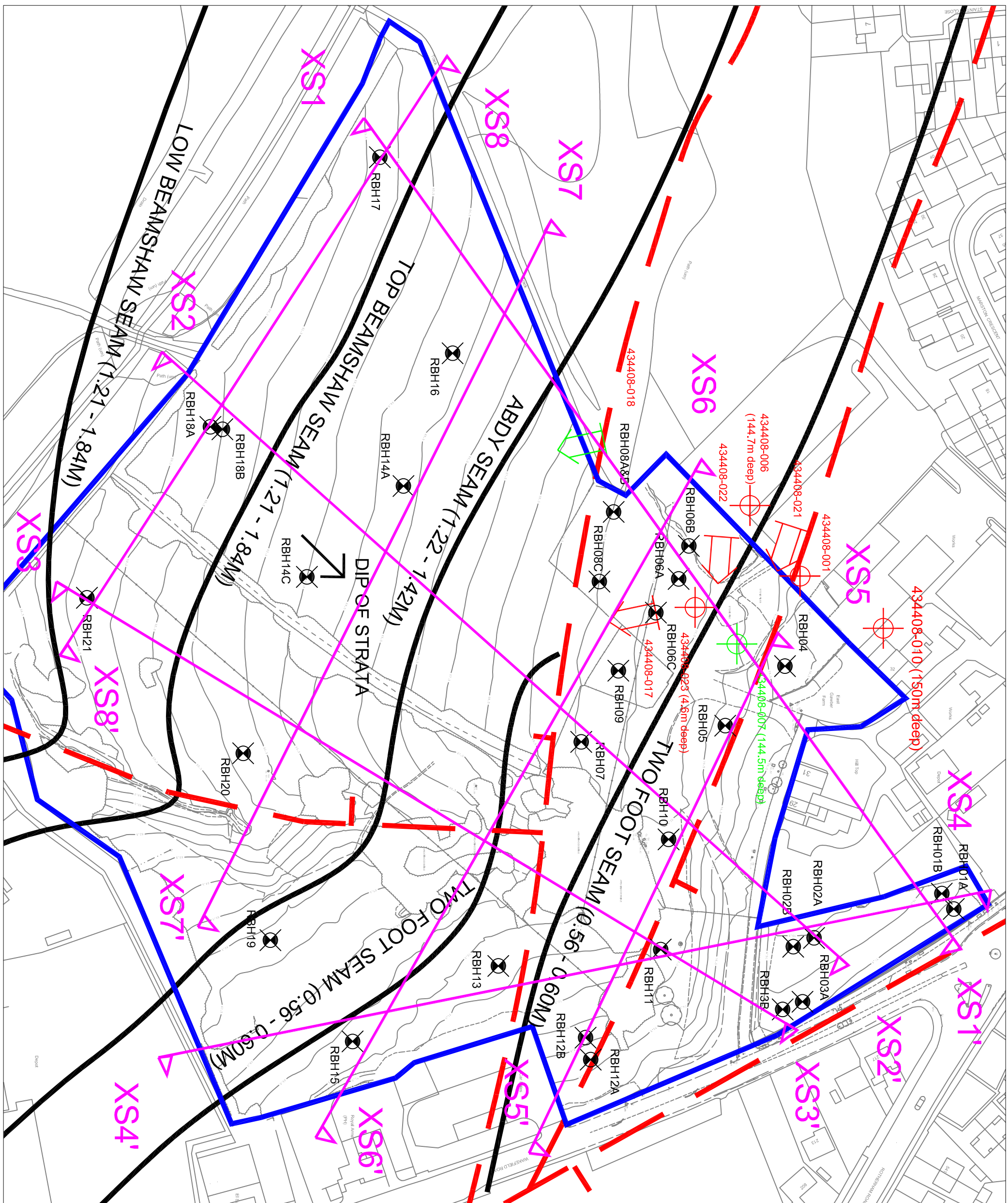


Appendix D: Geological Cross Sections

Cross Section 1 – 8

**Lines of section indicated on drawing 17176-
RLE-19-XX-DR-O-009**



GENERAL NOTES

NO DIMENSIONS TO BE SCALED OFF THIS DRAWING.
 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS' AND ENGINEERS' DRAWINGS.
 ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
 ALL LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
 ANY DISCREPANCIES NOTED ON SITE ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.

KEY

- SITE BOUNDARY
- COAL SEAM (NAMED) WITH THICKNESS
- FAULT (INFERRED) WITH TICK ON DOWNTOWN SIDE
- APPROXIMATE LOCATION OF MINESHAFT ON OR WITHIN 20M OF THE SITE (POSITION PROVIDED BY COAL AUTHORITY)
- NOT IDENTIFIED BY ROTARY DRILLING
- LOCATION OF MINESHAFT IDENTIFIED ON SITE BY ROTARY DRILLING
- APPROXIMATE LOCATION OF ADIT ON OR WITHIN 20M OF THE SITE (POSITION PROVIDED BY COAL AUTHORITY)
- NOT IDENTIFIED BY ROTARY DRILLING
- LOCATION OF POSSIBLE ADIT IDENTIFIED ON SITE BY ROTARY DRILLING
- LOCATION AND REFERENCE OF ROTARY OPENHOLE BOREHOLE TO INVESTIGATE FOR SHALLOW WORKINGS
- RBH02
- XS1
- LINE AND REFERENCE OF GEOLOGICAL CROSS SECTION

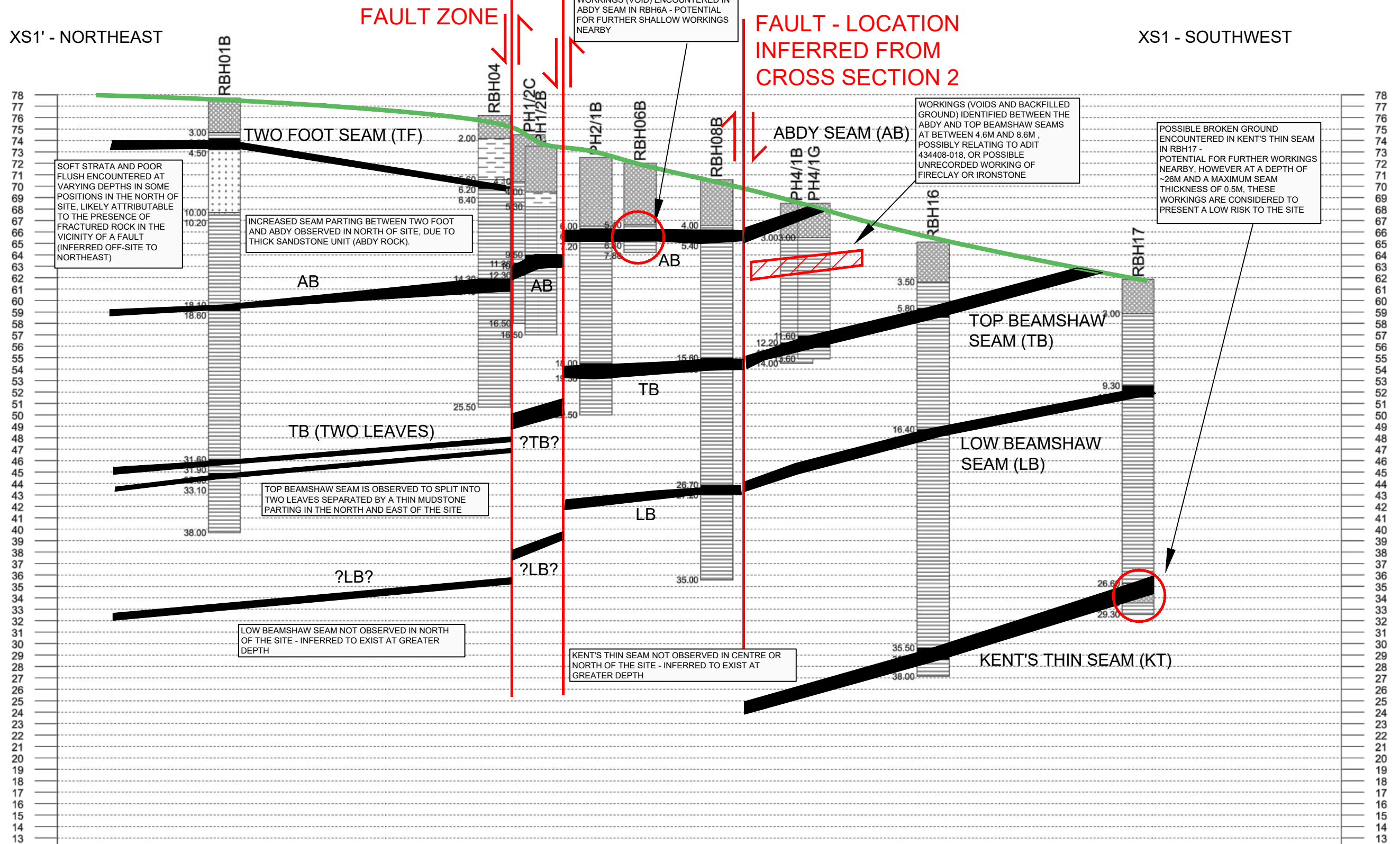


Client
HARWORTH ESTATES
 Project
ATHERSLEY

Drawing Title
CROSS SECTION PLAN
 Scale
 NTS AT IPB
 Date
 22/10/19

Information

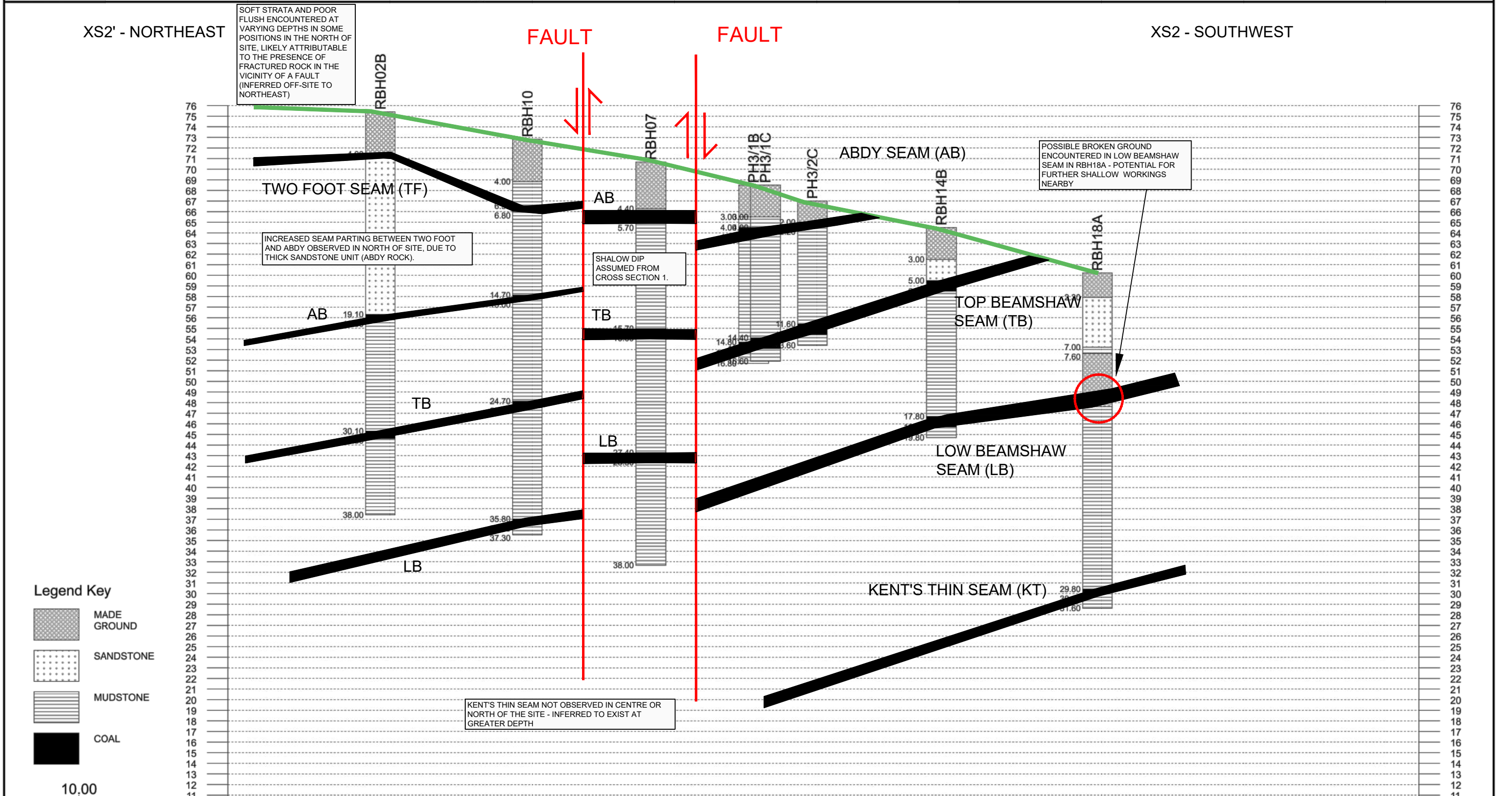
Scale	Drawn	Checked	Date
NTS	AT	IPB	22/10/19



Legend Key

- MADE GROUND
- MUDSTONE
- COAL
- CLAY
- SANDSTONE
- SAND

Chainage (m)	0.00	3.56	9.06	119.83	126.17	130.98	133.88	144.53	153.72	155.68	175.27	179.28	206.04	210.19	235.99	239.88	244.68	247.58	292.50	303.28	374.51	381.99
Offset (m)	0.72	0.30		2.26	0.42	0.48	0.11	3.17	2.56	1.39	1.80		1.87		1.24	0.32	0.39	0.16	1.89		5.44	
Elevation (mAOD)	77.69	77.69		76.18	73.00	74.50	74.00	72.80	73.50	73.50	72.01		70.57		67.50	68.00	68.00	68.00	65.12		61.85	

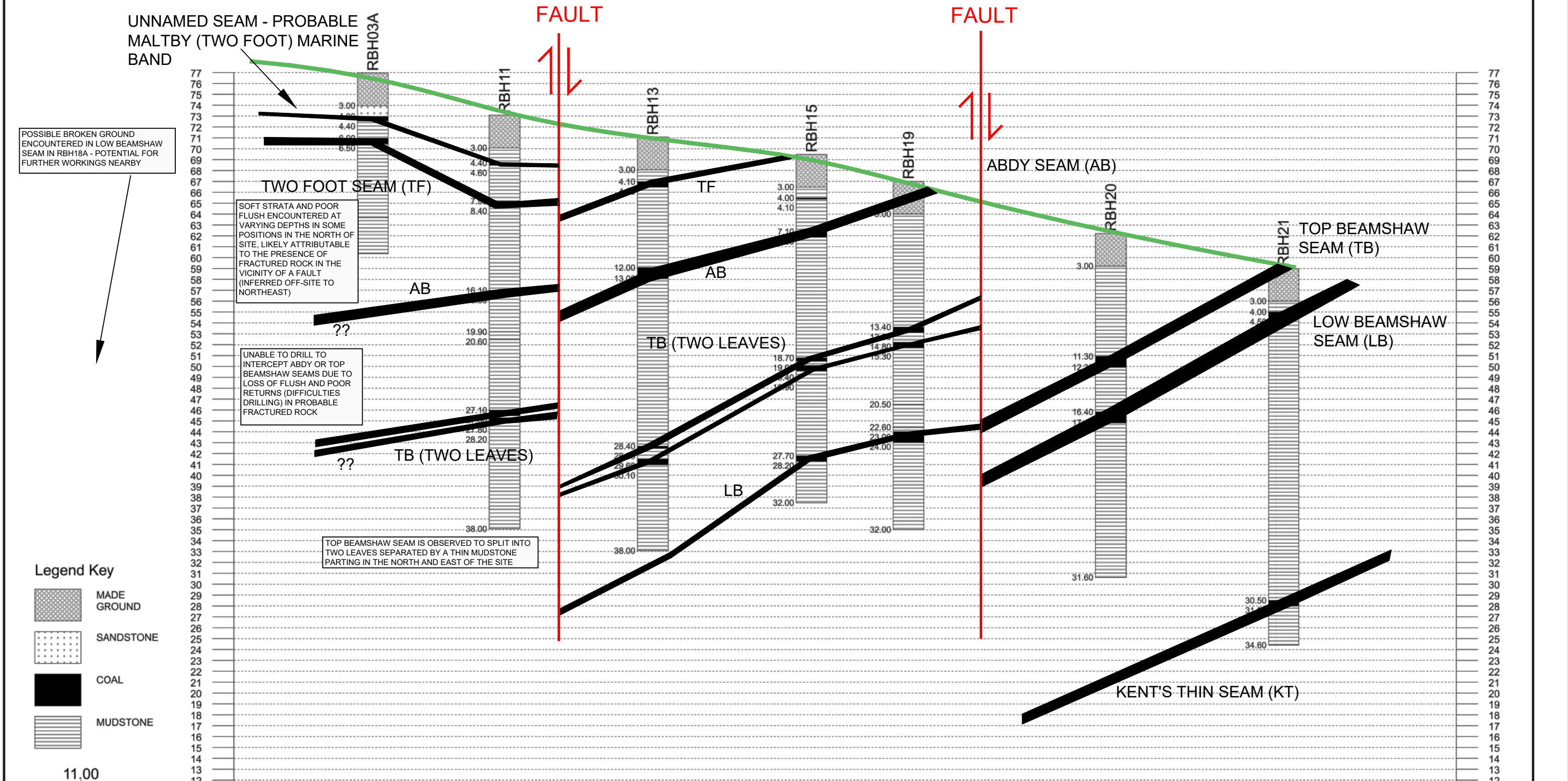


Chainage (m)	0.00	8.61	45.95	71.38	75.49	124.57	128.73	135.00	165.83	169.86	173.89	177.92	181.95	185.98	194.28	234.44	249.84	292.73	314.29	323.11
Offset (m)		6.29		0.48	0.48	0.28	5.90		7.86	6.86	5.86	4.86	3.86	2.86	11.65	10.42	1.32	11.71	3.41	0.60
Elevation (mAOD)	75.41			72.83		70.67			61.72						67.00	64.47	64.50	60.71	60.50	



XS3' - NORTHEAST

XS3 - SOUTHWEST



Legend Key

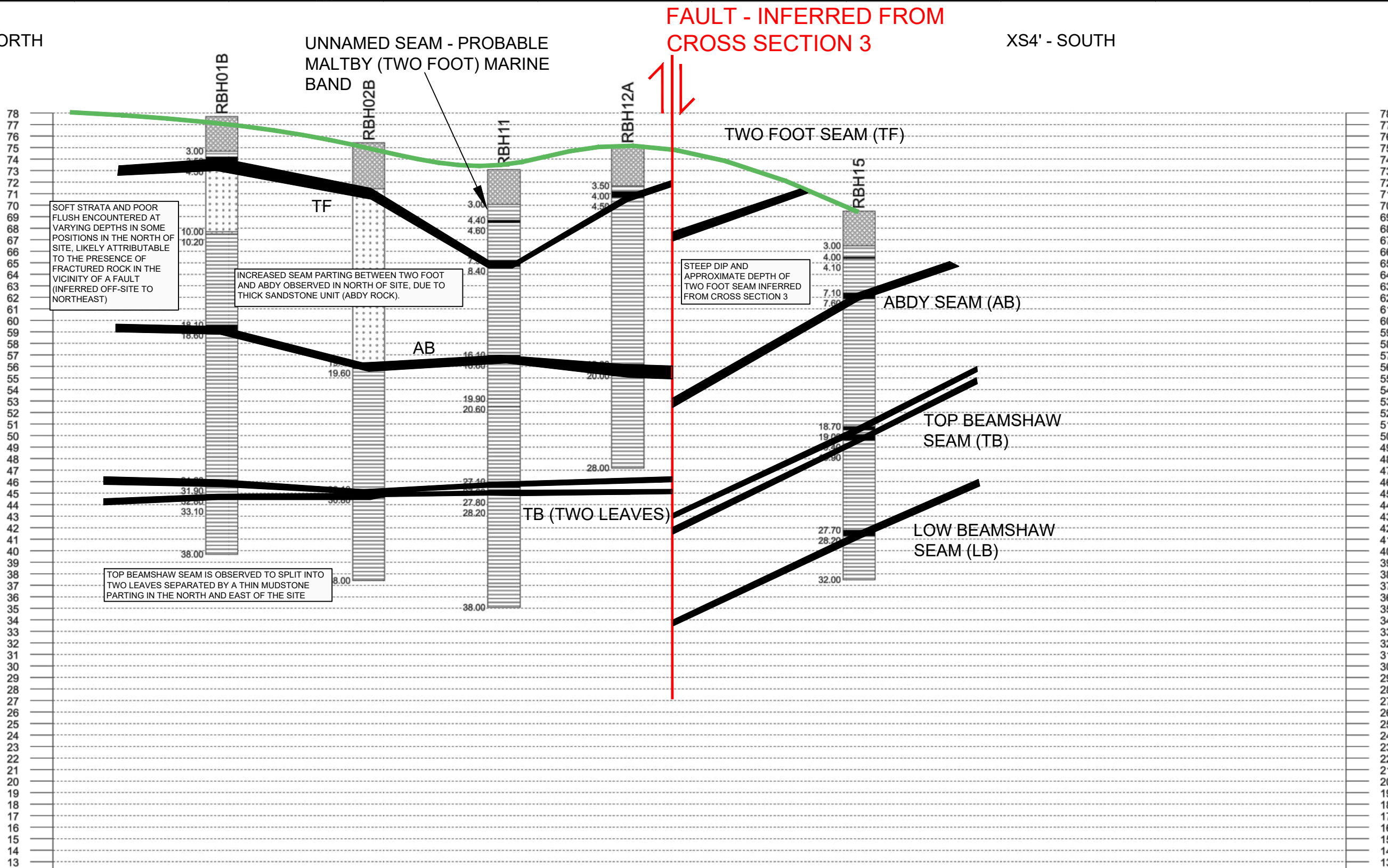
- MADE GROUND
- SANDSTONE
- COAL
- MUDSTONE

Chainage (m)	0.00	48.33	55.92	118.19	173.27	185.03	225.89	233.30	319.28	348.04	388.69
Offset (m)	0.43	6.96	0.16	4.24	2.92	4.55	0.32	7.49	2.29	0.04	
Elevation (mAOD)	76.96	73.44	73.08	71.07	69.32	69.48	67.01	62.22	60.70	59.00	



XS4 - NORTH

XS4' - SOUTH



Legend Key

	MADE GROUND
	MUDSTONE
	COAL
	SANDSTONE
	SAND

12.00

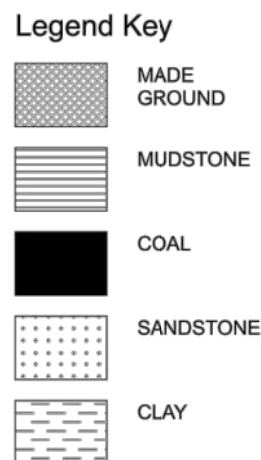
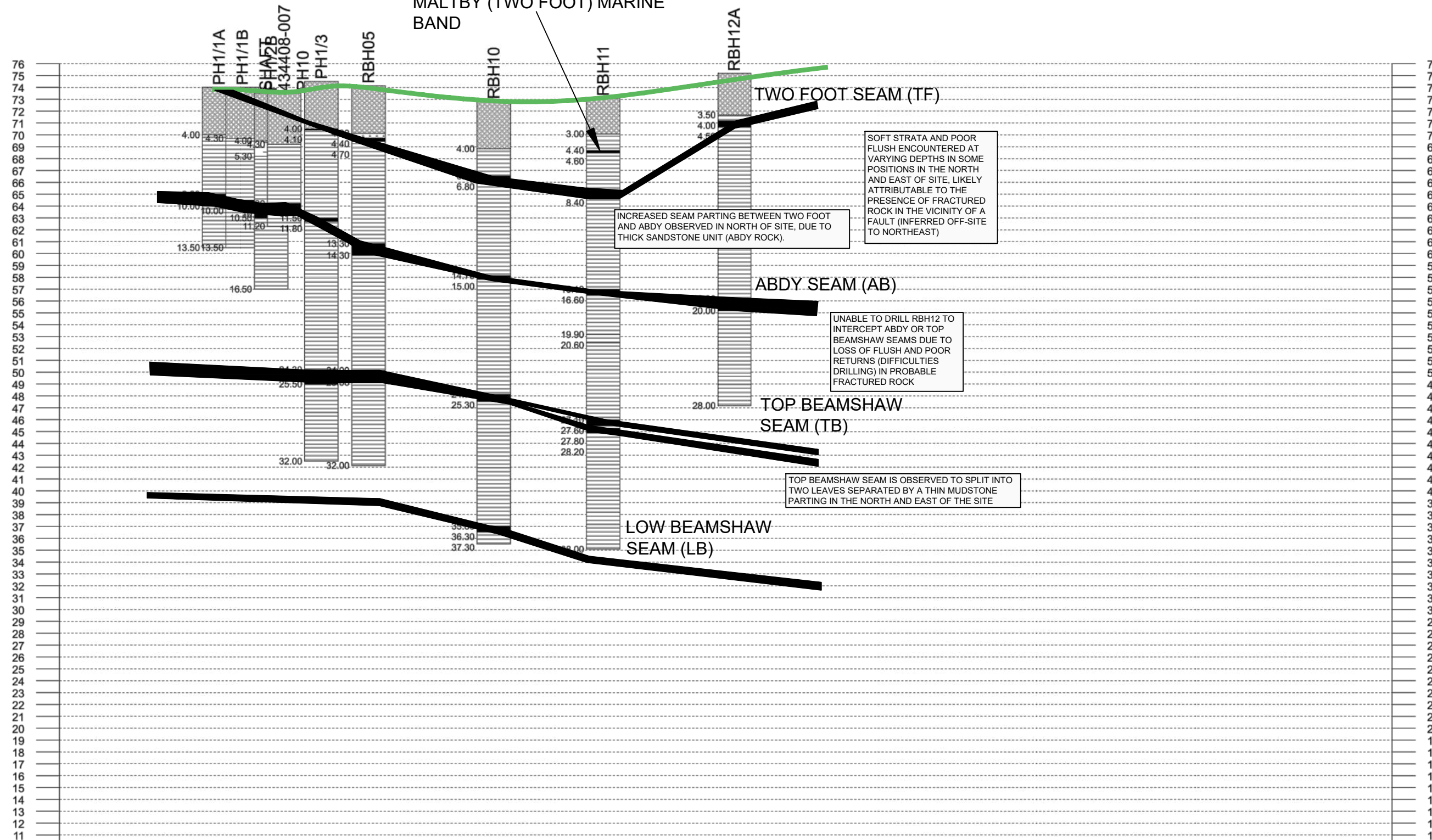
Chainage (m)	0.00	7.51	62.44	67.68	75.10	111.57	121.31	126.90	165.22	170.66	174.61	262.61	273.81
Offset (m)		4.09	0.29	0.28		5.78	2.79		0.26	6.45	7.18	0.33	
Elevation (mAOD)		77.68	75.41	75.41		73.44	73.08		74.50	75.18	75.51	69.48	



XS5 - NORTHWEST

XS5' - SOUTHEAST

UNNAMED SEAM - PROBABLE
 MALTBY (TWO FOOT) MARINE
 BAND



10.00

Chainage (m)	0.00	3.65	12.86	23.88	29.89	43.15	61.28	109.57	151.81	156.05	204.34
Offset (m)	1.87	4.56	4.20	8.97	0.47	0.03	0.07	0.07	0.51	0.39	0.39
Elevation (mAOD)	74.00	74.00	74.60	73.86	74.50	74.14	72.83	73.08	73.08	75.18	75.18



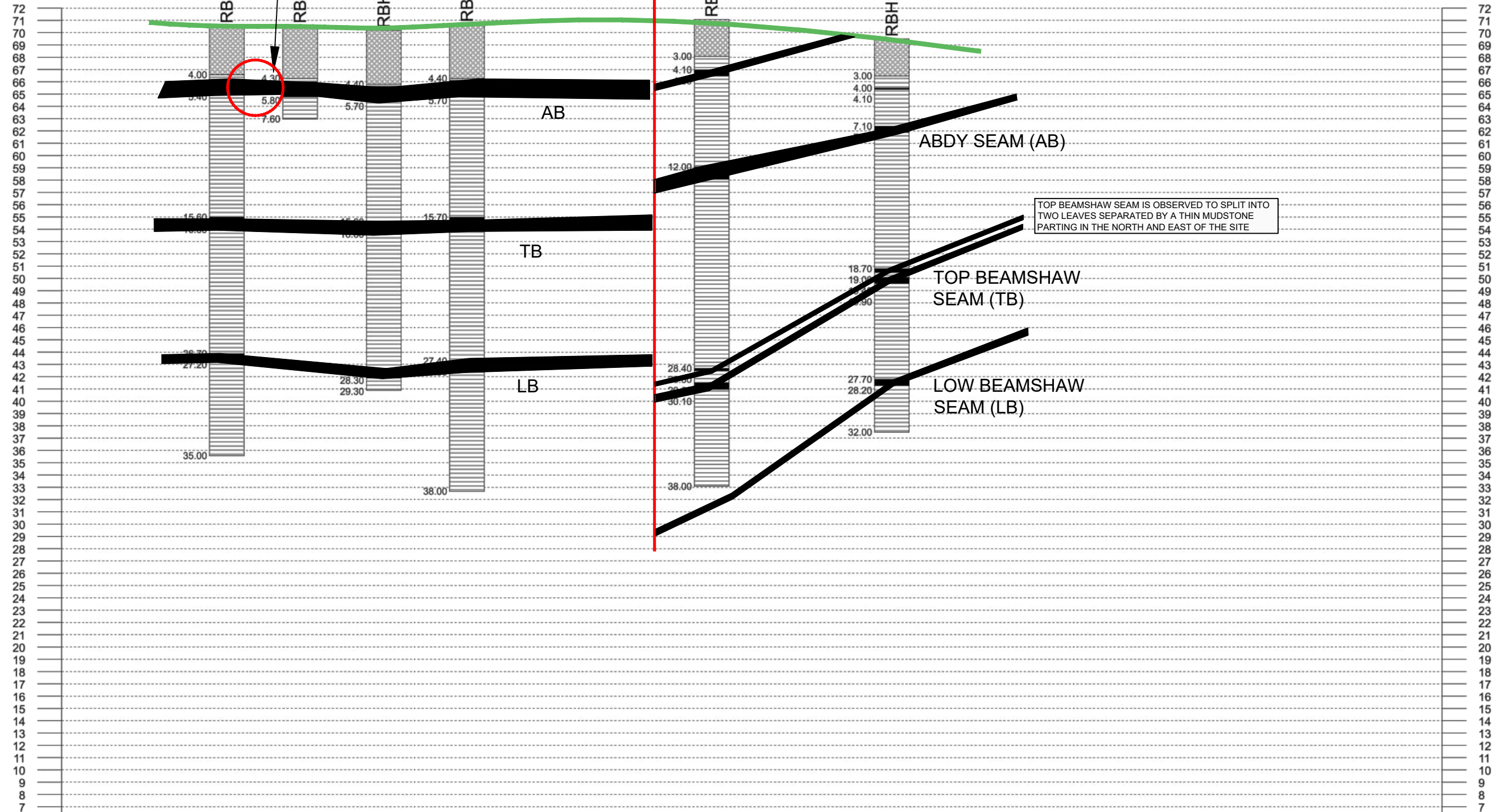
XS6 - NORTHWEST

XS6' - SOUTHEAST

WORKINGS (VOID) ENCOUNTERED IN
 ABDY SEAM IN RBH6A (OFF SECTION)
 POTENTIAL FOR FURTHER SHALLOW
 WORKINGS NEARBY

FAULT

TWO FOOT SEAM (TF)



TOP BEAMSHAW SEAM IS OBSERVED TO SPLIT INTO
 TWO LEAVES SEPARATED BY A THIN MUDSTONE
 PARTING IN THE NORTH AND EAST OF THE SITE

Legend Key

- MADE GROUND
- MUDSTONE
- COAL

6.00

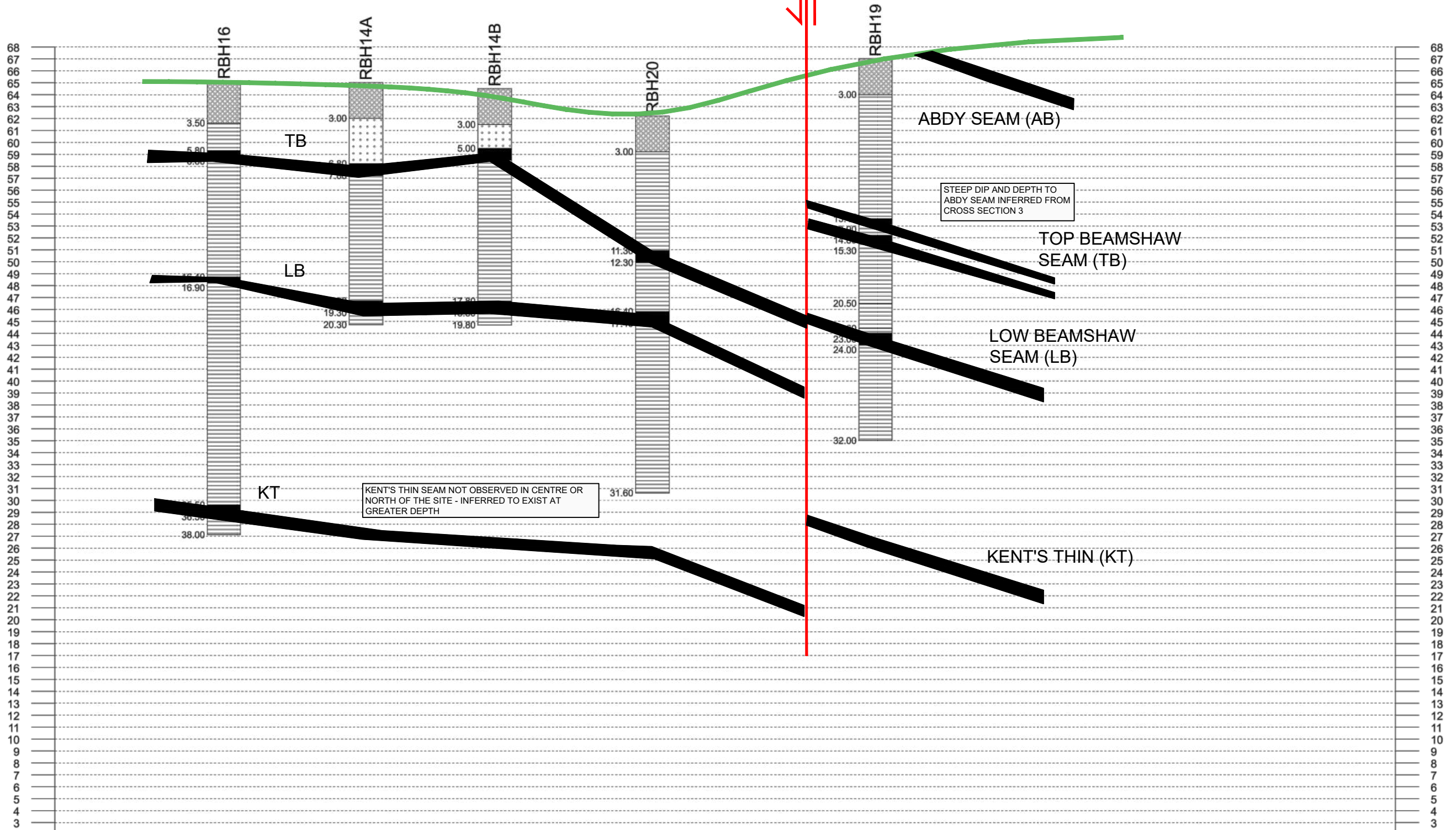
Chainage (m)	0.00	3.62	31.01	33.63	47.51	57.40	62.03	67.46	85.81	93.08	95.88	184.01	187.50	251.04	254.34
Offset (m)	0.20	0.60	3.15	1.06	0.42	2.40	0.79	0.27	1.44						
Elevation (mAOD)	70.57	70.57	71.90	71.50	70.19	70.79	70.67	71.07	69.48						



XS7 - NORTHWEST

FAULT - INFERRED FROM CROSS SECTION 3

XS7' - SOUTHEAST



Legend Key

	MADE GROUND
	MUDSTONE
	SANDSTONE
	COAL

Chainage (m)	9.98	7.02	61.41	61.52	110.80	116.51	171.25	176.65	256.75	261.13
Offset (m)	1.44	0.94	2.72		0.18		0.99		0.82	
Elevation (mAOD)	65.13	65.12	65.02		64.50		62.22		67.01	

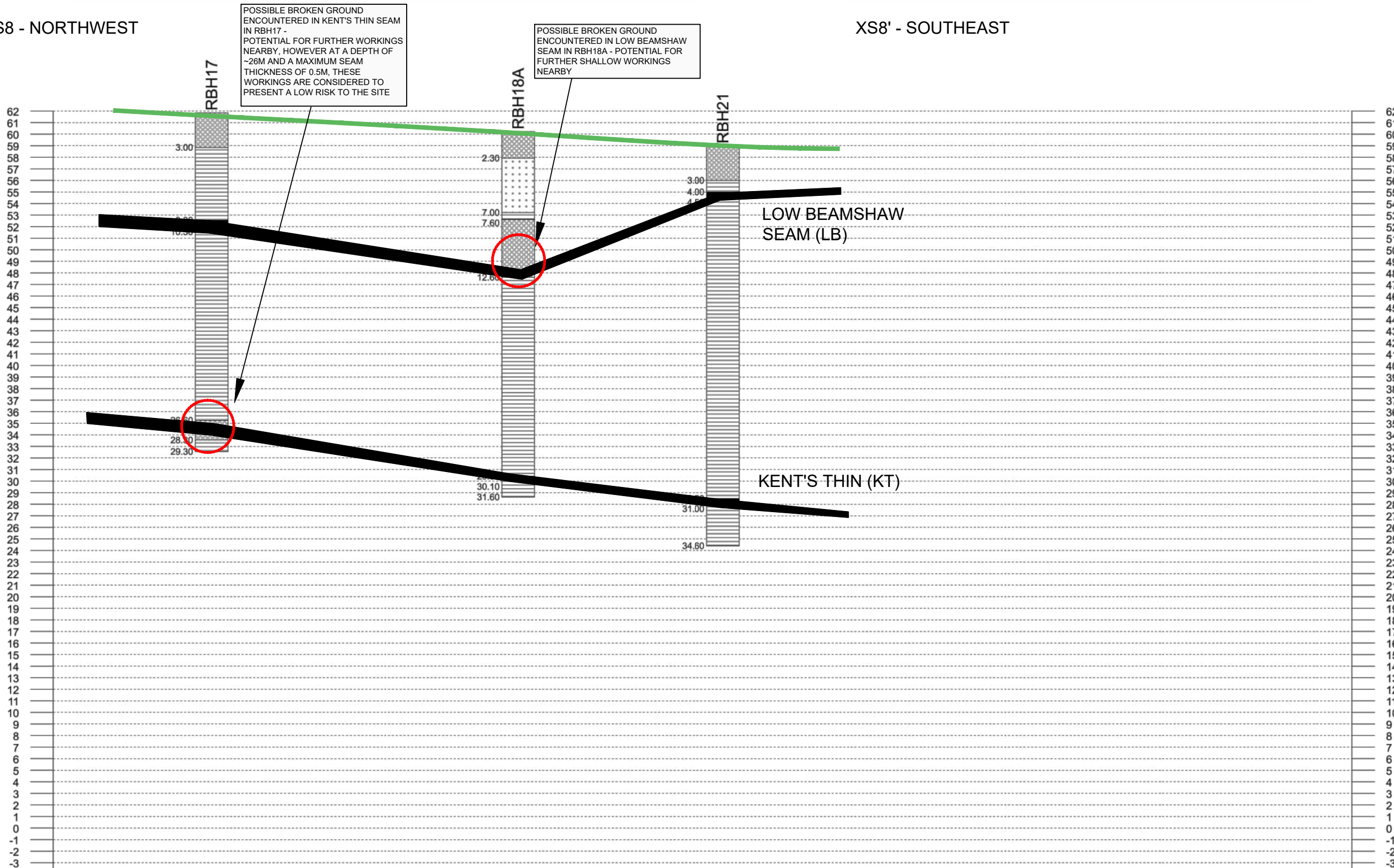
Project Id: P17-176
 Project Title: Athersley, Barnsley
 Location: Barnsley
 Client: Harworth Estates

Title: Section line 8
 Vertical Scale: 1:350 @ A3
 Horizontal Scale: 1:1600
 Engineer: AT



XS8 - NORTHWEST

XS8' - SOUTHEAST



POSSIBLE BROKEN GROUND
 ENCOUNTERED IN KENT'S THIN SEAM
 IN RBH17 -
 POTENTIAL FOR FURTHER WORKINGS
 NEARBY, HOWEVER AT A DEPTH OF
 ~26M AND A MAXIMUM SEAM
 THICKNESS OF 0.5M, THESE
 WORKINGS ARE CONSIDERED TO
 PRESENT A LOW RISK TO THE SITE

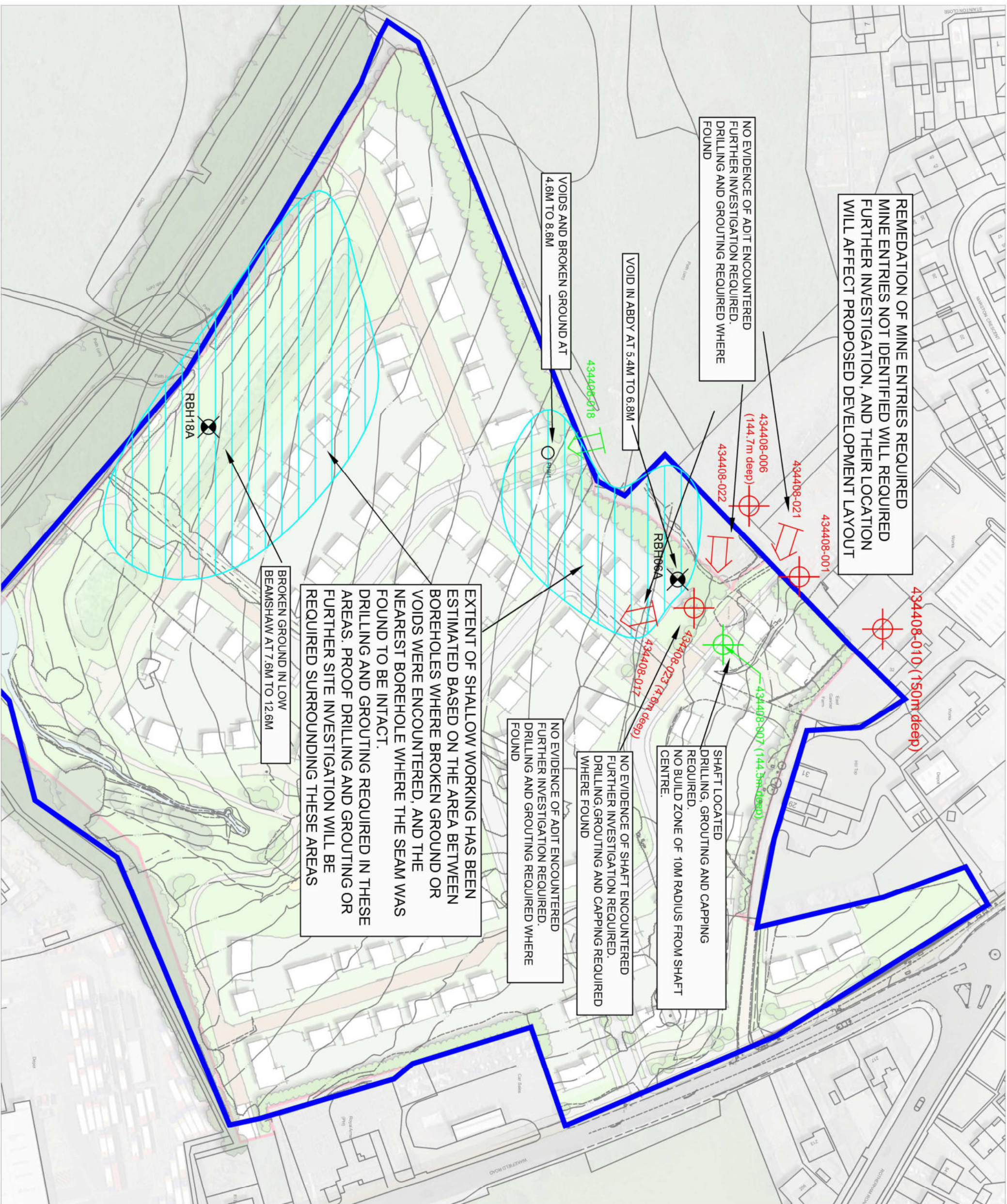
POSSIBLE BROKEN GROUND
 ENCOUNTERED IN LOW BEAMSHAW
 SEAM IN RBH18A - POTENTIAL FOR
 FURTHER SHALLOW WORKINGS
 NEARBY

- Legend Key**
- MADE GROUND
 - MUDSTONE
 - SANDSTONE
 - COAL

Chainage (m)	0.00	4.84	85.98	98.08	124.99	207.16	213.93
Offset (m)	1.32		0.39	4.44	4.98	0.60	
Elevation (mAOD)	61.85		60.66	61.08	60.59	59.00	

Appendix E: Mining Remedial Works Plan

Drawing No:17176-RLE-19-XX-DR-O-010



GENERAL NOTES

NO DIMENSIONS TO BE SCALED OFF THIS DRAWING.
 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS.
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 ALL LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
 ANY DISCREPANCIES NOTED ON SITE ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.

KEY

- SITE BOUNDARY
- APPROXIMATE LOCATION OF MINESHAFTE ON OR WITHIN 20M OF THE SITE (POSITION PROVIDED BY COAL AUTHORITY) NOT IDENTIFIED BY ROTARY DRILLING
- LOCATION OF MINESHAFTE IDENTIFIED ON SITE BY ROTARY DRILLING
- APPROXIMATE LOCATION OF ADIT ON OR WITHIN 20M OF THE SITE (POSITION PROVIDED BY COAL AUTHORITY) NOT IDENTIFIED BY ROTARY DRILLING
- LOCATION OF POSSIBLE ADIT IDENTIFIED ON SITE BY ROTARY DRILLING
- ESTIMATED EXTENT OF IDENTIFIED POSSIBLE SHALLOW WORKINGS REQUIRING TREATMENT

Rev	Date	Amendments	By	Chk
PO2	14.11.19	UPDRT PROPOSED MINESHAFTE AT SF	AT	SF
		ADDED AS DWG LINE REF. BY		



Client
HARWORTH ESTATES
 Project
ATHERSLEY

Drawing Title
MINING REMEDIAL WORKS PLAN

Scale

Drawn	Checked	Date
NTS	AT	08/11/19

Drawing No. 17176-RL-19-XX-DR-0-010 PO2