

25 June 2021

Jennifer Rowe
Senior Compliance Officer
Planning Services
Level 2, 84 Crown Street
Wollongong NSW 2500

Dear Jennifer

LW 424 – 427 Extraction Plan Groundwater Trigger Investigation

In accordance with the Longwall 424-427 Extraction Plan, prepared as per Schedule 3, Condition 10(h) of SSD_5594, Springvale Coal Pty Ltd (Springvale) notified the Department of a groundwater level trigger on 13 May 2021.

On 8 June 2021 the Department provided a response to the notification. A response to the request has been enclosed in addition to the investigation report which addresses the requirements of the TARP within the Swamp Monitoring Program for Longwall 424-427.

The Department of Agriculture, Water and Environment has been provided a copy of the Investigation Report produced by Jacobs in accordance with EPBC 2013/6881.

If you require any further information in regard to the above please contact James Wearne on 49358944 or email james.wearne@centennialcoal.com.au.

Yours sincerely



James Wearne
Group Manager Approvals & Environment

Attached:

- Response to DPIE Request for Information

Enclosed:

- Investigation Report
- SPR1301 hydrograph data

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Attachment 1 - Response to DPIE Request for Information

Request: A statistical comparison of the groundwater data at SPR1301 and other comparable reference sites (with a justification for the use of each proposed reference site). The report should also investigate whether any other adjacent groundwater level monitors are showing similar groundwater declines.

Response: A statistical comparison of the SPR1301 to reference sites is presented in Section 5.2 of the enclosed report. AP5PR and AP1105 are nominated reference sites within both the 424-427 Swamp Monitoring Program and Water Management Plan.

The AP5PR and AP1105 reference sites are located above the Angus Place Mine Extension Project Area which is well outside the influence of mining activities being undertaken by Springvale Coal. Both sites target the Banks wall of Sandstone where SPR1301 is screened.

Both AP5PR and AP1105 displayed declining trends during the drought and both fell below their comparative 95th percentile trigger. It is therefore concluded that similar groundwater trends have been observed at reference sites.

Request: An assessment of nearby swamp health indicators (particularly at Marrangaroo Creek Swamp), including swamp water levels and the state of vegetation.

Response: Marrangaroo Creek Swamp groundwater levels are presented in Section 5.7.1 of the enclosed report. The groundwater levels at Marrangaroo Swamp are above the 95th percentile short term trigger values and there are no observable negative mining impacts. Groundwater levels are in line with the prevailing rainfall conditions.

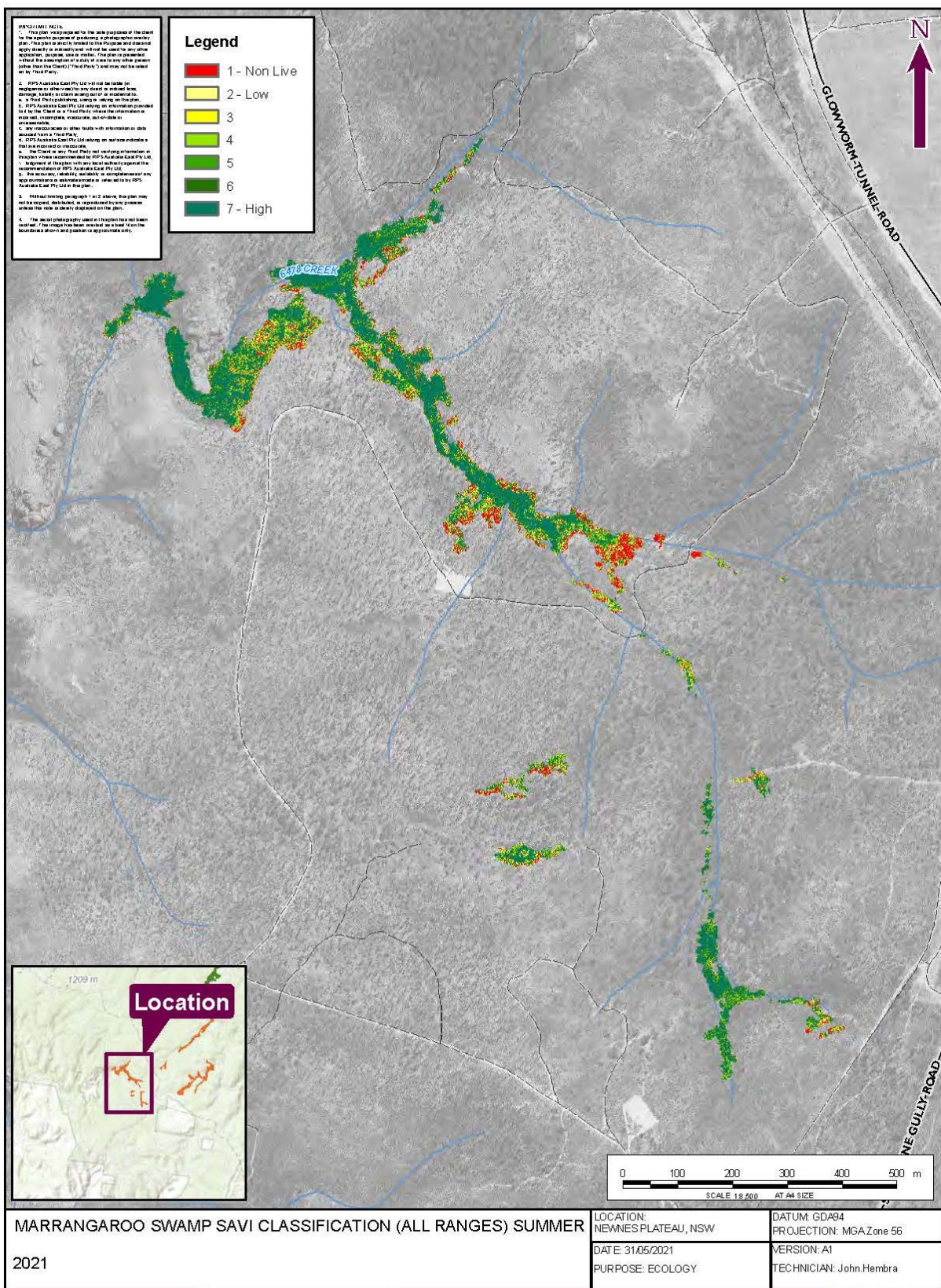
Flora monitoring is undertaken in accordance with the 424-427 Swamp Monitoring Program. A change in baseline data condition has been reported since the 2019/20 Gosper Bushfire however the mining position and lack of groundwater trigger supports this is not mining related. A Post Bushfire Swamp Analysis Report has been provided to the Department on 13 May 2021.

Plant Health monitoring (photosynthetic activity) is undertaken. **Table 1** below presents results from Summer 2021.

Table 1: Photosynthetic activity of the proposed impact swamp Marrangaroo compared to control swamps

Swamp	Mean Area (SAVI $\leq$ 0.12) $\pm$ SE (ha)	5% Preliminary Trigger Level (ha)	10% Preliminary Trigger Level (ha)	20% Trigger Level (ha)	Summer 2021
Control Swamp					
Barrier	2.07 $\pm$ 0.976	3.198	3.350	3.655	0.155

Swamp	Mean Area (SAVI $\leq$ 0.12) $\pm$ SE (ha)	5% Preliminary Trigger Level (ha)	10% Preliminary Trigger Level (ha)	20% Trigger Level (ha)	Summer 2021
Firetail	0.586 $\pm$ 0.274	0.899	0.942	1.028	0.181
Tristar	0.130 $\pm$ 0.077	0.217	0.228	0.248	0.084
Twin Gully	0.091 $\pm$ 0.065	0.164	0.172	0.187	0.074
Impact Swamp					
Marrangaroo	0.606 $\pm$ 0.291	0.942	0.987	1.076	1.010



Request: *A review of whether subsidence levels exceed predictions.*

Response: The subsidence survey in June/July 2020 (Centennial, 2020) did not detect anomalous surface movements.

Request: *A conclusion as to whether or not Centennial considers these impacts to be mining-related, and any suggested next steps.*

Response: The data shows groundwater level movements that correspond with the CRD curve and declines in the adjacent reference bores. In the post mining period, the declines could be linked to the prevailing rainfall conditions. It is likely the groundwater level declines are climate related but additional reviews will need to be completed before the impacts of mining can be ruled out.

Centennial propose as the next steps:

- Continued monitoring as per Chart 3 of the SMP for LW424-427
- Observe monitoring data in nearby swamp piezometers MS1, MS2 and MS3 for potential propagation of impacts to THPSS.

Request: *Confirm whether the hydrograph for SPR1301 is using a 7-day moving average – if not, please provide an updated hydrograph;*

Response: Figure 4.1 in the enclosed investigation report presents the 7 day moving average.

Request: *Advise what the effect of a “baseline to present” pre-mining cut-off date is in establishing triggers, and whether this affects data validity in establishing a suitable baseline comparison.*

Response: The Swamp Monitoring Program states that trigger values are dynamic and will be updated until the monitoring borehole comes within 600m of the Trigger Investigation Area (TIA). The revised trigger value used for reporting considers all data up to 5 February 2021. Post drought groundwater level data which was collected after the Swamp Monitoring Program was developed has assisted in both calculating and improving the validity of the values.

Impacts as result of mining is not predicted when outside the 600m position.

Request: *Advise what background data timeframe was used to set the trigger value for SPR1301 (i.e. a short-term change of 1103.84 m AHD), as shown in Table 15 of the Swamp Monitoring Program (EP 424-427).*

Response: The short term 95th percentile trigger data included data up to 8 January 2018 which was the limit of available data at the time the Swamp monitoring program for 424-427 was prepared.

Request: *Confirm what groundwater level the red dashed horizontal line in the hydrograph represents (i.e. the short-term change trigger).*

Response: Figure 2 in the Notification Report provided 13 May and Figure 4.1 in the enclosed investigation report present the 95th percentile trigger value.

Request: *Provide the hydrograph for SPR1301 (including data) in Microsoft Excel format;*

Response: A copy of hydrograph and relevant data has been provided with the submission.

Request: *Advise why the TARP was not triggered in approximately June 2020, when groundwater levels dropped below the short-term change trigger level for SPR1301 (ie. the red dashed horizontal line in the hydrograph).*

Response: The June 2020 water level decline at SPR1301 occurred in the pre-mining baseline period. The site was considered an impact site after the TIA came within 600 m of the site (the pre-mining cut off) and the pre-mining short trigger level was exceeded after a month of sustained exceedance in the post mining period.