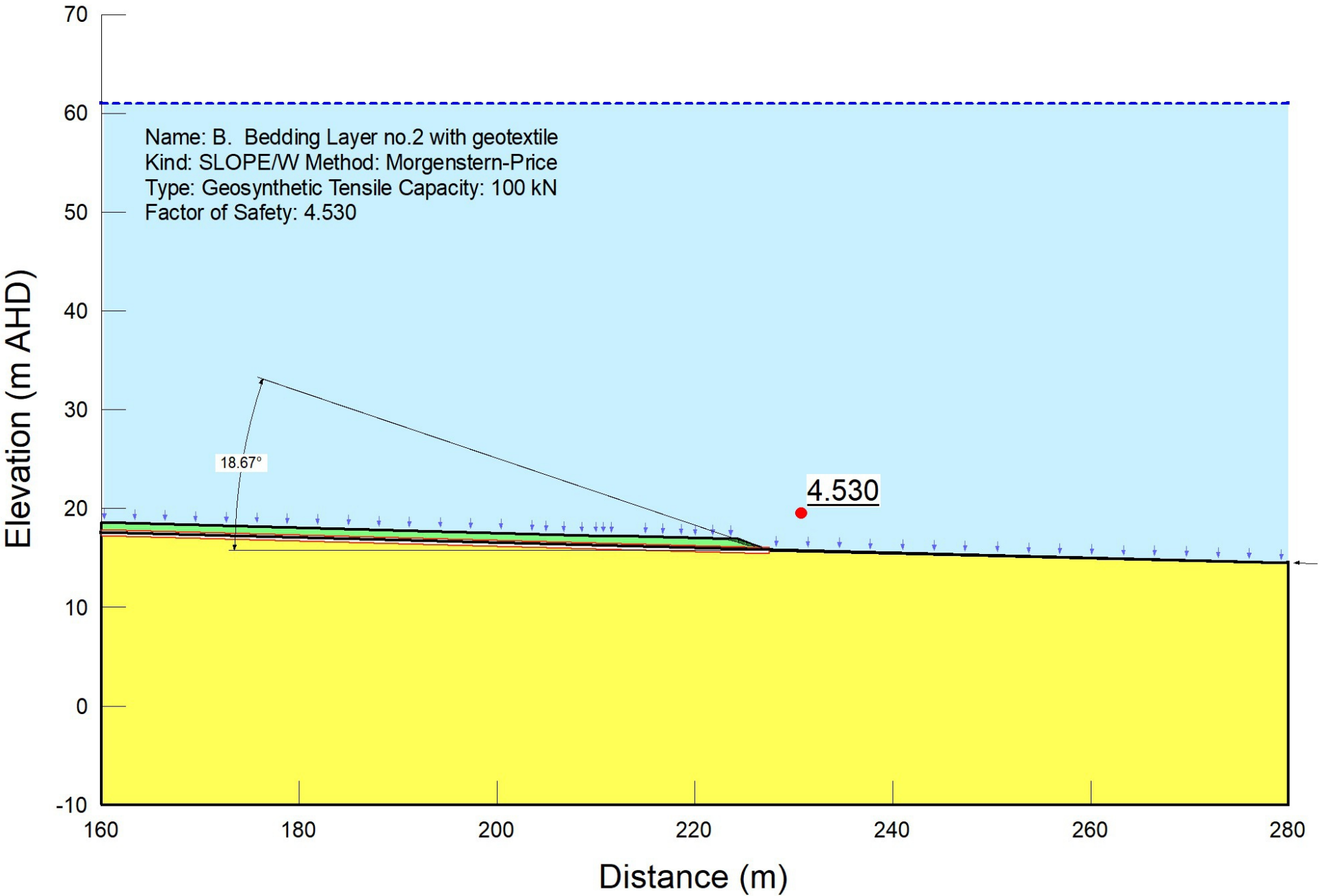
Title: Appendix H - 2A
Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
Date: 06/02/2020

Drawn: FC
Reviewed: DO
Size: A3
Datum: m AHD
Version: 1.0



File Location: \\AU.SLR.Local\Corporate\Projects-SLR\

Color	Name	Model	Unit Weight (kN/m ³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m ²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Tailings and Slimes	S=f(depth)	16	0.5	1.5	0				1



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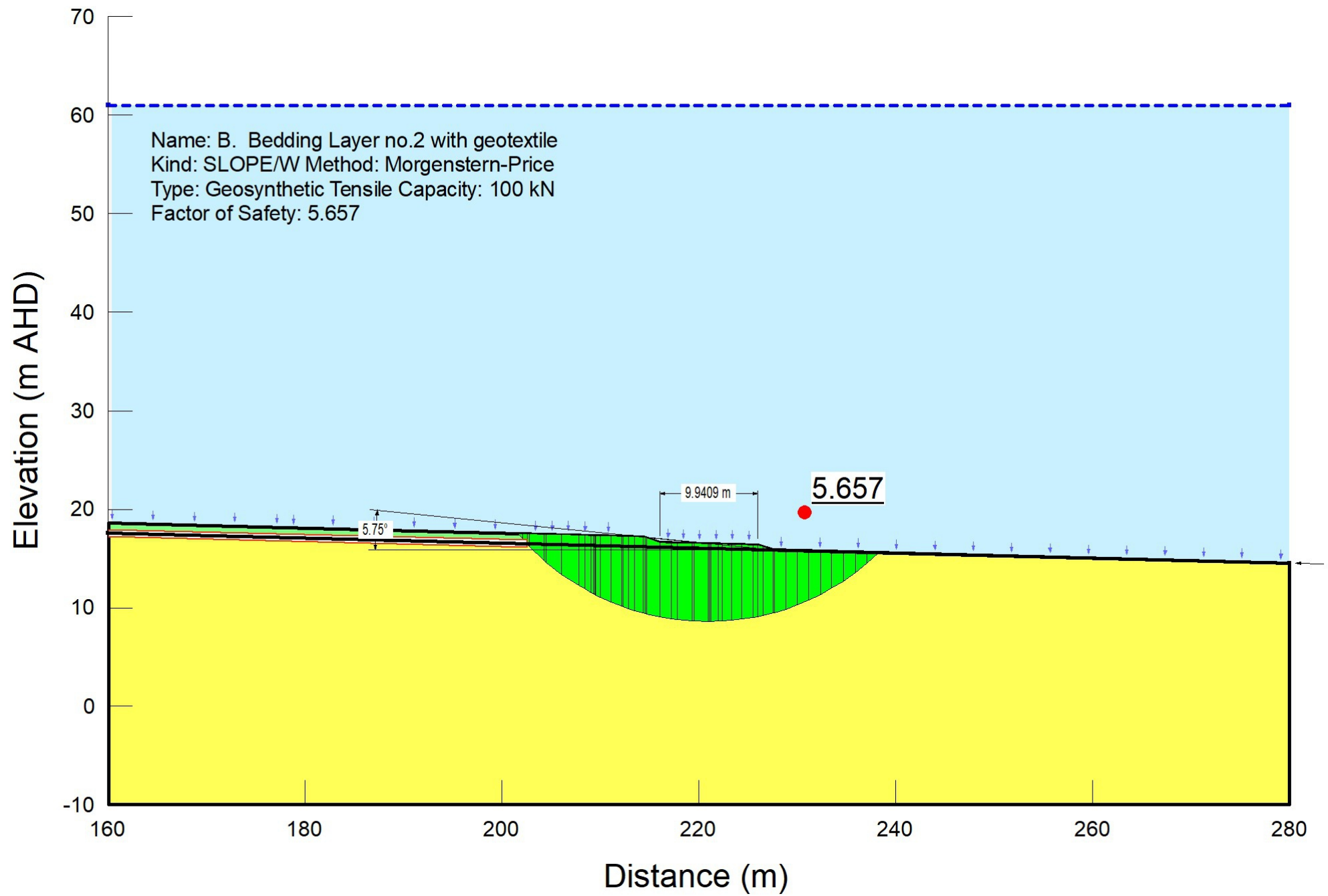
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Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
Date: 06/02/2020

Drawn: FC
Reviewed: DO
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Color	Name	Model	Unit Weight (kN/m ³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m ²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Tailings and Slimes	S=f(depth)	16	0.5	1.5	0				1



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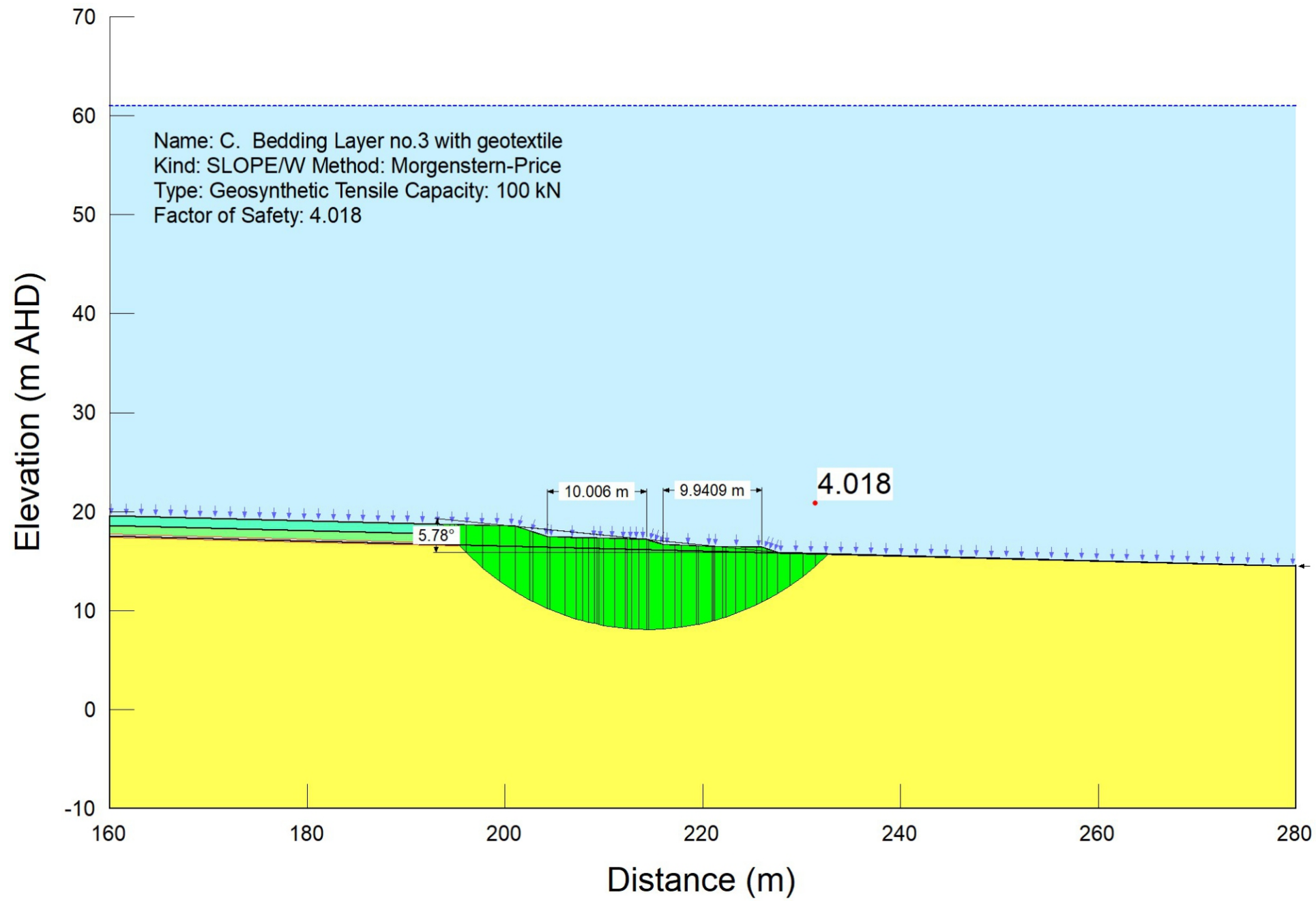
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Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
Date: 06/02/2020

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Reviewed: DO
Size: A3
Datum: m AHD
Version: 1.0



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Color	Name	Model	Unit Weight (kN/m³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Intermediate Bedding Layer	Mohr-Coulomb	19				0	34	0	1
	Tailings and Slimes	S=f(depth)	16	0.5	1.5	0				1



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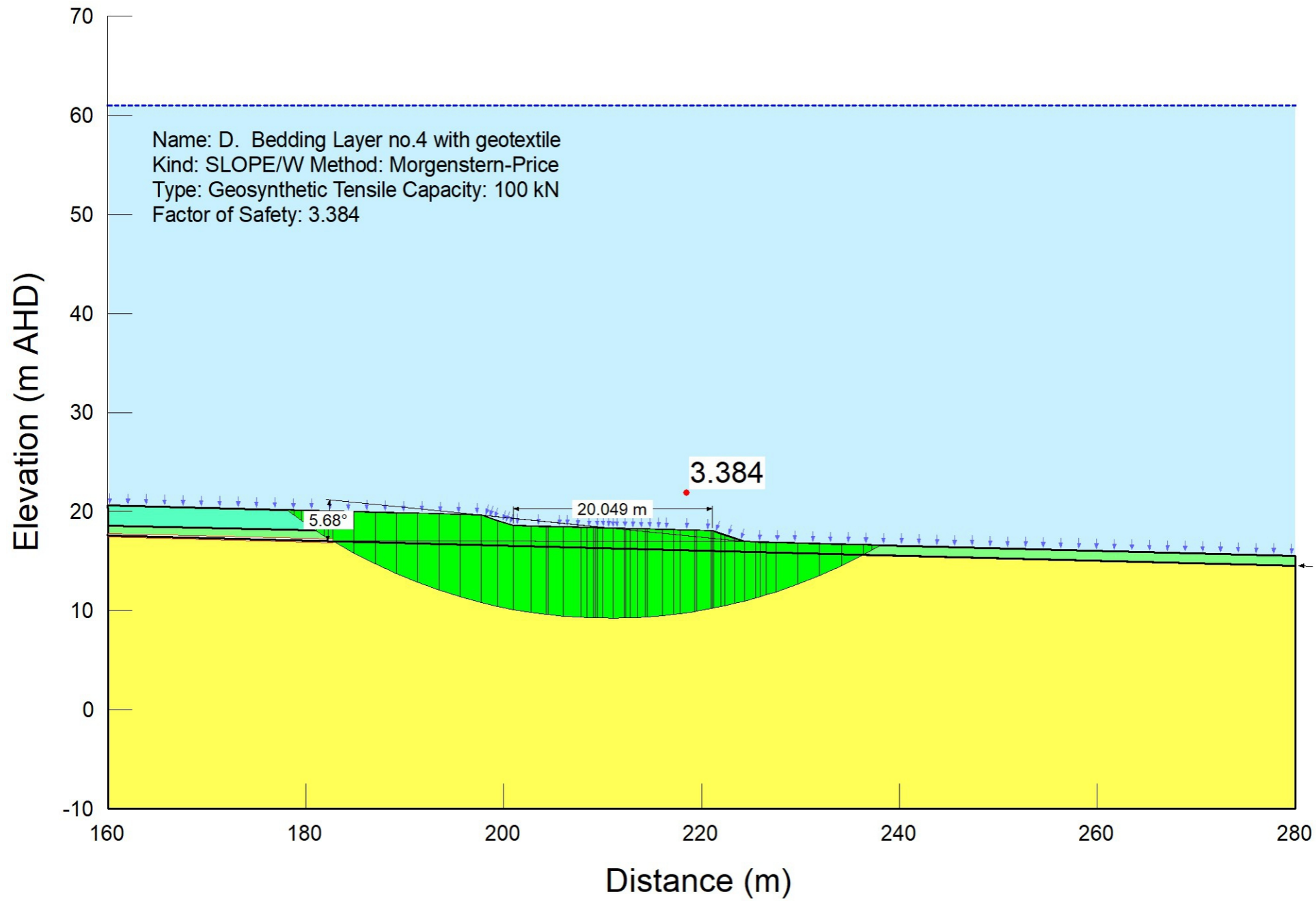
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Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
Date: 06/02/2020

Drawn: FC
Reviewed: DO
Size: A3
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Color	Name	Model	Unit Weight (kN/m³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Intermediate Bedding Layer	Mohr-Coulomb	19				0	34	0	1
	Tailings and Slimes	S=f(depth)	16	0.5	1.5	0				1



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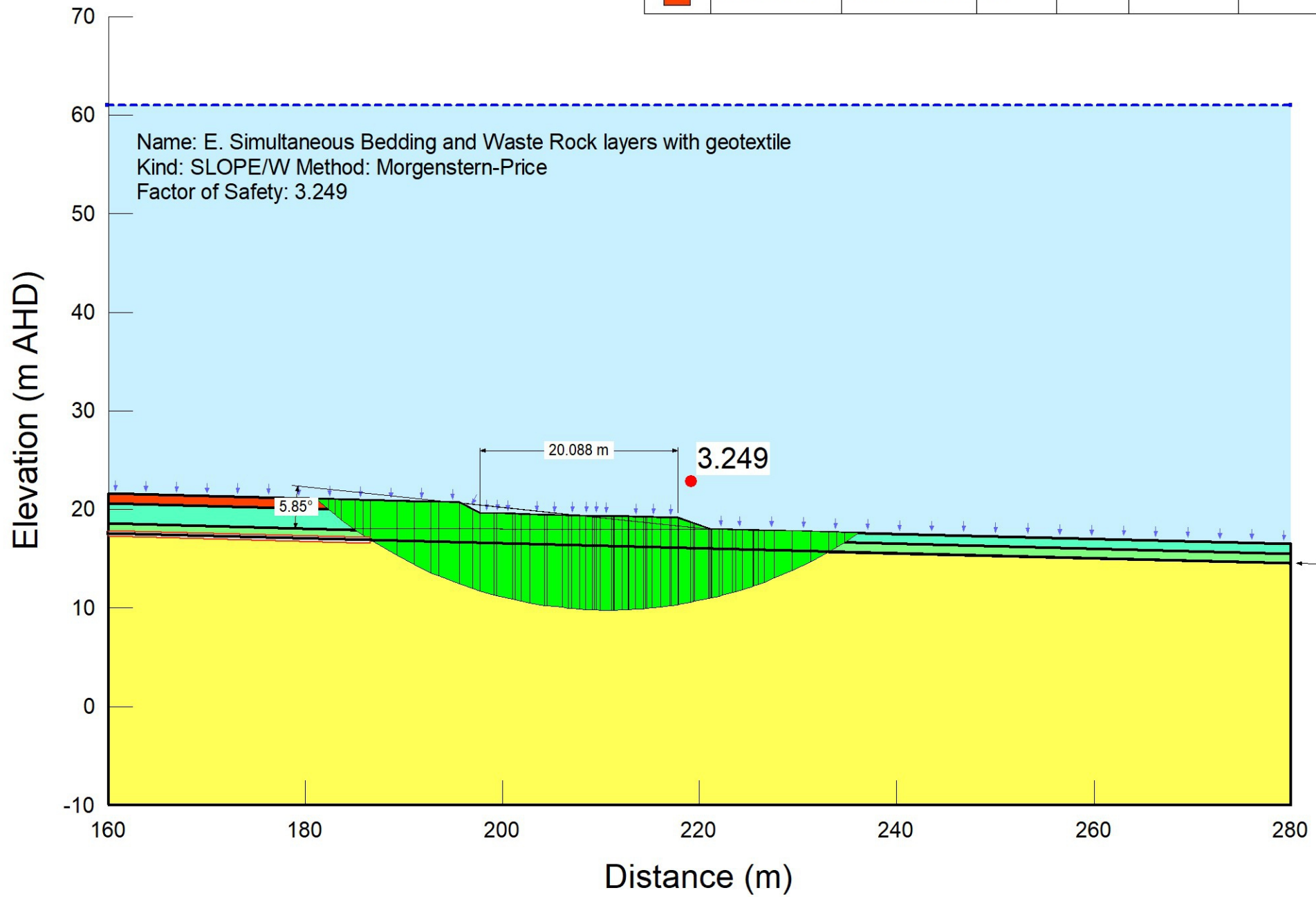
Title: Appendix H - 2D
Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
Date: 06/02/2020

Drawn: FC
Reviewed: DO
Size: A3
Datum: AHD
Version: 1.0



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Color	Name	Model	Unit Weight (kN/m³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Intermediate Bedding Layer	Mohr-Coulomb	19				0	34	0	1
	Tailings and Slimes	S=f(depth)	16	0.5	1.5	0				1
	Waste Rock	Mohr-Coulomb	19				0	32	0	1



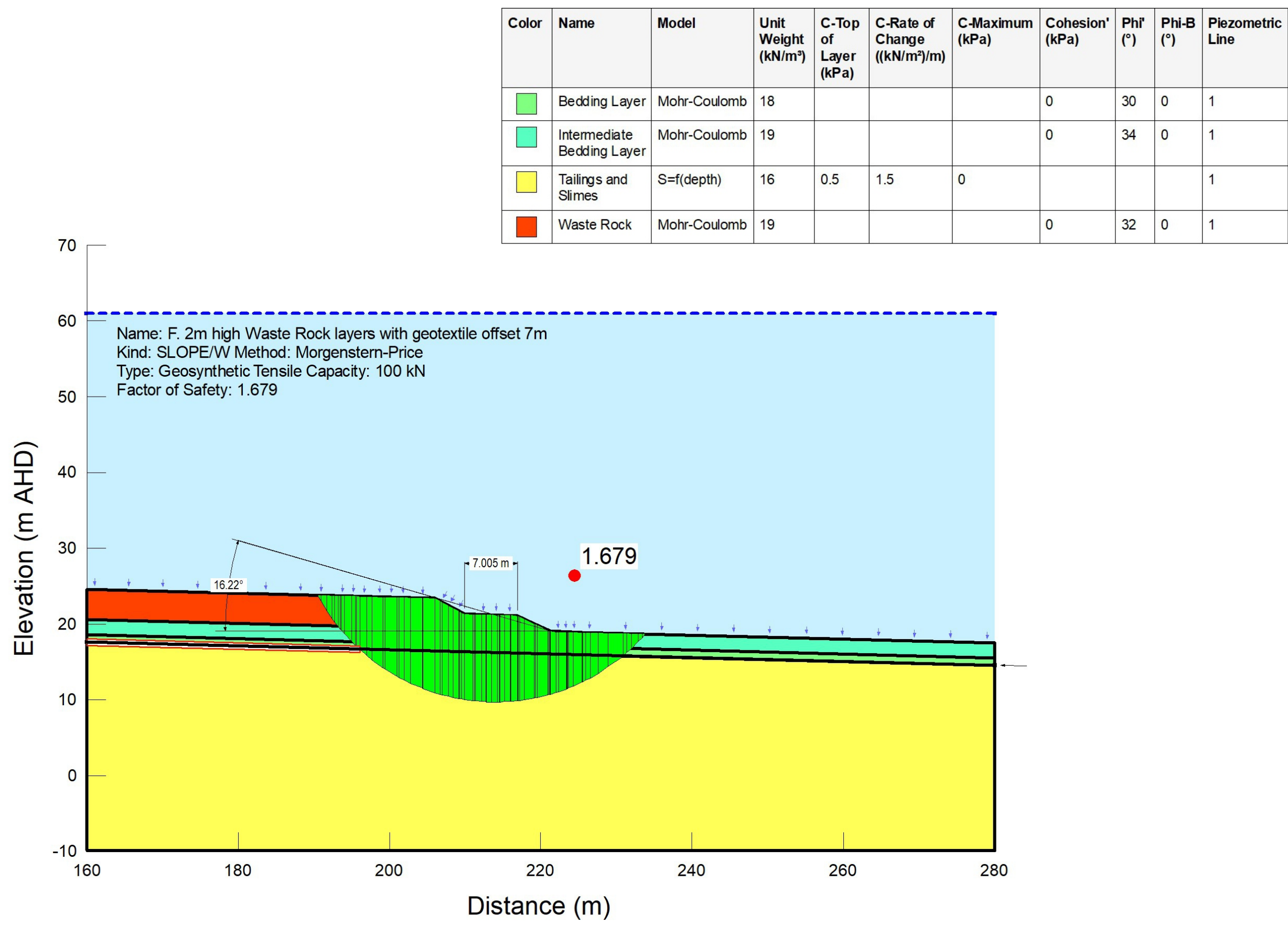
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Title: Appendix H - 2E - 1V:2H slope
Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
Date: 06/02/2020

Drawn: FC
Reviewed: DO
Size: A3
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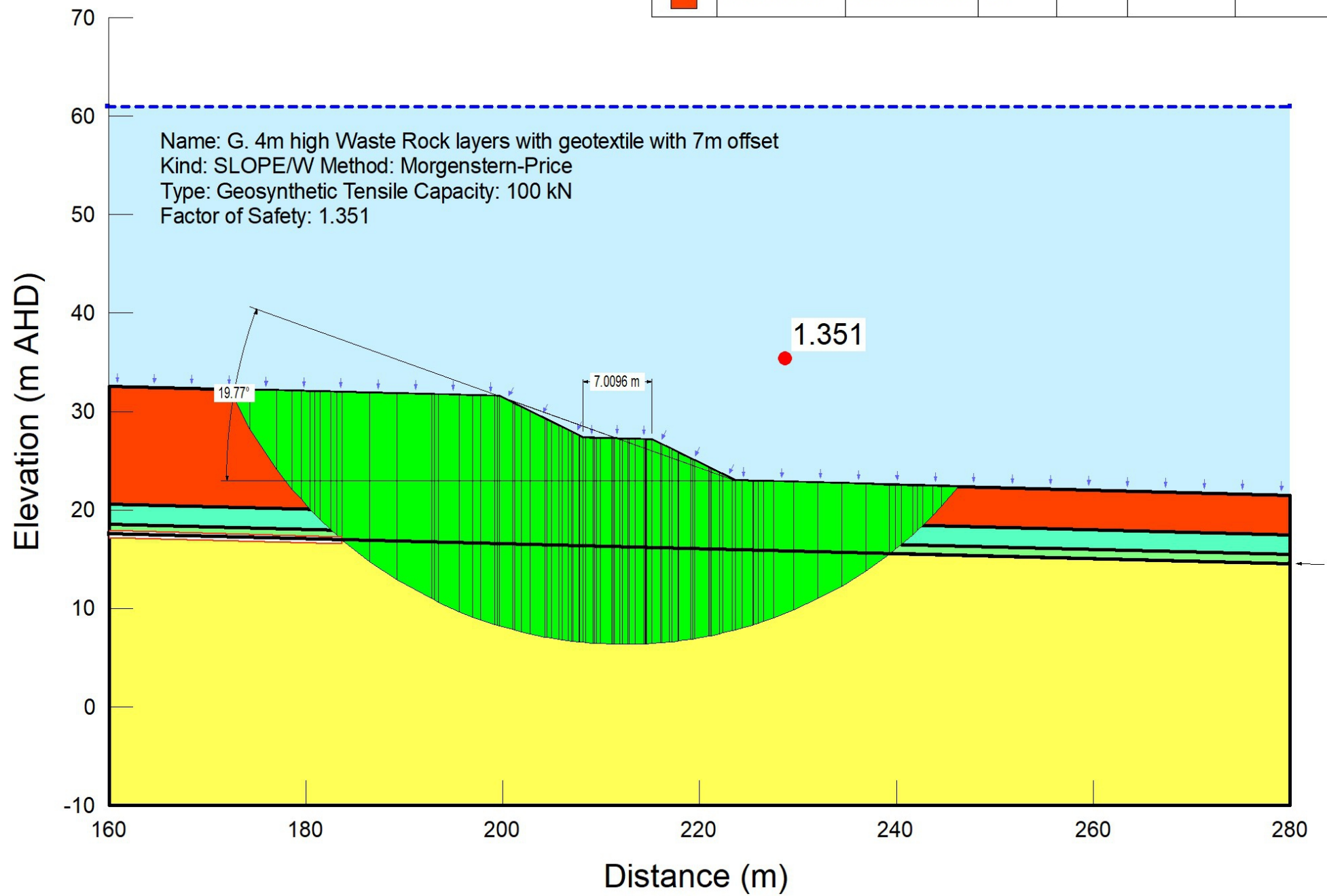




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Color	Name	Model	Unit Weight (kN/m³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Intermediate Bedding Layer	Mohr-Coulomb	19				0	34	0	1
	Tailings and Slimes	S=f(depth)	16	0.5	1.5	0				1
	Waste Rock	Mohr-Coulomb	19				0	32	0	1



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Title: Appendix H - 2G - 7 m offset
Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
Date: 06/02/2020

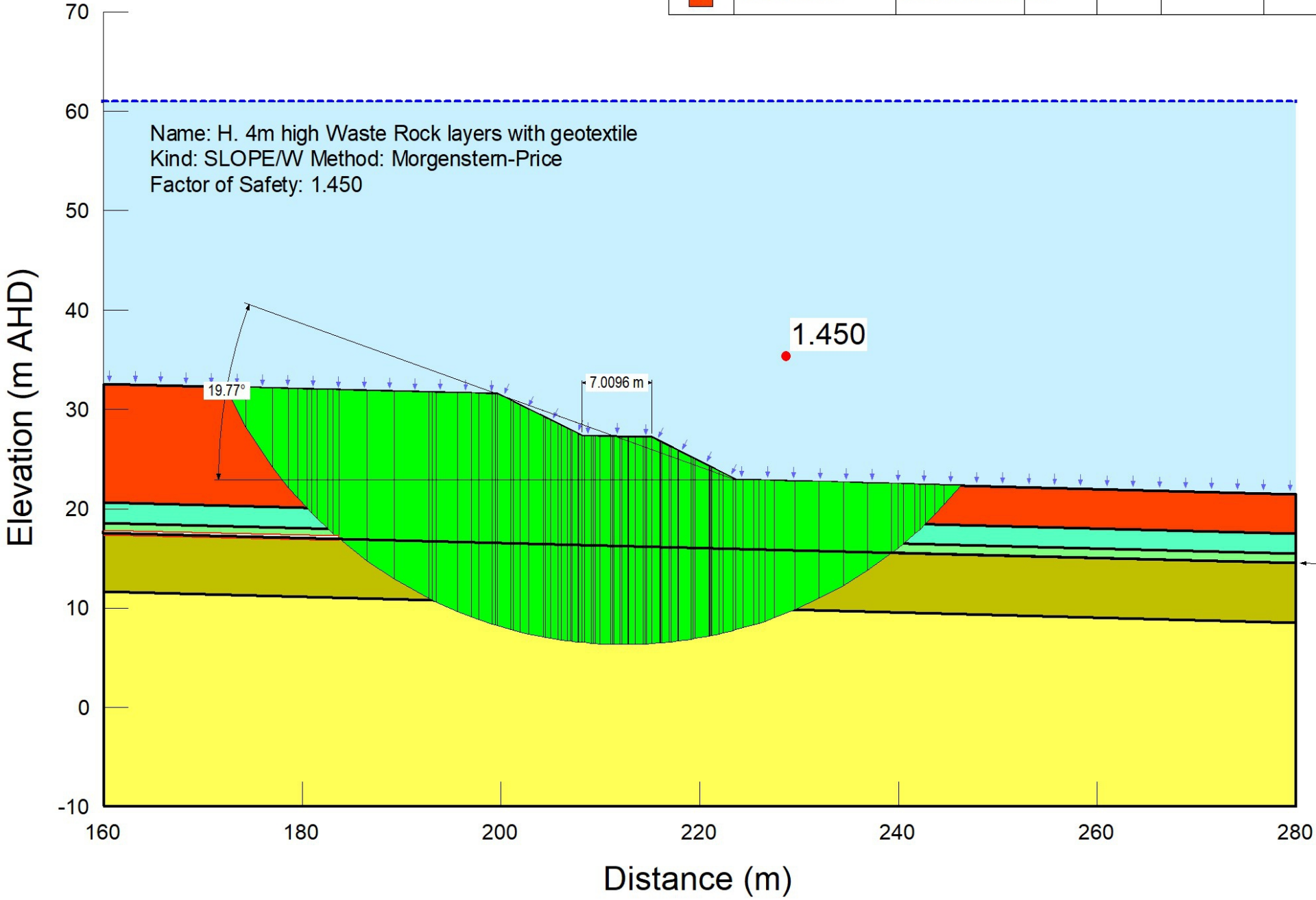
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Color	Name	Model	Unit Weight (kN/m³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Intermediate Bedding Layer	Mohr-Coulomb	19				0	34	0	1
	Tailings and Slimes'	S=f(depth)	16	11	1.5	0				1
	Tailings and Slimes Strength Gain	S=f(depth)	16	6.25	0.6786	0				1
	Waste Rock	Mohr-Coulomb	19				0	32	0	1



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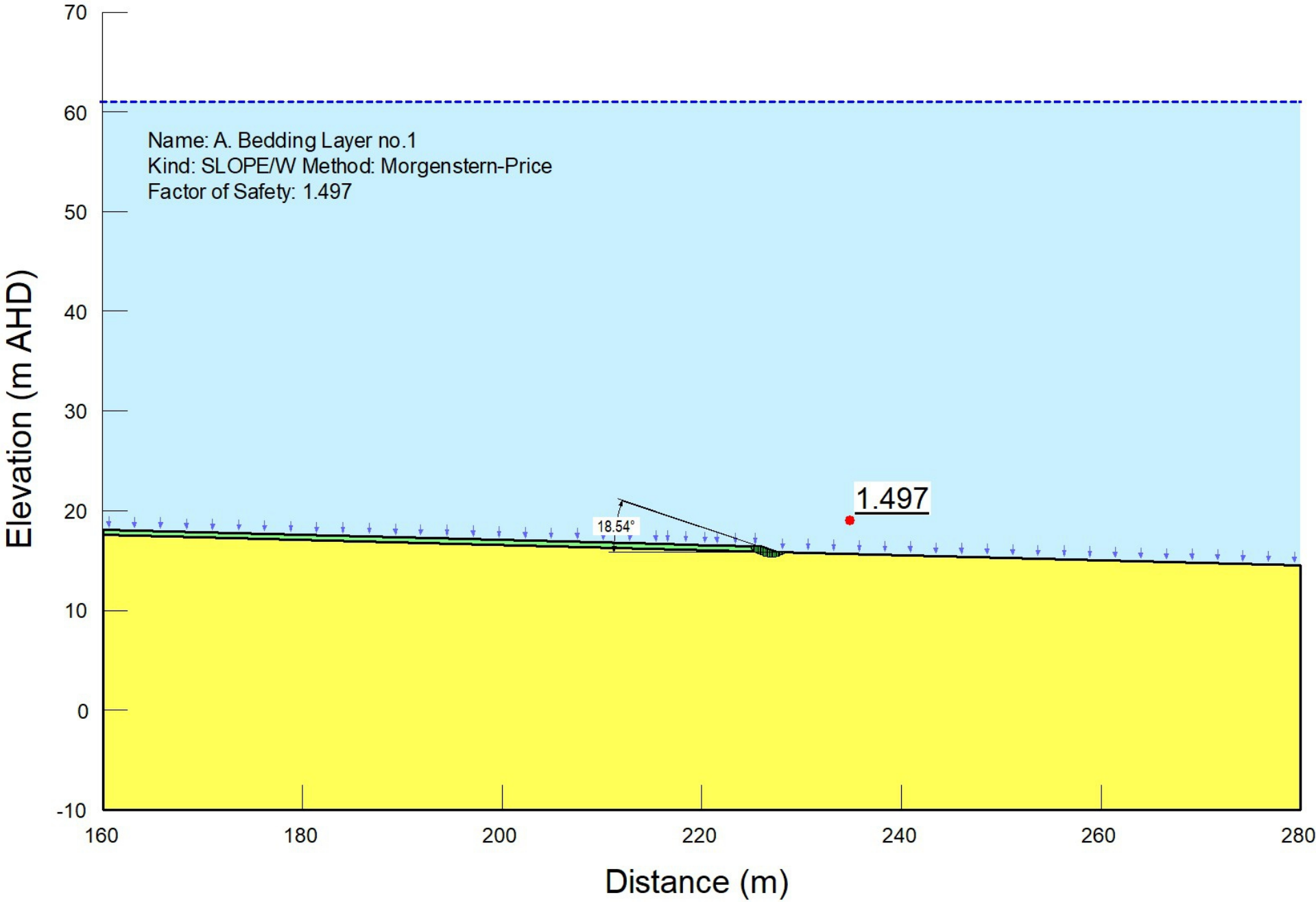
Title: Appendix H - 2G - 7 m offset
Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
Date: 06/02/2020

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Reviewed: DO
Size: A3
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Color	Name	Model	Unit Weight (kN/m ³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m ²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Tailings and Slimes	S=f(depth)	16	0.5	1.5	0				1



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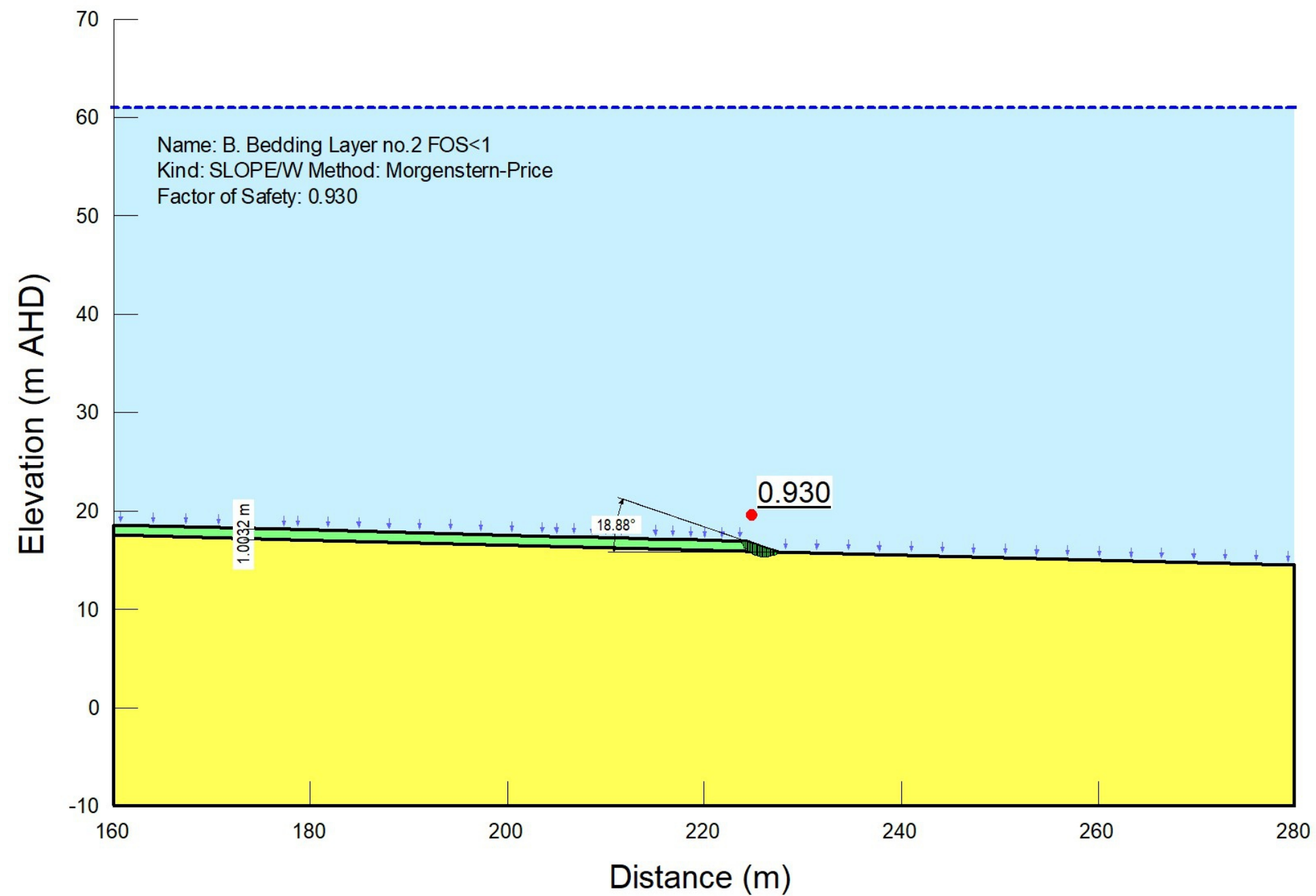
Title: Appendix H - 1A
Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
Date: 06/02/2020

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Color	Name	Model	Unit Weight (kN/m³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Tailings and Slimes	S=f(depth)	16	0.5	1.5	0				1



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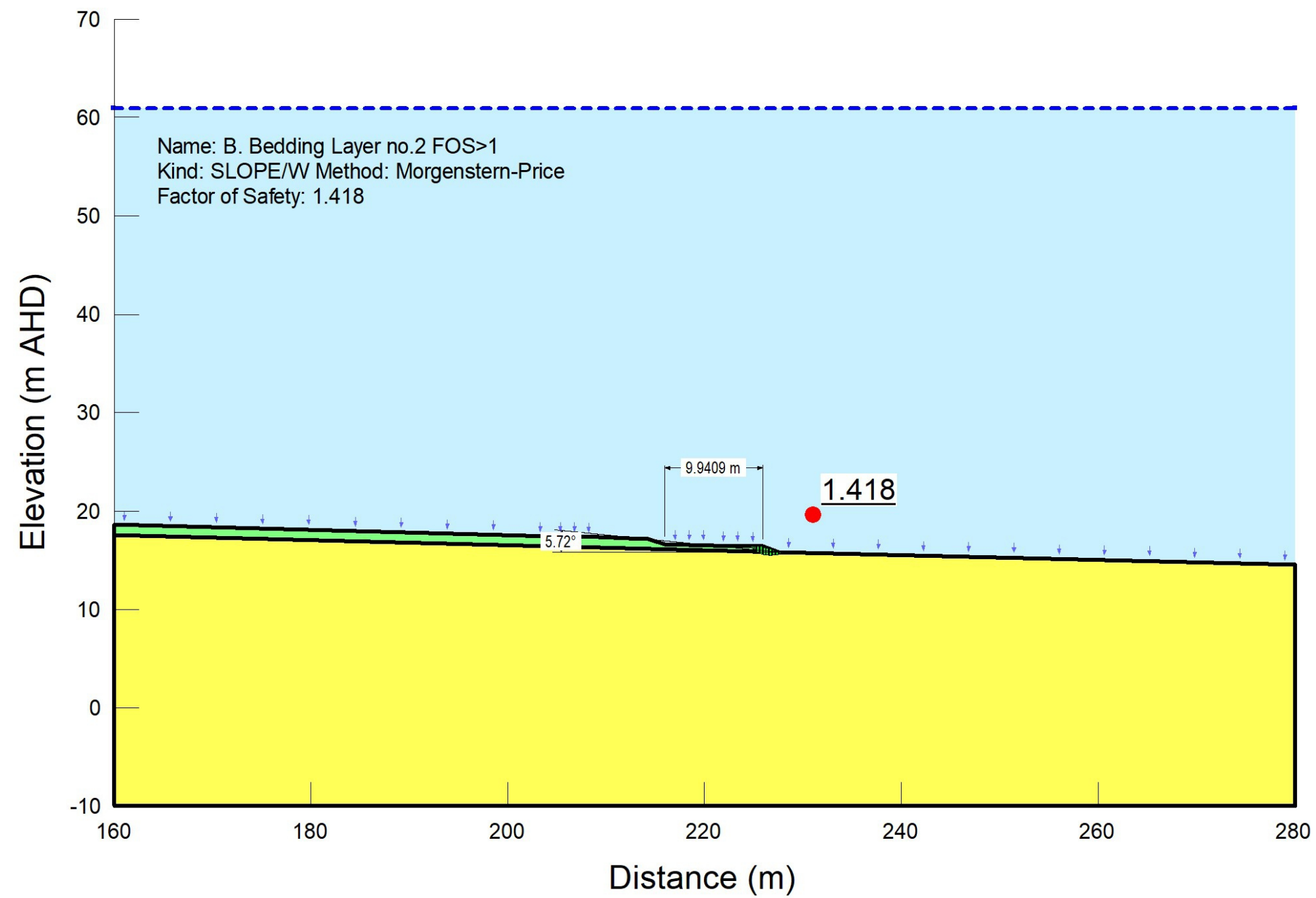
Title: Appendix H - 1B
Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
Date: 06/02/2020

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Reviewed: DO
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Color	Name	Model	Unit Weight (kN/m³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Tailings and Slimes	S=f(depth)	16	0.5	1.5	0				1



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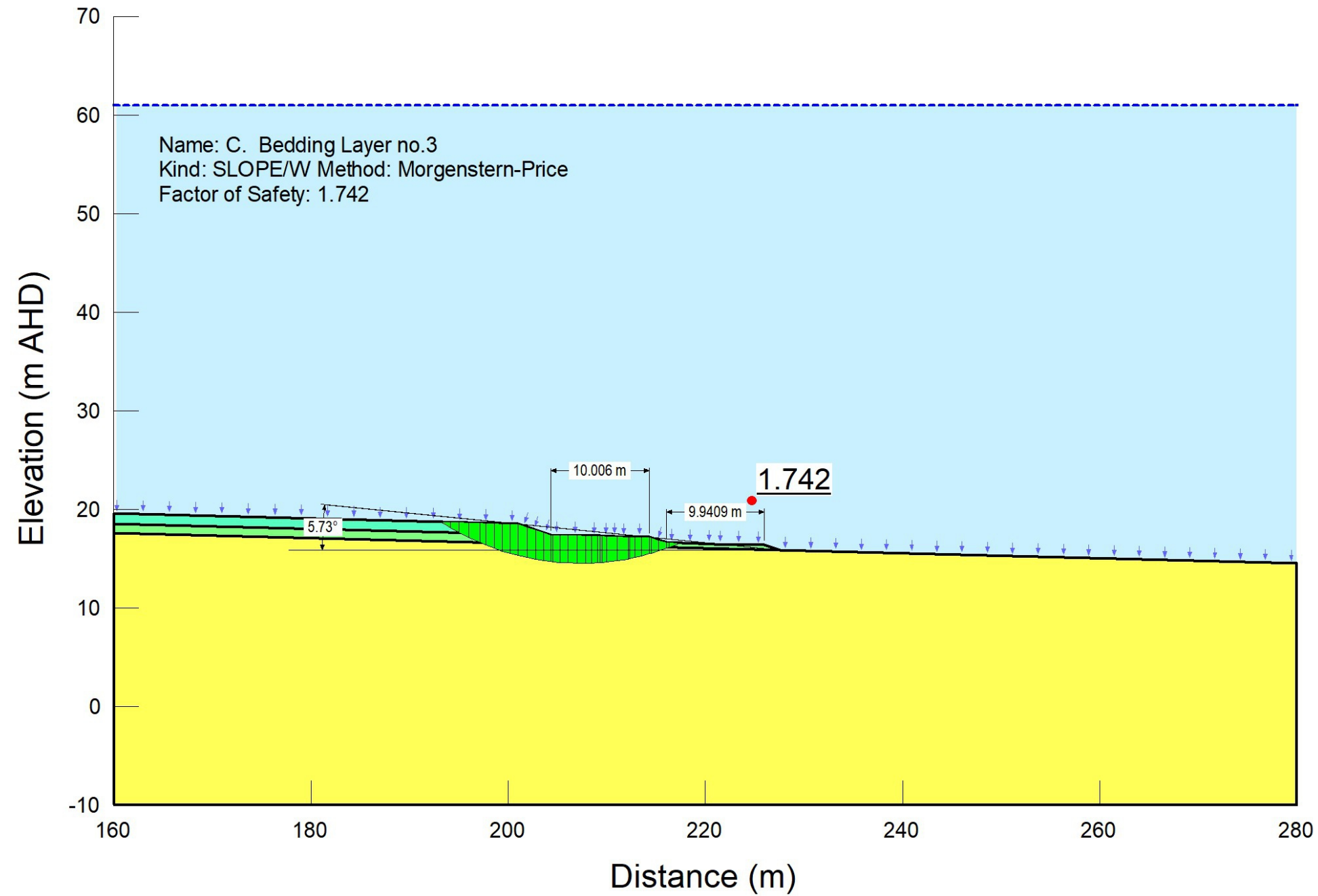
Title: Appendix H - 1B
Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
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Drawn: FC
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Color	Name	Model	Unit Weight (kN/m³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Intermediate Bedding Layer	Mohr-Coulomb	19				0	34	0	1
	Tailings and Slimes	S=f(depth)	16	0.5	1.5	0				1



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Title: Appendix H - 1C
Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
Project No.: 680.10421
Status: Final
Date: 06/02/2020

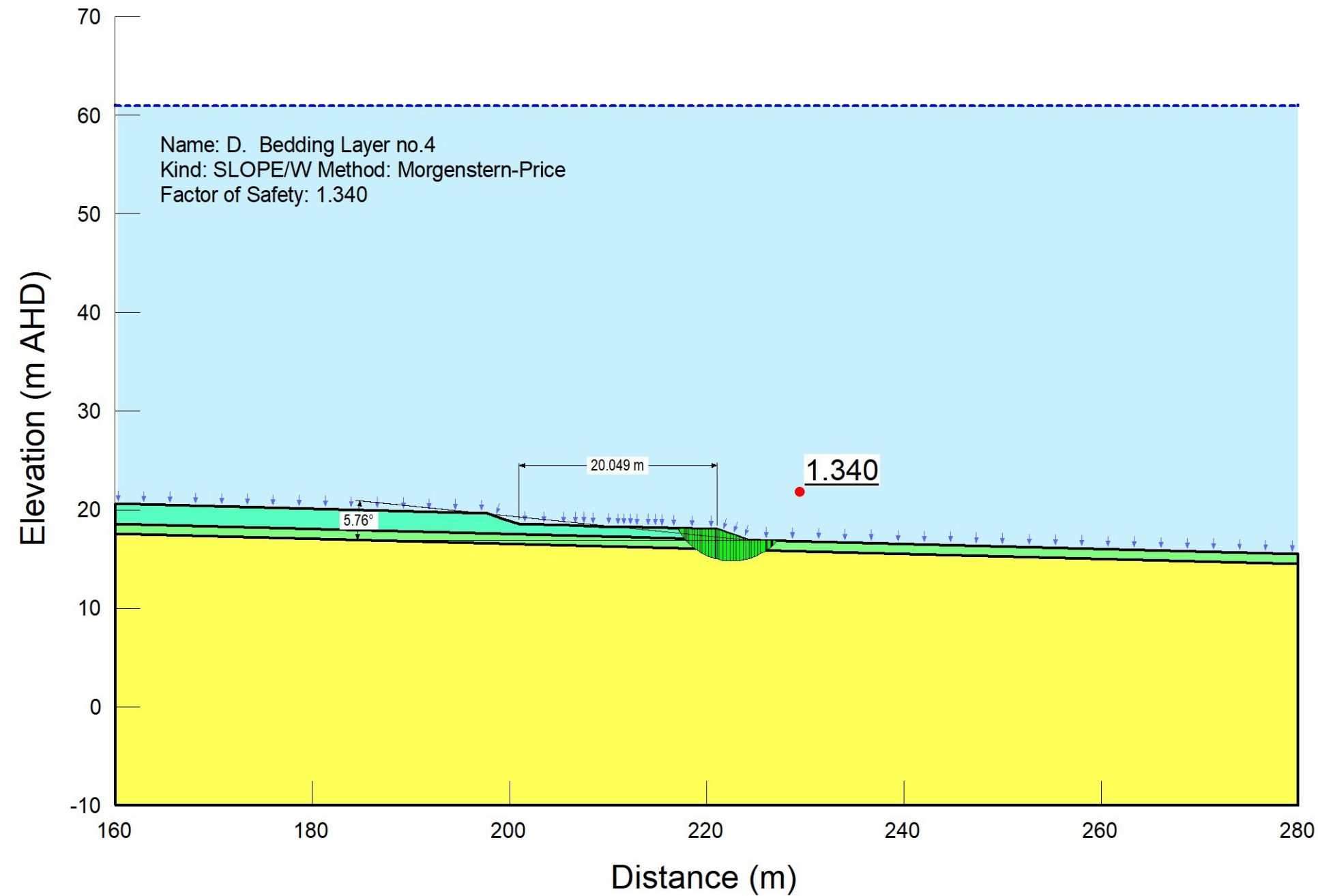
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Color	Name	Model	Unit Weight (kN/m³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m²)/m)	C-Maximum (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	Bedding Layer	Mohr-Coulomb	18				0	30	0	1
	Intermediate Bedding Layer	Mohr-Coulomb	19				0	34	0	1
	Tailings and Slimes	S=f(depth)	16	0.5	1.5	0				1



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Title: Appendix H - 1D
Client: Department of Primary Industries and Resources
Project: Rum Jungle Rehabilitation
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Version: 1.0



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