John Agustin - Longwall Superintendent

Robert Murdoch - Longwall Mining Coordinator (2019)

Joshua Lancaster - Longwall Mining Coordinator (2020)

Matt Gleeson – Acting Longwall Superintendent (2020)

Logan Mohr - Technical Services Manager

Haydyn Hearne – Ventilation and Gas Superintendent

Ray Kostowski – Technical Services Superintendent

Steve Giese – Geology and Geotechnical Superintendent

Mark Johnston - Ventilation Officer (2020)

Garth Zerner – Ventilation Officer (2019)

Elysse Maunder Health and Safety Coordinator (2019)

Katrice Mills – Health and Safety Coordinator (2020)

Casper Badenhorst - Seamgas Manager

Brett Mulcahy - Seamgas Superintendent

Danny Moore - Seamgas Coordinator

Glenn Britton – Head of UG Operations

Paul Stephan – Acting Head of UG operations

Trent Griffiths SSE

Rob Nowles SSE (acting)

Wouter Niehaus UMM

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| Date | Investigation Team | SIGN OFF | Key Witness |
| 1. **2nd July 2019 IN.00204656**   Prior to the event, the shearer was halted at #115 roof support due to high levels of CH4 reporting to the inbye CH4 sensor, above the calculated threshold of 1.88% for a period of 2 hours.  A low-pressure weather system coincided with the 2nd of July resulting in a lower barometer than normal. | John Agustin LW Super  Robert Murdoch LW Cord  Elysse Maunder -scribe  Adam Maggs ERZC  Josh Sloan- LW Operator | Glenn Britton  Rob Nowell (Gen Man)  Wouter Niehaus  Rob Nowell (dept man) | Adam Maggs ERZC |
| 1. **3rd July 2019 IN.00204655**   A non-prescribed legislative HPI occurred on the 3rd of July at 05:03. The shearer was cutting into the tailgate past #115 roof support when gas levels rapidly increased due to shearer position and goaf flushing.  The implemented controls for restricting production during high levels of CH4 did not prevent a nonprescribed legislative HPI from occurring due to the sudden and temporary increase in CH4 levels.  Methane levels were above 2.5% for 1 minute, peaking at 2.7%. | John Agustin  Robert Murdoch | Glenn Britton  Rob Nowell (Gen Man)  Wouter Niehaus  Rob Nowell (dept man) | Brad Meldrum ERZC |
| 1. **11th July 2019 IN.00205198**   •**The floor blower located at #55 roof support released approximately 2,463m3 after 1 hour and 4,790m3 7.5 hours (inclusive of the first hour).**  •Mining past the area stimulated the release of gas into the mine atmosphere from a reservoir from beneath the target mining seam. | John Agustin  Robert Murdoch  Elysse Maunder - scribe | Glenn Britton  Trent Griffith (Gen Man)  Logan Mohr (dept man) | John Lancaster ERZC |
| 1. **14th, 21st and 22nd July 2019**   IN.00205774, IN.00205202, IN.00205668  • The goaf in the tailgate roadway was hanging up, allowing a pocket of goaf atmosphere to accumulate, and a variance to pressure enabled a short duration plug of goaf atmosphere to be ejected into the tailgate general body atmosphere. | Logan Mohr  Elysse Maunder - Scribe | Paul Stephen  Trent Griffith (Gen Man)  Wouter Niehaus  Rob Nowell (dept man) | Brad Meldrum ERZC  John Lancaster ERZC |
| 1. **15th July 2019 IN.00205342**   **In order to reduce the intake Methane to the LW face and Return a Ventilation change was completed on the 15th of July. The primary objective of the change was to reverse the ventilation direction of the perimeter roadway as this ventilation circuit was introducing methane levels of 0.3% to 0.4% into the intake of the LW.** **To complete the change, the ventilation quantity of the intake road (MG103 B Hdg) and the LW ventilation circuit had to be increased to allow for the additional air required to change the direction of the airflow inbye of the LW face on the perimeter road** | Logan Mohr  Elysse Maunder  Garth Zerner  Brad Meldrum ERZC | Paul Stephen  Trent Griffith (Gen Man)  Wouter Niehaus  Logan Mohr (dept man) | Brad Meldrum ERZC  Garth Zerner |
| 1. **23rd July 2019 IN.00205851**   While Cutting from TG to MG in Uni-Di, a cavity formed on the LW face from roof support #45 to #27. The resulting rock rilled in over the face restricting ventilation on the face pushing ventilation into goaf and causing a methane spike in the TG roadway. At 3.44 pm the inbye sensor reached a peak of 2.54 % CH4 and the outbye sensor reached a peak of 2.71% CH4 3.52 pm. Methane levels were above 2.5% for 21 minutes. (64m3/s) | John Agustin  Robert Murdoch  Shaun Dando ERZC | Glenn Britton  Trent Griffith (Gen Man)  Wouter Niehaus  Rob Nowell (dept man) | John Lancaster ERZC |
| 1. **24th July 2019 IN.00205948 & IN.00205950**   Through the LFI Investigation process, the following were found to have contributed to the unwanted event:  Cavity formation in the Tailgate above 148 and 149 shield resulted in rock / roof material falling into the ventilation circuit of the Longwall resulting in a goaf flushing event.  The outcome of the strata delamination event was amplified due the Gas make (SGE) greater than expected in excess of system capacity and less than adequate methane recovery / dilution | John Agustin  Robert Murdoch | Paul Stephen  Trent Griffith (Gen Man)  Wouter Niehaus  Rob Nowell (dept man) | John Lancaster ERZC |
| 1. **17th August 2019 IN.00207131**   •A the time of the incident the Barometer was at the bottom of the cycle and flat lined, with the gas fringe close to the shields with slight changes having larger effects on the TG goaf stream.  •Large sudden emission of gas out the of the goaf and loud noise heard from 15ct seal site indicates goaf fall displacing gas into TG Roadway.  •The displacement of gas was substantial enough to overcome the gas drainage system and to trip power to the face when gas levels exceeded 2.5% in the tailgate return. | Casper Badenhorst  Brett Mulcahy  Danny Moore  John Lancaster ERZC | Glenn Britton  Rob Nowell  Wouter Niehaus  Casper Badenhorst | Mineworker Operator |
| 1. **19th October 2019 IN.00210794**   •The barometer at the time of the methane exceedance was at the lowest point for the day (984hPa**), this period was the lowest barometric pressure for the previous 13 weeks**  •The shearer position on the face (#140) contributed to additional ventilation scouring the goaf into the mine general body atmosphere combined with a low barometer. | John Agustin  Robert Murdoch  Tim Lawrence ERZ | Glenn Britton  Trent Griffith  Wouter Niehaus  Rob Nowell | Tim Lawrence ERZC |
| 1. **7th November IN.00211941**   Floor Cracks 40m  The methane calculated to have released into the mine’s general body atmosphere was **approximately 1,504m3 after 2 hours before returning to normal background levels** | Logan Mohr  Haydyn Hearne  Ray Kostowski  Steve Giese | Glenn Britton  Rob Nowell (Gen Man)  Wouter Niehaus  Logan Mohr (dept head) | Adam Maggs ERZC |
| 1. **4th April IN.00222860**   On 04 April in LW104, at 01:05 the shearer was cutting from TG to MG when the shearer lost power due the section 243A (shield 149) sensor reaching 2% methane.  At 02:09 the shearer restarted following the methane reducing to 1.9%. Due to a cavity located between shields 146 and 148 the shearer was relocated to shield 127 and the TG shields were brought in to assist with cavity management.  At 02:22am the goaf stream flushed over the tailgate drive resulting in a peak reading of 2.97% methane at the section 243A (shield 149). | Logan Mohr  Haydyn Hearne  Brad Meldrum ERZC  Joshua Lancaster  Elysse Maunder - scribe | Glenn Britton  Trent Griffith (Gen man)  Wouter Niehaus  Rob Nowell (Dept Head) | Brad Meldrum ERZC |
| 1. **6th and 7th April 2020**   IN.00222989 and IN.00223069  At 11:31pm the Shearer was cutting from MG towards TG and was stopped at 115 shield for 20 minutes when a gas exceedance occurred at the TG104 3-4ct B Hdg Outbye return monitor. Due to a goaf fall that added additional methane make into the inbye C Hdg roadway the ERZ Controller inspected the C Hdg roadway and found the brattice stopping had been damaged from the event and repaired it which subsequently reduced the general body TG CH4 concentration to below 2.5%. | Logan Mohr  Haydyn Hearne  Mark Johnston  Brad Meldrum ERZC  Katrice Mills -Scribe | Glenn Britton  Trent Griffith (Gen man)  Wouter Niehaus  Logan Mohr (dept head) | Brad Meldrum ERZC |

