

DgS



Engineer: S.Ditton

Drawn: S.Ditton

Date: 18.11.09

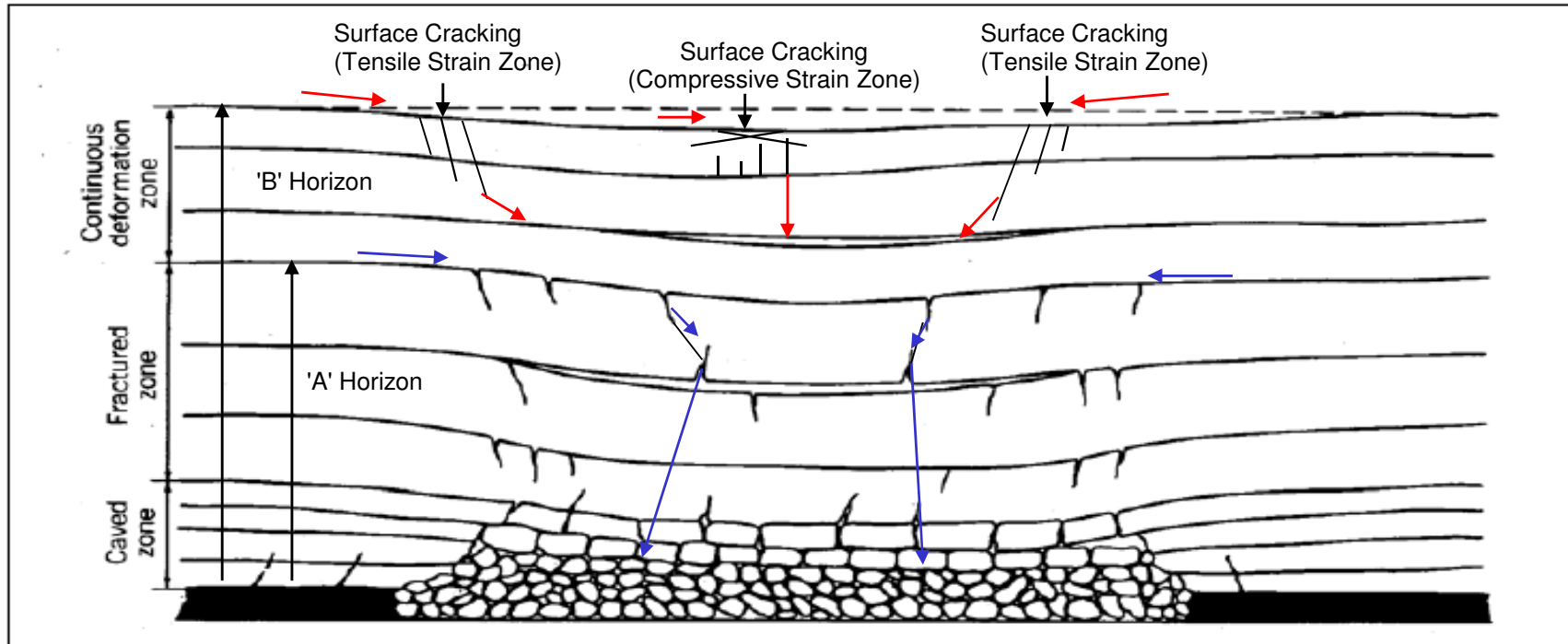
Ditton Geotechnical  
Services Pty Ltd

Client: West Wallsend Colliery  
WWD-012/1

Title: Surface Crack Location Relative to Chain Pillar Ribs due to LWs 22 to 36  
at West Wallsend Colliery

Scale: NTS

Figure No: 40c



Schematic taken from **Peng & 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

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Engineer: S.Ditton

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Date: 18.11.08

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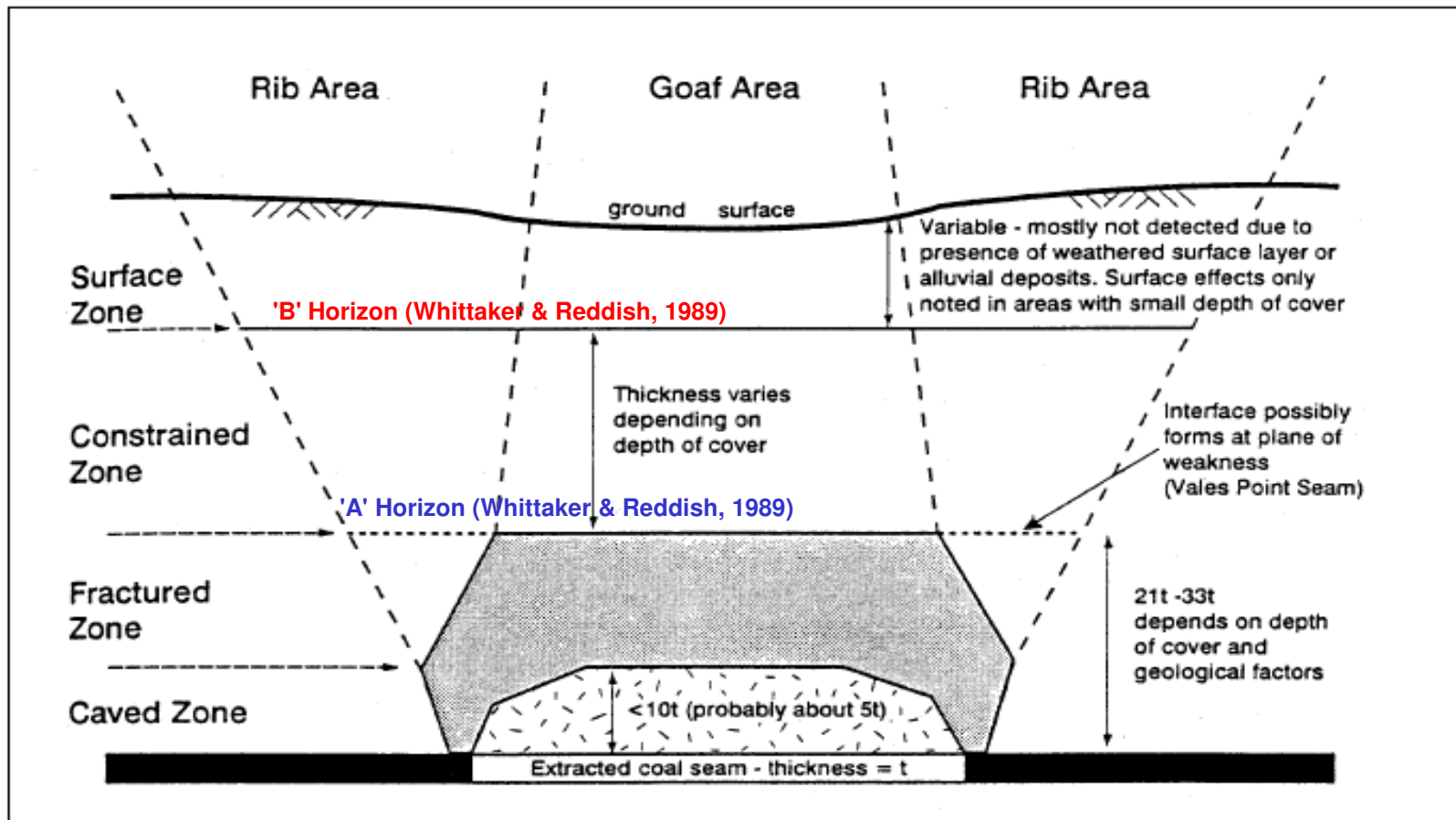
Client: West Wallsend Colliery

WWD-012/1

Title: Schematic Model of Overburden Fracture Zones by Various Researchers

Scale: NTS

Figure No: 41



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Engineer: S.Ditton

Drawn: S.Ditton

Date: 17.11.08

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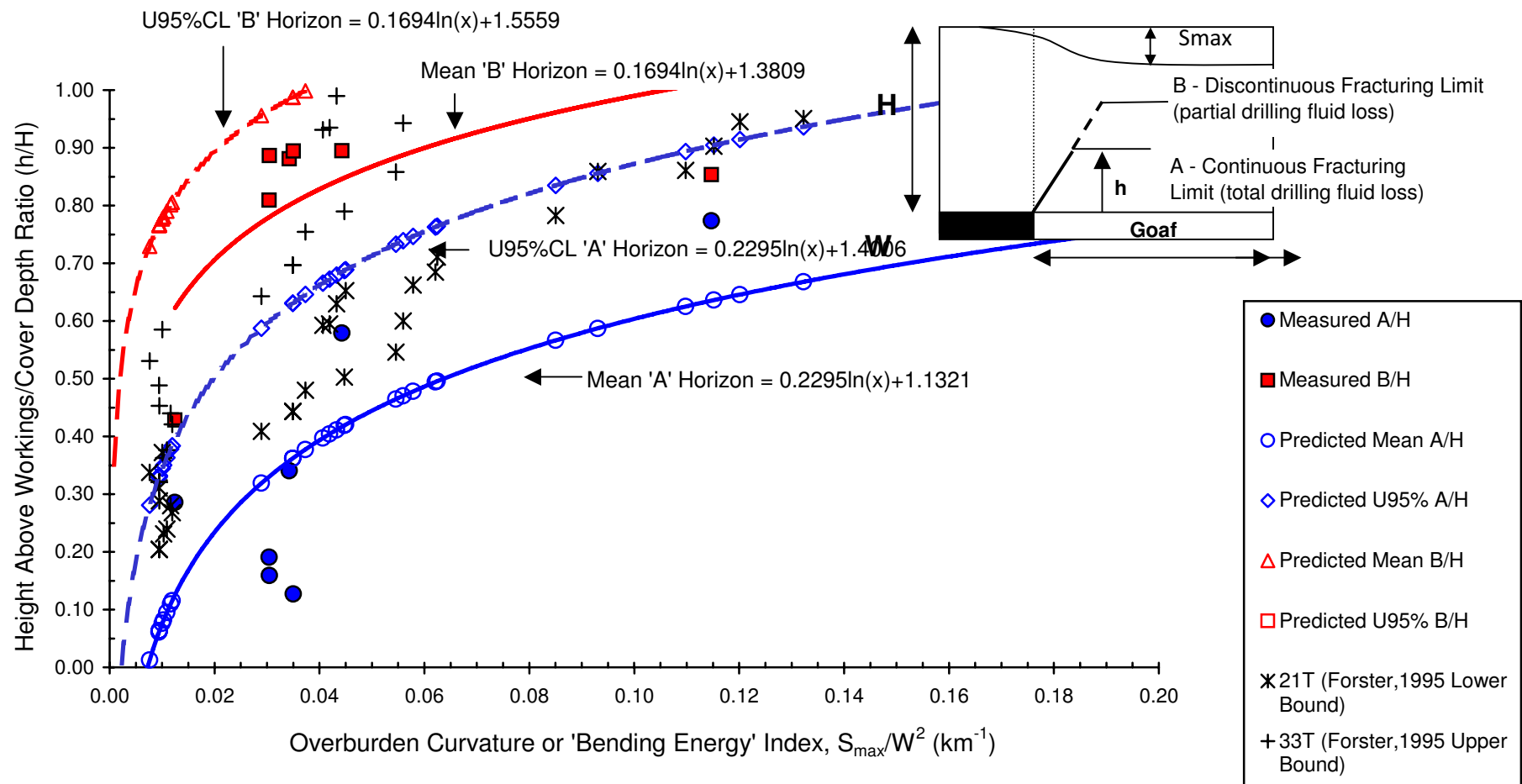
Client: West Wallsend Colliery

WWD-012/1

Title: Schematic Model of Overburden Fracture Zones in **Forster, 1995** Model  
(based on Piezometric Data Above Total Extraction Panels in the Newcastle Coalfield)

Scale: NTS

Figure No: 42



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Engineer: S.Ditton

Drawn: S.Ditton

Date: 12.08.08

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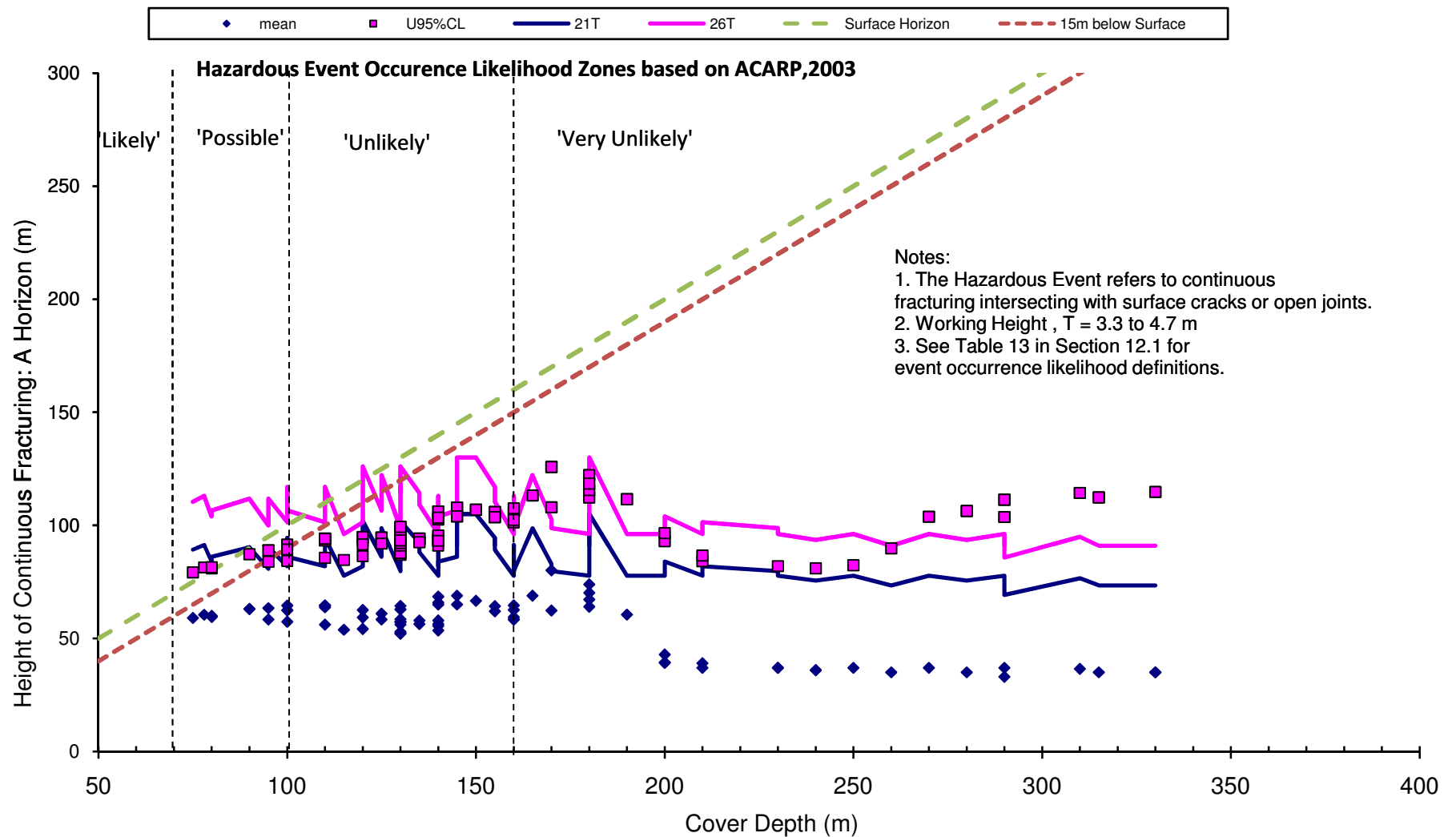
Client: West Wallsend Colliery  
WWD-012/1

Title: Continuous and Discontinuous Sub-Surface Fracture Heights above LWs 38 - 50  
(based on ACARP, 2003 and Forster,1995)

Scale: NTS

Figure No: 43





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Engineer: S.Ditton

Drawn: S.Ditton

Date: 01.09.09

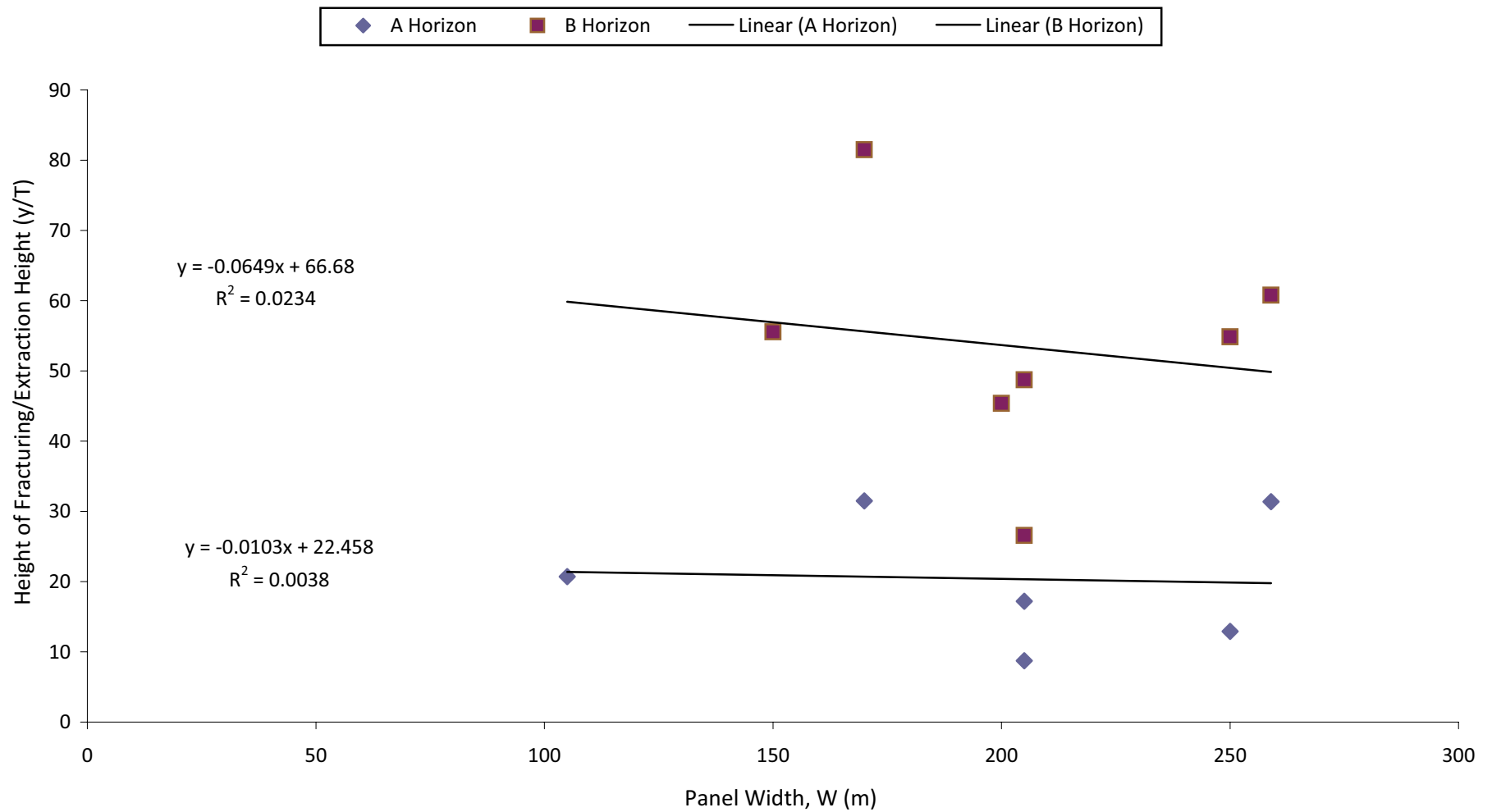
Ditton Geotechnical  
Services Pty Ltd

Client: West Wallsend Colliery  
WWD-012/1

Title: Sub-surface Fracture Height above Longwall Panel Workings Prediction Model based on  
ACARP, 2003 with Predicted Outcomes for the Proposed LWs 38 to 50

Scale: NTS

Figure No: 44a



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Engineer: S.Ditton

Drawn: S.Ditton

Date: 17.02.09

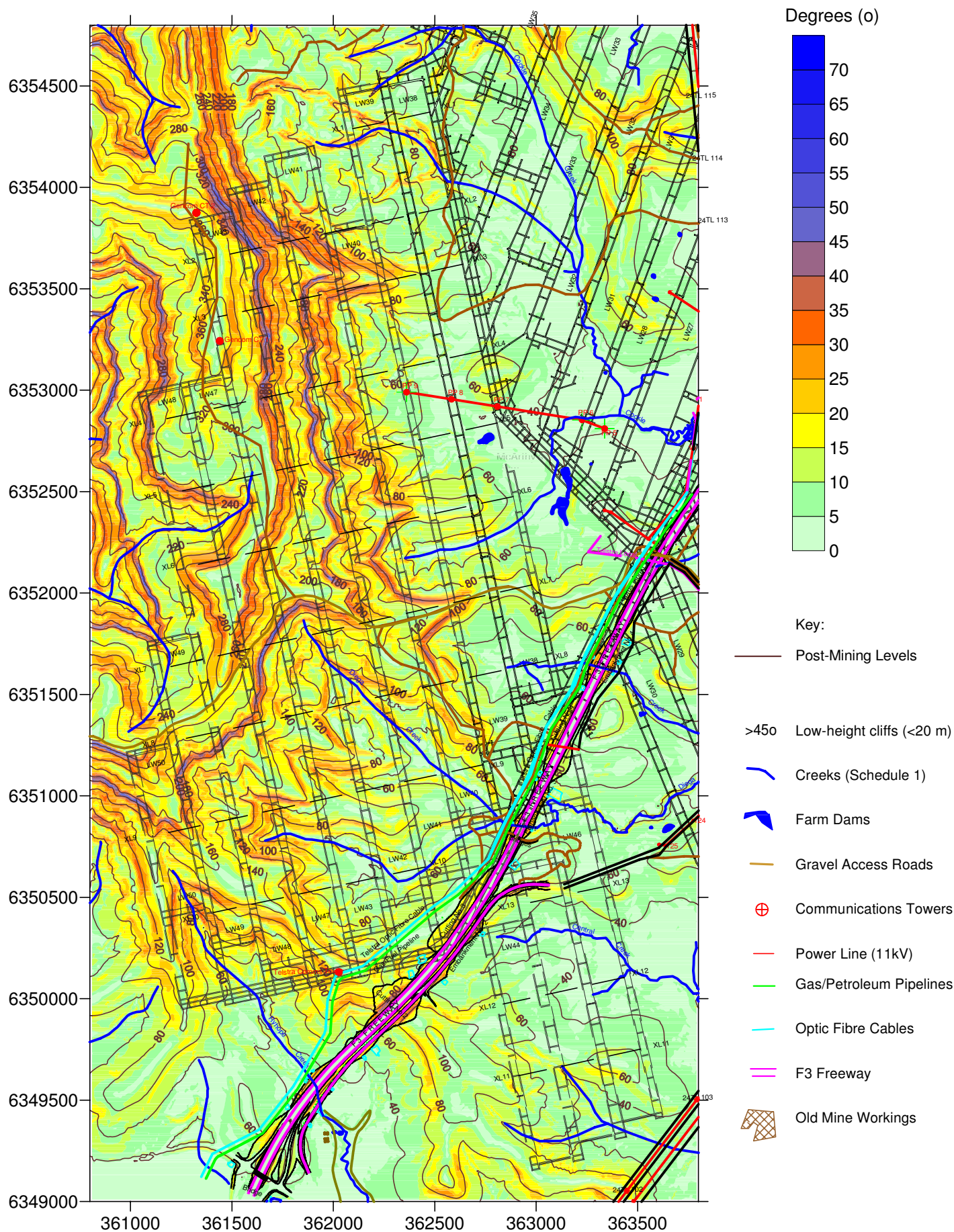
Ditton Geotechnical  
Services Pty Ltd

Client: West Wallsend Colliery  
WWD-012/1

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

Scale: NTS

Figure No: 44b



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Engineer: S.Ditton  
 Drawn: S.Ditton  
 Date: 30.06.09

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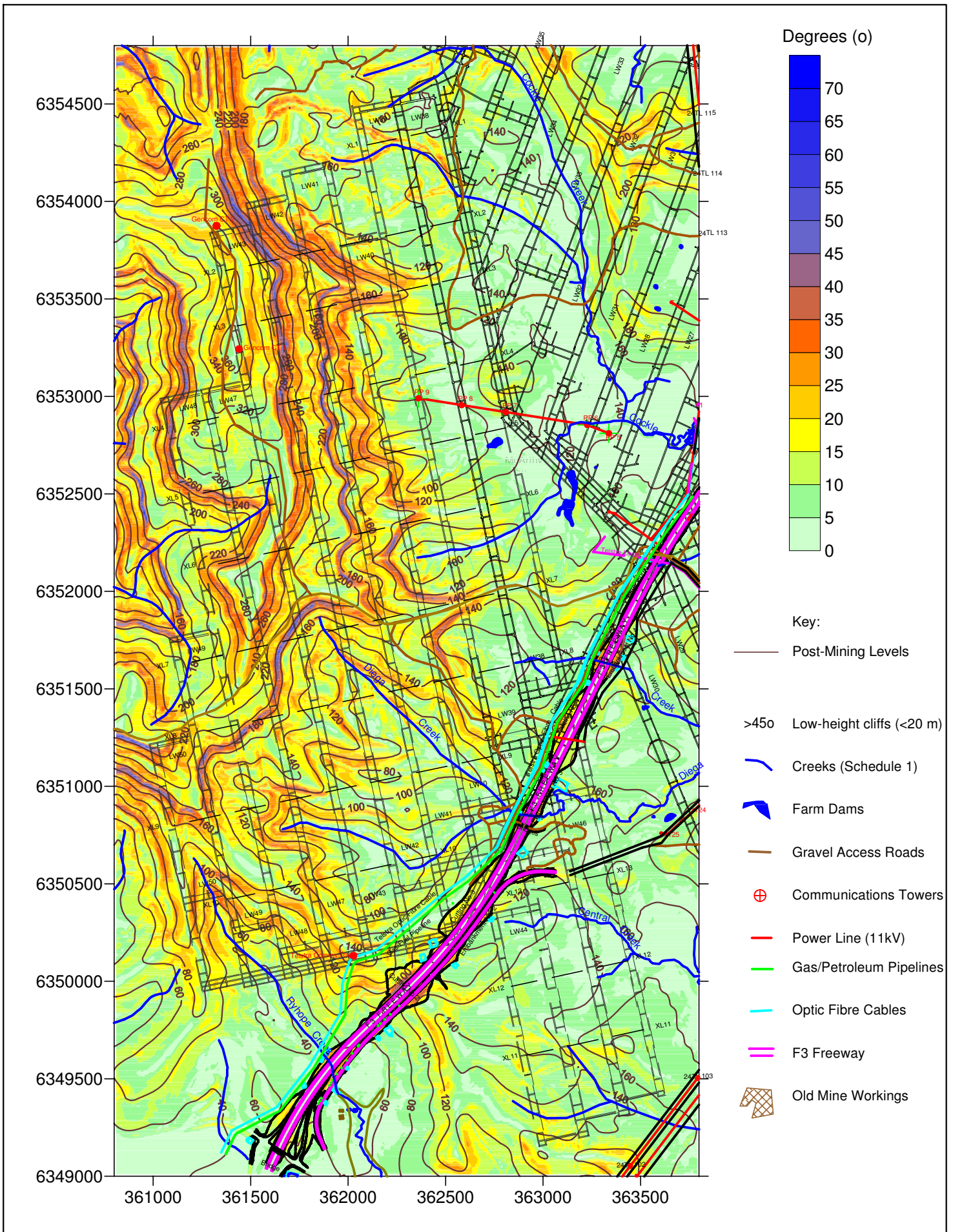
Client: West Wallsend Colliery  
 WWD-012/1

Title: Predicted Post-Mining Surface Topography and Slopes (Worst-case)  
 with Surface Features Shown

Scale: 1:25,000

Figure No: 45a





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Engineer: S.Ditton  
Drawn: S.Ditton  
Date: 30.06.09

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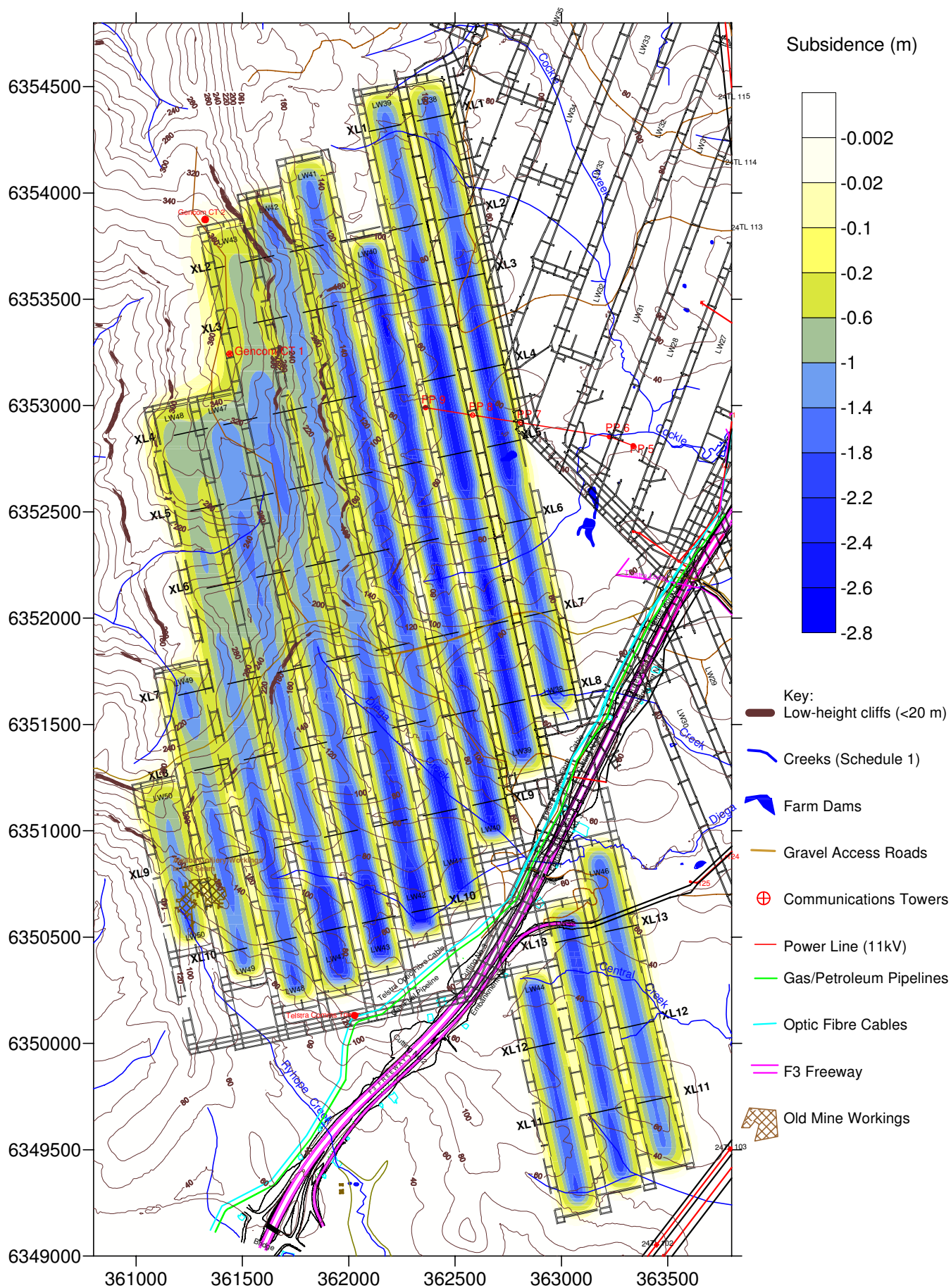
Client: West Wallsend Colliery  
WWD-012/1

Title: Predicted Post-Mining Slopes (Worst-case) with Cover Depth  
and Surface Features Shown

Scale: 1:25,000

Figure No: 45b





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Engineer: S.Ditton  
 Drawn: S.Ditton  
 Date: 30.06.09

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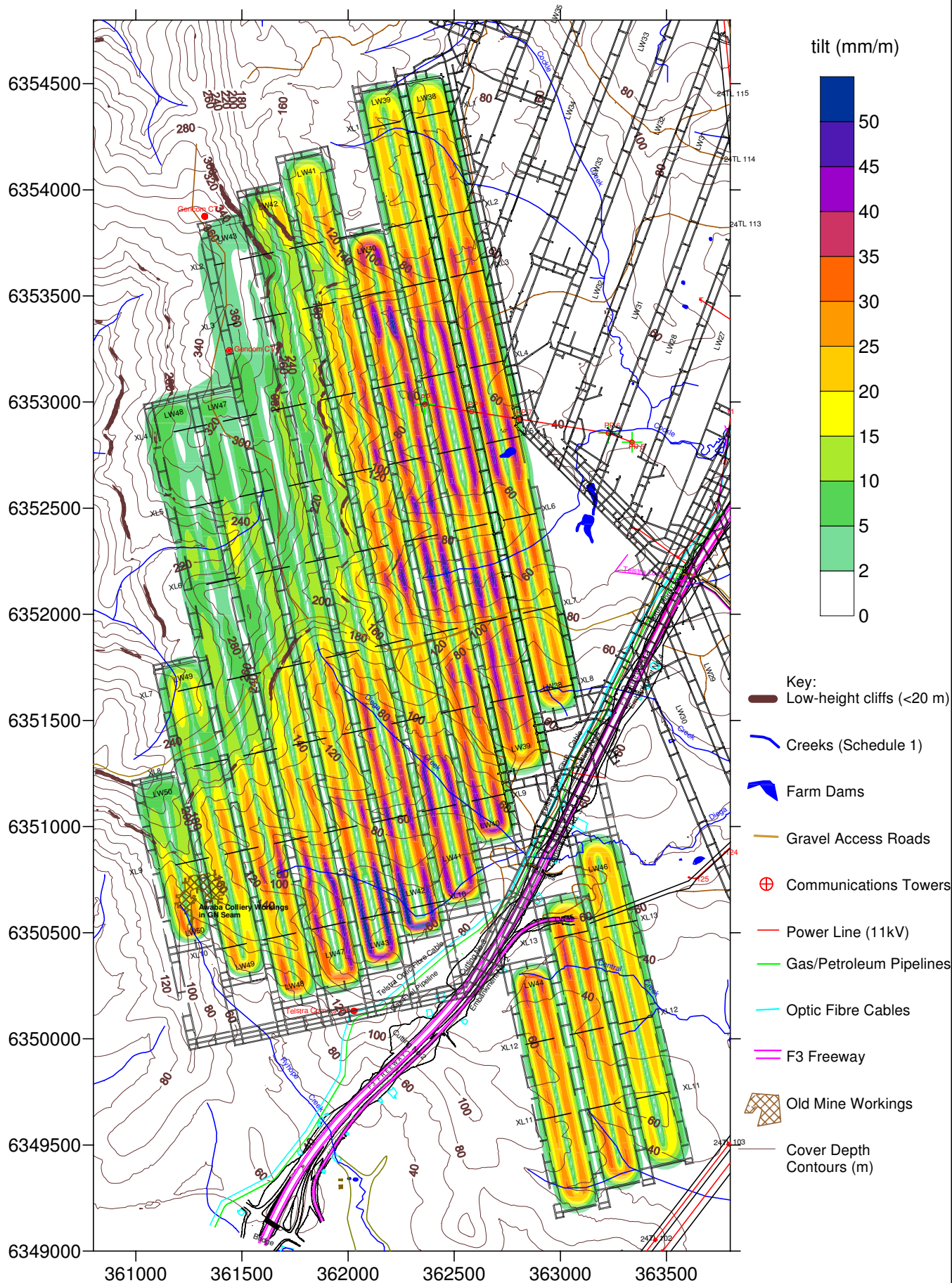
Client: **West Wallsend Colliery  
 WWD-012/1**

Title: **Predicted Worst-Case Subsidence Contours for Proposed Longwall  
 Layout in Western and Southern Domains with Topographic  
 Contours and Surface Site Features**

Scale: 1:25,000

Figure No: 46





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Engineer: S.Ditton  
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Date: 30.06.09

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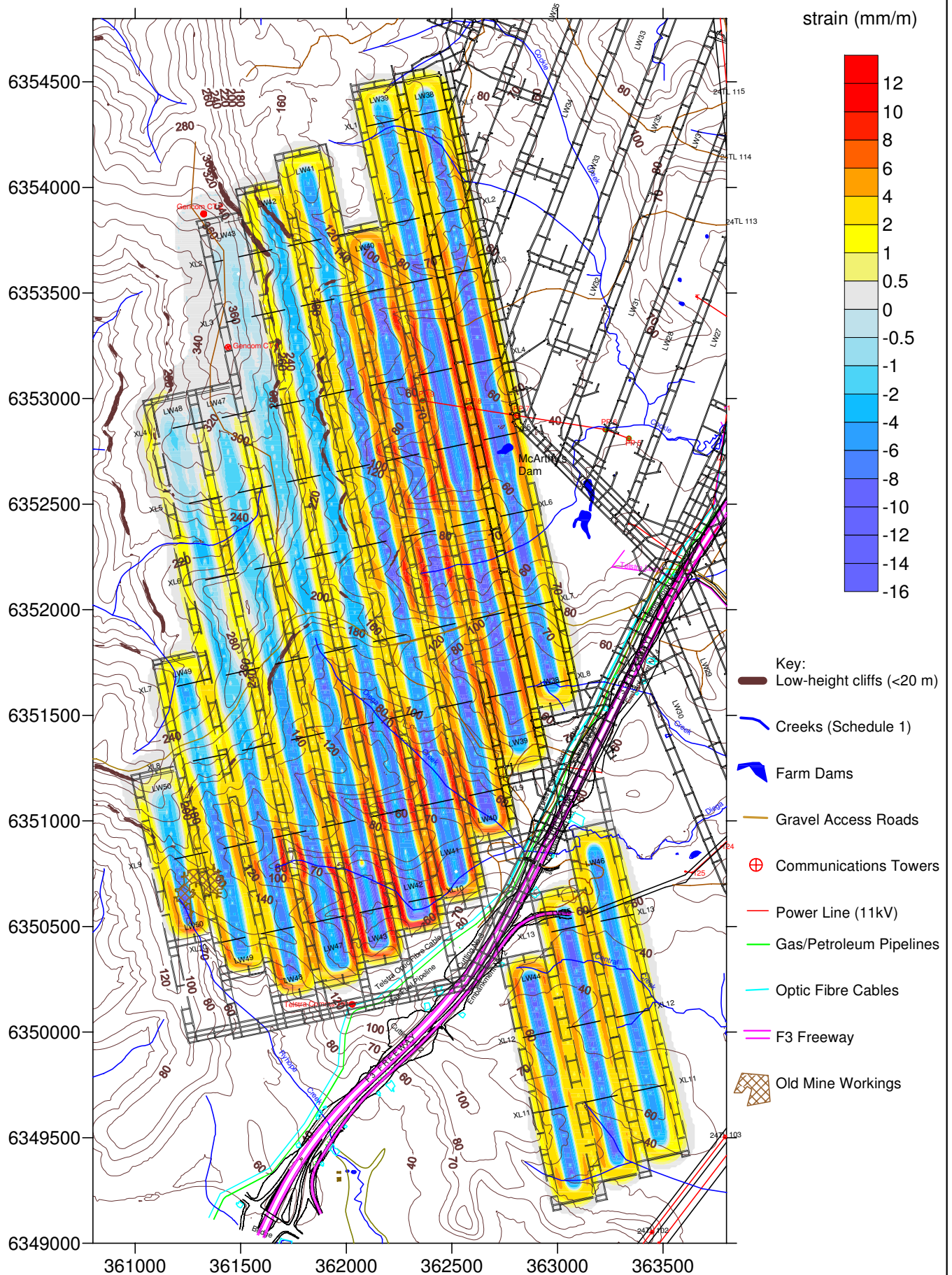
Client: West Wallsend Colliery  
WWD-012/1

Title: Predicted Tilt Contours (based on Worst-Case Subsidence Contours)  
for Proposed Longwall Layout in Western and Southern Domains with  
Topographic Contours and Surface Features

Scale: 1:25,000

Figure No: 47





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Engineer: S.Ditton  
Drawn: S.Ditton  
Date: 30.06.09

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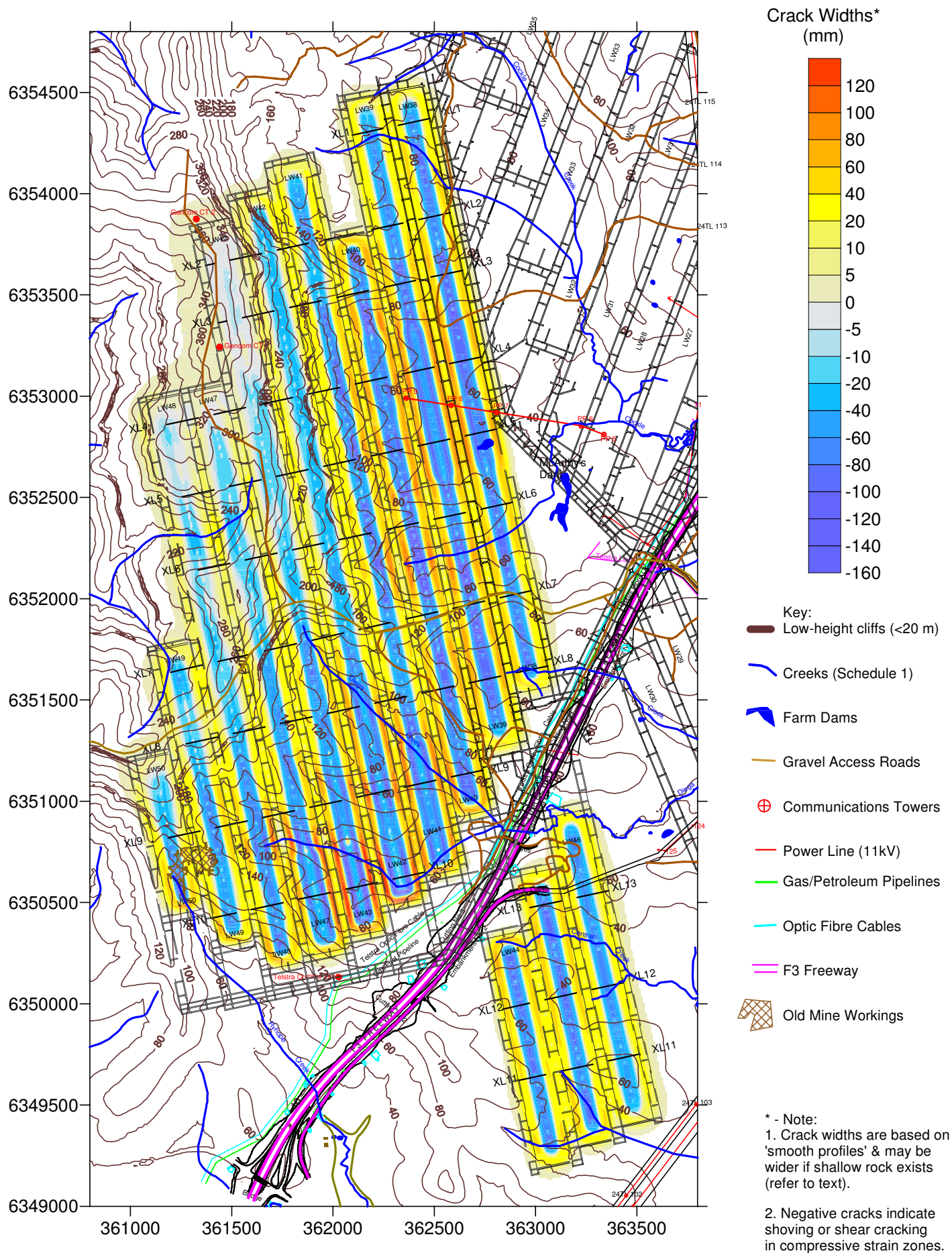
Client: West Wallsend Colliery  
WWD-012/1

Title: Predicted Principal Strain Contours (based on Worst-Case Subsidence Contours) for Proposed Longwall Layout in Western and Southern Domains with Topographic Contours and Surface Features

Scale: 1:25,000

Figure No: 48





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Engineer: S.Ditton  
 Drawn: S.Ditton  
 Date: 30.06.09

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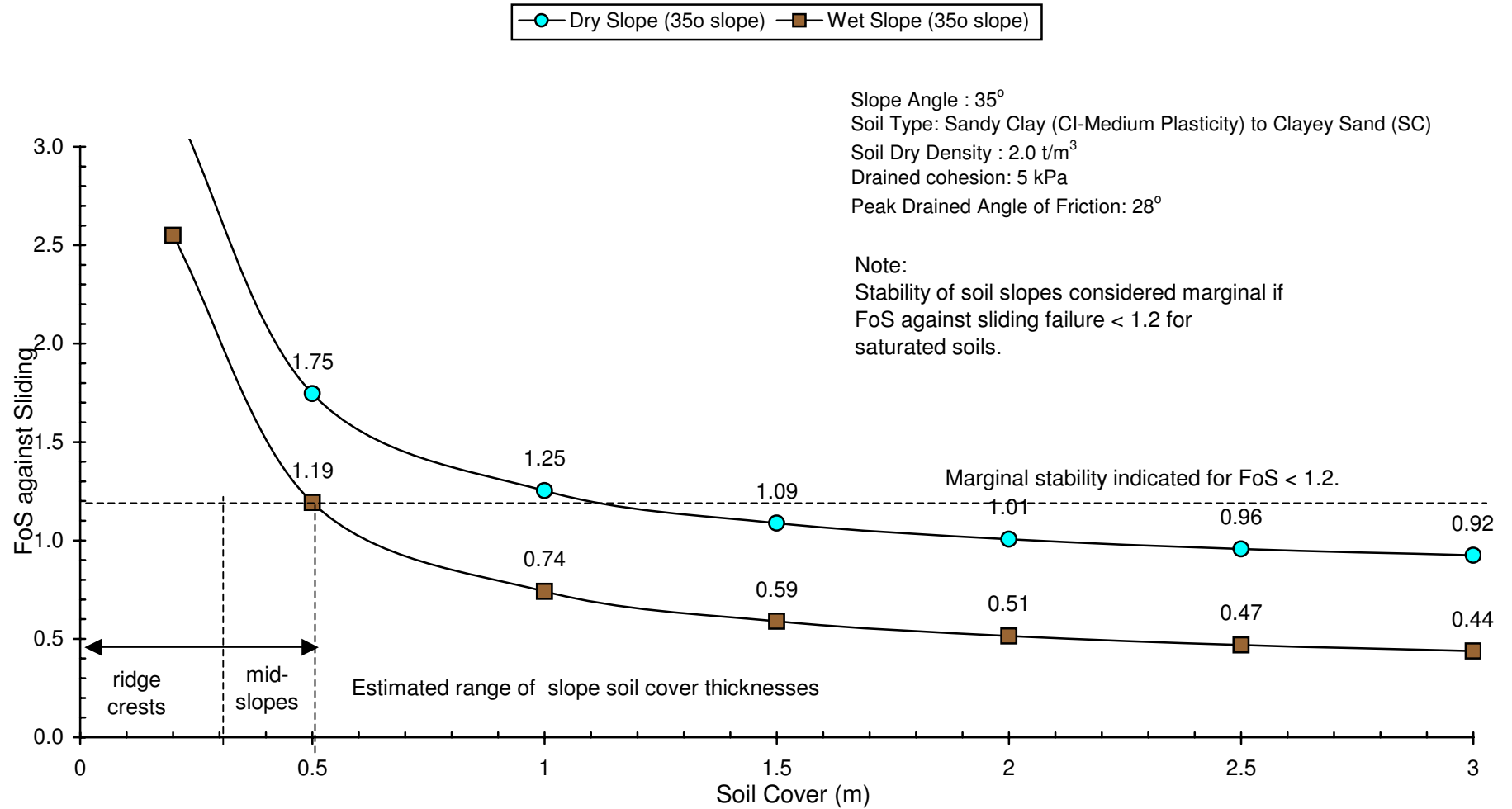
Client: West Wallsend Colliery  
 WWD-012/1


Title: Predicted Potential Surface Crack Widths (based on Worst-Case  
 Subsidence Contours) for Proposed Longwall Layout in Western  
 and Southern Domains and Post Mining Topographic Contours

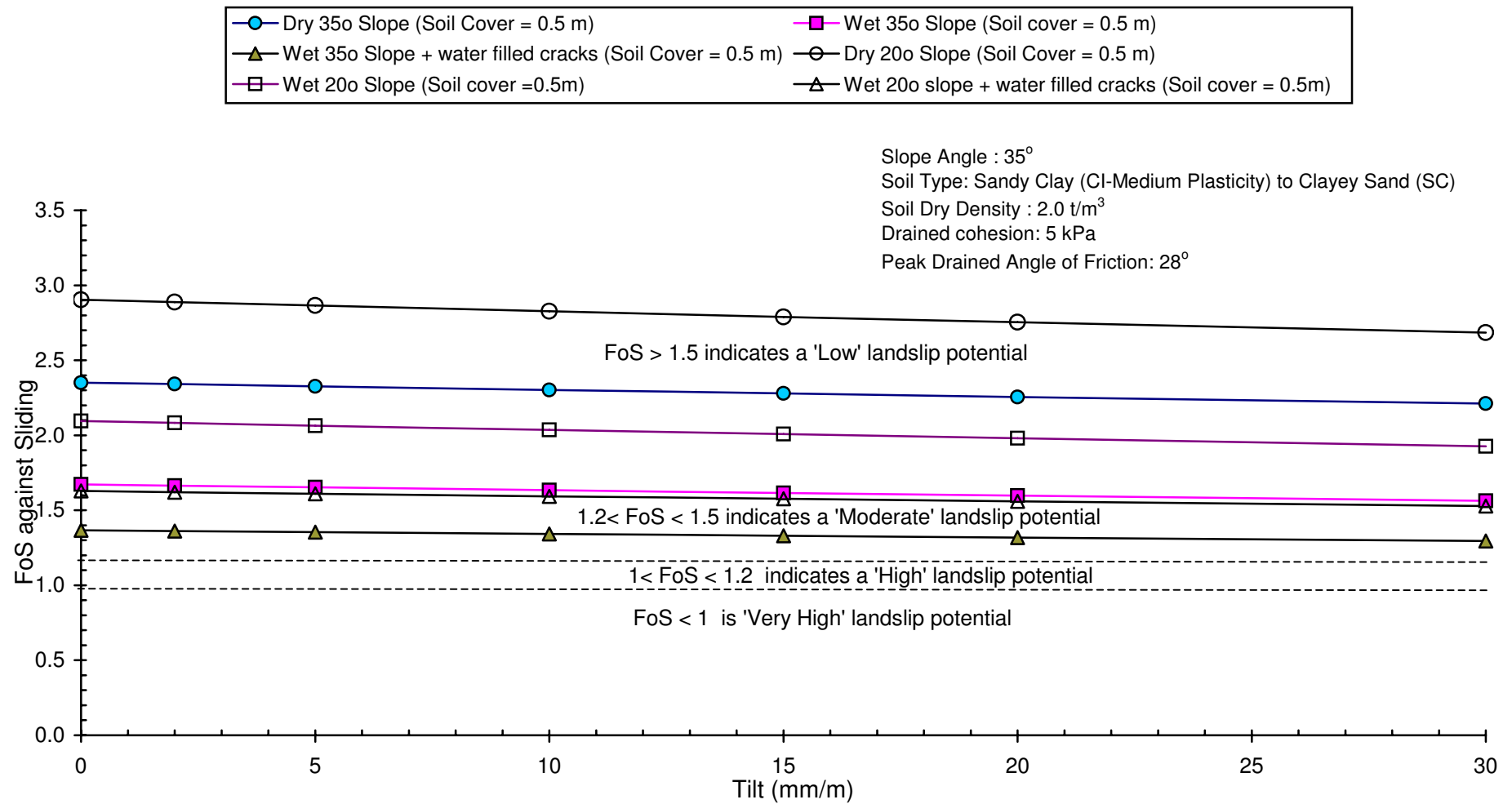
Scale: 1:25,000

Figure No: 49

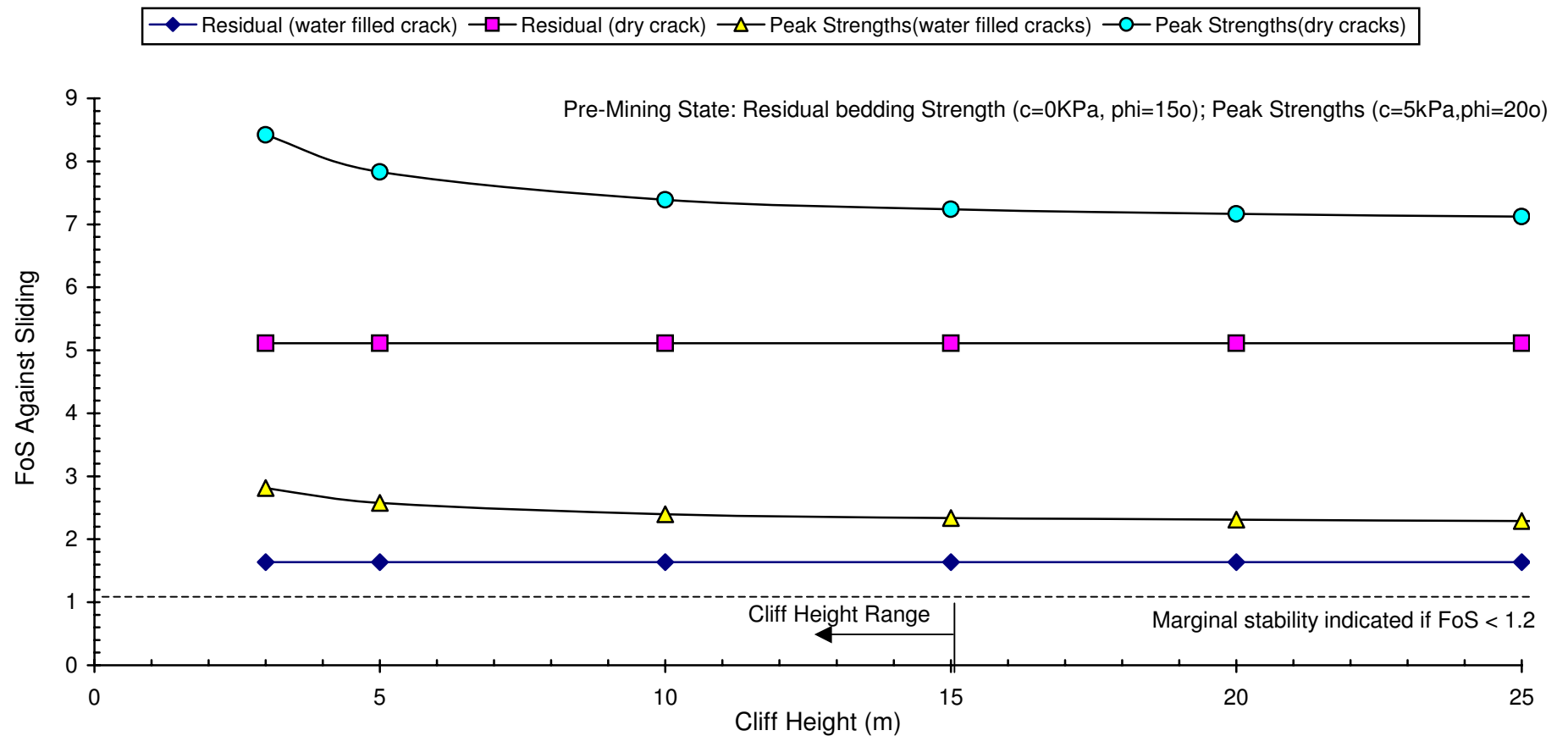




	Engineer:	S.Ditton	Client:	West Wallsend Colliery			
	Drawn:	S.Ditton		WWD-012/1			
	Date:	02.02.09	Title:	Calibration Results for Estimating Average Soil Thickness on Mid-Slopes and Observed Stability of 35o Slopes in Western Domain Before Mine Subsidence			
	Ditton Geotechnical Services Pty Ltd						
			Scale:	NTS			Figure No:



Engineer:	S.Ditton	Client:	West Wallsend Colliery	
	Drawn: S.Ditton		WWD-012/1	
	Date: 02.02.09	Title:	Estimated Factor of Safety Against Sliding of Steep Soil Slopes at West Wallsend Due to Tensile Cracking Through Soil Profile and Range of Predicted Tilt Due to Subsidence	
	Ditton Geotechnical Services Pty Ltd		Scale: NTS	Figure No: 50b



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Engineer: S.Ditton

Drawn: S.Ditton

Date: 02.02.09

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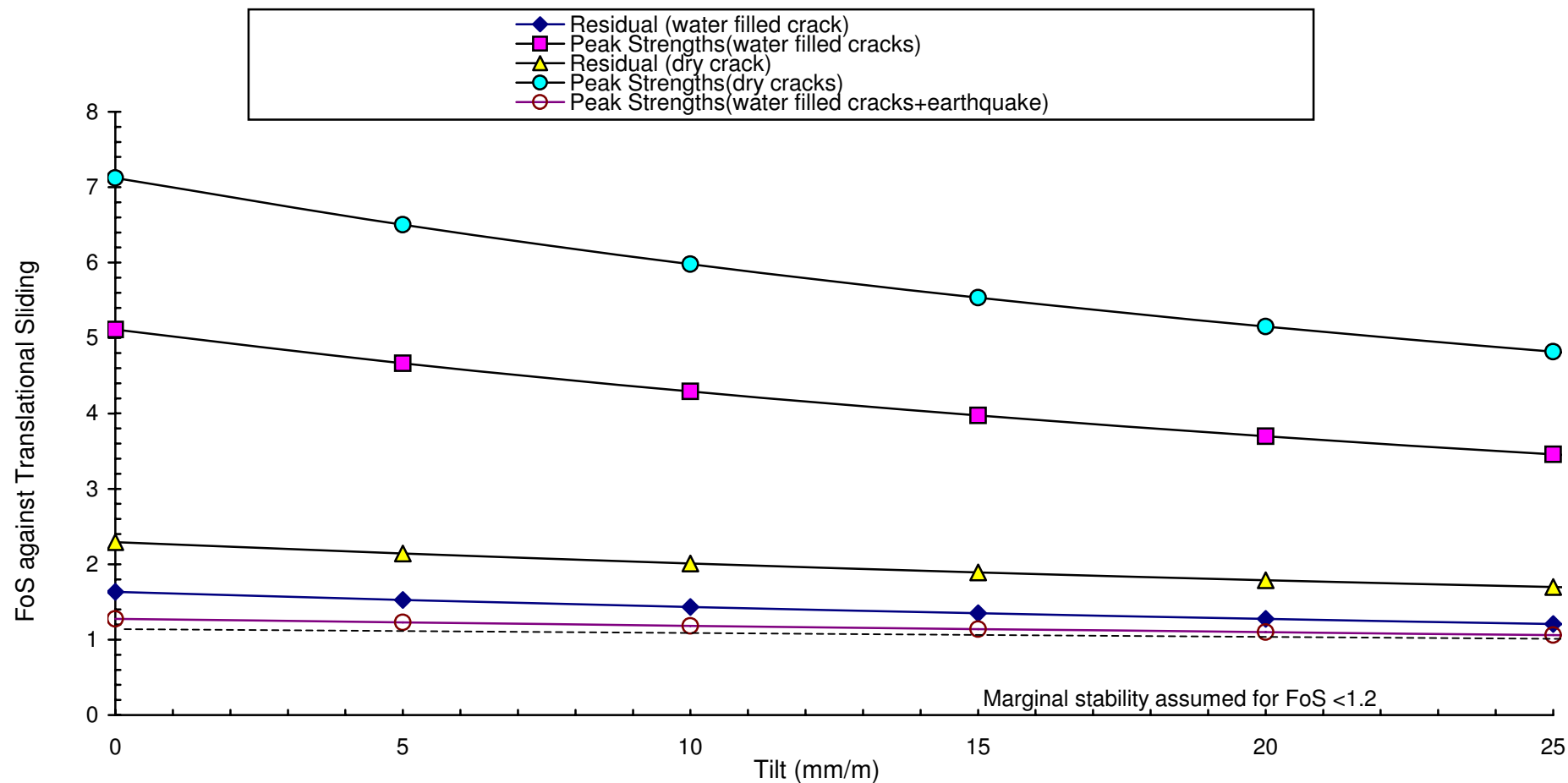
Client: West Wallsend Colliery

WWD-012/1

Title: Calibration Results for Average Cliff Height Properties and Observed  
Stability in Western Domain Before Mine Subsidence

Scale: NTS

Figure No: 51a



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Engineer: S.Ditton

Drawn: S.Ditton

Date: 02.02.09

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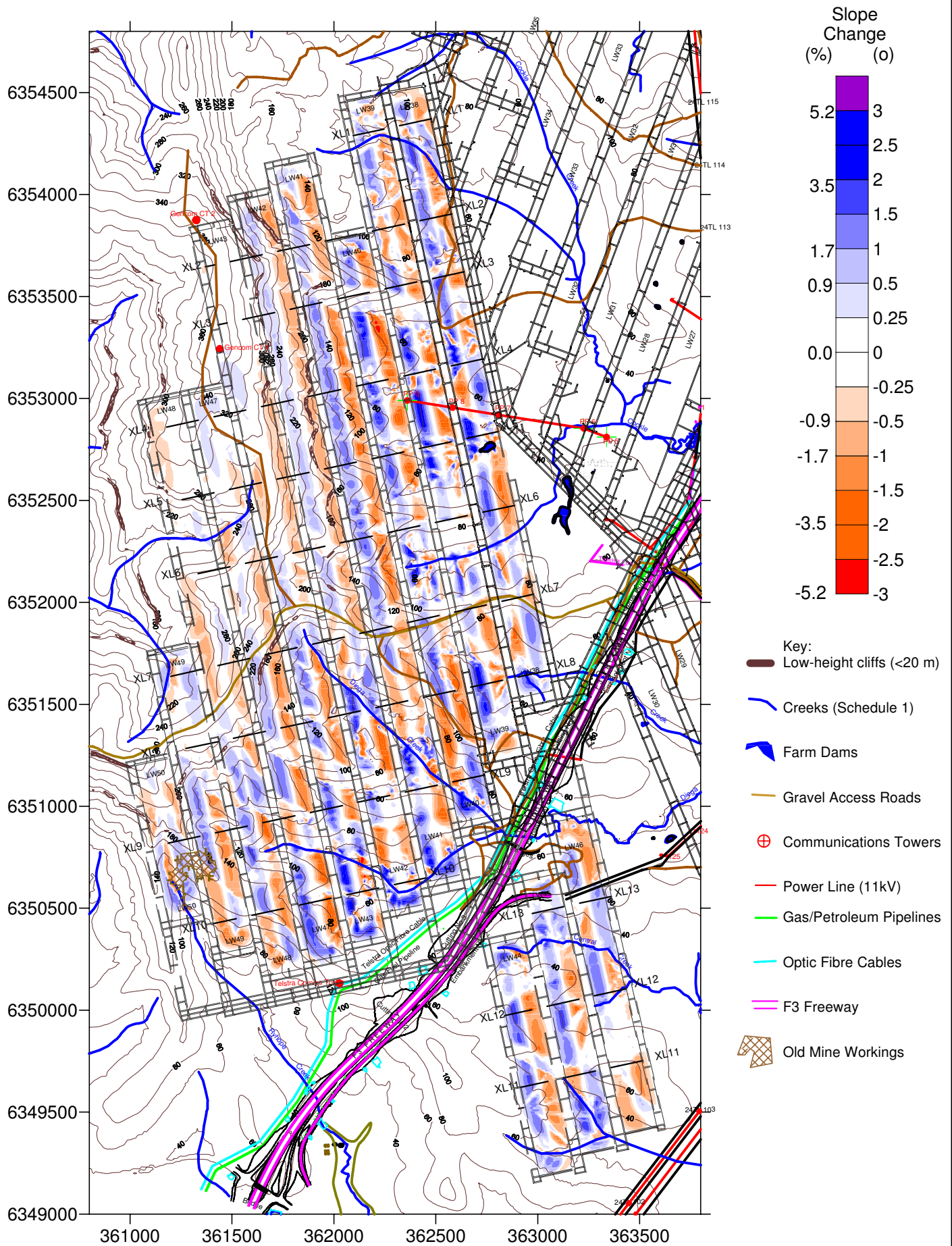
Client: West Wallsend Colliery

WWD-012/1

Title: Estimated Factor of Safety Against Sliding of Cliffs at West Wallsend for a Range of  
Tilt and Tensile Cracking Impacts after Mining

Scale: NTS

Figure No: 51b



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Engineer: S.Ditton  
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Date: 30.06.09

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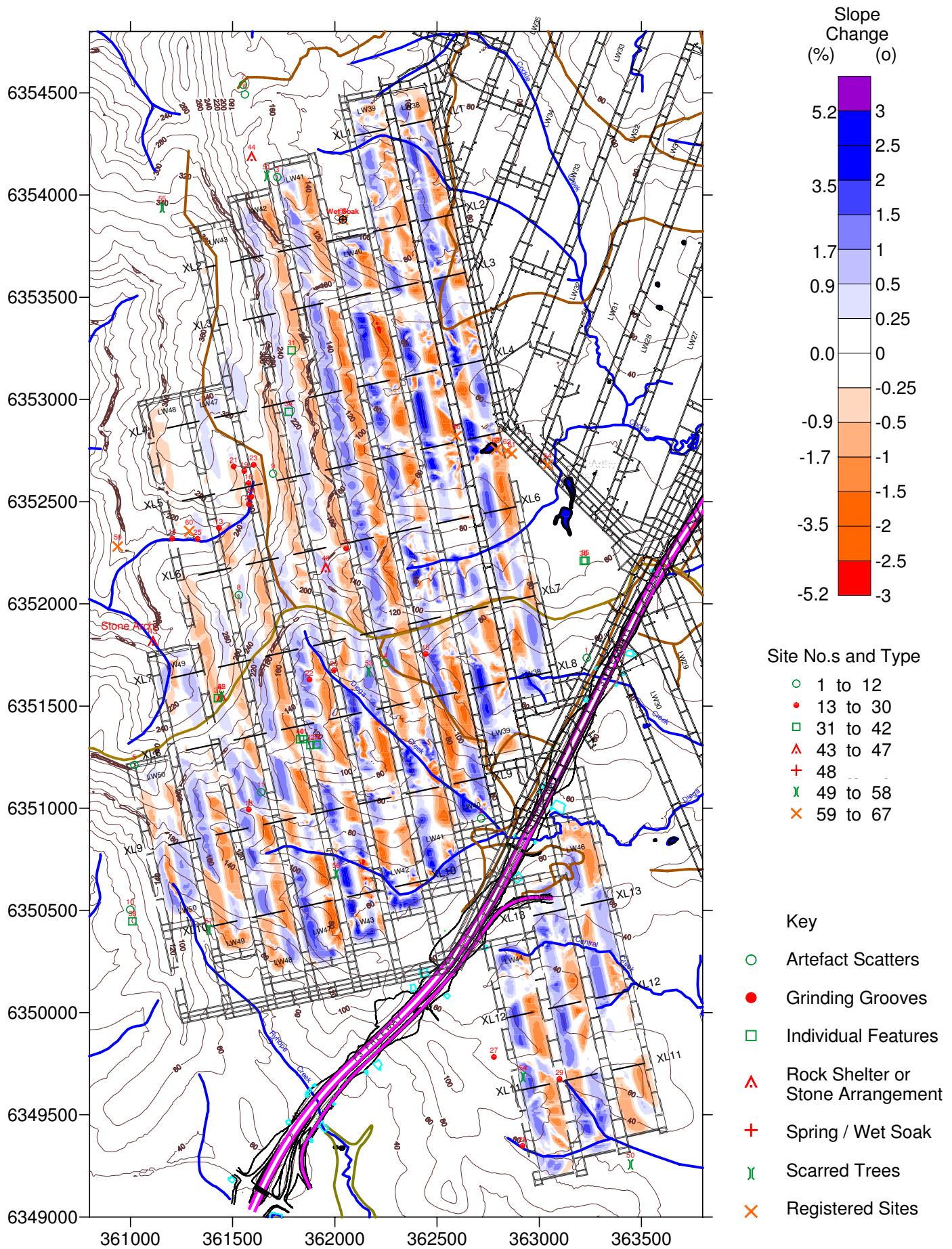
Client: West Wallsend Colliery  
WWD-012/1

Title: Predicted Post-Mining Topography and Surface Gradient Changes  
(Worst-case) with Surface Features Shown

Scale: 1:25,000

Figure No: 52a





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Engineer: S.Ditton  
Drawn: S.Ditton  
Date: 30.06.09

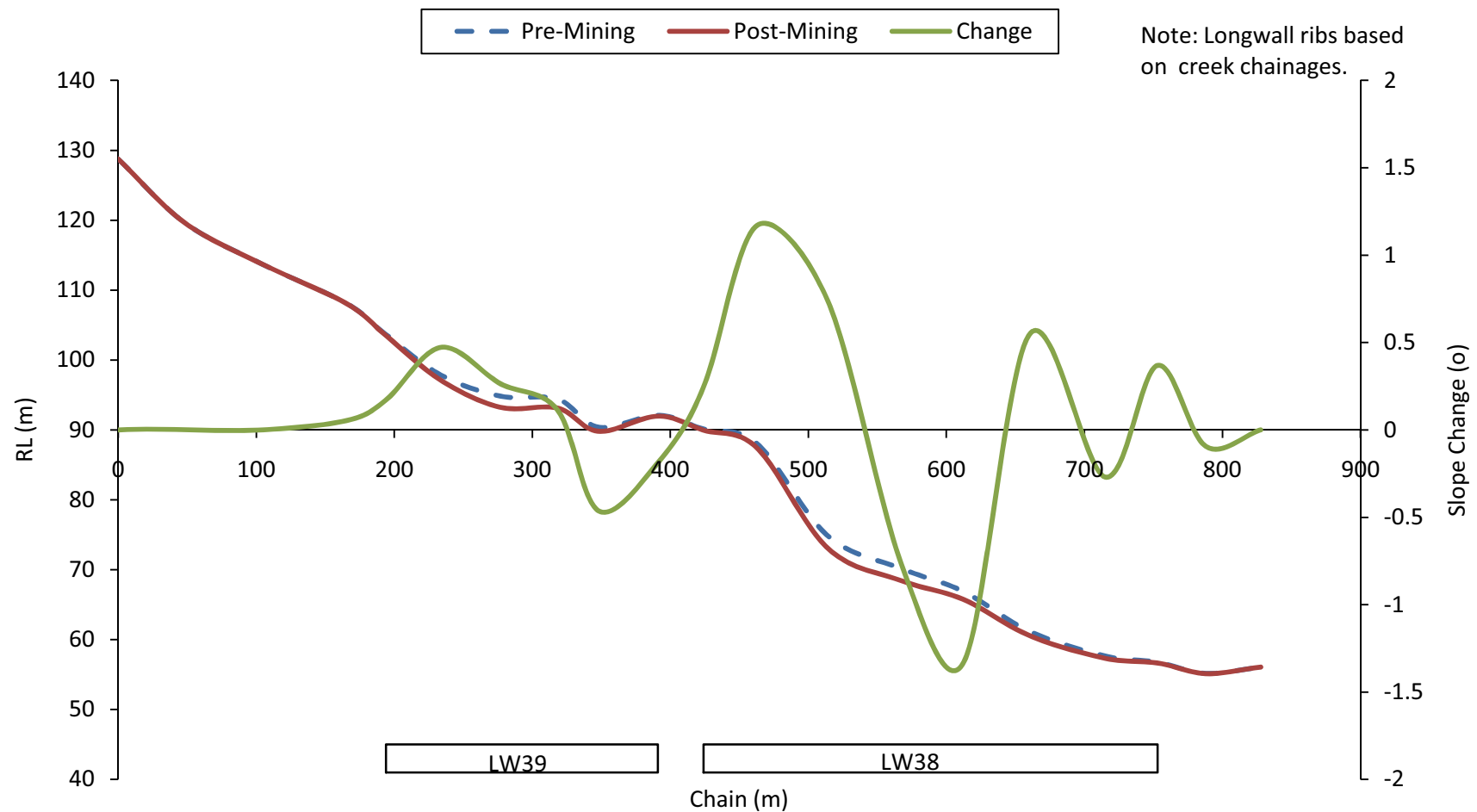
Ditton Geotechnical  
Services Pty Ltd

Client: West Wallsend Colliery  
WWD-012/1

Title: Predicted Post-Mining Topography and Surface Gradient Changes  
(Worst-case) with Aboriginal Archaeological Features Shown

Scale: 1:25,000

Figure No: 52b



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Engineer: S.Ditton

Drawn: S.Ditton

Date: 30.06.09

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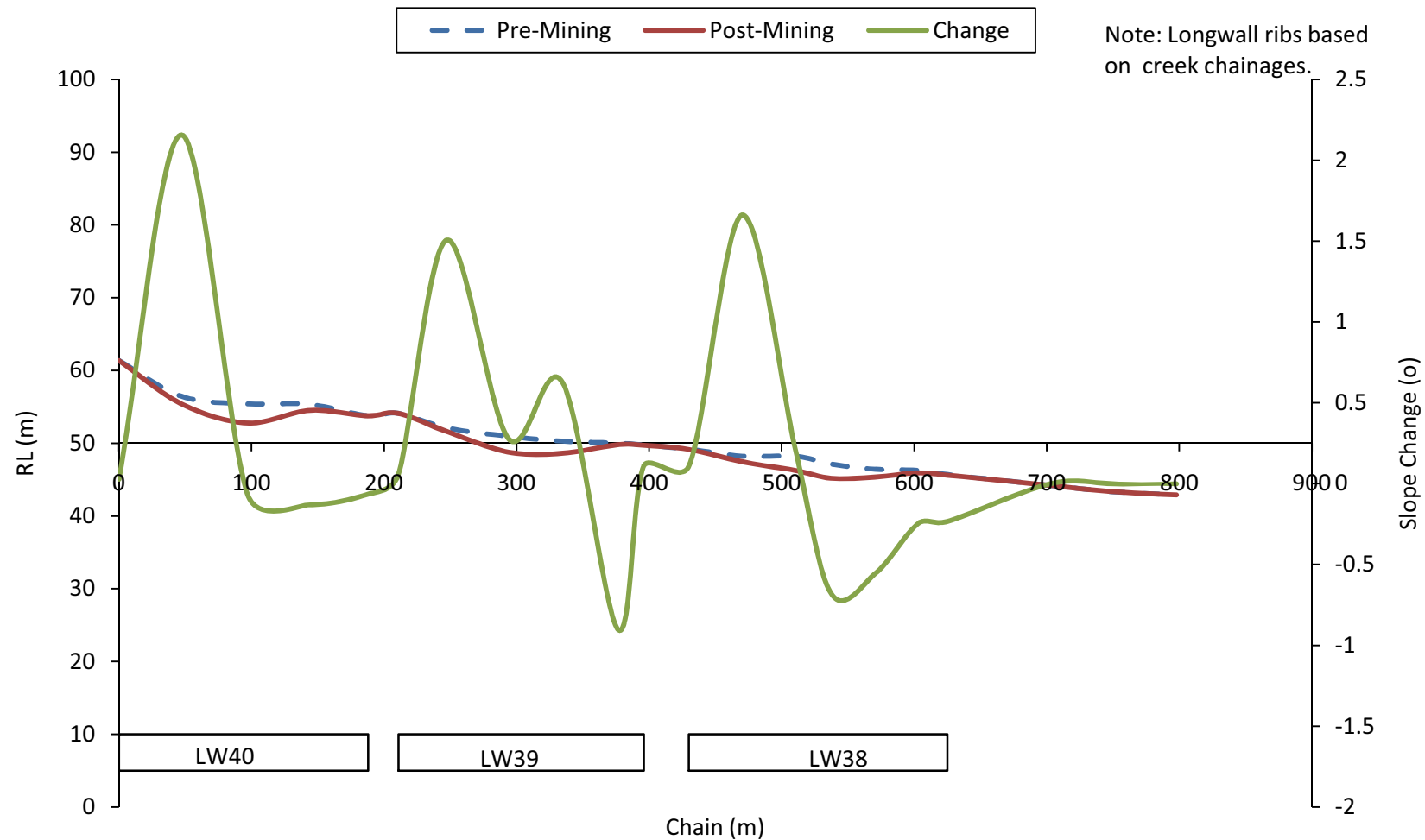
Client: West Wallsend Colliery

WWD-012/1


Title: Pre-mining and Predicted Post-Mining Surface Profiles Along Cockle Creek - North  
Tributary Above LWs 38 to 39 due to Worst-case Mine Subsidence

Scale: NTS

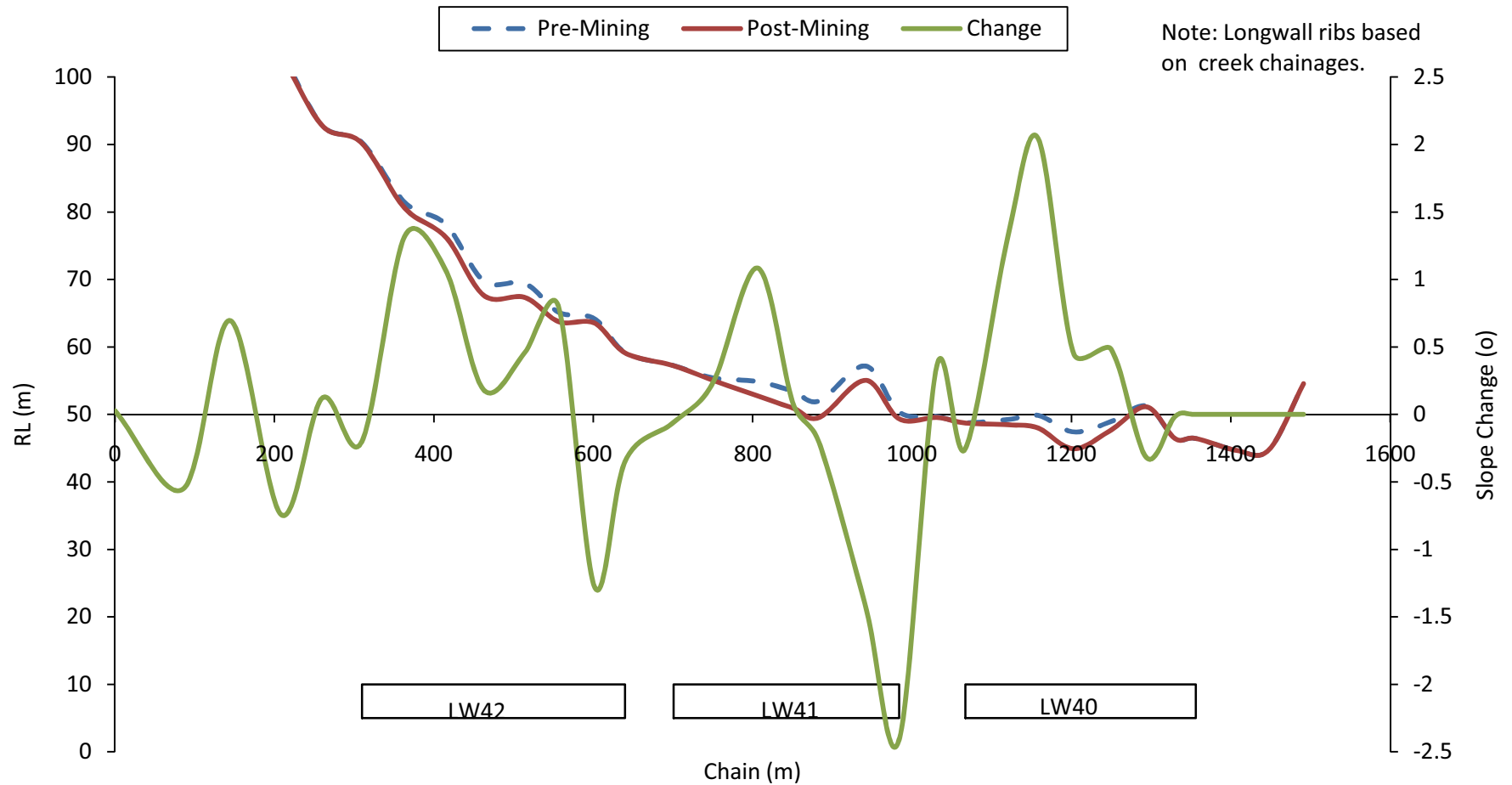
Figure No: 53a



Note: Longwall ribs based on creek chainages.

	Engineer:	S.Ditton	Client:	West Wallsend Colliery			
	Drawn:	S.Ditton		WWD-012/1			
	Date:	30.06.09	Title:	Pre-mining and Predicted Post-Mining Surface Profiles Along Cockle Creek - South Tributary Above LWs 38 to 40 due to Worst-case Mine Subsidence			
	Ditton Geotechnical						
	Services Pty Ltd			Scale:	NTS		Figure No:





Note: Longwall ribs based on creek chainages.

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Drawn: S.Ditton

Date: 30.06.09

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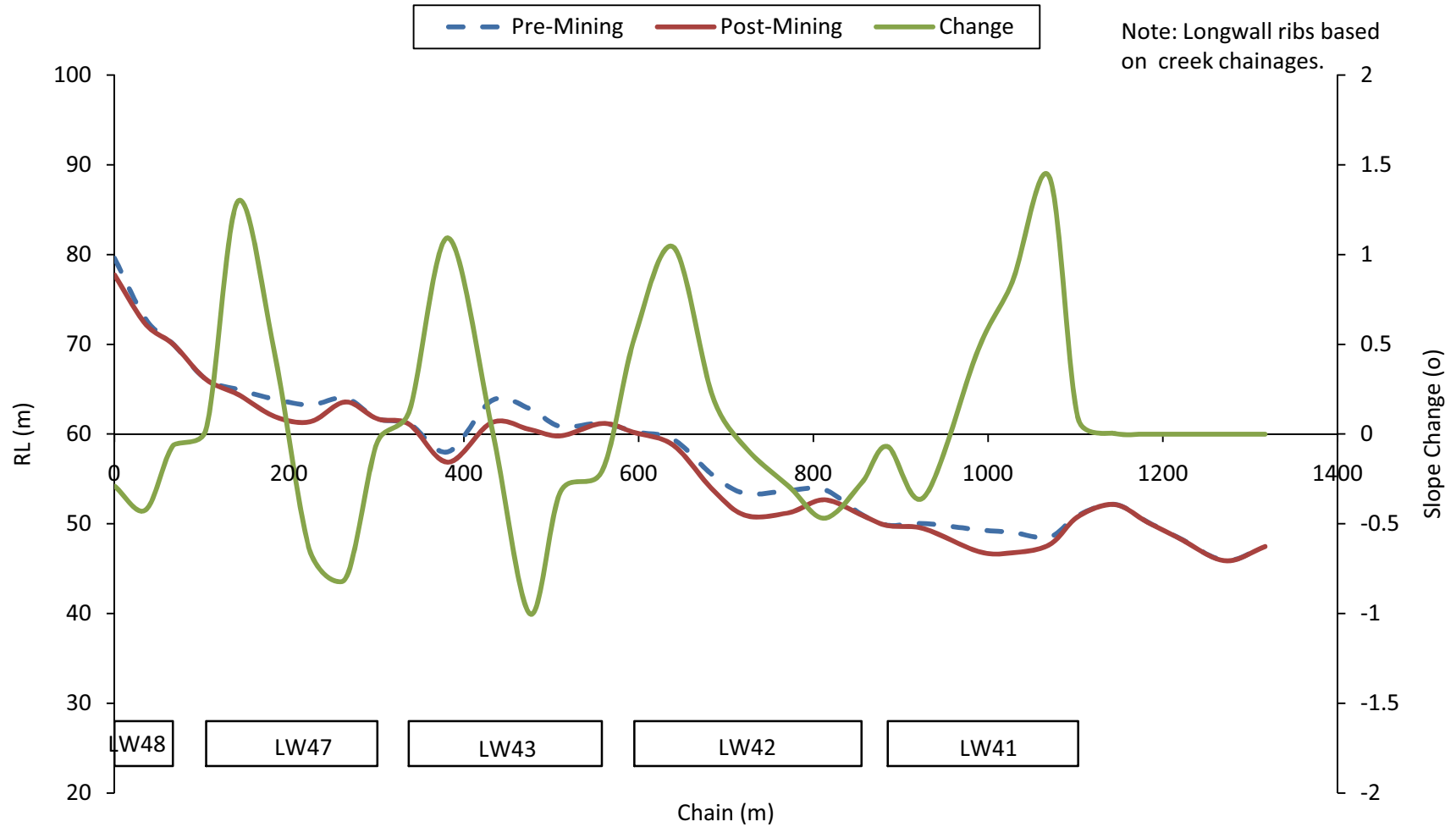
Client: West Wallsend Colliery

WWD-012/1

Title: Pre-mining and Predicted Post-Mining Surface Profiles Along Diega Creek  
Above LWs 40 to 42 due to Worst-case Mine Subsidence

Scale: NTS

Figure No: 53c



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Date: 30.06.09

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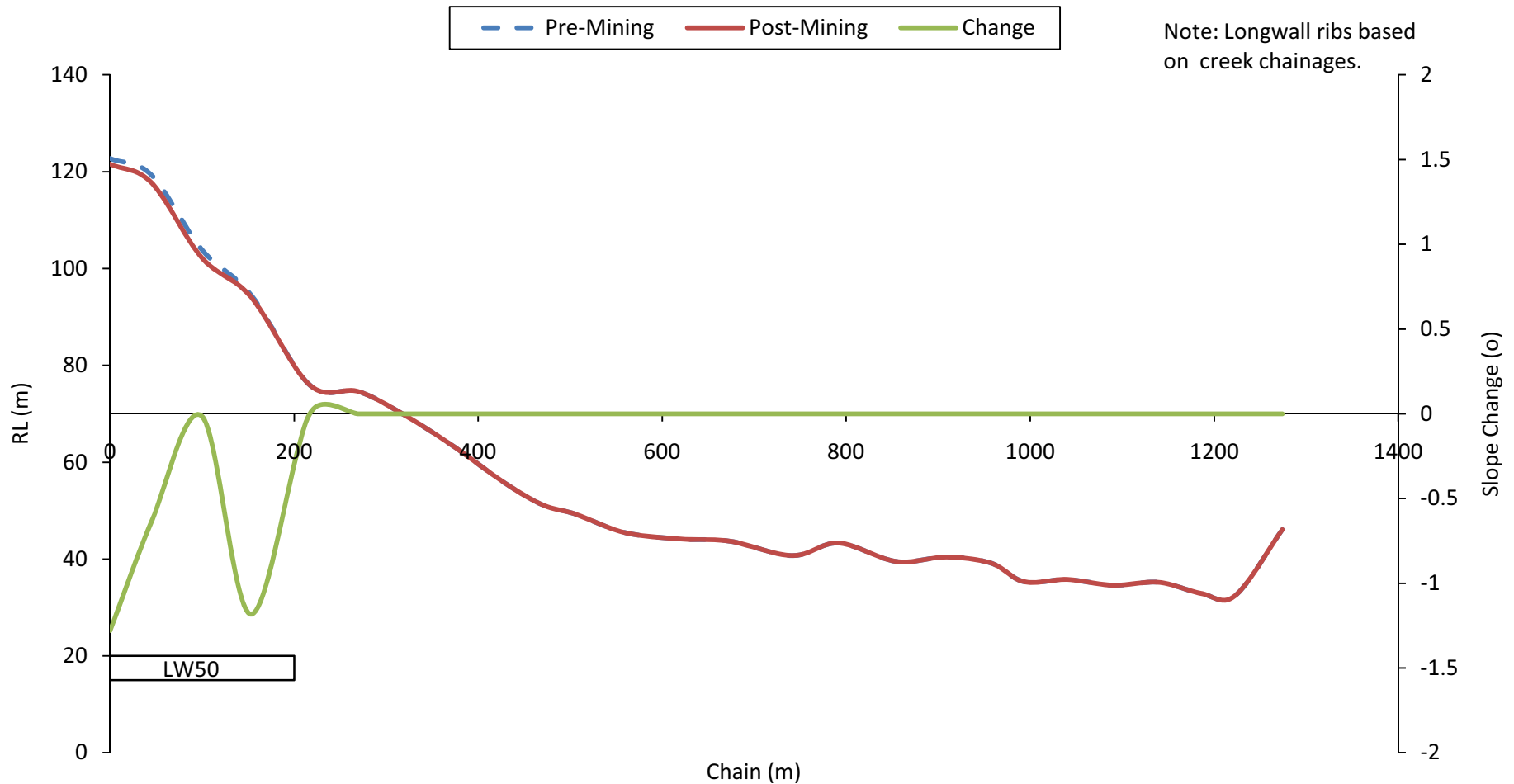
Client: West Wallsend Colliery

WWD-012/1

Title: Pre-mining and Predicted Post-Mining Surface Profiles Along Diega Creek - South  
Tributary Above LWs 41 to 43 and 47 to 48 due to Worst-case Mine Subsidence

Scale: NTS

Figure No: 53d



Note: Longwall ribs based on creek chainages.

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Engineer: S.Ditton

Drawn: S.Ditton

Date: 02.02.09

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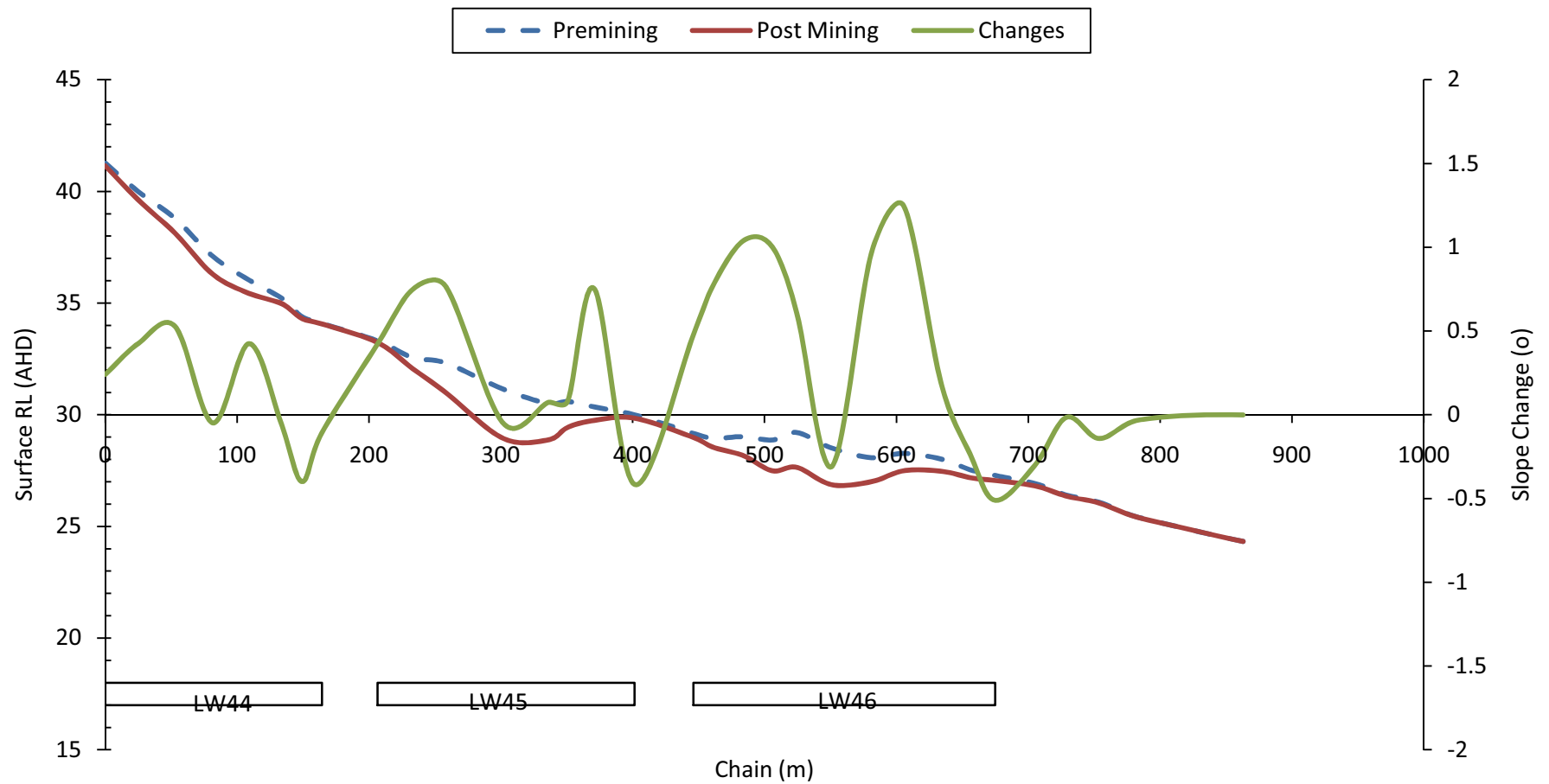
Client: West Wallsend Colliery

WWD-012/1

Title: Pre-mining and Predicted Post-Mining Surface Profiles Along Ryhope Creek  
Above LW 50 due to Worst-case Mine Subsidence

Scale: NTS

Figure No: 53e



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Drawn: S.Ditton

Date: 30.06.09

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Client: West Wallsend Colliery

WWD-012/1

Title: Pre-mining and Predicted Post-Mining Surface Profiles Along Central Creek  
Tributary Above LWs 44 to 46 due to Worst-case Mine Subsidence

Scale: NTS

Figure No: 53f