

**Newton, Bayda**

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**From:** Newton, Bayda  
**Sent:** Wednesday, 18 December 2019 3:41 PM  
**To:** Confidential  
**Cc:** Wynn, Damien; Schiefelbein, Kelvin  
**Subject:** FW: S121 (2) CMSHA  
**Attachments:** 18.12.19 MRE Response - Damien Wynn - ISHR notification of s121(1).pdf

Tracking:	Recipient	Delivery
	Confidential	
	Wynn, Damien	Delivered: 18/12/2019 3:41 PM
	Schiefelbein, Kelvin	Delivered: 18/12/2019 3:41 PM

Good Afternoon Mr Woods,

Please see attached, sent on behalf of SSE, Damien Wynn, the response to your email sent to Grasstree Mine (08.12.19).

Kind Regards,

**Bayda Newton**  
Executive Assistant to General Manager & Site Senior Executive – Damien Wynn



E Confidential  
D [Redacted]

**CAPCOAL UNDERGROUND**  
GRASSTREE MINE  
Private Bag 501, Middlemount, 4746  
Australia  
T Confidential  
[www.angloamerican.com](http://www.angloamerican.com)  
A member of the Anglo American plc group



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**From:** Stephen Woods Confidential  
**Sent:** Sunday, 8 December 2019 11:13 AM  
**To:** Wynn, Damien Confidential  
**Cc:** Rae Chafer Confidential; Stephen Watts Confidential; Jason Hill Confidential  
**Subject:** S121 (2) CMSHA

This message originated outside Anglo American

Damien please find attached a section 121 (1) on proposed single entry drivage. As stated in the S121 the reasons I have reached a belief and are not satisfied that the safety and health management system is inadequate or ineffective. There are clear differences of opinion regarding parts of the legislation that deal with this issue. I do request several documents including an investigation that UMM Schieflebein has indicated he would send through after completion but to date have not been received and a written response. I apologise it has taken some time to

respond to UMM Schieflebein’s response on your behalf but have been dealing with a number of other issues which has had to take precedence.

Yours in safety

Stephen Woods  
**Industry Safety and Health  
 Representative  
 CFMEU - Mining & Energy Division  
 Qld District**

**P:** Confidential  
**M:** [Redacted]  
**F:** [Redacted]  
**E:** [Redacted]  
**W:** [www.cfmeuqld.asn.au](http://www.cfmeuqld.asn.au)

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 4740



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**METALLURGICAL COAL****Anglo American Metallurgical Coal Pty Ltd**

Damien Wynn  
SSE / General Manager - Grasstree Mine  
Private Mail Bag  
MIDDLEMOUNT QLD 4746

E: Confidential

P:

M:

Stephan Woods,  
Industry Safety and Health Representative  
CFMEU  
PO Box 508,  
Spring Hill, QLD 4004

18 December 2019

Dear Stephen,

Thanks for your response of the 1/11/19, and for the following inquiries of the 15/11/19.

And for a following correspondence 8/12/19.

Many of the matters of your correspondence of the 8/12/19 were already raised and discussed on the day of the inspection, and again in our reply of 15/11/19.

I will endeavor to cover them again, but these matters may be better dealt with by a discussion, as we are at risk of repeating ourselves without suitable resolution.

**Item 1**

Please find the LFI you have requested and also the other incident reports and level 2 report which were undertaken.

- There were some delays in the completion of the LFI and please find my apologies for that.
- As you can see there has been an investigation and there are reports to identify causes and make recommendations of controls of the unwanted events.
- As per you closing comments there has also been other events which have been investigated and acted upon.

In summary, incidents are investigated, and actions taken to prevent recurrence.

**Item 2**

Regarding the ventilation arrangements of the single entry and the assertion that there has been a failure to report HPI's in this single entry.

- Personnel did not leave the single entry (withdraw from a part of the mine)
- Personnel remained in the panel and rally at the entry point as per procedures. This is the same as for other single entries, and this is typically not reported as a HPI.
- The mine has reported HPI's for withdrawal when a withdrawal from the mine or part of the mine has occurred – this has occurred recently during the seal up of LW909.
- The single entry is immediately re-ventilated in the event of a fan failure of shaft 7, as the shaft then changes from up cast to downcast. This has been the arrangement for some years.
  - The single entry does not become unventilated and requiring of a withdrawal.

**A member of the Anglo American plc group**

Anglo American Metallurgical Coal Pty Ltd  
Ground Floor, 201 Charlotte Street, Brisbane 4000 Australia GPO Box 1410 Brisbane 4001 Australia. Confidential

ABN 93 076 059 679



Perhaps this needs to be discussed in more depth, but I believe we are following the regulations and normal industry practice.

Item 3

Regarding your reasoning that the SHMS does not adequately provide for the safety and health of CMW's in the circumstance of vehicles being unable to drive out of the panel due to gas exceeding 1.25% after a loss of shaft 7 fans.

- Risk assessments conducted to form the SHMS for the single entry have considered this issue, and this has resulted in the decision to have the fans dampers not close and allow the single entry to be immediately re-ventilated by the change to down casting as the default condition.
- Trends given to you on 1/11/19 showed gas levels less than 1.25% and quickly trending back to 0.6%
- The portion 5.5.7 you have highlighted was for the circumstance of changing from down-casting to up-casting to deal with an emergency. Not for this situation.
- The matter of this being a single entry has been dealt with in previous reviews by the inspectorate and procedures were developed and titled accordingly.

There are a number of other matters you have raised and again it is possibly best to discuss these in person.

Item 4

Regarding the planned mining of 910 face line via a single entry and this activity not being an acceptable level of risk?

- Risk assessments have been conducted to deal with the development mining – e.g. to establish an acceptable level of risk.
- It is not the intent to “allow the development of an entire mine from a single entry”.
- Self-escape provisions have been added to and improved to meet the CMW's reasonable and acceptable requirements of the risk assessment.
- Development mining of the 910 Face line has recently commenced.

As stated above: due to issues raised by CMW's, reviews of procedures, and subsequent improvements, a number of issues previously identified have been addressed.

Some of the incident reports may require further narration.

We are open to discussions and should we need to consider this more fully, please call.

Yours sincerely,

**Damien Wynn**  
Site Senior Executive – Grasstree Mine



# ROOT CAUSE ANALYSIS

## GRASSTREE

**RCA NUMBER: RCA.GTM.278 SHAFT 7 POWER LOSS**

<b>Operational Process</b>	<b>Ventilation</b>
<b>Incident Date</b>	<b>30/10/2019</b>
<b>Type of Incident</b>	<b>Loss of power</b>
<b>Loss:</b>	<b>Economic Loss</b>
<b>Incident Duration</b>	<b>2 Hours</b>
<b>Incident Description</b>	<b>Shaft 7 fans lose power</b>
<b>Accountable Person</b>	<b>Perus Probst</b>
<b>RCA Investigation Date</b>	<b>6/11/2019</b>

## RCA INVESTIGATION REPORT -



## OVERVIEW

On Wednesday, 30<sup>th</sup> October 2019, at 13:10, the incomer for the shaft 2 fans (P10) tripped on earth leakage. This subsequently led to fans at shafts 4 and 7 to trip as well as the UG power.

## INVESTIGATING TEAM

Name	Position Title	Role in Investigation
Victor Odman	Reliability Engineer	Facilitator/Investigator
Tim Warren	PCS Engineer - GTE	Participant
Perus Probst	Electrical Engineering Manager	Participant
Andrew Richards	Surface & Shafts Coordinator	Participant

## DESCRIPTION OF THE FAILURE / SEQUENCE OF EVENTS

- **Description:**

On Wednesday, 30 October 2019, at 13:10, the incomer, P10, to the shaft 2 fans tripped on earth leakage. The subsequent loss of air flow caused a drop in the collar pressure to shaft 4 fans, leading to them to trip out as well.

The underground power also tripped roughly 1 minute later, due to high methane readings.

At 13:12, shaft 7 fans tripped due to low collar pressure but there is also a PLC interlock that will not allow these fans to run if there are not at least 2 fans running at either shaft 2 or shaft 4.

Shaft 4 fans were restarted at 13:36, shaft 2 fans at 13:38 and the shaft 7 fans at 13:40.

The underground power was restored at 15:00 after issues around a faulty circuit breaker.

- **Sequence of events:**

Wednesday 30/10/2019

6.27 am Shaft 7 fan 1 dropped out  
Shaft 7 fan 2 running

6.32 am Shaft 7 fan 1 running

7.09 am Shaft 7 fan 1 dropped out

7.58 am Intermittent communications issues commenced

8.13 am Shaft 7 fan 2 dropped out

8.35 am GTE UG power trip due to network storm

9.34 am Shaft 7 fan 2 running

9.46 am Comms healthy

10.01 am Shaft 7 fan 1 running

11.18 am Shaft 8 UG power reinstated

11.30 am GTE UG power reinstated

11.45 am Shaft 4 UG power reinstated (initial current draw)

## RCA INVESTIGATION REPORT -



13.10 pm Shaft 2 fans in comer 1 (P10) Earth Leakage Trip  
Shaft 4 fans dropped out  
GTE UG power trip

13.12 pm Shaft 7 fans dropped out

13.36 pm Shaft 4 fans running

13.38 pm Shaft 2 fans running

13.40 pm Shaft 7 fans running

14.19 pm Shaft 2 fans dropped out

15.00 pm GTE UG power reinstated

15.03 pm Shaft 8 UG power reinstated

15.05 pm Shaft 4 UG power reinstated

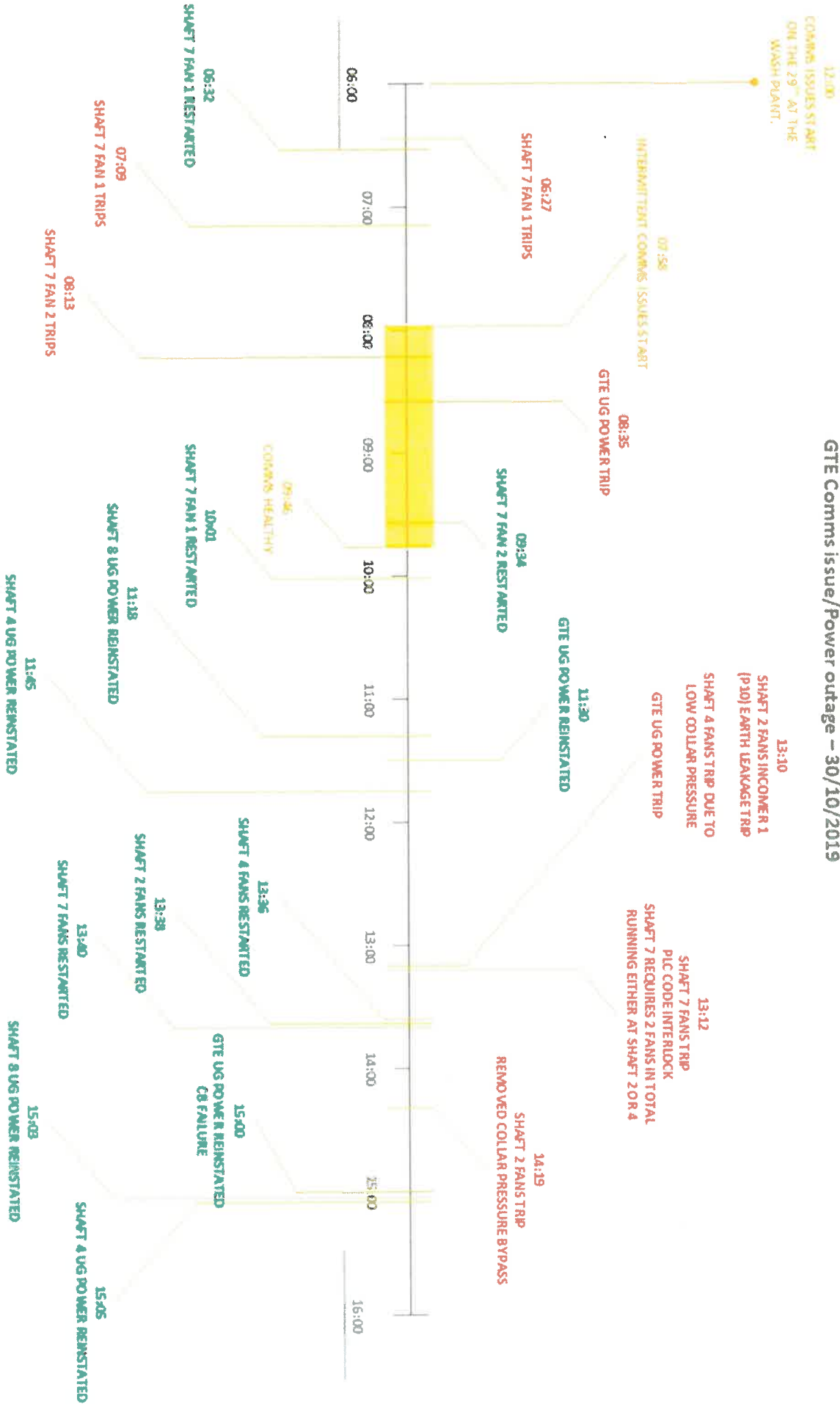
- **Investigation:**

The spurious trip of the feeder, due to earth leakage, is difficult to ascertain. Speaking to Perus Probst, this trip is a very rare occurrence. Looking at the PLC interlock will at least improve the ability to start the fan without needing shaft 2 and 4 fans running.



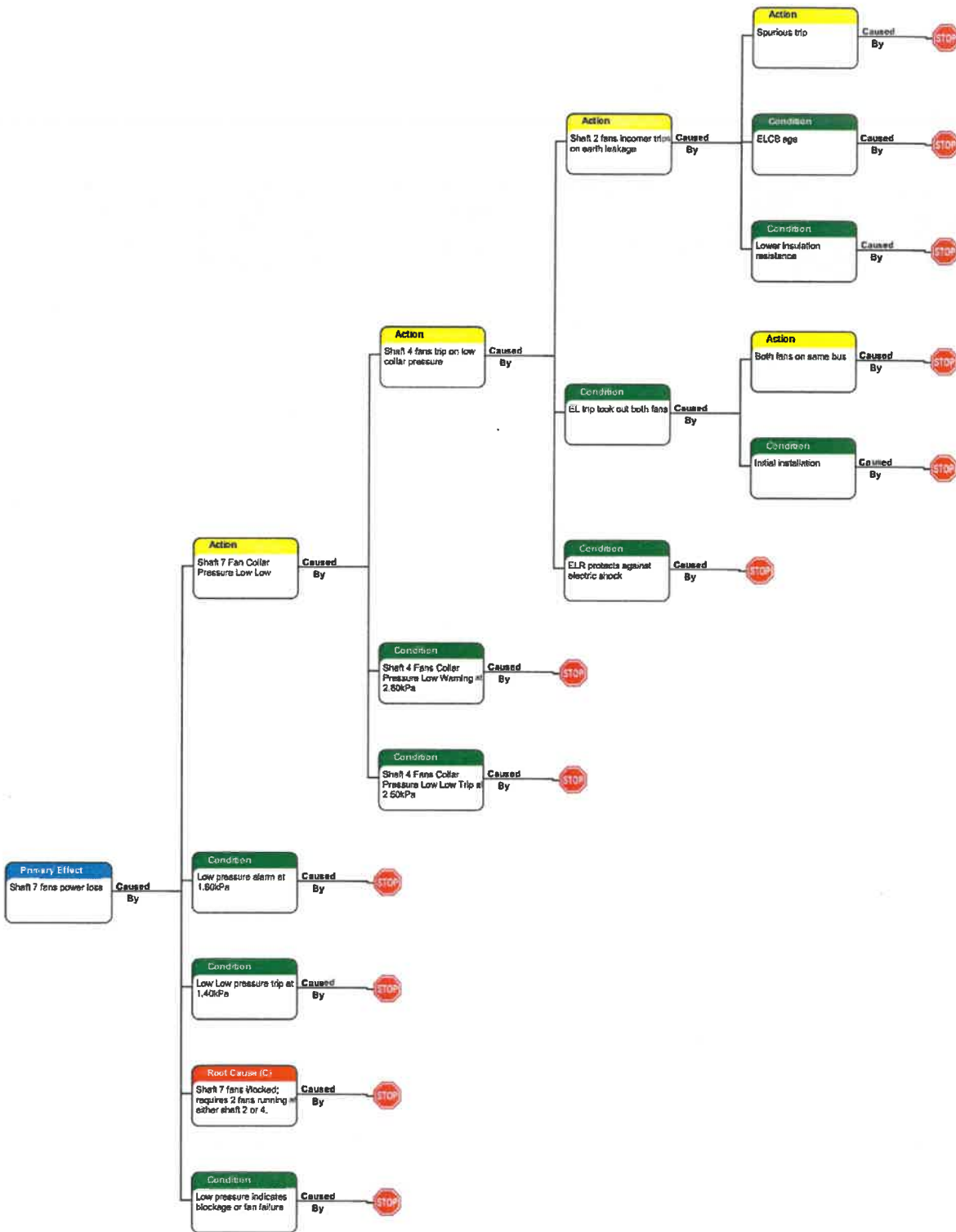
RCA INVESTIGATION REPORT -

GTE Comms issue/Power outage - 30/10/2019





RCA INVESTIGATION REPORT -



RCA INVESTIGATION REPORT -



INVESTIGATION OUTCOME ACTIONS

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

ID	Identified Root Cause / Failure	Corrective Action	Responsible	Due Date	Enablon Task ID
1	ID5: Shaft 7 fans i/locked; requires 2 fans running at either shaft 2 or 4.	Investigate need for this interlock	Dennis Black	28/2/2020	TS.01168608
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					

ROOT CAUSE / MOST PROMINENT CONTRIBUTORY ASPECT OF THE FAILURE

Root Cause: Shaft 7 fans i/locked; requires 2 fans running at either shaft 2 or 4.

RCA INVESTIGATION REPORT -



SUPPORTING DOCUMENTATION / DEPICTION

Attached:

RCA chart in pdf format, size A3

Emails and Daily Reports

PHOTOS / IMAGES

**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.

Note: This report is required to be submitted within 30 days of the incident.

<b>Investigation Team Leader</b>		
Name	Signature	Date
Victor Osman	Confidential	12/12/19
<b>Safety, Health &amp; Environment Manager</b>		
Name	Signature	Date
BEC MURTON	Confidential	12/12/19
<b>Mining Operations Manager / Underground Mine Manager</b>		
Name	Signature	Date
Craig Kimber	Confidential	11/12/19
<b>Electrical Engineering Manager</b>		
Name	Signature	Date
Peter Pinner	Confidential	11/12/19
<b>Mechanical Engineering Manager</b>		
Name	Signature	Date
Craig Kimber	Confidential	11/12/19
<b>Site Senior Executive</b>		
Name	Signature	Date





RCA INVESTIGATION REPORT -



# ROOT CAUSE ANALYSIS

## GRASSTREE

**RCA NUMBER: RCA.GTM.277 COMMS ISSUE AT GTE**

<b>Operational Process</b>	<b>Surface and UG</b>
<b>Incident Date</b>	<b>30/10/2019</b>
<b>Type of Incident</b>	<b>Loss of communications</b>
<b>Loss:</b>	<b>Economic Loss</b>
<b>Incident Duration</b>	<b>2 Hours</b>
<b>Incident Description</b>	<b>Phones and Internet services lost</b>
<b>Accountable Person</b>	<b>Sheldon Lowe</b>
<b>RCA Investigation Date</b>	<b>4/11/2019</b>

## RCA INVESTIGATION REPORT -



On Wednesday, 30<sup>th</sup> October 2019, a network 'broadcast storm' spread from the wash plant to Grasstree East causing a loss of communications on the PCS LAN, leading to spurious trips and an eventual loss of Internet services and land line phone communications.

There is a separate investigation into the subsequent failure of shaft 2,4 and 7 fans later the same day. These failures whilst tied to this event have different failure root causes.

## INVESTIGATING TEAM

Name	Position Title	Role in Investigation
Victor Odman	Reliability Engineer	Facilitator/Investigator
Tim Warren	PCS Engineer - GTE	Participant
Perus Probst	Electrical Engineering Manager	Participant
Craig Kimber	Engineering and Maintenance Manager	Participant
Sheldon Lowe	Service Delivery Specialist	Participant/Investigator
Muhammad Mushfique	Electrical Engineer	Participant/Investigator

## DESCRIPTION OF THE FAILURE / SEQUENCE OF EVENTS

- Description:**

On Tuesday, 29 October 2019, the wash plant reported that they were receiving slow network response on their PCS subnets (57, 59) at approximately 12pm and upon investigation it was identified that there was a broadcast storm taking place (loop in the network).

The IT/PCS team spent Tuesday attempting to isolate the network loop but by Wednesday morning it had spread across the default subnet which is the corporate network and then all Capcoal sites were affected, including Grasstree East (GTE).

The incident was escalated to the BCO.

PCS were informed the underground comms had tripped and the route on the GT PCS subnets (61,63) was segregated from the corporate network.

The fibre module going to the corporate network was then removed by GT PCS which dropped all services and telephones at Grasstree.

The Ubiquity link to Pit F on Bills hill was showing a loop and was disabled, however congestion was still present. It was decided to block the trunk port of the SAN switch on the VXRail (VM servers) and the network came back up.

- Sequence of events:**

Wednesday 30/10/2019

6.27 am      Shaft 7 fan 1 dropped out  
                   Shaft 7 fan 2 running

## RCA INVESTIGATION REPORT -



6.32 am	Shaft 7 fan 1 running
7.09 am	Shaft 7 fan 1 dropped out
7.58 am	Intermittent communications issues commenced
8.13 am	Shaft 7 fan 2 dropped out
8.35 am	GTE UG power trip
9.34 am	Shaft 7 fan 2 running
9.46 am	Comms healthy
10.01 am	Shaft 7 fan 1 running
11.18 am	Shaft 8 UG power reinstated
11.30 am	GTE UG power reinstated
11.45 am	Shaft 4 UG power reinstated (initial current draw)
13.10 pm	Shaft 2 fans incomer 1 (P10) Earth Leakage Trip Shaft 4 fans dropped out GTE UG power trip
13.12 pm	Shaft 7 fans dropped out
13.36 pm	Shaft 4 fans running
13.38 pm	Shaft 2 fans running
13.40 pm	Shaft 7 fans running
14.19 pm	Shaft 2 fans dropped out
15.00 pm	GTE UG power reinstated
15.03 pm	Shaft 8 UG power reinstated
15.05 pm	Shaft 4 UG power reinstated

- **Investigation:**

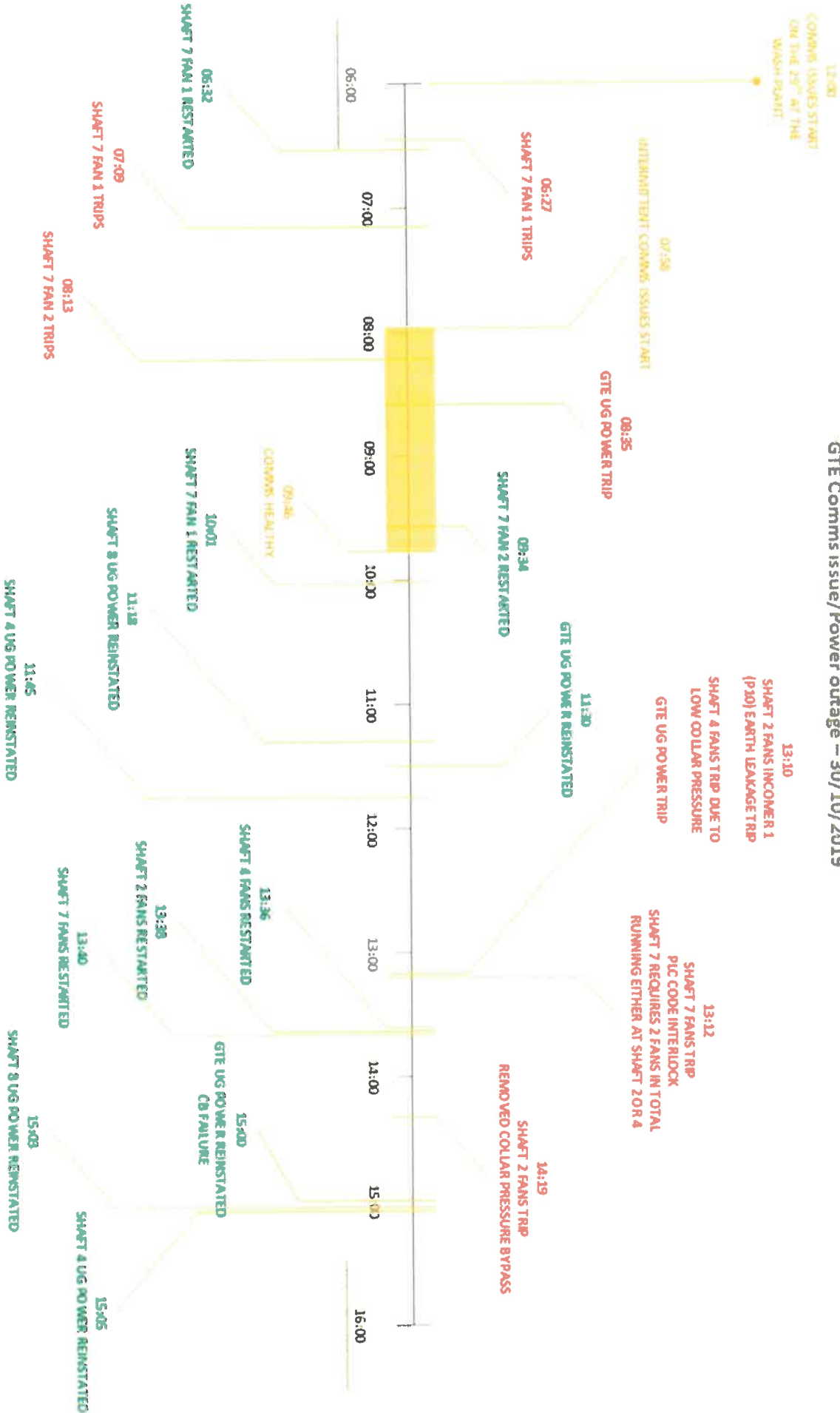
The investigation highlighted the vulnerability of the GTE PCS network to the presence of a 'broadcast storm'. Systems reliant on constant communications, such as the link between shaft 7 VSDs and the PLC, will be greatly affected.

A cause for concern is the ability for data to migrate between the corporate and PCS LAN segments. The use of MODBUS across TCP/IP for communications means most equipment using IP will be affected.



RCA INVESTIGATION REPORT -

GTE Comms issue/Power outage -- 30/10/2019

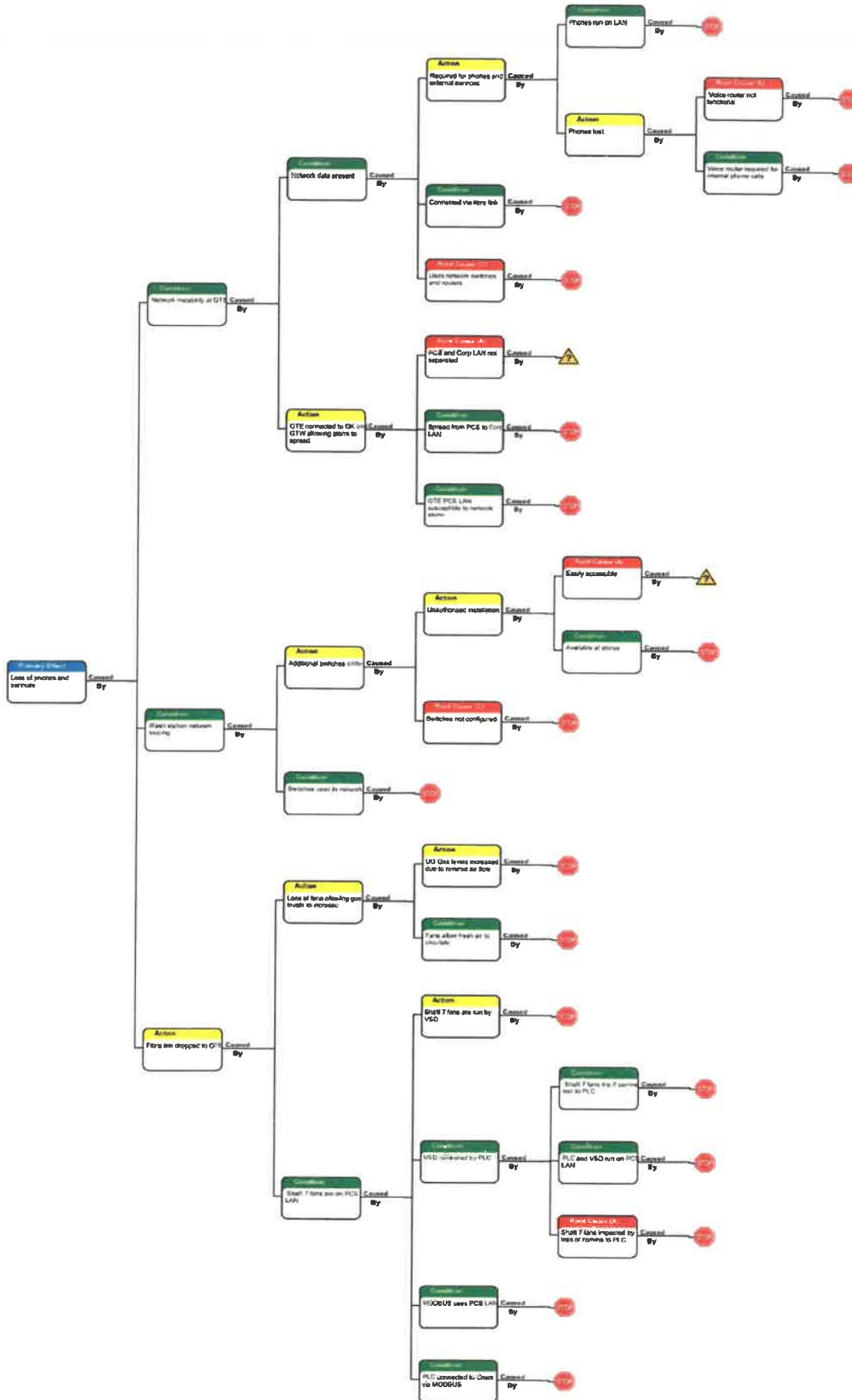




RCA INVESTIGATION REPORT -



RCA Process: Apollo Root Cause Analysis



RCA INVESTIGATION REPORT -



INVESTIGATION OUTCOME ACTIONS

The following key actions were identified to prevent recurrence and have been assigned as detailed below in Enablon. *AP. 00759822*

ID	Identified Root Cause / Failure	Corrective Action	Responsible	Due Date	Enablon Task ID
1	Voice router not functional	Create PM for monthly phone tests	Sheldon Lowe	3/01/2020	<i>TS.01154129</i>
2	PCS and Corp LAN not separated	Redesign GT LAN to segregate PCS and Corp	Sheldon Lowe	3/7/2020	<i>TS.01154133</i>
3	Switches easily accessible	Change access methods to network equipment	Sheldon Lowe	<b>3/7/2020</b>	<i>TS.01154135</i>
4	Shaft 7 fans impacted by loss of comms to PLC	Create VLAN between PLC and Shaft 7 fans	Tim Warren	<b>3/1/2020</b>	<i>TS.01154747</i>
5	Switches not configured	All unmanaged Westermo switches to be configured with IP address and correct firmware.	Tim Warren	28/2/2020	<i>TS.01168607</i>
6	ID23: Uses network switches and routers	Create network diagram for GTE.	Tim Warren	28/2/2020	<i>TS.01154139</i>
7					
8					
9					
10					
11					
12					
13					

ROOT CAUSE / MOST PROMINENT CONTRIBUTORY ASPECT OF THE FAILURE

Root Cause: PCS and Corp LAN not separated



RCA INVESTIGATION REPORT -

SUPPORTING DOCUMENTATION / DEPICTION

Attached:

RCA chart in pdf format, size A3

Emails and Daily Reports

PHOTOS / IMAGES

**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.

Note: This report is required to be submitted within 30 days of the incident.

Investigation Team Leader		
Name	Signature	Date
VICTOR OMAN	Confidential	12/12/19
Safety, Health & Environment Manager		
Name	Signature	Date
BEC MURTON	Confidential	12/12/19
Mining Operations Manager / Underground Mine Manager		
Name	Signature	Date
Craig Kimber	Confidential	12/12/19
Electrical Engineering Manager		
Name	Signature	Date
P. Pross	Confidential	26/11/19
Mechanical Engineering Manager		
Name	Signature	Date
C. DURHAM	Confidential	26/11/19
Site Senior Executive		
Name	Signature	Date

5

RCA INVESTIGATION REPORT -





Has the hazard, defect or incident been effectively controlled on shift?		YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
If not, why not?			
<b>Safety</b>			
Parts Injured / Location:	Medical Treatment:	YES <input type="checkbox"/>	NO <input type="checkbox"/>
	Hospitalised:	YES <input type="checkbox"/>	NO <input type="checkbox"/>
<b>Environmental</b>			
Media Impacted:	Refer to guide	Environmental Impact:	Refer to guide
<b>Hazard</b>			
Hazard Agent:	METHANE	Hazard Type:	Act <input type="checkbox"/> Condition <input checked="" type="checkbox"/>

Timeline:		
01/01/18 06:00	Example: Attended Start of Shift	
30/10/19 8:11	Before the Incident	SHAFT #7 FANS STOP (Loss/Power + Comms)
30/10/19 8:13		M4909 A ROADWAY REVERSES VENTILATION DIRECTION
30/10/19 8:24		GES041 ERZ/NEEZ SENSOR 1-20 A 909 ALARMS @ 0.25% CH <sub>4</sub> BEING DRAWN PAST SENSOR FROM ROADWAY TO M4909 DOUBLE REGULATOR
30/10/19 8:33		GES041 ERZ/NEEZ TRIPS 0.5% CH <sub>4</sub>
30/10/19 8:55		GES047: ERZ/NEEZ ALARM @ 0.25% CH <sub>4</sub>
Incident Occurred		
30/10/19 8:55	After the Incident	GES047: ERZ/NEEZ TRIPS 0.5% CH <sub>4</sub>

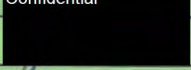
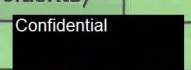
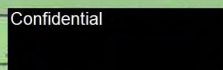
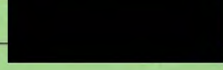
Additional Actions to prevent reoccurrence: (ERZ Controller/ Supervisor to complete)

Initial Incident Report Checklist:

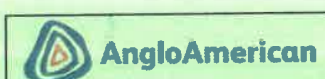
Contact relevant site personnel: Completed <input type="checkbox"/>	Have statements been collected?: Completed <input type="checkbox"/> <i>e.g. Key person involved, witnesses (submit with this form)</i>
Collect any relevant SHE MS Documents: Completed <input type="checkbox"/>	Take photos of incident scene as required: Completed <input type="checkbox"/>

	Task Description	By Whom	Action Due (date)	Enablon ID #
PEOPLE Tasks	Is counselling of the CMW required (std text to be used in task)? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> CMW to be counselled in line with the Anglo Coal Consequence Model and Applicable Misconduct Policy. Evidence to be sent to site HR for file.			
WORKPLACE Tasks	Dump ventilation in the event of a reversal to the mine returns, not intake.	Dennis Black	10/12	
ORGANISATIONAL Tasks				

Conclusion:	Ventilation reversal will create seal emissions to return to the mains
-------------	--

Incident Sign Off:			
Person Reporting	Name: B. Smith	Supervisor (For surface incident) ERZ Controller (For UG Incidents)	Name: A. Jackson
Signature:		Signature:	
Date:	18/11/19	Date:	19/11/19
Verification Sign Off:			
Undermanager/ MSO	Name: Andrew Fife	Signature:	 Date: 12-11-19
Superintendent/ Manager	Name: Goni	Signature:	 Date: 12-11-2019
Entered into Enablon By:	Name:	Date:	Staff ID #
If reported to the DNRME, is a form 5A required? Yes <input type="checkbox"/> No <input type="checkbox"/>		Is a 'Learning From Incident' Investigation Required? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes, Raise relevant task for the completion of Form 5A		If Yes, Raise relevant task for the completion of LFI report	
LFI Task Enablon ID:		Completion Date of Task	

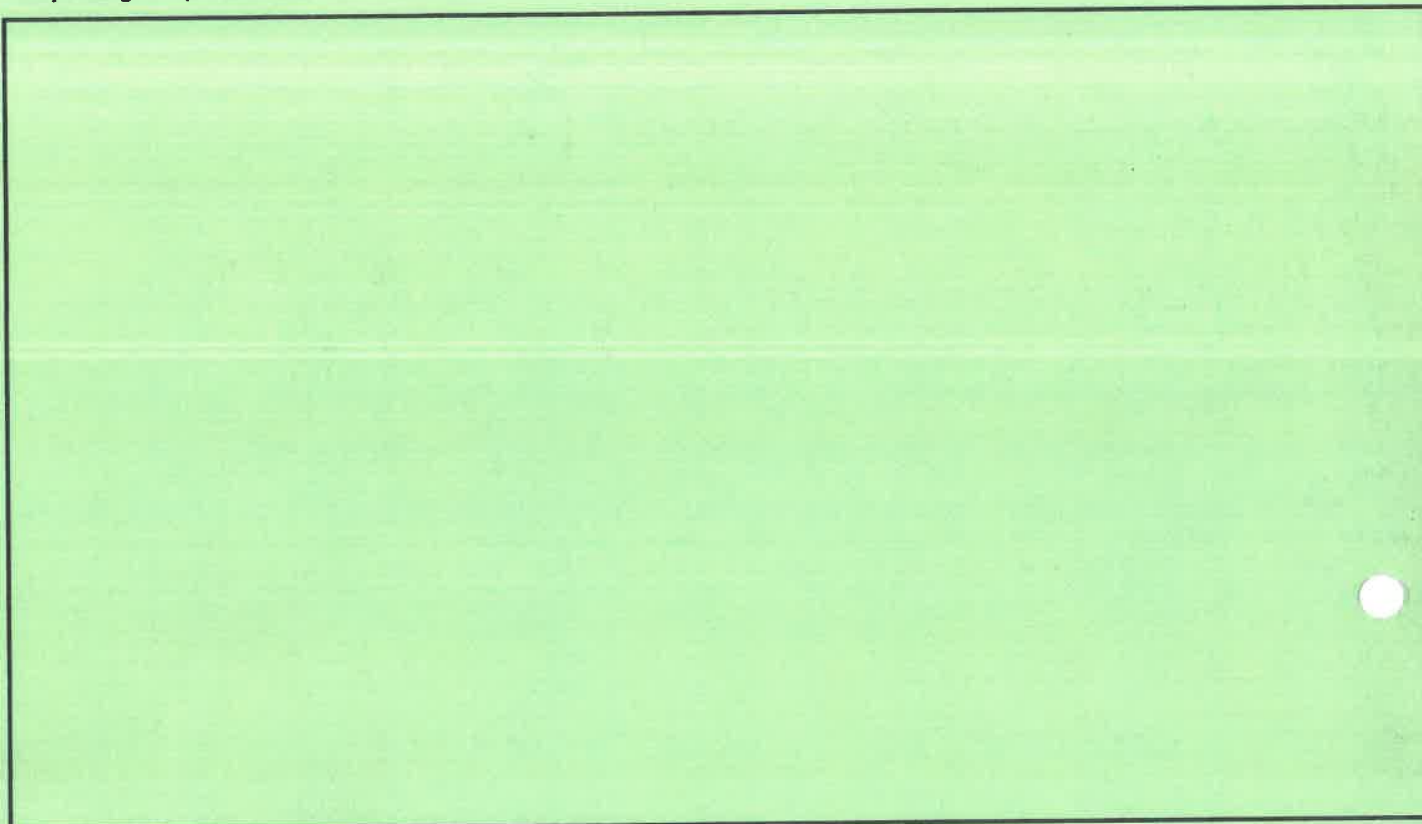




Anglo Coal (Capcoal Management) Pty Ltd  
Capcoal Underground Grasstree Operations

Initial Incident Report  
FRM.GTM.054

Map / diagram (if required):



Anglo Coal (Capcoal Management) Pty Ltd  
Capcoal Underground Grasstree Operations

Initial Incident Report  
FRM.GTM.054

To be completed by reporting person with assistance from Supervisor (Surface incidents) or ERZ Controller (UG incidents)

ALL Sections of this form are mandatory unless marked.

Incident Number: 212681

Title of Hazard / Incident: Power loss due to high CH <sub>4</sub> @ ERZ/NERZ boundaries	
Date occurred: 30/10/19	Time: 8:15 - 8:55 Hrs
Date Reported: 30/10/19	Time: ~ 8:30 Hrs
Classification: Safety <input checked="" type="checkbox"/> Material Losses / Damage / Business Interruption <input checked="" type="checkbox"/> Legal / Regulatory <input type="checkbox"/> Environment <input type="checkbox"/> Social / Community <input type="checkbox"/> Impact on Reputation <input type="checkbox"/> Workplace Exposure <input type="checkbox"/> Health Illness <input type="checkbox"/>	
Department: Longwall <input type="checkbox"/> Development <input type="checkbox"/> Outbye <input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Tech Services <input checked="" type="checkbox"/> Seamgas <input type="checkbox"/> SHE <input type="checkbox"/> Human Resources <input type="checkbox"/> Commercial / Supply Chain <input type="checkbox"/> Maintenance / Engineering <input type="checkbox"/> Business Improvement <input type="checkbox"/> Other _____	
Reportable to external bodies? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	List the department _____
Specific Location: FAN 909 @ ERZ/NERZ boundary TRIP, & 910 @ 904 TRIP	
Reported by: B. Smith	ID # 6171490, Contracting Name / Staff: _____
Key Person Involved: A Jackson, C. Schaffner	ID # _____, Contracting Name / Staff: ANGLCO
Person Involved: _____	ID # _____, Contracting Name / Staff: _____
Key Person Involved: _____	ID # _____, Contracting Name / Staff: _____
Injured Person: _____	ID # _____, Contracting Name / Staff: _____
Others Involved: _____	ID # _____, Contracting Name / Staff: _____
Initial Investigation Team e.g. ERZC / Crew Supervisor / CMW: _____	
Equipment Involved: SNAFT #7 FANS (1&2) @ 904 & 909	ERZC / Supervisor: Include ID # A Jackson zone 13
Crew: F	Process Area & Department: TECHNICAL SERVICES
Shift Length: 12 hrs	Hours into Shift: ~ 2
Consecutive days worked: 7	
Activity: INSPECTION	Drug and Alcohol <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Incident Description: DURING 30/10/19 D/S POWER LOSS TO SNAFT #7 FANS HIGH CH <sub>4</sub> CONCENTRATIONS MIGRATED TO ERZ/NERZ BOUNDARIES @ 909 A 1-2 & 910 @ 904 SERVICES TRIPPING POWER.	
Immediate Direct Cause: LOSS OF VENTILATION	Mechanism: POWER LOSS
Immediate Corrective Actions Taken: SNAFT 7 VENTILATION FANS RESTORED & CH <sub>4</sub> PULSED. POWER RESTORED.	
Refer to AAMC Risk Matrix to determine the appropriate Consequence Type (matrix on back page)	
Consequence Type: Safety Injury <input type="checkbox"/> Material Losses / Equipment Damage / Business Interruption <input checked="" type="checkbox"/> Legal / Regulatory <input type="checkbox"/> Environment <input type="checkbox"/> Hazard (POTENTIAL Consequence required only) <input checked="" type="checkbox"/>	
Actual Consequence: Not Applicable for Hazards	Insignificant <input type="checkbox"/> (first aid case, damage <0.01% annual revenue etc) Minor <input checked="" type="checkbox"/> (medical treatment, damage 0.01-0.1% annual revenue) Moderate <input type="checkbox"/> (lost time injury, damage 0.1-1.0% annual revenue) High <input type="checkbox"/> (permanent disability/fatality, Anglo HPI) Major <input type="checkbox"/> (numerous permanent disabilities/fatalities, Anglo HPI)
Potential Consequence:	Insignificant <input type="checkbox"/> (first aid case, damage <0.01% annual revenue etc) Minor <input checked="" type="checkbox"/> (medical treatment, damage 0.01-0.1% annual revenue) Moderate <input type="checkbox"/> (lost time injury, damage 0.1-1.0% annual revenue) High <input type="checkbox"/> (permanent disability/fatality, Anglo HPI) Major <input type="checkbox"/> (numerous permanent disabilities/fatalities, Anglo HPI)

Anglo American Plc Risk Matrix		Hazard Effect / Consequence (Where an event has more than one Loss Type, choose the Consequence with the highest rating)				
Loss Type (Additional Loss Types may exist for an event, identify & rate accordingly)		1 Insignificant	2 Minor	3 Moderate	4 High	5 Major
(S-H) Harm to People (Safety / Health)	First aid case / Exposure to minor health risk	Medical treatment case / Exposure to major health risk	Lost time injury / Reversible impact on health	Single fatality or loss of quality of life / Irreversible impact on health	Multiple fatalities / Impact on health ultimately fatal	
(E) Environmental Impact	Minimal environmental harm - L1 incident	Material environmental harm - L2 incident remediable short term	Serious environmental harm - L2 incident remediable within LOM	Major environmental harm - L2 incident remediable post LOM	Extreme environmental harm - L3 incident irreversible	
(B/M/D) Business Interruption / Material Damage & Other Consequential Losses	No disruption to operation; 0% loss of budgeted operating profits	Brief disruption to operation; 10% loss of budgeted operating profits/related assets	Partial shutdown / 15% loss of budgeted operating profits/related assets	Partial loss of operation; 20% loss of budgeted operating profits/related assets	Substantial or total loss of operation; 25% loss of budgeted operating profits/related assets	
(L&R) Legal & Regulatory	Low level legal issue	Minor legal issue, non compliance and breaches of the law	Serious breach of law, investigation/report to authority, prosecution and/or moderate penalty	Major breach of the law; considerable prosecution and penalties	Very considerable penalties & prosecutions, Multiple lawsuits & jail terms	
(R/S/C) Impact on Reputation / Social / Community	Slight impact - public awareness may exist but no public concern	Limited impact - local public concern	Considerable impact - regional public concern	National impact - national public concern	International impact - international public attention	
Likelihood	Examples (Consider near-hits as well as actual events)	Risk Rating				
5 (Almost Certain)	The unwanted event has occurred frequently, occurs in order of one or more times per year & is likely to recur within 1 year	11 (M)	16 (S)	20 (S)	23 (H)	25 (H)
4 (Likely)	The unwanted event has occurred infrequently, occurs in order of less than once per year & is likely to recur within 5 years	7 (M)	12 (M)	17 (S)	21 (H)	24 (H)
3 (Possible)	The unwanted event has happened in the business at some time, or could happen within 12 years	4 (L)	8 (M)	13 (S)	18 (S)	22 (H)
2 (Unlikely)	The unwanted event has happened in the business at some time, or could happen within 25 years	2 (L)	5 (L)	9 (M)	14 (S)	19 (S)
1 (Rare)	The unwanted event has never been known to occur in the business, or it is highly unlikely that it will occur within 25 years	1 (L)	3 (L)	6 (M)	10 (M)	15 (S)
Risk Rating	Risk Level	Guidelines for Risk Matrix				
21 to 25	HIGH	A high risk exists that management's objectives may not be achieved. Appropriate mitigation strategy to be devised immediately.				
13 to 20	M - Significant	A significant risk exists that management's objectives may not be achieved. Appropriate mitigation strategy to be devised as soon as possible.				
6 to 12	M - Medium	A moderate risk exists that management's objectives may not be achieved. Appropriate mitigation strategy to be devised as part of the normal management process.				
1 to 5	L - Low	A low risk exists that management's objectives may not be achieved. Monitor risk, no further mitigation required.				

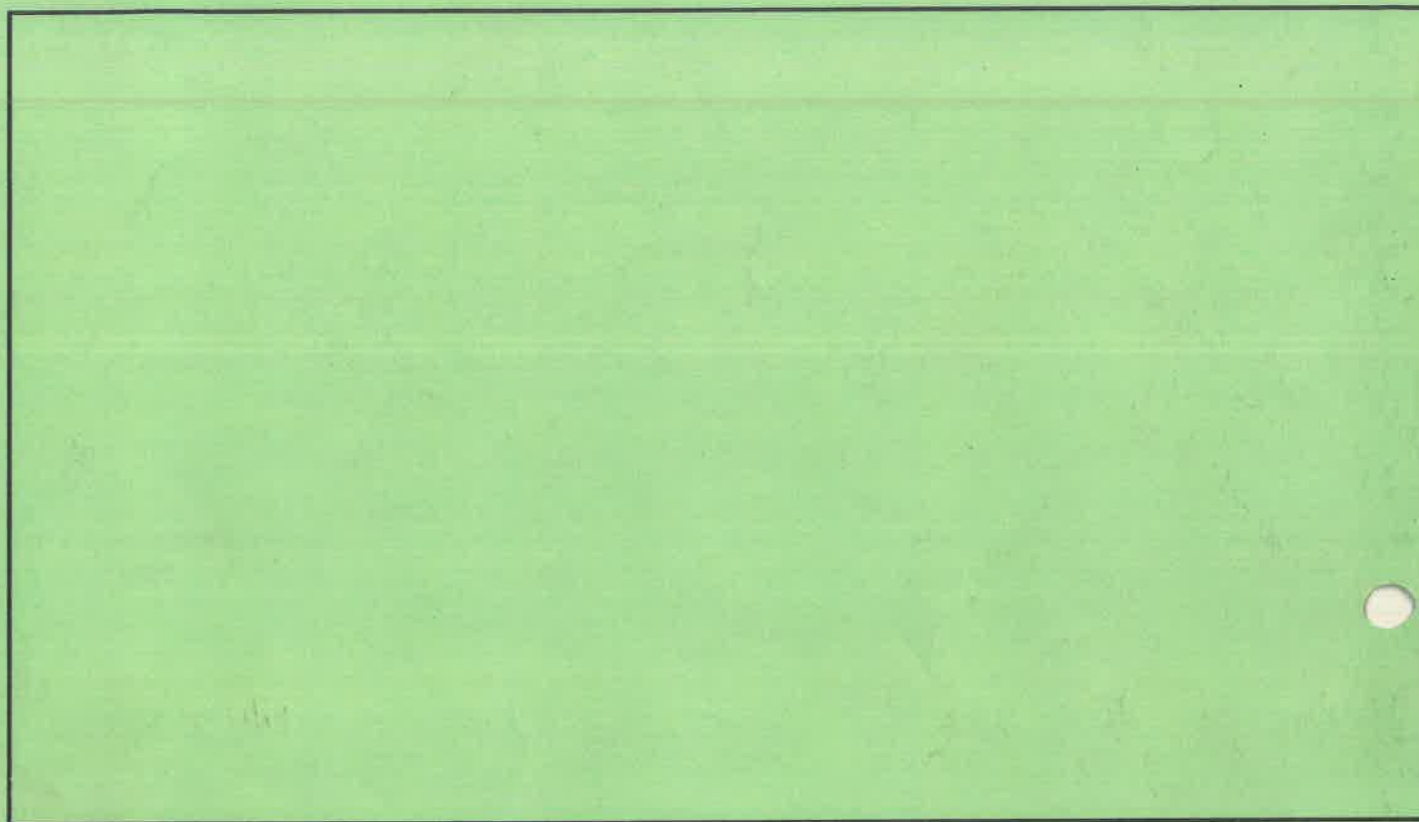




Anglo Coal (Capcoal Management) Pty Ltd  
Capcoal Underground Grasstree Operations

Initial Incident Report  
FRM.GTM.054

Map / diagram (if required):



Anglo Coal (Capcoal Management) Pty Ltd  
Capcoal Underground Grasstree Operations

Initial Incident Report  
FRM.GTM.054

To be completed by reporting person with assistance from Supervisor (Surface incidents) or ERZ Controller (UG incidents)


ALL Sections of this form are mandatory unless marked.

Incident Number: 21539

Title of Hazard / Incident: <u>MULTIPLE SYSTEMS FAILURE DUE TO BROADCAST STORM</u>	
Date occurred: <u>30/10/19</u>	Time: <u>06:30</u> Hrs
Date Reported: <u>30/10/19</u>	Time: <u>06:30</u> Hrs
Classification: Safety <input type="checkbox"/> Material Losses / Damage / Business Interruption <input checked="" type="checkbox"/> Legal / Regulatory <input type="checkbox"/> Environment <input type="checkbox"/> Social / Community <input type="checkbox"/> Impact on Reputation <input type="checkbox"/> Workplace Exposure <input type="checkbox"/> Health Illness <input type="checkbox"/>	
Department: Longwall <input type="checkbox"/> Development <input type="checkbox"/> Outbye <input type="checkbox"/> Compliance <input type="checkbox"/> Tech Services <input type="checkbox"/> Seamgas <input type="checkbox"/> SHE <input type="checkbox"/> Human Resources <input type="checkbox"/> Commercial / Supply Chain <input type="checkbox"/> Maintenance / Engineering <input checked="" type="checkbox"/> Business Improvement <input type="checkbox"/> Other _____	
Reportable to external bodies? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	List the department _____
Specific Location: <u>Refer to guide SURFACE AREA</u>	
Reported by: <u>Peter Pross</u>	ID # <u>1480</u> Contracting Name / Staff: _____
Key Person Involved: _____	ID # _____ Contracting Name / Staff: _____
Person Involved: _____	ID # _____ Contracting Name / Staff: _____
Key Person Involved: _____	ID # _____ Contracting Name / Staff: _____
Injured Person: _____	ID # _____ Contracting Name / Staff: _____
Others Involved: _____	ID # _____ Contracting Name / Staff: _____
Initial Investigation Team e.g. ERZC / Crew Supervisor / CMW: <u>Peter Pross</u>	
Equipment Involved: _____	ERZC/ Supervisor: Include ID # _____
Crew: <u>F</u>	Process Area & Department: <u>MAINT/ENG</u>
Shift Length: <u>12</u>	Hours into Shift: <u>0</u> Consecutive days worked: <u>7</u>
Activity: <u>Refer to guide COAL PRODUCTION OPERATIONS</u>	Drug and Alcohol <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Incident Description: <u>AN OFFSITE BROADCAST STORM CAUSED SEVERE ONSITE DATA COMMUNICATION ISSUES RESULTING IN THE LOSS OF MINE CRITICAL SYSTEMS, INCLUDING SHAFT 7 FANS</u>	
Immediate Direct Cause: <u>Refer to guide OTHER CAUSES</u>	Mechanism: <u>Refer to guide ELECTRICAL FAILURE</u>
Immediate Corrective Actions Taken: <u>DISCONNECTED OFFSITE COMMUNICATIONS WHICH MADE ONSITE COMMUNICATIONS RELIABLE AGAIN &amp; RECOVERED THE MINE</u>	
Refer to AAMC Risk Matrix to determine the appropriate Consequence Type (matrix on back page)	
Consequence Type: Safety Injury <input type="checkbox"/> Material Losses / Equipment Damage / Business Interruption <input checked="" type="checkbox"/> Legal / Regulatory <input type="checkbox"/> Environment <input type="checkbox"/> Hazard (POTENTIAL Consequence required only) <input type="checkbox"/>	
Actual Consequence: Not Applicable for Hazards	Insignificant <input type="checkbox"/> (first aid case, damage <0.01% annual revenue etc) Minor <input type="checkbox"/> (medical treatment, damage 0.01-0.1% annual revenue) Moderate <input checked="" type="checkbox"/> (lost time injury, damage 0.1-1.0% annual revenue) High <input type="checkbox"/> (permanent disability/ fatality, Anglo HPI) Major <input type="checkbox"/> (numerous permanent disabilities/ fatalities, Anglo HPI)
Potential Consequence:	Insignificant <input type="checkbox"/> (first aid case, damage <0.01% annual revenue etc) Minor <input type="checkbox"/> (medical treatment, damage 0.01-0.1% annual revenue) Moderate <input checked="" type="checkbox"/> (lost time injury, damage 0.1-1.0% annual revenue) High <input type="checkbox"/> (permanent disability/ fatality, Anglo HPI) Major <input type="checkbox"/> (numerous permanent disabilities/ fatalities, Anglo HPI)

Anglo American Plc Risk Matrix		Hazard Effect / Consequence (Where an event has more than one Loss Type, choose the Consequence with the highest rating)				
Loss Type (Additional Loss Types may exist for an event, identify & rate accordingly)		1 Insignificant	2 Minor	3 Moderate	4 High	5 Major
(S+H) Harm to People (Safety + Health)	Fire and case / Exposure to minor health risk	Medical treatment case / Exposure to major health risk	Lost time injury / Reversible impact on health	Single fatality or loss of ability of life / Irreversible impact on health	Multiple fatalities / Impact on health ultimately fatal	
(E)	Minor environmental harm - L1 incident	Material environmental harm - L2 incident; remediable short term	Serious environmental harm - L2 incident; remediable within LOM	Major environmental harm - L2 incident; remediable cost LOM	Extreme environmental harm - L3 incident; irreversible	
(B+M)	Business Interruption / Material Damage & Other Consequential Losses	No disruption to operation; 5% loss of budgeted operating profits	Brief disruption to operation; 10% loss of budgeted operating profits/limited assets	Partial shutdown - 15% loss of budgeted operating profits/limited assets	Partial loss of operation; 20% loss of budgeted operating profits/limited assets	Substantial or total loss of operation; 25% of loss budgeted operating profits/limited assets
(L&R)	Legal & Regulatory	Low level legal issue	Minor legal issue, non-compliance and breaches of the law	Serious breach of law; investigation/report to authority, prosecution and/or moderate penalty	Major breach of the law; considerable prosecution and penalties	Very considerable penalties & prosecutions; Multiple law suits & jail terms
(R+S/C)	Impact on Reputation / Social / Community	Slight impact - public awareness may arise but no public concern	Unsettling impact - local public concern	Considerable impact - regional public concern	National impact - national public concern	International impact - international public attention
Likelihood	Examples (Consider near-hits as well as actual events)	Risk Rating				
5 (Almost Certain)	The unwanted event has occurred frequently; occurs in order of one or more times per year & is likely to recur within 1 year	11 (M)	16 (S)	20 (S)	23 (H)	25 (H)
4 (Likely)	The unwanted event has occurred infrequently; occurs in order of less than once per year & is likely to recur within 5 years	7 (M)	12 (M)	17 (S)	21 (H)	24 (H)
3 (Possible)	The unwanted event has happened in the business at some time, or could happen within 10 years	4 (L)	6 (M)	13 (S)	18 (S)	22 (H)
2 (Unlikely)	The unwanted event has happened in the business at some time, or could happen within 20 years	2 (L)	5 (L)	9 (M)	14 (S)	19 (S)
1 (Rare)	The unwanted event has never been known to occur in the business, or it is highly unlikely that it will occur within 20 years	1 (L)	3 (L)	6 (M)	10 (M)	15 (S)
Risk Rating	Risk Level	Guidelines for Risk Matrix				
21 to 25	High	A high risk exists that management's objectives may not be achieved. Appropriate mitigation strategy to be devised immediately.				
13 to 22	S - Significant	A significant risk exists that management's objectives may not be achieved. Appropriate mitigation strategy to be devised as soon as possible.				
6 to 12	M - Medium	A moderate risk exists that management's objectives may not be achieved. Appropriate mitigation strategy to be devised as part of the normal management process.				
1 to 5	L - Low	A low risk exists that management's objectives may not be achieved. Monitor risk; no further mitigation required.				




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Has the hazard, defect or incident been effectively controlled on shift?		YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
If not, why not?			
<b>Safety</b>			
Parts Injured / Location:	Medical Treatment:	YES <input type="checkbox"/>	NO <input type="checkbox"/>
	Hospitalised:	YES <input type="checkbox"/>	NO <input type="checkbox"/>
<b>Environmental</b>			
Media Impacted:	Refer to guide	Environmental Impact:	Refer to guide
<b>Hazard</b>			
Hazard Agent:	Hazard Type:	Act <input type="checkbox"/>	Condition <input type="checkbox"/>

<b>Timeline:</b>	
01/01/18 06:00	Example: Attended Start of Shift
Before the Incident	
30/10/19 06:27	Incident Occurred <i>FAN #7 STOPPED + SITE COMMUNICATIONS BECAME UNRELIABLE.</i>
After the Incident	
	30/10/19 15:05

Additional Actions to prevent reoccurrence: (ERZ Controller/ Supervisor to complete) *RCA will construct detail timeline of all events*

Contact relevant site personnel: Completed <input type="checkbox"/>	Have statements been collected?: Completed <input type="checkbox"/> <i>e.g. Key person involved, witnesses (submit with this form)</i>
Collect any relevant SHE MS Documents: Completed <input type="checkbox"/>	Take photos of incident scene as required: Completed <input type="checkbox"/>

	Anglo Coal (Capcoal Management) Pty Ltd Capcoal Underground Grasstree Operations	Initial Incident Report FRM.GTM.054
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	Task Description	By Whom	Action Due (date)	Enablon ID #
PEOPLE Tasks	Is counselling of the CMW required (std text to be used in task)? Yes <input type="checkbox"/> No <input type="checkbox"/> CMW to be counselled in line with the Anglo Coal Consequence Model and Applicable Misconduct Policy. Evidence to be sent to site HR for file.			
WORKPLACE Tasks				
ORGANISATIONAL Tasks	<i>Conduct RCA into the event.</i>	<i>Victor O'Brien</i>	<i>14/11/19</i>	

**Conclusion:** *THE OFFSITE BROADCAST STORM CAUSED THE LOSS OF MANY CRITICAL SYSTEMS + RESULTED IN A HPI IN THE U/W T/O + A VENTILATION REVERSAL IN THE SHAFT TUNNEL. AN RCA IS REQUIRED TO ANALYSE THE EVENT HOLISTICALLY. INCIDENT REPORTS HAVE BEEN RAISED FOR THE FOLLOW ON INCIDENTS.*

<b>Incident Sign Off:</b>			
Person Reporting	Name: <i>Peter Pross</i>	Supervisor (For surface incident)	Name: <i>Andrew Richards</i>
Signature:	<i>[Signature]</i>	Signature:	<i>[Signature]</i>
Date:	<i>31/10/19</i>	Date:	<i>31-10-19</i>

<b>Verification Sign Off:</b>			
Undermanager/ MSO	Name: <i>B. Munn</i>	Signature:	Date: <i>31/10/19</i>
Superintendent/ Manager	Name: <i>Peter Pross</i>	Signature:	Date: <i>31/10/19</i>
Entered into Enablon By:	Name:	Date:	Staff ID #

If reported to the DNRME, is a form 5A required? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	If Yes, Raise relevant task for the completion of Form 5A	If a 'Learning From Incident' Investigation Required? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If Yes, Raise relevant task for the completion of LFI report
LFI Task Enablon ID:		Completion Date of Task	





**ANGLOAMERICAN  
GRASSTREE MINE  
2018 Level 2 Exercise  
Report  
21 November 2018**





<b>Reference</b>	<b>49</b>
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<b>2. Introduction</b>	<b>2</b>
<b>3. Objectives</b>	<b>2</b>
<b>4. Scenario details</b>	<b>3</b>
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## 1. Executive summary

Grasstree Mine conducted a Level 2 emergency exercise on Wednesday 21<sup>st</sup> November 2018. There were 127 persons underground when the exercise was initiated. The exercise was based on a fire inbye the longwall in the single entry area, with Coal Mine Workers (CMWs) inbye the fire. Shaft 7 was down casting at the time of the exercise which meant smoke and carbon monoxide travelled out from the single entry area across the longwall face and prevented outbye crews fighting the fire. The scenario was developed so as not to allow the inbye coal mine workers to put the fire out, leaving the Incident Control Team (ICT) to determine the best way to get these workers out of the mine and to put the fire out. There was no intent for the fire to be extinguished or CMWs to be extracted before the conclusion of the exercise but plans on how this was to be achieved were expected.

So as to challenge the emergency response with multiple events and to actively include development crews in the exercise, a vehicle collision resulting in casualties was simulated at the intersection of MG909 and the East Mains.

The main areas for improvement underground related to what appeared to be a reluctance to fight the fire by those on the inbye side in the single entry. Although only a limited number of self contained self rescuers were donned, there were issues with the process. The ability to communicate with CMWs inbye the fire in the single entry via dedicated communications run up Shaft 7 and overland proved valuable during the exercise, as no other communications were operational in that area.

The overall response from the ICT and Emergency Management Team (EMT) was good with multiple plans being pursued in parallel. It was identified however, that a review of the duty cards and duty card pack resources is required.

One of the main reasons for running exercises is to identify opportunities for improvement. The main points identified in this Exercise have been captured in the '**Recommendation summary**' and '**Corrective Action Plan**' sections of this report.

### **Damien Wynn**

General Manger/Site Senior Executive  
Grasstree Mine



## 2. Introduction

In accordance with Reference A, Recognised Standard 8 – Conduct of Emergency Exercises, all mines are required to organise and conduct a Level 2 emergency exercise every year. It is the principal opportunity for each mine to subject its emergency preparedness capability to practical scrutiny.

The exercise was developed by the 2018 Level 2 Exercise Committee made up of an appropriate cross section for the incident:

- Tom Cobcroft/Damien Wynn- General Manager/Site Senior Executive
- Rick Bilzon - Compliance Coordinator
- Stephen Watts -ERZ Controller SSHR
- Andrew McInerney - Mining Engineer – Operations
- Danny Brouwer - Ventilation and Gas Drainage Superintendent
- Darren Brady – External Consultant

Although not actively involved in the organising of the exercise, Queensland Mines Rescue Service Operations Managers were advised of progress and plans throughout the organising period.

A risk assessment for the conduct of the exercise was completed on 9<sup>th</sup> October 2018 (RA.GTM.129).

The Exercise was run on Wednesday 21<sup>st</sup> November 2018, starting at 11:00am with B and E crews on site. There were 127 persons underground when the exercise was initiated.

This exercise report provides an outline of the exercise objectives, scenario, and subsequent outcomes and recommendations as result of the exercise.

## 3. Objectives

Specific areas to be tested were determined based on the Coal Mining Safety and Health Regulation 2017 (s35(2)(d), s169(2) and 171(2)(c)), Recognised Standard 08 Conduct of Mine Emergency Exercises, Level 1 Exercise Reports and a 2015 Mine Record Entry relating to the conduct of Level 2 Exercises (Reference D). It was not an objective of this Exercise to test mobilisation of the QMRS Inertisation Unit however it was anticipated that contact may be made re deployment and anticipated arrival times.

The 2018 Exercise was designed to test:

- Initial response to the event- including communication to and from Control Room, recognition of seriousness and subsequent response actions.
- Response to an event in the Single Entry.
- Accounting for all personnel (including those in single entry inbye the fire).
- Self-escape; some "live" SCSRs to be available for donning and wearing by Longwall crew.
- All CMW underground are able to be contacted and advised of situation and required actions.
- Firefighting.
- Dealing with multiple events.



- First aid.
- Initiation/formation of ICT.
- Functionality of ICT and subgroups.
- Duty Card system.
- Information gathering.
- Planning.
- Communication with external services/agencies.
- Communication with internal (Anglo) support.

#### 4. Scenario details

The scenario the exercise was based around was a loader crashing into the rib and catching on fire in A hdg 908 MG around 5ct in the single entry (Zone 13) as shown in Figure 1. With Shaft 7 downcasting, smoke and elevated carbon monoxide travel outbye along the longwall face (which should trigger donning SCSRs) as well as out C hdg. This prevents fighting the fire from the outbye side. The image in Figure 2 was shown to those outbye to indicate the level of smoke at the last open cut through and travelling across the longwall face. The loader operator isn't significantly injured and runs outbye raising the alarm.

Carbon monoxide, carbon dioxide and low oxygen alarms are raised five minutes after the loader incident at MG908 3-4ct Ahdg and LW MG drive. Carbon monoxide alarms are subsequently raised as the pollutants spread down Chdg and out MG908 dogleg and across the longwall face and out TG908 to Shaft 2. Many of the real time carbon monoxide sensors exceed full scale.

Workers inbye the fire are initially shown the image in Figure 3, and then Figure 4 as they get close to fight the fire. Although they are in fresh air, they cannot get past the loader fire that spreads to the 908 ribline as shown to coal mine workers in Figure 5. Communications and monitoring (including tube bundle) burn through at the fire site, leaving only the communications run down Shaft 7 operational. Although those inbye the fire can attempt to fight it, for the purposes of the exercise they can't make much progress.

Tube bundles 3 (TG908 30-31ct B hdg Seal), 21 (908 MG 24ct Seal) and 26 (905MG 34ct A-C hdg Seal) all burn through at the fire site generating alarms based on the gas being sampled at the fire site (all still measurable by the tube bundle analyser ~1000ppm CO, <1% methane, 2% carbon dioxide and 18.4% oxygen). A corresponding drop in vacuum pressure was simulated for the tubes that burnt through. The simulated gas concentrations were kept stable throughout the exercise. The gas concentrations throughout the mine post event are included as Attachment 1.

During response to the MG908 event, two vehicles collide at the intersection of MG909 and East Mains (65ct D hdg East Mains) as shown in Figure 6. One worker has a suspected broken leg and the other is concussed. Neither vehicle can be driven and are blocking the intersection.

The exercise was intended to run for approximately four hours, and it was never the intention to continue to the point of physically extracting coal mine workers from the single entry nor extinguish the fire.



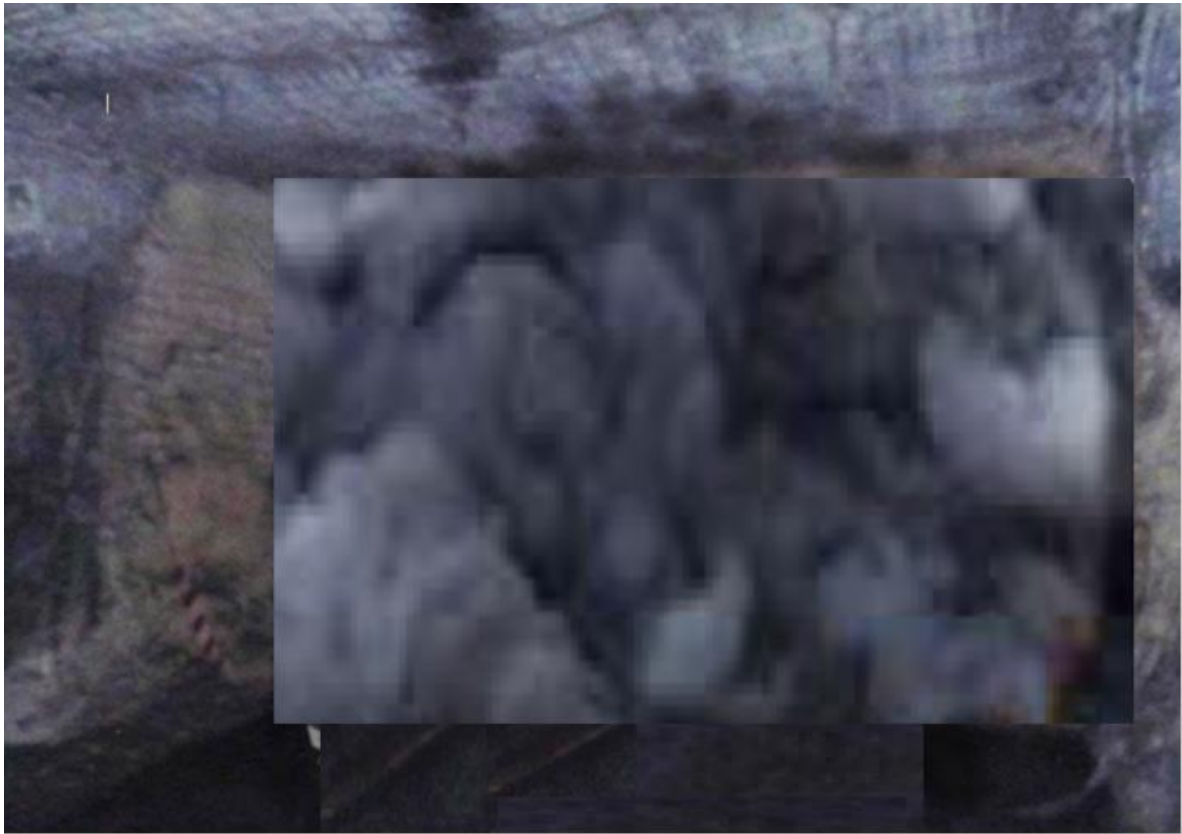


Figure 2: Image shown to CMW looking inbye last open cut through in 908MG



Figure 3: Image shown to CMWs in Single Entry looking outbye towards fire



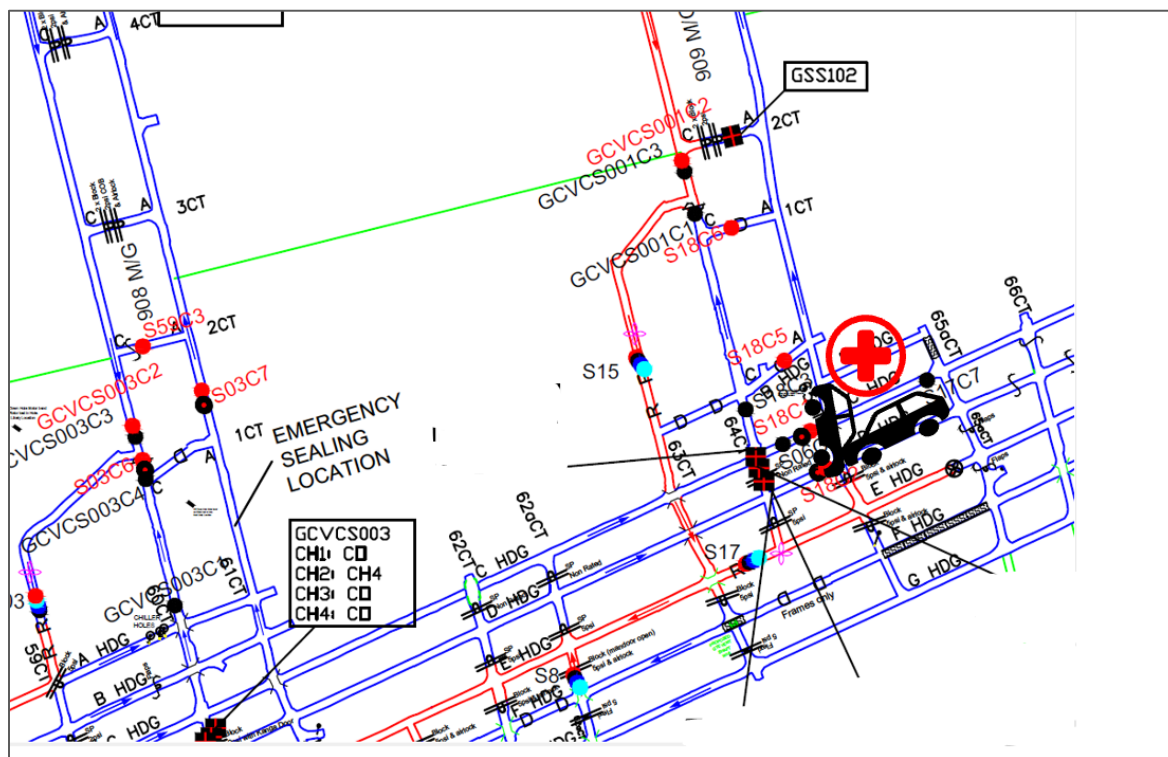


Figure 4: Image shown to CMWs in Single Entry attempting to fight fire



Figure 5: Image shown to CMWs in Single Entry showing fire had spread to ribs





### 5. List of key personnel

The following personnel from Grasree Mine were allocated key Duty Cards in response to the incident:

Name	Exercise Position	Operational Position
Damien Wynn	EMT Leader	General Manager / Site Senior Executive
Kelvin Schiefelbein	ICT Leader	Underground Mine Manager
Cec Ivers/ Anthony Johns	Operations Coordinator	Operations Manager Outbye Superintendent
Nols Reyneke	Planning Coordinator	Acting Technical Services Manager
Shawn Foley	Logistics Coordinator	Mechanical Engineering Manager
Jon Balcomb	Mining Senior Official	Mining Senior Official
James Moreby	Ventilation Officer	Ventilation Officer
Brett Trimble	Control Room Operator	Control Room Operator
Ken McCaffrey	Assistant Control Room Operator	Outbye Mechanical Coordinator



The following personnel were assessors for the exercise:

<b>Name</b>	<b>Assessing</b>	<b>Operational Position</b>
Rick Bilzon	Exercise Coordinator	Compliance Coordinator
Tim Reeves	EMT	Principal – Mining Excellence (UG)
Joel Duffy	IMT Leader and IMT Coordinator	Compliance Superintendent
Guy Durham	Logistics	Engineering Projects Superintendent
Paul Wild	Planning	Ventilation & Gas Superintendent Regional Office
Andy McInerney	Operations	Mining Engineer - Operations
Brad Nation	Control Room	Control Room Operator
Darren Brady	Control Room	Consultant
Danny Brouwer	Ventilation Officer	Gas and Ventilation Superintendent
Shane Archie- Wanstall	Surface Muster Area and Surface Marshalling	Electrical Engineer Projects
	Site Security	
Nik Kelly	Grasstree West Muster Area	Safety Officer
Brenton Wilson	Single Entry	Compliance Officer
Grant McVey	Whisper (909 MG)	Mining Engineer - Operations
Carl Exmann Joel Treasure	Longwall Face	Mining Supervisor/Mines Rescue Electrical Technician/Mines Rescue
Ben Taylor	909 MG	Safety Officer
Neil Dagan	East Mains (inbye end)	Mine Technician/Mines Rescue
Matt Coyne	Pit Bottom	Training Officer/Mines Rescue



## 6. Time-line of events

The following timeline is a summation of events recorded throughout the exercise including those of assessors.

Surface		Time	Underground	
Location	Observation		Location	Observation
Start of Exercise		11:00	Start of Exercise	
			Single Entry Tag Board (Loader driver and 1 CMW)	CMW observed loader incident and helped operator out of loader and assessed casualty. Headed inbye (fresh air) for communications, hoping COB inbye wasn't sure due to recent move.
			Single Entry (Zone 13) 8ct	Valley Longwall International @8ct shown photo of fire in distance. Isolated gas holes. No attempt to use communications. Decision made to evacuate to Shaft 7 using vehicle. Stopped and checked cut throughs on way inbye.
			908 MG (LW crew)	140ppm CO measured at intersection of LW face and inbye roadway. Called Control to advise.
Control Room	CRO calls MSO into Control Room and advises of situation	11:01	908 MG (LW crew)	LW ERZ Controller walks inbye to investigate CO and smoke (shown photo).
			908 MG (LW crew)	LW ERZ Controller advises CMWs to take vehicle to 2ct and to take any other CMWs. No SCsRs were donned.
		11:03	908 MG 6ct (Loader driver and 1 CMW)	CMW alerting inbye personnel of incident over DAC, other CMW on phone to Control (MSO) advising of vehicle fire.
Control Room	CO HH; CO2 HH; O2 LL Alarms for Real Time Sensors MG908 3-4CT A hdg and LW MG Drive and Comms alarms for GES051, GSS554C1, GSS554C2, GSS554C3, GSS554C4 and GSS554C5.	11:05		



Control Room	CRO advises LW crew to go to crib room.	11:06	908 MG 6ct (Loader driver and 1 CMW)	Looking for firefighting equipment in COB (not where it is kept), found fire depot but it had no wheels (purposely positioned for exercise to highlight issues) and deemed too hard to move plus fire considered out of control. Decision made to retreat.
ICT	UMM directs scribe to set up EMQnet.	11:10	908 MG (LW crew)	LW ERZ Controller waiting at split for other CMWs to come from face. Instructed one to contact CRO from crib room to advise CMWs coming off face and one to audit the panel entrance tag board. The rest to wait in crib room.
Control Room	CO HH; Alarms for Real Time Sensors 908 MG Dog Leg, 908 TG Dog Leg and MG 908 Coffin Seal.			
		11:11	908 MG 6ct (Loader driver and 1 CMW)	Contacted Control and advised both heading inbye.
Control Room	Assistant CRO duty card filled, Muster Area Marshal duty card filled, and Muster Area Marshal starts issuing other duty cards held in Control Room.	11:12	908 MG (LW crew)	2 x CMW donned SCSR (one had troubles). Linked up to escape (simulated poor visibility).
Surface	MSO announces over surface PA for all staff to assemble in Muster Area			
		11:13	Pit Bottom	ERZ Controller took Ambulance to LW908, assigned CMW to wait at pit bottom.
Muster Area	MSO briefs workforce on situation and then address by UMM.	11:15	908 MG (LW crew)	2x CMWs wearing SCSR reach ventilation split in MG, advised by LW ERZ Controller that they were in fresh air and could remove SCSR, assessed their condition and both happy to walk to crib room.
Top of Shaft	Access gate to winder closed.			



Muster Area	PA announcement advising who to report to ICT.	11:18	Single Entry Tag Board (Loader driver and 1 CMW)	Due to tag board restrictions (real) access into single entry zone not permitted and exercise finished for loader driver and CMW, although not part of scenario they donned SCSR and experienced some difficulty in donning.
ICT Room	1st ICT Meeting. Duty Cards distributed situation discussed and objectives set. Identified that FARP available. Incident Controller advises EMT will also be initiated through which necessary notifications to be made. Meeting finished 11:30. Next meeting scheduled for 11:45.	11:20	Single Entry (Zone 13) 29ct	Personnel assembled and accounted for (no attempt made to use communications).
Control Room	VO reviewing alarms and briefed by MSO.			
Logistics	GTE Surface Marshall duty card appointed.			
		11:21	908 MG (LW crew)	LW ERZ Controller instructed CMWs to get the outbye fire substation and to park a vehicle across heading as a barricade preventing entrance inbye LW face.
		11:22	908 MG (LW crew)	CMW sent to tag board phoned Control with names from tag board audit.
Control Room	VO and MSO discuss whether fire could be fought from inbye side.	11:23	908 MG (LW crew)	LW crew in the crib room. LW ERZ Controller called control and accounted for LW crew, names and numbers advised 400ppm CO and thick black smoke across LW face and couldn't get in to fight fire. LW ERZ Controller informed CMWs of what he knew re scenario after conversation with control, checks if there are any questions and checks if all ok. Waiting in crib room for further instructions.
ICT	EMQnet Event Initiated	11:24		
		11:25	Single Entry (Zone 13) 29ct	ERZ Controller instructs CMWs to go to Shaft 7, taking 1 vehicle and leaving the other at the MG.



Control Room	Identified that comms running down 908MG compromised so tried calling DAC configured to run overland and down Shaft 7 (but no answer).	11:26		
Control Room	CO HH; Alarms for Real Time Sensors Shaft 4 West, Shaft 4 South, Shaft East, Shaft 2 West, Shaft 2 East, Shaft 2 North. Tube 24 908TG General Body CO HH alarm.	11:30	908 MG (LW crew)	Ambulance driven by Mains ERZ Controller arrives at 908 MG wanting to go to 6ct, the scene of vehicle fire. LW ERZ Controller advised not possible to go beyond ventilation split because of smoke and CO. Advised to park ambulance outside entrance to panel and wait in crib room.
Control Room	PED sent "Level 2 Exercise -Return to Crib Rooms".		65 ct D Hdg East Mains	PED received identifying" Level 2 Exercise return to crib room", East Mains ERZ Controller contacted face (limited PED service in East Mains).
Top of Shaft	Surface Marshall manning cage.		Pit Bottom	ERZ Controller calls Control to confirm situation and check use of cage.
GTW	Heard over radio that winder was being shut down, contacted Grasstree Control told no issues.			
Logistics	Logistics Coordinator briefed Engineering Office and selected personnel for Logistics Group Meeting.	11:32	907 B1 COB	ERZ Controller stops vehicle to use comms. Phone u/s (as part of exercise as fed from 908 MG) but DAC run up Shaft 7 and overland OK. Advised CRO of location and number of CMWs with him. List of names provided to Control. Decided to remain at 907 B1 COB and await further instructions. ERZ Controller explained DAC feed and locations to crew.
Planning	1st Planning Group meeting. VO to run smoke in vent model and put tube on hold (decided against putting tubes on hold).			
Logistics	GTW informed of requirement to lock down and secure portal and entry and exit points.	11:34		
GTW	Supervisor briefed on incident, personnel in yard rounded up and accounted for.	11:35	65 ct D Hdg East Mains	Simulated vehicle collision @ 65ct D hdg. East Mains
Control Room	Operations Coordinator in Control Room for briefing with Control.			
EMT	EMT Leader advised BCO of incident.			





ICT	Incident Controller and MSO having incident brief. MSO to report to Operations Coordinator. Discussion on whether to withdraw persons.			
		11:36	Pit Bottom	ERZ Controller contacts surface suggesting/asking if fire substation pod needs to be utilised. Removed barricading from substation and checked contents of pod.
Operations	1st Operations group meeting.	11:37		
Logistics	1st Logistics Group meeting. Duty Cards assigned.	11:38		
Control Room	CMW from 65ct D Hdg East Mains phones through update of vehicle collision, names of casualties not known.			
Planning	Duty cards allocated.			
EMT	EMT Leader advised Inspector of incident	11:40	908 MG (LW crew)	LW ERZ Controller calls Control - sending ambulance and Mains ERZ Controller to 2ct with ambulance to act as sentry, LW ERZ Controller asks crew who has first aid training and sends them with ambulance.
			65 ct D Hdg East Mains	CMW contacts Control re vehicle collision, advises 2 casualties one with suspected broken leg other concussed. Noted that no details relating to loader fire passed on by Control. CMWs attending to casualties, Panel ERZ Controller contacted. Sentry positioned outbye incident at 65ct D hdg.
			Pit Bottom	ERZ Controller sending non-essential personnel to surface in cage. Names recorded and Control advised.
		11:41	908 MG (LW crew)	Control calls looking for Mains ERZ Controller (ambulance driver), CMW sent down to ambulance to advise. Mains ERZ Controller contacts Control on DAC, advised of vehicle interaction and casualties at 909 Tagboard (some confusion initially relating to response required but sorted out by LW ERZ Controller).



EMT	EMT Leader called ISHR and message left	11:43	Pit Bottom	ERZ Controllers present at pit bottom split up search pit bottom area for CMWs.
GTW	Duty cards and radios allocated.	11:45	65 ct D Hdg East Mains	Panel ERZ Controller arrived on scene and took charge of the incident. Area barricaded, and sentries positioned.
Operations	MSO advise Operations Coordinator of vehicle collision.			
Planning	Person allocated to monitor gas levels.			
Control Room	OHS Advisor brought Medic into Control to see if any advice needed for treating casualties. Medic briefed by MSO.			
ICT	2nd ICT Meeting. Updates including Ops update on vehicle collision. Meeting finished at 12:00. Next meeting scheduled for 12:30.			
Control Room	Tube 27 GTE Shaft # 2 (Fan house) CO HH.			
		11:48	Pit Bottom	ERZ Controller advised of another incident inbye-cage held at pit bottom.
		11:50	908 MG (LW crew)	Mains ERZ Controller confirms plan with LW ERZ Controller, requests competent first aiders to assist (2x) and heads to incident at 909 Tagboard.
		11:51	908 MG (LW crew)	2 x CMW positioned at ventilation split to provide first aid if required.
		11:52	907 B1 COB	Contacted by MSO for update. Asked if they had attempted to fight the fire -No. MSO advises preference is to fight fire but will confirm.
ICT	MSO gets confirmation from ICT that crew inbye the fire should attempt to fight fire.	11:54		
		11:55	908 MG (LW crew)	Fire substation collected from outbye taken into the ventilation split for use if required.



			65 ct D Hdg East Mains	Panel ERZ Controller called for personnel from crib room to assist and bring first aid equipment. Crew responded well and took over patient management. Prepared patients for transport and allocated a CMW to travel with each patient. Ongoing communication with Control.
		11:57	907 B1 COB	Advised ICT wants them to attempt to extinguish the fire. ERZ Controllers discuss what firefighting equipment to take.
Control Room	Advised over radio that GTW Portal Marshal and Perimeter Security (front gate) in place and GTE Perimeter Security in place at front gate.	11:58	Pit Bottom	CMW assigned to look in U/G workshop for CMWs.
Control Room	Tube 36 GTE Shaft 2 East Side CO HH	12:00	907 B1 COB	Further discussions with MSO, instruction to take low expansion foam from 30ct. Also, discussion relating to using Loader to get Ekode. Whole crew leave in the 1 available vehicle.
Planning	Planning Group meeting		65 ct D Hdg East Mains	Ambulance arrives.
Control Room	GTE Shaft red light (no entry) turned on.	12:02		
Logistics	2nd Logistics Group meeting. Logistics Coordinator suggests checking crane and cage availability for Shaft 7 Extraction.	12:05	65 ct D Hdg East Mains	Both patients (and 2x support personnel) leave in ambulance on route to surface.
Control Room	Operations Coordinator in Control Room for briefing with Control.			
Top of Shaft	Medic waiting at top of shaft for casualties.			
		12:06	65 ct D Hdg East Mains	Development personnel sent back to crib room.
EMT	Advised GAG could be available in 4 hours.	12:10	65 ct D Hdg East Mains	Control advises East Mains ERZ Controller about loader fire in longwall and to withdraw to pit bottom.
Control Room	Incident Controller in Control Room checking in with CROs and MSO.			



Control Room	VO called to Control as shaft 2 alarming, VO advised returns would be affected. Getting briefed by MSO on situation.			
ICT	Incident Controller gave update to CMWs that had withdrawn to the surface and located in training room.			
EMT	EMT Leader issuing duty cards.	12:11	65 ct D Hdg East Mains	ERZ Controller briefed crews took names of all and directed contractors to head to pit bottom.
ICT	QMRS contacted and put on standby.	12:12	Single Entry (Zone 13) 30ct	Stop and get foam and applicator and take second vehicle to fire site as well.
Operations	2nd Operations Group Meeting. Next meeting scheduled for 12:40.	12:15	65 ct D Hdg East Mains	ERZ Controller and crew started withdrawal. Noticed sentry for 909 MG left behind.
Control Room	VO going to organise for bag samples to be collected from tube bundle and run through GC.		Pit Bottom	Ambulance with 2x injured personnel arrives at pit bottom. Casualties loaded into cage and taken to surface.
Control Room	Tube 10 908TG Dogleg CO HH alarm Tube 36 GTE Shaft 2 East Side CO HH alarm			
Operations	Muster Area Marshal has count of 127 persons underground.	12:21		
Control Room	Operations Coordinator in Control Room asks for update on number of LW crew in crib room, CRO phones to get confirmation. Operations Coordinator asks for NLT update on numbers underground for comparison with tag board as there is a discrepancy.	12:22		
EMT	Second ISHR notified of incident.	12:23		
Top of Shaft	Injured persons reported by MSO as out of mine.			
EMT	Personnel Coordinator working on media release based on supplied information.	12:25	908 MG (LW crew)	Assessor advises 2 x CMW at ventilation split that smoke is worsening, they call ERZ Controller on DAC - heading back to crib room, LW ERZ Controller advised Control and is heading inbye to investigate/confirm.



			65 ct D Hdg East Mains	3 vehicles arrived to transport CMWs to pit bottom
ICT	3rd ICT Meeting. Meeting finished at 12:50. Decisions made to mobilise and plan crane extraction of CMWs from Shaft 7 and to mobilise QMRS. Next meeting scheduled for 13:30.	12:30		
Control Room	Tube 5 SHAFT 4 WEST - LT GREEN CO HH Tube 37 GTE Shaft 2 North Side CO HH			
PA	Call for Mines Rescue personnel to report to surface sub station.	12:32	Single Entry (Zone 13)7ct	Fire depot equipment put in vehicle to take closer to fire site. Stopped at hydrant (6ct) and ran hoses out.
			MG 909	ERZ Controller advised Control that all clear of 909 - no tags on board.
			Pit Bottom	ERZ Controller called Control, Control advised smoke getting thicker. CMW sent in in vehicle to pick up CMWs (development).
		12:35	64 ct D Hdg East Mains	Crews advised to wait here for transport to pit bottom.
Control Room	VO assigns VO assistant to stay in Control Room	12:36		
Planning	Contaminant modelling completed.	12:37		
Control Room	Preparing NLT manning and location report for Operations Coordinator.	12:38	908 MG (LW crew)	LW ERZ Controller advises no significant change to smoke.
		12:40	Fire Site	Water on
		12:42	Fire Site	Applying foam - low pressure
		12:44	Fire Site	Shown photo of coal fire - not going out decision made to withdraw to COB.
Control Room	Tube 6 SHAFT 4 SOUTH – GREEN CO HH Tube 7 SHAFT 4 EAST - DARK GREE CO HH 908MG 24ct Seal – CO HH	12:45	64 ct D Hdg East Mains	Vehicle arrives to transport 10 more CMWs to pit bottom. ERZ Controller advises Control of transport numbers.



Control Room	MSO identifies that Tube 21 (908MG 24ct Seal) has burnt through at fire site and now monitoring at fire site. Sends VO assistant to inform VO.	12:46		
Control Room	ICT Runner advises Control to evacuate all LW crew to 59 B-C COB, MSO adds core group to stay there others to go to pit bottom.	12:50		
		12:51	Fire Site	Leave fire site.
Control Room	Control advised by GC Operator in tube bundle hut that bag samples about to be taken from tubes 24 and 27, system will be offline while that happens.	12:55	908 MG (LW crew)	LW ERZ Controller advised ICT want all LW crew to go to 59ct B-C COB. MSO advising core group to stay there, others to go to pit bottom. CMWs going to pit bottom travelled in vehicle, those going to COB walked.
			64 ct D Hdg East Mains	Vehicle arrives to transport remaining CMWs to pit bottom. ERZ Controller advises Control of transport numbers and 64ct inbye all clear.
Logistics	3rd Logistics Group meeting.	12:58		
Control Room	Operations Coordinator and Incident Controller in Control for briefing/update. Operations Coordinator requests 5 experienced personnel to be left at pit bottom. Advised setting up to evacuate CMW at Shaft 7. SMO advised of planned change to Operations Coordinator.			
Planning	Planning Group meeting	13:01		
Operations	Operations Coordinator checks tag board count - 94.	13:05	Pit Bottom	ERZ Controller received update -passed on information to those at pit bottom.
Operations	Operations Group Meeting	13:07		
Control Room	FARPs being looked for by OHS Advisor (first time).	13:08		
		13:10	908 MG (LW crew)	LW ERZ Controller advises Control 10 tags left on board for Single Entry.
Control Room	Control advised by GC operator that Tube Bundle back on line.	13:11		





Control Room	Some confusion in Control as to where the CMWs in the single entry actually are Assistant CRO thinks it is 30ct COB.	13:14	907 B1 COB	Contacted Control and advised MSO that attempt to fight fire unsuccessful and fire now spread to coal seam and that they had retreated back to COB.
			908 MG (LW crew)	LW ERZ Controller advises Control they are at 59ct B-C COB. Asked by MSO how many and names.
Control Room	CRO confirms Single Entry CMWs located at 907 B1 COB.	13:18		
ICT	Handover of Operations Coordinator so Operations Manager free to assist Incident Controller.			
Operations	13 BG4 suits ready.	13:19		
Planning	Bag samples collected.	13:20		
Logistics	GTW status check carried out via 2-way radio.			
Operations	Update with MSO.			
Control Room	Assistant CRO gone to advise ICT exact location of CMWs in Single Entry (907 B1 COB).	13:22		
EMT	Personnel Coordinator preparing for potential Community notification.	13:25	Pit Bottom	Last development personnel now at pit bottom (everybody who should be there now is).
Control Room	MSO in contact with ERZ Controller in Single Entry, advised ran out of foam fighting fire, possibility to fight fire again with more foam raised).	13:28		
ICT	4th ICT Meeting. Meeting finished at 14:05. Next meeting scheduled for 14:30.	13:30		
Top of Shaft	All 909 personnel on surface.	13:31		
		13:32	Pit Bottom	ERZ Controller received call to conduct roll check.
Planning	Bag sample results available for tube 24, 27 and 908 MG 5ct riser.	13:33		
Control Room	Control gets confirmation 5 ERZ Controllers are at pit bottom for MSO.	13:34		



Control Room	VO in Control Room looking at alarms and getting updates, identifies Tube 3 (TG908 30-31ct B hdg Seal) and Tube 26 (905MG 34ct A-C hdg Seal) have burnt through.	13:43		
Control Room	Tube 3 TG908 30-31ct B Hdg Seal CO HH Tube 26 905MG 34ct A-C hdg Seal CO HH; O2 HH			
Control Room	Setting up EMQnet in Control	13:55		
ICT	Request to mobilise GAG.	13:59	907 B1 COB	Contacted by Control, requests confirmation of names, Assistant CRO had list but MSO wants to cross check. Will make contact again at 14:30.
Planning	Planning Group meeting. VO to model ventilation reversal.	14:05		
Control Room	MSO doing cross check of names provided in single entry and those on tag board, one name not on tag board - checking manning sheets.	14:07		
Logistics	4th Logistics Group meeting.	14:10		
Operations	Update to Operations group.			
EMT	EMT Leader updated Inspector, ISHR and BCO of changed objectives.			
EMT	Community Liaison Coordinator appointed.			
Control Room	Operations Coordinator updating MSO on plans for getting CMWs out of single entry including reversing ventilation to allow fighting fire from outbye side.	14:11		
Control Room	Tube 38 GTE Shaft 2 West Side – CO HH	14:15		
		14:19	907 B1 COB	Contacted by Control with instruction to isolate water at 30ct and collect all SCSR's and retreat to Shaft 7 COB, explaining options for getting them out.



Operations	Mines Rescue in Muster Area ready to deploy if required.	14:20		
Planning	VO discussed issues associated with ventilation reversal such as gas, explosibility, reversing air over fire with Operations Coordinator.			
Operations	Update to Operations group.	14:24		
Control Room	MSO on phone to VO discussing results.	14:25		
Control Room	Control advised by GC Operator that bag samples being collected so system going to be off line.			
Control Room	Incident Controller in Control Room to see if there were any updates.			
	5th (final) ICT Meeting.	14:30	907 B1 COB	Contacted control and advised water isolated and all SCSRs collected.
		14:40	908 MG (LW crew)	Remaining LW crew leave 59ct B-C COB for Pit Bottom.
	<b>Exercise Ended</b>	14:40		<b>Exercise Ended</b>



## 7. Response discussion

One of the key observations of the response was the reluctance of those inbye the fire (in fresh air) to fight the fire. It is always difficult to generate realism in exercises, which may have contributed to the decisions not to attempt firefighting until instructed to by the ICT. It was noted by several assessors that some underground personnel did not take the exercise as seriously as they should or failed to maintain focus for the duration. This was not an issue with the surface response. Means to ensure the exercise is taken seriously for the full duration will be explored for the next Level 2 Exercise.

Although FARPs and a Single Entry Management Plan are in place, very little reference or consideration to these documents was made. There was a lack of understanding or knowledge of the communication system run overland via Shaft 7, although good use was made of these communications. Without having these communications, no communications would have been possible with the CMWs trapped inbye the fire in this scenario.

There appeared to be little consideration of the MRAS requirements which would have delayed deployment of QMRS teams if required. A more formalised approach to inclusion of MRAS in the emergency response is required.

There were some issues with equipment/resources missing or nonoperational in the ICT and subgroup meeting rooms. An auditing process needs to be implemented to ensure resources are available when needed.

EMQnet continues to be a useful tool during emergency response but more attention to the wording of actions sent out is required as they tended to be brief and not always clear.

Response from each of the main areas is detailed below.



Figure 7: MSO Briefing Surface Personnel at Start of Exercise





Figure 8: CMWs Carry Patient to First Aid Room



Figure 9: Patient in First Aid Room



### Control Room:

- Response was appropriate for the seriousness of the situation, even though it was only an exercise, it was taken very seriously. Both the CRO and Assistant CRO remained focused throughout the exercise.
- The CRO and Assistant CRO worked very well as a team. This was further assisted by involvement of the MSO in the control room.
- The MSO spent a lot of time in the Control Room (which helped response), advantages in the MSO having dedicated cordless phone they can carry with them.
- Didn't utilise FARPs or refer to Single Entry Management Plan.
- As often observed in exercises and real events the Control Room was inundated with information (alarms and phone calls) initially; very difficult for them to record detailed log.
- No use of EMQNet (not familiar with use)– lack of information getting to ICT. Not set up in Control Room until 3 hours into the exercise. If EMQnet was used would require an additional person (as successfully done during 2017 Level 2 Exercise).
- Identified CO was off scale on real time sensors.
- Identified tube burnt through and checked vacuum pressures to confirm.
- Identified communications inbye the fire in 908 MG were compromised so used the DAC configured to run overland and down Shaft 7. Confusion over exact locations of communication points underground.
- Information on circumstances of initiating event could be better communicated to all areas of the mine away from incident.
- Too many people coming in to Control Room, better control required during an incident.
- Too many radio calls coming through (distracting) not answered by intended recipient so answered by control.
- Coordinated and arranged vehicles to pick up development CMWs.
- Arranged set times with ERZ Controller in Single Entry for communications/updates.
- Questions relating to who can and can't enter site should be addressed by Logistics and not directly asked to Control.
- Limited communication with Grasree West throughout incident.





Figure 10: Control Room During Exercise



Figure 11: Operations Coordinator briefing MSO in Control Room





### Longwall 908 Response:

- Appropriate response to event.
- ERZ Controller led the crew very effectively, accounted for all personnel and assembled them together in a place of safety and delegated tasks. Also verified information and communicated well. Proactive thinking with regards to emergency response equipment (although closer fire substation than the one they got) and provision of first aid. Maintained security to the panel during the exercise. Positioned vehicle to restrict access.
- Not all LW crew donned SCSRs when advised smoke reached face.
- One CMW struggled fitting SCSR.
- Communications maintained with Control throughout exercise.
- Noted by assessor that awareness of effects of gas concentrations could be improved.
- LW ERZ Controller noted people not putting cap lamp numbers on temporary tags.
- Noted by LW ERZ Controller no whiteboard in 59c/t COB to write information on.
- Used vehicles appropriately.
- On leaving LW 908, access to the smoke and high carbon monoxide was not restricted by way of no road barricade.

### Fire Site (MG 908 5ct):

- Good assistance offered by witness to loader driver at time of incident.
- Good immediate communication of event to Control and Inbye.
- Confusion over location of COB and contents.
- Issues observed with firefighting response (from all inbye), in particular - reluctance to fight fire.
- Initial response to get on intake side of fire (although in single entry this then meant trapped inbye of the fire).
- Long way to travel for communications once communication cables burned through.
- Purposely placed fire depot with no wheels to highlight importance of maintaining such equipment. First team determined it too difficult to move and use.
- Firefighting techniques could have been better.

### Zone 13 – Single Entry:

- Showed good insight by checking cut throughs for other CMWs when withdrawing inbye in vehicle.
- No attempt made by anyone to investigate and assess fire prior to deciding to withdraw to Shaft 7.
- Crews assembled together quickly, stayed together and followed instructions.
- Uncompromised communication run out of Shaft 7 and overland identified and utilised. Considered important by CMWs during exercise.
- Isolated from tag board so accounting for CMWs was done based on number allowed in single entry.



- Condition of crew members regularly checked along with head counts.
- Could have made better use of vehicles (left one parked up and continued inbye).
- No PED service in this area.
- Single entry familiarisation identified by CMWs as preparing them for an event of this nature.
- Crew would have liked information relating to time involved to be lifted out of Shaft 7.
- Crew were concerned at prospect of ventilation reversal and having to take refuge in COB.
- Not all were familiar with contents of EPods, Strata Pods or Fire Substations.

#### **Development - 909MG and East Mains:**

- Upon arrival, ERZ Controller took charge of vehicle collision incident and did a very good job, although at times there was too much reliance on him.
- The response to the incident by the East Mains crew was excellent but lacking from other groups.
- Noticeable difference in first aid and communication skills between contract and permanent workforce.
- Room for improvement in communication between coal mine workers during the incident.
- Tracking and control of CMWs could have been better. The number of people in the incident area could have been better controlled and one CMW was initially left behind when withdrawing.
- Good communication from ERZ Controllers to Control.
- More information relating to the loader fire in longwall would have been appreciated. Development not informed of fire in Single Entry until 12:30.
- CMWs could have started withdrawal on foot and been picked up on route rather than total reliance on vehicle.

#### **Pit Bottom**

- For first thirty minutes of exercise no ERZ Controller took ownership even though three present.
- Once another ERZ Controller arrived and took control, improvement noticed.
- Good control over cage and accounting for persons leaving.
- Regular communication with control.
- Proactive actions preparing fire substation if required.
- Organised transport for CMWs withdrawing from inbye.



Figure 12: Removing Barricade around Fire Substation

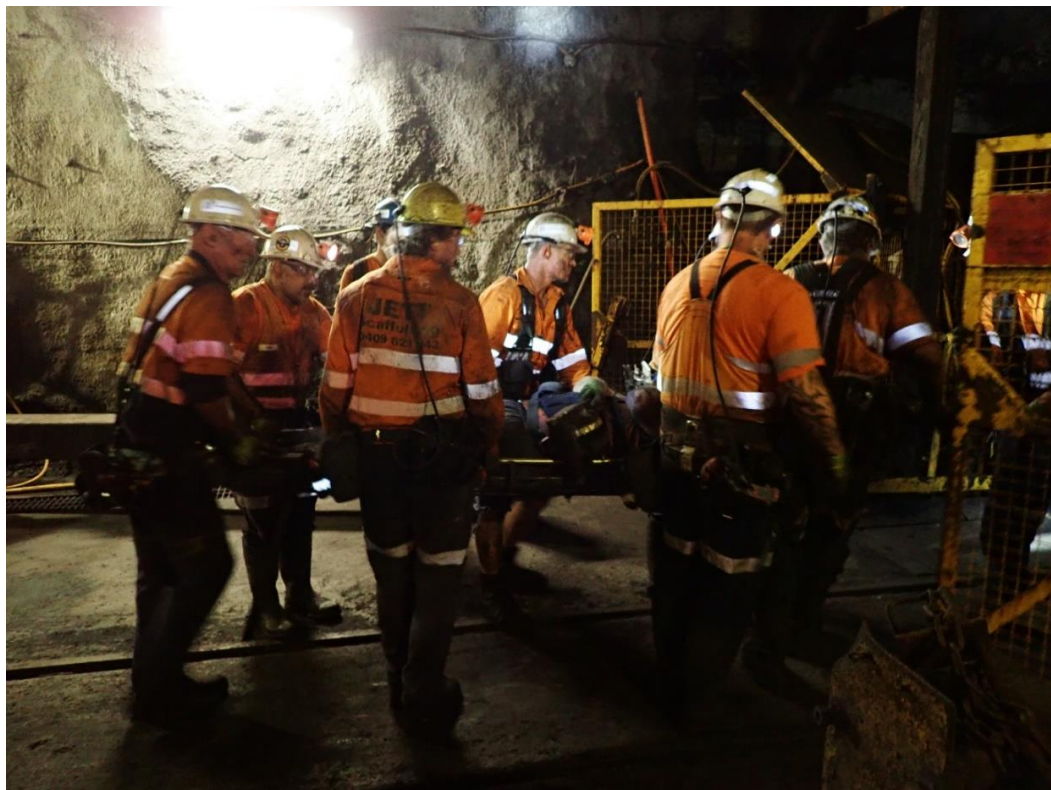


Figure 13: Patient with Broken Leg being Carried to Cage



Figure 14: Patient with Broken Leg in Cage

### Self Escape:

- Only limited number of CMWs donned SCSRs but there were some issues/difficulties donning.
- Not all CMWs donned SCSRs even though exposed to significant smoke.
- Not all personnel aware of locations of COBs.
- Good communication of information to CRO when withdrawing.
- Generally good direction and leadership by ERZ Controllers, accounting for workers in their zones.
- Good control of coal mine workers at bottom of shaft by ERZ Controller and communications with surface.
- Vehicles used where available.





### Accounting for Personnel:

- Some confusion/issues associated with the Loader Driver and CMW at 6ct because of deviation from scenario plan where they were meant to travel outbye from incident but elected to travel inbye. Because of restrictions on numbers in single entry (Zone 13) they physically couldn't go inbye and were effectively quarantined from exercise after that by assessor.
- Muster Area Marshal duty card filled very early.
- Multiple systems used for accounting and cross checking.
- 127 personnel on tag board but NLT showing 125 UG.
- Good communication between surface and underground to account for CMWs.
- Names recorded for those leaving the mine at pit bottom.
- When patient arrived at top of shaft person accounting for those exiting the mine followed patient and CMWs carrying patient to First Aid Room to get names leaving top of shaft unattended.
- One CMW in the single entry did not have tag placed on surface tag board.
- Access to lamp room was not restricted during exercise.
- Additional personnel required to control CMWs coming from cage and past surface tag board.
- Improved resources required for duty card holders at Grasstree West (e.g. shelter, sunscreen, torches).
- Once on the surface at Grasstree East all coal mine workers were marshalled to the training room; water was not provided for rehydration.
- CMWs in training room briefed on incident at 12:10.



Figure 15: Accounting for CMWs Escaping via Grasstree East



Figure 16: Accounting for CMWs as they Reach Surface



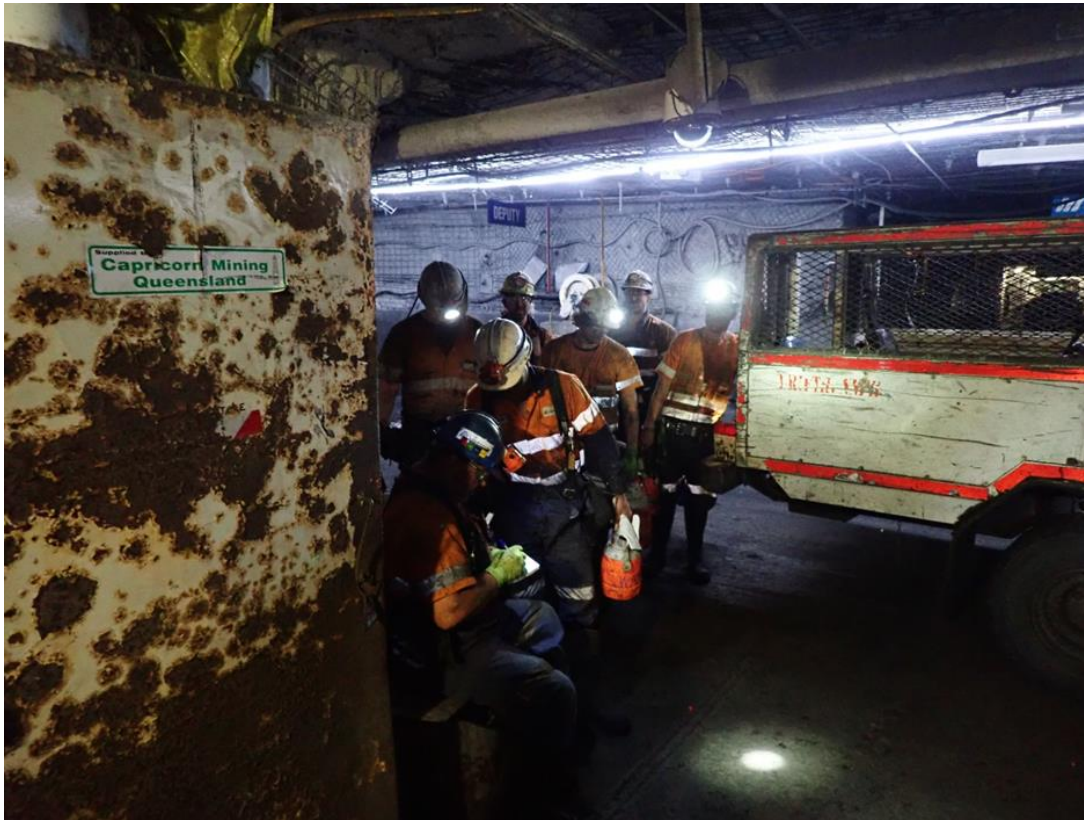


Figure 17: Recording Names of CMWs as they Reached Pit Bottom



Figure 18: Self Escaped CMW in Training Room



**Grasstree West:**

- No initial notification of incident to Grasstree West.
- Heard over radio winder being shut down so contacted Grasstree Control to find out what was happening (no real detail provided).
- Advised by Logistics of incident at 11:35.
- GTW Portal Marshal and GTW Perimeter Security duty cards issued were identical.
- Insufficient resources in duty card packs (checklists, pens, notebooks)
- Rotating duty card holders because of heat. Access to shade shelters would be beneficial for duty card holders.
- Accounted for personnel on surface.
- Suggested that duty cards should detail clearly distinguished posts.
- Problems with emergency light at portal not operating.
- Portal was no roaded initially, but this was removed and relocated to top of ramp.
- Problems contacting Logistics Coordinator.
- Limited updates received.
- Haul Road access control questioned by duty card holders.
- No body escaped from mine via Grasstree West.



### ICT:

- Improvement identified after exercise that having the MSO brief/handover to the Incident Controller at the beginning of the exercise before the first ICT meeting would have saved time and improved efficiency.
- ICT formed promptly, and objectives set.
- Overall worked well.
- Good use of resources such as white boards and touch screens.
- Incident Controller took effective control of meetings which were run well.
- Incident Controller validated all actions and information, detail was required to consider action was completed
- Incident Controller could have utilised scribe/assistant.
- Incident Controller checked in with all groups during event.
- Some issues with time between meetings not sufficient to complete assigned tasks.
- Called for withdrawal from mine of all non-essential personnel.
- Allocated tasks for the sub groups.
- EMQnet utilised well.
- Incident Controller promptly initiated formation of EMT.
- Good that multiple options were being pursued and resourced in parallel.
- Good work by OHS Advisor to bring Medic to offer first aid advice (but too many people in Control Room).
- Very good update provided to CMWs by Incident Controller.





Figure 19: ICT Meeting

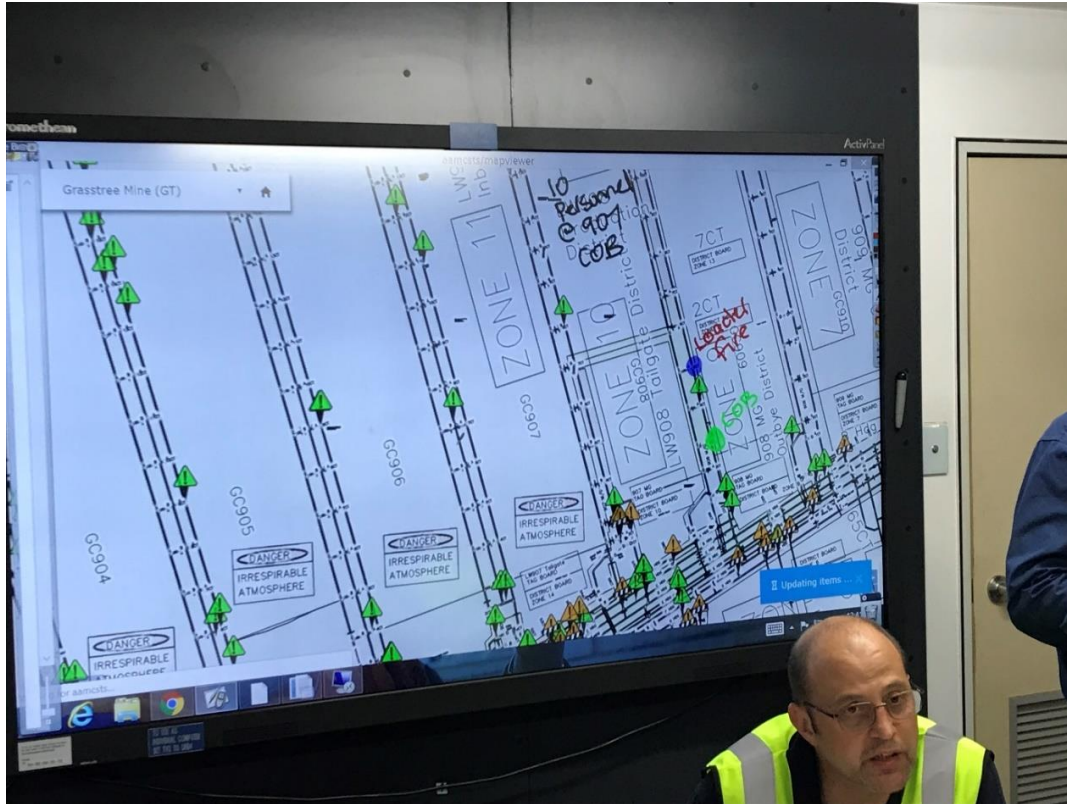


Figure 20: ICT Meeting-Note Use of Touch Screen to Record Information





Figure 21: ICT Meeting-Note Use of Touch Screen to Record Information



Figure 22: ICT Meeting

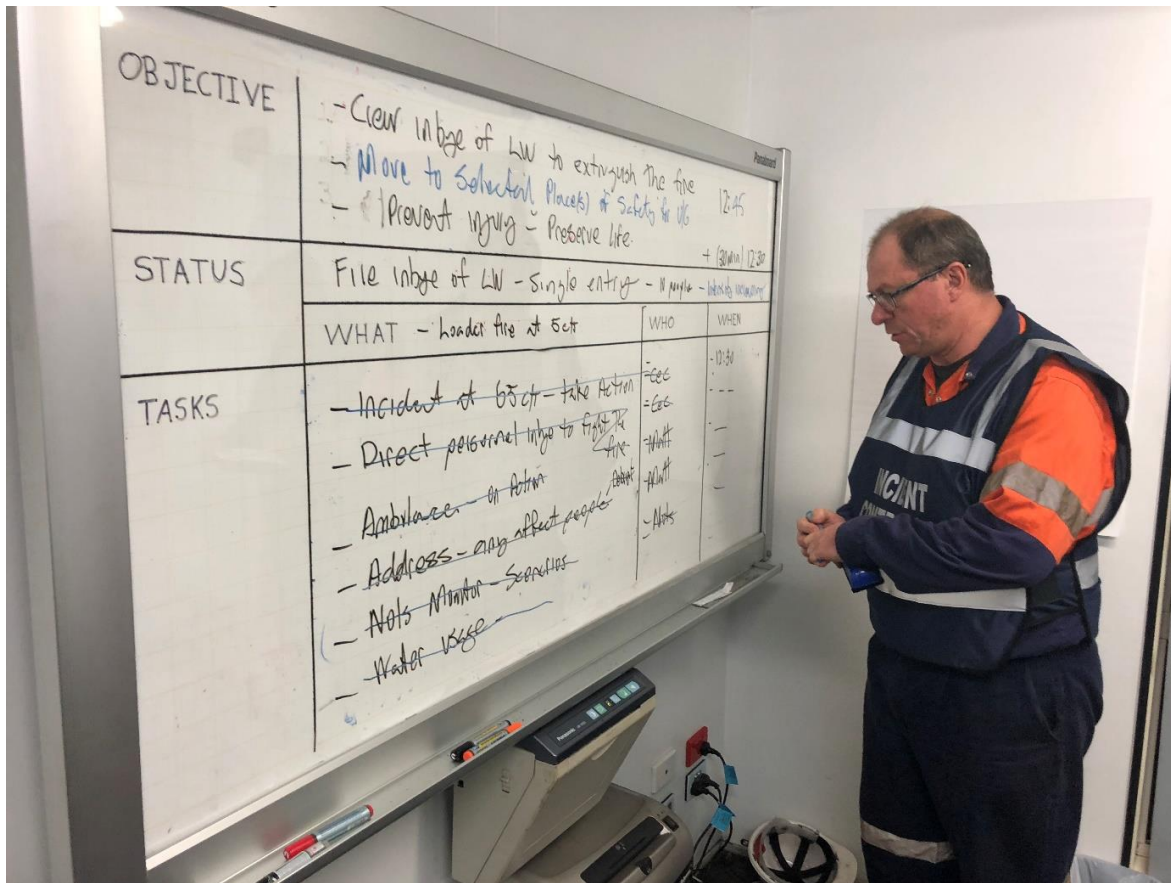


Figure 23: Incident Controller Updating White Board during ICT Meeting

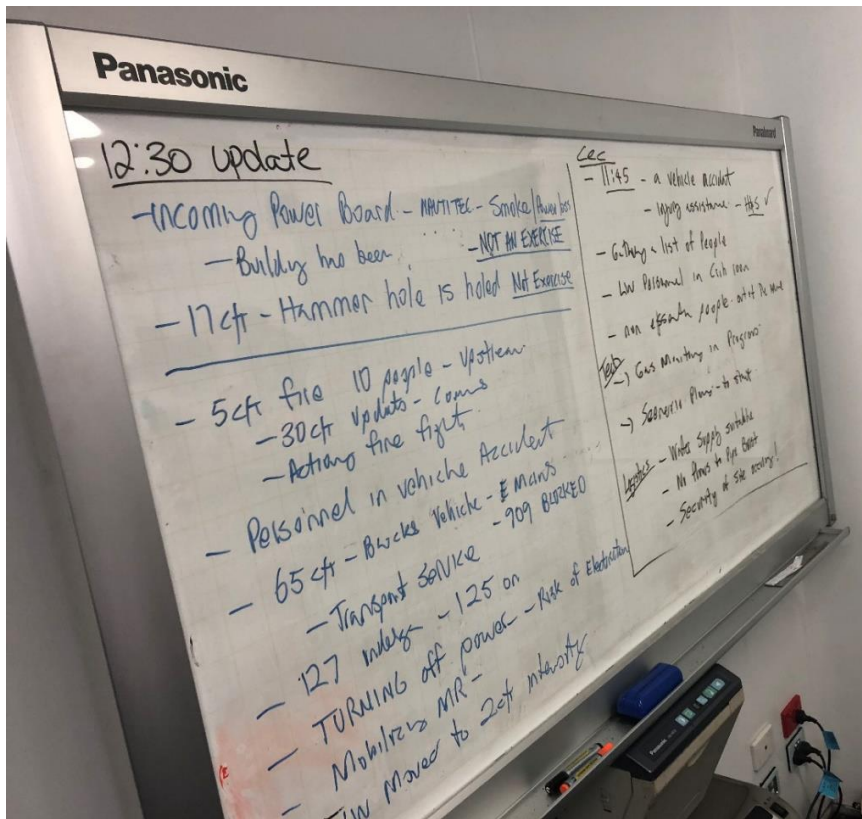


Figure 24: Information Board in ICT



Figure 25: OHS Advisor Looking for Applicable FARP





### Planning Group

- The Planning Group worked very well and provided an appropriate response.
- Had regular meetings with good updates from the Planning Coordinator.
- Great input from team members.
- Forward planning evident.
- Multiple options/contingencies discussed, considered and pursued.
- External agencies considered and utilised.
- At initiation of response meeting room was well prepared for use.
- Made very good use of EMQnet although limited time for Planning Coordinator to review before being updated.
- Initially all duty cards issued but re-evaluated half way through exercise that not all were necessary.
- Ventilation Officer not involved in ICT meetings meant he was able to perform role.
- Ventilation models and simulations used.
- Assigned someone to be responsible for preparing/monitoring gas trends.
- Assistant VO assigned to Control Room to assist and convey information to free up VO.
- Some issues with collection of bag samples for analysis by GC and confusion relating to putting the system into maintenance mode to take sample, this delayed collection and running of bag samples.
- Found it hard to get all tasks completed between meetings.





Figure 26: Planning Group Meeting



### Operations Group

- The Operations Group worked well and provided an appropriate response.
- Issues with contents of Operations Coordinator duty card pack, compromised efficiency during meetings.
- Good regular Operations group meetings with updates from Coordinator. Made use of EMQnet.
- Trialled changeover of Operations Coordinator, improvement possible for handover.
- Identified best for MSO to talk to CMWs trapped in single entry rather than newly appointed Operations Coordinator.
- Operations meeting room considered too far from Control Room and MSO.



Figure 27: Operations Group Meeting



### Logistics Group

- Not enough time between first ICT meeting and second for Logistics Coordinator to allocate duty cards, check duty card holders understood their role and what was expected of them and brief team.
- One of the two-way radios in the meeting room for use during events was found to be damaged.
- No Citect icon on the computer in the Logistics meeting room.
- Logistics Group meetings were well run.
- There were problems locating one of the cages that was going to be used for extracting CMW from Shaft 7. Appears it was offsite with not much knowledge or tracking of its whereabouts.
- One of the Logistics duty cards (DC L2 Maintenance Support) mistakenly included in those distributed by the Control Room.
- Contact numbers (internal and external) need to be available and kept up to date for use in Logistics Group in meeting room.
- EMT Controller made contact with crane supplier (but role of Logistics).
- Process required for authorisation of entry and exit of mine.
- Overlap of duties for DC L4 Medical Support and DC 1.3 OHS Advisor.
- Some of the Logistic team members had little experience in response to an event like this. Although good experience it meant additional burden on the coordinator. Other experienced team members should provide additional assistance.
- Two-way communications intended for Logistics Coordinator missed as radios turned down in meeting room to reduce distraction.



Figure 28: Logistics Group Meeting

**EMT:**

- Formation initiated early.
- Good use and allocation of the duty cards in the EMT. Not all duty cards filled, only those relevant/required, reassessed throughout.
- Prompt internal and external notifications.
- Updated relevant internal and external parties when objectives changed.

**Duty Cards - General:**

- Duty cards were assigned to appropriately skilled personnel.
- With Grasstree using EMQnet as their primary means of information sharing, there are some forms in duty card packs that are redundant. Although these should not be discarded as they may be required if there is an issue with running EMQnet, they could be included as a subset of documents that don't need to be opened unless EMQnet isn't operating. This will save confusion for duty card holders.
- It was noted by duty card holders that the duty cards and resources in duty card packs need to be reviewed.

**8. Exercise conclusion and debrief**

Underground assessors reported that not all underground groups maintained focus on the exercise for the duration of the exercise. There were no problems with surface personnel maintaining focus for the duration of the exercise.

The exercise was planned to run for about four hours and was concluded after the ICT had come up with plans to deal with the situation but before actual resources would be required for them to be acted on.

Although there were improvement opportunities identified, the overall response during the exercise was good, however the need to attempt firefighting when safe to do so will be emphasised to the workforce during annual firefighting training. During and post exercise, assessors recorded observations and questioned those involved to identify improvement opportunities. Findings from the exercise will be formally communicated to the workforce.

The key outcomes of the debriefing in relation to the exercise objectives is recorded below in **Exercise objectives and outcomes and Recommendation summary**.





## 9. Exercise objectives and outcomes

The following outcomes were observed against the exercise objectives:

Objective	Outcome
Initial response to the event - including communication to and from Control Room, recognition of seriousness and subsequent response actions.	<p>Initial response was prompt and even though only an exercise taken very seriously.</p> <p>Applicable FARPs were not referred to.</p> <p>Control Room did not utilise EMQnet which compromised sharing of information (both ways) with IMT. Noted that if EMQnet to be used would require an additional person.</p>
Response to an event in the Single Entry.	<p>Limited use was made of applicable FARPs and the Single Entry Management Plan.</p> <p>Exercise identified issues that may delay response during a real event, such as locating cage and no existing risk assessment for extracting CMWs out of Shaft 7.</p> <p>Having communications into the Single Entry running up Shaft 7 and overland were valuable through the exercise. Extending these communications further into the single entry could be beneficial considering time required in this event to travel from incident site to communications.</p>
Accounting for all personnel (including those in single entry inbye the fire).	<p>Accounting for personnel in the single entry was complicated by a deviation from the exercise plan. The loader driver was meant to travel outbye of the incident but along with a witness travelled inbye instead. There were insufficient spaces on the single entry tag board so the assessor quarantined them both. This created issue relating to whether there were 10 or 12 in the single entry (limited to 11 with 1 assessor).</p> <p>Multiple techniques were used for accounting for personnel. There were some discrepancies observed between techniques, however these were identified and addressed. Numbers and names were regularly checked and rechecked throughout. There was no tag on the surface tag board for one person underground (in Single Entry).</p> <p>Issues exist working between GTE and GTW when accounting for personnel.</p> <p>Additional persons assigned to marshalling and accounting for personnel as they reach surface would be advantageous.</p>
Self-escape; some "live" SCSRs to be available for donning and wearing by Longwall crew.	<p>Only a limited number of CMWs donned SCSRs but majority reportedly had problems donning.</p>



Objective	Outcome
All CMW underground are able to be contacted and advised of situation and required actions.	<p>Some limitations with PED system but all groups notified. Note that the scenario did not trigger a mine wide evacuation, but non-essential personnel were withdrawn.</p> <p>Communications with Single Entry via Shaft 7 and run overland advantageous during incident.</p> <p>Providing increased information relating to event considered advantageous.</p>
Firefighting.	<p>Difficult when only an exercise with no real fire, but overall there was a reluctance to attempt to fight the fire by those in the Single Entry. No real attempt was made until instruction came from ICT to do so.</p> <p>Issues with technique were identified during simulated firefighting.</p>
Dealing with multiple events.	<p>Although there was some initial confusion relating to sending the ambulance to the second incident, this was clarified and there were no real issues in dealing with the multiple events. However maybe as a result of the second incident Development were not given details of the fire in the single entry until 12:30.</p>
First aid.	<p>First aid provided was done well although there was a noticeable difference in first aid skills between contract and permanent workforce.</p> <p>Good inclusion of Medic on surface to provide advice to first aiders if required.</p>
Initiation/formation of ICT.	<p>Formation of the ICT (with appropriate personnel filling roles) was initiated promptly following report of fire. Decision made at first ICT meeting to form an EMT as well.</p>
Functionality of ICT and subgroups.	<p>The ICT and subgroups all functioned well and worked well together. Some reports that meetings were too closely spaced not allowing assigned tasks to be completed before next meeting (often as a result of it only being an exercise within a short window).</p>
Duty Card system.	<p>Issues with duty cards and resources in duty card packs were observed and reported. Need to consider resources and how provided/used when using EMQnet.</p> <p>Noted that a maintenance Duty Card is (incorrectly) included in duty cards distributed from Control Room.</p> <p>Problems with duty card resources in GTW duty card packs.</p>





Objective	Outcome
Information gathering.	<p>Gathering of information relating to the event was appropriate but additional information may have been available from those in Single Entry.</p> <p>QMRS contacted but no evidence that collecting information required for MRAS was initiated.</p>
Planning.	Planning was well done, with multiple options being planned in parallel.
Communication with external services/agencies.	Communication with external services/agencies was well done. Legislative notifications and updates were made promptly by the EMT leader.
Communication with internal (Anglo) support.	BCO were promptly advised and assistance sort where needed.



## 10. Recommendation summary

- Highlight the importance of fighting fires when safe to do so to workforce during yearly compulsory fire training days.
- Follow up with CMWs who struggled fitting SCSR during exercise.
- Remind CMWs to include lamp number on temporary tags.
- Install whiteboard in 59ct B-C COB (and any other COB without one).
- Ensure PA announcements can be heard in all buildings.
- Update list of Mines Rescue personnel on wall in Control Room.
- Provide MSO with cordless phone.
- Review requirements for extraction of CMWs out of Shaft 7.
- Investigate options for best utilisation of EMQnet by Control Room.
- Address issues with duty cards issued at Grasstree West.
- Fix portal emergency light at Grasstree West and implement check to ensure working.
- Review procedure for taking bag samples form tube bundle and consider including as resource in GC operator duty card pack.
- Review location of Operations room.
- Install Citect icon on computer used in Logistics meeting room.
- Formalise MRAS requirements into emergency response.



## 11. Corrective Action Plan

Due Date	Description	Person
31/06/19	Review/update Duty Cards.	R.Bilzon
15/04/19	Follow up with CMWs who struggled fitting SCSR during exercise.	M.Coyne
15/02/19	Update list of Mines Rescue personnel on wall in Control Room.	R.Bilzon
31/03/19	Ensure PA announcements can be heard in all buildings.	R.Garufi
28/02/19	Procure cordless phone/s for MSO.	K.Parison
01/12/19	Include emphasis on importance of fighting fires if safe to do so, during annual firefighting training.	B.Wilson
15/02/19	Install whiteboards in all COBs.	B.Wilson
31/03/19	Investigate options for best utilisation of EMQnet by Control Room.	J.Duffy
31/05/19	Review requirements for extracting coal mine workers out of Shaft 7.	R.Bilzon
28/02/19	Rectify issues with portal emergency light at Grasstree West and implement system to check it remains operational.	K.Pearce
30/01/19	Rectify issue with duty cards issued at GTW.	R.Bilzon
31/03/19	Review procedure for taking bag samples from tube bundle and consider including as resource in GC operator duty card pack.	D.White
31/03/19	Determine if a more appropriate Operations meeting room available.	J.Duffy
15/02/19	Install Citect on computer used in Logistics meeting room.	R.Bilzon
31/05/19	Formalise MRAS requirements into emergency response.	R.Bilzon



## **12. References**

- A. Recognised Standard 08, Conduct of mine emergency exercises
- B. Coal Mining Safety and Health Act 1999
- C. Coal Mining Safety and Health Regulation 2017
- D. MRE "Level Two Emergency Exercises" 01/10/2015 G. Callinan



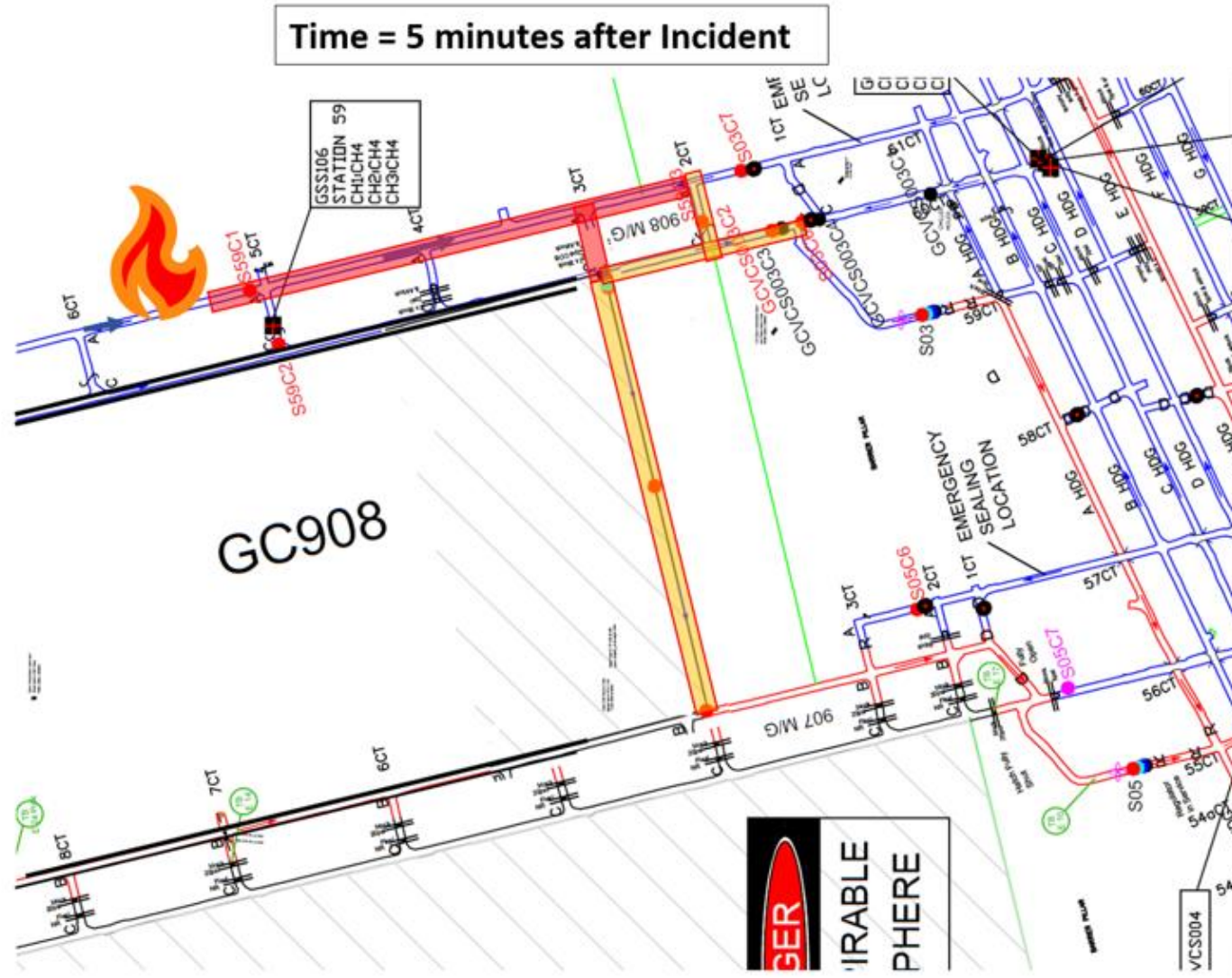
### **13. Attachments**



Attachment 1: Gas Profile

Attachment 2: EMQnet LUIS Chronological Report

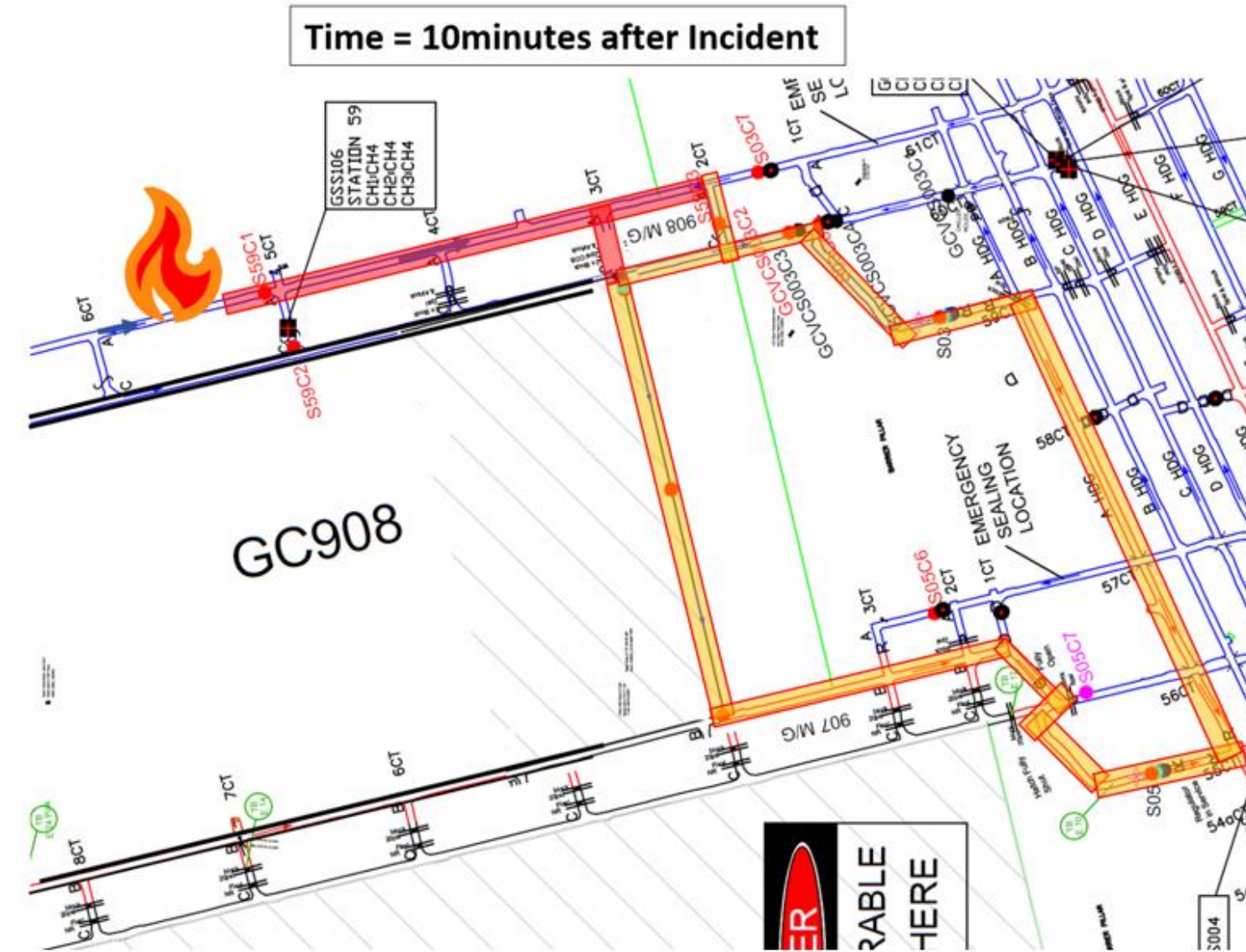


Attachment 1 : Gas Profile



-  Dense Smoke -no visibility, CO 500ppm, CO2 1%, O2 19.8% CH4 as measured
-  Thick Smoke -limited visibility, CO 140ppm, CO2 0.28%, O2 20.2% CH4 as measured

Attachment 1 : Gas Profile



- Dense Smoke -no visibility, CO 910ppm, CO<sub>2</sub> 1.9%, O<sub>2</sub> 18.8% CH<sub>4</sub> as measured
- Thick Smoke -limited visibility, CO 228ppm, CO<sub>2</sub> 0.22%, O<sub>2</sub> 20.2% CH<sub>4</sub> as measured





Attachment 2 : LUIS Chronological Report



# LUIS Chronological Report

Level 2 exercise

ANGLOCEMSICT.00072T

(UTC+10:00) Brisbane

Generated on Thursday, November 22, 2018

Prepared by:



**Dynamiq - Trusted Emergency Management**

Level 6, 401 Collins Street Melbourne VIC 3000, Australia

[www.dynamiq.com.au](http://www.dynamiq.com.au)

Attachment 2 : LUIS Chronological Report



ANGLOCEMSICT.00072T

Event Initiated (ANGLOCEMSICT.00072T) Level 2 exercise  
Team: Incident Control Team Tanya Miller [Redacted] 21 November 2018 11:24

Affected Location Added: Grasstree mine Tanya Miller Confidential [Redacted] 21 November 2018 11:24

Team Invited: Incident Control Team Tanya Miller Confidential [Redacted] 21 November 2018 11:24

Status Board Version #1 Tanya Miller Confidential [Redacted] 21 November 2018 11:24

**Severity 4 - High**

Tanya Miller @Wednesday, November 21, 2018 11:24

**Status Escalating**

Tanya Miller @Wednesday, November 21, 2018 11:24

**Brief Description**

Fire inbye of the LW on a loader.  
LW is evacuated, smoke is on the lw face

Tanya Miller @Wednesday, November 21, 2018 11:24

**Action Underway to Contain Event**

LW crew is current being evacuated

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on People**

LW Crews

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Environment**

fire on a loader inbye of the LW face

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Community**

Families of the LW crew

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Operations**

ceased of operations

Tanya Miller @Wednesday, November 21, 2018 11:24

**Weather**

Weather at Location

Temperature

Wind Speed and Direction

Tanya Miller @Wednesday, November 21, 2018 11:24

**Contact Details**

Tanya Miller @Wednesday, November 21, 2018 11:24

Role Added: ICT Incident Controller - Cec Ivers Confidential [Redacted] Tanya Miller Confidential [Redacted] 21 November 2018 11:26  
AccessLevel: Custom Access

Role Added: ICT Incident Controller - Damien Wynn Confidential [Redacted] Tanya Miller Confidential [Redacted] 21 November 2018 11:26  
AccessLevel: Custom Access

Role Added: ICT Incident Controller - Kelvin Schiefelbein Confidential [Redacted] Tanya Miller Confidential [Redacted] 21 November 2018 11:26  
AccessLevel: Custom Access



Attachment 2 : LUIS Chronological Report



ANGLOCEMSICT.00072T

Role Added: ICT Incident Controller - Jon Balcomb AccessLevel: Custom Access	Confidential [Redacted]	Tanya Miller [Redacted]	21 November 2018 11:26
Role Added: ICT Assistant - Kristy Durham AccessLevel: Custom Access	Confidential [Redacted]	Tanya Miller Confidential [Redacted]	21 November 2018 11:26
Role Added: ICT Assistant - Charmaine Lowther AccessLevel: Custom Access	Confidential [Redacted]	Tanya Miller Confidential [Redacted]	21 November 2018 11:26
Role Added: ICT Assistant - Katie Parison AccessLevel: Custom Access	Confidential [Redacted]	Tanya Miller Confidential [Redacted]	21 November 2018 11:26
Role Added: ICT Assistant - Bev Marlborough AccessLevel: Custom Access	Confidential [Redacted]	Tanya Miller Confidential [Redacted]	21 November 2018 11:26
Role Added: ICT Operations Coordinator - Joel Duffy AccessLevel: Custom Access	Confidential [Redacted]	Tanya Miller Confidential [Redacted]	21 November 2018 11:26
Role Added: ICT Control Room Operator - Brett Tremble (brett.tremble@angloamerican.com) AccessLevel: Custom Access		Tanya Miller Confidential [Redacted]	21 November 2018 11:26
Task #1 Created Team: Incident Control Team Assigned To: Katie Parison Due: 21 November 2018 Priority: High find Location of fire	Confidential [Redacted]	Tanya Miller Confidential [Redacted]	21 November 2018 11:27
Task #1 Completed Team: Incident Control Team Assigned To: Katie Parison Completed: 21 November 2018 Priority: High find Location of fire	Confidential [Redacted]	Tanya Miller Confidential [Redacted]	21 November 2018 11:27
Task #2 Created Team: Incident Control Team Assigned To: Charmaine Lowther Due: 21 November 2018 Priority: High find location of fire and report	Confidential [Redacted]	Tanya Miller Confidential [Redacted]	21 November 2018 11:27
Task #2 Completed Team: Incident Control Team Assigned To: Charmaine Lowther Completed: 21 November 2018 Priority: High find location of fire and report	Confidential [Redacted]	Tanya Miller Confidential [Redacted]	21 November 2018 11:28
Task #3 Created Team: Incident Control Team Assigned To: Katie Parison Due: 21 November 2018 Priority: High Find location of personnel inbye	Confidential [Redacted]	Tanya Miller Confidential [Redacted]	21 November 2018 11:28
Task #3 Completed Team: Incident Control Team Assigned To: Katie Parison Completed: 21 November 2018 Priority: High Find location of personnel inbye	Confidential [Redacted]	Tanya Miller Confidential [Redacted]	21 November 2018 11:28
Task #4 Created Team: Incident Control Team Assigned To: Charmaine Lowther Due: 21 November 2018 Priority: High	Confidential [Redacted]	Tanya Miller Confidential [Redacted]	21 November 2018 11:29

Attachment 2 : LUIS Chronological Report



ANGLOCEMSICT.00072T

find location of personnel of inbye

Task #4 Completed  
 Team: Incident Control Team  
 Assigned To: Charmaine Lowther [Confidential] Tanya Miller [Confidential]  
 Completed: 21 November 2018 21 November 2018 11:29  
 Priority: High

find location of personnel of inbye

Comment Added - Task #4 Charmaine Lowther [Confidential] 21 November 2018 11:30

Hello Tanya, is Nols due to come back and give us a brief?

Kristy and I are using the same log in.

Update #1 Created.  
 Team: Incident Control Team Tanya Miller [Confidential]  
 Objective as of 11:29 21 November 2018 11:30

Crew inbye of lw to extinguish the fire

Place of safety - await instructions

Prevent injury - preserved line

Update #2 Created.  
 Team: Incident Control Team Tanya Miller [Confidential]  
 next meeting at 11:45am 21 November 2018 11:31

please have updates on all tasks

Task #5 Created  
 Team: Incident Control Team Tanya Miller [Confidential]  
 Assigned To: Bev Marlborough [Confidential]  
 Due: 21 November 2018 21 November 2018 11:32  
 Priority: High

Determine the water use

Task #5 Completed  
 Team: Incident Control Team Tanya Miller [Confidential]  
 Assigned To: Bev Marlborough [Confidential]  
 Completed: 21 November 2018 21 November 2018 11:32  
 Priority: High

Determine the water use

Task #6 Created  
 Team: Incident Control Team Tanya Miller [Confidential]  
 Assigned To: Katie Parison [Confidential]  
 Due: 21 November 2018 21 November 2018 11:33  
 Priority: High

determine location of all other mine personnel and mine rescue personnel

Task #6 Completed  
 Team: Incident Control Team Tanya Miller [Confidential]  
 Assigned To: Katie Parison [Confidential]  
 Completed: 21 November 2018 21 November 2018 11:33  
 Priority: High

determine location of all other mine personnel and mine rescue personnel

Update #3 Created.  
 Team: Incident Control Team Tanya Miller [Confidential]  
 EMT (Damien Wynn) is advising BCO of the current incident 21 November 2018 11:35

Update #4 Created.  
 Team: Incident Control Team Katie Parison [Confidential]  
 Operations 21 November 2018 11:38

Loader is at 5ct - 12 people inbye

Control to provide names

LW evacuation

Comment Added - Task #1 Katie Parison [Confidential] 21 November 2018 11:41

Fire located 5ct - Loader

Attachment 2 : LUIS Chronological Report



ANGLOCEMSICT.00072T

Update #5 Created. Tanya Miller Confidential  
 Team: Incident Control Team  
 Update from MSO 11:40 21 November 2018 11:42

5C/T - location of the fire  
 6c/t - LHD driver called in with an other operator, looked for Deputy, unable to put out fire, LHD driver is injured  
 12 people confirmed inbye of LW  
 No comms in 908  
 All persons notified as to go to place of safety

Comment Added - Updates #4 Tanya Miller Confidential  
 21 November 2018 11:43

MSO has stated taht there are some LW personnel at pitbottom, please confirm and bring to next meeting

Update #6 Created. Katie Parison Confidential  
 Team: Incident Control Team  
 Perus working on locating other mine personnel & Mines Rescue 21 November 2018 11:44

Status Board Version #2 Tanya Miller  
 21 November 2018 11:45

**Severity 4 - High**

Tanya Miller @Wednesday, November 21, 2018 11:24

**Status Escalating**

Tanya Miller @Wednesday, November 21, 2018 11:24

**Brief Description**

Fire inbye of the LW on a loader.  
 LW is evacuated, smoke is on the lw face

Tanya Miller @Wednesday, November 21, 2018 11:24

**Action Underway to Contain Event**

LW crew is current being evacuated

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on People**

LW Crews

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Environment**

fire on a loader inbye of the LW face

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Community**

Families of the LW crew

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Operations**

ceased of operations  
 12x personnel inbye of LW confirmed at 11:40am

Tanya Miller @Wednesday, November 21, 2018 11:45

**Weather**

Weather at Location  
 Temperature  
 Wind Speed and Direction

Tanya Miller @Wednesday, November 21, 2018 11:24

**Contact Details**



Attachment 2 : LUIS Chronological Report



ANGLOCEMSICT.00072T

Tanya Miller @Wednesday, November 21, 2018 11:24

Comment Added - Updates #6 Katie Parison (Confidential) 21 November 2018 11:46

- Determining what route the LW crew are taking as a route of escape
- Establish Comms with IB personnell

Team investigating possible spread of the fire - Goaf

Comment Added - Task #2 Charmaine Lowther (Confidential) 21 November 2018 11:46

James to confirm gas trends

Update #7 Created. Bev Marlborough (Confidential) 21 November 2018 11:53  
 Team: Incident Control Team  
 Supplies

Darth CLEMerson gone to update store on incident and what we need

Update #8 Created. Tanya Miller (Confidential) 21 November 2018 11:53  
 Team: Incident Control Team  
 11:45am ICT update

Operations - vehicle incident at 65c/t 2x injured, 1 broken leg and 1 concussion. Ambo on his way.  
 LW crew are exvacuated at crib room waiting for further instructions. Isolated personnel tag board and marshal at the cage.  
 Medical - Medics have been advised and are prepped  
 Logistics - 30c/t water pressure 1500kp at panel entry, 67% full. Have security on mine perimeter at GTW, Portal and Mine entry.  
 Planning - tube bundle is monitoring the gas, still gathering plans for surface and UG.

Comment Added - Updates #8 Katie Parison (Confidential) 21 November 2018 11:56

deputy and assistants on route with ambo to pick up injured to bring back to pit bottom. Cage is awaiting arrival at pit bottom

Update #9 Created. Bev Marlborough (Confidential) 21 November 2018 11:56  
 Team: Incident Control Team  
 Front Gate

Front gate being manned by Neale CHelin - gates closed

Task #7 Created Charmaine Lowther (Confidential) 21 November 2018 11:59  
 Team: Incident Control Team  
 Assigned To: Charmaine Lowther (Confidential)  
 Due: 21 November 2018  
 Priority: Medium

Barrie to confirm compressed air and water and trend to see if they have gone up which would indicate rupture of the line/melting of fitting

Task #7 Completed Charmaine Lowther (Confidential) 21 November 2018 11:59  
 Team: Incident Control Team  
 Assigned To: Charmaine Lowther (Confidential)  
 Completed: 21 November 2018  
 Priority: Medium

Barrie to confirm compressed air and water and trend to see if they have gone up which would indicate rupture of the line/melting of fitting

Update #10 Created. Katie Parison (Confidential) 21 November 2018 11:59  
 Team: Incident Control Team  
 Single Entry Personnel Update

10 people at single entry - all at 907 bleeder COB awaiting instruction.

Task #8 Created Tanya Miller (Confidential) 21 November 2018 12:01  
 Team: Incident Control Team  
 Assigned To: Katie Parison (Confidential)  
 Due: 21 November 2018  
 Priority: High

Incident at 65c/t - take action

Task #8 Completed Tanya Miller (Confidential) 21 November 2018 12:01  
 Team: Incident Control Team  
 Assigned To: Katie Parison (Confidential)  
 Completed: 21 November 2018  
 Priority: High

Incident at 65c/t - take action

Attachment 2 : LUIS Chronological Report



ANGLOCEMSICT.00072T

Task #9 Created  
 Team: Incident Control Team  
 Assigned To: Katie Parison (Confidential) Tanya Miller (Confidential)  
 Due: 21 November 2018  
 Priority: High  
 21 November 2018 12:01

direct personnel inbye to fight the fire

Task #9 Completed  
 Team: Incident Control Team  
 Assigned To: Katie Parison (Confidential) Tanya Miller (Confidential)  
 Completed: 21 November 2018  
 Priority: High  
 21 November 2018 12:01

direct personnel inbye to fight the fire

Comment Added - Task #8  
 Katie Parison (Confidential) 21 November 2018 12:02

Ambo on route with deputy and assistance to collect 2 x injured personnel. Cage at pit bottom awaiting injured - medics are ready and waiting

Task #10 Created  
 Team: Incident Control Team  
 Assigned To: Charmaine Lowther (Confidential) Tanya Miller (Confidential)  
 Due: 21 November 2018  
 Priority: High  
 21 November 2018 12:02

Nols monitor - scenarios

Task #10 Completed  
 Team: Incident Control Team  
 Assigned To: Charmaine Lowther (Confidential) Tanya Miller (Confidential)  
 Completed: 21 November 2018  
 Priority: High  
 21 November 2018 12:02

Nols monitor - scenarios

Update #11 Created.  
 Team: Incident Control Team  
 nect ICT meeting at 12.30pm  
 Tanya Miller (Confidential) 21 November 2018 12:03

Update #12 Created.  
 Team: Incident Control Team  
 Fuel truck access to site  
 Bev Marlborough (Confidential) 21 November 2018 12:05

Fuel truck given OK - Kelvin

Update #13 Created.  
 Team: Incident Control Team  
 Personnel to fight fire  
 Katie Parison (Confidential) 21 November 2018 12:07

Comms made and current situation:

Low expansion foam, Loader & all fire fighting equipment taken from 30ct and team is mobilized and on the way to fire.

Deputy allocating men

Status Board Version #3  
 Tanya Miller (Confidential) 21 November 2018 12:07

Severity 4 - High

Tanya Miller @Wednesday, November 21, 2018 11:24

Status Escalating

Tanya Miller @Wednesday, November 21, 2018 11:24

Brief Description

Fire inbye of the LW on a loader @ 5c/t  
 10x personnel at 907 COB using comms via shaft 7  
 Ambo is treating injured personnel at 65c/t  
 909MG Crew is in save location

Tanya Miller @Wednesday, November 21, 2018 12:07

Action Underway to Contain Event

LW crew is current being evacuated

Tanya Miller @Wednesday, November 21, 2018 11:24

Effect on People



Attachment 2 : LUIS Chronological Report



ANGLOCEMSICT.00072T

LW Crews

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Environment**

fire on a loader inbye of the LW face

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Community**

Families of the LW crew

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Operations**

ceased of operations  
12x personnel inbye of LW confirmed at 11:40am

Tanya Miller @Wednesday, November 21, 2018 11:45

**Weather**

Weather at Location  
Temperature  
Wind Speed and Direction

Tanya Miller @Wednesday, November 21, 2018 11:24

**Contact Details**

Tanya Miller @Wednesday, November 21, 2018 11:24

**Task #11 Created**

Team: Incident Control Team  
Assigned To: Charmaine Lowther (Confidential) Tanya Miller (Confidential)  
Due: 21 November 2018 21 November 2018 12:11  
Priority: High

Scribes - please provide an update on who is doing what duty card in there relevant area.

**Task #11 Completed**

Team: Incident Control Team  
Assigned To: Charmaine Lowther (Confidential) Tanya Miller (Confidential)  
Completed: 21 November 2018 21 November 2018 12:11  
Priority: High

Scribes - please provide an update on who is doing what duty card in there relevant area.

**Task #12 Created**

Team: Incident Control Team  
Assigned To: Katie Parison (Confidential) Tanya Miller (Confidential)  
Due: 21 November 2018 21 November 2018 12:12  
Priority: High

Scribes - please provide an update on who is doing what duty card in there relevant area.

**Task #12 Completed**

Team: Incident Control Team  
Assigned To: Katie Parison (Confidential) Tanya Miller (Confidential)  
Completed: 21 November 2018 21 November 2018 12:12  
Priority: High

Scribes - please provide an update on who is doing what duty card in there relevant area.

**Task #13 Created**

Team: Incident Control Team  
Assigned To: Bev Marlborough (Confidential) Tanya Miller (Confidential)  
Due: 21 November 2018 21 November 2018 12:12  
Priority: High

Scribes - please provide an update on who is doing what duty card in there relevant area.

**Task #13 Completed**

Team: Incident Control Team  
Assigned To: Bev Marlborough (Confidential) Tanya Miller (Confidential)  
Completed: 21 November 2018 21 November 2018 12:12  
Priority: High

Scribes - please provide an update on who is doing what duty card in there relevant area.

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Scribes - please provide an update on who is doing what duty card in there relevant area.

Comment Added - Task #7 Charmaine Lowther Confidential 21 November 2018 12:12

Barrie Comments 12.10pm  
 - compressed air is currently 130cube  
 - pressure at long wall is at 6.1bar to be reviewed in 1/2 hr  
 - water range intact

Comment Added - Task #12 Katie Parison Confidential 21 November 2018 12:13

Cec Ivers - Operations Coordinator  
 Dave McDougall - Debrief Coordinator  
 Perus Probst - Emergency Services Coordinator  
 Anthony Johns - OpsCoordinator Assistant

Comment Added - Task #11 Charmaine Lowther Confidential 21 November 2018 12:15

James - to look at scenarios of how to manage the air intake - to give update at 12.25pm  
 Steve G - Looking at boreholes in a close area of fire - to give update at 12.30pm  
 Raj & Kyle - monitor fire and update trends - to give update at 12.25

Update #14 Created. Team: Incident Control Team Update on water Bev Marlborough Confidential 21 November 2018 12:18

Still got good water pressure at 30c/t borehole

Comment Added - Task #10 Charmaine Lowther Confidential 21 November 2018 12:18

James VO - running models to give update by 12.30pm

Update #15 Created. Team: Incident Control Team Operations Update Katie Parison Confidential 21 November 2018 12:19

Perus taking role as site Emergency Services - organizing & collating Mines rescue personnel & backup team - list received from training  
 Dave headed to Training rooms to provide debrief  
 Contacting Deputy to find out what phones are UG

Update #16 Created. Team: Incident Control Team Planning Update Charmaine Lowther Confidential 21 November 2018 12:20

James - to look at scenarios of how to manage the air intake - to give update at 12.25pm  
 Steve G - Looking at boreholes in a close area of fire - to give update at 12.30pm  
 Raj & Kyle - monitor fire and update trends - to give update at 12.25

Comment Added - Task #11 Charmaine Lowther Confidential 21 November 2018 12:24

(Jason Jamieson - Enviro) (James Moreby - Ventilation) (Ben Milner - Tech Services) (Elliot Griffing - Runner) (Ed Steed - Goe/Geotech) (Phil Fletcher - Engineering) (Kyle Jarrett - Tube Bundle) (Barrie England & Chloe Glazier - Emergency Response) (Steven Goyen - Survey)

Update #17 Created. Team: Incident Control Team Planning Job Cards Charmaine Lowther Confidential 21 November 2018 12:26

Jason Jamieson - Enviro  
 James Moreby - Ventilation  
 Ben Milner - Tech Services  
 Elliot Griffing - Runner  
 Ed Steed - Goe/Geotech  
 Phil Fletcher - Engineering  
 Kyle Jarrett - Tube Bundle  
 Barrie England & Chloe Glazier - Emergency Response  
 Steven Goyen - Survey

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Comment Added - Task #13 Bev Marlborough [Redacted] 21 November 2018 12:32

Shawn FOLEY Logistics co ordinator  
 Bev Marlborough Assistant  
 Maintenance support - Raph  
 Reece Fesser MINE Security  
 GTE Marshal Matthew Selling  
 GTW Perimeter Security Neale Chelin  
 Meagan Rose Communication & IT support  
 Supplu = Darth CLEMerson  
 Reception - Angela Welsh

Comment Added - Updates #16 Charmaine Lowther [Redacted] 21 November 2018 12:34

Steven G - has supplied print out of the available boreholes 12.34pm

Update #18 Created. Team: Incident Control Team Maintenance Support Bev Marlborough [Redacted] 21 November 2018 12:35

Vehicle status two available at Winder house if needed  
 Air compressors on line 7.1 bar  
 Vent Fans are running  
 Surface generators off line but ready to go  
 Winder house winder is available and running  
 Phone and DAC available  
 Potable water is at 65%  
 Raw water 67%  
 Mega Tank 66%  
 3 Trade Electricians and 1 fitter available

Update #19 Created. Team: Incident Control Team Fuel available Bev Marlborough [Redacted] 21 November 2018 12:37

Fuel 75KL of diesel at GTE  
 GTW 25KL of Diesel available  
 Sharon O'grady gone to check Turbex foam available

Update #20 Created. Team: Incident Control Team Access & accident at 65ct Katie Parison [Redacted] 21 November 2018 12:40

Ambo has collected injured from collision & are out of the pit, with medic All others inbye on foot to pass accident and two driftys on the way to collect

Update #21 Created. Team: Incident Control Team 12.30 ICT Room Tanya Miller [Redacted] 21 November 2018 12:41

**Logistics** - Incoming power board for the engineering building had smoke coming from it, Engineering has vacated the building. (this is real not part of exercise)  
 17c/t hammer hole is holed (not exercise)  
**Operations** - mobilising loader from 30c/t to fight fire, only. only comms is at 30c/t, access to 909 is blocked for vehicle access due to 65c/t incident. E/Main is waiting to be picked up. Ambo on way back in.  
 127 personnel on tag board but NLT is showing 125 UG, switching power off in LW.  
**Planning** - Gas drainage stub at 5c/t no gas flow being recorded from that area. Gas trends are being run and running through scenario. Co being monitored and average of 250ppm [Redacted]  
 No current update on fire status  
 Site Mines rescue is being mobilised.



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**Logistics** - Made contact with external resources, still running checks and personnel to fill current security spots.

**Medical** - contacted EAP, first aider in training room for anyone that may need it, more support given to medic, broken leg stabilized, ambo waiting to be dispatched. If the UG Ambo is needed will need to be restocked.

Comment Added - Updates #21 Katie Parisor [REDACTED] 21 November 2018 12:47

Perus arranging full UG ambulance restock. At Medic gathering supplies

Update #22 Created. Charmaine Lowther [REDACTED] 21 November 2018 12:47  
 Team: Incident Control Team  
 Trends for Tube Bundle - covering the last 7days

**Attachments:** TB27.csv, TB36.csv, TB24.csv, ET24.bmp, ET36.bmp, CD36.bmp, CD27.bmp, ET27.bmp

Status Board Version #4 Tanya Miller Confidential 21 November 2018 12:48

**Severity 4 - High**

Tanya Miller @Wednesday, November 21, 2018 11:24

**Status Escalating**

Tanya Miller @Wednesday, November 21, 2018 11:24

**Brief Description**

crew inbye of LW to extinguish fire  
 selected places of safety for personnel UG  
 prevent injury and preserve life  
 still 10 personnel inbye

Tanya Miller @Wednesday, November 21, 2018 12:48

**Action Underway to Contain Event**

LW crew is current being evacuated

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on People**

LW Crews

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Environment**

fire on a loader inbye of the LW face

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Community**

Families of the LW crew

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Operations**

ceased of operations  
 12x personnel inbye of LW confirmed at 11:40am

Tanya Miller @Wednesday, November 21, 2018 11:45

**Weather**

Weather at Location  
 Temperature  
 Wind Speed and Direction

Tanya Miller @Wednesday, November 21, 2018 11:24

**Contact Details**

Tanya Miller @Wednesday, November 21, 2018 11:24

Task #14 Created



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Team: Incident Control Team  
 Assigned To: Katie Parison (Confidential)  
 Due: 21 November 2018  
 Priority: High  
 Move LW personnel to 59c/t B-C COB  
 Tanya Miller (Confidential) 21 November 2018 12:50

Task #14 Completed  
 Team: Incident Control Team  
 Assigned To: Katie Parison (Confidential)  
 Completed: 21 November 2018  
 Priority: High  
 Move LW personnel to 59c/t B-C COB  
 Tanya Miller (Confidential) 21 November 2018 12:50

Comment Added - Updates #21  
 Restocked  
 Katie Parison (Confidential) 21 November 2018 12:50

Task #15 Created  
 Team: Incident Control Team  
 Assigned To: Katie Parison (Confidential)  
 Due: 21 November 2018  
 Priority: High  
 withdraw 909 personnel  
 Tanya Miller (Confidential) 21 November 2018 12:50

Task #16 Created  
 Team: Incident Control Team  
 Assigned To: Damien Wynn (Confidential)  
 Due: 21 November 2018  
 Priority: High  
 mobilise Mine rescue personnel  
 Tanya Miller (Confidential) 21 November 2018 12:50

Task #16 Completed  
 Team: Incident Control Team  
 Assigned To: Damien Wynn (Confidential)  
 Completed: 21 November 2018  
 Priority: High  
 mobilise Mine rescue personnel  
 Tanya Miller (Confidential) 21 November 2018 12:50

Task #17 Created  
 Team: Incident Control Team  
 Assigned To: Charmaine Lowther (Confidential)  
 Due: 21 November 2018  
 Priority: High  
 Monitor gas - situation intensifying  
 Tanya Miller (Confidential) 21 November 2018 12:51

Task #17 Completed  
 Team: Incident Control Team  
 Assigned To: Charmaine Lowther (Confidential)  
 Completed: 21 November 2018  
 Priority: High  
 Monitor gas - situation intensifying  
 Tanya Miller (Confidential) 21 November 2018 12:51

Task #18 Created  
 Team: Incident Control Team  
 Assigned To: Bev Marlborough (Confidential)  
 Due: 21 November 2018  
 Priority: High  
 make contact with crane hire, go to site and take photos from shaft 7 installation  
 Tanya Miller (Confidential) 21 November 2018 12:53

Task #18 Completed  
 Team: Incident Control Team  
 Assigned To: Bev Marlborough (Confidential)  
 Completed: 21 November 2018  
 Priority: High  
 make contact with crane hire, go to site and take photos from shaft 7 installation  
 Tanya Miller (Confidential) 21 November 2018 12:53

Task #19 Created  
 Team: Incident Control Team  
 Assigned To: Charmaine Lowther (Confidential)  
 Due: 21 November 2018  
 Priority: High  
 surveyors to draw up plans on shaft 7 for the use of crane, and include any information that may be useful.  
 Tanya Miller (Confidential) 21 November 2018 12:54

Task #19 Completed

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Team: Incident Control Team  
 Assigned To: Charmaine Lowther (Confidential) Tanya Miller (Confidential)  
 Completed: 21 November 2018 21 November 2018 12:54  
 Priority: High

surveyors to draw up plans on shaft 7 for the use of crane, and include any information that may be useful.

Comment Added - Task #18 Bev Marlborough (Confidential) 21 November 2018 12:57

Please clarify - Do we on site need to take photos or crane company

Update #23 Created. Tanya Miller (Confidential) 21 November 2018 12:58  
 Team: Incident Control Team  
 next ICT at 13.30pm

Update #24 Created. Katie Parison (Confidential) 21 November 2018 12:59  
 Team: Incident Control Team  
 Operations Update

EM crews at pit bottom  
 23 left at 909 with drifty on the way to collect

Guest Invited: Glen Britton (Confidential) Tanya Miller (Confidential) 21 November 2018 13:01  
 Team: Incident Control Team  
 Organisation: AngloAmerican  
 Access Level: Full Access

Update #25 Created. Tanya Miller (Confidential) 21 November 2018 13:01  
 Team: Incident Control Team  
 Guest Invited

Glen Britton (Confidential) from AngloAmerican has been invited to the Event.

Comment Added - Task #18 Bev Marlborough (Confidential) 21 November 2018 13:03

Meagan Rose making contact with BOOM and Clermont Crane

Guest Invited: Glen Britton (Confidential) Tanya Miller (Confidential) 21 November 2018 13:03  
 Team: Incident Control Team  
 Organisation: AngloAmerican  
 Access Level: Full Access

Update #26 Created. Tanya Miller (Confidential) 21 November 2018 13:03  
 Team: Incident Control Team  
 Guest Invited

Glen Britton (Confidential) from AngloAmerican has been invited to the Event.

Comment Added - Updates #16 Charmaine Lowther (Confidential) 21 November 2018 13:08

James - working on the scenario

Comment Added - Task #18 Bev Marlborough (Confidential) 21 November 2018 13:10

Clermont cranes - have 220t available - mobiles to site in 2 hours  
 BOOM have 220 T crane 330meters of rope Boomare at Capcoal open cut

Update #27 Created. Bev Marlborough (Confidential) 21 November 2018 13:15  
 Team: Incident Control Team  
 Water Update

Potable water is at 65%  
 Raw water 67%  
 Mega Tank 66%

Comment Added - Updates #27 Tanya Miller (Confidential) 21 November 2018 13:16

can we have flow rates please?

Update #28 Created. Tanya Miller (Confidential) 21 November 2018 13:18  
 Team: Incident Control Team  
 Update from ICT

Cec Ivers is coming in to assist Kelvin in ICT, Cec has given an operational handover to Andrew Johns



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Coms avail in 907 Cob

Comment Added - Task #20 Bev Marlborough Confidential 21 November 2018 13:31  
 Raph and Peter taking pictures of shaft

Comment Added - Task #20 Bev Marlborough Confidential 21 November 2018 13:36  
 Travel route through Grasstree west from Open cut  
 Grasstree Personell on route for full logistic review and Photos's

Update #33 Created. Team: Incident Control Team Tanya Miller Confidential 21 November 2018 13:43  
 ICT UPDATE - 1.30PM  
 Operations - They have retreated back from fire, awaiting instructions. 2 injured CMW out of pit, 23 personnel awaiting transit from 909. E/Mains personnel is out of pit. LW crew - all have come out. Coal seam is on fire and intensifying.  
 Planning - gas trends are stabilizing, plans have been supplied of shaft 7. All the emergency response locations identified,  
 Logistics - Boom have 220 tonn at O/C, crew of 2 going to look at shaft 7 layout and take photos etc. make contact with O/C to ensure escorted properly, crane then will come back to cage, JSA to be completed.  
 Medical - both injured CMW are stable, only used minor equipment in ambo used so restocking completed.  
 IMT - BCO are kept updated, QRMS are mobilised, no enquiries from the media yet. HR staying in contact with town incase families start calling.

Update #34 Created. Team: Incident Control Team Bev Marlborough Confidential 21 November 2018 13:44  
 GTW  
 Reece FLesser to keep in contact with GTW every half hour to make sure they dont need anything

Status Board Version #5 Tanya Miller Confidential 21 November 2018 13:45

**Severity 4 - High**  
 Tanya Miller @Wednesday, November 21, 2018 11:24

**Status Escalating**  
 Tanya Miller @Wednesday, November 21, 2018 11:24

**Brief Description**  
 Fire is now in the coal seam and intensifying  
 Tanya Miller @Wednesday, November 21, 2018 13:45

**Action Underway to Contain Event**  
 LW crew is current being evacuated  
 Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on People**  
 LW Crews  
 Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Environment**  
 fire on a loader inbye of the LW face  
 Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Community**  
 Families of the LW crew  
 Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Operations**  
 ceased of operations  
 12x personnel inbye of LW confirmed at 11:40am  
 Tanya Miller @Wednesday, November 21, 2018 11:45

**Weather**

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Weather at Location  
 Temperature  
 Wind Speed and Direction

Tanya Miller @Wednesday, November 21, 2018 11:24

**Contact Details**

Tanya Miller @Wednesday, November 21, 2018 11:24

Status Board Version #6

Tanya Miller Confidential 21 November 2018 13:46

**Severity 5 - Major**

Tanya Miller @Wednesday, November 21, 2018 13:46

**Status Escalating**

Tanya Miller @Wednesday, November 21, 2018 11:24

**Brief Description**

Fire is now in the coal seam and intensifying

Tanya Miller @Wednesday, November 21, 2018 13:45

**Action Underway to Contain Event**

LW crew is current being evacuated

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on People**

LW Crews

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Environment**

fire on a loader inbye of the LW face

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Community**

Families of the LW crew

Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Operations**

ceased of operations  
 12x personnel inbye of LW confirmed at 11:40am

Tanya Miller @Wednesday, November 21, 2018 11:45

**Weather**

Weather at Location  
 Temperature  
 Wind Speed and Direction

Tanya Miller @Wednesday, November 21, 2018 11:24

**Contact Details**

Tanya Miller @Wednesday, November 21, 2018 11:24

Update #35 Created.  
 Team: Incident Control Team  
 Foam available

Bev Marlborough Confidential 21 November 2018 13:54

43 pallets of Hi/Low 9 litre foam at fire shed  
 1of Turbex at pit bottom, 1 at 49c/t and 1 at fire shed on surface

Status Board Version #7

Tanya Miller Confidential 21 November 2018 13:58



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**Severity 5 - Major**

Tanya Miller @Wednesday, November 21, 2018 13:46

**Status Escalating**

Tanya Miller @Wednesday, November 21, 2018 11:24

**Brief Description**

Fire is now in the coal seam and intensifying  
 crew inbye are going to seek refuge for rescue  
 Crew outbye are going to establish FAB  
 examine scenario of fan reversal - fire fight from the mine  
 Tanya Miller @Wednesday, November 21, 2018 13:58

**Action Underway to Contain Event**

LW crew is current being evacuated  
 Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on People**

LW Crews  
 Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Environment**

fire on a loader inbye of the LW face  
 Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Community**

Families of the LW crew  
 Tanya Miller @Wednesday, November 21, 2018 11:24

**Effect on Operations**

ceased of operations  
 12x personnel inbye of LW confirmed at 11:40am  
 Tanya Miller @Wednesday, November 21, 2018 11:45

**Weather**

Weather at Location  
 Temperature  
 Wind Speed and Direction  
 Tanya Miller @Wednesday, November 21, 2018 11:24

**Contact Details**

Tanya Miller @Wednesday, November 21, 2018 11:24

Task #22 Created  
 Team: Incident Control Team  
 Assigned To: Katie Parison (Confidential) Tanya Miller (Confidential)  
 Due: 21 November 2018 21 November 2018 13:59  
 Priority: High  
 Mobilize GAG

Task #22 Completed  
 Team: Incident Control Team  
 Assigned To: Katie Parison (Confidential) Tanya Miller (Confidential)  
 Completed: 21 November 2018 21 November 2018 13:59  
 Priority: High  
 Mobilize GAG

Task #23 Created  
 Team: Incident Control Team  
 Assigned To: Charmaine Lowther (Confidential) Tanya Miller (Confidential)  
 Due: 21 November 2018 21 November 2018 13:59

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Priority: High  
Scenario plan of fan reversal

Task #24 Created  
Team: Incident Control Team  
Assigned To: Bev Marlborough (Confidential) Tanya Miller(tanya.miller@angloamerican.com)  
Due: 21 November 2018 21 November 2018 14:00  
Priority: High  
Crane to shaft 7

Task #24 Completed  
Team: Incident Control Team  
Assigned To: Bev Marlborough (Confidential) Tanya Miller(tanya.miller@angloamerican.com)  
Completed: 21 November 2018 21 November 2018 14:00  
Priority: High  
Crane to shaft 7

Task #25 Created  
Team: Incident Control Team  
Assigned To: Charmaine Lowther (Confidential) Tanya Miller(tanya.miller@angloamerican.com)  
Due: 21 November 2018 21 November 2018 14:00  
Priority: High  
Continue to monitor gases

Task #26 Created  
Team: Incident Control Team  
Assigned To: Bev Marlborough (Confidential) Tanya Miller(Confidential)  
Due: 21 November 2018 21 November 2018 14:00  
Priority: High  
Continue to monitor water

Comment Added - Task #25 Charmaine Lowther (Confidential)  
21 November 2018 14:01  
James/VO Informed

Task #27 Created  
Team: Incident Control Team  
Assigned To: Charmaine Lowther (Confidential) Tanya Miller(Confidential)  
Due: 21 November 2018 21 November 2018 14:01  
Priority: High  
Monitor gas stub

Comment Added - Task #20 Bev Marlborough (Confidential)  
21 November 2018 14:03  
Pictures of Shaft 7  
Attachments: Shaft 7 181121 2.01pm.jpg

Task #28 Created  
Team: Incident Control Team  
Assigned To: Charmaine Lowther (Confidential) Tanya Miller(Confidential)  
Due: 21 November 2018 21 November 2018 14:03  
Priority: High  
will flooding block the fire ( Nols knows what this means)

Task #28 Completed  
Team: Incident Control Team  
Assigned To: Charmaine Lowther (Confidential) Tanya Miller(Confidential)  
Completed: 21 November 2018 21 November 2018 14:03  
Priority: High  
will flooding block the fire ( Nols knows what this means)

Update #36 Created.  
Team: Incident Control Team  
Assigned To: Bev Marlborough (Confidential) Bev Marlborough (Confidential)  
Pictures of SHAft 7 21 November 2018 14:04  
Pictures of SHAft 7  
Attachments: Shaft 7 181121 2.01pm.jpg

Task #29 Created  
Team: Incident Control Team  
Assigned To: Damien Wynni (Confidential) Tanya Miller(Confidential)  
Due: 21 November 2018 21 November 2018 14:04  
Priority: High  
Increase external contacts

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<p>Task #29 Completed                  Team: Incident Control Team                  Assigned To: Damien Wynne (Confidential)                  Completed: 21 November 2018                  Priority: High                  Increase external contacts</p>	<p>Tanya Miller (Confidential)                  21 November 2018 14:04</p>
<p>Update #37 Created.                  Team: Incident Control Team                  Mine Rescue                  Mines Rescue has just arrived onsite and are going to Operations</p>	<p>Tanya Miller (Confidential)                  21 November 2018 14:05</p>
<p>Update #38 Created.                  Team: Incident Control Team                  next ICT meeting at 14.30pm</p>	<p>Tanya Miller (Confidential)                  21 November 2018 14:05</p>
<p>Task #30 Created                  Team: Incident Control Team                  Assigned To: Bev Marlborough (Confidential)                  Due: 21 November 2018                  Priority: High                  Conduct RA for shaft 7 entry / rescue</p>	<p>Tanya Miller (Confidential)                  21 November 2018 14:09</p>
<p>Comment Added - Task #30                  Please resign to Mathew Maxwell -OHS advisor</p>	<p>Bev Marlborough (Confidential)                  21 November 2018 14:10</p>
<p>Update #39 Created.                  Team: Incident Control Team                  Mobilize GAG                  GAG located, is available and now mobilized</p>	<p>Katie Parison (Confidential)                  21 November 2018 14:10</p>
<p>Comment Added - Task #20                  Travel route confirmed - through Open Cut</p>	<p>Bev Marlborough (Confidential)                  21 November 2018 14:13</p>
<p>Update #40 Created.                  Team: Incident Control Team                  Mines rescue ready                  Mines rescue are in muster area - ready to deploy if required.</p>	<p>Katie Parison (Confidential)                  21 November 2018 14:20</p>
<p>Comment Added - Task #20                  Shaft 7 access - Top hat can be removed for cage access                  Cage is only two person (300Kilograms)</p>	<p>Bev Marlborough (Confidential)                  21 November 2018 14:21</p>
<p>Comment Added - Task #20                  Crane available in one hour</p>	<p>Bev Marlborough (Confidential)                  21 November 2018 14:22</p>
<p>Comment Added - Updates #40                  FAB will be set up in LW Crib room if required</p>	<p>Katie Parison (Confidential)                  21 November 2018 14:22</p>
<p>Update #41 Created.                  Team: Incident Control Team                  Operations Update                  LW guys at 59 c/t COB                  Development all out of pit                  5 deputies at pit bottom - awaiting instructions/mustering requirements                  10 CMW's still inbye                  22 UG                  Mines Rescue trained personnel at shaft awaiting confirmation as to whether they are allowed/required UG</p>	<p>Katie Parison (Confidential)                  21 November 2018 14:26</p>
<p>Comment Added - Task #20                  Cage on its way to Shaft 7                  Mobilise 4 fitters and 2 Electricians and tools to Shaft 7</p>	<p>Bev Marlborough (Confidential)                  21 November 2018 14:27</p>



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Update #42 Created. Charmaine Lowther(Confidential) 21 November 2018 14:29  
 Team: Incident Control Team  
 Planning Update on tasks

Tube Bundle 24 has burnt through – reading 1000ppm CO indication of intensity of the fire

Surveyor

Check the volume required to choke off the roadway 908.

Time will take to choke off at different flow rates - 30ltr/sec to 200ltr/sec – how quickly will I the choked off

Ventilation

Model effect of ventilation reversal using Shaft #7 as upcast

Currently no increase in CO readings – to continue monitoring

5ct evidence the gas stub has been compromised

Tech Service Co

Review options for fighting the fire

Utilising 17ct borehole for inertisation

Utilising 5ct riser as point for inertisation

Getting bag samples from 5ct riser indication pipes have been burnt through

Comment Added - Task #24 Bev Marlborough(Confidential) 21 November 2018 14:30

Crane on its way to shaft 7, 45 mins to shaft 3.15pm

Comment Added - Task #26 Bev Marlborough(Confidential) 21 November 2018 14:31

All water services are good

Comment Added - Updates #41 Katie Parison(Confidential) 21 November 2018 14:32

2 x Mines rescue teams deployed UG to set up FAB at LW Crib Room  
 LW Crew instructed to clear room for FAB.

Update #43 Created. Charmaine Lowther(Confidential) 21 November 2018 14:34  
 Team: Incident Control Team  
 Planning - Water Volume to choke MG908

Attachments: Water Volumes to choke 908MG.pdf

Comment Added - Task #27 Charmaine Lowther(Confidential) 21 November 2018 14:35

Holty doing 30min updates

Comment Added - Task #28 Charmaine Lowther(Confidential) 21 November 2018 14:37

It will block from 13-15ct at 200l/s will choke it in 13hrs - if it doesn't drain through cross block holes

Attachments: Water Volumes to choke 908MG.pdf

Update #44 Created. Tanya Miller(Confidential) 21 November 2018 14:40  
 Team: Incident Control Team  
 2.30pm update

Operations - all LW still in 59c/t, 5 ERZC at Pit bottom directing traffic. Mines rescue 2x complete teams heading down now. 22 personnel left UG.

Planning - Tube 24 has been compromised, the gas stub at 5c/t been compromised also. Map has been completed on the volume of water. Swinging ventilation

Logistics - Crane is 30mins from site, trades on there way. Cage is only the 2 man not 3 as originally thought.

Medical - RA getting started on shaft 7 evacuation, both patients are still stable.

EMT - Contacted external contacts, Sarah from town services has been briefed on the current situation.

Update #45 Created. Tanya Miller(Confidential) 21 November 2018 14:40  
 Team: Incident Control Team  
 EVENT IS OVER!!!

Update #46 Created. Bev Marlborough(Confidential) 21 November 2018 14:43  
 Team: Incident Control Team  
 Thank you all for your assistance



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Update #47 Created.  
Team: Incident Control Team  
Gas Trends

Charmaine Lowther [REDACTED]

21 November 2018 14:48

Raj wishing to have doc's on file

**Attachments:** tubes.pdf, tubes2.pdf

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Role Added: ICT Emergency Services Coordinator - Richard Bilzon

Tanya Miller

Confidential [REDACTED]

[REDACTED]

AccessLevel: Custom Access

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