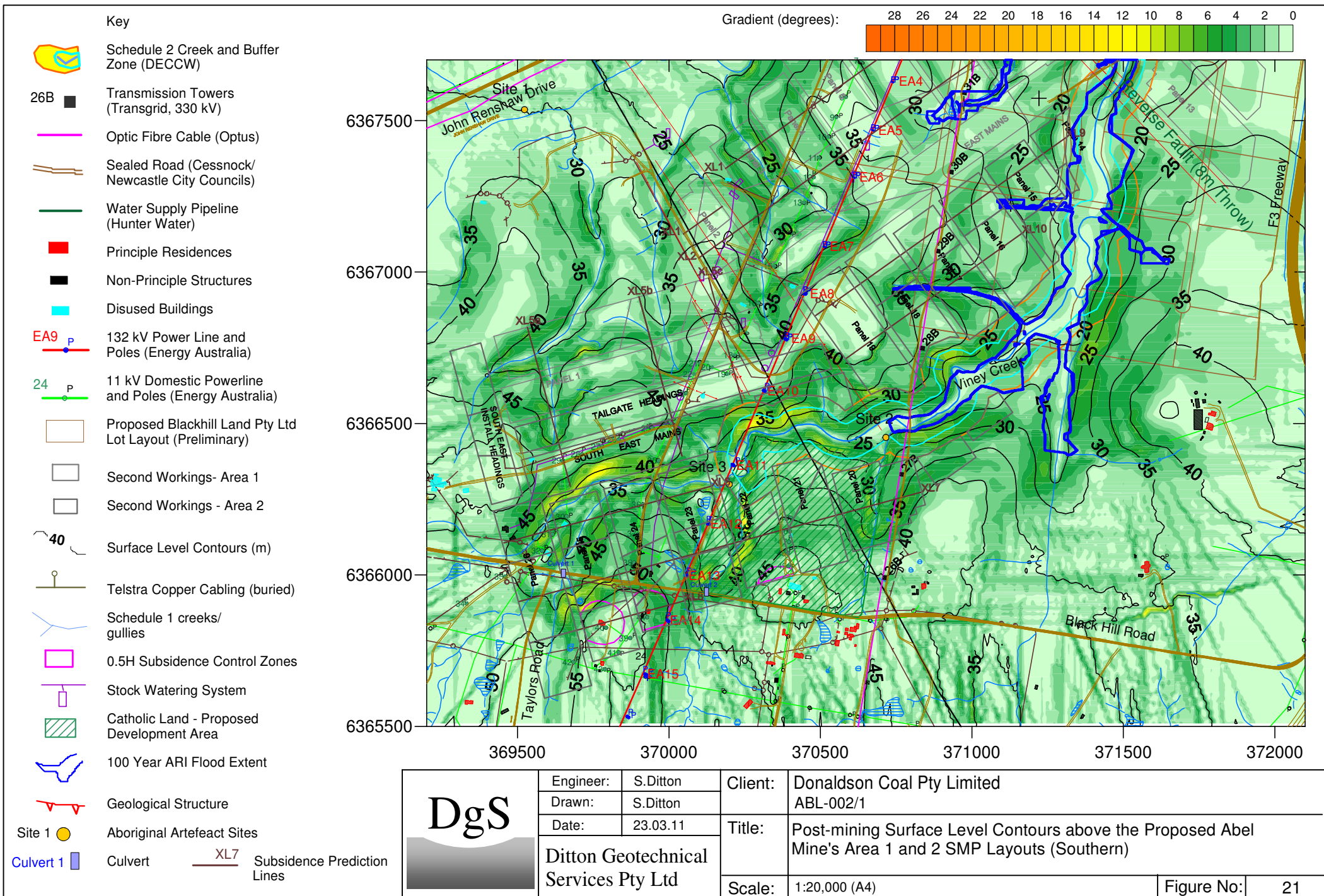
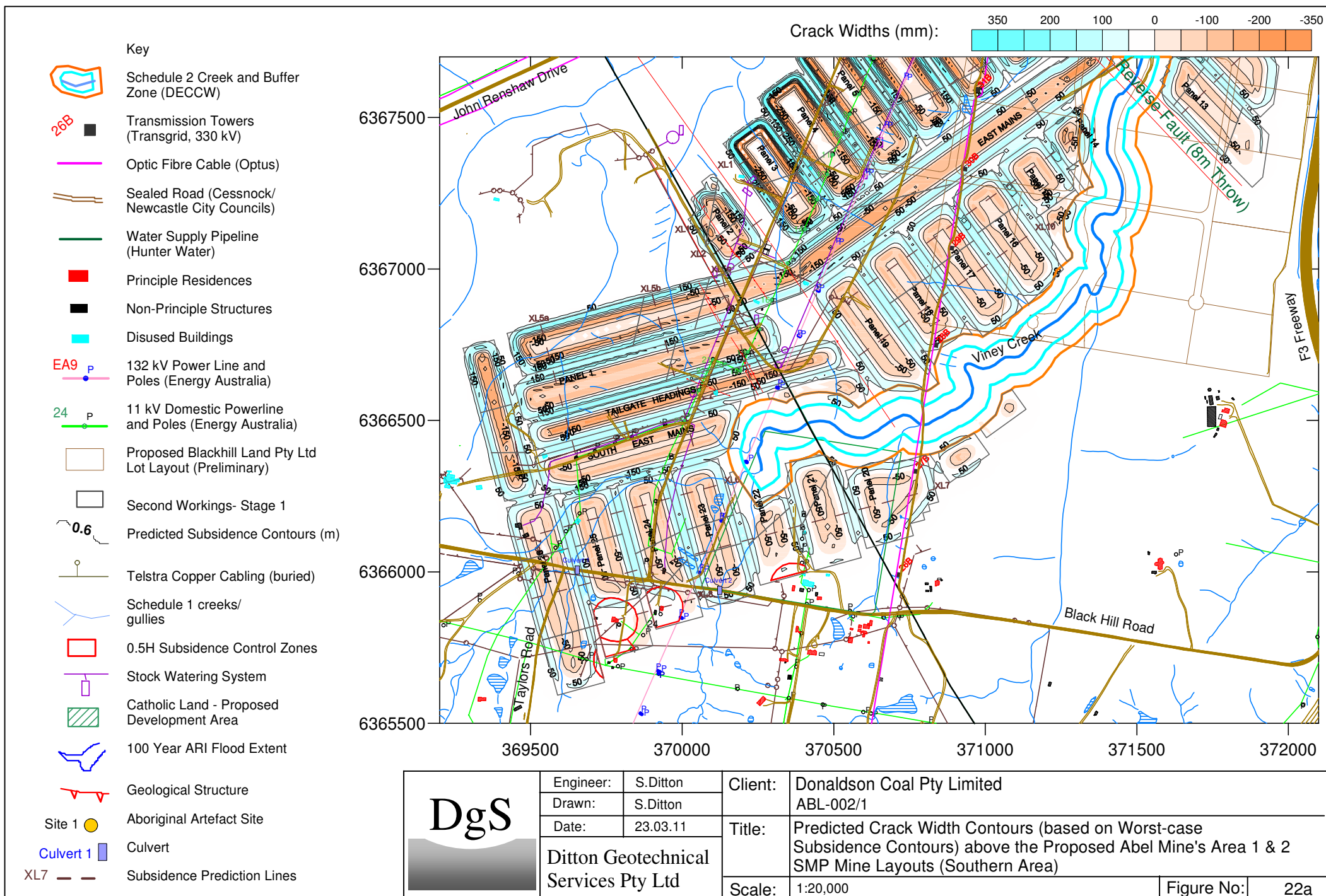
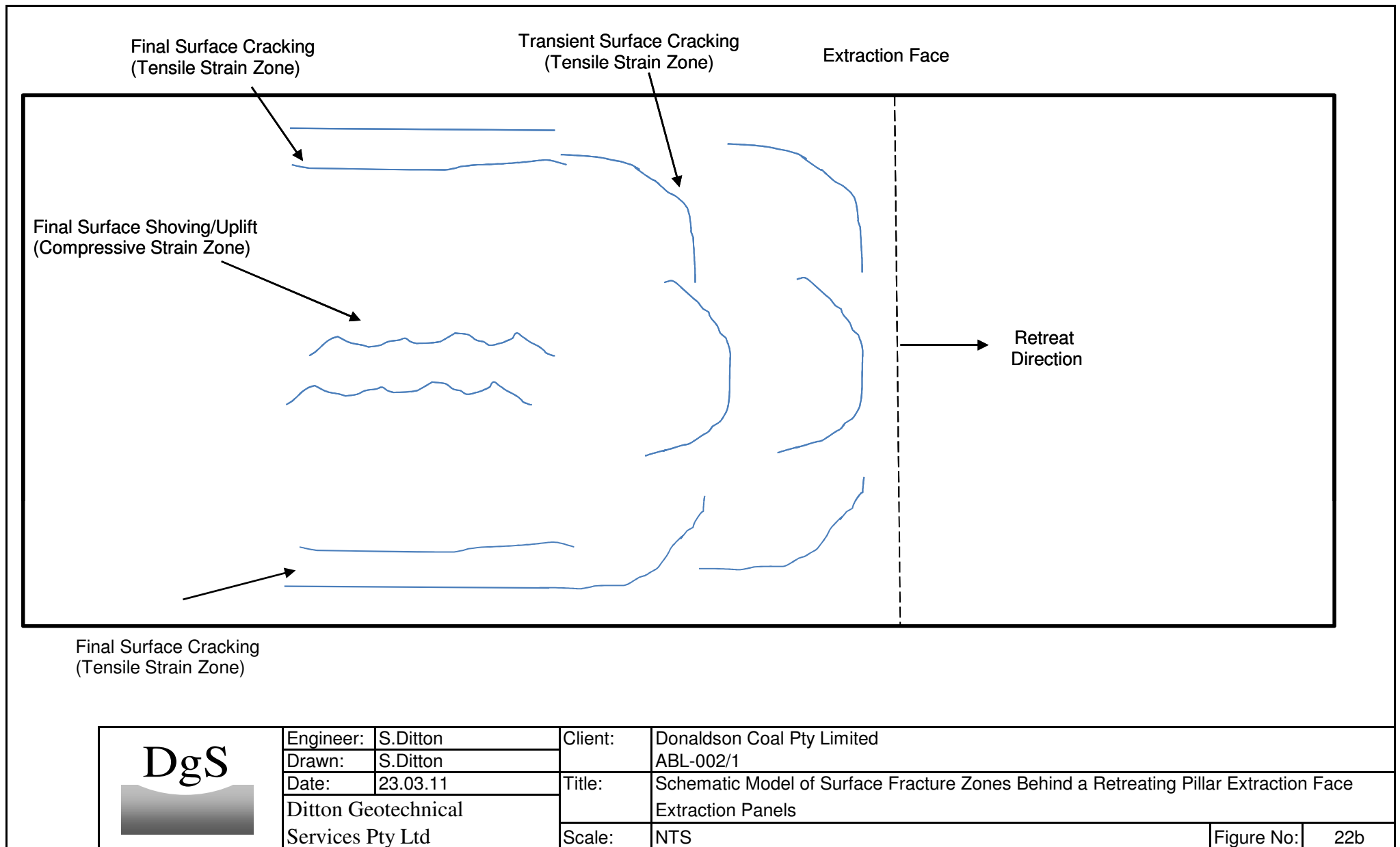
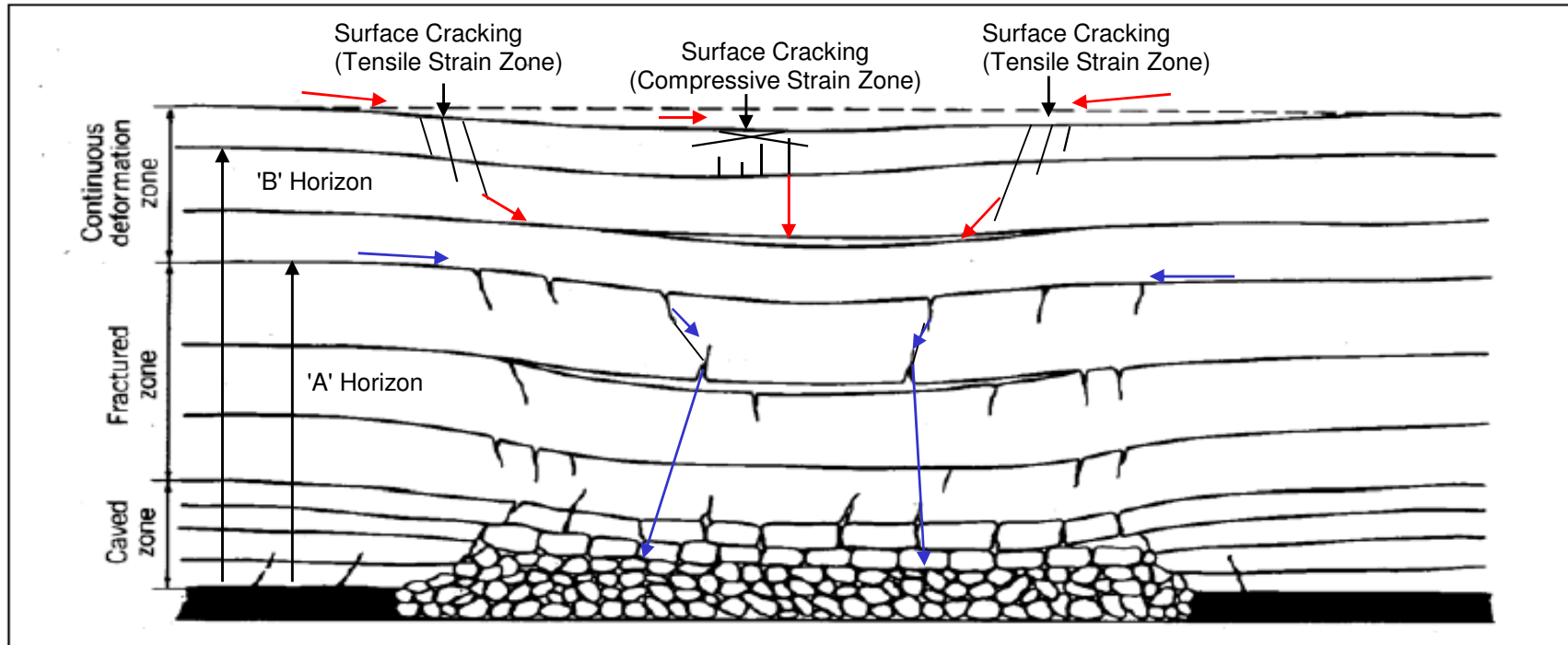








	Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited	
	Drawn:	S.Ditton		ABL-002/1	
	Date:	23.03.11	Title:	Schematic Model of Surface Fracture Zones Behind a Retreating Pillar Extraction Face	
	Ditton Geotechnical Services Pty Ltd		Scale:	NTS	Figure No: 22b



Zones in the Overburden According to Peng and Chiang (1984)

Key

'A' Horizon - Zone of Continuous Crack Connection to Workings (**Whittaker and Reddish, 1989**)

'B' Horizon - Zone Of Discontinuous Crack Connection to Workings (**Whittaker and Reddish, 1989**)

→ Surface water flow path → Sub-surface water flow path

DgS



Engineer: S.Ditton

Drawn: S.Ditton

Date: 29.11.10

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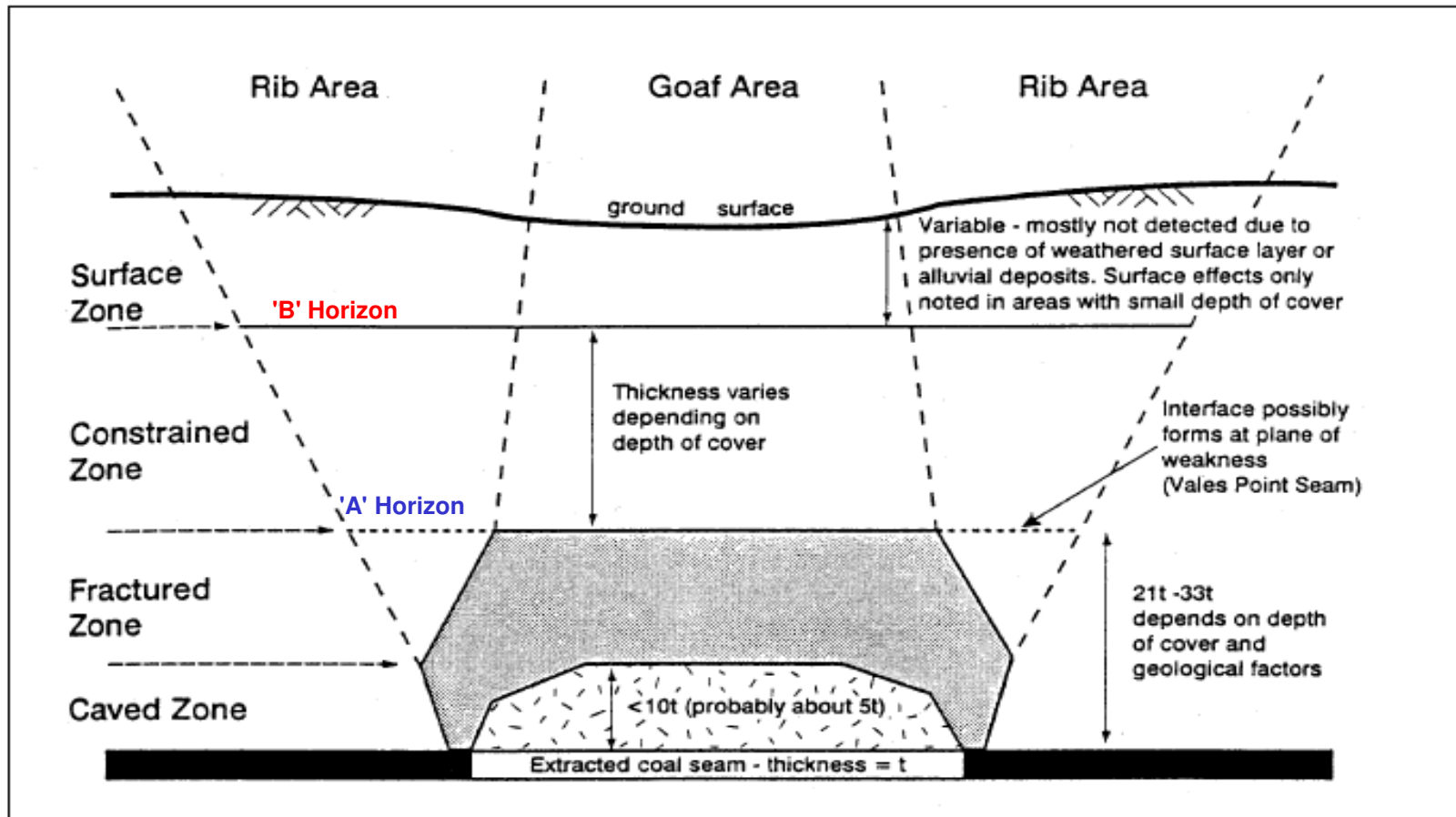
Client: Donaldson Coal Pty Limited

ABL-002/1

Title: Schematic Model of Overburden Fracture Zones Above Longwall or High Pillar
Extraction Panels

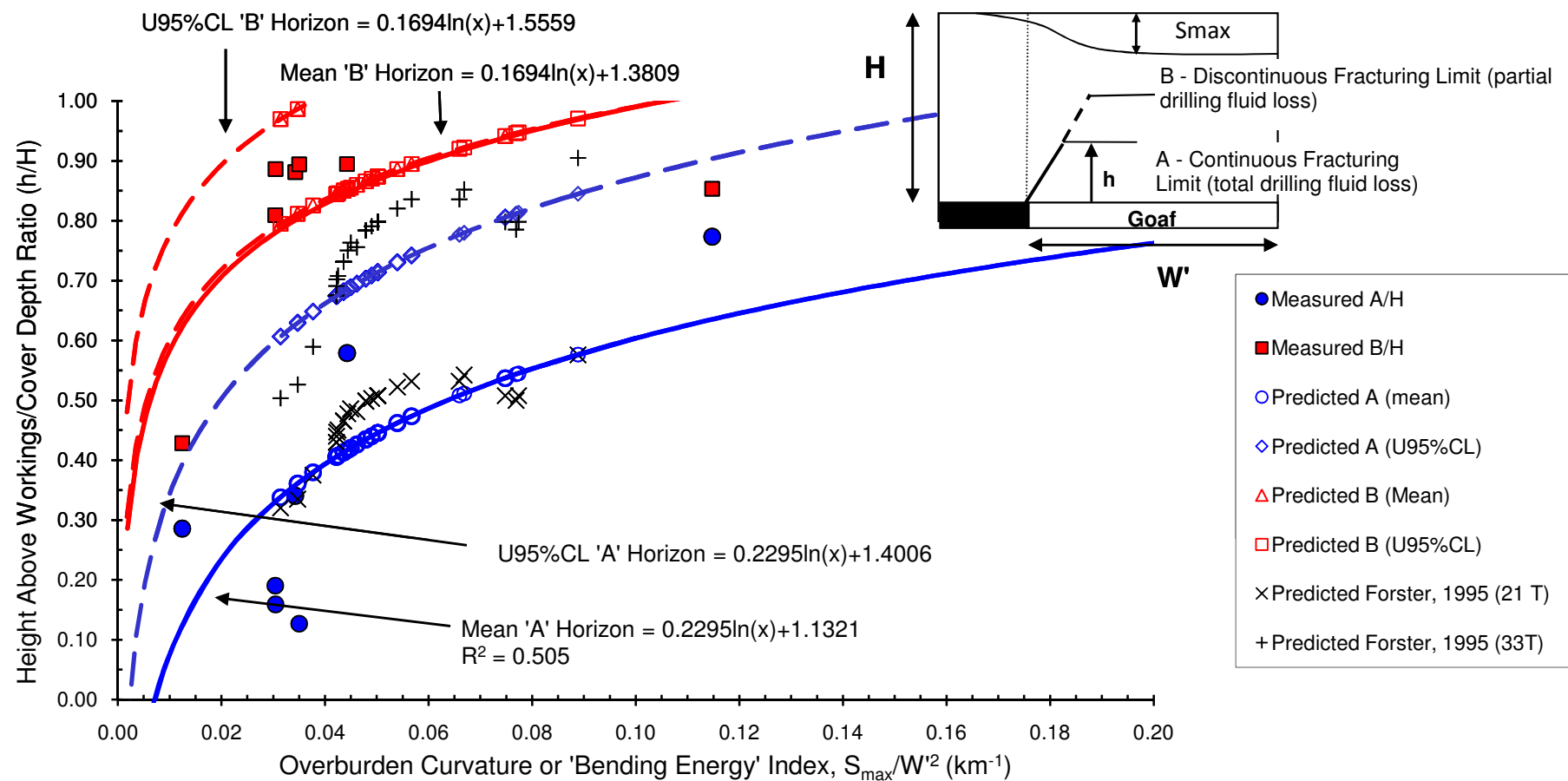
Scale: NTS

Figure No: 23

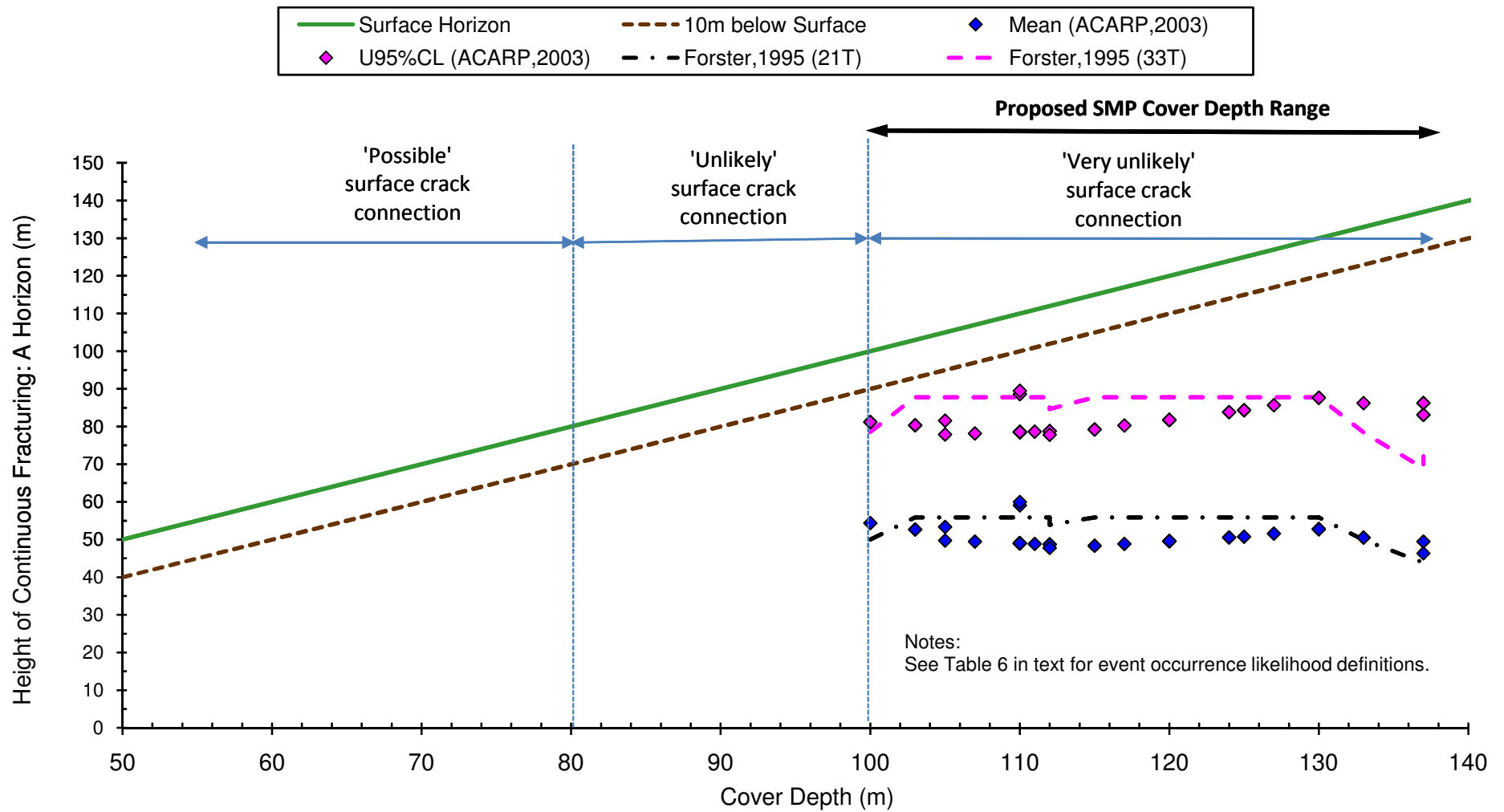


Zones in the Overburden according to Forster (1995)

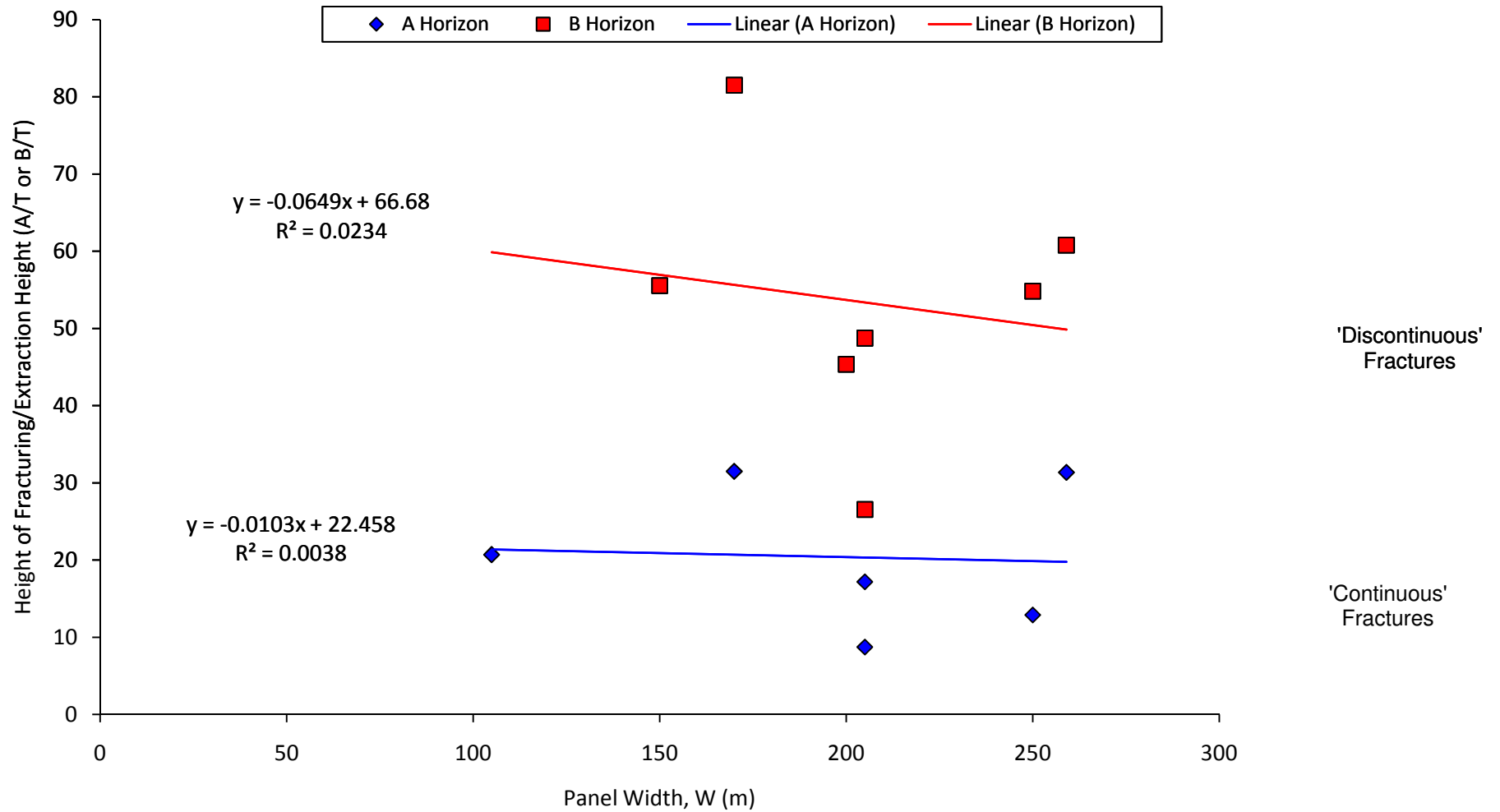
	Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited			
	Drawn:	S.Ditton		ABL-002/1			
	Date:	30.11.10	Title:	Schematic Model of Overburden Fracture Zones in Forster, 1995 Model			
	Ditton Geotechnical			(based on Piezometric Data Above High Extraction Panels in the Newcastle Coalfield)			
	Services Pty Ltd		Scale:	NTS			Figure No:



	Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited		
	Drawn:	S.Ditton		ABL-002/1		
	Date:	30.11.10	Title:	Continuous and Discontinuous Sub-Surface Fracture Heights above the Proposed Abel Mine Pillar Extraction Panels (based on ACARP, 2003 and Forster,1995)		
	Ditton Geotechnical Services Pty Ltd			Scale:	NTS	Figure No:



	Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited			
	Drawn:	S.Ditton		ABL-002/1			
	Date:	30.11.10	Title:	Predicted Sub-surface Fracture Height v. Cover Depth for the Proposed Stage 2 Pillar Extraction Panels at the Abel Mine (based on ACARP, 2003 Model)			
	Ditton Geotechnical Services Pty Ltd			Scale:	NTS		Figure No:



DgS



Engineer: S.Ditton

Drawn: S.Ditton

Date: 30.11.10

Ditton Geotechnical
Services Pty Ltd

Client: Donaldson Coal Pty Limited

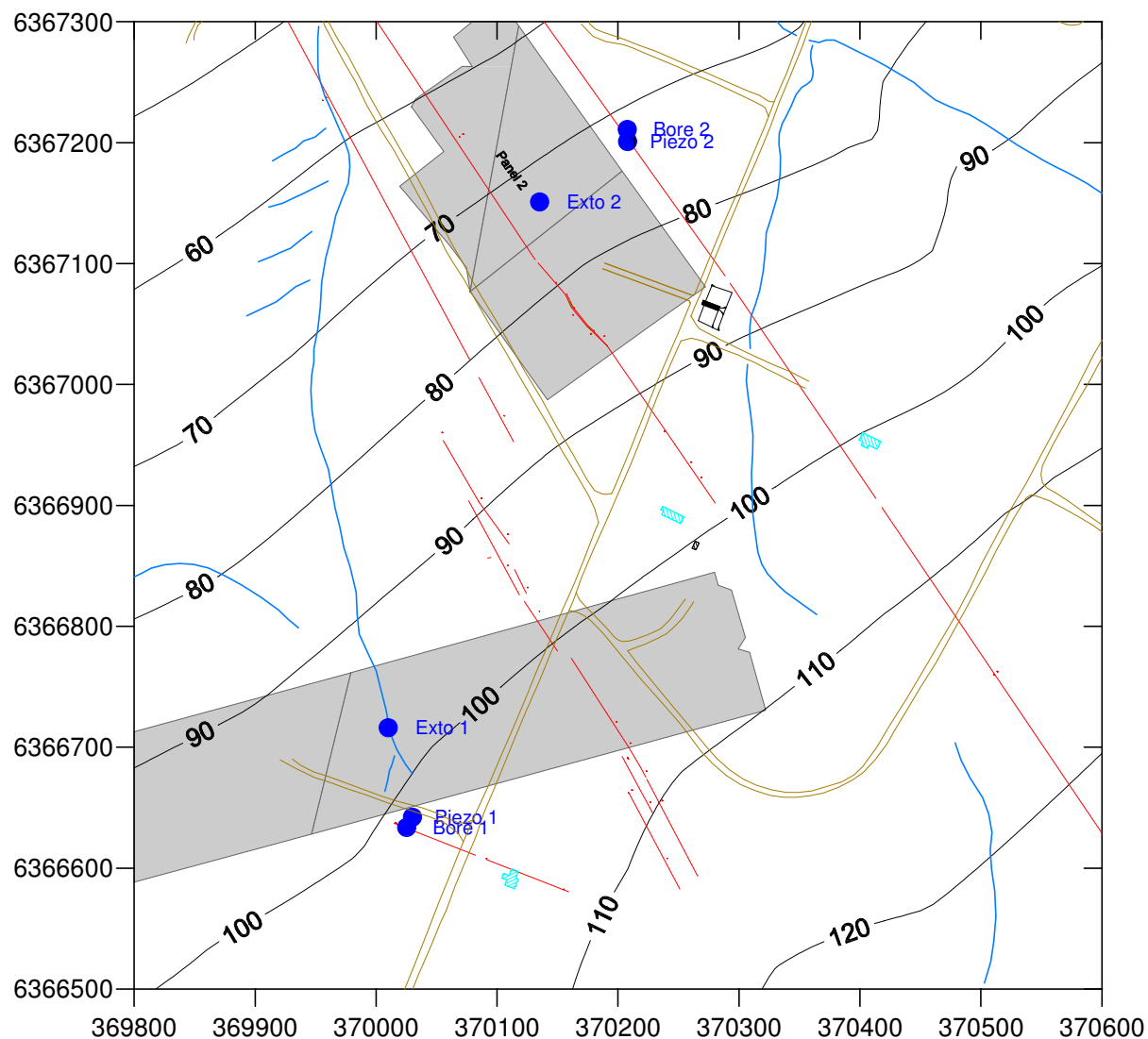
ABL-002/1

Title: Measured Sub-surface Fracture Heights above Longwall Panels v. Panel Width
(based on ACARP, 2003 data)

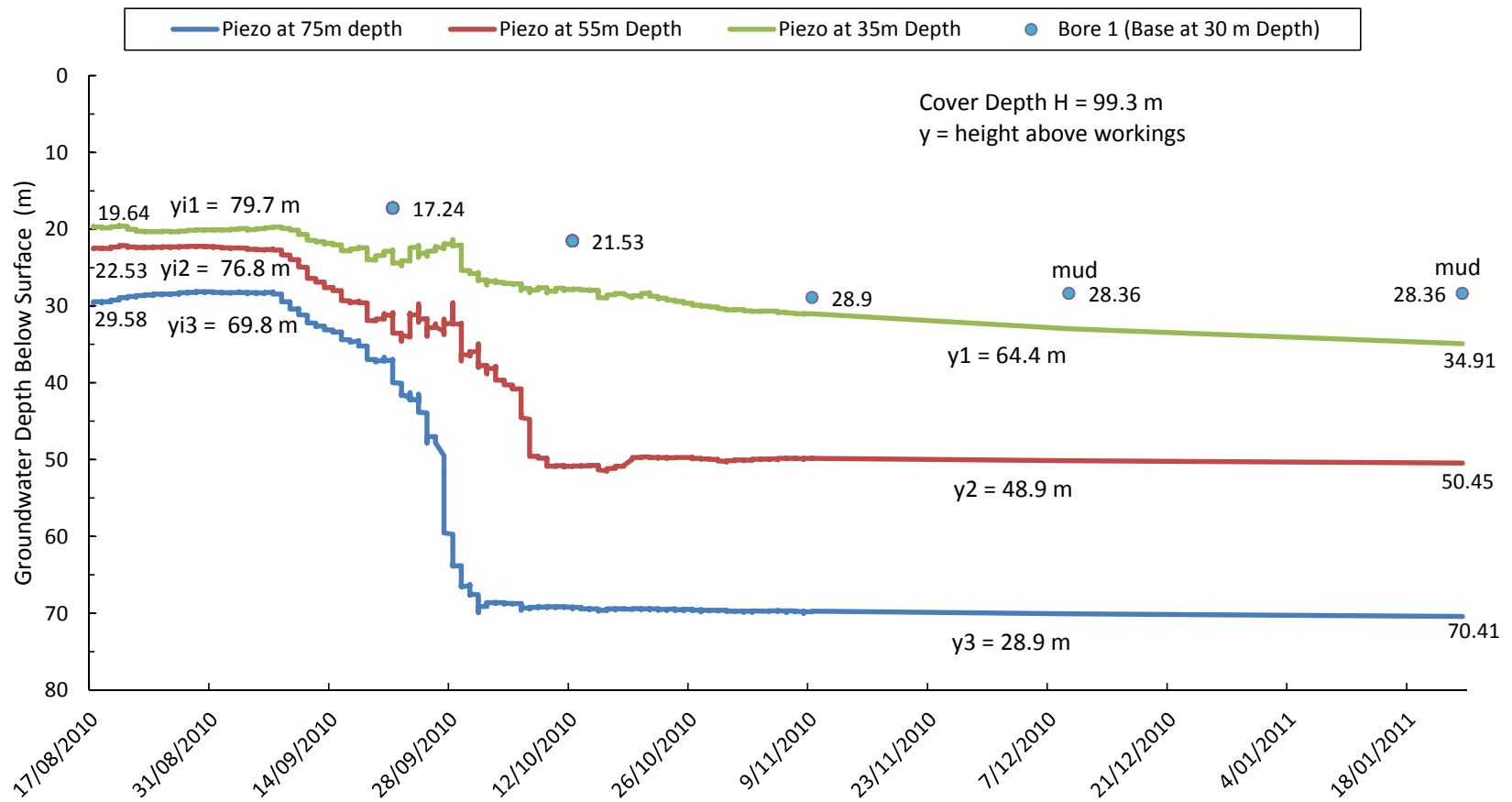
Scale: NTS

Figure No: 25c

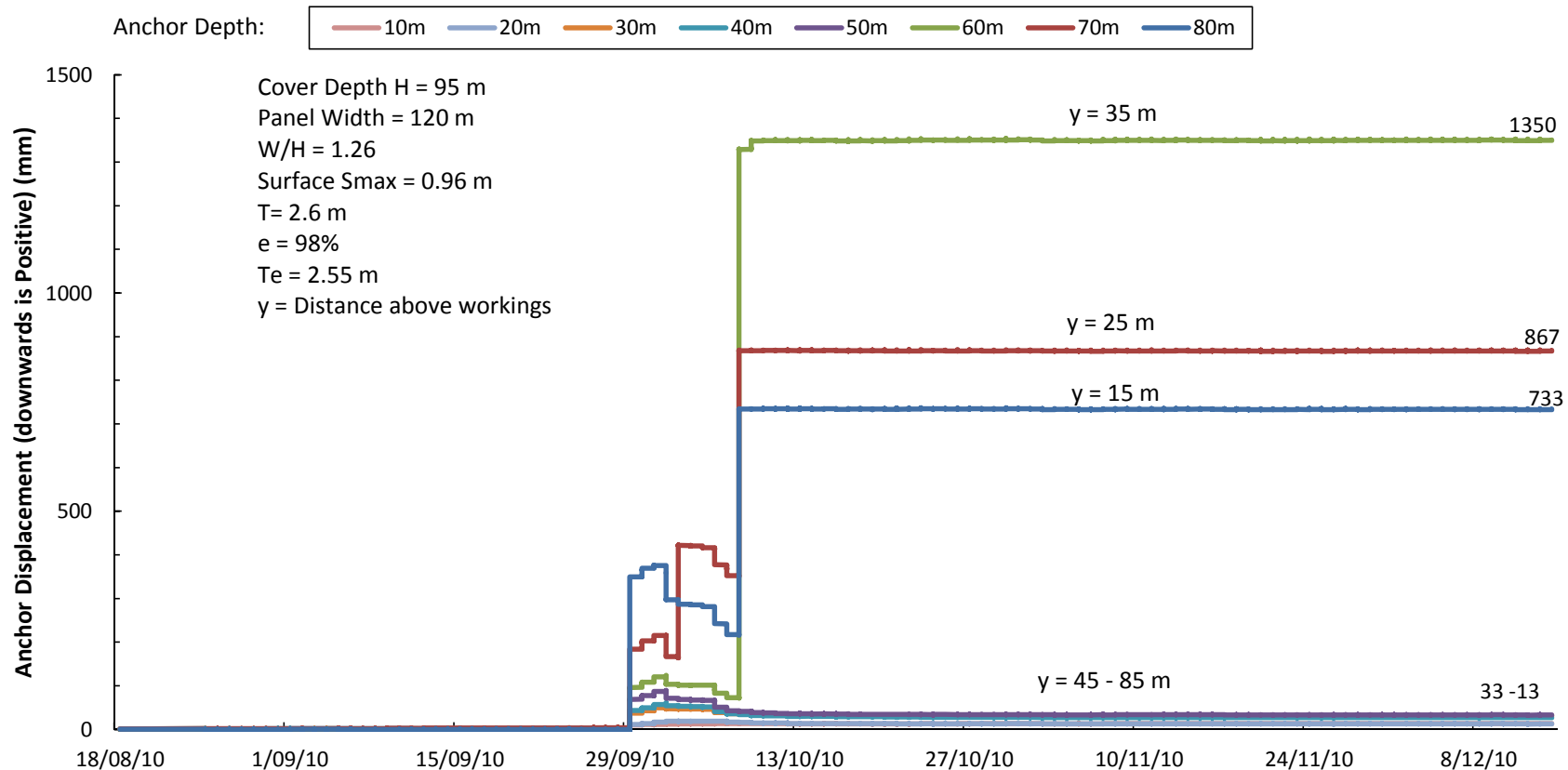
- Key
- Extensometer & Piezometer Locations
 - Disused Buildings
 - Second Workings
 - 90 Cover Depth Contours (m)
 - Schedule 1 creeks/ gullies
 - Geological Structure
 - Access Roads
 - Cattle Yard



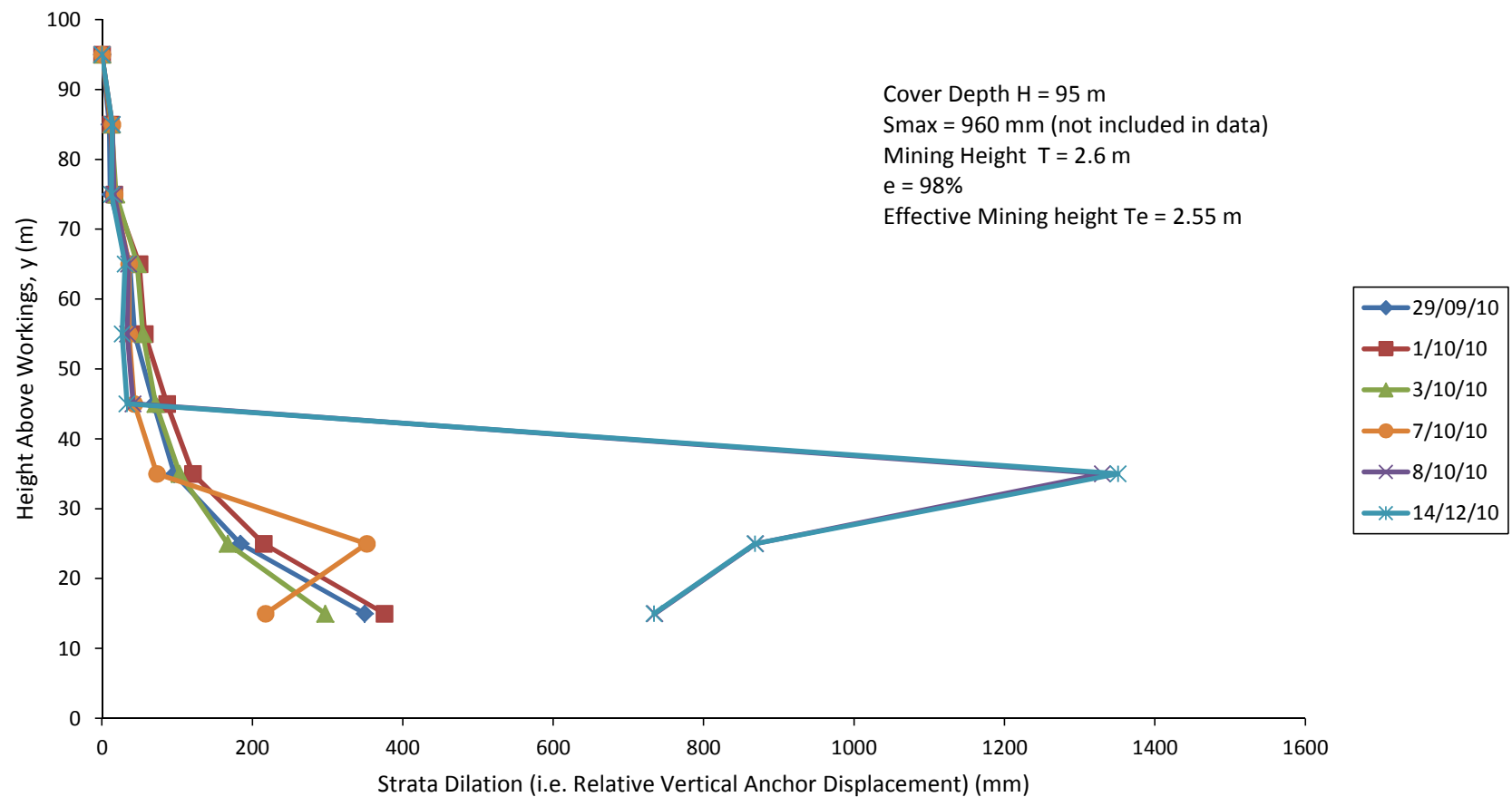
	Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited ABL-002/1			
	Drawn:	S.Ditton					
	Date:	23.03.11		Title:	Location of Deep Borehole Extensometers and Piezometers above the Panels 1 and 2 in SMP Area 1 at the Abel Mine		
	Ditton Geotechnical Services Pty Ltd		Scale:		1:7,500		Figure No:



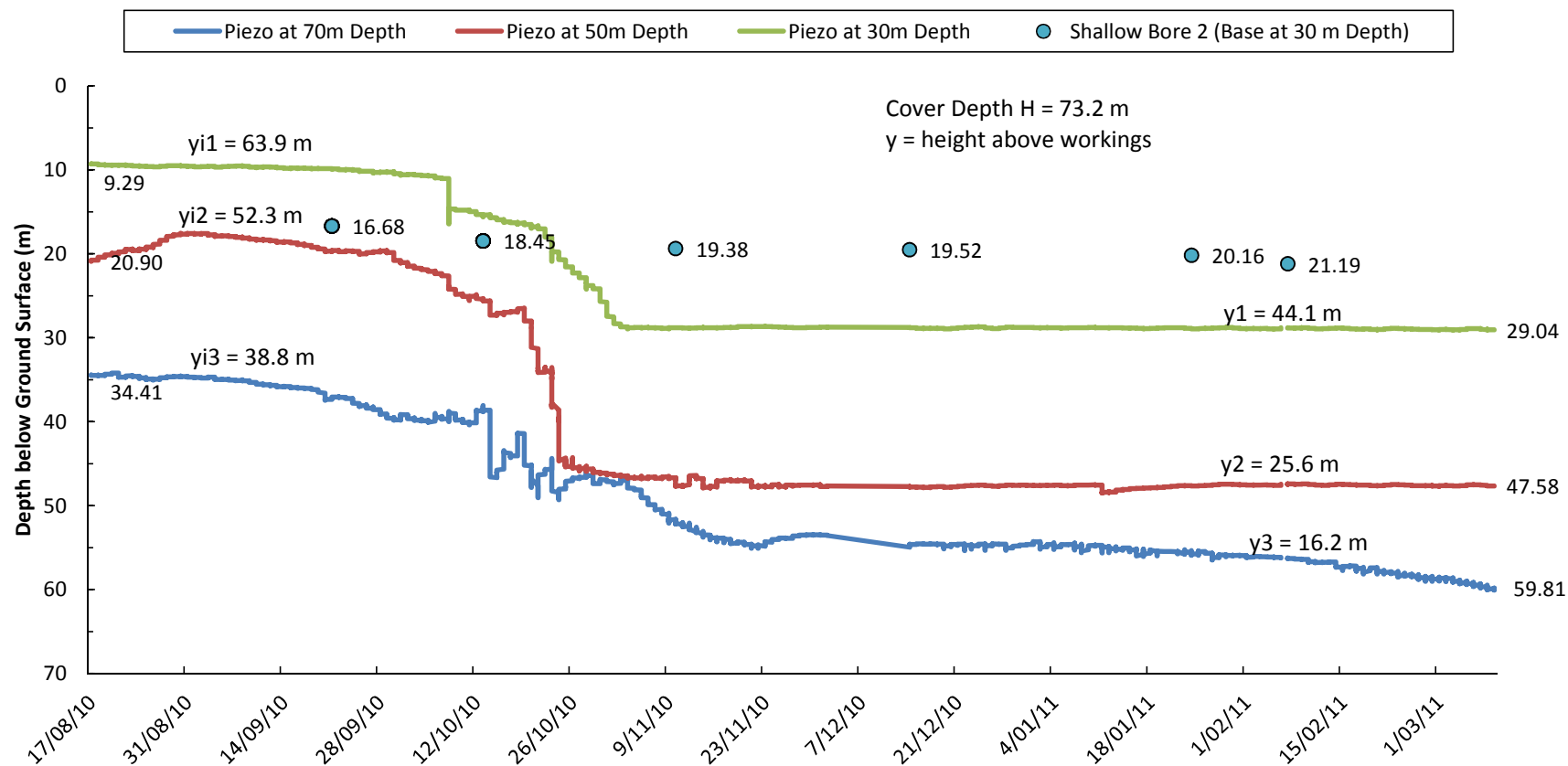
Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited
Drawn:	S.Ditton		ABL-002/1
Date:	28.03.11	Title:	Measured Groundwater Levels in Surface and Subsurface Aquifers Before & After Panel 1 (see Figure 26 for location)
Ditton Geotechnical Services Pty Ltd		Scale:	NTS
		Figure No:	27a



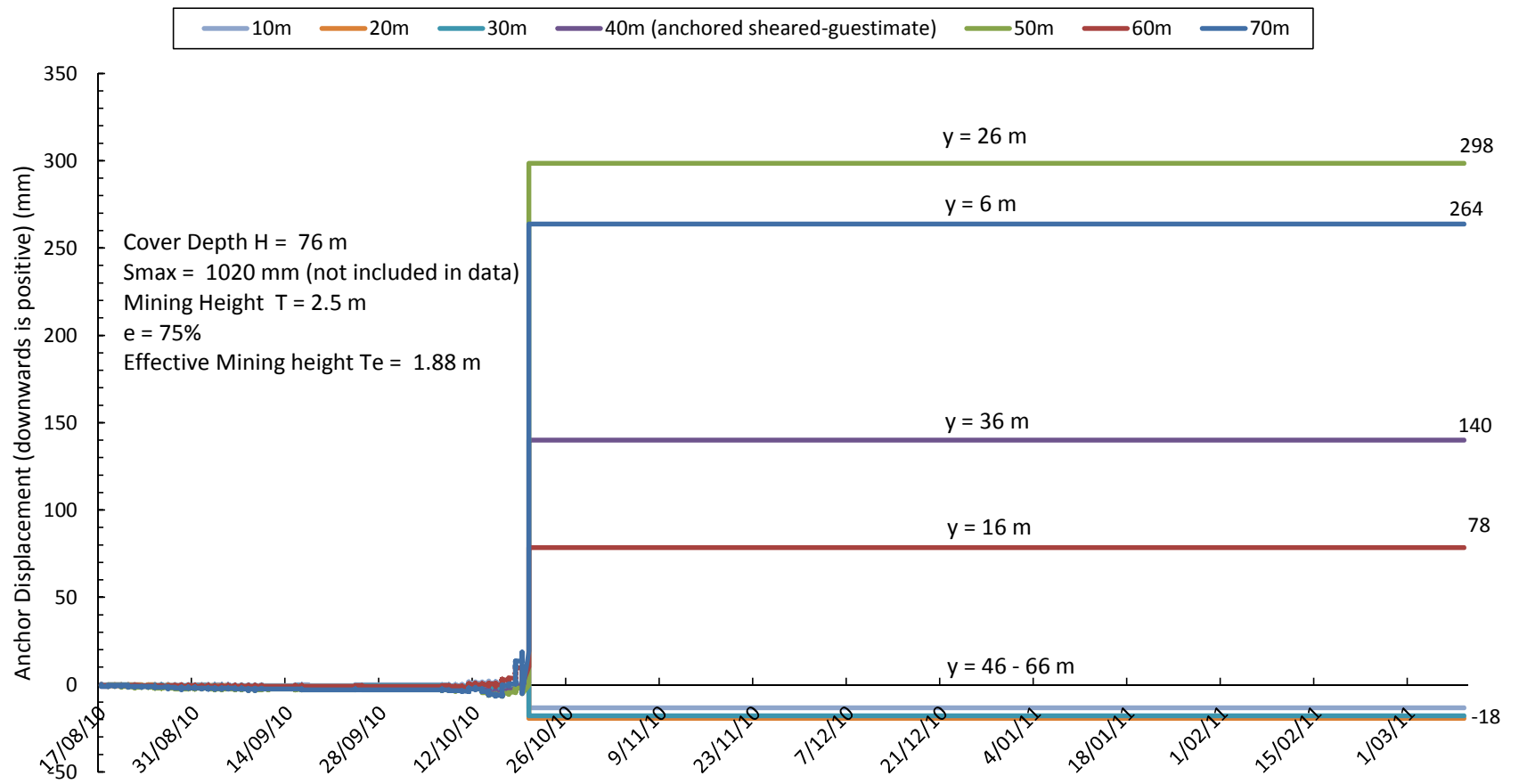
Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited	
Drawn:	S.Ditton		ABL-002/1	
Date:	28.03.11	Title:	Measured Anchor Displacements in Deep Borehole above Panel 1 (Exto 1)	
Ditton Geotechnical		(see Figure 26 for location)		
Services Pty Ltd		Scale:	NTS	Figure No: 27b



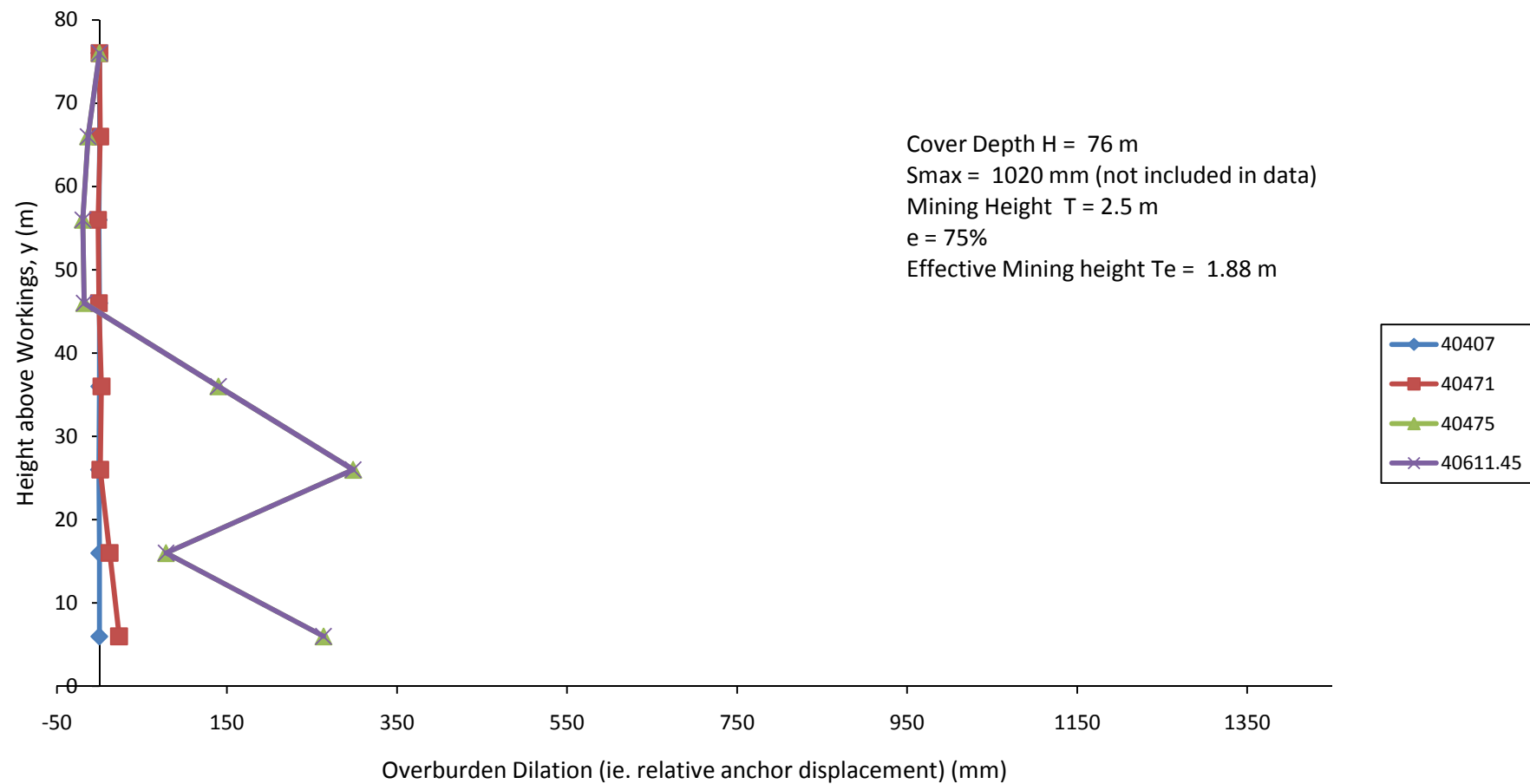
Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited	
Drawn:	S.Ditton		ABL-002/1	
Date:	28.03.11	Title:	Measured Strata Dilatation in Deep Borehole above Panel 1 (Exto 1)	
Ditton Geotechnical Services Pty Ltd			(see Figure 26 for location)	
Scale:	NTS	Figure No:	27c	



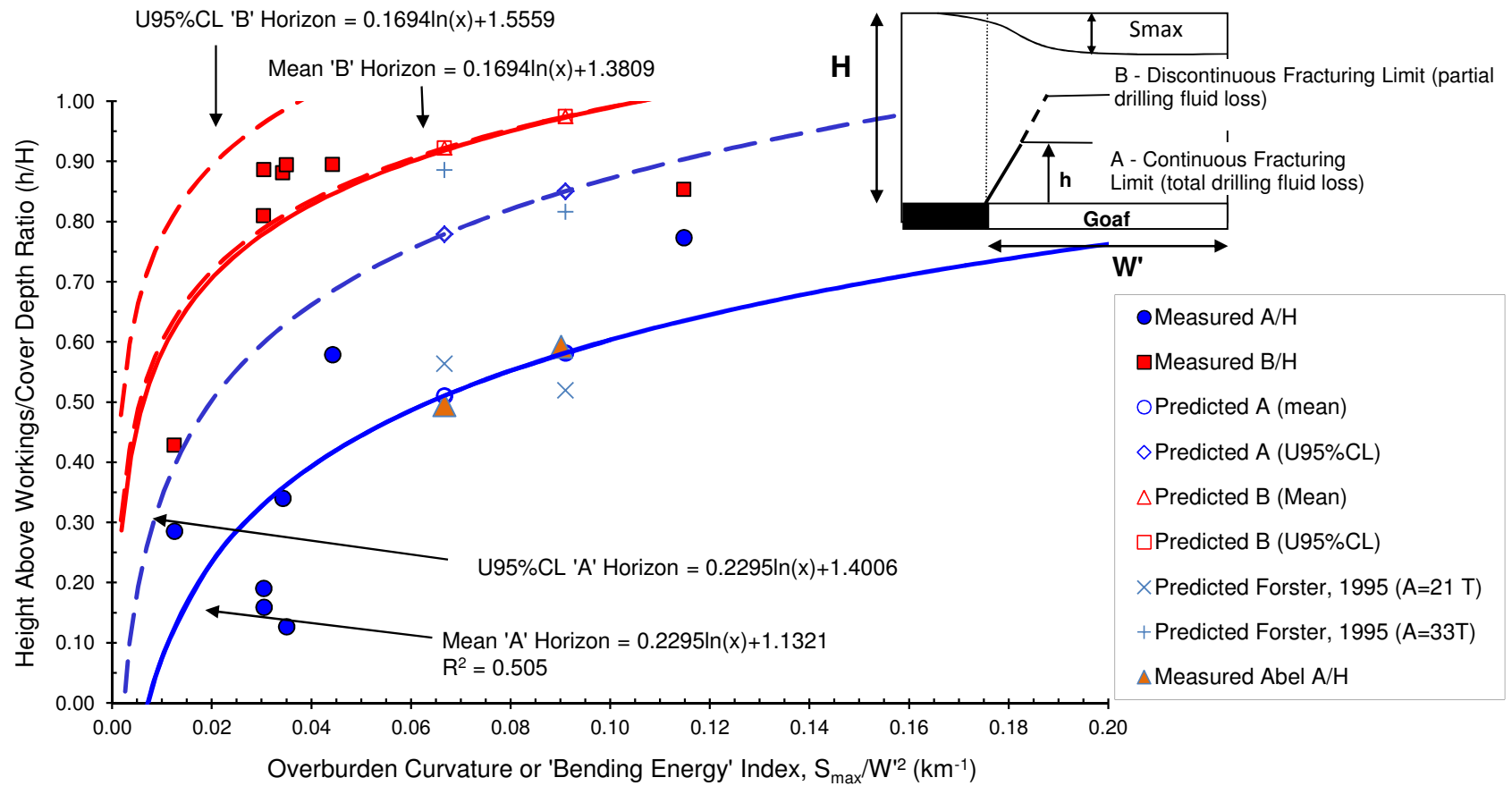
Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited
Drawn:	S.Ditton		ABL-002/1
Date:	28.03.11	Title:	Measured Groundwater Levels in Surface and Subsurface Aquifers Before & After Panel 2 (see Figure 26 for location)
Ditton Geotechnical Services Pty Ltd		Scale:	NTS
			Figure No: 27d



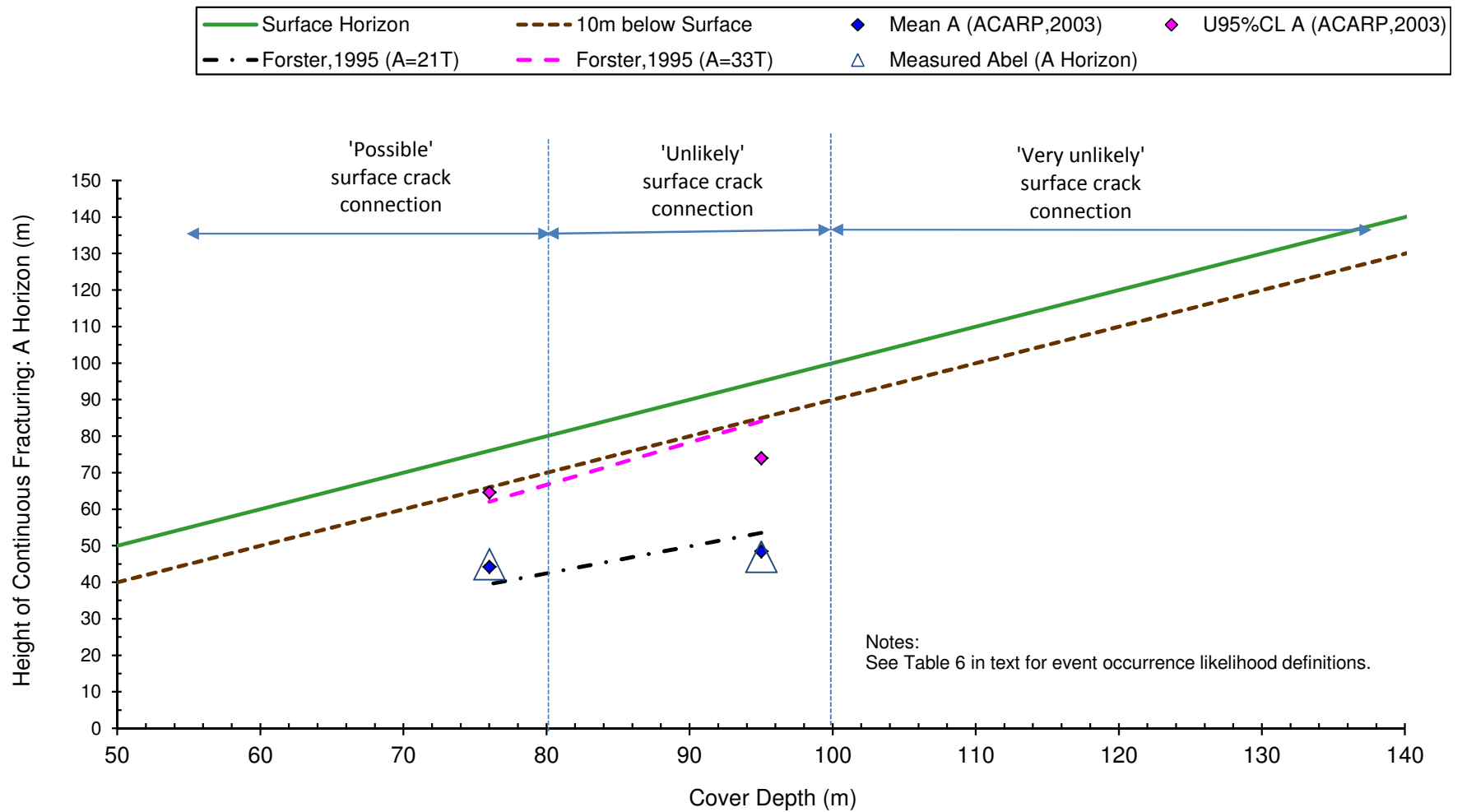
Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited
Drawn:	S.Ditton		ABL-002/1
Date:	28.03.11	Title:	Measured Anchor Displacements in Deep Borehole above Panel 2 (Exto 2)
Ditton Geotechnical Services Pty Ltd		(see Figure 26 for location)	
Scale:	NTS	Figure No:	27e



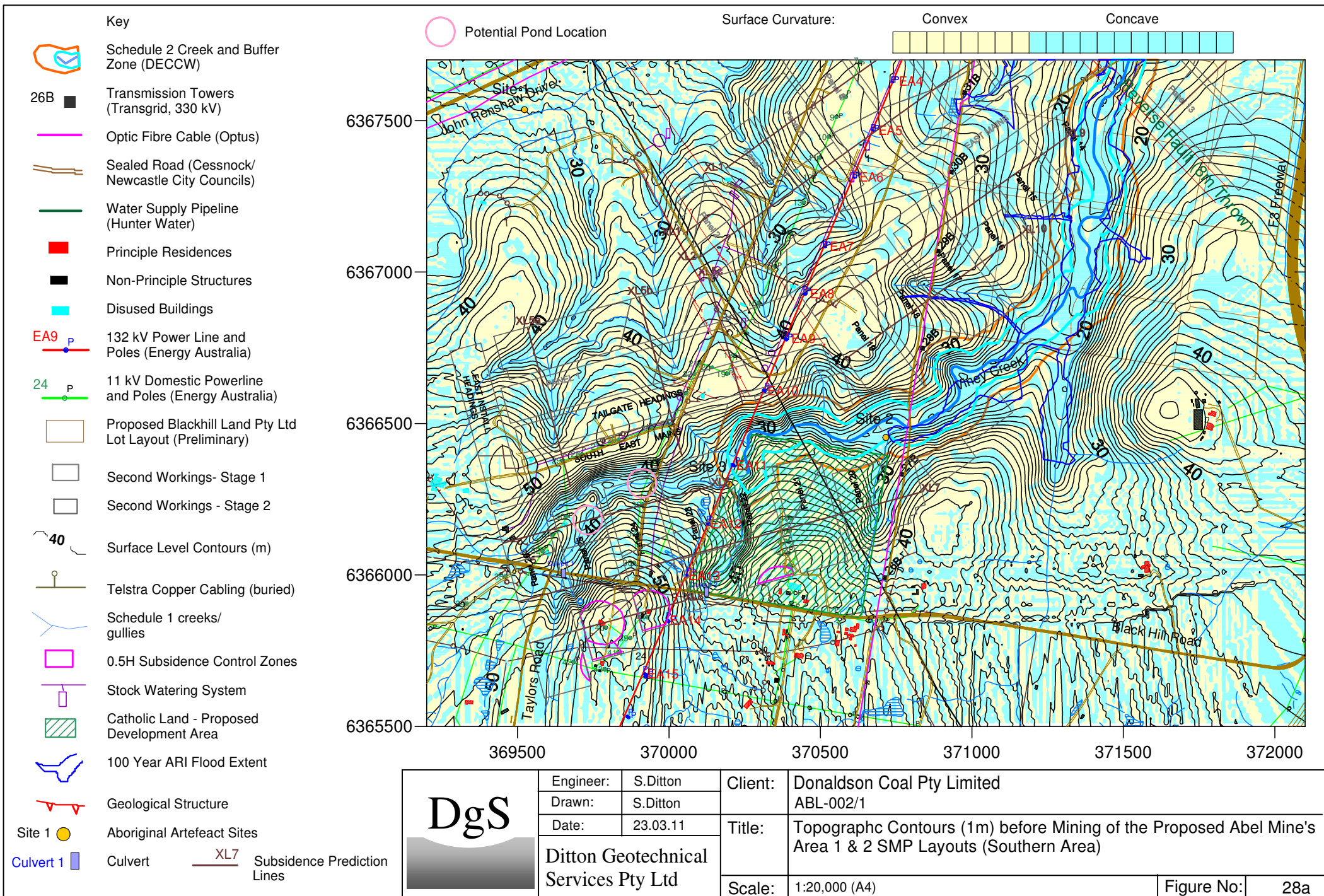
	Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited			
	Drawn:	S.Ditton		ABL-002/1			
	Date:	28.03.11	Title:	Measured Strata Dilation in Deep Borehole above Panel 2 (Exto 2)			
	Ditton Geotechnical			(see Figure 26 for location)			
	Services Pty Ltd		Scale:	NTS		Figure No:	27f

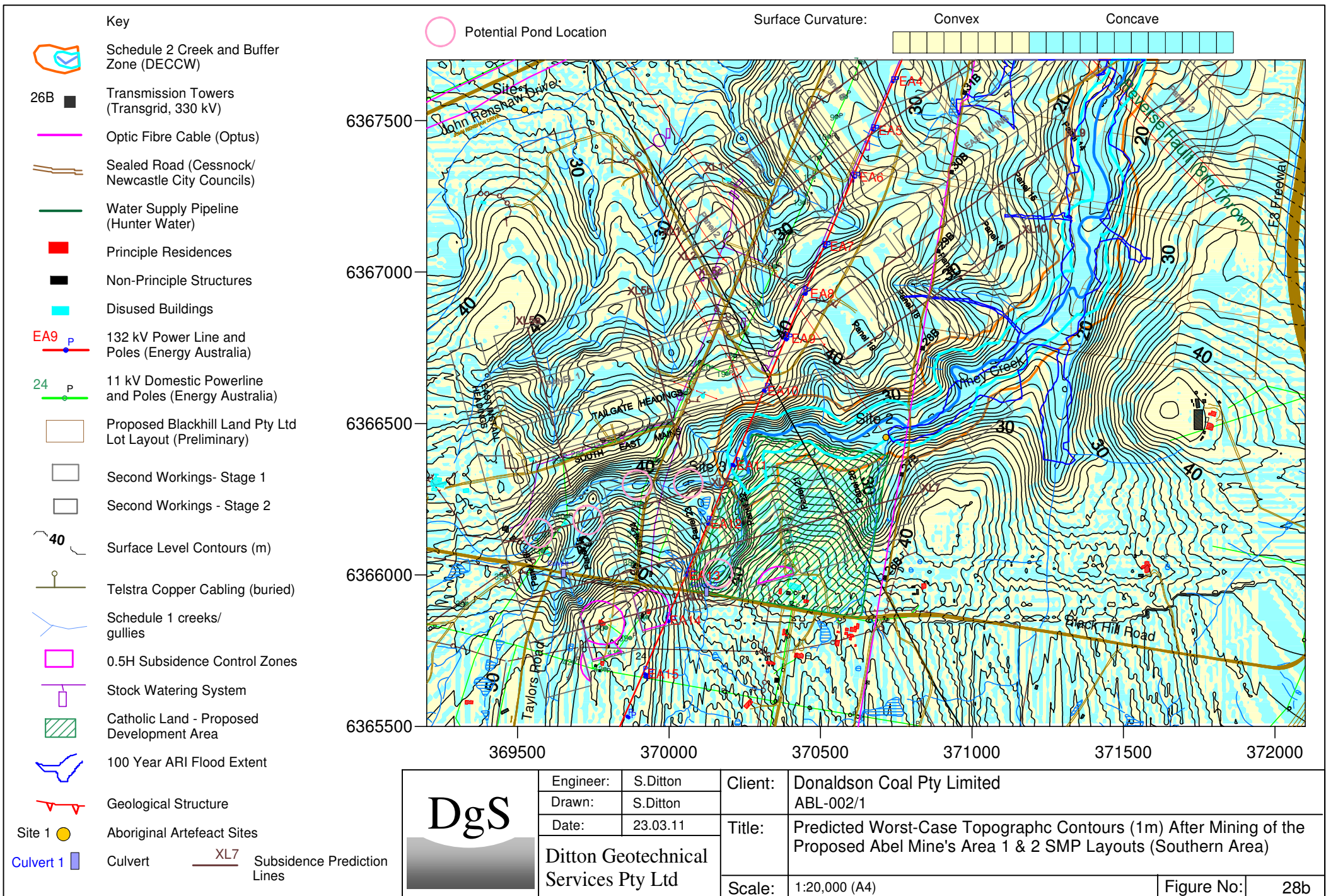


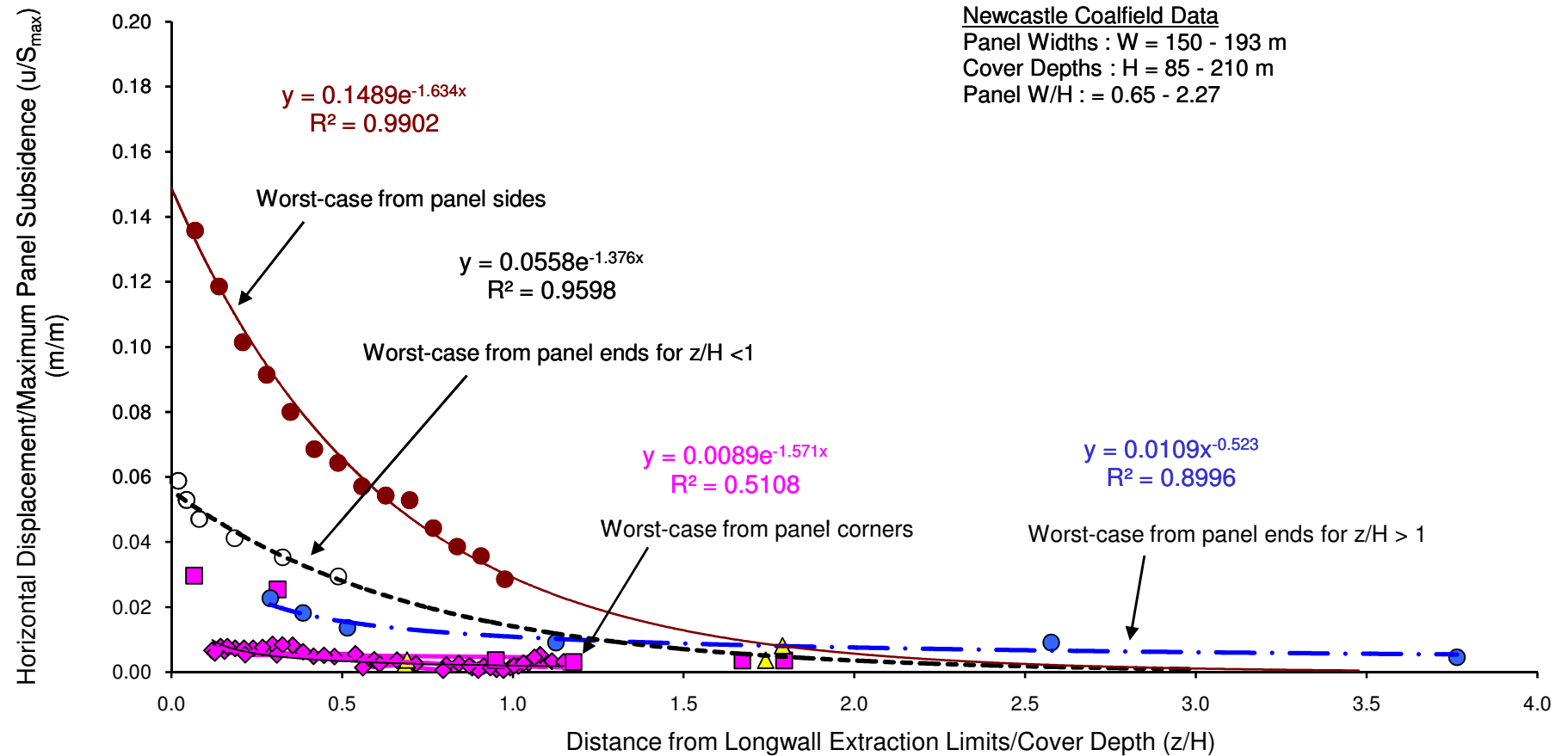
	Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited		
	Drawn:	S.Ditton		ABL-002/1		
	Date:	30.11.10	Title:	Continuous and Discontinuous Sub-Surface Fracture Heights above Panels 1 and 2		
	Ditton Geotechnical Services Pty Ltd			Mine Pillar Extraction Panels (based on ACARP, 2003 and Forster,1995)		
			Scale:	NTS		Figure No: 27g



Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited
Drawn:	S.Ditton		ABL-002/1
Date:	30.03.11	Title:	Predicted v Measured Continuous Fracture Height v. Cover Depth for Panels 1 and 2 at the Abel Mine (based on ACARP, 2003 Model)
Ditton Geotechnical Services Pty Ltd		Scale:	NTS
		Figure No:	27h







DgS



Engineer: S.Ditton

Drawn: S.Ditton

Date: 30.11.10

Ditton Geotechnical
Services Pty Ltd

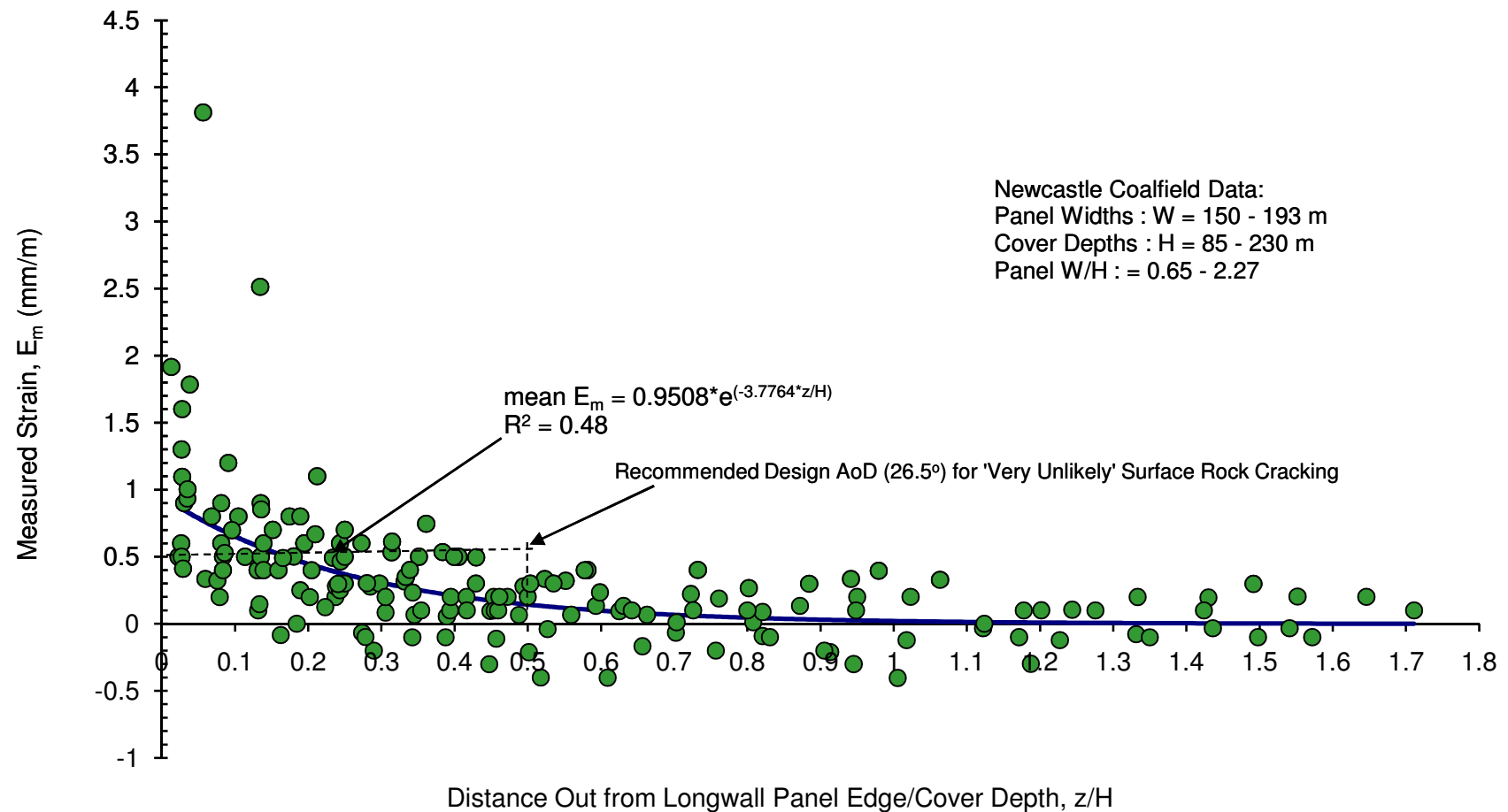
Client: Donaldson Coal Pty Limited

ABL-002/1

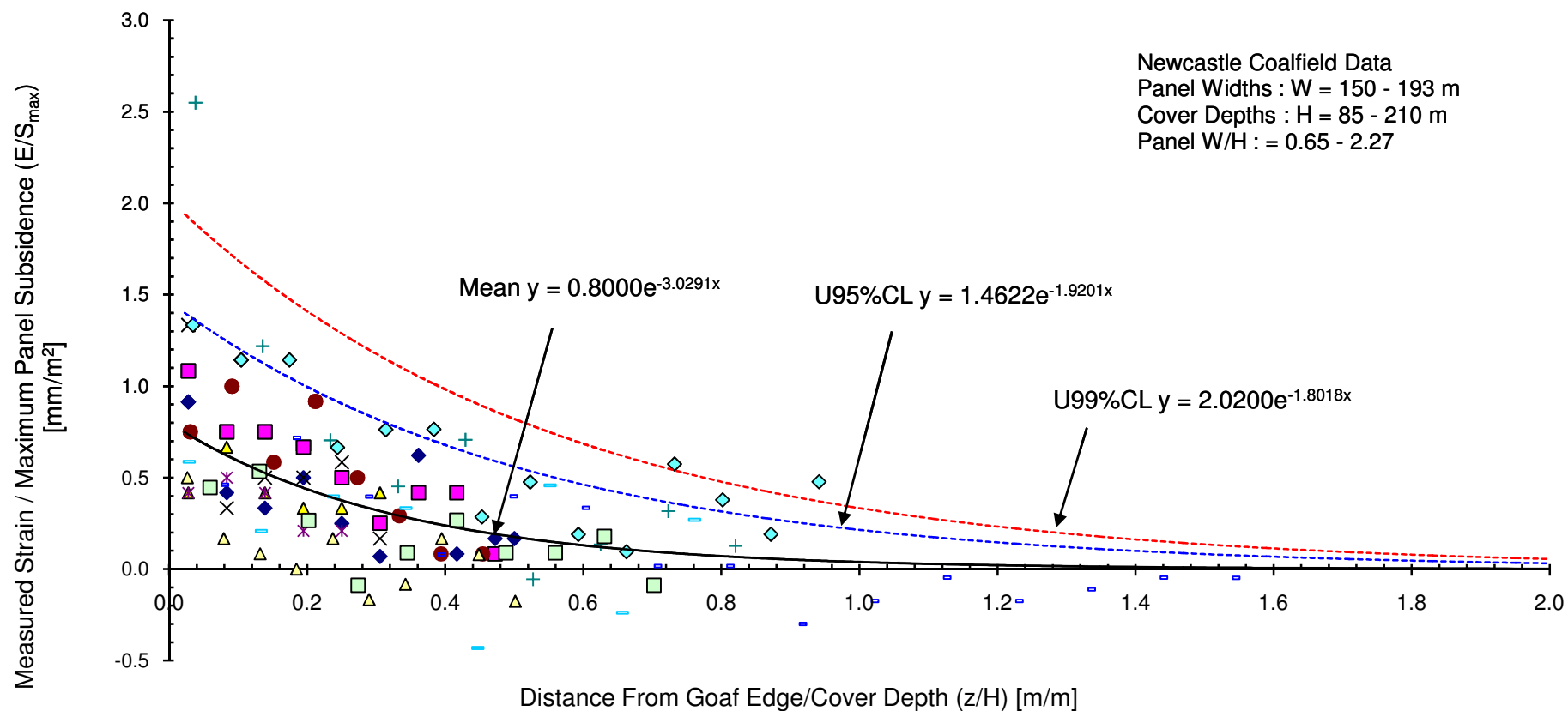
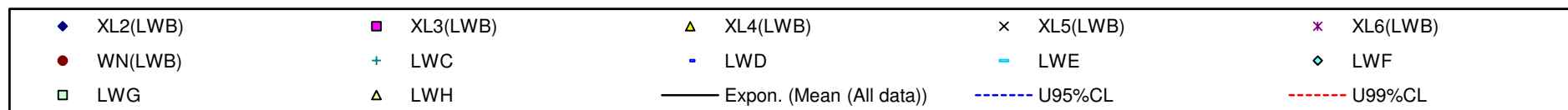
Title: Combined Empirical Far-Field Displacement Prediction Models for Longwall Panel Sides,
Ends and Corners.

Scale: NTS

Figure No: 30



	Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited		
	Drawn:	S.Ditton		ABL-002/1		
	Date:	30.11.10	Title:	Measured Far-Field Strain Database Using Cummulative Steel Tape		
	Ditton Geotechnical Services Pty Ltd			from Longwall Sides in the Newcastle Coalfield		
	Scale:	NTS		Figure No:	31a	



Engineer:	S.Ditton	Client:	Donaldson Coal Pty Limited		
	Drawn: S.Ditton		ABL-002/1		
	Date: 30.11.10	Title:	Empirical Far-Field Strain Prediction Model Using Cummulative Steel Tape		
	Ditton Geotechnical Services Pty Ltd		Measurements from Longwall Sides in the Newcastle Coalfield		
Scale:		NTS	Figure No:		31b