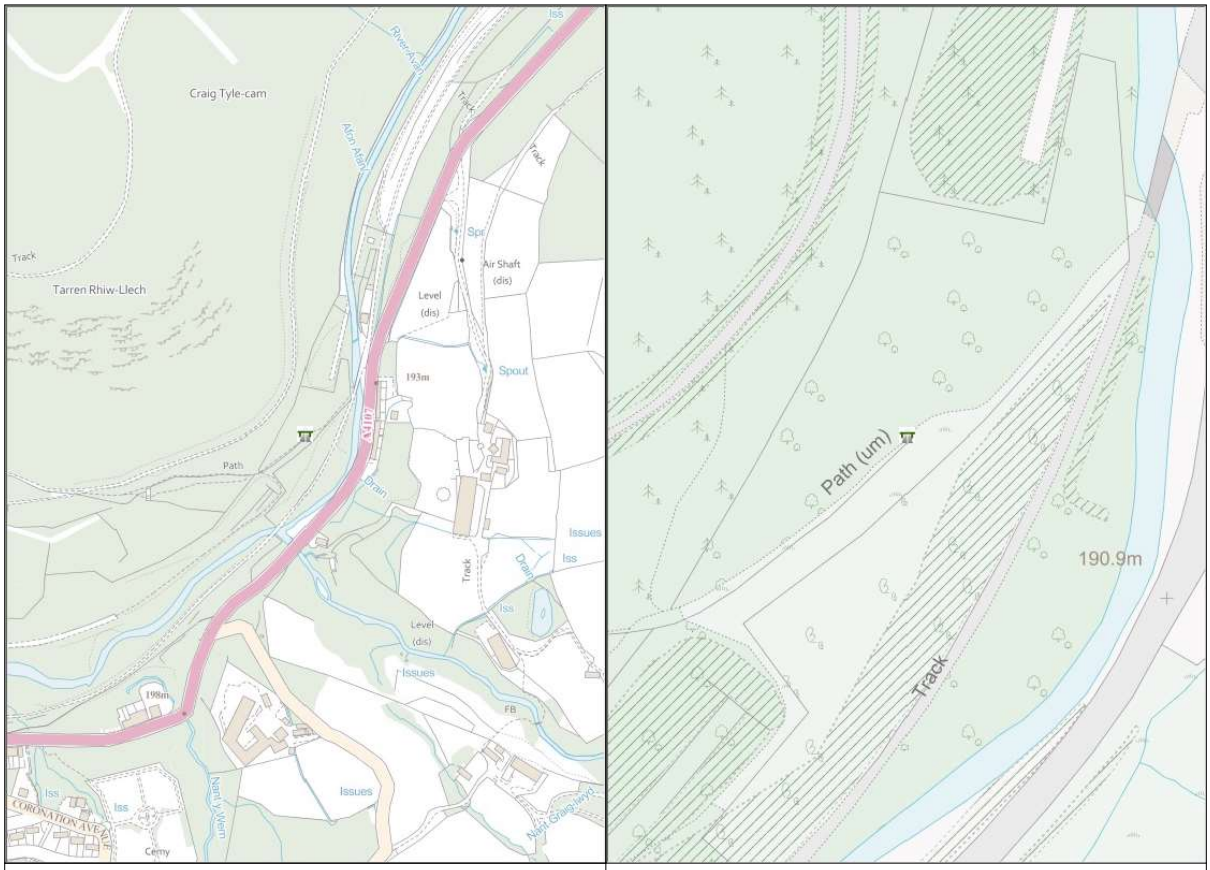
815	Gelli Houses Disused Railway Tunnel: Cymmer Division	General Inspection



Easting: 287126.088151062		Northing: 196193.810244219	
Inspection Type: General Inspection	Form No.: 1 of 2	Description: Span 1 - Brick Lined	
Inspector: Paul Ransome	Date: 12/06/2021 00:00	Next Inspection:	
Name:	Gelli Houses Disused Railway Tunnel (815)	Road Ref:	

Map Ref:	OS:	SS87129619		Primary Str. Form:	1
Width:		Length:	37.6	Primary Material:	K
All Above Ground Elements Inspected:			Yes	Secondary Str. Form:	
				Secondary Material:	

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary Deck Element	1	A	0			£0	The pointing is sound. There are small regular gaps in the pointing along the crown of the arch ring which are assumed to be for drainage. The bricks are in a good condition with no delamination or blistering.
Load-Bearing Substructure	8	Foundation	1	A	6.1			£0	No signs of settlement
	9	Abutments (incl. arch springing)	2	B	3.2		L	£5,000	Pointing is sound with only very minor areas of seepage. The bricks are in a good condition with no delamination or blistering.
	10	Spandrel wall/head wall	2	B	0		L	£3,500	Moderate vegetation growth. Some small trees. Small area of stone loss due to vegetation growth to the north west corner of the spandrel
Durability Elements	17	Water Proofing	3	C	14.1		L	£0	Water is seeping through the slots in the brick lining joints
Safety Elements	23	Handrail/parapets/safety fences	5	E	16.2		M	£5,000	There is no edge protection on top of the northern portal. The access to this area is difficult with heavy vegetation but there is a potential for members of the public or inspection staff falling over the edge.
Other Bridge Elements	26	Invert/river bed	2	B	7.2		L	£0	Minor areas of stone & rubbish debris build up but doesn't prevent access through tunnel
	33	Embankments	2	C	5.2		M	£2,500	There are some large trees growing on top of the tunnel. At the portal end the depth of cover is not great so the tree roots could potentially affect the structure.

S- Severity ,Ex - Extent, def - Defect. W - Work Required, P - Work Priority, Cost - Cost of work

Structure: Gelli Houses Disused Railway Tunnel	Structure Ref: 815	Form: 1 of 2

MULTIPLE DEFECTS

Element No.	S	Ex	Defect	Comments
10	3	C	5.1	Moderate vegetation growth. Some small trees.
1	1	A	3.6	The bricks are in a good condition with no delamination or blistering.

INSPECTOR'S COMMENTS

No.	Comments	Comment Type
9	Pointing is sound with only very minor areas of seepage. The bricks are in a good condition with no delamination or blistering.	Inspectors Comment
10	Moderate vegetation growth. Some small trees. Small area of stone loss due to vegetation growth to the north west corner of the spandrel.	Inspectors Comment
23	There is no edge protection on top of the northern portal. The access to this area is difficult with heavy vegetation but there is a potential for members of the public or inspection staff falling over the edge.	Inspectors Comment
33	There are some large trees growing on top of the tunnel. At the portal end the depth of cover is not great so the tree roots could potentially affect the structure.	Inspectors Comment

Name	Paul Ransome	Signed		Date	19/02/2021 00:00

ENGINEER'S COMMENTS

No.	Comments				
Name	Hasan Hasan	Signed		Date	11/06/2021 00:00

WORK REQUIRED

Ref No.	Item No.	Work Description	Priority	Estimated Cost	Work Ordered
MA2100033	10	Small area of stone loss due to vegetation growth to the north west corner of the spandrel	L	£1,000	
PA2100011	23	There is no edge protection on top of the northern portal. The access to this area is difficult with heavy vegetation but there is a potential for members of the public or inspection staff falling over the edge.	M	£5,000	
RE2100009	9	Pointing is sound with only very minor areas of seepage. The bricks are in a good condition with no delamination or blistering.	L	£5,000	
VE2100049	33	There are some large trees growing on top of the tunnel. At the portal end the depth of cover is not great so the tree roots could potentially affect the structure.	M	£2,500	
VE2100050	10	Moderate vegetation growth. Some small trees.	M	£2,500	

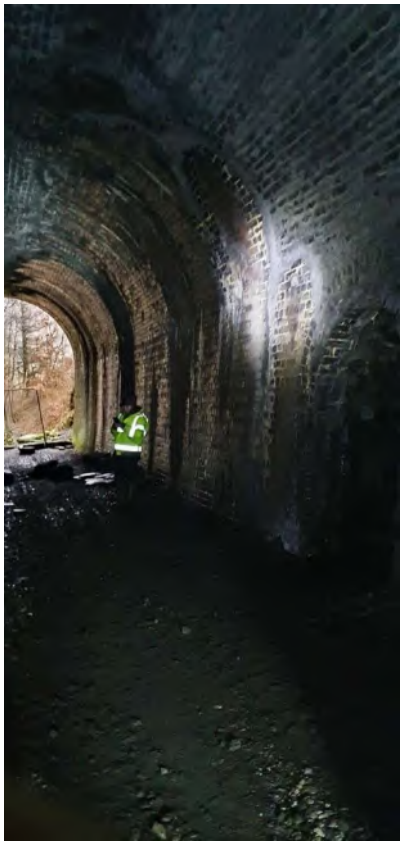
Name		Signed		Date	

Structure: Gelli Houses Disused Railway Tunnel	Structure Ref: 815	Form: 1 of 2

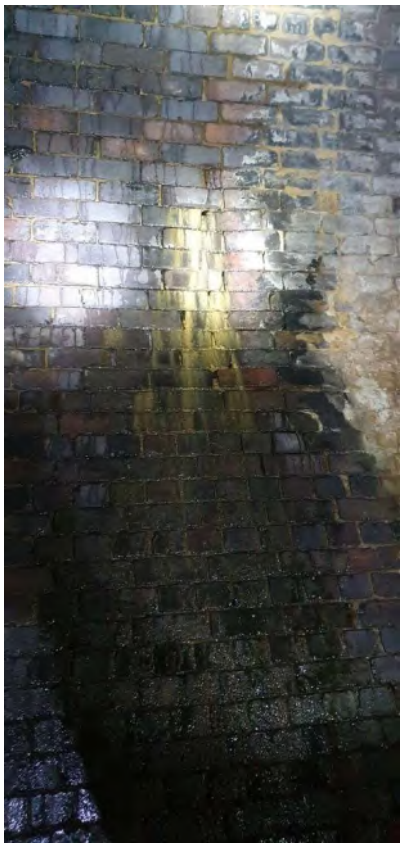
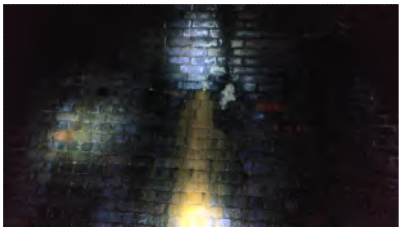
PHOTOS

Inspection Item No.	Reference	Photo	Photo Description
1	2101842		Primary Deck Element
1	2101843		Primary Deck Element
1	2101844		Primary Deck Element
1	2101898		Primary Deck Element

Inspection Item No.	Reference	Photo	Photo Description
1	2101899		Primary Deck Element
1	2101900		Primary Deck Element
1	2101901		Primary Deck Element

Inspection Item No.	Reference	Photo	Photo Description
9	2101895		Abutments (incl. arch springing)
9	2101896		Abutments (incl. arch springing)

Inspection Item No.	Reference	Photo	Photo Description
9	2101897		Abutments (incl. arch springing)
9	2101902		Abutments (incl. arch springing)

Inspection Item No.	Reference	Photo	Photo Description
9	2101903		Abutments (incl. arch springing)
9	2101904		Abutments (incl. arch springing)
9	2101905		Abutments (incl. arch springing)

Inspection Item No.	Reference	Photo	Photo Description
10	2101845		Spandrel wall/head wall
10	2101846		Spandrel wall/head wall
10	2101847		Spandrel wall/head wall

Inspection Item No.	Reference	Photo	Photo Description
10	2101848		Spandrel wall/head wall
23	2101849		Handrail/parapets/safety fences
23	2101850		Handrail/parapets/safety fences

Inspection Item No.	Reference	Photo	Photo Description
33	2101851		Embankments

Inspection Type: General Inspection		Form No.: 2 of 2		Description: Span 2 - Masonry		
Inspector:		Date: 12/06/2021 00:00		Next Inspection:		
Name:	Gelli Houses Disused Railway Tunnel (815)			Road Ref:		
Map Ref:	OS:	SS87129619		Primary Str. Form:		1
Width:		Length:	115.8	Primary Material:		RC
All Above Ground Elements Inspected:				Secondary Str. Form:		
				Secondary Material:		

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary Deck Element	4	D	0		H	£135,000	There are large areas of mortar loss to a depth of 20-25mm or more throughout the length of the structure. There are a number of significant circumferential cracks running the full width of the structure. Crack widths up to 25mm wide. The larger cracks are at chainage 83.0, 112.3 & 147.6m from northern portal. There are 3 areas of more stones missing from the crown of the Masonry arch. all approx 300 x 300 in size with up to 6 stone missing in the individual areas. Holes are at chainage 90.1, 104.7 & 115.8 from the northern portal.
d-Bearing Substructure	8	Foundation	3	B	6.2		L	£0	There are a number of significant circumferential cracks running the full width of the structure. Crack widths up to 25mm wide. The larger cracks are at chainage 83.0, 112.3 & 147.6m from northern portal. See item 1
	9	Abutments (incl. arch springing)	4	B	0		H	£75,000	There are large areas of mortar missing from both abutment faces to 20-25mm depth. There are a number of significant circumferential cracks running the full width of the structure. Crack widths up to 25mm wide. The larger cracks are at chainage 83.0, 112.3 & 147.6m from northern portal. The west abutment has collapsed over a width of 2.2m @

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Loa									chainage 45m to the springing point. height of collapse is approx 3m high. Fractured bedrock is visible behind the masonry work.
	10	Spandrel wall/head wall	2	B	5.1		L	£1,000	Minor vegetation growth to southern portal.
Durability Elements	17	Water Proofing	4	D	14.1		M	£30,000	There is a significant amount of water seepage through the masonry arch barrel, in some locations it is a continuous flow. The safety refuses that are formed in the masonry abutments are backed with fractured bedrock that is allowing water seepage through the abutment walls.
Safety Elements	23	Handrail/parapets/safety fences	5	E	16.2		M	£5,000	No fall protection on top of spandrel wall. No easy access so not likely to attract members of the public or inspection staff.
Other Bridge Elements	26	Invert/river bed	2	B	7.2		L	£0	Areas of debris on tunnel invert from the fallen masonry in the arch barrel & abutments.
	33	Embankments	2	B	5.1		L	£5,000	Minor vegetation of embankment above the southern portal
S- Severity ,Ex - Extent, def - Defect. W - Work Required, P - Work Priority, Cost - Cost of work									

Structure: Gelli Houses Disused Railway Tunnel	Structure Ref: 815	Form: 2 of 2

MULTIPLE DEFECTS

Element No.	S	Ex	Defect	Comments
9	3	D	3.2	There are large areas of mortar missing from both abutment faces to 20-25mm depth
1	3	C	3.4	There are a number of significant circumferential cracks running the full width of the structure. Crack widths up to 25mm wide. The larger cracks are at chainage 83.0, 112.3 & 147.6m from northern portal.
9	3	C	3.5	There are a number of significant circumferential cracks running the full width of the structure. Crack widths up to 25mm wide. The larger cracks are at chainage 83.0, 112.3 & 147.6m from northern portal.
1	3	B	3.6	There are 3 areas of more stones missing from the crown of the Masonry arch. all approx 300 x 300 in size with up to 6 stone missing in the individual areas. Holes are at chainage 90.1, 104.7 & 115.8 from the northern portal.

INSPECTOR'S COMMENTS

No.	Comments	Comment Type
1	There are 3 areas of more stones missing from the crown of the Masonry arch. all approx 300 x 300 in size with up to 6 stone missing in the individual areas. Holes are at chainage 90.1, 104.7 & 115.8 from the northern portal. There are a number of significant circumferential cracks running the full width of the structure. Crack widths up to 25mm wide. The larger cracks are at chainage 83.0, 112.3 & 147.6m from northern portal. There are large areas of mortar loss to a depth of 20-25mm or more throughout the length of the structure.	Inspectors Comment
9	The west abutment has collapsed over a width of 2.2m @ chainage 45m to the springing point. height of collapse is approx 3m high. Fractured bedrock is visible behind the masonry work. There are a number of significant circumferential cracks running the full width of the structure. Crack widths up to 25mm wide. The larger cracks are at chainage 83.0, 112.3 & 147.6m from northern portal. There are large areas of mortar missing from both abutment faces to 20-25mm depth.	Inspectors Comment
10	Minor vegetation growth to southern portal.	Inspectors Comment
17	There is a significant amount of water seepage through the masonry arch barrel, in some locations it is a continuous flow. The safety refuses that are formed in the masonry abutments are backed with fractured bedrock that is allowing water seepage through the abutment walls.	Inspectors Comment
23	No fall protection on top of spandrel wall. No easy access so not likely to attract members of the public or inspection staff.	Inspectors Comment
26	Areas of debris on tunnel invert from the fallen masonry in the arch barrel & abutments.	Inspectors Comment
33	Minor vegetation of embankment above the southern portal.	Inspectors Comment

Name	Paul Ransome	Signed		Date	19/02/2021 00:00

ENGINEER'S COMMENTS

No.	Comments				
Name	Hasan Hasan	Signed		Date	11/06/2021 00:00

WORK REQUIRED

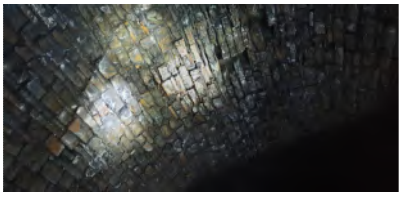
Ref No.	Item No.	Work Description	Priority	Estimated Cost	Work Ordered
MA2100041	33	Minor vegetation of embankment above the southern portal	L	£5,000	
MA2100042	10	Minor vegetation growth to southern portal	L	£1,000	
MA2100043	9	There are large areas of mortar missing from both abutment faces to 20-25mm depth	M	£40,000	
MA2100044	9	There are a number of significant circumferential cracks running the full width of the structure. Crack widths up to 25mm wide. The larger cracks are at chainage 83.0, 112.3 & 147.6m from northern portal.	M	£20,000	
MA2100045	17	There is a significant amount of water seepage through the masonry arch barrel, in some locations it is a continuous flow. The safety refuses that are formed in the masonry abutments are backed with fractured bedrock that is allowing water seepage through the abutment walls.	M	£30,000	
MA2100046	23	No fall protection on top of spandrel wall. No easy access so not likely to attract members of the public or inspection staff.	M	£5,000	
MA2100047	1	There are large areas of mortar loss to a depth of	H	£75,000	

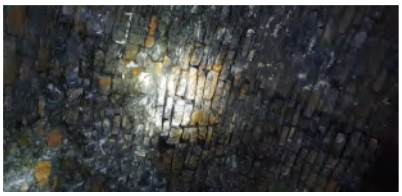
Ref No.	Item No.	Work Description	Priority	Estimated Cost	Work Ordered
		20-25mm or more throughout the length of the structure			
MA2100048	9	The west abutment has collapsed over a width of 2.2m @ chainage 45m to the springing point. height of collapse is approx 3m high. Fractured bedrock is visible behind the masonry work.	H	£15,000	
MA2100049	1	There are a number of significant circumferential cracks running the full width of the structure. Crack widths up to 25mm wide. The larger cracks are at chainage 83.0, 112.3 & 147.6m from northern portal.	H	£40,000	
MA2100050	1	There are 3 areas of more stones missing from the crown of the Masonry arch. all approx 300 x 300 in size with up to 6 stone missing in the individual areas. Holes are at chainage 90.1, 104.7 & 115.8 from the northern portal.	H	£20,000	

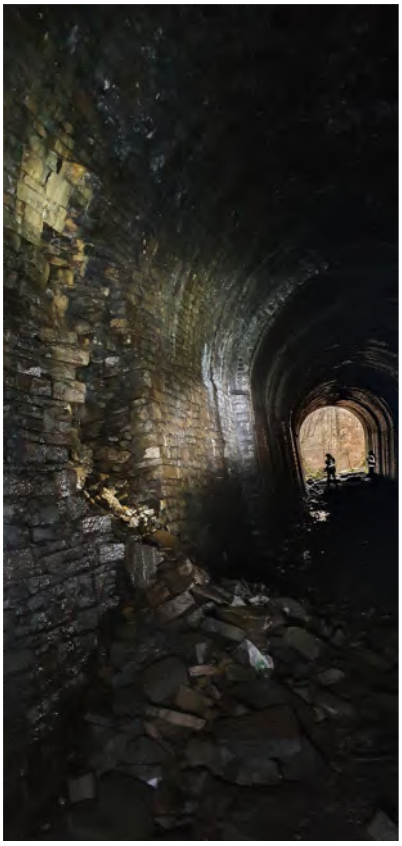
Name		Signed		Date	

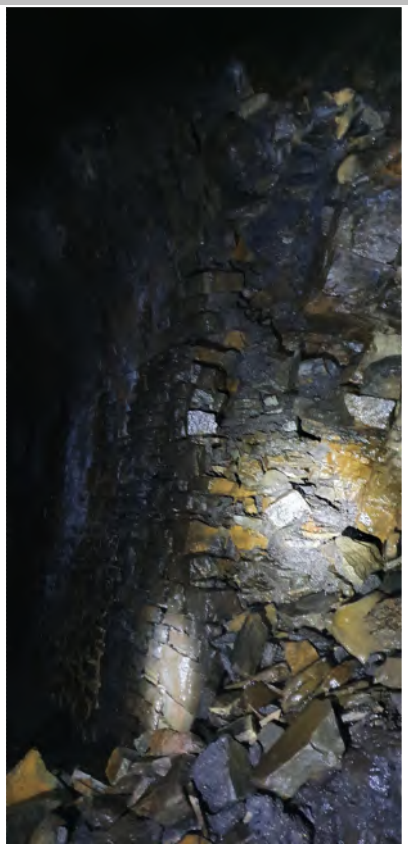
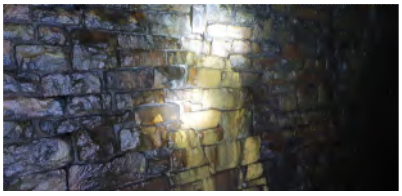
Structure: Gelli Houses Disused Railway Tunnel	Structure Ref: 815	Form: 2 of 2

PHOTOS

Inspection Item No.	Reference	Photo	Photo Description
1	2101852		Primary Deck Element
1	2101853		Primary Deck Element
1	2101854		Primary Deck Element
1	2101855		Primary Deck Element
1	2101856		Primary Deck Element
1	2101857		Primary Deck Element
1	2101858		Primary Deck Element
1	2101859		Primary Deck Element

Inspection Item No.	Reference	Photo	Photo Description
1	2101860		Primary Deck Element
1	2101861		Primary Deck Element
1	2101862		Primary Deck Element
1	2101863		Primary Deck Element
1	2101864		Primary Deck Element
1	2101865		Primary Deck Element
9	2101866		Abutments (incl. arch springing)

Inspection Item No.	Reference	Photo	Photo Description
9	2101867		Abutments (incl. arch springing)
9	2101868		Abutments (incl. arch springing)
9	2101869		Abutments (incl. arch springing)

Inspection Item No.	Reference	Photo	Photo Description
9	2101870		Abutments (incl. arch springing)
9	2101871		Abutments (incl. arch springing)
9	2101872		Abutments (incl. arch springing)
9	2101873		Abutments (incl. arch springing)
9	2101874		Abutments (incl. arch springing)

Inspection Item No.	Reference	Photo	Photo Description
9	2101875		Abutments (incl. arch springing)
9	2101876		Abutments (incl. arch springing)
9	2101877		Abutments (incl. arch springing)
10	2101878		Spandrel wall/head wall
10	2101879		Spandrel wall/head wall
10	2101880		Spandrel wall/head wall
17	2101881		Water Proofing
17	2101882		Water Proofing

Inspection Item No.	Reference	Photo	Photo Description
17	2101883		Water Proofing
17	2101884		Water Proofing

Inspection Item No.	Reference	Photo	Photo Description
17	2101885		Water Proofing
23	2101886		Handrail/parapets/safety fences
23	2101887		Handrail/parapets/safety fences
23	2101888		Handrail/parapets/safety fences
26	2101889		Invert/river bed

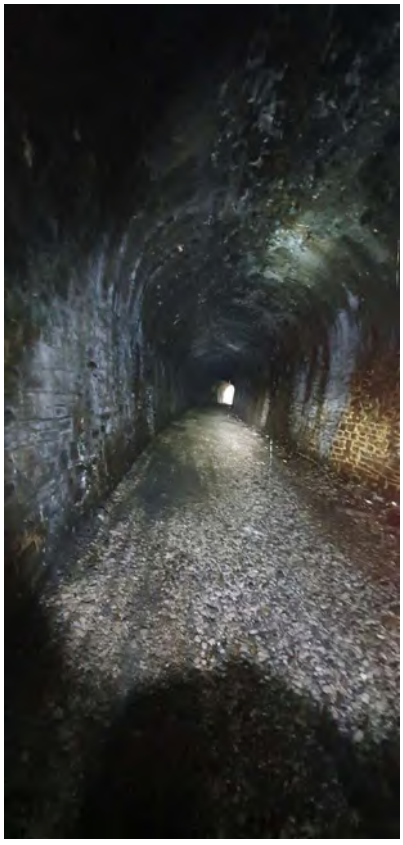
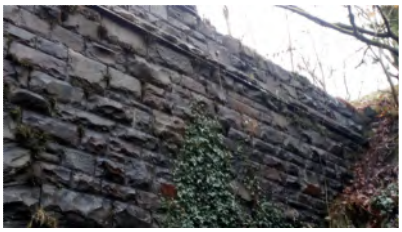
Inspection Item No.	Reference	Photo	Photo Description
26	2101890		Invert/river bed
26	2101891		Invert/river bed
33	2101892		Embankments
33	2101893		Embankments
33	2101894		Embankments

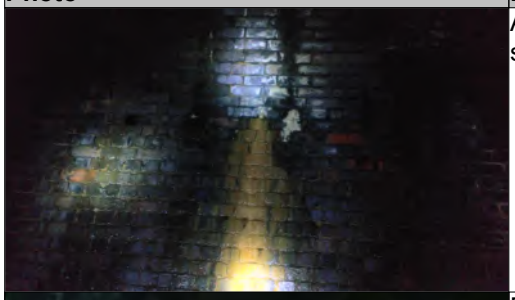
Photo	Photo Description	File Name
	Abutments (incl. arch springing)	DSC_0542
	Primary Deck Element	20210219_102603

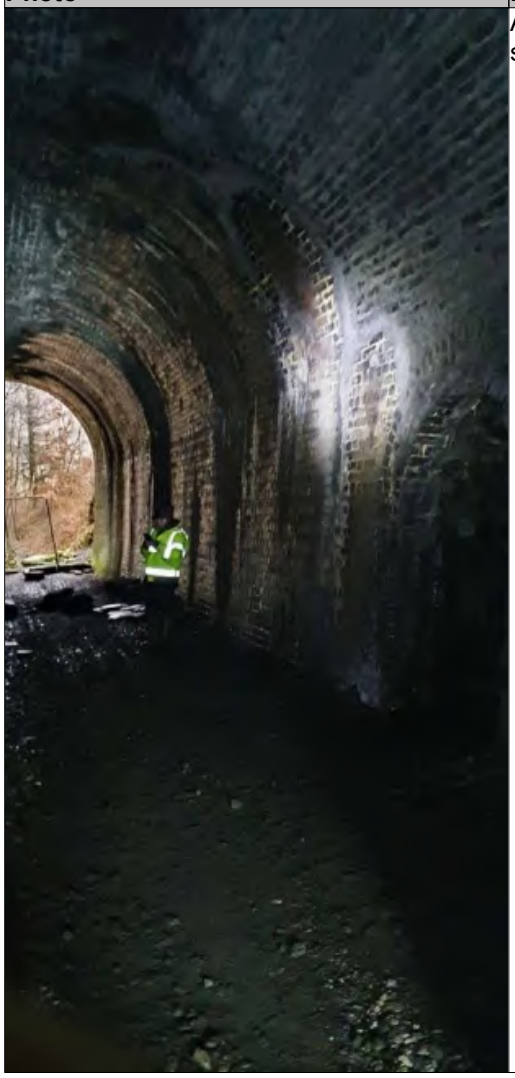
Photo	Photo Description	File Name
	Abutments (incl. arch springing)	20210219_102547

Photo	Photo Description	File Name
	Primary Deck Element	20210219_102606

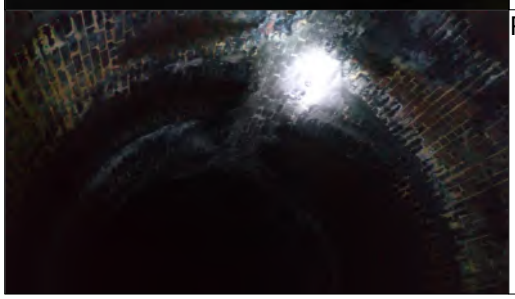
Photo	Photo Description	File Name
	Abutments (incl. arch springing)	20210219_102606
	Spandrel wall/head wall	DSC_0535
	Primary Deck Element	DSC_0543

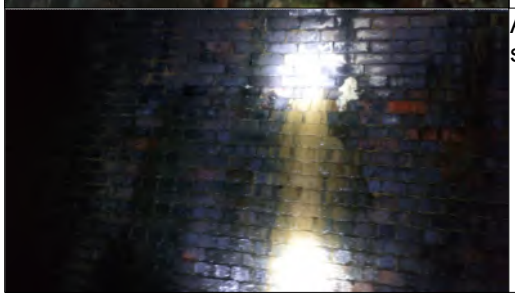
Photo	Photo Description	File Name
	Handrail/parapets/safety fences	DSC_0535
	Spandrel wall/head wall	dsc_0533
	Abutments (incl. arch springing)	DSC_0541

Photo	Photo Description	File Name
	Abutments (incl. arch springing)	20210219_102556

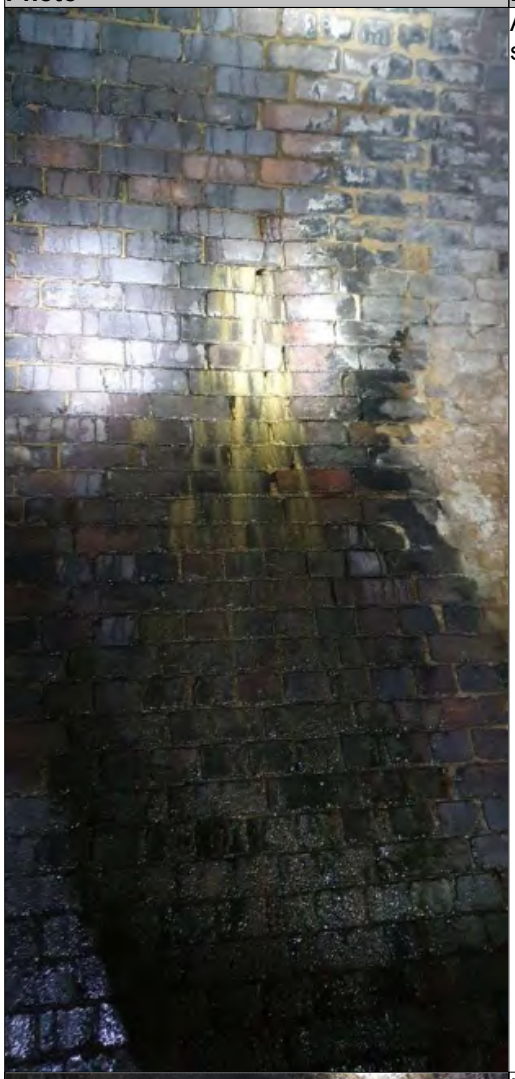
Photo	Photo Description	File Name
	Abutments (incl. arch springing)	20210219_102655
	Invert/river bed	20210219_102226

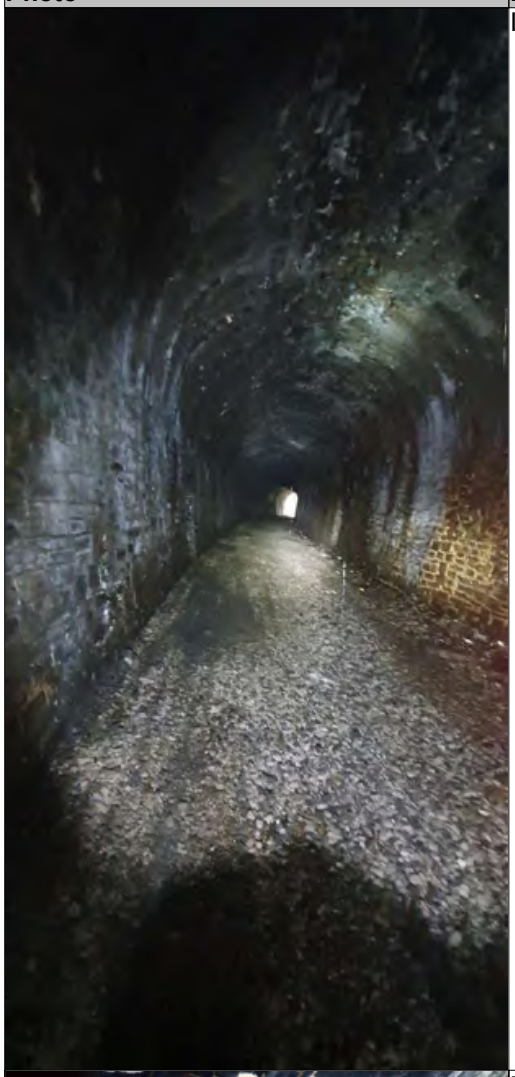
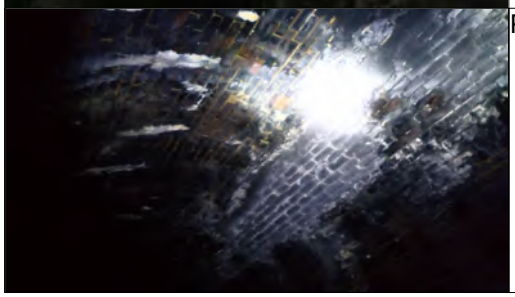
Photo	Photo Description	File Name
	Invert/river bed	20210219_102417
	Primary Deck Element	DSC_0539

Photo	Photo Description	File Name
	Embankments	DSC_0583
	Invert/river bed	20210219_102220
	Primary Deck Element	DSC_0537

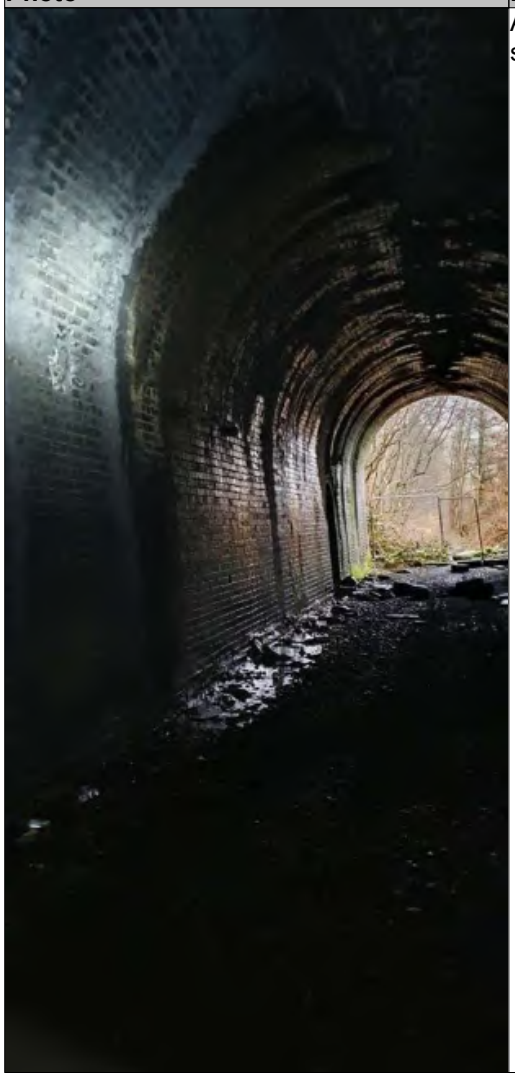
Photo	Photo Description	File Name
	Abutments (incl. arch springing)	20210219_102544

Photo	Photo Description	File Name
	Spandrel wall/head wall	DSC_0534
	Spandrel wall/head wall	DSC_0533

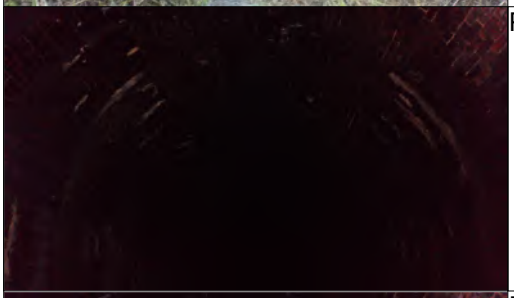
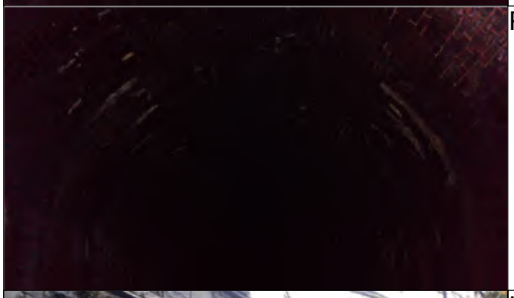
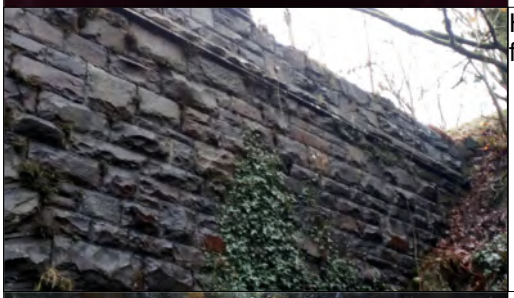
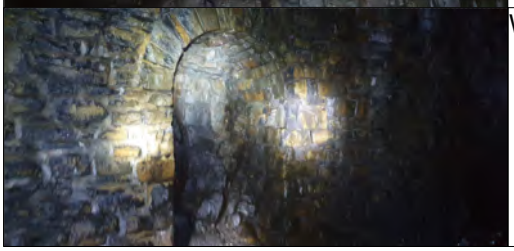
Photo	Photo Description	File Name
	Handrail/parapets/safety fences	DSC_0532
	Primary Deck Element	DSC_0539
	Primary Deck Element	DSC_0540
	Handrail/parapets/safety fences	DSC_0568
	Abutments (incl. arch springing)	20210219_102232
	Water Proofing	20210219_102307

Photo	Photo Description	File Name
	Abutments (incl. arch springing)	20210219_102507
	Abutments (incl. arch springing)	20210219_102132
	Primary Deck Element	20210219_102014
	Water Proofing	20210219_102403

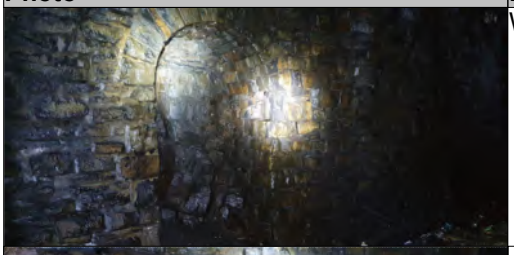
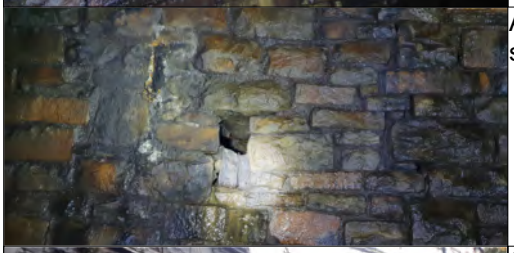
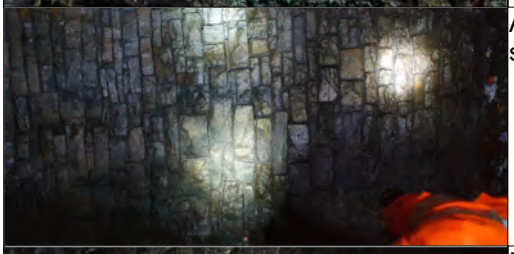
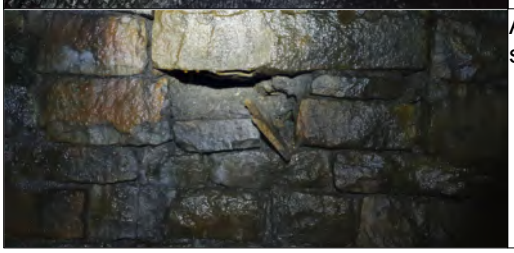
Photo	Photo Description	File Name
	Water Proofing	20210219_102309
	Abutments (incl. arch springing)	20210219_101800
	Abutments (incl. arch springing)	20210219_101805
	Spandrel wall/head wall	DSC_0568
	Abutments (incl. arch springing)	20210219_102237
	Primary Deck Element	20210219_101948
	Abutments (incl. arch springing)	20210219_102046

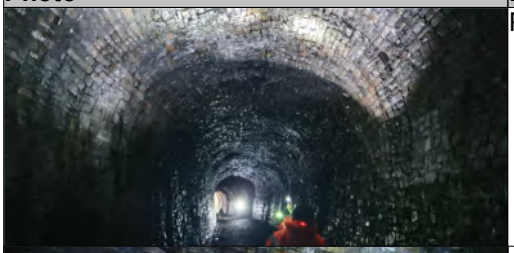
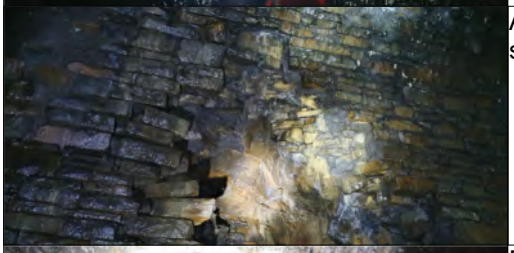
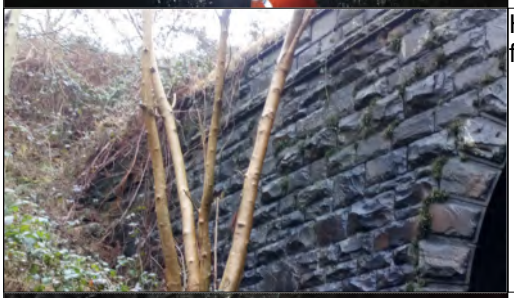
Photo	Photo Description	File Name
	Primary Deck Element	20210219_102106
	Abutments (incl. arch springing)	20210219_102458
	Primary Deck Element	20210219_102102
	Handrail/parapets/safety fences	DSC_0569
	Primary Deck Element	20210219_101948
	Spandrel wall/head wall	DSC_0569
	Spandrel wall/head wall	DSC_0570

Photo	Photo Description	File Name
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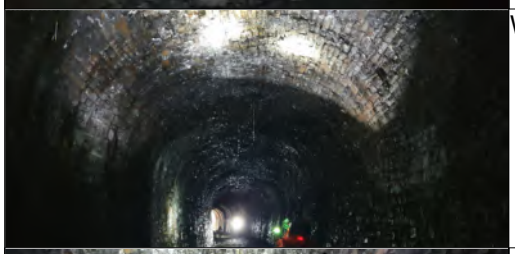
	Water Proofing	20210219_102534
	Water Proofing	20210219_102109
	Primary Deck Element	20210219_102058

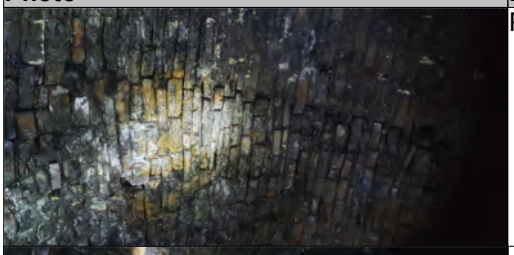
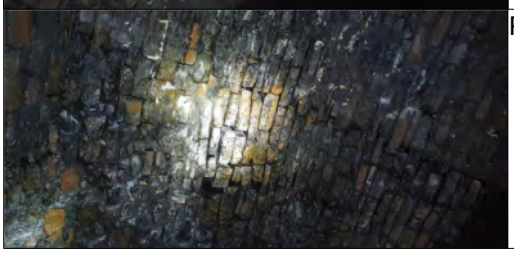
Photo	Photo Description	File Name
	Primary Deck Element	20210219_102051
	Abutments (incl. arch springing)	20210219_102447
	Primary Deck Element	20210219_102058
	Embankments	DSC_0569
	Handrail/parapets/safety fences	DSC_0570
	Primary Deck Element	20210219_102004
	Primary Deck Element	20210219_102049

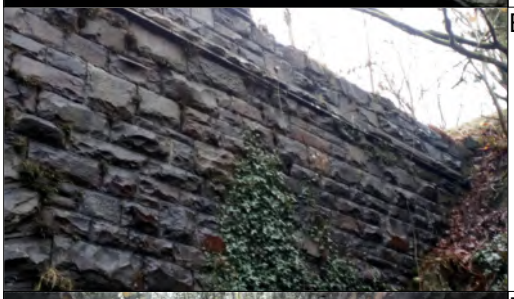
Photo	Photo Description	File Name
	Primary Deck Element	20210219_102102
	Primary Deck Element	20210219_102051
	Primary Deck Element	20210219_102049
	Embankments	DSC_0570
	Embankments	DSC_0568
	Primary Deck Element	20210219_102058

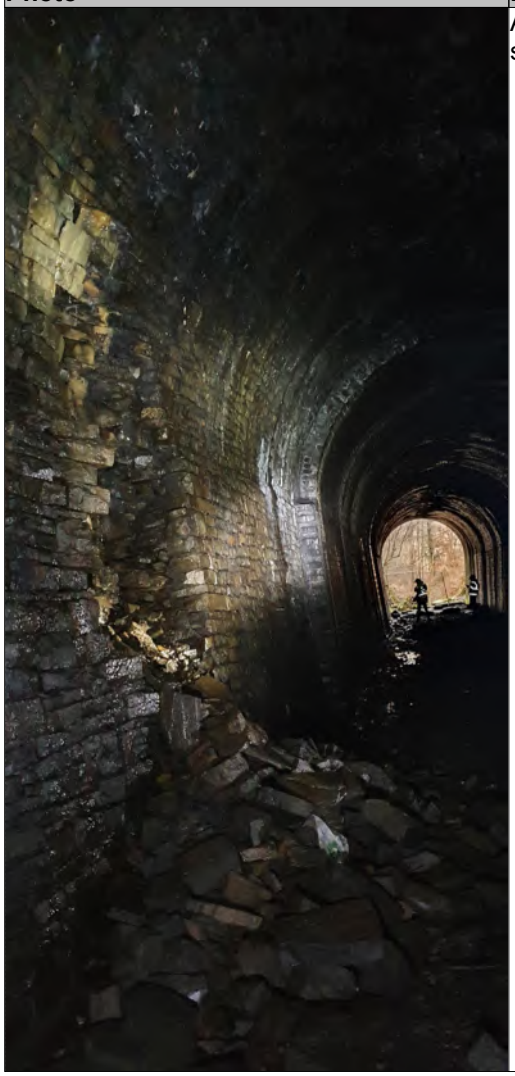
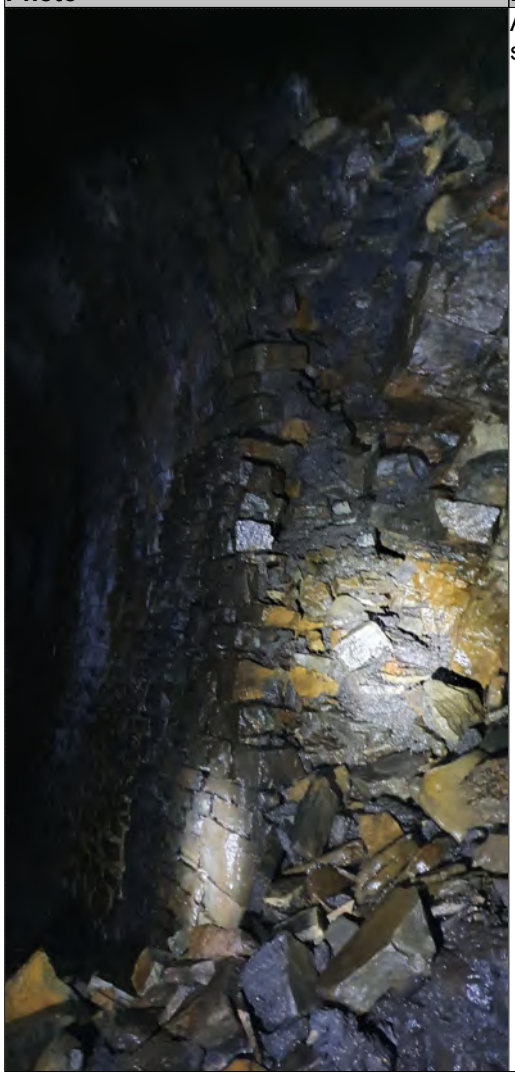
Photo	Photo Description	File Name
	Abutments (incl. arch springing)	20210219_102452

Photo	Photo Description	File Name
	Abutments (incl. arch springing)	20210219_102515