

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	16/08/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Site Safety & Health Reps Consulted: Mr Mick Haggerty, Magazine Keeper

Today and on 17/08/2011, I attended site and completed an inspection on backfill and vertical opening. At the mine office I met with Dr Jianping Li, Principal Geotechnical Advisor and had discussion regarding the mine backfilling process. Later on, after Dr Li left for flying out, I continued discussion with Mr Charles Williamson, Pastefill Engineer.

Dr Li stated that the mine backfill process is appropriately engineered and is an integral part of mine design process. All the stopes are filled with paste after they are emptied and prepared and a wall erected to contain the paste. The density of the paste is 78% solid with particle size P80 (>102 micro mm) that consists of mill tailings, water (22-24%) and cement (3-6%). The specification of paste has been designed by competent person and based on analysis using a modified 3-D version of Terzaghis arching model in soils. To ensure the paste attains the required strength, samples are taken at paste plant and strength is determined. To ensure the quality control, size is determined 3 times a week, composition of solid 2 times a shift and cement percentage is determined continuously through an online process.

I sighted the paste sampling data analysis sheet that shows the specifications of paste. It was noticed that since 11/2009, the determined ultimate compressive strengths (UCS) of the paste that was sampled during the run, were not recorded in the data sheet. Some of the test results prior to that period indicated UCS achieved was less than the designed UCS. This means that the achieved strength is not always being crosschecked with the designed strength and as such not known what happens in nonconformity. Dr Li stated though there is very little or no variation between the designed and achieved strength, he would update the records and action would be initiated for wide variations if any.

Dr Li stated the barricade wall to contain paste has been designed and reviewed by REVELL resources and though the recommended thickness is 200mm, the mine constructs 400mm thick wall. I sighted a hard copy of the design report. Mr Williamson stated that the wall is inspected during construction, after completion and during filling operation by services supervisors. I

sighted a checklist for such inspections.

It was noted that the design drawings and calculations and specifications for the paste and paste wall were not formally recorded under document control and the information are sitting as stand alone documents. This information should be recorded within the system.

The mine has a developed fill management system and I sighted a copy of paste management procedure (PRO-UG0015C) that was reviewed on 09/09/2010. The procedure covers all activities and processes associated with the paste filling of underground voids including-

- Stope/void preparation
- Backfill design
- Fill holes and fill winzes
- Reticulation
- Barricades-construction, location and signage
- Fill design – analysis, design note and instructions
- Inspection and monitoring process
- Communication and reporting
- Responsibilities.

The procedure has references of all the other relevant procedures and SWIs for carrying out the activities associated with the paste filling and I sighted the list of all related procedures, SWIs and the JSAs. Crew members are involved in the JSA. I sighted the following SWIs and the JSA:

- SWI-MIN0050 and JSA 002368 - Running paste from underground.
- SWI UG0146C - Installation of steel pipe line
- SWI UGO147C - Installation of paste fill lines
- PRO MIN0023 - Paste line blockage relief plan

Mr Williamson stated that a fill note is prepared for each stope after completing a checklist and I sighted the checklist and the fill note for 45a73HG stope. The fill note has been checked by a Geotechnical Engineer and signed off by Senior Operations Manager.

Mr Williamson stated that some stopes are also being filled with waste rock and/or with waste rock and paste. However currently there is no such stope. He further stated that even in case of a stope being filled with waste, no tipping is done directly into a stope by a loader or truck but through a dedicated fill winze.

I checked the training matrix in relation to the competencies of the paste/fill employees and observed most of them were current. However, some of the employees did not have 'Hand held rock drilling' or Install and maintain reticulation' competency. Mr Arthur Pons, Services supervisor confirmed that the information is available to supervisors and they ensure employees competencies on a task before allotting them to work.

It was noted that at the week ending 15/08/2011, the mine has available void of 393,129 tonnes. Mr Mike Martin, Geotechnical Engineer stated that the situation may be uncomfortable from production point of view but not from safety point of view. This is because the voids are scattered and no stoping is done within 40m of another stope. The mine has two exclusion

zones on hanging wall and footwall where most of the infrastructures are located and no mining is done in these two zones. Therefore the global stability of the mine is in no way affected due to the current void. The status regarding the void is communicated and explained to the crew from time to time.

On 17/08/2011, I looked into the management of vertical opening at the mine and Mr Jason Thain, Foreman assisted me in this regard.

I sighted a copy of CAN-MINING-PROCEDURE-Controlling exposure to mining voids -cd4137 that outlines the process required for managing the hazards associated with the mining voids. The procedure covers the controls required around tipples and mining voids for mobile equipment as well as pedestrian, barricades and signage required around open voids, requirement and details of stope or tipple pre-start check book, requirement of permit or authorisation for any deviation and the roles and responsibilities. The procedure also provides the references of the SWIs for the activities required to maintain and establish controls around the tipples and other voids.

It was observed that the ore passes that have ore pass ring would prevent the equipment access but may not the pedestrians. Mr Thain stated that new action has been initiated since June 2011 to provide a temporary bund and a permanent steel stop log is being designed by Hard Rock Mining and to be installed once the design is approved.

Mr Thain stated that an audit for the mining void was completed in July 2010 by BHP Base metal led by Mr Rob Cooper and several recommendations were made. A review of the action recommended was also completed in December 2010. I sighted the copy of the review report and discussed the status of progress of the recommendations which are mostly completed and some are still ongoing (eg. development of a SWI for use of extended reach equipment to establish a bund within 3m of a void).

I sighted 'Central ore Pass (COP) Management Plan' (PRO-cd4133) that outlines the operational management of COP and provides the guidelines for internal inspection. The procedure has a scope for routine CALS survey of the ore pass to monitor the stability through boreholes at different locations when the ore pass is not in use at that particular segment. Apart from CALS survey the ore pass is audited monthly by supervisors about their physical controls and I sighted an ore pass audit form.

Mr Mike Martin, Senior Geotechnical Engineer stated that CALS and geotechnical assessment has been completed for Central Ore pass (COP) in June 2011 and actions recommended that includes a schedule for future CALS survey.

Mr Martin stated that Northern Ore Pass (NOP) has been partially surveyed and recommendations made according to the findings and analysis. I sighted the recommendations. The CALS survey of upper section of the NOP is due.

CALS survey of the remaining ore passes like Middle Ore Pass (MOP). Southern Ore Pass 2 (SOP2) and Western Ore Pass2 (WOP2) have not yet been done and no schedule has been drawn.

It was observed that the mine has a COP management plan that does not cover the other ore

passes. This procedure should either be reviewed to cover all the ore passes or the mine should develop individual procedures for all the ore passes.

With Mr Martin I also discussed about the failure of 551.52HL (between 475 and 450mLv) stope crown on 02/08/2011. Geotechnical investigation has been carried out. All access around the stope at 450 and 475 levels has been barricaded. The stope is now being filled. The crew has been updated on the status and action initiated.

Accompanied by Mr Thain and Mr Williamson, underground we inspected-

- 325mLv COP and NOP. COP was barricaded and tipping was on at NOP. Both the tipples had pre-start checklist that was completed and signed by operator and supervisor. The controls are well maintained. There was little muck built up at NOP. Mr Thain told operator to take action. Although NOP has a permanent stop log, the height appeared to be less than 1.5m due to little muck built-up. A warning sign to use lanyard while approaching the ore pass was not in place.
- 325mLv South 3 paste line.
- 425mLv 56 XC – paste filling for 551.52HL stope.
- 425mLv 56XC – paste wall for 551.56HL stope (550m to 425mLv) paste wall was completed on 15.05.2011. The wall was strong and there was no sign of leakage.
- 400mLv 47e68 stope (400 to 475mLv) – The stope (open void) was barricaded 10m from the open stope.
- 220mLv 24Kc4 (240m to 180mLv) - paste wall under construction.

On the surface I had a close out meeting with Mr Ed Cooney, Mines Manager. Mr Troy Wilson, SSE was not available in the office.

As a result of inspection I issue the following:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Quality Control and record	16/11/2011
	The paste sampling data analysis sheet did not record the achieved 'ultimate compressive strength' of the paste sampled since November 2009.	

Ensure the quality of the paste such as the strength is cross-checked/verified to confirm that the output is suitable for the designed strength of the paste and ensure to record all relevant testing and monitoring data including but not limited to:

- The name of the stope for which the paste ran
- Designed strength of the paste
- Achieved strength of the paste

Action taken as a result of testing and monitoring shall also be recorded.

Refer Sections 9, 98 and 113 of the MQSHR 2001

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Procedures	17/10/2011
	It was observed that except 'Central Ore pass', the mine does not have documented plan/procedure for management of other ore passes.	

Develop ore pass management plan/procedure that covers all the existing ore passes in the mine. The procedure must be approved, documented and implemented to ensure the ore pass integrity is monitored during its life of use.

Refer Section 114, MQSHR 2001

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Signage	19/09/2011
	At the time of inspection the Northern Ore pass did not have an appropriate sign (eg. use lanyard) for warning persons approaching the ore pass.	
	Ensure to place on each level of an ore pass an appropriate signage to inform persons what is required to be done while approaching the ore pass so that risk to the persons is at an acceptable level.	

Refer Section 36 MQSHA and section 43, MQSHR 2001.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
4	Document Control	N/A
	It is recommended that the design drawings and calculations and specifications for the paste and paste wall are formally recorded under document control so that the information is readily available at all time.	

Refer Section 112 and 113, MQSHR 2001.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please notify me in writing when the above SCPs have been addressed and what was done to address them.

Asok Sur
Inspector of Mines
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Asok Sur, Inspector of Mines (Metalliferous)

Subject: Quality Control	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/08/2011
Record Date: 01/09/2011	MRE Item No.: 1

Title: Quality Control and record

Description of Action Required to be Taken:
 The paste sampling data analysis sheet did not record the achieved 'ultimate compressive strength' of the paste sampled since November 2009.

Ensure the quality of the paste such as the strength is cross-checked/verified to confirm that the output is suitable for the designed strength of the paste and ensure to record all relevant testing and monitoring data including but not limited to:

- The name of the stope for which the paste ran
- Designed strength of the paste
- Achieved strength of the paste

Action taken as a result of testing and monitoring shall also be recorded.

Refer Sections 9, 98 and 113 of the MQSHR 2001

References:
 Refer Sections 9, 98 and 113 of the MQSHR 2001

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 16/11/2011

Completed: 12/10/2011, **Closed by:** Asok Sur **on** 12/10/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

Complied with. See attached response.

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Asok Sur, Inspector of Mines (Metalliferous)

Subject: Procedures	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/08/2011
Record Date: 01/09/2011	MRE Item No.: 2

Title: Procedures

Description of Action Required to be Taken:
 It was observed that except 'Central Ore pass', the mine does not have documented plan/procedure for management of other ore passes.

Develop ore pass management plan/procedure that covers all the existing ore passes in the mine. The procedure must be approved, documented and implemented to ensure the ore pass integrity is monitored during its life of use.

Refer Section 114, MQSHR 2001

References:
 Refer Section 114, MQSHR 2001

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 17/10/2011

Completed: 12/10/2011, **Closed by:** Asok Sur on 12/10/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

Complied with. see attached response.

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Asok Sur, Inspector of Mines (Metalliferous)

Subject: Signage	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/08/2011
Record Date: 01/09/2011	MRE Item No.: 3

Title: Signage

Description of Action Required to be Taken:
 At the time of inspection the Northern Ore pass did not have an appropriate sign (eg. use lanyard) for warning persons approaching the ore pass.

Ensure to place on each level of an ore pass an appropriate signage to inform persons what is required to be done while approaching the ore pass so that risk to the persons is at an acceptable level.

Refer Section 36 MQSHA and section 43, MQSHR 2001.

References:
 Refer Section 36 MQSHA and section 43, MQSHR 2001.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 19/09/2011

Completed: 27/10/2011, **Closed by:** Asok Sur on 27/10/2011 12:00:00 AM.

Reassigned Due Date: 31/10/2011; **Review conducted by** Asok Sur on 15/09/2011.

Action Taken by Mine to Comply with Corrective Action Requirement:

Appropriate signage placed.

Released by DNRM under the RTI Act 2009

Recommendation

Subject: Document Control	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/08/2011
Record Date: 01/09/2011	MRE Item No.: 4

Title: Document Control

Description of Action Recommended to be Taken:

It is recommended that the design drawings and calculations and specifications for the paste and paste wall are formally recorded under document control so that the information is readily available at all time.

Refer Section 112 and 113, MQSHR 2001.

References:

Refer Section 112 and 113, MQSHR 2001.

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	25/05/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Today and on 26/05/2011, I attended site and completed an inspection on Mine Development. At the mine office I met with Mr Grant Aitchison and Mr Johan Ferreira, Deputy Mines Managers and had discussion with them regarding the current development activities at the mine.

With Mr Mark Dowdell, Planning Engineer, I discussed the development design process and sighted Cannington development design procedure TS0137. The process includes input from Geology, Geotech, Survey, Operations and ventilation. Based on the strategic long and short term development planning and scheduling, the mine prepares a two weekly schedule and finally a daily development summary sheet for the mine that provides information on the status of the development faces, ore type, ground conditions and required ground controls as per various Cannington standards and instructions on any special precautions that are required to be taken. Plan/drawing of the development headings incorporating all the surrounding mining information is released on completion of a 'Mine Planning and Design including Geotechnical Checklist (FRM-cd4324) that mainly covers the hazards associated with the proposed development and the required controls to manage them. I sighted some copies of the development plan. Each plan was signed by the Planning Engineer, Geologist, Geotechnical Engineer, Operation Engineer, Operations Superintendent, Deputy Mine Manager, Designer, Scheduler and Surveyor. From the development plan a survey plan/memo is prepared for the operations that include the plan of the designated heading, name, size, alignment, grade, and distance to stop, ground support specifications and surrounding mining information. It also includes the details of associated hazard (if any) and the information of the risk assessment completed to manage the risks. I sighted one of such survey memos. However, the development/survey memo and the checklist did not appear to adequately address the following important points which can be considered by the site:

- Signature of surveyor in the survey memo.
- Information on controls when breakthrough is indicated.
- ERB locations or directions.
- Use of specific drawing norm for specific feature (similar drawing norms were used for different features e.g. dashed line for centre line and service holes; Solid lines for electric cables and drive outlines etc.)
- Checklist to confirm adequate ventilation for the proposed development.

I observed that diamond drill holes are shown in the survey memo with no information as to what is required to be done when it breaks into the drive. Also there appeared to be no information being recorded with regards to the status (intercepted, grouted, not intercepted etc) of a diamond drill hole once the drive goes past the indicated location. I could not sight any risk management process undertaken to demonstrate that the risk from breaking into diamond drill holes is at an acceptable level.

I had a discussion with Mr Jianping Li, Principal Geotech Advisor and Mr Michael Martin, Sr. Geotech Engineer on the mines 'Ground control management plan' and the design considerations for the ground support pattern that are based on FOS, historical data, software calculations and stability analysis. We also discussed on ongoing seismic monitoring and TARP and rock noise reporting procedure. Mr Li advised that there hadn't been any significant seismic event at this mine so far. I sighted the pull testing record. About 1% bolts are being tested. All appeared satisfactory.

I sighted 'Development drilling training workbook', Face preparation training package, Training plan for drill offsider, SWI UG0178C – Face preparation and misfire identification and SWI 0017C – Development charge up and CAN mining assessment for 'Charge development blast holes.

On 25/05/2011, assisted by Mr Aitchison and Mr Arthur Pons, Acting Foreman we inspected underground:

- E7 XE 120 mLv. Mr Lloyd Le Pou, operator was boring face with a Jumbo unit DR 108. Ground support complete, face marked up, ventilation good and survey memo on rig. No bit gauge on Jumbo but the bits are coloured according to size.
- Th52DS 550mLv. Mr Andrew Field and Mr Allister Galloway were charging face with emulsion. While Mr Galloway was charging in the basket, Mr Field was behind the jack and this is required as per the procedure. The charge car has a scaling bar and Mr Field said they had hand scaled the face before start of charging and there was evidence of such activity at the floor. For the perimeter holes 0.6 density emulsion was being tried as an alternative to Econotrim. The pre start check book did not cover checking of the basket and the attachment. Mr Aitchison stated that the attachment is fixed and cannot be removed other than in workshop. However I recommend to include the attachment and the basket in the pre-start check list.

It is good to see that every development heading has a development activity sheet that is required to be completed after completion of each activity in the development cycle. It starts from bogging and ends with charging and includes inspection for misfires, fibrecreting, ground support, face prep and drilling. It is recommended to include re-entry activity in the development activity sheet to start with.

On 26/05/2011, again assisted by Mr Aitchison and Mr Arthur Pons, Acting Foreman we inspected the following places underground:

- 63XE east 500 mLv – Mr Steve Heise completed bogging of face with a R2900 bogging unit. Strobe light was in place to warn of bogging. Pre-start check book was completed.

- At the same heading, face preparation started by Mr Keith Hudson and Mr Andrew Field with an IT unit. We left while the face was being hand scaled. Good ventilation and good housekeeping. Pre-start check book covered the basket and attachment.

We also went to a face where ground support completed and the unsupported red and white ground tape removed. It is recommended site to consider no unauthorised access till the butts are identified and marked as “Unless butts or remaining portions of blastholes have been shown to be free of explosives, they are to be treated as misfires”. [refer AS 2187.2 -2006, section 10.1(h)]

Before leaving the site I had a close out meeting with Mr Troy Wilson, SSE and Mr Grant Aitchison.

As a result of this inspection, the following issues needs to be addressed:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Development and survey plan	27/06/2011
	As per MQSHR Section 45 and 58, ensure to include/modify all relevant information in the development/survey plans and the checklist, including but not limited to:	
	<ul style="list-style-type: none"> • Signature of surveyor in the survey memo. • Information on controls when breakthrough is indicated. • ERB locations or directions. • Use of specific drawing norm for specific feature (similar drawing norms were used for different features e.g. dashed line for centre line and service holes; Solid lines for electric cables and drive outlines etc.) • Checklist to confirm adequate ventilation for the proposed development. 	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Risk Assessment	15/07/2011
	Diamond drill holes are shown in the survey memo with no information as to what is required to be done when it breaks into the drive.	
	Provide documented advice on the risk management processes undertaken to demonstrate that the risk from breaking into diamond drill holes is at an acceptable level.	
	Also provide information as to how the status (intercepted, grouted, not intercepted etc) of a diamond drill hole once the drive goes past the indicated location is recorded/documentated. Refer section 26-28 of the MQSHR 2001.	

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Asok Sur
Inspector of Mines
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Asok Sur, Inspector of Mines (Metalliferous)

Subject: Design and Planning	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/05/2011
Record Date: 01/06/2011	MRE Item No.: 1

Title: Development and survey plan

Description of Action Required to be Taken:
 As per MQSHR Section 45 and 58, ensure to include/modify all relevant information in the development/survey plans and the checklist, including but not limited to:

- Signature of surveyor in the survey memo.
- Information on controls when breakthrough is indicated.
- ERB locations or directions.
- Use of specific drawing norm for specific feature (similar drawing norms were used for different features e.g. dashed line for centre line and service holes; Solid lines for electric cables and drive outlines etc.)
- Checklist to confirm adequate ventilation for the proposed development.

References:
 MQSHR Section 45 and 58

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 27/06/2011

Completed: 11/07/2011, **Closed by:** Asok Sur **on** 11/07/2011 12:00:00 AM.

Reassigned Due Date: 08/07/2011; **Review conducted by** Asok Sur **on** 28/06/2011.

Action Taken by Mine to Comply with Corrective Action Requirement:

Complied with. See attached response.

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Asok Sur, Inspector of Mines (Metalliferous)

Subject: Risk Assessment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/05/2011
Record Date: 01/06/2011	MRE Item No.: 2

Title: Risk Assessment

Description of Action Required to be Taken:
 Diamond drill holes are shown in the survey memo with no information as to what is required to be done when it breaks into the drive.

Provide documented advice on the risk management processes undertaken to demonstrate that the risk from breaking into diamond drill holes is at an acceptable level.

Also provide information as to how the status (intercepted, grouted, not intercepted etc) of a diamond drill hole once the drive goes past the indicated location is recorded/documentated. Refer section 26-28 of the MQSHR 2001.

References:
 section 26-28 of the MQSHR 2001

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 15/07/2011

Completed: 14/07/2011, **Closed by:** Asok Sur **on** 14/07/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

Complied with. see attached response.

Released by DNRM under the RTI Act 2009

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	24/01/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today I attended site and conducted an inspection of the Traffic Management system of the mine. At the mine offices I met with Mr Troy Wilson, SSE and then had discussion with Mr Ed Cooney, Mine Manager and Mr Jason Thain, Mine Foreman on the traffic management issues.

The operation has a documented Traffic Management Plan (TMP), version 1.1, 11 Feb 2008 that outlines traffic control processes within Cannington Mine for both surface and underground operations and I was provided with a copy. Mr Cooney stated that the TMP is under review and expected to be on roll by the end of the financial year. The TMP was developed on the basis of site based risk assessment and covers extensive aspects of traffic management on site which is supported by a number of procedures/SWI's/Training packages. Though some documents are referenced in the appendix of TMP, not all the procedures and SWIs related to traffic management are referenced. I sighted the following Procedures/SWI's and associated risk assessment documents:

- PRO-MIN0002C - Underground Mobile equipment (referenced)
- SWI-MIN0024C - Operating Mobile equipment Underground(referenced) and risk assessment dated 13/09/2009
- PRO-MNT0012C- Mobile equipment approval process(referenced)
- SWI-MIN0056-Blocked decline(not referenced)
- PRO-MNT0032-CAN-MAINT-PROCEDURE(not referenced)
- SWI-MIN0059-Loss of Radio Communication (not referenced)
- PRO-ENG0031-Surface road design and maintenance(not referenced)
- PRO-TSO137-Development design(not referenced)

Further the TMP did not appear to adequately address some important points including, but not limited to, the following:

- Personal accountabilities
- Locations/protection of buildings and structures from the hazards of uncontrolled movement of vehicles/equipment,

- Provisions for and maintenance of barriers to prevent vehicles from driving off the edge of haul roads, ramps, ROM pads etc.
- Night operations requirement especially in key operational areas like haulage road, ROM pad etc.
- Change of operational flow of mobile equipment and operational changes to roads and equipment fleet
- Inspection and monitoring requirement for traffic management for the underground operations.
- Emergency procedure for underground equipment and vehicles.

Mr Cooney explained that ongoing hazards and risks associated with traffic management and vehicle interaction on site is being assessed and managed by conducting risk assessment on a case by case basis followed by the development/modification of procedures/SWI. The following risk assessment documents and procedures were sighted:

- Changed traffic flow of vehicles underground between 70mLv and 325mLv dated 06.07.2010
- Changing direction of traffic flow due to E4 construction work dated 28/07/2010
- Identify and assess the risk associated with traffic management and vehicle interaction on site dated 24.2 & 09.03.2008

The Risk assessment has an action timeline, by whom and when etc.

The site has adopted some good and welcome initiatives to minimise the risk of traffic hazards underground.

- Activation of warning (red) light at decline within a 60m zone of an approaching truck through transponder fitted in the truck. At present only two trucks are on trial.
- FMC Proximity detection system fitted in 6 LVs, 2 Trucks, 2 loaders, 2 IT carriers and 12 cap lamps. On trial.
- Pedestrian warning lights at 320,450,575 mLv crib room areas and also at the crusher area.
- LED screen installed at 70, 240 and 320 mLv to display underground traffic conditions.
- Teleremote bogging operation from surface. 1 unit is operating currently and 1 more would be added this year.
- One way traffic for heavy vehicles in part of the decline.
- Decline traffic information system- The system is down at present.

To manage the risk associated with operational flow of mobile equipment and operational changes to roads and equipment fleet the site adopts the change management process that has a comprehensive risk assessment part. I sighted a change request form dated 7/7/2010 initiating the change for underground traffic management, change of signage plans and a communication document in relation to the change. However, the change management process is not covered in the TMP.

Daily traffic management changes are communicated in shift pre-start meetings, PASS meetings/ e-mails/safety meetings etc.

Underground decline and the levels are being maintained by Redpath as per weekly schedule.

The work is supervised by Cannington supervisor. I sighted the grader schedule for Redpath and sighted a shift report signed off by Cannington supervisor.

The site does not have a formal inspection and documentation process in relation to traffic related infrastructures and controls i.e roads, intersections, signage, tipping points through daily/weekly inspection by the supervisors. Though there is an overall inspection and documentation process for underground, it does not cover all aspects of traffic management such as signage etc. For surface operations there is no such documentation of any inspection system.

Underground Inspection:

Assisted by Mr Jason Thain, Mine Foreman I inspected the following places at underground:

- 70mLv- LED displaying traffic condition
- 450 mLv – Crib room parking area. Sighted pedestrian warning lights and activation switches. Good housekeeping.
- 325 mLv – Central ore pass for northern zone stope below 240mLv. Well lit. Red line marked 5m away from the open hole and Mr Jason stated no wheeled unit to go past this line. This has come from an open hole audit conducted recently. Also sighted LED displaying the traffic condition.
- Decline 268 – 320mLv – warning lights for the approaching trucks within 60m zone.
- 325mLv - LED displaying the traffic condition.
- 220mLv 22h D2 stope where Mr Steve Foster was mucking from a draw point and loading trucks. – Strobe light in place to warn of bogging. There is a 5m reference line from the last row of support at the brow and loader cab is not to go past this point. There is also a 15m reference line as an exclusion zone for any person entering within 15m of the brow. The operator placed a portable steel bund against the draw point before we entered the 5m zone (brow was not cracked).
- 160 mLv – Tipple for 32LD9 stope. Used as a waste fill pass. Now not being used. Well lit, barricaded and was fitted with a custom built steel stop log anchored to the floor securely. The tipple has a pre-start book which shows the checks to be carried out prior to tip.

We travelled in a light vehicle fitted with a proximity detection device and my cap lamp was also fitted with a device. We received alarm when we came within 30m range of other units fitted with similar device. Road, signage in the areas travelled were maintained in good condition.

On surface I had discussion with Ms Amy Vitale, Superintendent, site services dept and Mr Mark Graveson, Supervisor ROM regarding the design, maintenance and inspection of surface haul roads, ROM pads and other related traffic infrastructures and went around the site. The haul road, ROM pad, Ramps etc were well maintained. Mr Graveson stated that there is no set inspection protocol and documentation though inspections are being carried on daily.

On the following day I had a discussion with Ms Karen Cramb Safety Advisor. Ms Cramb stated that there had been no traffic related incident reported in the past 12 months in mine control area. In reply to my question as to how departmental safety alerts, interstate and overseas alerts are considered, Ms Cramb stated that corrective actions are being constantly taken to improve the site procedure from the incidents that occurred at the mine. Safety alerts are communicated to all personnel through e-mails and 'Safety Flash'. Ms Cramb admitted that the site does not have a system to pick up relevant incidents from interstate and overseas

information and to take corrective measures accordingly. It is recommended that the site should develop such a system.

Before closing up I had a discussion with Mr Ed Cooney regarding any audit carried out for the traffic management plan, procedures and the controls on site. He could not readily provide me the information.

Before leaving the site I had a close out meeting with Mr Troy Wilson, SSE and Mr Ed Cooney.

As a result of this inspection, the following issues needs to be addressed:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Traffic Management Plan	24/03/2011

As per MQSHR Section 114, Review the Mine Traffic Management Plan to give reference to all of the procedures relating to traffic management including but not limited to:

- SWI-MIN0056-Blocked decline
- PRO-MNT0032-Can-Maint-Procedure
- SWI-MIN0059-Loss of Radio Communication
- PRO-ENG0031-Surface road design and maintenance
- PRO-TSO137-Development design

The review must include the following, but not be limited to,

- Personal accountabilities
- Locations/protection of buildings and structures from the hazards of uncontrolled movement of vehicles/equipment,
- Provisions for and maintenance of barriers to prevent vehicles from driving off the edge of haul roads, ramps, ROM pads etc.
- Night operations requirement especially in key operational areas like haulage road, ROM pad etc.
- Change of operational flow of mobile equipment and operational changes to roads and equipment fleet
- Inspection and monitoring requirement for traffic management for the underground operations.
- Emergency procedure for underground equipment and vehicles.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Inspection and monitoring	24/03/2011

As per MQSHA, s. 55 and 39, develop a formal system of inspection, monitoring and assessment of the traffic related installations and controls at the mine and to take corrective actions so that the risk from deterioration (e.g. bunds and windrows) over time does not create an unacceptable level of risk. A record of the inspection must be kept and documented.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Auditing	24/06/2011

As per MQSHA, s 38 and 55, develop a system of auditing for the Traffic management plan at regular interval for assessing the effectiveness of the site's traffic management protocols.

Please provide a written status report on each SCP together with the actions taken to

address each item by their due dates

**Asok Sur
Inspector of Mines
Northern Region**

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Asok Sur, Inspector of Mines (Metalliferous)

Subject: Traffic Management Plan	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 24/01/2011
Record Date: 07/02/2011	MRE Item No.: 1

Title: Traffic Management Plan

Description of Action Required to be Taken:
 As per MQSHR Section 114, Review the Mine Traffic Management Plan to give reference to all of the procedures relating to traffic management including but not limited to:

- SWI-MIN0056-Blocked decline
- PRO-MNT0032-Can-Maint-Procedure
- SWI-MIN0059-Loss of Radio Communication
- PRO-ENG0031-Surface road design and maintenance
- PRO-TSO137-Development design

The review must include the following, but not be limited to,

- Personal accountabilities
- Locations/protection of buildings and structures from the hazards of uncontrolled movement of vehicles/equipment,
- Provisions for and maintenance of barriers to prevent vehicles from driving off the edge of haul roads, ramps, ROM pads etc.
- Night operations requirement especially in key operational areas like haulage road, ROM pad etc.
- Change of operational flow of mobile equipment and operational changes to roads and equipment fleet
- Inspection and monitoring requirement for traffic management for the underground

operations.

- Emergency procedure for underground equipment and vehicles.

References:

MQSHR Section 114

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/03/2011

Completed: 25/03/2011, **Closed by:** Asok Sur **on** 25/03/2011.

Action Taken by Mine to Comply with Corrective Action Requirement:

Action complete. See attached response.

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Asok Sur, Inspector of Mines (Metalliferous)

Subject: Inspection, monitoring & testing	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 24/01/2011
Record Date: 07/02/2011	MRE Item No.: 2

Title: Inspection and monitoring

Description of Action Required to be Taken:
 As per MQSHA, s. 55 and 39, develop a formal system of inspection, monitoring and assessment of the traffic related installations and controls at the mine and to take corrective actions so that the risk from deterioration (e.g. bunds and windrows) over time does not create an unacceptable level of risk. A record of the inspection must be kept and documented.

References:
 MQSHA, s. 55 and 39

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/03/2011

Completed: 25/03/2011, **Closed by:** Asok Sur **on** 25/03/2011.

Action Taken by Mine to Comply with Corrective Action Requirement:

Action completed

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Asok Sur, Inspector of Mines (Metalliferous)

Subject: Auditing	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 24/01/2011
Record Date: 07/02/2011	MRE Item No.: 3

Title: Auditing

Description of Action Required to be Taken:
 As per MQSHA, s 38 and 55, develop a system of auditing for the Traffic management plan at regular interval for assessing the effectiveness of the site's traffic management protocols.

References:
 MQSHA, s 38 and 55

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/06/2011

Completed: 25/03/2011, **Closed by:** Asok Sur **on** 25/03/2011.

Action Taken by Mine to Comply with Corrective Action Requirement:

Internal auditing process developed

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	25/01/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today, while at the site I conducted an inspection of the Training system and competencies. At the mine office I had discussion with Mr Mark Panagis, Supervisor Technical Training, Ms Huniyati Groom, Specialist Training System, Ms Quona Young, Training administrator.

Cannington training process covers a number of different areas including induction training (by site), generic training with basic first aid and fire extinguisher (by KRUASE), refresher training at every 5 years for site employees and at every 2 years for contractors that includes site induction and generic induction, operational training and advanced skills training. At the time of my inspection I observed extensive resources being utilised to service this training and assessing requirements.

Currently the mine has about 10 trainers and assessors with at least Cert IV qualification in training and assessment. The qualifications are being upgraded periodically as per requirement. The current qualification of the trainers is being mapped to TAE10 system. The training administrators are also appropriately qualified as per the site requirement.

The site has a documented procedure for conducting training and assessment activities including RPL and RCC procedures. I sighted PRO-HH0040 that was updated on 25/06/2010. Mr Panagis stated that next week the procedure will undergo further review. The procedure also forms part of the training and assessment of trainers and assessors used onsite.

Each worker at the mine is given a position description that outlines the persons responsibilities and task they are required to perform and each worker acknowledge their role descriptions.

The site has a training matrix which is updated on 05/01/2011. The matrix showed the required competencies, current competencies, competencies expired and the competencies expiring within 3 months for its regular employees. The site maintains a separate matrix for the contractors where all BHP competencies are mapped in the matrix. The contractors maintain their own matrix as per as their training and assessment is concerned. Every month the training department gets a copy of the matrix from the contractors. All the supervisors have access to

the training matrix.

I sighted few training records including that of Mr Steve Foster, operator whom I met at underground and also sighted the training record of a temporary employee Mr Ross Torrance from TP Human capital. All competencies are observed current. However, about 16 Redpath persons are required to attain competency for the ground awareness from BHP for which Mr Panagis stated that this is scheduled to be completed within next two months.

Mr Panagis stated that Cannington conducts audits of contractors including their training system and resources. For Orica the audit was done in December 2010 and for Redpath it was done in May 2010. I sighted an audit report that has recommendation, timeline and compliance requirement.

Mr Panagis stated that the site's training system is mapped to MNM05 standard and currently is in the process of being re-mapped to RII09 standard.

It was clear the site had an extensive training system that was well resourced and managed. However, Mr Panagis said that no registered audit has been conducted so far to assess the effectiveness of the training system. The site must develop an internal and/or external audit process for the system as this is linked to the site's Safety and health management system for ensuring ongoing quality, consistency and sustainability.

I also looked into the training system of Redpath and had a brief discussion with Mr Gordon Beddoe, Safety and Training Co-ordinator of Redpath. Mr Beddoe stated that Redpath is a Registered Training Organisation and their training system is mapped to RII09. Redpath has a training matrix that shows the training requirement, status and the gap in the competencies for its workers. It was observed that apart from the gap in ground awareness training (to be completed by BHP), the competency for manual scaling expired for 26 persons. Mr Beddoe stated that this training would be followed by ground awareness and expected to be completed within next two months. There was also a backlog for 'working at height' for some Redpath workers.

It was good to see that Redpath has developed a training passport showing all the competencies of individual worker that can be carried in a bag and shown to a supervisor if required.

Before leaving the site I had a close out meeting with Mr Troy Wilson, SSE and Mr Ed Cooney, Mine Manager and discussed my observations.

As a result of this inspection, the following issues needs to be addressed:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Auditing	24/06/2011
	As per MQSHA, s 38 and 55, develop an internal and/or external audit process for the Training system to assess the effectiveness of the system.	

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Asok Sur
Inspector of Mines
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Asok Sur, Inspector of Mines (Metalliferous)

Subject: Auditing	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/01/2011
Record Date: 07/02/2011	MRE Item No.: 1

Title: Auditing

Description of Action Required to be Taken:
 As per MQSHA, s 38 and 55, develop an internal and/or external audit process for the Training system to assess the effectiveness of the system.

References:
 MQSHA, s 38 and 55

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/06/2011

Completed: 27/06/2011, **Closed by:** Asok Sur **on** 28/06/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

Audit process continuing. Schedule given.

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	03/06/2010

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

On the 3rd and 4th June 2010, I visited Cannington Mine to observe the development activities in detail in order to identify associated hazards in these activities and the ways of managing these hazards. I planned to observe the following aspects and activities.

- Development Planning.
- Development face preparation
- Development drilling
- Development charging
- Development firing
- Development mucking
- Ground support – fibrecruting, meshing and bolting.

At the mine I met Mr Johan Ferreira, Deputy Mine Manager who initially gave me an overview of the development activities at the mine. I then discussed planning and designing of mine development with Mr Bill Saba, Mine Planning Superintendent and Mr Frikkie Sadie, Senior Mine Planner. Mr Saba explained that development planning and design includes preparation of a daily development summary sheet for the mine based on the strategic long and short term development planning and scheduling. The development summary sheet provides information on the status of the development faces, ore type, ground conditions and required ground controls as per various Cannington standards and instructions on any special precautions that are required to be taken. Plan/drawing of the development headings incorporating all the surrounding mining information is released on completion of a 'Mine Planning and Design including Geotechnical' Checklist that mainly covers the hazards associated with the proposed development and the required controls to manage them. I sighted some copies of the development plan. Each plan was signed by the Planning Engineer, Geologist, Geotechnical Engineer, Operation Engineer, Operations Superintendent, Deputy Mine Manager, Designer, Scheduler and Surveyor. From the development plan a survey memo is prepared for the operations that include the plan of the designated heading, name, size alignment, grade, distance to stop, ground support specifications and surrounding mining

information. It also includes the details of associated hazard (if any) and the information of the Risk Assessment completed to manage the risks. I sighted one of such documents.

Mr G.J (Alf) Garnett, Development Superintendent explained to me the Job-sheet that provides details of the jobs assigned to the crew for the current shift. Accompanied by Mr Garnet and Mr Ashley Griffin, Development Sup, I went to underground and visited the following places:

- 450 mLv, 85 x-cut – Mr Ray Fittock and Mr Adam Markwart were doing rehabilitation bolting and meshing with a Jumbo unit 106. I sighted the `Take 5` completed by Mr Fittock, pre-start check-book of the equipment, Rehab request, Grade sheet/Development Summary Sheet, ground support specification and the drawing of the drive and the local area. I observed that only split-set bolts were being installed on the sidewalls (minimum up to grade level from the bottom) to avoid the hazards to the persons and vehicles from the protrusion of the bolt. This was a standard design in all the Cannington ground support specification.
- 450 mLv, SA 01 DS – Mr Grant Peter was cleaning up fibrecrete spills with an R 1700 Loader unit No.116. I observed the heading was fibrecreted and the next operation would be ground support installation.
- 425 mLv, Ud 76 DS - Mr Mick Hillman and Mr Ross Campbell were doing meshing and bolting with Jumbo unit DR 107.
- 315 mLv, A1 XW Drive – Mr Anthony Bryson of Redpath was fibrecreting the stripped wall. He stated that prior to starting fibrecrete he had done hydroscaling with pressure of about 4500 psi.

I could not observe any development drilling or charging as there was no such activity occurring on that shift. On returning to surface I sighted the following Cannington Safe Work Instructions:

- CAN Mining SWI Development – Face preparation and Misfire Identification (SWI – UG0178C)
- CAN Mining SWI-Developing toward a breakthrough (SWI –UG0023C)
- CAN-Mining – Development Charge-Up (SWI-UG0017C)
- CAN Mining SWI-BlastPED Initiation (SWI –UG0141C)
- CAN Mining SWI Blasting Shift Blast Controller – End of Shift Firing (SWI-cd 4042)
- CAN Mining SWI Blasting Firing Master- End of shift Surface firing (SWI-cd4043)

I also sighted the training packages in relation to following development activities

- Face Preparation
- Development drilling
- Install ground Support.

On 4th June, in the morning at the end of night shift I observed the `End of shift surface firing` using BlastPED and CEBS dongles. Mr Robert Sturgeon, Production Superintendent and shift blast controller ensured the shift firing checklist as per FRM-cd4101 is complete and signed off. Mr Ashley Griffin, Firing Master checked and signed off the firing checklist after ensuring the following:

- Checklist is signed by shift blast controller

- Secondary ventilation fan is off
- Visual inspection of Tag Board clear
- Lock Tag Board
- Check Portal barricade is in place with flashing
- Cardex U/G evacuation report is clear of all personnel
- Send PED – Underground firing in two minutes
- General broadcast two times
- Sign out firing key
- Orica confirmed CEBS system is ready and firing by firing master

After ensuring the above Mr Griffin initiated the BlastPED firing system at about 7.06 am and after the firing conducted the following operations:

- Secondary ventilation fans turned on at 7.09am
- Firing key secured in locked cabinet
- Unlocked Tag Board after 10 minutes.
- Secure Tag Board lock keys in locked cabinet.

I wanted to observe development charging but Mr Garnett informed me that no charging was scheduled for the day. Before leaving the mine I discussed my observations with Mr Johan Ferreira, Deputy Mines Manager and also met Mr Wade Bickley, Mine Manager.

Asok Sur
Inspector of Mines
Northern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	01/06/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Site Safety & Health Reps Consulted: Cameron Carroll

Today I attended site for the purpose of a general inspection of the underground workings and to speak with workers on matters relating to Health and Safety.

On arrival I completed Visitor Inductions for both the Surface and Underground areas on site. Prior to going underground I met with Mr Ed Cooney (Mine Manager) and discussed the intentions of my visit. Mr Cooney arranged for Mr Jeff Bray (Development Supervisor) to assist me with my inspection underground. Mr Bray and I discussed the Collision Avoidance system and dust suppression within the mine whilst travelling down the Portal access.

The inspection incorporated areas such as

- 425 SB86 fitter was performing daily checks on a Jumbo
- 295 L Jumbo was installing Brackets for an auxiliary vent fan
- 295 R139 Development Charge Up crew had just finished the face
- 260 32IF3 Stope. Production Charge Crew (BHP and Orica personnel)
- 450 L Crib Room met with Service Crew and other workers during Crib break.

In all areas inspected ground support appeared to be to standard, PPE was being appropriately utilised, roadways were well maintained, adequate ventilation was available and house keeping was to a high standard.

No Safety concerns were raised with me.

Barry Rodgers
District Workers'
Representative
Northern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Site Meeting	Northern	01/06/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Site Safety & Health Reps Consulted: Cameron Carroll, Ant Bryson, Sally Smart, Tony Osborn, David Lestone, Len Houghton, Kevin Ryan, Emma Carmichael, Chris Blanco

Today I attended the Monthly HSE meeting to observe and to make contact with Safety Reps. The meeting was chaired by Mr Rod Gilliland (Safety Advisor) and well attended by a good cross section of personnel. Nine Safety Reps were involved with three of them being from contracting companies Redpath & ESS.

I found the meeting to be positive and it was good to see the openness and involvement from all levels.

**Barry Rodgers
District Workers'
Representative
Northern Region**

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	08/03/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today accompanied by Mr Roy Perkins (Mechanical Inspection Officer) I attended site for the purpose of an inspection of Underground Emergency Facilities. After completing relevant Visitor's Inductions I met with Mr Ed Cooney (Acting Mine Manager) and we discussed the intention of my visit. It was arranged that Mr Sam Zammitt (Production Supervisor) escort me underground.

We incorporated the inspection with some of Mr Zammitt's duties as there were matters which he needed to attend to.

ERBs that were inspected were:

- No.16 at 165L
- No.21
- No.25 at 475L R4
- No.4 at 460L

All ERBs that we did inspect were in a well maintained functional condition. With the only issue being Radio Communication in the area of No.21 and Mr Zammitt reported that to the Radio Technicians and they stated they would fix it straight away.

ERBs on this site are serviced by site electricians and checked monthly by site Safety Reps. They are also checked every four months by the Minearc technicians themselves.

It would appear Cannington Mine are maintaining highly efficient Underground Emergency Facilities.

Whilst on site I did visit the scene of a high potential incident involving a grader tyre and I interviewed three Sedgman employees in relation to this incident.

Barry Rodgers
District Workers'
Representative
Northern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	17/08/2010

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Site Safety & Health Reps Consulted: Mr Marc GILLHAM

Today accompanied by Mr Des LAFFIN, District Workers Representative (Townsville district), I attended site to talk to workers in relation to Health & Safety matters and carry out a general Safety Inspection at the mine. On arrival an introduction meeting was held with Mr Ed COONEY, Mine Manager and Mr Alex THOMPSON, acting Development Superintendant, to discuss the purpose of our visit. After completion of Visitor's Inductions Mr THOMPSON assisted us on the Underground Inspection and introduction of myself to workers. During the Inspection :

- I Introduced myself to workers during Crib break and explained my role.
- I spoke with Tele Muckers at 575 L working out of Troop Carrier Control Room.
- Had discussions with Paste Fill Service Crew at 375 L and carried out a Safety Inspection on the work basket. The basket was positively locked out with Isolation of Hydraulic valve. Workers Tags and Locks were attached to Isolation Hasp locking out the valve.
- No safety concerns were raised with me.
- Mr THOMPSON accompanied us on a brief Surface Tour.

Mr Stuart KING, Underground Electrical Supervisor, accompanied us on an inspection of the Redpath Mining Volvo IT work Basket. Photos were taken of Work Basket attachment and we received a copy of the attachment Procedure.

An Inspection was carried out on the Tom Browne Drilling exploration rig operating close to the Mine Site TBD30. We were Inducted to the site by the Driller. The rig is new and all Safety Features appeared to be in place. A recently employed worker was being trained as an offsider during our visit. Workers appeared to be carrying out the task of running rods into the hole in a safe manner. No Safety concerns were raised with me.

A brief close out meeting was held with Mr THOMPSON and we received copies of recent Safety Representative meetings.

Barry Rodgers
District Workers'
Representative

Desmond Laffin
District Workers' Representative
Northern Region

Released by DNRM under the RTI Act 2009

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	08/08/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

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NOTIFICATION OF MAJOR HAZARD FACILITY (MHF)/POSSIBLE MAJOR HAZARD FACILITY (PMHF)

This Mine Record Entry is to confirm that the Mines Inspectorate has received the Form 1 Notification as requested on 30 May 2011.

Based on the information supplied from this request and previous information supplied to the department, Cannington Mine is classified as a PMHF.

The Site Senior Executive (SSE) is reminded of the obligations under Section 60C of the Regulation. The Chief Inspector must be notified of certain upgrades with respect to the mine's status as MHF or PMHF. Under Section 60D, the SSE may also notify the Chief Inspector of certain downgrades.

Damian Lee
Inspector of Mines
Northern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Investigation	Northern	02/06/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Investigation into complaint

Damian Lee
Inspector of Mines
Northern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Investigation	Northern	16/05/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today I attended site to conduct an investigation into a complaint by a worker. I spoke with Mr Greg Freeman (Safety Superintendent) and Mr Dan Cordner (Mechanical Engineer) regarding the complaint. I inspected work schedules and sites. I also received a number of documents relating to the investigation. During the inspection of the work areas in the concentrator it was noted that originally there had been yellow paint demarcating the concrete edges on the floor of the concentrator, however these markings were now worn and not visible. I have issued an SCP to this rectify this.

The definitions of LTIs, DIs and MTIs was also discussed during the investigation. For the purposes of reporting, the definitions as listed in the 2009/2010 Annual Mining Safety Report are:

Lost time injury/disease: an incident resulting in a fatality, permanent disability or time lost from work of one shift or more. The shift on which the incident occurred is not counted as a shift lost.

Medical treatment injuries: those incidents which were not lost-time injuries or disabling injuries and for which first aid and or medical treatment was *required* by a doctor, nurse or person qualified to give first aid.

Permanent incapacity: any work-related injury or disease that leads to one or more of the following outcomes:

- the complete loss or permanent loss of use of any part of the body
- any permanent impairment of any part of the body, regardless of any pre-existing disability of that part
- any permanent impairment of physical or mental functioning, regardless of any pre-existing impaired physical/mental functioning
- a permanent transfer to any job
- termination of employment.

Please Note that the legislation has changed and the definition of a Lost Time Injury is now -

lost time injuries means an injury resulting in the injured person being unable to work the

next day or a longer period whether they are rostered to work or not.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Identification of concrete edges in concentrator floor.	06/07/2011
	During the inspection of the work areas in the concentrator it was noted that originally there had been yellow paint delineating the concrete edges on the floor of the concentrator but were now worn and not visible. Ensure that all concrete edges that had previously been painted to highlight the hazard of varying floor levels are clearly identified using the original control of a painted line or other equivalent measure. Refer section 8 of the Mining and Quarrying Safety and Health Regulations 2001.	

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please notify me in writing when the above SCP has been completed.

Damian Lee
Inspector of Mines
Northern Region



cannington.pdf

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Damian Lee, Inspector of Mines (Chemical)

Subject: Edge Identification & Protection	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Investigation	Activity Date: 16/05/2011
Record Date: 26/05/2011	MRE Item No.: 1

Title: Identification of concrete edges in concentrator floor.

Description of Action Required to be Taken:
 During the inspection of the work areas in the concentrator it was noted that originally there had been yellow paint delineating the concrete edges on the floor of the concentrator but were now worn and not visible. Ensure that all concrete edges that had previously been painted to highlight the hazard of varying floor levels are clearly identified using the original control of a painted line or other equivalent measure. Refer section 8 of the Mining and Quarrying Safety and Health Regulations 2001.

References:
 q

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 06/07/2011

Completed: 27/06/2011, **Closed by:** Damian Lee on 12/07/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

As per attachment in MRE

Released by DNRM under the RTI Act 2009

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	17/01/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

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Today I attended site to inspect the concentrator operations. I met with Mr Brenton Atkins (Acting Concentrator Manger) and Mr Peter Ereband (Metallurgist). We reviewed some overarching risk assessments and systems for the concentrator including the CURA register and Documentum. The site risk register was not accessible by the acting manager. I was also shown a concentrator based hazard/risk register used to manage newly identified hazards and risks. The two highest current risks were spillage from CV04 and the manual changing of the scaled filter cloths in the filter plant.

Mr Ereband then accompanied me to the control room where I met with operators Mr Paul Anderson, Mr Tony Easton and Mr Shane Ellevsen. We discussed the general procedures and emergency procedures specifically. iPICK was demonstrated to me and I was supplied with copies of SWI-PRO0016C Process Plant Evacuation and PRO-TRN0003 Surface Evacuation procedure. I sighted the permitting system and was informed that not all tasks by maintenance require a permit to work under the Cannington system, however, the maintenance crews default to obtaining a permit to work for all jobs in the concentrator anyway. I also sighted the confined space procedure PRO-SAF0030 Entry into confined spaces. After sighting the confined space procedure, I asked to see REG-1486 Confined Spaces Register referenced in the document. Neither the operators or the acting manager (when asked later) were able to locate the register on the system.

Mr Easton accompanied me on an inspection of the concentrator, in particular the grinding tower and CV04 including the escape tunnel. During the inspection, I observed Mr Easton complete the cyclone density readings as per SWI-PP0196C CAN Processing SWI Grinding - Manual Densities.

A number of pieces of buka rod and crowbars were located on the gridmesh on the top floors of the grinding tower near the cyclones. These were immediately removed by Mr Easton and relocated to the dedicated storage area.

A number of structural issues were identified during the inspection. These included corroded beams and bracing in the grinding tower along with deformations in the CV04 escape tunnel. It was observed that a number of timber support beams had been erected in the escape tunnel for CV04. There were also pipes and fittings laying the entrance to the tunnel, and a dead roo carcass at the exit of the tunnel.

Mr Ellevsen then demonstrated the filter cloth removal procedure at the filter plant. It was observed that the risk of ankle injury had not been included in the SWI. I was informed that a prototype mechanical lifter had been trialled but it still had some issues to be worked through.

I met with Mr Steve Hambrecht (Emergency Services Supervisor) who presented the reports from the last two emergency drills conducted in the concentrator. They were a rescue from the new Vertimill 1/9/10 and an electrical incident at the grinding mill substation 2/12/09. I was also shown the link to First Priority with capturing the outcomes and action items from emergency drills.

Ms Tiffany Sproles (Acting Maintenance Superintendent) discussed the structural integrity report for the grinding structures completed in July and August 2010. It was noted that the CV04 escape tunnel was listed as a high risk, high priority item in the report. I was informed that the author of the report was due to start this week with BHP Cannington with the intention that he would develop and implement the action plan to rectify the items in the report. At the time of inspection, no one on site knew when the beams were actually installed or of any risk assessment that was conducted for their installation. I requested that any documents and risk assessments that were completed for the installation of the beams in CV04 be forwarded to me by the end of this week.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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1	Confined space register	28/01/2011
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At the time of inspection, REG-1486 Confined Spaces Register (as referenced in PRO-SAF0030) was not able to be found. Ensure that this register is up to date and accessible to all using the plant at the mine. Refer sections 112 and 113 of the Mining and Quarrying Safety and Health Regulations 2001.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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2	CURA Risk Register	28/01/2011
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At the time of inspection, not all relevant persons (including acting management) were able to access the site risk register located in CURA. Ensure all relevant persons have access to the CURA register. Refer section 9 of the Mining and Quarrying Safety and Health Regulations 2001.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please notify me in writing when the above SCPs have been completed.

Damian Lee
Inspector of Mines
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Damian Lee, Inspector of Mines (Chemical)

Subject: Confined space	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 17/01/2011
Record Date: 21/01/2011	MRE Item No.: 1

Title: Confined space register

Description of Action Required to be Taken:
 At the time of inspection, REG-1486 Confined Spaces Register (as referenced in PRO-SAF0030) was not able to be found. Ensure that this register is up to date and accessible to all using the plant at the mine. Refer sections 112 and 113 of the Mining and Quarrying Safety and Health Regulations 2001.

References:
 a

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 28/01/2011

Completed: 02/03/2011, **Closed by:** Damian Lee on 15/03/2011.

Reassigned Due Date: 02/02/2011; **Review conducted by** Damian Lee on 25/01/2011.

Action Taken by Mine to Comply with Corrective Action Requirement:

As per attached response on MRE

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Damian Lee, Inspector of Mines (Chemical)

Subject: Risk Management	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 17/01/2011
Record Date: 21/01/2011	MRE Item No.: 2

Title: CURA Risk Register

Description of Action Required to be Taken:
 At the time of inspection, not all relevant persons (including acting management) were able to access the site risk register located in CURA. Ensure all relevant persons have access to the CURA register. Refer section 9 of the Mining and Quarrying Safety and Health Regulations 2001.

References:
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Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 28/01/2011

Completed: 02/03/2011, **Closed by:** Damian Lee on 15/03/2011.

Reassigned Due Date: 02/02/2011; **Review conducted by** Damian Lee on 25/01/2011.

Action Taken by Mine to Comply with Corrective Action Requirement:

As per attached response on MRE



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Subject Audit or Specific System Audit	Northern	23/11/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Lead

Audit MRE to be entered here

Damian Lee
Inspector of Mines
Northern Region

Kevin Hedges
Authorised Officer
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Investigation	Northern	30/11/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today we attended site to investigate the incident reported where a worker became trapped in a conveyor chute on 29/11/09. We met with Mr Gary PINKERTON (HSEC Superintendent), Mr Kedi ILIMBIT (Maintenance Superintendent), Mr Peter TOWNSON (Maintenance Manager) and Joe BACKHASH (Supervisor). We inspected CV04 and CV06 chute and the incident was explained to us by the personnel present. We then met with the boilermaker who was trapped and his site supervisor and discussed the issue further.

We were informed that an ICAM team had been formed and was interviewing people at the time of our visit. We had further discussions with Mr PINKERTON and Mr TOWNSON and elected not to investigate this incident in detail at this point in time, but to allow Cannington to follow it's own process and review the findings when submitted to the inspectorate.

We had a discussion with Mr Ed COONEY (Manager Resource Development) regarding the Toyota fire incident from the weekend. Mr COONEY informed us that in the interim, all rubber covers in the same position that caught fire on the Toyota have been removed from all other similar Toyotas to prevent a recurrence in the short term.

The issue of overloading road vehicles on mine sites was raised with Mr COONEY, Mr TOWNSON and Mr PINKERTON. It has come to the attention of the inspectorate that a lot of road vehicles on mine sites in general may be inadvertently overloaded when compared to the manufacturers Gross Vehicle Mass (GVM) specification. This was discussed in detail and Mr TOWNSON gave an undertaking to investigate the issue at Cannington mine.

Damian Lee
Inspector of Mines
Northern Region

Joshua Robinson
District Workers' Representative
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	09/05/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Today I met with Mr Wayne CORDWELL (Production Superintendent) to conduct an inspection on the reagents and batching facilities at Cannington mine. During my visit I inspected the reagent storage sheds and mixing facilities, bulk storage areas, xanthate storage and mixing facilities, lime slaking plant, and the cooling tower area. I also met with Mr Owen ROBERTS (Operator) and discussed the procedures and methods of work in the mixing plants.

After this, I met with Mr Mark DESIRA (Hygienist) and viewed the hazardous substance register and discussed the legionella monitoring in place for the cooling towers. I then met with Mr Ben CHARLES (Safety Superintendent) and reviewed the emergency preparedness for chemical fire and emergencies.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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1	Placarding at the cooling towers	13/06/2008
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No placarding was visible at the cooling tower reagent storage area. Install placarding to reflect the water treatment chemicals used as per s53 of the Mining and Quarrying Safety and Health Regulations 2001.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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2	Labelling of Pipelines	20/06/2008
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A number of pipelines containing hazardous materials and dangerous goods were not able to be identified by visual means. Inspect all the pipelines containing hazardous substances and dangerous goods and ensure that they meet the standards under s53 of the Mining and Quarrying Safety and Health Regulations 2001

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please notify me when these items have been actioned

Damian Lee
Inspector of Mines
Northern Region

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Damian Lee, Inspector of Mines (Chemical)

Subject: Placarding	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 09/05/2008
Record Date: 12/05/2008	MRE Item No.: 1

Title: Placarding at the cooling towers

Description of Action Required to be Taken:
No placarding was visible at the cooling tower reagent storage area. Install placarding to reflect the water treatment chemicals used as per s53 of the Mining and Quarrying Safety and Health Regulations 2001.

References:
MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 13/06/2008

Completed: 02/06/2008, **Closed by:** Damian Lee **on** 02/06/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Placarding installed

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Damian Lee, Inspector of Mines (Chemical)

Subject: Labelling of pipelines	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 09/05/2008
Record Date: 12/05/2008	MRE Item No.: 2

Title: Labelling of Pipelines

Description of Action Required to be Taken:
 A number of pipelines containing hazardous materials and dangerous goods were not able to be identified by visual means. Inspect all the pipelines containing hazardous substances and dangerous goods and ensure that they meet the standards under s53 of the Mining and Quarrying Safety and Health Regulations 2001

References:
 MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 20/06/2008

Completed: 02/06/2008, **Closed by:** Damian Lee **on** 02/06/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Installed



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	19/09/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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On Wednesday the 19/09/07 I accompanied Mr Yossi Berger on an inspection of the Cannington Mill/Plant area. Mr Berger and I met with Mr Brian Calaway the Surface Operations SSE and Mr Neil Colbourne the Underground Operations SSE, a discussion took place about general safety issues and how the company approached safety and health on site. It was stated that the company was concentrating on traffic management due to the number of near misses and the level of risk that is associated with these type of incidents. Also discussed was the Fair Play Procedure, the Drug and Alcohol Procedure, S1, S2, S3 and the Human Factors. Part way through the discussion we were joined by Mr Simon Cole the DWR for the area. Mr Burger and I completed an inspection of the stockpile feeder area, associated conveyor system and the mill/plant area. It was noted and pointed out to the supervisor that a section of guarding was missing from the conveyor system, immediately prior to the tail drum roller. It was apparent from the shovel marks and the fact that an employee was there with a wheel barrow and shovel that the employee had been working in the area where the guard was missing from. When questioned the employee stated that the guard had been missing for some time. There was a problem with rocks falling off the conveyor system with the possibility of someone being struck, although if the path way was followed this was a minimal risk. I believe that when what appears to be an excessive amount of material falling from a conveyor system there is an underlying problem that should be addressed. While completing the inspection it was noted that there was what could be considered an excessive amount of fine powder/dust on handrails walkways and any area where dust could build up. Because of the lead in the material it would be reasonable to believe that anyone working in the area would be inhaling and ingesting this dust, it was obvious that the material had been airborne to collect in these areas. While inspecting the plant/mill area it was noted that a number of access covers in the walkway were badly rusted and had barrier tape around them as a control measure. When asked why the covers were not replaced we were told that they had been entered in the system as a safety issue requiring repair approximately three to four months prior to our inspection. When questioned on why the covers were not repaired as a high priority safety issue. It was stated that when entered into the SAP system as a high priority safety/maintenance notification it retained the high priority status, but when converted to a work order the high priority and safety status was lost and it was prioritised as a maintenance issue which could attract a low priority status. If this is the case it would be considered a systems failure and should be rectified immediately. There are other failures

here that need to be addressed, such as adequate engineering controls in place and adequate supervision to ensure suitable control measures are in place. It could also suggest there is a culture of accepting risk, it's hard to believe that a guard missing off a conveyor system is acceptable or that a piece of plastic tape is accepted as a suitable control/barrier around rusted covers in a walkway high up on a plant. These two issues were brought to the attention of management /supervision and it was indicated that the issues were to be rectified immediately. **MQSHA Part 2 Section 26, 27 & 28. Control and Management of Risk. MQSHR Section 8 Risk reduction. MQSHR Section 96 Supervision.**

**Des Bouchardt
District Workers'
Representative
Northern Region**



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	25/11/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Site Safety & Health Reps Consulted: Karen Cramb

Today I visited site to talk to workers about matters relating to Health and Safety, and to inspect working conditions on jobs in the mine. After a meeting with Mine Manager MR WADE BICKLEY I was accompanied underground by Development Shift Supervisor MR JEFF BRAY.

House keeping around the mine is of a high standard, we discussed dust suppression procedures and what back up system is in place if the water truck breaks down. The areas I visited were well ventilated and the ground support was up to standard. We visited most jobs in the mine, including the Mechanical workshop, the Fuel bay and a Diamond Drill site, no safety concerns were raised

Desmond Laffin
District Workers'
Representative
North Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	25/11/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

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Geologist MR MARCUS CRAWFORD accompanied me on a safety inspection of the surface exploration rigs operated by JND drilling, and located near the mine office complex. I was given a site induction on rig 1, all hazard controls were in place and the rig was drilling. Rig 3 was using 2 offsidars to pull rods, hazard controls were in place, the crew was working safely.

Mr CRAWFORD informed me of the work practices they have in place when lightning and storms are present in the area.

Desmond Laffin
District Workers'
Representative
North Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	24/09/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

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Today in the company of Mine Geologist Mr Justin Walsh I carried out safety inspections on three surface diamond drills located near the entrance to the mining complex. The rigs are owned and operated by John Nistchke Drilling company. A stand alone non drilling supervisor with the required competencies is in place, a site manager and another supervisor are starting soon.

The drill crews inducted me to and identified the safety features of their respective rigs. Matters of Health and Safety were discussed and no concerns were raised. Drilling personal were required to have First Aid accreditation before coming on site. Drill training is done on the job.

Desmond Laffin
District Workers'
Representative
North Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	23/09/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Site Safety & Health Reps Consulted: Steffan Johnston

Today I attended site to talk to workers about matters relating to Health and Safety ,and to inspect working conditions on various jobs in the mine . I was accompanied by Safety representative Mr Steffan Johnston. After having conversations with several workers in the underground cribroom we inspected 2 production drills,2 jumbo meshing jobs, and had a general look around the mine. No Safety concerns were raised.

I attended a Site Safety meeting in the afternoon.The meeting was well conducted,attendance was good and issues were discussed in a friendly and open manner .

Desmond Laffin
District Workers'
Representative
North Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	01/07/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Site Safety & Health Reps Consulted: Mr Steffan Johnston

Today in company with Inspector of mines Mr Phil Casey, Senior Site Executive Mr Bob Fulker, Deputy Mine Manager Mr Ed Cooney, and Acting Mine Superintendent Mr Mick Kemp, I was taken on a familiarisation tour of the Cannington Underground Operations. It was evident there is a big emphasise on lifting safety standards in the mine and there are several safety initiatives in place. During the tour I had discussions with several operators and SH&E rep Mr Steffan Johnston. No safety issues were raised.

Desmond Laffin
District Workers'
Representative
Northern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	04/04/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today Mr Tilman Rasche, Inspector of Mines and I undertook an inspection for the purpose of gaining an understanding of the of the proximity detection system being used at the mine.

Accompanied by Mr Grant Aitchinson, Deputy Mine Manager and Mr Shane Fielding, Projects Officer an inspection underground and observation of equipment fitted with proximity detection was carried out. This included;

1. Personal proximity alarm fitted to the helmet of the wearer that alarms (visual and audible) when the wearer is within the hazard zone of mobile equipment.
2. Red Path service crew and Volvo IT. The IT had a basket attached, this basket was fitted with a magnetic loop to allow personnel to work in the basket without setting off the proximity alarm of the IT. The zone of influence of this loop is such that if a person leans out of, or stands next to the basket the IT proximity alarms activate.
3. Haul truck. The proximity detection on this vehicle is split into two zones, front and back, with the operational detection zone dependant on motion and direction of travel of the truck.

Following the underground inspection Mr Fielding provided a brief presentation and overview of the proximity detection system.

As part of the development and implementation of the proximity detection systems and procedures the following should be considered;

- review of risk assessments around collision awareness/proximity detection, in particular those risk assessments that cover collision scenarios to ensure all scenarios are captured and properly described. This should include site specific information as well as information sourced from industry bulletins etc,
- check inference with other radio frequencies to eliminate any unsafe or nuisance conditions,
- verify that selected proximity detection systems are in fact able to mitigate the collision scenarios identified. It is important that the underlying assumptions (speed, distance etc.) are made clear,
- ensure a clear understand what the chosen proximity detection system can and cannot do because of its design/technology limitations – again it is important that the underlying assumptions are made clear,

- review braking distances for all vehicles for the range of operating speeds and conditions and verify that current site vehicle separation distances are sufficient and matched to the proximity detection system,
- review the systems ability for future upgrades to allow incorporation of other technologies to provide higher levels of protection against collisions, and provide levels of redundancy. (future proofing),
- establish 'Operations rules' i.e. if proximity detection systems are deemed to be safety critical systems, then operational procedures must be established to ensure uniformity of approach,
- consider the use of dedicated site champions to ensure an effective acceptance and utilisation of proximity detection systems. This champion must be the link between the site – operations and maintenance and the proximity detection manufacturer/supplier,
- design and roll out a comprehensive training program that outlines how to use the system effectively. This training program must be made an integral part of the sites overall training program,
- review and update relevant site procedures including prestart checks to ensure proximity detection systems and their importance as a safety control is assured and recognised,
- review proximity detection system requirements for all contractor vehicles. Problems can be foreseen where contractors service different mines where different proximity detection systems are in use. Commonality of approach and rule-set must be assured.

Hermann Fasching **Tilman Rasche**
Inspector of Mines; Inspector of Mines
Mines **Southern Region**
Northern; Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Investigation	Northern	22/01/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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On the 17/01/2008 following notification of a serious accident that resulted in a death, Mr Phillip Casey (Acting Inspector of Mines), Mr Damian Lee (Inspector of Mines), Mrs Katie Ormonde (Inspector of Mines), Mr Roy Perkins (Inspection Officer), Mr Mick Jacobs (Senior Investigator) and Mr Simon Cole (District Workers Representative) attended site for the purpose of commencing an investigation into the accident.

On arrival at Site I met with Mrs Ormonde, Mr Jacobs, Detective Senior Sergeant Paul Austin, Detective Sergeant Guy Harvey, Acting Sergeant Chris Bird and Senior Constable Mark Gawronski. Discussions were held regarding information to date. At this time I also confirmed that the underground operations were secured and isolated and were under the control of the Queensland Police. The exact location of the accident had not been determined at this time.

A brief verbal statement was obtained by Detective Senior Sergeant Paul Austin and myself from one of the BHP Billiton employees who assisted in providing first aid and emergency care.

On 18/01/08 further statements were obtained by Detective Senior Sergeant Paul Austin and Detective Sergeant Guy Harvey in the company of Mr Fasching and Mr Jacobs. This included obtaining statements from the personnel at the site at the time of the accident.

A per Section 151 of the Mining and Quarrying Safety and Health Act 1999 separate written document requests were issued to Mr Alf Garnet (Production Superintendent) and Mr Gordon Shannon (CEO Eroc). Further to these document requests I advised that I wished the documents to be provided to me at the Mount Isa office of the Department of mines and Energy by no later than close of business on Friday 25 January 2008.

An investigation team, consisting of personnel from the Queensland Police and Mines Inspectorate, proceeded underground to the 375 level and investigated three locations pertaining to the accident. This included taking photographs, measurements and arranging for a detailed survey to be carried out by the Cannington Mine surveyor. I requested that I be provided with a certified copy of the all survey in plans, cross section and in electronic format made in relation to this investigation.

At 2200 hours on 18/01/08 control of the underground operations including the accident scene was transferred from the Queensland Police to the Mines Inspectorate. Mr Grant Farrow

(Development Project Manager) was informed that underground operation could recommence with the exception of the 375 mLv which was to remain secured.

On 19/01/08 surveying continued at the three locations. Eroc and BHP Billiton personnel were given supervised access to the site for the purpose of taking photographs and making observations.

On 20/01/08 the mobile equipment was examined and repositioned, further photographs and measurements were taken. A further survey of the mobile equipment insitu was carried out by the Cannington Mine surveyor.

Mr Cole and Mr Perkins escorted the mobile equipment into secure storage at the Cannington Mine warehouse where it was stored overnight.

As per section 144 of the Mining and Quarrying Safety and Health Act 1999, Mr Fasching provided a Field Property Receipt to Mr Shannon for the mobile equipment (Volvo LD120D with man cage attached, Toyota Landcruiser Utility and pre start log books for both vehicles) that were seized as part of the investigation.

At 1140 hours on 20/01/08, Mr Fasching informed Mr Alf Garnett, Production Superintendent, that following completion of the scene survey and recovery of the Landcruiser and Volvo IT, control of the 375 mLv was returned to BHP Billiton Cannington Mine.

On 21/01/08, the mobile equipment was loaded onto a low loader transport. Mr Cole and Mr Perkins then escorted the mobile equipment to Mt Isa for further mechanical and functional testing.

Hermann Fasching
Inspector of Mines
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Subject Audit or Specific System Audit	Northern	30/05/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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A Safety Management System audit commenced on 15 May 2007, areas covered during the audit included; Underground Mobile Equipment, Equipment Safeguarding, Explosives, Occupational Hygiene and Fatigue Management. A desktop review of relevant system documentation was undertaken during the week of 21 May. A site compliance component was carried out during the week of 28 May. An audit report was produced and this forms part of this mine record entry, refer Safety Management System Audit Report - Cannington Mine SMSA2/07.

As a result of the audit the following items have been identified as requiring attention:

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
1	Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999 Traffic Management Plan	30/07/2007

The site has had a number of incidents involving collisions between light and heavy vehicles. The Audit identified a number of recommendations, many of which have not been implemented. The site is to develop and implement a documented traffic management plan for both the surface and underground operations.

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
2	Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999 Explosives Handling and Use	30/07/2007

There is a training program for personnel who handle and use explosives. This program and procedures are to be reviewed to ensure that they meet the requirements of the competencies established by the advisory council or the competencies for a licensed shot firer.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	New Equipment Risk Management	30/08/2007

During the audit no process for hazard and risk analysis for the scoping of new equipment

purchases could be identified. The site is to establish a process to ensure that the operating parameters and environment that the proposed equipment is to operate in, is within the design envelope of the equipment.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	Maintenance of Contractor Equipment	30/07/2007
	No formal process to ensure that mobile equipment used by long term contractors is and continues to be maintained to acceptable standards. The site is to establish an audit process for the maintenance practices of contractors.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
5	Tyre Fitting Competencies	30/08/2007
	There is a basic tyre fitting training process in place for mobile equipment fitters. This process is to be reviewed to ensure that the training adequately covers the hazards, risks and controls associated with large earth moving equipment tyres. This training is then to be provided to all personnel who undertake tyre fitting work.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
6	Eye Wash Stations	18/07/2007
	There is a current problem with the eye wash stations on the flotation floor of the concentrator and the paste fill plant. A plan is in place to address this to ensure that the eye washes function correctly. In the interim the site is to ensure that all personnel entering or working in this area have ready access to means of washing and flushing their eyes in the event of an incident. In addition a system is to be established to ensure that eye wash and emergency showers function as required.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
7	Fatigue Management - Rosters	30/08/2007
	There are a number of roster types being worked on site, with a variance between BHPB personnel and contractors. A review is to be carried out of the rosters on site to ensure that the issue of worker fatigue is being adequately managed and controlled.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
8	Mobile Equipment Door Interlocks	27/06/2007
	The audit identified that while door interlocks on loaders are included in service schedules, the interlocks for other equipment are not. The service sheets for mobile equipment are to be updated to ensure these are checked as part of regular servicing.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
9	Basic Fatigue Management Training	06/09/2007
	Basic fatigue management training is provided at induction for all employees and some supervisors have been provided additional training. All site supervisors, BHPB or contractor should be provided with this additional training and a basic fatigue management included in refresher training for all employees.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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10 Structural Inspections of Plant**30/08/2007**

The audit identified a number of areas of corrosion in the steel wok in the crusher, lower shaft area and filter plant. An audit/assessment is to be undertaken by a suitably qualified person and a fixed schedule for repair/replacement of steelwork is to be established. Further a system of regular structural integrity inspections of all fixed plant is to be established.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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11 Compliance with Explosives Procedures**30/08/2007**

There is no formal process in place to ensure that the procedures associated with the storage, handling and use of explosives are audited for compliance at regular intervals. The site is to establish a process to manage this.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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12 Application of Isolation and Lock Out Procedures**30/07/2007**

The audit identified that the isolation and lock out procedures are not being used consistently across site. A review is to be carried out to ensure that the procedures are used and applied across the site.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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13 Risk Assessment of Fixed Plant**30/08/2007**

Could not sight risk assessments for major plant installations such as the paste plant pumps or the dust collectors. Where necessary risk assessments are to be carried out on plant to ensure that the risk during operation is at acceptable limits.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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14 Conveyor Safety**20/06/2007**

The trunk conveyor has no barricades or signs preventing personnel from accessing the conveyor while it is operating. Appropriate signs and barricades are to be erected.

The conveyor system in the PAC RIM area was found not to have appropriate guarding around nip points. All nip points that can be accessed during operation must be appropriately guarded.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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15 Tramp Metal Bin**31/07/2007**

The removal of material from the tramp metal bin into the main bin is a manual handling hazard. This task must be reviewed to ensure that the risk of injury is at an acceptable level.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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16 Isolation and Lockout - tec taylor Valves**11/07/2007**

The tec taylor (tT) valves used on site are not capable of being effectively isolated. This is inconsistent with site procedures. The use of these valves is to be reviewed and action taken to ensure that they can be effectively isolated.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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17 Load out Conveyor Gates

30/06/2007

The shaft load out conveyor gates are positioned so that material falling from the shaft can strike personnel who may be standing at the gate. The location of the gates are to be reviewed to ensure the risk to personnel is at acceptable levels.

Number

Substandard Condition or Practice

Due Date

18 Refresher Training

31/08/2007

The audit identified that there does not appear to be a systematic process in place to ensure that refresher training is carried out at appropriate intervals. The training and assessment system is to be reviewed to ensure that where necessary refresher training is carried out at appropriate intervals.

Number

Substandard Condition or Practice

Due Date

19 Underground Ventilation

31/08/2007

The current underground ventilation requirements are based on superseded rate of 0.04m³ per sec per kW. Review the ventilation design, atmospheric contaminant and heat control measures to ensure that they are within established exposure limits or guidelines.

Number

Substandard Condition or Practice

Due Date

20 Periodic Health Assessment

20/09/2007

The audit identified that currently no audiometry, spirometry and provision of full chest X-rays. Given that hazards on site such as noise and silica could present an unacceptable level of risk, the process for health periodic health assessments is to be reviewed to ensure these risks are being managed.

Please provide a written status report on each Directive and SCP together with the actions taken to address each item by their due dates

I am to be notified in writing when each of the above actions have been addressed.

**Hermann Fasching
Inspector of Mines
Northern Region**

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Hermann Fasching, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Traffic Management	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 1

Title: Traffic Management Plan

Directive Given:
 The site has had a number of incidents involving collisions between light and heavy vehicles. The Audit identified a number of recommendations, many of which have not been implemented. The site is to develop and implement a documented traffic management plan for both the surface and underground operations.

References:
 MQSHR Section 46 Mine Roads

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/07/2007

Completed: 31/07/2007, **Closed by:** Hermann Fasching **on** 31/07/2007.

Action Taken by Mine to Comply with Directive:

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given orally on 30/05/2007 at 04:00 PM.

Directive Given To -

This directive is given to the following person/s -

Site Senior Executive

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

Displayed my identity card so it is clearly visible to the other person on 30/06/2007 at 04:00:00 PM.

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to the person in charge of mine or the part of the mine affected by the directive on 30/06/2007 at 04:00:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -
The risk to personnel from ineffective traffic management is unacceptable.

Hermann Fasching: **Date Issued:** / /

.....

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Hermann Fasching, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Training and Competency	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 2

Title: Explosives Handling and Use

Directive Given:
 There is a training program for personnel who handle and use explosives. This program and procedures are to be reviewed to ensure that they meet the requirements of the competencies established by the advisory council or the competencies for a licensed shot firer.

References:
 MQSHR Section 64 Persons who may handle explosives

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/07/2007

Completed: 31/07/2007, **Closed by:** Hermann Fasching **on** 31/07/2007.

Action Taken by Mine to Comply with Directive:

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given orally on 30/05/2007 at 04:00 PM.

Directive Given To -

This directive is given to the following person/s -

Site Senior Executive

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

Displayed my identity card so it is clearly visible to the other person on 30/05/2007 at 04:00:00 PM.

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to the person in charge of mine or the part of the mine affected by the directive on 30/06/2007 at 04:00:00 PM.

A copy of this directive or notice was given to site senior executive on 30/06/2007 at 04:00:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -

The training program does not appear to be mapped to necessary competency standards.

Hermann Fasching: **Date Issued:** / /

.....

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
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- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Risk Management	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 3

Title: New Equipment Risk Management

Description of Action Required to be Taken:
 During the audit no process for hazard and risk analysis for the scoping of new equipment purchases could be identified. The site is to establish a process to ensure that the operating parameters and environment that the proposed equipment is to operate in, is within the design envelope of the equipment.

References:
 MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/08/2007

Completed: 01/10/2007, **Closed by:** Hermann Fasching **on** 01/10/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
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Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Maintenance Regime	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 4

Title: Maintenance of Contractor Equipment

Description of Action Required to be Taken:
 No formal process to ensure that mobile equipment used by long term contractors is and continues to be maintained to acceptable standards. The site is to establish an audit process for the maintenance practices of contractors.

References:
 MQSHR & MQSHA

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/07/2007

Completed: 31/07/2007, **Closed by:** Hermann Fasching **on** 31/07/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Tyre and Wheel Rim Safety	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 5

Title: Tyre Fitting Competencies

Description of Action Required to be Taken:
There is a basic tyre fitting training process in place for mobile equipment fitters. This process is to be reviewed to ensure that the training adequately covers the hazards, risks and controls associated with large earth moving equipment tyres. This training is then to be provided to all personnel who undertake tyre fitting work.

References:
MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/08/2007

Completed: 01/10/2007, **Closed by:** Hermann Fasching **on** 01/10/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Emergency equipment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 6

Title: Eye Wash Stations

Description of Action Required to be Taken:
 There is a current problem with the eye wash stations on the flotation floor of the concentrator and the paste fill plant. A plan is in place to address this to ensure that the eye washes function correctly. In the interim the site is to ensure that all personnel entering or working in this area have ready access to means of washing and flushing their eyes in the event of an incident. In addition a system is to be established to ensure that eye wash and emergency showers function as required.

References:
 MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 18/07/2007

Completed: 31/07/2007, **Closed by:** Hermann Fasching **on** 31/07/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Fatigue	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 7

Title: Fatigue Management - Rosters

Description of Action Required to be Taken:
There are a number of roster types being worked on site, with a variance between BHPB personnel and contractors. A review is to be carried out of the rosters on site to ensure that the issue of worker fatigue is being adequately managed and controlled.

References:
MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/08/2007

Completed: 01/10/2007, **Closed by:** Hermann Fasching **on** 01/10/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Mobile Equipment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 8

Title: Mobile Equipment Door Interlocks

Description of Action Required to be Taken:
 The audit identified that while door interlocks on loaders are included in service schedules, the interlocks for other equipment are not. The service sheets for mobile equipment are to be updated to ensure these are checked as part of regular servicing.

References:
 MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 27/06/2007

Completed: 13/07/2007, **Closed by:** Hermann Fasching **on** 13/07/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Fatigue	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 9

Title: Basic Fatigue Management Training

Description of Action Required to be Taken:

Basic fatigue management training is provided at induction for all employees and some supervisors have been provided additional training. All site supervisors, BHPB or contractor should be provided with this additional training and a basic fatigue management included in refresher training for all employees.

References:

MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 06/09/2007

Completed: 01/10/2007, **Closed by:** Hermann Fasching **on** 01/10/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Structural Integrity	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 10

Title: Structural Inspections of Plant

Description of Action Required to be Taken:
 The audit identified a number of areas of corrosion in the steel wok in the crusher, lower shaft area and filter plant. An audit/assessment is to be undertaken by a suitably qualified person and a fixed schedule for repair/replacement of steelwork is to be established. Further a system of regular structural integrity inspections of all fixed plant is to be established.

References:
 MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/08/2007

Completed: 01/10/2007, **Closed by:** Hermann Fasching **on** 01/10/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Explosives Use	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 11

Title: Compliance with Explosives Procedures

Description of Action Required to be Taken:
There is no formal process in place to ensure that the procedures associated with the storage, handling and use of explosives are audited for compliance at regular intervals. The site is to establish a process to manage this.

References:
MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/08/2007

Completed: 01/10/2007, **Closed by:** Hermann Fasching **on** 01/10/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Isolation and Lockout	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 12

Title: Application of Isolation and Lock Out Procedures

Description of Action Required to be Taken:
The audit identified that the isolation and lock out procedures are not being used consistently across site. A review is to be carried out to ensure that the procedures are used and applied across the site.

References:
MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/07/2007

Completed: 31/07/2007, **Closed by:** Hermann Fasching **on** 31/07/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Plant	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 13

Title: Risk Assessment of Fixed Plant

Description of Action Required to be Taken:
Could not sight risk assessments for major plant installations such as the paste plant pumps or the dust collectors. Where necessary risk assessments are to be carried out on plant to ensure that the risk during operation is at acceptable limits.

References:
MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/08/2007

Completed: 01/10/2007, **Closed by:** Hermann Fasching **on** 01/10/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Conveyor Belts	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 14

Title: Conveyor Safety

Description of Action Required to be Taken:
The trunk conveyor has no barricades or signs preventing personnel from accessing the conveyor while it is operating. Appropriate signs and barricades are to be erected.

The conveyor system in the PAC RIM area was found not to have appropriate guarding around nip points. All nip points that can be accessed during operation must be appropriately guarded.

References:
MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 20/06/2007

Completed: 13/07/2007, **Closed by:** Hermann Fasching **on** 13/07/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Manual Handling	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 15

Title: Tramp Metal Bin

Description of Action Required to be Taken:
The removal of material from the tramp metal bin into the main bin is a manual handling hazard. This task must be reviewed to ensure that the risk of injury is at an acceptable level.

References:
MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 31/07/2007

Completed: 31/08/2007, **Closed by:** Hermann Fasching **on** 31/08/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Isolation and Lockout	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 16

Title: Isolation and Lockout - tec taylor Valves

Description of Action Required to be Taken:
 The tec taylor (tT) valves used on site are not capable of being effectively isolated. This is inconsistent with site procedures. The use of these valves is to be reviewed and action taken to ensure that they can be effectively isolated.

References:
 MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 11/07/2007

Completed: 31/07/2007, **Closed by:** Hermann Fasching **on** 31/07/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Conveyor Belts	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 17

Title: Load out Conveyor Gates

Description of Action Required to be Taken:
The shaft load out conveyor gates are positioned so that material falling from the shaft can strike personnel who may be standing at the gate. The location of the gates are to be reviewed to ensure the risk to personnel is at acceptable levels.

References:
MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/06/2007

Completed: 31/07/2007, **Closed by:** Hermann Fasching **on** 31/07/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Training and Assessment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 18

Title: Refresher Training

Description of Action Required to be Taken:

The audit identified that there does not appear to be a systematic process in place to ensure that refresher training is carried out at appropriate intervals. The training and assessment system is to be reviewed to ensure that where necessary refresher training is carried out at appropriate intervals.

References:

MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 31/08/2007

Completed: 01/10/2007, **Closed by:** Hermann Fasching **on** 01/10/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Ventilation	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 19

Title: Underground Ventilation

Description of Action Required to be Taken:
The current underground ventilation requirements are based on superseded rate of 0.04m³ per sec per kW. Review the ventilation design, atmospheric contaminant and heat control measures to ensure that they are within established exposure limits or guidelines.

References:
MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 31/08/2007

Completed: 01/10/2007, **Closed by:** Hermann Fasching **on** 01/10/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Hermann Fasching, District Inspector of Mines - Mount Isa

Subject: Health Assessment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 30/05/2007
Record Date: 13/06/2007	MRE Item No.: 20

Title: Periodic Health Assessment

Description of Action Required to be Taken:
The audit identified that currently no audiometry, spirometry and provision of full chest X-rays. Given that hazards on site such as noise and silica could present an unacceptable level of risk, the process for health periodic health assessments is to be reviewed to ensure these risks are being managed.

References:
MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 20/09/2007

Completed: 01/10/2007, **Closed by:** Hermann Fasching **on** 01/10/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Investigation	Northern	19/12/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

On 15/12/2006 following notification of a serious accident causing death, Mr Phil Casey (Inspection Officer), Mr Sergio Cespedes (Inspector of Mines) and I attended the site for the purpose of commencing an investigation into the accident.

On arrival at site I met with Mr Casey, Mr Cespedes, Detective Senior Sergeant Ian Anderson, Detective Sergeant Mick Ward, Senior Constable Brad Weeks, Senior Constable David Anderson and Senior Constable Rowan Manning-Jones. Discussions were held regarding the information obtained to date and arrangements were made with mine personnel to proceed underground to the accident site. At this time it was also confirmed with Mine personnel that the site of the accident was secured and isolated and would remain so until further notice. Whilst underground a site investigation was carried out including taking a number of photographs, measurements and examining the equipment involved.

On returning from the underground investigation arrangements were made to obtain a list of witnesses and to establish a time frame to conduct interviews with these witnesses and the conduct of a survey and laser survey of the accident site. At this time a verbal request for copies of the hand written witness statements made by persons who assisted in the first aid, treatment and recovery of the deceased was made. In the company of Detective Senior Sergeant Ian Anderson and Detective Sergeant Mick Ward members of the deceased family were visited and an explanation of the investigation process was given including the respective roles and functions of the Police and the Mines Inspectorate.

Following this in the company of Detective Senior Sergeant Ian Anderson a statement was obtained from the operator of the forklift at the time of the incident.

On 16/12/2006 Mr Casey returned underground to the site of the accident to enable Cannington personnel to inspect and photograph the site and a laser survey and survey pickup to be carried out. A verbal request for a copy of the laser survey and pickup survey plan was made at this time. Later in the day Mr Casey accompanied Major Drilling representatives to enable them to

inspect and photograph the site.

Together Mr Cespedes and Detective Senior Sergeant Ian Anderson and at the same time Detective Sergeant Mick Ward and I took statements from a number of personnel who assisted in the first aid, treatment and recovery of the deceased. A verbal intent to seize the forklift and man basket for transport and storage in Mt Isa was given to Cannington and Major Drilling management.

Discussions were then held between Mr Fasching, Mr Casey, Mr Cespedes, Mr Simon Cole (District Workers Representative) and Mr Mick Jacobs (Senior Investigator) prior to proceeding underground to carry out a further examination of the accident site and to bring the forklift and man basket to the surface. A secure storage location on the surface was established for this equipment.

On 17/12/2006 a further verbal intent to seize a length of electric cable was again given to Cannington and Major Drilling management. The accident site was released to Cannington.

In the company of a number of Cannington and Major Drilling personnel Mr Fasching, Mr Casey, Mr Cespedes, Mr Simon Cole and Mr Mick Jacobs attended the secure storage area for the forklift and man basket where the basket was fitted to the forklift and a number of functional movements were carried out. Photographs of this were taken by Cannington personnel and myself.

As per Section 151 of the Mining and Quarrying Safety and Health Act 1999 separate written document production requests were provided to and signed for by Mr Jack Standa (Site Senior Executive) and Mr Kyle Chislom (Supervisor Major Drilling). Further to these document requests I advise that I wish to have these documents made available to me at the Department of Mines and Energy at 13 Isa Street in Mount Isa by Tuesday January 2nd 2007.

I also provided Mr Chislom a receipt for the 3 items seized (JCB 540 integrated tool carrier, one yellow man work basket and a trailing cable) for transport to and storage in Mt Isa.

Following the accident Cannington suspended all operations for a period of approximately 24 hours. On resumption all integrated tool carriers and man baskets were stood down pending a mechanical check in the surface workshop and a review of risk assessments, training packages, operator assessments and safe work instructions.

Hermann Fasching
Inspector of Mines
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	26/11/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Site Safety & Health Reps Consulted: Mr, Matt BIGNELL

Today, I attended site to talk to workers about Health and Safety issues and inspect working conditions in the mine. Upon my arrival to site I was met by Mr, Andrew BOSS (Acting Mine Manager).

Mr. BOSS arranged for me to finish the practical components of the full site induction with Mr, Bryan HILL (Training Facilitator). Following that I was introduced to Mr, Matt BIGNELL (Crew Safety Representative) who is to accompany me on my inspection of the underground workings.

Mr. BIGNELL drove me down to show me the escape ladder way accesses, starting down near the crusher at the bottom of the mine. At the time of inspection the signage for the ladder ways were all clean and gave clear instruction on where they were located.

Following this I asked Mr. BIGNELL to take me to inspect the Major drilling site. No one was operating the drill rig when we arrived, but there was a serviceman servicing the rig. We signalled to him to come over and have a chat. I explained my position to the service man and asked him if he had any concerns for health and safety which he did not. At the time of inspection the house keeping in the area was of a good standard and no safety concerns were noted.

Mr. BIGNELL then took me to 295 level to talk to some operators. Upon arrival to the area we alerted the operator of our presence in their circuit. The first operator I talked to was mucking out a stope. I had a conversation with him about how they managed fatigue. The operator explained that his supervisor would come around and either stop the job if there were no operators to hot seat them or just hot seat them so they could have their crib break.

Following that I talked to three Jumbo operators who were just shutting down the jumbo and going for crib. I introduced myself and explained my role to them. I asked them if they had any

concerns for health and safety. All of the operators explained to me that they were aware of the potential risks involved in their job and were happy with the processes in place to reduce the risk of incidents and injury.

Mr. BIGNELL then took me to talk to the paste fill service men. We arrived at the job site and observed them as they were finishing off their job. I asked the service men if they had any concerns relating to health and safety. The service men were concerned with the lanyards that they use to safely attach themselves to the man baskets getting tangled while they were working.

Although I could understand their concerns, I explained to them that it is a site requirement to use the lanyards while working at heights in the man baskets to reduce the level of risk of injury to them and they must use them. I also said that I would ask Mr. BOSS when I was back on the surface about this issue.

During my conversations with all of the underground workers they brought up the issue of working in dust. I explained to the workers that I had read the procedures for dust control in their work environment. I then reinforced the need to follow the procedures in place at the mine, as they are in place to increase the level of health and safety for themselves and fellow workers.

Following the underground inspection I had a meeting with Mr. Andrew BOSS and conveyed the concerns of the workers of working in dusty conditions. Mr. BOSS explained to me that when the workers believe that the risk to themselves and others is at an unacceptable level due to dusty conditions, the workers have the full support from management and staff to stop the job and contact the supervisors and make the job safe.

I also talked to Mr. BOSS about the importance of operators having mandatory meal breaks (Crib Breaks) to assist in managing fatigue during the shift. I asked Mr. BOSS to reinforce to the workers the reason for wearing harnesses attached with lanyards while working in man baskets and/or any elevated work platform as per site procedures.

Joshua Robinson
District Workers'
Representative
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	07/10/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Site Safety & Health Reps Consulted: Mr, Anthony McARTH Y

Today I attended site to visit workers on their jobs, assess working conditions and discuss any health and safety issues they might have. Upon arrival to site I met up with Mr, Johan FERREIRA (Acting Mine Manager).

I went underground with Mr, Anthony McARTH Y who took me down to the crusher at the bottom of the mine to talk to workers. I talked to all of the operators working in the crushing area. One of the operators showed me in how the crushing process took place from the crushing control room. There were no safety concerns raised during my conversations with the workers in the crushing area.

Shortly after Mr, McARTH Y took me to meet a jumbo operator at 475 level and some other operators at 425 level. The operators all expressed concerns of working in dusty conditions especially when dry mucking stopes. At the time of my underground inspection I did not observe any dusty working areas.

After leaving underground I attended the production and development safety meeting. There were representatives from all crews and management present and the meeting went well.

Following the safety meeting I had a close out meeting with Mr, FERREIRA. I brought the operators concerns of working in dusty conditions. Mr, FERREIRA explained that operators are not expected to work in dusty conditions and if the operator feels that conditions are unsafe in there work area, they are to call there supervisors and work out a safe way to continue the task at hand or move onto another job. Mr, FERREIRA also went on to explain that they have put sprinklers in place on all of the main drives to help with the management of dust which are inspected and tested regularly. No other concerns were raised.

**Joshua Robinson
District Workers'
Representative**

Northern Region

Released by DNRM under the RTI Act 2009



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	27/07/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Site Safety & Health Reps Consulted: Mr Mark Kent

Today in the company of Mr Asok Sur (Mines Inspector) I visited Cannington mine site to gain further knowledge on the underground mine. Site inductions were completed and we drove out to site to meet Mr Wade Bickley (Mine Manager). During a meeting with Mr Bickley he introduced us to Mr Ed Cooney (Assistant Mine Manager) and we organised further meetings with there technical services crew's.

After the meeting with Mr Bickley I was introduced to Mr Jason Than (Production Foreman) who organised for me to go underground with Mr Mark Kent (Safety Representative). Mr Kent arrived shortly after and took me underground to show me some new development areas. Mr Kent then showed me where his crew was putting up new service lines (Water pipes, communication lines and power). At the time of the inspection the work area was well organised and the house keeping was good. Mr Kent took me to an area that had recently been fibrecrated and bolted for ground support.

On Tuesday morning, Mr Sur and I had a Meeting with Mr Michel Thomson (Mine Geologist), Ms Hannah Hallaweell (Mine Geologist) and Ms Tanya Nayda (Graduate Mine Geologist) regarding the geological nature of the ore body being mined at Cannington mine. After the meeting with the geology department we had a meeting with Mr Hendrik Grobler (Geotechnical Superintendent) about there ground control management plan. Mr Grobler was very informative and provided us with a better understanding of the standard ground support requirements in the underground workings at Cannington.

Later on I went underground with Ms Hallaweell to inspect the Drill Contractor work area and to talk to the drill rig operators. Upon arrival to the drill site I was run through a drill rig induction By Mr Joshua Brice and was shown where all of the safety features were located. At the time of inspection the housekeeping in the work area was at a high standard. I was informed that a risk assessment had been carried out, due to the tight work area and the extra hazards that presented with the limited room in and around the drill rig. All safety barricading

was erected and signs were in place with clear instructions on condition of entry to the work area.

A close out meeting was held with Mr Bickley at which time I provided feedback on my findings.

Joshua Robinson
District Workers'
Representative
Northern Region

Released by DNRM under the RTI Act 2009



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	07/07/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Today accompanied by Mr Roy PERKINS (Mechanical Inspection Officer) I attended site for a familiarisation visit of the BHP Cannington Mine. On arrival Mr PERKINS and I conducted both the Surface and Underground Visitor Induction's at the accommodation complex.

After completing the inductions we were given our visitor cards and proceeded to the mine site where we were met by Mr Mark SIBLY (Mobile Maintenance Superintendent) who introduced us to Mr Ashley GRIFFEN (Development Supervisor).

Mr PERKINS and Mr SIBLY were dropped off at the 450 Workshop for Mr PERKINS to conduct his inspection. Mr SIBLY and I went on to take inspect some active mining areas.

I met with a Development loader operator at 520 Level to see if he had any safety concerns. After talking to the operator we went to 425.R4 to talk to another Loader operator who was remote mucking the 42D10 stope. We stayed with the operator to watch him muck out the stope for a couple of passes. Mr GRIFFEN went on to inform me the safety systems in place and explained how the systems worked.

Mr GRIFFEN then took me back to the 450 Crib Room to talk to more workers during crib time. I took the opportunity to talk to several operators. A discussion was held with the Production and Development Supervisors and later with SSE Mr Robert FULKER regarding potential dust issues in the underground mine. The procedure for this issue was clear and well understood by all personnel, supervisory staff and management that I talked to. No major safety concerns were raised while talking to operators.

On return to the surface we were introduced to Mr Drew PENNY (Reliability Superintendent). Mr PENNY conducted the surface familiarisation tour for Mr PERKINS and I. We looked at all of the processing plant from the ROM crushing area through to the final concentrate area.

Shortly after finishing our tour both Mr PERKINS and I had a meeting with Mr FULKER. Mr

PERKINS informed Mr FULKER of any issues found in his mechanical inspection. I had a short discussion relating the dust issue raised earlier by operators. Mr FULKER told me the procedure involved when dusty conditions were encountered. I commended Mr FULKER for the all round level of house keeping observed in today's tour.

Joshua Robinson
District Workers'
Representative
Northern Region

Released by DNRM under the RTI Act 2009



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Subject Audit or Specific System Audit	Northern	20/03/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Today, assisted by Mr Jody Todd, Technical Services Manager, and Mr Scott Jeffery, Project Geotechnical Engineer, I completed a desktop audit on Ground Control and an inspection of the fibrecrete plant. Mr Phil Casey, Inspection Officer, and Mr Simon Cole, DWR, were completing the underground inspection and the surface bolting consumables yard. They will forward a separate MRE to the mine.

The geotechnical department has good communication both with the planning department and operations. This was not the case on my last two visits (20/04/06 and 16/07/06). Several underground operators stated "that management was now listening to the geotechnical department". In addition, the Geotechnical engineers attend the shift meetings (ERA meetings) with the operators.

As is industry practice, no work occurs under "unsupported" ground. Support is installed to within 0.5 to 0.7 m of the face. The charge crew scale the area/face prior to charging, and charge from top down.

The high level of QA/QC that is conducted on the rehabilitation work is not mirrored in the ground support installed for normal development. **QA/QC for ground support installed in normal development should be reviewed.**

The management structure of the mine and position descriptions for senior positions in the structure are documented. However, the SSE and Underground Managers position descriptions did not include geotechnical requirements that are detailed in the "Ground Control Management Plan". **Mr Neil Colbourne, SSE, stated they were in the process of re-writing the Mr Tim Purvis's position description and he would review his to ensure it included his responsibilities with respect to geotechnical requirements.** Mr Jody Todd stated that the position of Senior Geotechnical Engineer would be replaced by a Superintendent position, due to difficulty in filling the position.

There appears to be a very good staged training process for the geotechnical engineers.

The site has a "Ground Control Management Plan", last reviewed in November 2004. **It is currently undergoing a major review which Mr Jody Todd stated would be completed and approved by June 2007, and would include the sites ground support standards.**

The "Fatal risk control protocol" audit for Underground Ground Control" is internally audited yearly, with the last completed 29/01/07 by Mr Jody Todd. An external audit (internal BHP Billiton) was conducted by Mr Dan Payne 6/9/5.

Rock fall incidents are recorded in the Geotechnical database and First Priority Enterprise

(FPE). FPE ensures that all rockfalls are investigated. Any ground hazards noted in the ERA safety meetings are also recorded into the FPE.

During core logging, geotechnical information is also collected including rock mass and major structures, and the core is photographed and recorded in a database.

Stress measurements using CSIRO HI cells have been undertaken at five locations. Two tests using Acoustic Emission have been undertaken. The mine is preparing to conduct an instrumentation monitoring program using extensometers, smart cables (NDT); and TDR system of some stopes and sensitive infrastructure, and installing RWE, looking at convergence, at 645 near the crusher. Within the next two years, 30 will be installed. **The first will be installed next month on 450mLv**

Geotechnical analysis is an integral part of the mine design process, and occurs during scheduling, stope design, development design and vertical designs.

In addition, due to stope failure last year, the site has recently developed the "Stope - Block final pre-production checklist: which is a summary sheet checklist to ensure the stope is ready for production. The checklist is completed and signed off by the Planning Engineer, D&B Engineer, Production Engineer, Geotechnical Engineer, Backfill Engineer, Ventilation Engineer/Officer, and Senior Production Engineer; with a final production commence approval signed by the Senior Production Engineer. In addition to this summary sheet, a formal presentation is given by the planning engineer.

The 2 year schedule and life of mine schedule is geotechnically evaluated using MAP3D, and entered into MINE2-4D. There is no deviation in the stope sequence between the 3 month schedule and the 2 year schedule, and as such, the 3 month schedule has also been evaluated. In addition, stoping within the keel will not occur until the end of the mine life to protect the crusher infrastructure. Under previous mine management, one stope has already been extracted from the keel.

The mine is now managing how long the stopes are open for, and ensuring remote mucking is completed and bag walls installed for paste filling. MINE2-4D "flags" if no work is conducted in a stope for several days. Open void is now between 300 - 350,000 tonnes, with presently no stopes waiting to be filled. This varies greatly to my last visit.

Due to orebody constraints, approximately 80% of stopes will be less than 50,000 tonnes per year, with the mine producing from 65 - 80 stopes per year at 3.1 Mt per year.

Presently the mine has 2 active mining fronts. Mr Jody Todd stated that next year when the rehabilitation is complete, the mine would have up to 14 mining fronts.

In addition, a new board is being installed in the muster room which will detail how the site is performing per stope with scheduled tonnes against actual tonnes.

Stopes are currently evaluated using Modified Matthew's stability method (empirical analysis) and MAP3D (numerical modelling). Significant risks are included in the Stope note. Mr Jody Todd stated they were moving away from Modified Matthews and focussing on MAP3D, and in future would be looking at ABACUS. Presently, the site also commissions consultants using the ABACUS and 3DEC (numerical modelling) programs for Life of Mine geotechnical evaluations.

Ground support training is ongoing, and Mr Scott Jeffery stated he was currently compiling a new in-house training package due to the changes to ground control support. Training is scheduled 01/04/07. Refresher training required every 2 years. The training system flags when refreshers are due. Person's status is competent, if they have completed the scaling practical, or attended, if they have attended the course but not the scaling. Mr Jody Todd stated they were looking at conducting a more advanced training package for the operators. I was also informed the site was setting up mining school.

There is an "Information Kiosk" in the muster room, from which operators can print mine plans

and procedures.

I also sighted an isometric view of the stopes, and stopes in production showing each level in detail.

Face mapping is conducted by the graduate geotechnical engineer/s every cut, as part of the development cycle, and the "Geotechnical Risk Assessment Sheet" is completed. In addition to geology, rock mass parameters, structures and stability (Q factor), the assessment sheet includes support recommendations and a QA/QC process of ground support installed the previous cut against recommended support. The site is presently completing 8 - 10 cuts per day.

Information from the "Geotechnical Risk Assessment Sheet" is transferred to the "Development Headings" sheet daily. The "Development Headings" sheet lists all current development headings, their ore type, rock classification, and support requirements. The difference between actual support and recommended support is noted in the comments column.

In addition, hazard surveys are conducted by the geotechnical department 6 monthly on existing development, and recorded into autocad.

The geotechnical department can place STOPS on development, by going through the Mine Planner. DDH's which may not be grouted (eg. NZ holes) are shown on development plans, with a zone of influence (conical due to deviation of drill hole, with a minimum zone of 10m).

Minimum bolting standards is 11 bolts per ring, 5 x 2.4 resin bolts, 6 x 2.4 m split sets, and surface support.

Each intersection is geotechnically evaluated by the Geotechnical Engineers using UNWEDGE analysis for cable bolt design. There is a minimum pattern. Cables are installed prior to stripping/intersection being fired.

Due to the rehabilitation project, reviewing of support used, and the variable ground conditions, the site currently has a large range of ground support in use. This is a result of longer term support requirements, and the inability of suppliers to handle the quantities required. As a result, the support currently in use at site includes:

- Jumbolts and Tiger bolts in short term/interim headings. Mr Jody Todd stated that Tigerbolts would be replacing the Jumbolts.
- Split sets.
- Posi4 bolts and Securable bolts (a 20mm high tensile chemical bolt) on the decline.
- DCP's, CT and Posi4 (was Posimix) bolts in the rehabilitation areas (long term headings).
- CS bars - a 23 mm grouted rebar with a thread on one end (poor ground, long term heading).
- 6 m twin bulb cables, plated and tensioned. Site has recently started tensioning, and stated they would look at **including calibration of tensioning jack in the procedure.**
- (SIKA) fibrecrete.
- Mesh.
- Ground Support Arches.

To maintain QA/QC, the Geotechnical Engineers do Job Safety Observations (JSO) underground for bolting, cabling and fibrecrting. They perform approximately 10 per week, and this is recorded in a database.

To ensure correct installation, drill bits are colour coded by size, and there is a bit gauge (cylindrical gauge) on the drill rigs. When it was noted by Mr Phil Casey that this was not the case, it was discussed with Mr Jody Todd, Mr Shane Johnson, Development Superintendent, and Mr Neil Colbourne who stated they would ensure the **cylindrical bit gauge was on all drill rigs.** Mr Jody Todd stated they moved to 2.1m drill steels instead of 3.7m for hole depth. The steel is also marked by paint for correct depth.

Pull testing is being completed for rehabilitation work. Approximately 3% of bolts in the decline, and 1% in rehabilitation areas in the southern zone are pull tested. Mr Jody Todd stated there was no pull testing currently being completed in short/interim development. **I recommend the site have a pull testing regime for split sets installed in self development, not just rehabilitation areas. The site is looking at, but have not started, overcoring the chemical resin bolts to ensure encapsulation** (in addition to resin noted at collars). **I recommend this is commenced soon to ensure integrity of the Jumbolts, Tigerbolts and Posi4's.**

Tiger bolts and posi4 bolts have a torque nut with a breakout point that must be exceeded to tighten the bolt.

All bolts installed in the rehabilitation are documented in Autocad. Any bolt that has failed is recorded in Autocad, and any rebolting required is designed in autocad, and the rebolting recorded. Pull testing is also recorded in Autocad. Bolts that have failed are marked by a large red cross by the Grouters. There has been an 8% failure of grouted bolts (DCP's and CT's), due to the plastic sleeve being torn as it is installed.

The grout is tested for strength (UCS), approximately 3 cylinders per 1000 bolts (DCP's, CT and CS bolts).

All ground support suppliers have ISO 9001 accreditation. During the rehabilitation program, suppliers had a representative on site doing audits on stock, storage and installation. This is now approximately 6 monthly.

The chemical resin is stored underground in the 400L store or on 60L. Mr Scott Jeffrey stated these were approximately 25 °C and checked. Stock rotation was 2 monthly against a 4 month life.

The site has its own fibrecrete plant which has been computerised to ensure integrity of mix, with the exception of the fibres. It also has a lab for slump and strength testing on site. The majority of cylinders and RD panels are sent off site for testing, one test per 50 m³. For the rehabilitation, laser profiling of the drive prior to and after fibrecreting is completed to ensure thickness. **Mr Jody Todd stated this would now occur for their own development crews next month on a case by case basis. I recommend this commence ASAP.**

There are no drainage holes in the fibrecrete, and they have found in the portal the drainage holes were the initiation point for cracks. The site has had no issues with pull off due to water pressure, possible due to the shadow on the water table caused by the mine existing long term development.

The average fibrecrete core strength was approximately 35Mpa and flexural strength was approximately 420 joules. Mr Jody Todd was in discussion with the contractors.

Mesh is using 5 sheets per cut, with set overlaps.

Cables are installed using a K bolter, which reduces manual handling of the cables (no hand installation) and ensures they are free from grease and dirt (roll of cable onto bolter, and not lying on floors of drives).

Subsidence monitoring of the clay cap over the past fill of 32mCOHG stope failure to the surface is ongoing. In addition to a perimeter fence, this stope is monitored by the surveyors (3 prisms installed) weekly.

Site conducts camera surveys of vent raises and ore passes. Site also has a bore hole camera, which is used in inspection holes near stopes on a case by case basis. It was damaged prior to Christmas and has just come back to site.

Minimising blast damage by use of econotrim, isanol (particular through paste fill), and lower emulsion densities is conducted by in stopes and development firings. Profile overbreak is noted on the development heading sheet by the geotechnical engineers. Mr Jody Todd stated

they were working on paste blasting, and can have > 1m overbreak. As a result, standard bolting pattern for paste is 12 - 14 split sets (as opposed to 11 bolts).

The geotechnical department is constantly looking at technology, particularly bolts. It is presently looking at Sirovision for digital mapping of structures (all faults are in digital format but not joint sets) and trialling pre-splitting in stopes.

Discussions were held with Mr Jody Todd and Mr Scott Jeffery regarding the "Stope Design Cannington Operations" procedure and the "Development Design Cannington Operations" procedure, in particular drawpoint lengths; CAUTIONS/STOPS; and DDH's shown on plans.

Julie Dryden
Inspector of Mines
Northern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	16/07/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Site Safety & Health Reps Consulted: David Tawse

Today, Mrs Julie Dryden, Mr Phil Casey and Mrs Katie Ormonde inspected Cannington Mine as a follow-up to the geotechnical audit conducted by Mrs Julie Dryden and Mr Phil Casey on the 20th April 2006. A meeting was held with Mr Grant Egginton, SSE and Underground Mine Manager, and Mr Tim Purvis, Principal Engineer. We discussed the current situation in regard to the recent falls of ground and stope failure.

Cannington has recently commissioned several Geotechnical experts to review the situation at the mine, looking at the possible causes for the ground failures and reviewing the stope sequencing with mine personnel. The stope sequencing has not yet been finalised. Given the importance and high impact nature of the situation, it was disappointing to find that neither Mr Grant Egginton nor Mr Tim Purvis had read the recent consultant reports, in particular the Mikula report dated 5th May 2006 and the draft Potvin report, May 2006.

The following issues were discussed with Mr Grant Egginton and Mr Tim Purvis:

- The current extensive ground support rehabilitation occurring in the southern zone, which has temporarily stopped production in this area. Main areas for rehabilitation are the decline and access ways. Mr Grant Egginton and Mr Tim Purvis stated it would take approximately 6 months for the rehabilitation to be completed.
- The technical design issues associated with the failure of 32m.OHG stope and the supervision of the technical personnel.
- The importance of clear and concise stope notes for effective communication.
- The site is now risk assessing stopes prior to the commencement of production against a standard list of risks. According to Mr Tim Purvis, this started with 18dC8.HL stope.
- The importance of an action plan type process to address the issue of poor internal technical services communication
- Lack of a plan of the mine detailing stope status, particularly open stopes. According to Mr Grant Egginton and Mr Tim Purvis, this is currently being commissioned.
- The importance of having a plan forward for managing the ground control issues
- Open voids

It was pleasing to see that the mine has taken a pro-active approach to ground support in the southern region, and to filling the voids in the southern region. It was also pleasing to see the standard list of risks that stopes are now being risk assessed against prior to production commencing.

We also held discussions with Mr Jody Todd, Senior Geotechnical Engineer and Mr Grant Egginton. Mr Jody Todd had a **comprehensive spreadsheet in relation to rockfalls on site**. It was pleasing to see that all rockfalls, regardless of size, were being recorded. Mr Jody Todd confirmed the implementation of geotechnical monitoring prior to re-commencing production in the Southern Zone.

Mr Grant Egginton, SSE, is temporarily holding the position of Underground Manager and SSE for 3 months whilst the company is trying to fill the position. It is clear that a lack of a steady state of management appears to be a significant contributing factor to the poor communication and lack of focus on the bigger picture.

Mr Tim Purvis accompanied Mrs Julie Dryden, Mr Phil Casey and Mrs Katie Ormonde underground. Unfortunately, we could not inspect the crusher area due to the rehabilitation occurring in the decline. The following areas were inspected:

- NZ, 220mLv - 22jd2HL stope. Mr Ricky May was conventionally mucking this stope with an open brow. This issue was discussed with both Mr Ricky May and Mr Tim Purvis. Mr Tim Purvis instructed Mr Ricky May to call the Shift Boss to determine when to start remote mucking and the location to remote muck from. The Cannington procedure for production mucking states that if the brow remains open for greater than 5 buckets it is deemed open and the operator must commence remote mucking. It was also noted the operator was not immediately clear on where he would stand to remote muck as there was no specific cuddy although there was a drive at the back of the drawpoint access.
- NZ, 240mLv, RH95 N Drive. Mr Adam Self was performing maintenance work on his jumbo. He was rehabilitating the area prior to future stoping production in the vicinity. It was pleasing to see a bit gauge welded on to the Jumbo.
- NZ, 300mLv. Mrs Julie Dryden and Mr Phil Casey spoke with Mr David Tawse, Site Safety representative, who had no outstanding issues.
- SZ, 450mLv Workshop
- SZ, 475mLv Access Drive where a Macmahon operator was installing DCP and C Tube Bolts.

According to Mr Tim Purvis 22jd2HL stope had completed firing. The stope drawpoint was close to the access creating a level of risk to persons in the access. The mine has a policy that a bund needs to be installed at an open stope prior to the operator leaving the stope. **It is recommended that the mine review the proximity of the final design of stopes to accesses.**

It was observed that a Major Drilling Contract driller was walking on the main decline past vehicular traffic without any safety glasses on. Mr Tim Purvis instructed the person to don his safety glasses.

It is requested that prior to production commencing in the Southern Zone the following is submitted to the NRMW (Mount Isa):

- details of geotechnical monitoring locations
- desired outcomes from such a program
- details of persons/positions responsible for retrieving, calibrating and interpreting the information
- recent geotechnical consultant reports, in particular the Potvin report when it is not in draft
- details of how geotechnical findings will be incorporated with future production schedules

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Supervision and Monitoring of Technical Staff	08/31/2006
	The Mine SSE and the Principal Engineer had not read recent geotechnical reports which are	

core information on geotechnical issues. Recent designs have shown poor internal technical services communication, and lack of management supervision to technical services personnel.

As per MQSHR, Section's 95 and 96, the SSE must ensure the worker is given the supervision, and assistance from other competent persons, necessary to achieve an acceptable level of risk.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Production Mucking Procedures	08/31/2006
	As per the MQSHR, Section's 91 (c) and 93 and Part 11, ensure all personnel understand the procedures and standard work instructions for the worker's duties, in particular when operators need to start remote mucking.	

<u>Number</u>	<u>Information</u>	<u>Due Date</u>
3	Reporting significant rockfalls	N/A
	Significant rockfalls, such as that which was discovered on Sunday morning on 7B should be notified to the mine's rockmechanics department as soon as possible, regardless of it being behind a barricade it was an uncontrolled movement in the vicinity of men working (approximately 20m) from where persons would be charging.	

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Julie Dryden
Inspector of Mines
Northern Region

Katie Ormonde
Inspector of Mines
Northern Region

 Structural Geology 1st Draft of CWindsor.pdf
  W\ASM-CRW\GroundSupport05.pdf
  Brain Dump Friday 260506.ppt
 Cannington report April 06.pdf
  Cannington site visit report draft 5may06 with comments.pdf
  Cannington_170506.pdf



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	16/07/2006

Vision: Our Industries Free of Safety and Health Incidents

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Site Safety & Health Reps Consulted: David Tawse

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The following issues were discussed with Mr Grant Egginton and Mr Tim Purvis:

- The current extensive ground support rehabilitation occurring in the southern zone, which has temporarily stopped production in this area. Main areas for rehabilitation are the decline and access ways. Mr Grant Egginton and Mr Tim Purvis stated it would take approximately 6 months for the rehabilitation to be completed.
- The technical design issues associated with the failure of 32m.OHG stope and the supervision of the technical personnel.
- The importance of clear and concise stope notes for effective communication.
- The site is now risk assessing stopes prior to the commencement of production against a standard list of risks. According to Mr Tim Purvis, this started with 18dC8.HL stope.
- The importance of an action plan type process to address the issue of poor internal technical services communication
- Lack of a plan of the mine detailing stope status, particularly open stopes. According to Mr Grant Egginton and Mr Tim Purvis, this is currently being commissioned.
- The importance of having a plan forward for managing the ground control issues
- Open voids

It was pleasing to see that the mine has taken a pro-active approach to ground support in the southern region, and to filling the voids in the southern region. It was also pleasing to see the standard list of risks that stopes are now being risk assessed against prior to production commencing.

We also held discussions with Mr Jody Todd, Senior Geotechnical Engineer and Mr Grant Egginton. Mr Jody Todd had a **comprehensive spreadsheet in relation to rockfalls on site**. It was pleasing to see that all rockfalls, regardless of size, were being recorded. Mr Jody Todd confirmed the implementation of geotechnical monitoring prior to re-commencing production in the Southern Zone.

Mr Grant Egginton, SSE, is temporarily holding the position of Underground Manager and SSE for 3 months whilst the company is trying to fill the position. It is clear that a lack of a steady state of management appears to be a significant contributing factor to the poor communication and lack of focus on the bigger picture.

Mr Tim Purvis accompanied Mrs Julie Dryden, Mr Phil Casey and Mrs Katie Ormonde underground. Unfortunately, we could not inspect the crusher area due to the rehabilitation occurring in the decline. The following areas were inspected:

- NZ, 220mLv - 22jd2HL stope. Mr Ricky May was conventionally mucking this stope with an open brow. This issue was discussed with both Mr Ricky May and Mr Tim Purvis. Mr Tim Purvis instructed Mr Ricky May to call the Shift Boss to determine when to start remote mucking and the location to remote muck from. The Cannington procedure for production mucking states that if the brow remains open for greater than 5 buckets it is deemed open and the operator must commence remote mucking. It was also noted the operator was not immediately clear on where he would stand to remote muck as there was no specific cuddy although there was a drive at the back of the drawpoint access.
- NZ, 240mLv, RH95 N Drive. Mr Adam Self was performing maintenance work on his jumbo. He was rehabilitating the area prior to future stoping production in the vicinity. It was pleasing to see a bit gauge welded on to the Jumbo.
- NZ, 300mLv. Mrs Julie Dryden and Mr Phil Casey spoke with Mr David Tawse, Site Safety representative, who had no outstanding issues.
- SZ, 450mLv Workshop
- SZ, 475mLv Access Drive where a Macmahon operator was installing DCP and C Tube Bolts.

According to Mr Tim Purvis 22jd2HL stope had completed firing. The stope drawpoint was close to the access creating a level of risk to persons in the access. The mine has a policy that a bund needs to be installed at an open stope prior to the operator leaving the stope. **It is recommended that the mine review the proximity of the final design of stopes to accesses.**

It was observed that a Major Drilling Contract driller was walking on the main decline past vehicular traffic without any safety glasses on. Mr Tim Purvis instructed the person to don his safety glasses.

It is requested that prior to production commencing in the Southern Zone the following is submitted to the NRMW (Mount Isa):

- details of geotechnical monitoring locations
- desired outcomes from such a program
- details of persons/positions responsible for retrieving, calibrating and interpreting the information
- recent geotechnical consultant reports, in particular the Potvin report when it is not in draft
- details of how geotechnical findings will be incorporated with future production schedules

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Supervision and Monitoring of Technical Staff	08/31/2006
	The Mine SSE and the Principal Engineer had not read recent geotechnical reports which are	

core information on geotechnical issues. Recent designs have shown poor internal technical services communication, and lack of management supervision to technical services personnel.

As per MQSHR, Section's 95 and 96, the SSE must ensure the worker is given the supervision, and assistance from other competent persons, necessary to achieve an acceptable level of risk.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Production Mucking Procedures	08/31/2006
	As per the MQSHR, Section's 91 (c) and 93 and Part 11, ensure all personnel understand the procedures and standard work instructions for the worker's duties, in particular when operators need to start remote mucking.	

<u>Number</u>	<u>Information</u>	<u>Due Date</u>
3	Reporting significant rockfalls	N/A
	Significant rockfalls, such as that which was discovered on Sunday morning on 7B should be notified to the mine's rockmechanics department as soon as possible, regardless of it being behind a barricade it was an uncontrolled movement in the vicinity of men working (approximately 20m) from where persons would be charging.	

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Julie Dryden
Inspector of Mines
Northern Region

Katie Ormonde
Inspector of Mines
Northern Region

 Structural Geology 1st Draft of CWindsor.pdf
  W\ASM-CRW\GroundSupport05.pdf
  Brain Dump Friday 260506.ppt
 Cannington report April 06.pdf
  Cannington site visit report draft 5may06 with comments.pdf
  Cannington_170506.pdf

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Vision: Our Industries Free of Safety and Health Incidents

Townsville Office
P.O. Box 5318 MC, TOWNSVILLE QLD 4810
Phone: (07) 4760 7404, Fax: (07) 4760 7400

Substandard Condition or Practice

Issued By: Katie Ormonde, Inspector of Mines

Subject: Supervision	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/07/2006
Record Date: 19/07/2006	MRE Item No.: 1

Title: Supervision and Monitoring of Technical Staff

Description of Action Required to be Taken:
The Mine SSE and the Principal Engineer had not read recent geotechnical reports which are core information on geotechnical issues. Recent designs have shown poor internal technical services communication, and lack of management supervision to technical services personnel.

As per MQSHR, Section's 95 and 96, the SSE must ensure the worker is given the supervision, and assistance from other competent persons, necessary to achieve an acceptable level of risk.

References:
MQSHR, Sections 95 and 96

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 31/08/2006

Completed: 01/09/2006, **Closed by:** Katie Ormonde **on** 01/09/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

The operation has commenced a pre-production risk assessment prior to commencing blasting in a stope. This involves all stakeholders such as engineers, geotechs, and Superintendents reviewing a

risk-based checklist prior to giving the 'green light' on

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
Natural Resources, Mines and Water

Vision: Our Industries Free of Safety and Health Incidents

Townsville Office

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Substandard Condition or Practice

Issued By: Katie Ormonde, Inspector of Mines

Subject: Supervision	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/07/2006
Record Date: 19/07/2006	MRE Item No.: 1

Title: Supervision and Monitoring of Technical Staff

Description of Action Required to be Taken:

The Mine SSE and the Principal Engineer had not read recent geotechnical reports which are core information on geotechnical issues. Recent designs have shown poor internal technical services communication, and lack of management supervision to technical services personnel.

As per MQSHR, Section's 95 and 96, the SSE must ensure the worker is given the supervision, and assistance from other competent persons, necessary to achieve an acceptable level of risk.

References:

MQSHR, Sections 95 and 96

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 31/08/2006

Completed: 01/09/2006, **Closed by:** Katie Ormonde **on** 01/09/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

The operation has commenced a pre-production risk assessment prior to commencing blasting in a stope. This involves all stakeholders such as engineers, geotechs, and Superintendents reviewing a

risk-based checklist prior to giving the 'green light' on

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Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Katie Ormonde, Inspector of Mines

Subject: Procedures	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/07/2006
Record Date: 19/07/2006	MRE Item No.: 2

Title: Production Mucking Procedures

Description of Action Required to be Taken:

As per the MQSHR, Section's 91 (c) and 93 and Part 11, ensure all personnel understand the procedures and standard work instructions for the worker's duties, in particular when operators need to start remote mucking.

References:

MQSHR, Section's 91 (d) and 93 and Part 11

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 31/08/2006

Completed: 01/09/2006, **Closed by:** Katie Ormonde **on** 01/09/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

The remote mucking Safe Work Instruction (SWI) was updated and is currently being rolled out to the mining crews.

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Phone: (07) 4760 7404, Fax: (07) 4760 7400

Substandard Condition or Practice

Issued By: Katie Ormonde, Inspector of Mines

Subject: Procedures	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/07/2006
Record Date: 19/07/2006	MRE Item No.: 2

Title: Production Mucking Procedures

Description of Action Required to be Taken:
As per the MQSHR, Section's 91 (c) and 93 and Part 11, ensure all personnel understand the procedures and standard work instructions for the worker's duties, in particular when operators need to start remote mucking.

References:
MQSHR, Section's 91 (d) and 93 and Part 11

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 31/08/2006

Completed: 01/09/2006, **Closed by:** Katie Ormonde **on** 01/09/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

The remote mucking Safe Work Instruction (SWI) was updated and is currently being rolled out to the mining crews.

Information

Subject: Reporting	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/07/2006
Record Date: 08/09/2006	MRE Item No.: 3

Title: Reporting significant rockfalls

Information:

Significant rockfalls, such as that which was discovered on Sunday morning on 7B should be notified to the mine's rockmechanics department as soon as possible, regardless of it being behind a barricade it was an uncontrolled movement in the vicinity of men working (approximately 20m) from where persons would be charging.

References:

MQSHR Sced 1 5a

Information

Subject: Reporting	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/07/2006
Record Date: 08/09/2006	MRE Item No.: 3

Title: Reporting significant rockfalls

Information:

Significant rockfalls, such as that which was discovered on Sunday morning on 7B should be notified to the mine's rockmechanics department as soon as possible, regardless of it being behind a barricade it was an uncontrolled movement in the vicinity of men working (approximately 20m) from where persons would be charging.

References:

MQSHR Sced 1 5a

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	23/05/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

In reference to the telephone conversation on the 22nd May 2006. Could you please inform myself and Phil Casey in writing (e-mail is acceptable) of the progress to date of the implementation of the following MRE items issued in the MRE dated 20/04/2006:

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
1	Ground Control	05/06/2006

As per MQSHR, Section 44, ensure risk in relation to ground control is managed during the mine's design and operation, and appropriate measures are taken to immediately prevent local and area failures in ground integrity for the whole of mine.

The mine needs to review the stope planning and operation process as discussed in this MRE , taking into account as a minimum, but not limited to :

- * the stope design, planning and operational issues including geotechnical monitoring required during the stopes life
- * modelling of the mine including effects of individual and block stopes
- * regional ground control, and the effects of stoping
- * fill schedules, and the effects of voids
- * major structures, such as faults, on the stope design
- * monitoring of movement of major structures as required
- * scaling register
- * information to and between Geotechnical personnel
- * information from the workforce on what is occurring underground
- * Quality assurance of ground control installations
- * Defining of responsibilities through the life cycle of the mine.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Communication	05/06/2006

As per MQSHA, Section 36, persons having information that is relevant to other persons at a mine have an obligation to provide other persons with information to protect them and others from the risk of injury or illness.

It is critical to safety that the correct information is obtained by relevant personnel, and a process is required to ensure that the critical information is not lost in the complexity of the communication process.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Procedures and SWI's	05/06/2006

All procedures relevant to the workforce need to be available. The mine must ensure copies of the current procedures and instructions are available to each worker to whom they apply

(MQSHR, Sec 115) and Standard work instructions are easily understandable by persons carrying out the task and as brief and concise as is reasonable (MQSHR, Sec 117)

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Risk Assessment	05/06/2006
Training of personnel in supervisory and technical roles be reviewed to ensure personnel have an understanding of hazard identification and risk reduction as per Part 2 of the Regulations.		

Julie Dryden
Inspector of Mines
Northern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Subject Audit or Specific System Audit	Northern	20/04/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Today, with the assistance of Mr Tim Purvis, SSE, we conducted a ground control audit at Cannington. The mine has recently had a number of ground failures, including 32m.COHG stope failure day lighting to surface and the 70xc west and TF71 475mLv intersection collapse. It was pleasing that **Mr Shane Hanson and Mr Tim Purvis have an extensive plan for ground rehabilitation.**

Cannington has a large communication process (meetings; paper; and e-mails). Possibly due to the size and complexity of this process, there was evidence of :

- **relevant personal not obtaining and acting on the correct critical information;**
- **underground workforce communications on critical issues not always being actioned;**
- **site management of strategic direction on stoping blocks was lacking;**
- **personnel not learning from their mistakes.**

These 4 points are as a result of issues found during the audit, and are examples are given in the discussion below.

The following issues need to be addressed:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Communication	06/05/2006

As per MQSHA, Section 36, persons having information that is relevant to other persons at a mine have an obligation to provide other persons with information to protect them and others from the risk of injury or illness.

It is critical to safety that the correct information is obtained by relevant personnel, and a process is required to ensure that the critical information is not lost in the complexity of the communication process.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Procedures and SWI's	06/05/2006

All procedures relevant to the workforce need to be available. The mine must ensure copies of the current procedures and instructions are available to each worker to whom they apply (MQSHR, Sec 115) and Standard work instructions are easily understandable by persons carrying out the task and as brief and concise as is reasonable (MQSHR, Sec 117)

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Risk Assessment	06/05/2006

Training of personnel in supervisory and technical roles be reviewed to ensure personnel have an understanding of hazard identification and risk reduction as per Part 2 of the Regulations.

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
5	Ground Control	06/05/2006

Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999

As per MQSHR, Section 44, ensure risk in relation to ground control is managed during the mine's design and operation, and appropriate measures are taken to immediately prevent local and area failures in ground integrity for the whole of mine.

The mine needs to review the stope planning and operation process as discussed in this MRE, taking into account as a minimum, but not limited to :

- * the stope design, planning and operational issues including geotechnical monitoring required during the stopes life
- * modelling of the mine including effects of individual and block stopes
- * regional ground control, and the effects of stoping
- * fill schedules, and the effects of voids
- * major structures, such as faults, on the stope design
- * monitoring of movement of major structures as required
- * scaling register
- * information to and between Geotechnical personnel
- * information from the workforce on what is occurring underground
- * Quality assurance of ground control installations
- * Defining of responsibilities through the life cycle of the mine.

Please provide a written status report on each Directive and SCP together with the actions taken to address each item by their due dates

Discussion:

We reviewed the stope note for 32m.COHG and the Significant Incident Investigation (SII) for the "Failure of 32m.COHG stope".

- The stope note is 31 pages. It is signed by the Geologist, Geotechnical engineer and senior Production Engineer. There is a stope meeting which was attended by both production and planning personnel.
- The geotechnical assessment using the Modified Matthew's Stability chart had the western wall as potentially unstable, based on a primary stope, with a 5m rock pillar between the west wall and the Trepell Fault. It assessed that rock tipping should not be allowed from 220mLv, and no development on the crown of the stope. It also assessed that a "No Entry" be place on the crown before firing the stope.
- Design was a Tertiary stope with a 2 m pillar. Design had development on 200mLv, and fill tonnage was based on rock being tipped from this level. This means additional paste fill tonnes would be required, which would change the paste fill schedule and stope voids within the mine.
- Actual had toes of blastholes in softer material. No stope monitoring by CMS or visual assessment due to lack of access (see SII).
- Stope failure was noted on the 5th March 2006, a "No Entry" sign was installed on 220 mLv on the 6th March 2006 (not after the crown was fired as per Geotechnical assessment **or after the initial failure was reported**).
- No evidence of what geotechnical monitoring was required, the process, and who was

carrying it out, or any information recorded in stope atlas, even though this was a high risk stope, larger than normal, against the Trepell Fault.

- The mine is currently cement paste capping where the stope has broken through to the surface.

From the Significant Incident Investigation, the stope design included a smaller pillar than previous, stope being "mass blasted "; stope having a "large hydraulic radius" and stope size being "much larger than others in the area" , even though it was a Tertiary stope beside the Trepell fault. The root causes **did not include design**. The investigation conclusions stated "Despite the failure, and in hindsight, the review team believes that the process of developing this stope would not have been changed." This contradicts another SII conclusion which states "The above report looks to provide on going solutions to ensure such failures do not occur going forward." We need to **learn** from our incidents.

There was no use of "easer/slashing rings" against the Trepell fault, so that the pillar could be extended if required.

This investigation was completed after the "70 xc west and TF71 decline incident investigation" which, in significant learning's, stated "Cannington has become desensitized to repeat rehabilitation without considering the underlying reasons for the deteriorating rehabilitation " .

Throughout the course of the audit, underground personnel highlighted that they were "not being listened to" by management personnel with respect to both design and operational issues. This was another significant learning in the "70 xc west and TF71 decline incident investigation" which stated "Cannington has not formally engaged the workforce and sought input regarding the mines ground conditions " .

The Significant Incident Investigation was dated incorrectly with no names of persons involved.

A risk assessment completed in the stope note did not look at all hazards associated with the stope. The only consequence considered was "Loss of ore " . **It is recommended the site review the way risk assessment is incorporated into stope and development design, and considers the life cycle stages of an opening.**

Mr Purvis stated that stopes were planned in blocks, and stope block meetings were conducted however this had not occurred of some time. It would appear that Mine Superintendents are involved in these meetings, however they do not review the stope note on a formal basis. Stope block meetings are required and need to take into account stope voids. **It is recommended that Mine Superintendents are formally involved in Stope Note and Block Notes, so that practical experience is incorporated in the stope design process.**

Mr Purvis stated that there was 650,000 tonnes of void in the mine. The mine was unable to provide to us an overview of where these voids were. We sighted the voids in the northern region on the computer, but were unable to sight the voids in the central and southern region. **An overview of the mine, with filled stopes, empty voids, and future stopes needs to be developed. Mine plans should also delineate working and unfill stopes.**

There were no procedures printed and available for the underground workforce . All procedures relevant to the workforce need to be available. The mine had current copies of the legislation. It is recommended that the legislation also be available to the workforce.

The mine has a documented set of mine design guidelines that are updated. Drill core is geotechnically logged, and rock mass classifications are used. Numeric model exists but does not take into account effect of stopes and the stope extraction sequence, rather has all the void in as one mass. Changes in stope extraction should to meet operation targets need to be

re-evaluated on a geotechnical basis to ensure stability.

The mine conducted a review of ground support in March 2005 by Mr Chris Windsor from the WA School of Mines. Not all the recommendations within this review have been followed, including automatic monitoring to measure the magnitude of local displacements at important faults; and a regional model comprising the major structures, the regional stress field and gross rock mass material properties. It also recommended that two previous incidents involving structurally controlled falls of ground be reanalysed in 3D. Another significant learning from the "70 xc west and TF71 decline incident investigation" was that *"Cannington's geotechnical design processes have not been exhaustive enough to consider the effects of stoping on the regional ground conditions"*.

Discussions noted that some Geotechnical personnel had not seen the "70 xc west and TF71 decline incident investigation", and were unaware of its conclusions, recommendations and significant learnings.

The Geotechnical personnel stated they would re-institute the whiteboard of all relevant geotechnical information for current stopes by the end of May.

Presently Mr Tim Purvis is the only person on site with a 1st Class Mine Managers certificate, even though he is on Fly in/Fly out. As such, there is no alternate underground Manager if required (MQSHA, Sec's 52 and 54).

The mine needs to maintain a register of scaling, which needs to be reviewed by the Geotechnical personnel. It is recommended that Underground Plans are incorporated into the scaling register so that areas that required or have been scaled are easily delineated.

Quality assurance of fibrecreting is occurring where contractors are involved. Pull tests of split sets are being obtained. Quality assurance needs to be incorporated not only with contractors but with all ground support installations, including overcore drilling to be completed to check the full encapsulation of bolts where required, thickness of fibrecreting; and drill holes sizes. Mr Purvis was unaware if the drill rigs contained bit gauges.

Julie Dryden
Inspector of Mines
Northern Region

Phillip Casey
Inspection Officer
Northern Region


Stope note.pdf 70 xc TF71 incident.pdf NW Star News.pdf P4090001.JPG PICT0001.JPG plot of 32mc0 cave zone.jpg
SignificantIncidentInvestigation_32Stopefailure.doc SSE Cannington.pdf Stope daylighting 01.JPG

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Natural Resources, Mines and Water

Townsville Office
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Julie Dryden, Inspector of Mines (Mining)

Subject: Communication	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 20/04/2006
Record Date: 02/05/2006	MRE Item No.: 1

Title: Communication

Description of Action Required to be Taken:
 As per MQSHA, Section 36, persons having information that is relevant to other persons at a mine have an obligation to provide other persons with information to protect them and others from the risk of injury or illness.

It is critical to safety that the correct information is obtained by relevant personnel, and a process is required to ensure that the critical information is not lost in the complexity of the communication process.

References:
 MQSHA, Sec 36

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 05/06/2006

Completed: 06/06/2006, **Closed by:** Julie Dryden **on** 27/06/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

E-mail from Tim Purvis claiming actions completed.

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Julie Dryden, Inspector of Mines (Mining)

Subject: Procedures	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 20/04/2006
Record Date: 02/05/2006	MRE Item No.: 2

Title: Procedures and SWI's

Description of Action Required to be Taken:
 All procedures relevant to the workforce need to be available. The mine must ensure copies of the current procedures and instructions are available to each worker to whom they apply (MQSHR, Sec 115) and Standard work instructions are easily understandable by persons carrying out the task and as brief and concise as is reasonable (MQSHR, Sec 117)

References:
 MQSHR, Sec 115 & 117

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 05/06/2006

Completed: 06/06/2006, **Closed by:** Julie Dryden on 27/06/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

E-mail from Tim Purvis claiming actions completed.

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Julie Dryden, Inspector of Mines (Mining)

Subject: Risk Assessment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 20/04/2006
Record Date: 02/05/2006	MRE Item No.: 3

Title: Risk Assessment

Description of Action Required to be Taken:
 Training of personnel in supervisory and technical roles be reviewed to ensure personnel have an understanding of hazard identification and risk reduction as per Part 2 of the Regulations.

References:
 MQSHR, Part 2.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 05/06/2006

Completed: 06/06/2006, **Closed by:** Julie Dryden **on** 27/06/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

E-mail from Tim Purvis claiming actions completed.

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Directive

I Julie Dryden, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Ground Control	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 20/04/2006
Record Date: 03/05/2006	MRE Item No.: 5

Title: Ground Control

Directive Given:
As per MQSHR, Section 44, ensure risk in relation to ground control is managed during the mine's design and operation, and appropriate measures are taken to immediately prevent local and area failures in ground integrity for the whole of mine.

The mine needs to review the stope planning and operation process as discussed in this MRE, taking into account as a minimum, but not limited to :

- * the stope design, planning and operational issues including geotechnical monitoring required during the stopes life
- * modelling of the mine including effects of individual and block stopes
- * regional ground control, and the effects of stoping
- * fill schedules, and the effects of voids
- * major structures, such as faults, on the stope design
- * monitoring of movement of major structures as required
- * scaling register
- * information to and between Geotechnical personnel
- * information from the workforce on what is occurring underground
- * Quality assurance of ground control installations

* Defining of responsibilities through the life cycle of the mine.

References:

MQSHR, Section 44

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 05/06/2006

Completed: 05/06/2006, **Closed by:** Julie Dryden **on** 14/06/2006.

Action Taken by Mine to Comply with Directive:

Received notification from Cannington that they had closed out directive.

Released by DNRM under the RTI Act 2009

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given orally on 20/04/2006 at 03:00 PM.

Directive Given To -

This directive is given to the following person/s -

Tim Purvis

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

Displayed my identity card so it is clearly visible to the other person on 20/04/2006 at 03:00:00 PM.

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to the person in charge of mine or the part of the mine affected by the directive on 03/05/2006 at 01:00:00 PM.

A copy of this directive or notice was given to site senior executive on 03/05/2006 at 01:00:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -
Ground control issues.

Julie Dryden: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	03/11/2010

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Mines Inspector Phil Casey and I attended site and conducted an underground inspection assisted by Mr Grant Aitchison, Deputy Mine Manager and Mr Alex Thompson Development Superintendent of locations on 320L, 325L, 245L, 220L and 160L. Ground support in all locations appeared to be in good condition and as per site standards, all intersections sighted were cable bolted.

I also held a discussion with Mr Hendrick Grobler, Geotechnical Superintendent, on ground control management and the following points are noted::

- Geotechnical engineers are on every day shift and geotechnical mapping of headings occurs prior to in cycle shotcreting
- Geotechnical considerations are included in all aspects of mine development and production designs and schedules and fill designs and schedules.
- Recent improvements in shotcrete application (from improved compressed air pressures) have resulted in improved shotcrete early strength tests
- The site is using a new solid threaded bolt (Secura R27 by Minova), and a productivity improvements opportunity exists with the use if cross bits
- DSI continue to conduct pull testing (based on 1% installed bolts)
- The paste fill testing requirements and process on site (a minimum cement ratio of 2.7% is used for strength and consistency in mix design from the plant)
- A Review of Geotechnical Practice was undertaken in November last year by Consultant C.R. Windsor, CRC Mining, Western Australian School of Mines. The review looked at all aspects of geotechnical engineering on site including; data collection, design, analysis, reporting, documentation, monitoring, training and geotechnical projects on site. It was the opinion of the reviewer that the Geotechnical Engineering Practice on site exceeds mine industry best practice with Australia and internationally.

Katie Ormonde
Inspector of Mines
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	11/02/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Site Safety & Health Reps Consulted: Simon Harden

Today I conducted an underground inspection with Mines Inspector Ms Jacqui Vinnicombe accompanied by Mr Denis Odgers, Production Superintendent and Mr Shane Johnson Mine Contracts Supervisor. MacMahons and Red Path (previously EROC) undertake contract mining activities underground. A brief discussion was held with Mr Chris Rushforth, Acting Senior Supervisor Production.

The following locations were inspected:

- TI87 Dr 575 Level where a CT bolt had fallen from backs (1/02/09) the area has been inspected by geotechnical engineers and several plates have been installed over older bolts as an interim measure until further rehabilitation is completed during the next shut down. The ground did not appear unstable
- 575 Crusher Cribroom
- TA03 Incline where Jumbo operator Mr Rob Chaplain was preparing to commence work. Mr Chaplain had no outstanding safety issues and said face preparations were routinely completed
- TA03 Incline where the IT62 was operating
- 295 29C44 where a MacMahon's production drill was drilling upholes. Operators Mr Anthony Strong and Trainee Driller Mr Chris Johnston had no outstanding safety issues
- 22GC8 Drawpoint where Operator Ms Karen Cook had just finished conventionally loading from the drawpoint to trucks
- 240 Remote site to 26 LE7 stope where tele remote operator Mr John Henderson was setting up to operate. Mr Henderson had no outstanding safety issues.

The new Caterpillar IT 62 has been certified by Hastings Deering for persons to work out of the basket. The basket has a certified bar attached to prevent the basket going too high and accidentally squashing someone against the backs. The IT can lift and tram persons as it is not an elevated work platform. The basket is interchangeable but requires specific change out in

the workshop, unlike quick hitch type attachments that can be interchanged on the job. Certification of the basket is best practice and the operation is to be commended for obtaining this certification.

A meeting was held with Geotechnical Superintendent Mr Hendrick Grobler who gave Ms Vinnicombe an overview of the geotechnical aspects of the operation. Mr Grobler said that the micro seismic system is scheduled to commence this year. Mr Grobler said the paste fill back log was at an acceptable level and that production of sources will not commence unless the required voids have been filled as determined by the geotechnical team and the schedule reflects these constraints.

A meeting was held with Senior Geotechnical Engineer Mr Jianping Li, Graduate Geotechnical Engineer Ms Jennifer Watson, Geotechnical Engineer Mr Quentin Toose and Project Engineer Mr Trent Roberts. An audit system was devised for all CT and DCP bolts and an audit of the bolts has been completed. Grouting of identified bolts will be completed in the coming weeks. A couple of hundred bolts were identified that required grouting, the grouting program is nearing completion with less than 100 bolts remaining to be grouted and these are planned to be done in the coming weeks.

A meeting was held with Site Safety and Health Representative Mr Simon Harden who had no outstanding safety and health issues. I reviewed the Cannington Mining Crew Safety Record Book which has recently been developed. Mr Harden said safety issues are taken seriously and made specific reference to the genuine approach to safety made by the new management team.

Katie Ormonde
Inspector of Mines
North Region

Jacqui Vinnicombe
Inspector of Mines
North Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Investigation	Northern	11/09/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today I undertook an underground inspection with Mines Inspector Mr Trevor Brown, assisted by Mine Drill and Blast Superintendent Mr Alf Garnet in relation to ongoing investigations into the death of Mr Adam Fallon.

The following locations where Mr Adam Fallon had been working on the night shifts of the 7th and 8th September 2008 were inspected:

- 100 Level 20eD2HL where probe holes had been drilled to check the status of fill. The vent bag was approximately 20 metres back from the job. The job appeared to be approximately 2 metres back from the face / wall.
- 160 Level (Northern Zone) where the paste line had been pinned. An air leg and other equipment were on the job. Boxes of Minova slowset resin capsules were found on the job and were past the use by date. A pale coloured unknown fluid (assumed to be rockdrill oil) in a 600ml water bottle was on the job and another unmarked larger (approximately 20 litre) container with similar fluid was in close proximity (approximately 30metres) to the job. The vent bag was approximately 20 metres back from the face.
- 375 Level where poly had been stripped
- 450 Level Cribroom 52 where the installation of lights had been completed and possible whitewashing of the walls had taken place
- 325 Level Paste Crew park up bay, where IT's 62G and 216 were parked up and work baskets were situated

Myself, Mines Inspector Mr Damian Lee, Mines Inspector Mr Trevor Brown and Principal Investigations Officer Mr Mick Jacobs assisted by SSE Mr Bob Fulker and Industrial Relations Advisor Ms Kara Bryant inspected Mr Fallon's accommodation room at the Village. An electrical inspection of the room was completed and no faults were found.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Inappropriate Storage of Substances	15/09/2008
As per MQSHR Sections 8 (2) (b and c) and 53 ensure hazardous substances are stored in		

appropriate containers and are clearly identified to control the hazard of persons accidentally ingesting inappropriate substances.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Out of date Lokset Resin Capsules	25/09/2008
	As per MQSHR Sections 7 (2) (e), 8 (2) (b and c), 44 2 (c) and 98 ensure resin used at the operation is not past the Use By date as noted on the box and test the effectiveness of all bolts where out of date resin may have been used. Implement a system to ensure the storage and use of resin is as per manufacturer's specifications.	

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
3	Management of Absenteeism	25/09/2008
	Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999 As per MQSHA Division 1, MQSHR Sections 7, 8, 9 and 97 review the management / supervision of persons in relation to their whereabouts during shift and review the process for managing absenteeism at the start of shift.	

Please provide a written status report on each Directive and SCP together with the actions taken to address each item by their due dates

**Katie Ormonde
Inspector of Mines
North Region**

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Katie Ormonde, Inspector of Mines (Geomech)

Subject: Inappropriate Storage	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Investigation	Activity Date: 11/09/2008
Record Date: 15/09/2008	MRE Item No.: 1

Title: Inappropriate Storage of Substances

Description of Action Required to be Taken:

As per MQSHR Sections 8 (2) (b and c) and 53 ensure hazardous substances are stored in appropriate containers and are clearly identified to control the hazard of persons accidentally ingesting inappropriate substances.

References:

MQSHR Sections 8 (2) (b and c) and 53

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 15/09/2008

Completed: 25/09/2008, **Closed by:** Katie Ormonde **on** 22/10/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Email from SSE Bob Fulker stating that substances are stored in appropriate containers and verbal instruction has been given to operators underground that no unauthorised containers such as drink bottles are to be used for anything other than drinking flu

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Katie Ormonde, Inspector of Mines (Geomech)

Subject: Resin	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Investigation	Activity Date: 11/09/2008
Record Date: 15/09/2008	MRE Item No.: 2

Title: Out of date Lokset Resin Capsules

Description of Action Required to be Taken:
 As per MQSHR Sections 7 (2) (e), 8 (2) (b and c), 44 2 (c) and 98 ensure resin used at the operation is not past the Use By date as noted on the box and test the effectiveness of all bolts where out of date resin may have been used. Implement a system to ensure the storage and use of resin is as per manufacturer's specifications.

References:
 MQSHR Sections 7 (2) (e), 8 (2) (b and c), 44 2 (c) and 98

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 25/09/2008

Completed: 23/09/2008, **Closed by:** Katie Ormonde **on** 22/10/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Email frfom SSE Bob Fulker stating that an audit of lokset resin has been undertaken and confirmed the product is stored and managed azs per manufactorer's recommendations.

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Katie Ormonde, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Absenteeism	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Investigation	Activity Date: 11/09/2008
Record Date: 15/09/2008	MRE Item No.: 3

Title: Management of Absenteeism

Directive Given:
 As per MQSHA Division 1, MQSHR Sections 7, 8, 9 and 97 review the management / supervision of persons in relation to their whereabouts during shift and review the process for managing absenteeism at the start of shift.

References:
 MQSHA Division 1, MQSHR Sections 7, 8, 9 and 97

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 25/09/2008

Completed: 23/09/2008, **Closed by:** Katie Ormonde **on** 22/10/2008.

Action Taken by Mine to Comply with Directive:

Email sent from SSE, Bob Fulker stating that a procedure is under development and after consultation with safety reps it will be concluded and implemented and Supervisors have been reminded to provide regular checks on crews.

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 12/09/2008 at 12:55 AM.

Directive Given To -

This directive is given to the following person/s -

SSE
Mr Bob Fulker

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power).

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to site senior executive on 15/09/2008 at 12:55:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following - it is necessary to know the locations of persons on a mine site, within a reasonable amount of time (less than 2 hours) so if they have been in an incident appropriate and rescue measures can be taken as soon as reasonably achievable.

Katie Ormonde: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	27/08/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today undertook an underground inspection of mine operations with regard to mine planning. assisted by Mine Drill and Blast Superintendent Mr Alf Garnet, Senior Geotechnical Engineer Jianping Li and Consultant Engineer Mr Ross Thomas, who holds a current Queensland First Class Managers certificate for the site.

The operation has started chocking the wheels of all parked light and medium sized vehicles on site, this does not include trucks and heavy vehicles that require large chocks.

The following underground locations were inspected and points were noted:

- 240L C8 XC Northern Zone where Aaron Fruitier was tele remote loading from a open drawpoint. Mr Fruitier commented that the introduction of cables for line of site remote loading has been implemented which did not allow the operator to move very far from the cuddy. A discussion with Haulage Superintendent Mr Dennis Odgers was later held who said the introduction of the cable had been risk assessed and the cable had recently been extended to 10 metres from the original 2 metres giving operators more room to move around the vicinity of the cuddy. It is pleasing to note that approximately 15% of remote loading is line of site, the remaining being tele remote and the intention is to reduce the amount of line of site loading further with the introduction of more portable tele cabs (converted troupe carriers)
- 74XC 475L where Jumbo operator Mr Mark Irons was installing split sets and mesh on a rehab job. Mr Irons confirmed no rehabilitation work is completed without a plan and he had his job plan (Rehab 746) with him on the rig. The plan also shows the order in which the rehabilitation is to take place. Mr Iron confirmed he conducts a "Take 5" job safety analysis prior to commencing any work which was reviewed. Mr Jade Clements was off siding and was aware of the importance of positive communication with Mr Irons before accessing the booms and other hazards associated with his job.
- All newly installed cable bolts and now plated and jacked.
- 72XC 475L nozzleman Mr Lyndsay Riggs was shotcreting and had no outstanding safety issues.
- Minova was grouting the top of 5273 stope in 5072 DR. Minvoa has also filled 4768

Stope.

- Mr Rob Chaplain was commencing the face prep for 54XC 475L, Mr Chaplain said all faces are prepped prior to charging
- In response to an incident at Olympic Dam underground sumps are being reviewed to ensure they are not a hazard for vehicles accidentally dropping off the edge of the road into them.
- 450L workshop has cracks in the shotcrete and glass slides have been attached to them. It is planned for prisms to be installed, the prisms will enable time v's deformation graphs to be plotted which will assist with predictive analysis. Regular geotechnical inspections of the cracks are undertaken. A meeting was later held with Fixed Plant Superintendent Mr Richard Taylor, who confirmed the gantry overhead crane is checked by Kone Cranes every 3 months and any changes in the cracks is communicated to him by the geotechnical engineers.
- The Geotechnical Criteria Checklist (previously the Geotechnical Design checklist) is completed for mine designs, other regional geotechnical considerations are included in the checklist such as, the Southern Zone being mined from South to North and R4 from North to South and HW to FW and the Northern Keel stopes will be mined at the end of the mine life
- A production plan summary job sheet is being developed that will show the locations of barricades, tipping points, other vertical openings and tram routes etc. It will also act as a handover sheet and provide feedback to planning.
- SWI's are being revised to ensure what is in the SWI is what occurs and training packages are also being reviewed to reflect the same
- Large level plans are displayed in the planning office
- Senior Planning Engineer Mr Andrew Cooper confirmed the amount of available void to be filled is reviewed on a weekly basis. Mr Jon Almond Scheduling Engineer explained the fill monitoring system, at the time of the inspection there was 355kt available to fill and Mr Almond confirmed this is within acceptable limits
- The operation is investigating the use of electronically tagging and tracking boxes of explosives.

There have been recent management changes to the operation, Mr Bob Fulker is SSE and Mr Wade Bickley is Manager Mining. Mr Bickley will complete his G3 Risk Management course in September.

Katie Ormonde
Inspector of Mines
North Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	12/03/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today I attended site and completed an underground production inspection assisted by Drill and Blast Superintendent Mr Alf Garnet.

The following underground jobs were inspected:

- 120L stope charging by Orica operators
- Development heading LDDN on 200L ready to bolt with tiger bolts
- 63XC 375L where jumbo operator Mr Robert Chaplain was installing bolts assisted by offsider Mr Carl Thompson
- Conventional mucking at 32B47 stope on 315L, with loader operator Mr Doc DeCoursey

The ground support in all locations was to standard and all jobs were set up well.

A meeting was held with Mr Andrew Cooper, Senior Planning Engineer, Technical Services. The long term mine development and production schedules are constrained by rock mechanics considerations in terms of extraction rates, sequences and filling rates. Mr Cooper confirmed the short term schedule which is derived from the longer term schedule which is developed with consideration of rock mechanics issues and the geotechnical engineers are included in the design process. Filling is also considered as part of this process. Risk assessments that consider geotechnical issues and corresponding stope notes are produced for each stope prior to production.

The current pastefill back log is at an acceptable level, with the amount of fillable void accounting for approximately 50% of the backlog total.

The Mine Planning Design Checklist was reviewed. A checklist point has been added "Are there any paste filled stope crowns in the surrounding area that need to be probed for voids?" as an additional control from the high potential incident where an unplanned breakthrough occurred in the floor where a jumbo had previously been working on 27/11/07 375L at 47XC (27/11/07).

The operation has commenced BLAST (Best Leadership Alignment to Self and teams Training) for all Superintendent, Supervisor and Senior type roles. The program has 7 modules which are in line with Frontline Management qualifications.

A discussion was held with Senior Geotechnical Engineer Jianping Li. It was confirmed by Jianping that the production schedules consider geotechnical constraints and are signed off by geotechnical engineers. Inelastic and elastic modelling has been undertaken both having similar results.

Several key mining criteria have resulted from the modelling these include:

- Mining the Southern Zone from North to South
- Mining the Northern Keel stopes at the very end of the mine life
- Mining R4 stopes as soon as possible for completion in the next 3 – 4 years
- Mining sequence for the R4 stopes should be from North to South in plan and Hanging wall to footwall in section

Where necessary as drillers drill bolt holes the ground conditions are recorded for each hole. This is occurring in areas at the moment to confirm the location of the Hamilton fault and it's proximity to production and development sources.

The Ground Control Management Plan is currently being revised to include greater detail and the new version is planned for completion by mid year.

Katie Ormonde
Inspector of Mines
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	05/12/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today I attended site to inspect the planning and design risk assessment process. A high potential incident occurred last week on 27/11/07 where the floor collapsed into a void on 375L at 47XC when shoulder stripping of the left wall was fired. It appears the fill floor was approximately 3.1m thick and fell into a cone shape void that was approximately 12m x 7m x 9m. Mr Shane Johnson is currently acting in the role of SSE.

A discussion was held with Mr Jody Todd, Technical Services Manager, Mr Riek Muller Planning Superintendent, Mr Erwin Santoso, Planning Engineer and by telephone conference with Mr Bill Saba, Senior Planning Engineer. The discussion was based on the incident investigation findings and the changes necessary to ensure a similar incident does not occur again.

A brief meeting was held with Mr Shane Hanson, Asset Leader in regard to the incident.

The original optec survey of the void (cms) did not indicate the extent of the void. It is likely the void failed post the optec and thus the fill point was not located at the highest point of the void and did not allow the area to be tight filled.

A review of all areas which may be of similar circumstance has been conducted. In response to any high potential incident, where a previously unrecognised hazard has been made known, it is essential that immediate action be taken to ensure the hazard does not exist elsewhere in the mine.

Although a review has occurred of areas that may be similar circumstance a record of what specific areas have been reviewed with respect to the hazard is necessary and a commitment was made by Mr Fuller that a set of level plans would be marked indicating the areas that were potentially exposed to the hazard and that were reviewed.

Key learnings include:

- Older stopes (may be pre 2004 – in 2004 a paste fill management system was implemented) can not be considered filled with the same level of confidence as that of the more recently filled stopes
- Filled voids with no evidence of a fill point (fill hole, development breakthrough, long hole winze) at the highest point of the optech require additional investigation (e.g. risk assessment / probe hole drilling if required) with the assumption there may be a portion of the top of the stope not filled.
- Fill notes require more specific comment on the way in which tight filling was determined and any other necessary comments.
- Areas of development (in rock or in paste) that are above the crown of a stope require additional review with the assumption the stope may have over broken in the time post the optec pre filling and therefore the optec may not be a true representation.
- The need to investigate abnormalities. Development was designed within 3.1m of an old “believed to be filled” stope that had overbroken into a previously filled stope, with the benefit of hindsight the opportunity was there to consider that this overbreak may have meant the stope had the ability to fail further during filling and therefore not have the opportunity to be tight filled
- Ensure there is not a “skin” of rock left against the side of a stope that may not allow stopes with a chamfered top be tight filled from an adjoining / higher stopes
- Using tonnes placed v’s tonnes extracted may not always be a good indicator as to the tight fill nature of a stope as reconciled calculations may not have considered the filling of development in addition to the stope.
- The need to ensure paste fill engineers understand the criticality of tight filling voids, especially when attempting to tight fill against the crown

A review of the ICAM investigation was undertaken. The investigation requires review to ensure effective additional controls are implemented to prevent a recurrence of a similar incident.

Number

Directive

Due Date

1

Incident Investigation

07/01/2008

Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999

As per MQSHA Section 198 and MQSHR Section 7 review the investigation process and review the incident investigation (floor collapse 47XC, 375 L, 27/11/07) to ensure specific, immediate and effective controls are implemented to prevent the recurrence of similar incidents and review the effectiveness of listed controls and key learnings.

Please provide a written status report on each Directive together with the actions taken to address each item by their due dates

**Katie Ormonde
Inspector of Mines
Northern Region**

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Katie Ormonde, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Incident Investigation	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 05/12/2007
Record Date: 07/12/2007	MRE Item No.: 1

Title: Incident Investigation

Directive Given:
 As per MQSHA Section 198 and MQSHR Section 7 review the investigation process and review the incident investigation (floor collapse 47XC, 375 L, 27/11/07) to ensure specific, immediate and effective controls are implemented to prevent the recurrence of similar incidents and review the effectiveness of listed controls and key learnings.

References:
 MQSHA Section 198 and MQSHR Section 7

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/01/2008

Completed: 05/12/2007, **Closed by:** Katie Ormonde **on** 01/02/2008.

Action Taken by Mine to Comply with Directive:

As per conversation on site visit 05/12/07 teh incidnet investigation process is being modified to ensure it covers the immediate controls necessary to ensure the incident does not occur again see MRE

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 07/12/2007 at 04:15 PM.

Directive Given To -

This directive is given to the following person/s -

Mr Shane Johnson
 SSE
 Mr Jody Todd
 Technical Services Manager

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power).

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to site senior executive on 07/12/2007 at 04:15:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -

A lack of thorough investigation means actions to prevent the hazard from occurring again may not be identified and a similar incident may occur again.

Katie Ormonde: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

(a) include the reasons for the review decision; and
(b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

(a) review the directive within the time allowed under subsection (1); or
(b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

(1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.

(2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.

(3) A stay -

(a) may be given on conditions the court considers appropriate; and
(b) operates for the period fixed by the court; and
(c) may be revoked or amended by the court.

(4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.

(5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.

(6) However, a directive under section 164 must not be stayed.



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	29/11/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

Mr Jody Todd, Technical Services Manager and Mr Shane Johnson, Acting SSE have confirmed to me that a review of all active paste fill headings has been undertaken with consideration of the recent high potential incident where the paste fill floor collapsed.

Mr Todd was confident no other areas were of the same circumstance and he had a good understanding of why the floor collapsed. The Directive to suspend activity in paste fill areas is therefore closed.

I will be attending site next Wednesday, 5th December, 2008 to review the Mine Planning and Design risk assessment process.

Katie Ormonde
Inspector of Mines
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	28/11/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

The following Directive has been issued in relation to a high potential incident that has occurred on site where the floor has collapsed into a void on the 375L at 47XC when shoulder stripping of the left wall was fired. It appears the fill floor was approximately 3.1m thick and fell into what is estimated to be an 8m void.

The Inspectorate was notified of the incident by Mr Shane Johnson who is currently nominated as the SSE, in the absence of Mr Neil Colbourne.

Number	Directive	Due Date
1	Pursuant to section 164 of the Mining and Quarrying Safety and Health Act 1999 Void Management	28/11/2007
	As per MQSHA Section 164 and MQSHR Sections 6, 7 and 8 suspend operations in all areas of paste fill until each location has been risk assessed having regard to the ground collapse on 375 Level.	

Please provide a written status report on each Directive together with the actions taken to address each item by their due dates

Katie Ormonde
Inspector of Mines
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Katie Ormonde, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to suspend operations for unacceptable level of risk, pursuant to Section 164 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Void Management	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Postal Mine Record Entry	Activity Date: 28/11/2007
Record Date: 28/11/2007	MRE Item No.: 1

Title: Void Management

Directive Given:
 As per MQSHA Section 164 and MQSHR Sections 6, 7 and 8 suspend operations in all areas of paste fill until each location has been risk assessed having regard to the ground collapse on 375 Level.

References:
 MQSHA Section 164 and MQSHR Sections 6, 7 and 8

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 28/11/2007

Completed: , **Closed by:** Katie Ormonde **on** 01/02/2008.

Action Taken by Mine to Comply with Directive:

Confirmed all areas of operation where paste fill existed had operations ceased adn review undertaken as per conversation with Shane Johnson, Acting Mine Manager.

Directive -

1. If an inspector, inspection officer or district worker's representative believes risk from mining operations is not at an acceptable level, the inspector, officer or representative may give a directive to any person to suspend operations in all or part of the mine.
2. The directive must be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection 3. does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 28/11/2007 at 12:49 PM.

Directive Given To -

This directive is given to the following person/s -

Mr Shane Johnson
SSE (Acting)

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power).

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to site senior executive on 28/11/2007 at 12:49:00 PM.

In giving this directive I believe risk from operations is not at an acceptable level.

The reason for my belief or suspicion is based upon the following -
A jumbo was working on 3.1m of paste fill.

Operations at the mine or the parts of the mine specified are suspended the above action is taken.

Katie Ormonde: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	04/09/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Site Safety & Health Reps Consulted: Adrian Roberts, Ross Campbell

Today I attended site to conduct an underground inspection and to review the management of Western Orepass 1 where a mud rush type event occurred on 27/08/07.

Relief Trainer Mr Andy Milburn took Principal Engineer Mr Jim Stewart and myself through Mine Arc refuge chamber training. I was trained in usage of the MSA Savox self rescuer.

Assisted by Acting Haulage Superintendent Mr Denis Odgers and Mr Stewart I inspected Western Orepass 1 (WOP1). I spoke to Haulage Supervisor Mr Glen Garvey at the 575 Extraction level of WOP1, who had no outstanding safety issues.

It appears significant contributing factors to the mud rush type incident on the 27/08/07 include:

- The pass not being mucked in approximately 2 weeks
- The possibility of too much Paste being tipped into the pass
- A large build up of fines on 425L being cannoned down into the pass (adding water and fines)
- Water draining into the pass from old blast holes on 520L (TB71 Drive)

Several controls will be added to the Management of WOP1 Safe work Instruction (SWI) these include, but are not limited to:

- Daily extraction from the pass. The haulage Supervisor will check the previous shifts ore movements logged in pitram to ensure this has occurred. If it hasn't occurred a Job Safety Analysis of the task will be completed prior to conventionally mucking the pass. A minimum amount of dirt required to be removed on a daily basis will be established.
- The pass will be permanently choked off to approximately 13m below 425 Level. Below this point the pass has overbroken and keeping the pass full though this region will

assist in preventing further overbreak.

- If the brow of the pass ever cracks, conventional loading will cease until the situation has been managed. As the pass is to be permanently choked the brow should always remain closed.
- The orepass will be dipped daily by Crusher operators. A cross-sectional diagram of the pass and its dipping access points will be included in the Safe Work Instruction. This diagram will indicate what the maximum depth measurements in metres are from a given level. Depth Measurements greater than those stated in the Safe Work Instruction will indicate the pass is not choked off to the required level and conventional bogging will cease from the pass until a risk assessment has been completed and the hazard has been managed accordingly. The depth measurements will be written on the daily shift report.
- Drill holes on 520 Level (TB71) will be grouted. All other drill holes in the vicinity of WOP1 that may intersect the pass have been assessed for their potential to drain water into the pass and no others were found. When the pass was recently emptied there was no evidence of any water entering the pass.
- All necessary persons will be re-trained in the procedure, this includes the already present reference to blending paste when it is tipped and informing the crusher operators of paste entering the pass.

After a long discussion with Mr Odgers I was confident he had a clear understanding of the incidents direct causes and was able to manage them accordingly.

I spoke with loader operator Mr Ivan Stancik who had no outstanding safety issues. I inspected the Production Drill rig in the Northern Zone of 300 Level and spoke with Production Driller and Site Safety Representative Mr Adrian Roberts. Mr Roberts confirmed he attended tool box talks and passed on issues raised from them at the safety representative meetings. Mr Roberts suggested the use of video based training tools in place of or in addition to Safe Work Instructions and it was agreed videos can be a very effective way of visually communicating safe work instructions. Fitter, Mr Bryce Murtagh was also on site and had no outstanding safety issues. It is noted that Mr Murtagh had not received specific product training in the type of drill he was working on. Mr Odgers said he would ensure some scaling in the access drive to the job and in other areas as necessary would be undertaken by the service crew.

There are 5 production loaders on site and all now have tele-remote capabilities (the last one will be completed tomorrow). There are 2 development loaders, one of which has remote capabilities. I inspected the Remote Control Technologies tele-remote cab situated off the decline in "Bertha's Bay". Another 2 cabins are planned to be installed. The tele remote cab will be able to operate on levels above and below the 240 Level.

A brief inspection of the 450L workshop was completed. Additional fibrecrete has been placed approximately 1.5 metres above the floor (to the floor) in areas where there had previously been cracking in the fibrecrete or no fibrecrete. I spoke with Site Safety Representative Mr Ross Campbell and he confirmed he attended the Safety Representative Meetings.

Although no excessive dust was present in areas I inspected and the decline had been recently watered, during my underground inspection 4 references to excessive dust were raised by employees. A discussion was held with Mr Colbourne about this and he commented that several things had been done to improve the management of dust underground but obviously the issue was not completely resolved. Mr Odgers said a proposal was in place for the use of

additional watercart resources. Mr Colbourne was aware of the proposal.

The Safe Work Instruction for mucking from a drawpoint has been revised, but not issued as an approved version. Operators underground referred to the definition of a brow being open as the removal of 10 consecutive buckets without the material rilling and choking the brow off again. The safe work instruction refers to the removal of 5 buckets and no rilling as an open brow. This change requires risk assessment. This Safe Work Instruction should refer to this "x" bucket rule as a guide and a caution should be noted in the SWI that there may be circumstances where the removal of less than 10 buckets, under a big hung up rock for example may expose the operator conventionally operating the loader to an unacceptable level of risk and each instance must be managed on a case by case basis.

Mr Colbourne said a review of the 574 Crusher level crib room in regard to it's fit or purpose nature as an Emergency Refuge Bay (Mine Record Entry Sub-standard condition or practice dated 22/08/07) would be addressed immediately as it appeared no action had been taken at the time of the inspection and as a result Mr Colbourne revoked the status of the crib room as a fresh air base until it was to standard.

Mr Jim Stewart has been appointed Principle Engineer on a contract basis and he holds a mine managers ticket. Mr Stewart has no direct reports to his role and he will work an 8 on 6 off roster.

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
1	Mucking from a Drawpoint Safe Work Instruction Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999 As per MQSHR Sections 6,7,8 and 114 Issue the final revised Safe Work Instruction for Mucking from a drawpoint and include, but not limited to, reference to the fact that removal of less than 10 buckets could result in a situation where the drawpoint should be considered open and managed accordingly.	12/09/2007

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
2	Dust As per MQSHR Section 8 (f) (2) Review the need to supplement the current watercart capacity. Consider instances when the BHP watercart is down and times of high activity.	N/A

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
3	Fitter Training As per MQSHR Section 93 Ensure fitters have the knowledge and understanding of the processes they are to carry out by giving them training in the product type they are working on.	N/A

Please provide a written status report on each Directive together with the actions taken to address each item by their due dates

Katie Ormonde
Inspector of Mines
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Katie Ormonde, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Safe Work Instructions	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 04/09/2007
Record Date: 07/09/2007	MRE Item No.: 1

Title: Mucking from a Drawpoint Safe Work Instruction

Directive Given:
As per MQSHR Sections 6,7,8 and 114 Issue the final revised Safe Work Instruction for Mucking from a drawpoint and include, but not limited to, reference to the fact that removal of less than 10 buckets could result in a situation where the drawpoint should be considered open and managed accordingly.

References:
As per MQSHR Sections 6,7,8 and 114

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 12/09/2007

Completed: 17/09/2007, **Closed by:** Katie Ormonde **on** 21/09/2007.

Action Taken by Mine to Comply with Directive:

Email received 17/09/07 from Jim Stewart (on site to hold Mine Mangers ticket) confirming completion of the item.

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 07/09/2007 at 05:45 PM.

Directive Given To -

This directive is given to the following person/s -

SSE
Neil Colbourne

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power).

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to site senior executive on 07/09/2007 at 06:45:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -
the safe work instruction for mucking from a drawpoint requires amendments to ensure the operators are aware of the risks associated with the task.

Katie Ormonde: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.



Recommendation

Subject: Dust	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 04/09/2007
Record Date: 07/09/2007	MRE Item No.: 2

Title: Dust

Description of Action Recommended to be Taken:

As per MQSHR Section 8 (f) (2) Review the need to supplement the current watercart capacity. Consider instances when the BHP watercart is down and times of high activity.

References:

MQSHR Section 8 (f) (2)



Recommendation

Subject: Training	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 04/09/2007
Record Date: 07/09/2007	MRE Item No.: 3

Title: Fitter Training

Description of Action Recommended to be Taken:

As per MQSHR Section 93 Ensure fitters have the knowledge and understanding of the processes they are to carry out by giving them training in the product type they are working on.

References:

As per MQSHR Section 93



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	28/08/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

Notification has been received of a high potential incident that occurred yesterday 27/08/07 at Western Orepass 1 on 575 Level where a mud rush occurred while the loader operator was away from the job. Approximately 200 – 300 tonnes of material flowed from the pass.

At the time of the incident the brow of the orepass was closed.

It was suggested that the pass had not been bogged for 2 -3 weeks prior to the incident.

The pass is known to make water.

It appears the management of this orepass exposed persons to an unacceptable level of risk.

I held a phone conversation with Mine Manager Mr Tim Pervis at 6.30pm yesterday and it was confirmed that **only tele remote mucking will occur** on the orepass. No conventional or line of site / remote mucking of the pass will occur unless a risk assessment is completed and I receive a copy of the risk assessment for review prior to commencing the task. At the time of the conversation there was not enough information available to confirm another mud rush would not occur due to the amount of material still in the pass.

Katie Ormonde
Inspector of Mines
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	24/01/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

Today I conducted an inspection of remote (line of sight) mucking practices at Cannington Mine. I met Mr Neil Colburne, who is new to the operation and in the role of Mine Manager. Mr Jack Standa, Underground SSE informed me he (himself) will remain with the mine until mid year. Mr Tim Purvis, Principal Engineer holds a Queensland Mine Manager's ticket.

Steven Homer, Senior Production Engineer has resigned, Senior Operations Engineer Mr Andrew Cooper will take on some of Steven's role.

I reviewed the Remote Mucking Safe Work Instruction (SWI-UG0024C Version 8.3, 15 Aug 2006) and the Mucking from Drawpoints Safe Work Instruction (SWI-UG0130C, Version 6.4, 28 Aug 2006).

Assisted by Production Superintendent, Mr Cameron Routley and Production Supervisor, Mr Dennis Odgers I conducted an underground inspection.

The mine has 3 line of sight remote capable units and 1 tele-remote capable unit. At the time of the inspection only one unit was operating conventionally. At the time of the inspection there were 3 drawpoints operational and all were inspected.

30LD3, 300m level in the northern zone was set up for line of sight remote mucking but was not in operation, a discussion was held with Mr Routley and Mr Odgers and it was decided that the option of moving the bund further back would be assessed as this would create more room between the operator and the loader.

Underground level plans indicate the current mine design is such that some stope drawpoints will be close to the cross cut accesses. It is critical that the site minimum distances of 5 metres when behind a bund and 10 metres when not behind a bund be adhered to when remote mucking, as per the site safe work instruction.

40E52, 400m Level in the southern zone was set up for line of sight remote mucking. The job site set up was not at an acceptable level for remote mucking. Mr Routley and Mr Odgers agreed and committed to review the set up and cease remote mucking until improvements were made. Remote mucking job set ups must be such that the **risk to an operator remote mucking on the job is within acceptable limits and as low as reasonably achievable**. The set-up on 40E52, 400m Level was not within acceptable limits and was not as low as reasonably achievable. It wouldn't have taken a huge effort to make this job safer. 29B54 drawpoint was inspected which was being conventionally mucked. On our arrival it was ready

to go to remote mucking as there was a rock hung up in the drawpoint. While setting up for remote the rock rilled so conventional mucking continued. The 40E52 stope note had a tele-remote location noted on a level plan and this had been risk assessed but this plan did not reflect the set up underground.

Operator Ricky May, is trained in both line of sight and tele-remote mucking and said he knew of the fail safe mechanism in the tele-remotes but did not know of the proximity switch on the line of sight remote packs.

The risk assessment for line of sight remote mucking had “Install proximity sensor cut-off switches on remotes” as a control measure. There were no proximity sensors on the remotes.

A discussion was held with Maintenance Superintendent, Mr Craig Singleton and Maintenance Supervisor, Mr Neil Duffy who were aware of the proximity switches being removed due to there unreliability but were not sure of what safety features were in place of the proximity switch.

The remote loading packs must have a mercury/tilt type switch that cuts out the unit (if the operator falls over for example), an emergency stop on the remote pack and a mechanism that will cut out when contact is lost between the loader and the remote pack. Refer to Australian Standard for Remote Controls for mining equipment (AS/NZS 4240:1994).

It was confirmed by more than one operator that the practice of changing to remote mucking from conventional mucking is to remove 10 buckets after the brow has cracked and if it is still open after 10 buckets call the supervisor and discuss changing to remote mucking. Mr Routley and Mr Odgers confirmed this was the practice. The SWI for Mucking from Drawpoints states after point 8 “*Stop mucking once the brow is OPEN/CRACKED*” and then an assessment is to be done with the operator and supervisor as soon as the brow is open to discuss conventional and remote operations. *The operator is to consult with the shift supervisor to check how many tonnes were fired and how many tonnes have been mucked. This is to check and make sure the stope is not hung up. Then the operator is to muck 5 consecutive buckets from the Drawpoint. If the brow stays open when 5 consecutive buckets have been mucked the stope is to be mucked by REMOTE OPERATION and a High risk task sheet to be filled out prior to remote mucking.*

Mr Routley was aware of the difference between the safe work instruction and what actually occurred and said the safe work instruction needed to be updated. A risk assessment should sit behind a safe work instruction to ensure all hazards are known and controlled accordingly.

Line of sight remote mucking is a hazardous task and bunds are NOT the highest level of control, elimination of persons being put in the position of a remote loading set up is the highest control and tele-remote loading would achieve this. **It is reasonably achievable for this operation to increase its tele-remote capabilities and thus reduce the exposure of persons to the hazards associated with remote loading.** Mr Standa informed me that there was an intention to move in the direction of increased tele-remote capabilities.

Number

Directive

Due Date

1

Remote Loading

Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999

23/02/2007

As per MQSHR Section 102 and Part 7 (e) Cease all remote loading activity until the risks to persons is reviewed and deemed to be at an acceptable level and review all remote loading packs to ensure they have adequate and operational safe design features (such as proximity switches, isolated frequencies, emergency stops, fail safe mechanisms etc) and ensure maintenance personnel are aware of the necessary maintenance requirements of such safety features.

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
2	Risk Assessment Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999	23/02/2007
	As per MQSHR Sections 6,7,8 Re-risk assess the remote control loader risk assessment as the control "Install proximity sensor cut-off switches on remotes" has not occurred and amend procedures and safe work instructions accordingly.	

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
3	Review Safe Work Instructions Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999	23/02/2007
	As per MQSHR Sections 6,7,8 and Section 114 (1b) adhere to the mucking (conventional and remote) Safe Work Instructions or risk assess the task and change the Safe work instruction so that what occurs on the job is as per the corresponding safe work instruction for the task.	

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
4	Training Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999	23/02/2007
	As per MQSHR Sections 6,7,8 and 91, re-train all mucking operators and supervisors in the revised safe work instructions for both conventional and remote mucking and ensure that they test each of the safety and emergency features (such as proximity switches, isolated frequencies, emergency stops, fail safe mechanisms etc) prior to operation	

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
5	Communication Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999	23/02/2007
	As per MQSHR Sections 6,7,8 revise the technical services/operations communication processes to ensure there is good communication, so that instructions on a stope note are adhered to and there are checks in place to ensure short cuts are not taken.	

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
6	Equipment Operation Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999	23/03/2007
	As per MQSHA Section 36 (1c) and Section 26 (1) and MQSHR Section 7 (e) review the need for increasing the capability to conduct tele-remote loading in place of line of sight loading at the mine.	

Please provide a written status report on each Directive together with the actions taken to address each item by their due dates

**Katie Ormonde
Inspector of Mines
Northern Region**

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Katie Ormonde, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Remote Loading	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 24/01/2007
Record Date: 25/01/2007	MRE Item No.: 1

Title: Remote Loading

Directive Given:
 As per MQSHR Section 102 and Part 7 (e) Cease all remote loading activity until the risks to persons is reviewed and deemed to be at an acceptable level and review all remote loading packs to ensure they have adequate and operational safe design features (such as proximity switches, isolated frequencies, emergency stops, fail safe mechanisms etc) and ensure maintenance personnel are aware of the necessary maintenance requirements of such safety features.

References:
 MQSHR Section 102 and Part 7 (e)

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 23/02/2007

Completed: 24/02/2007, **Closed by:** Katie Ormonde **on** 08/03/2007.

Action Taken by Mine to Comply with Directive:

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 25/01/2007 at 05:00 PM.

Directive Given To -

This directive is given to the following person/s -

Jack Standa
SSE

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power).

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to site senior executive on 25/01/2007 at 05:00:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following - remote loading is a hazardous task and requires good risk management and this was not the case here.

Katie Ormonde: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

(a) include the reasons for the review decision; and
(b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

(a) review the directive within the time allowed under subsection (1); or
(b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

(1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.

(2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.

(3) A stay -

(a) may be given on conditions the court considers appropriate; and
(b) operates for the period fixed by the court; and
(c) may be revoked or amended by the court.

(4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.

(5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.

(6) However, a directive under section 164 must not be stayed.

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Katie Ormonde, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Risk Assessment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 24/01/2007
Record Date: 25/01/2007	MRE Item No.: 2

Title: Risk Assessment

Directive Given:
As per MQSHR Sections 6,7,8 Re-risk assess the remote control loader risk assessment as the control "Install proximity sensor cut-off switches on remotes" has not occurred and amend procedures and safe work instructions accordingly.

References:
MQSHR Sections 6,7,8

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 23/02/2007

Completed: 24/02/2007, **Closed by:** Katie Ormonde **on** 08/03/2007.

Action Taken by Mine to Comply with Directive:

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 25/01/2007 at 05:00 PM.

Directive Given To -

This directive is given to the following person/s -

Jack Standa SSE

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power).

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to site senior executive on 25/01/2007 at 05:00:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -
The safe work instructions did not reflect what occurred on the job

Katie Ormonde: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Katie Ormonde, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Safe Work Instructions	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 24/01/2007
Record Date: 25/01/2007	MRE Item No.: 3

Title: Review Safe Work Instructions

Directive Given:
As per MQSHR Sections 6,7,8 and Section 114 (1b) adhere to the mucking (conventional and remote) Safe Work Instructions or risk assess the task and change the Safe work instruction so that what occurs on the job is as per the corresponding safe work instruction for the task.

References:
MQSHR Sections 6,7,8 and Section 114 (1b)

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 23/02/2007

Completed: 24/02/2007, **Closed by:** Katie Ormonde **on** 08/03/2007.

Action Taken by Mine to Comply with Directive:

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 25/01/2007 at 05:00 PM.

Directive Given To -

This directive is given to the following person/s -

Jack Standa SSE

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power).

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to site senior executive on 25/01/2007 at 05:00:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -
the SWI were not being followed

Katie Ormonde: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Katie Ormonde, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Training	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 24/01/2007
Record Date: 25/01/2007	MRE Item No.: 4

Title: Training

Directive Given:
 As per MQSHR Sections 6,7,8 and 91, re-train all mucking operators and supervisors in the revised safe work instructions for both conventional and remote mucking and ensure that they test each of the safety and emergency features (such as proximity switches, isolated frequencies, emergency stops, fail safe mechanisms etc) prior to operation

References:
 MQSHR Sections 6,7,8 and 91

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 23/02/2007

Completed: 24/02/2007, **Closed by:** Katie Ormonde **on** 08/03/2007.

Action Taken by Mine to Comply with Directive:

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 25/01/2007 at 05:00 PM.

Directive Given To -

This directive is given to the following person/s -

Jack Standa
SSE

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power).

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to site senior executive on 25/01/2007 at 05:00:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -
the operators must be trained in the SWI for the task they undertake

Katie Ormonde: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Katie Ormonde, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Communication	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 24/01/2007
Record Date: 25/01/2007	MRE Item No.: 5

Title: Communication

Directive Given:
 As per MQSHR Sections 6,7,8 revise the technical services/operations communication processes to ensure there is good communication, so that instructions on a stope note are adhered to and there are checks in place to ensure short cuts are not taken.

References:
 MQSHR Sections 6,7,8

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 23/02/2007

Completed: 24/02/2007, **Closed by:** Katie Ormonde **on** 08/03/2007.

Action Taken by Mine to Comply with Directive:

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 25/01/2007 at 05:00 PM.

Directive Given To -

This directive is given to the following person/s -

Jack Standa SSE

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power).

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to site senior executive on 25/01/2007 at 05:00:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -
the stope note said one thing and what occurred UG was another

Katie Ormonde: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Katie Ormonde, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Equipment Operation	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 24/01/2007
Record Date: 25/01/2007	MRE Item No.: 6

Title: Equipment Operation

Directive Given:
 As per MQSHA Section 36 (1c) and Section 26 (1) and MQSHR Section 7 (e) review the need for increasing the capability to conduct tele-remote loading in place of line of sight loading at the mine.

References:
 MQSHA Section 36 (1c) and Section 26 (1) and MQSHR Section 7 (e)

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 23/03/2007

Completed: 22/02/2007, **Closed by:** Katie Ormonde **on** 12/03/2007.

Action Taken by Mine to Comply with Directive:

Plan is to purchase further teleremote capacity with funds allocated for financial year 2008.

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 25/01/2007 at 05:00 PM.

Directive Given To -

This directive is given to the following person/s -

Jack Standa SSE

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power).

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to site senior executive on 25/01/2007 at 05:00:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -

Such a large operation only has one tele-remote capable machine and the mine design has been based on tele remote mucking

Katie Ormonde: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	13/12/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today I inspected Cannington Mine. I conducted a desk top backfill inspection with Senior Planning Engineer Mr Steven Homes. Limited waste backfilling occurs as the primary means of filling is with paste fill

I conducted an underground inspection assisted by Geotechnical Engineer Mr Chris Holland, of the following locations:

- 24A44 Drawpoint, a P5 HW stope
- 425 Level Macmahons Jumbo installing rehabilitation ground support. It was confirmed that grout samples and installation inspections are undertaken by geotechnical personnel on a regular basis
- 475 Level, 68XC, 66XC, locations for geotechnical monitoring instruments
- 16GC4 Stope, where visual inspections by geotechnical personnel are undertaken every second day. This and another stope are checked on a regular basis as they are adjacent to the treppel fault. The projected locations on the surface are known and marked on surface plans to ensure the appropriate areas can be marked for no travelling as soon as any failing is recognised. Any possible failing would occur over time so there is no need to restrict access to these projected surface areas while there is no evidence of such failing in the stopes underground.

Rehabilitation of the main access ways in the Southern Zone will be complete within the next month. Rehabilitation required in other areas of the Southern zone is ongoing.

Production tonnes are in increasing with the intended rate to be at 3.15 Mt pa which is below the previous rate of 3.4 Mt pa. It is noted that recommendations made by Miluka Geotechnics Pty Ltd in May 2006 stated that a rate of 3.4 Mt pa would have an adverse effect on the overall rockmass.

A discussion held with Mr Jody Todd, Technical Services Manager confirmed the production schedule will be developed around and constrained by geotechnical considerations.

As well as a verbal committed approach to the schedule being constrained by geotechnical considerations, there are several distinct planning processes to ensure the schedule is not changed without consultation of appropriate persons, these include, but are not limited to:

- The introduction of Earthworks Production Scheduler which allows each stope to be constrained by variables such as filling or firing of adjacent stopes and any other geotechnical related issues
- 1 monthly schedule review and sign off by operations and planning personnel including geotechnical engineers
- 3 monthly schedule review and sign off by operations and planning personnel including geotechnical engineers
- The introduction of a pre-production check list (a risk based assessment that occurs after drilling and prior to firing the stope). Prior to the pre-production risk assessment the original stope risk assessment is reviewed to ensure all the original hazards highlighted have been addressed.
- All stope changes are documented and filed in the stope folder
- Tuesday handover meetings where planning and operations personnel discuss the schedule and status and location of mining activities.

There are currently several geotechnical projects underway including:

- site based MAP3D numerical modelling
- site based empirical observation analysis (plotting rockfall locations and predicting trends)
- site based instrumentation programs
- Geotechnical Consultant Dr David Beck is undertaking regional modelling aiming to determine the optimum extraction sequence (using Abacus in-elastic modelling techniques)
- Geotechnical Consultant Mike Coulthard is undertaking 3DEC modelling

These reports and results will be analysed against each other and calibrated against the instrumentation results to achieve an optimal geotechnical model. These studies and instrumentation will start returning information that can be used in early 2007.

The footwall stopes will remain on hold until these geotechnical studies been calibrated and combined to produce the geotechnical model that will assist in predicting areas of potential damage and assist in determining the optimum extraction sequence to minimise ground damage.

There is currently 200,000 tonnes available void for Paste filling, which is not a critical level and not resulting in significant changes to the production schedule.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
1	Procedures It is recommended that a guideline/procedure on paste filling be developed or included in a appropriate procedure to cover such items as, but not limited to: <ul style="list-style-type: none"> • tipping waste with paste fill to ensure that adequate blending occurs and dirt is tipped such that the rill would not be against the sides of an adjacent stopes • not tipping old paste fill with new paste fill • what to do when excessive water enters the stope being paste filled to ensure a cold joint does not develop • how to ensure changes to the design mix are recorded in the stope note book, ie. batch plant must ensure all changes to concrete % are noted by the planning engineers to ensure that accurate records are kept. Procedures to install poly paste fill lines and cleaning paste fill lines do not cover such issues .	N/A

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
2	Risk Management	N/A

A production rate of 10,000 tonnes per day is annualised to 3,650,000 (3.65M) tpa. Peter Miluka made reference to a production rate of 3.4 Mtpa being too high. Several stopes in critical zones are drilled out. It is recommended that short term production targets are reviewed and set at an acceptable rate.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
3	Risk Management	N/A

It is recommended that the scheduling package, Earthworks Production Scheduler is updated with all relevant information to ensure informed decisions can be made. It is recommended that the geotechnical engineers take ownership of ensuring all geotechnical constraints are entered into the schedule so that hold points are put on stopes for all geotechnical issues not just the status of filling in adjacent stopes.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
4	Procedures	N/A

It is recommended that a review be completed of all Safe Work Procedures to ensure a risk assessment has been completed on the task, giving priority to those tasks with known hazards such as backfilling stopes over a vertical edge.

Katie Ormonde
Inspector of Mines
Northern Region



Recommendation

Subject: Procedures	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 13/12/2006
Record Date: 15/12/2006	MRE Item No.: 1

Title: Procedures

Description of Action Recommended to be Taken:

It is recommended that a guideline/procedure on paste filling be developed or included in a appropriate procedure to cover such items as, but not limited to:

- tipping waste with paste fill to ensure that adequate blending occurs and dirt is tipped such that the rill would not be against the sides of an adjacent stopes
- not tipping old paste fill with new paste fill
- what to do when excessive water enters the stope being paste filled to ensure a cold joint does not develop
- how to ensure changes to the design mix are recorded in the stope note book, ie. batch plant must ensure all changes to concrete % are noted by the planning engineers to ensure that accurate records are kept.

Procedures to install poly paste fill lines and cleaning paste fill lines do not cover such issues .

References:

MQSHR Section 5



Recommendation

Subject: Risk Management	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 13/12/2006
Record Date: 15/12/2006	MRE Item No.: 2

Title: Risk Management

Description of Action Recommended to be Taken:

A production rate of 10,000 tonnes per day is annualised to 3,650,000 (3.65M) tpa. Peter Miluka made reference to a production rate of 3.4 Mtpa being too high. Several stopes in critical zones are drilled out. It is recommended that short term production targets are reviewed and set at an acceptable rate.

References:

MQSHR Section 8



Recommendation

Subject: Risk Management	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 13/12/2006
Record Date: 15/12/2006	MRE Item No.: 3

Title: Risk Management

Description of Action Recommended to be Taken:

It is recommended that the scheduling package, Earthworks Production Scheduler is updated with all relevant information to ensure informed decisions can be made. It is recommended that the geotechnical engineers take ownership of ensuring all geotechnical constraints are entered into the schedule so that hold points are put on stopes for all geotechnical issues not just the status of filling in adjacent stopes.

References:

MQSHR Section 10



Recommendation

Subject: Procedures	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 13/12/2006
Record Date: 15/12/2006	MRE Item No.: 4

Title: Procedures

Description of Action Recommended to be Taken:

It is recommended that a review be completed of all Safe Work Procedures to ensure a risk assessment has been completed on the task, giving priority to those tasks with known hazards such as backfilling stopes over a vertical edge.

References:

MQSHR Sections 6,7,8.

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	28/08/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

Site Safety & Health Reps Consulted: Adam Fallon

Today I inspected Cannington Mine. Accompanied by Principal Engineer, Mr Tim Purvis I visited the following locations:

- Ø EROC jumbo on Southern Decline (239L) with operator Dave Olgelby installing split sets
- Ø 450 Workshop, where it was observed that fibre re-enforced shotcrete (FRS) had been recently sprayed to the floor in areas where it had previously been to grade. There were several cracks in the FRS. It is noted that Mr Jody Todd, Senior Geotechnical Engineer later informed me that the cracks were monitored on a formal basis once per month with a recorded inspection and digital photography and informal inspections occurred on a more regular basis. It was noted that the footings of the overhead crane had been damaged. It is recommended that the crane be certified after the repairs and prior to operation.
- Ø 260L DGXE bogger operator loading trucks from a development heading.
- Ø 2 un-manned Jumbo rehabilitation sites at 390L TF64 Dr Sth and a Macmahons rig at T168 Dr Sth.
- Ø I also met electricians Tony Fry and Nick Jones.

It was noted that there was no easily available large scale level plans depicting the status of stopes. Mr Eggington informed me that the draftspersons were currently developing an easy way to plot such plans and trials had commenced.

I held a discussion with Mr Todd who informed me that mining in the southern zone would re-commence in October, 2006 with Stopes 295 and 245 (40E52 and 47865), the accesses to which will both have been rehabilitated as required prior to production. Mr Todd, informed me that all producing areas will have geotechnical monitoring systems in the form of extensometers, TDR type systems or smart cables. The locations of which will be determined after feedback is received from Mr Peter Fuller who is currently working on 3-DEC modelling to ensure the instruments are strategically placed in locations that will provide value adding geotechnical information.

As per the MRE 16/07/06 the following information is requested:

- Ø details of geotechnical monitoring locations (initially and post 3-DEC modelling feedback)
- Ø desired outcomes from such a program ie. why the specific locations have been chosen
- Ø details of persons/positions responsible for retrieving, calibrating and interpreting the information
- Ø the final version of the recent geotechnical consultant reports

It was noted that the rehabilitation work was approximately 40 percent complete and there

was a large amount of grouting to be completed. It was noted that in the decline (work contracted to EROC) 5% of bolts were pull tested and 2% were pull tested in other parts of the mine.

Geotechnical engineers undertake regular Job Safety Observations (JSO) on the grouting process and 3 grout samples are taken approximately every 1000 bolts, which at the current rate equates to sampling every second day. In addition to this geotechnical engineers undertake JSO inspections on mechanical anchor bolt installation (CT and DCP's) and Posimix bolt installation.

It was also noted that geotechnical engineers inspect and structurally map every cut and at the same time inspect the ground support of the previous cut with details recorded on the Cannington geotechnical risk assessment sheet.

Mr Todd, informed me that he reviews, in his geotechnical capacity, and signs off on the 3 month schedule, 2 year schedule and drill and blast plans. It was pleasing to see that there has been an introduction of a pre-production risk assessment.

Prior to leaving I met with Mr Shane Hansen, Asset Manager. Mr Hansen informed me that there would be management changes occurring and stated that the department would be notified as required.

Given these management changes please supply an organisational chart and corresponding roles and responsibilities, including the role and responsibilities of the current Surface SEE, Mr Grant Farrows in relation to management of the underground EROC rehabilitation contracted works and in relation to the critical position of Senior Geotechnical Engineer. Refer to MQSHA Section 22 (3). If the officer only has responsibility for a separate part of a mine, the officer's responsibilities and safety and health obligations under this Act as a site senior executive for a mine are limited to the separate part of the mine for which the officer has responsibility.

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
1	Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999 Display ungrouted drill holes	19/09/2006
	As per MQSHR Section 82 (b) The senior site executive must ensure survey plans of the mine workings include surface drill holes if they may affect the safety and health of a person in the workings, ensure all ungrouted drill holes are shown on all mine plans with an area of potential influence marked around them.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Create level plans indicating the status of stopes	15/11/2006
	As per MQSHR Section 82 (a) The senior site executive must ensure survey plans of the mine workings include the location of natural and artificial features that may affect the safety and health of a person in the workings, develop level plans of the mine detailing stope status.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Certification of workshop over head crane	04/11/2006
	As per MQSHR Section 106 and 112 (c) After repair work to the footings of the over head crane have been made acquire relevant certification to ensure it is fit for purpose.	

Please provide a written status report on each Directive and SCP together with the actions taken to address each item by their due dates

**Katie Ormonde
Inspector of Mines
Northern Region**

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
Natural Resources, Mines and Water

Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Katie Ormonde, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Mine Plans	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 28/08/2006
Record Date: 04/09/2006	MRE Item No.: 1

Title: Display ungrouted drill holes

Directive Given:

As per MQSHR Section 82 (b) The senior site executive must ensure survey plans of the mine workings include surface drill holes if they may affect the safety and health of a person in the workings, ensure all ungrouted drill holes are shown on all mine plans with an area of potential influence marked around them.

References:

MQSHR Section 82 (b)

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 19/09/2006

Completed: 17/09/2006, **Closed by:** Katie Ormonde **on** 21/09/2006.

Action Taken by Mine to Comply with Directive:

All ungrouted diamond drill holes with an area of influence are being put on plans. This was confirmed

with Jody Todd Technical Services Superintendent.

Released by DNRM under the RTI Act 2009

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 04/09/2006 at 03:30 PM.

Directive Given To -

This directive is given to the following person/s -

Shane Hansen

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power).

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -
UngROUTED drill holes can hold high heads of water and therefore be a high risk if drilled into without taking necessary precautions

Katie Ormonde: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
Natural Resources, Mines and Water

Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Katie Ormonde, Inspector of Mines

Subject: Mine Plans	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 28/08/2006
Record Date: 04/09/2006	MRE Item No.: 2

Title: Create level plans indicating the status of stopes

Description of Action Required to be Taken:
As per MQSHR Section 82 (a) The senior site executive must ensure survey plans of the mine workings include the location of natural and artificial features that may affect the safety and health of a person in the workings, develop level plans of the mine detailing stope status.

References:
MQSHR Section 82 (a)

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 15/11/2006

Completed: 22/11/2006, **Closed by:** Katie Ormonde **on** 30/11/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Jack Standa phoned and sent fax to confirm level plans with necessary details are plotted monthly and available in Pitram for 24 hour access

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
Natural Resources, Mines and Water

Vision: Our Industries Free of Safety and Health Incidents

Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Substandard Condition or Practice

Issued By: Katie Ormonde, Inspector of Mines

Subject: Crane	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 28/08/2006
Record Date: 04/09/2006	MRE Item No.: 3

Title: Certification of workshop over head crane

Description of Action Required to be Taken:
As per MQSHR Section 106 and 112 (c) After repair work to the footings of the over head crane have been made acquire relevant certification to ensure it is fit for purpose.

References:
MQSHR Section 106 and 112 (c)

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 04/11/2006

Completed: 22/11/2006, **Closed by:** Katie Ormonde **on** 30/11/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Jack Standa confirm by phone and by email that the crane has been certified

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	25/11/2010

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

Attention: Site Senior Executive

The Mines Inspectorate are requesting personal exposure monitoring results for diesel particulate matter (DPM) for those samples collected since January 1 2010. These results are required, specifically, for underground metalliferous mines where diesel engines are in operation.

This mine record entry, requests that, statistically representative personal exposure monitoring results from this DPM monitoring be provided to Mr Kevin Hedges by 9 December 2010.

Contact for submission of results:

Mr Kevin Hedges,

Senior Principal Occupational Hygienist,
North Region Safety and Health.

Telephone +61 7 47997766

Fax +61 7 47607400

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**Queensland Mines and Energy,
Department of Employment, Economic Development and Innovation,**
State Government Building
187 - 209 Stanley Street Townsville
PO Box 1752 Townsville Queensland 4810 Australia.

**Kevin Hedges
Authorised Officer
Northern Region**



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Subject Audit or Specific System Audit	Northern	23/11/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

An Occupational Hygiene Audit specifically for lead management was conducted in November 2009 at Cannington Mine.

This audit encompassed a pre-audit document review followed by a site audit.

It was evident during that there is commitment to reduce blood leads, driven in part from group level documents and reporting and also from on-site management and the workforce. This commitment is also reflected in the site's risk register with specific actions and controls listed in the register. It was also observed that the Cannington Mine five year business plan goal is for zero exposures above the occupational exposure limit.

Notable observations included:

- the Cardax™ access security system being tied in with the blood lead testing schedule meaning that persons aren't given site access until they have a blood lead test that is current.
- ownership of blood lead reduction at a supervisory level.
- Linkage of reduction of individuals' blood lead reductions to individual performance reviews; and
- a general awareness from individuals about their own blood lead levels and work practices necessary to reduce these.

Opportunities for improvement that were identified include an increased focus on management and reporting of blood lead levels for females of reproductive age and capacity and more explicitly outlining respiratory protective equipment requirements for underground workers. In addition to these, it is recommended similar exposure groups' lead levels are analysed and reported separately rather than as a whole mine. Linking results from personal exposure to blood leads is also recommended.

It has also been recommended that the CAN HSEC procedure for lead management be reviewed against the Australian Institute of Occupational Hygienists (AIOH) Position Paper - Inorganic Lead and Occupational Health Issues (March 2009), with a view to lower the transfer level for both males and females (of reproductive age).

Number

Substandard Condition or Practice

Due Date

1 Inconsistent information between information booklet and lead management procedure. 31/03/2010

There are inconsistencies between the Cannington Procedure for Lead Management and information booklet - working safely with lead. Review the booklet against the procedure and ensure that the documents are consistent and highlight the areas where there is an increased risk. The review shall include but not be limited to:

- an increased emphasis on the risk to women of child bearing age and risk and effects to the unborn foetus in the information booklet
 - and more explicit information on how females of reproductive age shall be managed to ensure that blood leads are maintained below 10 ug/dL in the procedure.
- Refer s8 MQSHR 2001

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	The process for managing females of reproductive age is not specific	31/03/2010

The Cannington Lead Management Procedure does not describe how females of reproductive age shall be managed to ensure that blood leads are maintained below 10 µg/dL. As per MQSHR, 2001, s.8; the procedure shall be revised so that this is more explicit. In addition, it is highly recommended that a review be carried out of this procedure against the AIOH Position Paper - Inorganic Lead and Occupational Hygiene Issues (March 2009). A review of the way data is analysed, graphed and reported shall also be carried out so that females of reproductive age are assessed independently.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Use of respiratory protective equipment underground	31/03/2010

Cannington Procedure PRO-HTH0008C Respiratory Protection Program does not provide the detail about the use of respiratory protective equipment underground. As per MQSHR 2001, s.140, revise Cannington Procedure PRO-HTH0008C to include RPE requirements for underground workers.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	Use of respiratory protective equipment (RPE) by boilermaker with a filter that doesn't conform to site requirements.	31/03/2010

A boilermaker supplied with a PAPR did not have the required filter cartridge in accordance with site requirements. As per MQSHR 2001, s.140, Carry out a review of all respiratory protective equipment across site to ensure that they meet site requirements and that they are fit for purpose.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
5	Linking blood leads with results from personal exposure monitoring	N/A

To better assess the risk of exposure from blood lead data it is recommended that blood lead be grouped and analysed as similar exposure groups (SEG) and that the results from personal exposure monitoring be linked to blood leads.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
6	Providing supervisors with blood lead test results	N/A

Currently supervisors don't have access to individual blood leads at levels below alert levels. Where practicable allow supervisors / management access to blood leads so that blood leads can be managed so that they don't exceed alert levels.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
7	Cannington Lead Management Procedure	N/A
It is recommended that a review be carried out of the Cannington Lead Management procedure against the AIOH Position Paper - Inorganic Lead and Occupational Hygiene Issues (March 2009). A review of the way data is analysed, graphed and reported should also be carried out so that females of reproductive age are assessed independently.		
<i>Please provide a written status report on each SCP together with the actions taken to address each item by their due dates</i>		

Kevin Hedges
Authorised Officer
Northern Region

Damian Lee
Inspector of Mines
Northern Region



CAN-PRESIDENCY-Legal-Mine Record Response Letter To Deedi Re Lead Audit 20100412.pdf

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Townsville Office
 P.O. Box 1752, TOWNSVILLE QLD 4810
 Phone: (07) 4760 7404, Fax: (07) 4760 7400

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Kevin Hedges, Inspection Officer (Metalliferous)

Subject: Document Control	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 23/11/2009
Record Date: 21/12/2009	MRE Item No.: 1

Title: Inconsistent information between information booklet and lead management procedure.

Description of Action Required to be Taken:
 There are inconsistencies between the Cannington Procedure for Lead Management and information booklet - working safely with lead. Review the booklet against the procedure and ensure that the documents are consistent and highlight the areas where there is an increased risk. The review shall include but not be limited to:

- an increased emphasis on the risk to women of child bearing age and risk and effects to the unborn foetus in the information booklet
- and more explicit information on how females of reproductive age shall be managed to ensure that blood leads are maintained below 10 ug/dL in the procedure.

Refer s8 MQSHR 2001

References:
 MQSHR 2001, s.1

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 31/03/2010

Completed: 31/03/2010, **Closed by:** Kevin Hedges **on** 12/04/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

See attachment in MRE

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Townsville Office
P.O. Box 1752, TOWNSVILLE QLD 4810
Phone: (07) 4760 7404, Fax: (07) 4760 7400

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Kevin Hedges, Inspection Officer (Metalliferous)

Subject: Procedural Review	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 23/11/2009
Record Date: 21/12/2009	MRE Item No.: 2

Title: The process for managing females of reproductive age is not specific

Description of Action Required to be Taken:
The Cannington Lead Management Procedure does not describe how females of reproductive age shall be managed to ensure that blood leads are maintained below 10 µg/dL. As per MQSHR, 2001, s.8; the procedure shall be revised so that this is more explicit. In addition, it is highly recommended that a review be carried out of this procedure against the AIOH Position Paper - Inorganic Lead and Occupational Hygiene Issues (March 2009). A review of the way data is analysed, graphed and reported shall also be carried out so that females of reproductive age are assessed independently.

References:
MQSHR, 2001, s.8.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 31/03/2010

Completed: 15/01/2010, **Closed by:** Kevin Hedges **on** 15/01/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

SCP integrated with SCP1

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Townsville Office
 P.O. Box 1752, TOWNSVILLE QLD 4810
 Phone: (07) 4760 7404, Fax: (07) 4760 7400

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Kevin Hedges, Inspection Officer (Metalliferous)

Subject: Personal Protective Equipment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 23/11/2009
Record Date: 21/12/2009	MRE Item No.: 3

Title: Use of respiratory protective equipment underground

Description of Action Required to be Taken:

Cannington Procedure PRO-HTH0008C Respiratory Protection Program does not provide the detail about the use of respiratory protective equipment underground. As per MQSHR 2001, s.140, revise Cannington Procedure PRO-HTH0008C to include RPE requirements for underground workers.

References:

MQSHR 2001, s140.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 31/03/2010

Completed: 31/03/2010, **Closed by:** Kevin Hedges **on** 12/04/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

See attachment in MRE

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Townsville Office
 P.O. Box 1752, TOWNSVILLE QLD 4810
 Phone: (07) 4760 7404, Fax: (07) 4760 7400

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Kevin Hedges, Inspection Officer (Metalliferous)

Subject: Personal Protective Equipment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 23/11/2009
Record Date: 21/12/2009	MRE Item No.: 4

Title: Use of respiratory protective equipment (RPE) by boilermaker with a filter that doesn't conform to site requirements.

Description of Action Required to be Taken:

A boilermaker supplied with a PAPR did not have the required filter cartridge in accordance with site requirements. As per MQSHR 2001, s.140, Carry out a review of all respiratory protective equipment across site to ensure that they meet site requirements and that they are fit for purpose.

References:

MQSHR 2001, s.140.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 31/03/2010

Completed: 31/03/2010, **Closed by:** Kevin Hedges on 12/04/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

See attachment in MRE



Recommendation

Subject: Monitoring exposure	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 23/11/2009
Record Date: 21/12/2009	MRE Item No.: 5

Title: Linking blood leads with results from personal exposure monitoring

Description of Action Recommended to be Taken:

To better assess the risk of exposure of exposure from blood lead data it is recommended that blood lead be grouped and analysed as similar exposure groups (SEG) and that the results from personal exposure monitoring be linked to blood leads.

References:

MQSHR 2001, s.9



Recommendation

Subject: Monitoring

File Number: 9748 / 02

Mine Name: Cannington Mine

Operator: BHP Billiton Minerals Pty Ltd

Activity: Subject Audit or Specific
System Audit

Activity Date: 23/11/2009

Record Date: 21/12/2009

MRE Item No.: 6

Title: Providing supervisors with blood lead test results

Description of Action Recommended to be Taken:

Currently supervisors don't have access to individual blood leads at levels below alert levels. Where practicable allow supervisors / management access to blood leads so that blood leads can be managed so that they don't exceed alert levels.

References:

MQSHR 2001, s.9



Recommendation

Subject: Standard Operating Procedures

File Number: 9748 / 02

Mine Name: Cannington Mine

Operator: BHP Billiton Minerals Pty Ltd

Activity: Subject Audit or Specific System Audit

Activity Date: 23/11/2009

Record Date: 15/01/2010

MRE Item No.: 7

Title: Cannington Lead Management Procedure

Description of Action Recommended to be Taken:

It is recommended that a review be carried out of the Cannington Lead Management procedure against the AIOH Position Paper - Inorganic Lead and Occupational Hygiene Issues (March 2009). A review of the way data is analysed, graphed and reported should also be carried out so that females of reproductive age are assessed independently.

References:

AIOH Position Paper - Inorganic Lead and Occupational Hygiene Issues (March 2009).



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	02/07/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

Robert Fulker

Site Senior Executive

On 2 July 2009, I contacted Mr Robert Fulker by telephone.

I discussed that the Mines Inspectorate are requesting personal exposure monitoring results for diesel particulate matter (DPM) for those samples collected since January 1 2008. These results are required, specifically, for underground metalliferous mines where diesel engines are in operation.

This mine record entry, requests that, statistically representative personal exposure monitoring results from this DPM monitoring be provided to Mr Kevin Hedges by 31 July 2009.

Contact for submission of results:

Mr Kevin Hedges,

Senior Principal Occupational Hygienist,
North Region Safety and Health.

Telephone +61 7 47997766

Fax +61 7 47607400

Mobile [sch4p3(3) Prejudice]

Email Kevin.hedges@deedi.qld.gov.au

<http://www.deedi.qld.gov.au/>

Queensland Mines and Energy,
Department of Employment, Economic Development and Innovation,
State Government Building
187 - 209 Stanley Street Townsville
PO Box 1752 Townsville Queensland 4810 Australia.

Kevin Hedges
Authorised Officer
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	01/04/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Monitoring of health hazards and health surveillance

(Sections 131-140 of the Mining and Quarrying Safety and Health Regulation 2001)

Site Senior Executive

Cannington Mine

Mr Bob Fulker,

In early 2008 you received a letter from the Chief Inspector of Mines with a request that information be provided in response to the following questions:

1.	<i>The mine's occupational hygiene monitoring program, including health hazards identified and the frequency of monitoring.</i>
2.	<i>What controls have been implemented based on the results from personal exposure monitoring?</i>
3.	<i>How the hierarchy of controls has been followed in implementing these controls?</i>
4.	<i>The mine's program for ongoing health surveillance, for example where exposures to noise and respirable crystalline silica have been assessed as unacceptable, whether there is ongoing health surveillance including audiometry, full chest x-rays, lung function tests and respiratory questionnaires.</i>
5.	<i>The name of the appropriate doctor who carries out health surveillance.</i>

A report has been prepared and is attached to this mine record entry.

The mine code number relating to Cannington Mine is number 1.

You are now requested to review and where necessary improve the management of occupational health and hygiene. **A report that addresses this review and subsequent improvement must be provided back to the Senior Principal Occupational Hygienist (North Region) by 31 March 2009.**

Please provide the report to:

Kevin Hedges,
Senior Principal Occupational Hygienist,
Department of Mines and Energy, Mines Inspectorate
Safety and Health, North Region
PO Box 1752, Townsville, Qld 4810
Email: Kevin.hedges@dme.qld.gov.au

Kevin Hedges
Authorised Officer
North Region



Cannington health surveillance report.pdf

Released by DNRM under the RTI Act 2009



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	01/10/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

This postal mine record entry is being issued in response to the high potential incident notification received 1/10/07. The preliminary investigation noted ventilation stops were not fitted properly. There was no reference to why the high level of fumes was not detected as part of the re-entry procedure. This must be addressed to ensure similar incidents do not occur again.

In addition, the incident notification did not identify the type of gas being monitored. The filenote for patient management reported that workers exposed were treated for potential carbon monoxide poisoning. It is important that the site and operators be made aware that there are other gases generated from blasting including nitric oxide and nitrogen dioxide. Nitrogen dioxide is particularly hazardous because it can cause pulmonary edema and there may be delayed symptoms.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Detection of hazardous gas as part of re-entry procedure.	09/11/2007

Demonstrate to the mines inspectorate that the Cannington re-entry after firing instruction SWI-UG0139C, current version, is adhered to for all firings and covers all personnel that may come into contact with hazardous gas from blasting. In addition demonstrate that operators and staff know what gases are generated from blasting and potential adverse health effects from exposure including nitric and nitrogen dioxide. Ensure that emergency response including medical treatment includes appropriate treatment for all gases including carbon monoxide and nitrogen dioxide.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Kevin Hedges
Senior Principal Occupational Hygienist
Northern Region

Katie Ormonde
Inspector of Mines
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Townsville Office
 P.O. Box 5318 MC, TOWNSVILLE QLD 4810
 Phone: (07) 4760 7404, Fax: (07) 4760 7400

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Kevin Hedges, Inspection Officer (Metalliferous)

Subject: Exposure to Hazards	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Postal Mine Record Entry	Activity Date: 01/10/2007
Record Date: 11/10/2007	MRE Item No.: 1

Title: Detection of hazardous gas as part of re-entry procedure.

Description of Action Required to be Taken:
 Demonstrate to the mines inspectorate that the Cannington re-entry after firing instruction SWI-UG0139C, current version, is adhered to for all firings and covers all personnel that may come into contact with hazardous gas from blasting. In addition demonstrate that operators and staff know what gases are generated from blasting and potential adverse health effects from exposure including nitric and nitrogen dioxide. Ensure that emergency response including medical treatment includes appropriate treatment for all gases including carbon monoxide and nitrogen dioxide.

References:
 MQSHR s.135, s.136.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 09/11/2007

Completed: 24/12/2008, **Closed by:** Kevin Hedges **on** 24/12/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Additional information was provided to Sergio Cespedes 1/10/2007 that supports this MRE SCP being

closed out

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Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	31/08/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

Mr Neil Colbourne

Site Senior Executive

On 31 August 2007, I contacted Mr Eric Hunter, Manager HSEC, by telephone.

I discussed that the Mines Inspectorate are requesting personal exposure monitoring results for diesel particulate matter (DPM) for those samples collected in 2007. These results are required, specifically, for underground metalliferous mines where diesel engines are in operation.

This mine record entry, requests that, statistically representative personal exposure monitoring be conducted for DPM in 2007 and that the results from this DPM monitoring be provided to Mr Kevin Hedges by 31 December 2007.

Contact for submission of results:

Mr Kevin Hedges,

Senior Principal Occupational Hygienist,
North Region Safety and Health.

Telephone +61 7 47997766

Fax +61 7 47607400

Mobile [redacted] (3) Prejudice

Email Kevin.hedges@dme.qld.gov.au

<http://www.dme.qld.gov.au/>

Department of Mines and Energy
State Government Building
187 - 209 Stanley Street Townsville
PO Box 5318 Townsville Queensland 4810 Australia.

Kevin Hedges

Senior Principal Occupational
Hygienist
Northern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	03/11/2010

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

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Today I attended site in the company of Ms. Katie Ormonde Inspector of Mines. After the completion of inductions we went to the mine offices and met with Mr. Grant Aitchison Deputy Mine Manager. Discussion was held on the following:

- Current personnel in senior technical and operational roles for the mine. A copy of the mine organisational chart was provided.
- Current areas of mine production.
- Status of mine backfilling including areas where waste backfilling was taking place. A paste fill engineer is designated for seven day coverage.
- Mapping of headings occurs prior to in cycle shotcreting.
- Proximity detection devices have been fitted to a number of loaders, trucks, light vehicles, forklift baskets and two cap lamps for trials.

After Inspector Ormonde had spoken with the Geotechnical Superintendent we went underground with Mr. Aitchison and Mr. Alex Thompson Development Superintendent, inspecting the following locations:

- 320mLv where a loader was mucking a heading to stockpile.
- 325mLv decline link-up to the scene of a high potential incident the previous day where a reversing grader had struck the drivers side door of a light vehicle.
- 245mLv where a Mr. Peter Webb was hot-seating a Jumbo doing rehabilitation.
- 220mLv where a Mr. Steve Foster was mucking from a drawpoint and loading trucks.
- 160mLv tippie which was fitted with a custom made secured steel stop log

On our return to the surface we inspected the damage to the light vehicle involved in the accident with the grader. It is noted there was no collision avoidance equipment being trialled on the machine involved in the incident.

The following observations were made and discussions held as part of the inspection:

- Housekeeping and road conditions in the areas traversed were good.
- The vehicle we travelled in was fitted with a proximity detection device and this alarmed when we came in range of other units fitted with the device.
- A corporate open hole audit was recently conducted and a corporate standard has been instituted for no wheeled unit being allowed within 5 metres of a vertical edge. Material

backfilling occurs from above through a winze.

- A movable steel bund of 1.5 metres in height is being used in place of a material bund to secure open stope draw-points.
- A brief discussion was held with Mine Production Superintendent Mr. Denis Rodgers on the point of loader changing from conventional to line of sight remote loading in stope drawpoints, as it has been changed to when the last row of bolts at the brow and the tip of the bucket aligns (or closest sidewall edge is exposed). We expressed concern over how open a drawpoint may become, particularly with high backs. We were advised that an additional control was that no persons, except the loader operator in the unit, could come within 15 metres of an open drawpoint. We were supplied with the procedure on our return to the surface and requested a copy of the risk assessment for the change. (Previously the procedure was for an additional 10 buckets to be drawn after the brow cracked and if it still remained open after this to switch to remote operation.
- Mine tipples have a pre-start book at them now which stipulates the checks that must be carried out prior to their use.

Phillip Casey
Inspector of Mines
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	01/07/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Site Safety & Health Reps Consulted: Mr. Steffan Johnston

Today, I went to site in the company of Mr. Des Laffin, District Workers' Representative. After completing the visitor induction we were taken underground by Mr. Mick Kemp, Acting Production Superintendent, Mr. Bob Fulker, Site Senior Executive, and Mr. Ed Cooney, Deputy Mine Manager, visiting the following locations:

- Monopump station north zone, 320mLv, which was the scene of an incident on 26/05/2008.
- 325mLv, where we inspected the site of a rockfall incident onto a Cabolter on 29/04/2008, This was viewed from two access points. The Infrastructure that was to be located at and near where the fall occurred on the Cabolter has been relocated on another level. This has taken away the need to rehabilitate this area and it will be bulkheaded off and filled. Access from the other side has had to be re-established for ventilation to the raise.
- 450mLv Workshop where we spoke to operators from MacMahons and to the workshop Supervisor. Access to the shop is now restricted by barricades and persons other than people who normally work there have to obtain permission to enter. There has also been a marked improvement in the general standard of cleanliness, storage and housekeeping. This has apparently been brought about by the introduction of the 5S system.
- 425mLv Cribroom where we spoke with personnel and also discussed worker access to SWI's and procedures.
- 575mLv Crusher Level where we inspected a Minearc 12 person refuge bay.
- TFN68 Drive, where we spoke to two operators at a Jumbo, one of whom was a Site Safety and Health Rep.

There was very little other equipment going at the time, being shut down for various reasons, so we returned to the surface.

We were also advised of the introduction of full body harnesses and lanyards for persons who work in baskets or platforms. Other safety initiatives observed were:

- Chocks being used for light vehicles if unattended.

- Guard rails fitted to the tops of units for persons to safely perform checks or work.
- Protective guards fitted to Jumbo windscreens.

No safety concerns were observed or raised with me.

Phillip Casey
Inspector of Mines
Northern Region

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Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Investigation	Northern	30/04/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today, I went to site and met with Mr. Shane Johnson, Acting Site Senior Executive (Underground), and Mr. Ed Cooney, Deputy Mine Manager. The inspection was in response to notification that a rock fall of approximately 1,000 to 1,500 tonnes had occurred on the 325mLv in a vent connection, which had buried the boom of a contractor Cabolter rig.

After completing the visitors inductions I was taken underground by Mr. Johnson and Mr. Cooney for an inspection of the incident site. In accessing the area a crew was installing a brattice bulkhead nearby to redirect ventilation.

Rj47DN on 325mLv had intersected 46XW in between two exhaust raises; a 5.6m diameter raise on the right which went from the level to surface, and on the left a 4m diameter connection downwards from 325 to 350mLv.

The breakthrough had been done some eight days ago and since then the breakthrough had been shotcreted, meshed and bolted. The cabolter had then come in to install 7 rings of 6m length cables, at 2m ring spacings in the back, from before the breakthrough, in, between and past the two raises. The operator had bored the seven rings and was installing the cables when the cable reel had run out and he had left the area. He had been gone for some time when the Supervisor found the fall when visiting the job. The boom of the rig was buried in the fall.

On our return to the surface I met with Mr. Rhett Hassell, Production Geotechnical Engineer, who provided information on the area, pre and post the fall, from photos and mapping. There were cables in the "ballroom" area broken into but there was no record as to their age and depth. The cables being installed by the cabolter were to supplement/replace these. I was given a copy of the mapping and cablebolting plans for the area..

A closeout meeting was held with Mr. Cooney and Mr. Johnson also attended by Mr. Gantry Thiedeman, Ventilation Technician, and Mr. Dan Cassidy, Engineer. There has been some loss of exhaust capacity for the 325/350mLv Levels which is being managed presently by not using heavy equipment on these levels until brattice bulkheads are installed to redistribute the air to alternate exhaust sources. Heavy equipment will not be re-introduced until a vent survey verifies there is sufficient ventilation in place.

The intended process for recovery of the rig and the area is that representatives of the rig owners are due on site tomorrow to have input into the recovery considerations and then a

comprehensive risk assessment will be done of the recovery process before continuing. I did ask that the integrity of the ground from the intersection to and over the rig to the brow of the failure must be considered in this risk assessment. At this stage it is thought that the failure has come back to and ended at a vertical structure, and the ground from there back looks sound, however this section is not cablebolted and its integrity needs to be considered. I also asked to be provided with a copy of this risk assessment and to be kept informed of progress in the recovery of this area and investigation findings.

Whilst the type of development in this case is not common, the investigation must determine the failure mechanisms/causes and how it would have been prevented and what improvements can be made in the design processes.

Phillip Casey
Inspector of Mines
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	10/04/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today, on a visit to site, I met with the surface Site Senior Executive, Mr. Brian Calway. The purpose of the visit was to carry out an inspection on surface traffic management and in particular to review the implementation of the findings from a Level 4 incident which occurred on 02/11/2006, when an underground loader exiting the surface fuel bay came in contact with a light vehicle and pushed it for approximately 48 metres before the loader operator was alerted to what was happening.

Mr. Calway advised that it had only been brought to his attention a week ago that several of the corrective actions required from the incident were either incomplete or had not been carried out. The relevant items were:-

“Review site traffic management plan.” Due date, March 07

There is not a traffic management plan for the surface to review and until recently no action had been taken to develop one. Having a plan is also a requirement of the Corporate BHP Billiton Fatal Risk Protocols.

“Group to investigate solutions to traffic management at fuel bay intersection e.g. portable traffic lights. Acquire the services of a consultant to review traffic flows” Due date, March 07.

This action item has not been done. Plans have been developed of what to do and some materials sourced, but very little has actually been done. A consultant has not been engaged and a report on traffic management issues from a previous consultant cannot be found.

It is of concern that corrective actions from a level 4 incident have not been implemented and that the safety and health management system has not picked this up.

Mr. Calway took me through a capital expenditure application for a road to the paste fill plant that would divert a significant amount of heavy vehicle traffic from going through the centre of the mine site. He then took me on a tour of the surface operations, pointing out recent traffic management changes.

Number

Substandard Condition or Practice

Due Date

1 Safety and Health Management System

12/05/2007

The Site Senior Executive must review the site safety and health management system to ensure that investigation corrective actions are implemented. All other outstanding corrective actions from incident investigations must be reviewed to ensure there is nothing that would present an unacceptable risk to persons.

This SCP applies to both surface and underground Site Senior Executives.

Refer Section 55, Mining and Quarrying Safety and Health Act 1999

Number

Substandard Condition or Practice

Due Date

2 Traffic Management

22/06/2007

The Site Senior Executive must ensure a traffic management plan is developed for the surface operations.

Refer Sections 45 & 46, Mining and Quarrying safety and Health Regulation 2001

Number

Substandard Condition or Practice

Due Date

3 Surface Fuel Bay.

22/06/2007

The Site Senior Executive must ensure the changes to traffic management at the surface fuel bay are carried out so there is an acceptable level of risk for persons using this facility.

Refer section 27, Mining and Quarrying Safety and Health Act 1999

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please advise me in writing when each of the above items have been completed.

**Phillip Casey
Inspection Officer
Northern Region**

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Phillip Casey, Inspection Officer (Mining)

Subject: Safety and Health Management System	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 10/04/2007
Record Date: 11/04/2007	MRE Item No.: 1

Title: Safety and Health Management System

Description of Action Required to be Taken:

The Site Senior Executive must review the site safety and health management system to ensure that investigation corrective actions are implemented. All other outstanding corrective actions from incident investigations must be reviewed to ensure there is nothing that would present an unacceptable risk to persons.

This SCP applies to both surface and underground Site Senior Executives.

Refer Section 55, Mining and Quarrying Safety and Health Act 1999

References:

MQSHR 1999

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 12/05/2007

Completed: 27/06/2007, **Closed by:** Phillip Casey **on** 27/06/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

System and outstanding corrective action items reviewed

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Phillip Casey, Inspection Officer (Mining)

Subject: Traffic Management	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 10/04/2007
Record Date: 11/04/2007	MRE Item No.: 2

Title: Traffic Management

Description of Action Required to be Taken:
The Site Senior Executive must ensure a traffic management plan is developed for the surface operations.
Refer Sections 45 & 46, Mining and Quarrying safety and Health Regulation 2001

References:
MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 22/06/2007

Completed: 27/06/2007, **Closed by:** Phillip Casey **on** 27/06/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Superseded by directive issued by Inspector Fasching as part of Cannington audit

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Phillip Casey, Inspection Officer (Mining)

Subject: Fuel Dispensing	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 10/04/2007
Record Date: 11/04/2007	MRE Item No.: 3

Title: Surface Fuel Bay.

Description of Action Required to be Taken:
The Site Senior Executive must ensure the changes to traffic management at the surface fuel bay are carried out so there is an acceptable level of risk for persons using this facility.
Refer section 27, Mining and Quarrying Safety and Health Act 1999

References:
MQSHA

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 22/06/2007

Completed: 27/06/2007, **Closed by:** Phillip Casey **on** 27/06/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Done some time ago, but written confirmation not received until today



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Site Meeting	Northern	20/03/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today, on a visit to site, we were advised by Mr. Neil Colbourne, Site Senior Executive, that a mock emergency exercise had been conducted on three different shifts recently, with the scenario being a truck catching fire in the upper levels of the mine decline, preventing escape for persons via the portal, and requiring persons underground to evacuate to fresh air chambers. Mr. Colbourne had received a report on the shortcomings identified from the exercises, one of which was that in some situations more persons had reported to a chamber than it had capacity to cope with.

In discussion with Mr. Colbourne as to whether the risk to persons of entrapment was being managed now he advised that:-

- There had been no one specific area where to his knowledge there was insufficient refuge capacity, however this would be checked.
- There had been some confusion in the exercises, on where persons should report to following the removal of some directional signage for chambers during the rehabilitation programme. The signage has now been rectified, and an information programme gone through with crews.
- An expenditure application had been submitted for the installation of new refuge chambers which are on-site on the surface at present. These would be prioritised according to identified needs.
- Consideration was being given to whether the present refuge chambers were the most fit for purpose refuge option. They are mains feed via a ring main, but have no stand-alone facility.
- Kits, which would allow a vehicle to become its own temporary refuge have been put in the light vehicle fleet.

Discussion was held on the geographical location of refuge chambers, particularly as to the distance a person could reasonably be expected to walk if wearing a self rescuer and in conditions of limited visibility.

We put to Mr. Colbourne, that as this one scenario had identified issues, and Mr. Colbourne was new to his role, it would be prudent to revisit the risk management process required by Section 32, emergencies, of the MQSHR 2001, to ensure the mine has the resources and

facilities decided necessary to cope with emergencies. In effect this has been part of what Mr. Colbourne has been doing with the recent exercise scenarios and his initiatives to improve their mine rescue capability

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
1	Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999 Emergency Preparedness	21/04/2007

Please review the risk management process as outlined in Part 5, Emergencies, of the Mining and Quarrying Safety and Health Regulation 2001, to ensure all reasonably foreseeable emergencies have been identified at the mine to decide the resources, facilities and procedures necessary to prepare, detect and respond to such emergencies.

Please provide a written status report on each Directive together with the actions taken to address each item by their due dates

Please advise the undersigned persons on completion of the requirements of the directive, together with the findings of the review.

Phillip Casey
Inspection Officer
Northern Region

Simon Cole
District Workers' Representative
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Phillip Casey, an Inspection Officer appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Emergency Preparedness	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Site Meeting	Activity Date: 20/03/2007
Record Date: 22/03/2007	MRE Item No.: 1

Title: Emergency Preparedness

Directive Given:
Please review the risk management process as outlined in Part 5, Emergencies, of the Mining and Quarrying Safety and Health Regulation 2001, to ensure all reasonably foreseeable emergencies have been identified at the mine to decide the resources, facilities and procedures necessary to prepare, detect and respond to such emergencies.

References:
MQSHR

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 21/04/2007

Completed: 27/06/2007, **Closed by:** Phillip Casey **on** 27/06/2007.

Action Taken by Mine to Comply with Directive:

Completed

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 22/03/2007 at 04:00 PM.

Directive Given To -

This directive is given to the following person/s -

Mr. Neil Colbourne

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power).

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to site senior executive on 22/03/2007 at 04:00:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -
Refer body of MRE

Phillip Casey: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	20/03/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Site Safety & Health Reps Consulted: Mr. Matt Weston & Mr. Ross Campbell

Today, on a visit to site, we went underground for a ground control inspection as one aspect of an audit being conducted. Mrs. Julie Dryden, Inspector of Mines, was on site doing a desktop review with the technical staff for the same audit.

We were accompanied on this inspection by site representatives, Mr. Doug Jones, Safety and Training Advisor, Mr. Matt Weston, S.H. & E. Representative, Mr. Quentin Toose, Geologist, Ms. Anna Gentle, Geologist, and Mr. Ross Campbell, S.H. & E. Representative.

We visited the following locations:-

- Rock bolt consumables store between the 240 & 250 mLv.
- 605 mLv Crusher Collection Bin area, to see the current condition of an area where previous rehabilitation work had been carried out.
- 575 mLv Jaw Crusher area, to see the condition of areas in the chamber that are the subject of regular monitoring.
- 450 mLv Workshop, to see the condition of cracking in the shotcrete.
- 450 mLv cribroom.
- 74XW on 450 mLv, where an Atlas Jumbo was installing bolts and mesh in a development heading.
- RX70 drive on 400 mLv, where a contractor Jumbo was bolting and meshing a rehab drive.
- 140 mLv, where Eroc personnel were preparing to commence shotcreting.
- 18DOHL drill drive on 140 mLv, to a production rig.
- 375 mLv, where a production rig was drilling cable holes.

We were unable to see any cable installation activities as the Cabolter was in for a service, and no-one was doing any hand cable installation at the time.

During the inspection we made the following observations:-

- For the continuing rehabilitation project and normal mining advance there are a range of different bolts being used, (Posimix 4, C.T., D.C.P., Jumbolts, Tigerbolts, Splitsets), as well as in some cases different sizes of these bolts, and combinations of at least two of these bolts

in some applications.

- I was of the belief that the range of bolts could have led to some confusion for operators, but I was advised that operators were dealing with perhaps two type of bolts depending on the activity and stringent quality control monitoring was being done of installation work by technical staff.
- Operators spoken to were able to tell me the installation criteria for the type of bolts they were using.
- There were no bit gauges on the rigs visited, and while drill bits were colour coded for size, the size of holes bored was critical to the integrity of some of the bolts used. Having gauges on the drill rigs was also a requirement of the site bolt installation procedures provided to us.
- Operators on rigs were able to show me plans for the activities being undertaken.
- There appeared to be no further worsening of the cracking in the shotcrete in the underground workshop area.
- In the workshop one of two crane column footings that required repair, (noticed on a visit last year), had still not been fixed. We were advised that no lifting by the crane was to take place at this end, but there were no signs indicating this or stops to prevent the crane being operated in this area.
- Resin storage in the consumables store was minimal and well within use by dates.
- Pull testing of bolts was up to date with between 1 to 2 percent of installed bolts tested.
- The shotcreters were able to advise of the quality controls required for their work. (No records of testing were looked at).
- Markings of a red X on groutable bolts to indicate that grouting was unsuccessful, and had to be replaced. Replacement bolts had been done in the areas seen.

On our return from underground we met with Site Senior Executive, Mr Neil Colbourne. We then went with Mr Jones for an inspection of the surface bolting consumables yard, which we had been advised was not in a satisfactory standard. This was evident with cement and glue product being stored in the open, some bolt bundles being split open and some not stored off the ground. There seemed to be a lack of control of the receipt, issuing and correct storage of product, and in general no ownership of the area.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Bit Sizing Gauges	27/03/2007

Please provide a bit sizing gauge to each bolt installation rig to ensure the correct hole diameter is drilled for insertion of rock bolts that critically rely on correct size. This is also a requirement of the site bolting and meshing procedures.

Refer Sections 8 (2) (b), 100 (1), Mining and Quarrying Safety and Health Regulation 2001

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	450 mLv Workshop Overhead Crane	06/04/2007

Please carry out repairs to the crane column footings to ensure the crane can be used for its intended purpose. In the interim, until the repairs are carried out, engineering restrictions should be put in place to prevent the crane being inadvertently used over the area where the repair is required.

Refer Section 109, Mining and Quarrying Safety and Health Regulation 2001.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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3 Ground Control Consumables Stored on Surface

21/04/2007

Refer the comments in the body of the MRE re the surface storage yard. Please ensure that ground control consumables are stored in accordance with manufacturers recommendations, such that they are fit for their intended purpose when used.

Refer Section 100, (1), (a), (1), Mining and Quarrying Safety and Health Regulation 2001.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please advise the undersigned in writing when the above action items have been completed.

Phillip Casey
Inspection Officer
Northern Region

Simon Cole
District Workers' Representative
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Phillip Casey, Inspection Officer (Mining)

Subject: Ground Control	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 20/03/2007
Record Date: 22/03/2007	MRE Item No.: 1

Title: Bit Sizing Gauges

Description of Action Required to be Taken:
 Please provide a bit sizing gauge to each bolt installation rig to ensure the correct hole diameter is drilled for insertion of rock bolts that critically rely on correct size. This is also a requirement of the site bolting and meshing procedures.
 Refer Sections 8 (2) (b), 100 (1), Mining and Quarrying Safety and Health Regulation 2001

References:
 MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 27/03/2007

Completed: 27/06/2007, **Closed by:** Phillip Casey **on** 27/06/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Fitted to rigs

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Phillip Casey, Inspection Officer (Mining)

Subject: Crane	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 20/03/2007
Record Date: 22/03/2007	MRE Item No.: 2

Title: 450 mLv Workshop Overhead Crane

Description of Action Required to be Taken:
 Please carry out repairs to the crane column footings to ensure the crane can be used for its intended purpose. In the interim, until the repairs are carried out, engineering restrictions should be put in place to prevent the crane being inadvertently used over the area where the repair is required.
 Refer Section 109, Mining and Quarrying Safety and Health Regulation 2001.

References:
 MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 06/04/2007

Completed: 27/06/2007, **Closed by:** Phillip Casey **on** 27/06/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Repaired

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Phillip Casey, Inspection Officer (Mining)

Subject: Ground Support	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 20/03/2007
Record Date: 22/03/2007	MRE Item No.: 3

Title: Ground Control Consumables Stored on Surface

Description of Action Required to be Taken:

Refer the comments in the body of the MRE re the surface storage yard. Please ensure that ground control consumables are stored in accordance with manufacturers recommendations, such that they are fit for their intended purpose when used.
 Refer Section 100, (1), (a), (1), Mining and Quarrying Safety and Health Regulation 2001.

References:

MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 21/04/2007

Completed: 27/06/2007, **Closed by:** Phillip Casey **on** 27/06/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Strage quality control put in place



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	07/02/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today, I accompanied Mr. Paul White, Inspector of Explosives, on a visit to site, where we undertook an inspection of explosives storage and transport.

We were hosted on site by Mr. Gary Pinkerton, Senior Compliance Advisor, and after doing the site visitors induction, we were taken to the Orica surface compound, where we met with Mr Dan Mossman, Maintenance Supervisor, and inspected a Charmec underground charge car, which has recently been refurbished and converted to emulsion product use. This unit is awaiting approval by the Explosives Inspectorate, before being put into use.

We were then taken underground by Mr. Shane Johnson, Development Superintendent, to inspect the underground magazine storage. During our time underground we visited the following:-

- 60mlv, where the previous magazine has now been de-commissioned.
- 240mlv magazine, which is now the only underground explosives storage facility.

While at 240mlv we were shown the storage set-ups for the emulsion and gasser products, and the explosives transport storage boxes set up on light vehicle, No. LV507.

We asked to see any lock-up areas where explosives vehicles could be parked if unattended.

Advice was that the only area was on 425mlv, but as the ground support in this area is being rehabilitated we did not go there.

No safety issues were encountered.

Phillip Casey
Inspection Officer
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	30/10/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Site Safety & Health Reps Consulted: Mr. Aaron Murphy

Today, accompanied by Mr. Simon Cole, District Workers Representative, I visited the above site. After meeting with Mr. Jack Standa, Underground Site Senior Executive, we were taken underground by Mr. Standa, and, Mr. Tim Purvis, Underground Manager.

Rehabilitation work is still continuing in the southern orebody, with ten jumbos being involved in this work. Bolting meshing and shotcreting is approximately on schedule, but the post installation grouting of bolts has fallen behind, requiring more resources to be sourced to be able to catch up.

The first southern stope has been brought into production, with a gradual ramping up of production to take place, in concert with geotechnical monitoring to ensure the effects of opening up excavations are in line with expectations.

We visited the following work sites:-

- 295 Level, 29c47 Drawpoint, where we spoke to Site Safety Rep, Mr. Aaron Murphy.
- 375 on the main decline, where Eroc personnel were installing grouted bolts.
- 550 Level, where CRE personnel were relining a main orepass.
- 605 Level Collection and Trunk Conveyor, where rehab work of a cracked shotcreted wall had been completed.
- Shaft tail rope area, where the cleaning and repair of the access ladderway and landings, which was the subject of a previous MRE action item, and, was thought by Mr. Purvis to have been completed, had not been done.
- 475 Level Bypass, where a Jumbo was mining.
- 450 Level Workshop, which is in the process of being recommissioned after rehab.

With the exception of the tail rope area, no issues were encountered, and the amount of time and resources put into the ground support rehabilitation work was very evident in the improved standard of the decline and a lot of the areas travelled.

Number

Substandard Condition or Practice

Due Date

1 Shaft Access Ladderway, Tail Rope Area

30/11/2006

Please clean off the ladderway and platforms, and carry out repairs to restore this access so it is capable of performing its intended function, and is not a risk to persons who have to use it. Refer Mining and Quarrying Safety and Health Regulation 2001, section 109

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

**Phillip Casey
Inspection Officer
Northern Region**

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Phillip Casey, Inspection Officer (Mining)

Subject: Plant	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 30/10/2006
Record Date: 03/11/2006	MRE Item No.: 1

Title: Shaft Access Ladderway, Tail Rope Area

Description of Action Required to be Taken:
 Please clean off the ladderway and platforms, and carry out repairs to restore this access so it is capable of performing its intended function, and is not a risk to persons who have to use it. Refer Mining and Quarrying Safety and Health Regulation 2001, section 109

References:
 MQSHR 2001, S109

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/11/2006

Completed: 26/01/2007, **Closed by:** Phillip Casey **on** 30/01/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Walkway cleaned and replacement of handrails begun, with remaining in planned schedule of works

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	11/05/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Site Safety & Health Reps Consulted: Mr. B. Tetarin, Mr. M. Hall, Mr. B. Eltherington

Today, on a visit to site, I met with Mr. Shane McCarthy, Acting Haulage Superintendent, and then, accompanied by Mr. Bruce Teterin, Site Safety and Health Representative, we went on a site inspection. Before going underground we went to the area where the 32m.COHG stope had propagated to the surface. This hole has now been paste filled, and a drilling rig was nearby probing to detect any further unknown void in the immediate vicinity.

From there we proceeded underground, going to the following areas, during which was observed :-

- The southern zone is closed for significant ground support rehabilitation which has been commenced. In many places the services have been stripped from the backs to below the grade line to allow this work to be carried out unimpeded.
- The 575 crusher level, where rebolting and meshing is well underway.
- The 605 level picking belt area, where the fibrecrete is showing signs of cracking, some of which is very recent. The site is aware of the problem, but because of the height and the immediate vicinity of a walkway and conveyor, this has meant that specialist personnel will have to be engaged for the resupport/ rehabilitation work.
- The 605 level tail rope area, where it was noted that the only walkway going up into the shaft was not serviceable, due to spillage material build-up on platforms and steps, and damage to handrails. This appeared to have been like this for a long time, and needs to be cleaned and repaired to allow persons safe access into the area. it could also provide an additional means of safe egress.
- On 475 level I was shown arches installed to further support intersections in the vicinity of the previous rockfall area.
- The 450 level, where the maintenance workshop was in the process of being stripped out to allow rehabilitation work.
- The 450 level where I spoke to two other Site Safety representatives, Mr. M. Hall, and Mr. Brian Eltherington.
- The 185 level on the main decline, where I inspected bolting work being carried out by an

Eroc Jumbo.

Before leaving site I had a brief meeting with Mr. Tim Purvis, Site senior Executive, at the accommodation village where he was attending a course.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Shaft Access Ladderway Tail Rope Area	27/05/2006
	Please clean off spillage on the steps and platforms, and effect repairs to restore this access so it is capable of performing its intended function, and is not creating a risk to persons.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Fibrecrete Rehabilitation Steel Collection Bin Area	30/06/2006
	Repairs to be carried out to the fibrecrete wall area which is showing signs of increasing cracking, so as to not allow an unacceptable risk to persons in the area.	

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please advise me in writing when the above action items have been completed.

Phillip Casey
Inspection Officer
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Vision: Our Industries Free of Safety and Health Incidents

Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Substandard Condition or Practice

Issued By: Phillip Casey, Inspection Officer (Mining)

Subject: Walkways	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 11/05/2006
Record Date: 20/05/2006	MRE Item No.: 1

Title: Shaft Access Ladderway Tail Rope Area

Description of Action Required to be Taken:
Please clean off spillage on the steps and platforms, and effect repairs to restore this access so it is capable of performing its intended function, and is not creating a risk to persons.

References:
MQSHR 2001 section 108.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 31/08/2006

Completed: 30/10/2006, **Closed by:** Phillip Casey **on** 27/11/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Withdrawn, and new SCP issued

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
Natural Resources, Mines and Water

Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Phillip Casey, Inspection Officer (Mining)

Subject: Ground Rehabilitation	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 11/05/2006
Record Date: 20/05/2006	MRE Item No.: 2

Title: Fibrecrete Rehabilitation Steel Collection Bin Area

Description of Action Required to be Taken:
Repairs to be carried out to the fibrecrete wall area which is showing signs of increasing cracking, so as to not allow an unacceptable risk to persons in the area.

References:
MQSHR 2001

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/09/2006

Completed: 30/10/2006, **Closed by:** Phillip Casey **on** 27/11/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Rehabilitation completed

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Investigation	Northern	10/04/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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On Sunday, 09/04/2006, Inspector Kahl was notified by Mr. Tim Purvis, Acting Site Senior Executive for underground, that a previous failure in a stope had propagated to the surface.

Today, we travelled to site, and met with Mr. Purvis, and Mr. Jody Todd, Senior Geotechnical Engineer. They advised that the failure to surface had come from 32m.COHG stope, which is a primary stope in the southernmost section of the northern zone orebody, extending from 240mLv at the top, to 320mLv at the bottom. The planned excavation was 96 metres in height, 32.5m along strike span, and, 17-34m across strike span. One of the issues with the stope was that it would have a full height exposure to the Trepell fault on the south east side with a 2-3m pillar width against the fault, which was smaller than normal.

On 05/03/2006, after the stope had been emptied of approximately 140.000 tones of material, the drawpoints were found to be full. It contained schist material, which was known to be above the crown of the stope. It was then evident that some sort of void would exist above the stope boundaries. (It is believed that this incident was not reported to the Inspectorate).

On Sunday, 09/04/2006, a void in the ground was noticed on the surface, near a conveyor drive. Its dimensions were approx. 10 metres x 12 metres. The stope from which the void had emanated was on the other side of the conveyor. It is believed that the original failure had propagated as a pipe/chimney along the Trepell fault which dips at approximately 70 degrees, through the schist, mudstone and topsoil zones.

The surface area was barricaded, and after a risk assessment it was inspected for cracking of ground or undercutting of the edges. The perimeter was pegged at a safe distance to give an indication of any further slumping. By using a long reach cherrypicker basket for the safety of an operator, cavity monitoring instrumentation was lowered into the hole to obtain information on the size and direction of the void, particularly in relation to its crossing under the footings of the conveyor. It is intended to surround it with a safety bund, to minimise storm and flood water ingress to the underground workings, until a decision is made on what is to be done to rectify the situation. As the stope is in the southern most section of the northern orebody, Mr. Purvis and Mr Todd advised there is no threat to persons underground or any infrastructure at this stage.

We were taken for an inspection of the surface area. On our return to the office we were provided with a copy of the stope note, a surface plan, an underground to surface cross-section plan, the initial investigation report, and photos. We were also shown the initial

computer modelling of the cavity monitoring. We requested Mr. Purvis to keep us informed of developments, including any further deterioration in the caved area. Further information may also be required once the material provided was gone through.

Phillip Casey
Inspection Officer
Northern Region

Theo Kahl
Inspector of Mines
Northern Region

Released by DNRM under the RTI Act 2009

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Investigation	Northern	02/03/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Today, at 7 a.m., I was notified by Mr. Martyn Bloss, Underground Manager and Site Senior Executive, that a significant rockfall had occurred on the intersection of 70 crosscut and TS71 Decline on the 475RL Level at 8.10 p.m. yesterday, 01/03/2006. The site was barricaded awaiting our advice.

Inspector Fasching and I drove to site, and were taken underground by Mr. Bloss and Mr. Tim Purvis, Principal Engineer. We inspected the rockfall from the three access points, two from the 475 Level, and coming up from the 500 level. All three accesses were tightfilled to the brows allowing no visibility into the area of the fall. The drives leading up to the fall were good showing no signs of any deterioration by way of cracking or stressing, with good mesh and bolt support. We also went to the next sub level above, 450, where the area immediately above the fall was barricaded, as the rockfall had initially been heard to be propagating upwards, although this was thought to have stabilised.

Mr. Bloss and Mr. Purvis advised that as there were additional accesses other than through the rockfall, it was not intended to re-establish this access on 475 Level. Instead, they wished to bulkhead the accesses, probe drill from above to establish the extent of the void, and tightfill the area.

We also discussed intersection stability in the mine generally. Their advice was that this was considered their worst intersection, however other areas would be looked at as well as a result of this.

On our return to the surface we met with Mr. Jody Todd, Senior Geotechnical Engineer, and discussed the possible causes of the fall. The intersection where the fall occurred was between a geological contact boundary and another smaller fault, and was an area that had experienced some smaller rockfalls in previous years. He estimated the fall could be around 4,000 tonnes.

Mr. Fasching released the site, requesting that we be kept informed of progress for recovery of the area, and on any further developments or changes.

Phillip Casey
Inspection Officer

Hermann Fasching
Inspector of Mines

Released by DNRM under the RTI Act 2009



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	17/08/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

General MRE and Directive for U/G metalliferous mines

Refer Section 163 of MQSHA – Directive to reduce risk

Due to the number of recent accidents and incidents occurring at underground metalliferous mines that have involved on-highway heavy vehicles and their braking systems, I believe that the risk to operations from use of such vehicles may reach an unacceptable level unless use of such vehicles is reviewed and re-assessed.

Accordingly I hereby issue a directive that you review your safety and health management system and your procedures with respect to the use and suitability of on-highway heavy vehicles underground at your mine and that you carry out risk assessments on the use of such vehicles.

Vehicles referred to include, but are not limited to, concrete agitator trucks, explosives manufacturing units and service vehicles.

I issue the following directives:

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
1	Reduce Risk	14/09/2009

Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999

I, Robert O'Sullivan, as an Inspector of Mines and A/Deputy Chief Inspector of Mines, direct you to review your mine safety and health management system and your procedures with respect to the use and suitability of the on-highway heavy vehicles underground at your mine and to carry out risk assessments on the use of such vehicles.

The review and risk assessments must take into account s46 and Parts 10 and 11 of the Mining and Quarrying Safety and Health Regulation 2001 and must include but not be limited to such issues as:

- roadway construction including gradients, cambers and surfacing
- service and emergency vehicle braking and steering systems, including maintenance and inspection regimes to ensure that these systems are checked/inspected and maintained at appropriate intervals to suit the environment. This may require shorter intervals than the

manufacturer recommends.

• adherence to manufacturers specifications for loads, gradients etc. Specifically that the GVM (gross vehicle mass) and if towing the GCM (gross combined mass) operating parameters are adhered to.

• operator training, including prestart checks and operations in emergency situations.

• operating procedures such as speed limits, gear selection.

• operating environment and loads being carried.

Notification of completion of the review and risk assessments, and the availability for inspection of all review documentation, must be provided to me by 14 September 2009.

Please provide a written status report on each Directive together with the actions taken to address each item by their due dates

**Rob O'Sullivan
Inspector of Mines
Northern Region**

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Townsville Office
P.O. Box 5318 MC, TOWNSVILLE QLD 4810
Phone: (07) 4760 7404, Fax: (07) 4760 7400

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Rob O'Sullivan, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Equipment Operation	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Postal Mine Record Entry	Activity Date: 17/08/2009
Record Date: 17/08/2009	MRE Item No.: 1

Title: Reduce Risk

Directive Given:
I, Robert O'Sullivan, as an Inspector of Mines and A/Deputy Chief Inspector of Mines, direct you to review your mine safety and health management system and your procedures with respect to the use and suitability of the on-highway heavy vehicles underground at your mine and to carry out risk assessments on the use of such vehicles.

The review and risk assessments must take into account s46 and Parts 10 and 11 of the Mining and Quarrying Safety and Health Regulation 2001 and must include but not be limited to such issues as:

- Y roadway construction including gradients, cambers and surfacing
- Y service and emergency vehicle braking and steering systems, including maintenance and inspection regimes to ensure that these systems are checked/inspected and maintained at appropriate intervals to suit the environment. This may require shorter intervals than the manufacturer recommends.
- Y adherence to manufacturers specifications for loads, gradients etc. Specifically that the GVM (gross vehicle mass) and if towing the GCM (gross combined mass) operating parameters are adhered to.
- Y operator training, including prestart checks and operations in emergency situations.
- Y operating procedures such as speed limits, gear selection.
- Y operating environment and loads being carried.

Notification of completion of the review and risk assessments, and the availability for inspection of all review documentation, must be provided to me by 14 September 2009.

References:

Bertoni accident

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 14/09/2009

Completed: 29/09/2009, **Closed by:** Julie Dryden **on** 29/09/2009.

Action Taken by Mine to Comply with Directive:

Done on behalf of Rob O'Sullivan. E-mail received.

Released by DNRM under the RTI Act 2009

Directive -

If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.

The directive may be given orally or by notice.

If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.

Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 17/08/2009 at 04:45 PM.

Directive Given To -

This directive is given to the operator of the mine.

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power).

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -
Bertoni accident

.

Rob O'Sullivan: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	17/08/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

General MRE and Directive for U/G metalliferous mines

Refer Section 163 of MQSHA – Directive to reduce risk

Due to the number of recent accidents and incidents occurring at underground metalliferous mines that have involved on-highway heavy vehicles and their braking systems, I believe that the risk to operations from use of such vehicles may reach an unacceptable level unless use of such vehicles is reviewed and re-assessed.

Accordingly I hereby issue a directive that you review your safety and health management system and your procedures with respect to the use and suitability of on-highway heavy vehicles underground at your mine and that you carry out risk assessments on the use of such vehicles.

Vehicles referred to include, but are not limited to, concrete agitator trucks, explosives manufacturing units and service vehicles.

I issue the following directives:

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
1	Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999 Reduce Risk	21/08/2009

I, Robert O'Sullivan, as an Inspector of Mines and A/Deputy Chief Inspector of Mines, direct you to inspect the braking and steering systems of all the on-highway heavy vehicles in use underground at your mine by 21 August 2009.

Please provide a written status report on each Directive together with the actions taken to address each item by their due dates

Rob O'Sullivan
Inspector of Mines
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Townsville Office
P.O. Box 5318 MC, TOWNSVILLE QLD 4810
Phone: (07) 4760 7404, Fax: (07) 4760 7400

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Rob O'Sullivan, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Equipment Operation	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Postal Mine Record Entry	Activity Date: 17/08/2009
Record Date: 17/08/2009	MRE Item No.: 1

Title: Reduce Risk

Directive Given:

I, Robert O'Sullivan, as an Inspector of Mines and A/Deputy Chief Inspector of Mines, direct you to inspect the braking and steering systems of all the on-highway heavy vehicles in use underground at your mine by 21 August 2009.

References:
Bertoni accident

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 21/08/2009

Completed: 31/08/2009, **Closed by:** Hermann Fasching **on** 31/08/2009.

Action Taken by Mine to Comply with Directive:

Refer attachment

Directive -

If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.

The directive may be given orally or by notice.

If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.

Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 17/08/2009 at 04:45 PM.

Directive Given To -

This directive is given to the operator of the mine.

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power).

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to site senior executive on 17/08/2009 12:00:00 AM at 30/12/1899 04:30:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -

The risk to operations from use of on highway heavy vehicles may reach an unacceptable level unless braking and steering systems are inspected.

Rob O'Sullivan: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Site Meeting	Northern	01/11/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

CANNINGTON MEETING – 2 NOVEMBER 2006

On 2nd November 2006, a meeting was held at the Department of Mines and Energy (DME) offices, 187-209 Stanley Street Townsville, attended by:

DME Representatives

Manager Safety and Health, North Region, Mr. Rob O'Sullivan
Inspector of Mines, Regional Geomechanics, Ms. Katie Ormonde

BHP Billiton – Cannington Mine Representatives

Asset Leader, Mr. Shane Hansen
Mining Manager, Mr. Jack Standa
Process and Logistics Manager, Mr. Grant Farrows

The meeting was held in response to a request by the mines inspectorate to discuss the Cannington mine organisational structure, specifically the notification of two Site Senior Executives (SSE) being appointed at Cannington mine.

Mr. O'Sullivan explained the reason the meeting had been called and explained the inspectorate's concern regarding the appointment of two SSE's at one mine.

The reason for the inspectorate's objection to these appointments is that the ***Mining and Quarrying Safety and Health Act 1999*** (MQSHA) states;

Obligations of operators

38.(1) an operator for a mine has the following obligations-
(c) to appoint a senior site executive for a mine

Appointment of site senior executive

49.(1) An operator for a mine or a separate part of a mine must not appoint more than 1 site senior executive for the mine or part of the mine which the person is operator.

Meaning of “site senior executive”

22.(1) The “site senior executive” for a mine is the most senior officer employed by the operator for the mine-

(a) is located at or near the mine; and

(b) has responsibility for the mine.

With reference to 49.(1), clearly there can be no argument that the Cannington operation consists of only one mine and therefore may only have one SSE appointed for the mine.

The “Management Organisational Structure BHP Billiton Cannington 25/09/06” shows there are clearly two SSE’s appointed and two management structures operating at the site.

1. Where all mine personnel (excluding the Asset Leader) report through two SSE positions, namely the Mining Manager and the Processing and Logistics Manager who in turn report to the Asset Leader. This structure has been appropriately designated by the mine as “additional statutory reporting” and doesn’t reflect the actual working management structure.

2. The actual operating organisational structure is where six distinctive work groups led by six managers, namely, HSEC Manager, Technical Services Manager, Mining Manager, Maintenance & Engineering Manager, Processing & Logistics Manager and Processing Manager report directly to the Asset Leader which reflects the working management structure in place at Cannington mine site.

The mines proposed “additional statutory structure” objective is to have all mine personnel (excluding the Asset Leader) reporting to two SSE’s on site, firstly the Mining Manager Underground - all persons working underground and secondly the Processing and Logistics Manager – all persons working on the surface.

Mr. O’Sullivan explained the inspectorate’s view is that this arrangement is contrary to the legislation, and importantly does not meet the intent of the Act. Clearly the person who **has responsibility for the mine** is the Asset Leader, who **is located at** (some part of the time) **or near the mine**, in a fly in fly out situation, Townsville.

The intent of the Act is that the person who manages and controls the activities at the mine is to be appointed as the SSE. The evidence on the above mentioned organisational chart clearly shows that all mine personnel report through six managers who report directly to the Asset Leader.

It is not the intent of the Act to have a management structure that has a secondary organisational structure that meets “additional statutory reporting” in isolation. The SSE’s role is a holistic one which among other things must - as per **39.(1) (f) provide for – (i) adequate planning, organisation, leadership and control of operations**. There is a clear meaning of operations in Section 10.(1) of the MQSHA which is consistent with activities undertaken at Cannington mine. Furthermore, statutory safety and health matters should be an integral part of the business and not a “bolt on” extra to meet perceived separate statutory obligations.

The same organisational structure states that the Asset Leader is also the “Operators Representative”. This title is not recognised in the Act and does not preclude the same person from undertaking the role of SSE.

It was agreed that to move forward, the Asset Leader, Mr Hansen would review this MRE and make a formal response to the Manager Safety and Health, North Region.

Mr. O’Sullivan thanked Messer’s Hansen, Standa and Farrows for their attendance. He advised that they would receive a postal Mine Record Entry that must be placed in the Mine

Record and displayed on safety notice boards.

Rob O'Sullivan
Inspector of Mines
Northern Region

Released by DNRM under the RTI Act 2009



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Site Meeting	Northern	02/11/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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CANNINGTON MEETING – 2 NOVEMBER 2006

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DME Representatives

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BHP Billiton – Cannington Mine Representatives

Asset Leader, Mr. Shane Hansen
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The meeting was held in response to a request by the mines inspectorate to discuss the Cannington mine organisational structure, specifically the notification of two Site Senior Executives (SSE) being appointed at Cannington mine.

Mr. O'Sullivan explained the reason the meeting had been called and explained the inspectorate's concern regarding the appointment of two SSE's at one mine.

The reason for the inspectorate's objection to these appointments is that the ***Mining and Quarrying Safety and Health Act 1999*** (MQSHA) states;

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Meaning of "site senior executive"

22.(1) The "site senior executive" for a mine is the most senior officer employed by the operator for the mine-

- (a) is located at or near the mine; and***
- (b) has responsibility for the mine.***

With reference to 49.(1), clearly there can be no argument that the Cannington operation consists of only one mine and therefore may only have one SSE appointed for the mine.

The “Management Organisational Structure BHP Billiton Cannington 25/09/06” (see below) shows there are clearly two SSE’s appointed and two management structures operating at the site.

1. Where all mine personnel (excluding the Asset Leader) report through two SSE positions, namely the Mining Manager and the Processing and Logistics Manager who in turn report to the Asset Leader. This structure has been appropriately designated by the mine as “additional statutory reporting” and doesn’t reflect the actual working management structure.

2. The actual operating organisational structure is where six distinctive work groups led by six managers, namely, HSEC Manager, Technical Services Manager, Mining Manager, Maintenance & Engineering Manager, Processing & Logistics Manager and Processing Manager report directly to the Asset Leader which reflects the working management structure in place at Cannington mine site.

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Mr. O’Sullivan explained the inspectorate’s view is that this arrangement is contrary to the legislation, and importantly does not meet the intent of the Act. Clearly the person who **has responsibility for the mine** is the Asset Leader, who **is located at** (some part of the time) **or near the mine**, in a fly in fly out situation, Townsville.

The intent of the Act is that the person who manages and controls the activities at the mine is to be appointed as the SSE. The evidence on the above mentioned organisational chart clearly shows that all mine personnel report through six managers who report directly to the Asset Leader.

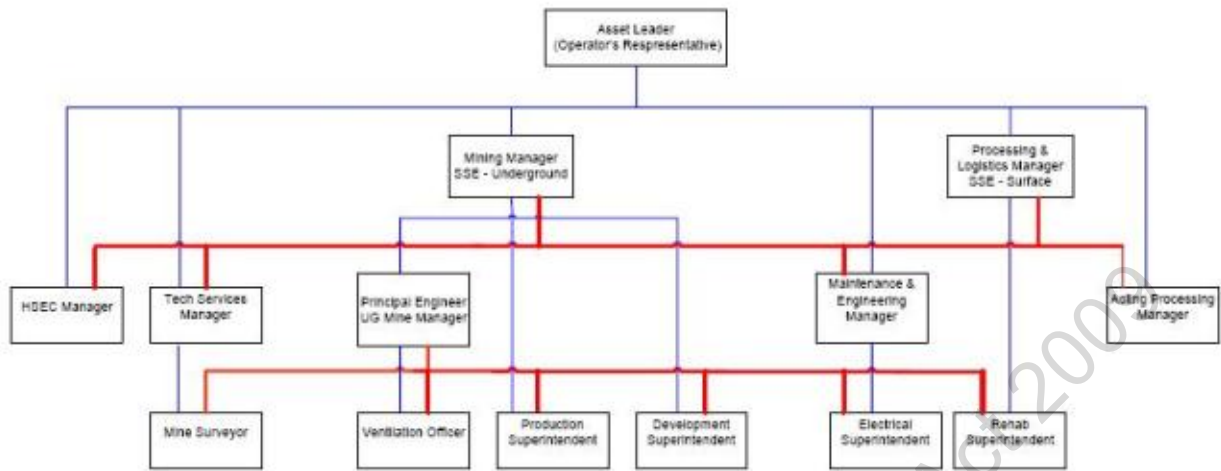
It is not the intent of the Act to have a management structure that has a secondary organisational structure that meets “additional statutory reporting” in isolation. The SSE’s role is a holistic one which among other things must - as per **39.(1) (f) provide for – (i) adequate planning, organisation, leadership and control of operations**. There is a clear meaning of operations in Section 10.(1) of the MQSHA which is consistent with activities undertaken at Cannington mine. Furthermore, statutory safety and health matters should be an integral part of the business and not a “bolt on” extra to meet perceived separate statutory obligations.

The same organisational structure states that the Asset Leader is also the “Operators Representative”. This title is not recognised in the Act and does not preclude the same person from undertaking the role of SSE.

It was agreed that to move forward, the Asset Leader, Mr Hansen would review this MRE and make a formal response to the Manager Safety and Health, North Region.

Mr. O’Sullivan thanked Messer’s Hansen, Standa and Farrows for their attendance. He advised that they would receive a postal Mine Record Entry that must be placed in the Mine Record and displayed on safety notice boards.

Statutory Management Organisational Structure
 BHP Billiton Cannington 25-09-06



Additional Statutory Reporting

Rob O'Sullivan
 Inspector of Mines
 Northern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	17/03/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

This record book entry refers to the rockfall that occurred on 16th March 2006 (see attached photograph) on 475mLv, while ground control rehabilitation activities were being undertaken using an airleg. The RBE should be read in conjunction with an email directive regarding this matter sent to Tim Purvis, Principal Engineer on 16th March 2006 from Rob O'Sullivan, Manager Safety and Health North Region.



The background to this activity was a large rockfall (estimated up to 4000 tonnes) that occurred on the intersection of 70 x/c and T71 decline on 475mLv on 1st March 2006. This rockfall occurred at the interface of a geological contact and a minor fault. The area had a history of smaller rockfalls.

At the time of the on site investigation by Phil Casey, Inspection Officer and Hermann Fasching, Acting District Inspector of Mines it was agreed that the mine would undertake a survey of mine workings to identify any areas similar to the site at the intersection of 70 x/c

and T71 decline on 475mLv where there may also be a higher risk of ground fall.

As a result of this survey several areas were identified that required rehabilitation and by definition were identified as areas of higher risk ground conditions. A programme was commenced to rehabilitate these areas using reinforced mesh pinned to the walls and back with fibrecrete coating to form a reinforced arch.

After viewing the above photograph of the rockfall, there are several issues that need to be addressed in the HPI investigation and further addressed in the investigation report findings and recommendations;

1. Why were airleg miners being exposed to an area that had been identified as requiring ground rehabilitation and additional support?
2. Referring to the hierarchy of controls for the elimination of risk, why wasn't a jumbo used to pin the reinforced mesh sections to the walls and back separating persons from the hazard?
3. Before the pinning of the reinforced mesh sections, what ground preparation was undertaken with respect to barring down/scaling.
4. It would appear from the photograph that the air leg was being anchored on the floor using a section of upturned reinforced mesh with the ends of the reinforcing bars protruding upwards presenting an impaling hazard.
5. Following on from point 4, what level of supervision was in place for this activity?
6. What training and experience did the air leggers have? Were they only trained to bore pin holes and undertake miscellaneous work, or were they trained as air leg miners skilled to handle adverse ground conditions and mining activities

From discussions with Tim Purvis I believe that the use of hand held/air leg miners/operators to undertake ground control rehabilitation in areas that have been specifically identified as requiring rehabilitation, generally presents an unacceptable level of risk.

I direct you in accordance with Section 164 of the Mining and Quarrying Safety and Health Act 1999 to cease ground control rehabilitation activities using hand held/air leg miners/operators underground at Cannington mine and assess the hazards of such activity by way of undertaking a risk assessment for this specific area and generally for the rehabilitation programme.

Before work recommences I request that you supply me with a copy of the risk assessment. The risk assessment should address but not be limited to the following issues; training, supervision, scaling/baring down, measures taken to prevent local area ground failures and the timing of ground support taking into account the rock conditions and behaviour. The risk assessment team should include but not be limited to Operators, Supervisors, Mining Technical personnel, Geologists and Rock Mechanics Engineers.

Number

Directive

Due Date

1

Ground Control

24/03/2006

Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999

In accordance with Section 164 of the Mining and Quarrying Safety and Health Act 1999 Ground control rehabilitation activities using hand held/air leg miners/operators underground at Cannington mine to cease immediately. The SSE is to assess the hazards of such activity by way of undertaking a risk assessment for this specific area and other parts of the mine that have been determined generally for the rehabilitation programme.

Please provide a written status report on each Directive together with the actions taken to address each item by their due dates

Rob O'Sullivan

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Natural Resources, Mines and Water

Townsville Office
 P.O. Box 5318 MC, TOWNSVILLE QLD 4810
 Phone: (07) 4760 7404, Fax: (07) 4760 7400

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Rob O'Sullivan, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Ground Rehabilitation	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Postal Mine Record Entry	Activity Date: 17/03/2006
Record Date: 17/03/2006	MRE Item No.: 1

Title: Ground Control

Directive Given:
 In accordance with Section 164 of the Mining and Quarrying Safety and Health Act 1999 Ground control rehabilitation activities using hand held/air leg miners/operators underground at Cannington mine to cease immediately. The SSE is to assess the hazards of such activity by way of undertaking a risk assessment for this specific area and other parts of the mine that have been determined generally for the rehabilitation programme.

References:
 Section 164 Mining and Quarrying Safety and Health Act 1999

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/03/2006

Completed: 05/04/2006, **Closed by:** Rob O'Sullivan **on** 05/04/2006.

Action Taken by Mine to Comply with Directive:

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given orally on 16/03/2006 at 01:00 PM.

Directive Given To -

This directive is given to the following person/s -

Tim Purvis
Principal Engineer
Cannington Underground SSE or his representative

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.
Verbally on 16/03/2006 at 01:00:00 PM.

Part of mine affected by directive -

Ground rehabilitation sites.

A copy of the directive was given to -

A copy of this directive or notice was given to the person in charge of mine or the part of the mine affected by the directive on 17/03/2006 at 05:00:00 PM.

A copy of this directive or notice was given to site senior executive on 17/03/2006 at 05:00:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -

The rockfall on 16th March 2006 at 475mLv, the photograph attached to the mine record and discussions with Tim Purvis, Principal Engineer.

Rob O'Sullivan: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
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 - (a) 7 days after the day on which the person received the directive; or
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- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
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- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
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(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
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- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	22/11/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

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Today I visited the Cannington mine to conduct an inspection of maintenance systems for fixed plant. I was met by Ms Tiffany Sproles (Processing Plant Superintendent) and we had discussion on the BHP maintenance personnel on site. She said she had 4 Fitters, 1 Boilermaker, 2 Crane drivers, who also had scaffolders tickets, and 2 mechanical apprentices.

During planned shutdowns, Ms Sproles said that contractors are brought to site, safe start identified their equipment and tooling are mapped to the site standard, recently there had been an audit identifying qualification and competency are exactly what the site required. Dawson's, Nth/West Cranes and Downer are the main contractors, however there are specialist service providers for Mill relining, and conveyor belt splicing.

During a round the clock shutdown, there are 2 BHP Superintendents enlisted from the engineering ranks, one for each shift and a number of group leaders covering for example - Grinding, Flootation, Pumps etc: who would work alongside the contractors, these BHP employees ensure that correct isolations, SWI's and JSA's are used.

There was an audit conducted on the structural integrity of the plant 12 months ago and Ms Sproles said that they were working through the items needing attention. I reviewed inspection reports for Cranes and Pressure vessels and found no recommendations that were not addressed.

Accompanied by Ms Sproles I conducted an inspection of the workshops, the 10 ton Kone crane, which is a new installation was in good order. A cabinet that contained hazardous substances and dangerous goods did not have Material Safety Data Sheets (MSDS) easily available. In the boiler shop was a heavy duty Pedestal grinder that had a worn grinding wheel and a dangerous gap between the wheel and tool post.

An inspection of the process plant found, on CV04 Conveyor, some guards not secure, one was not secure and fouling the emergency stop lanyard, which could effect its efficiency. It was also observed that the guards did not have their own

identification.

As a result of my inspection and discussion held the following items need attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	MSDS	16/12/2011
	In the maintenance workshop is a Hazardous Substances and Dangerous Goods (MSDS) cabinet, and the hazard warning sheets were not easily available. Provide easy access to MSDS sheets at the work place, for personnel to identify necessary precautions, when handling these products. MQSHR Section 53	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Pedestal Grinder safety	16/12/2011
	A Pedestal grinder with a worn grinding wheel had a substantial gap between the toolpost and grinding wheel. Establish a process of periodical workshop inspections. Dress the grinding wheel and adjust the toolpost to minimal clearance, ensuring that all appropriate guards are in place. MQSHR Part 10 section 100	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Conveyor guarding	16/12/2011
	Conveyor, CV04 guards not secure and easily exposed nip points. Establish a process to ensure that conveyors with accessible, exposed nip points are protected with appropriate guards, and conduct periodical inspections to ensure that the guards are securely in place prior to start up. Refer MQSHR Section 100.	

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please advise me in writing of the completion of the above items, on or before the due date.

Roy Perkins
Inspection Officer
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Hazardous Substances and Dangerous Goods	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 22/11/2011
Record Date: 24/11/2011	MRE Item No.: 1

Title: MSDS

Description of Action Required to be Taken:
 In the maintenance workshop is a Hazardous Substances and Dangerous Goods (MSDS) cabinet, and the hazard warning sheets were not easily available. Provide easy access to MSDS sheets at the work place, for personnel to identify necessary precautions, when handling these products. MQSHR Section 53

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 16/12/2011

Completed: 16/12/2011, **Closed by:** Roy Perkins **on** 19/12/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

See attachment

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Abrasive Wheel Safety	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 22/11/2011
Record Date: 24/11/2011	MRE Item No.: 2

Title: Pedestal Grinder safety

Description of Action Required to be Taken:
 A Pedestal grinder with a worn grinding wheel had a substantial gap between the toolpost and grinding wheel. Establish a process of periodical workshop inspections. Dress the grinding wheel and adjust the toolpost to minimal clearance, ensuring that all appropriate guards are in place. MQSHR Part 10 section 100

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 16/12/2011

Completed: 16/12/2011, **Closed by:** Roy Perkins on 19/12/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

See attachment

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Conveyor Guarding	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 22/11/2011
Record Date: 24/11/2011	MRE Item No.: 3

Title: Conveyor guarding

Description of Action Required to be Taken:
 Conveyor, CV04 guards not secure and easily exposed nip points. Establish a process to ensure that conveyors with accessible, exposed nip points are protected with appropriate guards, and conduct periodical inspections to ensure that the guards are securely in place prior to start up. Refer MQSHR Section 100.

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 16/12/2011

Completed: 16/12/2011, **Closed by:** Roy Perkins on 19/12/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

See attachment

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	06/09/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today I attended site to conduct an inspection of Mobile Plant. The inspection centred around maintenance systems and included the management of the fleet of vehicles owned by Cannington and contractors. I met with Mr Darren Reid (Maintenance Superintendent) and Mr Owen Zammit (Maintenance Supervisor). Discussion was held in relation to the high potential incident. During the inflation operation of a grader tyre without the lock ring fitted, allowed the partly inflated tyre to push the outer flange off the rim base with some velocity.

- A tyre and rim management system has not yet been fully established and should include, but not limited to the following:
 - 1.Unique identification of each wheel rim assembly.
 - 2.Tracking of wheel rim assembly service times/hours.
 - 3.Scheduled crack and fatigue testing of wheel rim assemblies
 - 4.Record results of tests and maintenance carried out on assemblies
 - 5.Maximum service life between tests and discard of assemblies

With Mr Zammit I reviewed a section of the maintenance systems and documentation.

- The pre start check list used on site for mobile plant was found to be very generic in nature, and the same sheet used for a number of different types of equipment, there would be benefit in the pre start being more specific, especially as some machinery need more attention paid to the monitoring, inspection, and recording of tyres and rims and also particular brake test requirements.
- Service sheets, 1000, and 2000 hour service schedule, for Caterpillar had not been updated as per the Original Equipment Manufacturers (OEM) recommendations:
 1. Accumulators on Front end loader brake systems.
 2. Brake component wear rate on other equipment.

At a close out meeting with Mr Reid I outlined the findings of my inspection.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Tyre and Rim Management	09/12/2011

A tyre and rim management system has not yet been fully established and should include, but not limited to the following:

- 1.Unique identification of each wheel rim assembly
 - 2.Tracking of wheel rim assembly service times/hours
 - 3.Scheduled crack and fatigue testing of wheel rim assemblies
 - 4.Record results of tests and maintenance carried out on assemblies
 - 5.Maximum service life between tests and discard of assemblies
- MQSHR Part 10 - 108, 109, 110, 112, 113 & AS4457.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Pre-start Checks	07/10/2011

The pre start check list used on site for mobile plant was found to be very generic in nature, and the same sheet used for a number of different types of equipment, there would be benefit in the pre start being more specific, especially as some machinery need more attention paid to the monitoring, inspection, and recording of tyres and rims and also particular brake test requirements. MQSHR section 109

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Service sheets	07/10/2011

Service sheets, 1000, and 2000 hour service schedule, for Caterpillar had not been updated as per the Original Equipment Manufacturers (OEM) recommendations:

1. Accumulators on Front end loader brake systems.
2. Brake component wear rate on other equipment.

MQSHR Section 109

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please advise me in writing of the completion of the above items, on or before the due date.

Roy Perkins
Inspection Officer
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Tyre and Rim Management	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 06/09/2011
Record Date: 08/09/2011	MRE Item No.: 1

Title: Tyre and Rim Management

Description of Action Required to be Taken:
 A tyre and rim management system has not yet been fully established and should include, but not limited to the following:

- 1.Unique identification of each wheel rim assembly
- 2.Tracking of wheel rim assembly service times/hours
- 3.Scheduled crack and fatigue testing of wheel rim assemblies
- 4.Record results of tests and maintenance carried out on assemblies
- 5.Maximum service life between tests and discard of assemblies

MQSHR Part 10 - 108, 109, 110, 112, 113 & AS4457.

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 09/12/2011

Completed: 07/10/2011, **Closed by:** Roy Perkins **on** 26/10/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Pre-start Checks	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 06/09/2011
Record Date: 08/09/2011	MRE Item No.: 2

Title: Pre-start Checks

Description of Action Required to be Taken:
 The pre start check list used on site for mobile plant was found to be very generic in nature, and the same sheet used for a number of different types of equipment, there would be benefit in the pre start being more specific, especially as some machinery need more attention paid to the monitoring, inspection, and recording of tyres and rims and also particular brake test requirements. MQSHR section 109

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/10/2011

Completed: 07/10/2011, **Closed by:** Roy Perkins on 26/10/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

See attachment

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Servicing of Equipment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 06/09/2011
Record Date: 08/09/2011	MRE Item No.: 3

Title: Service sheets

Description of Action Required to be Taken:
 Service sheets, 1000, and 2000 hour service schedule, for Caterpillar had not been updated as per the Original Equipment Manufacturers (OEM) recommendations:
 1. Accumulators on Front end loader brake systems.
 2. Brake component wear rate on other equipment.
 MQSHR Section 109

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/10/2011

Completed: 07/10/2011, **Closed by:** Roy Perkins on 26/10/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

See attachment

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	08/03/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today I attended site to conduct an inspection of Mobile Plant. The inspection centred around maintenance systems and included the management of the fleet of vehicles owned by Cannington and contractors. I met with Mr Scott Evans (Maintenance Supervisor), Mr Alan Abercrombie (Relief Supervisor), Mr Tony Holz (Fitter) and Mr Rob Chirio (Hastings Rep) and with Mr Evans I reviewed a cross section of the maintenance systems and documentation on site.

The maintenance systems in place covered most requirements adequately, but substandard application was identified that maintenance scheduled service sheets did not include:

- OEM specification against tasks.
- Warnings about hazards while doing the tasks.
- OEM specifications ie: Brake accumulator pressures, Brake test procedures etc:

The site does not have the following Tyre and Rim procedures:

- Mobile Equipment Rim register.
- Documented Rim and Tyre inspections

During the course of my inspection, Mr Evans accompanied me to the Tyre shop, the site of a high potential incident. We were met by Mr Ed Cooney (A/Mine manager), Mr David Frazer (Safety Supervisor), Ms Lara Strohfeldt (Grad: S/H), Mr Rod Gilliland (Safety advisor), and Mr Andrew Fleming (Rom supervisor) for Sedgman.

Mr Gilliland explained, that 3 workers were endeavouring to fit a new Grader tyre on a rim using an Eagle Tyre Changer, the assembly was almost complete, but they failed to fit the locking ring to secure the assembly. Instead of using the tyre inflation cage provided, and still in the Eagle Tyre Changer, they started to inflate the tyre using a one meter long tyre inflation hose, isolation valve and fittings to connect to the workshop 80 -100 PSI air supply hose.

The inflating tyre forced the split rim assembly flange off the hub, the pressure depended on how jammed the flange was on the hub until it released. the flange was 6 meters away and the tyre inflation hose was found 65 meters away.

Cannington are advised to cease all tyre fitting on site, until such time that the following is established:

- Safe Work Instruction (SWI) to an acceptable standard by a recognised authority, and train personnel to that standard. Or Get an approved tyre fitting service.

Mr Cooney provided me with a copy of the Cannington Maintenance SWI MNT 0586 Operate Eagle Tyre Changer Drill Rims (3 piece rims).

At a close out meeting with Mr Cooney I outlined my findings of my inspection, I advised in light of the incident, and volume the site would benefit from a designated and specialist section catering for the fitting of tyres and the tracking and inspection of rims.

As a result of my inspection and discussion held the following items need to be addressed:

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
1	Service Sheets	N/A
	Maintenance scheduled service sheets did not include: OEM specification against tasks. Warnings about hazards while doing the tasks. OEM specifications such as Brake accumulator pressures, Brake test procedures etc: Review the quality of information provided to servicemen to ensure focus on important OEM specification. MQSHR Section 100.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Rim maintenance	15/04/2011
	Site maintenance did not include, Mobile Equipment Rim register. Establish a process to ensure the tracking, inspection/monitoring and documenting the optimum safe life cycle of wheel rims. MQSHR Section 106,108,113	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Tyre safety	15/04/2011
	Substandard tyre fitting safety. Establish a process to ensure that Safe Work Instruction (SWI) is to an acceptable standard by a recognised authority, and train personnel to that standard, or establish a specialist tyre fitting service. MQSHR Part 11 Section 114 -117	

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please advise me in writing of the completion of the above items, on or before the due date.

Roy Perkins
Inspection Officer
Northern Region



aCAN MINE RECORD TYRE SAFETY RP 20110413.pdf

Released by DNRM under the RTI Act 2009

Recommendation

Subject: Service and Maintenance of
Equipment

File Number: 9748 / 02

Mine Name: Cannington Mine

Operator: BHP Billiton Minerals Pty Ltd

Activity: Inspection

Activity Date: 08/03/2011

Record Date: 11/03/2011

MRE Item No.: 1

Title: Service Sheets

Description of Action Recommended to be Taken:

Maintenance scheduled service sheets did not include:

OEM specification against tasks.

Warnings about hazards while doing the tasks.

OEM specifications such as Brake accumulator pressures, Brake test procedures etc: Review the quality of information provided to servicemen to ensure focus on important OEM specification. MQSHR Section 100.

References:

MQSH acts and MQSH regs

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Rim maintenance	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 08/03/2011
Record Date: 11/03/2011	MRE Item No.: 2

Title: Rim maintenance

Description of Action Required to be Taken:
 Site maintenance did not include, Mobile Equipment Rim register. Establish a process to ensure the tracking, inspection/monitoring and documenting the optimum safe life cycle of wheel rims. MQSHR Section 106,108,113

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 15/04/2011

Completed: 15/04/2011, **Closed by:** Roy Perkins on 20/04/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Tyre safety	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 08/03/2011
Record Date: 11/03/2011	MRE Item No.: 3

Title: Tyre safety

Description of Action Required to be Taken:
 Substandard tyre fitting safety. Establish a process to ensure that Safe Work Instruction (SWI) is to an acceptable standard by a recognised authority, and train personnel to that standard, or establish a specialist tyre fitting service. MQSHR Part 11 Section 114 -117

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 15/04/2011

Completed: 15/04/2011, **Closed by:** Roy Perkins on 20/04/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

see attachment 20/4/11



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	06/04/2010

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today I attended site advising previously my intentions of inspecting Fixed Plant Mechanical. Site inductions were completed and a brief meeting was held with Mr Johan Ferreira (A/Mine Manager) and Mr Kedi Ilimbit (A/Maintenance Manager).

An inspection, assisted by Mr Ilimbit was conducted of the Mobile Heavy equipment, Boiler makers workshops, and Riggers shed. We found the workshops and the rigging shed clean and tidy, however the following need attention:

- 3 Riggers canvas webbing slings either, damaged or out of date.
- Oxy and Acetylene gas cylinder storage
- In the Riggers shed, Hazardous Substances and Dangerous Goods locker was open and no Material Safety Data Sheets (MSDS) available.

At the time of the inspection most aspects of ore handling was at an acceptable level of risk in relation to the requirement outlined in the Mining and Quarrying Safety and Health, Acts 1999, and Regulations 2001.

- During the course of the inspection of conveyor CV4 main feed, it was observed at a take up point, a guard that was not secured was being displaced by rock spillage, possibly effecting the efficiency of the emergency stop lanyard.

At a close out meeting with Mr Bob Fulker (Site Senior Executive) and Mr Ilimbit, I provided feedback on my findings.

As a result of this inspection and discussions held, the following items need to be addressed.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Lifting Equipment Canvas webbing slings either, damaged or out of date. Review the effectiveness of periodical inspection of rigging equipment on site. As per Mining and Quarrying Safety and Health Regulation 2001 Part 10 Section 100.	07/05/2010

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Oxy & Acetylene	07/05/2010
Oxy and Acetylene gas cylinder storage. Under take a risk management program to ensure that gas cylinders are stored vertically, segregated, and secured against falling over, with appropriate signs displayed. Refer Mining and Quarrying Health and Safety Regulations 2001 Part 7 Section 56.		

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Material safety Data Sheet	07/05/2010
In the Riggers shed, Hazardous Substances and Dangerous Goods locker was open and no Material Safety Data Sheets (MSDS) available. Review the process to ensure that information by way of MSDS's is easily available for Hazardous Substances and Dangerous Goods. Ref Mining and Quarrying Safety and Health Regulation 2001. Part 7 Section 55		

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	Conveyor Guarding	07/05/2010
CV4 main feed, a guard not secured. Review the pre start inspection process to ensure that conveyor guarding is secure prior to start up. Ref to Mining and Quarrying Safety and Health Regulation 2001 Part 10 section 100.		

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please advise me in writing of the completion of the above items, at or before the due date.

Roy Perkins
Inspection Officer
Northern Region



Cannington- Actions In Reponse To 06 April Visit 20100503.pdf

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Lifting Equipment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 06/04/2010
Record Date: 09/04/2010	MRE Item No.: 1

Title: Lifting Equipment

Description of Action Required to be Taken:
Canvas webbing slings either, damaged or out of date. Review the effectiveness of periodical inspection of rigging equipment on site. As per Mining and Quarrying Safety and Health Regulation 2001 Part 10 Section 100.

References:
MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/05/2010

Completed: 05/05/2010, **Closed by:** Roy Perkins **on** 05/05/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Process for lifting equipment has been reviewed and deficiencies addressed

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Oxy & Acetylene	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 06/04/2010
Record Date: 09/04/2010	MRE Item No.: 2

Title: Oxy & Acetylene

Description of Action Required to be Taken:

Oxy and Acetylene gas cylinder storage. Under take a risk management program to ensure that gas cylinders are stored vertically, segregated, and secured against falling over, with appropriate signs displayed. Refer Mining and Quarrying Health and Safety Regulations 2001 Part 7 Section 56.

References:

MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/05/2010

Completed: 05/05/2010, **Closed by:** Roy Perkins **on** 05/05/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Risk assessment conducted and correct storage has been introduced

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Material safety Data Sheet	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 06/04/2010
Record Date: 09/04/2010	MRE Item No.: 3

Title: Material safety Data Sheet

Description of Action Required to be Taken:
In the Riggers shed, Hazardous Substances and Dangerous Goods locker was open and no Material Safety Data Sheets (MSDS) available. Review the process to ensure that information by way of MSDS's is easily available for Hazardous Substances and Dangerous Goods. Ref Mining and Quarrying Safety and Health Regulation 2001. Part 7 Section 55

References:
MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/05/2010

Completed: 05/05/2010, **Closed by:** Roy Perkins **on** 05/05/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

MSDS sheets have been incorporated into deficient areas

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Conveyor Guarding	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 06/04/2010
Record Date: 09/04/2010	MRE Item No.: 4

Title: Conveyor Guarding

Description of Action Required to be Taken:
 CV4 main feed, a guard not secured. Review the pre start inspection process to ensure that conveyor guarding is secure prior to start up. Ref to Mining and Quarrying Safety and Health Regulation 2001 Part 10 section 100.

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/05/2010

Completed: 05/05/2010, **Closed by:** Roy Perkins **on** 05/05/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

The guard has been rectified and daily/weekly inspections introduced



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Subject Audit or Specific System Audit	Northern	05/11/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today, accompanied by Mr Asok SUR (Inspector of Mines) we attended site to conduct an audit of the maintenance systems for vehicles more than 4.5 Tonnes. The audit centred on braking systems and included the management of vehicles owned by Cannington as well as Redpath the prime contractor on site.

We first had a meeting with Mr Peter TOWNSON (Manager Maintenance & Engineering) and Mr Johan FERREIRA (Acting Mines Manager) where we outlined briefly the objectives of the Brake system audit for the vehicles on site. Subsequently we had a detailed discussion and meeting with Mr. Laurie MITCHELL (Supervisor Light Vehicles), Mr Scott EVANS (Supervisor Mobile Maintenance), Mr Mike OVERTON (Maintenance Planner) and Mr Michael BENSON (Snr U/G Trainer) on the following issues:

- System of selection and control of mobile equipment for the site
- Maintenance and testing of brakes
- Training of fitters and operators
- Our requirement to observe demonstration of functional brake test by the operators on some of the vehicles.

During the process of discussion we sighted some hard as well as electronic documents those were produced in support of the selection and maintenance of vehicles, testing of brakes and training of the fitters and operators of their own as well as for the contractors. We went to Cannington workshop and sighted the OEM manuals and had a talk with Mr Cameron BLUE (Fitter). He was interviewed with respect to maintenance of brakes. Then we went to Redpath site and had discussion with Mr Ken REICHARDT (Mtce Superintendent) and Mr Daryn SLADE (Project Manager).

During the course of our inspection following points were revealed:

- Equipment for the site is purchased on the basis of standard specifications including some site specific modifications (sighted tender document). A formal documented system of pre-assessment including assessment of risk was not in place to ensure that mobile equipment being brought to site is fit for its intended use.
- Contractors bring their equipment on site as per the requirement of the work and here too no system in place to ensure that the equipment brought to the site is fit for intended use.
- An established maintenance system for the vehicles was in place for the Cannington fleet. The maintenance system includes:

1. All vehicles to undergo site inspection on arrival and has to comply with BHPBILLITON fatal risk control standard and Cannington mine site standard. However there is no system in place to trigger

the requirement of further inspection of the vehicle, or certification of the vehicles roadworthiness. Further the criteria for pass/fail particularly for brake checking were not defined in the inspection form.

2. A prestart checklist is kept in the vehicle that requires checking of brakes before start and signing off by operators. However, the criteria of checking requirement though taken from the OEM manual was generic in nature and was not vehicle specific.
 3. Checking of brakes in weekly, 250 hrs, 500 hrs, 1000 hrs and 2000hrs maintenance.
 4. Notifications for maintenance raised from the above schedules are being addressed through a comprehensive planned maintenance management system "The pipeline" model.
 5. Unless the brake system fails on any scheduled checking, no measurement is done to check the wear factors in the brake components particularly the brake calliper disc and brake pads etc.
 6. All the maintenance and testing criteria are as per OEM specifications.
 7. OEM manuals are readily available in the workshop and the fitters have access to them.
- Comprehensive training system in place that includes training package developed for each equipment from OEM manual with the incorporation of testing and operation of braking system. Training is also imparted by the manufacturer of specific equipment. Initial and refresher training (once in two to three years depending on the equipment) are followed by assessment and sign off procedure.
 - Redpath has got an established maintenance system as well and has a documentation process of both hard copies and electronic. OEM manuals are available in the workshop and accessible to fitters. They have also got a system of providing training to operators and fitters that include their assessment and signing off.
 - It appeared that Cannington depended solely on the Redpath maintenance procedure in place to ensure Redpath vehicles met the site requirements. Cannington has an obligation to ensure that Redpath have a sound maintenance system along with appropriate training systems to support it. They could not substantially demonstrate that they have an audit procedure to ensure Redpath's maintenance system meeting the site criteria and OEM requirements.

For functional brake testing we first interviewed Mr Mal CAMPBELL (Redpath operator) and he demonstrated the functional brake test on a AGI Truck Tamrock Toro 40D # 02027. He stated that testing of Foot and Park brake required the RPM at 3000, in 3rd gear. The prestart checklist stated 1750 RPM.

Mr Anthony McCARTHY (Cannington unit operator) demonstrated functional brake test for a CAT AD55B #TR118. He stated that testing and Foot and Park brake required RPM at 1900, in first gear. The prestart checklist stated 1750RPM. A query from OEM identified that manual brake test at 1900 RPM.

Though both the machines passed the brake functional test, clearly gaps were identified with regard to the perception and documentation against the OEM criteria. There was no label in the cabs detailing the correct method of brake testing, for example a sticker or placard with the relevant information.

Before leaving the site the observations were discussed with Mr. FERREIRA and Mr. MITCHELL (Mr TOWNSON was away in a meeting)) and they were informed about the positives as well as the gaps that were identified with the current systems.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Selection of Vehicles	18/12/2009

There was no formal process in place to ensure vehicles selected for site were fit for purpose prior to purchase or hire. Develop a process and maintain to ensure that all mobile fleet prior to the purchase or hire for site use is assessed to ensure that it is fit for its intended use as per section 100 of the Mining and Quarrying Safety and Health Regulations 2001. The process is also to encompass relocation of vehicles on-site, for example relocating a loader from underground to surface or vice versa.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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2 Brake Test Information

18/12/2009

Brake testing criteria are different for different vehicles as per their respective OEM manuals. Ensure that all vehicles have readily accessible information in the cabs detailing the correct method of brake testing, for example a sticker or placard with the relevant information. Refer section 109 of the Mining and Quarrying Safety and Health Regulations 2001

Number

Substandard Condition or Practice

Due Date

3 Monitoring of Maintenance Practice

18/12/2009

At the time of inspection it was established that a comprehensive monitoring process was not in place with regard to the effectiveness of the maintenance system of Redpath. Develop a monitoring process to ensure that the Redpath vehicles in use are meeting the Cannington site criteria and do not attain an unacceptable level of risk. Refer section 108 of the Mining and Quarrying Safety and Health Regulations 2001.

Number

Substandard Condition or Practice

Due Date

4 Monitoring of Training System

18/12/2009

At the time of inspection it was established that a monitoring process was not in place with regard to the effectiveness of training system of Redpath personnel. Develop a monitoring process of the training system to ensure that all Redpath operators and fitters have adequate knowledge, skill and ability for maintenance and operation of the vehicles and equipment. Refer section 93 of the Mining and Quarrying Safety and Health Regulations 2001.

Number

Substandard Condition or Practice

Due Date

5 Monitoring of condition of use

18/12/2009

At the time of inspection it was established that following a site check of the vehicles on arrival there is no system in place to trigger requirement of further inspection of the vehicle, or certification of the vehicles roadworthiness. Further the criteria for pass/fail particularly for brake checking were not defined in the inspection form. Ensure development of a trigger for further inspection at certain intervals to identify any deterioration causing an unacceptable level of risk. Also ensure incorporation of brake testing criteria in the inspection check list/form. Refer section 108 and 109 of the Mining and Quarrying Safety and Health Regulations 2001.

Number

Recommendation

Due Date

6 Monitoring of condition of use

N/A

It was established that unless the brake system fails on any scheduled checking, no measurement is carried out to check the wear factors in the brake components particularly the brake calliper disc and brake pads etc. Establish a monitoring system of such components (by actual measurement of thickness against the OEM criteria) in the maintenance schedule to detect any deterioration causing an unacceptable level of risk. Refer section 108 and 109 of the Mining and Quarrying Safety and Health Regulations 2001.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please advise me in writing of the completion of the items one to five, at or before the due date.

Roy Perkins
Lead Auditor
Inspection Officer
Northern Region

Asok Sur
Inspector of Mines
Northern Region

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Maintenance Regime	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 05/11/2009
Record Date: 06/11/2009	MRE Item No.: 1

Title: Selection of Vehicles

Description of Action Required to be Taken:
 There was no formal process in place to ensure vehicles selected for site were fit for purpose prior to purchase or hire. Develop a process and maintain to ensure that all mobile fleet prior to the purchase or hire for site use is assessed to ensure that it is fit for its intended use as per section 100 of the Mining and Quarrying Safety and Health Regulations 2001. The process is also to encompass relocation of vehicles on-site, for example relocating a loader from underground to surface or vice versa.

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 18/12/2009

Completed: 21/12/2009, **Closed by:** Roy Perkins **on** 21/12/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Mobile Equipment approval procedure is currently under review and will be completed 30/01/10 see

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

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Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Brake Testing	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 05/11/2009
Record Date: 06/11/2009	MRE Item No.: 2

Title: Brake Test Information

Description of Action Required to be Taken:
 Brake testing criteria are different for different vehicles as per their respective OEM manuals. Ensure that all vehicles have readily accessible information in the cabs detailing the correct method of brake testing, for example a sticker or placard with the relevant information. Refer section 109 of the Mining and Quarrying Safety and Health Regulations 2001

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 18/12/2009

Completed: 21/12/2009, **Closed by:** Roy Perkins **on** 21/12/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Sticker for vehicle cabs with brake test instructions will be implemented 30/01/10 see attachment

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Maintenance	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 05/11/2009
Record Date: 06/11/2009	MRE Item No.: 3

Title: Monitoring of Maintenance Practice

Description of Action Required to be Taken:
At the time of inspection it was established that a comprehensive monitoring process was not in place with regard to the effectiveness of the maintenance system of Redpath. Develop a monitoring process to ensure that the Redpath vehicles in use are meeting the Cannington site criteria and do not attain an unacceptable level of risk. Refer section 108 of the Mining and Quarrying Safety and Health Regulations 2001.

References:
MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 18/12/2009

Completed: 21/12/2009, **Closed by:** Roy Perkins **on** 21/12/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Monitoring of mtce program for contract partners under review, completed 30/01/10 see attachment

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Training records	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 05/11/2009
Record Date: 16/11/2009	MRE Item No.: 4

Title: Monitoring of Training System

Description of Action Required to be Taken:

At the time of inspection it was established that a monitoring process was not in place with regard to the effectiveness of training system of Redpath personnel. Develop a monitoring process of the training system to ensure that all Redpath operators and fitters have adequate knowledge, skill and ability for maintenance and operation of the vehicles and equipment. Refer section 93 of the Mining and Quarrying Safety and Health Regulations 2001.

References:

MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 18/12/2009

Completed: 21/12/2009, **Closed by:** Roy Perkins **on** 21/12/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Training audit was conducted 1/06/09, see attachment

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Monitoring	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 05/11/2009
Record Date: 16/11/2009	MRE Item No.: 5

Title: Monitoring of condition of use

Description of Action Required to be Taken:
At the time of inspection it was established that following a site check of the vehicles on arrival there is no system in place to trigger requirement of further inspection of the vehicle, or certification of the vehicles roadworthiness. Further the criteria for pass/fail particularly for brake checking were not defined in the inspection form. Ensure development of a trigger for further inspection at certain intervals to identify any deterioration causing an unacceptable level of risk. Also ensure incorporation of brake testing criteria in the inspection check list/form. Refer section 108 and 109 of the Mining and Quarrying Safety and Health Regulations 2001.

References:
MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 18/12/2009

Completed: 21/12/2009, **Closed by:** Roy Perkins **on** 21/12/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Equipment compliance checklist now includes brake test requirements, see attachments

Released by DNRM under the RTI Act 2009



Recommendation

Subject: Monitoring

File Number: 9748 / 02

Mine Name: Cannington Mine

Operator: BHP Billiton Minerals Pty Ltd

Activity: Subject Audit or Specific
System Audit

Activity Date: 05/11/2009

Record Date: 16/11/2009

MRE Item No.: 6

Title: Monitoring of condition of use

Description of Action Recommended to be Taken:

It was established that unless the brake system fails on any scheduled checking, no measurement is carried out to check the wear factors in the brake components particularly the brake calliper disc and brake pads etc. Establish a monitoring system of such components (by actual measurement of thickness against the OEM criteria) in the maintenance schedule to detect any deterioration causing an unacceptable level of risk. Refer section 108 and 109 of the Mining and Quarrying Safety and Health Regulations 2001.

References:

MQSH acts and MQSH regs



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	07/07/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today in the company of Mr Josh ROBINSON (DWR) I visited site for and underground workshop inspection. Site inductions were completed and a brief meeting was held with Mr Mark SIBLY (Mobile Maintenance Superintendent) and Mr Ashley GRIFFEN (Development Foreman). I had previously advised that as this was the first visit Mr Robinson had made to site as a DWR, a familiarisation tour of underground and surface operations was necessary. Accompanied by Mr Sibly and Mr Griffen we went underground, and assisted by Mr Sibly, I inspected the workshop on 450 level, while Mr Griffen took Mr Robinson for a tour of mining operations.

I found the maintenance workshop well laid out and was undergoing refurbishment, with activity, storage and work areas being redefined and painted.

During the course of the inspection the following observations were made:

- Oil storage and usage was conducted from tubular steel framed 1000ltr pods, with no bunding provision in the event of a leak.
- Hazardous substances and dangerous goods are kept and used in the workshop, but no provisions for easy access to the relevant material safety data sheets for workshop personnel were found.
- Gas cylinders in a storage rack, not segregated or secured.
- Two pedestal grinders with gaps of 6mm between the wheel and the toolpost.

We returned to the surface, and accompanied by Mr Drew PENNY (Reliability Superintendent) an inspection of the process plant was conducted, at the time of the inspection aspects of ore handling was at an acceptable level of risk in relation to the requirement outlined in the Mining and Quarrying Safety and Health, Acts 1999, and Regulations 2001.

A close out meeting was held with Mr Bob FULKER (Site Senior Executive), Mr Sibly and Mr Penny, at which time I provided feedback on my findings.

As a result of this inspection and discussions, the following items need to be addressed.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Oil Storage bunding	04/09/2009

Oil storage and usage was conducted from tubular steel framed 1000ltr pods, with no bunding provision in the event of a leak.Undertake to ensure the use of palletised bunding to be used with these 1000 ltr pods, as an interim measure. Refer Mining and Quarrying Health and safety Regulations 2001 Part 7 Section 56

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Material safety Data Sheet	03/08/2009

Hazardous substances and dangerous goods are kept and used in the workshop , but no provisions for easy access to the relevant material safety data sheets for workshop personnel were found. Undertake a program to ensure that all workshop personnel are aware of the existence of material safety data sheets and have easy access to them in the workshop. Refer to Mining and Quarrying Health and Safety Regulations 2001 Part 7 Section 52.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Oxy & Acetylene storage	03/08/2009

Gas cylinders in a storage rack, not segregated or secured. Under take a risk management program to ensure that gas cylinders are stored vertically, segregated, and secured against falling over, with appropriate signs displayed. Refer Mining and Quarrying Health and Safety Regulations 2001 Part 7 Section 56

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	Workshop Pedestal Grinders	03/08/2009

Two pedestal grinders with a gaps of 6mm between the wheel and the toolpost. Undertake a process to ensure the regular inspection of workshop equipment. The Pedestal grinders need the grinding wheels dressed, and the toolpost adjusted to minimal clearance between the wheel and toolpost. Refer Mining and Quarrying Health and Safety Regulations 2001 Part 10 Section 106

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please advise me in writing of the completion of the above items, at or before the due date.

Roy Perkins
Inspection Officer
Northern Region



CAN MINE RECORD ENTRY MINING UG OPERATIONS 20090707 - RESPONSE 20090803.pdf



CAN MINE RECORD ENTRY MINING UG 450 LEVEL - RESPONSE 20090929.pdf

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Bunding	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 07/07/2009
Record Date: 09/07/2009	MRE Item No.: 1

Title: Oil Storage bunding

Description of Action Required to be Taken:

Oil storage and usage was conducted from tubular steel framed 1000ltr pods, with no bunding provision in the event of a leak. Undertake to ensure the use of palletised bunding to be used with these 1000 ltr pods, as an interim measure. Refer Mining and Quarrying Health and safety Regulations 2001 Part 7 Section 56

References:

MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 04/09/2009

Completed: 29/09/2009, **Closed by:** Roy Perkins **on** 29/09/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Oil storage reviewed and bunding requirements implemented

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

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Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Material safety Data Sheet	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 07/07/2009
Record Date: 09/07/2009	MRE Item No.: 2

Title: Material safety Data Sheet

Description of Action Required to be Taken:
 Hazardous substances and dangerous goods are kept and used in the workshop, but no provisions for easy access to the relevant material safety data sheets for workshop personnel were found. Undertake a program to ensure that all workshop personnel are aware of the existence of material safety data sheets and have easy access to them in the workshop. Refer to Mining and Quarrying Health and Safety Regulations 2001 Part 7 Section 52.

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 03/08/2009

Completed: 06/08/2009, **Closed by:** Roy Perkins **on** 06/08/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Access to MSDs in workshop has been implemented

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
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Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Oxy & Acetylene	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 07/07/2009
Record Date: 09/07/2009	MRE Item No.: 3

Title: Oxy & Acetylene storage

Description of Action Required to be Taken:
Gas cylinders in a storage rack, not segregated or secured. Under take a risk management program to ensure that gas cylinders are stored vertically, segregated, and secured against falling over, with appropriate signs displayed. Refer Mining and Quarrying Health and Safety Regulations 2001 Part 7 Section 56

References:
MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 03/08/2009

Completed: 06/08/2009, **Closed by:** Roy Perkins **on** 06/08/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

gas cylindmder storage separated and stored correctly

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Workshop Practices	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 07/07/2009
Record Date: 09/07/2009	MRE Item No.: 4

Title: Workshop Pedestal Grinders

Description of Action Required to be Taken:
 Two pedestal grinders with a gaps of 6mm between the wheel and the toolpost. Undertake a process to ensure the regular inspection of workshop equipment. The Pedestal grinders need the grinding wheels dressed, and the toolpost adjusted to minimal clearance between the wheel and toolpost. Refer Mining and Quarrying Health and Safety Regulations 2001 Part 10 Section 106

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 03/08/2009

Completed: 06/08/2009, **Closed by:** Roy Perkins **on** 06/08/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Pedestal grinding wheels dressed and t/posts adjusted



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	10/03/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today I attended site advising previously my intentions of inspecting Crushers and conveyors. Site inductions were completed and a brief meeting was held with Mr Peter TOWNSON (Maintenance Manager) and Mr Drew PENNY (Reliability Superintendent). An inspection, assisted by Mr Penny was conducted, at the time of the inspection most aspects of ore handling was at an acceptable level of risk in relation to the requirement outlined in the Mining and Quarrying Safety and Health, Acts 1999, and Regulations 2001.

However during the course of the inspection of conveyor CV4 it was observed that the tail drum guard was missing most of its securing bolts, and at the transition of CV6 to CV4 a guard identified to Mr Penny only had locating pins at the top and no securing bolts.

On the Pebble crusher, there was an isolation to allow maintenance work to be conducted which included welding and cutting. On the mesh floor was an assortment of nuts and bolts, a 4inch grinding discs and an unsecured fire extinguisher. All having the possibility of falling two levels through to the basement. This practice presents an unacceptable level of risk to people walking below.

A meeting was held with Mr Wade BICKLEY (Acting Site Senior Executive) and Mr Penny, at which time I provided feedback on my findings.

As a result of this inspection and discussions, the following items need to be addressed.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Guarding On Conveyors	10/04/2009
	On conveyor CV4 it was observed that the tail drum guard was missing most of its securing bolts, and at the transition of CV6 to CV4 a guard identified to Mr Penny only had locating pins at the top and no securing bolts. Undertake an inspection and maintenance programme to ensure the security and integrity of all conveyor guards. Refer Mining and Quarrying Safety and Health Regulation 2001 Part 10 Section 100	

Number

Substandard Condition or Practice

Due Date

2 Housekeeping and General Safety Issues

10/04/2009

On the mesh floor was an assortment of nuts and bolts, a 4inch grinding discs and an unsecured emergency fire extinguisher. All having the possibility of falling two levels through to the basement. This practice presents an unacceptable level of risk to people walking below. Review the existing maintenance practice of containment of loose machinery components, correct disposal of unwanted items, and the securing of emergency fire extinguishers.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please advise me in writing of the completion of the above items, at or before the due date.

**Roy Perkins
Inspection Officer
North Region**

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Guarding On Conveyors	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 10/03/2009
Record Date: 11/03/2009	MRE Item No.: 1

Title: Guarding On Conveyors

Description of Action Required to be Taken:

On conveyor CV4 it was observed that the tail drum guard was missing most of its securing bolts, and at the transition of CV6 to CV4 a guard identified to Mr Penny only had locating pins at the top and no securing bolts. Undertake an inspection and maintenance programme to ensure the security and integrity of all conveyor guards. Refer Mining and Quarrying Safety and Health Regulation 2001 Part 10 Section 100

References:

MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 10/04/2009

Completed: 15/04/2009, **Closed by:** Roy Perkins **on** 15/04/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

the guard has had securing bolts fitted and secured

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Housekeeping and General Safety Issues	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 10/03/2009
Record Date: 11/03/2009	MRE Item No.: 2

Title: Housekeeping and General Safety Issues

Description of Action Required to be Taken:
On the mesh floor was an assortment of nuts and bolts, a 4inch grinding discs and an unsecured emergency fire extinguisher. All having the possibility of falling two levels through to the basement. This practice presents an unacceptable level of risk to people walking below. Review the existing maintenance practice of containment of loose machinery components, correct disposal of unwanted items, and the securing of emergency fire extinguishers.

References:
MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 10/04/2009

Completed: 15/04/2009, **Closed by:** Roy Perkins **on** 15/04/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

The area cleaned and steps taken to install safety nets and floor mats while doing maintenance



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	25/11/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today District workers Rep Mr Des Laffin and I attended site. Site inductions were completed and a brief meeting was held with Mr Peter Townson (Maintenance Manager) and Mr Drew Penny (Reliability Superintendent).

An inspection, assisted by Mr Penny of the following Pressure Vessels was conducted, Filtration plant, Filtrate air receiver, and the Main plant air receiver. We discussed all aspects of the sites inspection regime, and I reviewed the most recent inspection reports, for a cross section of items on site including the vessels inspected. The inspections undertaken by this site does not ensure all aspects of safe operation of pressure vessels. Establish a risk management process that identifies actions necessary to ensure that risks involved with pressure vessels are kept to as low a level as achievable. Mining & Quarrying Safety & Health Regulation 2001. (Ref:) S- 108, 113-(1)

The following should occur in relation to Pressure Vessels;

- Two yearly external inspections.
- Four yearly internal inspections.
- Pressure release devise overhaul to coincide with the internal inspections, or every 5 years.
- Documentation and reports of such inspections.

Prior to leaving site a brief meeting was held with Mr Bob Fulker (Site Senior Executive) Mr Townson, and Mr Penny, at which time I provided feedback on my findings.

As a result of this inspection and discussion the following items have been identified as requiring attention:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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 Department of **Mines and Energy**

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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Pressure Vessels	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/11/2008
Record Date: 28/11/2008	MRE Item No.: 1

Title: Pressure Vessels Inspections

Description of Action Required to be Taken:
 The inspections undertaken by this site does not ensure all aspects of safe operation of pressure vessels. Establish a risk management process that identifies actions necessary to ensure that risks involved with pressure vessels are kept to as low a level as achievable. Mining & Quarrying Safety & Health Regulation 2001. (Ref:) S- 108, 113-(1)

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 02/01/2009

Completed: 05/01/2009, **Closed by:** Roy Perkins **on** 05/01/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Risk assessment and maintenance plan established to id hazards with PV



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	14/08/2008

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Mine Record Entry

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Today I visited the Cannington Mine, where I met Mr Craig Singleton (BHP Mobile Maintenance Superintendent). We discussed various aspects of the maintenance operations and issues relating to production and control and also discussed the sites latest safety initiatives. I advised previously my intention to inspect man baskets on IT loaders, in particular their security of attachment, operators training and assessment, and pre-start checks, prior to the use of the man basket.

Mr Singleton accompanied me on an inspection of IT Loaders and man baskets on site.

I was introduced to Mr Rohan Nott (Senior Project Engineer) for Eroc, and their fleet consisted of:-

- Volvo L120F #03114 - Basket attached #70 SWL 800kg, man basket had no certification label, Rated to carry 4 persons, and the self closing door was inoperative
- Volvo L120D, #03057 - man basket attached #17040, SWL 800kg, basket had no certification label, Rated to carry 4 persons
- Man basket # 10742 SWL 800kg, Rated to carry 3 person, and the self closing door was inoperative.
- Charge up Cage, # 10757, SWL 800kg, Basket had no certification label, and the self closing door was inoperative.
- Volvo 120C, # 03049

Eroc have 3 Volvo L120 IT loaders, all are fitted with a hydraulic isolating valve, when isolated, prevents the horizontal locking pins securing the man basket to be withdrawn, There is a prestart checklist for the IT loader, that also covers the checking of the man basket.

BHP have 4 IT loaders, 1, JCB 535, and 3 Cat IT 28's. All have baskets that are normally not removed, and are going through a recertification process of man baskets.

During the course of the inspection, I was introduced to Mr Mick Arnold (Training and Services Superintendent). Communication between the man basket operator and the IT operator, are by way of hand signals, and was felt to be far short of the basic communication requirements. I reviewed documents covering the qualifications, competency, training and assessment of operators of these units, I also inspected the appropriate pre start check lists, on

site, there is only one pre start check list for the machine and no separate one for the man basket.

I was introduced to Mr Bob Fulker (Senior Site Executive), I outlined in detail, issues identified, as a result of this inspection, and discussions were held for clarification. The main cause of concern is the lack of comprehensive communication between the man basket operator and the IT operator, also the lack of training for operators for the basket, which should cover, but not limited to, visual check for attachment security, communication, working at heights, appropriate PPE, etc: discussion also identified an advantage to have a separate prestart check list for the basket, prior to entry.

I also pointed out that at the time of my inspection the Volvo and Cat IT loaders were in an acceptable condition, all the man baskets on site were generally in poor condition, most having faulty self closing doors, the use of a man baskets with doors open would present an unacceptable level of risk.

As a result of this inspection the following items need to be addressed

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Training & Operation of a man basket	17/10/2008
	It was observed that there is insufficient training for operators of the basket, that should cover, but not limited to, check attachments security, communications, working at heights, and appropriate PPE. Establish a training process based on a Risk Assessment conducted, for this operation.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Safety Features, Self closing doors	19/09/2008
	IT loader man basket with no certification for safe use or SWL displayed, also the self closing doors were inoperative. Establish a management process, that all IT loader attachments are certified and fit for purpose also SWL displayed appropriately, and access doors self closing. Ref: Mining and Quarrying Safety and Health Regulation 2001-Sections 104, 106, 109-AS1418 Cranes, Elevated work platform section 1.5.8.3.d	

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please advise me in writing of the completion of the above items, at or before the due date.

Roy Perkins
Inspection Officer
North Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Training & Operation of a man basket	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 14/08/2008
Record Date: 18/08/2008	MRE Item No.: 1

Title: Training & Operation of a man basket

Description of Action Required to be Taken:
It was observed that there is insufficient training for operators of the basket, that should cover, but not limited to, check attachments security, communications, working at heights, and appropriate PPE. Establish a training process based on a Risk Assessment conducted, for this operation.

References:
MQSH ascots and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 17/10/2008

Completed: 18/09/2008, **Closed by:** Roy Perkins **on** 18/09/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Training package reviewed with recommendations included

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Safety Features, Self closing doors	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 14/08/2008
Record Date: 18/08/2008	MRE Item No.: 2

Title: Safety Features, Self closing doors

Description of Action Required to be Taken:
IT loader man basket with no certification for safe use or SWL displayed, also the self closing doors were inoperative. Establish a management process, that all IT loader attachments are certified and fit for purpose also SWL displayed appropriately, and access doors self closing. Ref: Mining and Quarrying Safety and Health Regulation 2001-Sections 104, 106, 109-AS1418 Cranes, Elevated work platform section 1.5.8.3.d

References:
MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 19/09/2008

Completed: 18/09/2008, **Closed by:** Roy Perkins **on** 18/09/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Fortnightly inspections on all man baskets, covering all recommendations



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	24/04/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Today in company with Mr Des Laffin (District Workers Rep) I visited Cannington Mine, where we met Mr William Milne (Under Graduate Engineer) At the Asset Management workshop he introduced us to Mr Ryan Jones (Fixed Plant Supervisor) and we discussed aspects of their operation and latest safety initiative, he also referred to items of Sub standard Condition and Practices that he had actioned from my last visit to site. Mr Milne then took Mr Laffin on a familiarisation tour of the plant, and Mr Jones introduced me to Mr Tony Ernst (Rigger) who accompanied me on an inspection of the Cranes on site. At the time of my inspection, the 10t Crane in the workshop servicing Fixed Plant, Electrical, and Mobile Equipment, was in a satisfactory condition, however it was suggested that an additional isolation switch was proposed to be installed floor level in the Mobile Equipment workshop, which would be more accessible than the existing one above the office and toilet blocks. At the time of my inspection the 2t Crane in the Reagent Mixing Shed, the 5t, and the 2t Abus Cranes in the Paste Plant, were all in a satisfactory condition. The 10t and 1t Crane in the Split Float Plant is locked over the Zinc Re grinding, with the 1t Crane isolated, at the time of inspection the 10t Crane was operational. The Grinding Circuit 1500, the Vertical Mill, and the Primary Cyclones Cranes, Mr Ernst was unable to get these two Cranes to work.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Crane Operation	30/05/2008

In the Grinding Circuit 1500, the Vertical Mill, and the Primary Cyclones Cranes, the Crane operator was unable to get these two Cranes to work. Review the training of personnel to establish the qualification and competency of operators of Cranes on site

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please advise me in writing on the completion of the items before or at the due date

Roy Perkins
Inspection Officer
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
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Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Crane Operation	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 24/04/2008
Record Date: 30/04/2008	MRE Item No.: 1

Title: Crane Operation

Description of Action Required to be Taken:
 In the Grinding Circuit 1500, the Vertical Mill, and the Primary Cyclones Cranes, the Crane operator was unable to get these two Cranes to work. Review the training of personnel to establish the qualification and competency of operators of Cranes on site

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/05/2008

Completed: 10/06/2008, **Closed by:** Roy Perkins **on** 10/06/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Crane competency and training records reviewed to ensure currency



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	26/02/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Today I visited BHP Billiton Cannington mine, where I met Mr: Richard Taylor (Acting Maintenance Manager) We discussed various aspects of their operations and issues relating to their latest safety initiatives.

He then introduced me to Mr Chris Irwin (Acting Maintenance Supervisor). Accompanied by Mr Irwin, I conducted an inspection of three workshops, Mechanical Fixed Plant workshop, Mobile Equipment workshop, and the Fabrication workshop. during this inspection, it was noted that the workshops were well laid out, with sufficient room for the equipment to be worked on, good lighting and most Safety Management systems in place.

In the Mechanical Fixed Plant workshop, it was observed that a component was in the process of being welded on to a machine with no suitable screens to protect workers from arc flashes. At the time of my inspection there was little activity in the Mobile Equipment workshop, and was advised of the intention to install a new system, delivering from tanks to the workshop a variety of oils used in the servicing of mobile equipment. Tanks, and Hose reels installed, piping to connect the two is all that remains to be done. However it was noted both these workshops lacked adequate housekeeping.

I then inspected the Fabrication workshop and found that the Fire protection system needed urgent reviewing, extinguishers either out of date or not tested and tagged, others just sitting on the floor in the workshop. This workshop also lacked adequate housekeeping.

I also observed Oxy and Acetylene cylinders were not stored separately, the area also contained a steel storage rack, and a cut-off saw, steel being moved with the aid of a Franna Crane, this area is a high activity area, and with the hap hazard method of storage of the Oxy and Acetylene cylinders presenting an unacceptable level of risk.

Mr Irwin introduced me to Mr John Broderick (Acting Tyre Shop Supervisor) who accompanied me on my inspection of that area. I noted there was no formal system in place for the management of Tyre and Wheel Rim assemblies, which should as a minimum include-

- Unique identification of each wheel rim assembly
- Tracking of wheel rim assembly service times/hours
- Scheduled crack and fatigue testing of wheel rim assemblies
- Record results of tests and maintenance carried out on assemblies

- Maximum service life between tests and discard of assemblies

This workshop also lacked adequate housekeeping, in the storage of old and new Tyres and Rims, and the nature and the size of these items presents an unacceptable level of risk.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Fire extinguisher maintenance	28/03/2008
	Establish a Fire Protection System, incorporating the testing and tagging of Fire extinguishers. Part 10- 108 & 109	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Welding Safety	28/03/2008
	Establish and utilise suitable screens to protect workers from arc flashes. Part 10-106 & AS 4839	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Oxy & Acetylene Storage	25/04/2008
	Establish a designated area for the storage, separation, and security of Oxy and Acetylene cylinders. Part 7- 56 & AS 4839	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	Housekeeping and General Safety Issues	28/03/2008
	Establish a formal work ethic in the storage of- Lifting jigs, dismantled parts, old and new Tyres and Rims, and the containment and control of rubbish in the work areas. Part 10- 106 & AS 4839	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
5	Tyre and Rim Management	25/04/2008
	Establish a formal system for the management of Tyre and Wheel Rim assemblies, which should as a minimum include- <ul style="list-style-type: none"> · Unique identification of each wheel rim assembly · Tracking of wheel rim assembly service times/hours · Scheduled crack and fatigue testing of wheel rim assemblies · Record results of tests and maintenance carried out on assemblies · Maximum service life between tests and discard of assemblies. Part 10- 108, 109, 110, 112, 113 & AS 4457	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
6	Tyre and Wheel Rim Safety	28/03/2008
	Review, improve and utilise the storage facilities for the safe handling of old and new tyres and rims. Part 2 - 4 & 8	

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

I am to be advised in writing of the completion of the above items, on or before the due date.

Roy Perkins
Inspection Officer
Northern Region

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Fire extinguisher maintenance	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 26/02/2008
Record Date: 27/02/2008	MRE Item No.: 1

Title: Fire extinguisher maintenance

Description of Action Required to be Taken:
Establish a Fire Protection System, incorporating the testing and tagging of Fire extinguishers. Part 10- 108 & 109

References:
MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 28/03/2008

Completed: 30/04/2008, **Closed by:** Roy Perkins on 30/04/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Fire protection system in place and personnel advised of their appropriate use

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Welding Safety	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 26/02/2008
Record Date: 27/02/2008	MRE Item No.: 2

Title: Welding Safety

Description of Action Required to be Taken:

Establish and utilise suitable screens to protect workers from arc flashes. Part 10-106 & AS 4839

References:

MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 28/03/2008

Completed: 30/04/2008, **Closed by:** Roy Perkins **on** 30/04/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Welding screens purchased and utilised

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Oxy & Acetylene	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 26/02/2008
Record Date: 27/02/2008	MRE Item No.: 3

Title: Oxy & Acetylene Storage

Description of Action Required to be Taken:
 Establish a designated area for the storage, separation, and security of Oxy and Acetylene cylinders. Part 7- 56 & AS 4839

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 25/04/2008

Completed: 30/04/2008, **Closed by:** Roy Perkins **on** 30/04/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Oxy & Acetylene Storage and use addressed

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Housekeeping and General Safety Issues	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 26/02/2008
Record Date: 27/02/2008	MRE Item No.: 4

Title: Housekeeping and General Safety Issues

Description of Action Required to be Taken:
Establish a formal work ethic in the storage of- Lifting jigs, dismantled parts, old and new Tyres and Rims, and the containment and control of rubbish in the work areas. Part 10- 106 & AS 4839

References:
MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 28/03/2008

Completed: 30/04/2008, **Closed by:** Roy Perkins on 30/04/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Housekeeping and General Safety issues addressed and inspected and found to be acceptable

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Tyre and Rim Management	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 26/02/2008
Record Date: 27/02/2008	MRE Item No.: 5

Title: Tyre and Rim Management

Description of Action Required to be Taken:
 Establish a formal system for the management of Tyre and Wheel Rim assemblies, which should as a minimum include-

- Unique identification of each wheel rim assembly
- Tracking of wheel rim assembly service times/hours
- Scheduled crack and fatigue testing of wheel rim assemblies
- Record results of tests and maintenance carried out on assemblies
- Maximum service life between tests and discard of assemblies.

Part 10- 108, 109, 110, 112, 113 & AS 4457

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 25/04/2008

Completed: 30/04/2008, **Closed by:** Roy Perkins **on** 30/04/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Tyre and Rim Management system formalised

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Roy Perkins, Inspection Officer (Mechanical)

Subject: Tyre and Wheel Rim Safety	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 26/02/2008
Record Date: 27/02/2008	MRE Item No.: 6

Title: Tyre and Wheel Rim Safety

Description of Action Required to be Taken:
 Review, improve and utilise the storage facilities for the safe handling of old and new tyres and rims. Part 2 - 4 & 8

References:
 MQSH acts and MQSH regs

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 28/03/2008

Completed: 30/04/2008, **Closed by:** Roy Perkins **on** 30/04/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Tyre and Rim Storage facilities are being utilised and controlled

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	29/06/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today I came to site to inspect the concentrator and the electrical power generation plant (EDL), also to investigate some safety concerns lodged in our office.

On arrival I met Mr Stuart King, Underground Electrical Superintendent and Ms Tiffany Sproles, Processing Maintenance Superintendent. I explained to them the reasons for the visit and they provided information on what had occurred the night of the incident associated with the safety concern on the AG Mill. We had also a phone conversation with Mr David Moussie, Acting Maintenance Manager, who informed on his involvement that night with a Dawson contractor: At the time of the inspection, management were still investigating the incident that it was classified under they Safety and Health Management System as level 4. This is equivalent to a High Potential Incident under the Mining and Quarrying Safety and Health Act 1999, therefore an investigation report has to be submitted within a month.

The relevant aspects of the incident are:

1. During the shutdown, maintenance work had to be carried out on the AG Mill transmission gear
2. The gear box and guards had to be removed
3. When the mechanical components were removed, an opening was created on the floor of the mill, which is about nine to ten metres from the floor. As personnel removed the gear, the floor became contaminated with grease and oil
4. The night of the incident, contractors were sent to install a temporary fence to avoid accidental falling through the opening created on the floor. One of the persons, who had not seen the area, following directions from other persons working on the area made his way up to the AG Mill floor.
5. On the floor, the artificial lighting did not covered well all the areas and there was a contractor measuring the distances to install the temporary fence and a second person part of the team installing the fence arrived. Trying to assist the person measuring the distances for the fence, he went about one metre from the edge of the opening created when the Maintenance Superintendent saw and called him to remove himself to a safe place.
6. The Maintenance Superintendent approached him and discussed with the person about

the activities he was undertaking, about the procedures in place and about the hazards on the area.

7. Management requested the person involved in the incident to be removed from site

The following issues were found during the inspection and investigation:

1. The contractor managed to go to the AG Mill floor without complying with the site safety procedures and barriers established for that part of the maintenance activities (e.g. he did not signed the JSEA prepared that he had to read, agree and sign in prior to access the working area)
2. It was the first time the contractor worked on site, therefore was not fully aware of the process established to gain access to the incident site, procedures and protocols for safe work.
3. The supervision was ineffective as the contractor managed to go on his own to the AG Mill floor at night, without knowing all the requirements to access the working site and without being detected by supervision.
4. The site had established a process to gain access to the AG Mill, where some of the requirements were to read and sign a job safety analysis prior to access the defined working area, following instructions of an information tag attached to the front gate, attend pre-start meeting, etc.
5. The contractor was assessed on 21 June 2011 on Working Safely at Heights training on site, where specifically it is mentioned not to be or work closer than three metres from an open hole.
6. The contractor explained that he had not seen the open hole the night of the incident because the lighting was not that good. He explained the floor was also slippery with oil and grease. This was observed during my inspection too.
7. It was accepted that the illumination on the area could be improved for better appreciation of the working area conditions.

We discussed also my last Mine Record Entry, the extent of the requests and the information I requested to be provided in each of the corrective actions, which is still pending.

In relation to the second safety concern at the Power Generation Plant (EDL) associated with lack of lifting equipment to carry out maintenance of water pumps, Mr Joseph Bakhsh, Senior Electrical Engineer explained that Cannington mine (mining lease 90059) had given to NWQ Power Pty Ltd a sub-lease (on 18 March 1999). The sub-lease contains only the power generation facilities area, excepting the gas pipeline compound. Copy of the relevant documents were given to me.

Then accompanied by Mr Bakhsh, I inspected the power plant and investigated the safety concern.

As result of the inspection, investigation and discussions held with Cannington staff, the following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Management of contractors during shutdowns	12/08/2011
	A contractor was found at night standing about a metre from an open floor that is located about nine metres from the floor. The open floor was created by the removal of mechanical transmission of the AG Mill during maintenance activities. It was his first time at the mine site and not familiar with the place, procedures and protocols for working on site, particularly during shutdowns.	
	A review of the system for managing contractors during shutdowns has to be carried out to	

address the gaps found during the investigation of the incident. Consideration has to be given and not limited to the quality of site supervision, contractors required competencies, training and understanding of the site safety procedures and activities associated with the shutdowns. The review has to also include relevant information that contractors must be aware of such as; location of plant equipment, safety signs and tags, hazards, risks and conditions where they will work during the day and night should it be the case.

A copy of the full review report has to be submitted by the above due date

Reference: Section 39 Obligations of site senior executive for mine of the Mining and Quarrying Safety and Health Act 1999

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Reagent transformer yard	12/08/2011

In the Reagent Transformer yard, the following requires attention:

- 1.- Some earth connections to steel structures had rusted bolts and nuts
- 2.- The CPR signs installed on the fence were facing outside, therefore personnel in the transformer yard cannot read them during emergencies
- 3.- There was a high voltage redundant cable between the yard and the building that has to be removed to protect personnel from electrical risks (accidental energisation by induction or electrostatic electricity)
- 4.- The transformer yard did not have identification sign

Reference: Sections 25 Earthing and 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Sergio Cespedes
Inspector of Mines
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Contractor Management	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 29/06/2011
Record Date: 04/07/2011	MRE Item No.: 1

Title: Management of contractors during shutdowns

Description of Action Required to be Taken:
 A contractor was found at night standing about a metre from an open floor that is located about nine metres from the floor. The open floor was created by the removal of mechanical transmission of the AG Mill during maintenance activities. It was his first time at the mine site and not familiar with the place, procedures and protocols for working on site, particularly during shutdowns.
 A review of the system for managing contractors during shutdowns has to be carried out to address the gaps found during the investigation of the incident. Consideration has to be given and not limited to the quality of site supervision, contractors required competencies, training and understanding of the site safety procedures and activities associated with the shutdowns. The review has to also include relevant information that contractors must be aware of such as; location of plant equipment, safety signs and tags, hazards, risks and conditions where they will work during the day and night should it be the case.
 A copy of the full review report has to be submitted by the above due date
 Reference: Section 39 Obligations of site senior executive for mine of the Mining and Quarrying Safety and Health Act 1999

References:
 Section 39 Obligations of site senior executive for mine of the Mining and Quarrying Safety and Health Act 1999

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 12/08/2011

Completed: 15/08/2011, **Closed by:** Sergio Cespedes **on** 15/08/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

The system has been improved when managing contractor

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Installation	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 29/06/2011
Record Date: 04/07/2011	MRE Item No.: 2

Title: Reagent transformer yard

Description of Action Required to be Taken:
 In the Reagent Transformer yard, the following requires attention:

- 1.- Some earth connections to steel structures had rusted bolts and nuts
- 2.- The CPR signs installed on the fence were facing outside, therefore personnel in the transformer yard cannot read them during emergencies
- 3.- There was a high voltage redundant cable between the yard and the building that has to be removed to protect personnel from electrical risks (accidental energisation by induction or electrostatic electricity)
- 4.- The transformer yard did not have identification sign

Reference: Sections 25 Earthing and 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001.

References:
 Sections 25 Earthing and 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 12/08/2011

Completed: 25/08/2011, **Closed by:** Sergio Cespedes **on** 25/08/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

The rusted bolts have been replaced, signs provided

Released by DNRM under the RTI Act 2009

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	29/06/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today and accompanied by Mr Joseph Bakhsh, Cannington Mine Senior Electrical Engineer I inspected the power generation plant and also investigated a safety concern lodged in our offices associated with not having suitable means for lifting equipment during maintenance.

We inspected the workshop, where I observed they had several chain blocks of different sizes and capacities, fibre and steel slings and fittings to use with these devices. We also went to the recently commissioned generation unit and its transformer yard, which has some significant improvements for ventilation of the diesel engine and access platform that can be removed during maintenance.

On the roof at the back of the workshop, there was a chain block suspended from a steel rope sling. The steel beam where the arrangement was hanging from has not been designed for such tasks. The sling and chain block was being removed after we left.

The gas pipeline compound was also inspected, including some improvements completed during the last few years.

Once we finished with the inspection, Ms Kristy Pfrunder, EDL Administration Officer showed us the Safety Management Plan the site has, where I sighted the safety procedure for manual lifting, which contains clear instructions for how to lift objects or alternatives to be used.

I gave a broad explanation to Ms Kristy about the mining legislation and how we should be dealing in the future, as BHP Cannington mine had granted EDL with a sub-lease for the land comprising the power generation facilities, in particular to the appointment of a Site Senior Executive and having in place a documented Safety and Health Management System.

Contacts have since then been made with the site manager in relation to the above matters.

Sergio Cespedes
Inspector of Mines
Northern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	06/05/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today an accompanied by Mr Stuart King Mining Maintenance Superintendent and Mr David Lestone, appointed person to control electrical work for the processing plant and facilities an inspection of the electrical equipment and installations of the accommodation facilities was carried out.

One of the first areas inspected, it was the main distribution board where a high potential accident occurred on Saturday 02 April 2011, where an appointed person to control electrical work and two electricians were involved in the accident during the tracking of buried electrical power cables for issuing a digging permit. This is part of a preparation work for an upgrade of the Camp facilities. During the inspection, the following it was observed:

1. The main distribution board contains electrical incomers from the back-up diesel generator and the main power system plus a lighting and power distribution panel, circuit breakers of other sub-board feeders, instruments and other devices
2. The diesel generator main circuit breaker in the main distribution board at the time of the incident was in the closed position, allowing the cables terminals to be alive by the power from the grid. One of these terminals was accidentally contacted by the escutcheon being removed.
3. The previous point clearly shows that the castel key interlocks were ineffective, therefore installed in a wrong manner allowing the incident to happen.
4. The diesel generator has also an onboard circuit breaker
5. Behind the escutcheon there were two disconnected steel wire armoured cables (SWA) with the connection lugs exposed and without a proper and safe termination to protect personnel from injury by accidental energisation of the cables
6. There were some yellow stickers with the legend "*Danger*" *Isolate transformer supply before removing this cover* and some black and white ones with the same wording on the front cover of the main distribution board near each of the steel bolt keeping the escutcheons in place
7. There was evidence that some of the yellow stickers had been removed previously and replaced by the new black and white ones.

8. There were splatter marks on the front of the escutcheons and on the sides of them
9. An out of service tag with a personal padlock and a isolation scissor was attached on one of the circuit breakers feeding outgoing feeders. This is against the out of service procedure
10. It was attempted to undertake the task by a previous crew. At that time, it was considered it was not possible to isolate the power transformer feeding the main distribution board, therefore they could not remove the escutcheons to trace the required cables.

We then inspected the kitchen distribution boards and the relocated Gym building and we finished at the workshop, where I sighted some of the inspections and tests records. The following It was observed:

1. The plastic power and lighting distribution boards inside and outside of the building did not have facilities for isolation and lockout as required by Section 27 Isolation facilities of the Mining and Quarrying Safety and Health Regulation 2001.
2. Some of the frequencies of maintenance, inspections and tests of electrical equipment and installations currently being followed and established in the electronic maintenance system are different compared with the one written in the Electrical Management Procedure
3. Evidence of regular inspection and verification of size of fuses was not found
4. It was not possible to verify the fault rate of circuit breakers of main, sub-boards and distribution boards of the area
5. Effectiveness test records of electrical safety switches were not up to date

In verifying the appointment of Mr Lestone as appointed person to control electrical work and if the appointment of the last appointed person that had left recently had been cancelled in the Mine Records kept in the Pitram office, the information was not found, neither it was found the up to date organisation chart that it is required to be also kept under *Section 57 Management structure to be recorded in the mine record of the Mining and Quarrying Safety and Health Act 1999 (MQS&HA)*.

I discussed with Mr Moussie and Mr King the seven pages Camp electrical accident report submitted, which does not contain the expected relevant information as previously submitted high potential accidents and incidents investigation reports. The information does not provide enough information to describe the accident itself, neither all the facts that contributed to the accident to happen.

As result of the inspection and investigation of the above mentioned accident, the following has to be addressed:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Camp electrical accident information	17/05/2011
	The seven pages Camp electrical accident investigation report submitted as required by Section 198 Action to be taken in relation to site of accident or incident of the Mining and Quarrying Safety and Health Act 1999 and a copy kept on site Mine Record (Pitram) does not contain all the relevant information expected as per previous high potential accidents and or incidents, to allow an assessment of compliance with the mining legislation and site Safety and Health Management System. The following information is hereby requested:	
	1.- A complete factual description of the sequence of events and the persons involved prior, during and after the accident	
	2.- Copy of all statements taken during the investigation	
	3.- Training records of all persons involved	
	4.- Training matrix covering personnel of the electrical maintenance section involved	

- 5.- Copy of the ICAM completed
 - 6.- Maintenance records of the kiosk or main distribution board of the accident
 - 7.- Technical specifications used for the installation of the main distribution board
 - 8.- Up to date single line diagram of the Camp power reticulation system
 - 9.- Detailed description of the task(s) to be undertaken by the team.
 - 10.- Copy of the electrical protection settings of the Camp electrical reticulation system
 - 11.- Organisation chart of the maintenance section at the time of the accident
 - 12.- Copy of all relevant safety procedures to undertake electrical work on surface areas
 - 13.- Description of the site process to undertake electrical work on site
 - 14.- Copy of the Job Safety Analysis and or risk assessment completed for the task
- References: Section 151 Power to require production of documents, Section 139 Site senior executive must help officer, Section 39 Obligations of site senior executive and Section 59 Mine record of the Mining and Quarrying Safety and Health Act 1999

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Information in Mine Record	10/06/2011

Information and names of all appointed persons to control electrical work and up to date organisation chart was not found in the Mine Records. This information is only part of a list that is required to be kept under Section 59 Mine record of the Mining and Quarrying Safety and Health Act 1999.

An approved procedure has to be developed and established for an effective management of the all the statutory information and records that have to be kept as required by the above mentioned section of the Act. The procedure must have information of the exact location of all required information and provide for regular review to maintain all the records and information up to date and readily available to workers at the mine.

Copy of the procedure to be provided by the below due date.

Reference: Section 59 Mine record of the Mining and Quarrying Safety and Health Act 1999

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Knowledge and training in mining legislation	10/06/2011

Section 91 Induction training and assessment of the Mining and Quarrying Safety and Health Regulation 2001 as amended, in point (f) requires the site senior executive must ensure each worker at the mine is given appropriate induction training and periodically assessed to ensure the worker has adequate knowledge of the Act and the regulation. This will assist workers and particularly the persons in the organisation structure to know about their specific statutory obligations when working and or dealing with the mine operations. There are also requirements for keeping information and records for the life cycle of the mine.

A program for regular training and assessment of workers about knowledge and understanding of the mining Act and regulation has to be developed and established to allow them to fulfil their legal obligations under the mentioned mining legislation.

The main objective is to avoid repetition of the same issues found during the Mine Inspector's inspections and audits as can be observed in the Mine Records inspection reports

Full details of the program has to be provided by the below due date.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	Camp rooms isolation and lockout facilities	10/06/2011

At the Camp there were some plastic lighting and power distribution boards without the facility for isolation and lockout (e.g. Gym) required by Section 27 Isolation facilities of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

An audit of the whole site has to be carried out to find all switches that do not have isolation and

lockout facilities and install suitable and fit for purpose devices to comply with the above mentioned statutory requirement.

Details of the finding to be provided by the below due date

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
5	Frequencies for inspections tests and maintenance	10/07/2011

The frequencies for regular inspections, tests and maintenance of electrical equipment, installations and safety devices recorded in the electronic maintenance system (SAP) are different compared with the frequencies recorded in the Electrical Management Procedure PRO-MNT0042. One of the examples is testing and tagging of portable apparatus, extension leads, power boards and electrical tools, similar issue with the effectiveness tests of the safety switches and or residual current devices on different places and or locations.

The electronic maintenance system program for regular inspections, tests and maintenance of electrical equipment, installations and safety devices has to be reviewed to be brought up to the above mentioned standard.

A report of the review has to be provided by the below due date.

Reference: Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
6	Disconnected electrical cables safety	10/06/2011

In the main distribution board at the Camp, there were two power cables with exposed terminals and without being properly terminated, there were also a redundant diesel generator and associated control devices. It was not clear at the time of the inspection if those cables were redundant or not. A review of the relevant procedure associated with redundant cables, equipment and installations has to be carried out. Should it be the case there is not such procedure, a formal risk assessment has to be carried out to find effective control measures for an effective management of the hazards and risks associated with redundant cables, equipment and installations.

Reference: Section 36 Obligations on persons generally of the Mining and Quarrying Safety and Health Act 1999 and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
7	Camp fault rate of circuit breakers	10/06/2011

Some of the circuit breakers installed in the switchboards at the Camp had a current fault rate of 6 and 10 kA. A complete review of the electrical fault levels on each of the power distribution boards at the Camp has to be carried out to verify each of the circuit breakers in the distribution boards are able to withstand the prospective electrical faults without creating an unacceptable level of risk. Consideration has to be given to the age of some of the critical safety devices in the electrical reticulation system.

A complete report of the review and findings have to be provided by the below mentioned due date.

Reference: Section 100 Selection and design and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Sergio Cespedes
Inspector of Mines
Northern Region



Electrical Response 10062011.pdf

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Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Accident/Incident Investigation	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 06/05/2011
Record Date: 10/05/2011	MRE Item No.: 1

Title: Camp electrical accident information

Description of Action Required to be Taken:
 The seven pages Camp electrical accident investigation report submitted as required by Section 198 Action to be taken in relation to site of accident or incident of the Mining and Quarrying Safety and Health Act 1999 and a copy kept on site Mine Record (Pitram) does not contain all the relevant information expected as per previous high potential accidents and or incidents, to allow an assessment of compliance with the mining legislation and site Safety and Health Management System. The following information is hereby requested:

- 1.- A complete factual description of the sequence of events and the persons involved prior, during and after the accident
- 2.- Copy of all statements taken during the investigation
- 3.- Training records of all persons involved
- 4.- Training matrix covering personnel of the electrical maintenance section involved
- 5.- Copy of the ICAM completed
- 6.- Maintenance records of the kiosk or main distribution board of the accident
- 7.- Technical specifications used for the installation of the main distribution board
- 8.- Up to date single line diagram of the Camp power reticulation system
- 9.- Detailed description of the task(s) to be undertaken by the team.
- 10.- Copy of the electrical protection settings of the Camp electrical reticulation system
- 11.- Organisation chart of the maintenance section at the time of the accident
- 12.- Copy of all relevant safety procedures to undertake electrical work on surface areas

13.- Description of the site process to undertake electrical work on site

14.- Copy of the Job Safety Analysis and or risk assessment completed for the task

References: Section 151 Power to require production of documents, Section 139 Site senior executive must help officer, Section 39 Obligations of site senior executive and Section 59 Mine record of the Mining and Quarrying Safety and Health Act 1999

References:

Section 151 Power to require production of documents, Section 139 Site senior executive must help officer, Section 39 Obligations of site senior executive, Section 152 Failure to produce document and Section 59 Mine record of the Mining and Quarrying Safety and Health Act 1999

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 17/05/2011

Completed: 27/05/2011, **Closed by:** Sergio Cespedes **on** 30/05/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

Information requested provided in a memory stick for the size of the documents and photos

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Mine Record	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 06/05/2011
Record Date: 10/05/2011	MRE Item No.: 2

Title: Information in Mine Record

Description of Action Required to be Taken:
 Information and names of all appointed persons to control electrical work and up to date organisation chart was not found in the Mine Records. This information is only part of a list that is required to be kept under Section 59 Mine record of the Mining and Quarrying Safety and Health Act 1999.
 An approved procedure has to be developed and established for an effective management of the all the statutory information and records that have to be kept as required by the above mentioned section of the Act. The procedure must have information of the exact location of all required information and provide for regular review to maintain all the records and information up to date and readily available to workers at the mine.
 Copy of the procedure to be provided by the below due date.
 Reference: Section 59 Mine record of the Mining and Quarrying Safety and Health Act 1999

References:
 Section 59 Mine record of the Mining and Quarrying Safety and Health Act 1999

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 10/06/2011

Completed: 22/06/2011, **Closed by:** Sergio Cespedes **on** 23/06/2011 12:00:00 AM.

Reassigned Due Date: 30/06/2011; **Review conducted by** Sergio Cespedes **on** 14/06/2011.

Action Taken by Mine to Comply with Corrective Action Requirement:

The procedure developed for managing the MREs was reviewed and information in the Mine Records updated.

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Mining and Quarrying Safety and Health Act	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 06/05/2011
Record Date: 10/05/2011	MRE Item No.: 3

Title: Knowledge and training in mining legislation

Description of Action Required to be Taken:
 Section 91 Induction training and assessment of the Mining and Quarrying Safety and Health Regulation 2001 as amended, in point (f) requires the site senior executive must ensure each worker at the mine is given appropriate induction training and periodically assessed to ensure the worker has adequate knowledge of the Act and the regulation. This will assist workers and particularly the persons in the organisation structure to know about their specific statutory obligations when working and or dealing with the mine operations. There are also requirements for keeping information and records for the life cycle of the mine.

A program for regular training and assessment of workers about knowledge and understanding of the mining Act and regulation has to be developed and established to allow them to fulfil their legal obligations under the mentioned mining legislation.
 The main objective is to avoid repetition of the same issues found during the Mine Inspector's inspections and audits as can be observed in the Mine Records inspection reports
 Full details of the program has to be provided by the below due date.

References:
 Section 91 Induction training and assessment of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 10/06/2011

Completed: 21/06/2011, **Closed by:** Sergio Cespedes **on** 23/06/2011 12:00:00 AM.

Reassigned Due Date: 31/10/2011; **Review conducted by** Sergio Cespedes **on** 14/06/2011.

Action Taken by Mine to Comply with Corrective Action Requirement:

A program for training about mining legislation was developed and a consultant has been hired to give sessions about mining legislation to the all levels of the organisation

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Isolation and Lockout	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 06/05/2011
Record Date: 10/05/2011	MRE Item No.: 4

Title: Camp rooms isolation and lockout facilities

Description of Action Required to be Taken:
 At the Camp there were some plastic lighting and power distribution boards without the facility for isolation and lockout (e.g. Gym) required by Section 27 Isolation facilities of the Mining and Quarrying Safety and Health Regulation 2001 as amended.
 An audit of the whole site has to be carried out to find all switches that do not have isolation and lockout facilities and install suitable and fit for purpose devices to comply with the above mentioned statutory requirement.
 Details of the finding to be provided by the below due date

References:
 Section 27 Isolation facilities of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 10/06/2011

Completed: 21/06/2011, **Closed by:** Sergio Cespedes **on** 23/06/2011 12:00:00 AM.

Reassigned Due Date: 31/07/2011; **Review conducted by** Sergio Cespedes **on** 14/06/2011.

Action Taken by Mine to Comply with Corrective Action Requirement:

A site verification of facilities for isolation and lockout on the lighting and power distribution board was carried out and lockout devices being installed where it is needed.

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Maintenance of Electrical Equipment and Installations	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 06/05/2011
Record Date: 10/05/2011	MRE Item No.: 5

Title: Frequencies for inspections, tests and maintenance

Description of Action Required to be Taken:
 The frequencies for regular inspections, tests and maintenance of electrical equipment, installations and safety devices recorded in the electronic maintenance system (SAP) are different compared with the frequencies recorded in the Electrical Management Procedure PRO-MNT0042. One of the examples is testing and tagging of portable apparatus, extension leads, power boards and electrical tools, similar issue with the effectiveness tests of the safety switches and or residual current devices on different places and or locations.
 The electronic maintenance system program for regular inspections, tests and maintenance of electrical equipment, installations and safety devices has to be reviewed to be brought up to the above mentioned standard.
 A report of the review has to be provided by the below due date.
 Reference: Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 10/07/2011

Completed: 14/06/2011, **Closed by:** Sergio Cespedes **on** 14/06/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

The statutory testing frequencies have been reviewed and will be applied to all mine site, particularly the Camp as requested

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Installations	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 06/05/2011
Record Date: 10/05/2011	MRE Item No.: 6

Title: Disconnected electrical cables safety

Description of Action Required to be Taken:
 In the main distribution board at the Camp, there were two power cables with exposed terminals and without being properly terminated, there were also a redundant diesel generator and associated control devices. It was not clear at the time of the inspection if those cables were redundant or not. A review of the relevant procedure associated with redundant cables, equipment and installations has to be carried out. Should it be the case there is not such procedure, a formal risk assessment has to be carried out to find effective control measures for an effective management of the hazards and risks associated with redundant cables, equipment and installations.

Reference: Section 36 Obligations or persons generally of the Mining and Quarrying Safety and Health Act 1999 and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 36 Obligations or persons generally of the Mining and Quarrying Safety and Health Act 1999 and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 10/06/2011

Completed: 14/06/2011, **Closed by:** Sergio Cespedes **on** 14/06/2011 12:00:00 AM.

Action Taken by Mine to Comply with Corrective Action Requirement:

The cables mentioned were pulled back, cable ends crimped and bolted together and bagged and tagged.

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Protection	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 06/05/2011
Record Date: 10/05/2011	MRE Item No.: 7

Title: Camp fault rate of circuit breakers

Description of Action Required to be Taken:
 Some of the circuit breakers installed in the switchboards at the Camp had a current fault rate of 6 and 10 kA. A complete review of the electrical fault levels on each of the power distribution boards at the Camp has to be carried out to verify each of the circuit breakers in the distribution boards are able to withstand the prospective electrical faults without creating an unacceptable level of risk. Consideration has to be given to the age of some of the critical safety devices in the electrical reticulation system.
 A complete report of the review and findings have to be provided by the below mentioned due date.
 Reference: Section 100 Selection and design and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 100 Selection and design and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 10/06/2011

Completed: 21/06/2011, **Closed by:** Sergio Cespedes **on** 23/06/2011 12:00:00 AM.

Reassigned Due Date: 30/07/2011; **Review conducted by** Sergio Cespedes **on** 14/06/2011.

Action Taken by Mine to Comply with Corrective Action Requirement:

An electrical engineer calculated the current levels of fault current and it was found one sub-board needed upgrade of circuit breakers, which are being replaced

Released by DNRM under the RTI Act 2009

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	05/05/2011

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today an inspection of the underground installations and particularly the places where there have been two electrical incidents was carried out. On arrival I met Mr David Moussie, Principal Adviser Work Management and Mr Stuart King, Superintendent Mining Maintenance who gave me some broad information about the incidents,

Then and accompanied by Mr King and Ms Jodie McKenna, Acting Mining Electrical Supervisor I went to 56XW crosscut in 520 level where the flexible cable feeding a 20 kW electrical sump pump was short-circuited when hanging from a rock-bolt steel plate. It was observed the area where the cable was hanging had been previously contacted by some heavy mobile equipment; which may have damaged the cable that consequently failed. The sump pumps cables are protected by 30 mAmp earth leakage and earth continuity protections, which were the ones that cleared the fault. The electrical cables on the area were hanging from the shoulder of the galleries well above from reach by normal mobile equipment.

On our way back we went to inspect the area where three power cables were damaged by a rock that was protruding from the tray of a truck in the crushing area. The electrical protections cleared the fault at the time of the incident without exposing personnel. As the cables have steel wire armouring and or metallic screen, any physical damage to the cable is normally detected by the earth leakage or short circuit protections and the power is isolated automatically. In this instance the cables were also installed on the higher part of the traffic areas.

Maintenance personnel were cleaning spillage from the platforms In the hoisting shaft pit, where it was observed that the several of the steel ropes installed on either side of the guide ropes to limit their lateral movement were cut and or disconnected from one end. The submersible pump of the area control panel had a lockout device installed on the emergency stop push button that has to be removed to avoid personnel using it for personal isolation as this feature does not isolate all sources of energy.

Information is to be provided by 20 May 2011 on the activities completed and or being carried out to comply with the directive (*Shaft Steelwork Structural Integrity at Pit Bottom and Spillage Control at Skip Loading Station*) issued on 28 August 2007 during a Winder Management System Audit. The loading station was having some spillage during skip loading and this consequently was damaging the maintenance platforms of the hoisting shaft, which

created an unsafe work environment for the maintenance personnel.

Sergio Cespedes
Inspector of Mines
Northern Region

Released by DNRM under the RTI Act 2009

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	04/08/2010

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Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today accompanied by Mr. David Stringfellow, Hatch Project Engineer; an inspection of the construction area of the new Vertimill project was carried out.

The Vertimill is in place and the construction of the steel frame for the auxiliary equipment continues. Some cable trays for the 11 kV conductors were being completed. It is expected to provide separation of the control and instrumentation conductors from the high voltage power conductors, should they be installed in the same cable trays (reference AS3007 Electrical installations - Surface mines and associated processing plant). At the transformer yard where the new 11 kV RMU is being installed, we discussed some details of the construction and extension of the earthing grid and about the location of the fence to provide voltage gradient during electrical faults to protect personnel from step potentials.

We then visited the switchroom and discussed the work to be carried out to replace one of the 11 kV circuit breakers to feed the new Vertimill 1120 kW electric motor.

Following the inspection, we went to the Concentrator maintenance offices where we met Mr Chris Lovejoy, Project Manager and Mr. Mick Carroll, Electrical Supervisor, both from Downer EDI Engineering and Mr. Gary Dunmore, Project Manager Cannington Mine to discuss the following matters:

1. Hazards and risks associated with the storage, installation, handling and termination of high voltage cables, in particular XLPE steel wire armoured (SWA) conductors.
2. Development and establishment of a site safety procedure and protocol for testing high voltage cables and control gear, particularly using very low frequency techniques, following good engineering practices, relevant standards and or codes and manufacturers recommendations.
3. Instruments available, techniques and criteria for testing and validation of test results of high voltage XLPE SWA cables
4. Possible sources of information and or input for the development of the mentioned procedure.
5. Current techniques and instruments available for testing

I went then to the administration building to attend a meeting with Mr Tony Ross, Maintenance Manager; Mr. David Moussie, Underground Maintenance Superintendent and Mr. Lance Gatty, Appointed person to control winder operations to discuss the progress and official mine response for the corrective actions included in the official Mine Record entry following the Winder Management System Audit that I carried out in June of this year. As per information provided and discussions, an official response will be sent to my office within the next few days with information of the status of the work being undertaken to complete the corrective actions. A submission with proposals for extension of the completion date on those ones that required more time will be also included in the response letter.

A last meeting was held with Mr Ross, Mr Dunmore, Mr Moussie and Mr Joseph Bahkash, Senior Energy Management Engineer to discuss the following matters associated with the new 1120 kW, 11 kV Vertimill project:

1. As per information provided, the site power generation system and possibly the reticulation system do not have the capacity to operate the new Vertimill equipment and installations.
2. Additions and modifications carried out in the power generation plant since original commissioning and current power generation and reticulation systems capacity
3. Comparison between what it was originally installed and what is currently in operation and the possible effect in the safety performance and reliability of the electrical systems
4. Ageing of plant equipment and effect in the safe management during their life cycle
5. A Definition Hazard Study, which is a type of conceptual risk assessment was completed on 04 August 2009, which mentioned the issue of power supply inadequate but without providing information on control measures.
6. Hazard studies have been also carried out for the project implementation, electrical and instrumentation, civil works and structural, mechanical and piping works
7. It was not found in the hazard study for the electrical and instrumentation information about the hazards and risks outside of the boundaries of the concentrator and the possible impact on critical equipment and installations associated with the safe operation of the mining activities (e.g. high voltage switchrooms, underground ventilation, communication, water pumping, camp, etc.)
8. Requirements under the Mining and Quarrying Safety and Health Act 2001 and associated mining regulation
9. Ways to discharge safety obligations under the mining legislation
10. Cannington Project Management System and Change Management System established for the site operations
11. Energisation and operation of the new Vertimill and associated equipment and installations to be carried out only once the site is able to demonstrate that all the systems and processes being developed and implemented provide for a safe and reliable operation and maintenance of all equipment and installations involved and without affecting the safety integrity of any of the critical services and equipment of the operations, to satisfy the requirements of Part 3 Safety and health obligations of the Mining and Quarrying Safety and Health Act 1999
12. Development of a proposal for the safe completion of the project
13. Possible strategies for completion of the project within the BHP Billiton systems and processes and in compliance with the mining legislation.

As result of the inspection and meetings held with above mentioned staff, the following has to be addressed and written feedback and or evidence of completion to be provided to me by the below mentioned due dates.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Electrical hazards and risks of the Vertimill project	06/09/2010

A risk assessment has to be carried out to assess the safety and health impact and or implications on the whole mining activities, particularly those critical for emergencies and safe operation of plant by the operation of the new 1120 kW Vertimill equipment, to avoid the exposure of personnel to unacceptable levels of risk.
Reference: Part 2 Safety and health risk management of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Electrical power system safety integrity	04/10/2010

Since the original commissioning of the electrical power generation and reticulation systems, several changes, additions and modifications have been carried out. At this point on time and as per information provided, it appears the mentioned systems may not longer have the capacity and technical integrity for a safe performance and reliability of the electrical systems required to avoid the exposure of personnel on the whole mine site to unacceptable levels of safety and health risk.

A complete technical and or engineering assessment of the electrical generation and reticulation system, including and not limited to main earthing systems, switchrooms busbars, switching gear and conductors, has to be carried out to ensure that after each significant modification or addition of generation capacity and including the effect of ageing, the mentioned systems are still able to perform safely and within their design capacity and are currently fit for purpose. This is also to ensure the electrical systems are in compliance with relevant technical and operational organisation requirements, standards, legislation and or codes.

Reference: Section 36 Obligations of persons generally of the Mining and Quarrying Safety and Health Regulation 1999 and Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Safety procedure for testing high voltage cables	06/09/2010

A site safety procedure and protocol for testing high voltage cables such as XLPE and control gear, particularly using very low frequency instruments and techniques has to be developed and established, following good engineering practices, relevant standards and or codes and manufacturers recommendations.

Reference: Section 114 Procedures of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Sergio Cespedes
Inspector of Mines
Northern Region




CAN Mine Record Response re MRE Corrective Action - Vertimill Inspection 20100921.pdf HV.T06_HV_Cable_Test_Sheet.doc




HV P06_HV_Cable inspection procedure.pdf Vertimill HV and Power RA.DOC

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Risk Assessment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 04/08/2010
Record Date: 06/08/2010	MRE Item No.: 1

Title: Electrical hazards and risks of the Vertimill project

Description of Action Required to be Taken:
 A risk assessment has to be carried out to assess the safety and health impact and or implications on the whole mining activities, particularly those critical for emergencies and safe operation of plant by the operation of the new 1120 kW Vertimill equipment, to avoid the exposure of personnel to unacceptable levels of risk.
 Reference: Part 2 Safety and health risk management of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Part 2 Safety and health risk management of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 06/09/2010

Completed: 27/09/2010, **Closed by:** Sergio Cespedes **on** 27/09/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Risk assessment completed and submitted

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Installation	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 04/08/2010
Record Date: 06/08/2010	MRE Item No.: 2

Title: Electrical power system safety integrity

Description of Action Required to be Taken:
 Since the original commissioning of the electrical power generation and reticulation systems, several changes, additions and modifications have been carried out. At this point on time and as per information provided, it appears the mentioned systems may not longer have the capacity and technical integrity for a safe performance and reliability of the electrical systems required to avoid the exposure of personnel on the whole mine site to unacceptable levels of safety and health risk.
 A complete technical and or engineering assessment of the electrical generation and reticulation system, including and not limited to main earthing systems, switchrooms busbars, switching gear and conductors, has to be carried out to ensure that after each significant modification or addition of generation capacity and including the effect of ageing, the mentioned systems are still able to perform safely and within their design capacity and are currently fit for purpose. This is also to ensure the electrical systems are in compliance with relevant technical and operational organisation requirements, standards, legislation and or codes.
 Reference: Section 36 Obligations of persons generally of the Mining and Quarrying Safety and Health Regulation 1999 and Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 36 Obligations of persons generally of the Mining and Quarrying Safety and Health Regulation 1999 and Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 04/10/2010

Completed: 05/01/2011, **Closed by:** Sergio Cespedes **on** 05/01/2011.

Reassigned Due Date: 12/12/2010; **Review conducted by** Sergio Cespedes **on** 29/10/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Procedures	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 04/08/2010
Record Date: 06/08/2010	MRE Item No.: 3

Title: Safety procedure for testing high voltage cables

Description of Action Required to be Taken:
 A site safety procedure and protocol for testing high voltage cables such as XLPE and control gear, particularly using very low frequency instruments and techniques has to be developed and established, following good engineering practices, relevant standards and or codes and manufacturers recommendations.
 Reference: Section 114 Procedures of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 114 Procedures of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 06/09/2010

Completed: 17/12/2010, **Closed by:** Sergio Cespedes **on** 17/12/2010.

Reassigned Due Date: 12/12/2010; **Review conducted by** Sergio Cespedes **on** 29/10/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	03/08/2010

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today I came to site to undertake an inspection of the electrical underground mobile equipment and the new installations of the new underground mono-pumps station.

On arrival I met Mr. Tony Ross, Maintenance Manager and Mr David Moussie, Underground Maintenance Superintendent, to organise the underground inspection and meetings to discuss the progress of the corrective actions associated with the Winder Management System audit completed some weeks ago and about the status and issues associated with the Vertimill project.

Following the meeting and accompanied by Mr. Stuart King, Underground Electrical Supervisor and appointed person to control electrical work and Mr. Jason Lindley, Electrical Technical Officer, we went to inspect first the new mono-pumps station, where we discussed the following issues:

1. Objective, principles and best ways to install and connect the equipotential bonding to electrical motors and controls
2. Mechanical protection for electrical conductors for controls and sensors on the pump station
3. Fit for purpose electrical components (field isolator boxes, plastic lockout devices and plastic sensors or meters such as flow-meter) in harsh environment and suitable mechanical protection.
4. Fit for purpose and selection of electrical components and equipment suitable for the environment and the life cycle of the equipment.
5. Segregation of electrical equipment and installations from areas with high pressure mechanical equipment.
6. Ways to connect the power cables to the electrical motor connection boxes to avoid the potential ingress of humidity, ground or pumped water.
7. Possible means to protect the electrical field control boxes from the projection of water in case the seals of the flanges fail.
8. Completion of the whole construction work before commissioning to avoid leaving behind

unsafe or unfinished items.

A copy of the pump station commissioning report has to be provided once it is completed for verification with the design information provided.

In 425 mLv; SD86DN we inspected the jumbo Tamrock Axera DR108 and the power supply boxes that was connected to and in our way to the surface we inspected in 175 mLv the Atlas Copco drill rig No. DR307 that was working in QJ66DN. We discussed with the drill rig operator the pre-start checks they carry out and the safety features of the equipment.

Once on surface I sighted electrical technical and safety information about the mono pumps station design. We also discussed the criteria followed for the calculation of the fault currents, and settings of the electrical protections. It was noticed that the field control boxes were a bit small for the size of the power conductors and this it was the result of changing the size of the power conductors after the boxes had been ordered.

Then I had a meeting with Mr Gary Dunmore, Project Manager; Mr Joseph Bahkash, Senior Energy Management Engineer and Mr David Stringfellow to discuss in broad terms the engineering design, the current capacity and limitations of the whole site electrical power system and the requirements of the mining legislation associated with the Vertimill project. The key issues we discussed were:

1. Development of the design and input by the engineering and operation personnel
2. Validation of the project design and engineering calculations by BHPBilliton senior engineers and or experts, or by an external third party to ensure full compliance with internal policies and procedures, Australian Standards, mining legislation and good engineering practices.
3. Risk assessments carried out from the conceptual project through the final operation and maintenance of the new equipment and installations.
4. Design and modifications carried out to the power generation station and its current safety integrity and of the power reticulation system.
5. Current capacity of the power generation and power reticulation systems to meet the additional demand of the new equipment and installations to avoid their operation beyond the design capacity that could cause catastrophic failures and affect the safety and health of personnel on surface and or underground directly or indirectly.

As result of the inspection and discussions the following has to be addressed:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Mono-pumps equipotential bonding	03/09/2010
	The electrical pumps had 120 mm ² equipotential bonding, but this it was connected only to the bottom part of the steel frame support of the electrical motors and not directly to the motors steel body; which is the potential source of electrical energy during internal electrical faults. The earth conductors have to be also connected to the provided connection point and bolt of the motors to provide a reliable path for the fault currents and assist with the fast and effective operation of the safety devices to avoid the exposure of personnel to unacceptable levels of risks.	
	Reference: Section 25 Earthing of the Mining and Quarrying Safety and Health Regulation 2001 as amended.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Mechanical protection of electrical controls and components	03/09/2010
	In the water pump station, there were several electrical instruments, control conductors and	

local isolators that needed mechanical protection from potential projection of pressurised water and during mechanical maintenance and service of the equipment.
Reference: Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

**Sergio Cespedes
Inspector of Mines
Northern Region**

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Earthing	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 03/08/2010
Record Date: 05/08/2010	MRE Item No.: 1

Title: Mono-pumps equipotential bonding

Description of Action Required to be Taken:
 The electrical pumps had 120 mm² equipotential bonding, but this it was connected only to the bottom part of the steel frame support of the electrical motors and not directly to the motors steel body; which is the potential source of electrical energy during internal electrical faults . The earth conductors have to be also connected to the provided connection point and bolt of the motors to provide a reliable path for the fault currents and assist with the fast and effective operation of the safety devices to avoid the exposure of personnel to unacceptable levels of risks.
 Reference: Section 25 Earthing of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 25 Earthing of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 03/09/2010

Completed: 27/09/2010, **Closed by:** Sergio Cespedes **on** 27/09/2010.

Reassigned Due Date: 20/10/2010; **Review conducted by** Sergio Cespedes **on** 27/09/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Installation	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 03/08/2010
Record Date: 05/08/2010	MRE Item No.: 2

Title: Mechanical protection of electrical controls and components

Description of Action Required to be Taken:
 In the water pump station, there were several electrical instruments, control conductors and local isolators that needed mechanical protection from potential projection of pressurised water and during mechanical maintenance and service of the equipment.
 Reference: Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 03/09/2010

Completed: 29/10/2010, **Closed by:** Sergio Cespedes on 29/10/2010.

Reassigned Due Date: 20/10/2010; **Review conducted by** Sergio Cespedes on 23/09/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Subject Audit or Specific System Audit	Northern	24/06/2010

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

On Monday 07 June 2010 I came to the mine to undertake a site Winder Management System Audit, following an inspection and a coordination meeting held on 17 May 2010, when I requested copies of a number of documents associated with the management and activities associated with the winder systems. This information was reviewed during a desktop audit that was carried out in the Mount Isa Mines Inspectors offices the week prior to this site audit.

On arrival to the mine site, I met Mr. David Moussie, Underground Maintenance Superintendent, responsible for the maintenance of the winder and Mr. Tony Ross, Maintenance Manager to explain in broad terms the schedule of interviews and site inspections to verify the findings of the desktop audit.

The first day on site Mr. Moussie assisted me with the coordination of the interviews and Mr. Lance Gatty, Appointed person to control winding operations the days after until Thursday afternoon of June 2010.

As part of the audit, I attended morning safety and change over meetings with maintenance personnel and also a meeting held in the maintenance workshop with Mr. Ross and all maintenance personnel during a changeover on Wednesday evening. The aim of the meeting was to inform personnel about the concerns from site management of the number of incidents that had occurred during the last few weeks, the trends showed by the safety statistics and express the full support towards safety and highlight the obligations of everybody in relation to comply with the safety procedures and work instructions and complete all the required job safety analysis in a comprehensive and professional manner, regardless time constraints or job pressures.

As it is normal practice, an audit report is attached to this Mines Inspector report, which is an integral part of this Mine Record entry. The opportunities for improvement or corrective actions mentioned in the audit report are included in this report as Substandard Conditions or Practices (SCPs).

Feedback and evidence of compliance with the SCPs have to be sent to me by the due date mentioned in each one of them.

Number

Substandard Condition or Practice

Due Date

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
5	Working platforms handrails clearance	24/08/2010

Between the loading station and shaft pit, there are several work platforms with handrails. In a couple of floors the gap in between the handrails seems to be too narrow for a safe transit of personnel during normal work or in case of emergencies when it may be necessary to transport a person on a stretcher or wearing emergency breathing apparatus. These handrails have to be verified for compliance with relevant standards such as AS1428 Design for access and mobility. Reference: Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
6	Handrails on top of the skips	24/08/2010

The two winder skips have on top handrails and gates. The frame, door locking mechanism and hinges of these handrails were in disrepair and without meeting the current standards. The handrails have to be subjected to a complete assessment of the safety integrity and compliance with relevant industry standards and bring them up to safe conditions. They should be also incorporated in the program of regular inspections and maintenance of the equipment and installations. Reference: Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
7	Winder bottom skips arresters	24/08/2010

The bottom skips arresters were modified several years ago, extending the vertical columns up about a meter on east and west side of the shaft.. This issue has to be investigated and action be taken should the need arises if it is found the modifications affect the safety integrity of these emergencies feature. Reference: Section 110 Repair and modification of the Mining and Quarrying Safety and Health Regulation 2001 as amended and site Change Management procedure

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
8	Formal process for recommissioning of winder	24/08/2010

In my inspection report dated 02 March 2009, I gave a corrective action in relation to the development of a formal process for the two yearly recommissionings of the winder (mechanical and electrical). A comprehensive list and indication of all the safety features and devices of the mechanical, electrical, electronic and software components and systems that have to be evaluated, tested, checked and or verified was requested. Information of the maximum and lowest safety limits of the parameters being measured with indication of the acceptable levels or as required by industry standards had to be also included. Evidence of completion of this corrective action was not found during the audit. This process will provide a significant improvement in the retention of knowledge and skills to avoid the dependence from consultants or third parties or assess the quality of services provided. Use of current Australian Standards and mining practices should be also used as benchmarking of the maintenance activities (e.g. frequency of some mechanical tests does not match with the ones in the mentioned standards). Reference: Section 105 Commissioning and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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9 Bottom skips arresters inspections and checks 24/08/2010

Checks of the skips bottom arresters were nor found in the mechanical recommissioning report, neither mentioned about any modifications done as mentioned somewhere in this report. Ensure this safety features are integral part of the regular recommissioning inspections and tests.

Reference: Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Number Substandard Condition or Practice Due Date

10 Recommissioning of winder information 24/08/2010

Complete recommissioning reports were not found and the electrical and mechanical recommissioning activities are being recorded in different places and in different formats. This makes very difficult to assess the safety integrity of the whole winder system after each recommissioning.

Reference: Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Number Substandard Condition or Practice Due Date

11 Use of recommissioning data 24/08/2010

During the recommissionings, the tests and measurements being gathered are only compared with the previous data, therefore maintenance personnel cannot compare or validate the data being collected with the design, particularly by the accumulative effect of some information. The information is also not being used for detecting trends in the performance and conditions of the equipment and components.

Reference: Section 108 Monitoring of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Number Substandard Condition or Practice Due Date

12 Frequency of recommissionings 24/08/2010

The frequency of the recommissionings is not clear as has been established that have to be carried out every two years and some activities are carried out yearly (electrical). The frequency and specific tests and inspections that are part of normal regular maintenance and the ones that are part of the recommissionings have to clearly established for recording and follow ups purposes to avoid confusion and being able to complete the relevant recommissioning reports.

Reference: Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Number Substandard Condition or Practice Due Date

13 Knowledge of relevant Australian Standards 24/08/2010

Not all staff associated with the winder activities is aware of all current and relevant Australian Standards applicable to the engineering and technical aspects of the key functions, components and or control of the winder systems. The information from the standards is important to ensure the reliability and safety integrity of critical services for the mining operations and key personnel have to make themselves aware of the knowledge these documents provide

Reference: Section 8 Risk reduction of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Number Substandard Condition or Practice Due Date

14 11 kV electrical cable installed in the shaft**24/08/2010**

An 11 kV cable that is one of the mine supplies of electrical power to the underground workings is installed in the winder shaft and is attached to support beams using timber wedges. The majority of these timber wedges have moved down through the steel support gap as result of environment conditions and stresses imposed by the weight of the cable. Some of them have also missing parts. These cable supports have to be examined and action to be taken to bring the cable installation to design specifications and to avoid possible cascade failure with the potential to cause harm or affect the health and safety of personnel during shaft inspections and repairs or personnel working underground by the lost of electrical supply to critical equipment underground (emergency services, ventilation, water pumping)

Reference: Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Number**Substandard Condition or Practice****Due Date****15 Winder are foreseeable emergencies****26/08/2010**

The following foreseeable emergencies are included in the Winder Drivers Training document named CAN HR Manual Winder – Reference Manual:

- * Power failure preventing movement of the Skip (with or without people o the Skip)
- * Control failure causing Overload, Overspeed, Rope Slip, uncontrolled movement etc
- * Rope (Head, Tail, Guide) or Rope Attachment failure (ie a catastrophic failure)
- * Failure of the Winder Tower eg structural failure or plane impact
- * Seismic activity
- * Flooding
- * Brake component or brake control failure (e.g. brake card or brake pack fails, brakes won't lift)
- * Mechanical failure of component
- * In shaft emergency e.g. person in Skip injured during shaft inspection
- * In shaft emergency e.g. falling ore hits a person in Tail Rope area
- * Fire (in Substation, Transformers, Brake packs, Motor, Cyclo convertors)
- * Mine evacuation via Skip rather than via ladder ways or the decline
- * Falls of people, objects or ore
- * Inappropriate action by Winder Driver or Maintenance personnel.
- * Damage to in-shaft fittings eg cable damage from falling ore
- * Object protrudes from Skip or Bridle contacting shaft, shaft services or Winder structure.

Only a couple of them are covered in safety work instructions and or procedures. These foreseeable emergencies and any other that personnel may become aware of, have to be risk assessed and be included in the above-mentioned manual or create safety work instructions for an effective management of them.

Reference: Section 32 Risk management for emergencies of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Number**Substandard Condition or Practice****Due Date****16 Official responses to mining Inspectorate****26/08/2010**









The process to develop the response to Inspector of Mines inspections reports has to be reviewed to ensure the safety issues, non-compliance with the mining legislation being reported to the mine are properly addressed, and that all relevant information and evidence is provided (see inspection reports dated 02 March 2009 and 28 August 2007).

Reference: Section 59 Mine Record of the Mining and Quarrying Safety and Health Act 1999

Please provide a written status report on each SCP together with the actions taken to

address each item by their due dates

**Sergio Cespedes
Lead Auditor
Inspector of Mines
Northern Region**

-  CAN MINE RECORD WINDER AUDIT SC 20100624 - RESPONSE 20101229.pdf
-  App 1 - Mathcad - H337404-0000-35-125-0001 - WINDER SKIP HOOD.pdf  App 2 - connections and sections.PDF
-  App 3 - Doc Cannington AC110 Part 3 Interface Function Recommissioning (1).docx
-  App 4 - Cannington Friction Winder Recommissioning Mech.pdf  App 5 - Doc Cannington AC110 Part 2 Safety Circuit Recommissioning.doc
-  App 6 - Doc Cannington AC110 Part 1 Safety Circuit Recommissioning .docx  App 7 - Cannington AHM Recommissioning procedure.docx
-  App 8 - PRO-MNT0045 Tf95 Recommissioningrev1.doc

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Design and Planning	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 24/06/2010	MRE Item No.: 1

Title: Access to Australian Standards

Description of Action Required to be Taken:
 At the time of the audit, the site staff and engineers did not have access to the Australian Standards Association; therefore it was not possible for staff, engineers and personnel to access the standards that are mentioned in the mining legislation and in the Cannington HSEC Management System. In the winder section there are several Australian Standards that have to be followed as per commitment of site management systems, to ensure the plant equipment meet the current technical and operational safety standards on the mechanical and electrical fields.
 Reference: HSEC Management System and Sections 35 How obligations can be discharged if no regulation or guideline made of the Mining and Quarrying Safety and Health Act 1999 and Section 8 (2) Risk reduction of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 HSEC Management System and Sections 35 How obligations can be discharged if no regulation or guideline made of the Mining and Quarrying Safety and Health Act 1999 and Section 8 (2) Risk reduction of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/08/2010

Completed: 27/08/2010, **Closed by:** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

A licence for access to the Australian Standards Association was obtained

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Appointments	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 24/06/2010	MRE Item No.: 2

Title: Documents supporting winder operations appointment

Description of Action Required to be Taken:
 The appointed person to control winder operations does not have personnel reporting to him and the operation and maintenance of the winder and hoisting systems is carried out based only in the good personal relationship between the appointed person and the electrical and mechanical supervisors. This situation may lead to conflict if that relationship is lost or the parties involved do not set the priorities for maintenance and repairs properly. Management should define or develop a formal description for the interaction of the appointed person and maintenance and operation staff associated with the winder activities with clear information on the accountabilities of each person in a supervisory role.
 Reference: Section 39 Obligations of site senior executive for mine of the Mining and Quarrying Safety and Health Act 1999.

References:
 Section 39 Obligations of site senior executive for mine of the Mining and Quarrying Safety and Health Act 1999.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/08/2010

Completed: 27/08/2010, **Closed by:** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

The relevant documents have been upgraded to include all the obligations

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Appointments	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 24/06/2010	MRE Item No.: 3

Title: Statutory safety obligations of winder operations appointed person

Description of Action Required to be Taken:
 The Notice of Appointment – Controller of Winding Operations document for Mr. Lance Gatty appointment under Section 122 of the Mining and Quarrying Safety and Health Regulation 2001, mentions only 6 sections of Part 13 Winding Operations. As the role include other responsibilities and safety obligations such as maintenance, operation, training, resources and emergencies, the document has to be reviewed to include all the relevant statutory obligations under the mining legislation and specify the boundaries of the areas of responsibility the appointed person is responsible for.
 Reference: Section 39 Obligations of site senior executive for mine of the Mining and Quarrying Safety and Health Act 1999.

References:
 Section 39 Obligations of site senior executive for mine of the Mining and Quarrying Safety and Health Act 1999

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/08/2010

Completed: 27/08/2010, **Closed by:** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Design	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 24/06/2010	MRE Item No.: 4

Title: Modification of guide rope cheese weights

Description of Action Required to be Taken:
 One of the four cheese weights of the guide ropes of the winder was replaced for a new type that replace the weight disks for a steel cylinder filled with steel balls. It was not possible to sight the risk assessment that had to be carried out to assess the possible effects in the safety integrity of the guide ropes weights. This has to be reviewed to ensure there are not hazards and or risks introduced with the modification that may affect the safety integrity of the guide ropes arrangement.

Reference: Section 6 Hazard identification of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 6 Hazard identification of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/08/2010

Completed: 27/08/2010, **Closed by:** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

components were checked and verified

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Handrails	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 24/06/2010	MRE Item No.: 5

Title: Working platforms handrails clearance

Description of Action Required to be Taken:
 Between the loading station and shaft pit, there are several work platforms with handrails. In a couple of floors the gap in between the handrails seems to be too narrow for a safe transit of personnel during normal work or in case of emergencies when it may be necessary to transport a person on a stretcher or wearing emergency breathing apparatus. These handrails have to be verified for compliance with relevant standards such as AS1428 Design for access and mobility. Reference: Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/08/2010

Completed: 05/01/2011, **Closed by:** Sergio Cespedes **on** 05/01/2011.

Reassigned Due Date: 24/12/2010; **Review conducted by** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Access Platforms	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 24/06/2010	MRE Item No.: 6

Title: Handrails on top of the skips

Description of Action Required to be Taken:
 The two winder skips have on top handrails and gates. The frame, door locking mechanism and hinges of these handrails were in disrepair and without meeting the current standards. The handrails have to be subjected to a complete assessment of the safety integrity and compliance with relevant industry standards and bring them up to safe conditions. They should be also incorporated in the program of regular inspections and maintenance of the equipment and installations.

Reference: Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/08/2010

Completed: 05/01/2011, **Closed by:** Sergio Cespedes **on** 05/01/2011.

Reassigned Due Date: 24/12/2010; **Review conducted by** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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 Mount Isa District Office
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Safety Features	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 24/06/2010	MRE Item No.: 7

Title: Winder bottom skips arresters

Description of Action Required to be Taken:
 The bottom skips arresters were modified several years ago, extending the vertical columns up about a meter on east and west side of the shaft.. This issue has to be investigated and action be taken should the need arises if it is found the modifications affect the safety integrity of these emergencies feature.
 Reference: Section 110 Repair and modification of the Mining and Quarrying Safety and Health Regulation 2001 as amended and site Change Management procedure

References:
 Section 110 Repair and modification of the Mining and Quarrying Safety and Health Regulation 2001 as amended and site Change Management procedure.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/08/2010

Completed: 27/09/2010, **Closed by:** Sergio Cespedes **on** 27/09/2010.

Reassigned Due Date: 24/09/2010; **Review conducted by** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Consultant assessment and advice obtained

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Commissioning	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 24/06/2010	MRE Item No.: 8

Title: Formal process for recommissioning of winder

Description of Action Required to be Taken:
 In my inspection report dated 02 March 2009, I gave a corrective action in relation to the development of a formal process for the two yearly recommissionings of the winder (mechanical and electrical). A comprehensive list and indication of all the safety features and devices of the mechanical, electrical, electronic and software components and systems that have to be evaluated, tested, checked and or verified was requested. Information of the maximum and lowest safety limits of the parameters being measured with indication of the acceptable levels or as required by industry standards had to be also included. Evidence of completion of this corrective action was not found during the audit. This process will provide a significant improvement in the retention of knowledge and skills to avoid the dependence from consultants or third parties or assess the quality of services provided. Use of current Australian Standards and mining practices should be also used as benchmarking of the maintenance activities (e.g. frequency of some mechanical tests does not match with the ones in the mentioned standards). Reference: Section 105 Commissioning and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 105 Commissioning and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/08/2010

Completed: 06/01/2011, **Closed by:** Sergio Cespedes **on** 06/01/2011.

Reassigned Due Date: 28/02/2011; **Review conducted by** Sergio Cespedes **on** 01/12/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Inspection, monitoring & testing	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 24/06/2010	MRE Item No.: 9

Title: Bottom skips arresters inspections and checks

Description of Action Required to be Taken:
 Checks of the skips bottom arresters were not found in the mechanical recommissioning report, neither mentioned about any modifications done as mentioned somewhere in this report. Ensure this safety features are integral part of the regular recommissioning inspections and tests.
 Reference: Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/08/2010

Completed: 27/08/2010, **Closed by:** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

The skips bottom arresters are now included in the ABB recommissioning activities

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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 Mount Isa District Office
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Inspection, monitoring & testing	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 24/06/2010	MRE Item No.: 10

Title: Recommissioning of winder information

Description of Action Required to be Taken:
 Complete recommissioning reports were not found and the electrical and mechanical recommissioning activities are being recorded in different places and in different formats. This makes very difficult to assess the safety integrity of the whole winder system after each recommissioning.
 Reference: Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/08/2010

Completed: 01/12/2010, **Closed by:** Sergio Cespedes **on** 01/12/2010.

Reassigned Due Date: 24/11/2010; **Review conducted by** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Process developed for collecting all the information in a report form

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Inspection, monitoring & testing	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 24/06/2010	MRE Item No.: 11

Title: Use of recommissioning data

Description of Action Required to be Taken:
 During the recommissionings, the tests and measurements being gathered are only compared with the previous data, therefore maintenance personnel cannot compare or validate the data being collected with the design, particularly by the accumulative effect of some information. The information is also not being used for detecting trends in the performance and conditions of the equipment and components.
 Reference: Section 108 Monitoring of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 108 Monitoring of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/08/2010

Completed: 01/12/2010, **Closed by:** Sergio Cespedes **on** 01/12/2010.

Reassigned Due Date: 24/11/2010; **Review conducted by** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Maintenance Regime	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 24/06/2010	MRE Item No.: 12

Title: Frequency of recommissionings

Description of Action Required to be Taken:
 The frequency of the recommissionings is not clear as has been established that have to be carried out every two years and some activities are carried out yearly (electrical). The frequency and specific tests and inspections that are part of normal regular maintenance and the ones that are part of the recommissionings have to clearly established for recording and follow ups purposes to avoid confusion and being able to complete the relevant recommissioning reports. Reference: Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/08/2010

Completed: 01/12/2010, **Closed by:** Sergio Cespedes **on** 01/12/2010.

Reassigned Due Date: 24/11/2010; **Review conducted by** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
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 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Planning and Design	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 24/06/2010	MRE Item No.: 13

Title: Knowledge of relevant Australian Standards

Description of Action Required to be Taken:
 Not all staff associated with the winder activities is aware of all current and relevant Australian Standards applicable to the engineering and technical aspects of the key functions, components and or control of the winder systems. The information from the standards is important to ensure the reliability and safety integrity of critical services for the mining operations and key personnel have to make themselves aware of the knowledge these documents provide
 Reference: Section 8 Risk reduction of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 8 Risk reduction of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/08/2010

Completed: 27/08/2010, **Closed by:** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Access to Australian Standards is now available to the engineers and staff for consultation and use

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Cable Installation	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 28/06/2010	MRE Item No.: 14

Title: 11 kV electrical cable installed in the shaft

Description of Action Required to be Taken:
 An 11 kV cable that is one of the mine supplies of electrical power to the underground workings is installed in the winder shaft and is attached to support beams using timber wedges. The majority of these timber wedges have moved down through the steel support gap as result of environment conditions and stresses imposed by the weight of the cable. Some of them have also missing parts. These cable supports have to be examined and action to be taken to bring the cable installation to design specifications and to avoid possible cascade failure with the potential to cause harm or affect the health and safety of personnel during shaft inspections and repairs or personnel working underground by the lost of electrical supply to critical equipment underground (emergency services, ventilation, water pumping)
 Reference: Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 24/08/2010

Completed: 01/12/2010, **Closed by:** Sergio Cespedes **on** 01/12/2010.

Reassigned Due Date: 24/11/2010; **Review conducted by** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

The 11 kV cable installation in the shaft has been assessed and support still working well

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Emergency Preparedness	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 28/06/2010	MRE Item No.: 15

Title: Winder are foreseeable emergencies

Description of Action Required to be Taken:
 The following foreseeable emergencies are included in the Winder Drivers Training document named CAN HR Manual Winder – Reference Manual:

- * Power failure preventing movement of the Skip (with or without people o the Skip)
- * Control failure causing Overload, Overspeed, Rope Slip, uncontrolled movement etc
- * Rope (Head, Tail, Guide) or Rope Attachment failure (ie a catastrophic failure)
- * Failure of the Winder Tower eg structural failure or plane impact
- * Seismic activity
- * Flooding
- * Brake component or brake control failure (e.g. brake card or brake pack fails, brakes won't lift)
- * Mechanical failure of component
- * In shaft emergency e.g. person in Skip injured during shaft inspection
- * In shaft emergency e.g. falling ore hits a person in Tail Rope area
- * Fire (in Substation, Transformers, Brake packs, Motor, Cyclo convertors)
- * Mine evacuation via Skip rather than via ladder ways or the decline
- * Falls of people, objects or ore
- * Inappropriate action by Winder Driver or Maintenance personnel.
- * Damage to in-shaft fittings eg cable damage from falling ore
- * Object protrudes from Skip or Bridle contacting shaft, shaft services or Winder structure.

Only a couple of them are covered in safety work instructions and or procedures. These foreseeable emergencies and any other that personnel may become aware of, have to be risk assessed and be included in the above-mentioned manual or create safety work instructions for an effective management of them.

Reference: Section 32 Risk management for emergencies of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:

Section 32 Risk management for emergencies of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 26/08/2010

Completed: 01/11/2010, **Closed by:** Sergio Cespedes **on** 01/11/2010.

Reassigned Due Date: 31/10/2010; **Review conducted by** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Department of Natural Resources and Mines
 Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Corrective and Preventive Actions	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 24/06/2010
Record Date: 28/06/2010	MRE Item No.: 16

Title: Official responses to mining Inspectorate

Description of Action Required to be Taken:
 The process to develop the response to Inspector of Mines inspections reports has to be reviewed to ensure the safety issues, non-compliance with the mining legislation being reported to the mine are properly addressed, and that all relevant information and evidence is provided (see inspection reports dated 02 March 2009 and 28 August 2007).
 Reference: Section 59 Mine Record of the Mining and Quarrying Safety and Health Act 1999

References:
 Section 59 Mine Record of the Mining and Quarrying Safety and Health Act 1999

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 26/08/2010

Completed: 01/11/2010, **Closed by:** Sergio Cespedes **on** 01/11/2010.

Reassigned Due Date: 31/10/2010; **Review conducted by** Sergio Cespedes **on** 27/08/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	17/05/2010

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Today I came to site to undertake an inspection of the electrical equipment and installations of the PacRim and site crushing plants, tailings dam pump station and paste fill plant. Also to attend a meeting with maintenance staff to coordinate a Winder Management System audit that I will undertake during the next few weeks.

In the company of Mr. Tony Fry, Electrical Supervisor and appointed person to control electrical work, I inspected the above mentioned areas.

On the PacRim Crushing Plant, we could not find records of current tests and inspections of electrical safety devices and appliances that contractors have to periodically carry out as established for site wide. Some of the fire extinguishers had overdue test tag and there was a manual arc welding machine without the safety device (voltage reducer device or VRD).

At the Tailings Pump Station, the 440 Volts power distribution board No. MC-49501 has been installed about 650 mm from the ground and the steel platform to access the controls does not provide enough safe working space and does not have handrail and stair for safe access. In control box Pw-45109B, there was some water inside with some rusted steel bolts and screws on the earth bus bar. The main switch had evidence of a flash-over with some damage to some electrical components. The housekeeping inside the electrical cubicles has to be also improved.

During the inspection, Mr. Fry showed me the construction work for the new 11 kV, direct on line start vertical mill that will be installed. Later in the cribroom I was introduced to Mr. David Stringfellow, Electrical Consultant Engineer from Hatch Consultants, who explained in broad terms the project. As this new installation may cause a significant impact on the electrical reticulation system, the following information has to be provided as soon as it is available:

- Scope of the project
- Project risk assessment
- Electrical protection study for the new mill project
- Impact assessment of the installation of the new mill on the current power generation and reticulation system of the mine site, including any required modifications to the protection systems.
- Single line diagrams and schedule of equipment to be installed.
- Organisation structure for the management of the project

Following the inspection, I met Mr. David Moussie, Underground Maintenance Superintendent, Mr. Lance Gatty, Appointed Person to Control Winder Operations. Mr. Tony

Ross, Maintenance Manager was on the telephone from Townsville to discuss the details and agree with the time frame for the above mentioned winder audit. I gave to Mr. Moussie a list of documents that have to be provided for the desktop audit.

As result of the inspection and discussions held with Mr. Fry, the following needs attention and written confirmation of completion of the activities to address the safety issues to be sent to me by the due date:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Tailings electrical controls	17/06/2010
In the Tailing Pumps Station, the following has to be addressed:		
1.- The 650 mm height working platform in front of MCC-MC4951 - 415 Volts did not have handrails, does not provide enough space for safe working and did not have ladder or stairs. The doors were kept semi-open by short steel chains that are deteriorating their hinges		
2.- Inside of control box No. PW-45109B there was water, evidence of a flashover and rusted components and screws of the switch and earthing brass bar.		
3.- The housekeeping inside of the cubicles and boxes has to be improved as electricians use them to store components and there were none related items.		
4.- The glands of the SWA cables were not connected to the protective earthing		
Reference: Section 100 Selection and design, Section 106 Operating plant and Section 25 Earthing of the Mining and Quarrying Safety and Health Regulation 2001 as amended.		

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	PacRim Crushing Plant inspection and testing	17/06/2010
At the time of the inspection up to date records of inspections, maintenance and tests of electrical safety devices, equipment and appliances were not found other than some pullwire switches. Some of the old records did not have all the information required (e.g. date, name of person doing the tests, details of the inspection)		
The sealing of the Motor Control Centre, particularly in the bottom of cubicles and the doors has to be improved to avoid the ingress of dust that may render the electrical equipment and controls to unsafe conditions.		
Reference: Section 106 Operating plant and Section 110 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended.		

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	PacRim welder without safety device	17/06/2010
The manual arc welding machine Idealarc CV500-I outside of the workshop did not have welding safety device or VRD and some fire extinguishers had overdue test tags.		
Ensure that all manual arc welding machines being used on site have fit for purpose welding safety devices and the fire extinguishers are regularly maintained and inspected to ensure they are kept fit for purpose for emergencies.		
Reference: Section 100 Selection and design and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.		

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	PacRim chemicals in food fridge	17/06/2010
In the office fridge there was a container with Loctite 406 and another container with Sikaflex 252 adhesive stored together with food and drinks.		
No chemicals have to be stored in the fridges together with food to avoid the risk of poisoning. A suitable and fit for purpose storage facility for these chemicals has to be provided with clear		

labelling on the door indicating the purpose of the container.

Reference: Section 56 Storing and handling hazardous substances and dangerous goods of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

**Sergio Cespedes
Inspector of Mines
Northern Region**

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Equipment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 17/05/2010
Record Date: 19/05/2010	MRE Item No.: 1

Title: Tailings electrical controls

Description of Action Required to be Taken:
In the Tailing Pumps Station, the following has to be addressed:

- 1.- The 650 mm height working platform in front of MCC-MC4951 - 415 Volts did not have handrails, does not provide enough space for safe working and did not have ladder or stairs. The doors were kept semi-open by short steel chains that are deteriorating their hinges
- 2.- Inside of control box No. PW-45109B there was water, evidence of a flashover and rusted components and screws of the switch and earthing brass bar.
- 3.- The housekeeping inside of the cubicles and boxes has to be improved as electricians use them to store components and there were none related items.
- 4.- The glands of the SWA cables were not connected to the protective earthing

Reference: Section 100 Selection and design, Section 106 Operating plant and Section 25 Earthing of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
Section 100 Selection and design, Section 106 Operating plant and Section 25 Earthing of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 17/06/2010

Completed: 22/06/2010, **Closed by:** Sergio Cespedes **on** 22/06/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
Department of **Mines and Energy**

Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Inspection, monitoring & testing	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 17/05/2010
Record Date: 19/05/2010	MRE Item No.: 2

Title: PacRim Crushing Plant inspection and testing

Description of Action Required to be Taken:

At the time of the inspection up to date records of inspections, maintenance and tests of electrical safety devices, equipment and appliances were not found other than some pullwire switches. Some of the old records did not have all the information required (e.g. date, name of person doing the tests, details of the inspection)

The sealing of the Motor Control Centre, particularly in the bottom of cubicles and the doors has to be improved to avoid the ingress of dust that may render the electrical equipment and controls to unsafe conditions.

Reference: Section 106 Operating plant and Section 110 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:

Section 106 Operating plant and Section 110 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 17/06/2010

Completed: 22/06/2010, **Closed by:** Sergio Cespedes **on** 22/06/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Welders	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 17/05/2010
Record Date: 19/05/2010	MRE Item No.: 3

Title: PacRim welder without safety device

Description of Action Required to be Taken:
 The manual arc welding machine Idealarc CV500-I outside of the workshop did not have welding safety device or VRD and some fire extinguishers had overdue test tags. Ensure that all manual arc welding machines being used on site have fit for purpose welding safety devices and the fire extinguishers are regularly maintained and inspected to ensure they are kept fit for purpose for emergencies.
 Reference: Section 100 Selection and design and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 100 Selection and design and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 17/06/2010

Completed: 22/06/2010, **Closed by:** Sergio Cespedes **on** 22/06/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Chemical Storage	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 17/05/2010
Record Date: 20/05/2010	MRE Item No.: 4

Title: PacRim chemicals in food fridge

Description of Action Required to be Taken:
In the office fridge there was a container with Loctite 406 and another container with Sikaflex 252 adhesive stored together with food and drinks.
No chemicals have to be stored in the fridges together with food to avoid the risk of poisoning. A suitable and fit for purpose storage facility for these chemicals has to be provided with clear labelling on the door indicating the purpose of the container.
Reference: Section 56 Storing and handling hazardous substances and dangerous goods of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
Section 56 Storing and handling hazardous substances and dangerous goods of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 17/06/2010

Completed: 22/06/2010, **Closed by:** Sergio Cespedes **on** 22/06/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	07/10/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today accompanied by Mr. John Harvey, Electrical Supervisor and appointed person to control electrical work; an inspection of the underground electrical substations and auxiliary equipment was carried out.

On arrival I met Mr. Peter Townson, Maintenance Manager and Mr. Kedi Ilimbit, Process Maintenance Superintendent and the following matters were discussed:

1. Status of corrective action given during the last Winder Management System audit in relation of a formal process for the regular recommissionings.
2. Management of the mechanical and electrical recommissioning of the winder
3. Status of the Winder Drivers training manual that had to be reviewed, updated and approved
4. Status of the Electrical Management System manual being developed and information that has to be included for an effective management of safety of all activities associated with the life cycle of the electrical plant equipment and installations (e.g. design, construction, commissioning, operation and decommissioning)
5. Record keeping and availability of information associated with electrical work site wide
6. Appointment of persons to control electrical work for underground and surface areas.

As discussed with Mr. Townson, a copy of the last recommissioning report (mechanical and electrical), approved Winder Drivers Training manual and Electrical Management System manual has to be provided within a week.

Following the meeting and in the company of Mr. Harvey, we went underground to inspect some of the electrical substations, Motor Control Centres and auxiliary equipment. Once we finished with the underground inspection, we went back to surface to review some of the records of maintenance, inspections and tests of the electrical equipment, installations and safety devices.

It is of a concern that some of the electrical plant equipment being damaged by the environment conditions or some of the safety features are not kept in safe conditions as required by the mining legislation. These issues are also not being noticed by the

maintenance personnel that attend frequently the underground areas during normal maintenance and repairs. The age of some equipment and installations is affecting the safety integrity of some key components of the installations that have to be properly addressed to ensure they are still fit for purpose and safe for use.

As result of the inspection and discussions held, the following has to be addressed:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Pump Substation 280 mLv North Zone	07/11/2009
	The following issues have to be addressed in this Substation to ensure compliance with the Mining and Quarrying Safety and Health Regulation 2001 as amended:	
	1.- Refrigerative air conditioner condensation water from disconnected pipe running on the floor of the substation close to high voltage transformer corroding the door frame of the MCC and the middle wall steel frame (ref: Section 106 Operating plant)	
	2.- The back and wall on the entrance of the Substation does not have suitable ground support and there were loose rocks on the walls and back that could cause serious injuries to personnel if they fall when personnel is in the area (ref: 44 Ground control)	
	3.- In a 240 Volts lighting and power distribution board there were three lighting earth leakage protection devices without facilities for regular injection tests (ref: Section 100 Selection and design)	
	4.- There were two appliances without test tags (ref: Section 108 Monitoring)	
	5.- The two air-conditioners need identification labels to match with the isolation switches to avoid isolation of the wrong device (ref: Section 102 Plant controls and control systems)	
	6.- There was not CPR notice in the Motor Control Centre (ref: Section 32 Risk management for emergencies)	
	7.- The brass gland plate of the three electronic variable speed controllers were not connected to the protective earthing system (ref: Section 25 Earthing)	
	8.- The nuts and bolts of the main earthing copper bar of the equipotential bonding under the 11 kV power transformer are being significantly damaged by rust affecting their safety integrity (ref: Section 109 Service and maintenance)	
	9.- There were steel wire armoured cables installed in a bore hole and suspended from stainless steel catenaries with bulldog clamps and shackles made of normal steel, which were being seriously damaged by corrosion (ref: Section 100 Selection and design)	
	10.- The steel cable socks used to suspend the steel wire armoured cables being dropped through bores were damaged by corrosion and not longer fit for purpose (ref: Section 100 Selection and design).	
	A comprehensive audit list including all the safety and technical requirements including and not limited to the above mentioned substandard conditions for and effective management of personnel safety associated with the equipment, installations, safety devices and features of the underground substations have to be developed and included in the maintenance electronic system as part of a program for regular inspections and or audits to satisfy the requirements of Part 2 Division 2 Risk management process of the above mentioned mining legislation.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Pump Station in 280 mLv motor starters	07/11/2009
	In the 280 mLv Pump Station, the three pumps motors have installed ventilation fans on the rear and each one of them have their own 440 Volts three phases isolators. A review of safety features of this arrangement has to be carried out to ensure the risk of injury, electric shock or electrocution is properly managed in the event maintenance personnel mistakenly isolate only the pump motor when interfering with the equipment.	
	The other underground pump stations have to be verified for similar hazards and risks.	
	Reference: Section Part 2 Safety and health risk management of the Mining and Quarrying	

Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	New 450 mLv R4 Substation	07/11/2009
	<p>In the new 450 mLv - R4 1 MVA; 11/1 kV Substation the following has to be addressed to comply with requirements of mining legislation above mentioned:</p> <p>1.- The Substation has been in service for several months and the commissioning of electrical equipment and safety devices had not been completed. Not evidence was found of effectiveness tests carried out on the 1000 Volts earth leakage protection devices (ref: Section 105 Commissioning)</p> <p>2.- There were not completed electrical drawings of as built available, only the ones with pen marks and modifications (ref: Section 112 Specifications, instructions and other information about plant)</p> <p>3.- The lighting fittings had 240 Volts leads with plugs which had not been tested and tagged (ref: Section 108 Monitoring)</p> <p>4.- The Neutral Earth Resistor of the high voltage transformer did not have information /characteristics plate (ref: Section 112 Specifications, instructions and other information about plant)</p> <p>5.- The 11 and 1 kV steel wire armoured cables and earth conductor were lying on the floor without suitable support and protection (ref: Section 104 Manufacture, construction, storage, transport and installation)</p> <p>6.- There were 1000 Volts conductors that had been disconnected from the Rock breakers have to be properly terminated and insulated to avoid the exposure of personnel to unacceptable levels of risk in case of inadvertent back feeding (ref: Section 106 Operating plant)</p>	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	Process for design and commissioning of u/g substations	07/01/2010
	<p>As result of the findings during the substations inspection, a comprehensive and well documented and approved process for the design, construction, commissioning, operation and maintenance of the underground electrical substations and switchrooms has to be developed and established. The process must provide for an effective management of all hazards and risks associated with their life cycle, including all the required information and records that have to be produced, kept available and up to date. The verification of compliance with the requirements of the mining legislation has to be also included.</p> <p>Copy of all documents and information generated as per above request have to be provided to myself within three months</p> <p>Reference: Part 2 Safety and health risk management, Section 112 Specifications, instructions and other information about plant and Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended.</p>	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
5	Underground fan starters	07/01/2010
	<p>In the electrical fan starter control box No. 37 installed in 450 mLv R4 there was only one 250 Amps Rock breaker feeding two independent contactors and motors. This arrangement does not meet the requirement of Section 27 Isolation facility of the Mining and Quarrying Safety and Health Regulation 2001, as it does not provide facilities for safe isolation and lockout of each fan motor, the circuit breaker also does not provide effective electrical protection to the conductors feeding each of the fans and or the electrical motors themselves as it has been selected to feed two fans at the same time. Should it be a fault in one of the motors the electrical protections may not provide the level of safety required to achieve acceptable levels or risk. This practice is also against the Australian Standards (ref: Wiring Rules AS3000, Section 2 General arrangement,</p>	

control and protections) and the good engineering practices in mines and quarries. An audit of all control equipment of underground electrical equipment has to be carried out to ensure all equipment with similar unsafe arrangement is modified and brought to safe conditions and in compliance with Section 27 above mentioned and Australian Standards. The technical specifications available for design, modifications and repairs of underground electrical surface and underground equipment have to be reviewed to provide for the level of safety required under above mentioned legislation and Australian Standards.

Copy of the findings and action plan to address the technical and safety issues found have to be provided to myself within three months.

Reference: Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

**Sergio Cespedes
Inspector of Mines
Northern Region**

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Hazard Awareness	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 07/10/2009
Record Date: 09/10/2009	MRE Item No.: 1

Title: Pump Substation 280 mLv North Zone

Description of Action Required to be Taken:
The following issues have to be addressed in this Substation to ensure compliance with the Mining and Quarrying Safety and Health Regulation 2001 as amended:

- 1.- Refrigerative air conditioner condensation water from disconnected pipe running on the floor of the substation close to high voltage transformer corroding the door frame of the MCC and the middle wall steel frame (ref: Section 106 Operating plant)
- 2.- The back and wall on the entrance of the Substation does not have suitable ground support and there were loose rocks on the walls and back that could cause serious injuries to personnel if they fall when personnel is in the area (ref: 44 Ground control)
- 3.- In a 240 Volts lighting and power distribution board there were three lighting earth leakage protection devices without facilities for regular injection tests (ref: Section 100 Selection and design)
- 4.- There were two appliances without test tags (ref: Section 108 Monitoring)
- 5.- The two air-conditioners need identification labels to match with the isolation switches to avoid isolation of the wrong device (ref: Section 102 Plant controls and control systems)
- 6.- There was not CPR notice in the Motor Control Centre (ref: Section 32 Risk management for emergencies)
- 7.- The brass gland plate of the three electronic variable speed controllers were not connected to the protective earthing system (ref: Section 25 Earthing)
- 8.- The nuts and bolts of the main earthing copper bar of the equipotential bonding under the 11 kV power transformer are being significantly damaged by rust affecting their safety integrity (ref: ...)

Section 109 Service and maintenance)

9.- There were steel wire armoured cables installed in a bore hole and suspended from stainless steel catenaries with bulldog clamps and shackles made of normal steel, which were being seriously damaged by corrosion (ref: Section 100 Selection and design)

10.- The steel cable socks used to suspend the steel wire armoured cables being dropped through bores were damaged by corrosion and not longer fit for purpose (ref: Section 100 Selection and design).

A comprehensive audit list including all the safety and technical requirements including and not limited to the above mentioned substandard conditions for and effective management of personnel safety associated with the equipment, installations, safety devices and features of the underground substations have to be developed and included in the maintenance electronic system as part of a program for regular inspections and or audits to satisfy the requirements of Part 2 Division 2 Risk management process of the above mentioned mining legislation.

References:

Sections 25; 32; 44; 100; 102;106; 108; 109 of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/11/2009

Completed: 27/11/2009, **Closed by:** Sergio Cespedes **on** 27/11/2009.

Reassigned Due Date: 30/11/2009; **Review conducted by** Sergio Cespedes **on** 24/11/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

All the items mentioned in the SCP have been completed

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Equipment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 07/10/2009
Record Date: 09/10/2009	MRE Item No.: 2

Title: Pump Station in 280 mLv motor starters

Description of Action Required to be Taken:
 In the 280 mLv Pump Station, the three pumps motors have installed ventilation fans on the rear and each one of them have their own 440 Volts three phases isolators. A review of safety features of this arrangement has to be carried out to ensure the risk of injury, electric shock or electrocution is properly managed in the event maintenance personnel mistakenly isolate only the pump motor when interfering with the equipment.
 The other underground pump stations have to be verified for similar hazards and risks.
 Reference: Section Part 2 Safety and health risk management of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section Part 2 Safety and health risk management of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/11/2009

Completed: 27/11/2009, **Closed by:** Sergio Cespedes **on** 27/11/2009.

Reassigned Due Date: 30/11/2009; **Review conducted by** Sergio Cespedes **on** 24/11/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Caution labels have been attached to the LCU's as a control measure to prevent incorrect isolation

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Commissioning of New Plant	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 07/10/2009
Record Date: 09/10/2009	MRE Item No.: 3

Title: New 450 mLv R4 Substation

Description of Action Required to be Taken:
In the new 450 mLv - R4 1 MVA; 11/1 kV Substation the following has to be addressed to comply with requirements of mining legislation above mentioned:

- 1.- The Substation has been in service for several months and the commissioning of electrical equipment and safety devices had not been completed. Not evidence was found of effectiveness tests carried out on the 1000 Volts earth leakage protection devices (ref: Section 105 Commissioning)
- 2.- There were not completed electrical drawings of as built available, only the ones with pen marks and modifications (ref: Section 112 Specifications, instructions and other information about plant)
- 3.- The lighting fittings had 240 Volts leads with plugs which had not been tested and tagged (ref: Section 108 Monitoring)
- 4.- The Neutral Earth Resistor of the high voltage transformer did not have information /characteristics plate (ref: Section 112 Specifications, instructions and other information about plant)
- 5.- The 11 and 1 kV steel wire armoured cables and earth conductor were lying on the floor without suitable support and protection (ref: Section 104 Manufacture, construction, storage, transport and installation)
- 6.- There were 1000 Volts conductors that had been disconnected from the Rock breakers have to be properly terminated and insulated to avoid the exposure of personnel to unacceptable

levels of risk in case of inadvertent back feeding (ref: Section 106 Operating plant)

References:

Sections 105, 108, 109, 104, 112 of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/11/2009

Completed: 22/12/2009, **Closed by:** Sergio Cespedes **on** 22/12/2009.

Reassigned Due Date: 15/12/2009; **Review conducted by** Sergio Cespedes **on** 27/11/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical General	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 07/10/2009
Record Date: 09/10/2009	MRE Item No.: 4

Title: Process for design and commissioning of u/g substations

Description of Action Required to be Taken:
 As result of the findings during the substations inspection, a comprehensive and well documented and approved process for the design, construction, commissioning, operation and maintenance of the underground electrical substations and switchrooms has to be developed and established. The process must provide for an effective management of all hazards and risks associated with their life cycle, including all the required information and records that have to be produced, kept available and up to date. The verification of compliance with the requirements of the mining legislation has to be also included.
 Copy of all documents and information generated as per above request have to be provided to myself within three months
 Reference: Part 2 Safety and health risk management, Section 112 Specifications, instructions and other information about plant and Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Part 2 Safety and health risk management, Section 112 Specifications, instructions and other information about plant and Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/01/2010

Completed: 24/02/2010, **Closed by:** Sergio Cespedes **on** 24/02/2010.

Reassigned Due Date: 15/02/2010; **Review conducted by** Sergio Cespedes **on** 27/11/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Control and Protection	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 07/10/2009
Record Date: 09/10/2009	MRE Item No.: 5

Title: Underground fan starters

Description of Action Required to be Taken:
 In the electrical fan starter control box No. 37 installed in 450 mLv R4 there was only one 250 Amps Rock breaker feeding two independent contactors and motors. This arrangement does not meet the requirement of Section 27 Isolation facility of the Mining and Quarrying Safety and Health Regulation 2001, as it does not provide facilities for safe isolation and lockout of each fan motor, the circuit breaker also does not provide effective electrical protection to the conductors feeding each of the fans and or the electrical motors themselves as it has been selected to feed two fans at the same time. Should it be a fault in one of the motors the electrical protections may not provide the level of safety required to achieve acceptable levels or risk. This practice is also against the Australian Standards (ref: Wiring Rules AS3000, Section 2 General arrangement, control and protections) and the good engineering practices in mines and quarries.

An audit of all control equipment of underground electrical equipment has to be carried out to ensure all equipment with similar unsafe arrangement is modified and brought to safe conditions and in compliance with Section 27 above mentioned and Australian Standards. The technical specifications available for design, modifications and repairs of underground electrical surface and underground equipment have to be reviewed to provide for the level of safety required under above mentioned legislation and Australian Standards.

Copy of the findings and action plan to address the technical and safety issues found have to be

provided to myself within three months.

Reference: Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:

Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/01/2010

Completed: 27/11/2009, **Closed by:** Sergio Cespedes **on** 27/11/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Electrical calculations have been performed as per AS's to verify compliance

Released by DNRM under the RTI Act 2009



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	02/03/2009

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today accompanied by Mr. David Moussie, Underground Maintenance Superintendent and Mr. Stuart King, Electrical Supervisor and appointed person to control electrical work; an inspection of the TF95 Winder installations and equipment was carried out. It was also investigated the high potential incident that occurred on 06 January 2009, when a Franna mobile crane was pulled in the direction of the open shaft by uncontrolled movement of the winder during maintenance activities.

During the inspection the following issues were discussed:

1. Status of the recommendations to avoid re-occurrence of this incident
2. Preventive maintenance system for the winder
3. Training and assessment of winder drivers
4. Current status of the training and operation manuals
5. Mechanical and electrical recommissionings
6. Appointment of person(s) to control winding operations under Section 122 of the mining regulations and documents supporting the appointment
7. Issues highlighted in past Winder Management Systems audits
8. Records of preventive and corrective maintenance
9. Records keeping and statutory requirements about information
10. Hardware and software changes management
11. Retention of knowledge and skills for maintenance and operation.

During the underground inspection, it was observed the steelwork in the pit of the shaft has been replaced and repaired and the spillage is not longer an issue as long as the area is properly maintained as personnel have to access the equipment and installations during maintenance activities. After inspecting the pit of the shaft, we went up to the loading station; where the discharge area of the two conveyors has been modified to be able to load the skips without significant spillage; however the walkways around the shaft on this area have a significant amount of dust and rocks; which does not allow to assess the real safety conditions. As it is planned to replace some of the guide ropes, this area has to be made safe to protect personnel working on the area or in the pit; where the guide ropes are attached to the ground.

On the second day, I talked to the maintenance planners to discuss the schedule of preventive activities being currently carried out for the safe and reliable operation of the winder systems, the way the information is being managed and recorded, particularly the issues that require attention or parts that need to be repaired. Later I met Mr. Lance Gatty, appointed person to control winding operations and we went to the winder house to see the information that is kept in the building, such as training, operation and maintenance manuals, electrical drawings and safety work instructions.

When the winder systems were approved by the Mines Inspectors in 1998, the mine committed to recommission the winder systems annually; which currently has been established as two yearly. In 2004 an attempt was made, but it was not completed. Then in 2006 again there was another attempt with most of the electrical activities completed but without producing a formal commissioning report. On December 2008 a recommissioning started and it was completed in January of this year. The final report containing the results of the mechanical and electrical tests, inspections and checks has not been compiled yet in a formal report, with all the findings and recommendations. A copy of the full recommissioning report (mechanical and electrical) has to be submitted once completed in the next few weeks, together with an action plan to address all the recommendations included in the report.

In relation to the recommendations to avoid re-occurrence of the above mentioned incident, a significant effort has been made in addressing the findings, including the review of the logics of the programmable logic controllers involved by an expert from the supplier of the winding systems (ABB) and adding extra safety functions to the control system.

As result of the inspection, the following has to be addressed:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Recommissioning of the winder	30/10/2009
<p>A formal process has to be developed and established for the two yearly recommissioning (mechanical and electrical) of the winder systems to detect any deterioration causing an unacceptable level of risk, ensure they are capable of performing their intended functions and are within the condition and performance limits of their specifications and design. The process has to include a comprehensive list of all functions, safety devices and features of the hardware and software to be tested, verified and or assessed with clear information of the expected outcomes/tests/measuring results, including the maximum and minimum values within approved safety margins for comparison with the design values or for adjusting the parameters. Also for replacement of components or parts, should it be the case. The aim is to ensure the recommissioning activities are performed in a consistent and a standard manner for a reliable assessment of the reliability and safety conditions of the winding systems.</p> <p>Information and details of the approved process have to be submitted by the due date Reference: Part 10 Plant generally of the Mining and Quarrying Safety and Health Regulation 2001 as amended.</p>		

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Accumulated spillage on the loading station shaft area	03/04/2009
<p>The spillage accumulated on the walkway area around the shaft in the loading station have to be removed and assessment of the safety conditions of the steel work and walkways have to be carried out and all unsafe conditions found to be eliminated to ensure personnel that need to access the area are not been exposed to unacceptable levels of risk, particularly if they need to work within the area during the planned change of guide ropes.</p> <p>Reference: Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.</p>		

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Winder drivers medical examinations	03/04/2009

During the inspection, evidence of the medical examinations of the winder drivers showing they are free from defective vision, epilepsy, disease of the heart or any other infirmity that could cause them to lose control of the winder when the equipment is operated in manual mode during maintenance activities or emergencies was not found.

Ensure the established two yearly medical examination of the winder drivers provide for all relevant tests and examinations to ensure they are fit for duty as required by Section 87 Assessing workers to decide fitness level of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
4	Winder old and new information	N/A

It is strongly recommended to review the information contained in the submissions to the mines inspectorate during construction and remote and unattended operation of the hoisting system together with the Winder Safety Management Systems audits carried out in 2003 and 2007, as they contain quite useful information about the systems, the site commitments and about the opportunities for improvement that may assist with the development or improvement of the current processes for an effective and within the requirements of the mining legislation management of the winding systems.

Reference: Section 39 Obligations of site senior executive for mine of the Mining and Quarrying Safety and Health Act 1999

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Sergio Cespedes
Inspector of Mines
North Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Winding system	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 02/03/2009
Record Date: 06/03/2009	MRE Item No.: 1

Title: Recommissioning of the winder

Description of Action Required to be Taken:
 A formal process has to be developed and established for the two yearly recommissioning (mechanical and electrical) of the winder systems to detect any deterioration causing an unacceptable level of risk, ensure they are capable of performing their intended functions and are within the condition and performance limits of their specifications and design. The process has to include a comprehensive list of all functions, safety devices and features of the hardware and software to be tested, verified and or assessed with clear information of the expected outcomes/tests/measuring results, including the maximum and minimum values within approved safety margins for comparison with the design values or for adjusting the parameters. Also for replacement of components or parts, should it be the case.
 The aim is to ensure the recommissioning activities are performed in a consistent and a standard manner for a reliable assessment of the reliability and safety conditions of the winding systems.
 Information and details of the approved process have to be submitted by the due date
 Reference: Part 10 Plant generally of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Part 10 Plant generally of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/10/2009

Completed: 30/03/2010, **Closed by:** Sergio Cespedes **on** 30/03/2010.

Reassigned Due Date: 31/03/2010; **Review conducted by** Sergio Cespedes **on** 01/02/2010.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Spillage control	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 02/03/2009
Record Date: 06/03/2009	MRE Item No.: 2

Title: Accumulated spillage on the loading station shaft area

Description of Action Required to be Taken:
 The spillage accumulated on the walkway area around the shaft in the loading station have to be removed and assessment of the safety conditions of the steel work and walkways have to be carried out and all unsafe conditions found to be eliminated to ensure personnel that need to access the area are not been exposed to unacceptable levels of risk, particularly if they need to work within the area during the planned change of guide ropes.
 Reference: Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 03/04/2009

Completed: 27/03/2009, **Closed by:** Sergio Cespedes **on** 27/03/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Spillage on walkways on loading station has been cleaned, bottom shaft has been locked until cleaned for personnel access

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
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 Phone: (07) 4747 2158, Fax: (07) 4743 7165

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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Medical assessment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 02/03/2009
Record Date: 06/03/2009	MRE Item No.: 3

Title: Winder drivers medical examinations

Description of Action Required to be Taken:
 During the inspection, evidence of the medical examinations of the winder drivers showing they are free from defective vision, epilepsy, disease of the heart or any other infirmity that could cause them to lose control of the winder when the equipment is operated in manual mode during maintenance activities or emergencies was not found.
 Ensure the established two yearly medical examination of the winder drivers provide for all relevant tests and examinations to ensure they are fit for duty as required by Section 87 Assessing workers to decide fitness level of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 87 Assessing workers to decide fitness level of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 03/04/2009

Completed: 27/03/2009, **Closed by:** Sergio Cespedes **on** 27/03/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

SSE sighted medical records compliance with MRE request

Released by DNRM under the RTI Act 2009



Recommendation

Subject: Management	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 02/03/2009
Record Date: 06/03/2009	MRE Item No.: 4

Title: Winder old and new information

Description of Action Recommended to be Taken:

It is strongly recommended to review the information contained in the submissions to the mines inspectorate during construction and remote and unattended operation of the hoisting system together with the Winder Safety Management Systems audits carried out in 2003 and 2007, as they contain quite useful information about the systems, the site commitments and about the opportunities for improvement that may assist with the development or improvement of the current processes for an effective and within the requirements of the mining legislation management of the winding systems.

Reference: Section 39 Obligations of site senior executive for mine of the Mining and Quarrying Safety and Health Act 1999

References:

Section 39 Obligations of site senior executive for mine of the Mining and Quarrying Safety and Health Act 1999



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	04/12/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today accompanied by Mr. Tony Fry, Electrical Supervisor and appointed person to control electrical work for surface installations; an inspection of the electrical cranes was carried out.

The mechanical and electrical maintenance of the electrical cranes is carried out by Konecranes contractors. Records indicated that only the last 18 months information has been collected and kept. Several contractor records also showed the same issues being recorded several times without evidence of all the issues been attended to and none of the substandard conditions being formally addressed. It was also not evidence of a process for checking quality of work by contractors. Some modifications were made to the Split Flotation crane and the electrical drawings in the crane controls still were the one modified with red pen, therefore not officially approved. Almost all the electrical cranes use now remote controls, unfortunately a few of them did not work at the time of the inspection.

Following the inspection, we met Mr. David Moussie, Underground Maintenance Superintendent to give him feedback on the findings of the inspection and discuss some basic requirements for the establishment of an effective management of the electrical cranes maintenance and associated records and information.

As result of the inspection, the following has to be addressed:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Contractor checklist and site requirements	05/01/2009

The contractors servicing and maintaining the electrical cranes of the site, use generic forms for all the places including mines. The site has some specific electrical tests and checks that are not included in the contractors documents.

The forms used for the maintenance and tests of the electrical cranes used by the contractors have to be reviewed and all the relevant activities required to be undertaken under the site maintenance requirements to be added to the contractors forms for the regular inspections, maintenance and tests (e.g. earth continuity and insulation tests, emergency stop tests, door interlocks, alarms)

Reference: Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Maintenance and modifications records	05/01/2009

Not all the maintenance records of the cranes were found during the inspection. Only the last eighteen months information provided by the contractors servicing and maintaining the cranes were available and some of the middle were missing. Several of the contractors records showed the same substandard and unsafe conditions and faults without indication of any action taken by the site to rectify the issues risen.

- 1.- A comprehensive process has to be developed and established to ensure all the relevant information and records of the cranes are kept available and up to date as required by Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended.
- 2.- The Maintenance Department has to develop also a process to ensure all the faults, recommendations, unsafe conditions and issues risen by the contractors maintaining the electrical cranes are addressed and properly documented in the electronic maintenance system to satisfy the requirements of Section 106 Operating plant of the above mentioned mining legislation.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	CXT Monorail crane in Secondary Grinding area	05/01/2009

The following as to be addressed on the monorail crane:

- 1.- Verify the colour code of the power and control conductors comply with the relevant Australian Standards as it seemed there were black conductors with power and also yellow ones also as positive.
- 2.- The power and control wiring has to be attached properly and in a tidy manner
- 3.- There was not main isolation switch close to the main access to the monorail (switch was in the below floor).

Reference: Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	Electrical cranes remote controls	05/01/2009

Some of the remote controls of the electrical cranes did not work at the time of the inspection or were faulty. The maintenance and checks of the remote controls has to be improved to ensure the devices are kept fit for purpose and safe for use at all times. Persons responsible for the care of the units have to be also instructed about the safe keeping and correct battery charging process.

Reference: Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Sergio Cespedes
Inspector of Mines
North Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Crane maintenance	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 04/12/2008
Record Date: 08/12/2008	MRE Item No.: 1

Title: Contractor checklist and site requirements

Description of Action Required to be Taken:
 The contractors servicing and maintaining the electrical cranes of the site, use generic forms for all the places including mines. The site has some specific electrical tests and checks that are not included in the contractors documents.
 The forms used for the maintenance and tests of the electrical cranes used by the contractors have to be reviewed and all the relevant activities required to be undertaken under the site maintenance requirements to be added to the contractors forms for the regular inspections, maintenance and tests (e.g. earth continuity and insulation tests, emergency stop tests, door interlocks, alarms)
 Reference: Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 05/01/2009

Completed: 27/01/2009, **Closed by:** Sergio Cespedes **on** 27/01/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Records and Drawings	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 04/12/2008
Record Date: 08/12/2008	MRE Item No.: 2

Title: Maintenance and modifications records

Description of Action Required to be Taken:
Not all the maintenance records of the cranes were found during the inspection. Only the last eighteen months information provided by the contractors servicing and maintaining the cranes were available and some of the middle were missing. Several of the contractors records showed the same substandard and unsafe conditions and faults without indication of any action taken by the site to rectify the issues risen.

- 1.- A comprehensive process has to be developed and established to ensure all the relevant information and records of the cranes are kept available and up to date as required by Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended.
- 2.- The Maintenance Department has to develop also a process to ensure all the faults, recommendations, unsafe conditions and issues risen by the contractors maintaining the electrical cranes are addressed and properly documented in the electronic maintenance system to satisfy the requirements of Section 106 Operating plant of the above mentioned mining legislation.

References:
Section 113 Records and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 05/01/2009

Completed: 27/01/2009, **Closed by:** Sergio Cespedes **on** 27/01/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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 Department of **Mines and Energy**

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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Crane	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 04/12/2008
Record Date: 08/12/2008	MRE Item No.: 3

Title: CXT Monorail crane in Secondary Grinding area

Description of Action Required to be Taken:
 The following as to be addressed on the monorail crane:
 1.- Verify the colour code of the power and control conductors comply with the relevant Australian Standards as it seemed there were black conductors with power and also yellow ones also as positive.
 2.- The power and control wiring has to be attached properly and in a tidy manner
 3.- There was not main isolation switch close to the main access to the monorail (switch was in the below floor).
 Reference: Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 05/01/2009

Completed: 27/01/2009, **Closed by:** Sergio Cespedes **on** 27/01/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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 Department of **Mines and Energy**

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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Control and Protection	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 04/12/2008
Record Date: 08/12/2008	MRE Item No.: 4

Title: Electrical cranes remote controls

Description of Action Required to be Taken:
 Some of the remote controls of the electrical cranes did not work at the time of the inspection or were faulty. The maintenance and checks of the remote controls has to be improved to ensure the devices are kept fit for purpose and safe for use at all times. Persons responsible for the care of the units have to be also instructed about the safe keeping and correct battery charging process.
 Reference: Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 05/01/2009

Completed: 27/01/2009, **Closed by:** Sergio Cespedes **on** 27/01/2009.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	BHP Billiton Minerals Pty Ltd	Inspection	Northern	05/11/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today accompanied by Mr. Tony Fry and Mr. John Harvey, Electrical Supervisors and appointed persons to

Prior to the inspection Mr. Fry and I, met Mr. Peter Townson, Maintenance Manager and Mr. Wade Bickley, supervising mechanical tradesmen and mechanical supervisors were supervising electrical personnel. This mining legislation, I also believed there was a breach of the legislation associated with electrical work and arrangement was in conflict with. As result of today discussions I gave a directive to Mr. Townson and Mr. B

During the inspection, Mr. Fry and Mr. Harvey provided some information on the status of the work carried out completed.

Electrical contractors were working in the installation of a new switchroom (SW25906) to replace the old compliance with

As result of the inspection and discussions held during my visit, the following has to be addressed:

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
1	Pursuant to section 161 of the Mining and Quarrying Safety and Health Act 1999 Mechanical supervisors supervising electricians and vice versa	27/11/2008

For the last three months, the electrical supervisors have been supervising mechanical tradesmen and the mechanical supervisors, supervising electricians. I believe this practice is a breach of Section 51 Competencies of supervisors of the Mining and Quarrying Safety and Health Act 1999. Some of issues are:

- 1.- Mechanical supervisors do not have the knowledge, experience and skills required for an effective and safe supervision of electricians, who deal with high hazardous equipment and installations, with high levels of energy that during faults and emergencies may endanger the safety and health of a significant number or personnel.
- 2.- Similarly, electrical supervisors cannot provide advice and guidance on technical and safety matters to mechanical tradesmen, particularly on high risk tasks and hazardous equipment and installations.
- 3.- At the time of the inspection, there was not evidence of current position descriptions for supervisors working under this scheme.

The supervision of maintenance personnel has to be carried out only by persons with current

qualifications, knowledge, experience and skills associated with the tasks, environment, plant equipment, installations and operations at the mine. They have to be provided with up to date position descriptions, whenever changes are made to their scope of responsibilities and safety obligations.

References: Section 39 Obligations of site senior executive of the Mining and Quarrying Safety Act 1999, Section 17 Appointment of persons to control electrical work, Section 95 Time and resources for carrying out tasks, Section 96 Supervising workers and Section 98 Checking work quality of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	New switchroom SW25906 under construction	05/12/2008

In the new SW25906 Switchroom under construction, the following has to be addressed:

- 1.-Some SWA cable glands brass plates not connected to the protective earth
- 2.- Cables with orange colour being used on neutral conductors instead of the required black colour
- 3.- Some 440 Volts orange cables used instead of the blue, white and red insulation colours required by site specifications and Australian standards,
- 4.- Some equipment (paste conveyor return water pump) without earth fault protection
- 5.- Ensure the MCC components have safe access for maintenance, inspections and tests

References: Section 25 Earthing, Section 22 General, Section 100 Selection and design and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Underground 1000 Volts new distribution board	05/12/2008

The new 1000 Volts distribution board for underground equipment had the outgoing conductors connected to the top of the main circuit breaker instead to the bottom as indicated on the safety device.

Ensure the electrical devices in the new distribution boards are connected as per manufacturers recommendations.

Reference: Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Please provide a written status report on each Directive and SCP together with the actions taken to address each item by their due dates

Sergio Cespedes
Inspector of Mines
North Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

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Directive

I Sergio Cespedes, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to ensure worker competent, pursuant to Section 161 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Competencies of Supervisors	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 05/11/2008
Record Date: 07/11/2008	MRE Item No.: 1

Title: Mechanical supervisors supervising electricians and vice versa

Directive Given:
For the last three months, the electrical supervisors have been supervising mechanical tradesmen and the mechanical supervisors, supervising electricians. I believe this practice is a breach of Section 51 Competencies of supervisors of the Mining and Quarrying Safety and Health Act 1999. Some of issues are:

- 1.- Mechanical supervisors do not have the knowledge, experience and skills required for an effective and safe supervision of electricians, who deal with high hazardous equipment and installations, with high levels of energy that during faults and emergencies may endanger the safety and health of a significant number or personnel.
- 2.- Similarly, electrical supervisors cannot provide advice and guidance on technical and safety matters to mechanical tradesmen, particularly on high risk tasks and hazardous equipment and installations.
- 3.- At the time of the inspection, there was not evidence of current position descriptions for supervisors working under this scheme.

The supervision of maintenance personnel has to be carried out only by persons with current qualifications, knowledge, experience and skills associated with the tasks, environment, plant equipment, installations and operations at the mine. They have to be provided with up to date position descriptions, whenever changes are made to their scope of responsibilities and safety obligations.

References: Section 39 Obligations of site senior executive of the Mining and Quarrying Safety

Act 1999, Section 17 Appointment of persons to control electrical work, Section 95 Time and resources for carrying out tasks, Section 96 Supervising workers and Section 98 Checking work quality of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:

Section 39 Obligations of site senior executive of the Mining and Quarrying Safety Act 1999, Section 17 Appointment of persons to control electrical work, Section 95 Time and resources for carrying out tasks, Section 96 Supervising workers and Section 98 Checking work quality of the Mining and Quarrying Safety and Health Regulation 2002 as amended.

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 27/11/2008

Completed: 11/12/2008, **Closed by:** Sergio Cespedes **on** 11/12/2008.

Action Taken by Mine to Comply with Directive:

Response letter received indicating the changes in the organisation to comply with the directive

Directive -

If an inspector believes that a task at a mine should be performed only by persons with a particular competency, the inspector may give a directive that the task be performed only by a person with the competency.

Method of Giving Directive -

This directive was given in writing on 07/11/2008 at 11:00 AM.

Directive Given To -

This directive is given to the operator of the mine.

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

Displayed my identity card so it is clearly visible to the other person on 05/11/2008 at 10:30:00 AM.

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

In giving this directive I believe that the particular task at the mine should be performed only by persons with a particular competency.

The reason for my belief or suspicion is based upon the following -

Information provided by Site Senior Executive and Maintenance Manager, copies of organisation structure, discussions with maintenance personnel

Sergio Cespedes: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Switchboard and plant wiring	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 05/11/2008
Record Date: 07/11/2008	MRE Item No.: 2

Title: New switchroom SW25906 under construction

Description of Action Required to be Taken:
 In the new SW25906 Switchroom under construction, the following has to be addressed:

- 1.-Some SWA cable glands brass plates not connected to the protective earth
- 2.- Cables with orange colour being used on neutral conductors instead of the required black colour
- 3.- Some 440 Volts orange cables used instead of the blue, white and red insulation colours required by site specifications and Australian standards,
- 4.- Some equipment (paste conveyor return water pump) without earth fault protection
- 5.- Ensure the MCC components have safe access for maintenance, inspections and tests

References: Section 25 Earthing, Section 22 General, Section 100 Selection and design and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended

References:
 Section 25 Earthing, Section 22 General, Section 100 Selection and design and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 05/12/2008

Completed: 11/12/2008, **Closed by:** Sergio Cespedes **on** 11/12/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Control and Protection	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: BHP Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 05/11/2008
Record Date: 07/11/2008	MRE Item No.: 3

Title: Underground 1000 Volts new distribution board

Description of Action Required to be Taken:
The new 1000 Volts distribution board for underground equipment had the outgoing conductors connected to the top of the main circuit breaker instead to the bottom as indicated on the safety device.
Ensure the electrical devices in the new distribution boards are connected as per manufacturers recommendations.
Reference: Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended

References:
Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 05/12/2008

Completed: 11/12/2008, **Closed by:** Sergio Cespedes **on** 11/12/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	21/07/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today accompanied by Mr. Stuart King, Electrical Supervisor and appointed person to control electrical work

Prior to the inspection I met Mr. Peter Towson, Maintenance Manager who started working on site a couple of days ago. During the inspection we undertook on the mines of the area. He explained the new organisation structure for the maintenance

I was informed that the site has changed the technical specifications for the purchase of trailing cables for mobile equipment under the AS1802. This issue was discussed with the appointed persons to control electrical work in my presence.

After the inspection I sighted records of maintenance, inspections and tests of the electrical mobile equipment.

Before leaving the site I had a meeting with Mr. Bob Fulker, Site Senior Executive and Mr. Towson to discuss the results of the inspection and statutory activities. Mr. Towson will provide more detailed information on the management structure and roles.

As a result of the inspection, the following substandard conditions or practices were identified:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Underground Workshop isolation facilities	21/08/2008

In the offices of the underground workshop there were a lighting and power and UPS distribution boards without facilities for isolation and lockout. Fit for purpose facilities for isolation and lockout have to be provided in the mentioned boards to satisfy the requirements of Section 27 Isolation facilities of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Jumbo starter boxes	21/08/2008

The design and construction of the Jumbo Starter boxes being used underground has to be reviewed to ensure they provide for the safe management and control of the hazards and risks associated with having two 1000 Volts power outlets connected in parallel for the use of only one (in case of failure of the other), as the circuit breaker has the current capacity for feeding both at the same time. Consideration has to be given to the engineering controls currently being used in this type of electrical equipment to ensure each of the outlets or circuits have fit for

purpose safety facilities to avoid the exposure of personnel to unacceptable levels of risk. Information on the total number of similar jumbo start boxes and the actions to be undertaken to address this issue has to be provided.

Reference: Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

**Sergio Cespedes
Inspector of Mines
Northern Region**

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
Department of **Mines and Energy**

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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Isolation and Lockout	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 21/07/2008
Record Date: 23/07/2008	MRE Item No.: 1

Title: Underground Workshop isolation facilities

Description of Action Required to be Taken:

In the offices of the underground workshop there were a lighting and power and UPS distribution boards without facilities for isolation and lockout. Fit for purpose facilities for isolation and lockout have to be provided in the mentioned boards to satisfy the requirements of Section 27 Isolation facilities of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:

Section 27 Isolation facilities of the Mining and Quarrying Safety and Health Regulation 2001

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 21/08/2008

Completed: 26/08/2008, **Closed by:** Sergio Cespedes **on** 26/08/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Control and Protection	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 21/07/2008
Record Date: 23/07/2008	MRE Item No.: 2

Title: Jumbo starter boxes

Description of Action Required to be Taken:
 The design and construction of the Jumbo Starter boxes being used underground has to be reviewed to ensure they provide for the safe management and control of the hazards and risks associated with having two 1000 Volts power outlets connected in parallel for the use of only one (in case of failure of the other), as the circuit breaker has the current capacity for feeding both at the same time. Consideration has to be given to the engineering controls currently being used in this type of electrical equipment to ensure each of the outlets or circuits have fit for purpose safety facilities to avoid the exposure of personnel to unacceptable levels of risk. Information on the total number of similar jumbo start boxes and the actions to be undertaken to address this issue has to be provided.
 Reference: Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 100 Selection and design of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 21/08/2008

Completed: 26/08/2008, **Closed by:** Sergio Cespedes **on** 26/08/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	07/04/2008

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today accompanied by Mr. David Moussie, Electrical Supervisor and appointed person to control electrical work and Mr. John Harvey, Leading Hand; an inspection of the underground electrical mobile equipment and trailing cables and associated equipment was carried out.

Following the inspection, I sighted records of maintenance, inspections and tests of trailing cables and jumbos and they appeared to be up to date. It was not possible to see other information associated with the underground electrical plant equipment that it is required to be kept up to date and available as required under Section 112 Specifications, instructions and other information about plant and Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended. Most of the information exists but it is being stored and kept in several physical and electronic locations, therefore it takes some considerable time to find it.

I gave a presentation to all electrical personnel and staff about their safety obligations and the provisions for addressing unsafe performance under the Mining and Quarrying Safety and Health Act 1999 and the Electrical Safety Act 2002, as personnel hold the qualifications to perform electrical work at mines given under the mentioned electrical Act.

During the inspection, we visited the work carried out in the hoisting shaft pit as result of a safety audit the Mines Inspectorate carried out last year, to see the current conditions of the steel work and walkways and the accumulation of spillage that was affecting the safety conditions of the area, where maintenance personnel need safe access for maintenance, inspections and tests of plant equipment and safety devices. The steel structures have been repaired and some of them replaced, but the spillage still continues to accumulate and the access to a couple of electrical boxes that electricians need to access are exposed to falling material from the loading station.

It was noticed that the Atlas Copco jumbos were using Olex trailing cables type 275 which are constructed under Australian Standard AS1802 for coal mines instead of the type equivalent made under Australian Standard AS2802 for metalliferous mines. As discussed, the technical specifications for buying cables should be reviewed to ensure only the fit for purpose cables are purchased.

The following needs attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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1	Electrical activities and statutory information management	08/09/2008
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Section 112 Specifications, instructions and other information about plant and Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended require to have a significant amount of information, instructions and records of all plant equipment installed and being used at the site, which has to be readily available and kept up to date during the life cycle of the mine.

Part 11 Procedures and Standard work instructions of the mining regulations requires also to have written procedures and standard work instructions for managing the risk of operations at a mine. The place has a significant number of documents for electrical personnel in this regard but sometimes it is not easy to find them, particularly for new personnel and staff as the place has had a significant number of changes in the management structures and the turnover of staff personnel

As discussed during the meeting held with Mr. Peter Johnson, Acting Electrical Superintendent; an Electrical Management Plan has to be developed and established for an effective management of above matters. The plan has to have, and not limited to, the processes for the dealing with electrical contractors, training and competencies, maintenance, emergencies, monitoring of electrical plant equipment and systems, safety procedures, technical specifications, engineering projects, risk assessments, record keeping and periodical review and monitoring of the processes for continuous improvement.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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2	Simba production drill rig 307	07/05/2008
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The rubber seal of control box door was missing and there was oil contamination over electrical conductors and bottom of the box.

The seal of the control box door has to be repaired and the oil contamination inside of electrical control box properly eliminated to avoid the risk of fire and or electrical faults that may expose personnel to unacceptable levels of risk.

Reference: Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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3	Hoisting shaft spillage damage controls	07/05/2008
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As result of a directive given on 28 August 2007 about the conditions and damage by spillage of the hoisting shaft pit steelwork, the metallic structures and walkways have been repaired, but as observed during the inspection, still there are significant spillage being accumulated again.

There were also some control boxes on one of the walls that maintenance personnel has to access for maintenance and repairs which are exposed to the falling spillage.

Action has to be taken to eliminate the spillage and establish an effective program to maintain the pit area in safe conditions to allow maintenance personnel to maintain, inspect and repair the safety devices and components of the winder system in a safe manner. A mean has to be provided also to avoid the exposure of maintenance personnel that have to access the mentioned control boxes from the falling material.

Reference: Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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4	Atlas Copco jumbo No. 104	07/05/2008
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A couple of brackets to transport the drill bars were welded to the right hand side of the Jumbo

Atlas Copco No. 104 and at the time of the inspection it was observed that the doors of the electrical control boxes can not be properly opened to allow electricians safe access for repairs, maintenance and regular tests of the electrical safety devices and controls.

Any modifications of plant equipment has to be carried out following the site procedures to avoid creating risk of harm for personnel involved with its maintenance and operation.

Reference: Section 110 Repair and modification of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Sergio Cespedes
Inspector of Mines
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Management	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 07/04/2008
Record Date: 09/04/2008	MRE Item No.: 1

Title: Electrical activities and statutory information management

Description of Action Required to be Taken:
Section 112 Specifications, instructions and other information about plant and Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended require to have a significant amount of information, instructions and records of all plant equipment installed and being used at the site, which has to be readily available and kept up to date during the life cycle of the mine.
Part 11 Procedures and Standard work instructions of the mining regulations requires also to have written procedures and standard work instructions for managing the risk of operations at a mine. The place has a significant number of documents for electrical personnel in this regard but sometimes it is not easy to find them, particularly for new personnel and staff as the place has had a significant number of changes in the management structures and the turnover of staff personnel
As discussed during the meeting held with Mr. Peter Johnson, Acting Electrical Superintendent; an Electrical Management Plan has to be developed and established for an effective management of above matters. The plan has to have, and not limited to, the processes for the dealing with electrical contractors, training and competencies, maintenance, emergencies, monitoring of electrical plant equipment and systems, safety procedures, technical specifications, engineering projects, risk assessments, record keeping and periodical review and monitoring of the processes for continuous improvement.

References:

Section 112 Specifications, instructions and other information about plant and Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 08/09/2008

Completed: 25/09/2008, **Closed by:** Sergio Cespedes **on** 25/09/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Defects	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 07/04/2008
Record Date: 09/04/2008	MRE Item No.: 2

Title: Simba production drill rig 307

Description of Action Required to be Taken:
 The rubber seal of control box door was missing and there was oil contamination over electrical conductors and bottom of the box.
 The seal of the control box door has to be repaired and the oil contamination inside of electrical control box properly eliminated to avoid the risk of fire and or electrical faults that may expose personnel to unacceptable levels of risk.
 Reference: Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/05/2008

Completed: 30/05/2008, **Closed by:** Sergio Cespedes **on** 30/05/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Hazard Control	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 07/04/2008
Record Date: 09/04/2008	MRE Item No.: 3

Title: Hoisting shaft spillage damage controls

Description of Action Required to be Taken:
 As result of a directive given on 28 August 2007 about the conditions and damage by spillage of the hoisting shaft pit steelwork, the metallic structures and walkways have been repaired, but as observed during the inspection, still there are significant spillage being accumulated again. There were also some control boxes on one of the walls that maintenance personnel has to access for maintenance and repairs which are exposed to the falling spillage. Action has to be taken to eliminate the spillage and establish an effective program to maintain the pit area in safe conditions to allow maintenance personnel to maintain, inspect and repair the safety devices and components of the winder system in a safe manner. A mean has to be provided also to avoid the exposure of maintenance personnel that have to access the mentioned control boxes from the falling material.
 Reference: Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/05/2008

Completed: 30/05/2008, **Closed by:** Sergio Cespedes **on** 30/05/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Machine Attachments	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 07/04/2008
Record Date: 09/04/2008	MRE Item No.: 4

Title: Atlas Copco jumbo No. 104

Description of Action Required to be Taken:
 A couple of brackets to transport the drill bars were welded to the right hand side of the Jumbo Atlas Copco No. 104 and at the time of the inspection it was observed that the doors of the electrical control boxes can not be properly opened to allow electricians safe access for repairs, maintenance and regular tests of the electrical safety devices and controls.
 Any modifications of plant equipment has to be carried out following the site procedures to avoid creating risk of harm for personnel involved with its maintenance and operation.
 Reference: Section 110 Repair and modification of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 110 Repair and modification of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 07/05/2008

Completed: 30/05/2008, **Closed by:** Sergio Cespedes **on** 30/05/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Subject Audit or Specific System Audit	Northern	28/08/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

During the period 28 to 30 August 2007, we conducted a subject audit on Cannington Mine Winder Operations during which we examined selected areas of documentation pertaining to winder maintenance and inspected the winder and the shaft.

On arrival at the mine, we held a meeting with senior personnel and informed them about our intention to conduct the audit and discussed the scope of the audit. The following persons attended this meeting:

- Tim Purvis - Acting Site Senior Executive
- Nick Jones - Maintenance Manager
- Jim Stewart - Acting Underground Mine Manager
- Richard Taylor - Mechanical Superintendent
- Ken Cryer - Electrical Superintendent
- Sergio Cespedes - Inspector of Mines (Electrical)
- Jay Maharagé - Inspector of Mines (Mechanical)

Following the meeting, we attended the necessary inductions for the visit including training and assessment for working from heights required for conducting shaft inspections from the top of the skip.

During the audit a number of mine maintenance personnel including the following persons provided assistance:

- Des Docherty - Mechanical Supervisor
- Tony Fry - Electrical Supervisor
- John Wright - Maintenance Supervisor
- Lance Gatty - Electrician/Winder Driver
- Gordon Batley - Maintenance Planner
- Matt Bennette - Electrical Planner
- Thomas Oliver - Electrical Planner

- Andrew Scobie - Maintenance Fitter.

At the conclusion of the audit, we provided Nick Jones with a verbal summary of the findings and key issues that require management action, details of which are given below:

Shaft Steelwork Structural Integrity at Pit Bottom and Spillage Control at Skip Loading Station

Severe steel corrosion and holes in some sections of the fixed guides at shaft bottom is evident.

The mine has plans to replace the fixed guides and has already procured the necessary steelwork. The SEE indicated that the mine may schedule this work for a planned shutdown in November 2007. However, the spillage clean up needs to be complete before work could commence.

Accretion of spillage has created a hazard which prevents persons entering the pit area due to the risk of injury from falling material. Therefore, close examinations of the steelwork at the shaft pit, including conveyance arrestors, fixed guides, guide ropes, attachments and guide rope weights have not been possible due to heavy accumulation of spillage on platforms walkways and ladders. The integrity of the rope guide and fixed guide systems are therefore uncertain.

Winder Re-commissioning

The industry practice is to use competent persons independent of the regular winder maintenance persons to perform an over-inspection / audit of the winder system at predetermined intervals, usually at yearly intervals. The standard practice involves conducting examinations and tests according to a documented re-commissioning plan, recording and reporting findings and recommendations. The plan embodies a comprehensive and thorough physical examination of the installation and checks to ascertain that specified maintenance procedures have been properly conducted and recorded.

There is no evidence of a scope of work / plan in place for mechanical re-commissioning and no evidence of previous mechanical re-commissioning work carried out according to a formal plan. The Compliance Statement specifies annual review of the winder safety systems and equipment as established in the official site documents.

The winder has been in operation since it was first commissioned in 1998. The only re-commissioning carried out since then has been an electrical re-commissioning program in October 2006. However, there was no evidence of completion or otherwise of the actions recommended in recommissioning report.

Winder Maintenance System - Condition Assessment of Winding Ropes and Suspension Equipment for Skips

There is clear evidence of a maintenance process in relation to Daily and Weekly Inspections for the winder system and examples of completed inspection sheets were sighted. They include visual checks for defects or anomalies on winder ropes and attachments.

There is no evidence of standard procedures on frequencies for non-destructive examination (NDE) of winder ropes and suspension equipment.

Guide Ropes

The last NDE conducted for guide ropes was in August 2005. The recommended frequency of NDE for guide ropes as given in the Australian Standard AS/NZ 4812:2003 is not exceed a period of 30 months. NDE is not possible in the sections of the ropes above 2 Level in headframe and sections of rope at the pit bottom and loading stations due to inaccessibility for NDE instruments in these areas. The operating conditions/ heavy spillage and the corrosive atmosphere evident in the bottom sections of the shaft warrants careful visual examination, measurement and condition assessments of the guide ropes, attachments and weights.

There is no record of the condition assessment of the guide ropes in the pit bottom area and therefore, the integrity of the guide ropes is uncertain.

Head Ropes

Head ropes have been tested on 21 August 2007 for the first time since installation on 27 April 2006 and the service provider's report is awaited. The recommended frequency of NDE for friction winder head ropes as given in the Australian Standard AS/NZ 4812:2003 is not to exceed a period of 6 months. It has been reported that a period of rapid and constant changes within the management and maintenance teams has been the cause for a breakdown in maintenance scheduling.

Tail Ropes

The present ropes first installed on 8 June 2004 are more than 3 years old. The last NDE was on 21 August 2007 after a lapse of 14 months since the previous NDE on 23 October 2006. The recommended frequency of NDE for friction winder tail ropes as given in the Australian Standard AS/NZ 4812:2003 is not exceed a period of 12 months. The Standard also recommends that the testing frequency be increased as the rope reaches the end of its 'useful life' although the opposite has happened in reality. Behaviour and deterioration pattern of the previous set of ropes is also a good guide in determining the 'useful life' of a rope. However, it appears that not all records are readily available for this purpose. The criteria for rope discard as established by the mine's own procedure mirrors the criteria mentioned in the previous Metalliferous Mining Regulations 1985, according to which the ropes were due for discard in June 2007.

Attachments – Suspension Equipment

The mine's procedure for NDE of attachments is to replace the attachments with recertified attachments at 12 monthly time intervals. However, replacement of the head rope attachments due in May 2007 has not happened. The reason for the delay is not clear but is again reported to be caused by a breakdown in maintenance scheduling due to rapid and constant changes within the management and maintenance teams. Reportedly, the number of winding cycles has reduced by about a third in the past year. The Australian Standard AS 3637.1-2005 which covers inspection and maintenance of mine winding suspension equipment provides requirements for time based examinations and states that inspection frequencies may be based on operating cycles subject to consideration of the operating environment of the system and duty of the equipment. However, there is no evidence of a systematic process to establish or justify a safe period of extension based on winding cycles.

Training Manuals

Winder Drivers Training manual does not cover all the foreseeable emergencies (eg. fire in the main control room and transformer bays). Also, there was no system to establish whether work procedures / work instructions mentioned / provided are current and approved.

The maintenance personnel who conduct daily and weekly inspections on critical winder components including winder ropes, attachments and brake systems have had no formal training or assessment.

Maintenance Records

Maintenance records for inspections and tests of mechanical components are not readily available for monitoring trends and effective maintenance decisions.

Winder Drivers Medical Assessments

The site policy requires that winder drivers undertake medical assessment every two years to ensure they are fit for duty and are free from deafness, defective vision, epilepsy, disease of the heart or any other infirmity which may cause him to lose control of the engine.

All ten winder drivers employed by the mine and four trainee winder drivers had not undergone the appropriate medical assessment within the past two years and therefore not certified fit for duty under the current site policy.

Computer Based Maintenance System and SWIs

An electronic maintenance management system called SAP is in use to generate and record maintenance activities, inspections and tests of the winder systems. Maintenance planning personnel using the SAP system create work orders for each of the required planned or unplanned tasks which then generates Standard Work Instructions (SWIs) or Procedures for the relevant tasks. It was noted that the system does not always generate the latest approved versions of the SWIs.

Person to Control Winding Operations

The functions, duties of and the required competencies for person(s) appointed to control winding operations under Section 122 of the *Mining and Quarrying Safety and Health Regulation 2001* are not defined and documented within the winder management system.

Mines Inspectors' Corrective Actions Issued in May 2003

A winder management system audit was conducted at the Cannington Mine in May 2003 which generated eleven corrective actions (Reference Mine Record Entry dated 15 May 2003). Enquiries into the status under these eleven items revealed that a meaningful check on the action taken or the status was not possible as there has not been a formal documented process for tracking and closing corrective actions.

The corrective action required in the form of Directives issued under the Mining and Quarrying Safety and Health Act 1999 and Sub-standard Conditions/Practice items are listed below:

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
1	Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999 Shaft Steelwork Structural Integrity at Pit Bottom and Spillage Control at Skip Loading Station	30/11/2007

Investigate means of reducing spillage at the loading station and develop and implement a scheme to clear spillage from the pit bottom and maintain the area sufficiently free of spillage and accretion to enable safe access for regular inspections, tests and maintenance of the steelwork, ropes and components in the pit area.

Also, replace corroded steel fixed guides.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Winder re-commissioning	30/11/2007
	Develop a mechanical re-commissioning plan and implement a re-commissioning program in accordance with industry practice; and. Submit a plan including timeframes for completion of the mine's re-commissioning programs for mechanical re-commissioning and completion of action recommended for electrical re-commissioning.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Winder Maintenance System	30/11/2007
	Review maintenance practices and establish procedures including monitoring parameters, techniques and monitoring frequencies in conjunction with service providers and experts in the field and incorporate into the winder management system or mine's maintenance management system as appropriate.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	Training manuals	30/11/2007
	Review the Winder Driver Training Manual and ensure that it contains all relevant information required for the normal operation, maintenance operations and emergency situations, including document control data such as version, date, approval to ensure the users have up-to-date versions of the SWIs, procedures and information.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
5	Training for maintenance	30/11/2007
	Provide appropriate training for maintenance personnel who conduct daily and weekly inspections on critical winder components including winder ropes, attachments and brake systems.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
6	Maintenance records	30/11/2007
	Develop and implement a formal record keeping process to ensure that all the critical information required for maintenance, regular inspections and tests are properly recorded and available for effective maintenance management of the winder equipment and installations.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
7	Winder drivers medical assessments	30/11/2007
	Develop and implement a plan to ensure that all Winder Drivers undergo regular medical assessments as per form4 of site policy.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
8	Computer Based Maintenance System and SWI's	30/11/2007
	Review electronic maintenance management systems in use to ensure that Standard Work	

Instructions (SWIs), Procedures etc generated by the system are the latest approved versions.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
9	Person to Control Winding Operations	30/11/2007
	Document the functions, duties of and the required competencies for person(s) appointed to control winding operations under Section 122 of the Mining and Quarrying Safety and Health Regulation 2001.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
10	Mines Inspectors' Corrective Actions Issued in May 2003	30/11/2007
	Develop a formal documented process for tracking and closing corrective actions for items generated by inspector's Mine Record Entries; and Ensure that appropriate action has been completed in relation to corrective actions mentioned in the in Mine Record Entry of 15 May 2003.	

Please provide a written status report on each Directive and SCP together with the actions taken to address each item by their due dates

Sergio Cespedes
Inspector of Mines
Northern Region

Jay Maharage
Inspector of Mines
Southern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Directive

I Sergio Cespedes, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Spillage control	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 28/08/2007
Record Date: 12/09/2007	MRE Item No.: 1

Title: Shaft Steelwork Structural Integrity at Pit Bottom and Spillage Control at Skip Loading Station

Directive Given:
Investigate means of reducing spillage at the loading station and develop and implement a scheme to clear spillage from the pit bottom and maintain the area sufficiently free of spillage and accretion to enable safe access for regular inspections, tests and maintenance of the steelwork, ropes and components in the pit area.
Also, replace corroded steel fixed guides.

References:
Section 106 Operating Plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/11/2007

Completed: 04/02/2008, **Closed by:** Sergio Cespedes **on** 04/02/2008.

Action Taken by Mine to Comply with Directive:

All the repairs were completed, the steel fixed guides replaced and control and operational parameters adjusted to avoid spillage

Released by DNRM under the RTI Act 2009

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given orally on 30/08/2007 at 03:30 PM.

Directive Given To -

This directive is given to the following person/s -

Nicholas Jones

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

Produced my identity card for the other person's inspection at the first reasonable opportunity (it being practicable to produce or display the identity card at the time of exercising the power) on 30/08/2007 at 03:30:00 PM.

Part of mine affected by directive -

Winder Shaft.

A copy of the directive was given to -

A copy of this directive or notice was given to the person in charge of mine or the part of the mine affected by the directive on 30/08/2007 at 03:30:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -

I believe the current conditions of the steelwork and walkways present an unacceptable level of risk to personnel who has to inspect, maintain, reset protections or undertake any activity in the bottom of the shaft

Sergio Cespedes: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

(a) include the reasons for the review decision; and
(b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

(a) review the directive within the time allowed under subsection (1); or
(b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

(1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.

(2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.

(3) A stay -

(a) may be given on conditions the court considers appropriate; and
(b) operates for the period fixed by the court; and
(c) may be revoked or amended by the court.

(4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.

(5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.

(6) However, a directive under section 164 must not be stayed.

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Maintenance Regime	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 28/08/2007
Record Date: 12/09/2007	MRE Item No.: 2

Title: Winder re-commissioning

Description of Action Required to be Taken:
 Develop a mechanical re-commissioning plan and implement a re-commissioning program in accordance with industry practice; and.
 Submit a plan including timeframes for completion of the mine's re-commissioning programs for mechanical re-commissioning and completion of action recommended for electrical re-commissioning.

References:
 Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/11/2007

Completed: 12/05/2008, **Closed by:** Sergio Cespedes **on** 14/05/2008.

Reassigned Due Date: 31/03/2008; **Review conducted by** Sergio Cespedes **on** 04/02/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Recommissioning will be biannually and according to manufacturers

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Maintenance Regime	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 28/08/2007
Record Date: 12/09/2007	MRE Item No.: 3

Title: Winder Maintenance System

Description of Action Required to be Taken:
Review maintenance practices and establish procedures including monitoring parameters, techniques and monitoring frequencies in conjunction with service providers and experts in the field and incorporate into the winder management system or mine's maintenance management system as appropriate.

References:
Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/11/2007

Completed: 24/03/2009, **Closed by:** Sergio Cespedes **on** 24/03/2009.

Reassigned Due Date: 30/06/2009; **Review conducted by** Sergio Cespedes **on** 14/05/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Training	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 28/08/2007
Record Date: 12/09/2007	MRE Item No.: 4

Title: Training manuals

Description of Action Required to be Taken:
 Review the Winder Driver Training Manual and ensure that it contains all relevant information required for the normal operation, maintenance operations and emergency situations, including document control data such as version, date, approval to ensure the users have up-to-date versions of the SWIs, procedures and information.

References:
 Section 93 Training of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/11/2007

Completed: 26/08/2008, **Closed by:** Sergio Cespedes **on** 26/08/2008.

Reassigned Due Date: 30/06/2008; **Review conducted by** Sergio Cespedes **on** 14/05/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Training	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 28/08/2007
Record Date: 12/09/2007	MRE Item No.: 5

Title: Training for maintenance

Description of Action Required to be Taken:
Provide appropriate training for maintenance personnel who conduct daily and weekly inspections on critical winder components including winder ropes, attachments and brake systems.

References:
Section 93 Training of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/11/2007

Completed: 24/03/2009, **Closed by:** Sergio Cespedes **on** 24/03/2009.

Reassigned Due Date: 30/06/2009; **Review conducted by** Sergio Cespedes **on** 14/05/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Records	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 28/08/2007
Record Date: 12/09/2007	MRE Item No.: 6

Title: Maintenance records

Description of Action Required to be Taken:

Develop and implement a formal record keeping process to ensure that all the critical information required for maintenance, regular inspections and tests are properly recorded and available for effective maintenance management of the winder equipment and installations.

References:

Section 113 Records of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/11/2007

Completed: 04/02/2008, **Closed by:** Sergio Cespedes **on** 04/02/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Documentum to be used for document control

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Medical assessment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 28/08/2007
Record Date: 12/09/2007	MRE Item No.: 7

Title: Winder drivers medical assessments

Description of Action Required to be Taken:
Develop and implement a plan to ensure that all Winder Drivers undergo regular medical assessments as per form4 of site policy.

References:
Section 87 Assessing workers to decide fitness level of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/11/2007

Completed: 04/02/2008, **Closed by:** Sergio Cespedes **on** 04/02/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

All winder drivers having correct medical examinations as per site policy

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Procedures	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 28/08/2007
Record Date: 12/09/2007	MRE Item No.: 8

Title: Computer Based Maintenance System and SWI's

Description of Action Required to be Taken:
Review electronic maintenance management systems in use to ensure that Standard Work Instructions (SWIs), Procedures etc generated by the system are the latest approved versions.

References:
Section 115 Accessing current procedures and standard work instructions

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/11/2007

Completed: 04/02/2008, **Closed by:** Sergio Cespedes **on** 04/02/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Manual have been uploaded maintenance system and Documentum is being now used for all PM records

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Appointments	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 28/08/2007
Record Date: 12/09/2007	MRE Item No.: 9

Title: Person to Control Winding Operations

Description of Action Required to be Taken:
 Document the functions, duties of and the required competencies for person(s) appointed to control winding operations under Section 122 of the Mining and Quarrying Safety and Health Regulation 2001.

References:
 Section 122 Appointment of persons to control winding operations

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/11/2007

Completed: , **Closed by:** Sergio Cespedes **on** 14/05/2008.

Reassigned Due Date: 31/03/2008; **Review conducted by** Sergio Cespedes **on** 04/02/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

The role of the person to control winding operations has been defined

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Inspection	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Subject Audit or Specific System Audit	Activity Date: 28/08/2007
Record Date: 12/09/2007	MRE Item No.: 10

Title: Mines Inspectors' Corrective Actions Issued in May 2003

Description of Action Required to be Taken:
 Develop a formal documented process for tracking and closing corrective actions for items generated by inspector's Mine Record Entries; and
 Ensure that appropriate action has been completed in relation to corrective actions mentioned in the in Mine Record Entry of 15 May 2003.

References:
 Section 36 Obligations of persons generally of the Mining and Quarrying Safety and Health Act 1999

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/11/2007

Completed: 12/05/2008, **Closed by:** Sergio Cespedes **on** 14/05/2008.

Reassigned Due Date: 31/03/2008; **Review conducted by** Sergio Cespedes **on** 04/02/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Procedure has been developed and established

Released by DNRM under the RTI Act 2009



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	21/05/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Yesterday 20 May 2007 at 16:00 hrs, Mr. Tim Purvis, Underground Mine Manager reported a high potential incident, where a production drill (DR308) when collaring a production hole drilled through a misfire containing explosives in the floor of the drive. The incident occurred at 05:30 hrs and it was reported to an Inspector of Mines about ten hours later.

I would like to draw the attention of all staff who report serious and high potential incidents about their obligations under Section 195 of the Mining and Quarrying Safety and Health Act 1999:

195 Notice of accidents, incidents or diseases

(1) Subject to subsections (2) and (3), **as soon as practicable after becoming aware of a serious accident or high potential incident at a mine**, the site senior executive for the mine must notify an inspector and a district workers' representative about the accident or incident either orally or by notice. Maximum penalty—40 penalty units.

The meaning of High Potential Incident is as per below excerpt from the Mining and Quarrying Safety and Health Regulation 2001 as amended:

18 Meaning of high potential incident

A high potential incident at a mine is an event, or a series of events, that causes or has the potential to cause a significant adverse effect on the safety or health of a person.

Please ensure all staff reporting serious and high potential incidents are fully aware of the above obligations to avoid breaches of the Mining and Quarrying Safety and Health Act 1999.

Sergio Cespedes
Inspector of Mines
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	30/01/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today accompanied by Mr. Richard Franklin, Training and Systems coordinator an inspection of the manual arc welding machines was carried out.

A meeting was held prior to the inspection with Mr. Nick Jones, Acting Maintenance Manager, Mr. Ken Cryer, Acting Electrical Superintendent and Mr. Franklin and the following was discussed:

1. Current organisation structure of the electrical maintenance and project teams
2. Maintenance strategy to address ageing of key pieces of equipment and installations
3. Development of the site Electrical Management System
4. Training strategy for new electrical personnel coming to site
5. Management of records and electrical information.

Following the above meeting, a session with the site electrical personnel was held to discuss current issues associated with the performance of electrical work in Queensland and in mines, restricted electrical licences of refrigeration and radio-communication technicians and their limitations, development of risk assessments and techniques used, relevant electrical incidents that have occurred on the mines of the region and high voltage switching training and competencies.

During the inspection, it was found that the following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Warehouse tools store welders	30/03/2007

Several caddy welders are kept in the Warehouse Tools Store for use by personnel and some of them had defective welding return clamps (defective springs and missing safety tip of Lincoln mig welder gun). A process has to be developed and established to allow the store person assess in an effective way the safety of the welding machines before being lent to users.

Reference: Section 108 Monitoring of the Mining and Quarrying Safety and Health Regulation

2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Return welding lead spring clamps	30/03/2007
	<p>It was found during the inspection several welding return lead clamps with the spring not longer in good working conditions or broken. This affect the quality and safety integrity of the welding on steel work that may render the equipment or installations to unsafe conditions and also may lead to electric shocks for the poor electrical continuity achieved by the use of defective welding clamps.</p> <p>It was found only one double clamp welding lead and this one had only one clamp in working conditions. This type of double clamp arrangement is required to provide an acceptable level of safety during tack-welding. Ensure the site has enough of these devices available for users and they are kept in safe and reliable conditions to avoid the exposure of personnel to unacceptable levels of risk.</p> <p>It is strongly recommended to use "G" bolt type clamps to increase the reliability and safety of the welding return lead clamps.</p> <p>Reference: Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.</p>	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Testing and tagging in workshop	30/03/2007
	<p>In the surface boilermakers workshop there were an extension lead and grinder that had being used without current test tags as required by site safety procedures. Ensure supervision enforce the site safety procedures and personnel are aware of their safety obligations in the workplace and follow the out of service procedure to avoid their exposure to unacceptable levels of risk.</p> <p>Reference: Section 106 Operating plant and Section 93 Training of the Mining and Quarrying Safety and Health Regulation 2001 as amended.</p>	

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Sergio Cespedes
Inspector of Mines
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Welding Safety	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 30/01/2007
Record Date: 01/02/2007	MRE Item No.: 1

Title: Warehouse tools store welders

Description of Action Required to be Taken:
 Several caddy welders are kept in the Warehouse Tools Store for use by personnel and some of them had defective welding return clamps (defective springs and missing safety tip of Lincoln mig welder gun). A process has to be developed and established to allow the store person assess in an effective way the safety of the welding machines before being lent to users.
 Reference: Section 108 Monitoring of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 108 Monitoring of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/03/2007

Completed: 27/04/2007, **Closed by:** Sergio Cespedes **on** 27/04/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Welding Machines	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 30/01/2007
Record Date: 01/02/2007	MRE Item No.: 2

Title: Return welding lead spring clamps

Description of Action Required to be Taken:
 It was found during the inspection several welding return lead clamps with the spring not longer in good working conditions or broken. This affect the quality and safety integrity of the welding on steel work that may render the equipment or installations to unsafe conditions and also may lead to electric shocks for the poor electrical continuity achieved by the use of defective welding clamps.
 It was found only one double clamp welding lead and this one had only one clamp in working conditions. This type of double clamp arrangement is required to provide an acceptable level of safety during tack-welding. Ensure the site has enough of these devices available for users and they are kept in safe and reliable conditions to avoid the exposure of personnel to unacceptable levels of risk.
 It is strongly recommended to use "G" bolt type clamps to increase the reliability and safety of the welding return lead clamps.
 Reference: Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/03/2007

Completed: 27/04/2007, **Closed by:** Sergio Cespedes **on** 27/04/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Testing & Tagging of Electrical Equipment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 30/01/2007
Record Date: 01/02/2007	MRE Item No.: 3

Title: Testing and tagging in workshop

Description of Action Required to be Taken:

In the surface boilermakers workshop there were an extension lead and grinder that had being used without current test tags as required by site safety procedures. Ensure supervision enforce the site safety procedures and personnel are aware of their safety obligations in the workplace and follow the out of service procedure to avoid their exposure to unacceptable levels of risk. Reference: Section 106 Operating plant and Section 93 Training of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:

Section 106 Operating plant and Section 93 Training of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/03/2007

Completed: 27/04/2007, **Closed by:** Sergio Cespedes **on** 27/04/2007.

Action Taken by Mine to Comply with Corrective Action Requirement:



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	16/10/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today accompanied by Mr. Nick Jones, Electrical Engineer and Acting Maintenance Manager; an inspection of the electrical equipment and installations of the Paste Fill Plant and Winding House was carried out.

I also investigated a complaint associated with unsafe practices and conditions in electrical control rooms and plant equipment on the Paste Fill Plant.

It was noticed in the Paste Fill Plant that ageing is affecting the physical integrity of some electrical components such as cable trays, electrical conduits and field electrical controls. There are a significant number of electrical control conductors that in some cases are redundant and or have been added without being properly installed and or mechanically protected to ensure their reliability.

In the Winding House, a recommissioning of some of the major components of the Winding System were being carried out and some discussions were held with Mr. Jones in relation to the number of competent winder drivers being available on site for normal and emergency operations and about the current training process to ensure they are able to perform as expected under normal and special circumstances, particularly when having personnel on the skips or in case of underground fire or other foreseeable emergencies.

The following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Paste Fill Plant Control Room	16/11/2006

In the Control Room of the plant the following has to be addressed:

- 1.- The Instrumentation Control cubicle did not have identification labels on the doors (re: Section 102 of regulations)
- 2.- The isolation devices in the Instrumentation cubicle did not have facilities for lockout (re: Sections 27 and 103 of regulations.)
- 3.- There were several electrical conductors disconnected in the above mentioned cubicle without the relevant information on the reasons behind or safety tags or redundant without a proper termination on the ends (ref: Section 106 of regulations)
- 4.- The housekeeping inside of the instrumentation cubicle has to be improved, there was

accumulation of dust on the bottom and too many conductors that need to be tidy up and kept properly attached to the support system provided (ref: Section 106 of regulations)

5.- The water heater provided for having coffee or tea did not have the original handle for the tap (broken off), therefore in unsafe condition and had instead a safety clip attached, without an out of service tag as required by the site safety procedures. It seemed this arrangement have been in this condition for some time in this unsafe state (ref: Section 93 of regulations).

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Motor Control Centre Distribution board	16/11/2006
	The 240 Volts lighting and power Distribution Board DB27801A in the Motor Control Centre did not have an identification label on the door as required under Section 102 Plant control and control systems of the Mining and Quarrying Safety and Health Regulation, neither lockout facilities for isolation purposes on the switches as required under Section 27 Isolation facilities of above mentioned regulations	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Out of service tags	16/11/2006
	It was found In the Paste Fill Plant too many out of service tags that have been attached for long time without taking remedial action to eliminate the unsafe conditions identified and mentioned on the tags. A process has to be developed and established to ensure all these safety tags are periodically inspected and recorded to allow for elimination of all the unsafe conditions identified in an effective manner and on reasonable time. Action has to be also taken to ensure that all the electrical equipment and circuits that are not longer in use or are not going to be used and have information tags indicating they have been in this condition for long time, to be inspected for removal or changing their status to spare to ensure they will not be a source of risk or harm for personnel. References: Section 8 Risk reduction, Section 93 Training and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	Filter Plant pull wire switches	16/11/2006
	The two Filter machines on the Paste Fill Plant had pull wire switches on both sides without operation indicating devices and the dead end of the lanyards did not have springs to allow operation of the safety devices on both directions alongside of the equipment. Reference: Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
5	Cable trays in Paste Fill plant	16/11/2006
	A review of the current maintenance program and practices for the Paste Fill Plant has to be carried out to ensure the hazards and risks associated with the ageing and deterioration of the installations and equipment are properly managed. As per the wet operational conditions, the rust, mud and washing activities are affecting the safety integrity of installations and equipment. There are cable trays seriously damaged and falling and electrical conductors and cable glands being in substandard conditions. Reference: Section 9 Risk monitoring and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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6 Winder Drivers competencies

16/11/2006

The training process to consider the Winder Drivers as competent to operate the Winding System has to be reviewed to ensure they are able to operate the equipment and system in all operating conditions and specially during emergencies. Some of the operators that have been deemed as competent are not fully conversant with some of the emergency procedures, particularly about the use and operation of the emergency cage that run on the guide ropes and driven by an air compressed winch.

Please provide evidence that this air winch is being properly maintained, inspected, tested and kept fit for purpose for safe use during emergencies.

In the Substation floor of the Winder House, there was also a missing floor grid of four by four meters wide with removable hand rails as protection. On one side there is a field control electrical box that electrical personnel and operators need to access and there is not safe access because of the open floor.

Reference: Section 93 Training and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Sergio Cespedes
Inspector of Mines
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Control and Protection	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/10/2006
Record Date: 17/10/2006	MRE Item No.: 1

Title: Paste Fill Plant Control Room

Description of Action Required to be Taken:
In the Control Room of the plant the following has to be addressed:

- 1.- The Instrumentation Control cubicle did not have identification labels on the doors (re: Section 102 of regulations)
- 2.- The isolation devices in the Instrumentation cubicle did not have facilities for lockout (re: Sections 27 and 103 of regulations.)
- 3.- There were several electrical conductors disconnected in the above mentioned cubicle without the relevant information on the reasons behind or safety tags or redundant without a proper termination on the ends (ref: Section 106 of regulations)
- 4.- The housekeeping inside of the instrumentation cubicle has to be improved, there was accumulation of dust on the bottom and too many conductors that need to be tidy up and kept properly attached to the support system provided (ref: Section 106 of regulations)
- 5.- The water heater provided for having coffee or tea did not have the original handle for the tap (broken off), therefore in unsafe condition and had instead a safety clip attached, without an out of service tag as required by the site safety procedures. It seemed this arrangement have been in this condition for some time in this unsafe state (ref: Section 93 of regulations).

References:
Sections 102 Plant control and control systems, 27 & 103 isolation facility, 106 Operating plant and 93 Training of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 16/11/2006

Completed: 24/11/2006, **Closed by:** Sergio Cespedes **on** 24/11/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Isolation and Lockout	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/10/2006
Record Date: 17/10/2006	MRE Item No.: 2

Title: Motor Control Centre Distribution board

Description of Action Required to be Taken:

The 240 Volts lighting and power Distribution Board DB27801A in the Motor Control Centre did not have an identification label on the door as required under Section 102 Plant control and control systems of the Mining and Quarrying Safety and Health Regulation, neither lockout facilities for isolation purposes on the switches as required under Section 27 Isolation facilities of above mentioned regulations

References:

Section 102 Plant controls and control systems and Section 27 Isolation facilities of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 16/11/2006

Completed: 24/11/2006, **Closed by:** Sergio Cespedes **on** 24/11/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Procedures	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/10/2006
Record Date: 17/10/2006	MRE Item No.: 3

Title: Out of service tags

Description of Action Required to be Taken:
It was found In the Paste Fill Plant too many out of service tags that have been attached for long time without taking remedial action to eliminate the unsafe conditions identified and mentioned on the tags. A process has to be developed and established to ensure all these safety tags are periodically inspected and recorded to allow for elimination of all the unsafe conditions identified in an effective manner and on reasonable time.
Action has to be also taken to ensure that all the electrical equipment and circuits that are not longer in use or are not going to be used and have information tags indicating they have been in this condition for long time, to be inspected for removal or changing their status to spare to ensure they will not be a source of risk or harm for personnel.
References: Section 8 Risk reduction, Section 93 Training and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
Section 8 Risk reduction and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 16/11/2006

Completed: 24/11/2006, **Closed by:** Sergio Cespedes **on** 24/11/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Pull Wires	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/10/2006
Record Date: 17/10/2006	MRE Item No.: 4

Title: Filter Plant pull wire switches

Description of Action Required to be Taken:
 The two Filter machines on the Paste Fill Plant had pull wire switches on both sides without operation indicating devices and the dead end of the lanyards did not have springs to allow operation of the safety devices on both directions alongside of the equipment.
 Reference: Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended

References:
 Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 16/11/2006

Completed: 24/11/2006, **Closed by:** Sergio Cespedes **on** 24/11/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Department of **Mines and Energy**

Mount Isa District Office
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Installation	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/10/2006
Record Date: 17/10/2006	MRE Item No.: 5

Title: Cable trays in Paste Fill plant

Description of Action Required to be Taken:
 A review of the current maintenance program and practices for the Paste Fill Plant has to be carried out to ensure the hazards and risks associated with the ageing and deterioration of the installations and equipment are properly managed. As per the wet operational conditions, the rust, mud and washing activities are affecting the safety integrity of installations and equipment. There are cable trays seriously damaged and falling and electrical conductors and cable glands being in substandard conditions.
 Reference: Section 9 Risk monitoring and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 9 Risk monitoring and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 16/11/2006

Completed: 24/11/2006, **Closed by:** Sergio Cespedes **on** 24/11/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date
Review 1. Competency of operators			
Email received on 19 December requesting an extension as they need to organise the shaft area in a controlled manner to be able to install the emergency cage on the wide ropes and allow to all the winder drivers to install and operate the air-winch emergency cage and then assess all of them to ensure they are competent.	Sergio Cespedes	19/12/2006	16/11/2006



Queensland Government
Department of **Mines and Energy**

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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Competency of operators	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 16/10/2006
Record Date: 17/10/2006	MRE Item No.: 6

Title: Winder Drivers competencies

Description of Action Required to be Taken:

The training process to consider the Winder Drivers as competent to operate the Winding System has to be reviewed to ensure they are able to operate the equipment and system in all operating conditions and specially during emergencies. Some of the operators that have been deemed as competent are not fully conversant with some of the emergency procedures, particularly about the use and operation of the emergency cage that run on the guide ropes and driven by an air compressed winch.

Please provide evidence that this air winch is being properly maintained, inspected, tested and kept fit for purpose for safe use during emergencies.

In the Substation floor of the Winder House, there was also a missing floor grid of four by four meters wide with removable hand rails as protection. On one side there is a field control electrical box that electrical personnel and operators need to access and there is not safe access because of the open floor.

Reference: Section 93 Training and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended

References:

Section 93 Training and Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 16/11/2006

Completed: 22/12/2006, **Closed by:** Sergio Cespedes **on** 22/12/2006.

Reassigned Due Date: 28/02/2007; **Review conducted by** Sergio Cespedes **on** 19/12/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	05/09/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today and accompanied by Mr. Chris Malcolm, Electrical Superintendent, Mr. Peter Johnson, Acting Electrical Supervisor and Mr. Frank Hall, Electrician and inspection of the electrical installations, equipment and facilities of the Camp was carried out.

The following matters were discussed during the inspection:

1. Inspections, tests and maintenance of the electrical protections, switchgear and power transformers of the Camp
2. Modifications and additions to the original layout of the electrical reticulation system
3. Verification of effectiveness of electrical protection devices following some changes on the power distribution system
4. Developing of documented processes for effective retention of corporate memory covering all aspects of the electrical management system
5. Current strategy to ensure an effective control of electrical work on site as required by mining legislation.
6. Appointment of persons to control electrical work under Section 17 of the mining regulations under each of the Site Senior Executives for their specific areas of responsibilities as required under the Mining and Quarrying Safety and Health Act 1999 as amended and integration of these statutory roles in each of the Safety Management System and organisation structure that each Site Senior Executive must have for their own statutory areas of responsibility.

The following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Electrical safety on Camp substations	06/11/2006
Evidence of any tests, inspections and or calibration of electrical equipment and safety devices was not found during the inspection of one of the high voltage self-contained substations providing electricity to the accommodation units and facilities. As these substations have been installed and have been working for almost ten years, it is very important to ascertain if they are still safe for use and fit for purpose to satisfy the requirements of Section 108 Monitoring		

and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended. Ensure all the relevant electrical equipment and installations of the Camp are included in the site program of regular inspections and tests to be able to keep the risks and hazards under acceptable levels.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Contractors' distribution boards	06/11/2006
	The cable glands of the steel wire armoured cables connected to each of the distribution boards installed between the buildings on the contractors area were not connected to the protective earthing. Action has to be taken to ensure all the glands of steel wire armoured cables in each distribution board of the Camp area are properly and effectively connected to the protective earthing system to protect personnel from dangerous levels of touch potentials and unacceptable levels of risks. Reference: Section 25 Earthing and Section 30 Prospective touch voltage of the Mining and Quarrying Safety and Health Regulation 2001 as amended.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Workshop distribution board	06/11/2006
	In the electricians workshop of the Camp, a small power distribution board feeding several power outlets did not have labels on each of the safety devices as required under Section 102 Plant controls and control systems of the Mining and Quarrying Safety and Health Regulation 2001 as amended	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	Use of out of service and information tags	06/11/2006
	It was found during the inspection in some distribution boards some out of service tags attached to isolation devices where the equipment not longer exists and or has been disconnected from the switch itself instead of using information tags as per site safety procedures. Even some of the out of service tags had been attached for several months. Ensure personnel is aware of current out of service procedures and use the correct out of service tags or information tags. Reference: Section 93 Training of the Mining and Quarrying Safety and Health Regulation 2001 as amended.	

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Sergio Cespedes
Inspector of Mines
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Vision: Our Industries Free of Safety and Health Incidents

Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Control and Protection	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 05/09/2006
Record Date: 07/09/2006	MRE Item No.: 1

Title: Electrical safety on Camp substations

Description of Action Required to be Taken:
Evidence of any tests, inspections and or calibration of electrical equipment and safety devices was not found during the inspection of one of the high voltage self-contained substations providing electricity to the accommodation units and facilities. As these substations have been installed and have been working for almost ten years, it is very important to ascertain if they are still safe for use and fit for purpose to satisfy the requirements of Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended. Ensure all the relevant electrical equipment and installations of the Camp are included in the site program of regular inspections and tests to be able to keep the risks and hazards under acceptable levels.

References:
Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 06/11/2006

Completed: 27/11/2006, **Closed by:** Sergio Cespedes **on** 27/11/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Natural Resources, Mines and Water

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Equipment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 05/09/2006
Record Date: 07/09/2006	MRE Item No.: 2

Title: Contractors' distribution boards

Description of Action Required to be Taken:
 The cable glands of the steel wire armoured cables connected to each of the distribution boards installed between the buildings on the contractors area were not connected to the protective earthing. Action has to be taken to ensure all the glands of steel wire armoured cables in each distribution board of the Camp area are properly and effectively connected to the protective earthing system to protect personnel from dangerous levels of touch potentials and unacceptable levels of risks.
 Reference: Section 25 Earthing and Section 30 Prospective touch voltage of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
 Section 25 Earthing and Section 30 Prospective touch voltage of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 06/11/2006

Completed: 27/11/2006, **Closed by:** Sergio Cespedes **on** 27/11/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Vision: Our Industries Free of Safety and Health Incidents

Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Edge Identification & Protection	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 05/09/2006
Record Date: 07/09/2006	MRE Item No.: 3

Title: Workshop distribution board

Description of Action Required to be Taken:
In the electricians workshop of the Camp, a small power distribution board feeding several power outlets did not have labels on each of the safety devices as required under Section 102 Plant controls and control systems of the Mining and Quarrying Safety and Health Regulation 2001 as amended

References:
Section 102 Plant controls and control systems of the Mining and Quarrying Safety and Health Regulation 2001 as amended

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 06/11/2006

Completed: 27/11/2006, **Closed by:** Sergio Cespedes **on** 27/11/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
Natural Resources, Mines and Water

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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Isolating, locking-out and tagging plant	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 05/09/2006
Record Date: 07/09/2006	MRE Item No.: 4

Title: Use of out of service and information tags

Description of Action Required to be Taken:
It was found during the inspection in some distribution boards some out of service tags attached to isolation devices where the equipment not longer exists and or has been disconnected from the switch itself instead of using information tags as per site safety procedures. Even some of the out of service tags had been attached for several months. Ensure personnel is aware of current out of service procedures and use the correct out of service tags or information tags. Reference: Section 93 Training of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
Section 93 Training of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 06/11/2006

Completed: 27/11/2006, **Closed by:** Sergio Cespedes **on** 27/11/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	25/07/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today accompanied by Mr. John Harvey, Acting Electrical Supervisor and appointed person to control electrical work and Miss Jodie McKenna, Electrician; an inspection of the underground electrical substations and switchrooms was carried out.

The following issues were discussed with the above mentioned persons and Mr. Trevor Mitchell, appointed person to control electrical work:

1. Information and records of tests, inspection and maintenance of electrical safety devices, equipment and installations
2. Management and keeping of statutory information and records associated with the Electrical Management System
3. Technical and engineering specifications for standard underground substations to achieve compliance with mining legislation
4. Current workload and maintenance, tests and inspections of extra electrical drilling equipment involved in the rehabilitation of the underground areas of the mine
5. Training and competencies of new electrical personnel
6. Training and competencies of new electrical personnel

It was noticed during the inspection that the 1000 Volts distribution boards and control equipment installed on the north zones of the mine are of a high standard with suitable facilities for maintenance, inspection and tests as required under the mining legislation.

The following needs attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Records of electrical statutory information	27/09/2006

A formal process for the management of information and records associated with tests, inspections and maintenance of electrical safety devices, equipment, installations and systems has to be developed and established to ensure all relevant information, test results and actions taken as result of these activities are properly recorded and kept available and up to date. The process has to provide for the analysis and detection of trends on the technical and safety

performance of electrical safety devices and systems to achieve compliance with the Mining and Quarrying Safety and Health Regulation 2001 as amended, particularly Sections 4 and 10 and for continuous improvement.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	North Zone 240 mLv Substation	27/08/2006

In the 240 mLv Substation, the following is required:

- 1.- Identification sign on the front of the substation
- 2.- Distribution board requires identification label
- 3.- Circuit breakers in 240 and 415 Volts distribution boards did not have facilities for isolation and lockout.

Reference: Section 102 Plant control and control systems and Section 27 of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Tests and inspections in Substations	27/08/2006

At the time of the inspection there was not evidence of currency of tests and inspections of the electrical safety devices, and equipment installed and being used in the underground substations inspected. Ensure that all outstanding or overdue tests and inspections of electrical safety devices, equipment and installations are carried out as soon as possible to avoid the exposure of personnel to unacceptable levels of risk and to achieve compliance with the requirements of Section 106 Operating Plant, Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	North Zone 280 mLv electrical substation	27/09/2006

In the 280 mLv Substation the following is required.

- 1.- The transformer yard it is not fenced to protect personnel from dangerous levels of touch potential during electrical faults
- 2.- Substation did not have identification sign
- 3.- The drainage valve of the transformer bunding was found opened allowing accidental spillage not being properly contained
- 4.- The labelling of 1000 Volts distribution board done with plastic tape was fading off a not clearly readable
- 5.- In distribution board, the one out of five 1000 Volts rock breakers being used did not have identification of the load being fed
- 6.- In 240 Volts distribution board there were isolation devices without label

Reference: Section 102 Plant controls and control systems and Section 106 Operating plant

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
5	Technical specifications for substations	27/09/2006

The current technical and engineering specifications for the design and construction of underground electrical substations have to be risk assessed and reviewed to ensure the installation, equipment and safety features are safe for use and fit for purpose as required under the Mining and Quarrying Safety and Health Regulation 2001 as amended, particularly Parts 4 Electrical and 10 Plant generally

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Sergio Cespedes
Inspector of Mines
Northern Region

Released by DNRM under the RTI Act 2009

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	25/07/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today accompanied by Mr. John Harvey, Acting Electrical Supervisor and appointed person to control electrical work and Miss Jodie McKenna, Electrician; an inspection of the underground electrical substations and switchrooms was carried out.

The following issues were discussed with the above mentioned persons and Mr. Trevor Mitchell, appointed person to control electrical work:

1. Information and records of tests, inspection and maintenance of electrical safety devices, equipment and installations
2. Management and keeping of statutory information and records associated with the Electrical Management System
3. Technical and engineering specifications for standard underground substations to achieve compliance with mining legislation
4. Current workload and maintenance, tests and inspections of extra electrical drilling equipment involved in the rehabilitation of the underground areas of the mine
5. Training and competencies of new electrical personnel
6. Training and competencies of new electrical personnel

It was noticed during the inspection that the 1000 Volts distribution boards and control equipment installed on the north zones of the mine are of a high standard with suitable facilities for maintenance, inspection and tests as required under the mining legislation.

The following needs attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Records of electrical statutory information	27/09/2006

A formal process for the management of information and records associated with tests, inspections and maintenance of electrical safety devices, equipment, installations and systems has to be developed and established to ensure all relevant information, test results and actions taken as result of these activities are properly recorded and kept available and up to date. The process has to provide for the analysis and detection of trends on the technical and safety

performance of electrical safety devices and systems to achieve compliance with the Mining and Quarrying Safety and Health Regulation 2001 as amended, particularly Sections 4 and 10 and for continuous improvement.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	North Zone 240 mLv Substation	27/08/2006

In the 240 mLv Substation, the following is required:

- 1.- Identification sign on the front of the substation
- 2.- Distribution board requires identification label
- 3.- Circuit breakers in 240 and 415 Volts distribution boards did not have facilities for isolation and lockout.

Reference: Section 102 Plant control and control systems and Section 27 of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Tests and inspections in Substations	27/08/2006

At the time of the inspection there was not evidence of currency of tests and inspections of the electrical safety devices, and equipment installed and being used in the underground substations inspected. Ensure that all outstanding or overdue tests and inspections of electrical safety devices, equipment and installations are carried out as soon as possible to avoid the exposure of personnel to unacceptable levels of risk and to achieve compliance with the requirements of Section 106 Operating Plant, Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	North Zone 280 mLv electrical substation	27/09/2006

In the 280 mLv Substation the following is required.

- 1.- The transformer yard it is not fenced to protect personnel from dangerous levels of touch potential during electrical faults
- 2.- Substation did not have identification sign
- 3.- The drainage valve of the transformer bunding was found opened allowing accidental spillage not being properly contained
- 4.- The labelling of 1000 Volts distribution board done with plastic tape was fading off a not clearly readable
- 5.- In distribution board, the one out of five 1000 Volts rock breakers being used did not have identification of the load being fed
- 6.- In 240 Volts distribution board there were isolation devices without label

Reference: Section 102 Plant controls and control systems and Section 106 Operating plant

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
5	Technical specifications for substations	27/09/2006

The current technical and engineering specifications for the design and construction of underground electrical substations have to be risk assessed and reviewed to ensure the installation, equipment and safety features are safe for use and fit for purpose as required under the Mining and Quarrying Safety and Health Regulation 2001 as amended, particularly Parts 4 Electrical and 10 Plant generally

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Sergio Cespedes
Inspector of Mines
Northern Region

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Natural Resources, Mines and Water

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Records	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/07/2006
Record Date: 27/07/2006	MRE Item No.: 1

Title: Records of electrical statutory information

Description of Action Required to be Taken:
 A formal process for the management of information and records associated with tests, inspections and maintenance of electrical safety devices, equipment, installations and systems has to be developed and established to ensure all relevant information, test results and actions taken as result of these activities are properly recorded and kept available and up to date. The process has to provide for the analysis and detection of trends on the technical and safety performance of electrical safety devices and systems to achieve compliance with the Mining and Quarrying Safety and Health Regulation 2001 as amended, particularly Sections 4 and 10 and for continuous improvement.

References:
 Mining and Quarrying Safety and Health Regulation 2001 as amended, particularly Sections 4 and 10.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 27/09/2006

Completed: 21/09/2006, **Closed by:** Sergio Cespedes **on** 21/09/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Staff hired to re-do the recording of documents and data as required

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Natural Resources, Mines and Water

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Records	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/07/2006
Record Date: 27/07/2006	MRE Item No.: 1

Title: Records of electrical statutory information

Description of Action Required to be Taken:
 A formal process for the management of information and records associated with tests, inspections and maintenance of electrical safety devices, equipment, installations and systems has to be developed and established to ensure all relevant information, test results and actions taken as result of these activities are properly recorded and kept available and up to date. The process has to provide for the analysis and detection of trends on the technical and safety performance of electrical safety devices and systems to achieve compliance with the Mining and Quarrying Safety and Health Regulation 2001 as amended, particularly Sections 4 and 10 and for continuous improvement.

References:
 Mining and Quarrying Safety and Health Regulation 2001 as amended, particularly Sections 4 and 10.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 27/09/2006

Completed: 21/09/2006, **Closed by:** Sergio Cespedes **on** 21/09/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Staff hired to re-do the recording of documents and data as required

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
Natural Resources, Mines and Water

Mount Isa District Office
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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Substations and Switchrooms	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/07/2006
Record Date: 27/07/2006	MRE Item No.: 2

Title: North Zone 240 mLv Substation

Description of Action Required to be Taken:
In the 240 mLv Substation, the following is required:

- 1.- Identification sign on the front of the substation
- 2.- Distribution board requires identification label
- 3.- Circuit breakers in 240 and 415 Volts distribution boards did not have facilities for isolation and lockout.

Reference: Section 102 Plant control and control systems and Section 27 of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
Section 102 Plant control and control systems and Section 27 of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 27/08/2006

Completed: 21/09/2006, **Closed by:** Sergio Cespedes **on** 21/09/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

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Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Mount Isa District Office
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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Substations and Switchrooms	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/07/2006
Record Date: 27/07/2006	MRE Item No.: 2

Title: North Zone 240 mLv Substation

Description of Action Required to be Taken:
In the 240 mLv Substation, the following is required:
1.- Identification sign on the front of the substation
2.- Distribution board requires identification label
3.- Circuit breakers in 240 and 415 Volts distribution boards did not have facilities for isolation and lockout.
Reference: Section 102 Plant control and control systems and Section 27 of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
Section 102 Plant control and control systems and Section 27 of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 27/08/2006

Completed: 21/09/2006, **Closed by:** Sergio Cespedes **on** 21/09/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

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Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Test and inspect status	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/07/2006
Record Date: 27/07/2006	MRE Item No.: 3

Title: Tests and inspections in Substations

Description of Action Required to be Taken:
At the time of the inspection there was not evidence of currency of tests and inspections of the electrical safety devices, and equipment installed and being used in the underground substations inspected. Ensure that all outstanding or overdue tests and inspections of electrical safety devices, equipment and installations are carried out as soon as possible to avoid the exposure of personnel to unacceptable levels of risk and to achieve compliance with the requirements of Section 106 Operating Plant, Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
Section 106 Operating Plant, Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 27/08/2006

Completed: 21/09/2006, **Closed by:** Sergio Cespedes **on** 21/09/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Test and inspect status	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/07/2006
Record Date: 27/07/2006	MRE Item No.: 3

Title: Tests and inspections in Substations

Description of Action Required to be Taken:
At the time of the inspection there was not evidence of currency of tests and inspections of the electrical safety devices, and equipment installed and being used in the underground substations inspected. Ensure that all outstanding or overdue tests and inspections of electrical safety devices, equipment and installations are carried out as soon as possible to avoid the exposure of personnel to unacceptable levels of risk and to achieve compliance with the requirements of Section 106 Operating Plant, Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
Section 106 Operating Plant, Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 27/08/2006

Completed: 21/09/2006, **Closed by:** Sergio Cespedes **on** 21/09/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
Natural Resources, Mines and Water

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Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Substations and Switchrooms	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/07/2006
Record Date: 27/07/2006	MRE Item No.: 4

Title: North Zone 280 mLv electrical substation

Description of Action Required to be Taken:
In the 280 mLv Substation the following is required.

- 1.- The transformer yard it is not fenced to protect personnel from dangerous levels of touch potential during electrical faults
- 2.- Substation did not have identification sign
- 3.- The drainage valve of the transformer bunding was found opened allowing accidental spillage not being properly contained
- 4.- The labelling of 1000 Volts distribution board done with plastic tape was fading off a not clearly readable
- 5.- In distribution board, the one out of five 1000 Volts rock breakers being used did not have identification of the load being fed
- 6.- In 240 Volts distribution board there were isolation devices without label

Reference: Section 102 Plant controls and control systems and Section 106 Operating plant

References:
Section 102 Plant controls and control systems and Section 106 Operating plant

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 27/09/2006

Completed: 13/10/2006, **Closed by:** Sergio Cespedes **on** 13/10/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Substation is being fenced and all the signs and labels provided

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Substations and Switchrooms	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/07/2006
Record Date: 27/07/2006	MRE Item No.: 4

Title: North Zone 280 mLv electrical substation

Description of Action Required to be Taken:
In the 280 mLv Substation the following is required.

- 1.- The transformer yard it is not fenced to protect personnel from dangerous levels of touch potential during electrical faults
- 2.- Substation did not have identification sign
- 3.- The drainage valve of the transformer bunding was found opened allowing accidental spillage not being properly contained
- 4.- The labelling of 1000 Volts distribution board done with plastic tape was fading off a not clearly readable
- 5.- In distribution board, the one out of five 1000 Volts rock breakers being used did not have identification of the load being fed
- 6.- In 240 Volts distribution board there were isolation devices without label

Reference: Section 102 Plant controls and control systems and Section 106 Operating plant

References:
Section 102 Plant controls and control systems and Section 106 Operating plant

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 27/09/2006

Completed: 13/10/2006, **Closed by:** Sergio Cespedes **on** 13/10/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Substation is being fenced and all the signs and labels provided

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Substations and Switchrooms	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/07/2006
Record Date: 27/07/2006	MRE Item No.: 5

Title: Technical specifications for substations

Description of Action Required to be Taken:
The current technical and engineering specifications for the design and construction of underground electrical substations have to be risk assessed and reviewed to ensure the installation, equipment and safety features are safe for use and fit for purpose as required under the Mining and Quarrying Safety and Health Regulation 2001 as amended, particularly Parts 4 Electrical and 10 Plant generally

References:
The Mining and Quarrying Safety and Health Regulation 2001 as amended, particularly Parts 4 Electrical and 10 Plant general

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 27/09/2006

Completed: 13/10/2006, **Closed by:** Sergio Cespedes **on** 13/10/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Engineering department undertook a review of the technical specifications to ensure compliance with

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Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Substations and Switchrooms	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/07/2006
Record Date: 27/07/2006	MRE Item No.: 5

Title: Technical specifications for substations

Description of Action Required to be Taken:
The current technical and engineering specifications for the design and construction of underground electrical substations have to be risk assessed and reviewed to ensure the installation, equipment and safety features are safe for use and fit for purpose as required under the Mining and Quarrying Safety and Health Regulation 2001 as amended, particularly Parts 4 Electrical and 10 Plant generally

References:
The Mining and Quarrying Safety and Health Regulation 2001 as amended, particularly Parts 4 Electrical and 10 Plant general

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 27/09/2006

Completed: 13/10/2006, **Closed by:** Sergio Cespedes **on** 13/10/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Engineering department undertook a review of the technical specifications to ensure compliance with

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Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	30/03/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today accompanied by Mr. Chris Malcolm, Electrical Superintendent and appointed person to control electrical work, Mr. Ben Tipene, EDL Power Generation Plant Operations Supervisor, Mr. Merv King, Electrician and Mr. Craig Sands, EDL Electrician; an inspection of the Power Generation plant and equipment was carried out.

The following matters were discussed during the inspection:

1. Records of maintenance, tests and inspections of electrical equipment and safety devices
2. Training and competencies of electricians undertaking electrical work on the area
3. High Voltage switching in the power plant
4. Hazardous areas, information and records required to be kept up to date
5. Competencies for personnel undertaking electrical work in hazardous areas

Some records of inspection and tests of electrical safety devices, appliances and tools were not up to date and as discussed, the area has to make an effort to undertake the tasks on time and maintain relevant information up to date.

The following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Equipment with overdue test tags	30/04/2006

It was found during the inspection several electrical equipment, tools and extension leads with overdue test tags. Action has to be taken to ensure the program for regular inspections, tests and tagging of mentioned items established for the place is followed to avoid the exposure of personnel to unacceptable levels of risk by use of electrical devices and tools that may not be safe for use.

Personnel has to be reminded that as per site safety procedures, no electrical portable tool or device with an out of date test tag to be used if has an out of date tests tag, otherwise they may expose themselves to unacceptable level of risk.

Reference: Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Statutory training of electricians	30/04/2006

The records kept in site indicated that not all the electricians performing electrical work on the area had the competencies required under the Electrical Safety Act 2002 and the Mining and Quarrying Safety and Health Regulation 2001 as amended current, such as CPR or first aid. A plan has to be put in place to ensure electrical personnel keep their competencies current all the time as required by mentioned legislation.

Reference: Section 93 Training of the Mining and Quarrying Safety and Health Regulation 2001 as amended and Electrical Safety Regulation 2002

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	Electrical control cubicles and boxes	30/04/2006

In the electrical control boxes, cubicles and distribution boards the following has to be addressed:

- 1.- Holes and gaps in sides or bottom of electrical cubicles and distribution boards have to be sealed to avoid the ingress of vermin, humidity or animals that may render the electrical components and safety devices to unsafe conditions.
- 2.- The labelling of distribution boards, control boxes and isolation devices has to be improved for safe identification during emergencies, maintenance and isolation.
- 3.- The housekeeping inside of cubicles and boxes has to be improved. Spare parts and not related items are kept inside increasing the risk of fire should an arc during faults is created.
- 4.- Some metallic SWA cable gland plates are not electrically connected to the main earthing conductors
- 5.- Some pole fillers in distribution boards were missing creating access to live parts behind.

Reference: Section 102 Plant controls and control systems, Section 106 Operating plant, Section 25 Earthing of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	High Voltage Switching Room	30/04/2006

In the High Voltage (HV) Switching room:

- 1.- The HV safety rubber mat had overdue test date
- 2.- The room did not have the CPR chart for emergencies
- 3.- The main access door to the room did not have identification label

Reference: Section 108 Monitoring, Part 5 Emergencies, Section 102 Plant control and control systems of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
5	Diesel Cooling control panel	30/04/2006

In the Diesel Cooling control panel the following has to be addressed:

- 1.- The door of the control cubicle did not have identification
- 2.- Holes in the bottom have to be sealed to avoid the ingress of vermin, dust or animals
- 3.- A short 240 Volts lead with a plug in the bottom did not have test tag
- 4.- The safety door interlock of the main switch was not working allowing access of personnel to live exposed parts exposing personnel to the risk of electric shock or electrocution.

Reference: Part 4 and 10 of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Please provide a written status report on each SCP together with the actions taken to

address each item by their due dates

**Sergio Cespedes
Inspector of Mines
Northern Region**

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Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Mount Isa District Office
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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Testing & Tagging of Electrical Equipment	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 30/03/2006
Record Date: 31/03/2006	MRE Item No.: 1

Title: Equipment with overdue test tags

Description of Action Required to be Taken:
It was found during the inspection several electrical equipment, tools and extension leads with overdue test tags. Action has to be taken to ensure the program for regular inspections, tests and tagging of mentioned items established for the place is followed to avoid the exposure of personnel to unacceptable levels of risk by use of electrical devices and tools that may not be safe for use.
Personnel has to be reminded that as per site safety procedures, no electrical portable tool or device with an out of date test tag to be used if has an out of date tests tag, otherwise they may expose themselves to unacceptable level of risk.
Reference: Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
Reference: Section 108 Monitoring and Section 109 Service and maintenance of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/04/2006

Completed: 24/05/2006, **Closed by:** Sergio Cespedes **on** 24/05/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Training and Competency	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 30/03/2006
Record Date: 31/03/2006	MRE Item No.: 2

Title: Statutory training of electricians

Description of Action Required to be Taken:
The records kept in site indicated that not all the electricians performing electrical work on the area had the competencies required under the Electrical Safety Act 2002 and the Mining and Quarrying Safety and Health Regulation 2001 as amended current, such as CPR or first aid. A plan has to be put in place to ensure electrical personnel keep their competencies current all the time as required by mentioned legislation.
Reference: Section 93 Training of the Mining and Quarrying Safety and Health Regulation 2001 as amended and Electrical Safety Regulation 2002

References:
Section 93 Training of the Mining and Quarrying Safety and Health Regulation 2001 as amended and Electrical Safety Regulation 2002

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/04/2006

Completed: 24/05/2006, **Closed by:** Sergio Cespedes **on** 24/05/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



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Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Control and Protection	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 30/03/2006
Record Date: 31/03/2006	MRE Item No.: 3

Title: Electrical control cubicles and boxes

Description of Action Required to be Taken:
In the electrical control boxes, cubicles and distribution boards the following has to be addressed:

- 1.- Holes and gaps in sides or bottom of electrical cubicles and distribution boards have to be sealed to avoid the ingress of vermin, humidity or animals that may render the electrical components and safety devices to unsafe conditions.
- 2.- The labelling of distribution boards, control boxes and isolation devices has to be improved for safe identification during emergencies, maintenance and isolation.
- 3.- The housekeeping inside of cubicles and boxes has to be improved. Spare parts and not related items are kept inside increasing the risk of fire should an arc during faults is created.
- 4.- Some metallic SWA cable gland plates are not electrically connected to the main earthing conductors
- 5.- Some pole fillers in distribution boards were missing creating access to live parts behind.

Reference: Section 102 Plant controls and control systems, Section 106 Operating plant, Section 25 Earthing of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
Section 102 Plant controls and control systems, Section 106 Operating plant, Section 25

Earthing of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/04/2006

Completed: 24/05/2006, **Closed by:** Sergio Cespedes **on** 24/05/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
Natural Resources, Mines and Water

Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 30/03/2006
Record Date: 31/03/2006	MRE Item No.: 4

Title: High Voltage Switching Room

Description of Action Required to be Taken:
In the High Voltage (HV) Switching room:
1.- The HV safety rubber mat had overdue test date
2.- The room did not have the CPR chart for emergencies
3.- The main access door to the room did not have identification label
Reference: Section 108 Monitoring, Part 5 Emergencies, Section 102 Plant control and control systems of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
Section 108 Monitoring, Part 5 Emergencies, Section 102 Plant control and control systems of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/04/2006

Completed: 24/05/2006, **Closed by:** Sergio Cespedes **on** 24/05/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
Natural Resources, Mines and Water

Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Sergio Cespedes, Inspector of Mines (Electrical)

Subject: Electrical Control and Protection	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 30/03/2006
Record Date: 31/03/2006	MRE Item No.: 5

Title: Diesel Cooling control panel

Description of Action Required to be Taken:
In the Diesel Cooling control panel the following has to be addressed:

- 1.- The door of the control cubicle did not have identification
- 2.- Holes in the bottom have to be sealed to avoid the ingress of vermin, dust or animals
- 3.- A short 240 Volts lead with a plug in the bottom did not have test tag
- 4.- The safety door interlock of the main switch was not working allowing access of personnel to live exposed parts exposing personnel to the risk of electric shock or electrocution.

Reference: Part 4 and 10 of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

References:
Part 4 and 10 of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 30/04/2006

Completed: 24/05/2006, **Closed by:** Sergio Cespedes **on** 24/05/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Released by DNRM under the RTI Act 2009



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	21/11/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Site Safety & Health Reps Consulted: Adam Fallon

Today accompanied by Mr Dan Mossman (Mobile Plant Supervisor) , Adam Fallon (SH&E Rep) and Kent Twiname (Underground Safety Advisor) I was taken underground to conduct a fork-lift inspection I was able to look at two fork-lifts the first one I looked at was Volvo IT 03057 belonging to Eroc overall the machine was in good condition the next machine was IT 216 belonging to BHP Cannington this machine looked to be a relatively new machine however it had sustained some damage with a cab window being smashed. The basket had two doors on it one of which was not able to self close or self latch I advised the employee to use only the door that was in working order, when we went to get in the car to go to the next machine Mr Mossman noticed that we were getting a flat tyre so we left the mine at that point and returned to the surface.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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1	Signage in baskets	23/12/2007
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Install SWL signs in all baskets using letters and numerals not less than 25 mm high in a colour contrasting with the background, with the safe working load (kilograms) expressed thus SAFE WORKING LOAD.....KG

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Advise in writing when the above item has been completed.

Simon Cole
District Workers'
Representative
Northern Region

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Simon Cole, District Workers' Representative

Subject: Signage	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 21/11/2007
Record Date: 23/11/2007	MRE Item No.: 1

Title: Signage in baskets

Description of Action Required to be Taken:
Install SWL signs in all baskets using letters and numerals not less than 25 mm high in a colour contrasting with the background, with the safe working load (kilograms) expressed thus
SAFE WORKING LOAD.....KG

References:
MQSHR & MQSHA

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 23/12/2007

Completed: 13/03/2008, **Closed by:** Simon Cole **on** 13/03/2008.

Action Taken by Mine to Comply with Corrective Action Requirement:

Have fitted SWL signs in baskets



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Site Meeting	Northern	19/09/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Today accompanied by Mr Yossi Berger (AWU DWR) and Mr Des Bouchardt (DWR Townsville) I attended a meeting with Mr Neil Colburne (Underground SSE) and Mr Brian Calway (Surface SSE) during the meeting we spoke about a number of issues surrounding Cannington mine and their employees. Mr Berger and Mr Bouchardt then went on a tour of the mill and I spoke with Mrs Melissa Kimlin (HR Manager) about various issues regarding cannington mine. Mr Berger and Mr Bouchardt also met with Mrs Kimlin we then met with Mr Ian Long (HSEC Manager) and spoke about the corporate structure for safety and health.

Simon Cole
District Workers'
Representative
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	30/10/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Site Safety & Health Reps Consulted: Aaron Murphy

Today in company of Mr Phil Casey (Inspection Officer) Mr Jack Standa (Underground Manager) and Mr Tim Purvis (Principal Engineer) I was taken underground so I could speak with some of their employees and contractors, during my visit I spoke with Mr Aaron Murphy (Loader Operator and SH&E Rep) at 295 level, I then spoke with Mr Bart Lopez (Eroc), Mr James Targett (Eroc and Mr Michael Boyland (Eroc) on the main decline at 375 level, We then moved on to 550 level where I spoke with Mr Peter Wormald (Berger) and Mr Mark Grogan (CRE) who were working on relining the western ore pass. I also spoke with Mr Garry Phillips (Jumbo Operator) during my visit.

No Issues were raised.

Simon Cole
District Workers'
Representative
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	23/08/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Today in the company of Ms Amanda Baker (Training Systems Advisor) I conducted a Training Systems and Competencies audit, during this audit there were no issues identified.

I also attended two SH&E meetings which I found to be very well organised and attended by enthusiastic workers that like to be involved in Safety and Health, during these meetings I found no issues.

Simon Cole
District Workers'
Representative
Northern Region



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Postal Mine Record Entry	Northern	30/05/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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This is to confirm a conversation that I had with Mr Steve Sliwka (Safety and Training advisor HSEC) about issues raised with me by workers on the 25/05/06.

- Only 1 toilet at the 450 long way to go if working in the northern zone (reg 90 sec 4a of the MQSHR 2001)
- Workers unsure where to locate the mine record book (refer sec 59 (4) of the MQSHA 1999)
- Communication in certain areas of the mine
- Communication between light vehicles and heavy vehicles
- Lone worker procedure (refer Reg 97 of the MQSHR 2001)
- SH&E reps to be notified and involved in accident and incident investigations (refer sec 92 of the MQSHA 1999)

Please advise me in writing your response to the above issues.

Simon Cole
District Workers'
Representative
Northern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	25/05/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Site Safety & Health Reps Consulted: Ms Lara Jedyn

Today in the company of Ms Lara Jedyn (SH&E REP) I conducted a Fuel and Oil storage inspection of the 450 fuel bay. After the inspection of the 450 fuel bay Ms Jedyn took me on a tour of the underground workings during this tour we visited,

- Mr Luke Williams Jumbo operator at the 425 54 level
- Mr Chris Ridgeman Jumbo operator and Mr Matt Kirk offsider at the 320 C2XE1 level
- Cribroom
- Mr Terry Gilmore (SH&E REP) at the 55 level operating an IT Fork-lift with a man basket attached. Mr Gilmore leant out over the side to talk to me in doing so he knocked the tilt control lever causing the basket to tilt forward with two men in side.

As a result of the inspection the below items were recognised and require attention.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Bunding	04/06/2006

During this inspection it was observed that the bunding on both the fuel and oil have manually operated drain valves which were in the open position. It was also observed that the sump for the 450 fuel bay has a automatic pump which was not working at the time of inspection. Drain valves on the bunds must be in the closed position to prevent spillage.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Locking mechanism safety device	29/01/2007

Inspection of the Machine IT950 it was observed that the tilt control and the raise and lower lever do not have a safety device in place to prevent unwanted movement of the attachment Whilst personnel in the basket. It was also observed that the quick release hitch switch did not have a safety device in place to prevent unwanted release of the attachments.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please advise in writing when above issues have been addressed.

Simon Cole
District Workers'
Representative
Northern Region

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
Natural Resources, Mines and Water

Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Simon Cole, District Workers' Representative

Subject: Fuel & Oil Storage	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/05/2006
Record Date: 30/05/2006	MRE Item No.: 1

Title: Bunding

Description of Action Required to be Taken:
During this inspection it was observed that the bunding on both the fuel and oil have manually operated drain valves which were in the open position. It was also observed that the sump for the 450 fuel bay has a automatic pump which was not working at the time of inspection. Drain valves on the bunds must be in the closed position to prevent spillage.

References:
MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 04/06/2006

Completed: 03/08/2006, **Closed by:** Simon Cole **on** 03/08/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Review Comment	Review Officer	Review Date	Due Date
Review 2. Machine Attachments			
Work in progress	Simon Cole	31/10/2006	30/11/2006
Review 1. Machine Attachments			
Following discussions extension granted	Simon Cole	03/08/2006	13/06/2006



Queensland Government
Natural Resources, Mines and Water

Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Vision: Our Industries Free of Safety and Health Incidents

Substandard Condition or Practice

Issued By: Simon Cole, District Workers' Representative

Subject: Machine Attachments **File Number:** 9748 / 02
Mine Name: Cannington Mine **Operator:** Bhp Billiton Minerals Pty Ltd
Activity: Inspection **Activity Date:** 25/05/2006
Record Date: 30/05/2006 **MRE Item No.:** 2

Title: Locking mechanism safety device

Description of Action Required to be Taken:

Inspection of the Machine IT950 it was observed that the tilt control and the raise and lower lever do not have a safety device in place to prevent unwanted movement of the attachment Whilst personnel in the basket. It was also observed that the quick release hitch switch did not have a safety device in place to prevent unwanted release of the attachments.

References:

MQSHA & MQSHR

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 29/01/2007

Completed: 26/01/2007, **Closed by:** Simon Cole on 29/01/2007.

Reassigned Due Date: 30/11/2006; **Review conducted by** Simon Cole on 31/10/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Locking device added to switch



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	25/10/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Terry Fisher
Inspector of Mines
Southern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	25/05/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today, accompanied by Philip Wiebe - Mechanical Maintenance Engineer, Warren Meads – Project Mechanical Engineer (Orana) and Steve MacDonald Coordinator (EDL), I inspected the system of safety management for pressure vessels.

Aspects considered were: Documentation & procedures, Pressure equipment data, Pressure equipment history (Operation, inspections & maintenance) and Pressure relief devices.

An inspection of documentation in the office was followed by a physical inspection of a random sample in the processing and refrigeration plants.

The following items apply:

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
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1	Testing of Pressure Relief Valve (PRV)	N/A
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The report from IXT recommended that the PRV on the plant air receiver be tested while in service. This action could not be performed without air pressure to assist in lifting the valve. It appeared that this action was planned for a future shutdown, when the PV would once more be without pressure. It is recommended that the valve be tested with the vessel pressurised. The action should be performed by a competent person. A job safety analysis should be performed prior to the testing activity.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
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2	Pressure gauge on Plant Air receiver	N/A
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During the inspection, no pressure gauge could be found on the plant air receiver (Vessel id: RC47315). Please attempt to determine the location of the gauge. If its absence is confirmed, please arrange for installation.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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3	Pressure vessel (PV) management system at power station	05/07/2006
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No evidence could be found that the pressure vessels at the power station are being safety managed. Please implement a system of work that will ensure that safety aspects of PV's at the power station are being addressed in accordance with a standard such as "AS 3788: Pressure equipment-Inservice inspection" or equivalent. The power station PV's may be included in the system for the rest of the mine.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	Water in air receivers	05/07/2006

I noticed that large volumes of water were present in some air receivers. Please implement a system of work that will ensure that water is drained from all air receivers on a daily basis.

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please notify me in writing (fax, e-mail or post) when items 3 & 4 had been completed.

Theo Kahl
Inspector of Mines
Northern Region

Recommendation

Subject: Pressure Relief Device	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/05/2006
Record Date: 05/06/2006	MRE Item No.: 1

Title: Testing of Pressure Relief Valve (PRV)

Description of Action Recommended to be Taken:

The report from IXT recommended that the PRV on the plant air receiver be tested while in service. This action could not be performed without air pressure to assist in lifting the valve. It appeared that this action was planned for a future shutdown, when the PV would once more be without pressure. It is recommended that the valve be tested with the vessel pressurised. The action should be performed by a competent person. A job safety analysis should be performed prior to the testing activity.

References:

MQSHA&R

Recommendation

Subject: Pressure Vessels	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/05/2006
Record Date: 05/06/2006	MRE Item No.: 2

Title: Pressure gauge on Plant Air receiver

Description of Action Recommended to be Taken:

During the inspection, no pressure gauge could be found on the plant air receiver (Vessel id: RC47315). Please attempt to determine the location of the gauge. If its absence is confirmed, please arrange for installation.

References:
MQSHA&R

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Vision: Our Industries Free of Safety and Health Incidents

Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Substandard Condition or Practice

Issued By: Theo Kahl, Inspector of Mines (Chemical)

Subject: Pressure Vessels	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/05/2006
Record Date: 05/06/2006	MRE Item No.: 3

Title: Pressure vessel (PV) management system at power station

Description of Action Required to be Taken:
No evidence could be found that the pressure vessels at the power station are being safety managed. Please implement a system of work that will ensure that safety aspects of PV's at the power station are being addressed in accordance with a standard such as "AS 3788: Pressure equipment-Inservice inspection" or equivalent. The power station PV's may be included in the system for the rest of the mine.

References:
MQSHA&R

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 05/07/2006

Completed: 21/09/2006, **Closed by:** Theo Kahl on 21/09/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

Tel Phil wiebe & grant farrows

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Queensland Government
 Natural Resources, Mines and Water

Vision: Our Industries Free of Safety and Health Incidents

Mount Isa District Office
 P.O. Box 334, MOUNT ISA QLD 4825
 Phone: (07) 4747 2158, Fax: (07) 4743 7165

Substandard Condition or Practice

Issued By: Theo Kahl, Inspector of Mines (Chemical)

Subject: Pressure Vessels	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection	Activity Date: 25/05/2006
Record Date: 05/06/2006	MRE Item No.: 4

Title: Water in air receivers

Description of Action Required to be Taken:
 I noticed that large volumes of water were present in some air receivers. Please implement a system of work that will ensure that water is drained from all air receivers on a daily basis.

References:
 MQSHA&R

Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 05/07/2006

Completed: 21/09/2006, **Closed by:** Theo Kahl **on** 21/09/2006.

Action Taken by Mine to Comply with Corrective Action Requirement:

tel grant farrows & phil wiebe

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection - Weekend or Backshift	Northern	25/05/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Tonight, accompanied by Wayne Cordwell - Production Superintendent (Processing Plant), I inspected the system of safety management for fuel and oil.

Aspects considered were: documentation & procedures, emergency preparedness, inspection & monitoring, storage, fire protection, dispensing and disposal.

We did a physical inspection of fuel storage, dispensing and waste disposal areas as well as an inspection of documentation in the office.

The following item apply:

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
1	Fire fighting equipment at refuelling station	N/A
	The fixed fire fighting equipment consisted of a hose reel, foam drum and a confusing system of fittings. It took several (precious in a real situation) minutes to work out how it all fit together. Furthermore, the foam drum had to be carried along in close proximity to the end nozzle. In the event of a fire, the equipment could be required to be used by any person at random.(Not necessarily having received specialized training) Please review the system of fixed fire fighting equipment at the refuelling station and improve as appropriate. The following may be considered (but not limited to):	
	1. Simplify the system of fittings so it can be assembled rapidly.	
	2. Put up clearly marked instructions for assembly	
	3. Modify system so that the foam drum need not be carried along by the person fighting the fire.	

Theo Kahl
Inspector of Mines
Northern Region

Recommendation

Subject: Fuel & Oil	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Inspection - Weekend or Backshift	Activity Date: 25/05/2006
Record Date: 05/06/2006	MRE Item No.: 1

Title: Fire fighting equipment at refuelling station

Description of Action Recommended to be Taken:

The fixed fire fighting equipment consisted of a hose reel, foam drum and a confusing system of fittings. It took several (precious in a real situation) minutes to work out how it all fit together. Furthermore, the foam drum had to be carried along in close proximity to the end nozzle. In the event of a fire, the equipment could be required to be used by any person at random. (Not necessarily having received specialized training)

Please review the system of fixed fire fighting equipment at the refuelling station and improve as appropriate. The following may be considered (but not limited to):

1. Simplify the system of fittings so it can be assembled rapidly.
2. Put up clearly marked instructions for assembly
3. Modify system so that the foam drum need not be carried along by the person fighting the fire.

References:

MQSHA&R



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	27/04/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Site Safety & Health Reps Consulted: kjyrfkjyg,jh

liuytlkjugk.jhgku

Theo Kahl
Inspector of Mines
Northern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Investigation	Northern	10/04/2006

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s59 of the Mining and Quarrying Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today, accompanied by Kevin Hedges - Occupational Hygienist and Philip Wiebe - Mechanical Maintenance Engineer, I inspected Sulphuric Acid Storage Tank A in the tank farm.

I was informed that the tank had developed a leak that was first noticed on Saturday 8 April 2006 at about 13:15. Concentrated acid was squirting through a hole in the side wall. The location of the fingersized hole was about three quarter way up the height of the tank.

It was theorised that water had leaked into the tank through a non-metallic patch on the roof . (See my mine record of 26/8/2005).The water ran down the inside wall and made contact with the concentrated acid, diluting it amidst exothermic chemical reactions between the steel, acid and water. This caused corrosion through the thickness of the steel. (Low carbon steel would normally resist corrosion by concentrated sulphuric acid better than corrosion by diluted acid.) It is thus possible that a narrow vertical zone could have thinned due to corrosion and due to the fluctuation of acid level in the tank. Once this thinning has progressed to the point where the steel is too thin, the tank can fail catastrophically, spilling a huge volume of acid. Any persons exposed to this volume would be at great risk, even if they had been wearing acid protection suits.

I was informed that the tank level at the leak was at about 73% of the total tank volume. At the time of inspection, the operating level of the tank was set to be below 60%.

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
1	Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999 Sulphuric Acid Tank A	18/04/2006

Assess the risk from operating Tank A in its current state and put measures in place that will reduce the risk to an acceptable level. The level of acid in the tank is to be reduced to a safe level and must not be increased until the structural integrity of the tank had been confirmed by a competent person or persons. All activities associated with the assessment or rectification of the tank must be performed at an acceptable level of risk.

Please provide a written status report on each Directive together with the actions taken to address each item by their due dates

Theo Kahl
Inspector of Mines
Northern Region

Released by DNRM under the RTI Act 2009

Review Comment	Review Officer	Review Date	Due Date	ReAssigned To



Vision: Our Industries Free of Safety and Health Incidents

Mount Isa District Office
P.O. Box 334, MOUNT ISA QLD 4825
Phone: (07) 4747 2158, Fax: (07) 4743 7165

Directive

I Theo Kahl, an Inspector appointed under Section 122, of the Mining and Quarrying Safety and Health Act 1999 issue a Directive to reduce risk, pursuant to Section 163 of the Mining and Quarrying Safety and Health Act 1999.

Subject: Sulphuric acid	File Number: 9748 / 02
Mine Name: Cannington Mine	Operator: Bhp Billiton Minerals Pty Ltd
Activity: Investigation	Activity Date: 10/04/2006
Record Date: 11/04/2006	MRE Item No.: 1

Title: Sulphuric Acid Tank A

Directive Given:
Assess the risk from operating Tank A in its current state and put measures in place that will reduce the risk to an acceptable level. The level of acid in the tank is to be reduced to a safe level and must not be increased until the structural integrity of the tank had been confirmed by a competent person or persons. All activities associated with the assessment or rectification of the tank must be performed at an acceptable level of risk.

References:
MQSHA

A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Risk to a person resulting from a hazard at the mine must be within acceptable limits at all times.

Reasonable Time for Compliance - Due Date: 18/04/2006

Completed: 20/04/2006, **Closed by:** Theo Kahl on 20/04/2006.

Action Taken by Mine to Comply with Directive:

Tank level reduced. Wall tested. Capital works initiated. E-mails Grant Farrows 18 & 20 Apr 06

Released by DNRM under the RTI Act 2009

Directive -

1. If an inspector or inspection officer reasonably believes a risk from operations may reach an unacceptable level, the inspector or officer may give a directive to any person to take stated corrective or preventative action to prevent the risk reaching an unacceptable level.
2. The directive may be given orally or by notice.
3. If the directive is given orally, the person giving the directive must confirm the directive by notice to the person in control of the mine or part of the mine affected by the directive and to the relevant site senior executive.
4. Failure to comply with subsection (3) does not affect the validity of the directive.

Method of Giving Directive -

This directive was given in writing on 11/04/2006 at 05:00 PM.

Directive Given To -

This directive is given to the following person/s -

Grant Farrow

Method of Identification Used -

In issuing this directive I identified myself as a person appointed under Section 122 of the Mining and Quarrying Safety and Health Act 1999.

I will produce my identity card for the other person's inspection at the first reasonable opportunity (it not being practicable to produce or display the identity card at the time of exercising the power) on 11/04/2006 at 05:00:00 PM.

Part of mine affected by directive -

Whole of Mine.

A copy of the directive was given to -

A copy of this directive or notice was given to site senior executive on 11/04/2006 at 05:00:00 PM.

In giving this directive I reasonably believe that a risk from operations may reach an unacceptable level.

The reason for my belief or suspicion is based upon the following -
Unknown structural integrity of sulphuric acid tank

Theo Kahl: **Date Issued:** / /

Warning - Failure to comply with this directive is an offence. If you disagree with this directive, you may apply for a review of the directive. A summary of the review provisions is provided below.

Provisions of the Mining and Quarrying Safety and Health Act 1999 in Relation to Directives

171. Directives

- (1) If an inspector, inspection officer or district workers' representative has given a directive, the inspector, officer or representative -
 - (a) must enter it in the mine record as soon as reasonably practicable after giving it; and
 - (b) must state the reason for the directive in the mine record.
- (2) A person to whom a directive is given must comply with the directive as soon as reasonably practicable. Maximum penalty - 800 penalty units or 2 years imprisonment.
- (3) The site senior executive must enter in the mine record the action taken to comply with the directive as soon as practicable after the action is taken. Maximum penalty - 40 penalty units.
- (4) The site senior executive must make copies of directives available for inspection by workers. Maximum penalty - 40 penalty units.
- (5) A directive remains effective until -
 - (a) for a directive by a district workers' representative - it is withdrawn in writing by the representative or an inspector; or
 - (b) for a directive by the chief inspector - it is withdrawn in writing by the chief inspector; or
 - (c) for a directive by an inspector other than the chief inspector - it is withdrawn in writing by the inspector or another inspector; or
 - (d) for a directive of an inspection officer - it is withdrawn in writing by the inspection officer or an inspector; or
 - (e) for a directive by a district workers' representative, an inspection officer or an inspector and not otherwise withdrawn - the chief inspector varies or sets aside the directive after reviewing it under subdivision 4; or
 - (f) the Industrial Court stays, varies or sets aside the directive.

Subdivision 4 - Review of directives

172. Application for review

A person who has received a directive from an inspector (other than the chief inspector), inspection officer or district workers' representative may apply under this division for the directive to be reviewed

173. Procedure for review

- (1) The application must -
 - (a) be made in writing to the chief inspector; and
 - (b) be supported by enough information to allow the chief inspector to decide the application.
- (2) The application must be made to the chief inspector within -
 - (a) 7 days after the day on which the person received the directive; or
 - (b) the longer period, within 2 months after the day, the chief inspector in special circumstances allows.
- (3) The chief inspector must consider the application within 7 days after receiving it and immediately advise the applicant in writing whether the chief inspector considers the applicant has complied with subsection (1).
- (4) If the chief inspector does not consider the application is supported by enough information to allow the chief inspector to decide the application, the chief inspector must advise the applicant what further information the chief inspector requires.
- (5) When the chief inspector is satisfied the applicant has complied with subsection (1), the chief inspector must immediately advise the applicant in writing of that fact.

174. Review of directive

- (1) The chief inspector must, within 14 days after giving the advice mentioned in section 173(5), review the directive and make a decision (the "review decision") -
 - (a) to confirm the directive appealed against; or
 - (b) to vary or set aside the directive appealed against.
- (2) The chief inspector may give a directive in substitution for a directive the chief inspector decides to set aside.
- (3) Within 7 days after making the review decision, the chief inspector must give notice of the decision to the applicant.
- (4) The notice must -

- (a) include the reasons for the review decision; and
- (b) if the notice does not set aside the directive, tell the applicant of the applicant's right of appeal against the decision.

(5) If the chief inspector does not -

- (a) review the directive within the time allowed under subsection (1); or
- (b) having reviewed the directive, advise the applicant of the review decision within the time allowed under subsection (3); the applicant may appeal against the directive under part 13.

175. Stay of operation of directive

- (1) If a person applies under this division for a directive to be reviewed, the person may immediately apply to the Industrial Court for a stay of the directive.
- (2) The court may stay the directive to secure the effectiveness of the review and any later appeal to the court.
- (3) A stay -
 - (a) may be given on conditions the court considers appropriate; and
 - (b) operates for the period fixed by the court; and
 - (c) may be revoked or amended by the court.
- (4) The period of a stay must not extend past the time when the chief inspector reviews the directive and any later period the court allows the person to enable the person to appeal against the decision.
- (5) An application made for a review of a directive affects the directive, or the carrying out of the directive, only if the directive is stayed.
- (6) However, a directive under section 164 must not be stayed.