


**APPENDIX B – UCFL2**

**Site UCFL2 Site 1** (Removed from 2021 monitoring by UCML)

<b>Site Attributes</b>					
<b>Date Sampled</b>	02 December 2020				
<b>Approximate Easting</b>	756688				
<b>Approximate Northing</b>	6431941				
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW1) at Ulan West commenced on the 19 May 2014. Longwall (LW1) at Ulan West completed in May 2015</b></p>				
<b>2020 Monitoring Photo</b>					
<b>Year</b>	December 2015	December 2016	October 2017	February 2019	December 2020
<b>Result</b>	No perceptible change	No perceptible change	No perceptible change	No perceptible change	No perceptible change
<b>Comments / Interpretation</b>					
<ul style="list-style-type: none"> <li>- UCFL2 Site 1 is approximately located on eastern edge just outside of LW1. To date no perceptible change has been identified as a result of longwall mining at this monitoring site.</li> <li>- During the 2020 inspection no evidence of subsidence related impacts were identified. Increased flood debris was noted.</li> <li>- This site could be considered for removal from the post mining monitoring program of Ulan Creek tributaries due to no perceptible change since the completion of LW1 in May 2015.</li> </ul>					
<b>Recommendations</b>					
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>					
<b>Photographic Recording (see below)</b>					

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Year	Upstream	Downstream
2015		
2016		

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Year	Upstream	Downstream
2017	 <p>Ulan Ck. Flow Line 2.01 27 Oct 2017, 12:34</p>	 <p>Ulan Ck. Flow Line 2.01 27 Oct 2017, 12:35</p>
2019	 <p>UCFL2.1 14 Feb 2019, 15:22</p>	 <p>UCFL2.1 14 Feb 2019, 15:23</p>

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Year	Upstream	Downstream
2020		

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**Site UCFL2 Site 2 (Removed from 2021 monitoring by UCMLP)**

<b>Site Attributes</b>					
<b>Date Sampled</b>	02 December 2020				
<b>Approximate Easting</b>	756430				
<b>Approximate Northing</b>	6432149				
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW1) at Ulan West commenced on the 19 May 2014. Longwall (LW1) at Ulan West completed in May 2015</b></p>				
<b>2020 Monitoring Photo</b>					
<b>Year</b>	<b>December 2015</b>	<b>December 2016</b>	<b>October 2017</b>	<b>February 2019</b>	<b>December 2020</b>
<b>Results</b>	No perceptible change	No perceptible change	No perceptible change	No perceptible change	No perceptible change
<b>Comments / Interpretation</b>					
<ul style="list-style-type: none"> <li>- UCFL2 Site 2 is approximately located towards the western edge of LW1. To date no perceptible change has been identified as a result of longwall mining at this monitoring site.</li> <li>- During the 2020 inspection there was no evidence of subsidence related impacts identified. There was an increase in ground vegetation, additional flood debris within and along the banks of the flow line were observed.</li> <li>- This site should be considered for removal from the post mining monitoring program of Ulan Creek tributaries due to no perceptible change since the completion of LW1 in May 2015.</li> </ul>					
<b>Recommendations</b>					
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>					
<b>Photographic Recording (see below)</b>					

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Year	Upstream	Downstream
2015		
2016		

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Year	Upstream	Downstream
2017	 <p>255°W (T) ● 55 S 756432 6432149 ±5m ▲ 447m</p> <p>Ulan CK Flow Line 2 - 02 27 Oct 2017 11:34</p>	 <p>79°E (T) ● 55 S 756425 6432146 ±5m ▲ 447m</p> <p>Ulan CK Flow Line 2 - 02 27 Oct 2017 11:34</p>
2019	 <p>261°W (T) ● 55 S 756432 6432147 ±5m ▲ 455m</p> <p>UCFL2-2 14 Feb 2019 14:54</p>	 <p>74°E (T) ● 55 S 756422 6432145 ±5m ▲ 455m</p> <p>UCFL2-2 14 Feb 2019 14:54</p>

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Year	Upstream	Downstream
2020	 <p>SW 240 W 270 W 300 W 330 N 0 NE 30</p> <p>271°W (T) 55 S 756433 6432138 ±15m ▲ 456m</p> <p>FL2-Site 2 02 Dec 2020, 09:32:57</p>	 <p>NE 30 E 60 SE 90 SE 120 S 150 SE 180 S 210</p> <p>74°E (T) 55 S 756424 6432145 ±5m ▲ 456m</p> <p>FL2-Site 2 02 Dec 2020, 09:33:19</p>

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**Site UCFL2 Site 1A (Removed from 2022 monitoring by UCMLP)**

<b>Site Attributes</b>				
<b>Date Sampled</b>	20 October 2021			
<b>Approximate Easting</b>	756323			
<b>Approximate Northing</b>	6432193			
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW2) at Ulan West commenced in May 2015. Longwall (LW2) at Ulan West completed in May 2016.</b></p>			
<b>2021 Monitoring Photo</b>				
<b>Year</b>	<b>October 2017</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>
<b>Result</b>	Perceptible impacts	Perceptible impacts (no change)	Perceptible impacts (no change)	Perceptible impacts (no change)
<b>Comments / Interpretation</b>				
<ul style="list-style-type: none"> <li>- UCFL2 Site 1A (near site 2A) is above LW2 and was identified during the 2017 monitoring program. Perceptible impacts in the form of a potential ponding site and minor surface cracking were observed.</li> <li>- During the 2020 inspection there was no perceptible change to historical cracking in the channel bed as previously recorded. There was observed infilling of the crack. There was an increase in ground vegetation, additional flood debris within and along the banks of the flow line observed.</li> <li>- Continue to monitor infilling of crack with the channel bed.</li> <li>- During the 2021 the crack could not be located, the site had not deteriorated since previous monitoring</li> <li>- Remove from monitoring.</li> </ul>				
<b>Recommendations</b>				
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>				
<b>Photographic Recording (see below)</b>				

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Year	Upstream	Downstream
2017		
2019		

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Year	Upstream	Downstream
2020		
2021		

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**Site UCFL2 Site 2A (Removed from 2022 monitoring by UCMLP)**

<b>Site Attributes</b>				
<b>Date Sampled</b>	20 October 2021			
<b>Approximate Easting</b>	756333			
<b>Approximate Northing</b>	6432176			
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW2) at Ulan West commenced in May 2015. Longwall (LW2) at Ulan West completed in May 2016.</b></p>			
<b>2021 Monitoring Photo</b>				
<b>Year</b>	<b>October 2017</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>
<b>Result</b>	Perceptible impacts	Perceptible impacts (no change)	Perceptible impacts (no change)	Perceptible impacts (no change)
<b>Comments / Interpretation</b>				
<ul style="list-style-type: none"> <li>- UCFL2 Site 2A (near site 1A) is above LW2 and was identified during the 2017 monitoring program. Perceptible impacts in the form of a potential ponding site and minor surface cracking were observed.</li> <li>- During the 2020 inspection no perceptible change to historical cracking, partial infilling of cracking, an increase in ground vegetation, additional flood debris within and along the banks of the flow line were observed.</li> <li>- Continue to monitor infilling of crack with the channel bed noted 2020.</li> <li>- Partial infilling of cracks noted in 2021 – had not deteriorated since 2020.</li> <li>- Remove from monitoring</li> </ul>				
<b>Recommendations</b>				
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>				
<b>Photographic Recording (see below)</b>				

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Year	Upstream	Downstream
2017	 <p>Ulan Ck Flow Line 2 Pond 27 Oct 2017, 11:39</p>	
2019	 <p>UCFL2-2A 14 Feb 2019, 14:58</p>	

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Year	Upstream	Downstream
2020		
2021		

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**Site UCFL2 Site 3 (Removed from 2021 monitoring by UCMPL)**

<b>Site Attributes</b>					
<b>Date Sampled</b>	02 December 2020				
<b>Approximate Easting</b>	756190				
<b>Approximate Northing</b>	6432179				
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW2) at Ulan West commenced in May 2015. Longwall (LW2) at Ulan West completed in May 2016.</b></p>				
<b>2020 Monitoring Photo</b>					
<b>Year</b>	<b>December 2015</b>	<b>December 2016</b>	<b>October 2017</b>	<b>February 2019</b>	<b>December 2020</b>
<b>Results</b>	No perceptible change	No perceptible change	No perceptible change	No perceptible change	No perceptible change
<b>Comments / Interpretation</b>					
<ul style="list-style-type: none"> <li>- UCFL2 Site 3 is centrally located above LW2. To date no perceptible change has been identified as a result of longwall mining at this monitoring site.</li> <li>- During the 2020 inspection there was no evidence of subsidence related impacts identified. There was an increase in ground vegetation, additional flood debris within and along the banks of the flow line observed.</li> <li>- This site could be considered for removal from the post mining monitoring program of Ulan Creek tributaries due to no perceptible change since the completion of LW2 in May 2016.</li> </ul>					
<b>Recommendations</b>					
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>					
<b>Photographic Recording (see below)</b>					

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Year	Upstream	Downstream
2015	 A photograph of an upstream forest area in 2015. The ground is covered with fallen logs and branches, and there is sparse green vegetation. The background shows a dense forest of trees with light-colored bark.	
2016	 A photograph of an upstream forest area in 2016. The ground is covered with fallen logs and branches, and there is dense green vegetation. The background shows a dense forest of trees with light-colored bark.	
	 A photograph of a downstream forest area in 2015. The ground is covered with dense green vegetation. The background shows a dense forest of trees with light-colored bark.	
	 A photograph of a downstream forest area in 2016. The ground is covered with dense green vegetation. The background shows a dense forest of trees with light-colored bark.	

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Year	Upstream	Downstream
2017		
2019		

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Year	Upstream	Downstream
2020	 <p>SW 240 W 270 JW 330 N 0 N</p> <p>270°W (T) 55 S 756189 6432181 ±4m ▲ 459m</p> <p>FL2-Site 3 02 Dec 2020, 09:49:36</p>	 <p>E 60 E 90 SE 150 S 180 SW 210</p> <p>99°E (T) 55 S 756178 6432182 ±4m ▲ 460m</p> <p>FL2-Site 3 02 Dec 2020, 09:50:11</p>

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**Site UCFL2 Site 3A (Removed from 2023 monitoring by UCMLP)**

<b>Site Attributes</b>					
<b>Date Sampled</b>	15 November 2022				
<b>Approximate Easting</b>	756062				
<b>Approximate Northing</b>	6432195				
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW2) at Ulan West commenced in May 2015. Longwall (LW2) at Ulan West completed in May 2016.</b></p>				
<b>2022 Monitoring Photo</b>					
<b>Year</b>	<b>October 2017</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>	<b>November 2022</b>
<b>Result</b>	Perceptible impacts	Perceptible impacts	Perceptible impacts	Perceptible impacts (no change)*	Perceptible impacts (no change)*
<b>Comments / Interpretation</b>					
<ul style="list-style-type: none"> <li>- UCFL2 Site 3A is above LW2 towards the western edge of the longwall panel and was identified during the 2017 monitoring program. Perceptible impacts in the form of channel cracking were observed.</li> <li>- During the 2019 inspection there were signs of potential tunnel erosion noted.</li> <li>- During the 2020 inspection there were signs of increased tunnel erosion, although partial infilling was also observed.</li> <li>- Partial infilling of cracks noted in 2021 – had not deteriorated since 2020.</li> <li>- In 2022 the exact location of the erosion site was difficult to relocate due to increased ground vegetation and timber. The site in general appeared stable and past evidence of subsidence related impacts were not perceptible on the day of the inspection.</li> </ul>					
<b>Recommendations</b>					
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>					
<b>Photographic Recording (see below)</b>					


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Year	Upstream	Downstream
2017		 <p>A photograph showing a stream bed with a large, dark log in the center. The ground is covered with dry leaves and twigs. A GPS overlay at the top shows a compass rose with 'NW', 'N', and 'NE' directions, and a scale from 300 to 0 to 50. The text below the scale reads: '347°N (T) ● 55 S 756062 6432195 ±10m ▲ 436m'. At the bottom left, it says 'Ulan Ck. Flow Line 2.93' and at the bottom right, '21 Dec 2017 11:47'.</p>
2019		 <p>A photograph showing a stream bed with a large, dark log in the center. The ground is covered with dry leaves and twigs. A GPS overlay at the top shows a compass rose with 'W', 'NW', 'N', and 'NE' directions, and a scale from 300 to 0 to 60. The text below the scale reads: '347°N (T) ● 55 S 756063 6432193 ±5m ▲ 461m'. At the bottom left, it says 'UCFL2' and at the bottom right, '14 Feb 2019 14:34'.</p>

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Year	Upstream	Downstream
2020		
2021		

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Year	Upstream	Downstream
	 <p>99°E (T) ● 55 S 756058 6432196 ±4m ▲ 464m</p> <p>UCFL2-Site3a 15 Nov 2022, 15:09:25</p>	 <p>300°NW (T) ● 55 S 756062 6432193 ±4m ▲ 464m</p> <p>UCFL2-Site3a 15 Nov 2022, 15:09:04</p>

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**Site UCFL2 Site 4 (Removed from 2022 Monitoring by UCMPL)**

<b>Site Attributes</b>						
<b>Date Sampled</b>	20 October 2021					
<b>Approximate Easting</b>	755680					
<b>Approximate Northing</b>	6432216					
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW3) at Ulan West commenced on the 26 June 2016. Longwall (LW3) at Ulan West completed in October 2017.</b></p>					
<b>2021 Monitoring Photo</b>						
<b>Year</b>	<b>December 2015</b>	<b>December 2016</b>	<b>October 2017</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>
<b>Results</b>	No perceptible change	No perceptible change	No perceptible change	No perceptible change	No perceptible change	No perceptible change
<b>Comments / Interpretation</b>						
<ul style="list-style-type: none"> <li>- UCFL2 Site 4 is approximately located towards the western edge of LW3. To date no perceptible change has been identified as a result of longwall mining at this monitoring site.</li> <li>- During the 2020 inspection there was no evidence of subsidence related impacts identified. There was an increase in ground vegetation, additional flood debris within and along the banks of the flow line observed.</li> <li>- This site could be considered for removal from the post mining monitoring program of Ulan Creek tributaries due to no perceptible change since the completion of LW3 in October 2017.</li> <li>- During the 2021 there was no perceptible change to previous monitoring.</li> <li>- Remove from monitoring</li> </ul>						
<b>Recommendations</b>						
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>						
<b>Photographic Recording (see below)</b>						

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Year	Upstream	Downstream
2015		
2016		

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Year	Upstream	Downstream
2017		
2019	 <p data-bbox="383 1401 1010 1423">Notes: GPS locations incorrect on image due to loss of GPS signal</p>	 <p data-bbox="1294 1401 1921 1423">Notes: GPS locations incorrect on image due to loss of GPS signal</p>

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Year	Upstream	Downstream
2020	<p>W 270 NW 330 N 0 NE 60                  293°W (T) 55 S 755701 6432208 ±4m ▲ 474m                  FL2-Site 4 02 Dec 2020, 10:49:38</p>	<p>S 180 SW 240 W 270 NW 330                  261°W (T) 55 S 755683 6432208 ±3m ▲ 464m                  UCFL2-Site 4 20 Oct 2021, 16:29:50</p>
2021	<p>SW 210 W 270 NW 330 N 0                  287°W (T) 55 S 755706 6432204 ±4m ▲ 472m                  UCFL2-Site 4 26 Oct 2021, 15:31:13</p>	<p>E 60 SE 90 S 180 SW 240                  107°E (T) 55 S 755699 6432209 ±5m ▲ 474m                  FL2-Site 4 02 Dec 2020, 10:50:09</p>

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**Site UCFL2 Site 4A (Removed from 2022 monitoring by UCMLP)**

<b>Site Attributes</b>				
<b>Date Sampled</b>	20 October 2021			
<b>Approximate Easting</b>	755978			
<b>Approximate Northing</b>	6432183			
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW3) at Ulan West commenced on the 26 June 2016. Longwall (LW3) at Ulan West completed in October 2017.</b></p>			
<b>2021 Monitoring Photo</b>				
<b>Year</b>	<b>October 2017</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>
<b>Result</b>	Perceptible impacts	Perceptible impacts (no change)	Perceptible impacts (no change)	Perceptible impacts (no change)*
<b>Comments / Interpretation</b>				
<ul style="list-style-type: none"> <li>- UCFL2 Site 4A is above LW3 towards the eastern edge of the longwall panel and was identified during the 2017 monitoring program. Perceptible impacts in the form of channel cracking were observed.</li> <li>- During the 2020 inspection there was no perceptible change to historical cracking previously recorded. There was partial observed infilling. There was an increase in ground vegetation, additional flood debris within and along the banks of the flow line observed.</li> <li>- *Could not locate crack in 2021 – site had not deteriorated since 2020.</li> <li>- Remove from monitoring.</li> </ul>				
<b>Recommendations</b>				
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>				
<b>Photographic Recording (see below)</b>				

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Year	Upstream	Downstream
2017		
2019		

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Year	Upstream	Downstream
2020	 <p>267°W (T) ● 55 S 755988 6432198 ±4m ▲ 465m</p> <p>FL2-Site 4a 02 Dec 2020, 10:07:05</p>	 <p>98°E (T) ● 55 S 755976 6432197 ±4m ▲ 465m</p> <p>FL2-Site 4a 02 Dec 2020, 10:06:37</p>
2021	 <p>298°NW (T) ● 55 S 755978 6432197 ±4m ▲ 465m</p> <p>UCFL2-Site 4a 20 Oct 2021, 15:48:36</p>	 <p>102°E (T) ● 55 S 755980 6432197 ±4m ▲ 465m</p> <p>UCFL2-Site 4g 20 Oct 2021, 15:48:15</p>

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**Site UCFL2 Site 5 (Removed from 2022 monitoring by UCMPL)**

<b>Site Attributes</b>				
<b>Date Sampled</b>	20 October 2021			
<b>Approximate Easting</b>	755902			
<b>Approximate Northing</b>	6432170			
<b>Monitoring Requirement</b>	Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.  <b>Notes: Longwall (LW4) at Ulan West completed in December 2018.</b>			
<b>2021 Monitoring Photo</b>				
<b>Year</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>	
<b>Result</b>	Perceptible Impacts	Perceptible impacts (no change)	Perceptible impacts (no change)	
<b>Comments / Interpretation</b>				
<ul style="list-style-type: none"> <li>- UCFL2 Site 5 is located above LW4 near the eastern edge of the panel and was added to the monitoring program in 2019. This site is located well above the flow line.</li> <li>- During the 2019 inspection, there was evidence of subsidence related impacts including a small step feature and cracking of approximately 200mm – 250mm in height along the LHB (approx. 70-80m in length)</li> <li>- During the 2020 inspection there was no perceptible change to historical cracking previously recorded. There was no observed infilling.</li> <li>- During the 2021 there was no perceptible change to previously noted impacts.</li> <li>- Remove from monitoring</li> </ul>				
<b>Recommendations</b>				
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>				
<b>Photographic Recording (see below)</b>				

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Year	Upstream	Downstream
2019		
2020		

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Year	Upstream	Downstream
2021		

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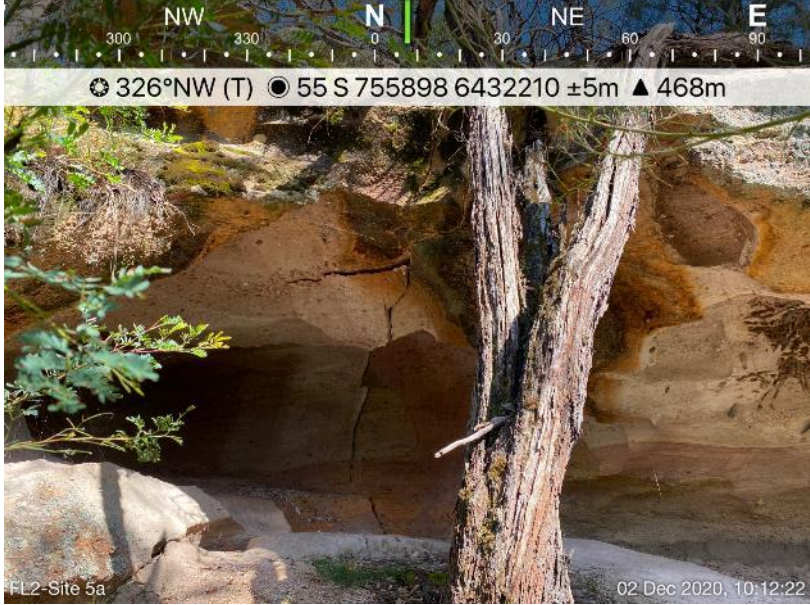

**Site UCFL2 Site 5A (Removed from 2022 monitoring by UCMLP)**

<b>Site Attributes</b>				
<b>Date Sampled</b>	20 October 2021			
<b>Approximate Easting</b>	755902			
<b>Approximate Northing</b>	6432206			
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW3) at Ulan West commenced on the 26 June 2016. Longwall (LW3) at Ulan West completed in October 2017.</b></p>			
<b>2021 Monitoring Photo</b>				
<b>Year</b>	<b>October 2017</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>
<b>Result</b>	Perceptible impacts	Perceptible impacts (no change)	Perceptible impacts (no change)	Perceptible impacts (no change)
<b>Comments / Interpretation</b>				
<ul style="list-style-type: none"> <li>- UCFL2 Site 5A is above LW3 towards the middle of the longwall panel and was identified during the 2017 monitoring program. Perceptible impacts in the form of bedrock cracking with a small overhang above the flow line was observed.</li> <li>- During the 2019 inspection cracking appeared noticeable in the bedrock, with no evidence of further instabilities or cracking.</li> <li>- During the 2020 inspection there was no perceptible change to historical cracking previously recorded.</li> <li>- This site could be considered for removal from the post mining monitoring program of Ulan Creek tributaries due to no perceptible change to historical impacts since the completion of LW3 in October 2017.</li> <li>- During the 2021 there was no perceptible change to previously noted impacts.</li> <li>- Remove from monitoring.</li> </ul>				
<b>Recommendations</b>				
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>				
<b>Photographic Recording (see below)</b>				

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Year	Upstream	Downstream
2017		
2019		

APPENDIX B – UCFL2

Year	Upstream	Downstream
2020		
2021		

**APPENDIX B – UCFL2**

**Site UCFL2 Site 6 (Removed from 2022 monitoring by UCMPL)**

<b>Site Attributes</b>				
<b>Date Sampled</b>	20 October 2021			
<b>Approximate Easting</b>	755485			
<b>Approximate Northing</b>	6432154			
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW4) at Ulan West completed in December 2018.</b></p>			
<b>2021 Monitoring Photo</b>				
<b>Year</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>	
<b>Result</b>	Perceptible Impacts	Perceptible impacts (no change)	Perceptible impacts (no change)	
<b>Comments / Interpretation</b>				
<ul style="list-style-type: none"> <li>- UCFL2 Site 6 is located above LW4 near the eastern edge of the panel and was added to the monitoring program in 2019.</li> <li>- During the 2019 inspection, there was evidence of subsidence related impacts including minor uplifting noted in the channel bed.</li> <li>- During the 2020 inspection there was almost no perceptible change to historical cracking previously recorded. There was partial observed infilling. Increased flood debris and ground vegetation was noted.</li> <li>- Continue to monitor infilling of crack with the channel bed. Review options for remedial works.</li> <li>- During the 2021 there was no perceptible change to previously noted impacts.</li> <li>- Remove from monitoring</li> </ul>				
<b>Recommendations</b>				
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>				
<b>Photographic Recording (see below)</b>				

APPENDIX B – UCFL2

Year	Upstream	Downstream
2019		
2020		

APPENDIX B – UCFL2

Year	Upstream	Downstream
2021	 <p>236°SW (T) ● 55 S 755459 6432143 ±4m ▲ 487m</p> <p>UCFL2-Site 6 20 Oct 2021, 15:15:41</p>	 <p>61°NE (T) ● 55 S 755453 6432146 ±4m ▲ 488m</p> <p>UCFL2-Site 6 20 Oct 2021, 15:15:47</p>
2021	 <p>192°S (T) ● 55 S 75546 6432162 ±4m ▲ 481m</p> <p>UCFL2-Site 6 20 Oct 2021, 15:20:00</p>	 <p>92°E (T) ● 55 S 755485 6432160 ±4m ▲ 469m</p> <p>UCFL2-Site 6 20 Oct 2021, 15:17:21</p>

**APPENDIX B – UCFL2**


**Site UCFL2 Site 6A (Removed from 2022 monitoring by UCMLP)**

<b>Site Attributes</b>				
<b>Date Sampled</b>	20 October 2012			
<b>Approximate Easting</b>	755865			
<b>Approximate Northing</b>	6432180			
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW3) at Ulan West commenced on the 26 June 2016. Longwall (LW3) at Ulan West completed in October 2017.</b></p>			
<b>2021 Monitoring Photo</b>				
<b>Year</b>	<b>October 2017</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>
<b>Result</b>	Perceptible impacts	Perceptible impacts (no change)	Perceptible impacts (no change)	Perceptible impacts (no change)
<b>Comments / Interpretation</b>				
<ul style="list-style-type: none"> <li>- UCFL2 Site 6A is above LW3 towards the middle of the longwall panel and was identified during the 2017 monitoring program. Perceptible impacts in the form of channel cracking were observed.</li> <li>- During the 2020 inspection there was no perceptible change to historical cracking previously recorded. There was however infilling of the crack observed. Increased ground vegetation was noted.</li> <li>- Continue to monitor infilling of crack within the channel bed.</li> <li>- During the 2021 there was no perceptible change to previously noted impacts (previous cracking could not be located in 2021).</li> <li>- Remove from monitoring</li> </ul>				
<b>Recommendations</b>				
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>				
<b>Photographic Recording (see below)</b>				

APPENDIX B – UCFL2


Year	Upstream	Downstream
2017		
2019		

APPENDIX B – UCFL2

Year	Upstream	Downstream
2020		
2021		

**APPENDIX B – UCFL2**

**Site UCFL2 Site 7 (Removed from 2022 monitoring by UCMPL)**

<b>Site Attributes</b>				
<b>Date Sampled</b>	20 October 2021			
<b>Approximate Easting</b>	755385			
<b>Approximate Northing</b>	6432099			
<b>Monitoring Requirement</b>	Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.  <b>Notes: Longwall (LW4) at Ulan West completed in December 2018.</b>			
<b>2021 Monitoring Photo</b>				
<b>Year</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>	
<b>Result</b>	Perceptible Impacts	Perceptible impacts (no change)	Perceptible impacts (no change)	
<b>Comments / Interpretation</b>				
<ul style="list-style-type: none"> <li>- UCFL2 Site 7 is located above LW4 near the center of the panel and was added to the monitoring program in 2019.</li> <li>- During the 2019 inspection, there was evidence of subsidence related impacts including minor uplifting noted in the channel bed including tree roots uplifted within the channel bed. A mature eucalypt tree had also recently fallen across the flow line at this location.</li> <li>- During the 2020 inspection there was no perceptible change to historical impacts previously recorded. There was increased ground vegetation and flood debris noted.</li> <li>- During the 2021 there was no perceptible change to previously noted impacts.</li> <li>- Remove from monitoring.</li> </ul>				
<b>Recommendations</b>				
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>				
<b>Photographic Recording (see below)</b>				

APPENDIX B – UCFL2


Year	Upstream	Downstream
2019		
2019		

APPENDIX B – UCFL2

Year	Upstream	Downstream
2020	 <p>294°NW (T) ● 55 S 755386 6432113 ±5m ▲ 493m</p> <p>FL2-Site 7 02 Dec 2020 11:09:54</p>	 <p>86°E (T) ● 55 S 755378 6432111 ±5m ▲ 493m</p> <p>FL2-Site 7 02 Dec 2020 11:10:21</p>
2021	 <p>298°NW (T) ● 55 S 755384 6432114 ±6m ▲ 492m</p> <p>UCFL2-Site 7 20 Oct 2021 15:10:21</p>	 <p>91°E (T) ● 55 S 755381 6432115 ±5m ▲ 492m</p> <p>UCFL2-Site 7 20 Oct 2021 15:10:00</p>

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**Site UCFL2 Site 7A (Removed from 2023 monitoring by UCML)**

<b>Site Attributes</b>					
<b>Date Sampled</b>	15 November 2022				
<b>Approximate Easting</b>	755787				
<b>Approximate Northing</b>	6432196				
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW3) at Ulan West commenced on the 26 June 2016. Longwall (LW3) at Ulan West completed in October 2017.</b></p>				
<b>2022 Monitoring Photo</b>					
<b>Year</b>	<b>October 2017</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>	<b>November 2022</b>
<b>Result</b>	Perceptible impacts	Monitor perceptible impacts	Perceptible impacts (no change)	Perceptible impacts (no change)	Perceptible impacts (no change)
<b>Comments / Interpretation</b>					
<ul style="list-style-type: none"> <li>- UCFL2 Site 7A is above LW3 towards the middle of the longwall panel and was identified during the 2017 monitoring program. Perceptible impacts in the form of channel cracking and cracking along the banks were observed.</li> <li>- During the 2019 inspection, there were signs of active slumping and movement occurring since the 2017 monitoring.</li> <li>- During the 2020 inspection there was no perceptible change to historical impacts previously recorded in 2019. There was increased ground vegetation and flood debris noted.</li> <li>- During the 2022 there was no perceptible change to previously noted impacts, although the vegetation had increased which hindered observations.</li> <li>- Remove from monitoring</li> </ul>					
<b>Recommendations</b>					
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>					
<b>Photographic Recording (see below)</b>					



APPENDIX B – UCFL2

Year	Upstream	
2017		
2019		

APPENDIX B – UCFL2


Year	Upstream	
2020		
2021		

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Year	Upstream	
2022	 <p>UCFL2 Site 7a 15 Nov 2022 15:18:16</p>	 <p>UCFL2 Site 7a 15 Nov 2022 15:18:27</p>

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**Site UCFL2 Site 8 (Removed from 2022 monitoring by UCMLP)**

<b>Site Attributes</b>				
<b>Date Sampled</b>	20 October 2021			
<b>Approximate Easting</b>	755252			
<b>Approximate Northing</b>	6432545			
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW4) at Ulan West completed in December 2018.</b></p>			
<b>2021 Monitoring Photo</b>				
<b>Year</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>	
<b>Result</b>	Perceptible Impacts	Perceptible impacts (no change)	Perceptible impacts (no change)	
<b>Comments / Interpretation</b>				
<ul style="list-style-type: none"> <li>- UCFL2 Site 8 is located above LW4 near the western edge of the panel and was added to the monitoring program in 2019.</li> <li>- During the 2019 inspection, there was evidence of subsidence related impacts including cracking of the bedrock material within the channel bed.</li> <li>- During the 2020 inspection there was no perceptible change to historical impacts previously recorded.</li> <li>- During the 2021 inspection there was no perceptible change to historical impacts previously recorded.</li> <li>- Remove from monitoring</li> </ul>				
<b>Recommendations</b>				
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>				
<b>Photographic Recording (see below)</b>				

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Upstream/Downstream

Year			
2019			
2020			

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<p>2021</p>	<p>UCFL2-Site 8 20 Oct 2021, 16:30:26</p>	<p>UCFL2-Site 8 20 Oct 2021, 16:29:14</p>	
<p>2021</p>	<p>UCFL2-Site 8 20 Oct 2021, 16:32:28</p>	<p>UCFL2-Site 8 20 Oct 2021, 16:29:40</p>	<p>UCFL2-Site 8 20 Oct 2021, 16:25:51</p>



**APPENDIX B – UCFL2**

**Site UCFL2 Site 8A (Removed from 2022 monitoring by UCMLP)**

<b>Site Attributes</b>				
<b>Date Sampled</b>	20 October 2021			
<b>Approximate Easting</b>	755767			
<b>Approximate Northing</b>	6432206			
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW3) at Ulan West commenced on the 26 June 2016. Longwall (LW3) at Ulan West completed in October 2017.</b></p>			
<b>2021 Monitoring Photo</b>				
<b>Year</b>	<b>October 2017</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>
<b>Result</b>	Perceptible impacts	Perceptible impacts (no change)	Perceptible impacts (no change)	Perceptible impacts (no change)*
<b>Comments / Interpretation</b>				
<ul style="list-style-type: none"> <li>- UCFL2 Site 8A is above LW3 towards the middle of the longwall panel and was identified during the 2017 monitoring program. Perceptible impacts in the form of bedrock cracking above the channel on both the LHB and RHB were observed.</li> <li>- During the 2019 inspection, there was no observed changes to the bedrock cracking since the 2017 monitoring.</li> <li>- During the 2020 inspection there was no perceptible change to historical impacts previously recorded, however an additional impact (surface cracking) was identified along the flowline between sites 7A &amp; 8A.</li> <li>- Due to discovery of cracking along the flowline in 2020, review options for remedial repairs of the erosion hole within the channel bed and continue to monitor (could not locate in 2021).</li> <li>- During the 2021 there was no perceptible change to previously noted impacts at Site 8A (discontinue monitoring)</li> <li>- *Until confirmation of downstream cracking has remained unchanged – continue monitoring</li> </ul>				
<b>Recommendations</b>				
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (yes/<b>no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (yes/<b>no</b>)</li> </ul>				
<b>Photographic Recording (see below)</b>				



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Downstream

Year		
2017	 <p data-bbox="264 738 719 770">Ulan CK - Flow Line 2 - Crack 27 Oct 2017 11:50</p>	
2019	 <p data-bbox="280 1350 1086 1382">UCFL2-8A 14 Feb 2019 14:05</p>	 <p data-bbox="1189 1350 1995 1382">UCFL2-8A 14 Feb 2019 14:07</p>


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Downstream



Year			
2020	 <p data-bbox="277 778 719 802">Recently identified cracking within flowline</p>		 <p data-bbox="1464 778 1760 802">Cracking associated with 8A</p>
2021			

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**Site UCFL2 Site 9 (Removed from 2022 monitoring by UCMPL)**

<b>Site Attributes</b>				
<b>Date Sampled</b>	20 October 2021			
<b>Approximate Easting</b>	755287			
<b>Approximate Northing</b>	6432096			
<b>Monitoring Requirement</b>	Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.  <b>Notes: Longwall (LW4) at Ulan West completed in December 2018.</b>			
<b>2021 Monitoring Photo</b>				
<b>Year</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>	
<b>Result</b>	Perceptible impacts	Perceptible impacts (no change)	Perceptible impacts (no change)	
<b>Comments / Interpretation</b>				
<ul style="list-style-type: none"> <li>- UCFL2 Site 9 is located above LW4 towards the western edge of the panel and was added to the monitoring program in 2019.</li> <li>- During the 2019 inspection, there was evidence of subsidence related impacts including cracking of the bedrock material within the channel bed.</li> <li>- During the 2020 inspection there was no perceptible change to historical impacts previously recorded, with no evidence of infilling. Dislodged rock material had been transported downstream approximately 10m. Additional flood debris noted downstream.</li> <li>- During the 2021 there was no perceptible change to previously noted impacts.</li> <li>- Remove from monitoring.</li> </ul>				
<b>Recommendations</b>				
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>				
<b>Photographic Recording (see below)</b>				

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Year	Upstream	Downstream		
2019	 <p>S 180 210 240 270 300                  236°SW (T) ● 55 S 755287 6432096 ±10m ▲ 497m                  Ulan West LW4 Flow Line 01 Feb 2019 11:02</p>	 <p>NE 60 90 120 150                  107°E (T) ● 55 S 755284 6432066 ±10m ▲ 500m                  Ulan West LW4 Flow Line 01 Feb 2019 11:01</p>		
2020	 <p>SW 210 240 270 300 330                  263°W (T) ● 55 S 755290 6432104 ±5m ▲ 497m                  FL2-Site 9 02 Dec 2020 11:20:10</p>	 <p>S 180 210 240 270 300                  234°SW (T) ● 55 S 755286 6432103 ±5m ▲ 498m                  FL2-Site 9 02 Dec 2020 11:22:28</p>	 <p>N 0 30 60 90 120 150                  67°NE (T) ● 55 S 755280 6432099 ±5m ▲ 499m                  FL2-Site 9 02 Dec 2020 11:23:04</p>	 <p>NE 30 60 90 120 150                  80°E (T) ● 55 S 755292 6432114 ±4m ▲ 496m                  FL2-Site 9 02 Dec 2020 11:25:37</p>

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Year	Upstream	Downstream
2020		
2021		

**APPENDIX B – UCFL2**



**Site UCFL2 Site 10 (Removed from 2022 monitoring by UCMLP)**

<b>Site Attributes</b>				
<b>Date Sampled</b>	20 October 2021			
<b>Approximate Easting</b>	755275			
<b>Approximate Northing</b>	6432089			
<b>Monitoring Requirement</b>	<p>Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.</p> <p><b>Notes: Longwall (LW4) at Ulan West completed in December 2018.</b></p>			
<b>2021 Monitoring Photo</b>				
<b>Year</b>	<b>February 2019</b>	<b>December 2020</b>	<b>October 2021</b>	
<b>Result</b>	Perceptible Impacts	Perceptible impacts (no change)	Perceptible impacts (no change)	
<b>Comments / Interpretation</b>				
<ul style="list-style-type: none"> <li>- UCFL2 Site 10 is located above LW4 towards the western edge of the panel and was added to the monitoring program in 2019.</li> <li>- During the 2019 inspection, there was evidence of subsidence related impacts including minor uplifting noted in the channel bed, cracking along the RHB/LHB and uplifting of tree roots within the channel bed.</li> <li>- During the 2020 inspection there was no perceptible change to historical impacts previously recorded, although the cracking along the edges appeared to be infilling. Also dislodged sandstone rock material also noted in the flowline.</li> <li>- During the 2021 there was no perceptible change to previously noted impacts.</li> <li>- Remove from monitoring.</li> </ul>				
<b>Recommendations</b>				
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>				
<b>Photographic Recording (see below)</b>				

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Year	Upstream	Downstream	
2019	<p>265°W (T) ● 55 S 755275 6432089 ±10m ▲ 501m</p> <p>298°NW (T) ● 55 S 755251 6432094 ±10m ▲ 495m</p> <p>Ulan West LW4 Flow Line 01 Feb 2019, 11:03</p>	<p>93°E (T) ● 55 S 755270 6432089 ±30m ▲ 498m</p> <p>Ulan West LW4 Flow Line 01 Feb 2019, 11:03</p>	
2020	<p>262°W (T) ● 55 S 755277 6432102 ±10m ▲ 499m</p> <p>FL2 Site 10 02 Dec 2020, 11:26:18</p>	<p>261°W (T) ● 55 S 755273 6432098 ±9m ▲ 499m</p> <p>FL2 Site 10 02 Dec 2020, 11:26:38</p>	<p>81°E (T) ● 55 S 755274 6432101 ±4m ▲ 499m</p> <p>FL2 Site 10 02 Dec 2020, 11:27:51</p>

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Year	Upstream	Downstream
2021	 <p>277°W (T) ● 55 S 755275 6432104 ±8m ▲ 499m</p> <p>UCFL2-Site 10 20 Oct 2021 15:02:18</p>	 <p>73°E (T) ● 55 S 755268 6432101 ±4m ▲ 498m</p> <p>UCFL2-Site 10 20 Oct 2021 15:01:45</p>

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**Site UCFL2 Site 11 (Removed from 2023 monitoring by UCMLP)**

<b>Site Attributes</b>				
<b>Date Sampled</b>	15 November 2022			
<b>Approximate Easting</b>	755275			
<b>Approximate Northing</b>	6432089			
<b>Monitoring Requirement</b>	Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.  <b>Notes: Longwall (LW5) at Ulan West completed in June 2020.</b>			
<b>2022 Monitoring Photo</b>				
<b>Year</b>	<b>December 2020</b>	<b>October 2021</b>	<b>November 2022</b>	
<b>Result</b>	Perceptible impacts*	Perceptible impacts* (no change)	Perceptible impacts* (no change)	
<b>Comments / Interpretation</b>				
<ul style="list-style-type: none"> <li>- UCFL2 Site 11 is located above LW5 towards the eastern edge of the panel and was added to the monitoring program in 2020.</li> <li>- During the 2020 inspection there was no evidence of subsidence related impacts, with no perceptible change to the flow line identified as a result of longwall mining at this monitoring site. Flood debris was also noted at this site.</li> <li>- *In 2020 small, isolated cracking of the bedrock within the flowline between monitoring sites 11 and 12 was noted.</li> <li>- During the 2022 there was no perceptible change when compared to 2021. * Minor cracking in bedrock downstream (between Site 12 and 11) noted in 2020 remained unchanged in 2021 and 2022. Increased vegetation in 2022 hindered observations along the flow line outside of exposed bedrock.</li> <li>- Remove from monitoring.</li> </ul>				
<b>Recommendations</b>				
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (<b>yes/no</b>)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (<b>yes/no</b>)</li> </ul>				
<b>Photographic Recording (see below)</b>				

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Year	Upstream	Downstream
2020		
2020		

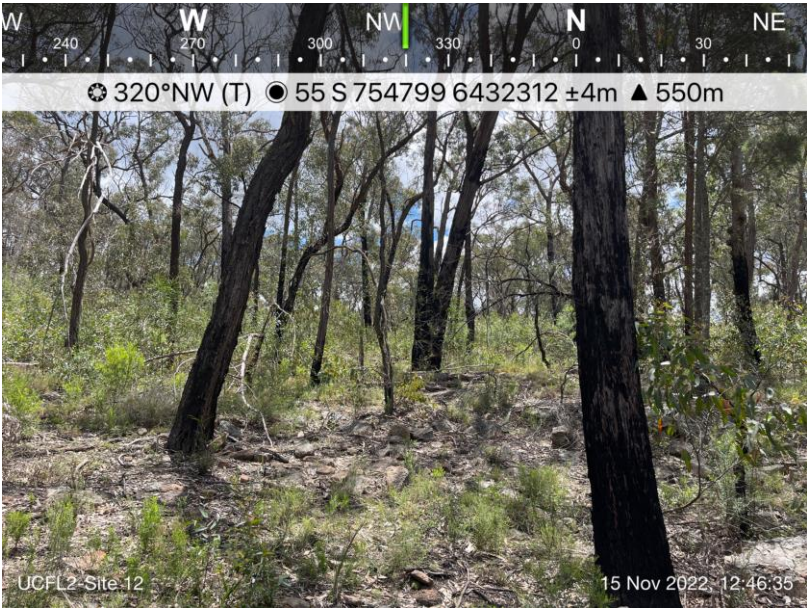
Isolated cracking in the bedrock with the flow between monitoring sites 11 and 12.

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Year	Upstream	Downstream
2021	 <p>UCFL2-Site 11 20 Oct 2021, 14:49:00</p>	 <p>UCFL2-Site 11 20 Oct 2021, 14:49:16</p>
2022	 <p>UCFL2-Site 11 15 Nov 2022, 13:10:26</p>	 <p>UCFL2-Site 11 15 Nov 2022, 13:10:49</p>

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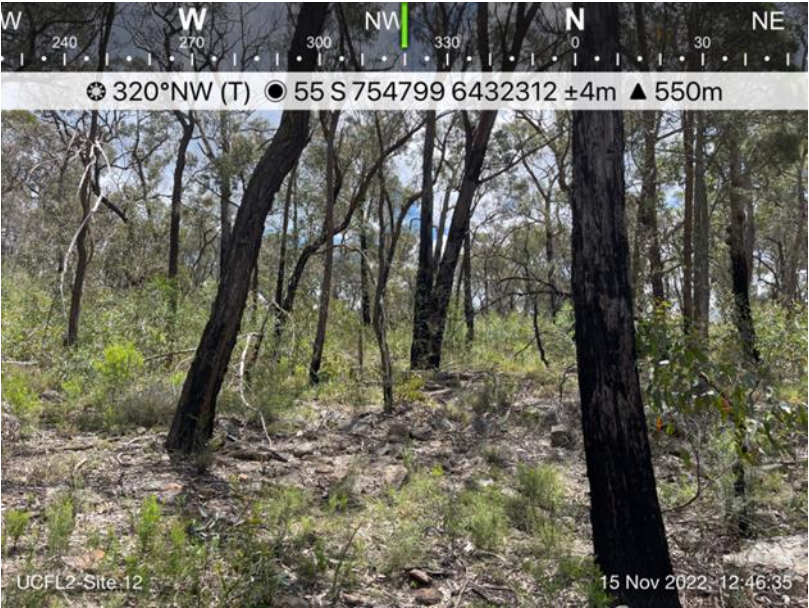

**Site UCFL2 Site 12 (Removed from 2023 monitoring by UCMLP)**

<b>Site Attributes</b>				
<b>Date Sampled</b>	15 November 2022			
<b>Approximate Easting</b>	755275			
<b>Approximate Northing</b>	6432089			
<b>Monitoring Requirement</b>	Monitoring to distinguish between natural erosion and erosion from mine subsidence instability, surface cracking, surface ponding and out of channel flows. Monitoring before longwall retreats and annually for a period of two years.  <b>Notes: Longwall (LW5) at Ulan West completed in June 2020</b>			
<b>2022 Monitoring Photo</b>				
<b>Year</b>	<b>December 2020</b>	<b>October 2021</b>	<b>November 2022</b>	
<b>Result</b>	Perceptible impacts*	Perceptible impacts* (no change)	Perceptible impacts* (no change)	
<b>Comments / Interpretation</b>				
<ul style="list-style-type: none"> <li>- UCFL2 Site 12 is located above LW5 towards the western edge of the panel and was added to the monitoring program in 2020 at the head of this flow line.</li> <li>- During the 2020 inspection there was no evidence of subsidence related impacts, with no perceptible change to the flow line identified as a result of longwall mining at this monitoring site*.</li> <li>- *In 2020 small, isolated cracking of the bedrock within the flowline between monitoring sites 11 and 12 was noted.</li> <li>- During the 2022 there was no perceptible change when compared to 2021. * Minor cracking in bedrock downstream (between Site 12 and 11) noted in 2020 remained unchanged in 2021 and 2022. Increased vegetation in 2022 hindered observations along the flow line outside of exposed bedrock.</li> <li>- Remove from monitoring.</li> </ul>				
<b>Recommendations</b>				
<ul style="list-style-type: none"> <li>- If unchanged and past two year recommend remove from annual monitoring program (yes/no)</li> <li>- Recommend recording cross sections at locations identified with channel and/or channel bank cracking as a result of subsidence, to monitor for erosion and/or changes to the channel width (yes/no)</li> </ul>				
<b>Photographic Recording (see below)</b>				

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Year	Upstream	Downstream
2020	 <p>308°NW (T) ● 55 S 754796 6432303 ±5m ▲ 550m</p> <p>FL2-Site 12 02 Dec 2020, 11:55:34</p>	 <p>115°SE (T) ● 55 S 754794 6432306 ±5m ▲ 550m</p> <p>FL2-Site 12 02 Dec 2020, 11:55:46</p>
2021	 <p>323°NW (T) ● 55 S 754798 6432312 ±4m ▲ 549m</p> <p>UCFL2-Site 12 20 Oct 2021, 14:03:58</p>	 <p>115°SE (T) ● 55 S 754796 6432310 ±4m ▲ 550m</p> <p>UCFL2-Site 12 20 Oct 2021, 14:34:21</p>

APPENDIX B – UCFL2

Year	Upstream	Downstream
2021		 <p>345°N (T) ● 55 S 754903 6432202 ±7m ▲ 522m</p> <p>6°N (T) ● 55 S 754951 6432193 ±4m ▲ 524m</p> <p>UCFL2-Site.12-Site.11 20 Oct 2021 14:40:10</p> <p>UCFL2-Site.12-Site.11 20 Oct 2021 14:42:47</p>
2022	 <p>320°NW (T) ● 55 S 754799 6432312 ±4m ▲ 550m</p> <p>UCFL2-Site.12 15 Nov 2022 12:46:35</p>	 <p>113°SE (T) ● 55 S 754796 6432307 ±4m ▲ 550m</p> <p>UCFL2-Site.12 15 Nov 2022 12:47:15</p>

APPENDIX B – UCFL2

	Downstream	Downstream
2022	 <p>UCFL2-Site 11-12 15 Nov 2022 13:19:09</p>	 <p>UCFL2-Site 12 15 Nov 2022 12:54:29</p>