

Compliance Division
Department of Planning, Industry & Environment
Locked Bag 5022
Parramatta
NSW 2124

Via email: [Major Projects Planning Portal](#)

COMPLETION BATHYMETRIC SCANNING (SSD-5464)

Please find attached report of the bathymetric survey completed in September 2022. Delta Coal is submitting these results following the incident report submitted on 8 July 2022 and the subsequent letter submitted on 28 July 2022.

A review of the results in relation to the trigger action response plan (TARP) of the approved Extraction Plan (S5 and NMA Pillar Extraction) indicates that the Trigger Level 1 has been activated. As such Delta Coal

- **MONITORING REQUIREMENTS**

- Delta Coal will continue 6monthly bathymetric surveys over the area.

- **ADAPTIVE MANAGEMENT MEASURES**

- Delta Coal will review the subsidence prediction based on the monitoring data (via third-party geotechnical engineering review)
- Delta Coal has completed a review on the potential changes in impact on natural and built features – a relatively small localised area under Lake Macquarie has experienced subsidence between 500mm to 650mm (± 100 mm) which has not affected the foreshore or any built feature.
- Delta Coal has completed a review on the potential impact on seagrass – subsidence in the seagrass zones are below any trigger value of the seagrass management plan. The annual seagrass survey completed in July 2022 mapped 9 transects around the Summerland Point area, and no impact to the seagrass were observed.

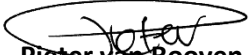


- **CONTINGENCY PLANS**

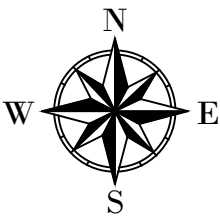
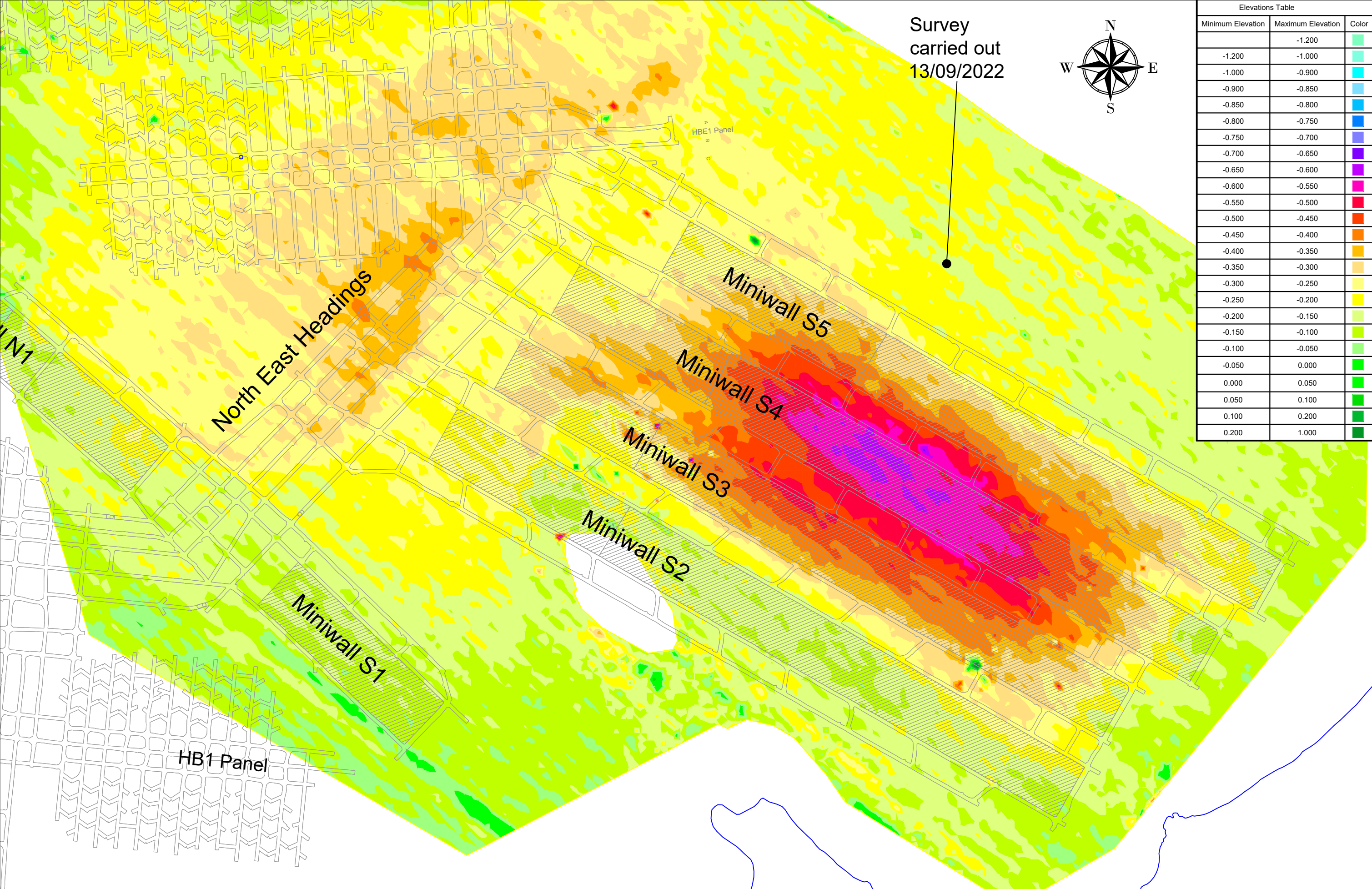
- Delta Coal will at this stage, not review the panel design criteria, as no further miniwall panels are planned within the NMA. The information from the third-party geotechnical engineering review will be reviewed and incorporated in future designs and extraction plans.

Please contact me on (02) 43580829 or at pvanrooyen@deltacoal.com.au if you have any questions or wish to discuss.

Yours sincerely


Pieter van Rooyen
Technical Services Manager
Delta Coal

30 September 2022



Elevations Table		
Minimum Elevation	Maximum Elevation	Color
	-1.200	
-1.200	-1.000	
-1.000	-0.900	
-0.900	-0.850	
-0.850	-0.800	
-0.800	-0.750	
-0.750	-0.700	
-0.700	-0.650	
-0.650	-0.600	
-0.600	-0.550	
-0.550	-0.500	
-0.500	-0.450	
-0.450	-0.400	
-0.400	-0.350	
-0.350	-0.300	
-0.300	-0.250	
-0.250	-0.200	
-0.200	-0.150	
-0.150	-0.100	
-0.100	-0.050	
-0.050	0.000	
0.000	0.050	
0.050	0.100	
0.100	0.200	
0.200	1.000	



Baseline Survey carried out 2019 prior to extraction

DELTA COAL
CHAIN VALLEY COLLIERY
FASSIFERN SEAM - Miniwalls S2 - S5
BATHY SURVEY RESULTS (SEP 2022)

SCALE:	AS SHOWN	DATE:	30 September 2022
DRAWN:	R Tubridy	DRG NO:	C1S0287_2.dwg
CHECKED:	-	REV NO:	
SIGNED:	-	SIZE:	A3



		Revision 3 - 8/3/2021				
		CHAIN VALLEY COLLIERY- SUBSIDENCE MANAGEMENT TRIGGER ACTION RESPONSE PLAN (TARP)				
		SUBSIDENCE MANAGEMENT NORTHERN MINING AREA DOMAIN (S5 and Northern Pillar Area)				
		DETAILED PERFORMANCE INDICATORS	MONITORING REQUIREMENTS	CONTAINMENT / REMEDIATION MEASURES	ADAPTIVE MANAGEMENT MEASURES	CONTINGENCY PLANS
	SUBSIDENCE PARAMETERS (Bathymetric Survey)	Normal Subsidence ≤ 500mm	As per Subsidence Monitoring (SM) Program			
		Trigger Level 1 Subsidence > 500mm to ≤ 780mm	6 monthly surveys until subsidence stabilises, then as per SM Program		Update subsidence predictions based on monitoring data Identify controlling mechanisms Review potential change in impact on natural and built features & update management plans if required Implement further controls as applicable from review	Review ability to limit further increases based on understood mechanisms including; Extraction heights, panel widths, panel recovery
		Trigger Level 2 Subsidence >780mm	6 monthly until subsidence stabilises then as per SM Program	Review if increase likely to create impact at foreshore/seagrass or exceed final subsidence prediction Notify immediately DPIE if incident and within 7 days for non-compliance Notify RR, BCD, affected landholders or infrastructure owner	Update subsidence predictions based on monitoring data Update impact assessment on natural and built features	Immediately review mine plan including panel width, pillar widths, extraction height and panel length Consult with DPIE and RR Review and update Extraction Plan
	SUBSIDENCE PARAMETERS (Foreshore Survey over minimum of 2 adjacent pegs)	Normal <20mm recorded movement	Monitoring as per SM Program			
		Trigger Level 1 <20mm recorded movement with slow (3-5mm/month) creep	Validate increase with additional monthly survey/s then as per SM program		Update subsidence predictions based on monitoring data Identify controlling mechanisms Review potential change in impact on natural and built features & update management plans if reqd	
		Trigger Level 2 >20mm recorded movement (assoicated with mining)	Implement Ecological Monitoring program for HWMSB exceedance Increase frequency of subsidence parameter monitoring to until rates stabilises. Then as per SM program	Cease extraction in panel in question until review conducted in consultation with DPIE and DRE Notify immediately DPIE if incident and within 7 days for non-compliance Notify RR, OEH, affected landholders or infrastructure owner	Investigate cause of exceedance (ie validate impact due to FAS extraction or not). Update subsidence predictions based on monitoring data Update impact assessment on natural and built features	Provide offsets for any ecological communities or threatened species in the HWMSB if impacts detected Immediately review mine plan including panel width, pillar widths, extraction height in consultation. Consult with DPIE and RR Review and update Extraction Plan
	BUILT FEATURES	Normal No damage requiring remediation	Monitoring as per Subsidence Monitoring Program			
		Trigger Level 1 Subsidence parameters exceeded such that Fassifern workings indicated to have potential impact on foreshore Private bore capacity reduced	RMS routine monitoring navigation markers Monitoring as per BFMP (Built Feature Management Plan)	Review navigational marker freeboard and notify Transport for NSW if impacted Notify immediately DPIE if incident and within 7 days for non-compliance Notify RR and potentially affected landholders or infrastructure owner. Provide temporary water if required.		Develop BFMP in conjunction with owner for built features surrounding potential impact area
		Trigger Level 2 Impact to built feature	Monitoring as per BFMP	Cease extraction in panel in question until review conducted in consultation with DPIE and RR Assist owner with information to aid in Subsidence Advisory NSW claim in accordance with BFMP	Update impact assessment based on observed damage	Immediately review mine plan including panel width, pillar widths Consult with DPIE and RR Review and update Extraction Plan

		CHAIN VALLEY COLLIERY- SUBSIDENCE MANAGEMENT TRIGGER ACTION RESPONSE PLAN (TARP) SUBSIDENCE MANAGEMENT NORTHERN MINING AREA DOMAIN (S5 and Northern Pillar Area)					Revision 3 - 8/03/2021
		DETAILED PERFORMANCE INDICATORS	MONITORING REQUIREMENTS	CONTAINMENT / REMEDIATION MEASURES	ADAPTIVE MANAGEMENT MEASURES	CONTINGENCY PLANS	
Triggers	PUBLIC SAFETY (Foreshore area and steep slopes)	Normal No impact	Monitoring as per SM Program and Public Safety MP				
		Trigger Level 1 Subsidence parameters exceeded such that Fassifern workings indicated to have potential impact on foreshore	Increase visual inspection of foreshore to daily until public safety risk quantified as low Inspect foreshore in vicinity of steep slopes and retaining walls for signs of movement ASAP. Implement TARP as required.		Review potential of flooding and drainage impacts about foreshore or stability concerns at steep slopes/ retaining walls. Undertake appropriate risk assessments		
		Trigger Level 2 Area around foreshore becomes unstable / shows signs of mining induced impact Flooding or drainage impacts considered likely as result of Fassifern extraction	Visual inspections frequency to be commensurate with level of risk (ie increase until controls put in place) Inspect foreshore in vicinity of other steep slopes and retaining walls for signs of movement ASAP. Implement TARP as required.	Cease extraction in panel in question until review conducted in consultation with DPIE and RR Immediately implement temporary safety controls (barricades and signage available from mine site). Arrange for assistance and stay at site if immediate risk to public exists Inform ECC as to result of inspection Geotechnical Engineer to inspect area immediately. Notify LMCC and Transport for NSW Notify BCD, DPIE and RR	Implement longer term safety controls	Foreshore stabilisation of unsafe areas in consultation with LMCC/CC Council and RR as soon as possible Flooding and drainage rectification works in consultation with infrastructure owner as soon as possible	
	BENTHIC COMMUNITIES	Normal ANOVA/ANOSIM >5%	Monitoring as per Benthic MP				
		Trigger Level 1 ANOVA/ANOSIM level is approaching 5%	Liaise with monitoring consultant & undertake internal review to determine if impacts are related to mining Arrange a peer review of the monitoring results and statistical analysis				
		Trigger Level 2 ANOVA/ANOSIM <5%	Undertake follow up monitoring at affected sites to obtain confirmation of impacts. Incident Report to be completed and distributed to relevant agencies	Notify DPIE-Fisheries, LMCC and DPIE Notify immediately DPIE if incident and within 7 days for non-compliance	Consult with relevant authorities about monitoring and management controls	Consult with relevant authorities to identify if offsets are required and how these are to be implemented.	
	SEAGRASS	Normal Negligible impact	Monitoring as per Seagrass MP				
		Trigger Level 1 Approaching 20% decline in condition Approaching 20mm of additional mine induced subsidence within mapped seagrass	Liaise with monitoring consultant & undertake internal review to determine if impacts are related to mining		Review if variation is within broader background variation range for the site.		
		Trigger Level 2 >20% decline in conditions from year baseline survey ≥150mm of additional mine induced subsidence at survey location	Incident Report to be completed and distributed to relevant agencies	Notify immediately DPIE if incident and within 7 days for non-compliance Notify DPIE-Fisheries and LMCC	Consult with relevant authorities about monitoring and management controls	Consult with relevant authorities to identify if offsets are required and how these are to be implemented.	
	THREATENED SPECIES AND ENDANGERED POPULATIONS	Normal Negligible environmental consequences	Monitoring as per Subsidence Monitoring Program, Benthic Communities Management Plan and Seagrass Management Plan				
		Trigger Level 1 As per Seagrass and Benthic Community Management Plans Monitoring Level 1 triggers	Liaise with monitoring consultant & undertake internal review to determine if impacts are related to mining and greater than neglible environmental consequences.		Review if variation is within broader background variation range for the site.		
		Trigger Level 2 As per Seagrass and Benthic Community Management Plans Monitoring Level 2 triggers >780mm subsidence	Incident Report to be completed and distributed to relevant agencies	Notify immediately DPIE if incident and within 7 days for non-compliance Notify DPIE-Fisheries and LMCC	Initiate ecological monitoring program to assess the impacts to ecological communities and threatened species. Consult with relevant authorities about monitoring and management controls	Consult with relevant authorities to identify if offsets or rehabilitation is required and how this is to be implemented.	
	WATER INFLOW	Ongoing monitoring of water inflows and site water management through operational Water Management and Monitoring TARP process					

		Revision 3 - 8/03/2021 CHAIN VALLEY COLLIERY- SUBSIDENCE MANAGEMENT TRIGGER ACTION RESPONSE PLAN (TARP) SUBSIDENCE MANAGEMENT NORTHERN MINING AREA DOMAIN (S5 and Northern Pillar Area)
Responsibilities	Environment Compliance Coordinator	Coordinate and undertake all environmental monitoring as outlined in TARP Implement TARP actions in consultation with regulatory agencies as/lf required Notify the relevant Government agencies and other affected parties of exceedance of performance measures Coordinate Subsidence Review as a part of Annual Environmental Reporting Arrange for subsidence prediction and impact updates as required Update Extraction Plan as required Audit public safety controls regularly
	Mine Surveyor	Coordinate subsidence monitoring as outlined in TARP Review subsidence monitoring results against TARP triggers Inform relevant stakeholders as to subsidence monitoring trends and exceedances
	Mine Manager	Ensure adequate financial and personnel resources are made available for implementation of this plan Review and approve required mine plan changes