



APPENDIX D – Brokenback Creek

Site BBC-Site 1




Site Attributes				
Date Sampled	27 November 2024			
Approximate Easting	755093			
Approximate Northing	6435473			
Monitoring Requirement	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. Notes: Longwall (LW5) at Ulan West completed in June 2020			
2024 Monitoring Photo				
Year	October 2021	October 2022	November 2023	November 2024
Result	Perceptible Impacts	Perceptible Impacts*	Remediation of Impacts	Remediation Completed
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC-Site 1 (Brokenback Creek) is located above LW5 towards the eastern edge of the panel and was added to the monitoring program in 2021. - At the time of the 2021 inspection, extensive erosion of the creek line was observed. The erosion impacts may be due to high flow creek event/s in 2020/2021 coinciding with a change in the longitudinal gradients from subsidence (an example of nick point erosion)¹. The site appeared very unstable in 2021. - *Observations in 2022 and 2023 were comparable although increased ground vegetation made it difficult to determine if the impacts had deteriorated since 2021 for example further tunnel erosion. - In 2023 UCML commenced remediation works (see photos below). Remediation of BBC1 had not been completed at the time of the inspection. - Remediation works completed as observed in 2024. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

¹ Nick point erosion begins at points of increased grade caused by subsidence and regresses upstream to erode the stream bed through the zone of less subsidence above chain pillars (SCT, 2022)

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Year				
2021	<p>  115°SE (T) ● 55 S 755093 6435473 ±6m ▲ 509m </p>  <p>BBC Site 1 20 Oct 2021, 08:44:10</p>	<p>  103°E (T) ● 55 S 755068 6435480 ±4m ▲ 515m </p>  <p>BBC Site 1 20 Oct 2021, 08:44:03</p>	<p>  119°SE (T) ● 55 S 755073 6435480 ±4m ▲ 515m </p>  <p>BBC Site 1 20 Oct 2021, 08:43:06</p>	<p>  204°SW (T) ● 55 S 755030 6435465 ±4m ▲ 507m </p>  <p>BBC Site 1 20 Oct 2021, 08:43:14</p>
	2022	<p>  124°SE (T) ● 55 S 755085 6435478 ±4m ▲ 502m </p>  <p>BBC Site 1 10 Oct 2022, 13:16:39</p>	<p>  95°E (T) ● 55 S 755070 6435481 ±4m ▲ 501m </p>  <p>BBC Site 1 10 Oct 2022, 13:18:02</p>	<p>  216°SW (T) ● 55 S 755031 6435467 ±4m ▲ 510m </p>  <p>BBC Site 1 10 Oct 2022, 13:20:43</p>

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Year		
2023	 <p>90°E (T) ● 55 S 755070 6435480 ±4m ▲ 514m</p> <p>BBC Site 1 27 Nov 2023, 11:28:05</p>	 <p>125°SE (T) ● 55 S 755079 6435478 ±4m ▲ 514m</p> <p>BBC Site 1 27 Nov 2023, 11:28:39</p>
2024	 <p>88°E (T) ● 55 S 755066 6435477 ±4m ▲ 512m</p> <p>BBC Site 1 27 Nov 2024, 8:21:19 AM</p>	

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Site BBC-Site 2




Site Attributes				
Date Sampled	27 November 2024			
Approximate Easting	754994			
Approximate Northing	6435465			
Monitoring Requirement	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. Notes: Longwall (LW5) at Ulan West completed in June 2020			
2024 Monitoring Photo				
Year	October 2021	October 2022	November 2023	November 2024
Result	Perceptible Impacts	Perceptible Impacts*	Remediation of Impacts	Remediation Completed
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC-Site 2 (Brokenback Creek) is located above LW5 towards the center of the panel and was added to the monitoring program in 2021. - At the time of the 2021 inspection, extensive erosion of the creek line was observed. The erosion impacts may be due to high flow creek event/s in 2020/2021 coinciding with a change in the longitudinal gradients from subsidence (an example of nick point erosion)². The site appeared very unstable. - *Observations in 2022 and 2023 were comparable although increased ground vegetation made it difficult to determine if the impacts had deteriorated since 2021 for example further tunnel erosion. - In 2023 UCMPL commenced remediation works (see photos below). Remediation of BBC2 had commenced at the time of the inspection. - Remediation works completed as observed in 2024. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

² Nick point erosion begins at points of increased grade caused by subsidence and regresses upstream to erode the stream bed through the zone of less subsidence above chain pillars (SCT, 2022)

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Year			
2021			
2022			

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Year		
2023	 <p>112°E (T) ● 55 S 754968 6435462 ±4m ▲ 512m</p> <p>BBC Site 1 27 Nov 2023, 11:22:29</p>	 <p>221°SW (T) ● 55 S 754973 6435463 ±4m ▲ 512m</p> <p>BBC Site 1 27 Nov 2023, 11:23:21</p>
2024	 <p>95°E (T) ● 55 S 754987 6435462 ±4m ▲ 512m</p> <p>BBC Site 2 27 Nov 2024, 8:25:25 AM</p>	

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Site BBC-Site 3 (Removed from 2024 monitoring by UCMLP)

Site Attributes				
Date Sampled	27 November 2023			
Approximate Easting	754750			
Approximate Northing	6435456			
Monitoring Requirement	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. Notes: Longwall (LW6) at Ulan West had retreated past this location at time of the 2021 inspection			
2023 Monitoring Picture				
Year	October 2018	October 2021	October 2022	November 2023
Result	Pre Mining	No Perceptible Impacts	No Perceptible Impacts	No Perceptible Impacts
Comments / Interpretation				
<ul style="list-style-type: none"> - The pre mining inspection noted an existing scour and exposed tree roots as a main feature. - BBC-Site 3 (Brokenback Creek) is located above LW6 towards the eastern edge of the panel and was added to the monitoring program in 2021. - At the time of the 2021 inspection there was no perceptible impacts. An existing scour is the main feature at this location. - Observations in 2022 and 2023 were comparable with 2021. Water was flowing and pooling at this location at the time of the 2022 inspection. No water was observed in 2023. - UCMLP to consider removing this site from the monitoring program in 2024. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

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Year		
2018	<p>NE 60 90 120 SE 150 180 S 210 138°SE (T) 55 S 754747 6435463 ±5m ▲ 496m Flow Line 3 UW LW5 31 Oct 2018, 12:48</p>	<p>SW 210 240 W 270 NW 300 330 N 0 289°W (T) 55 S 754751 6435456 ±5m ▲ 500m Flow Line 3 UW LW5 31 Oct 2018, 12:48</p>
	<p>SW 210 240 W 270 NW 300 330 N 360 298°NW (T) 55 S 754750 6435456 ±4m ▲ 505m BBC Site 3 20 Oct 2021, 09:00:36</p>	<p>NE 60 90 SE 120 150 S 180 210 128°SE (T) 55 S 754740 6435461 ±4m ▲ 504m BBC Site 3 20 Oct 2021, 08:59:34</p>

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Year		
2022	 <p data-bbox="403 199 1030 223">☉ 153°SE (T) ● 55 S 754745 6435463 ±4m ▲ 502m</p>  <p data-bbox="324 694 436 718">BBC Site 3</p> <p data-bbox="907 694 1108 718">10 Oct 2022, 13:40:46</p>	 <p data-bbox="1299 199 1926 223">☉ 299°NW (T) ● 55 S 754750 6435459 ±4m ▲ 503m</p>  <p data-bbox="1220 694 1332 718">BBC Site 3</p> <p data-bbox="1803 694 2004 718">10 Oct 2022, 13:41:35</p>
	 <p data-bbox="403 829 1030 853">☉ 137°SE (T) ● 55 S 754742 6435462 ±4m ▲ 506m</p>  <p data-bbox="324 1324 436 1348">BBC Site 3</p> <p data-bbox="907 1324 1108 1348">27 Nov 2023, 11:47:13</p>	 <p data-bbox="1299 829 1926 853">☉ 288°W (T) ● 55 S 754749 6435458 ±4m ▲ 504m</p>  <p data-bbox="1220 1324 1332 1348">BBC Site 3</p> <p data-bbox="1803 1324 2004 1348">27 Nov 2023, 11:47:40</p>

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Site BBC-Site 4 (Removed from 2024 monitoring by UCMLP)

Site Attributes				
Date Sampled	27 November 2023			
Approximate Easting	754695			
Approximate Northing	6435496			
Monitoring Requirement	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. Notes: Longwall (LW6) at Ulan West had retreated past this location at time of the 2021 inspection			
2023 Monitoring Photo				
Year	October 2021	October 2022	November 2023	
Result	No Perceptible Impacts	No Perceptible Impacts	No Perceptible Impacts	
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC-Site 4 (Brokenback Creek) is located above LW6 towards the eastern edge of the panel and was added to the monitoring program in 2021. - At the time of the 2021 inspection there was no perceptible impacts. Flow channel becomes less defined at this location. Upstream is a small scour. - Observations in 2022 and 2023 were comparable with 2021. Water was flowing and pooling at this location at the time of the 2022 inspection. No water was observed in 2023. - UCMLP to consider removing this site from the monitoring program in 2024. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

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Year		
2021		
2021		

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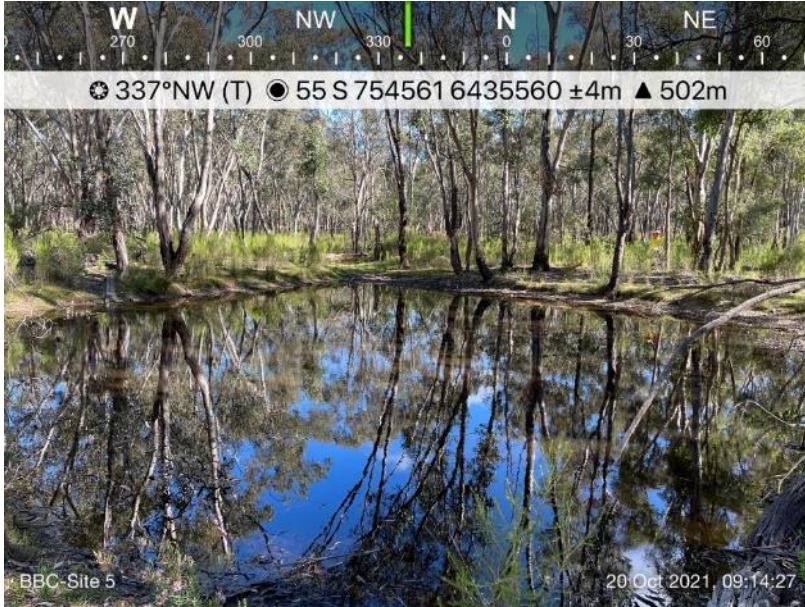

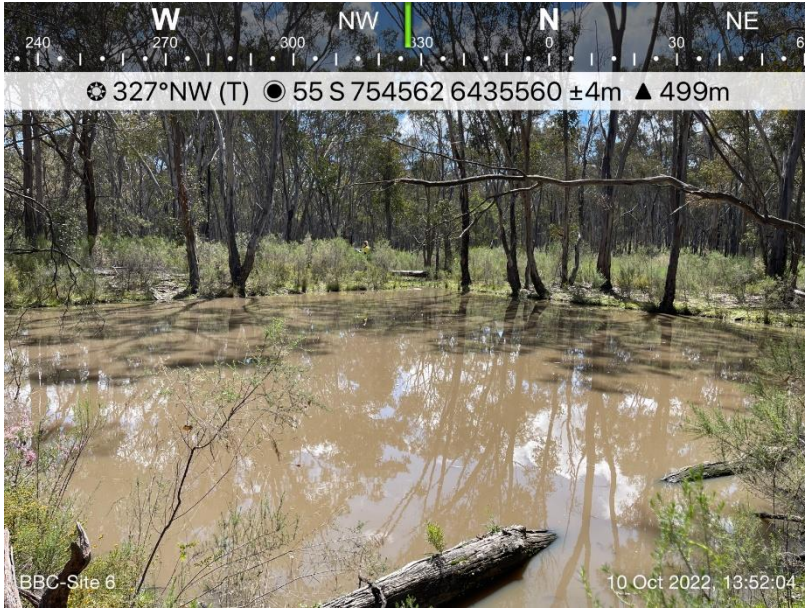
Year		
2022		
	2023	

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Site BBC-Site 5 (Removed from 2024 monitoring by UCMPL)

Site Attributes				
Date Sampled	27 November 2023			
Approximate Easting	754554			
Approximate Northing	6435583			
Monitoring Requirement	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. Notes: Longwall (LW6) at Ulan West had retreated past this location at time of the 2021 inspection			
2023 Monitoring Photo				
Year	October 2021	October 2022	November 2023	
Result	No Perceptible Impacts	No Perceptible Impacts	No Perceptible Impacts	
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC-Site 5 (Brokenback Creek) is located above LW6 towards the center of the panel and was added to the monitoring program in 2021. - At the time of the 2021 inspection there was no perceptible impacts, although the site may be an old farm dam and a potential ponding location. - Observations in 2022 and 2023 were comparable with 2021. Water was flowing into and out of the dam. The dam was at capacity at this location at the time of the 2022 inspection. No water was flowing into the dam in 2023. - UCMPL to consider removing this site from the monitoring program in 2024. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

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Year		
2021	 <p>138°SE (T) ● 55 S 754554 6435583 ±3m ▲ 501m</p> <p>BBC-Site 5 20 Oct 2021, 09:13:03</p>	 <p>337°NW (T) ● 55 S 754561 6435560 ±4m ▲ 502m</p> <p>BBC-Site 5 20 Oct 2021, 09:14:27</p>
2022	 <p>245°SW (T) ● 55 S 754565 6435573 ±4m ▲ 500m</p> <p>BBC-Site 6 10 Oct 2022, 13:49:43</p>	 <p>327°NW (T) ● 55 S 754562 6435560 ±4m ▲ 499m</p> <p>BBC-Site 6 10 Oct 2022, 13:52:04</p>

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Year		
2023	 <p data-bbox="300 730 412 751">BBC Site 4</p>	 <p data-bbox="1211 730 1323 751">BBC Site 5</p>

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Site BBC-Site 6

Site Attributes				
Date Sampled	27 November 2024			
Approximate Easting	754292			
Approximate Northing	6435760			
Monitoring Requirement	<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>Notes: Longwall (LW7) had not commenced at time of the 2021 inspection. LW7 had commenced in July 2022 and the position of the longwall was to the far north of this site at the time of the 2022 inspection.</p>			
2024 Monitoring Photo	 <p>BBC Site 6 27 Nov. 2023, 12:39:25</p>			
Year	October 2021	October 2022	November 2023	November 2024
Result	Pre Mining	Pre Mining	No Perceptible Impacts	No Perceptible Impacts
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC-Site 6 (Brokenback Creek) is located above LW7 towards the eastern edge of the panel and was added to the monitoring program in 2021. - At the time of the 2021 inspection there was no perceptible impacts. Flow channel becomes less defined at this location into a broad flood plain. - Observations in 2022 were comparable with 2021. The ground was saturated and well vegetated. At the time of the inspection this site is still considered pre-mining. - In 2023 the ground was dry and decreasing ground vegetation noted. Leaf litter was extensive. No perceptible impacts were noted. - Observations during 2024 were comparable with 2023. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

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Year		
2021		
2022		

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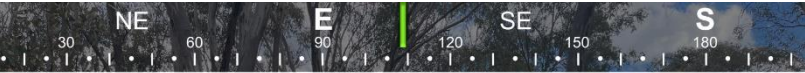



Year		
2023	 <p>311°NW (T) ● 55 S 754297 6435759 ±4m ▲ 499m</p> <p>BBC Site 6 27 Nov 2023 12:39:25</p>	 <p>123°SE (T) ● 55 S 754291 6435763 ±4m ▲ 500m</p> <p>BBC Site 6 27 Nov 2023 12:38:50</p>
2024	 <p>322°NW (T) ● 55 S 754294 6435753 ±4m ▲ 497m</p> <p>BBC Site 6 27 Nov 2024 8:43:36 AM</p>	

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Site BBC-Site 7

Site Attributes				
Date Sampled	27 November 2024			
Approximate Easting	754255			
Approximate Northing	6435872			
Monitoring Requirement	<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>Notes: Longwall (LW7) had commenced in July 2022 and the position of the longwall was to the far north of this site at the time of the 2022 inspection.</p>			
2024 Monitoring Photo				
Year	October 2022	November 2023	November 2024	
Result	Pre-Mining	Perceptible Impacts	Perceptible Impacts (no change)	
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC-Site 7 (Brokenback Creek) is located above LW7 towards the eastern edge of the panel and was added to the monitoring program in 2022. - At the time of the 2022 inspection there was no perceptible impacts. Flow channel becomes less defined at this location into a broad flood plain. The ground was saturated and well vegetated. At the time of the inspection. - In 2023 the ground was dry and decreasing ground vegetation noted. Leaf litter was extensive. Cracking was observed. - Observations during 2024 were comparable with 2023. Cracking was still visible although natural infilling had reduced its overall visibility. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

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Year		
2022	 <p data-bbox="405 256 1010 284">☉ 110°E (T) ● 55 S 754248 6435874 ±4m ▲ 495m</p>  <p data-bbox="320 751 421 772">BBC Site 7</p> <p data-bbox="904 751 1095 772">10 Oct 2022, 14:07:33</p>	 <p data-bbox="1290 256 1895 284">☉ 286°W (T) ● 55 S 754255 6435872 ±4m ▲ 496m</p>  <p data-bbox="1205 751 1305 772">BBC Site 7</p> <p data-bbox="1794 751 1984 772">10 Oct 2022, 14:07:57</p>
	 <p data-bbox="405 880 1010 908">☉ 109°E (T) ● 55 S 754251 6435876 ±4m ▲ 498m</p>  <p data-bbox="320 1375 421 1396">BBC Site 7</p> <p data-bbox="904 1375 1095 1396">27 Nov 2023, 12:49:48</p>	 <p data-bbox="1290 880 1895 908">☉ 294°NW (T) ● 55 S 754256 6435871 ±4m ▲ 493m</p>  <p data-bbox="1205 1375 1305 1396">BBC Site 7</p> <p data-bbox="1794 1375 1984 1396">27 Nov 2023, 12:49:22</p>

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Year		
2024	 <p>4°N (T) ● 55 S 754246 6435869 ±4m ▲ 496m</p> <p>BBC Site 7 27 Nov 2024 8:48:05 AM</p>	 <p>16°N (T) ● 55 S 754236 6435877 ±5m ▲ 497m</p> <p>BBC Site 7 27 Nov 2024 8:50:44 AM</p>

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Site BBC-Site 8

Site Attributes				
Date Sampled	27 November 2024			
Approximate Easting	753934			
Approximate Northing	6436187			
Monitoring Requirement	<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>Notes: Longwall (LW7) had commenced in July 2022 and the position of the longwall was to the far north of this site at the time of the 2022 inspection.</p>			
2024 Monitoring Photo				
Year	October 2022	November 2023	November 2024	
Result	Pre-Mining	No Perceptible Impacts	No Perceptible Impacts	
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC-Site 8 (Brokenback Creek) is located above LW7 towards the western edge of the panel and was added to the monitoring program in 2022. - At the time of the 2021 inspection there were no perceptible impacts. Flow channel becomes less defined at this location into a broad flood plain. - Observations in 2022 were comparable with 2021. The ground was saturated and well vegetated. At the time of the inspection this site is still considered pre-mining. - In 2023 the ground was dry and decreasing ground vegetation noted. Leaf litter was extensive. No perceptible impacts were noted. - Observations during 2024 were comparable with 2023. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

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Year		
2022		
	2023	

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Year		
2024	 <p>Compass overlay: E 90, SE 120, S 150, SW 210, 240. Coordinates: 158°S (T) 55 S 753923 6436194 ±4m ▲ 490m</p> <p>BBC Site 8 27 Nov 2024 9:09:36 AM</p>	 <p>Compass overlay: W 270, NW 300, N 330, NE 0, 60. Coordinates: 343°N (T) 55 S 753906 6436250 ±4m ▲ 490m</p> <p>BBC Site 9 27 Nov 2024 9:12:35 AM</p>

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Site BBC-Site 9

Site Attributes				
Date Sampled	27 November 2024			
Approximate Easting	753912			
Approximate Northing	6436235			
Monitoring Requirement	<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>Notes: Longwall (LW7) had commenced in July 2022 and the position of the longwall was to the far north of this site at the time of the 2022 inspection.</p>			
2024 Monitoring Photo				
Year	October 2022	November 2023	November 2024	
Result	Pre-Mining	Perceptible Impacts	Perceptible Impacts (no change)	
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC-Site 9 (Brokenback Creek) is located above LW7 towards the western edge of the panel and was added to the monitoring program in 2022. - At the time of the 2022 inspection there were no perceptible impacts. Flow channel becomes less defined at this location into a broad flood plain. Water was flowing and pooling at this location at the time of the 2022. The ground was saturated and well vegetated. At the time of the inspection this site is still considered pre-mining. - In 2023 the ground was dry and decreasing ground vegetation noted. Leaf litter was extensive. Cracking was observed. - Observations during 2024 were comparable with 2023. Cracking was still visible although natural infilling had reduced its overall visibility. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

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Year		
2022	 <p>355°N (T) ● 55 S 753913 6436235 ±4m ▲ 488m</p> <p>BBC Site 9 10 Oct 2022 14:23:52</p>	 <p>173°S (T) ● 55 S 753908 6436252 ±4m ▲ 488m</p> <p>BBC Site 9 10 Oct 2022 14:24:33</p>
	 <p>338°N (T) ● 55 S 753911 6436240 ±4m ▲ 492m</p> <p>BBC Site 9 27 Nov 2023 13:16:49</p>	 <p>160°S (T) ● 55 S 753910 6436250 ±4m ▲ 493m</p> <p>BBC Site 9 27 Nov 2023 13:17:19</p>

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Year		
2024		

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Site BBC-Site 10


Site Attributes	
Date Sampled	27 November 2023
Approximate Easting	753817
Approximate Northing	6436341
Monitoring Requirement	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. Notes: Longwall (LW8B) had not commenced at the time of the 2023 inspection.
2023 Monitoring Photo	
Year	November 2023
Result	Pre-Mining
Comments / Interpretation	
<ul style="list-style-type: none"> - BBC-Site 10 (Brokenback Creek) is located above LW8B towards the eastern edge of the panel and was added to the monitoring program in 2023. - At the time of the 2023 inspection there were no perceptible impacts. Flow channel becomes less defined at this location into a broad flood plain. In 2023 the ground was dry and decreasing ground vegetation noted. Leaf litter was extensive. At the time of the 2023 inspection this site is still considered pre-mining. - Continue to monitor. 	
Recommendations	
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 	
Photographic Recording (see below)	

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Year		
2023	 <p>300°NW (T) 55 S 753819 6436331 ±4m ▲ 486m</p> <p>BBC Site 10 27 Nov 2023 13:25:06</p>	 <p>120°SE (T) 55 S 753817 6436338 ±4m ▲ 492m</p> <p>BBC Site 10 27 Nov 2023 13:25:27</p>

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Site BBC-Site 11


Site Attributes				
Date Sampled	27 November 2023			
Approximate Easting	753662			
Approximate Northing	6436365			
Monitoring Requirement	<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>Notes: Longwall (LW8B) had not commenced at the time of the 2023 inspection.</p>			
2023 Monitoring Photo				
Year	November 2023			
Result	Pre-Mining			
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC-Site 11 (Brokenback Creek) is located centrally above LW8B and was added to the monitoring program in 2023. - At the time of the 2023 inspection there were no perceptible impacts. The flow channel is defined at this location with a bare, shallow scour feature. In 2023 the ground was mostly dry; however a small volume of pooled water was observed. Decreasing ground vegetation noted. Leaf litter was extensive. At the time of the 2023 inspection this site is still considered pre-mining. - Continue to monitor. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

APPENDIX D – Brokenback Creek

Year		
2023	 <p>99°E (T) 55 S 753646 6436363 ±5m ▲ 477m</p> <p>BBC Site 11 27 Nov 2023 13:32:58</p>	 <p>275°W (T) 55 S 753662 6436365 ±4m ▲ 490m</p> <p>BBC Site 11 27 Nov 2023 13:33:59</p>

APPENDIX D – Brokenback Creek

Site BBC-Site 12


Site Attributes				
Date Sampled	27 November 2023			
Approximate Easting	753463			
Approximate Northing	6436380			
Monitoring Requirement	<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>Notes: Longwall (LW8B) had not commenced at the time of the 2023 inspection.</p>			
2023 Monitoring Photo				
Year	November 2023			
Result	Pre-Mining			
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC-Site 12 (Brokenback Creek) is located above LW7 towards the western edge of the panel and was added to the monitoring program in 2022. - At the time of the 2023 inspection there were no perceptible impacts. Flow channel becomes less defined at this location into a broad flood plain. In 2023 the ground was dry and decreasing ground vegetation noted. Leaf litter was extensive. At the time of the 2023 inspection this site is still considered pre-mining. - Continue to monitor. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

APPENDIX D – Brokenback Creek

Year		
2023	 <p data-bbox="297 177 1102 247">NE 30 60 90 120 SE 150 180 S 96°E (T) 55 S 753462 6436377 ±4m ▲ 486m</p> <p data-bbox="297 746 1102 785">BBC Site 12 27 Nov 2023, 13:43:07</p>	 <p data-bbox="1191 177 1995 247">SW 210 240 W 270 NW 300 330 N 0 280°W (T) 55 S 753465 6436378 ±4m ▲ 489m</p> <p data-bbox="1191 746 1995 785">BBC Site 12 27 Nov 2023, 13:43:36</p>

APPENDIX D – Brokenback Creek

Site BBC1-Site 1

Site Attributes				
Date Sampled	27 November 2024			
Approximate Easting	753835			
Approximate Northing	6436065			
Monitoring Requirement	<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>Notes: Longwall (LW8B) had not commenced at the time of the 2024 inspection.</p>			
2024 Monitoring Photo				
Year	November 2024			
Result	Pre-Mining			
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC1-Site 1 (a lower order flowline of Brokenback Creek) is located above LW8B towards the eastern edge of the panel and was added to the monitoring program in 2024. - The flow line channel is less defined at this location. In 2024 the ground was dry and decreasing ground vegetation noted. Leaf litter was extensive. At the time of the 2024 inspection this site is still considered pre-mining. - Continue to monitor. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

APPENDIX D – Brokenback Creek


Year	
2024	 <p data-bbox="770 746 875 770">BBC1 Site 1</p> <p data-bbox="1330 746 1547 770">27 Nov 2024, 9:21:14 AM</p>

APPENDIX D – Brokenback Creek

Site BBC1-Site 2


Site Attributes				
Date Sampled	27 November 2024			
Approximate Easting	753701			
Approximate Northing	6435869			
Monitoring Requirement	<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>Notes: Longwall (LW8B) had not commenced at the time of the 2024 inspection.</p>			
2024 Monitoring Photo				
Year	November 2024			
Result	Pre-Mining			
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC1-Site 2 (a lower order flowline of Brokenback Creek) is located above LW8B towards the centre of the panel and was added to the monitoring program in 2024. - The flow line channel is less defined at this location. In 2024 the ground was dry and decreasing ground vegetation noted. Leaf litter was extensive. At the time of the 2024 inspection this site is still considered pre-mining. - Continue to monitor. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

APPENDIX D – Brokenback Creek

Year	
2024	 <p data-bbox="770 746 875 767">BBC1 Site 2</p> <p data-bbox="1330 746 1547 767">27 Nov 2024, 9:29:47 AM</p>

APPENDIX D – Brokenback Creek

Site BBC2-Site 1


Site Attributes				
Date Sampled	27 November 2024			
Approximate Easting	753604			
Approximate Northing	6434287			
Monitoring Requirement	<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>Notes: Longwall (LW8B) had not commenced at the time of the 2024 inspection.</p>			
2024 Monitoring Photo				
Year	November 2024			
Result	Pre-Mining			
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC2-Site 1 (a lower order flowline of Brokenback Creek) is located above LW8B towards the centre of the panel and was added to the monitoring program in 2024. - The flow line channel is well defined at this location. In 2024 the ground was dry and decreasing ground vegetation noted. Leaf litter and fallen timber was extensive. At the time of the 2024 inspection this site is still considered pre-mining. - Continue to monitor. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

APPENDIX D – Brokenback Creek

Year	
2024	 <p data-bbox="763 177 1556 247">SE S SW W 120 150 180 210 240 270 300</p> <p data-bbox="763 247 1556 284">☀ 211°SW (T) ● 55 S 753604 6434287 ±4m ▲ 536m</p> <p data-bbox="763 746 1556 786">BBC2 Site 27 Nov 2024 10:22:50 AM</p>

APPENDIX D – Brokenback Creek

Site BBC2-Site 2


Site Attributes				
Date Sampled	27 November 2024			
Approximate Easting	753442			
Approximate Northing	6434198			
Monitoring Requirement	<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>Notes: Longwall (LW8B) had not commenced at the time of the 2024 inspection.</p>			
2024 Monitoring Photo				
Year	November 2024			
Result	Pre-Mining			
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC2-Site 2 (a lower order flowline of Brokenback Creek) is located above LW8B towards the western edge of the panel and was added to the monitoring program in 2024. - The flow line channel is less defined at this location. In 2024 the ground was dry and decreasing ground vegetation noted. Leaf litter was extensive. At the time of the 2024 inspection this site is still considered pre-mining. - Continue to monitor. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

APPENDIX D – Brokenback Creek

Year	
2024	 <p data-bbox="770 746 878 772">BBC2 Site 2</p> <p data-bbox="1317 746 1550 772">27 Nov 2024, 10:18:39 AM</p>

APPENDIX D – Brokenback Creek

Site BBC2-Site 3

Site Attributes				
Date Sampled	27 November 2024			
Approximate Easting	753612			
Approximate Northing	6433860			
Monitoring Requirement	<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>Notes: Longwall (LW8B) had not commenced at the time of the 2024 inspection.</p>			
2024 Monitoring Photo				
Year	November 2024			
Result	Pre-Mining			
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC2-Site 3 (a lower order flowline of Brokenback Creek) is located above LW8B towards the centre of the panel and was added to the monitoring program in 2024. - The flow line channel is well defined at this location. In 2024 the ground was dry and decreasing to little ground vegetation noted. Rock material lined the flow line. Leaf litter was less extensive when compared to the surrounds. At the time of the 2024 inspection this site is still considered pre-mining. - Continue to monitor. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

APPENDIX D – Brokenback Creek

Year	
2024	 <p data-bbox="770 746 869 770">BEC2 Site 3</p> <p data-bbox="1317 746 1550 770">27 Nov 2024, 10:06:49 AM</p>

APPENDIX D – Brokenback Creek

Site BBC2-Site 4

Site Attributes				
Date Sampled	27 November 2024			
Approximate Easting	753429			
Approximate Northing	6434063			
Monitoring Requirement	<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>Notes: Longwall (LW8B) had not commenced at the time of the 2024 inspection.</p>			
2024 Monitoring Photo				
Year	November 2024			
Result	Pre-Mining			
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC2-Site 4 (a lower order flowline of Brokenback Creek) is located above LW8B towards the western edge of the panel and was added to the monitoring program in 2024. - The flow line channel is less defined at this location. In 2024 the ground was dry and decreasing ground vegetation noted. Leaf litter was less extensive when compared to the surrounds. At the time of the 2024 inspection this site is still considered pre-mining. - Continue to monitor. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

APPENDIX D – Brokenback Creek


Year	
2024	 <p data-bbox="770 746 882 770">BBC2 Site 4</p> <p data-bbox="1319 746 1547 770">27 Nov 2024, 10:13:41 AM</p>

APPENDIX D – Brokenback Creek

Site BBC2-Site 5

Site Attributes				
Date Sampled	27 November 2024			
Approximate Easting	753794			
Approximate Northing	6433937			
Monitoring Requirement	<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>Notes: Longwall (LW8B) had not commenced at the time of the 2024 inspection.</p>			
2024 Monitoring Photo				
Year	November 2024			
Result	Pre-Mining			
Comments / Interpretation				
<ul style="list-style-type: none"> - BBC2-Site 5 (a lower order flowline of Brokenback Creek) is located above LW8B towards the eastern edge of the panel and was added to the monitoring program in 2024. - The flow line channel is well defined at this location. In 2024 the ground was dry and decreasing to little ground vegetation noted. An active wombat burrow was noted. Leaf litter was less extensive within the flow line. At the time of the 2024 inspection this site is still considered pre-mining. - Continue to monitor. 				
Recommendations				
<ul style="list-style-type: none"> - If unchanged and past two year recommend remove from annual monitoring program (yes/no) - 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) 				
Photographic Recording (see below)				

APPENDIX D – Brokenback Creek

Year	
2024	 <p data-bbox="770 746 882 772">BBC2 Site 5</p> <p data-bbox="1317 746 1550 772">27 Nov 2024 10:00:20 AM</p>