SAFETY & SUSTAINABLE DEVELOPMENT

LEARNING FROM INCIDENTS

INVESTIGATION REPORT

GRASSTREE MINE

Metallurgical Coal

Incident Number(s): IN.00221991, 00221998, 00222011, 00222360, 00222495, 00222988, 00223278

Classification: High Potential Incident

Incident Title: >2.5% CH4 LW808 #197

Incident Date: 20/03/20, 24/03/20, 26/03/20, 6/04/20, 11/04/20

Report Date: 22/04/20

CONFIDENTIAL

Learning from Incidents Investigation Report

1 EXECUTIVE SUMMARY

A number of HPI (>2.5% CH_4 Gas Concentration) events were detected on the "0m CH_4" sensor fitted to #197 chock on LW808 during the routine extraction process. This sensor was installed on the 06/02/20 and had not previously been installed on any other previous longwall faces.

The investigation found the following:

- The monitor was a new installation designed to comply with Section 243A of the Coal Mine Safety and Health Regulation Amendment 2019. This sensor was installed on 06/02/20.
- A trip of >2% was recorded on this sensor on 07/02/20, a day after its commissioning.
- A number of subsequent >2.0% and >2.5% trip events were recorded on the "0m CH_4" sensor during the extraction of LW808 (these being the subject of this LFI).
- On detailed investigation of these trip events it was identified that a range of factors contributed to the detection of >2.5% at the "0m CH_4" sensor.
- Each recorded trip event had at a minimum three contributing factors present at the time of the event, with nominally 6 potential factors present.
- A number of other associated process deficiencies were also identified in the course of the investigation including; miscommunication of corrective action guidance, unauthorized ventilation adjustments, sensors installed with incorrect (compared to documentation) set-points and violation of no-standing zones.
- A range of corrective actions additional controls were identified to mitigate the contributing factors to the incidents

2 INVESTIGATION TEAM MEMBERS

Joel Duffy – Compliance Superintendent

Braedon Smith – Ventilation Officer

3 KEY WITNESSES

List of Key Witnesses	
Name	Designation
S Stingle	ERZ Controller – LW808
P Noton	ERZ Controller – LW808
J Smith	ERZ Controller – LW808
K Spring	ERZ Controller – LW808
M Sellings	LW808 CMW
T McDonald	LW808 CMW
M Downing	LW808 CMW
S Lohrey	LW808 CMW
W Brown	LW808 CMW

4 METHODOLOGY AND TOOLS USED

An investigation has been conducted in accordance with the Anglo American investigation methodology known as the Learning from Incidents model, supported by various investigative and analytical tools.

The analysis tools used for this investigation are:

Analysis Tool	Attached as Appendix if applicable - Yes/No
Time Series Events Chart	Yes – mandatory tool
Control Analysis	No
Behaviour Analysis	No
Change Analysis	Yes
Why Analysis	Yes

5 EXECUTIVE SUMMARY OF INCIDENT

Summary of Incident						
Incident Number		IN.00221991		Department		Longwall
Area / location		LW808		Contracting Company (if applicable)		
Summary of findings from Incident Investigation						
Incident Category e.g. Safety, Health, Env, Legal, Reputation, Community.	Agent EG – Fall of Ground	Actual ISR Rating	Potential ISR Rating	Date of Incident	Time of Incident	Number of hours worked
Legal and Regulatory	Non compliance	Minor	Moderate	20/03/2020	04:43AM	7.75
Task being performed at time of incident	Longwall Production				Planned or Unplanned task?	
						Planned
Summary of Incident	During routine production, following cutting into the tailgate, a methane concentration of >2.5% were detected at the '0m TG Sensor' removing power from the face. "0m CH4 Sensor" CH4 concentrations fluctuated and exceed 2.5% for a period of 4 seconds, with a maximum peak of 2.53%.					
Immediate actions taken	ERZ Controller inspect area. ERZ C attends TG, erects brattice wing on #194 chock and waits until 0m sensor CH4 is 0.6% before recommencing production. Flaps already hung between chock legs #197-195. Instructed MG operators to notify shearer operators of gas levels on cut in. Instructed men to cut at 8m/min Notify MSO/UMM.					

Summary of Incident						
Incident Number		IN.00221998		Department		Longwall
Area / location		LW808		Contracting Company (if applicable)		
Summary of findings from Incident Investigation						
Incident Category e.g. Safety, Health, Env, Legal, Reputation, Community.	Agent EG – Fall of Ground	Actual ISR Rating	Potential ISR Rating	Date of Incident	Time of Incident	Number of hours worked
Legal and Regulatory	Noncompliance	Minor	Moderate	20/03/2020	06:08AM	9.15
Task being performed at time of incident	Longwall Production				Planned or Unplanned task?	
						Planned
Summary of Incident	During routine production, following cutting into the tailgate, a methane concentration of >2.5% were detected at the '0m TG Sensor' removing power from the face. "0m CH4 Sensor" CH4 concentrations fluctuate exceeds 2.5% for a period of 7min 57 seconds, with a maximum peak of 3.73%.					
Immediate actions taken	ERZ Controller inspect area. ERZ C attends TG. ERZ C Notifies MSO of event. Incident subsequently reported to UMM, production ceased until UMM satisfied with implementation of additional controls.					

Summary of Incident						
Incident Number		IN.00221011		Department		Longwall
Area / location		LW808		Contracting Company (if applicable)		
Summary of findings from Incident Investigation						
Incident Category e.g. Safety, Health, Env, Legal, Reputation, Community.	Agent EG – Fall of Ground	Actual ISR Rating	Potential ISR Rating	Date of Incident	Time of Incident	Number of hours worked
Legal and Regulatory	Noncompliance	Minor	Moderate	20/03/2020	12:00AM	2
Task being performed at time of incident	Longwall Production				Planned or Unplanned task?	
						Planned
Summary of Incident	During routine production, following cutting into the tailgate, a methane concentration of >2.5% were detected at the '0m TG Sensor' removing power from the face. "0m CH4 Sensor" CH4 concentrations fluctuated and exceed 2.5% for a period of 14min 55 seconds, with a maximum peak of 4.3%. TG Drive sensor trips CH4 concentrations fluctuate exceeds 2.5% for a period of 1min 3 seconds, with a maximum peak of 3.6%. Both sensors on TG drive trend consistently.					
Immediate actions taken	ERZ Controller and MSO inspect area. Erect butchers' flaps on chocks #193, #194 and brattice along #195-197 under MSO direction. 6CT TG VCD adjusted under MSO direction. Incident subsequently reported to UMM, production ceased until UMM satisfied with implementation of additional controls.					

Met Coal_11-9	Incident Investigation Report	Version Date

Summary of Incident						
Incident Number		IN.00222360		Department		Longwall
Area / location		LW808		Contracting Company (if applicable)		
Summary of findings from Incident Investigation						
Incident Category e.g. Safety, Health, Env, Legal, Reputation, Community.	Agent EG – Fall of Ground	Actual ISR Rating	Potential ISR Rating	Date of Incident	Time of Incident	Number of hours worked
Legal and Regulatory	Noncompliance	Minor	Moderate	24/03/2020	2:40AM	6
Task being performed at time of incident	Longwall Production				Planned or Unplanned task?	
						Planned
Summary of Incident	During routine production, following cutting into the tailgate, a methane concentration of >2.5% were detected at the '0m TG Sensor' removing power from the face. Longwall had produced 30x shears in 24 hours. Chocks bank advanced. "0m CH4 Sensor" CH4 concentrations fluctuated and exceed 2.5% for a period of 14 seconds, with a maximum peak of 2.56%. Both sensors on TG drive trend consistently.					
Immediate actions taken	ERZ Controller and MSO inspect area. ERZ Control ensures flaps erected as required. Advises men to slow shearer. MSO UMM notified. LW Superintendent and VO provide formal communications (Memo and Ventilation Advice) as to required advance sequences and VCD adjustments in TG.					

Summary of Incident						
Incident Number	IN.00222495		Department	Longwall		
Area / location	LW808		Contracting Company (if applicable)			
Summary of findings from Incident Investigation						
Incident Category e.g. Safety, Health, Env, Legal, Reputation, Community.	Agent EG – Fall of Ground	Actual ISR Rating	Potential ISR Rating	Date of Incident	Time of Incident	Number of hours worked
Legal and Regulatory	Noncompliance	Minor	Moderate	25/03/2020	17:49PM	8
Task being performed at time of incident	Longwall Production				Planned or Unplanned task?	
						Planned
Summary of Incident	LW808 Shearer cuts into TG and starts to cut back towards MG out to snake. Shearer at #184 (2x chocks away from face stagger at #186) where face staggered and closed up) and face trip event occurs when "0m CH4 Sensor" >2%, peaking at 2.63%. Longwall had produced 24x shears in 24 hours. Chocks not yet advanced					
Immediate actions taken	ERZ Controller notifies MSO TG Chocks are advanced Sherwood Curtain installed					

Met Coal_11-9	Incident Investigation Report	Version Date

Summary of Incident						
Incident Number		IN.00222988		Department		Longwall
Area / location		LW808		Contracting Company (if applicable)		
Summary of findings from Incident Investigation						
Incident Category e.g. Safety, Health, Env, Legal, Reputation, Community.	Agent EG – Fall of Ground	Actual ISR Rating	Potential ISR Rating	Date of Incident	Time of Incident	Number of hours worked
Legal and Regulatory	Noncompliance	Minor	Moderate	06/04/2020	11:15AM	4
Task being performed at time of incident	Longwall Production				Planned or Unplanned task?	
						Planned
Summary of Incident	LW808 Shearer cuts into TG and starts to cut back towards MG out to snake. Shearer at #181 SRB is on and chocks advance in automation and face trip event occurs when "0m CH4 Sensor" >2%, peaking at 4.21% for a period of 23min 56 seconds. It is also reported that midface operators felt pressure bump from goaf cave at approximately this time.					
Immediate actions taken	ERZ C Notifies MSO of event. VO, UMM and Compliance Coordinators also notified. #194 and #195 flaps re-established (dislodged during goaf fall) ERZ C dispatched to drain HGH riser					

Met Coal_11-9	Incident Investigation Report	Version Date

Summary of Incident						
Incident Number		IN.00223278		Department		Longwall
Area / location		LW808		Contracting Company (if applicable)		
Summary of findings from Incident Investigation						
Incident Category e.g. Safety, Health, Env, Legal, Reputation, Community.	Agent EG – Fall of Ground	Actual ISR Rating	Potential ISR Rating	Date of Incident	Time of Incident	Number of hours worked
Legal and Regulatory	Noncompliance	Minor	Moderate	11/04/2020	9:25PM	1
Task being performed at time of incident	Longwall Production				Planned or Unplanned task?	
						Planned
Summary of Incident	LW808 Shearer cuts into TG and starts to cut back towards MG out to snake. Shearer at #177 SRB is on and chocks 193-181 advance in automation and face trip event occurs when "0m CH4 Sensor" >2%, peaking at 4.18% for a period of 56min 25 seconds.					
Immediate actions taken	ERZ C Notifies MSO of event. Sherwood curtain erected VO investigates following day and determines excessive goaf gas reaching #197 from #196 due to mis-matched canopy attitude					

6 DESCRITPION OF INCIDENT

On the 06/02/20 a new methane sensor was installed and commissioned positioned on the canopy of #197 chock. The intention of this new sensor was to comply with Section 243A of the Coal Mine Safety and Health Regulation Amendments 2019. This sensor is known as the "0m CH_4" sensor.

The first recorded event where >2% methane was detected at the "0m CH_4" sensor occurred on 07/02/20 tripping face power. Anecdotal evidence indicated that at the time of this trip the canopy of #197 chock was ~200-300mm higher due to a disparity between the cutting face and the TG roadway height.

On the 22/02/20 the first HPI event on the "0m CH_4" sensor occurred and is the subject of a separate LFI (IN.00219432)

Following a number of repeated HPI events on the sensor (as outlined in this LFI) between 20/02/20 and the 11/04/20, a thorough and detailed analysis of each HPI event was undertaken. A summary of this analysis can be seen in Table 4. This analysis along with critical review of the trending data of each incident and a series of interviews with crews involved in the incidents (details contained in Section 12) determined that each HPI event was the result of a number of contributing factors resulting in the occurrence of a methane concentration of >2.5% at the "0m CH4". While each incident resulted from a combination of differing contributing factors, the effect of each factor was to allow goaf gas to encroach on the sensor fitted to #197 chock.

When these contributing factors were present (either 3x or more) the compounding of their individual impacts allowed excessive methane to encroach on the sensor. Table 1 provides a summary of each of the factors that contributed to each individual HPI with actions to provide a greater level of control of these factors outlined in Section 9.

Key Issues and other Unassociated Issues Identified in the course of the LFI:

In addition to the incidents, a range of other issues/deficiencies were identified in the investigation of the incidents that warrant action. These issues are as follows:

Miscommunicated Operating Practices

During IN.0022360 and IN.00222011 crews indicated a lack in clarity as to the instructed advance sequence of the chocks. At this point in time the only communication regarding changing the advance sequence to mitigate trips was verbal from MSO's/Longwall Superintendent. While a formal memo was later issued to clarify the required sequence there was confusion in the intervening period.

Further, during IN.00222988 the ERZ Controller and face operators indicated that they had been on leave when the memo was issued and thus were not operating in compliance with the sequence.

During IN.00222998 SRB was also left on in conflict with the previously issued direction. These instances indicated a lack of clear operating standards and enforcement of those standards to mitigate events.

Positioning of Sensor

Dependent on face alignment and roadway drivage height, the sensor mounted on the canopy is located in a position that is occasionally exposed to the goaf stream.

7 CRITICAL CONTROL FAILURE

What / which critical controls failed? (List CT number)	Nil
Why did the critical control fail?'	N/A

How did the critical control fail?'	N/A
What additional or revised critical controls and/or monitoring activities need to be established/change to mitigate risk of recurrences, or to improve risk control?'	N/A

8 FINDINGS / CONCLUSIONS

This incident occurred due localized elevated methane in the vicinity of the '0m TG Sensor' during normal production.

The investigation identified that a broad range of contributing factors precipitated these events. A summary of key factors contributing to the incidents is outlined in Table 1.

Table 1. Factors contributing to each HPI event.

Incident No.	221991	221998	222011	222360	222495	222988	223278
Incident Date:	20/03/2020	20/03/2020	20/03/2020	24/03/2020	25/03/2020	6/04/2020	11/04/2020
Contributing Factors							
Falling Barometer	N	N	N	Y	Y	Y	N
Face position relative to cut-through	Y	Y	Y	N	P	N	P
Goaf drainage capacity	N	N	N	N	N	Y	N
Goaf drainage proximity to face	P	P	P	N	Y	Y	P
Production Rate	N	N	N	Y	Y	N	N
Location of flaps on chocks	Y	Y	N	N	N	N	N
MG Brattice Condition	N	N	N	N	N	N	N
Absence of Sherwood Curtain	N	N	N	N	P	P	P
Chock Advance Sequence	Y	Y	Y	Y	N	Y	Y
VCD Adjustment	N	N	Y	N	N	N	N
#197 Attitude 300mm Higher than Adjacent Chock	P	P	P	N	N	N	Y
TG Drive into tailgate roadway encroaching on goaf stream (due to offline roadway drivage)	P	P	P	N	N	N	Y
Caving of hang up of goaf in TG area	N	N	P	N	N	Y	N
Total No. Contributing Factors	3	3	3	3	3	5	3
Total No. Contributing and Potential Factors	6	6	7	3	5	6	6

Key:		
	Y	Considered a contributing factor to the incident
	P	Potentially a contributing factor but not accurately determined.
	N	Not considered a contributing factor to the incident

A range of controls are available to assist in mitigating the risk of >2.5% CH4 being present at the "0m CH_4", with controls addressing one or multiple of the contributing factors. Some of these controls (outlined in the Section 9) can be implemented in the transition from LW808 to LW910, while other controls should be evaluated as part of risk assessment on 'Ignition of a Flammable Atmosphere at the Tailgate Drive' as this is the hazard the sensor is intended to detect.

In order to reduce the likelihood of the '0m TG Sensor' measuring non-representative gas concentrations (i.e. concentrated goaf stream) the sensor should be relocated to the carport of the TG drive close to the TG sprocket (being the identified ignition source). Further, the nominal sensor for maintaining compliance with s243A should be located within 400m of the face in the TG roadway.

Other actions (outlined in the Section 9) are required to address the previously outline '*Key Issues and other Unassociated Issues Identified in the course of the LFI*' not related directly to the HPIs, in order to ensure risk is adequately managed in these areas.

9 PREVENTATIVE ACTIONS / RECOMMENDATIONS

The following key actions were identified to prevent recurrence and have been assigned as detailed below in Enablon.

NOTE: A range of potential additional controls were developed as part of the LFI. The following actions represent the actions considered prudent to implement as a result of the LFI. Alternative further actions are to be discussed and examined for effectiveness and implemented as reasonably practical as part of the risk assessment to be completed (as described below).

Task Description AP.00782091	Hierarchy of Control	Task Assignee	Due Date	Task ID
Conduct risk assessment on the longwall tailgate drive to identify further controls around gas management	Administrative	Braedon Smith	02/06/20	TS.01313207
Review GTM.SWP.914 Maintaining the Sherwood Curtain to include the installation of conveyor belt flaps on Chock #197 as per Ventilation Advice #03-2020. Ensure this is clearly communicated to crews.	Administrative	Braedon Smith	02/06/20	TS.01313208
Alter Longwall automation sequence to turn off chock advance in the TG (SRB) when the TG roadway sensor is >1.5% CH4 or TG Drive Sprocket/0m Sensor is >0.6% CH4. Ensure this sequence is clearly communicated to crews	Engineering	Damian Cavanagh	02/06/20	TS.01313209

10 TEST FOR EFFECTIVENESS

Post Implementation Action Plan

Test of effectiveness is to be done to ensure that the above actions to prevent recurrence have worked as intended. (Nominally scheduled 3,6 or 12 months after completion of preventative action plan)

Enablon Task No.	Action Description	Responsible Person	Due Date	Completed Date
TS.01313214	Review 3 months after LW910 commencement to determine implementation of controls are adequate	Braedon Smith	10/10/2020	

11 INVESTIGATION REPORT SIGN –OFF

The Incident Investigation Team submits this report as a true reflection of the information gathered. To maximize the preventive potential of the investigation report, the findings, conclusions and learning's of the report should be distributed as appropriate.

Department Manager		
Name	Signature	Date
T McNally	Confidential	21-5-20
SHE Manager		
Name	Signature	Date
Stephanie Oppermann	Confidential	28/5/2020
General Manager		
Name	Signature	Date
DAMIEN WYNN	Confidential	28/5/20
Head of Operations		
Name	Signature Confidential	Date
Glen Britton (Including Approved Action Updates)		01/06/2020
Additional EXCO member signoff – if applicable		
Name	Signature	Date

12 EVIDENCE & ANALYSIS TOOL APPENDICES

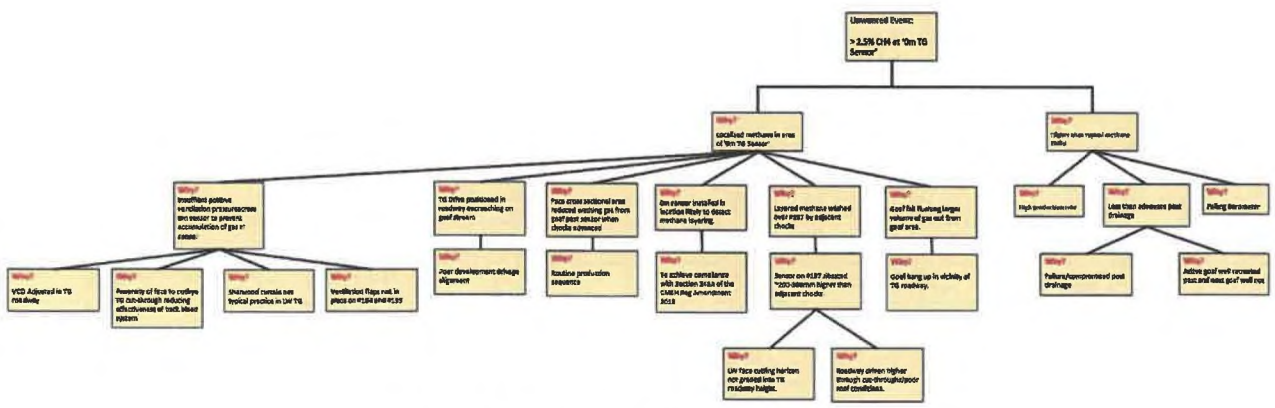


Figure 1. Anglo LFI Tool Why Analysis

Table 2. Anglo LFI Tool - Change Analysis

Normal Practice	Situation or practice at the time of the incident	Gap (Difference)	Impact of Difference
No CH4 sensor fitted to canopy of #197 chock	CH4 sensor fitted to canopy of #197 chock	CH4 sensor positioned high on roof where methane is most likely to layer. Sensor/chock situated in the TG Roadway	Over representation of methane at the monitoring location (compared to General Body concentration) Higher sensitivity to goaf gas air wash during shearer cut to TG
Chock canopy heights nominally level with one another	#197 chock ~300mm higher than adjacent chocks.		Potential for less than adequate ventilation in elevate chock canopy area.
Single heading TG roadway	Two heading TG Back bleeding goaf atmosphere through adjacent roadway	Change in pressure distribution on tailgate goaf stream, with influence reducing on approach to cut-throughs	Increased potential for gas accumulation at TG area on approach to cut-throughs
TG Drive positioned on block edge	TG drive across to chain pillar	TG drive in goaf stream area	Increased potential for CH4 to be washed over sensor
Goaf caves readily	Goaf hangs up, flushing large volume of goaf gas out when caving occurs	Large volume of goaf gas displaced from void	Large volume of methane washes over sensor
Goaf drainage effective	Goaf drainage capacity reduced or distant from face	Goaf gas encroaches on TG drive	Increased potential for CH4 to be washed over sensor

Table 3. HPI event CH4 duration summary

Date	Location	Monitoring device	Start time > 2.5%	End Time >2.5%	Duration	Max CH4 Level Reached (% v/v)
20/03/20	LW808TG	Real Time	4:44:39	4:44:43	0:00:04	2.53
		Real Time	6:08:16	6:16:13	0:07:57	3.73
		Real Time	12:00:37	12:15:32	0:14:55	4.3
24/03/20	LW808TG	Real Time	2:40:22	2:40:36	0:00:14	2.56
25/03/20	LW808TG	Real Time	17:50:18	17:50:21	0:00:03	2.63
			17:55:38	17:56:51	0:01:13	
			18:24:39	18:24:41	0:00:02	
6/04/20	LW808TG	Real Time	11:15:10	11:39:06	0:23:56	4.21
11/04/20	LW808TG	Real Time	21:25:59	22:22:24	0:56:25	4.18

Table 4. Trip Event environmental data summary

Inc. No.	Event Date	Event Time	Chainage	Proximity to nearest CT	Nearest Active Goaf Well	Proximity to Nearest Active Goaf Well (m)	Nearest Active Goaf Well Production (l/s)	Shearer Position (>1.5%)	Shearer Direction	Cutting In/Out	TG Roadway CH4 at time of event (%)	0m CH4 When Shearer at #187 (%)	0m CH4 Peak Event (%)	Before Event was CH4 >1.5% @ Roadway OR >0.6% @ 0m	Before Event was CH4 >1.5% @ Roadway AND >0.6% @ 0m
223278	11/04/20	21:30	108	3CT 15m inbye	GD808_46	36	1430	177	MG	Out 2nd	1.18	0.59	4.18	NO	NO
222988	6/03/20	11:15	200	3CT 72m Outbye	GD808_44	42	384	183.46	MG	Out 1st	1.39	0.59	4.21	NO	NO
222495	25/03/20	17:49	395	5CT 14m outbye	GD808_40	49	1211	187	MG	Out 1st	1.51	0.85	2.63	YES	YES
222360	24/03/20	2:40	428	5CT 50m outbye	GD808_40	15	1300	174	MG	Out 2nd	1.59	0.3	2.56	YES	NO
	24/03/20	1:59	428	5CT 50m outbye	GD808_40	15	1300	184	MG	Out 1st	1.44	0.62	2.2	YES	NO
222011	20/03/20	12:00	<500	In 6CT intersection	GD808_38	42	1493	185.02	MG	Out 1st	1.18	0.62	4.3	YES	NO
221998	20/03/20	6:07	<500	In 6CT intersection	GD808_38	42	1493	185.13	MG	Out 1st	1.46	1.44	3.73	YES	NO
221991	20/03/20	4:40	<500	In 6CT Intersection	GD808_38	42	1493	185.49	MG	Out 1st	1.11	0.95	2.53	YES	NO

Table 5. IN.00221991, 00221998 and 00222001 Consolidated Event Timeline

Event Timeline		
06/02/20	Before the Incident	CH4 Sensor fitted to LW808 #197 chock as part of implementation plan to comply with 243A of the Coal Mining Safety and Health (Methane Monitoring and Ventilation Systems) Amendment Regulation 2019. Sensor termed "0m CH4 Sensor"
20/03/20 4:30		LW808 Shearer produces towards TG on an alignment cut, pausing for brief blockage at MG
20/03/20 4:43	Immediate Previous Incident	LW808 Shearer cuts into TG and starts to cut back towards MG out to snake. Chocks #186, 187 & 188 advance under automation (SRB was turned off as per normal alignment cut), Face trip event occurs when "0m CH4 Sensor" >2%.
20/03/20 4:43	Before the Incident	"0m CH4 Sensor" CH4 concentrations fluctuate exceeds 2.5% for a period of 4 seconds, with a maximum peak of 2.53%. NB: Other CH4 monitors in airstream (2x TG drive sensors, TG Roadway sensor, and LW808 Dogleg Sensor) do not replicate similar trend profiles at this time. TG roadway sensor decreases slightly
20/03/20 ~04:44		Face operators (CMWs) contact ERZ C (S Stingle) and notifies him of the face trip.
20/03/20 04:56		Face power restored automatically once CH4 <2%. ERZ C attends TG, erects brattice wing on #194 chock and waits until 0m sensor CH4 is 0.6% before recommencing production. Flaps already hung between chock legs #197-195.
28/01/20 04:56		ERZ C Notifies MSO of event.
20/03/20 06:04		LW808 Shearer cuts into TG and starts to cut back towards MG out to snake, tramming at 8m/min (slowed as per direction). Checked gas levels as 1.01%

20/03/20 6:07:02		Chocks #194, 193, 192 & 191 advance under automation, Face trip event occurs when "0m CH4 Sensor" >2%.
20/03/20 6:08:16	Immediate Previous Incident	"0m CH4 Sensor" CH4 concentrations fluctuate exceeds 2.5% for a period of 7min 57 seconds, with a maximum peak of 3.73%. NB: Other CH4 monitors in airstream (2x TG drive sensors, TG Roadway sensor, and LW808 Dogleg Sensor) do not replicate similar trend profiles at this time. TG roadway sensor decreases slightly
20/03/20 6:09	Before the Incident	Face operators (CMWs) contact ERZ C (S Stingle) and notifies him of the face trip.
20/03/20 ~06:15		ERZ C attends TG.
20/03/20 ~06:20		ERZ C Notifies MSO of event. Incident subsequently reported to UMM, production ceased until UMM satisfied with implementation of additional controls.
28/01/20 06:23		Power returned to face; production not yet resumed.
28/01/20 ~6:45		VO Consults with Operations Manager, LW Coordinator, Compliance Superintendent and MSO. Determine to erect flaps on TG Chocks with Rare Earth magnets as per Draft Sherwood Curtain SWP.
28/01/20 6:45-7:15		LW Coordinator and VO collect supplies and send underground to implement flaps on TG Chock #197.
28/01/20 7:33		Production resumes TG-MG.
20/03/20 10:10		Day shift install flaps on TG chocks.
20/03/20 10:44		Day shift cut into and out of tailgate without incident. Continue cutting to MG.
20/03/20 11:00		Dayshift double bag 6CT stopping in MG.
20/01/20 11:22		Dayshift cut to MG and commence return shear to TG.
20/01/20 11:44-11:53		Shearer stops at chock #181 AS take control of shearer. Witness statements indicate Chocks #197, 196, 195 are already advanced.
20/01/20 12:00:04		LW808 Shearer cuts into TG and starts to cut back towards MG out to snake. Chocks #194-190 advanced manually behind shearer, Face trip event occurs when "0m CH4 Sensor" >2%.
20/01/20 12:00:37	Incident	"0m CH4 Sensor" CH4 concentrations fluctuate exceeds 2.5% for a period of 14min 55 seconds, with a maximum peak of 4.3%. NB: Other CH4 monitors in airstream (2x TG drive sensors, TG Roadway sensor, and LW808 Dogleg Sensor) do not replicate similar trend profiles at this time.
20/01/20 12:09:24		TG Drive sensor trips CH4 concentrations fluctuate exceeds 2.5% for a period of 1min 3 seconds, with a maximum peak of 3.6%. Both sensors on TG drive trend consistently.
20/01/20 Post incident	After the Incident	Afternoon shift erect butchers' flaps on chocks #193, #194 and brattice along #195-197 under MSO direction.
20/01/20 Post incident		Fire extinguisher discharged to determine airflow/gas direction and location out of goaf.
20/01/20 Post incident		6CT TG brattice reported as adjusted to UMM under MSO direction

Table 6. IN.00222360 Event Timeline

Event Timeline		
06/02/20	Before the Incident	CH4 Sensor fitted to LW808 #197 chock as part of implementation plan to comply with 243A of the Coal Mining Safety and Health (Methane

		Monitoring and Ventilation Systems) Amendment Regulation 2019. Sensor termed "0m CH4 Sensor"
21/03/20		LW Crews instructed to advance chocks manually in TG from #180-194 then #197-195.
23/03/20 - 24/03/20		LW808 produces ~30x shears in 24-hour period leading to incident.
24/03/20 1:59	Immediate Previous Trip Event	LW808 Shearer cuts into TG and starts to cut back towards MG out to snake. Shearer at #187 (where face staggered and closed up) and face trip event occurs when "0m CH4 Sensor" >2%, peaking at 2.2%.
24/03/20 2:13	Before the Incident	ERZ C attends TG, face repowered.
24/03/20 2:15		Shearer resumes production to MG and chocks are manually advanced. Chocks #187-193 (MG to TG) then #197-194 (TG-MG)
24/03/20 2:37		LW808 Shearer cuts into TG and starts to cut back towards MG parking at #174
24/03/20 2:38:22		Chocks #180-185 are bank advanced, then chocks #185-190 are bank advanced Face trip event occurs when "0m CH4 Sensor" >2%.
24/03/20 2:40:22	Incident	"0m CH4 Sensor" CH4 concentrations fluctuate exceeds 2.5% for a period of 14 seconds, with a maximum peak of 2.56%. NB: Other CH4 monitors in airstream (2x TG drive sensors, TG Roadway sensor, and LW808 Dogleg Sensor) do not replicate similar trend profiles at this time. TG roadway sensor decreases slightly
24/03/20 2:41	After the Incident	Face operators (CMWs) contact ERZ C (S Stingle) and notifies him of the face trip.
24/03/20 2:42		ERZ C attends TG.
24/03/20 2:43		Power returned to face; production not yet resumed.
24/03/20 2:45		ERZ C Notifies MSO of event.

Table 7. IN.00222495 Event Timeline

Event Timeline		
06/02/20	Before the Incident	CH4 Sensor fitted to LW808 #197 chock as part of implementation plan to comply with 243A of the Coal Mining Safety and Health (Methane Monitoring and Ventilation Systems) Amendment Regulation 2019. Sensor termed "0m CH4 Sensor"
20/03/20 – 24/03/20		4x HPI events occur associated with 0m CH4 sensor during production.
24/03/20 - 25/03/20		LW808 produces ~24x shears in 24-hour period leading to incident.
25/03/20 17:00		LW808 Shearer cuts toward TG. Note: Face situated in TG roadway due to poor roadway drivage alignment.
25/03/20 17:20-17:34		Methane concentration in TG roadway >1.9%. Stopping shearer haulage at #170 Chock
25/03/20 17:38-17:44		Methane concentration in TG roadway >1.9%. Stopping shearer haulage at #189 Chock
25/03/20 17:44		Shearer resumes production
25/03/20 17:49	Incident	LW808 Shearer cuts into TG and starts to cut back towards MG out to snake. Shearer at #184 (2x chocks away from face stagger at #186) where face staggered and closed up) and face trip event occurs when

		"0m CH4 Sensor" >2%, peaking at 2.63%.
25/03/20 Post Event	After the Incident	ERZ C Notifies MSO of event.
25/03/20 Post Event		Advanced TG Supports
25/03/20 Post Event		Installed Sherwood Curtain

Table 8. IN.00222998 Event Timeline

Event Timeline		
06/02/20	Before the Incident	CH4 Sensor fitted to LW808 #197 chock as part of implementation plan to comply with 243A of the Coal Mining Safety and Health (Methane Monitoring and Ventilation Systems) Amendment Regulation 2019. Sensor termed "0m CH4 Sensor"
24/03/20		Memo issued by LW Super regarding turning off SRB for shield advance to mitigate 0m sensor trip events.
20/03/20 – 25/03/20		5x HPI events occur associated with 0m CH4 sensor during production.
02/06/20		ERZ C returns to work from quarantine (COVID-19 protocol) and is assigned Zone 6 LW808. Unaware of memo issued 24/03/20.
06/04/20 NS		GD808_44 (Goaf drainage hole) flow reduces from ~1300l/s to 300l/s. HGH hole flow drops from ~600l/s to 0l/s
06/04/20 ~9:00AM		ERZ C Inspects tailgate noted 8m of goaf roof hanging up.
06/04/20 17:49	Incident	LW808 Shearer cuts into TG and starts to cut back towards MG out to snake. Shearer at #181 SRB is on and chocks advance in automation and face trip event occurs when "0m CH4 Sensor" >2%, peaking at 4.21% for a period of 23min 56 seconds. It is also reported that midface operators felt pressure bump from goaf cave at approximately this time.
06/04/20 Post Event	After the Incident	ERZ C Notifies MSO of event. VO, UMM and Compliance Coordinators also notified.
06/04/20 Post Event		#194 and #195 flaps re-established (dislodged during goaf fall)
06/04/20 Post Event		ERZ C dispatched to drain HGH riser

Table 9. IN.00223278 Event Timeline

Event Timeline		
06/02/20	Before the Incident	CH4 Sensor fitted to LW808 #197 chock as part of implementation plan to comply with 243A of the Coal Mining Safety and Health (Methane Monitoring and Ventilation Systems) Amendment Regulation 2019. Sensor termed "0m CH4 Sensor"
24/03/20		Memo issued by LW Super regarding turning off SRB for shield advance to mitigate 0m sensor trip events.
20/03/20 – 06/04/20		6x HPI events occur associated with 0m CH4 sensor during production.
09/4/20 18:30		ERZ C K Spring Erects Sherwood Curtain after observing TG goaf stream fringe migrating outbye on approach to 3CT

11/04/20 04:00		ERZ C (L Shackleton) removes Sherwood Curtain
11/04/20 21:10		DS hand over to AS on face. ERZ C Noted flaps installed on #194, 195 as per Vent Advice #03-20. Also observed #197 ~300mm higher in roadway
11/04/20 21:25	Incident	LW808 Shearer cuts into TG and starts to cut back towards MG out to snake. Shearer at #177 SRB is on and chocks 193-181advance in automation and face trip event occurs when "0m CH4 Sensor" >2%, peaking at 4.18% for a period of 56min 25 seconds.
11/04/20 Post Event	After the Incident	ERZ C Notifies MSO of event.
11/04/20 Post Event		Sherwood curtain erected
11/04/20 Post Event		VO investigates following day and determines excessive goaf gas reaching #197 from #196 due to mis-matched canopy attitude.

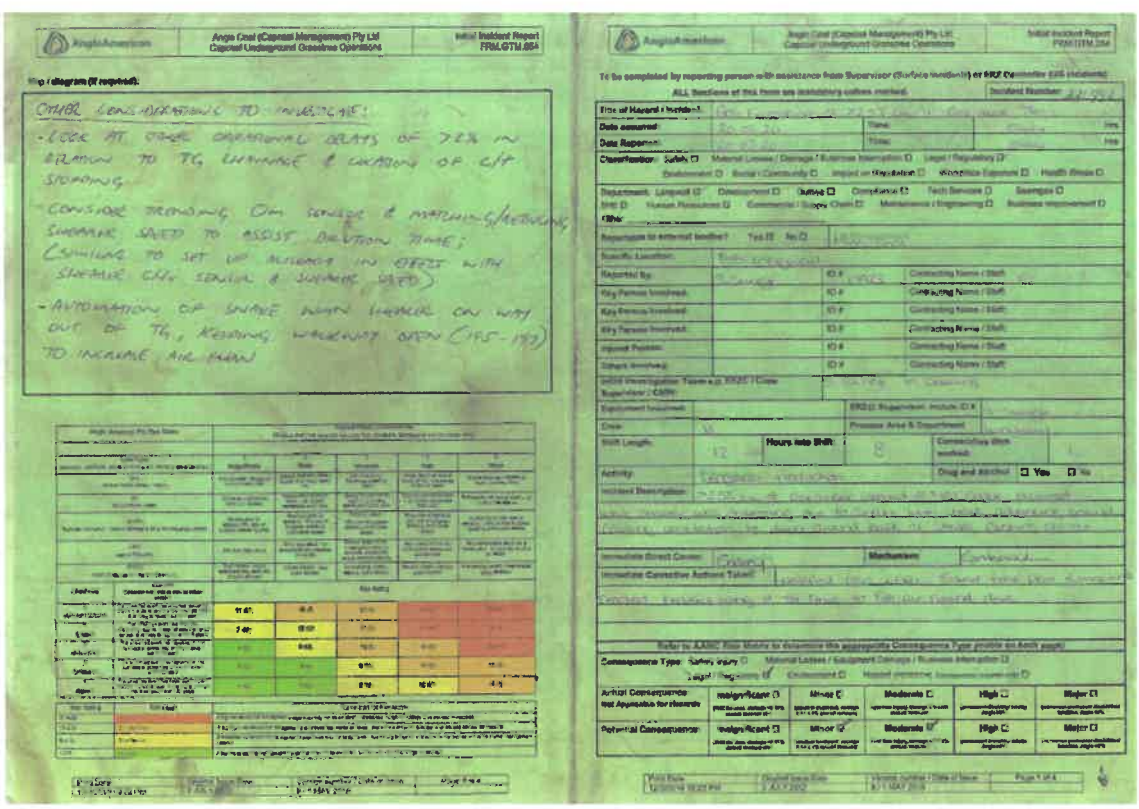


Figure 2. IN.00221991 Initial Incident Report (Front).

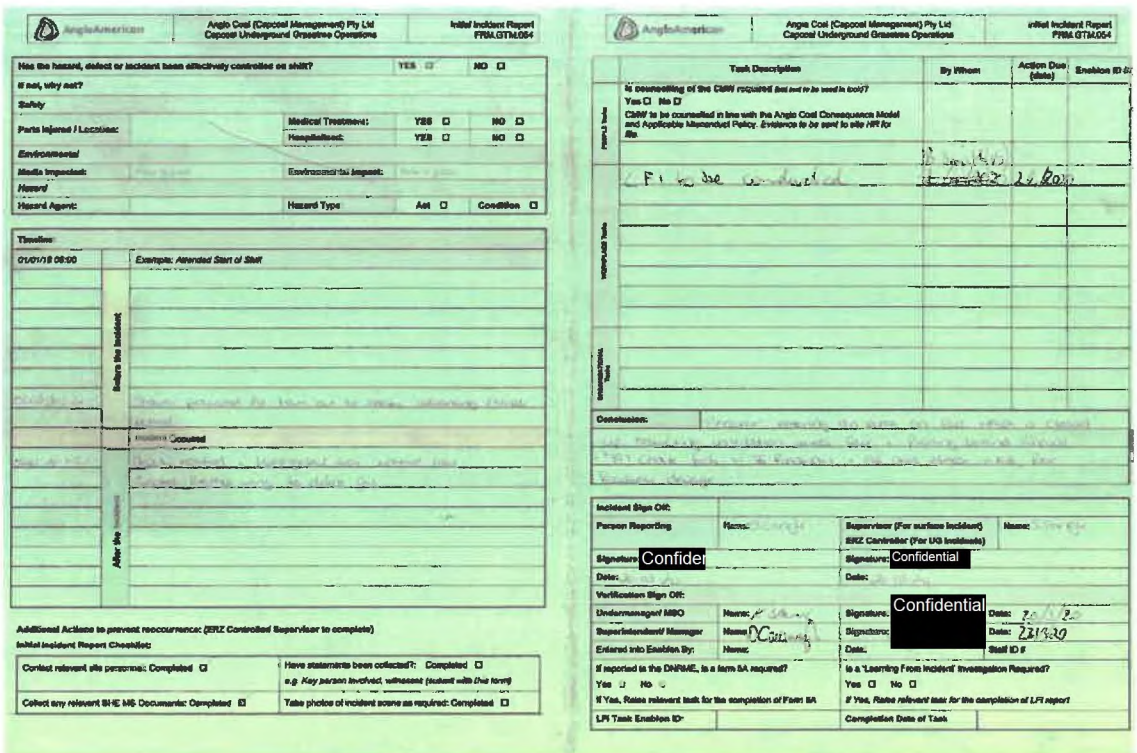


Figure 3. IN.00221991 Initial Incident Report (Back).

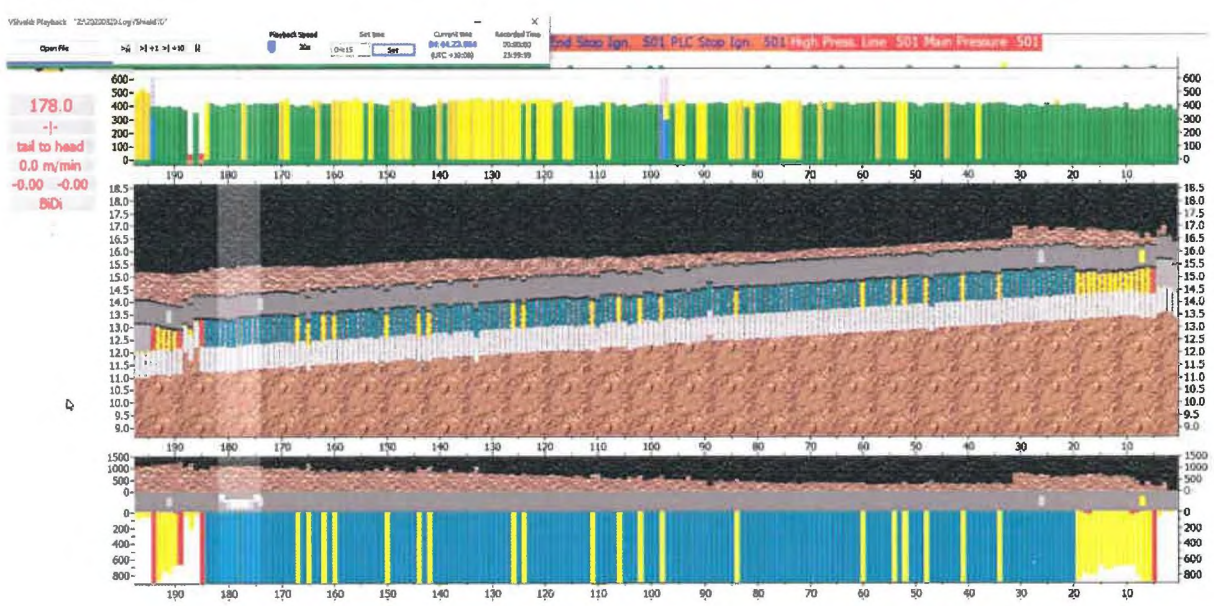
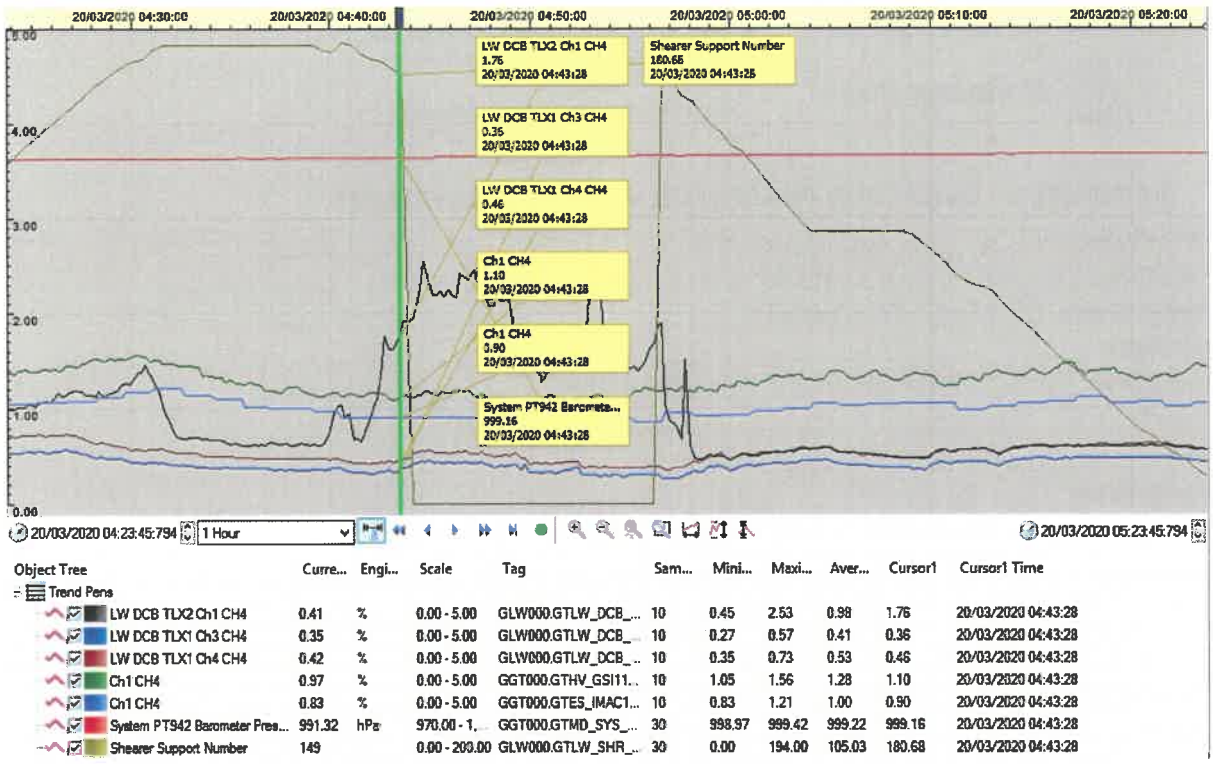


Figure 4.Shearer and Shield Position at Time of HPI (IN.00221991)



Object Tree	Curre...	Engi...	Scale	Tag	Sam...	Mini...	Maxi...	Aver...	Cursor1	Cursor1 Time
Trend Pens										
LW DCB TLX2 Ch1 CH4	0.41	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.45	2.53	0.98	1.76	20/03/2020 04:43:28
LW DCB TLX1 Ch3 CH4	0.35	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.27	0.57	0.41	0.36	20/03/2020 04:43:28
LW DCB TLX1 Ch4 CH4	0.42	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.35	0.73	0.53	0.46	20/03/2020 04:43:28
Ch1 CH4	0.97	%	0.00 - 5.00	GGT000.GTHV_GSI11...	10	1.05	1.56	1.28	1.10	20/03/2020 04:43:28
Ch1 CH4	0.83	%	0.00 - 5.00	GGT000.GTES_IMAC1...	10	0.83	1.21	1.00	0.90	20/03/2020 04:43:28
System PT942 Barometer Pres...	991.32	hPa	970.00 - 1...	GGT000.GTMD_SYS_...	30	998.97	999.42	999.22	999.16	20/03/2020 04:43:28
Shearer Support Number	149		0.00 - 200.00	GLW000.GTLW_SHR_...	30	0.00	194.00	105.03	160.68	20/03/2020 04:43:28

Figure 5.Trending data. Shearer Position, CH4 sensors, Barometer at incident (IN.00221991)

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Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

APPENDIX 3 INVOLVED PERSON OR WITNESS STATEMENT

Event Description:	To GW Crosscut 4 "197 check		
Date and Time:	20 03 20		
Location of Event:	TG "197 Check		
Witness Details			
Name of Witness:	S Stingle	**Contact No:**	
Job Title:		**Anglo No:**	1923
Employer:	Anglo		
Witness Statement			

What task were you undertaking prior to or at the time of the incident?

Inspection

Who were you working with at the time of the incident?

M Deering

Who was your supervisor?

Who was the ERZ Controller responsible for the zone at the time of the incident?

ME

What processes or procedures were you following whilst carrying out the task (if involved in the incident)? Did you have a permit to work / authority to work?

Was a workplace inspection conducted prior to working in the area? If so, when and how?

What was your role in the incident?

PRINT DATE	ORIGINAL ISSUE DATE	ISSUE NUMBER/DATE	PAGE 27 OF 47
17/04/2019 7:24 AM	13 JUNE 2014	1 / 13 JUNE 2014	

Figure 6. S Stingle Witness Statement for IN.00221988 & IN.00221991 (1 of 3 Pages)

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Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

Explain your own words what happened during incident including the lead-up, incident occurrence, and post incident – please include what you saw, heard and did. (If you need more space, please attach another page at rear). Draw diagrams if necessary.

[illegible] While Conducting face inspection walking MG→TG with Shearer. Shearer had cut into TG area I noticed CH4 levels were normal around 0.70%. The Shearer had stopped for a moment due to a blockage @ MG. The Shearer then proceeded to cut an snake when power had dropped. Notified by FMU operator that loss power due to CH4 level @ CH4 Sensor @ #197 chock. I investigated area to find > 2.5% CH4 then proceeded to start [illegible] work @ 194 chock & removed [illegible] @ gate chocks. Notified [illegible] & had reduced levels to approx 0.60% & re-established power.

[illegible] I received a call from FMU operator that CH4 levels had gone over 2.5% again when Shearer was in same state of sequence as previous exceedance. Notified [illegible] & CEO & ceased production until [illegible] had made a decision on what actions were needed to be implemented prior to commencing production.

What conditions influenced the incident and what do you think caused the incident?

#197 chock fully into TG Roadway
Poor Roadway alignment in both MG & TG
Shearer cutting out #5 snake into a closed face (causing ventilation behind chocks and pushing gas out of goaf stream / in path of #197

Was there anything unusual you observed prior to or during the Event (sights, sounds, smells, other work in the area etc)?

How do you think the incident could have been prevented?

Interviewee Name: S. Stingle **Date:** 28.03.2[illegible]

Signature: [redacted]

PRINT DATE 17/04/2019 7:24 AM	ORIGINAL ISSUE DATE 13 JUNE 2014	ISSUE NUMBER/DATE 1 / 13 JUNE 2014	PAGE 28 OF 47

Figure 7. S Stingle Witness Statement for IN.00221988 & IN.00221991 (2 of 3 Pages)

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Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

Any additional information:

after first incident I had informed Shearer operators to warn out Stuck, from 7h. I also keep in contact with F/W operators on gas levels @ #19? check, which both of these things were done but gas increased very rapidly before anything could be done.

PRINT DATE 17/04/2019 7:24 AM	ORIGINAL ISSUE DATE 13 JUNE 2014	ISSUE NUMBER/DATE 1 / 13 JUNE 2014	PAGE 29 OF 47

Figure 8. S Stingle Witness Statement for IN.00221988 & IN.00221991 (3 of 3 Pages)

APPENDIX 3 INVOLVED PERSON OR WITNESS STATEMENT

Event Description:	To Gas exceedance @ "197 check		
Date and Time:	29.03.20 about 1 oclock ams		
Location of Event:	TG "197 check		
Witness Details			
Name of Witness:	M. Strugle	**Contact No:**	
Job Title:	Deputy	**Anglo No:**	4923
Employer:	Anglo		
Witness Statement			

What task were you undertaking prior to or at the time of the incident?

Inspection

Who were you working with at the time of the Incident?

M Downing

Who was your supervisor?

Who was the ERZ Controller responsible for the zone at the time of the incident?

ME

What processes or procedures were you following whilst carrying out the task (if involved in the incident)? Did you have a permit to work / authority to work?

Was a workplace inspection conducted prior to working in the area? If so, when and how?

What was your role in the incident?

Figure 9. M Downing Witness Statement for IN.00221991 (1 of 2 Pages)

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Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

APPENDIX 3 INVOLVED PERSON OR WITNESS STATEMENT

Event Description:	Gas Exceedance		
Date and Time:	04:44 19.3.20		
Location of Event:	L/W T/G		
Witness Details			
Name of Witness:	Marlon Downing	Contact No:	
Job Title:	Operator	Anglo No:	6025 795
Employer:	Anglo		
Witness Statement			

What task were you undertaking prior to or at the time of the incident?

Cutting out snake in T/G

Who were you working with at the time of the incident?

J. Gannick

Who was your supervisor?

Who was the ERZ Controller responsible for the zone at the time of the incident?

S. Shingle

What processes or procedures were you following whilst carrying out the task (if involved in the incident)? Did you have a permit to work / authority to work?

Was a workplace inspection conducted prior to working in the area? If so, when and how?

What was your role in the incident?

Shearer operator

Figure 10. M Downing Witness Statement for IN.00221991 (2 of 2 Pages)

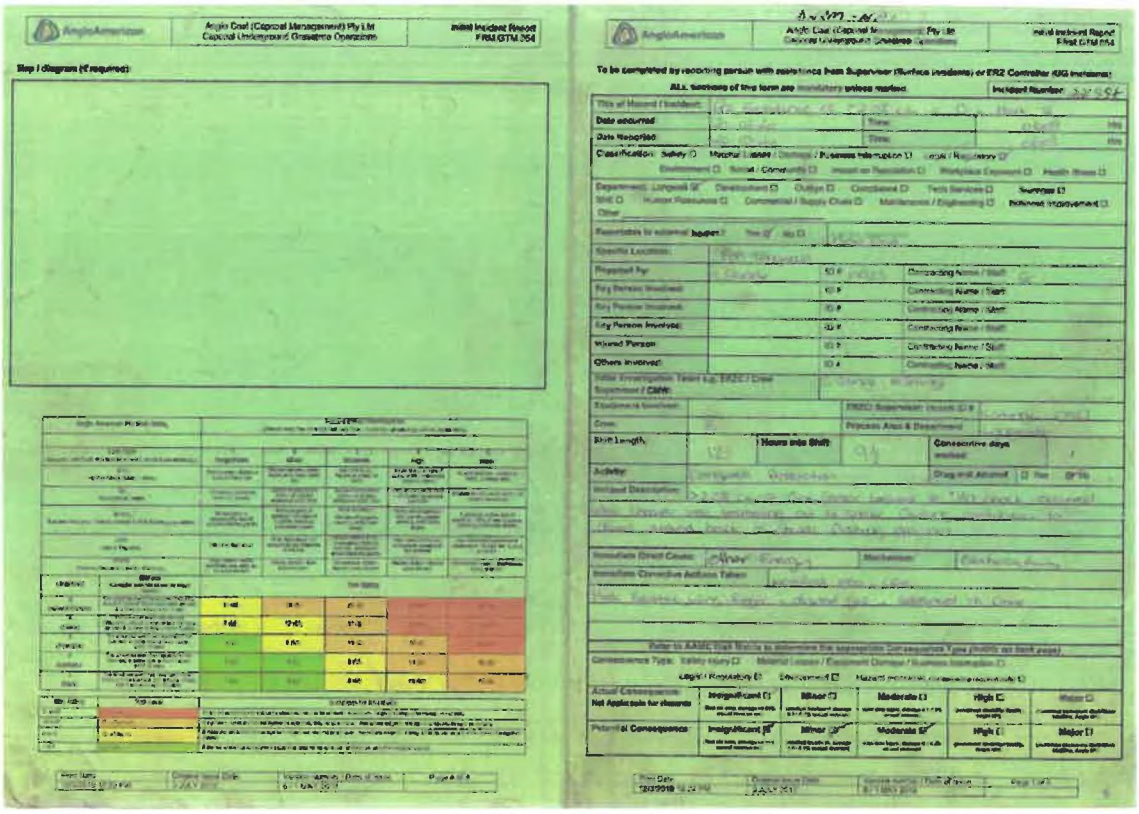


Figure 11. IN.00221998 Initial Incident Report (Front).

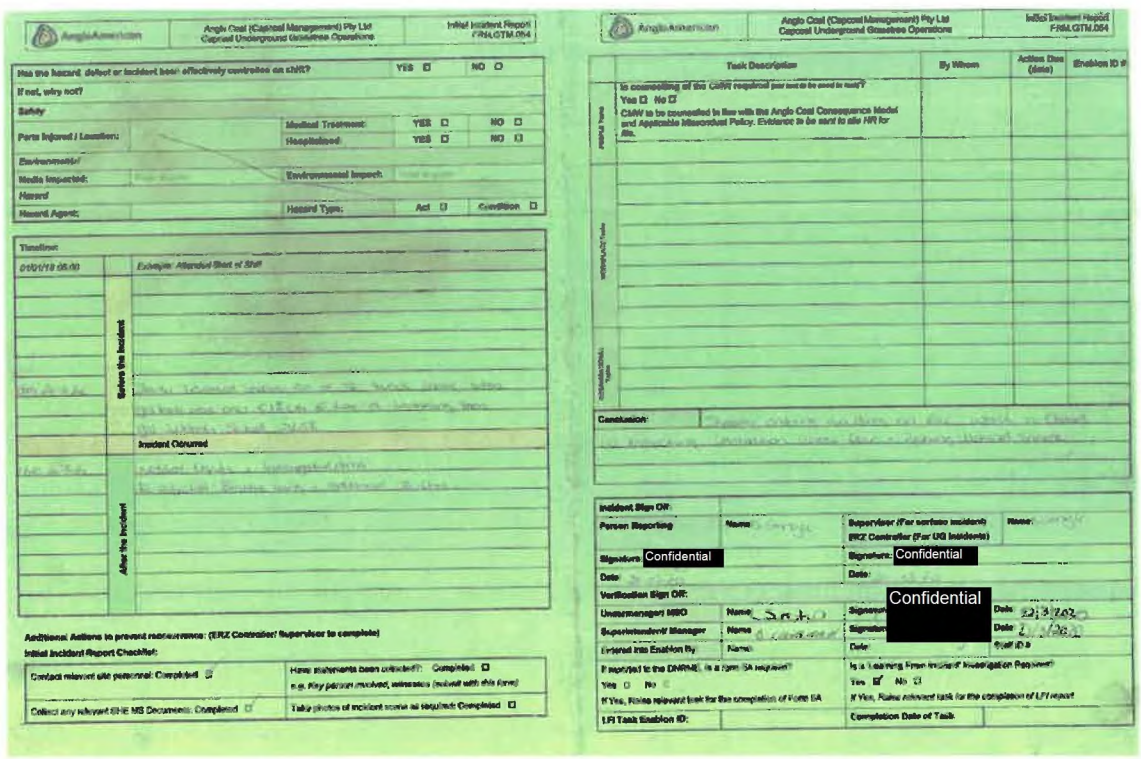


Figure 12. IN.00221998 Initial Incident Report (Back).

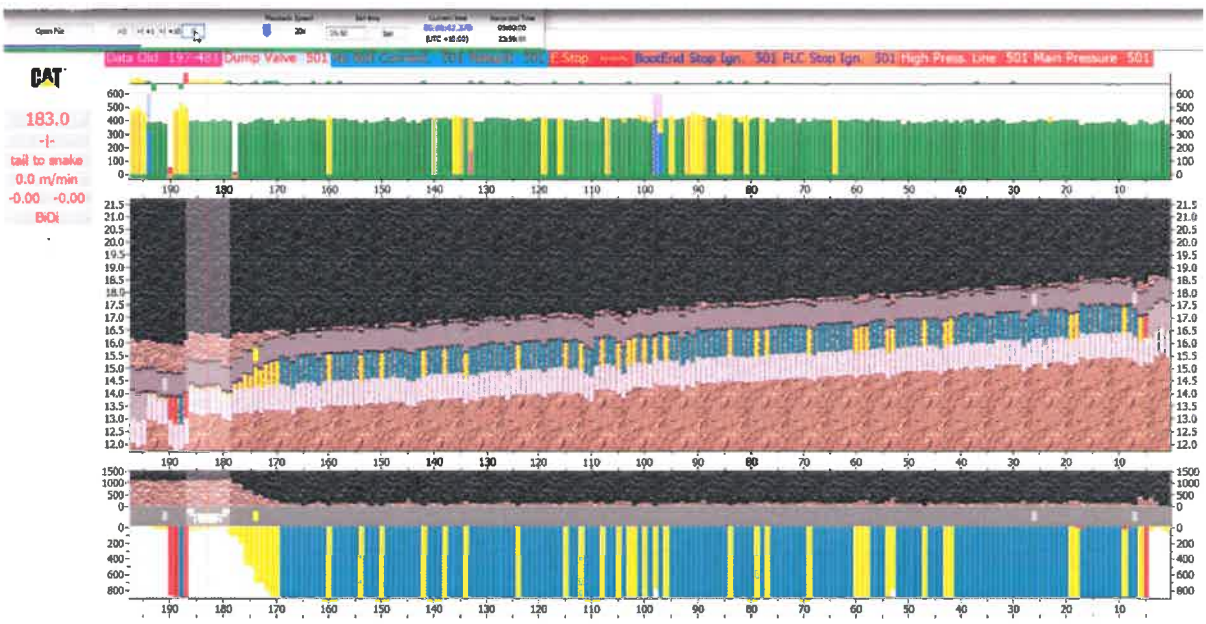
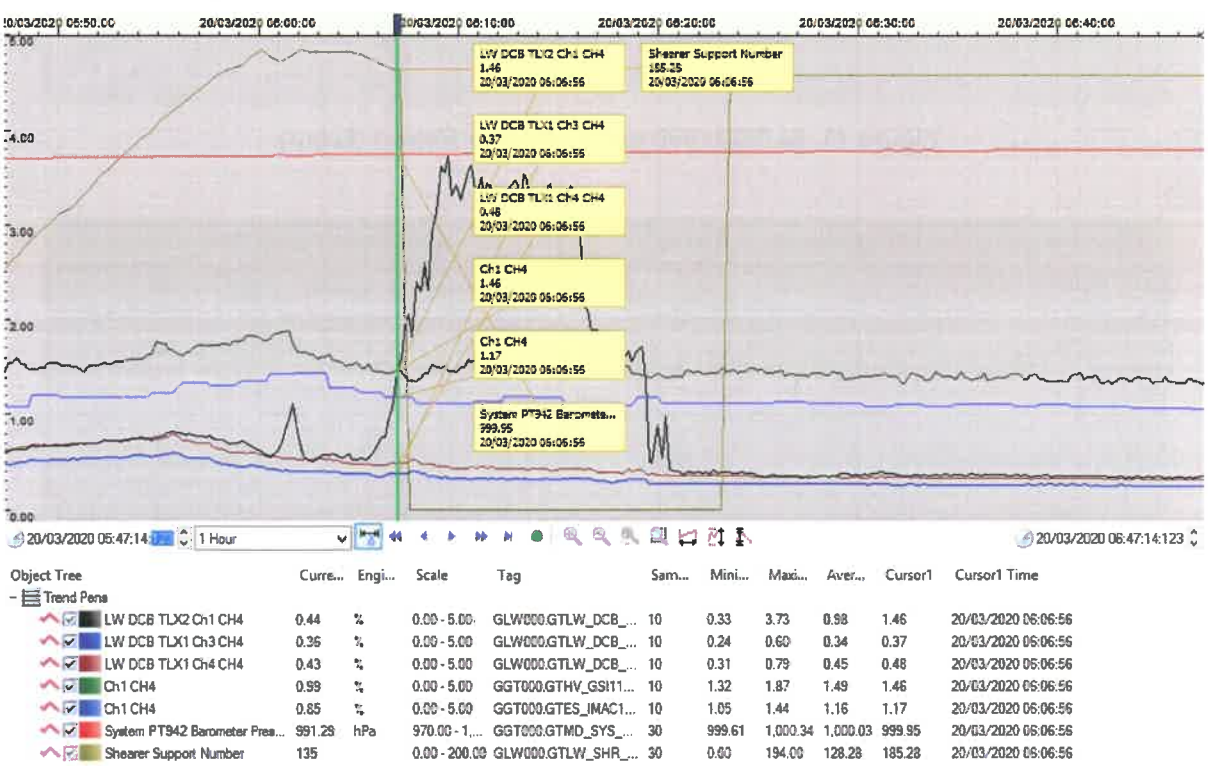


Figure 13.Shearer and Shield Position at Time of HPI (IN.00221998)



Object Tree	Curre...	Engi...	Scale	Tag	Sam...	Mini...	Maxi...	Aver...	Cursor1	Cursor1 Time
Trend Pens										
LW DCB TLX2 Ch1 CH4	0.44	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.33	3.73	0.98	1.46	20/03/2020 06:06:56
LW DCB TLX1 Ch3 CH4	0.36	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.24	0.60	0.34	0.37	20/03/2020 06:06:56
LW DCB TLX1 Ch4 CH4	0.43	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.31	0.79	0.45	0.48	20/03/2020 06:06:56
Ch1 CH4	0.99	%	0.00 - 5.00	GGT000.GTHV_GSI11...	10	1.32	1.87	1.49	1.46	20/03/2020 06:06:56
Ch1 CH4	0.85	%	0.00 - 5.00	GGT000.GTES_IMAC1...	10	1.05	1.44	1.16	1.17	20/03/2020 06:06:56
System PT942 Barometer Pres...	991.28	hPa	970.00 - 1,...	GGT000.GTMD_SYS_...	30	999.61	1,000.34	1,000.03	999.95	20/03/2020 06:06:56
Shearer Support Number	135		0.00 - 200.00	GLW000.GTLW_SHR_...	30	0.00	194.00	128.28	185.28	20/03/2020 06:06:56

Figure 14.Trending data. Shearer Position, CH4 sensors, Barometer at incident (IN.00221998)

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Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

APPENDIX 3 INVOLVED PERSON OR WITNESS STATEMENT

Event Description:	gas exceedance		
Date and Time:	6:07 19-3-20		
Location of Event:	LW 7b		
Witness Details			
Name of Witness:	Matthew Sellings	Contact No:	
Job Title:	operator	Anglo No:	986682
Employer:	anglo		
Witness Statement			

What task were you undertaking prior to or at the time of the incident?

calling from m/g to ~~6~~

Who were you working with at the time of the incident?

T. Mitchell

Who was your supervisor?

Who was the ERZ Controller responsible for the zone at the time of the incident?

S Slingo

What processes or procedures were you following whilst carrying out the task (if involved in the incident)? Did you have a permit to work / authority to work?

normal operating sequence

Was a workplace inspection conducted prior to working in the area? If so, when and how?

What was your role in the incident?

shearer operator

Figure 15. M Sellings Witness Statement for IN.00221991 (1 of 2 Pages)

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Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

Explain your own words what happened during incident including the lead-up, incident occurrence, and post incident – please include what you saw, heard and did. (If you need more space, please attach another page at rear). Draw diagrams if necessary

we just finished cutting from [illegible] to [illegible] we stopped to fix [illegible] at 106 chock we checked with [illegible] to see what gas levels were at [illegible] at .6%. Then we continue to go and cut [illegible] out [illegible] down to [illegible] to 180 chock and gas levels were .01% then [illegible] to [illegible] were [illegible]

What conditions influenced the incident and what do you think caused the incident?

[illegible] going into [illegible] face
Chock 193 in middle of [illegible] [illegible]

Was there anything unusual you observed prior to or during the Event (sights, sounds, smells, other work in the area etc)?

How do you think the incident could have been prevented?

Interviewee Name: Matthew Sellings **Date:** 29-3-20

Signature: [redacted]

Figure 16. M Sellings Witness Statement for IN.00221991 (2 of 2 Pages)

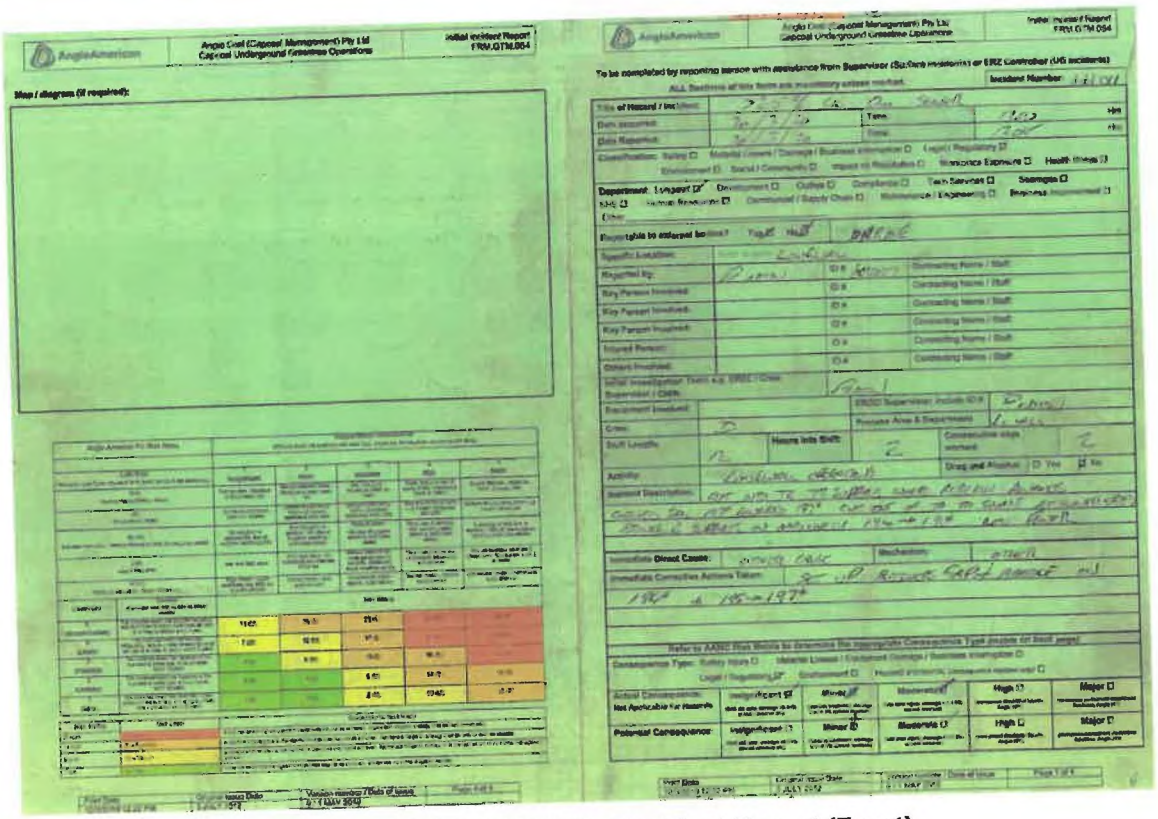

Figure 17. IN.00222011 Initial Incident Report (Front).

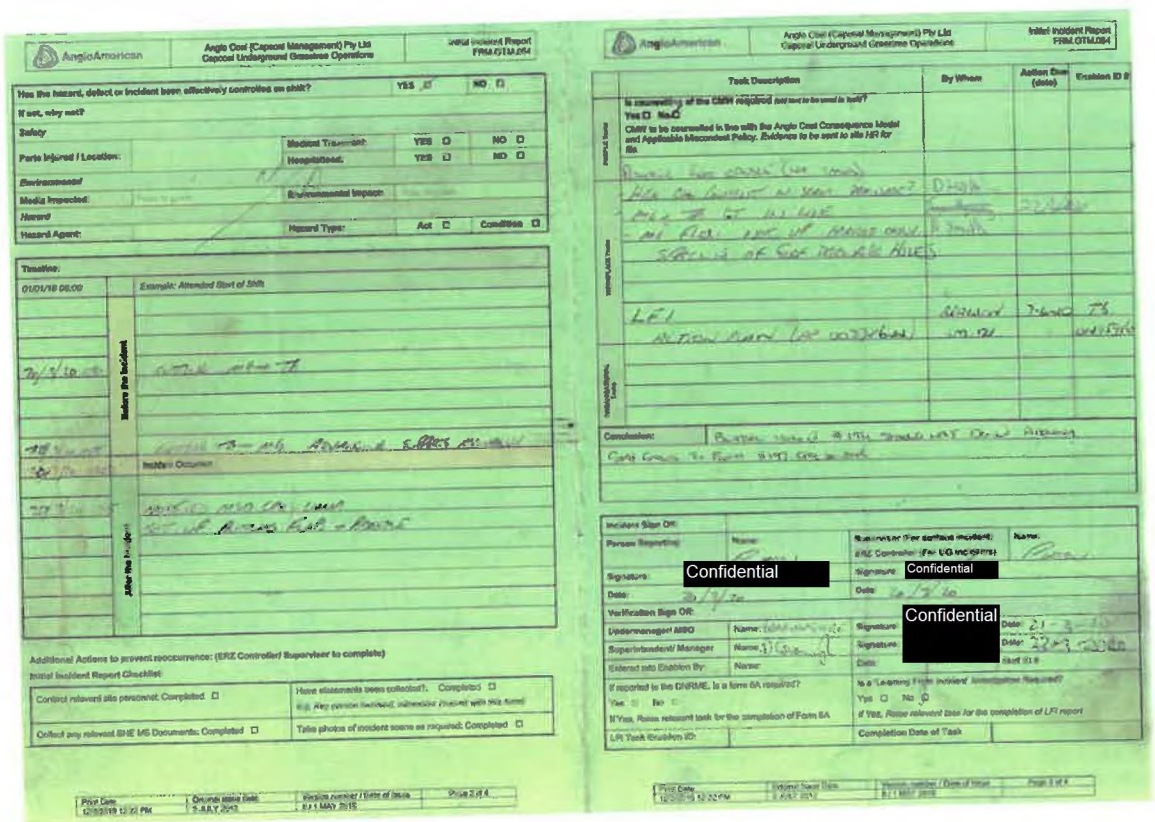

Figure 18. IN.00222011 Initial Incident Report (Back).

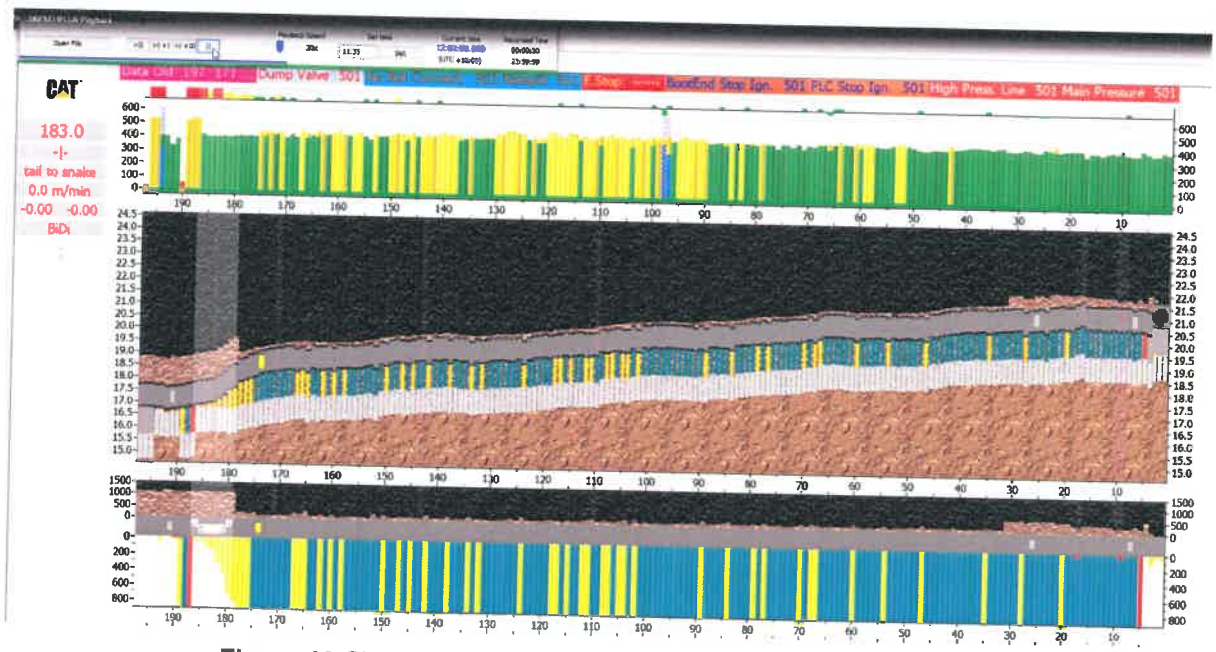

Figure 19.Shearer and Shield Position at Time of HPI (IN.00222011)

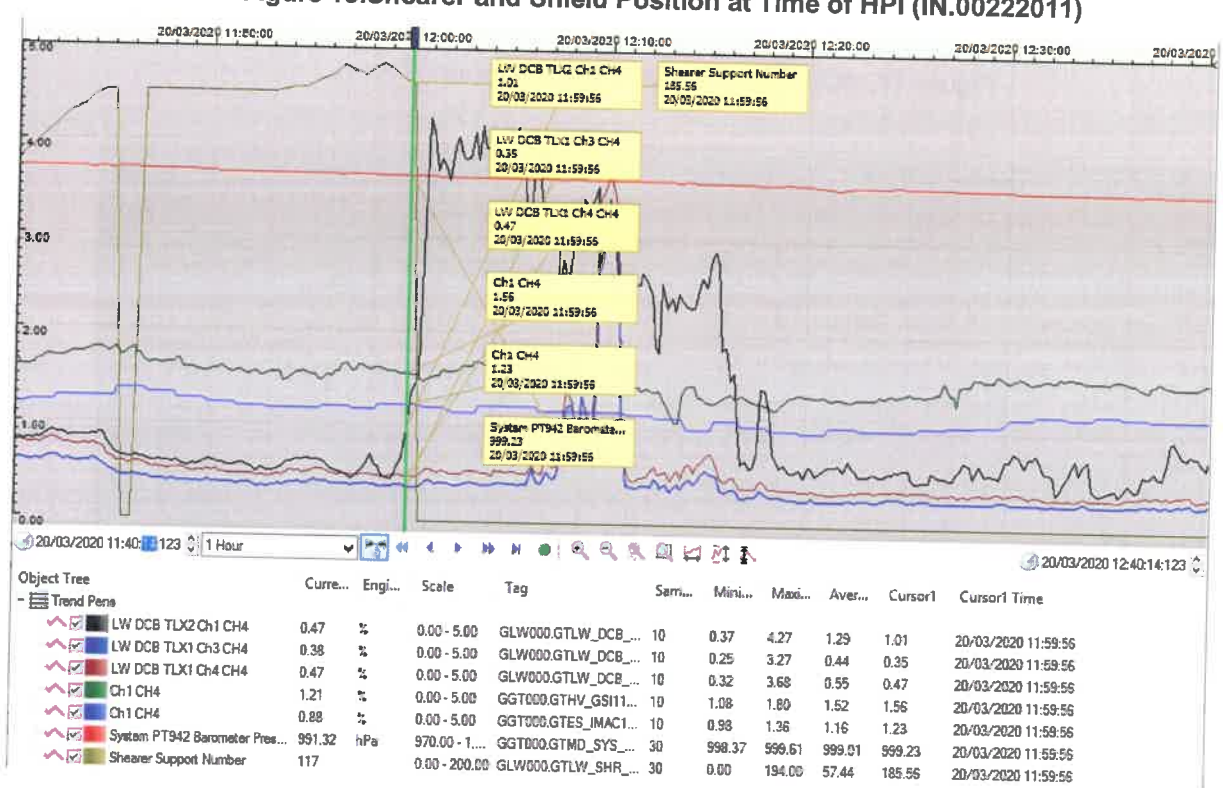

Figure 20.Trending data. Shearer Position, CH4 sensors, Barometer at incident (IN.00222011)

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Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

APPENDIX 3 INVOLVED PERSON OR WITNESS STATEMENT

Event Description:	HIGH GAS OVER SENSOR @ 197 (HOLE		
Date and Time:	20 - 3 - 2020		
Location of Event:	908 LW		
Witness Details			
Name of Witness:	A KING	Contact No:	—
Job Title:	MINER	Anglo No:	482631
Employer:	ANGLO		—
Witness Statement			

What task were you undertaking prior to or at the time of the incident?

OPERATE SHEARER

Who were you working with at the time of the incident?

PETER WILSON

Who was your supervisor?

PETER NOTON

Who was the ERZ Controller responsible for the zone at the time of the incident?

AS ABOVE

What processes or procedures were you following whilst carrying out the task (If involved in the incident)? Did you have a permit to work / authority to work?

YES - CUTTING AS PER MINE PROCEDURES

Was a workplace inspection conducted prior to working in the area? If so, when and how?

YES - PREVIOUS ERZ'S INSPECTION

What was your role in the incident?

SHEARER OPERATOR

Figure 21. A King Witness Statement for IN.00222011 (1 of 3 Pages)

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Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

Explain your own words what happened during incident including the lead-up, incident occurrence, and post incident – please include what you saw, heard and did. (If you need more space, please attach another page at rear). Draw diagrams if necessary.

What conditions influenced the incident and what do you think caused the incident?

Was there anything unusual you observed prior to or during the Event (sights, sounds, smells, other work in the area etc)?

How do you think the incident could have been prevented?

Interviewee Name: **Date:**

Signature: Confidential

Figure 22. A King Witness Statement for IN.00222011 (2 of 3 Pages)

Any additional information:

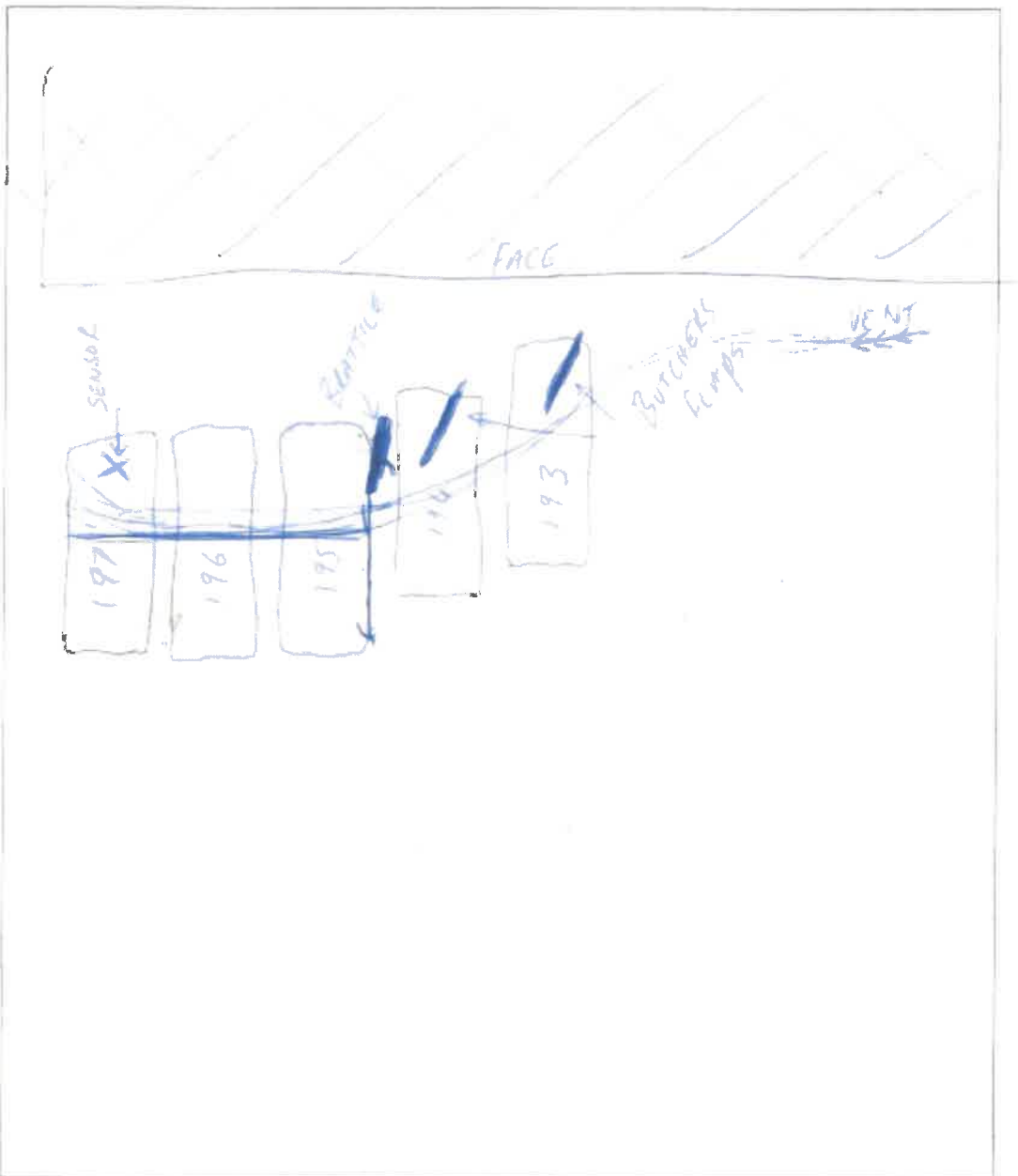

Figure 23. A King Witness Statement for IN.00222011 (3 of 3 Pages)

AngloAmerican

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

APPENDIX 3 INVOLVED PERSON OR WITNESS STATEMENT

Event Description:	High Gas over Sensor @ 19:7 o'clock		
Date and Time:	PM 24-3-20		
Location of Event:	208 LW		
Witness Details			
Name of Witness:	P Wilson	**Contact No:**	
Job Title:	Miner	**Anglo No:**	6036695
Employer:	Anglo		
Witness Statement			

What task were you undertaking prior to or at the time of the incident?

Operating Shearer

Who were you working with at the time of the incident?

ASHLEY KING

Who was your supervisor?

P. NOTON

Who was the ERZ Controller responsible for the zone at the time of the incident?

As Above.

What processes or procedures were you following whilst carrying out the task (if involved in the incident)? Did you have a permit to work / authority to work?

YES CUTTING AS PER MINE PROCEDURES

Was a workplace inspection conducted prior to working in the area? If so, when and how?

YES — Previous ERZ controller

What was your role in the incident?

PRESENT AT TIME.

PRINT DATE	ORIGINAL ISSUE DATE	ISSUE NUMBER/DATE	PAGE 27 OF 47
17/04/2019 7:24 AM	13 JUNE 2014	1 / 13 JUNE 2014	

Figure 24. P Wilson Witness Statement for IN.00222011 (1 of 3 Pages)

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Management Plan
Involved Person or Witness Statement
MP.GTM.025

Explain your own words what happened during incident including the lead-up, incident occurrence, and post incident – please include what you saw, heard and did. (If you need more space, please attach another page at rear). Draw diagrams if necessary.

STANDING AT 170. SHIELD Spotting Shearer dozer
THEN WE LOST POWER TO 1W.
WSO ON Shift WAS ON WAY UP FACE
ONCE WE LOST POWER
WE LOWED UNDER HIS SUPERVISION AND DIRECTION
TO LOWER GAS LEVELS

DRAWING DIAGRAM

What conditions influenced the incident and what do you think caused the incident?

MINING AT 1IT IN T/G.
AND HIGHER THAN NORMAL GAS

Was there anything unusual you observed prior to or during the Event (sights, sounds, smells, other work in the area etc)?

SHIELDS NO 195/196/197/ WERE ADVANCED
AND WE WERE TOLD IN OUR PRE SHIFT THERE
WERE TO Be LEFT Back

How do you think the Incident could have been prevented?

?

Interviewee Name: P Wilson	**Date:** 24 3 20 PW
Signature: [redacted] Confidential	

Figure 25. P Wilson Witness Statement for IN.00222011 (2 of 3 Pages)

Any additional information:

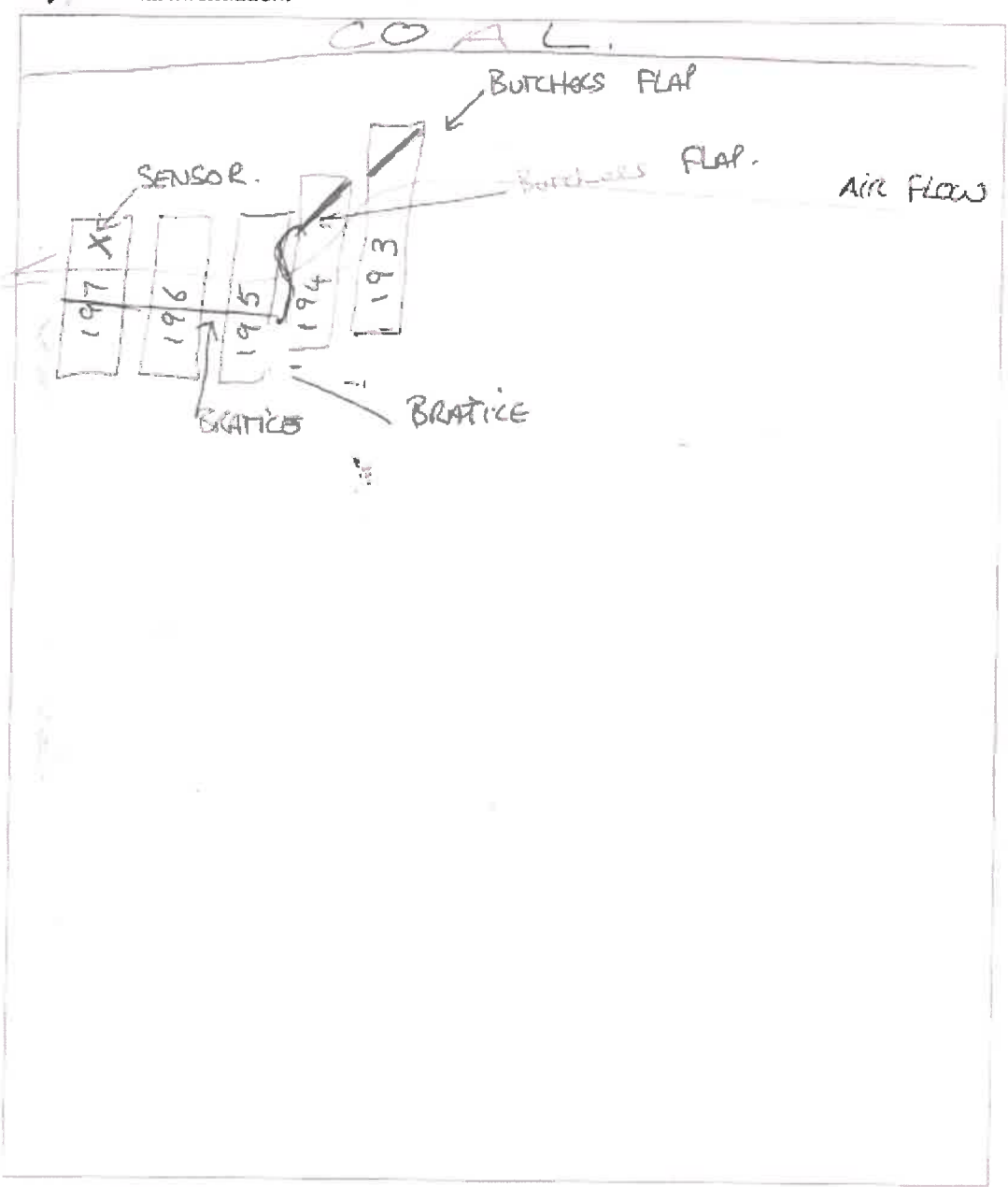


Figure 26. P Wilson Witness Statement for IN.00222011 (3 of 3 Pages)

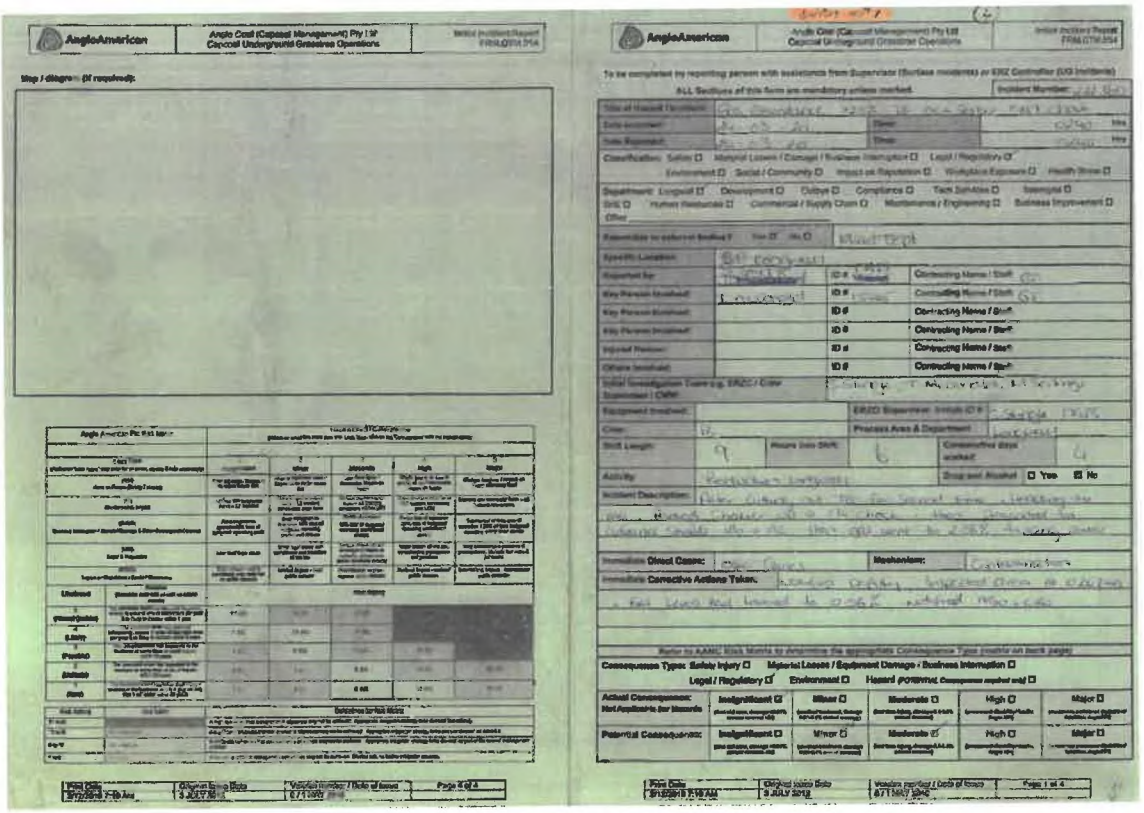


Figure 27. IN.00222360 Initial Incident Report (Front).

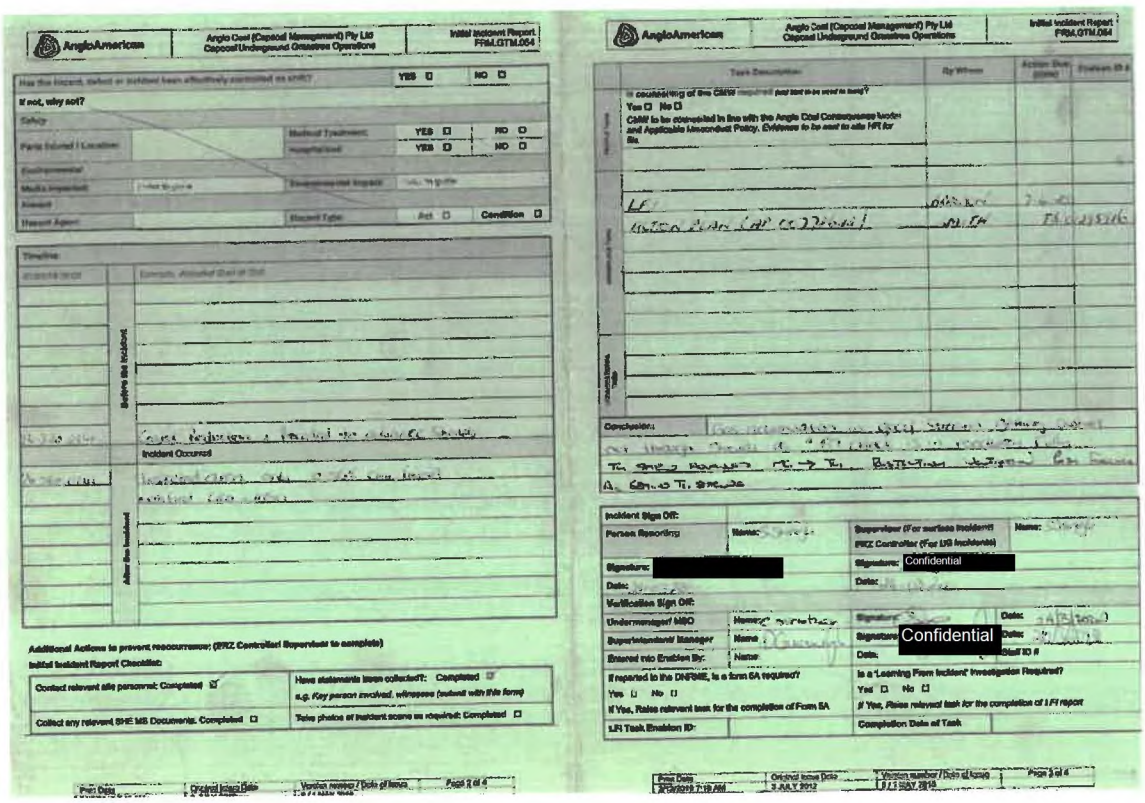


Figure 28. IN.00222360 Initial Incident Report (Back).

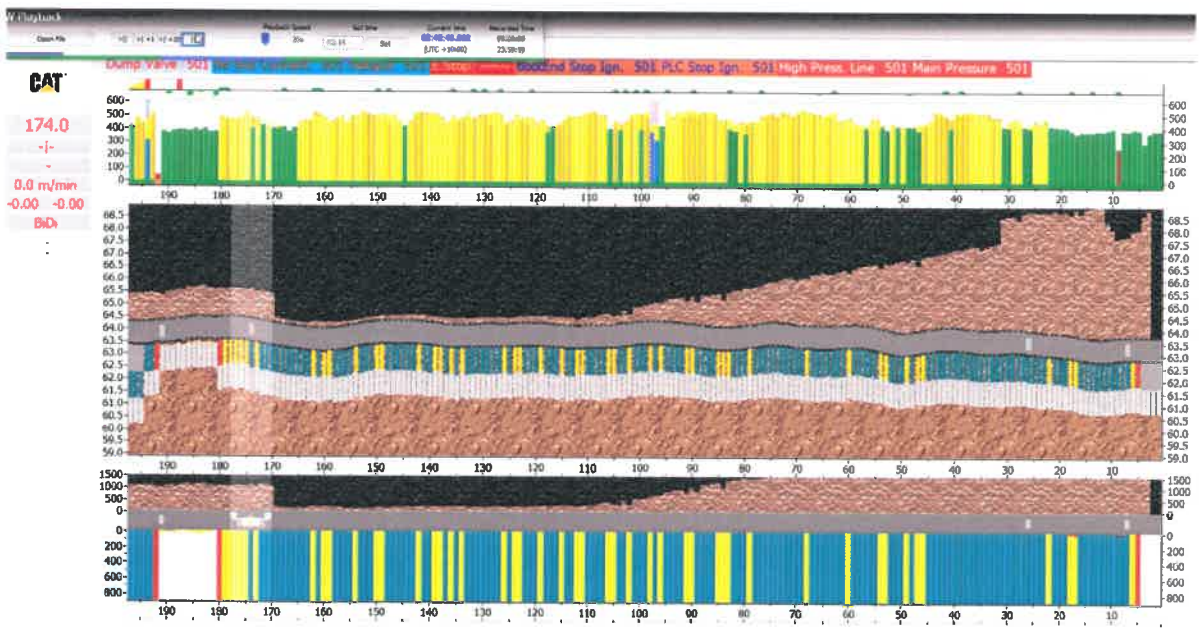
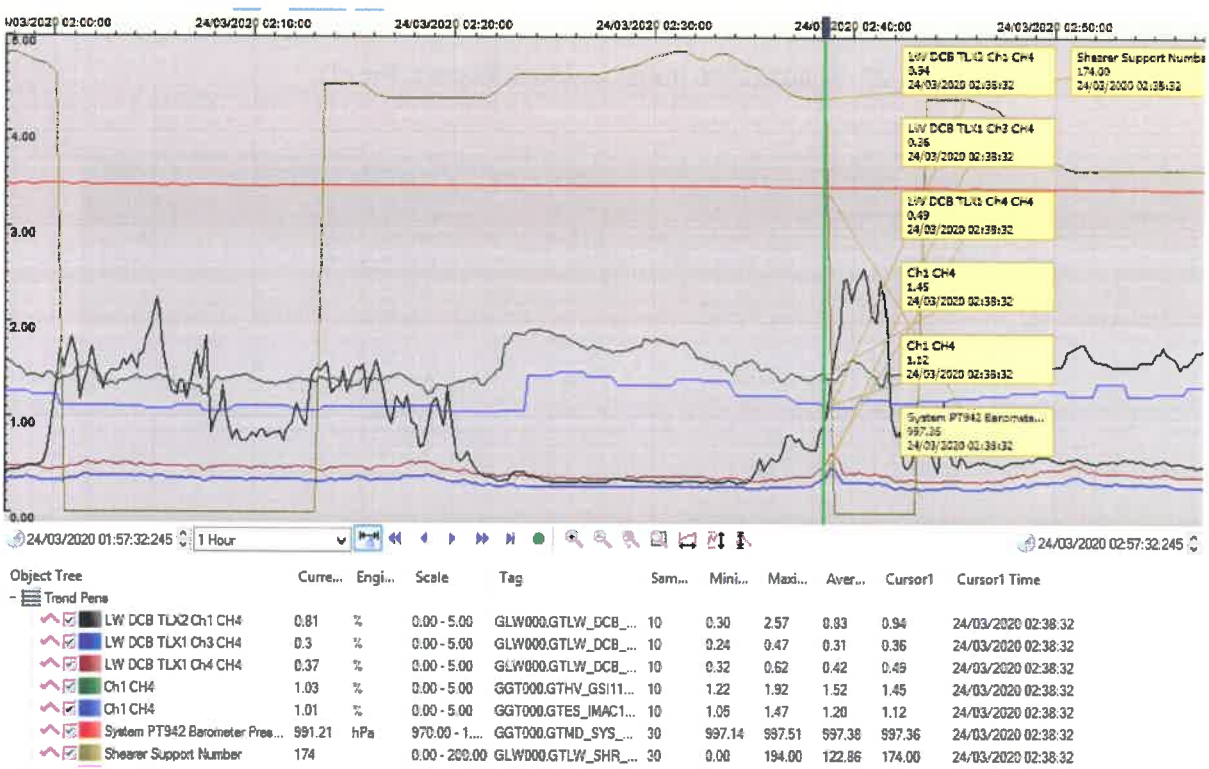


Figure 29.Shearer and Shield Position at Time of HPI. (IN.00222360)



Object Tree	Curre...	Engi...	Scale	Tag	Sam...	Mini...	Maxi...	Aver...	Cursor1	Cursor1 Time
Trend Pens										
LW DCB TLX2 Ch1 CH4	0.81	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.30	2.57	0.83	0.94	24/03/2020 02:38:32
LW DCB TLX1 Ch3 CH4	0.3	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.24	0.47	0.31	0.36	24/03/2020 02:38:32
LW DCB TLX1 Ch4 CH4	0.37	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.32	0.62	0.42	0.49	24/03/2020 02:38:32
Ch1 CH4	1.03	%	0.00 - 5.00	GGT000.GTHV_GSI11...	10	1.22	1.92	1.52	1.45	24/03/2020 02:38:32
Ch1 CH4	1.01	%	0.00 - 5.00	GGT000.GTES_IMAC1...	10	1.05	1.47	1.20	1.12	24/03/2020 02:38:32
System PT942 Barometer Pres...	991.21	hPa	970.00 - 1....	GGT000.GTMD_SYS_...	30	997.14	997.51	997.38	997.36	24/03/2020 02:38:32
Shearer Support Number	174		0.00 - 200.00	GLW000.GTLW_SHR_...	30	0.00	194.00	122.86	174.00	24/03/2020 02:38:32

Figure 30.Trending data. Shearer Position, CH4 sensors, Barometer at incident (IN.00222360)

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

AngloAmerican

APPENDIX 3 INVOLVED PERSON OR WITNESS STATEMENT

Event Description:	Gas exceedance		
Date and Time:	24-3-2020 02 40		
Location of Event:	808 LW tail gate O'[illegible] Change		
Witness Details			
Name of Witness:	Trevor MacDonald	**Contact No:**	
Job Title:	miner	**Anglo No:**	15465
Employer:	Anglo		
Witness Statement			

What task were you undertaking prior to or at the time of the incident?

tailgate down of shear / moving checks up the face

Who were you working with at the time of the incident?

Matthew Sellings

Who was your supervisor?

S Shingle

Who was the ERZ Controller responsible for the zone at the time of the incident?

S Shingle

What processes or procedures were you following whilst carrying out the task (if involved in the incident)? Did you have a permit to work / authority to work?

Manuel tailgate check sequence as instructed on the 24-3-2020

Was a workplace inspection conducted prior to working in the area? If so, when and how?

Yes

What was your role in the incident?

moving checks

PRINT DATE	ORIGINAL ISSUE DATE	ISSUE NUMBER/DATE	PAGE 27 OF 47
17/04/2019 7:24 AM	13 JUNE 2014	1 / 13 JUNE 2014	

Figure 31. T MacDonald Witness Statement for IN.00222360 (1 of 2 Pages)

AngloAmerican

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

Explain your own words what happened during incident including the lead-up, incident occurrence, and post incident – please include what you saw, heard and did. (If you need more space, please attach another page at rear). Draw diagrams if necessary.

moving checks as informal for manual tailgate sequence as I create check list over the power unit

What conditions influenced the incident and what do you think caused the incident?

tailgate is radius for development change

Was there anything unusual you observed prior to or during the Event (sights, sounds, smells, other work in the area etc)?

No

How do you think the incident could have been prevented?

Interviewee Name: [redacted] **Date:** 24-3-2020

Signature: Confidential [redacted]

Figure 32. T MacDonald Witness Statement for IN.00222360 (2 of 2 Pages)

AngloAmerican

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

APPENDIX 3 INVOLVED PERSON OR WITNESS STATEMENT

Event Description:	gas exceedance		
Date and Time:	23-3-20		
Location of Event:	T/G O sensor		
Witness Details			
Name of Witness:	Matthew Sellings	**Contact No:**	
Job Title:	shearer operator	**Anglo No:**	954442
Employer:	Anglo		
Witness Statement			

What task were you undertaking prior to or at the time of the incident?

parking shearer at 174

Who were you working with at the time of the incident?

T. Mcdonald

Who was your supervisor?

Who was the ERZ Controller responsible for the zone at the time of the incident?

S. Shipp

What processes or procedures were you following whilst carrying out the task (if involved in the incident)? Did you have a permit to work / authority to work?

Was a workplace inspection conducted prior to working in the area? If so, when and how?

What was your role in the incident?

PRINT DATE	ORIGINAL ISSUE DATE	ISSUE NUMBER/DATE	PAGE 27 OF 47
17/04/2019 7:24 AM	13 JUNE 2014	1 / 13 JUNE 2014	

Figure 33. M Sellings Witness Statement for IN.00222360 (1 of 2 Pages)

AngloAmerican

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

Explain your own words what happened during incident including the lead-up, incident occurrence, and post incident – please include what you saw, heard and did. (If you need more space, please attach another page at rear). Draw diagrams if necessary.

just finished cutting out snake parked shearer at 174 waiting for lucas to move over chocks in tailgate in the sequence we have been given 180 - 194 - 197 - 195 on the 21-3-20

What conditions influenced the incident and what do you think caused the incident?

poor development damage 197 chock in middle of roadway

Was there anything unusual you observed prior to or during the Event (sights, sounds, smells, other work in the area etc)?

How do you think the incident could have been prevented?

Interviewee Name:	**Date:**
Signature:	

Figure 34. M Sellings Witness Statement for IN.00222360 (2 of 2 Pages)

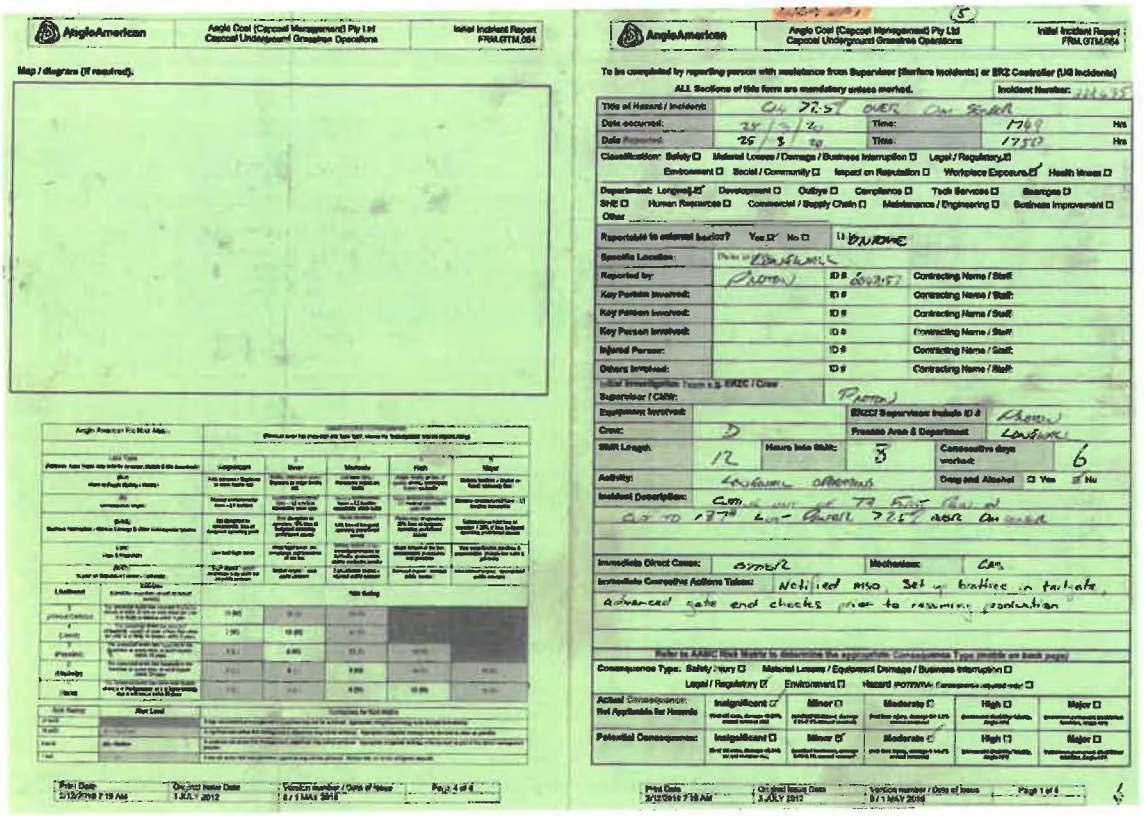


Figure 35. IN.00222495 Initial Incident Report (Front).

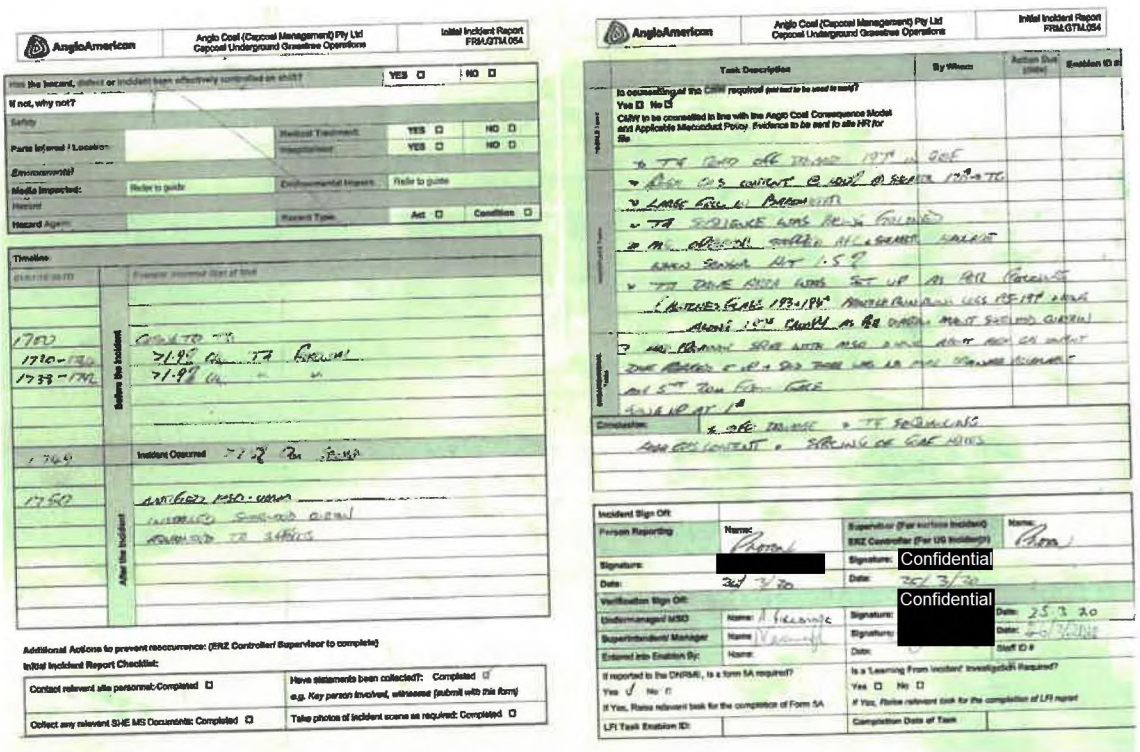


Figure 36. IN.00222495 Initial Incident Report (Back).

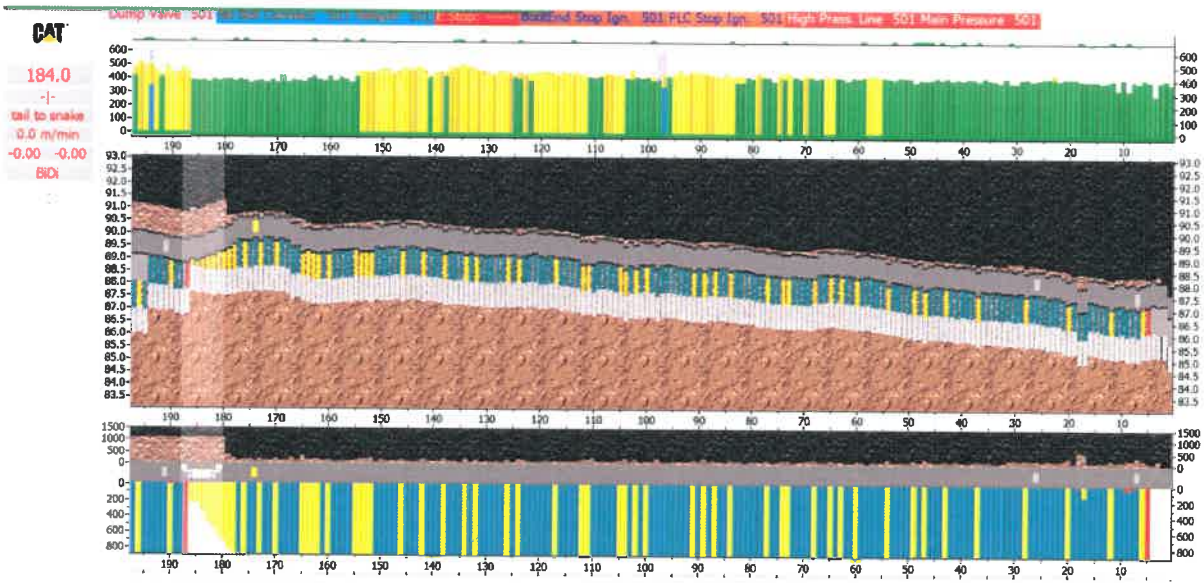
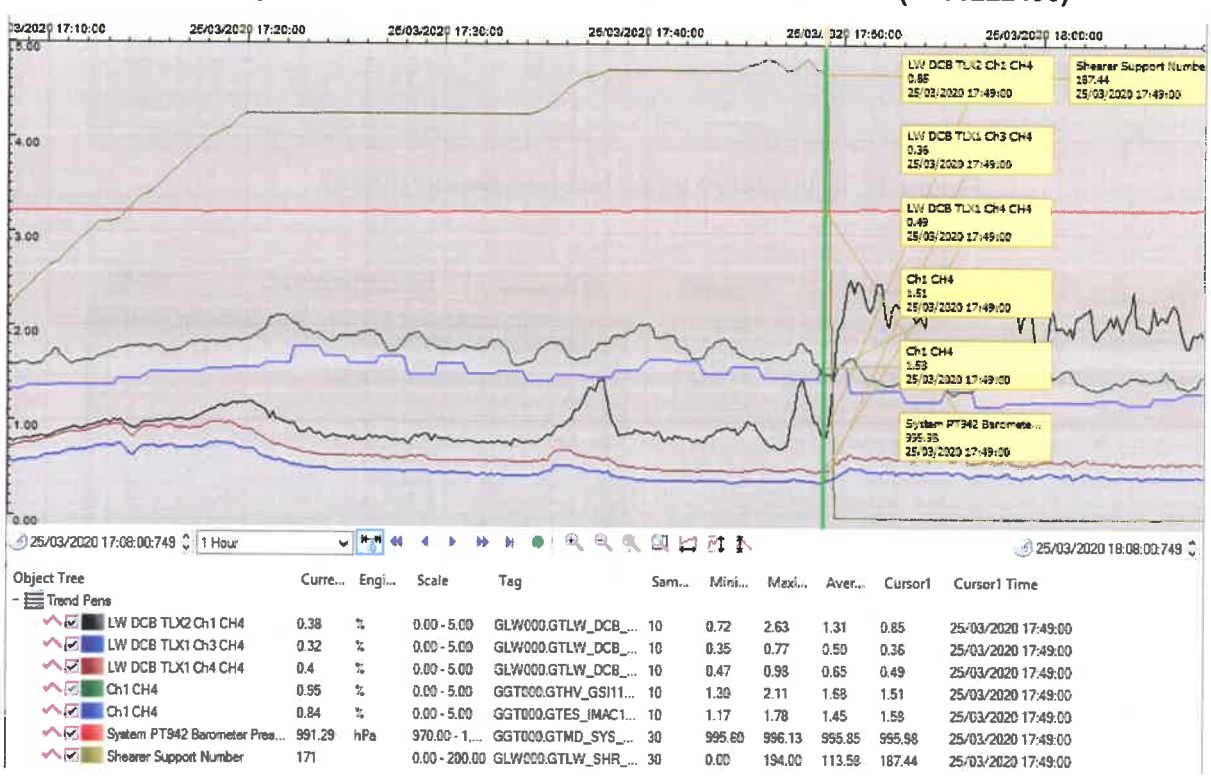


Figure 37.Shearer and Shield Position at Time of HPI (IN.00222495)



Object Tree	Curre...	Engi...	Scale	Tag	Sam...	Mini...	Maxi...	Aver...	Cursor1	Cursor1 Time
Trend Pens										
LW DCB TLX2 Ch1 CH4	0.38	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.72	2.63	1.31	0.85	25/03/2020 17:49:00
LW DCB TLX1 Ch3 CH4	0.32	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.35	0.77	0.59	0.36	25/03/2020 17:49:00
LW DCB TLX1 Ch4 CH4	0.4	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.47	0.98	0.65	0.49	25/03/2020 17:49:00
Ch1 CH4	0.95	%	0.00 - 5.00	GGT000.GTHV_GSI11...	10	1.39	2.11	1.68	1.51	25/03/2020 17:49:00
Ch1 CH4	0.84	%	0.00 - 5.00	GGT000.GTES_IMAC1...	10	1.17	1.78	1.45	1.58	25/03/2020 17:49:00
System PT942 Barometer Pres...	991.29	hPa	970.00 - 1,...	GGT000.GTMD_SYS_...	30	995.60	996.13	995.85	995.98	25/03/2020 17:49:00
Shearer Support Number	171		0.00 - 200.00	GLW000.GTLW_SHR_...	30	0.00	194.00	113.58	187.44	25/03/2020 17:49:00

Figure 38.Trending data. Shearer Position, CH4 sensors, Barometer at incident (IN.00222495)

AngloAmerican

APPENDIX 3 INVOLVED PERSON OR WITNESS STATEMENT

Event Description:	705 CH over On SENSOR		
Date and Time:	25/3/20	1749	
Location of Event:	19		
Witness Details			
Name of Witness:	P NOTON	**Contact No:**	
Job Title:	DEPUTY	**Anglo No:**	6470577
Employer:	GT		
Witness Statement			

What task were you undertaking prior to or at the time of the incident?

DEPUTY

Who were you working with at the time of the incident?

FMO

Who was your supervisor?

—

Who was the ERZ Controller responsible for the zone at the time of the incident?

—

What processes or procedures were you following whilst carrying out the task (if involved in the incident)? Did you have a permit to work / authority to work?

COMING OUT OF 7L AS PER SEQUENCE

Was a workplace inspection conducted prior to working in the area? If so, when and how?

What was your role in the incident?

Deputy.

Figure 39. P Noton Witness Statement for IN.00222495 (1 of 2 Pages)

AngloAmerican

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

Explain your own words what happened during incident including the lead-up, incident occurrence, and post incident – please include what you saw, heard and did. (If you need more space, please attach another page at rear). Draw diagrams if necessary.

HAD HAD TRIP TO ROADWAY 1.9% GOT WORKS AGAIN
- CUTTING OUT OF TO N PER SEQ
- TOOLED OFF @ MG WHEN OM SENSOR REACHED 1.5%
- STARTED SHEARER MAINAGE @ MG.
- CH4 0.2-5%

- 197-198 19% CANNOT LOWER LEVEL
- SEQUENCE EVAS FOLLOWED
- TO AREA WAS SET UP AS PER WORKSHARE
- THROUGH OUT SHIFT GRADUALLY SLOWED SHEARER

What conditions influenced the incident and what do you think caused the incident?

LARGE DROP IN BAROMETRIC NOT ENOUGH CH4 DRAINAGE CAPACITY. DISTANCE BETWEEN CORE HOLES OFF DRAINAGE @ TO - 197m IN ROAD

Was there anything unusual you observed prior to or during the Event (sights, sounds, smells, other work in the area etc)?

How do you think the incident could have been prevented?

YES - INADEQUATE CH4 DRAINAGE
- OFF DRAINAGE

Interviewee Name:	Date:
Signature:	

Figure 40. P Noton Witness Statement for IN.00222495 (2 of 2 Pages)

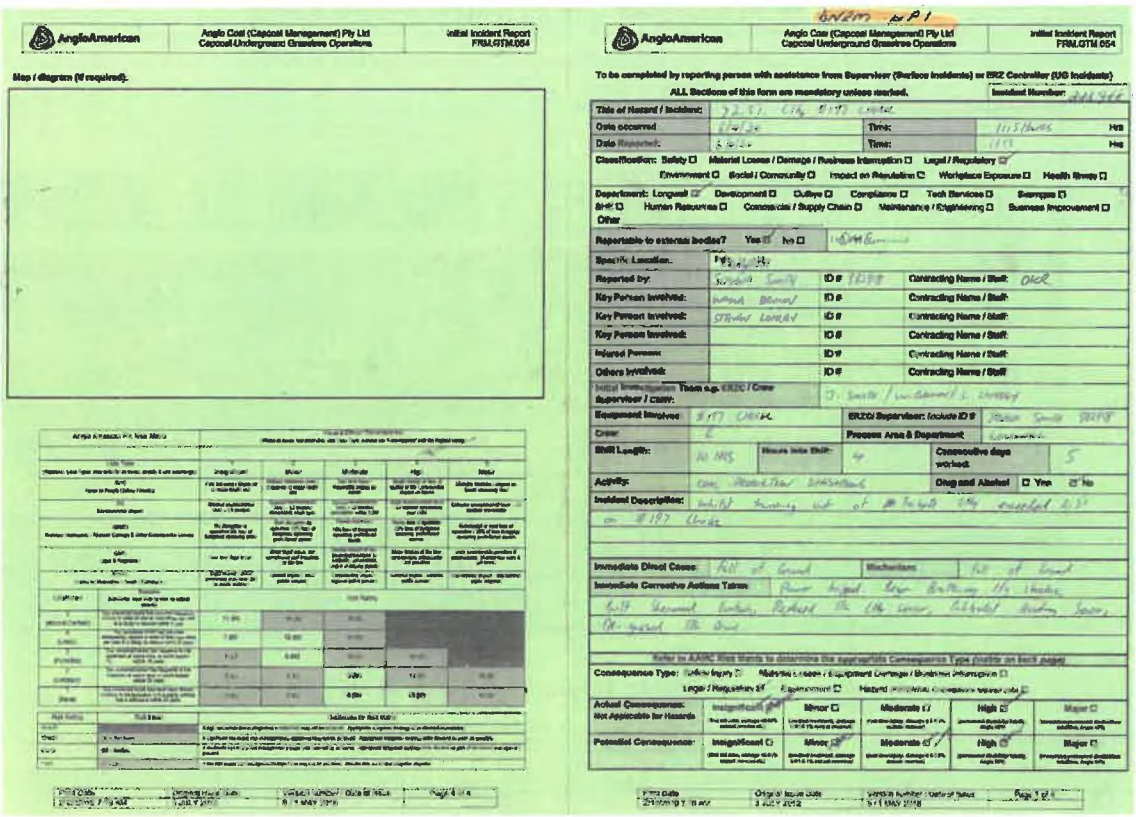


Figure 41. IN.00222988 Initial Incident Report (Front).

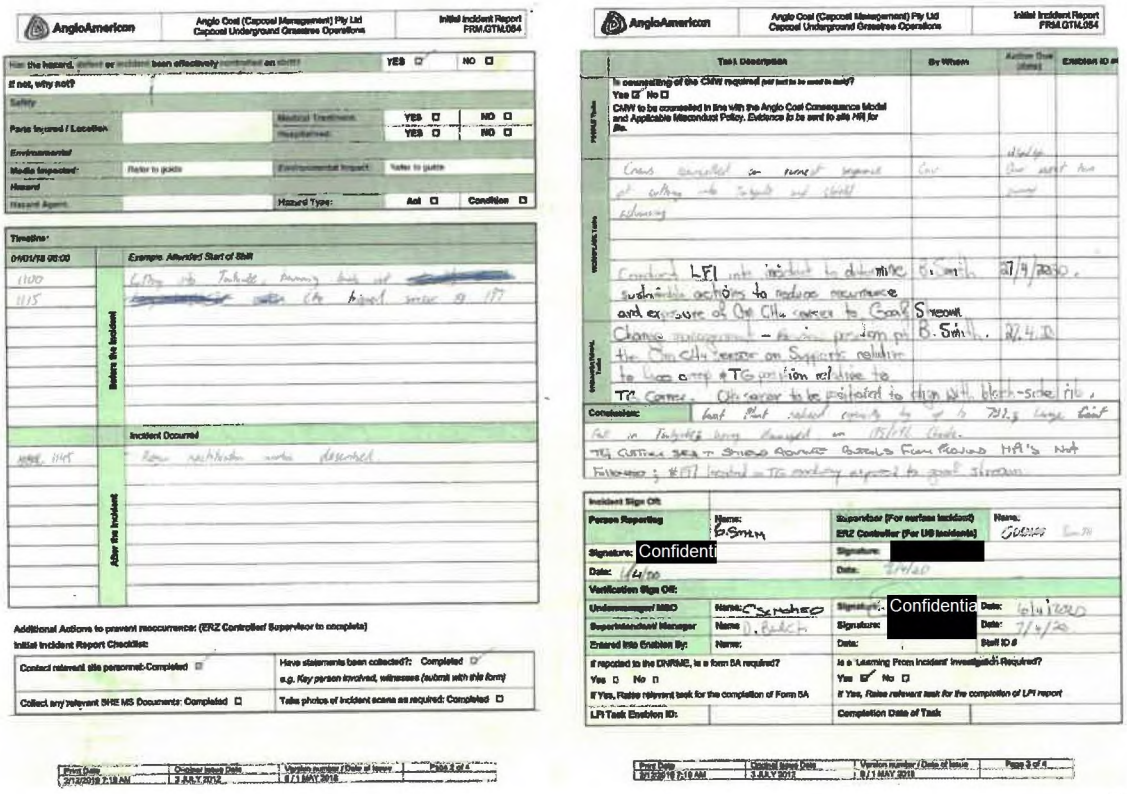


Figure 42. IN.00222988 Initial Incident Report (Back).

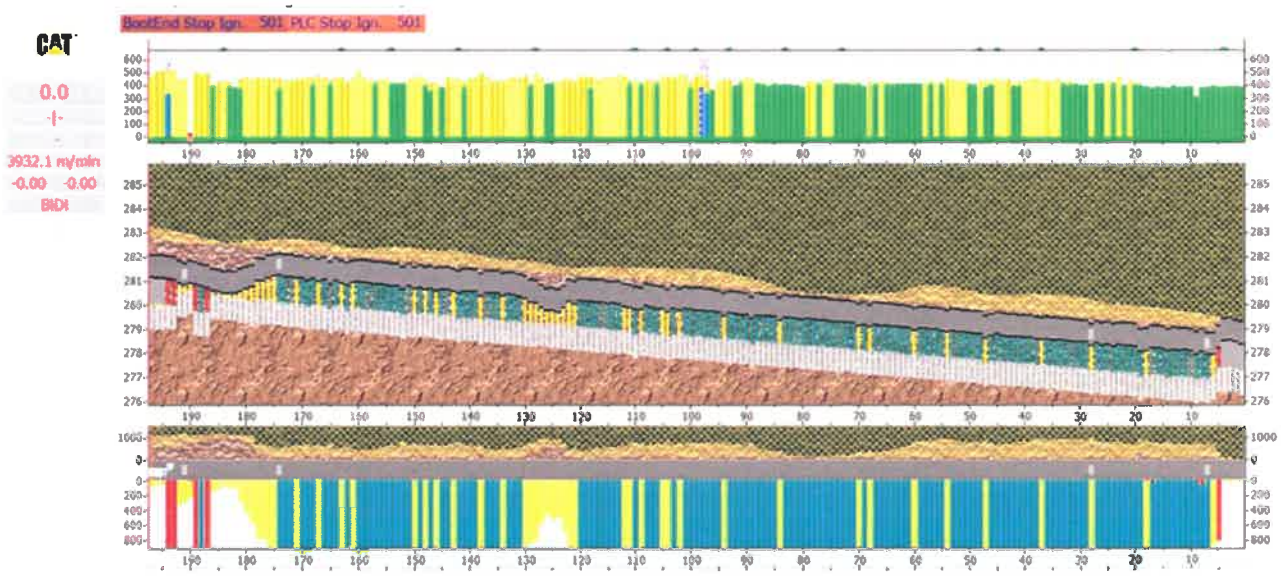
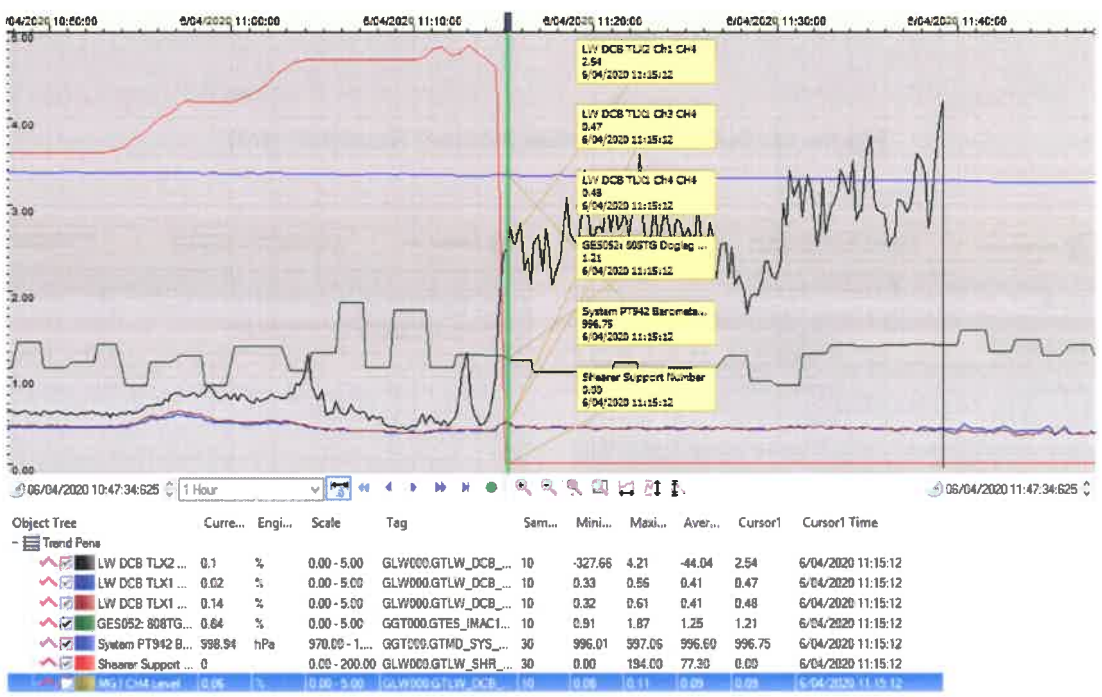


Figure 43.Shearer and Shield Position at Time of HPI (IN.00222988)



Object Tree	Curre...	Engi...	Scale	Tag	Sam...	Mini...	Maxi...	Aver...	Cursor1	Cursor1 Time
Trend Pens										
LW DCB TLX2 ...	0.1	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	-327.66	4.21	-44.04	2.54	6/04/2020 11:15:12
LW DCB TLX1 ...	0.02	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.33	0.56	0.41	0.47	6/04/2020 11:15:12
LW DCB TLX1 ...	0.14	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.32	0.61	0.41	0.48	6/04/2020 11:15:12
GES052: 808TG...	0.64	%	0.00 - 5.00	GGT000.GTES_IMAC1...	10	0.91	1.87	1.25	1.21	6/04/2020 11:15:12
System PT942 B...	998.94	hPa	970.00 - 1....	GGT000.GTMD_SYS_...	30	996.01	997.06	996.60	996.75	6/04/2020 11:15:12
Shearer Support ...	0		0.00 - 200.00	GLW000.GTLW_SHR_...	30	0.00	194.00	77.30	0.00	6/04/2020 11:15:12

Figure 44.Trending data. Shearer Position, CH4 sensors, Barometer at incident (IN.00222988)

AngloAmerican

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

APPENDIX 3 INVOLVED PERSON OR WITNESS STATEMENT

Event Description:	> 2.5° @ 197 Chock		
Date and Time:	6/4/20 1115 Hours		
Location of Event:	Longwall Face #197 Chock		
Witness Details			
Name of Witness:	Joshua Smith	**Contact No:**	Confidential
Job Title:	ERZ Controller	**Anglo No:**	982918
Employer:	OKR		
Witness Statement			

What task were you undertaking prior to or at the time of the incident?

Writing Statutory report in Gibraltar

Who were you working with at the time of the incident?

No-one

Who was your supervisor?

Ben Miller

Who was the ERZ Controller responsible for the zone at the time of the incident?

N/A

What processes or procedures were you following whilst carrying out the task (if involved in the incident)? Did you have a permit to work / authority to work?

Conducted Statutory inspection of the area earlier in shift 0835 hours.

Was a workplace inspection conducted prior to working in the area? If so, when and how?

Yes. By myself (Twilight Drive Inspection 0835 hours)

What was your role in the incident?

ERZ Controller

PRINT DATE	ORIGINAL ISSUE DATE	ISSUE NUMBER/DATE	PAGE 27 OF 47
1/04/2020 3:14 AM	13 JUNE 2014	1 / 13 JUNE 2014	

Figure 45. J Smith Witness Statement for IN.00222988 (1 of 2 Pages)

AngloAmerican

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP GTM.025

Explain your own words what happened during incident including the lead-up, incident occurrence, and post incident – please include what you saw, heard and did. (If you need more space, please attach another page at rear). Draw diagrams if necessary.

Earlier in the shift on inspection gas readings were found to have increased from previous shifts. Upon finishing inspection and beginning report writing I was notified by the Maingate that the Tailgate #197 CH4 Sensor had exceeded 2.5% and tripped power. I proceeded to the tailgate and found ?2.5% CH4 at the Tailgate drive. I instructed the crew to re-establish the wing of #185/#186 shield and [illegible] the tailgate shields. This lowered gas levels to acceptable levels to conduct work. I instructed the electrician to replace the CH4 sensor at #197 and purge enclosures. I proceeded into the tailgate roadway, organised the support crew to stand up [illegible] to construct a shenwood curtain and contacted the CRO to provide an update. The CRO advised the goaf plant had greatly reduced capacity overnight and I informed that the goaf previously hanging up by 8m had fallen flush with T/G shields. The A/S electrician and myself calibrated the existing CH4 sensor, Shenwood curtain constructed (1hr) and all goaf seal checks finished/cleared. Handed over to A/S deputy and reported to surface with 2x Shearer operators at time of incident

What conditions influenced the incident and what do you think caused the incident?

- Tailgate goaf fall
- goaf drainage reduced by up to 70% overnight
- Tailgate cutting sequence
- Damaged wings #185-186 Shield.

Was there anything unusual you observed prior to or during the Event (sights, sounds, smells, other work in the area etc)?

- goaf hanging up by 8m and increased gas levels.

How do you think the incident could have been prevented?

Tailgates shields bathed/covered might have prevented goaf gas exceeding limits at drive.

Interviewee Name: JOSHUA SMITH **Date:** 6/4/20

Signature: [redacted]

Figure 46. J Smith Witness Statement for IN.00222988 (2 of 2 Pages)

AngloAmerican

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

APPENDIX 3 INVOLVED PERSON OR WITNESS STATEMENT

Event Description:	GREATER THAN 2.5L @ 19T SHELL		
Date and Time:	6-4-2020 11 15am		
Location of Event:	LONGWALL TAIL GATE		
Witness Details			
Name of Witness:	STEVEN LOHREY	Contact No:	Confidential
Job Title:	OPERATOR	Anglo No:	6023920
Employer:	ANGLO GRASSTREE		
Witness Statement			

What task were you undertaking prior to or at the time of the incident?

OFF SIDING OPERATOR IN TRAINING (WAYNE BROWN)

Who were you working with at the time of the incident?

WAYNE BROWN

Who was your supervisor?

JOSH SMITH

Who was the ERZ Controller responsible for the zone at the time of the incident?

JOSH SMITH

What processes or procedures were you following whilst carrying out the task (If involved in the incident)? Did you have a permit to work / authority to work?

CUTTING BACK OUT OF THE TAIL GATE AFTER THE FIRST CUT RUN IN.

Was a workplace inspection conducted prior to working in the area? If so, when and how?

YES

What was your role in the incident?

SHEARER OPERATOR

Figure 47. S Lohrey Witness Statement for IN.00222988 (1 of 2 Pages)

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP GTM.025

Explain your own words what happened during incident including the lead-up, incident occurrence, and post incident – please include what you saw, heard and did. (If you need more space, please attach another page at rear). Draw diagrams if necessary.

CUTTING BACK OUT OF THE T/G AFTER THE FIRST RUN IN [illegible] LOST FACE POWER AT 181 SHIELD) AFTER A COAL FALL ON THE [illegible] SHEAR INTO THE T/G (APPROXIMATELY 165 SHIELD) FMU OPERATOR NOTIFIED US OF THE 147 SHIELD SENSOR GRADUALLY INCREASING

What conditions influenced the incident and what do you think caused the incident?

COAL FALL WAS HANGING BACK 8-10 METRES ON DEPUTYS INSPECTION ON PREVIOUS SHEAR.
GOAF DRAINAGE REDUCED BY 70% OVERNIGHT
T/G GATE CUTTING SEQUENCE.
DAMAGED CURTAINS ON 195 + 146 SHIELDS.

Was there anything unusual you observed prior to or during the Event (sights, sounds, smells, other work in the area etc)?

NIL

How do you think the incident could have been prevented?

T/G SHIELDS CURTAINS NOT DAMAGED / BETTER ENGINEERED.
[illegible]

Interviewee Name: [illegible] LOHREY **Date:** 06-04-2020

Signature: Confidential [redacted]

Figure 48. S Lohrey Witness Statement for IN.00222988 (2 of 2 Pages)

AngloAmerican

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

APPENDIX 3 INVOLVED PERSON OR WITNESS STATEMENT

Event Description:	2.5.1. @ 167 CH66K.		
Date and Time:	6.4.2020		
Location of Event:	TAILGATE.		
Witness Details			
Name of Witness:	Wayne Brown	Contact No:	Confidential
Job Title:	OPERATOR	Anglo No:	6056461
Employer:	Anglo		
Witness Statement			

What task were you undertaking prior to or at the time of the incident?

OPERATOR on T/G Drum.

Who were you working with at the time of the incident?

STEVEN LOBLEY. LOBLEY

Who was your supervisor?

JOSH SMITH

Who was the ERZ Controller responsible for the zone at the time of the incident?

JOSH SMITH

What processes or procedures were you following whilst carrying out the task (if involved in the incident)? Did you have a permit to work / authority to work?

COMING BACK WITH SHEARER — 174 CH66K

Was a workplace inspection conducted prior to working in the area? If so, when and how?

YES

What was your role in the incident?

SHEARER OPERATOR.

Figure 49. W Brown Witness Statement for IN.00222988 (1 of 2 Pages)

AngloAmerican

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

Explain your own words what happened during incident including the lead-up, incident occurrence, and post incident – please include what you saw, heard and did. (If you need more space, please attach another page at rear). Draw diagrams if necessary.

OBSERVE: SHEARER TRAMMING FROM MG-T 174 CHOCK
[illegible] BUT LOST POWER @ 151 CHOCK

What conditions influenced the incident and what do you think caused the incident?

? ~~[illegible]~~ ROOF FALL ON MIST SHEAR POSSIBLY. FROM MAIN-
(Tail) GATE DRAINAGE, T/G CUT SEQUENCE. DAMAGED WINGS

Was there anything unusual you observed prior to or during the Event (sights, sounds, smells, other work in the area etc)?

Water Coming From Roof.

How do you think the incident could have been prevented?

More Experience for myself. → Pressure on wings
for the Shields. Engineered wings

Interviewee Name: Wayne Brown	**Date:** 6-4-2020
Signature: [redacted]	

[redacted]
Figure 50. W Brown Witness Statement for IN.00222988 (2 of 2 Pages)

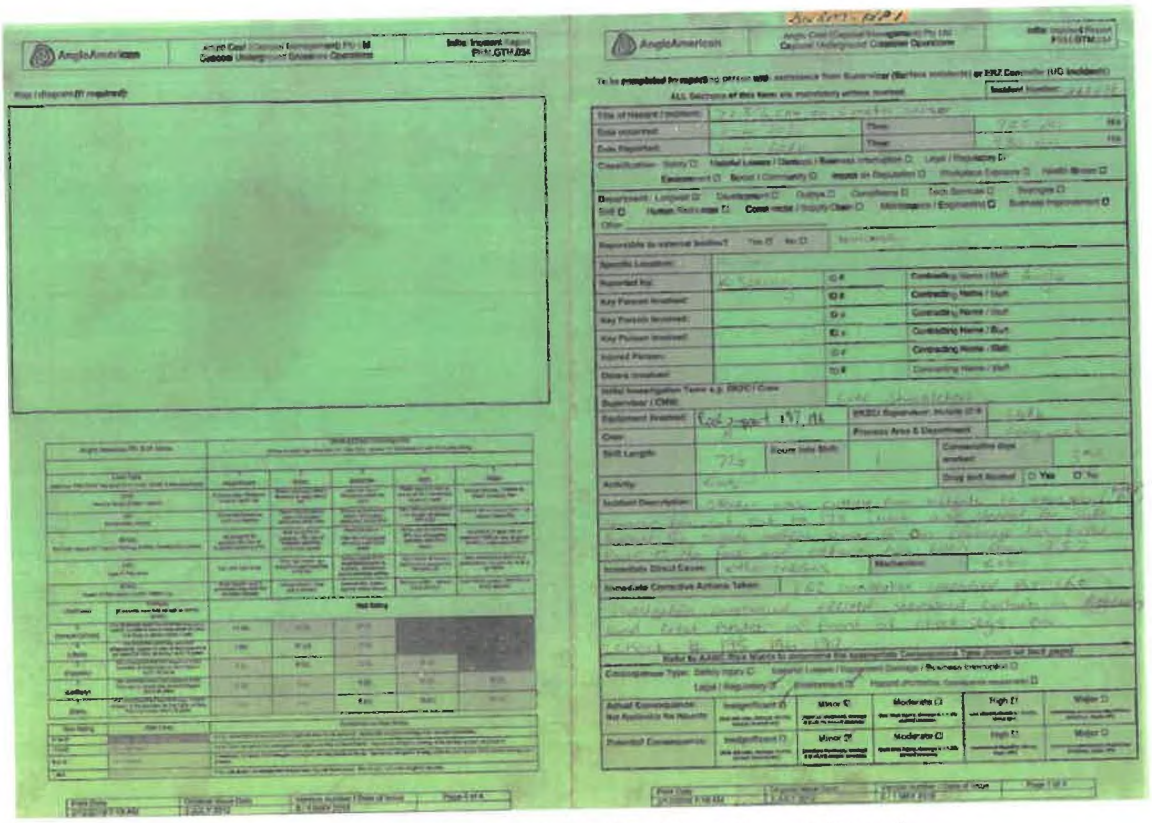


Figure 51. IN.00223278 Initial Incident Report (Front).

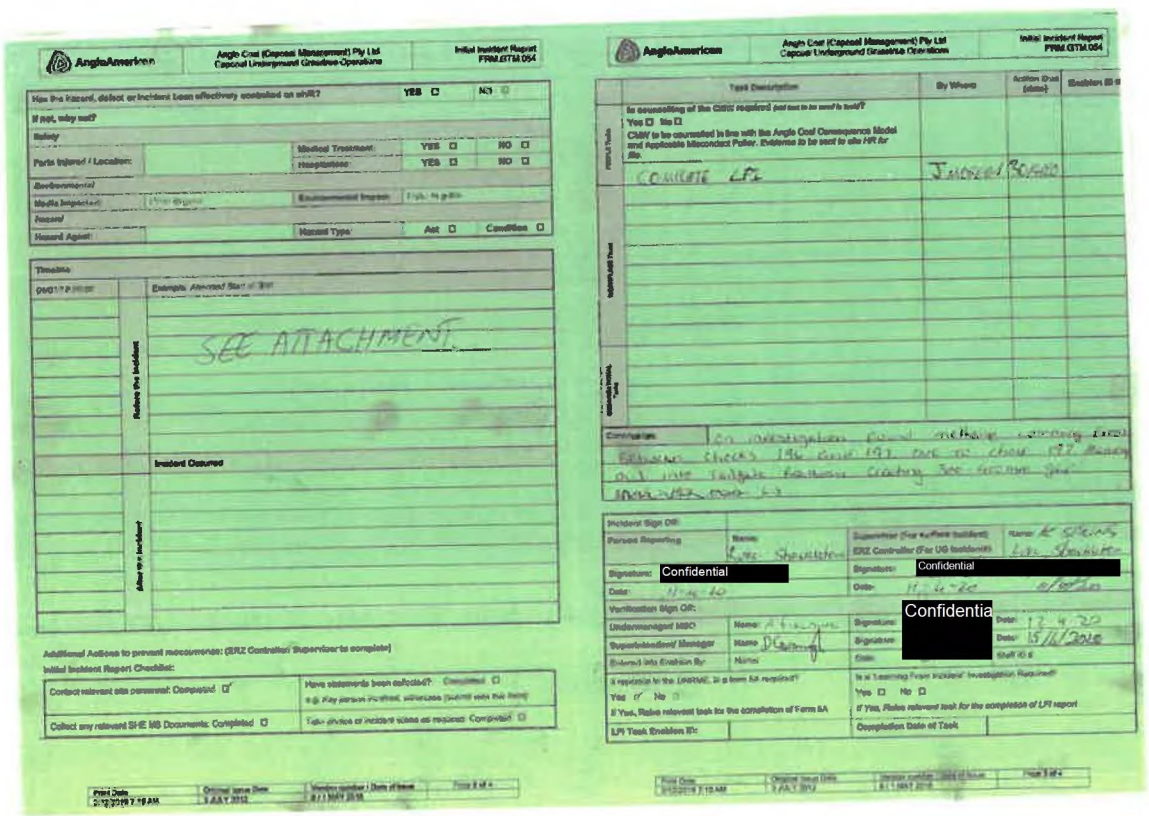


Figure 52. IN.00223278 Initial Incident Report (Back).

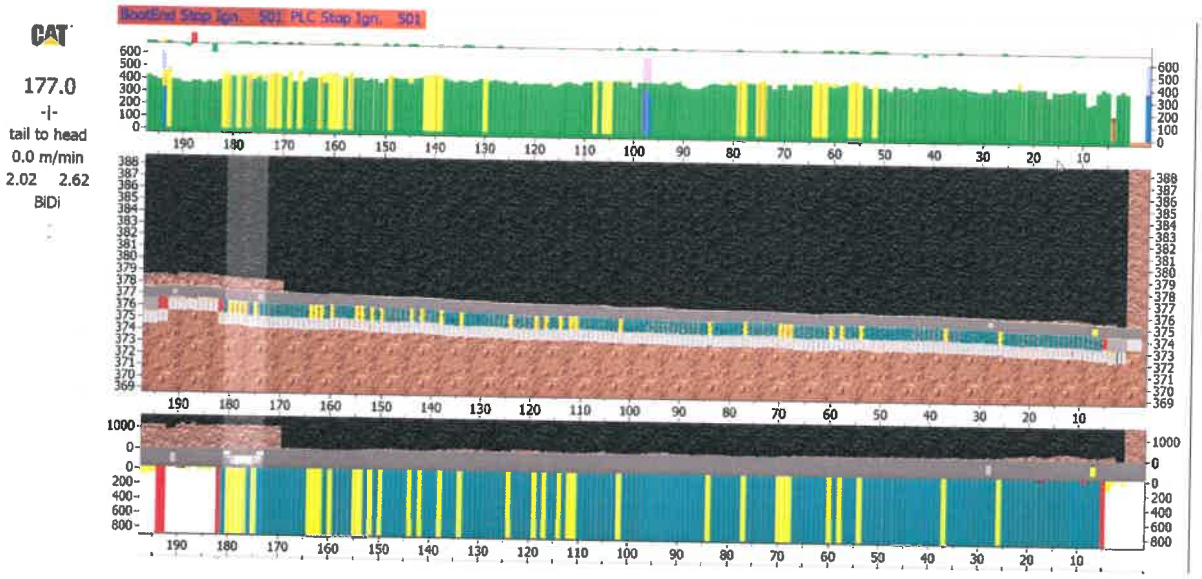
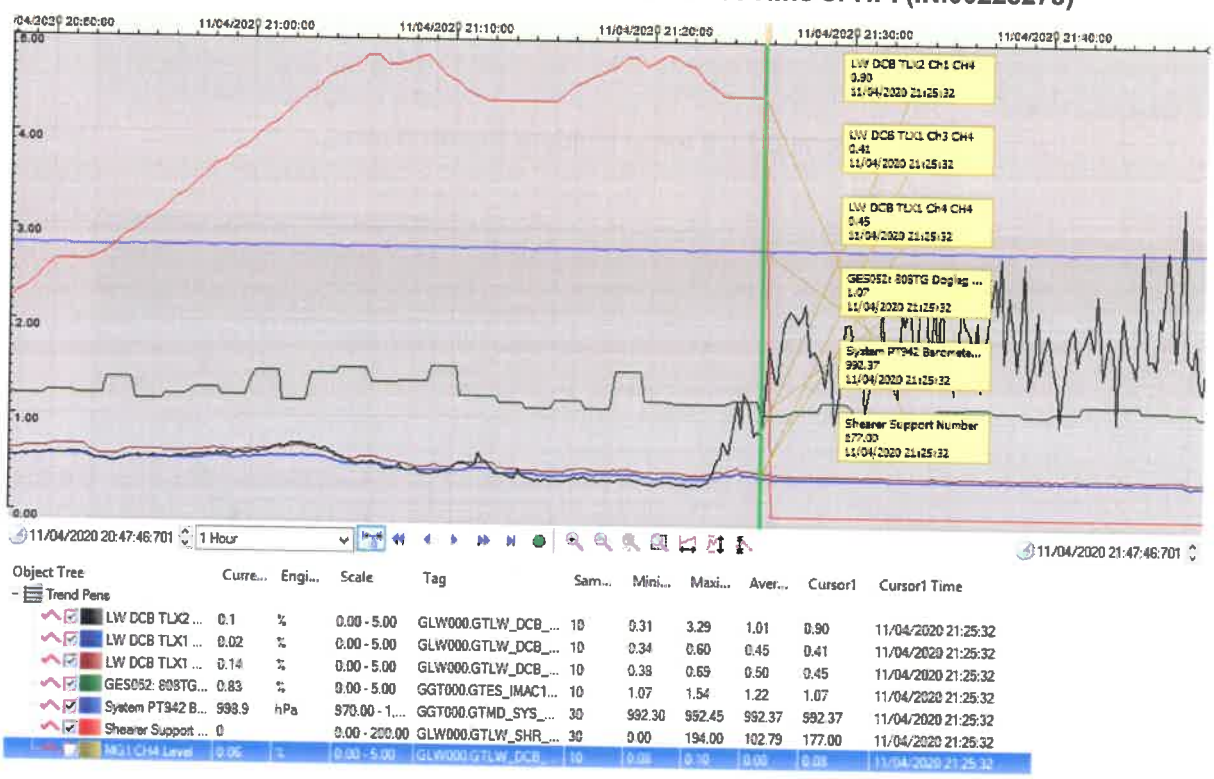


Figure 53.Shearer and Shield Position at Time of HPI (IN.00223278)



Object Tree	Curre...	Engi...	Scale	Tag	Sam...	Mini...	Maxi...	Aver...	Cursor1	Cursor1 Time
Trend Pens										
LW DCB TLX2 ...	0.1	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.31	3.29	1.01	0.90	11/04/2020 21:25:32
LW DCB TLX1 ...	0.02	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.34	0.60	0.45	0.41	11/04/2020 21:25:32
LW DCB TLX1 ...	0.14	%	0.00 - 5.00	GLW000.GTLW_DCB_...	10	0.38	0.69	0.50	0.45	11/04/2020 21:25:32
GES052: 808TG...	0.83	%	0.00 - 5.00	GGT000.GTES_IMAC1...	10	1.07	1.54	1.22	1.07	11/04/2020 21:25:32
System PT942 B...	998.9	hPa	970.00 - 1....	GGT000.GTMD_SYS_...	30	992.30	992.45	992.37	992.37	11/04/2020 21:25:32
Shearer Support ...	0		0.00 - 200.00	GLW000.GTLW_SHR_...	30	0.00	194.00	102.79	177.00	11/04/2020 21:25:32

Figure 54.Trending data. Shearer Position, CH4 sensors, Barometer at incident (IN.00223278)

Drawings and/or diagrams: TIME LINE

THURS 9/4/20 TG CHAINAGE 147 (APPROX 20M O/BYE OF 3C/H)
- TG CHAINAGE IS INDICATOR TO MANAGE GOAF FRINGE AS APPROACHING 3C/H
- SHERWOOD CURTAIN ERECTED @ 1830 HRS (K SPRING)

SAT 11/4/20 (NIGHT SHIFT @ 0400 HRS)
- SHERWOOD CURTAIN REMOVED @ 0400 HRS (C SMARLETON)
- TG CHAINAGE 116 (INBYE OF 3C/H)
- ~~SUNDAY~~ SATURDAY 11/4/20 ARVO SHIFT
- OM SENSOR TREND MONITORED (NORMAL, PEAK OF APPROX 0.80% DURING SHIFT OF 10 SHEARS)
- FLAPS REMAINED IN PLACE ON #193 & #194
- TREND REMAINED NORMAL WHEN SEQUENCE/STATE B CUT (NO DEVIATION ON OM SENSOR)
- TRIP POWER ON OM SENSOR WHEN LEAVING TG (STATE D)
- TG CHAINAGE 108
- #197 LEANING OUT IN ROADWAY & APPROX 300mm HIGHER THAN #196

K SPRING

[redacted] 12/4/20.

PRINT DATE	ORIGINAL ISSUE DATE	ISSUE NUMBER/DATE	PAGE 30 OF 47
2/12/2019 10:40 AM	13 JUNE 2014	1 / 13 JUNE 2014	

Figure 55. K Spring timeline for IN.00223278

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP GTM 025

AngloAmerican

APPENDIX 3 INVOLVED PERSON OR WITNESS STATEMENT

Event Description:	gas exceedence		
Date and Time:	23-2-20		
Location of Event:	197 chock		
Witness Details			
Name of Witness:	Matthew Sellings	Contact No:	
Job Title:	operator	Anglo No:	984442
Employer:	Anglo		
Witness Statement			

What task were you undertaking prior to or at the time of the incident?

maping face

Who were you working with at the time of the incident?

[illegible]

Who was your supervisor?

[illegible]

Who was the ERZ Controller responsible for the zone at the time of the incident?

S. [illegible]

What processes or procedures were you following whilst carrying out the task (if involved in the incident)? Did you have a permit to work / authority to work?

Was a workplace inspection conducted prior to working in the area? If so, when and how?

Deputy

What was your role in the incident?

shock operator [illegible]

PRINT DATE 2/12/2019 10:40 AM	ORIGINAL ISSUE DATE 13 JUNE 2014	ISSUE NUMBER/DATE 1 / 13 JUNE 2014	PAGE 27 OF 47

Figure 56. M Sellings Witness Statement for IN.00219432 (1 of 2 Pages)

AngloAmerican

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

Explain your own words what happened during incident including the lead-up, incident occurrence, and post incident – please include what you saw, heard and did. (If you need more space, please attach another page at rear). Draw diagrams if necessary.

we just finished cutting Plan m/g to 1g then headed back out to crate then had a high CH4 lvl on 197 chock, extended water wing to dilute gas

What conditions influenced the incident and what do you think caused the incident?

Vent change being done to curb and 197 chock was 3% higher than other chocks

Was there anything unusual you observed prior to or during the Event (sights, sounds, smells, other work in the area etc)?

How do you think the incident could have been prevented?

Interviewee Name:	Date:
Signature:	

Figure 57. M Sellings Witness Statement for IN.00219432 (2 of 2 Pages)

AngloAmerican

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

APPENDIX 3 INVOLVED PERSON OR WITNESS STATEMENT

Event Description:	Gas Exceedance 2% @ O/C Sensor [illegible] check		
Date and Time:	22.02.20 0531		
Location of Event:	808 Longwall		
Witness Details			
Name of Witness:	Shaun Stingle	Contact No:	
Job Title:	Deputy	Anglo No:	17923
Employer:	Anglo		
Witness Statement			

What task were you undertaking prior to or at the time of the incident?

inspection

Who were you working with at the time of the incident?

n/a

Who was your supervisor?

Who was the ERZ Controller responsible for the zone at the time of the incident?

What processes or procedures were you following whilst carrying out the task (if involved in the incident)? Did you have a permit to work / authority to work?

Was a workplace inspection conducted prior to working in the area? If so, when and how?

What was your role in the incident?

Inspect area - reduce Gas levels to [illegible]

PRINT DATE 12/03/2019 9:47 AM	ORIGINAL ISSUE DATE 13 JUNE 2014	ISSUE NUMBER/DATE 1 / 13 JUNE 2014	PAGE 27 OF 47

Figure 58. S Stingle Witness Statement for IN.00219432 (1 of 2 Pages)

AngloAmerican

Anglo Coal (Capcoal Management) Pty Ltd
Capcoal Underground Grasstree Mine
Management Plan
Involved Person or Witness Statement
MP.GTM.025

Explain your own words what happened during incident including the lead-up, incident occurrence, and post incident – please include what you saw, heard and did. (If you need more space, please attach another page at rear). Draw diagrams if necessary.

While Shearer cut into TG & then proceeded to cut out to Chocks, CH4 levels increased @ OCH Sensor as Shearer got further out and Shields were being advanced. When 2% was reached, power disconnected to Llwaen Face, Face back of CH4 went to 3.5%. Deputy notified me that we had tripped out on gas, I then proceeded to go to TG to investigate while other personnel in area withdrawn to an area of full ventilation.

Upon investigation found upto 2.4% CH4 @ #197 chock. Placed a Brattice Sheet on #196 chock to divert some ventilation Behind TG drive to dilute gases in area.

What conditions influenced the incident and what do you think caused the incident?

Vent change in TG done too early upto 25cm old was the LOC. Llwaen being uphill into TG Roadway where #197 chock is fully in roadway #197 chock being upto 20-30cm Higher than #196 creating limited ventilation around CH4 Sensor

Shearer tramming out & Shields advancing Robbing ventilation around back of Chocks & Flushing out Goaf Gases

Was there anything unusual you observed prior to or during the Event (sights, sounds, smells, other work in the area etc)?

No

How do you think the incident could have been prevented?

Try not to do vent change so early
Review Development Drivages etc etc for Roadways Drivages resulting in Llwaen being up hill into TG Roadway also.

Interviewee Name: S Stingle	Date: 23.04.20
Signature: [redacted]	

Figure 59. S Stingle Witness Statement for IN.00219432 (2 of 2 Pages)

AngloAmerican

MINE

VENTILATION ADVICE #02-2020

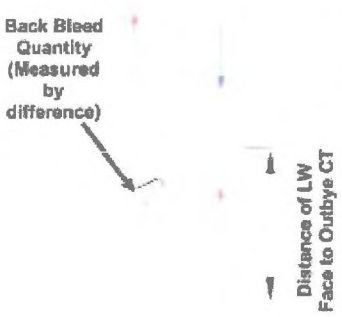
Two Heading Tailgate - Permitted Ventilation Control Device Adjustments

LOCATION: Longwall (808)

During investigation with a number of Gas exceedance/trip events in the LW it has been identified that additional guidance is required with respect to the two heading tailgate ventilation arrangement.

To assist MSOs and ERZ Cs in management of this ventilation arrangement the following table has been developed of acceptable ranges of back bleed ventilation through C HDG that Deputies can effect on shift by adjusting the C HDG roller door.

These roller door adjustments are to be considered as Authorised by the Underground Mine Manager and Ventilation Officer (as per S351 CMSH Reg 2017) to occur at any stage by the deputy provided chainage criteria are met. This constitutes a Minor Ventilation change (under the Mine Ventilation PHMP.GTM.006) and does not require a specific ventilation change form.



However, when adjustments are made to this arrangement they must be recorded the Statutory Report, and the MSO/ERZ C is to ensure that the occurrence of the change is positively communicated to the VO and UMM as soon as is practical.

Distance of LW Face to Outbye Cut-through (m)	Permitted Back Bleed Volume (m^3/s) (measured by difference method SWP.GTM.1067)
<45	10-15
65-45	7-10
65+	5-7

If adjustments outside of those outlined above are required in the Longwall tailgate, authorization/instruction is to be obtained by the UMM and VO (as per S351 CMSH Reg 2017)

VO Approved – Braedon Smith **Sign:** [redacted] **Date:** 24/9/20

UMM Approved – Kelvin Schiefelbein **Sign:** [redacted] **Date:** 24/9/2020

Confidential

PERSONNEL NOTIFIED OF PROPOSED ACTIONS: MSO, ERZ Controllers
Action: Operate as per this Ventilation Advice during longwall retreat.

Ventilation Advice Understood: (MSO/ERZ C Signatures)

Date completed: ____/____/____ Advice No: 02-2020

All completed ventilation advice forms to be returned to Ventilation Department

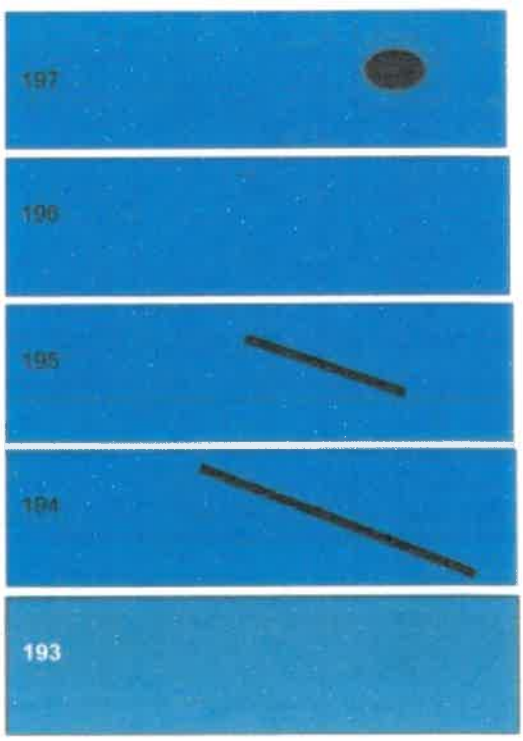
Figure 60. Ventilation Advice #02-20 Issued by VO

AngloAmerican GRASSTREE MINE

VENTILATION ADVICE #03-2020
Permitted Ventilation Control Device For Longwall 808TG 0m sensor Gas Management

LOCATION: Longwall (808)

To assist ERZCs in management of the ventilation arrangement around the 0m sensor, flaps have been installed on chock 194 and 195 to assist in pushing the goaf fringe further back into the active goaf as a trial.



Flaps approx. 10mm thick
195 shield flap to be approx. 1m in length running at 40-45 degrees
194 shield flap to be approx 2m in length again running at 40-45 degrees

All completed ventilation advice forms to be returned to Ventilation Department

Figure 61. Ventilation Advice #03-20 Issued by VO (Page 1 of 2)

AngloAmerican GRASS MINE

Minor adjustments can be made on shift to suit operational requirements as this is currently operating as a trial. However, when adjustments are made to this arrangement they must be recorded the Statutory Report, and the MSO/ERZ C is to ensure that the occurrence of the change is positively communicated to the VO and UMM as soon as is practical.

VO Approved – James Moreby **Sign:** [redacted] **Date:** 31/3/2020
UMM Approved – Kelvin Schiefelbein **Sign:** **Date:** 1/4/2020

PERSONNEL NOTIFIED OF PROPOSED ACTIONS: MSO, ERZ Controllers
Action: Operate as per this Ventilation Advice during longwall retreat.

Ventilation Advice Understood: (MSO/ERZ C Signatures)

Date completed: ____/____/_____ Advice No: 03 2020

All completed ventilation advice forms to be returned to Ventilation Department

Figure 62. Ventilation Advice #03-20 Issued by VO (Page 2 of 2)

AngloAmerican

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Capcoal Underground Grasstree Operations

GRASSTREE MEMO

Title: Advancing TG
Relevant to: Longwall CMW's
Date: 24/03/2020

With the recent HPI's with the Gas exceedance above 2.5% CH4 on the TG sensor at Zero-meter mark.

Longwall Crews are too advanced and Pushed TG manually due to a result of managing the high CH4 levels been captured in the TG.

We are now manually Advancing shields, but it has been noticed that the sequence that the shields are been advanced are inconsistent. This has been noticed on the playback and found that shields have been advance via the "Batch" Function and set to "RAN" (Random) or "RABB" (Rabbit) sequence. These will advance that batch group over in a random way or a babbit (Every Second). It is a faster method, but it doesn't help prevent the ventilation from creating an increased Goaf stream. We need to bring them over in the "SEQ" (Sequential) sequence. This advances the shields one at a time from the start of the batch to the end of the batch.

We need to advance from #197 towards the MG in SEQ (Sequential)

See Below shields advancing in "RABB"

Figure 63. Memo to crews communicating Automation controls (Page 1 of 2)

AngloAmerican

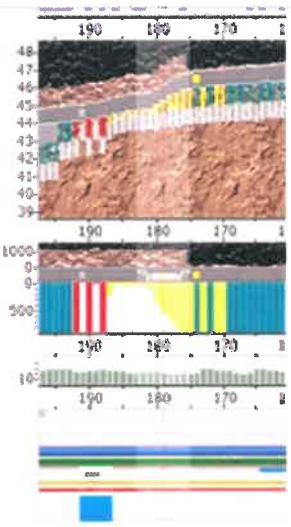
Anglo American
Capcoal Underground Grasstree Operations

GRASSTREE MEMO

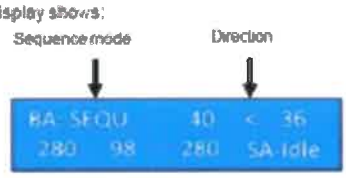
Title: Advancing TG

Relevant to: Longwall CMW's

Date: 24/03/2020



The PMC-R display shows:



Pressing  , the operator can toggle between the operating modes SEQ, RAN and RABB.

Composed by: Nathan Power

Figure 64. Memo to crews communicating Automation controls (Page 1 of 2)

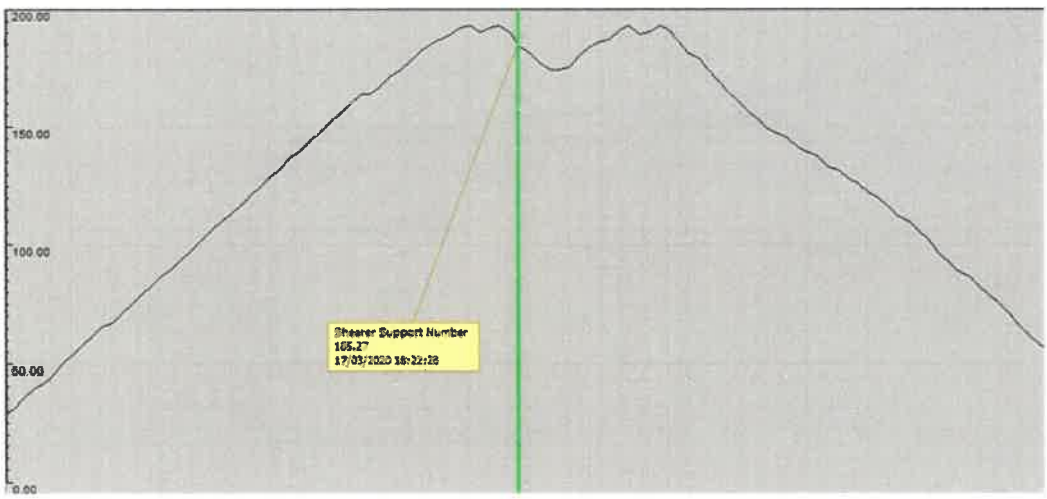


Figure 65. Typical location of shearer in cutting cycle during trips

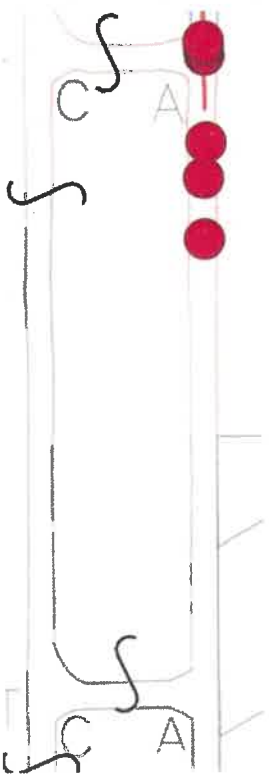


Figure 66. Nominal locations of trips in pillar retreat cycle (close to CT)

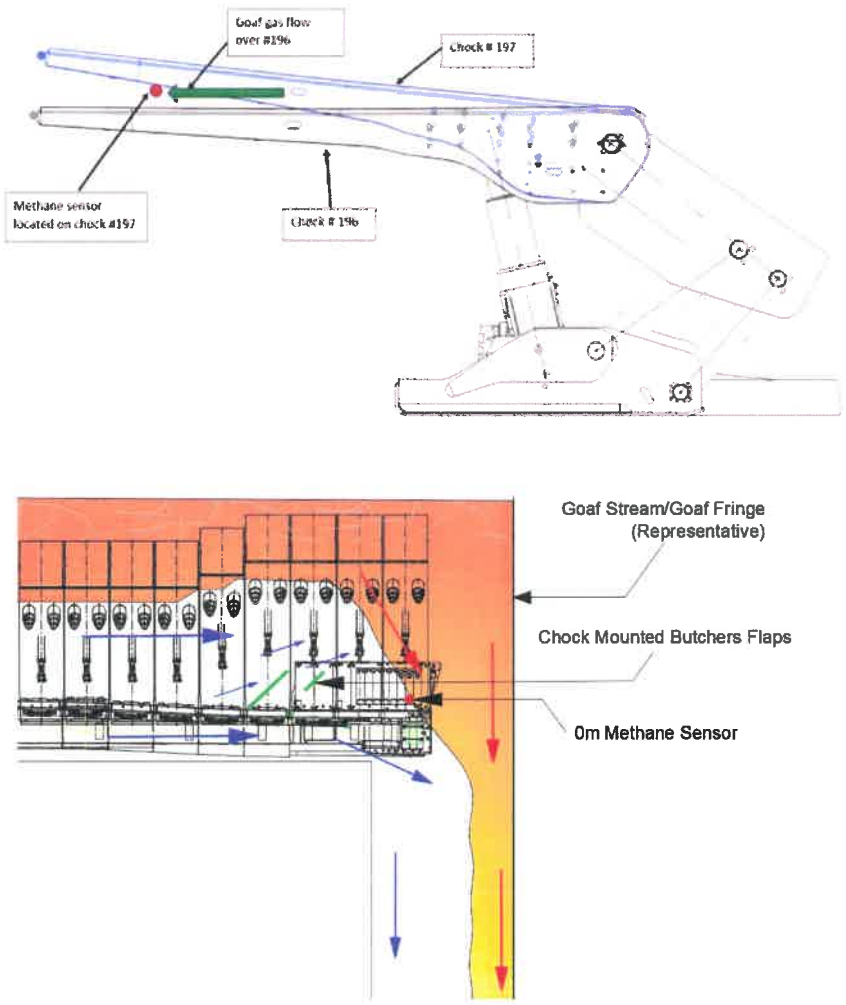


Figure 67. Representation of goaf gas reporting to sensor when #197 chock attitude 300mm higher than adjacent chock

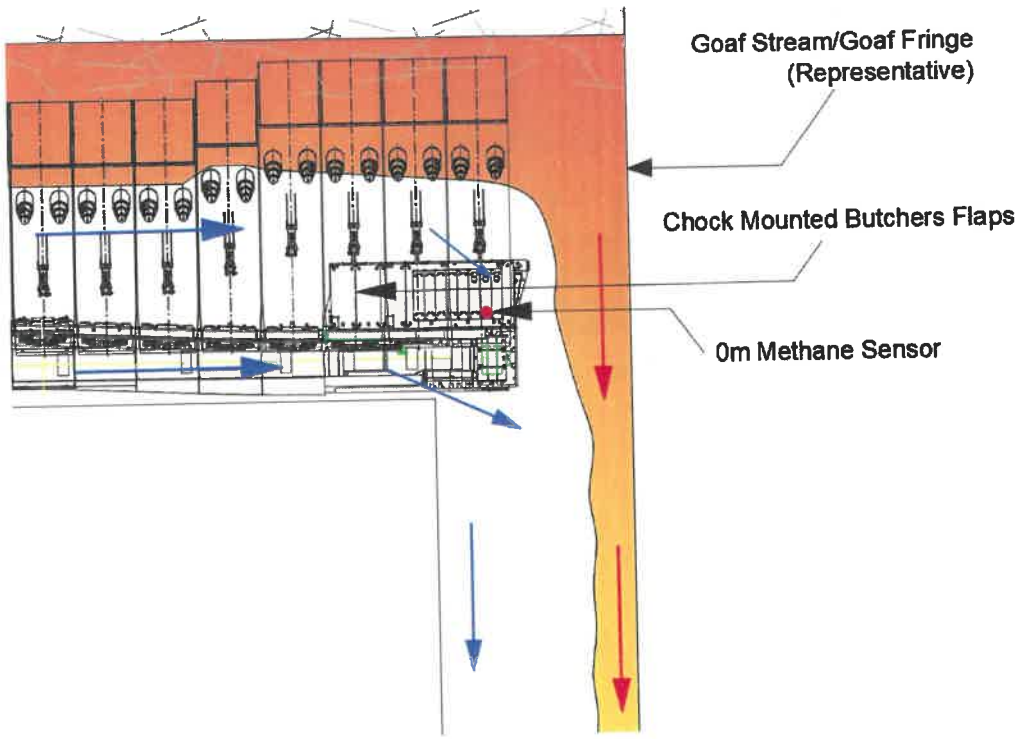


Figure 68. Representation of Normal Goaf stream relative to sensor

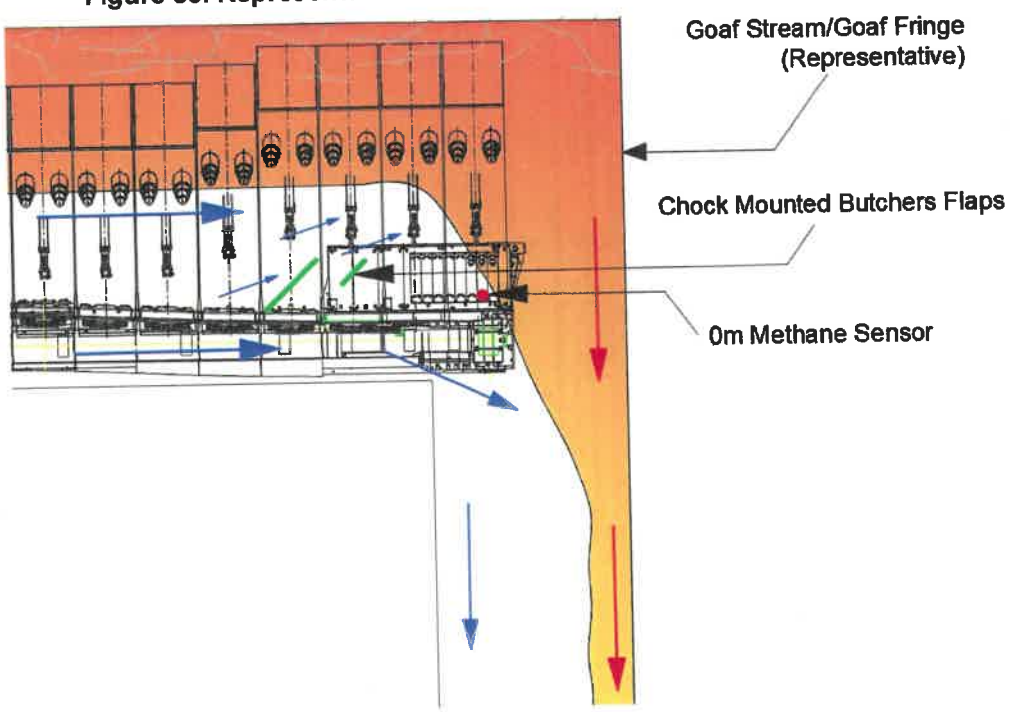


Figure 69. Representation of Goaf stream relative to sensor when high production of goaf drainage fails

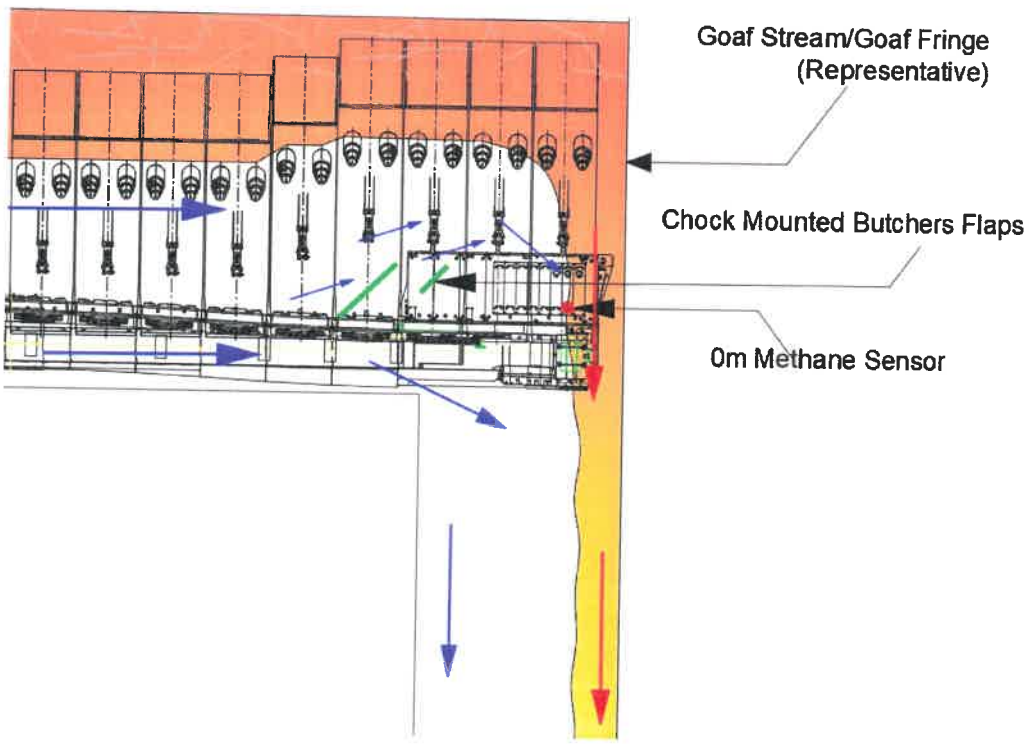


Figure 70. Representation of Goaf stream relative to sensor when roadway/face alignment is poor

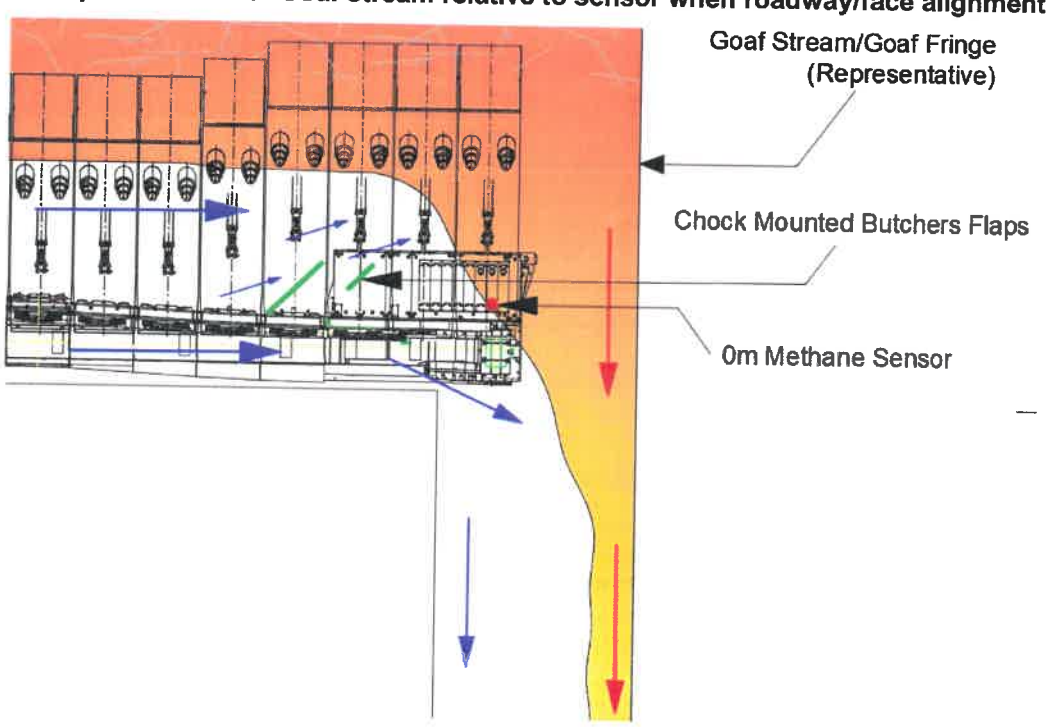


Figure 71. Representation of Goaf stream relative to sensor when shearer wash/chock advance forces goaf gas out

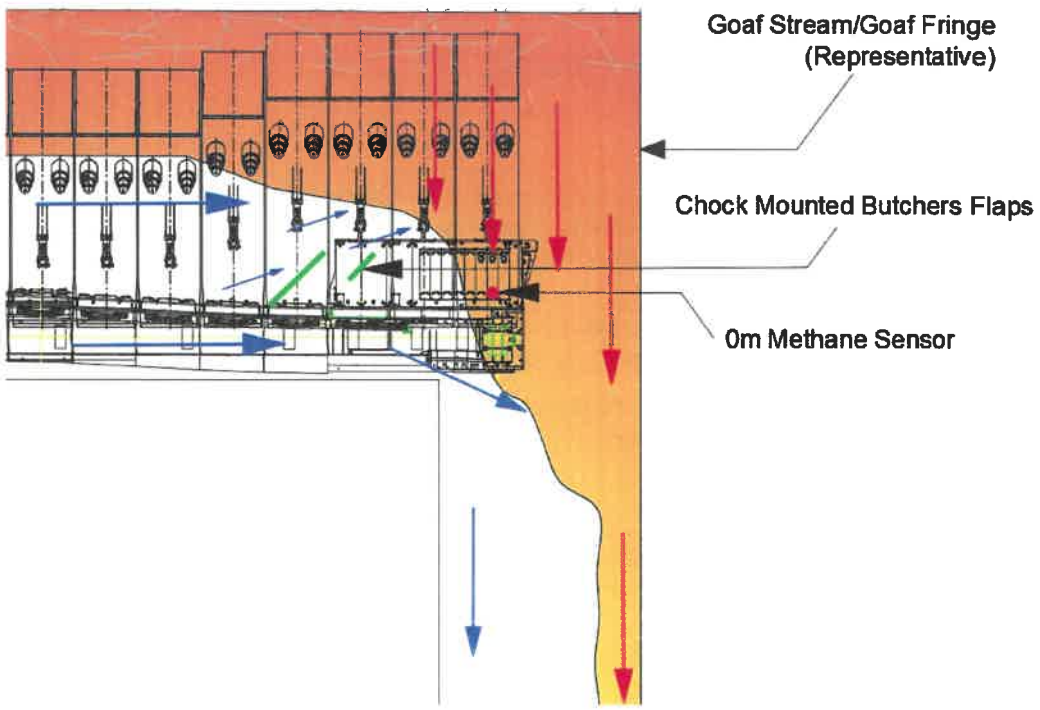


Figure 72. Representation of Goaf stream relative to sensor when goaf fall event occurs

13 RECORD OF AMENDMENTS

Issue 6	:	Full review to align the investigation report to the Learning from Incidents process being rolled out at Met Coal in 2018.	08 June 2018, Chris Gately, Lynda Butler
Issue 5	:	• Sign off table updated to include "Additional EXCO" member signoff. • Section 7 – New – Critical Control Failure (for HPI's only) • References to Met Coal removed.	15 September 2015, Allan Gordon
Issue 4	:	Reviewed Sign off table updated to include sign off from Head of Operations	22 April 2014, Allan Gordon
Issue 3	:	Reviewed for currency – reformatted	8 January 2014, Bruce Gavin
Issue 2	:	Reviewed to align with Enablon Incident Database	6 March 2013, Graeme Redding
Issue 1	:	New Template	15 December 2011, Bruce Gavin