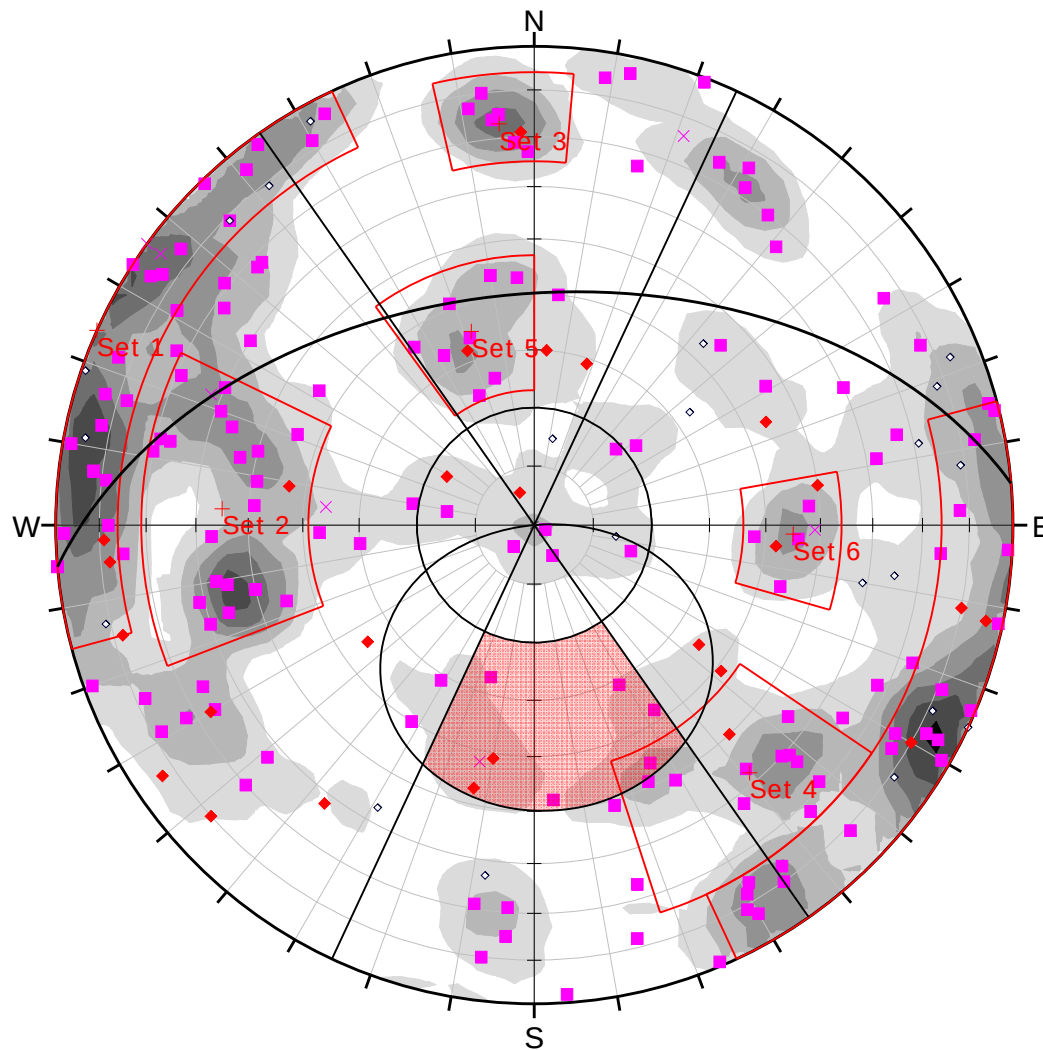




Symbol	TYPE	Quantity
◇	Breccia	21
×	CZ	7
◆	FT	26
■	SH	165

Color	Density Concentrations
	0.00 - 0.70
	0.70 - 1.40
	1.40 - 2.10
	2.10 - 2.80
	2.80 - 3.50
	3.50 - 4.20
	4.20 - 4.90

Contour Data	Pole Vectors
Maximum Density	4.45%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	50
Slope Dip Direction	355
Friction Angle	20°
Lateral Limits	30°

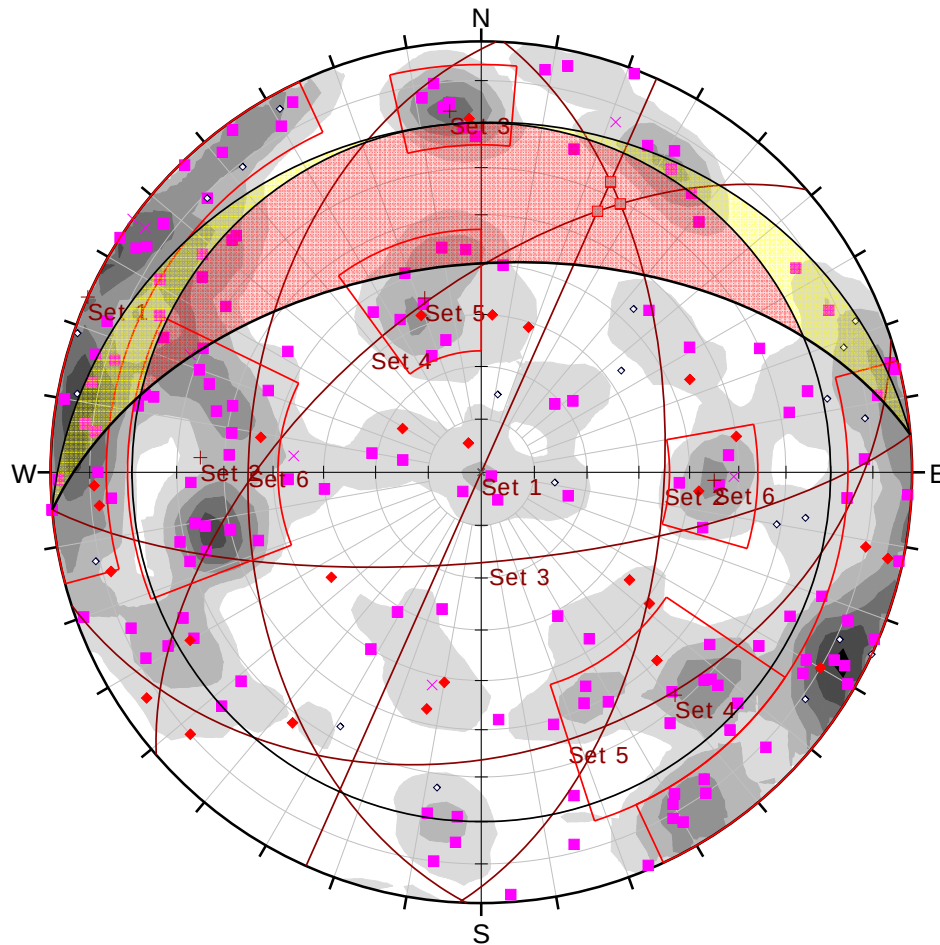
	Critical	Total	%
Planar Sliding (All)	8	219	3.65%
Planar Sliding (Set 4: Set 4)	1	12	8.33%

Plot Mode	Pole Vectors
Vector Count	219 (219 Entries)
Hemisphere	Lower
Projection	Equal Area



Pells Sullivan Meynink
Engineering Consultants
Rock-Soil-Water

Client:	Anderson Lloyd					
Project:	Project Quattro					
Location:	Gladstone South Design Sector					
Analysis Description:	Orientated Core - IRA Planar Sliding					
Job No:	PSM125	By:	TM	Date:	21/07/2021	Scale: Stereo Plot
						Run: Gladstone_rev5.dips8



Symbol	TYPE	Quantity
◇	Breccia	21
×	CZ	7
◆	FT	26
■	SH	165
Symbol	Feature	
□	Critical Intersection	

Color	Density Concentrations
	0.00 - 0.70
	0.70 - 1.40
	1.40 - 2.10
	2.10 - 2.80
	2.80 - 3.50
	3.50 - 4.20
	4.20 - 4.90
Contour Data Pole Vectors	
Maximum Density 4.45%	
Contour Distribution Fisher	
Counting Circle Size 1.0%	

Kinematic Analysis	Wedge Sliding		
Slope Dip	50		
Slope Dip Direction	355		
Friction Angle	20°		
	Critical	Total	%
Wedge Sliding	3	15	20.00%

Plot Mode	Pole Vectors
Vector Count	219 (219 Entries)
Intersection Mode	Mean Set Planes
Intersections Count	15
Hemisphere	Lower
Projection	Equal Area



Pells Sullivan Meynink
Engineering Consultants
Rock-Soil-Water

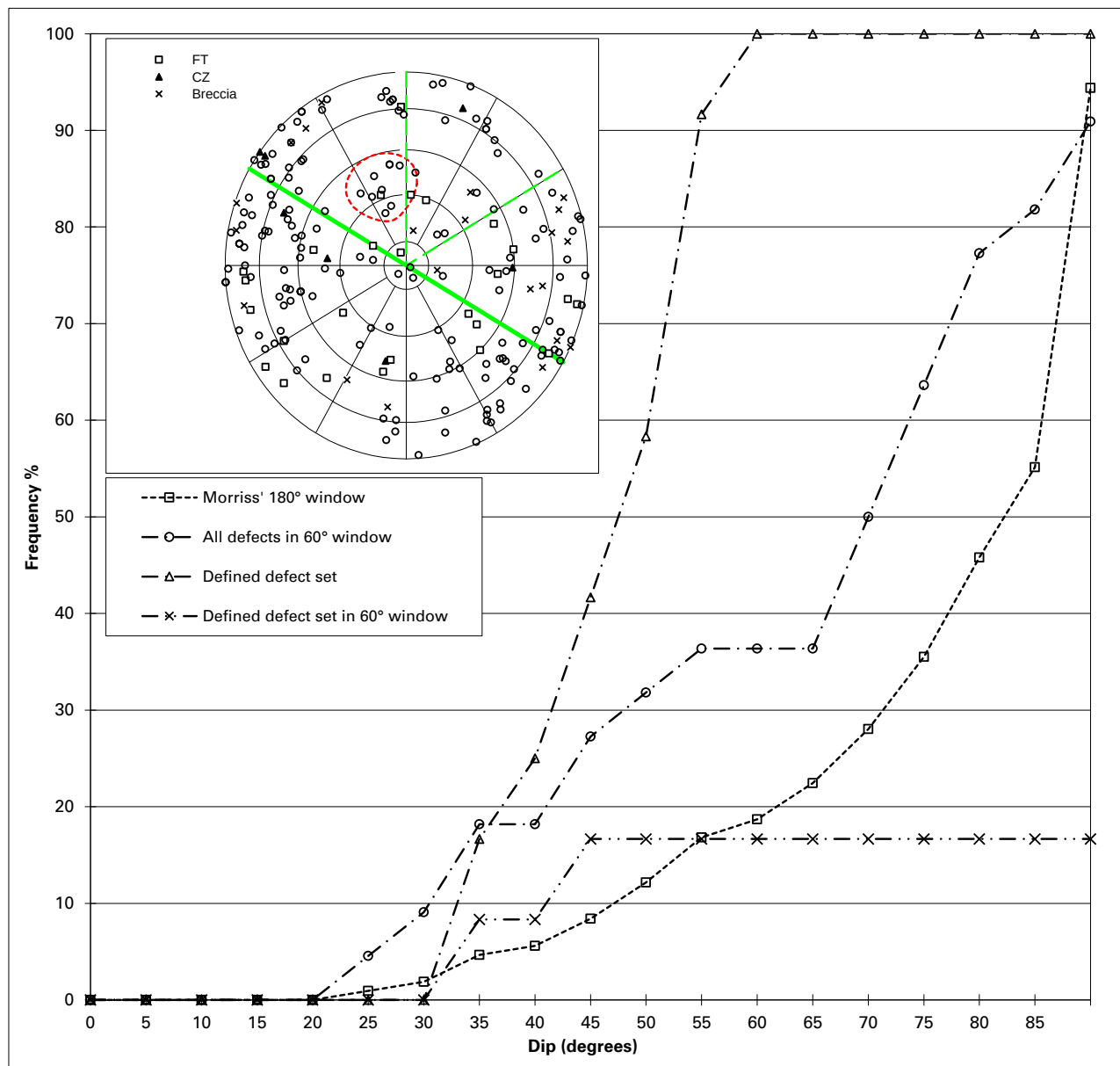
Client:	Anderson Lloyd					
Project:	Project Quattro					
Location:	Gladstone South Design Sector					
Analysis Description:	Orientated Core - IRA Planar Sliding					
Job No:	PSM125	By:	TM	Date:	21/07/2021	Scale: Stereo Plot
				Run:	Gladstone_rev5.dips8	

Appendix N

Pu Sheets



PLANAR SLIDING



PARAMETERS OF THE PIT WALL

Slope Direction 210
Kinematic Window $\pm$ 30

DEFECT SET

Set 5	Mean	$\pm$
Dip	35	15
Dip Direction	162	26

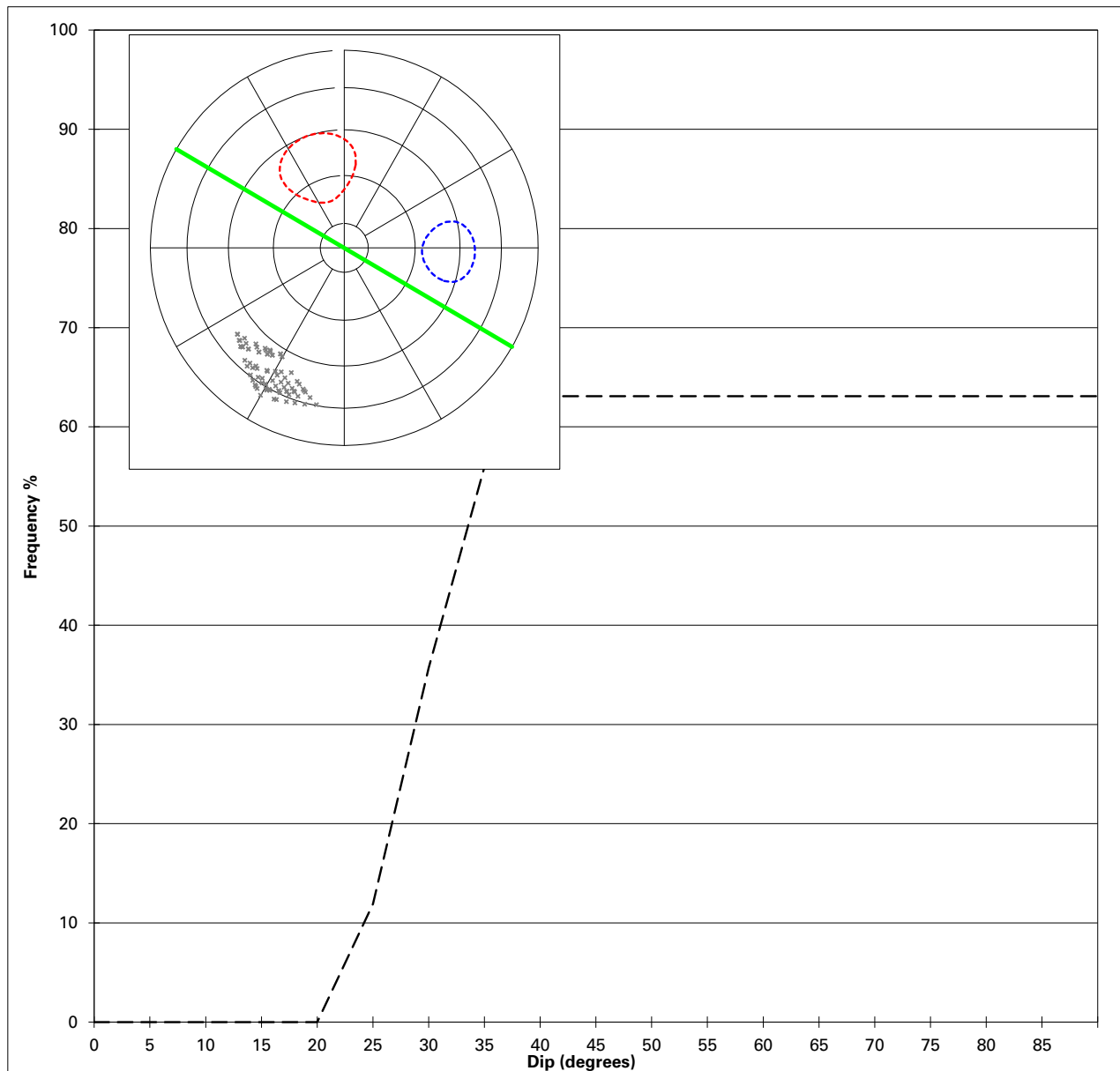
DEFECT SHEAR STRENGTHS

Cohesion = 0 kPa
Friction Angle = 20°

Defects in kinematic window 20
Defects in set Set 5 12
Defect in set & window 2
Defects Dipping out of Slope 101



WEDGE FAILURE



PARAMETERS OF THE PIT WALL

Slope Direction 210

FIRST SET

Set 5	Mean	±
Dip	35	15
Dip Direction	162	26

Defects in set Set 5 12

DEFECT SHEAR STRENGTHS

Cohesion = 0 kPa

Friction Angle = 20°

SECOND SET

Set 6	Mean	±
Dip	45	12
Dip Direction	272	16

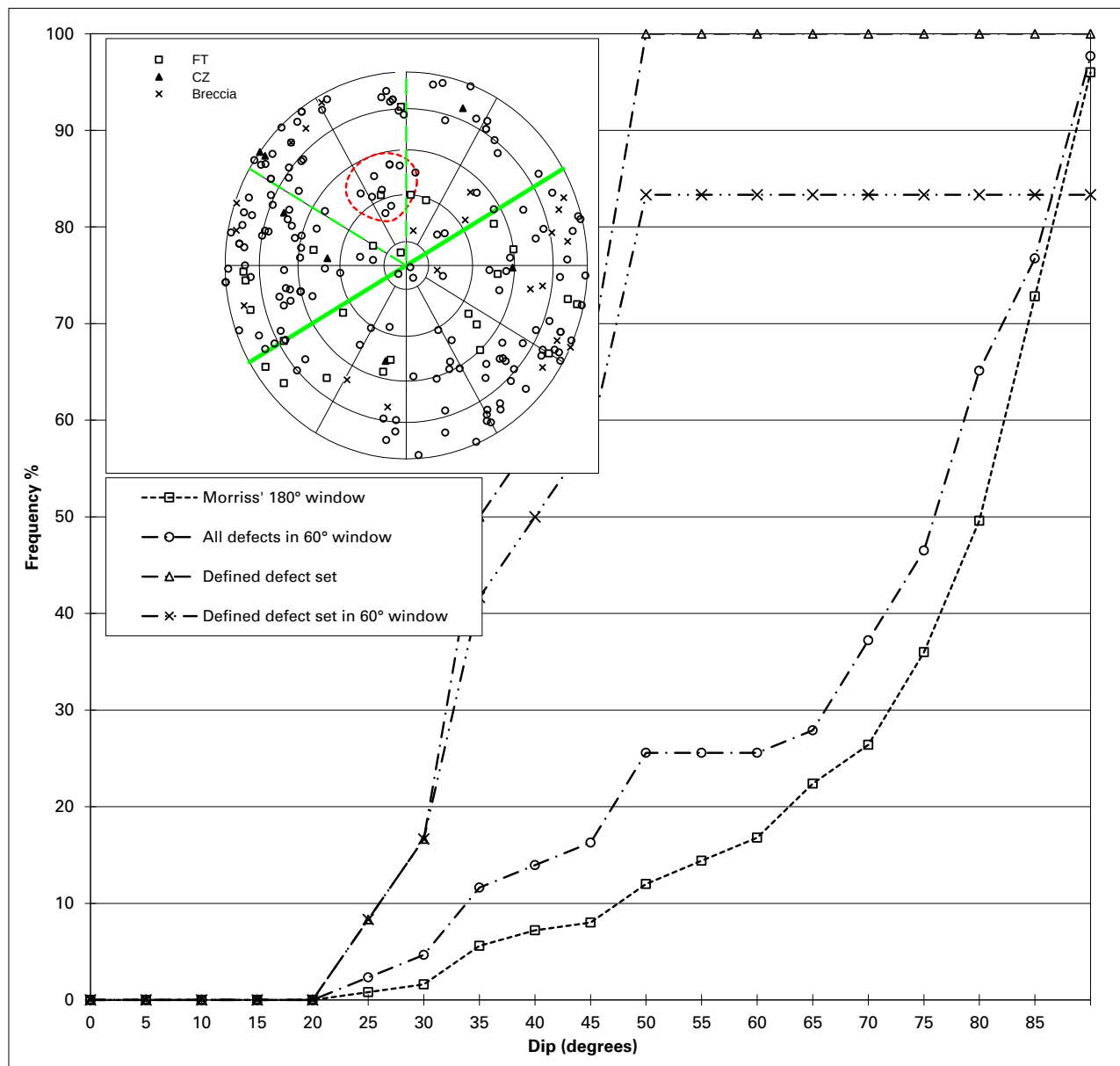
Defects in set Set 6 7

Number of Unstable Wedges 53
Number of Wedges Analysed 84

From a possible Total Number of 84



PLANAR SLIDING



PARAMETERS OF THE PIT WALL

Slope Direction 150
Kinematic Window $\pm$ 30

DEFECT SET

Set 5	Mean	$\pm$
Dip	35	15
Dip Direction	162	26

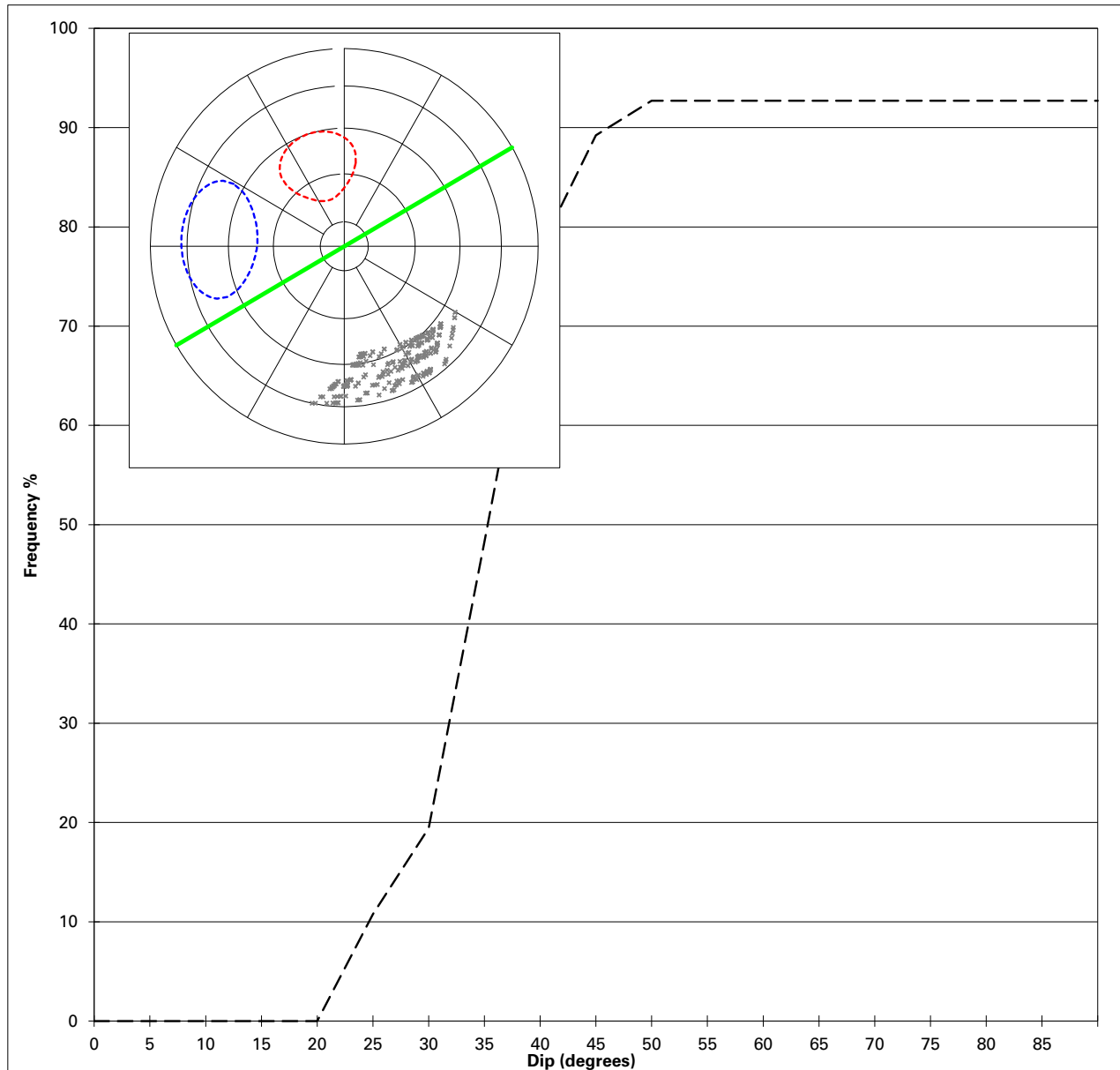
DEFECT SHEAR STRENGTHS

Cohesion = 0 kPa
Friction Angle = 20°

Defects in kinematic window 42
Defects in set Set 5 12
Defect in set & window 10
Defects Dipping out of Slope 120



WEDGE FAILURE



PARAMETERS OF THE PIT WALL

Slope Direction 150

FIRST SET

Set 5	Mean	±
Dip	35	15
Dip Direction	162	26

Defects in set Set 5 12

DEFECT SHEAR STRENGTHS

Cohesion = 0 kPa

Friction Angle = 20°

SECOND SET

Set 2	Mean	±
Dip	55	18
Dip Direction	93	26

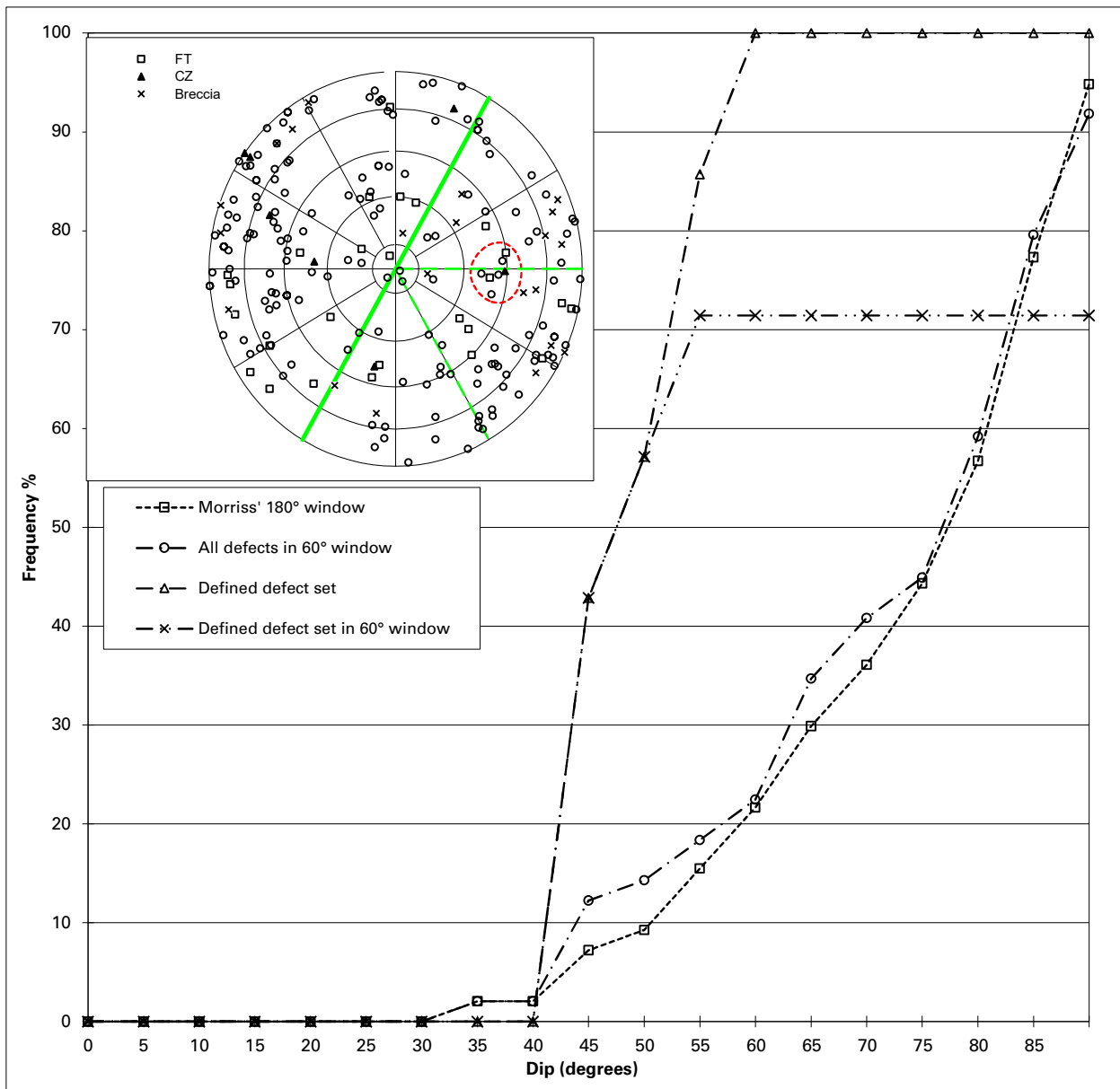
Defects in set Set 2 24

Number of Unstable Wedges 267
Number of Wedges Analysed 288

From a possible Total Number of 288



PLANAR SLIDING



PARAMETERS OF THE PIT WALL

Slope Direction 300
Kinematic Window $\pm$ 30

DEFECT SET

Set 6	Mean	$\pm$
Dip	45	12
Dip Direction	272	16

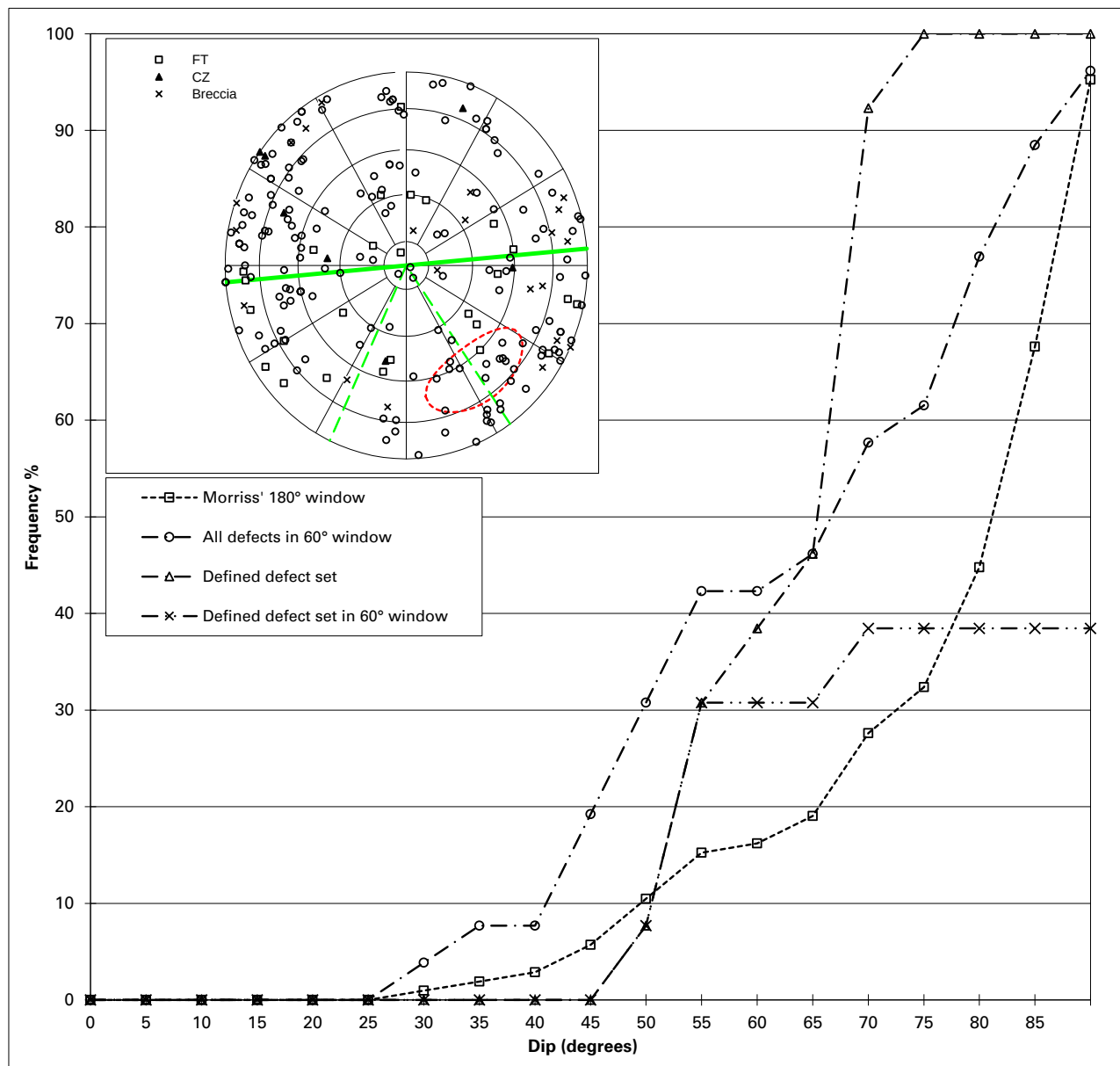
DEFECT SHEAR STRENGTHS

Cohesion = 0 kPa
Friction Angle = 20°

Defects in kinematic window 45
Defects in set Set 6 7
Defect in set & window 5
Defects Dipping out of Slope 92



PLANAR SLIDING



PARAMETERS OF THE PIT WALL

Slope Direction 355
Kinematic Window $\pm$ 30

DEFECT SET

Set 4	Mean	$\pm$
Dip	58	14
Dip Direction	325	26

DEFECT SHEAR STRENGTHS

Cohesion = 0 kPa
Friction Angle = 20°

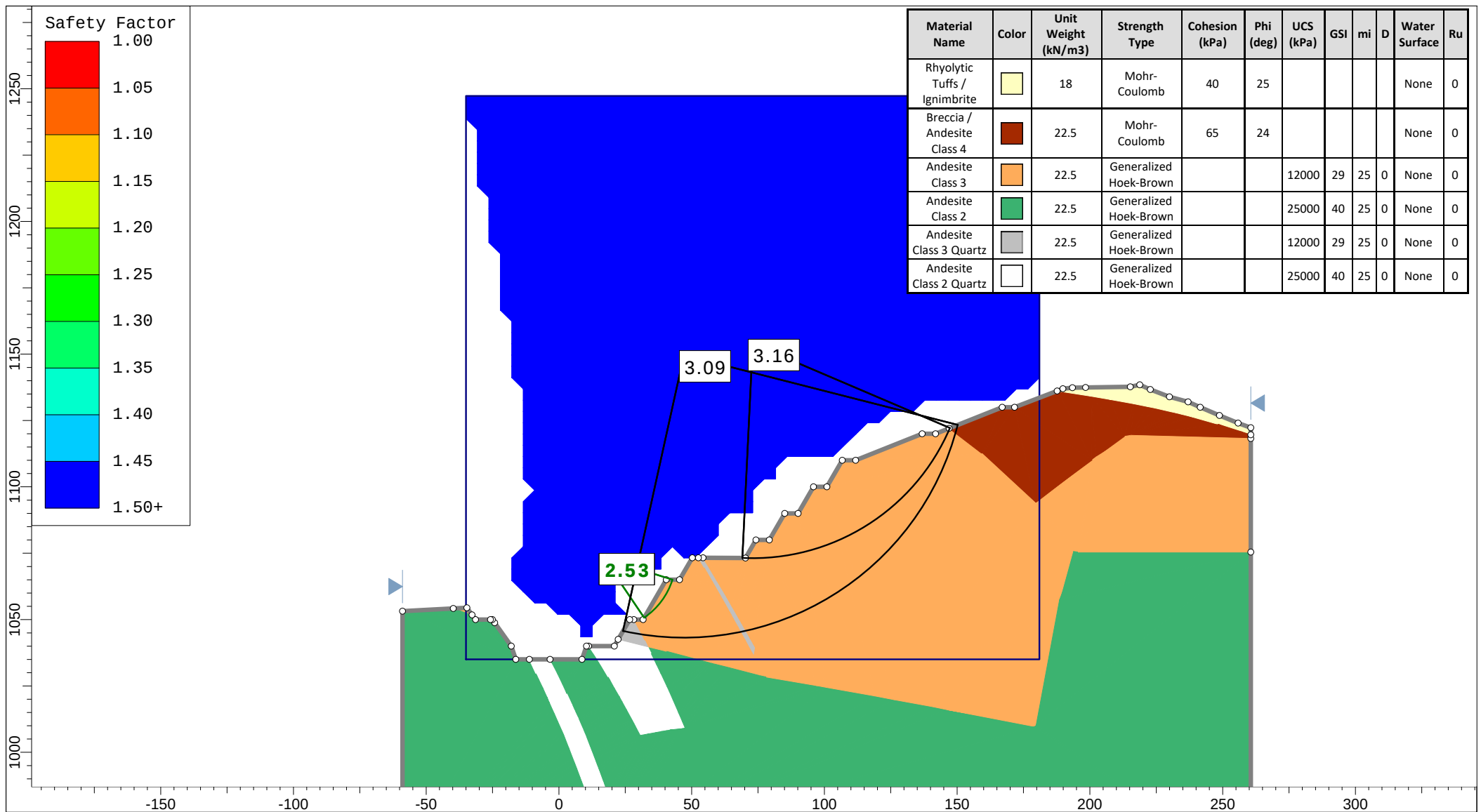
Defects in kinematic window 25
Defects in set Set 4 13
Defect in set & window 5
Defects Dipping out of Slope 100



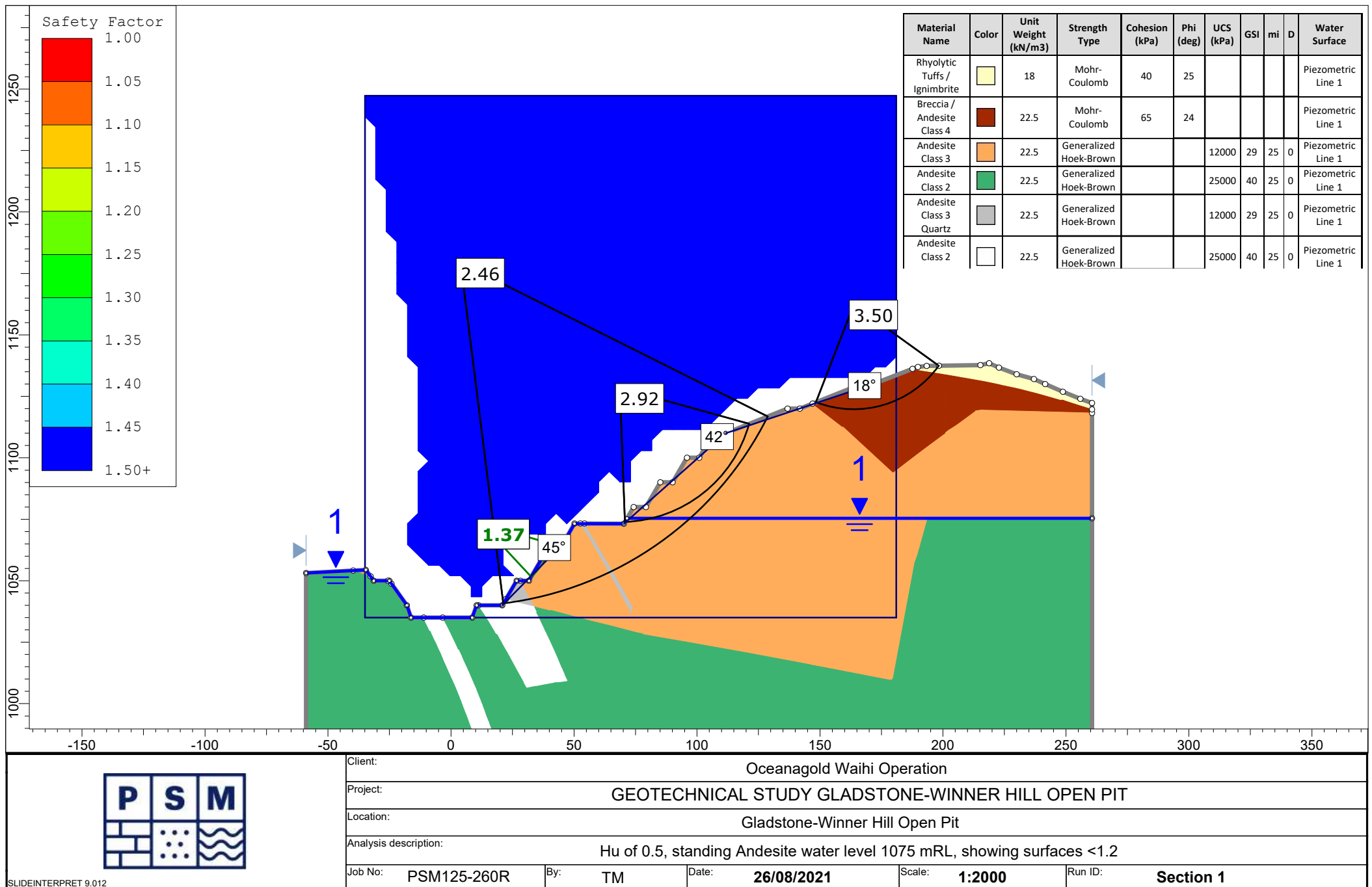
Appendix O

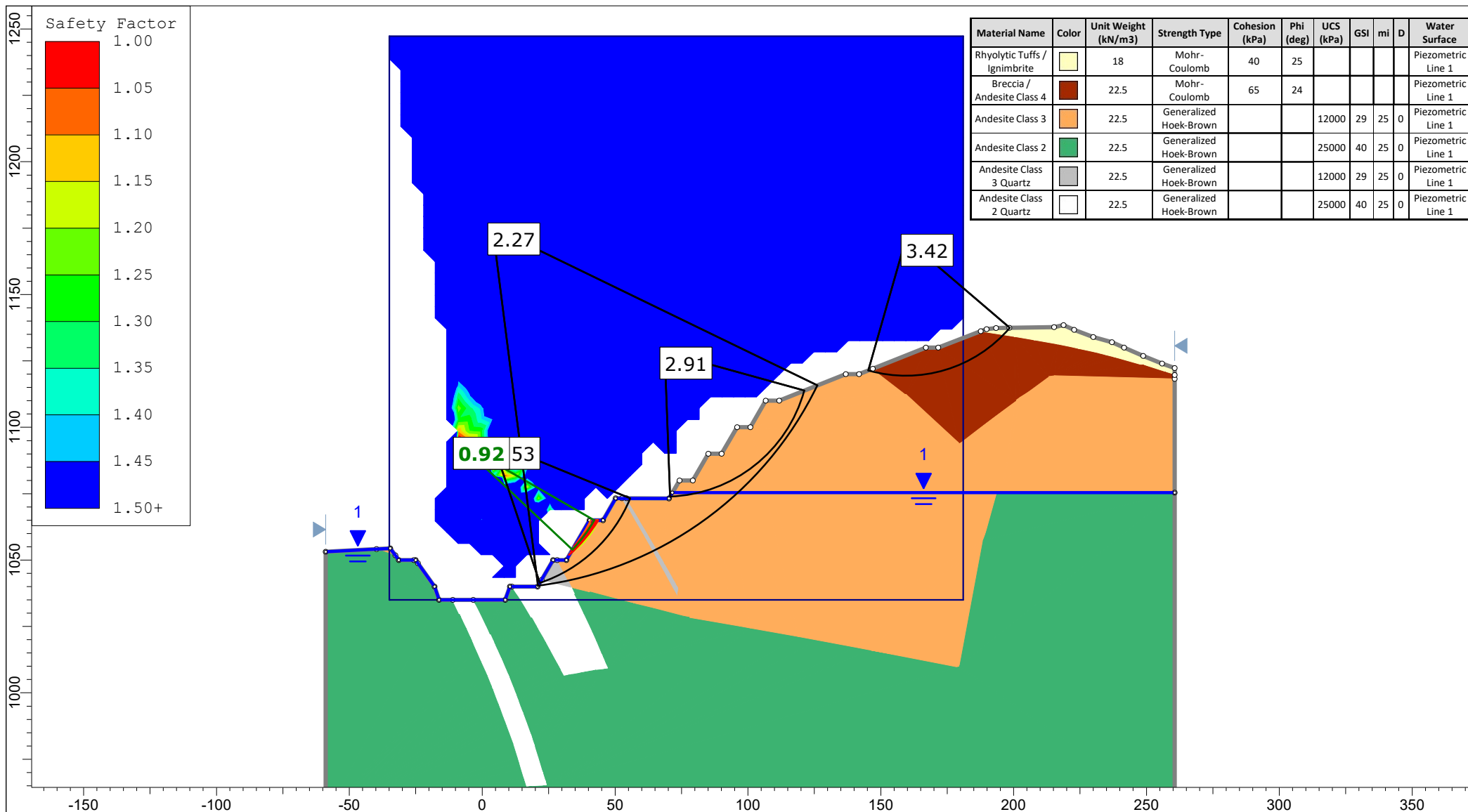
Limit Equilibrium Analyses



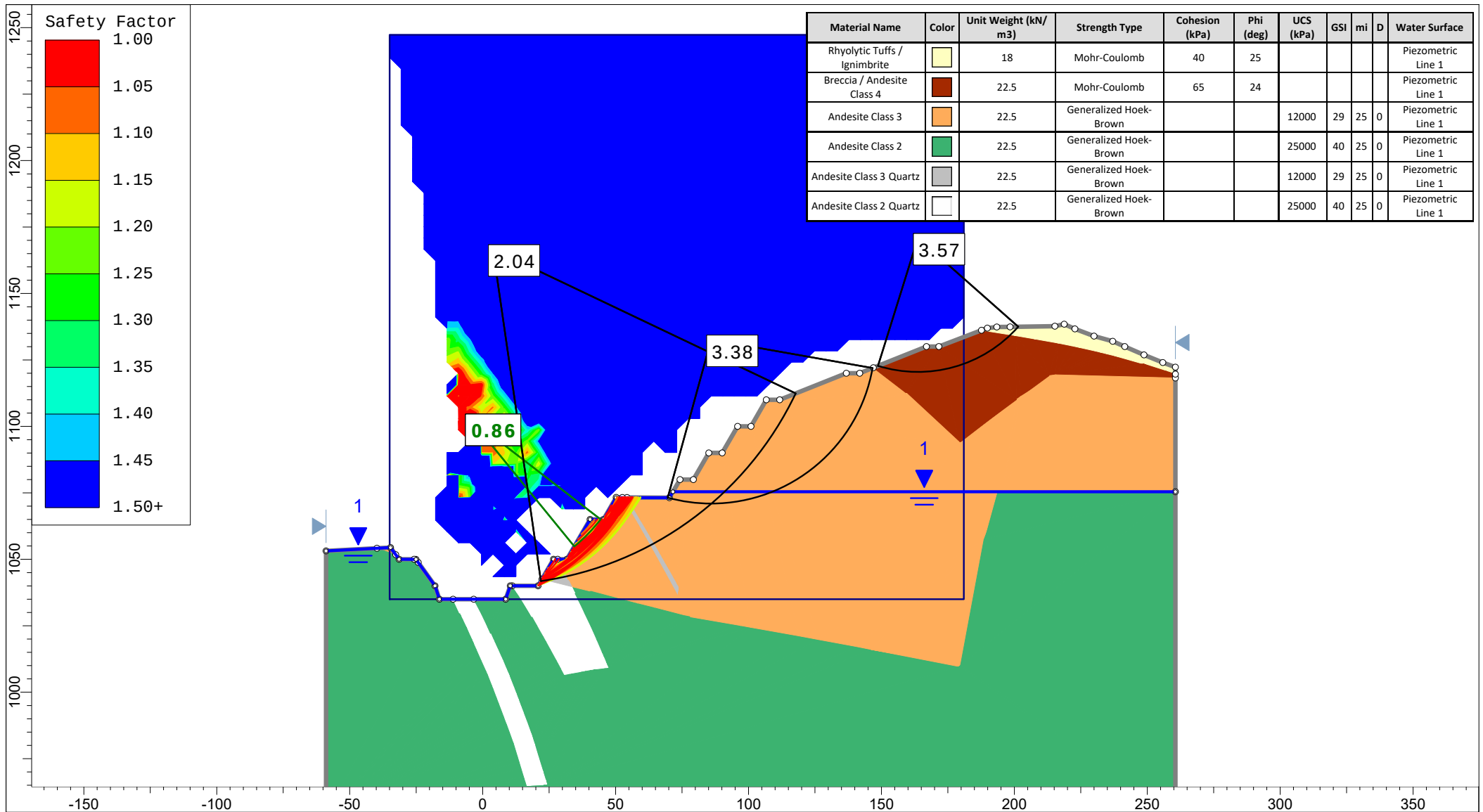


Client:	Oceanagold Waihi Operation					
Project:	GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT					
Location:	Gladstone-Winner Hill Open Pit					
Analysis description:	Hu of 0, showing FOS surfaces <1.2					
Job No:	PSM125-260R	By:	TM	Date:	26/08/2021	Scale: 1:2000
					Run ID:	Section 1

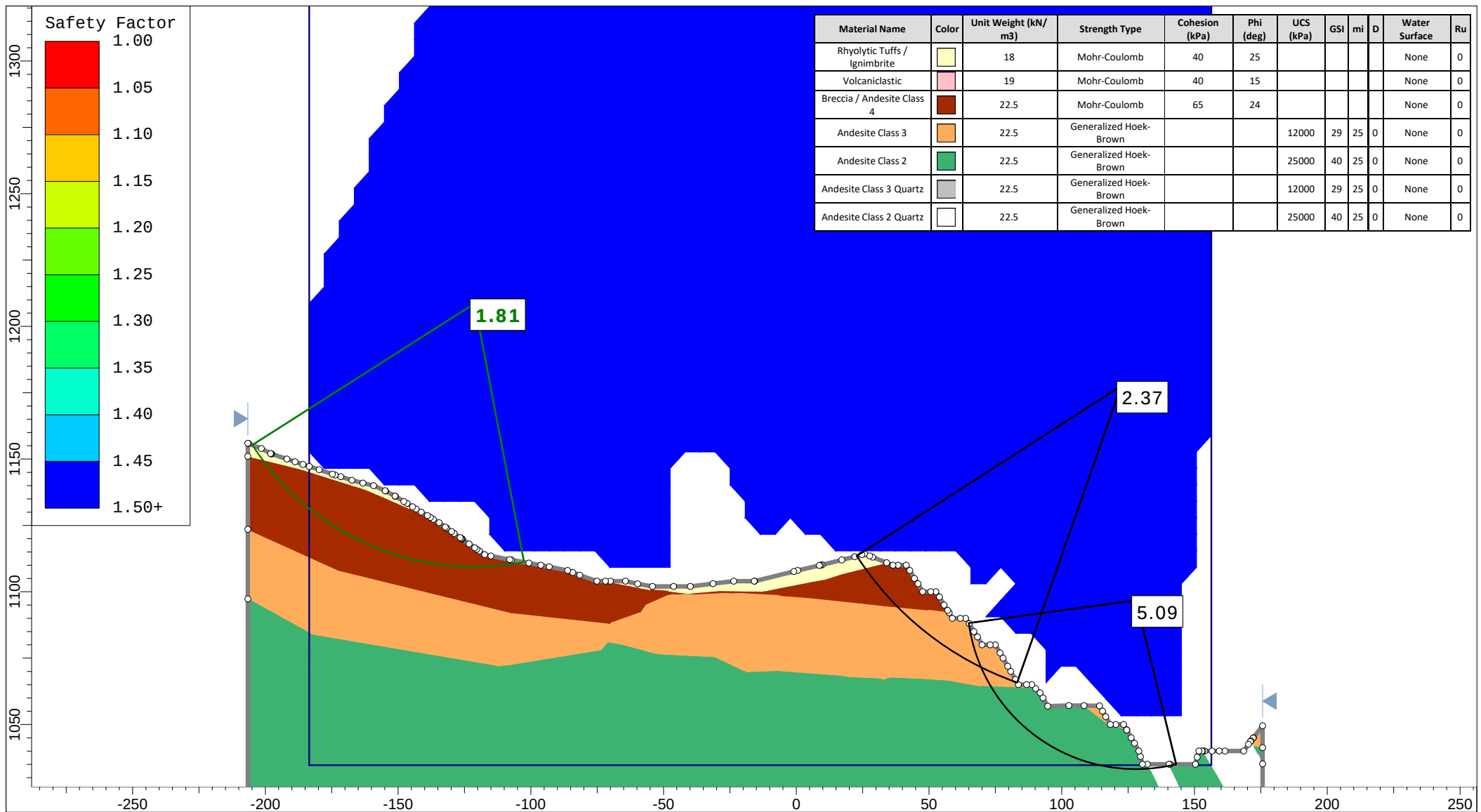




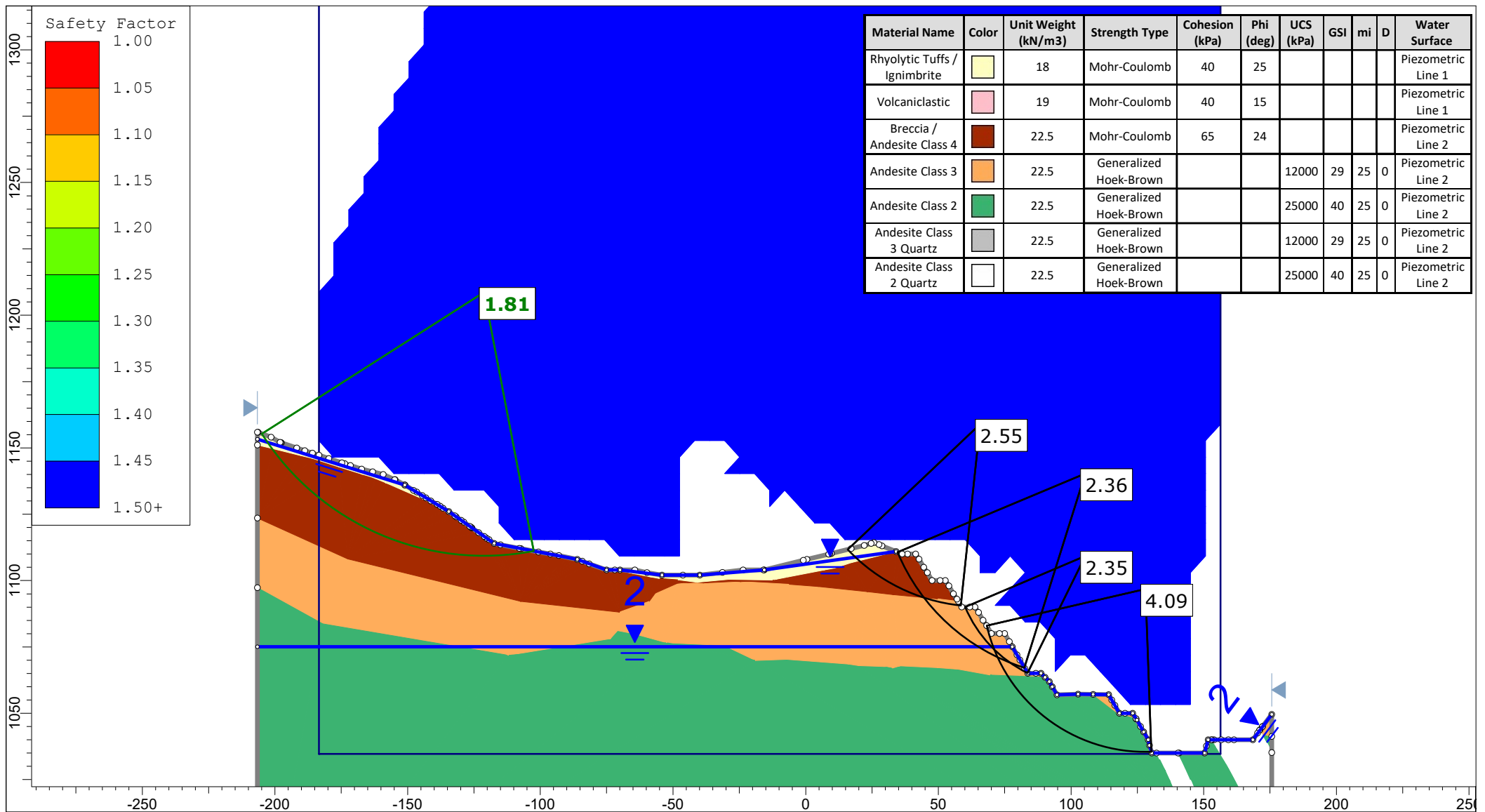
Client:	Oceanagold Waihi Operation				
Project:	GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT				
Location:	Gladstone-Winner Hill Open Pit				
Analysis description:	Hu of 0.75, standing Andesite water level 1075 mRL, showing FOS surfaces <1.2				
Job No:	PSM125-260R	By:	TM	Date:	26/08/2021
Scale:	1:2000	Run ID:	Section 1		



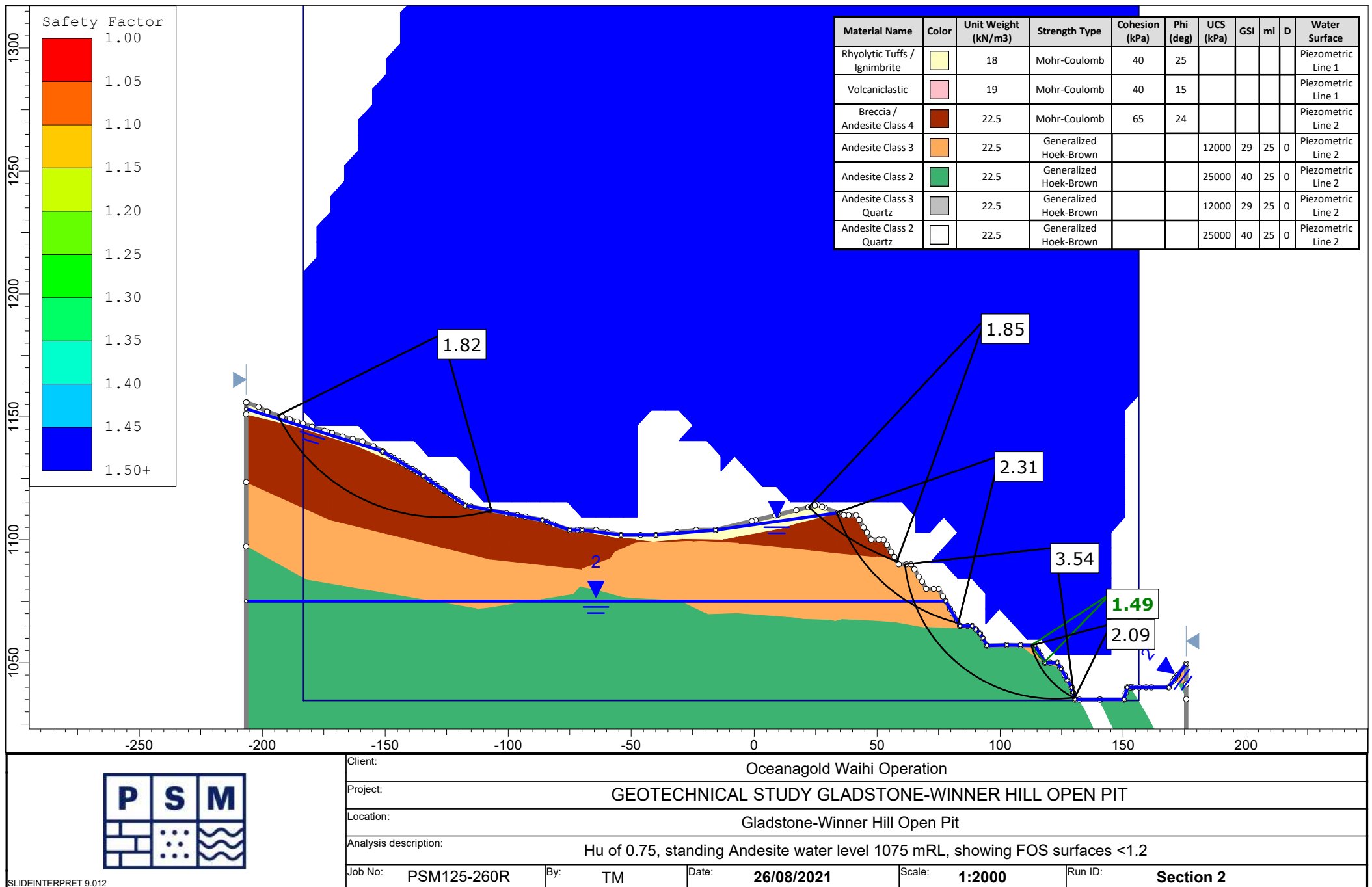
Client:		Oceanagold Waihi Operation		
Project:		GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT		
Location:		Gladstone-Winner Hill Open Pit		
Analysis description:		Hu of 1.0, standing Andesite water level 1075 mRL, showing FOS surfaces <1.2		
Job No:	PSM125-260R	By:	TM	Date: 26/08/2021
Scale:		1:2000		Run ID: Section 1

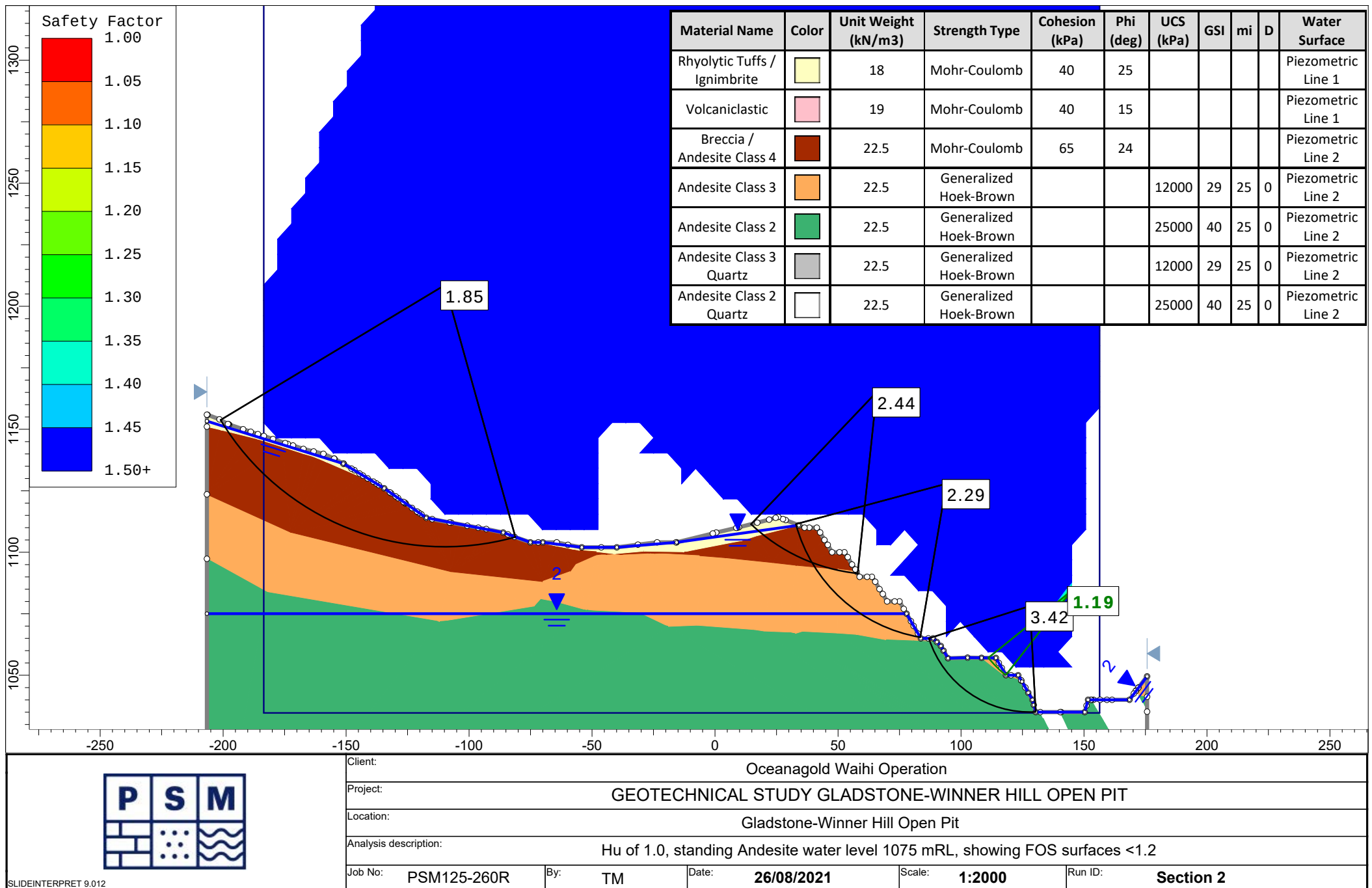


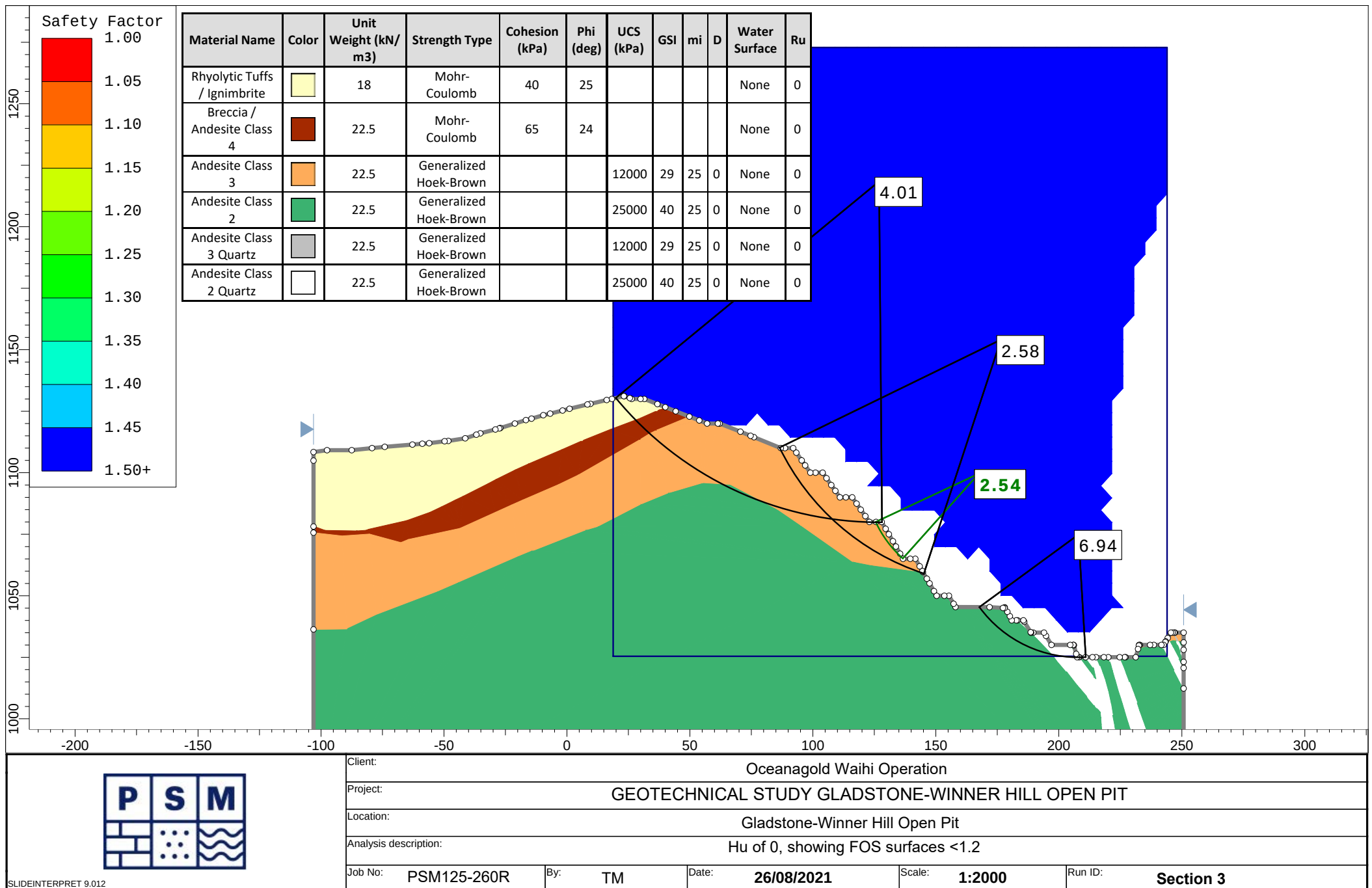
Client:		Oceanagold Waihi Operation			
Project:		GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT			
Location:		Gladstone-Winner Hill Open Pit			
Analysis description:		Hu of 0, showing FOS surfaces <1.2			
Job No:	PSM125-260R	By:	TM	Date:	26/08/2021
		Scale:	1:2000	Run ID:	Section 2

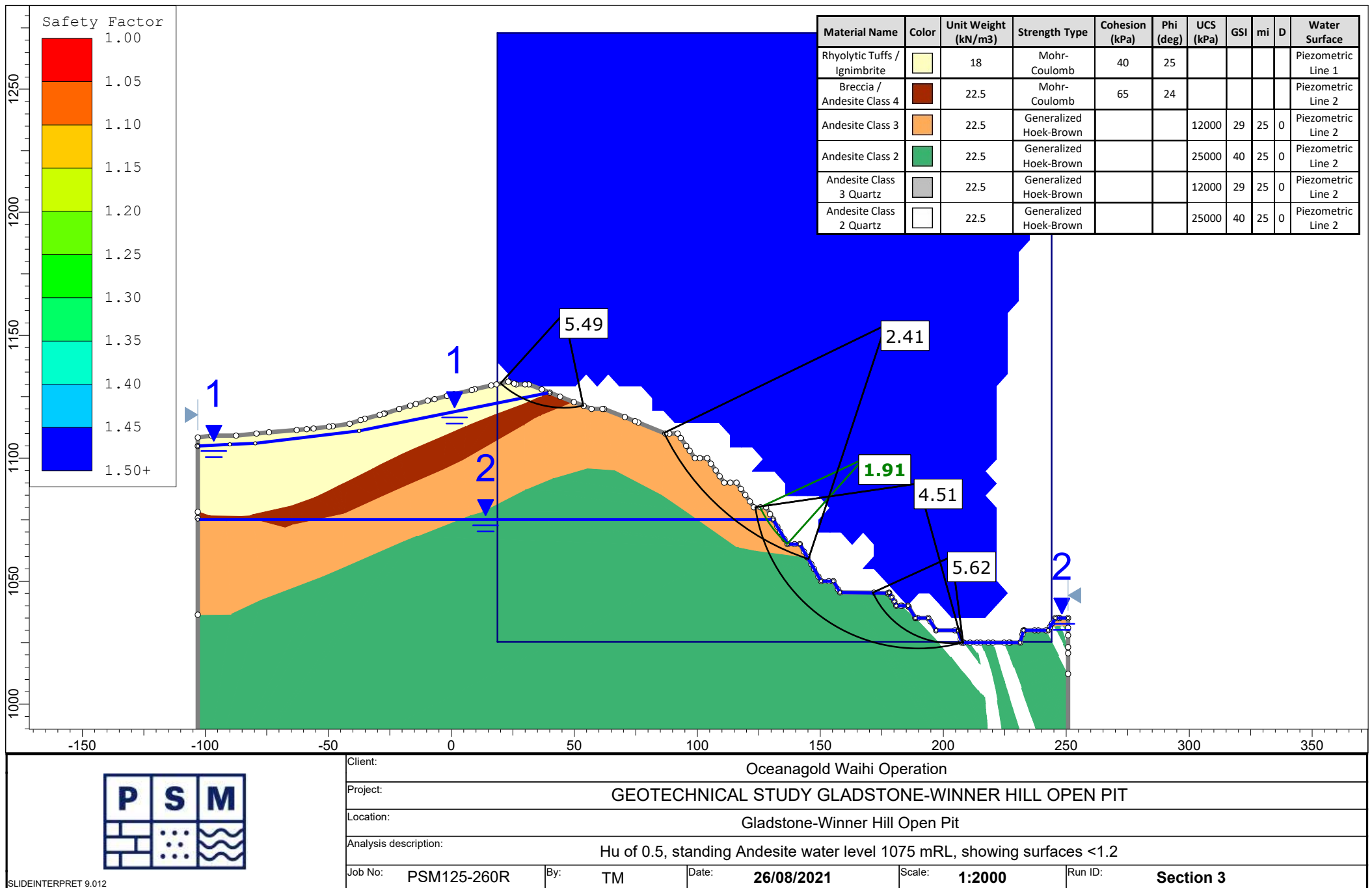


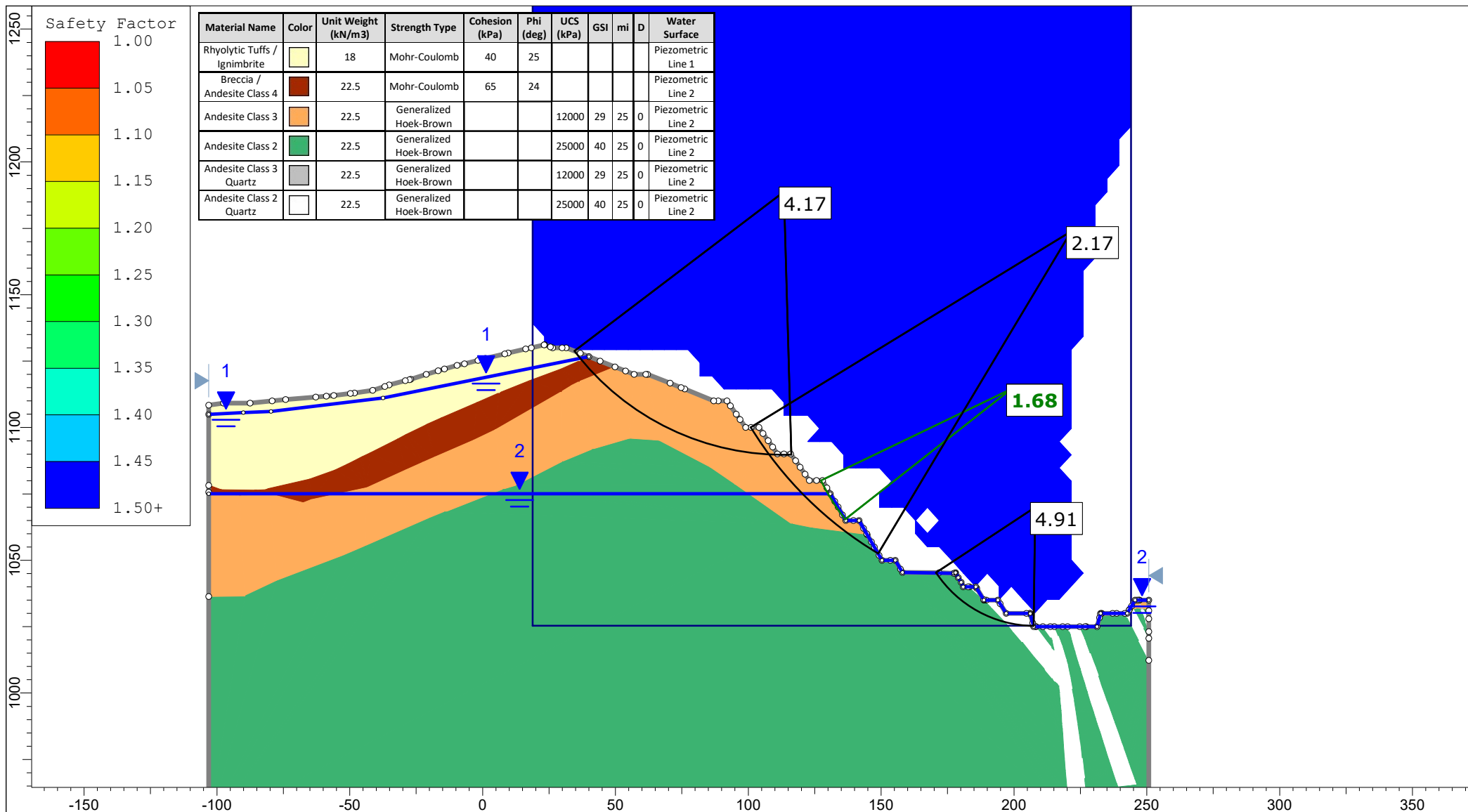
Client:		Oceanagold Waihi Operation			
Project:		GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT			
Location:		Gladstone-Winner Hill Open Pit			
Analysis description:		Hu of 0.5, standing Andesite water level 1075 mRL, showing surfaces <1.2			
Job No:	PSM125-260R	By:	TM	Date:	26/08/2021
Scale:		1:2000		Run ID:	Section 2



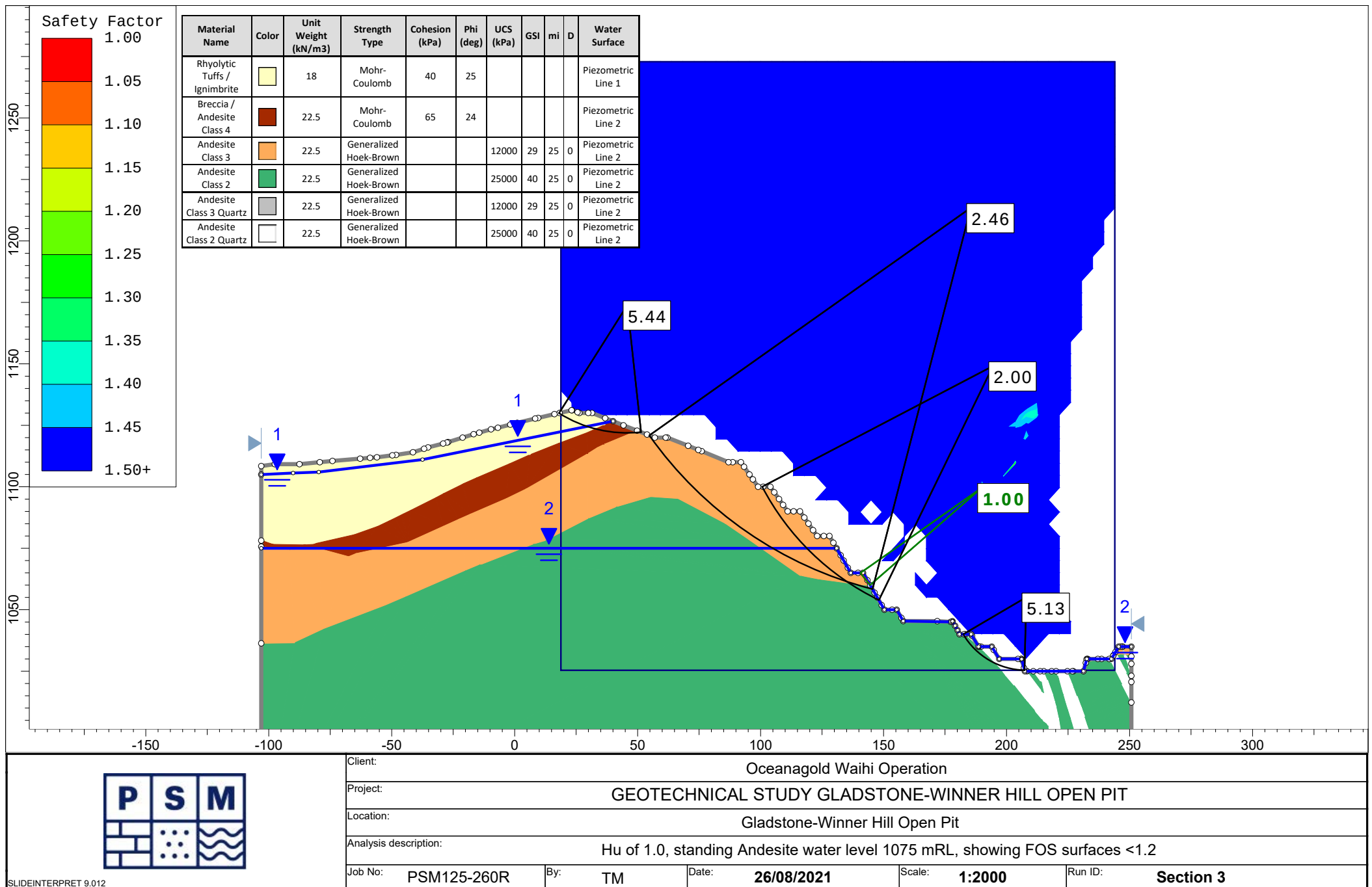


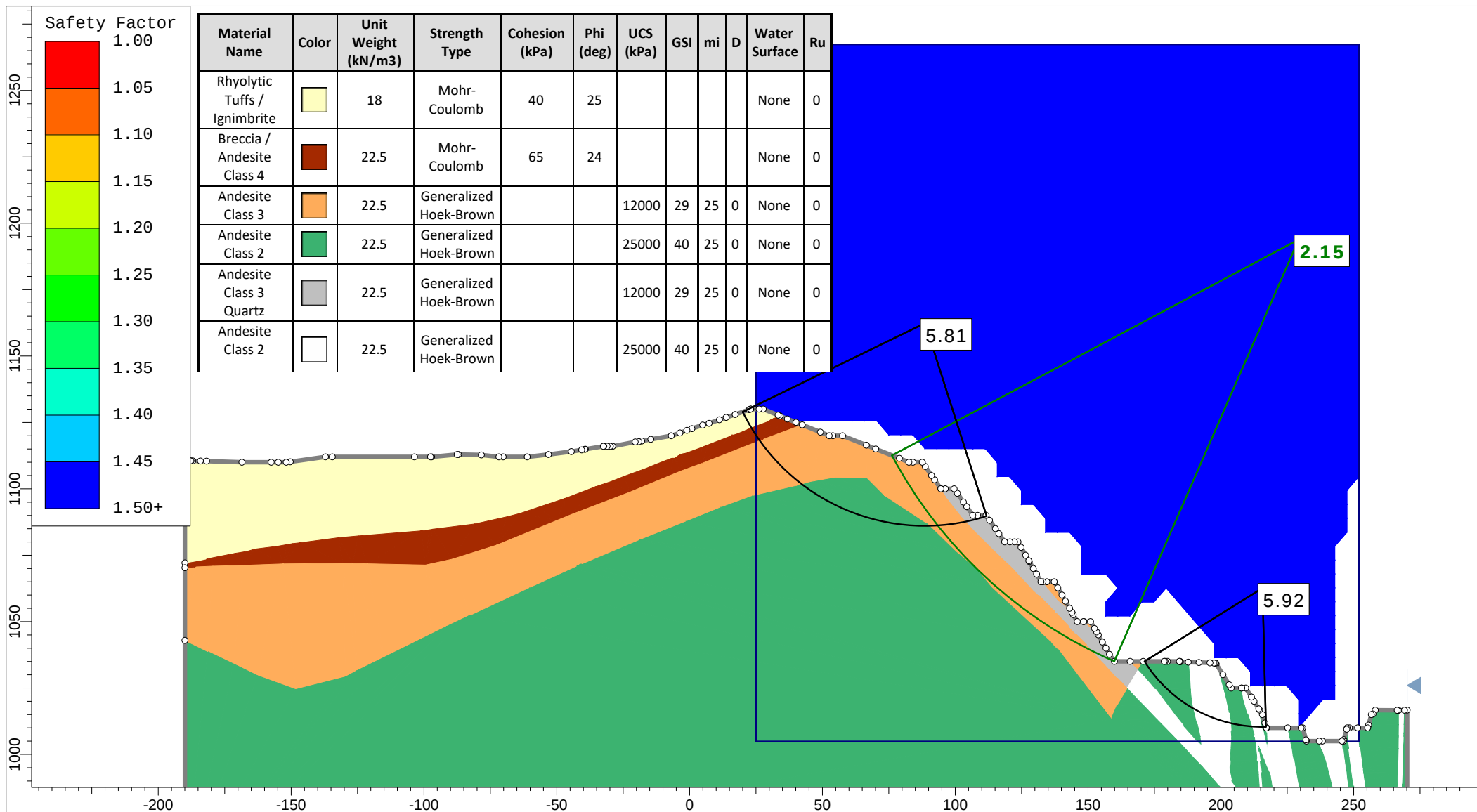




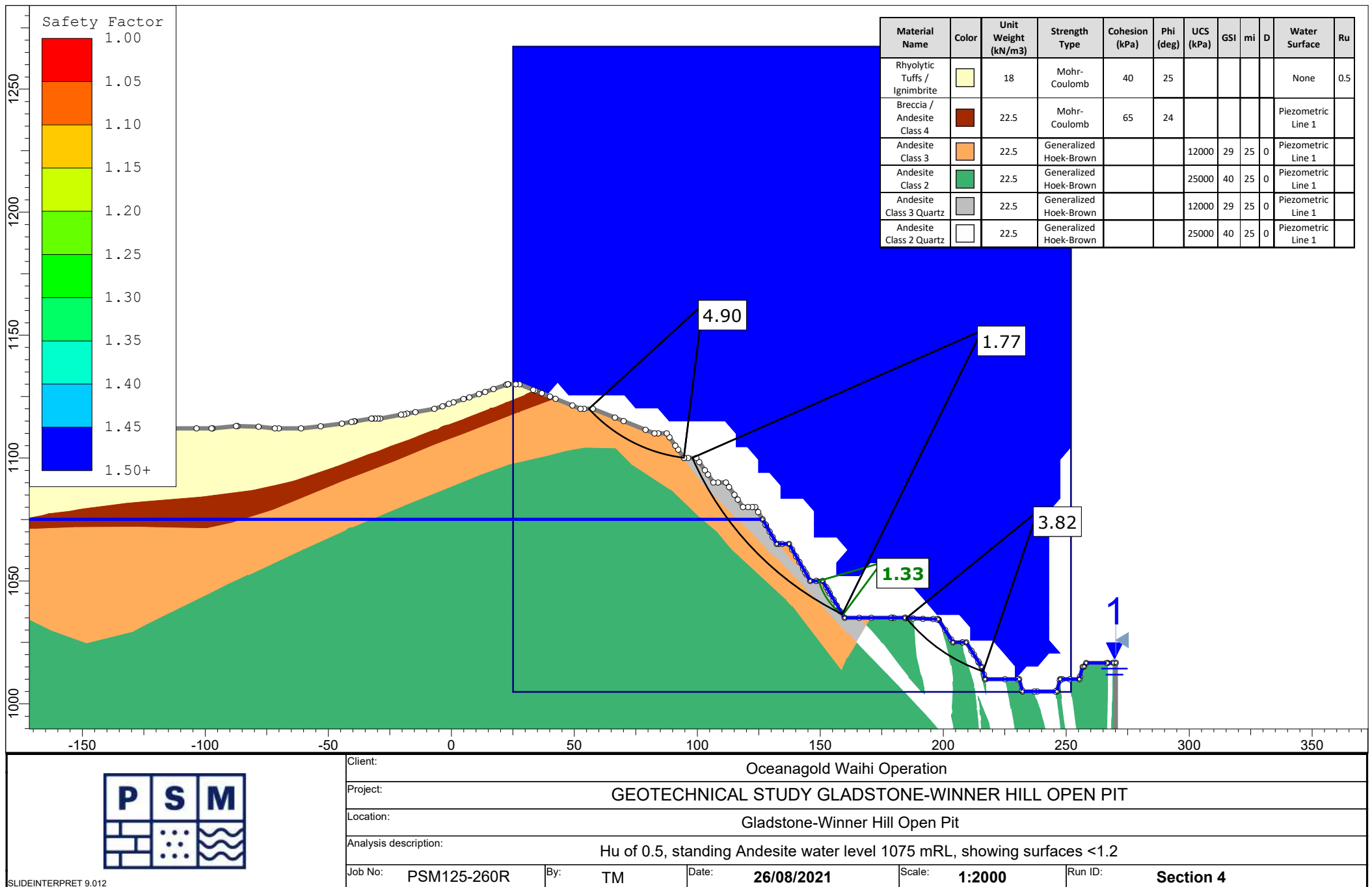


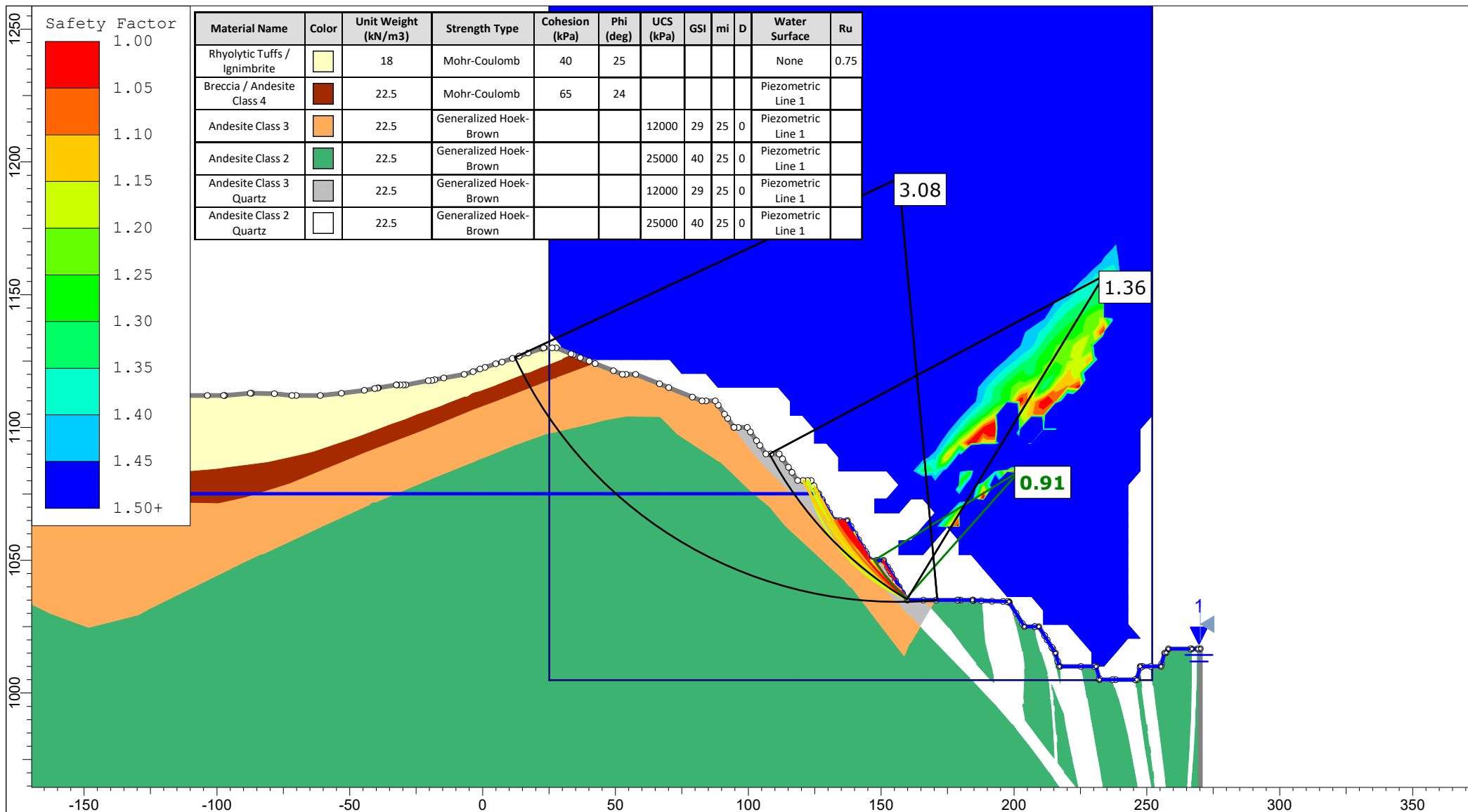
Client:		Oceanagold Waihi Operation			
Project:		GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT			
Location:		Gladstone-Winner Hill Open Pit			
Analysis description:		Hu of 0.75, standing Andesite water level 1075 mRL, showing FOS surfaces <1.2			
Job No:	PSM125-260R	By:	TM	Date:	26/08/2021
Scale:		1:2000		Run ID:	Section 3



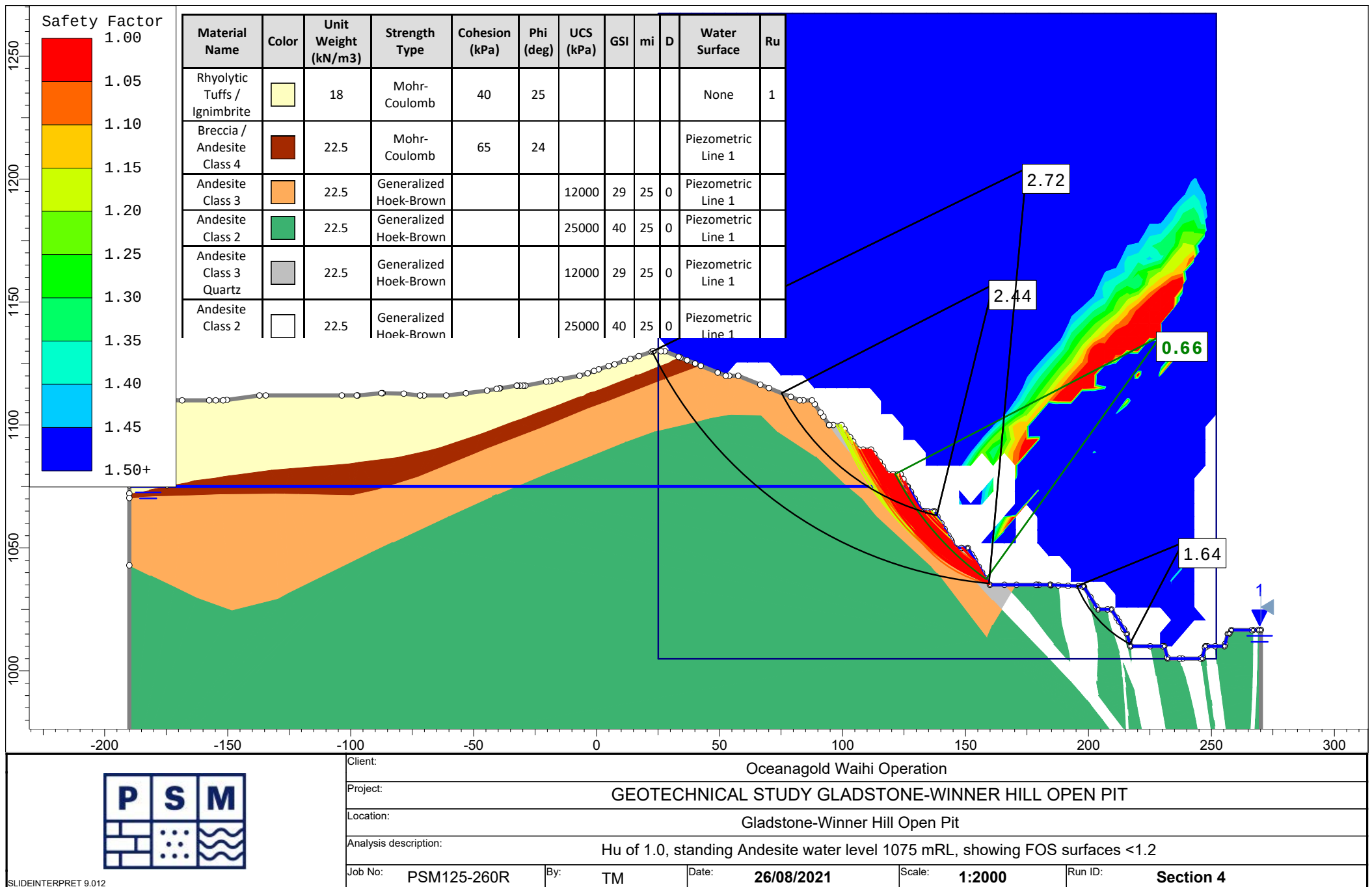


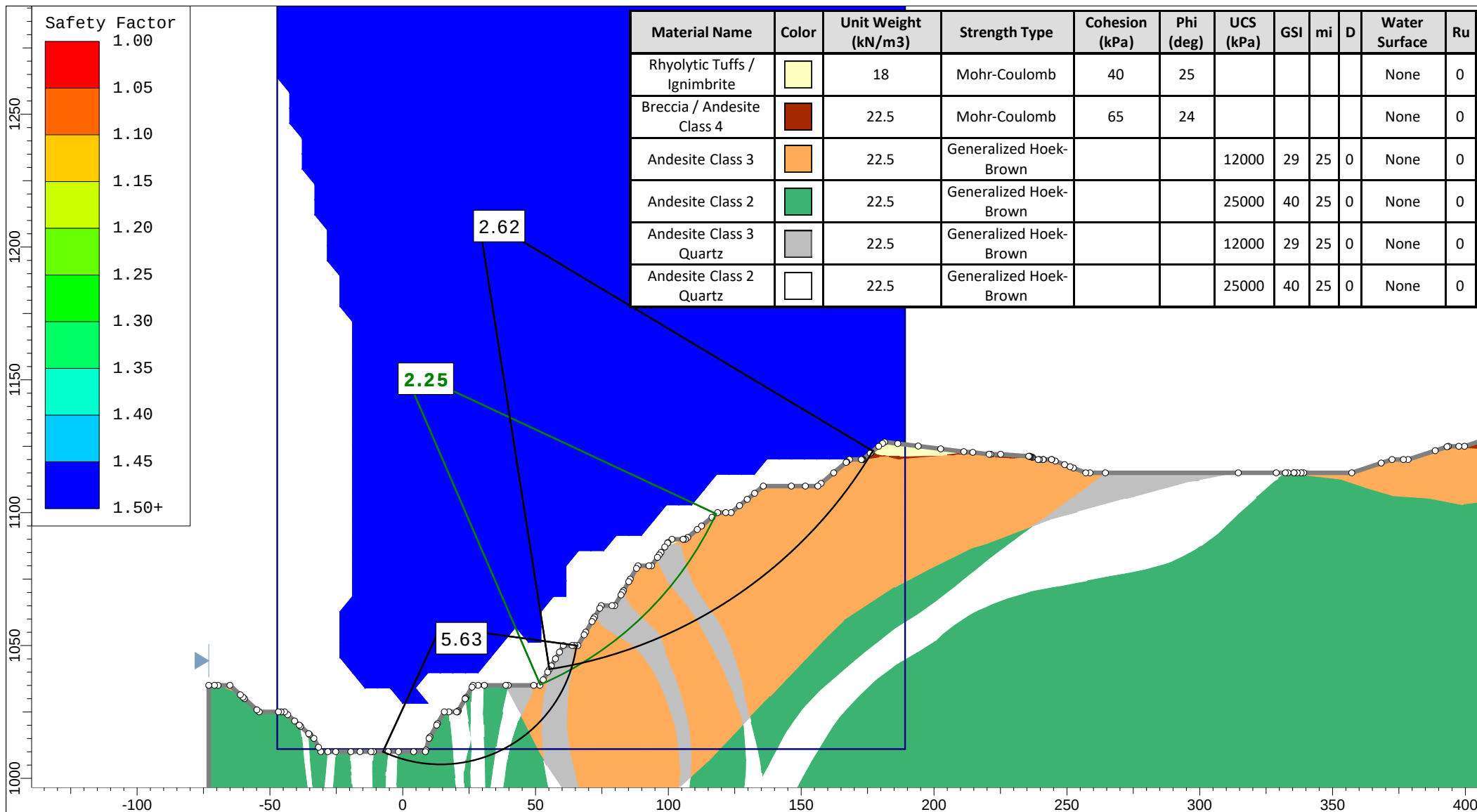
Client:	Oceanagold Waihi Operation				
Project:	GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT				
Location:	Gladstone-Winner Hill Open Pit				
Analysis description:	Hu of 0, showing FOS surfaces <1.2				
Job No:	PSM125-260R	By:	TM	Date:	26/08/2021
Scale:	1:2000	Run ID:	Section 4		



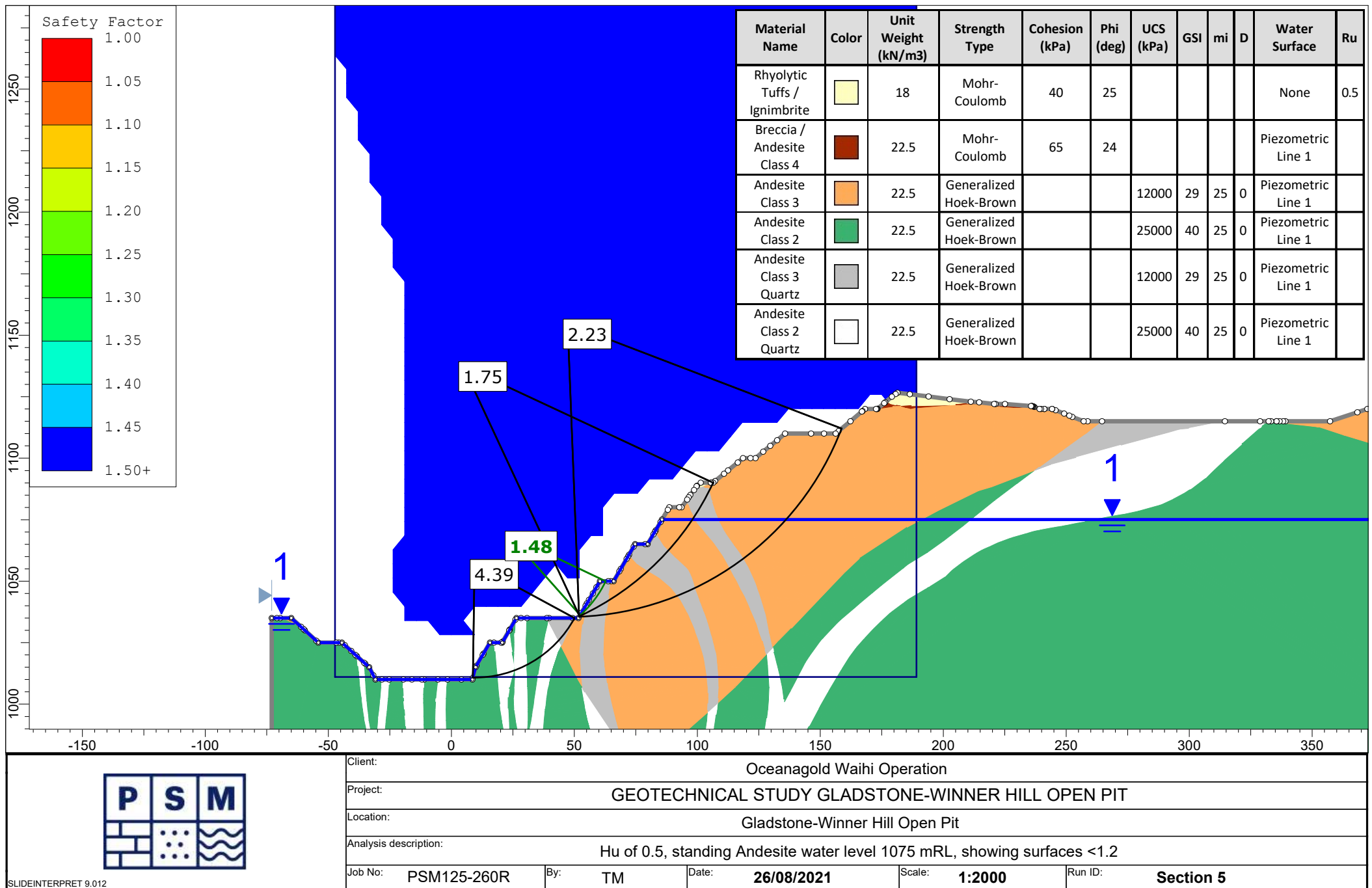


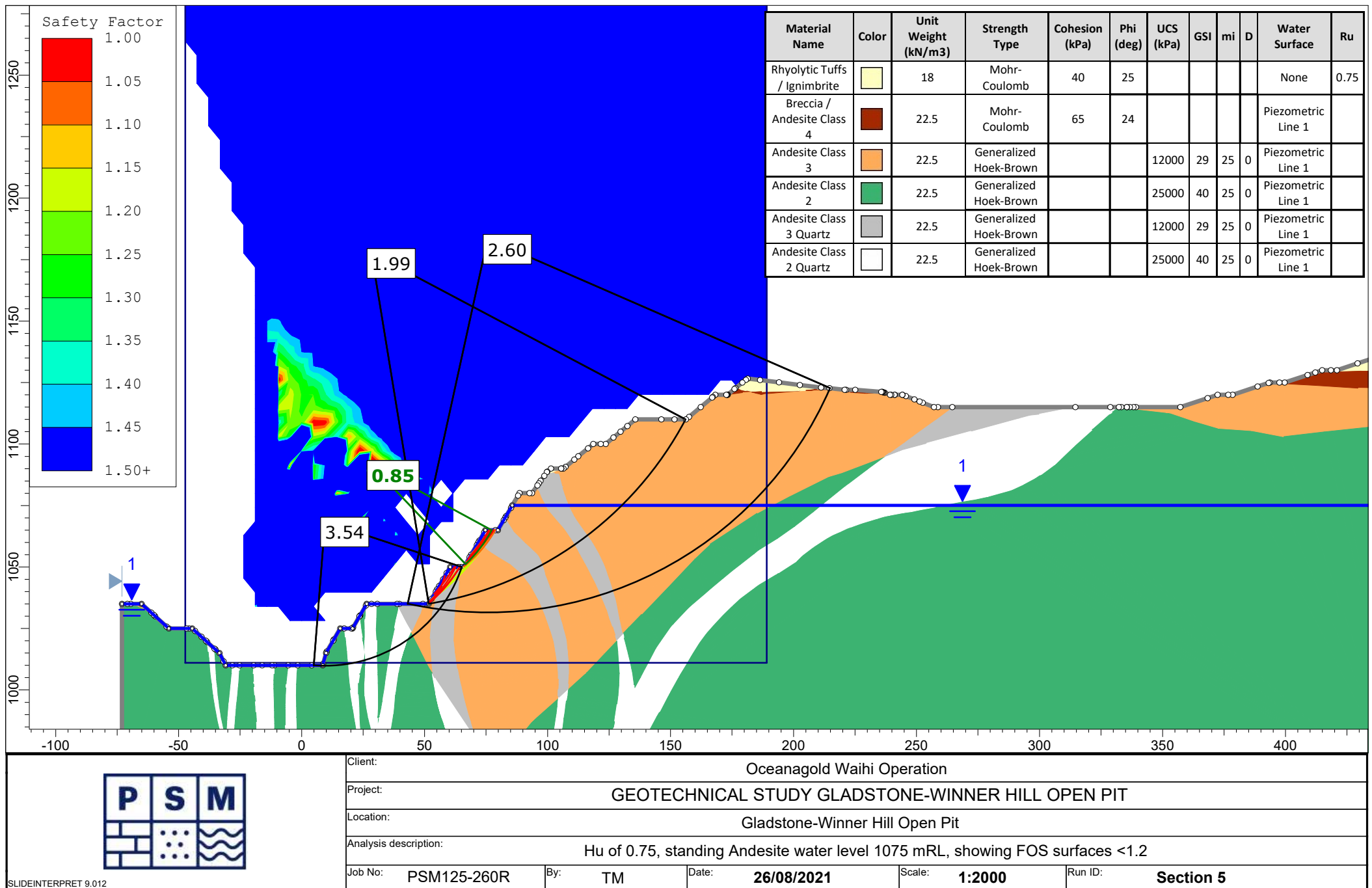
Client:	Oceanagold Waihi Operation				
Project:	GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT				
Location:	Gladstone-Winner Hill Open Pit				
Analysis description:	Hu of 0.75, standing Andesite water level 1075 mRL, showing FOS surfaces <1.2				
Job No:	PSM125-260R	By:	TM	Date:	26/08/2021
Scale:	1:2000	Run ID:	Section 4		

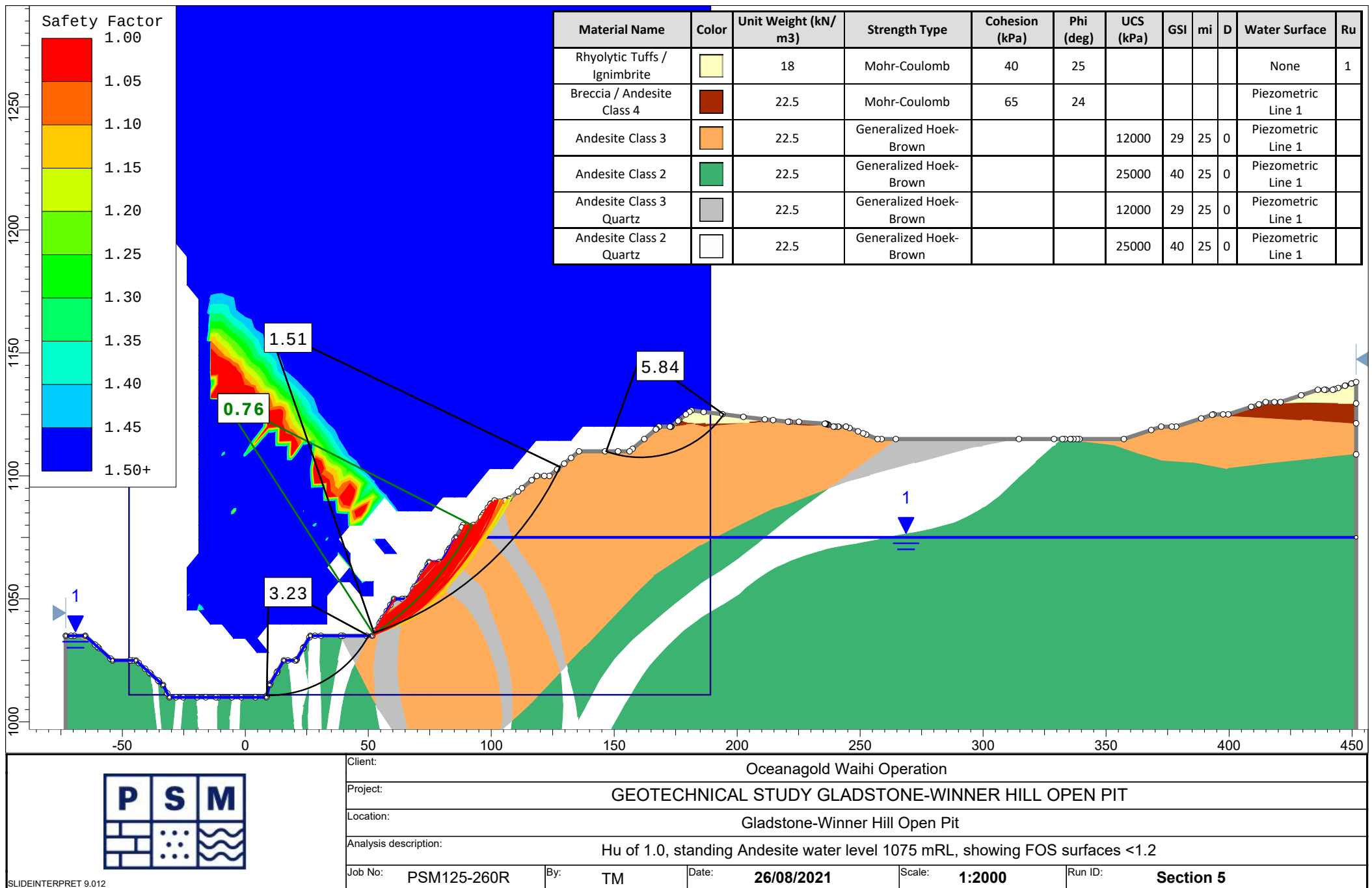


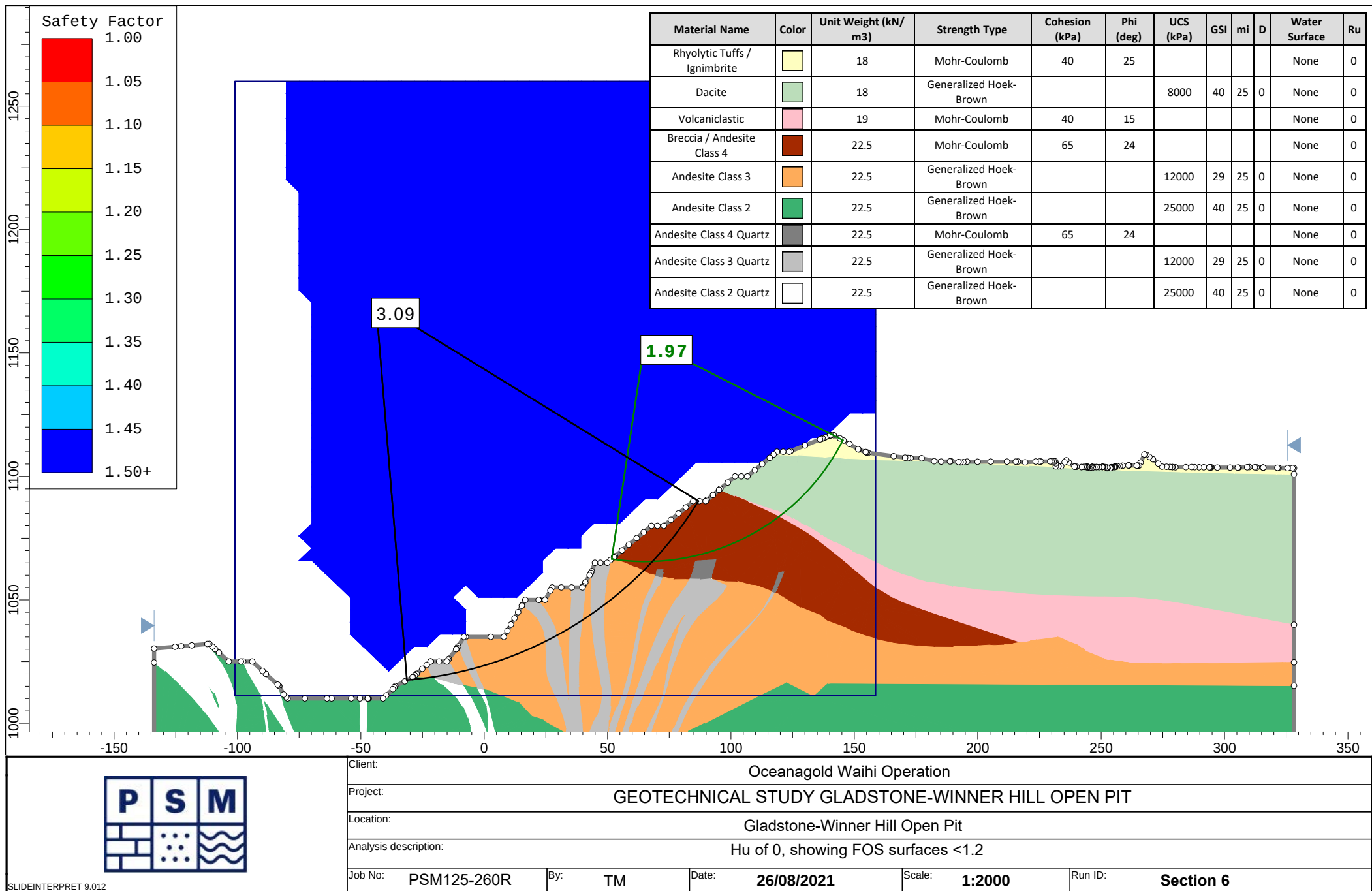


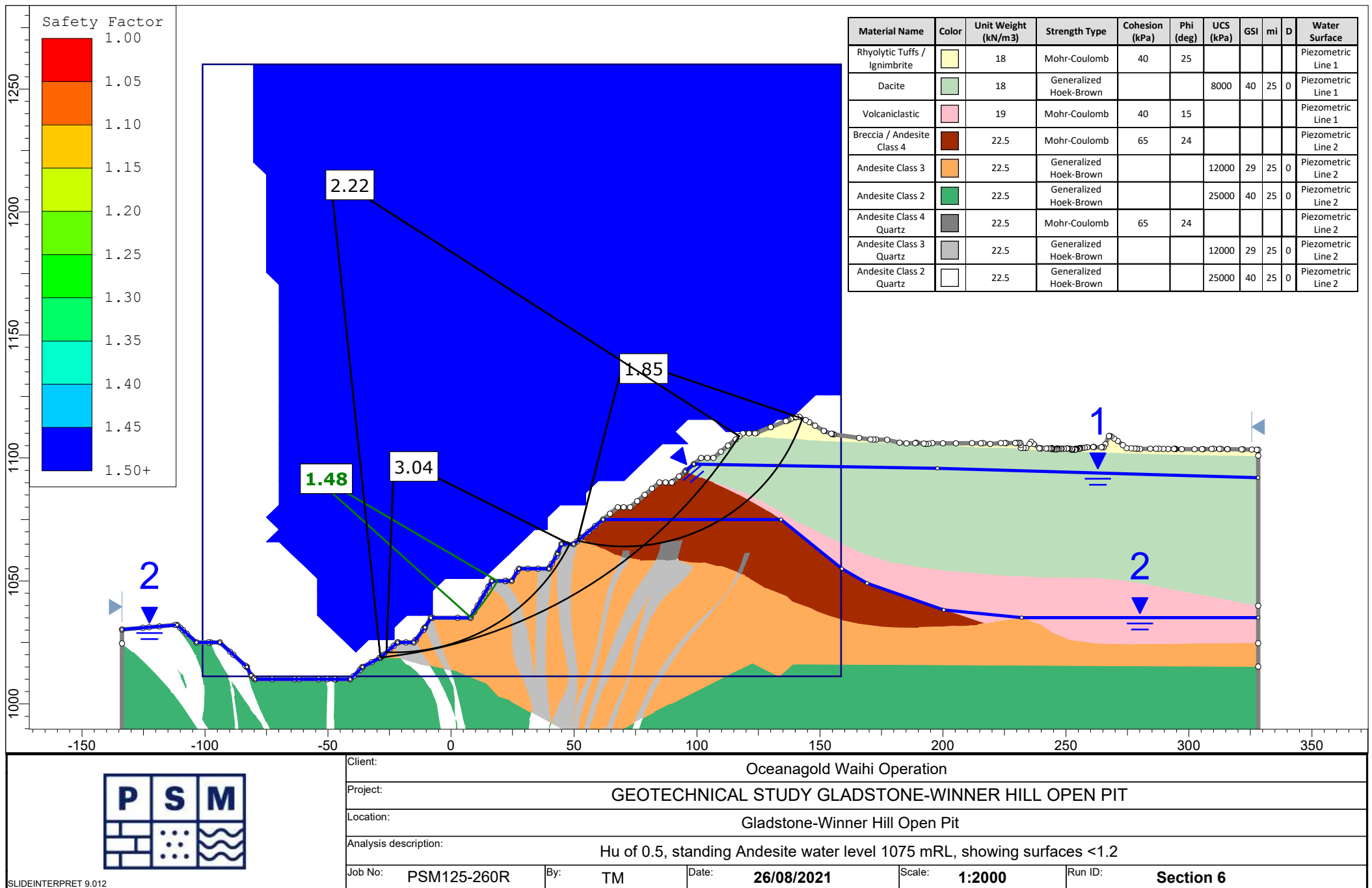
Client:	Oceanagold Waihi Operation				
Project:	GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT				
Location:	Gladstone-Winner Hill Open Pit				
Analysis description:	Hu of 0, showing FOS surfaces <1.2				
Job No:	PSM125-260R	By:	TM	Date:	26/08/2021
Scale:	1:2000	Run ID:	Section 5		

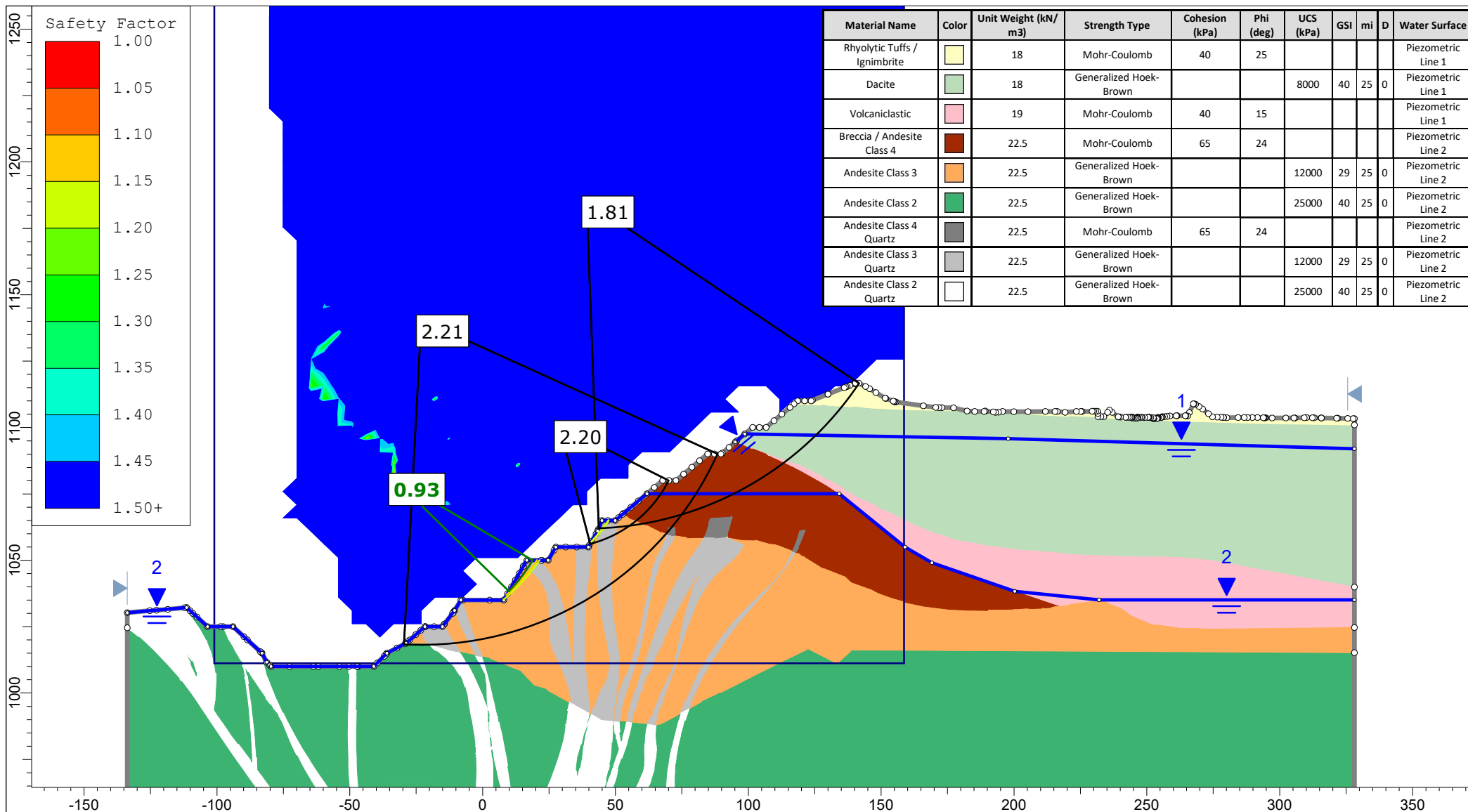






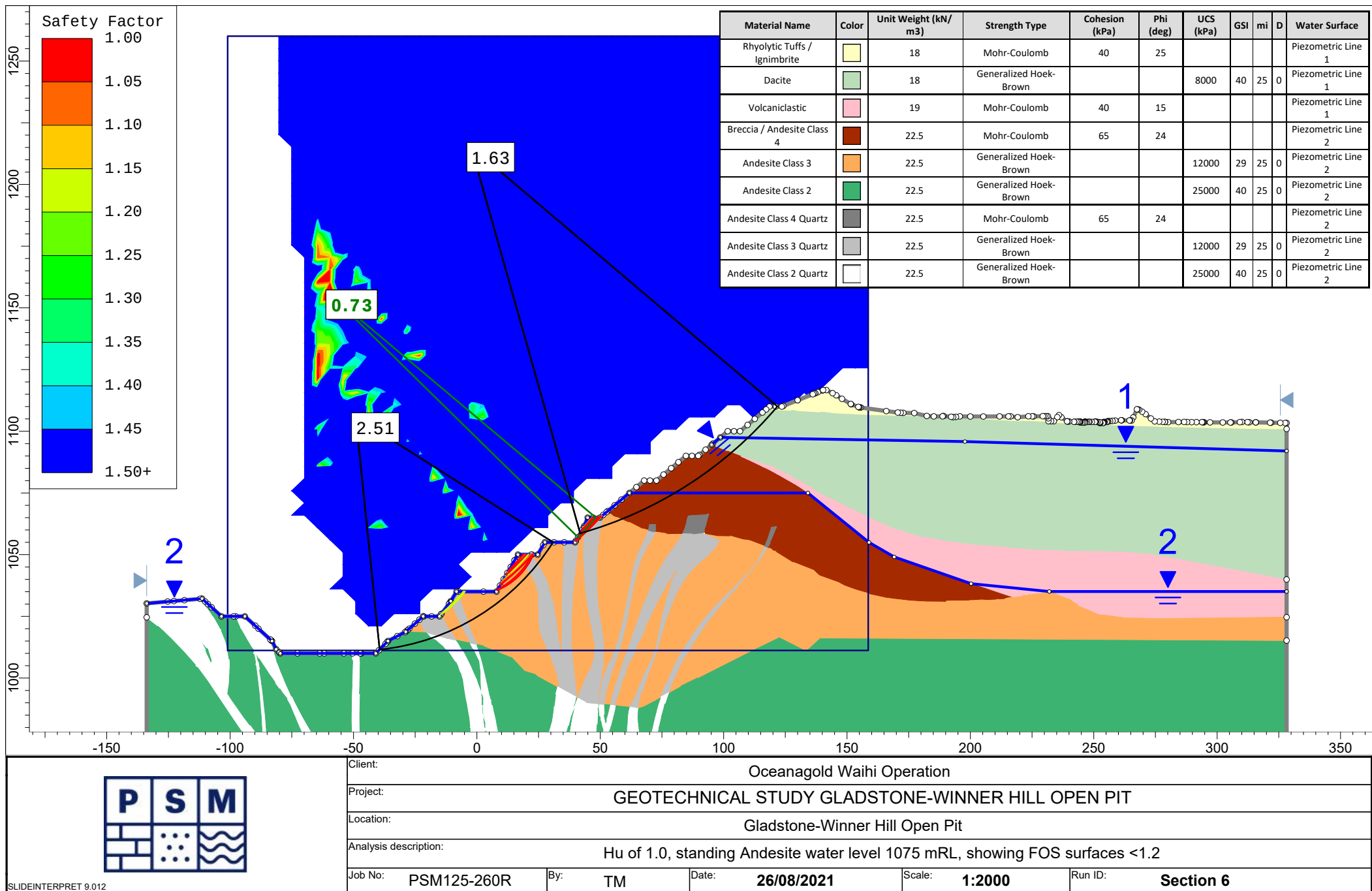


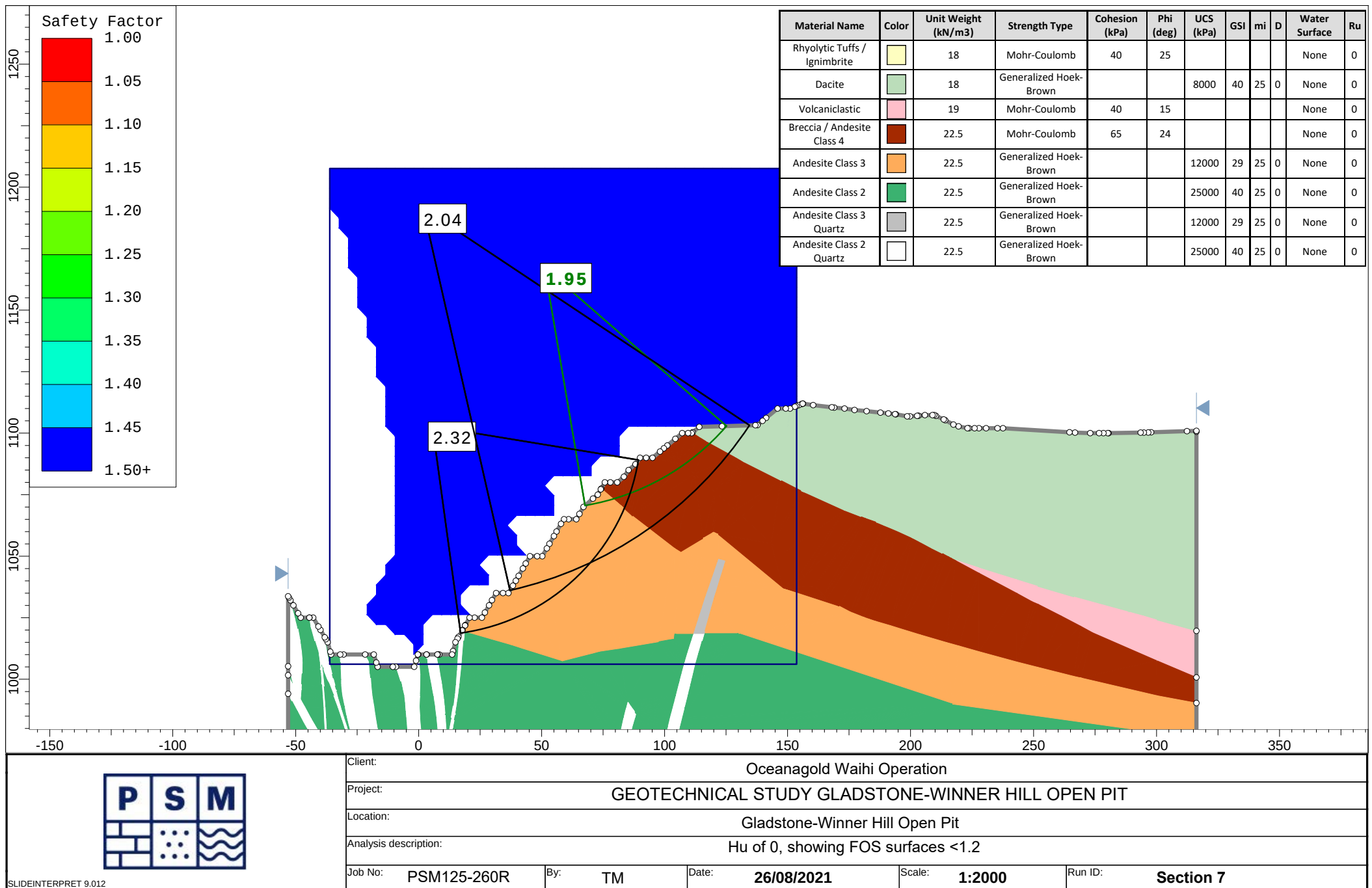


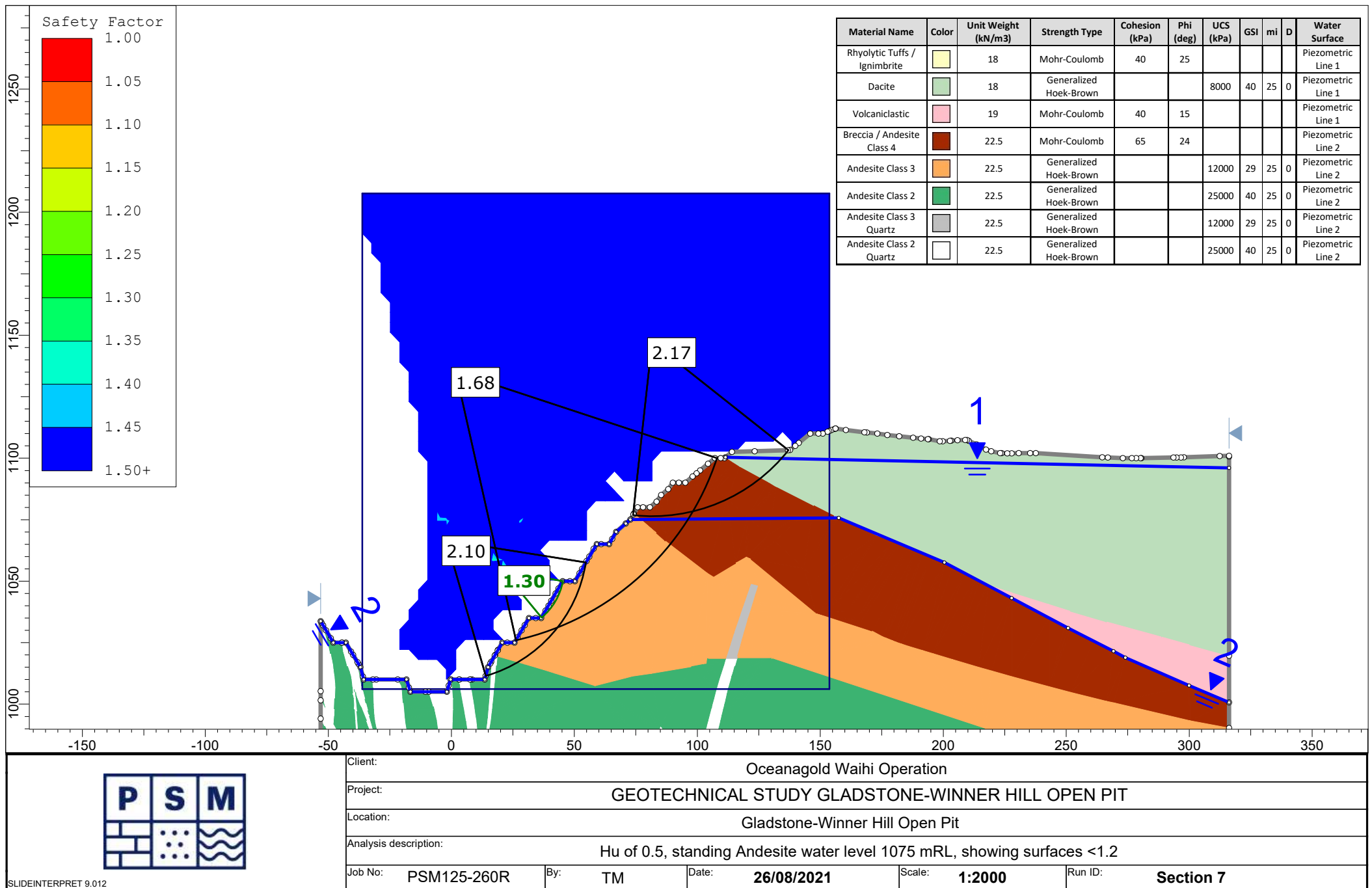


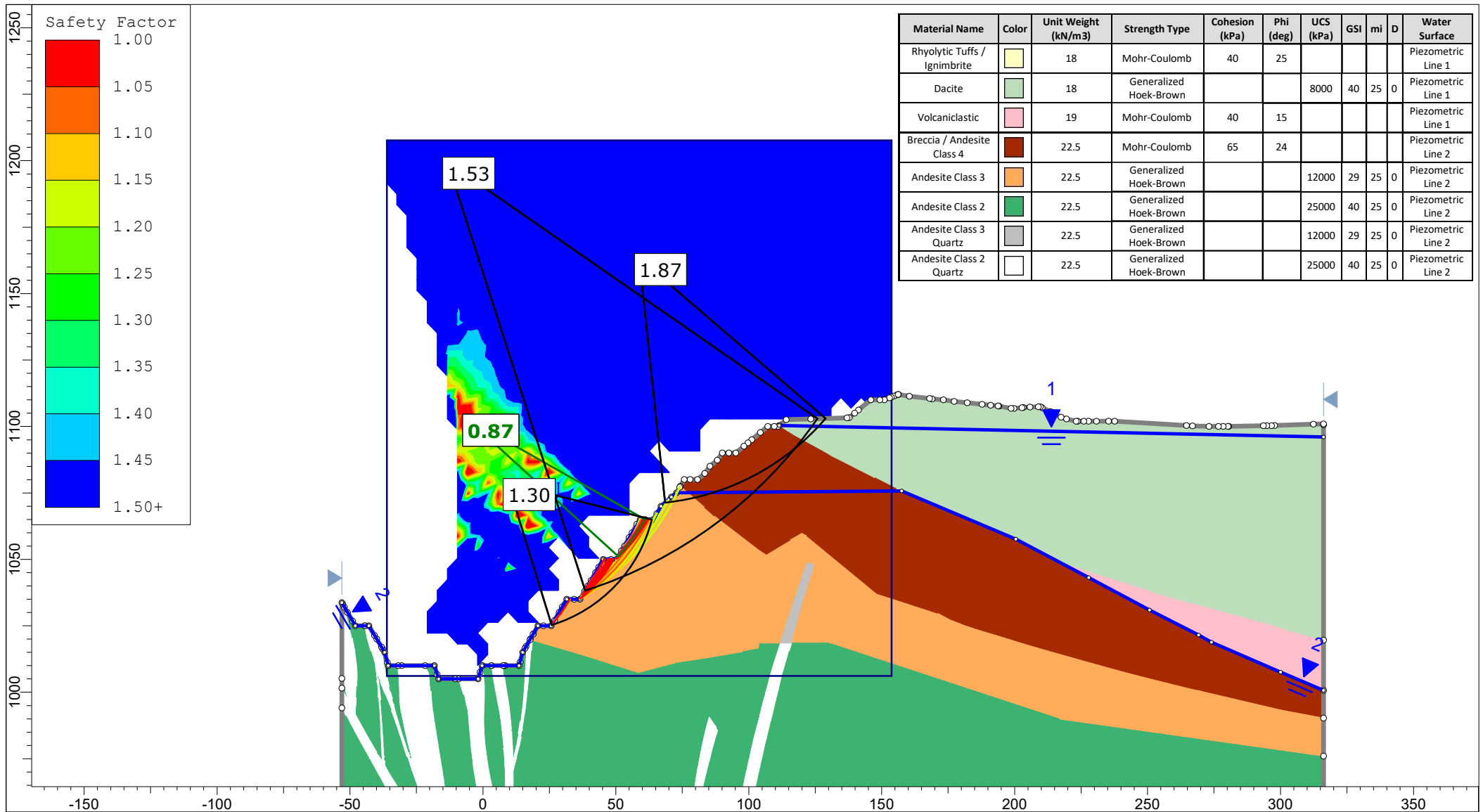
SLIDEINTERPRET 9.012

Client:		Oceanagold Waihi Operation			
Project:		GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT			
Location:		Gladstone-Winner Hill Open Pit			
Analysis description:		Hu of 0.75, standing Andesite water level 1075 mRL, showing FOS surfaces <1.2			
Job No:	PSM125-260R	By:	TM	Date:	26/08/2021
Scale:		1:2000		Run ID:	Section 6

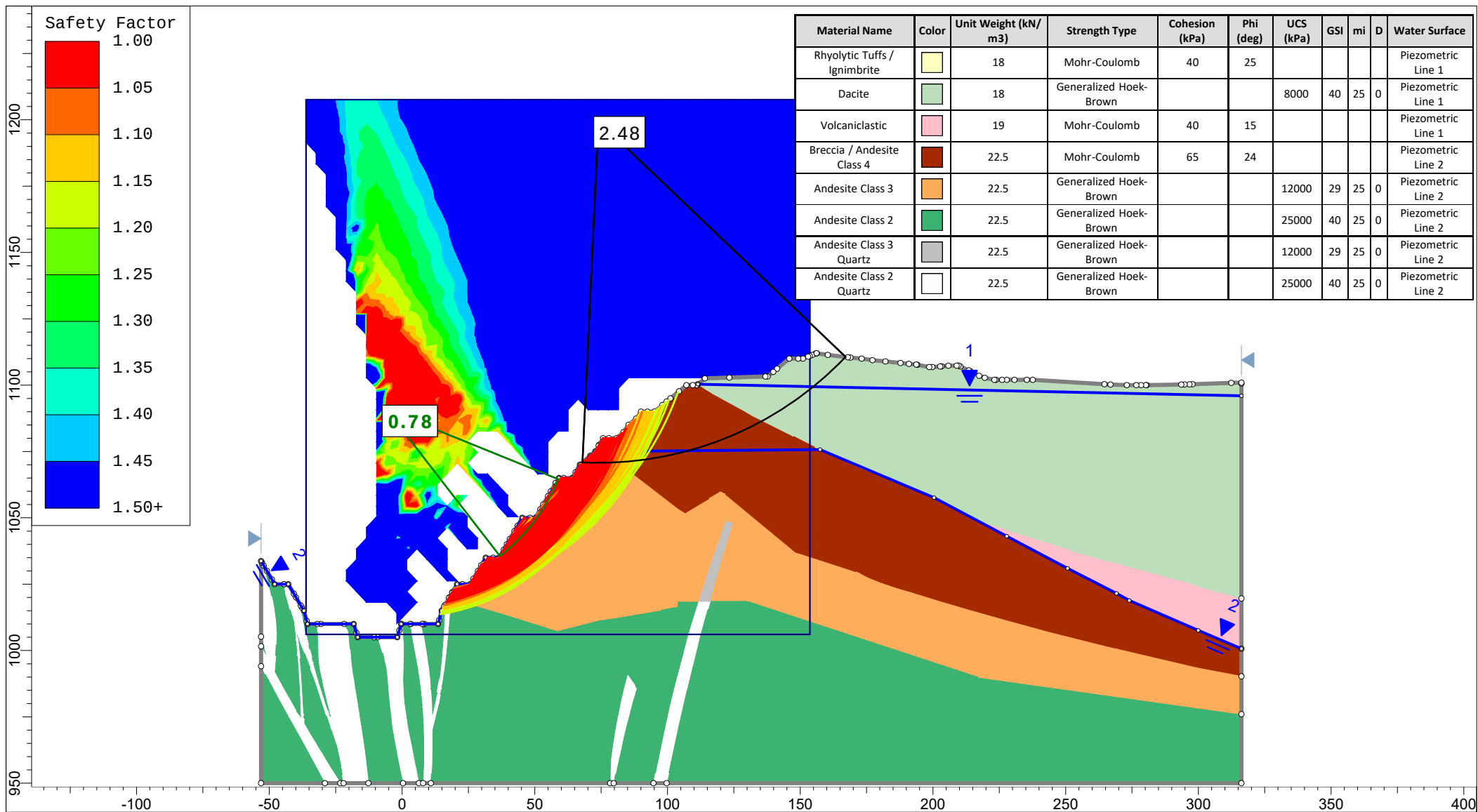






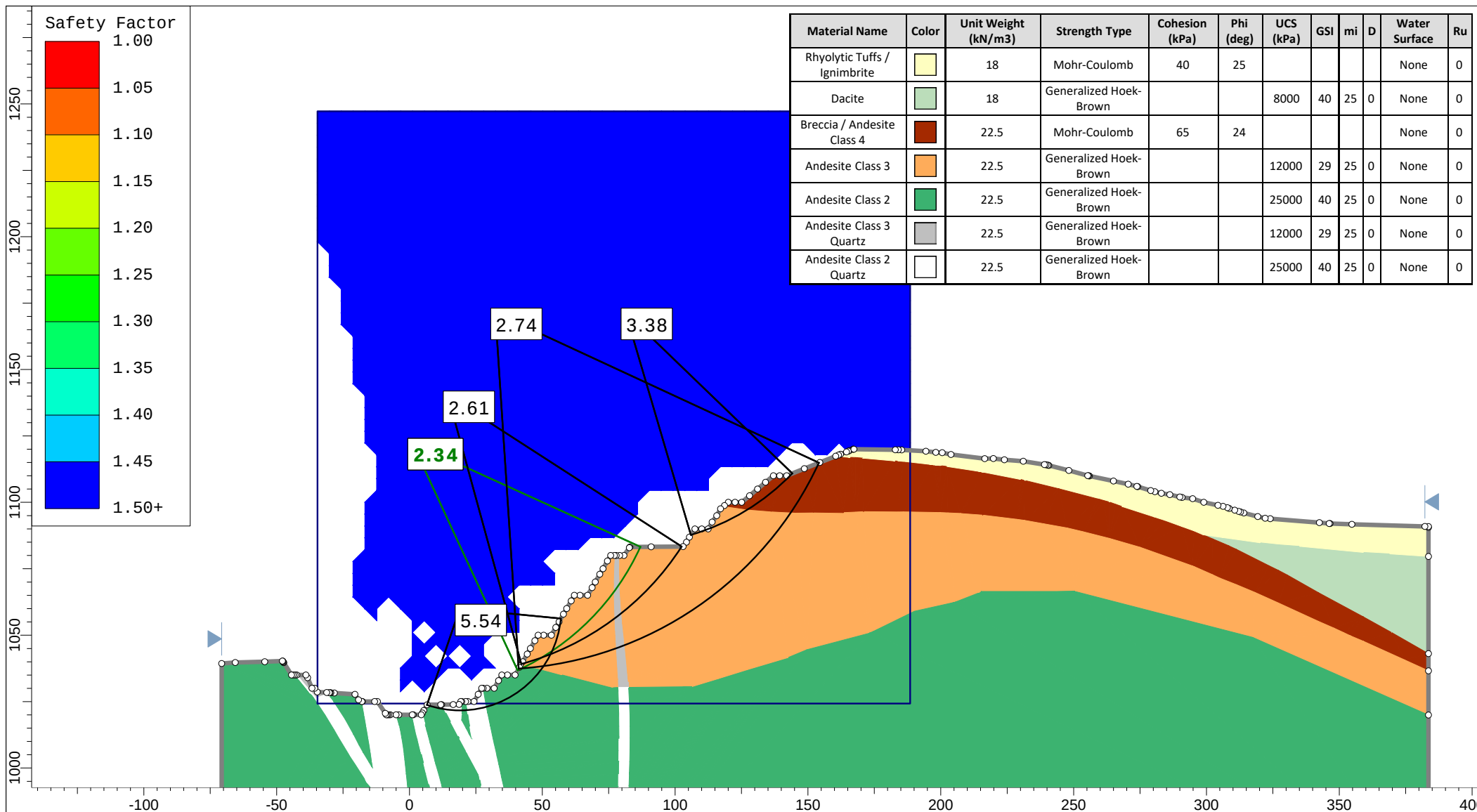


Client:		Oceanagold Waihi Operation			
Project:		GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT			
Location:		Gladstone-Winner Hill Open Pit			
Analysis description:		Hu of 0.75, standing Andesite water level 1075 mRL, showing FOS surfaces <1.2			
Job No:	PSM125-260R	By:	TM	Date:	26/08/2021
Scale:		1:2000		Run ID:	Section 7

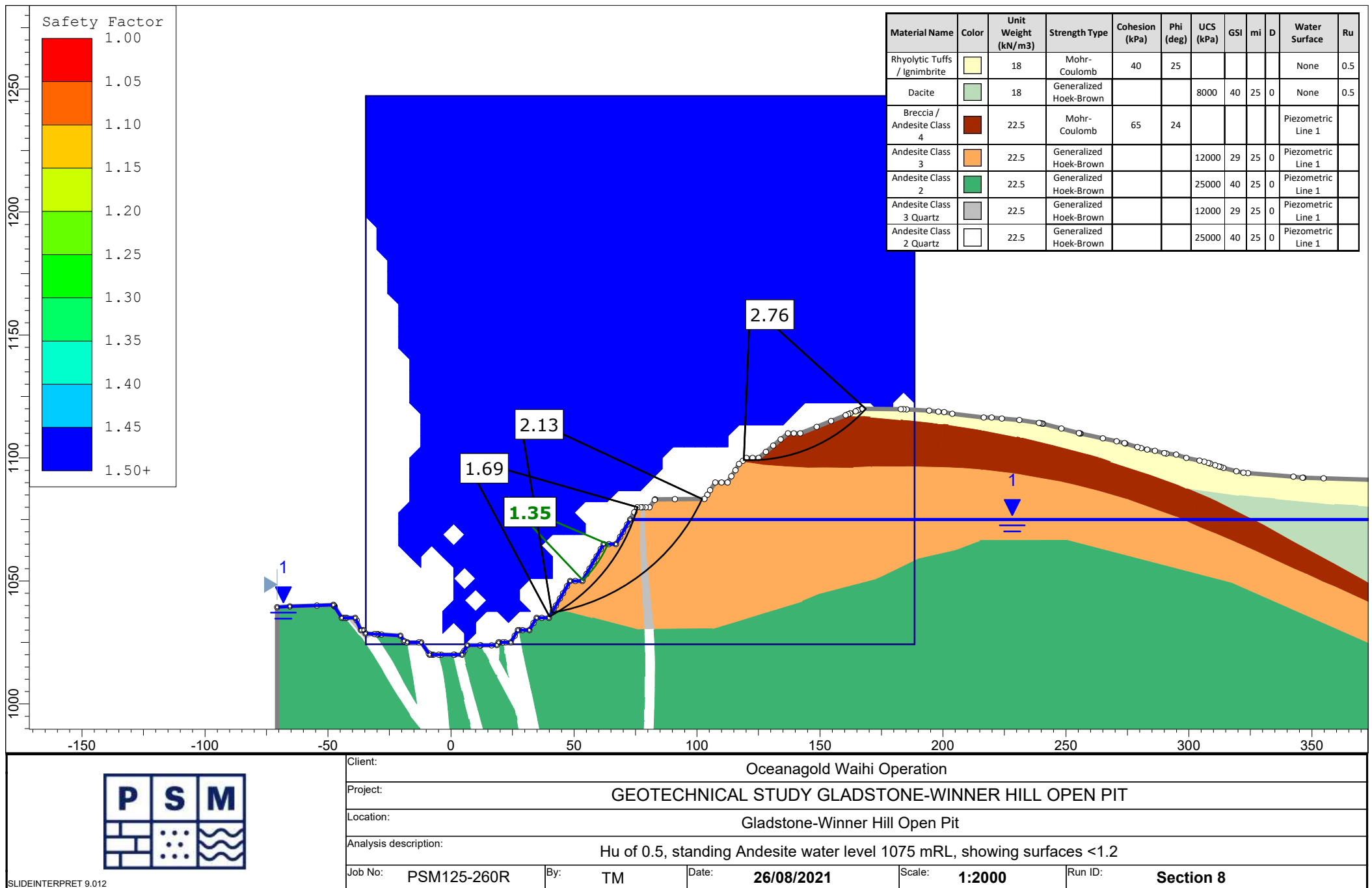


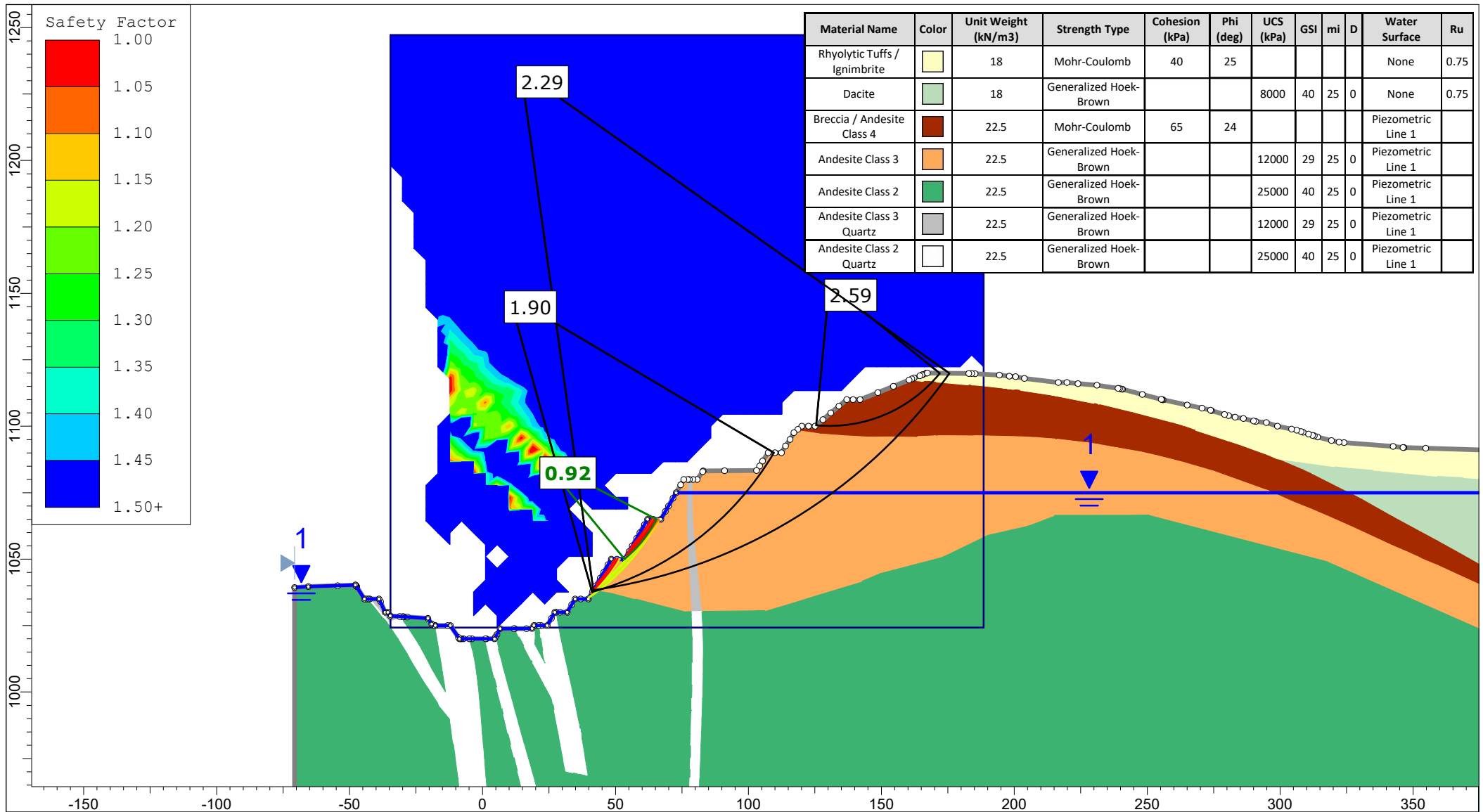
SLIDEINTERPRET 9.012

Client:		Oceanagold Waihi Operation			
Project:		GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT			
Location:		Gladstone-Winner Hill Open Pit			
Analysis description:		Hu of 1.0, standing Andesite water level 1075 mRL, showing FOS surfaces <1.2			
Job No:	PSM125-260R	By:	TM	Date:	26/08/2021
		Scale:	1:2000	Run ID:	Section 7

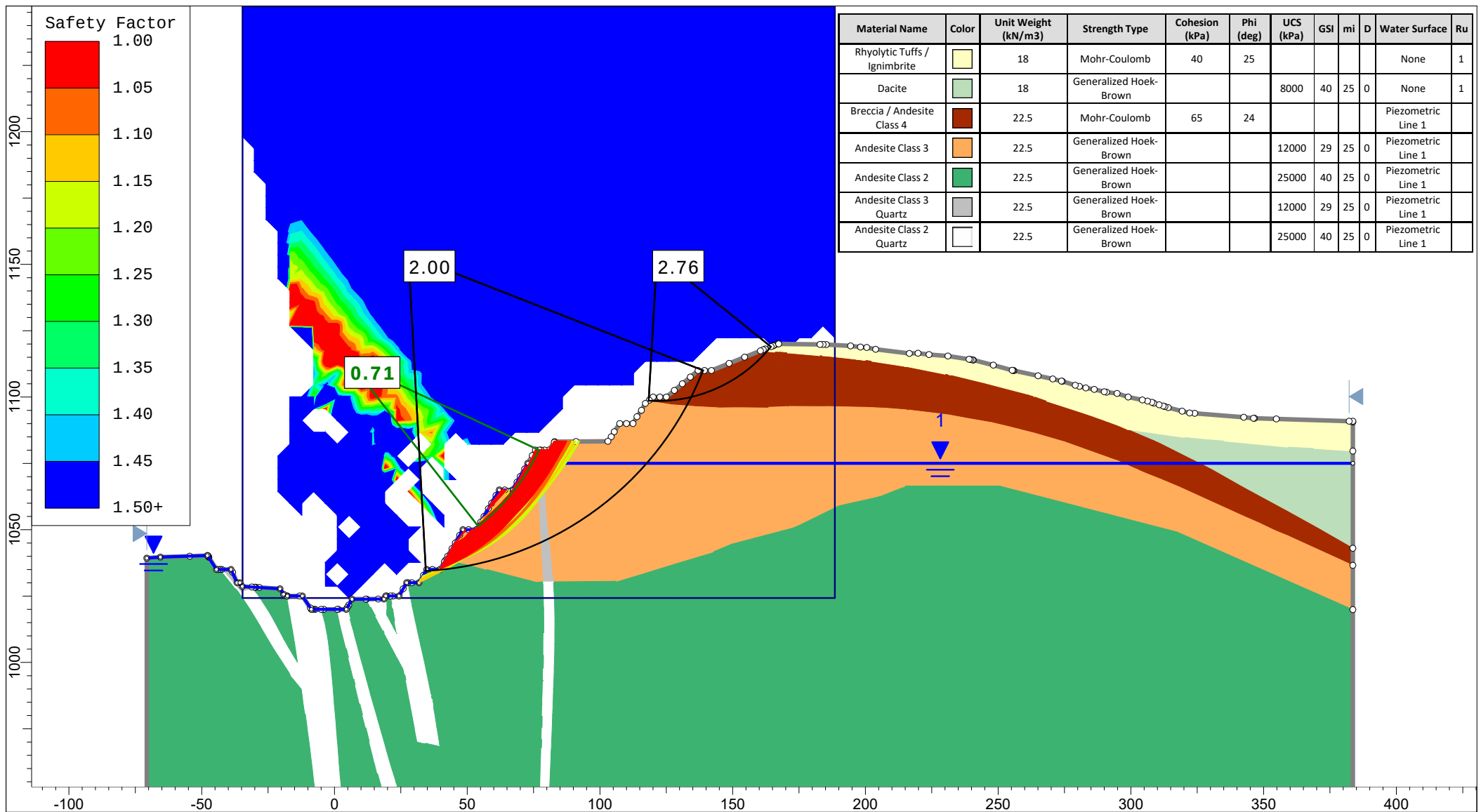


Client:			Oceanagold Waihi Operation		
Project:			GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT		
Location:			Gladstone-Winner Hill Open Pit		
Analysis description:			Hu of 0, showing FOS surfaces <1.2		
Job No:	PSM125-260R	By:	TM	Date:	26/08/2021
		Scale:	1:2000	Run ID:	Section 8





Client:	Oceanagold Waihi Operation				
Project:	GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT				
Location:	Gladstone-Winner Hill Open Pit				
Analysis description:	Hu of 0.75, standing Andesite water level 1075 mRL, showing FOS surfaces <1.2				
Job No:	PSM125-260R	By:	TM	Date:	26/08/2021
Scale:	1:2000	Run ID:	Section 8		



Client:	Oceanagold Waihi Operation					
Project:	GEOTECHNICAL STUDY GLADSTONE-WINNER HILL OPEN PIT					
Location:	Gladstone-Winner Hill Open Pit					
Analysis description:	Hu of 1.0, standing Andesite water level 1075 mRL, showing FOS surfaces <1.2					
Job No:	PSM125-260R	By:	TM	Date:	26/08/2021	Scale: 1:2000
				Run ID:	Section 8	

Appendix P

Moonlight Underground Mapping

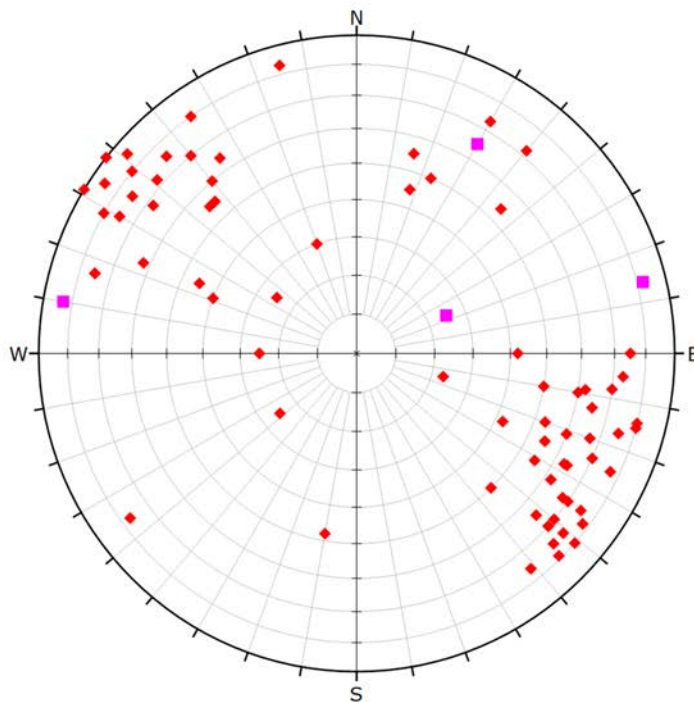


**PSM125
MAPPING
MOONLIGHT UNDERGROUND**

Project: Project Pye
Job no: PSM125
Location: Moonlight Underground
Lithology: All

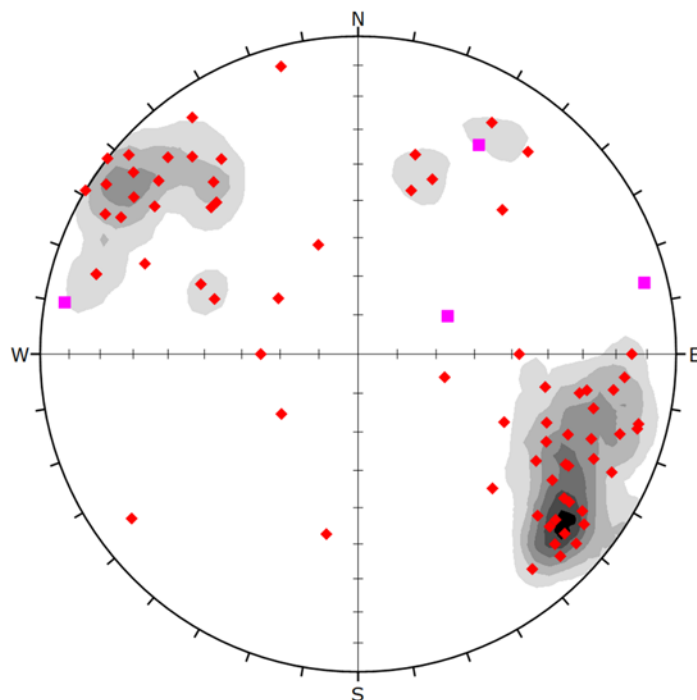
North datum: Grid North
Dip/Azi: N/A
Traverse: N/A
Borehole: N/A

Processed by: MK
Date: 14/11/2017
Defect type: Faults / Shears
Stratigraphy: N/A



Symbol	TYPE	Quantity
♦	FT	72
■	SH	4

Plot Mode	Pole Vectors
Vector Count	76 (76 Entries)
Hemisphere	Lower
Projection	Equal Area



Symbol	TYPE	Quantity
♦	FT	72
■	SH	4

Color	Density Concentrations
	0.00 - 1.90
	1.90 - 3.80
	3.80 - 5.70
	5.70 - 7.60
	7.60 - 9.50
	9.50 - 11.40
	11.40 - 13.30

Contour Data	Pole Vectors
Maximum Density	12.47%
Contour Distribution	Fisher
Counting Circle Size	1.0%

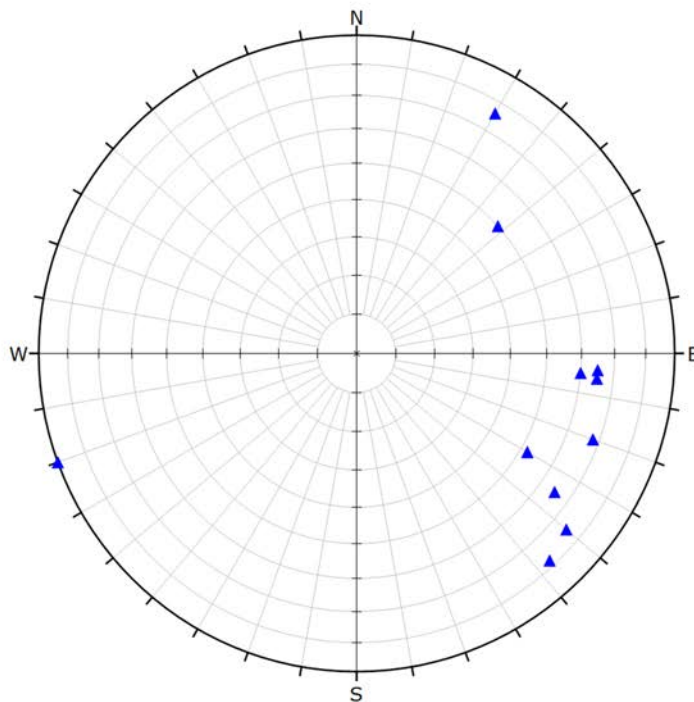
Plot Mode	Pole Vectors
Vector Count	76 (76 Entries)
Hemisphere	Lower
Projection	Equal Area

**PSM125
MAPPING
MOONLIGHT UNDERGROUND**

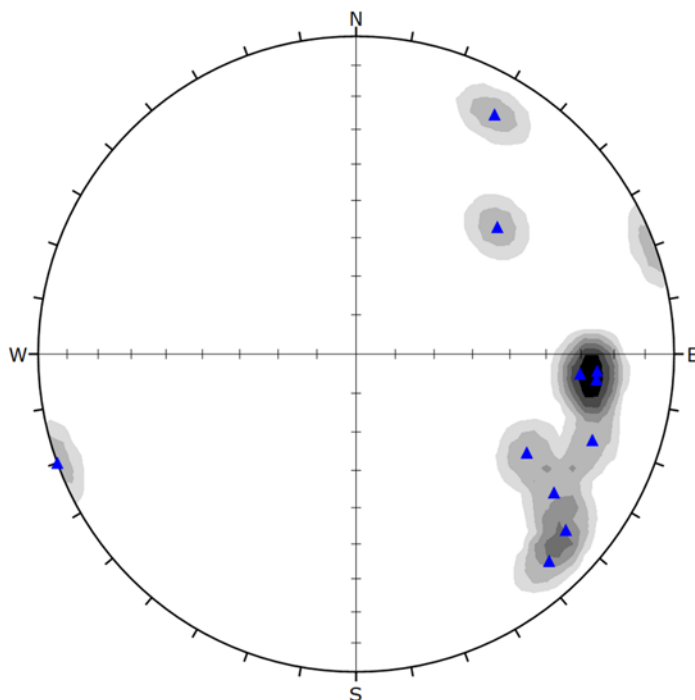
Project: Project Pye
Job no: PSM125
Location: Moonlight Underground
Lithology: All

North datum: Grid North
Dip/Azi: N/A
Traverse: N/A
Borehole: N/A

Processed by: MK
Date: 14/11/2017
Defect type: Joints
Stratigraphy: N/A



Symbol	TYPE	Quantity
▲	JT	11
Plot Mode Pole Vectors		
Vector Count		11 (11 Entries)
Hemisphere		Lower
Projection		Equal Area



Symbol	TYPE	Quantity
▲	JT	11
Color		Density Concentrations
		0.00 - 3.90
		3.90 - 7.80
		7.80 - 11.70
		11.70 - 15.60
		15.60 - 19.50
		19.50 - 23.40
		23.40 - 27.30
Contour Data		Pole Vectors
Maximum Density		26.22%
Contour Distribution		Fisher
Counting Circle Size		1.0%
Plot Mode		Pole Vectors
Vector Count		11 (11 Entries)
Hemisphere		Lower
Projection		Equal Area

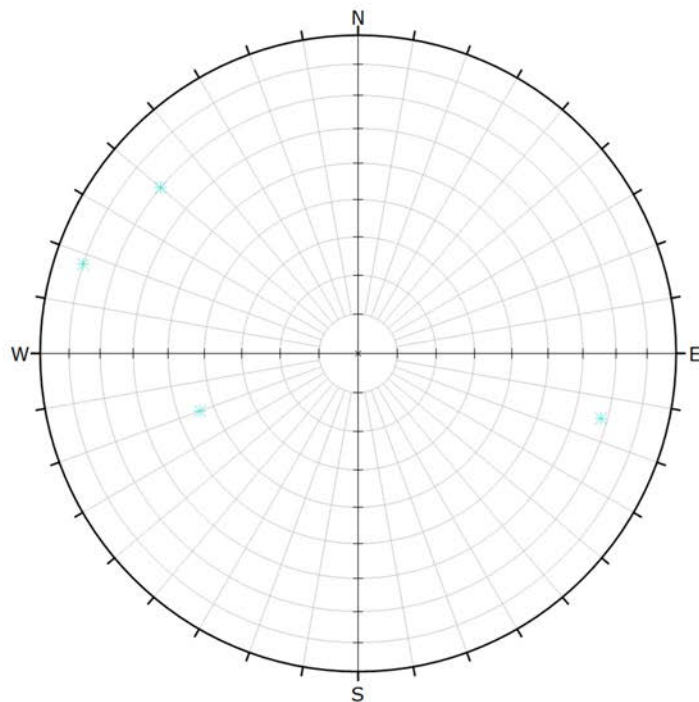


PSM125
MAPPING
MOONLIGHT UNDERGROUND

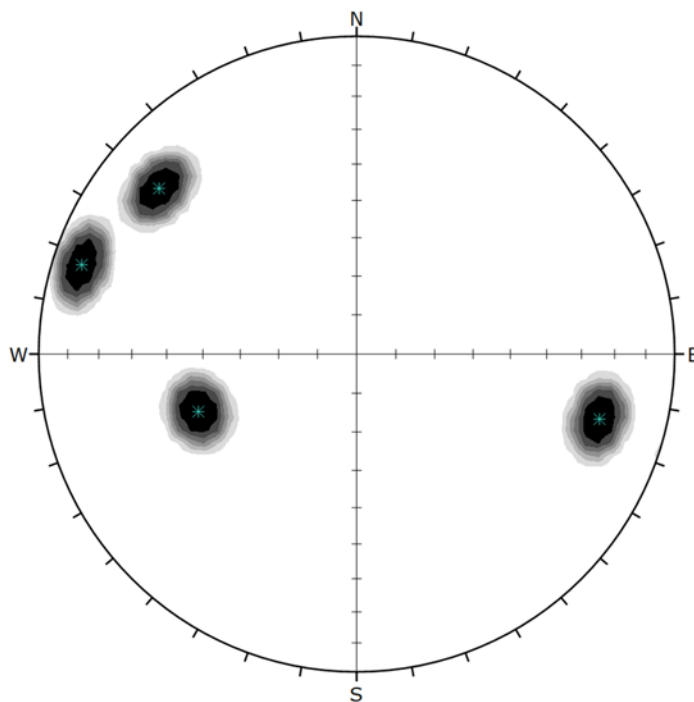
Project: Project Pye
Job no: PSM125
Location: Moonlight Underground
Lithology: All

North datum: Grid North
Dip/Azi: N/A
Traverse: N/A
Borehole: N/A

Processed by: MK
Date: 14/11/2017
Defect type: Veins
Stratigraphy: N/A



Symbol	TYPE	Quantity
*	VN	4
Plot Mode		
Vector Count		4 (4 Entries)
Hemisphere		Lower
Projection		Equal Area

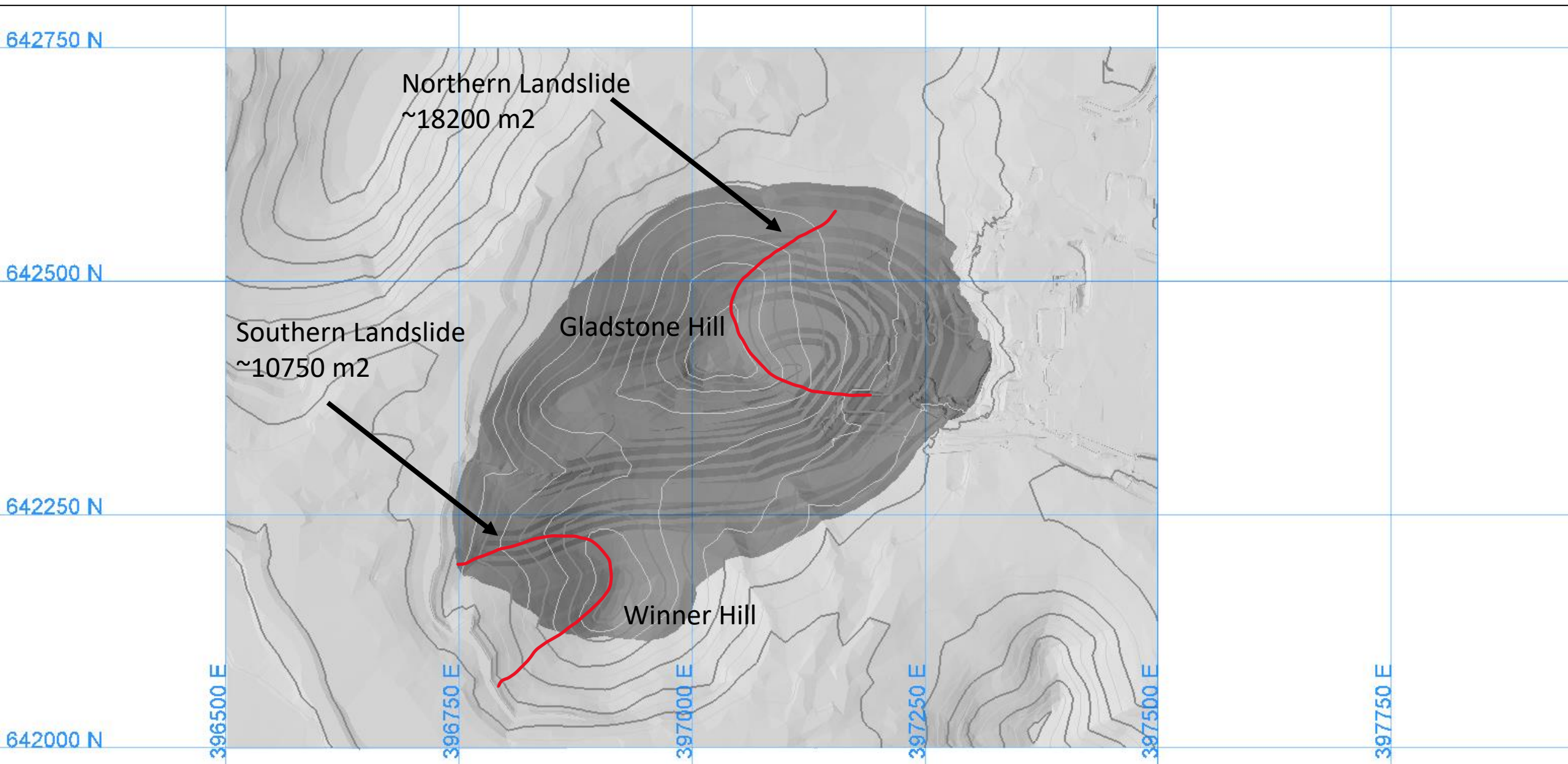


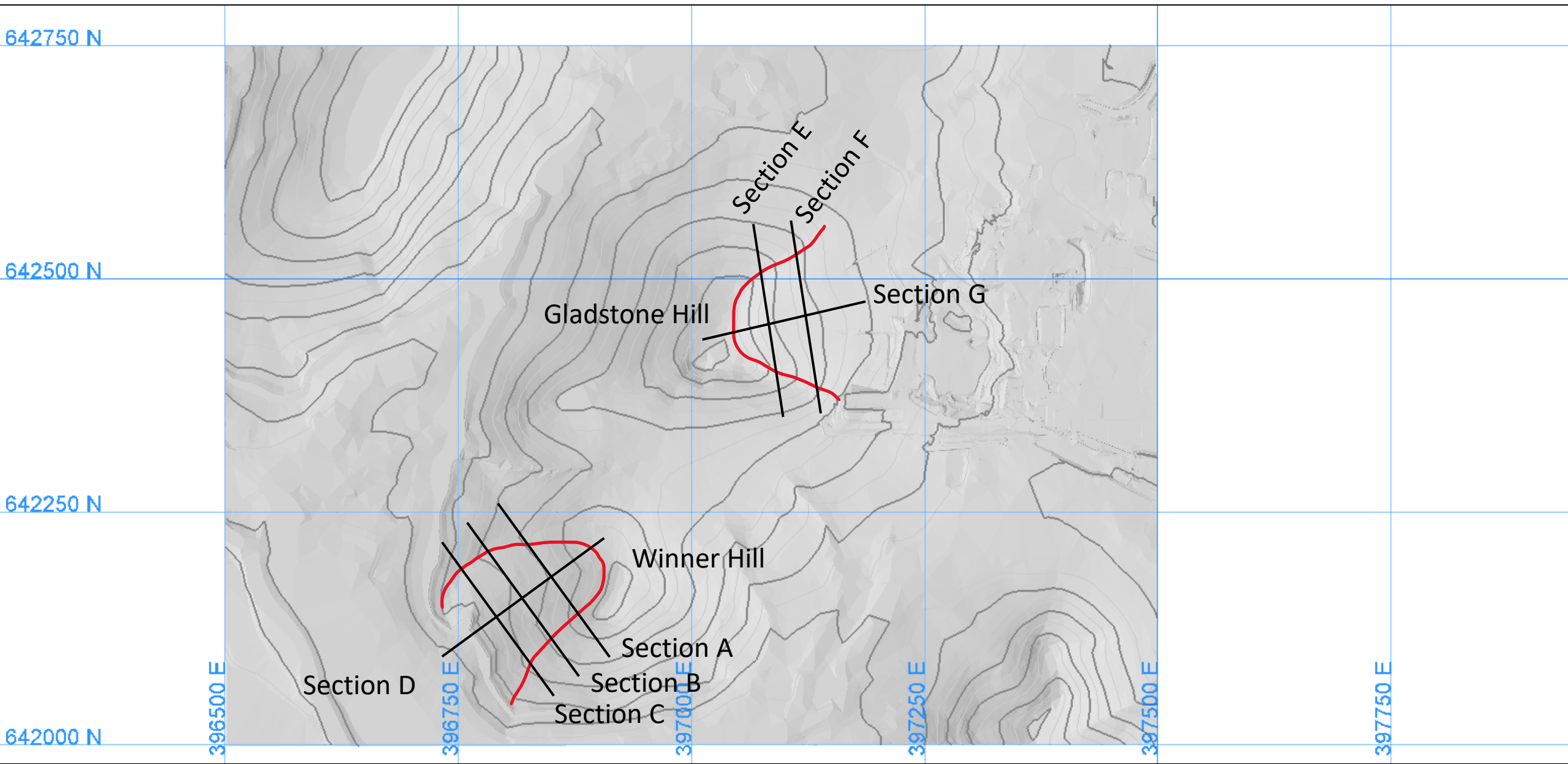
Symbol	TYPE	Quantity
*	VN	4
Color		Density Concentrations
		0.00 - 3.60
		3.60 - 7.20
		7.20 - 10.80
		10.80 - 14.40
		14.40 - 18.00
		18.00 - 21.60
		21.60 - 25.20
Contour Data		Pole Vectors
Maximum Density		24.93%
Contour Distribution		Fisher
Counting Circle Size		1.0%
Plot Mode		Pole Vectors
Vector Count		4 (4 Entries)
Hemisphere		Lower
Projection		Equal Area

Appendix Q

Assessment of Landslides







Section A

1150 L

1125 L

1100 L

1075 L

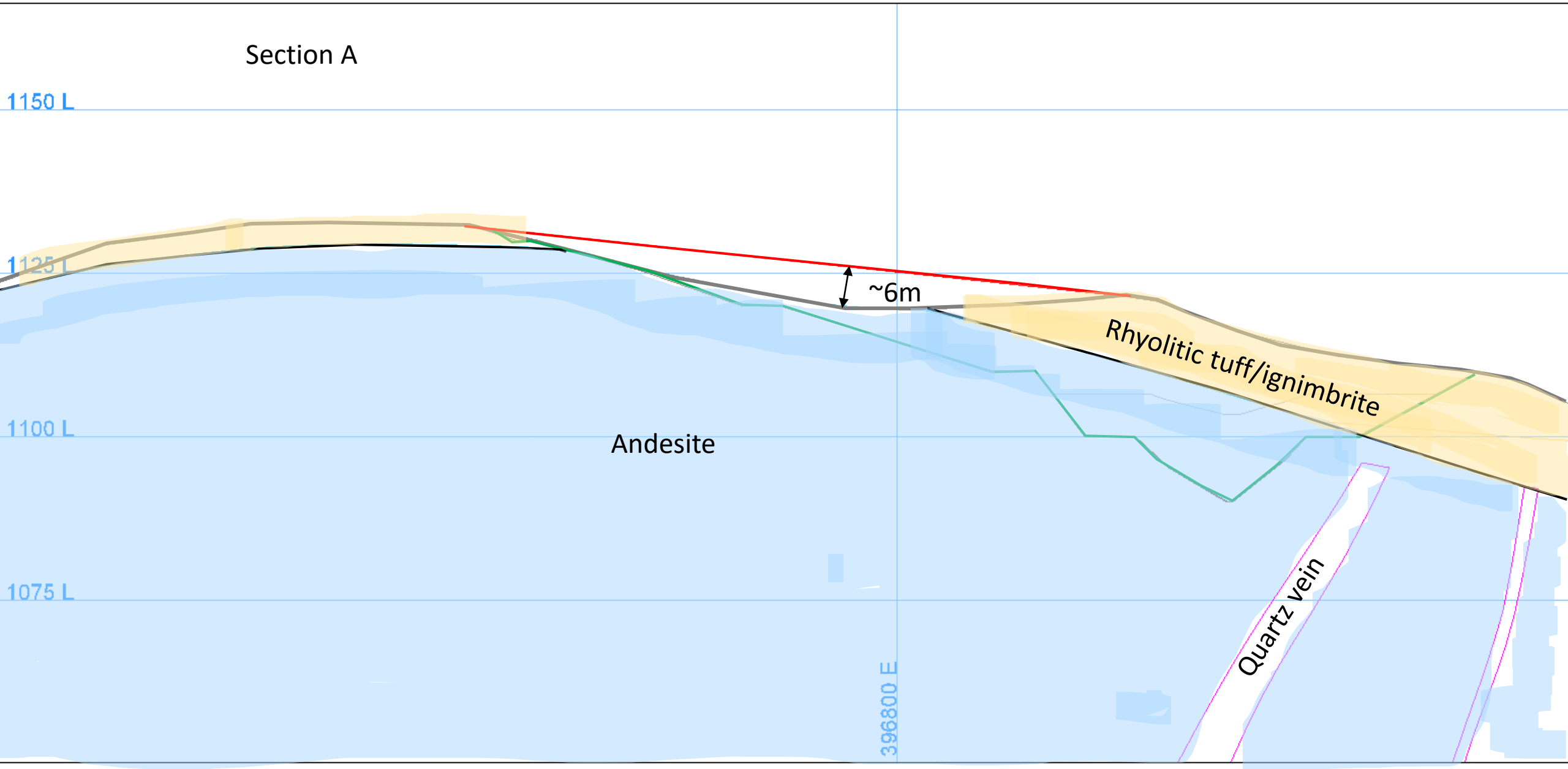
396800 E

Andesite

Rhyolitic tuff/ignimbrite

Quartz vein

~6m



Section B

1175 L

1150 L

1125 L

1100 L

1075 L

1050 L

396900 E

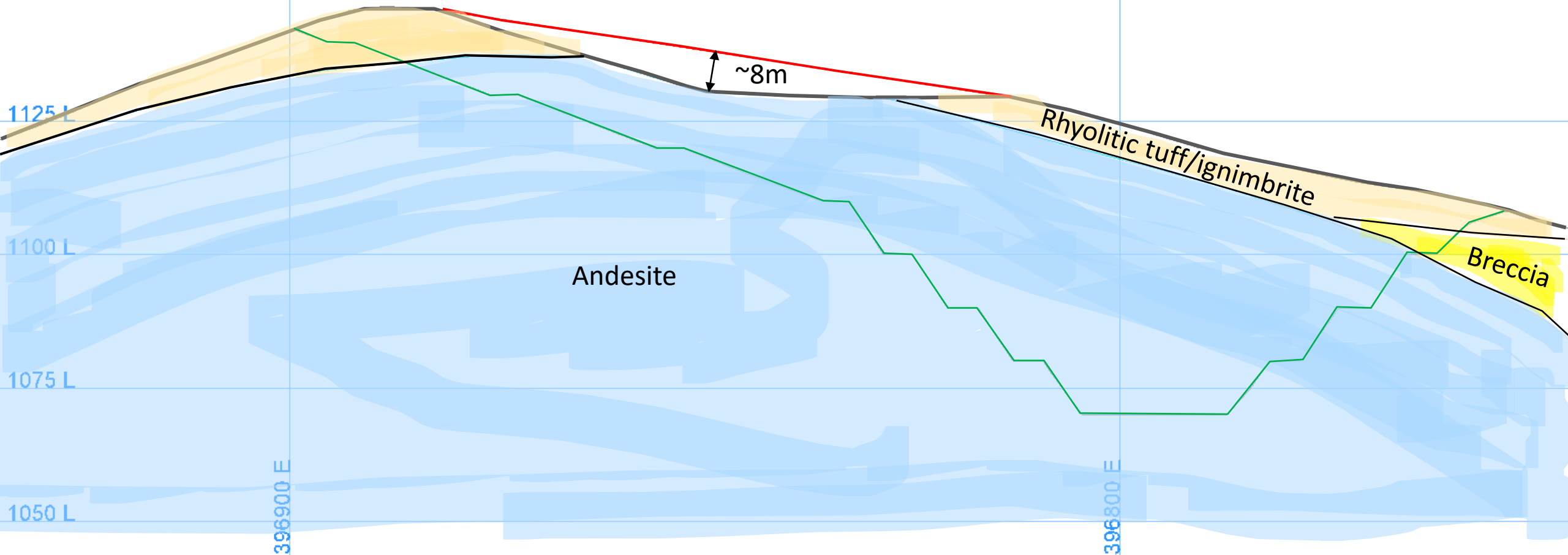
396800 E

~8m

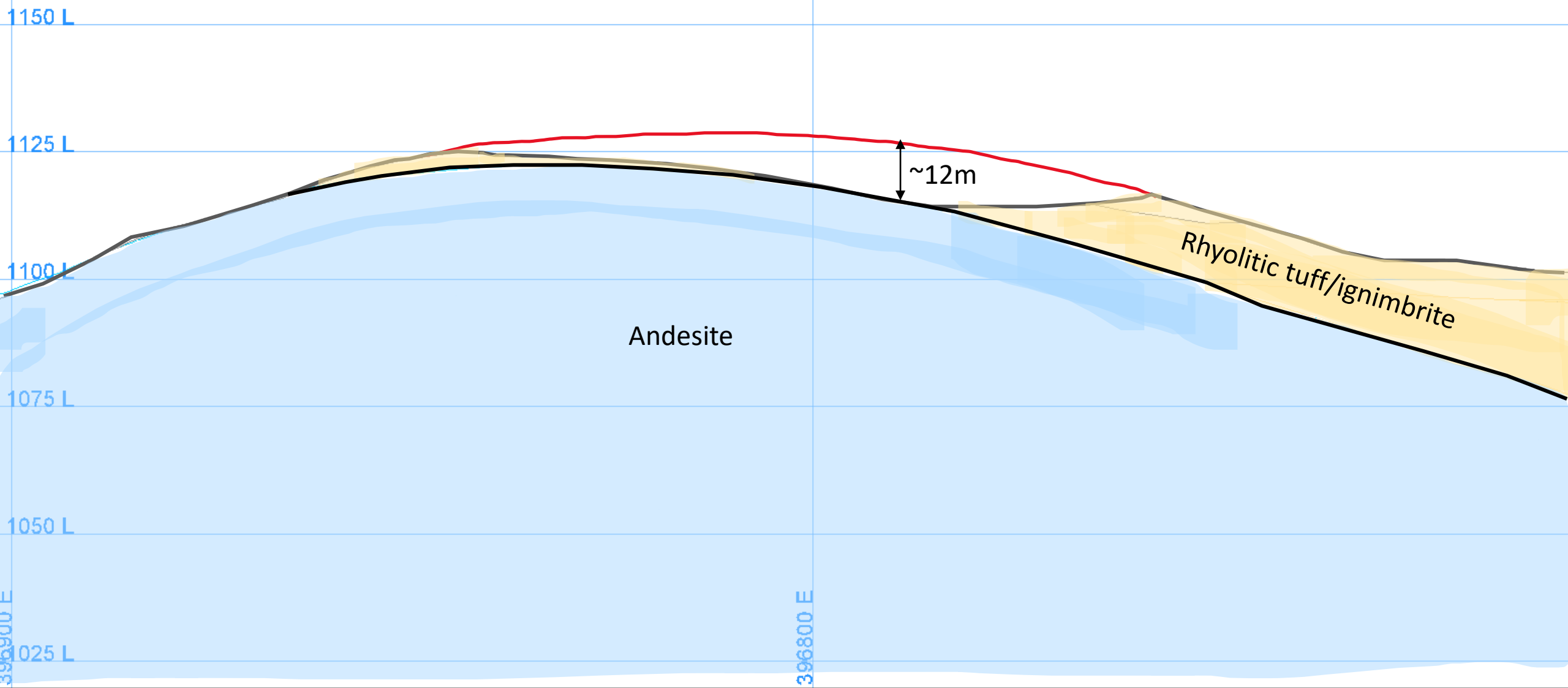
Andesite

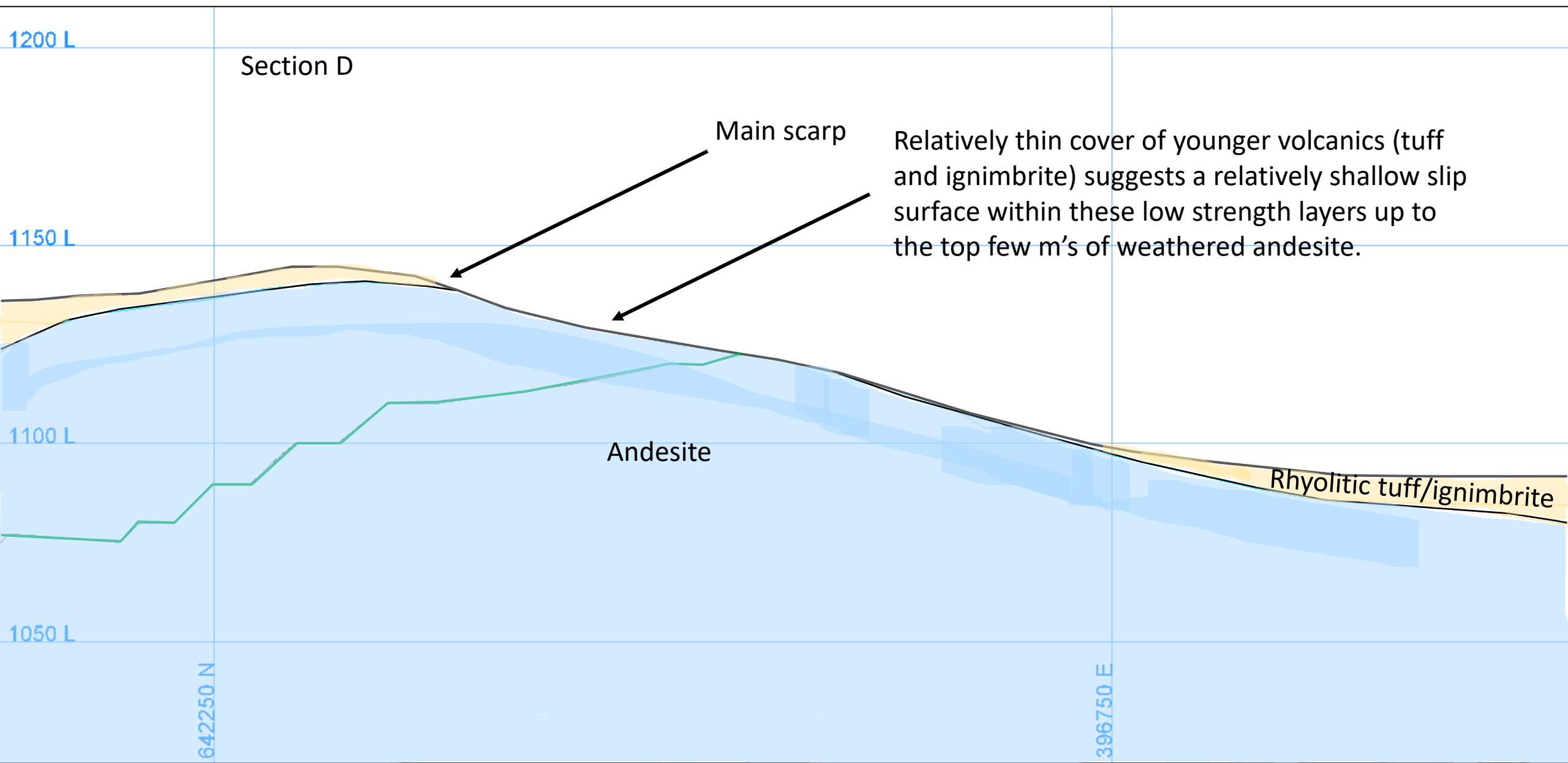
Rhyolitic tuff/ignimbrite

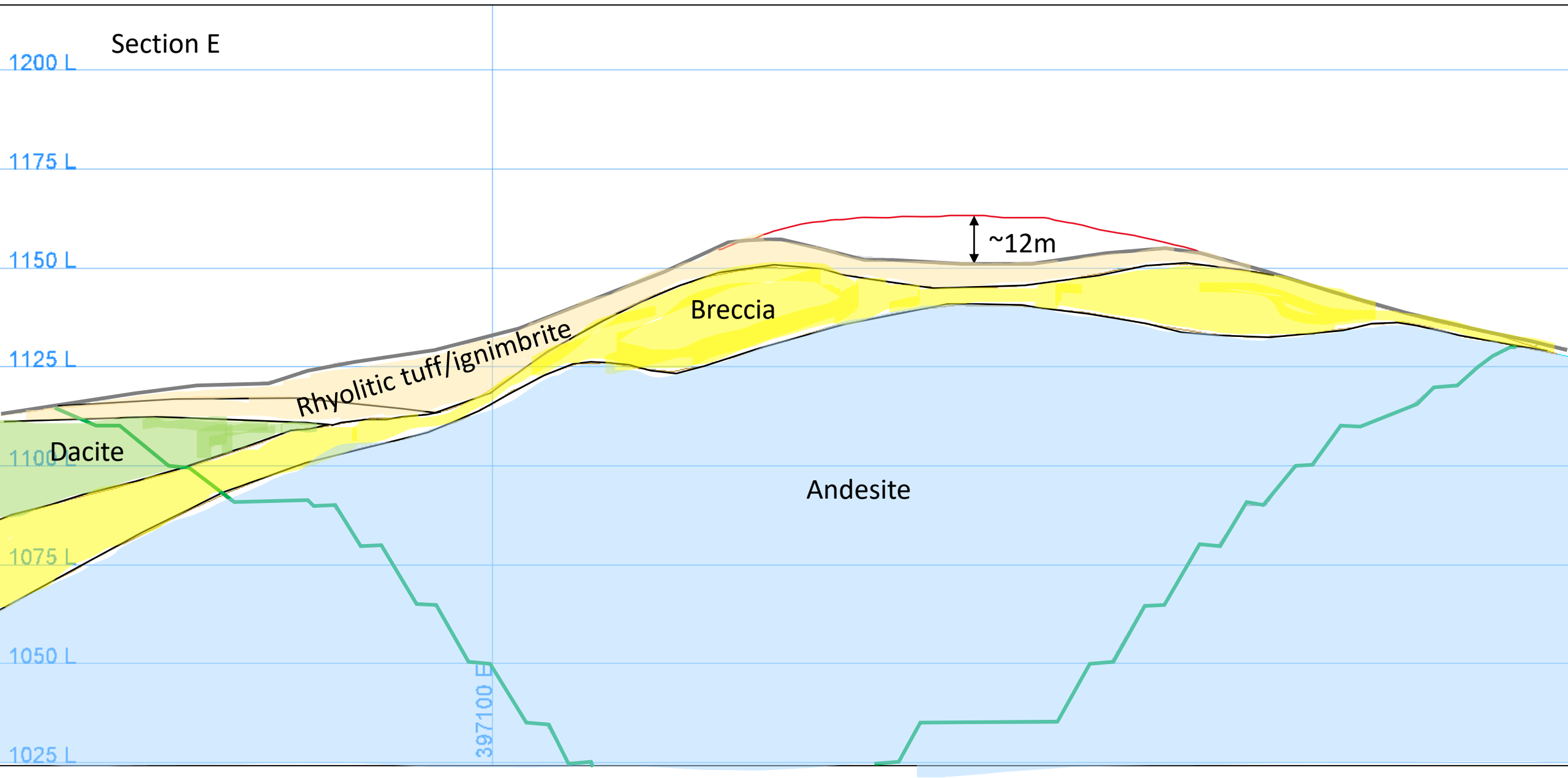
Breccia

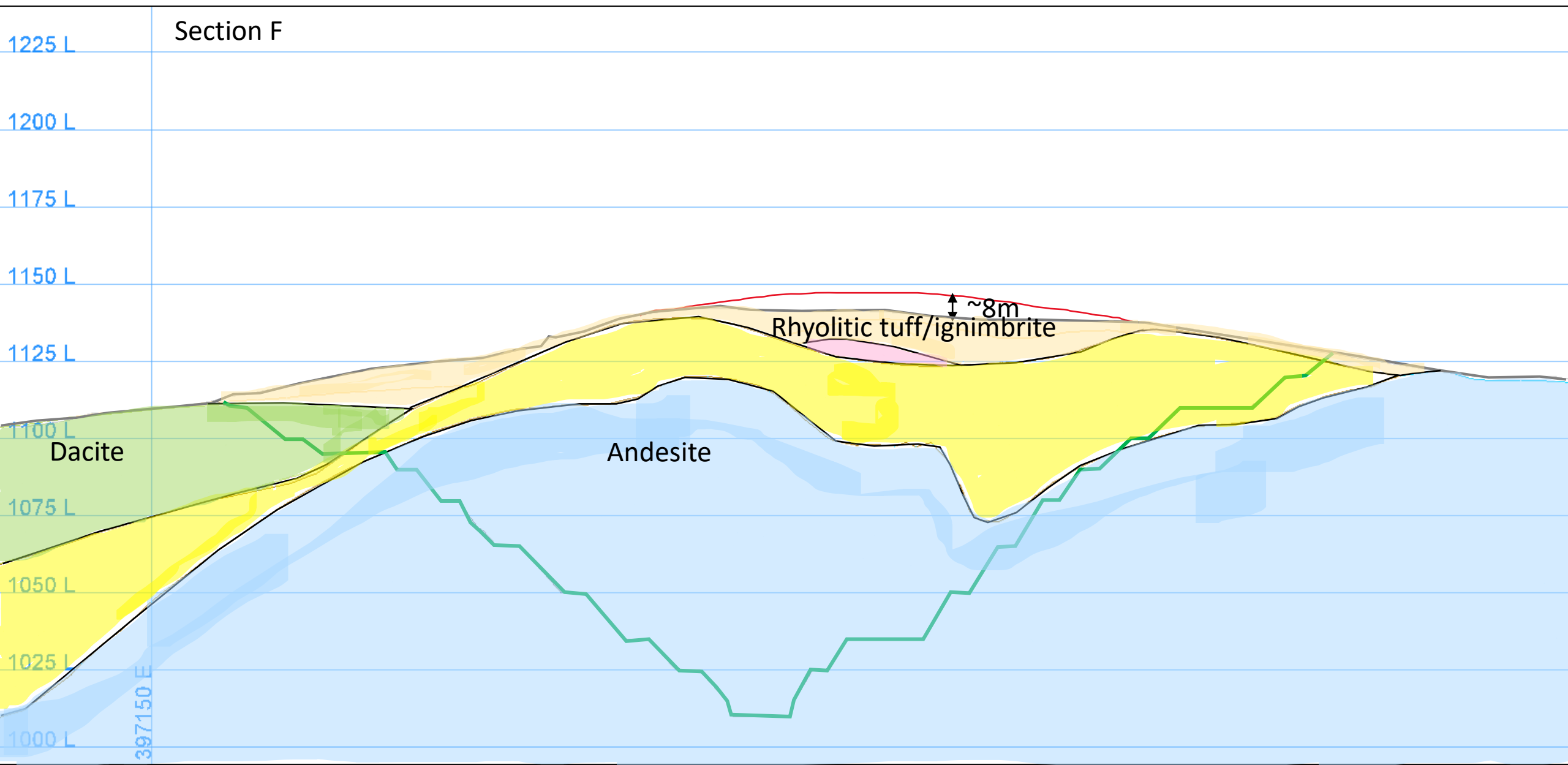


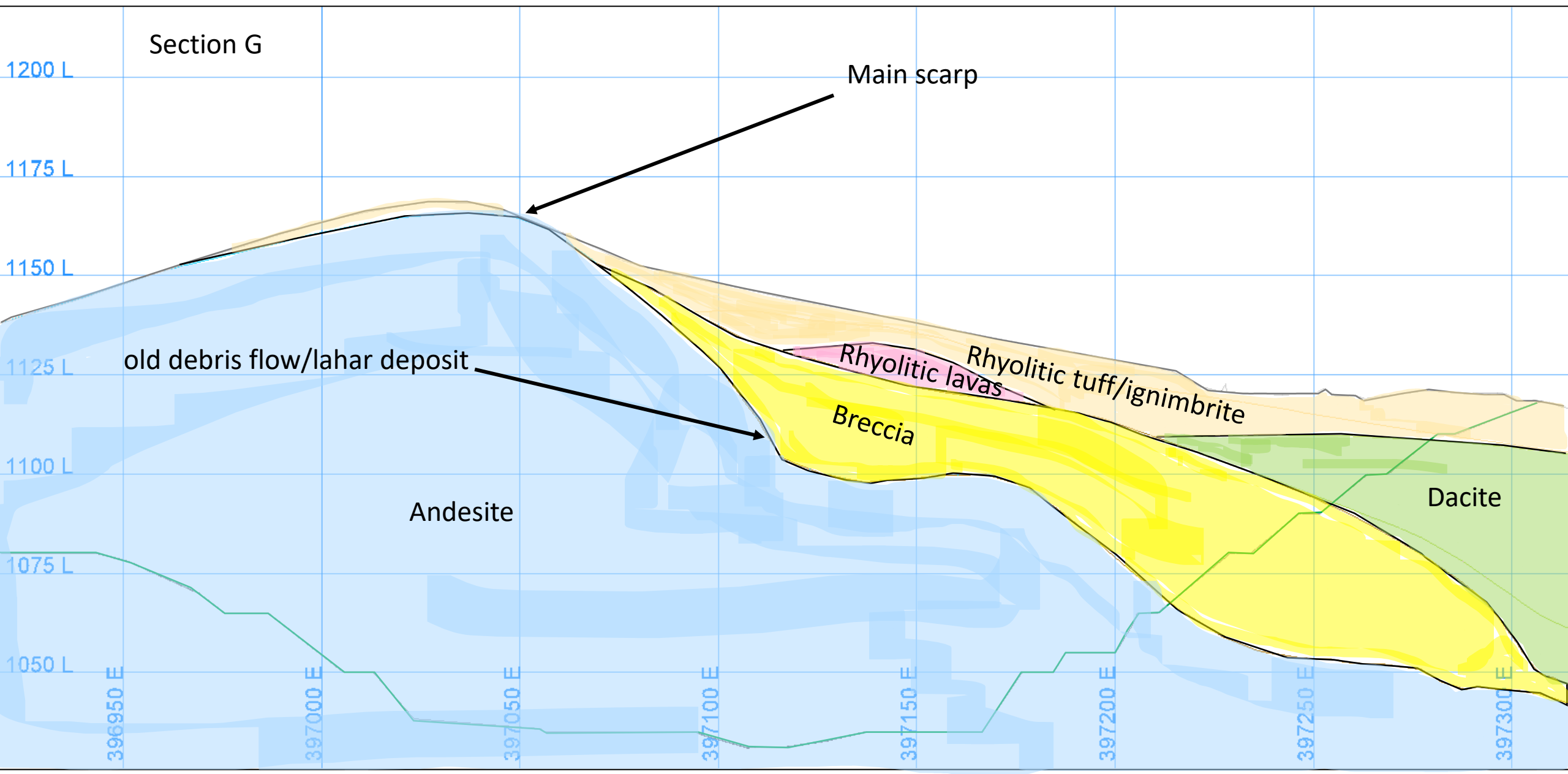
Section C



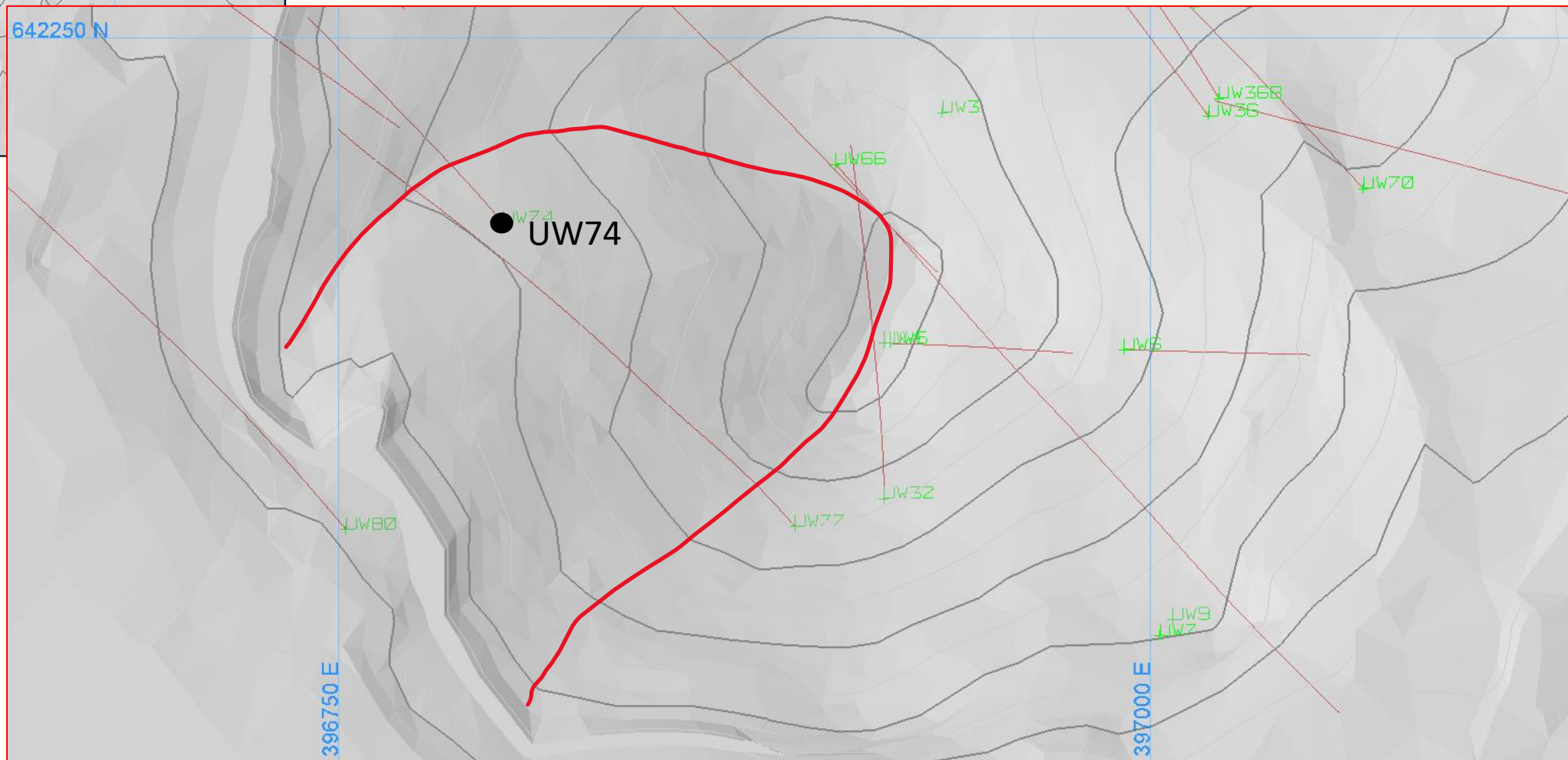
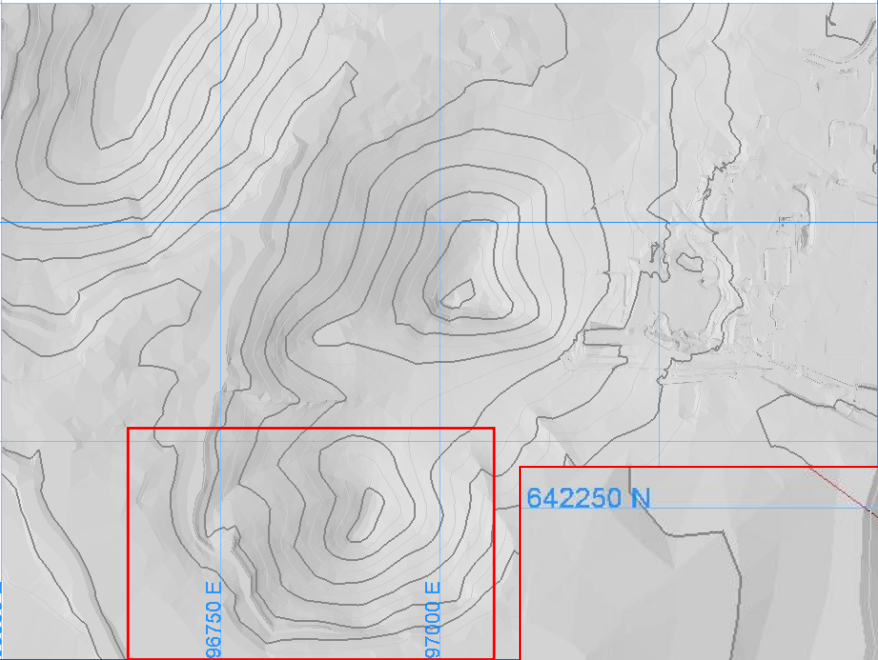








Borehole assessment of the Southern Landslide



PROJECT: COW SHED
HOLE: UW 74
DATE: 23-3-01

BOX NO: 1
FROM: 0
TO: 1-20

WELCOME GOLD MINES LTD

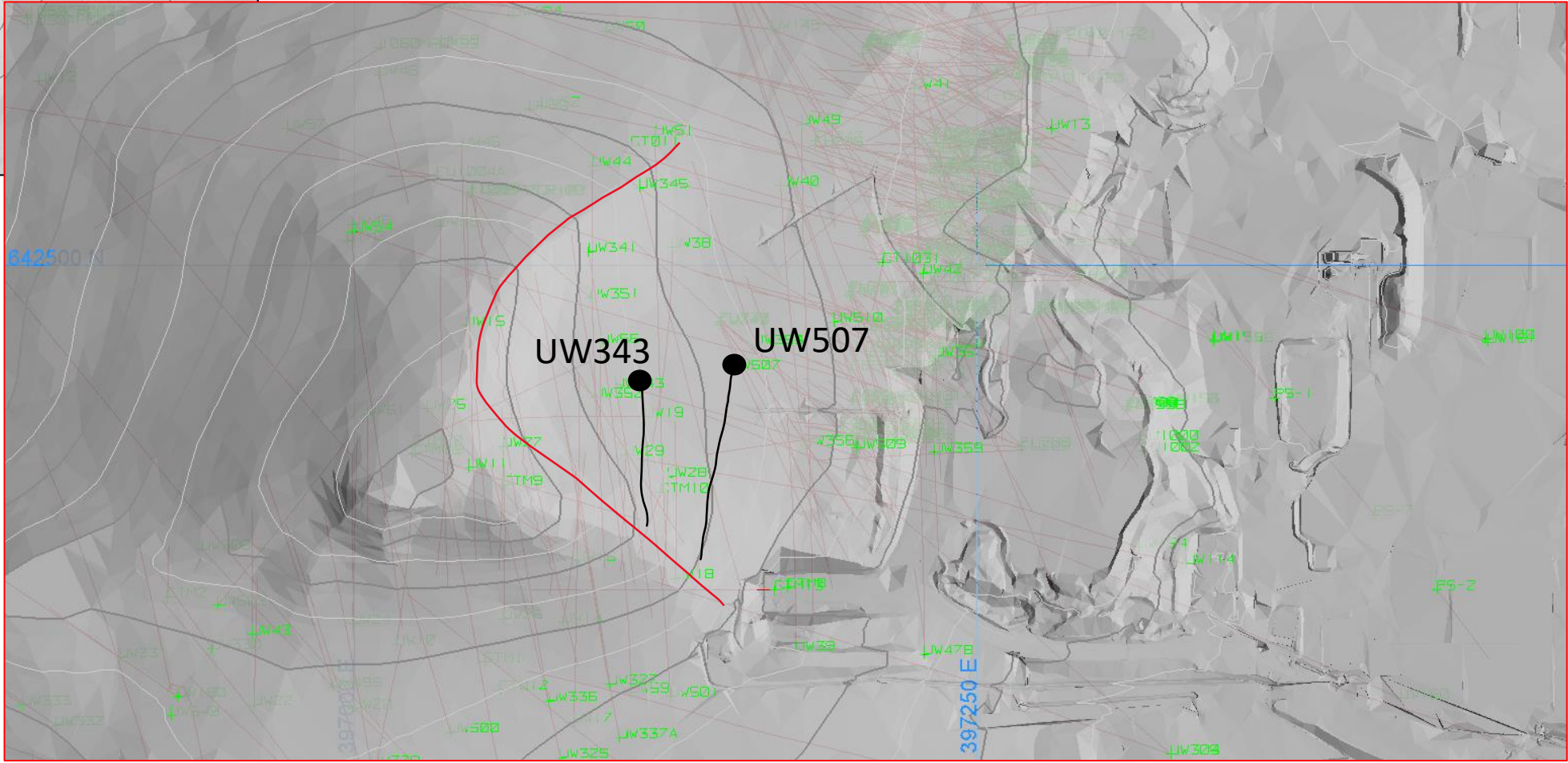
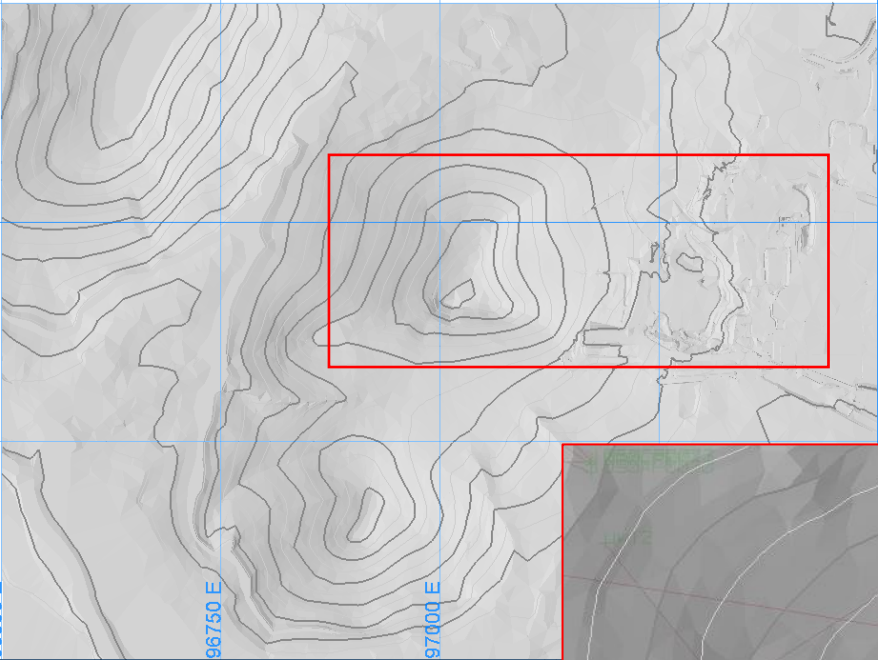
0.0 0.1 0.2 0.3 0.4 0.5 0.6



-
- A topographic map of the UW74 area. The map features contour lines indicating elevation. A red line forms a boundary around a central area. A black line with a dot at its end points towards the center of the red boundary. The label 'UW74' is prominently displayed in the center. Various other labels are scattered across the map, including 'UW388', 'UW387', 'UW386', 'UW385', 'UW384', 'UW383', 'UW382', 'UW381', 'UW380', 'UW379', 'UW378', 'UW377', 'UW376', 'UW375', 'UW374', 'UW373', 'UW372', 'UW371', 'UW370', 'UW369', 'UW368', 'UW367', 'UW366', 'UW365', 'UW364', 'UW363', 'UW362', 'UW361', 'UW360', 'UW359', 'UW358', 'UW357', 'UW356', 'UW355', 'UW354', 'UW353', 'UW352', 'UW351', 'UW350', 'UW349', 'UW348', 'UW347', 'UW346', 'UW345', 'UW344', 'UW343', 'UW342', 'UW341', 'UW340', 'UW339', 'UW338', 'UW337', 'UW336', 'UW335', 'UW334', 'UW333', 'UW332', 'UW331', 'UW330', 'UW329', 'UW328', 'UW327', 'UW326', 'UW325', 'UW324', 'UW323', 'UW322', 'UW321', 'UW320', 'UW319', 'UW318', 'UW317', 'UW316', 'UW315', 'UW314', 'UW313', 'UW312', 'UW311', 'UW310', 'UW309', 'UW308', 'UW307', 'UW306', 'UW305', 'UW304', 'UW303', 'UW302', 'UW301', 'UW300', 'UW299', 'UW298', 'UW297', 'UW296', 'UW295', 'UW294', 'UW293', 'UW292', 'UW291', 'UW290', 'UW289', 'UW288', 'UW287', 'UW286', 'UW285', 'UW284', 'UW283', 'UW282', 'UW281', 'UW280', 'UW279', 'UW278', 'UW277', 'UW276', 'UW275', 'UW274', 'UW273', 'UW272', 'UW271', 'UW270', 'UW269', 'UW268', 'UW267', 'UW266', 'UW265', 'UW264', 'UW263', 'UW262', 'UW261', 'UW260', 'UW259', 'UW258', 'UW257', 'UW256', 'UW255', 'UW254', 'UW253', 'UW252', 'UW251', 'UW250', 'UW249', 'UW248', 'UW247', 'UW246', 'UW245', 'UW244', 'UW243', 'UW242', 'UW241', 'UW240', 'UW239', 'UW238', 'UW237', 'UW236', 'UW235', 'UW234', 'UW233', 'UW232', 'UW231', 'UW230', 'UW229', 'UW228', 'UW227', 'UW226', 'UW225', 'UW224', 'UW223', 'UW222', 'UW221', 'UW220', 'UW219', 'UW218', 'UW217', 'UW216', 'UW215', 'UW214', 'UW213', 'UW212', 'UW211', 'UW210', 'UW209', 'UW208', 'UW207', 'UW206', 'UW205', 'UW204', 'UW203', 'UW202', 'UW201', 'UW200', 'UW199', 'UW198', 'UW197', 'UW196', 'UW195', 'UW194', 'UW193', 'UW192', 'UW191', 'UW190', 'UW189', 'UW188', 'UW187', 'UW186', 'UW185', 'UW184', 'UW183', 'UW182', 'UW181', 'UW180', 'UW179', 'UW178', 'UW177', 'UW176', 'UW175', 'UW174', 'UW173', 'UW172', 'UW171', 'UW170', 'UW169', 'UW168', 'UW167', 'UW166', 'UW165', 'UW164', 'UW163', 'UW162', 'UW161', 'UW160', 'UW159', 'UW158', 'UW157', 'UW156', 'UW155', 'UW154', 'UW153', 'UW152', 'UW151', 'UW150', 'UW149', 'UW148', 'UW147', 'UW146', 'UW145', 'UW144', 'UW143', 'UW142', 'UW141', 'UW140', 'UW139', 'UW138', 'UW137', 'UW136', 'UW135', 'UW134', 'UW133', 'UW132', 'UW131', 'UW130', 'UW129', 'UW128', 'UW127', 'UW126', 'UW125', 'UW124', 'UW123', 'UW122', 'UW121', 'UW120', 'UW119', 'UW118', 'UW117', 'UW116', 'UW115', 'UW114', 'UW113', 'UW112', 'UW111', 'UW110', 'UW109', 'UW108', 'UW107', 'UW106', 'UW105', 'UW104', 'UW103', 'UW102', 'UW101', 'UW100', 'UW99', 'UW98', 'UW97', 'UW96', 'UW95', 'UW94', 'UW93', 'UW92', 'UW91', 'UW90', 'UW89', 'UW88', 'UW87', 'UW86', 'UW85', 'UW84', 'UW83', 'UW82', 'UW81', 'UW80', 'UW79', 'UW78', 'UW77', 'UW76', 'UW75', 'UW74', 'UW73', 'UW72', 'UW71', 'UW70', 'UW69', 'UW68', 'UW67', 'UW66', 'UW65', 'UW64', 'UW63', 'UW62', 'UW61', 'UW60', 'UW59', 'UW58', 'UW57', 'UW56', 'UW55', 'UW54', 'UW53', 'UW52', 'UW51', 'UW50', 'UW49', 'UW48', 'UW47', 'UW46', 'UW45', 'UW44', 'UW43', 'UW42', 'UW41', 'UW40', 'UW39', 'UW38', 'UW37', 'UW36', 'UW35', 'UW34', 'UW33', 'UW32', 'UW31', 'UW30', 'UW29', 'UW28', 'UW27', 'UW26', 'UW25', 'UW24', 'UW23', 'UW22', 'UW21', 'UW20', 'UW19', 'UW18', 'UW17', 'UW16', 'UW15', 'UW14', 'UW13', 'UW12', 'UW11', 'UW10', 'UW9', 'UW8', 'UW7', 'UW6', 'UW5', 'UW4', 'UW3', 'UW2', 'UW1', 'UW0'. The map is overlaid with a grid of blue lines. The top-left corner is labeled '642250 N'. The bottom-left corner is labeled '396750 E'. The bottom-right corner is labeled '397000 E'. The map is framed by a red border.

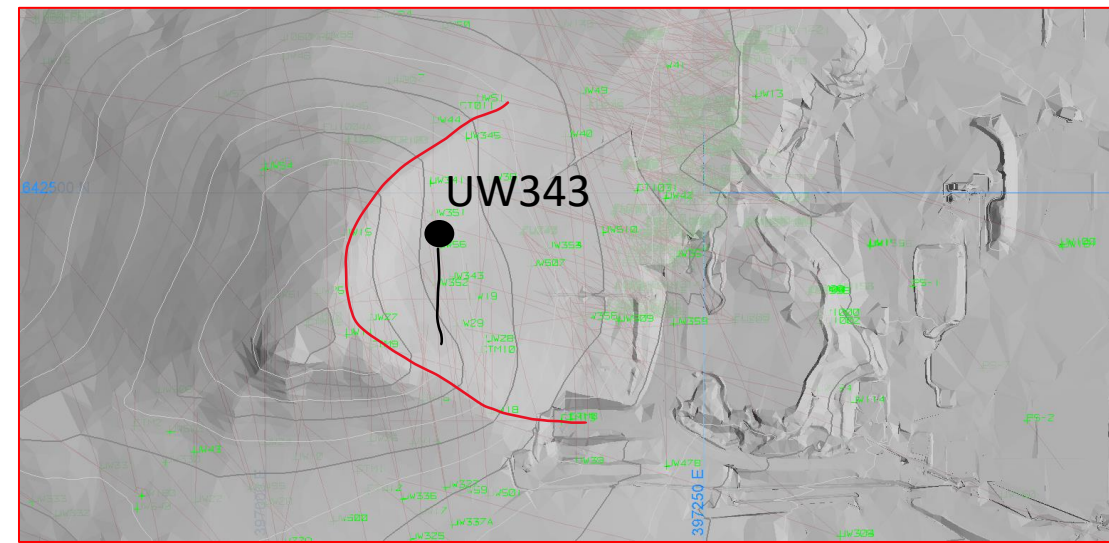


Borehole assessment of the Northern Landslide

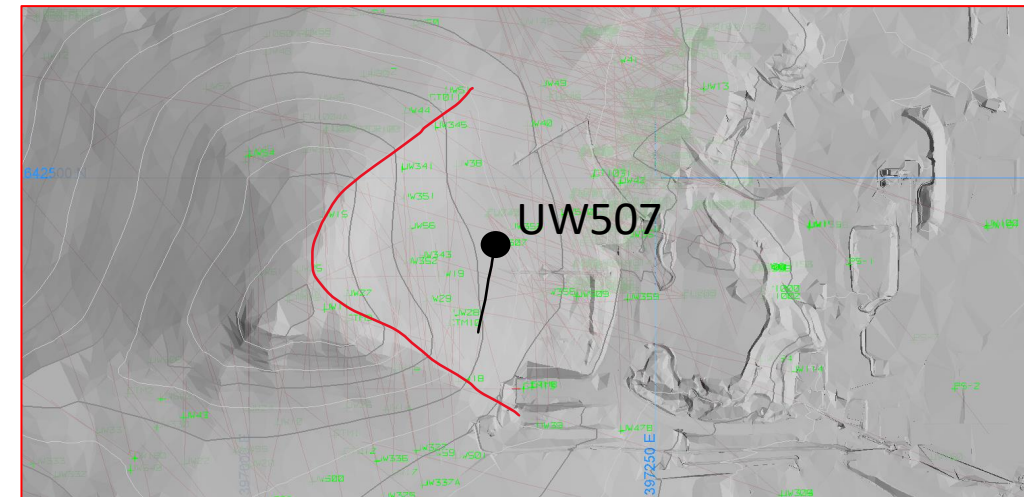
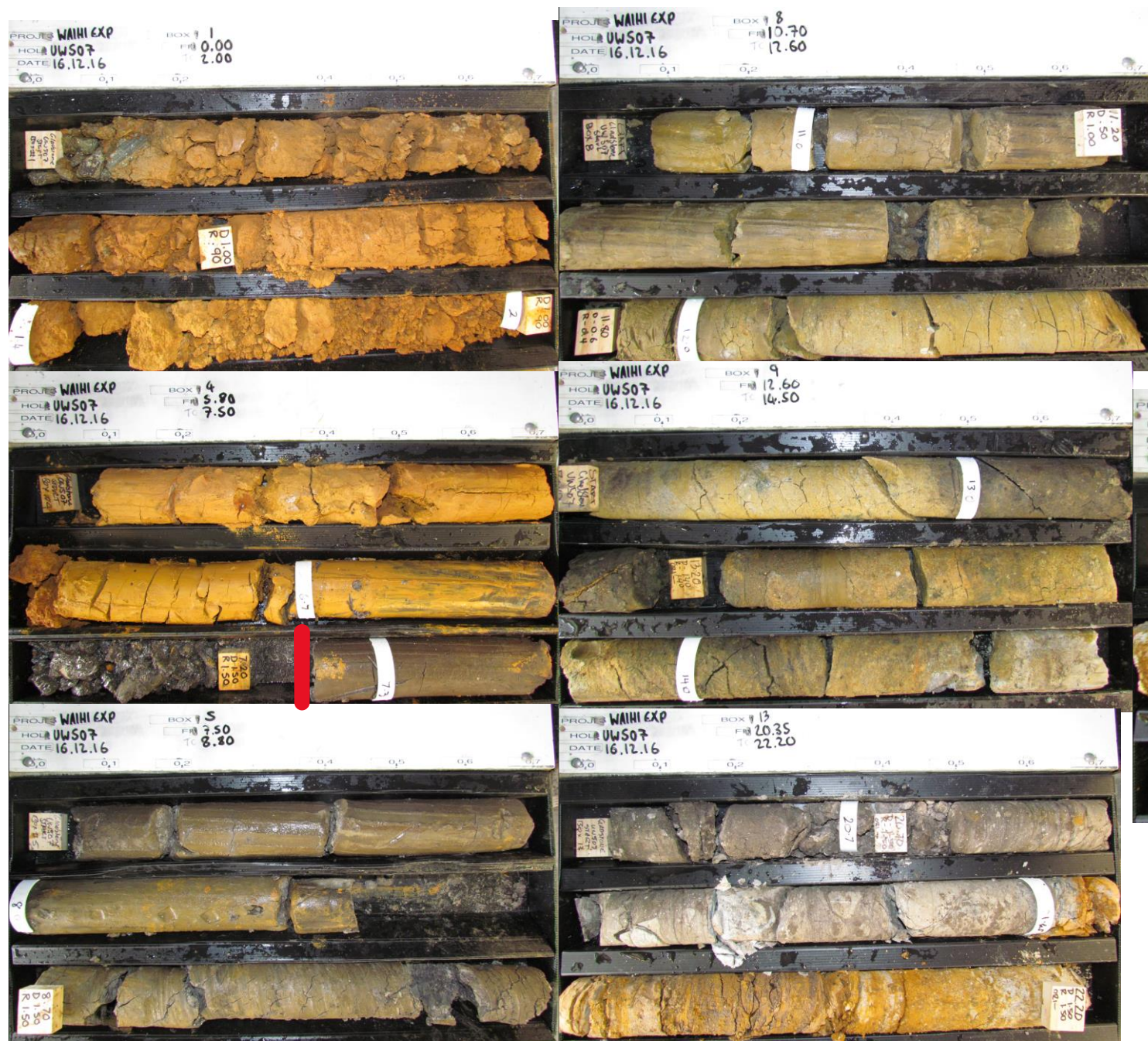


BH: UW343

- Abrupt change from light brown clay to in-situ dark brown ignimbrite at 12.1 m (Downhole Depth) interpreted as slip surface (red line)
- Slip surface interpreted at ~ 8.3 m depth (True Depth)



BH: UW507



- Abrupt change from light brown to dark brown in-situ material at ~7.2 m (Downhole Depth).
- Slip surface interpreted at ~ 5 m depth (True Depth)

Appendix R

3D PDF

