



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	18/10/2005

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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This afternoon accompanied by Mr Laurie Mitchell (Training Coordinator) I carried out an inspection of systems and procedures in place for the control and management of forklifts on site this included a physical inspection of six of the on site forklifts.

As a result of the inspection the following item is noted for attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	<b>Attachments and lifting accessories</b>	<b>25/11/2005</b>

During the inspection a number of forklift attachments were inspected, it could not be confirmed if these attachments were subject to a regular scheduled inspection program. A documented system is to be established to ensure that all attachments are registered and subjected to regular scheduled inspections.

***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 notified in writing when the above action has been addressed.

**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	19/10/2005

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Today accompanied by Mr Laurie Mitchell (Training Coordinator) I carried out an inspection of the systems and procedures in place for the management, maintenance and control of mobile equipment on site. I had discussions with Mr Clinton Stanton-Cook (Light Vehicle Fitter) regarding the systems in place for light vehicles and Mr Mick Helic (General Superintendent EROC) to review the EROC system. As part of this inspection I also visited the 450 level workshop.

Following this accompanied by Mr Chris Crooks (Principal Maintenance Engineer) and Mr Luis Jofre (Superintendent - Fixed Plant Maintenance) I carried out a review of the process in place for the ongoing management of the structural integrity of the sites fixed plant and equipment.

As a result of the discussions and reviews in relation to the above two inspections the following items are noted for attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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<b>1</b>	<b>Light Vehicle Maintenance System</b>	<b>30/11/2005</b>
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It was noted that the site has recently taken over the maintenance of light vehicles and that the servicing schedules in SAP have not been fully established for this equipment. The establishment of servicing schedules and service sheets in SAP is to be completed as a matter of priority.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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<b>2</b>	<b>Auditing of Contractor Maintenance Programs</b>	<b>16/12/2005</b>
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It is a contractual requirement that contractors maintain their equipment however at the time of the inspection it was noted that there have been no audits of contractor maintenance practices undertaken. A system of auditing and or inspection is to be established to ensure that contractor equipment on site is being maintained appropriately.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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<b>3</b>	<b>Auditing of Plant Structural Integrity</b>	<b>20/02/2006</b>
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A review of the sites plant structural integrity has been commenced as part of the BHP Billiton enterprise wide risk management program. There is however no current link between this activity and the sites SAP maintenance program. A system of regular auditing and inspection of plant structural integrity by suitably qualified personnel is to be established in the SAP maintenance system. The schedules developed should take into account the results of the work being undertaken in the enterprise wide risk management program.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	<b>Plant inspection by maintenance personnel</b>	<b>23/12/2005</b>

It was noted during the discussions that the plant maintenance inspection sheets may not adequately cover items of plant integrity such as monitoring of corrosion, concrete deterioration, spillage build-up and security of handrails, walkways and ladderways. The plant maintenance inspection sheets are to be reviewed and modified as necessary to ensure these issues are being adequately monitored by maintenance personnel.

***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 notified in writing when each of the above actions have been addressed.

**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	26/08/2005

Vision: Our Industries Free of Safety and Health Incidents

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Today Mr Toshimitsu Sasaki (Visitor) and I were provided with an overview of the Cannington operations and a tour of the surface plants and activities.

Following this Mr Sasaki was given a tour of the underground operations.

The aim of this visit was to give Mr Sasaki an appreciation of the Cannington Mine operation.

The hospitality shown by the Cannington Mine management and personnel in arranging and facilitating the visit of Mr Sasaki is appreciated.

**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	02/08/2005

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Today accompanied by Mr Terry Hyde (Acting Maintenance Superintendent) I carried out an inspection of the following crushing and conveying systems, tunnel and feeders, main feed , recycle circuit and filtration. Following the inspection a review of the maintenance systems and practices in place for the crushers and conveyors was carried out.

In general the areas inspected appeared to be well maintained and in an acceptable condition.

It was noted during the inspection that a number of the conveyor emergency trip wire springs were in almost full compression, during the next scheduled maintenance inspection of these conveyors, the trip wires should be tested to ensure that the conveyor will trip, when the wire is pulled in a direction away from the spring fixed anchor point.

**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 - Weekend or Backshift	Northern	02/08/2005

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This evening I carried out an inspection of the surface plant workshop. I attended the maintenance crew shift handover, at this meeting I spoke about a recent incident at a mine site involving a remote control overhead crane that failed to respond to a command from the control pack, the result being that the crane broke a sling attached to the crane. I stressed the need to ensure that cranes were in good working order prior to using them.

Following this maintenance meeting in the company of Mr Ryan Jones (Fixed Plant Fitter) and Mr Neil Gill (Fixed Plant Fitter) I attended the process plant changeover and PASS meeting. At this meeting I again discussed the crane incident.

After this meeting I sat with Mr Ryan as he prepared a JSA for the replacement of a hydraulic suction manifold on a concrete pump. When Mr Ryan completed the draft, I accompanied him to inspect the concrete pump at the paste fill plant.

**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	23/03/2005

Vision: Our Industries Free of Safety and Health Incidents

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Today I carried out an inspection of the systems and processes in place for the maintenance and management of cranes on site.

I had discussions with Mr Laurie Mitchell (Maintenance Coordinator) regarding the maintenance schedules for the mobile crane on site.

Accompanied by Mr Trevor Mitchell (Electrical Coordinator) I inspected the main workshop, reagents shed, flotation, secondary grinding and primary cyclone cranes. I also reviewed the inspection & maintenance reports for a number of cranes on site.

I inspected the rigging shed in the company of Mr Danny Ryan (Rigger – Crane Operator) and Mr Brian Bidwell (Rigger – Crane Operator), while there I discussed the inspection and tagging program in place for lifting devices on site.

As a result of the inspection and discussions the following item has been identified for attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Record of action on crane inspection items	29/04/2005

During the inspection it was observed that there is no clear system for identifying which items identified during crane inspections have been actioned and which will not be.

A process is to be established to ensure this occurs.

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

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**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	27/09/2004

Vision: Our Industries Free of Safety and Health Incidents

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Today I conducted an Audit on the Mines compliance to the Mining and Quarrying Safety and Health Act 1999 in relation to Site Safety Representatives and Committee's.

Mr. Mark Panagis (Site Safety Rep- Trainer Operator) assisted me with my auditing. After reviewing documentation and speaking to Mr. Panagis and Mr. Grant Eddington (Acting Site Senior Executive) the following points were noted.

- There are Site Safety Representatives on site. (3 per crew).
- Site Safety Representatives were elected by their fellow workers.
- Site Safety Representatives have received the appropriate training which is endorsed by the council currently being QMS 1,2 & 3.
- Representatives are involved in inspections and investigations. (Site Safety Representatives conduct safety audits each Wednesday these audits include the inspection of ladderways, fresh air chambers, roadways, explosive magazines, equipment attachments and ground conditions).
- Site Safety representatives do investigate complaints from workers.
- Safety and Health matters are referred to the Site Safety and Health Committee by the Safety Reps.
- Written reports are submitted of inspections conducted by Site Safety Representatives.
- Site Safety Representatives are aware of their powers under the Act.
- There is a Site Safety and Health Committee operating on site which currently has 17 members.
- Safety and Health Committee meetings are conducted monthly.
- Minutes are kept of the Site Safety Committee meetings.
- Minutes of the Safety meetings are made readily available to workers.
- The Site Senior Executive does inform Site Safety Representatives of any injury's or illnesses on site. (Via safety alerts and pass meetings).



**Paul White**  
**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	08/03/2005

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Today in the company of Mr Phil Casey, Inspection Officer, I inspected on the emergency incident management plan and held discussions with Mr Neil Jansen, SSE, Mr James Browning, HSE Manager and Mr Grant Eggington, Mine Manager with respect to high potential and serious accident reporting, the recent high potential incident of loader near stope and of the management structure at Cannington. Mr Casey inspected the underground refuge chambers, escape ladder ways and the site of the recent high potential incident. As a result of the inspection the following SCPs have been issued.

**Peter Power**  
Inspector of Mines;  
Northern; Northern Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	25/08/2004

Vision: Our Industries Free of Safety and Health Incidents

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Today accompanied by Mr Ross McLellan, Inspector of Mines, Mr Phillip Casey, Inspection Officer, Mr Paul White, District Workers Representative, I conducted an inspection of the ground control within the under ground mine. Mr Neil Jansen, SSE, provided us with the necessary assistance and personnel to carry out the inspection. A presentation was given to the sites management team on the roles and functions of the Mines Inspectorate.

Mr White and Mr Casey accompanied mine personnel and conducted inspections of the underground mining areas. I also conducted similar inspections. Mr McLellan remained on the surface and reviewed work undertaken by mine personnel to address sub standard conditions identified in a ground control audit undertaken last year.

The condition and pattern of the installed ground control elements in all areas inspected were of a high standard. There were a few areas, JJ drill site 120 level 15 metres past XC and JFDN 100 level, that required scaling, these were pointed out to the BHP representative and must be addressed. The housekeeping was also of a high standard. However it was observed that the thickness of the fibrecrete was often less than the design thickness of 50mm and that pieces of fibre crete have fallen out in a number of areas exposing a thin layer beneath. When questioned about this the BHP representative informed me that it is the responsibility of geotechs and supervisors to ensure that the design thickness was being applied and for them to arrange for remedial action to be completed.

Mr Jansen was also asked to provide written information on recent incidents and event's pertaining to the concentrator shed and the action carried out by the SSE with respect to respiratory protection used in the area. Mr Jansen said that the report would be provided by the 26 August 2004.

As a result of this inspection the following items have been issued to the Site Senior Executive for remedial action.

The organisational structure outlined in the ground control management plan needs to be reviewed with respect to the additional positions that have been created in the geotechnical section. Ensure that all personnel including contractors who work underground undertake the mine's ground control awareness training package as discussed with Mr McLellan. Ensure

that the site has an appropriate plan of areas that require check scaling and such areas are checked scaled according to the determined schedule as outlined in the ground control management plan and appropriate records are kept. attend the

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
<b>1</b>	<b>Shotcrete/Fibrecrete</b>	<b>17/09/2004</b>

Ensure that appropriate testing/measuring and auditing of the shot crete and fibrecrete application is carried out in accordance with the mine site procedure/s and frequencies. Review areas where shotcrete or fibrecrete has been applied at less than design thickness and undertake remedial action to reduce risk to an acceptable level where the risk (associated with potential falls of ground or falls of shotcrete and fibrecrete) from these areas is unacceptable. The SSE must document the action carried out to address this SCP in the mine record.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
<b>2</b>	<b>Pipe Manifolds</b>	<b>N/A</b>

The level of poly pipe manifolds is near ground level. It is recommended that the height of installed pipe manifolds be above a level and or position where they will not be struck by mobile equipment.

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

**Peter Power**  
Inspector of Mines  
Northern Region

**Ross McLellan**  
Inspector of Mines  
Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Investigation	Northern	15/07/2004

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Today accompanied by Mr Gerard Tiernan, Safety Training Manager Simtars, I continued my investigation of the health and hygiene management at Cannington Mine. Mr James Browning, Safety Manager, assisted in the investigation.

Mr Tiernan installed real time gas monitors in the con shed, leaching tanks area and the laboratory drying ovens. Mr Brad Turner, Safety Advisor assisted Mr Tiernan. Mr Turner was requested to return the monitors to Mr Tiernan in one week. The monitors are used to analyse SO2 and H2S gas.

As a result of this investigation the following items have been issued.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	STANDARD WORK PROCEDURES AND INSTRUCTIONS FOR RESPIRATORY PROTECTION	15/09/2004

During review of standard work instructions and procedures it was observed that many of the documents stipulate the use of a dust mask for protection in certain areas. There are some inconsistencies in the PPE requirement for different areas. Some examples are included below.

SWI TS0211C "Handling Toxic Substances" states that a P1 dust mask is adequate protection under normal conditions, but does not state what is not normal conditions. SWI TS0211C also states that despite P1 being adequate a P2 or P3 filter is the minimum.

SWI TS0213C "Emptying Waste Bin with Forklift" states that a P2 dust mask is the required PPE but does not indicate when it is to be worn.

SWI TS0207C "Operation of Boyd Crusher, Splitter and Dumpster" and SWI TS0192C "Operation of LM2 Pulveriser" both state that a dust mask is the required PPE. This does not appear consistent with SWI TS0211C requirements for a P2 dust mask.

SWI TS0178C "Loading Drying Oven Trolley" does not identify that the required PPE in step 4 is the same requirement as SWI TS0211C "Handling Toxic Substances" task 'Sample Prep: Emptying Drying Ovens'.

These are some of the examples of the ambiguity that exists in written work procedures regarding the use of respiratory protection.

The SSE is to review all written procedures regarding respiratory protection throughout the

surface process areas and ensure that they are appropriate for the processes and are consistent.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
2	CONCENTRATE SHED	N/A

The visitors induction video states that a P1 dust mask must be worn in the con shed. SWI TS0250C "Sampling of ICONS During Truck Loading in the Concentrate Storage Shed" states that a respirator fitted with a class 2 gas and class 3 particulate filter is the required PPE. It does not state when this should be worn. There is no monitoring system in the con shed for SO<sub>2</sub> gas. A number of individuals have been potentially exposed to high levels of SO<sub>2</sub> gas and one person suffered breathing difficulties as a result of exposure to the gas. The SSE is to review the applicability of mandatory use of appropriate gas and particulate respiratory protection in the con shed with a view to reducing risk to as low as reasonably achievable levels. All SWIs and procedures and induction and training material is to be reviewed to ensure it is consistent with the determined PPE requirements for the con shed. This is then to be communicated to all appropriate personnel including contractors who may enter the con shed.

<u>Number</u>	<u>DirectiveType</u>	<u>Due Date</u>
3	ATMOSPHERIC CONTAMINANT MONITORING	15/11/2004

After reviewing the recent 16 week atmospheric monitoring program it was observed that a number of samples had registered above national work exposure levels for crystalline silica, arsenic and cadmium. Some of the personnel within their designated homogenous exposure groups (HEG) did not work in respiratory compulsory areas and may be exposed to an unacceptable level of risk.

The SSE is to develop and implement a plan for the ongoing assessment of potentially over exposed HEGs, particularly for but not limited to, crystalline silica, arsenic and cadmium exposure. The SSE is to determine in conjunction with the workers appropriate control measures to reduce any identified or potential high risk from exposure to an acceptable level.

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

#### **INVESTIGATION OF SO<sub>2</sub> GAS OCCURRENCES**

An incident occurred on 12 March 2004 where an individual suffered breathing difficulties and head ache from exposure to SO<sub>2</sub> gas in the con shed. Certain remedial action was identified including the use of class 2 gas filters with a completed date 28 March 2004 for implementation. On 3 April 2004 an employee entered the con shed without an appropriate respirator and was exposed to SO<sub>2</sub> gas. The remedial action was to obtain a respirator. The production of SO<sub>2</sub> gas was identified as a normal condition. On the 6 April 2004 two contractors were exposed to levels of SO<sub>2</sub> gas 4 times the Short Term Exposure Limit. They were not aware of the need to wear the appropriate respiratory protection despite the probability that laboratory staff knew and that the SWI for this area had been updated. Signs were erected on 6 ay 2004 to warn personnel of the gas.

The SSE is to investigate the incidents of occurrence of SO<sub>2</sub> gas in the con shed from the 12 March 2004 to the late May 2004 and establish why the reduction of risk from exposure to SO<sub>2</sub> gas was not effectively achieved after the occurrence of the initial incident on the 12 of March 2004.

The SSE is to provide me with a written report by 30 July 2004 on the chronological sequence of gas exposure incidents and the history of remedial action carried out to reduce risk from SO<sub>2</sub> gas exposure in the con shed to personnel and why further personnel were exposed to

unacceptable levels of SO2 gas at periods up to nearly 4 week after the requirement for gas filters was identified.

The SSE is to contact me further clarification is required on any matter.

**Peter Power**  
**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	17/06/2004

Vision: Our Industries Free of Safety and Health Incidents

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Today accompanied by Mr Hermann Fasching, Mechanical Inspector of Mines, and Mr Paul White District Workers Representative I conducted an investigation into health and hygiene management at the concentrator, con shed and the sample preparation laboratory. The investigation included physical inspection of each plant, the site work procedures, the provision of PPE, reviewing the sites base line monitoring for silica dust, biological monitoring for lead blood levels, the incidents and events logged in first priority for the above areas and consulting with workers and supervisors. Mr Fasching and Mr White inspected the con shed and concentrator area. I inspected the sample prep room at the laboratory.

The Lead Management Procedure PRO-SM0031C and PRO-OH0011C Blood Lead Procedure stipulates that all employees and contractors who work in Lead Process areas (the Con Shed, sample prep area and concentrator are some of the areas designated as lead risk areas) are to have blood levels managed and tested at regular intervals decided by the level of risk. There have been no leaded out employees in the previous 12 months. There have been a number of employees above the alert level of 15ug/dL. This alert level is well under the national recognised standards of 50ug/dL. While PRO-SM0031C makes reference to contractors and employees PRO-OH0011C does not stipulate frequency of blood lead testing for contractors. It is recommended that the SSE ensures that reference is made to contractors in the procedure for Blood Lead in addition to the other employees.

The first priority system was reviewed by Mr Fasching. It was noted that issues raised were being and addressed appropriately and closed out in a timely fashion. Signage at each location inspected was appropriate for the type of PPE required in each area inspected. Mr Browning was requested to provide the results of the base line monitoring for silica dust program. This is to be provided to the NRM&E as soon as they are available.

It was observed that some of the site procedures relating to work undertaken in some of the areas are being reviewed. The mine is to ensure that employees are clearly notified of any changes to the existing procedures. Refresher training is an essential part of communication to workers of the risks associated with their tasks and how to manage them.



There is a requirement to wear appropriate respiratory protection for each of the above areas inspected, there can be a variance in the level and type of respiratory protection used between areas, which has been based on the level of risk and the hazards present. I believe that the PPE identified and required to be worn for respiratory protection in these areas is appropriate.

At the completion of the investigation Mr James Browning, Acting SSE, was debriefed on the outcome. As a result of this investigation the following item has been issued.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	<b>Refresher Training Respiratory Protection</b> Employees interviewed in each of the plant areas were not entirely cognitive of the care and maintenance requirements of their respiratory protection. The SSE is to ensure that refresher training is provided to all employees on the selection, care and maintenance requirements of respiratory protection. This should include clear instructions on the type of respiratory protection that is to be worn for different areas of the plant.	18/08/2004

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**Peter Power**

**Northern Region**



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	19/10/2005

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Today, I carried out a shaft inspection, and did a structured inspection on fitness for work. Starting at 6.30 a.m., I was taken through a working at heights training session by Trainer, Mr. Peri Baroni. Then, in the company of Mr. Ken Barlow, Winder Coordinator, and Mr. Des Docherty, Shift Fitter, we undertook a shaft inspection. This was done from the top of the east skip. No issues were encountered.

Mr. Barlow explained his role, and what work had been carried out since his arrival, and his priorities for the near future. Personnel were waiting as we finished the shaft inspection to carry out rope NDT testing. Mr. Barlow and I also discussed the controls around monitoring of the head ropes which are past their rated life, and scheduled for changeout early next year. I also questioned the level of corrosion in the steelwork below the loading station.

After leaving the shaft area, I went to the office of Mr. Steve Sliwka, Safety/Training Advisor, where I conducted a structured inspection on fitness for work. This covered such things as fatigue management, contractor compliance, exposure standards, fitness of visitors, drug and alcohol policy, manual handling and ergonomics. No issues arose, and I was updated on some new initiatives being undertaken in these areas.

**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	Postal Mine Record Entry	Northern	14/06/2005

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On Friday, 10/06/2005, at approximately 9.30am, a high potential incident occurred in the underground workings. The Inspectorate was notified of this by phone at 6.56pm on that day.

The Site Senior Executive is requested to advise all staff who have a responsibility for reporting of accidents or incidents to the Inspectorate that this should be done as soon as practicable after becoming aware of the occurrence. If persons are in any way unsure of the severity of the incident, but believe it could possibly be reportable, the Inspectorate should still be given preliminary advice, which can be confirmed or changed as more information becomes available. In some cases isolation of the site may be required, or an Inspector may need to give advice as to the investigation, or prepare to come to site if that is required.

Refer the following section of the Mining and Quarrying Safety and Health Act 1999:-

### **PART 11—ACCIDENTS AND INCIDENTS**

#### ***Division 1—Notification of accidents, incidents and inspections***

##### **Notice of accidents, incidents or diseases**

**195.(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.

**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	Investigation	Northern	03/04/2005

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today, I visited the site to investigate the accident to Eroc employee Mr. Justin Skelton, Maintenance Fitter, which had occurred at approximately 10.25 am on Saturday, 02/04/2005. He suffered injuries to his left hand while assisting a Driller to put rods in the carousel of a production drill rig.

I spoke firstly to Mr. Phil Lonie, Safety Superintendent, who gave me details of the accident, including photos. I was then taken underground by Mr. Martyn Bloss, Acting Underground Manager, to the drill rig, (a 1020 Solo ), on the 260 level in the northern zone. On my return from underground Mr Lonie ran through the findings of a mini ICAM that had been conducted that morning. I then met with the rig operator, Mr. Doug Collett, and his Supervisor, Mr. Jeff Bailey.

I was satisfied that a sound investigation and response was being carried out by the site.

**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	09/03/2005

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today, in the company of Mr. John Wright, Mechanical Fitter, I undertook an inspection of the shaft, from a platform on the east skip. No problems were observed. The normal weekly inspection had been carried out prior to my being taken down. Mr Wright explained what he normally looks for and does as part of a normal shaft inspection.

**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	03/02/2005

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today, in the company of Mr. Paul White, District Workers Representative, we undertook an inspection of ventilation conditions in the underground workings. The conditions of the day were abnormally cool for a summer month, as a cool change had come in after a day of dust storms. Surface temperature readings taken after coming up from the mine were 29 degrees dry bulb, and 17 degrees wet bulb.

Ventilation Engineer, Mr. Jessie Marriot, took us underground, and as part of that visit the following readings were taken:-

Location	Wet Bulb	Dry Bulb	Wind Speed m/sec
22JDO 180mlv (Simba)	26	20	0.36
450mlv Workshop	32	17	1.1
575mlv Crusher Tipple	28	18	1.24
295mlv TC63 (Jumbo)	27	24	0.36
500mlv SF61	29	24	-
Surface	29	17	-

The following observations were also made:-

- Conditions were good because of the coolness of the day, however ventlines in areas visited were not close enough, should normal conditions have prevailed. Even though air conditioned cabs were on units, ventline is still required to provide a healthy atmosphere.
- Broken pipes in an intake area from a downcast shaft, that had been identified in a Mine record Entry by Mr. Terry Fisher, Senior Inspector of Mines, on 20/01/2005, had been repaired.
- In the 450mlv Workshop, access to eyewash/emergency showers, and fire extinguishers, were blocked by materials being stacked in front of them. The potable water to eyewash stations was also turned off for repairs.

- The Hot Work Record Book, referred to in Canningtons procedure, 'Working Safely In Hot Conditions', is kept in Pitram Control, but had not been used. Mr. Marriot showed us a draft of improvements he was wanting to make to the ventilation information he was wanting recorded in this book.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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<b>1</b>	<b>Emergency Showers and Eyewash Stations</b>	<b>04/02/2005</b>
<p>Access to emergency eyewash/shower stations, and fire extinguishers to be kept clear, for the safe use of persons in an emergency. Regular audits should be undertaken to ensure continued attention and checking of this.</p>		

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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<b>2</b>	<b>Hot Work Record Book</b>	<b>07/02/2005</b>
<p>The Hot Work Record Book is to be kept for the recording of worksite ventilation conditions, as outlined in the Cannington Operations Procedure, 'Working Safely In Hot Conditions', i.e., for conditions above 30 degrees wet bulb, between 115 and 140 ACP, below 115 ACP, and actions taken for correction of ventilation, and complaints about ventilation.</p>		

***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**

**Paul White**  
**District Workers' Representative**  
**Region**

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	15/11/2004

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today, in the company of Mr Tony Sparke, Maintenance Superintendent, I conducted an inspection of winder management. Items discussed were:-

- Organisational structure and responsibilities.
- Safety and health management reviews.
- Continuous improvement.
- Design, planning and changes.
- Document control.
- Personnel competencies.
- Critical plant and equipment.
- Information and knowledge.
- Work procedures.
- Permits to work.
- Control of people.
- Preventative maintenance.
- Inspections, monitoring, and testing.
- Safety and health records
- Incident reporting and investigation.

I asked Mr Sparke to forward to me details of the winder performance parameters, electrical systems and safety circuits, together with the daily, weekly and monthly checks undertaken.

Rockfall 5276 Stope, 520mlv, 28/10/2004.

I discussed with Mr Jody Todd, Senior Geotechnical Engineer, the findings and recommendations coming out of the investigation.



Mine Record Entry of 20/09/2004..

I discussed with Mr Martyn Bloss, Acting Underground Manager, the company's progress on the Substandard Condition and Practice item raised regarding the point for change from conventional to remote mucking in stope drawpoints. This matter is still to be done , and after talking with Mr Bloss, I agreed to a further month for its completion, to allow all crews to participate in the review of the procedure.

I also require a written response to all the items raised in the Mine record Entry of 20/09/2004

**Phillip Casey**  
**Inspection Officer**  
**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	20/09/2004

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today, on a visit to the above site, I conducted a structured inspection on production activities. Mr Tim Purvis, Acting Underground Manager, was my company contact for the inspection. As part of this Mr Purvis took me underground, where we inspected the following sites:-

- 47E51 on 450m level, where Production Chargers, Mr Mick Bady and Mr Tim Gilmour, were charging a longhole winze.
- TA72 Drive South, on 475m level, where Mr Phil Hood was drilling a return air raise with a Simba production rig. We also checked the level below , where drilling would break through, to check it was adequately barricaded.
- 47G47 drawpoint on 475m level, where Mr Bo Holmkvist was mucking.
- UD80 Drive on 500m level, where we inspected a charged development face.
- We also tried to see Orica charging production holes for a stope firing, but their rig was on the surface when we were underground.

On our return to surface, Mr Purvis and I went through outstanding questions, and Hawks crew Trainer, Mr Mark Pengeris, chased up procedure information for us.

Issues encountered during the whole inspection were:-

- The Production Charging Lightvehicle had no earth strap, and later seeing it on the decline, its explosives flashing light was not particularly visible from the front , being partially obstructed.
- On asking the question when underground, of when is the decision taken to switch from conventional to remote mucking in a stope drawpoint, I was told, ' when the back of the unit bucket, or the front tyres approach the edge of the brow.' On the surface when I examined the " Mucking From Drawpoints SWI ", and, " Remote Control Loaders Operations Procedure", the SWI called for a Take 5 assessment between the Operator and Shift Superintendent once the brow is opened, and the procedure called for a decision once the drawpoint was open and there was a risk of falling rocks hitting the cab. There does then appear to be inconsistency between current practice and the written procedures. This is very relevant in light of a recent fatality at another operation in an open drawpoint.
- Two hourly checks on lone workers was said to be undertaken by Supervisors. I have

experienced other operations which have a Pitram control, which is utilised for lone/ isolated workers to make contact every two hours. Should they not make contact, Pitram then contacts the Shift Supervisor to visit the person who has not made contact. This type of system also puts incentive for comms to be kept close up to jobsites.

- In driving into several jobs, it was noted that orepasses had no form of barrier control which would prevent smaller vehicles inadvertently entering a pass if a loader was operating, and light vehicles entered the area.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	<b>Remote/ Conventional Mucking</b> That the SSE review the SWI and Operating Procedure for the trigger point for change from conventional to remote mucking in stope drawpoints. This is to be compared with what is the current understanding and practice on all shifts, and reviewed to ensure the level of risk from the activity is:- (a) within acceptable limits. (b) as low as reasonably achievable.	30/10/2004 Refer Sect 26 MQSHA

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	<b>Remote/ Conventional Mucking</b> That the SSE review the SWI and Operating Procedure for the trigger point for change from conventional to remote mucking in stope drawpoints. This is to be compared with what is the current understanding and practice on all shifts, and reviewed to ensure the level of risk from the activity is:- (a) within acceptable limits. (b) as low as reasonably achievable.	30/10/2004 Refer Sect 26 MQSHA

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
2	<b>Two Hourly Checks</b> That The SSE undertake an audit across shifts to ensure the Company, by its stated control of Supervisory checks (in addition to their other obligations) , is meeting the requirements of regulation 97, for two hourly checks to be made on persons working alone	N/A

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
3	<b>Orepass Safety</b> That the SSE consider if sufficient controls are in place to ensure a light vehicle or person could not inadvertently enter a pass if they came into an area where mucking was in progress, but the loader was away from the pass.	N/A

***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 your response when the above items have been undertaken.

Thank you,

**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	21/09/2004

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today, as part of a visit to the above site, I did an inspection on underground ventilation with Ventilation Engineer, Mr Rud Rankine. As part of this looked at ventilation management, working in heat, and atmospheric contaminants. No underground heat readings were taken as part of this. Some significant work had been undertaken in the measuring of inspirable and respirable atmospheric contaminants earlier in the year, but as yet these have not been compared to exposure standards. Apparently Inspector Power has already issues a directive in relation to this matter, and the company needs to put some urgency into the carrying out of the requirements of this.

**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	22/07/2004

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today, I conducted a structured inspection of training systems and competencies with Cannington Health Safety & Environment Officer, Teresa Henry. Records and systems checked, both computer and hard copy, were of a high standard. The only issues encountered were:-

- . Induction Re- assessment. No system of periodic training and re-assessment was found to be in place
- . Training Re- assessment. No system of periodic re-assessment of training and competencies was found to be in place.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
1	<b>Induction Refresher</b>	N/A

It is recommended that a system of periodic refresher of induction be developed.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
2	<b>Training Re-assessment</b>	N/A

It is recommended that a programme of periodic re-assessment of training/ competencies be developed.

References for the above are:- Sections 91 & 93 of the Mining and Quarrying Safety and Health Regulation 2001

Following the Structured inspection, I accompanied Inspector Ross McLellan, when we were taken underground by Site Senior Executive, Neil Jansen, and Pontil Supervisor, Tony Gavin. Sites visited were, Diamond Drill Rig 201 on 315 Level, and the site of some shotcrete fall-off at TA70 Drive on 500M Level

**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	13/05/2004

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Today, accompanied by Rob Williamson, Drill & Blast Engineer, I was given a tour of the underground operations. As part of that tour I did a visual inspection for dust in the areas visited. All places visited where personnel were working were clear. The only dust encountered was:-

-on the portal decline truck haulage on entering the mine. This had been settled by water sprays by the time we exited.

-on 325m level, but this was an exhaust drive isolated from the intake air by a set of double vent doors.

Later, on the surface, I met with Brendan Green, Occupational Hygienist, and discussed the nature of possible underground dust exposure, the personal exposure monitoring process, personal protective equipment and training.

**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	Investigation	Northern	07/12/2005

Vision: Our Industries Free of Safety and Health Incidents

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Today I arrived at Cannington to investigate a high potential incident that was reported to the Mines Inspectorate on 26 November 2005 where a development drive within a previously paste filled drive on the 400mLv broke into the unfilled 50f51HL open stope.

The above incident was investigated in the company of Mr Riek Muller, Mine Planning Engineer and Mr Tim Purvis, Acting Mining Manager.

After holding discussions with those mentioned above and after reviewing the documentation given to me at the mine site I make the following comments:

1. The Mine Planning Design Checklist has two check points, 'Have the status of nearby stopes been considered. Designed, mining, filling (curing time, type of fill, probing required)?' and 'Has the design been checked for any vertical openings, level development, stoping and/or mine service facilities (boreholes)? *Note: This may not be obvious on plans or sections or the computer screen and requires care in checking. Ensure the levels above and below the design have been checked.*' If the appropriate checks were conducted as per these two requirements then it is hard to believe that this incident could arise. I questioned Mr Riek Muller further about these two points and the level of training that was given to him with respect to using the checklist. After these discussions I believe that the training of new engineers with respect to the check list and void management is inadequate.
2. The mine's void management system is not fully intergrated with the mine's planning system.

**The mine needs to ensure that the following are implemented:**

1. **Develop and implement an appropriate void management system that is fully intergrated with the mine planning and other systems to ensure that the status of all voids are known at all times. The void management system needs to be audited on a regular basis to ensure that voids have not been inadvertently left out of the system.**
2. **The mine must train new engineers in detail, to the extent necessary, to ensure that the mine engineering and control systems do not fail as has occurred in this incident.**

**3. Ensure physical checks of underground workings are conducted on the level and levels above and below the intended designed development or designed stope.**

While in the process of commencing my investigation of the above high potential incident Mr James Browning, Acting Site Senior Executive, informed me that there had been a serious accident at the kitchen located at the mine camp. Mr Browning informed me that the person involved in the accident was at the medical clinic awaiting evacuation by the RFDS due to a chemical burn to his eye. I proceeded to the medical centre in the company of Mr Mark Tomlinson, Registered Nurse, and met the injured person, Mr Torren Credaro, Chef.

Mr Credaro informed me that he had put some green dishwashing liquid on a scourer to remove some cheese bits within an oven. While cleaning the oven the scourer got caught on a rack rail and flicked the dish washing liquid (Suma Star D1) into his left eye when the scourer came away from the rack rail. Mr Credaro said that he was cleaning the oven as it was his last shift before he flew out and that he wanted it to be clean for the incoming shift. I asked Mr Credaro whether he was wearing safety glasses at the time and whether he had been told that he was required to wear safety glasses for the work he was performing. Mr Credaro informed me that he wasn't wearing safety glasses and that he didn't realise that the dishwashing detergent was caustic. Mr Credaro also indicated to me that he had not been told to wear safety glasses for the work he was performing.

After holding discussions with Mr Credaro I then proceeded to the mine camp in the company of Mr Doug Jones, Safety Advisor. At the mine camp I held discussions with Mr Simon Richards, Camp Manager, Ms Pania Moore, Assistant Camp Manager and Mr Michael Hill, Head Chef. I also inspected the kitchen where the accident occurred. While at the camp I reviewed documentation relating to Mr Credaro's training, the Chemical Safety training document, the Johnson Diversity Chemical Carrying and Usage Matrix (PPE Matrix) and the Material Safety Data Sheets (MSDS) for Suma Star D1 and Non Caustic Oven Cleaner.

The following are my comments relating to this investigation:

1. I was unable to find evidence that Mr Credaro had been appropriately trained to the standard required at Cannington with respect to cleaning ovens. This standard requires the use of eye protection.
2. The Chemical Safety training document introduces workers to the PPE Matrix, however does not assess the types of PPE in the assessment. Also the PPE Matrix was displayed in the chemical storage shed and not in other work areas such as the kitchen.
3. The MSDS for Suma Star D1 shows that the pH of this chemical is approximately 6.0 and the Non Caustic Oven Cleaner as approximately 11.
4. The scourer that was used by Mr Credaro could not be tested to determine what other chemicals may have been present as it had been re-used for other purposes. Due to the severity of the eye irritation (burns) to Mr Credaro and considering that the dish washing detergent has a pH of 6 it is suspected that Non Caustic Oven Cleaner with a pH of 11 could have been present in the scourer.

**As a result of this investigation ensure that the following is carried out:**

- 1. Immediately retrain all personnel in the safe use of chemicals, the appropriate PPE to be worn whilst handling chemicals.**
- 2. Immediately post the PPE Matrix in all work areas that utilise chemicals.**
- 3. Conduct a full risk assessment with respect to the types of chemicals used at the**



camp and implement any additional controls to ensure the risk to persons using the chemicals is at an acceptable level. The additional controls should focus on the higher order controls of elimination and substitution where possible instead of relying on lower order controls such as procedures and PPE.

**Ross McLellan**  
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 - Weekend or Backshift	Northern	09/11/2005

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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This evening in the company of Mr Mick Hall, Site Safety and Health Representative (SSHR) I conducted an inspection of the underground workings. The following areas were included in the inspection:

1. 281C6 stope drawpoint, 280 Level, North Zone. While in this area I observed a stope drawpoint bund that was not to the required standard as described to me by Mr Hall. Also during discussions with Mr Hall I asked what was the mine's standard with respect to changing over from conventional mucking to remote mucking. Mr Hall explained to me that when the back of the loader bucket passes the draw point then remote mucking is utilised.
2. 300 Level Fresh Air Base.
3. 450 Level Fuel Bay
4. 407560 stope access, 475 Level where I had the opportunity to meet with Mr John Brazil, Loader Operator (also a SSHR).
5. Crusher control room, 575 level where I had the opportunity to meet Mr Mick Casey, Crusher Operator, and Mr Darren Gunn, Shift Electrician.
7. 280 Level where I had the opportunity to meet Mr Dale Hampton, Loader Operator.

In general from what I observed the housekeeping of the mine is of a relatively high standard, however I draw the point to loose rocks along the edges of the decline and access ways that could cause a tripping hazard in the event of an emergency. **Ensure grader operators**

**remove rocks as part of their normal operating practice when they complete sections of the roadways.**

I refer to point one above and the hazard of rocks that may fall from within stopes and the possibility of these rocks deflecting out of drawpoints or falling directly on a loader bucket. I **highly recommend that remote bogging from drawpoints commence once the brow starts to open instead of the existing standard.**

**Ross McLellan  
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	29/09/2005

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today in the company of Mr Mick Arnold, Development Superintendent, I conducted an underground inspection. Areas inspected included the following:

1. 315 Level where workers were installing a new paste line. While on this level I observed the development work being carried out within the 44XC to pass through the Hamilton Fault. Also while on this level I observed that many of the openings did not have surface support installed and I asked Mr Arnold whether he was aware of any check scaling program. He informed me he was not aware of any check scaling program for areas away from the decline.
2. 375 Level, 50FS1 stope where production drilling was being carried out. I observed that a winze had been filled next to the stope. This winze could cause a potential hazard if the material from the winze rills into the stope and leaves an open void on the level above.
3. 450 Level, VC86 Drive where Mr Arnold informed me that rehabilitation works were planned for the area. While on this level I also inspected the access to an open stope.
4. 575 Level, shaft tail rope area.
5. 550 Level, 79XC where I observed an Atlas Copco jumbo in operation. I also observed that the lower sections of pillars in this area have been damaged by mucking units.
6. 500 Level, UD80 drive where diamond drilling was being carried out. While in this area I had the opportunity to discuss with Mr Darren Parsons, Diamond Driller, the lock out procedures that were developed after the serious accident that occurred some time ago. After the discussion with Mr Parsons I was satisfied that the procedures were being implemented correctly.
7. 500 Level, SH01 and ST01 drives, where I had the opportunity to meet with Mr Lance Bradshaw, Jumbo Operator, who was also operating an Atlas Copco jumbo at the time of the inspection.

**With reference to point 1 above, ensure that all underground openings where workers may access that do not have surface support are included in the mine's check scaling program.**

**Ensure that the potential hazard mentioned in 2 above is appropriately monitored and**

that suitable controls are implemented to control the risk are implemented.

Ensure that the mine's geotechnical engineers inspect the pillar damage noted in point 5 above and appropriate rehabilitation is carried out if deemed necessary.

**Ross McLellan**  
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	Postal Mine Record Entry	Northern	07/09/2005

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today I was notified by telephone today at approximately 12:15pm by Mr Neil Jansen, Site Senior Executive about an incident at the Cannington mine 240mLv magazine that occurred at approximately 10:00hrs on 4 September 2005. The Notification of Incident Report submitted to me today by Mr Tim Purvis, Acting Mining Manager states the following:

"An assembly of explosives consisting of approximately 20kg bag of ANFO, a cartridge of Powergel (Buster) and a No '0' Nonel were found in the 240mLv magazine. This was a breach of site procedures in that the Nonel Detonator was inserted into the Buster cartridge. It was assembled to be used to bomb a stope at the end of the shift."

**Clearly the worker who assembled the explosive was in breach of Regulation 74 (2) (c) and also in breach of the Explosives Act and Regulations.**

The late reporting of this incident is of concern to me considering the issue of late reporting of incidents has been brought to Cannington's attention in the past by the Mines Inspectorate.

**The Site Senior Executive must ensure that all high potential incidents and serious accidents are reported in accordance with Section 195 of the Mining and Quarrying Safety and Health Act 1999. If the Site Senior Executive is not at the mine site then appropriate personnel must be given the delegation to report high potential incidents and serious accidents to the Mines Inspectorate.**

**Ross McLellan**  
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	17/08/2005

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 in the company of Mr Cameron Routley, Production Superintendent I conducted an inspection of the underground workings. Areas visited during the inspection included 500 Level, 520 Level, 450 Level and 200 Level (North Zone).

During the inspection I observed a significant amount of rock build up along the edges of the decline. Loose rocks along travelways are a hazard to persons walking in those travelways, particularly in an emergency situation where visibility may be limited. The mine should ensure that an appropriate system of controlling rock build up in travelways.

Also during the inspection I observed that the size of bunds used as barriers to protect against equipment and persons entering open voids could be larger. Note that the size of a bund should be capable of stopping the largest loader or truck that may inadvertently turn into a drive or crosscut that intersects an open void.

Further to the points raised above no unsafe situations were observed.

**Ross McLellan**  
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	02/06/2005

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today in the company of Mr Mick Arnold, Development Superintendent I conducted an underground inspection with an emphasis on development mining. Areas underground that were visited during the inspection include the following:

1. North Zone, 180 level, D5 Cross Cut, 200 level, D7 and D8 Cross Cuts.
2. 240 level magazine where I had the opportunity to meet Mr Pat Quinn, Charger. I observed that the high explosive float was being stored near the detonator bay and requested that it be stored in the high explosives area. Mr Arnold stated that he would ensure this happened.
3. 325 level, 44 Cross Cut.
4. 325 level RB85
5. 375 level to 400 level in the main decline where rehabilitation work is scheduled..
6. 400 level stoping areas where it was observed that the 400 Level Western Orepass had not had its cover replaced. Mr Arnold stated that he would ensure that the cover was replaced.
7. 425 Magazine where some rehabilitation works had been carried out. In the magazine it was observed that ground water is continually dripping on one of the overhead lights. Mr Arnold stated that he would ensure that the situation was rectified.
8. 440 level to 450 level on the main decline where rehabilitation works had been completed and from the 475 level to 490 level where rehabilitation works were in progress.
9. 475 level, 47 Cross Cut where development mining was occurring in paste fill.

I must complement the mine on the high quality of house keeping and the condition of the travel ways observed in the North Zone. Apart from the issues mentioned above that Mr Arnold stated that he will rectify no other unsafe situations were observed.

Further to the inspection I would recommend that the mine review how the risk to persons, working in an IT basket, can be reduced in the event that a person could be inadvertently caught and crushed between the hand rails of the basket and the back of drives and services.

**Ross McLellan**  
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	21/10/2004

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today in the company of Tony Farcich - Stope Superintendent I conducted an inspection with the main emphasis on explosives storage and handling. The following areas formed part of the inspection and appropriate observations were made:

1. EROC temporary magazine on 60 Level. While in this magazine I discussed with Mr Farcich the systems utilised to control the allocation and use of explosives. He discussed how explosives are booked in and out of magazines and the stocktake process. When asked about how theft or loss of explosives could be detected considering the mine utilises an explosives float system I could not be satisfied that there was an appropriate system in place to satisfy the requirements of Regulation 79 of the Mining and Quarrying Safety and Health Regulation 2001.
2. Northern Zone Magazine on 240 Level. The mine has not commenced using this magazine due to the requirements of the Inspector of Explosives with respect to modifications required to the water deluge system. I observed that the areas of poor fibrecrete previously observed in the magazine have been repaired.
3. The Southern Zone Magazine on 425 Level. While in this location John Williams - Development Charger mentioned he had found that the lock on the Charmec storage bay had been cut. He was in the process of taking the Charmec to the workshop and going to find another lock. While inspecting the magazine I observed that the entrance to the magazine has shown some evidence of scuffing and there was cracking of the fibrecrete within the magazine which is probably related to nearby stoping.
4. Middle Ore Pass on 450 Level. The Charmec was parked in a bay in this location waiting for maintenance. While the vehicle was here I inspected it for any remnant explosives and found that the kettles had a small amount of ANFO in their bases.
5. 47E51 Stope drawpoint on 450 Level. I observed that this drawpoint was fully opened to the stope beyond where the mine was having difficulty with the muck in the stope flowing. The open drawpoint with out some form of protection for persons who enter the drawpoint is a concern. I draw the mines attention to a recent fatal accident when a rock hit a person after it fell within a stope and ricocheted out through the drawpoint.
6. 20EC2 Stope on 160 Level. I observed Neil Taylor of Orica and John Wall of Cannington charging production holes. I also had a brief discussion with Neil and John about the

electronic detonators that they were utilising.

After the underground inspection I continued to the surface magazines and Orica compound. It was observed in the magazines that are utilised to store ANFO products that spilt ANFO had not been cleaned up for some time. Also it was observed that the housekeeping in the Orica compound was to a high standard.

The following are issued as a result of the inspection:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	<b>Compliance with Regulation 79 - Mining and Quarrying Safety and Health Regulation 2001</b>	19/11/2004
	Develop procedures and implement these procedures to ensure the mine complies fully with the requirement of Regulation 79 of the Mining and Quarrying Safety and Health Regulation 2001.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	<b>Rehabilitation of Ground Support - 425 Level Magazine</b>	12/11/2004
	Ensure that appropriate ground support rehabilitation works are carried out to the entrance to the magazine and fibercrete within the magazine.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
3	<b>Maintenance of Explosive Vehicles</b>	29/10/2004
	Immediately ensure all personnel are aware of the hazards involved when traces of explosives remain within vehicles that require maintenance. Ensure that all traces of explosives are washed from explosives vehicles before they are sent for maintenance.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	<b>Personnel working near open drawpoints</b>	29/10/2004
	Personnel working near an open drawpoint are subject to an unacceptable risk from a rock ricocheting out through the drawpoint. Ensure that a risk assessment is conducted on this practice and ensure appropriate controls are put in place to reduce the risk to persons to an acceptable level. Providing a barrier of a suitable height such as bunding when the drawpoint is not being utilised for mucking should be considered as a control for this situation.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
5	<b>Clean-up of spilt explosives.</b>	29/10/2004
	Ensure that all personnel who use the surface magazines clean up any spilt explosives immediately the spill occurs.	

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

**Ross McLellan**  
**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	22/07/2004

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today in the company of Phil Casey - Inspection Officer, Neil Jansen - Site Senior Executive, Tony Gaven - Major Pontil Supervisor I conducted a follow up inspection into the implementation of the 'rod changing control' lock procedure required when diamond drills require the air operated panther drill to be mounted on the diamond drill. During this inspection I spoke to Bevan Furney - Major Pontil Driller and Wayne Hensler - Fitter and am satisfied that the procedure as understood by myself is being implemented correctly **however the actual JSA reviewed on the job site needs to be adjusted to ensure that the 'rod changing control' is locked out prior to attaching the panther air drill to the diamond drill rig.**

Further to the above I inspected the TA70 drive where a recent fall of fibercrete occurred. The general condition of the fibercrete in the drive particularly near the entrance was in poor condition more than likely caused by stress redistribution and ground movement resulting from near by open stopes. I requested that personnel accessing work areas from the drive be removed and the drive closed until appropriate rehabilitation works are carried out. This was agreed to by Neil Jansen and Martin Bloss - Acting Mine Manager.

Prior to conducting the above inspection I had a general discussion about the number of rock falls including falls of fibercrete within the last 6 months as the frequency of rockfalls appears to have significantly increased over the historical frequency. **I believe that the mine needs to review their rockfall incidents to determine whether there is any underlying cause for this increased frequency.**

**The mine must also review its ground support systems in light of the recent fibrecrete failures and the overall changes to stress conditions caused by a maturing operation.**

**Ross McLellan**  
Inspector of Mines  
Northern Region

**Phillip Casey**  
Inspection Officer  
Region

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	21/04/2004

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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On 20 April 2004 I held a meeting with Jack Standa - Technical Services Manager, Jody Todd - Senior Geotechnical Engineer, Scott Jeffrey - Geotechnical Engineer and Clint Scott - Geotechnical Consultant. During the meeting the following was discussed:

1. The ground control management plan.
2. Recent incidents where rock falls have come from the development face.
3. The mines proposed program of retraining mining crews in geotechnical issues, ground support and changing rock conditions.

At the meeting I requested that an update be provided to me of what has been implemented and what still has to be implemented as a result of the ground control audit conducted at the mine in 2003.

**I also discussed the need to reduce the risk to persons (from falling rock) who are required to work near development faces by ensuring that appropriate check scaling of development faces is carried out.**

On 21 April in the company of Tim Purvis - Operations Engineer I conducted an inspection of the Jumbo Operations and held brief discussions with their respective operators.

The following work sites were inspected:

1. UC 78 Drive on the 520 Level where a jumbo being operated by Peter Ishiguchi was in the process of rehabilitating a section of the drive. While walking into the drive I observed sections of the back in 73 XC that had no surface support (mesh, fibrecrete). I asked Tim Purvis whether this area had been checked scaled recently and he was not sure that it had.
2. TB 71 Drive North on the 475 level where a jumbo being operated by Wayne Dawson was also conducting rehabilitation works.
3. 37XC East on the 475 Level where a jumbo being operated by Mark Scott was in the process of finalising rock bolt installation.

4. C7 XW on the 180 Level where a jumbo operated by Paul Mitchel was in the process of rock bolting.

5. LGDS on the 260 level where a jumbo operated by Rod Oliver was in the process of getting ready to bore.

During discussions with the various operators above I asked whether of them received any geotechnical / ground control awareness training as part of their underground induction process. I was informed that this was not covered in the induction and that only some of the operators had attended a separate training course within the last two years.

**As mentioned above the mine is preparing a geotechnical awareness training program, however considering that rock fall presents a significant hazard in underground mines appropriate awareness training should be also incorporated in the underground induction to capture new workers between the more specific geotechnical awareness training sessions.**

During the inspection I noticed that scats had been dislodged from the walls the new magazine in the North Zone and conducted an inspection of the magazine. **During this inspection it was observed that the fibrecrete in some areas was not of a high standard and will need to be tested for thickness. Also the areas where it was observed that scats had been removed will require surface support.**

I mentioned to Tim Purvis that the location of the magazine may be in breach of Regulation 75 of the Mining and Quarrying Safety and Health Regulation 1999 if the drive that it is located on is a major access route.

**Ross McLellan  
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	17/03/2004

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today in the company of Tim Pervis - Operations Engineer I conducted an inspection of the underground operations. Prior to the inspection I also attended a shift fly in meeting.

The following areas were inspected:

1. VA53 drive south on the 500 level where poor ground conditions associated with the Hamilton Fault were encountered;
2. Intersection of the 68 Cross cut east and TI65 drive north where it was observed that a small pillar adjacent to a stope was in a state of serious deterioration.
3. 77 cross cut on the 210 level
4. 85 cross cut on the 210 level where a MacMahons operator Paul Sitar was installing cable bolts.
5. 770 stope on the 75 level where loader operators Jim Brown and Mick Hall were remote bogging the stope.

**As a result of the inspection the mine is to ensure that the pillar that was observed above is closely monitored and that the mine commence filling the stope beside the pillar as soon as possible.**

No other unsafe situations were observed.

**Ross McLellan**  
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	04/03/2004

Vision: Our Industries Free of Safety and Health Incidents

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Today in the company of Paul White District Workers Representative we commenced an investigation into the serious accident that occurred at approximately 11.30 am earlier today in the D3 XW diamond drill cuddy on 100 Level. After arriving on site initial discussions were held with Neil Jansen - Project Director / Acting SSE, Martin Bloss - Acting Manager Mining, Phil Lonie - Site Manager Major Pontil and Dale Sims - Trainee Driller Major Pontil. Further to these initial discussions the incident site was inspected during the morning of 5 March 2004.

The accident occurred when a Major Pontil diamond drill crew were in the process of securing the diamond drill rig to the wall with a plate mounted on the drill feed frame. This process requires the drilling of two holes (via holes in plate) utilising a Panther (hand held) rock drill mounted on the rotary head frame and installing split set rock bolts through the plate and into the drilled holes also utilising the Panther rock drill. The first hole and split set had been installed and the crew were just commencing to drill the second hole when the accident occurred. The drill offsider was hit in the lower chest/stomach area by the sudden bending / buckling of the Panther drill steel forcing him against the sidewall of the drill cuddy. The sudden bending / buckling of the Panther drill steel was due to the diamond drill rig controls being inadvertently left in "rod changing mode" instead of "drilling mode". Rod changing mode allows rapid movement of the rotary head frame while drilling mode allows for far more control of pressures and rotary head frame movement.

As a result of the investigation the following is issued:

<u>Number</u>	<u>DirectiveType</u>	<u>Due Date</u>
1	<b>Reduce Risk when Fixing Diamond Drill Feed Frames to a Rock Face</b>	<b>02/04/2004</b>

Immediately conduct a risk assessment on the process of utilising an air operated rock drill that is mounted on any diamond drill rotary head frame for the purpose of assisting the fixing of the diamond drill frame to a rock face. Control measures are to include a lockout device to prevent the diamond drill controls from being inadvertently left in the rod changing mode, elimination of personnel from being around the diamond drill when the air operated rock drill



needs to be operated. Review and adjust safe work procedures or instructions accordingly and ensure all personnel effected by these changes understand the changes.

A longer term engineered solution needs to be developed to ensure that the diamond drill will always remain in the correct mode (in this case drill mode) once air is connected to the air operated rock drill circuit.

**Ross McLellan**  
Inspector of Mines  
Northern Region

**Paul White**  
District Workers' Representative  
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	13/01/2004

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Today in the company of Grant Egginton Manager - Mining I conducted an Inspection on the mine's progress with respect to finalisation of the requirements stated in Mine Record Entries dated 26/8/03 and 21/10/03.

The results of the above inspection revealed that the mine has made progress against the requirements stated in the above mine record entries, however the following still is required to be addressed:

1. The ground Control Management Plan needs to be bought under document control as required by Regulation 115 (a) Mining and Quarrying Safety and Health Regulation 2001.
2. Work has not commenced on the numerical stress modelling of the stoping sequence. I was informed that personnel from Coffee Partners are currently risk assessing the current 2 year stoping plan, and work on the numerical modelling is expected to commence in approximately 3 to 4 months.
3. The mine must display reports of inspections and directives on at least one notice board that is / are in conspicuous positions as required under Section 60 of the Mining and Quarrying Safety and Health Act 1999.
4. The mine needs to establish a system that informs the Mine's Inspectorate when Directives or Substandard Condition or Practice has been completed or in the case that they cannot be completed by the due date then appropriate extensions sought.

Also during the inspection I discussed a recent incident where a large wedge failure occurred that buried the booms on a Jumbo that was rehabilitating a drive. During the rehabilitation process the sidewalls were being rattled and the drive width became excessive for the type of geological structures and ground support system that was in place. This incident was bought to the mine's attention as inadvertant drive width increases as a result of rehabilitation works could present a significant hazard and should be considered in the ground control management plan.

**Ross McLellan**  
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	29/11/2005

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Today accompanied by Mr. Ken Barlow, Electrical Engineer; an inspection of the electrical installations and equipment of the workshops was carried out.

Prior to the inspection, a conversation was held with Mr. Barlow in relation to the current site management system for the winder and advice was given on how to improve some of the relevant areas of the current system to make it more robust, sustainable and suitable to the operational conditions to achieve compliance with the relevant parts and sections of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

The following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	<b>Out of date test tags</b>	<b>01/01/2006</b>

Ensure that all electrical appliances and tools in the offices of workshops have current test tags as required by site procedures. It was found during the inspection a battery charger and a data projector with overdue test tags. Personnel has to be made aware that should an appliance or tool be found with out of date test tag, an out of service tags has to be attached to let personnel that the specific device may not longer be safe for use.

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	<b>Isolation facilities in distribution boards</b>	<b>01/01/2006</b>

It was found during the inspection some isolation devices in 240 and 415 Volts distribution boards without lockout facilities (i.e. DB W/1 and W/3), the labelling of circuit breakers and safety switches not clear or missing (i.e. DB W/1). Action has to be taken to rectify these substandard conditions and practices.

Reference: Section 27 and 103 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>
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**3 Oil storage in Kowari workshop**

**01/01/2006**

In the Kowari Light Vehicles workshop lubricant oil is being used and stored without suitable safety features, such as spillage containment, proper racks for the storage of the 20 and 60 litres containers and fire barriers from the repair area. The fire blanket on the area was also missing.

Suitable and fit for purpose power outlets have to be also provided on this working area. At the time of the inspection, there were three appliances and only one power outlet on the wall and to be able to use the appliances a RCD protected power board was being used.

Reference: Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

**Number**

**Substandard Condition or Practice**

**Due Date**

**4 Earthing and protections in substation**

**31/01/2006**

The workshops are currently being fed by a 1000 kVA, 11/0.415 kV power transformer and the circuit breakers in all the distribution boards have an earth fault level rated 6 kA. Action has to be taken to verify and ensure the levels of electrical faults in the distribution boards are within the capacity of the current protective devices installed, otherwise these devices have to be replaced for suitable and fit for purpose ones to satisfy the requirements of Section 106 Operating plant of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

Some of the earthing connections of this power transformer have to be improved. The original steel nuts and bolts are rusted and may not longer provide the level of protection from dangerous levels of touch potential under earth fault as required by Section 30 Prospective touch potential of the above mentioned regulations.

***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**

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	30/11/2005

Vision: Our Industries Free of Safety and Health Incidents

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Today a Subject Audit of the Contractors Management System of the Cannington Mine was carried out.

At the time of the audit, a small team of professionals had been hired to work specifically in the improvement of the site contractors management system. It is widely recognised and accepted within the mining community that the management of contractors is one of the difficult tasks that mines face almost every day and this is one of the main reasons for the effort being made by the site, particularly when they have to deal regularly with more than one hundred contractors and the fact that almost sixty percent of the mining activities are carried out by them.

One of the members of the team is Mr. Gary Fortington, who explained in great detail the characteristics and scope of the current work being undertaken and the current status of a document called "CONTRACTOR PARTNER MANAGEMENT PROCEDURE"; which contains all the principles, instructions and safety requirements for an efficient management of the significant number of contractors, suppliers and consultants providing goods and services for the whole operation.

As this process is still evolving, the position description of some of the key managers and staff associated with the management of contractors are being currently reviewed to ensure they reflect the expectations of the new system.

It was noticed during the audit the strong bond between contractors and BHPBilliton personnel and staff and it appears that contractors in general feel as equals and with the same rights and facilities compared with the rest of people on site.

I would like to thanks the staff that assisted me in undertaken this work for the time they spend in providing information and coordinating the interviews with the relevant personnel.

The following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Statutory requirements	01/01/2006

At the time of the audit, in the document "Contract Partner Management Procedure", there was

not enough consideration of the statutory requirements associated with electrical work and personnel as per the mining regulations and Electrical Safety Act 2002. Ensure the relevant issues are properly addressed to avoid having electrical contractors and consultants working on site in breach of the mentioned legislations.

Reference: Part 4 Electrical 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

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	05/09/2005

Vision: Our Industries Free of Safety and Health Incidents

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Today accompanied by Mr. Chris Malcolm, Electrical Superintendent and appointed person to control electrical work and Mr. Peter Johnson, Acting Electrical Supervisor; an inspection of the Motor Control Centres was carried out.

Following the inspection, a meeting was held with the maintenance electrical personnel and staff to discuss some relevant safety issues associated with electrical work on site. A video about multimeters' safety was shown to let them know the current safety practices when selecting and using instruments to undertake electrical work (fault finding, calibration, regular testing, commissioning). Also a powerpoint presentation was given to the same group of persons about the current obligations and responsibilities of electricians working at mines and quarries in Queensland under the Electrical Safety Act 2002 and the Mining and Quarrying Safety and Health Act 1999.

Some records of inspections and tests of electrical equipment and safety devices were sighted.

The following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Old out of service tags on equipment	05/10/2005

It was found during the inspection too many out of service tags and many of them a few years old in the Motor Control Centres, even some of these tags were attached to equipment that had not been commissioned. A review of all out of service tags currently attached to electrical equipment and control devices in the Motor Control Centres has to be carried out and a plan developed to ensure the equipment and installations tagged out as defective is properly repaired or otherwise deem them as spare ones or if they are redundant, remove them to avoid the exposure of personnel to unacceptable levels of risk by installations and equipment that have not been completed or have been reported as faulty as per site safety procedures. A criteria has to be established for the duration or currency of the out of service tags when left attached to equipment or circuits for long periods of time without taking action. It is recommended to use the electronic maintenance system to create work orders for any defective item tagged out with out of service tags to ensure the loop of actions is closed and avoid in this way having too many defective or unsafe items in the field.

Reference: Section 106 Operating plant 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>
<b>2</b>	<b>Pole fillers missing in distribution boards</b>	<b>05/10/2005</b>
	Several 240 and 415 Volts Distribution Boards in the Motor Control Centres had pole fillers missing, therefore expose live parts. Ensure that all distribution boards have all the exposed live parts protected by a feature or device for preventing a person inadvertently contacting live parts of equipment as required by Section 29 Protection from live parts of electrical equipment 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>
<b>3</b>	<b>Labelling of control devices</b>	<b>05/10/2005</b>
	The labelling of isolation devices in distribution boards has to be improved to allow a clear identification of circuits or equipment during personal isolation. In the Grinding MCC, the 240 Volts distribution board DB429201A, none of the circuit breakers had information of the circuit or load being protected and in the PLC rack there were switches in the same condition. Reference: 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>
<b>4</b>	<b>Sealing of Motor Control Centres</b>	<b>05/10/2005</b>
	The holes in the floor, underneath of cubicles and or on the walls of Motor Control Centres have to be sealed to avoid the ingress of dust, humidity, vermin, insects or snakes that may render the electrical equipment and devices to unsafe conditions and therefore exposing personnel to unacceptable levels of risk. Many of the rooms inspected had holes on the floor or underneath of cubicles, even in the bottom of a cubicle in the Winder MCC there was mud probably introduced by wasps, which indicates that probably these insects had been building nests in the electrical cubicles. 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>
<b>5</b>	<b>Overdue test tags of appliances</b>	<b>05/10/2005</b>
	Not all the appliances in the MCC's are being periodically tested and tagged. The 240 Volts leads of the electronic security controls did not have current test tags or even some of them had not been tested and tagged at all. Ensure that all appliances in the MCC's are inspected, tested and tagged as per site procedures to avoid the exposure of personnel to unacceptable levels of risks as required by Section 108 Monitoring 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**



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection - Weekend or Backshift	Northern	13/08/2005

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today accompanied by Mr. Trevor Mitchell, Electrical Supervisor and appointed person to control electrical work and Mr. Mick Lye, Electrician; an inspection of the underground electrical mobile equipment and trailing cables was carried out.

I sighted records of inspections and tests of mobile equipment and electrical safety devices and some opportunities for improvement were discussed, such as providing in forms being used reference data for comparison with results of tests being found to allow personnel to take action should the values be over the maximum or minimum allowed.

After the underground inspection, a meeting was held with staff and the electricians and the following was discussed:

- Trailing cables for metalliferous mines according to AS2802
- Insulation tests of trailing cables and safe levels of high voltage used during the tests
- Lack of suitable multimeters category III or IV for 1000 Volts power circuits in the market
- High voltage switching training packages suitable for mines
- Training and qualifications of electricians to be kept up to date under current legislation
- Safety interlocks between jumbos' hydraulic jacks and power of trailing cables

Following the meeting and accompanied by Mr. Mitchell, I inspected the new Pac-Rim Crushing Plant electrical equipment, controls and safety devices. The standard of electrical work on the crushing equipment is good, however still there are some details to improve such as the electrical continuity of extra bonding to some of the electrical motors to reduce the dangerous levels of touch potential, access to the busbars of MCC should a fault occur on them or the need for connection or disconnection of feeders to the busbars for new or bigger size equipment to be used, statutory information to be kept up to date and available on site as required under Section 112 and 113 of the Mining and Quarrying Safety and Health Regulation 2001 as amended, particularly the information associated with size and settings of electrical safety devices and protections.

The following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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<b>1</b>	<b>Handling 1000 Volts trailing cables by operators</b>	<b>13/09/2005</b>
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Part of a 1000 Volts trailing cable of a drilling machine was found resting on the wet ground or water during operation of the machine (in part for lack of suitable hanging points), which is a breach of site safety procedures and mining legislation (re: Section 106 Operating plant). The underground management has to ensure the supervision of jumbo operators are competent and able to enforce the safety procedures to avoid the exposure of personnel to unacceptable levels of risk and also in providing the facilities and resources required by workers to achieve compliance with associated procedures.

Reference: Section 96 Supervising workers 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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<b>2</b>	<b>Isolation and lockout of jumbos' flygt pumps</b>	<b>13/09/2005</b>
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Not all the flygt pump isolators of jumbos are of full current type as required under Section 27 Isolation facilities of the Mining and Quarrying Safety and Health Regulation 2001 as amended (i.e. Atlas Copco 307 jumbo that was working in 260 mLv). Ensure that all drives and circuits of jumbos and jumbo starter boxes have full current isolation facilities as required by above-mentioned regulation

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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<b>3</b>	<b>Tests records of jumbos RCD's</b>	<b>13/10/2005</b>
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Injection and functional tests records of 30 mAmp earth leakage protection devices in jumbo starter boxes and controls of the machines were not available at the time of the inspection. Ensure that all the safety devices associated with the jumbos and trailing cables are incorporated in the site inspections and tests program and that the tests results are properly recorded and available to allow maintenance personnel to take proper action should the results reflect unsafe conditions that may affect the safety of users of the mobile equipment as required by 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>
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<b>4</b>	<b>Criteria for setting of electrical protections</b>	<b>13/11/2005</b>
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Information supporting the criteria and values of the electrical protections settings of electrical mobile equipment and trailing cables was not available at the time of the inspection. Evidence supporting the criteria and values being currently used for the settings of the electrical protections and safety devices of electrical mobile equipment and trailing cables has to be produced and provided to ensure the hazards and risks associated with the use of electricity on mentioned equipment are kept under acceptable levels and that the electrical protections provide the level of protection required to achieve compliance with current mining legislation.

Reference: Section 6 Hazards identification of the Mining and Quarrying Safety and Health Regulation 2001 as amended.

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**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	07/03/2005

Vision: Our Industries Free of Safety and Health Incidents

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Today accompanied by Mr. Chris Malcolm, Acting Electrical Superintendent and appointed person to control electrical work and Mr. Trevor Mitchell, planner; an inspection of site manual arc welding machines was carried out.

Discussions were held with Mr. Malcolm and Mr. Tim Jeffs, Maintenance Manager in relation to the statutory requirements, particularly about reporting serious and high potential incidents and appointments under current regulations.

I sighted records of inspections and tests of welding machines and they appeared to be up to date.

Mr. Mitchell explained the current status of revision of welding procedures (inspection and tests) including the tests of voltage reducer devices (VRD's).

The following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	<b>Spring type welding clamps</b>	<b>07/04/2005</b>

A review of current use of spring type clamp for return of welding leads has to be carried out. It was found during the inspection that users of welding machines keep using defective clamps. Reference: Section 109.- Maintenance and service of regulation.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	<b>Connection knobs of welders</b>	<b>07/04/2005</b>

Suitable and fit for purpose knobs have to be provided for the terminals of welding leads. Welding machines are being used with steel or brass nuts without insulation, exposing users to the risk of electric shock.

Reference: Section 100.- Selection and design of regulations.

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**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	05/10/2004

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Today accompanied by Mr. Owen Bobeldyk, Electrical Superintendent and appointed person to control electrical work and Mr. David Flower, Maintenance Electrician; an inspection of the Camp and its facilities was carried out.

Previous to the inspection, Mr. Bobeldyk explained the current status of the Winder's re-commissioning documents and procedures being developed for the periodical inspection and tests of the equipment and whole safety systems and devices to ensure they are fit for purpose and comply with the requirements of current mining legislation and good mining practices. At this point on time, most of the safety procedures covering the majority of the activities to be undertaken have been already developed and there has been also some discussions with Mount Isa Mines staff in relation to the standards and practices being followed by the mine that may be of assistance to complete the schedule and each of the activities involved on the re-commissioning process.

At the time of the inspection, the regular inspections and tests of the electrical equipment, installations and safety devices of the Camp were overdue. A review of the program and schedule of these activities that have to be carried out on the accommodation facilities was initiated last week to provide to the electricians responsible of the maintenance and servicing with the information and facilities to access the site wide computerised maintenance system to ensure all these tests and inspections are carried out as expected and the tests results and observations are properly recorded to provide for continuity and safety of installations and equipment.

Following the inspection, I gave a Powerpoint presentation about the role of the appointed person(s) to control electrical work at mines and quarries under the Mining and Quarrying Safety and Health Regulation 2001. Eighteen persons, including staff members, attended the presentation who asked some clarification on some of the points covered.

The following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Overdue regular inspections and tests	05/11/2004
	Ensure that the regular inspections, maintenance and tests of electrical installations, equipment and safety devices of the Camp are carried out as per site program and schedule to	

avoid the exposure of personnel working and using the accommodation facilities to unacceptable levels of risks and also to satisfy the requirements of Section 106 Operating Plant, Section 108.- Monitoring and Section 109.- Maintenance and Servicing of the Mining and Quarrying Safety and Health Regulation 2001.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
<b>2</b>	<b>Control devices without labels</b>	<b>05/11/2004</b>
	Some controls and safety devices were not properly or not labelled at all as required by Section 102.- Plant controls and control systems of the mining regulations. In the kitchen motor control centre, there was a residual current device (RCD), a push-button and a meter without identification or information on the functions they perform and in the cold rooms area, there were also some switches and control devices without label or labels with velcro tape that can easily be removed or attached to different control devices and this may lead to incidents if a person operate/isolate the wrong equipment, installation or appliance.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
<b>3</b>	<b>Fire detection system not working</b>	<b>05/11/2004</b>
	Ensure that all emergency safety systems and devices are working and are fit for purpose as required under Section 40.- Maintaining and improving emergency response capability of the mining regulations. The Fire Alarm Control panel was not working as expected and had an out of service tag dated 06 September 2004, this means this safety equipment has not been working for several weeks.	

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**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	11/08/2004

Vision: Our Industries Free of Safety and Health Incidents

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Today an inspection of the manual arc welding machines was carried out.

The underground machines were inspected in the company of Mr. John Harvey, Acting Electrical Coordinator and the machines were located in the Main Workshop and Crushing area.

Mr. Trevor Mitchell, Electrical Coordinator accompanied me during the inspection of surface welding machines.

I sighted records of inspections and tests of the welders and they appeared to be up to date.

Discussions were held with Mr. Owen Bobeldyk, Electrical Superintendent and Mr. Mitchell about current practices and devices to improve the safety of boilermakers when welding. Also about the reliability of earth leakage protection devices installed on diesel welders and generators.

The following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	<b>Hazards awareness</b>	<b>11/09/2004</b>
	Ensure the maintenance and users personnel are aware of the risks and hazards of using welding devices (handpieces, spring type clamps, welding leads) with defects (broken parts, defective clamps)	
	Reference: Section 106.- Operating plant of regulations.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	<b>Inspection and testing forms</b>	<b>11/09/2004</b>
	Ensure the current forms used for inspection and tests provide the minimum or maximum values of electrical parameters (conductivity, resistance) to allow maintenance personnel to properly assess the safety of the welding machines and accessories.	

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**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	11/08/2004

Vision: Our Industries Free of Safety and Health Incidents

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Today an inspection of the manual arc welding machines was carried out.

The underground machines were inspected in the company of Mr. John Harvey, Acting Electrical Coordinator and the machines were located in the Main Workshop and Crushing area.

Mr. Trevor Mitchell, Electrical Coordinator accompanied me during the inspection of surface welding machines.

I sighted records of inspections and tests of the welders and they appeared to be up to date.

Discussions were held with Mr. Owen Bobeldyk, Electrical Superintendent and Mr. Mitchell about current practices and devices to improve the safety of boilermakers when welding. Also about the reliability of earth leakage protection devices installed on diesel welders and generators.

The following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	<b>Hazards awareness</b>	<b>11/09/2004</b>
	Ensure the maintenance and users personnel are aware of the risks and hazards of using welding devices (handpieces, spring type clamps, welding leads) with defects (broken parts, defective clamps)	
	Reference: Section 106.- Operating plant of regulations.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	<b>Inspection and testing forms</b>	<b>11/09/2004</b>
	Ensure the current forms used for inspection and tests provide the minimum or maximum values of electrical parameters (conductivity, resistance) to allow maintenance personnel to properly assess the safety of the welding machines and accessories.	

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**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	10/05/2004

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Today accompanied by Mr. Trevor Mitchell, Electrical Supervisor and appointed person to control electrical work, an inspection of the Nordev Crushing Plant equipment and installations was carried out.

Following the inspection, I met Mr. James Browning, A/SSE and Health, Safety and Environment Manager to discuss some aspects of contractors safety management, such as procedures, training, health monitoring and inductions.

Mr. Mitchell explained the current arrangements for the electrical maintenance, inspections and testing of safety devices, equipment and installations of the constructors' Crushing Plant.

The following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
<b>1</b>	<b>Electrical testing and monitoring</b>	<b>10/06/2004</b>

At the time of the inspection, only testing and tagging of electrical appliances and extension leads were the only activities being undertaken on the contractor's area. Ensure that all testing and inspections of the site program developed to satisfy the requirements of Sections 106 and 108 of regulations applicable to the area, are regularly carried out, such as and not limited to injection and functional tests of earth leakage protection devices, earth continuity.

Records of test results have to be kept available and up to date as required by Section 113 of regulations.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
<b>2</b>	<b>Controls to be clearly marked</b>	<b>10/06/2004</b>

The labelling of control devices has to be improved for easy identification during operation, maintenance and emergencies as required by Section 102 .- Plant controls and control systems of regulations.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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**3 Isolation procedures on Crushing Plant**

**10/06/2004**

Ensure that contractors follow the established safety procedures. A personal danger tag with only a photo and name was found attached to an isolation switch with a padlock, instead of the current site official personal danger tag with personal details of user.

**Number**

**Substandard Condition or Practice**

**Due Date**

**4 Redundant equipment and cables**

**10/06/2004**

Ensure that electrical cables and equipment redundant on the area, are removed or kept as per current site procedures. Power and control cables were found without being removed, labelled or insulated as per procedures.

**Number**

**Substandard Condition or Practice**

**Due Date**

**5 Outlets protection**

**10/06/2004**

During the inspection, it was not possible to ascertain if all power outlets were protected by earth leakage protection as required by Section 26 of regulations.

***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**



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	19/02/2004

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This mine record was not saved, however the system still recorded and keep in the database

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	Winding House crane	19/03/2004

The Winding House 20 ton Demag Crane:

a.- The cross travel speed control works in the wrong way, allow full speed when approaching the end of travel and reduce the speed when leaving zone near ends (both ways)

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**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	19/02/2004

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Today accompanied by Mr. Trevor Mitchell, Electrical Supervisor and Mr. Peter O'Connor, Electrical Planner; an inspection of the cranes was carried out.

A meeting was also held with the Electrical Supervisors and Planners to discuss some issues about training, refresher training, development of safe work instructions, live testing techniques and instruments being used elsewhere and the use of standards and codes when developing procedures.

Mr. Coleman, Electrical Superintendent, gave me a copy of the final version of the Winder Drivers Training Manual to assist him in case there is something that need to be improved.

The following requires attention:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	<b>Winding House crane</b>	19/03/2004

The Winder House 20 ton Demag crane:

- a.- The cross travel speed control works in the wrong way, allows full speed when approaching the end of travel and reduce the speed when leaving zone near the ends (both ways).
- b.- There is not working warning siren to let people know when the crane is moving.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	<b>The Split Flotation crane</b>	19/03/2004

The Split Flotation Crane (10 and 1 ton):

- a.- It was found water inside of the electrical control box.
- b.- A mean to avoid the ingress of vermin and dust into the control box through the bottom louvres (for ventilation) has to be provided.
- c.- The cable glands not being used have to be sealed for same reasons explained above.
- d.- Limit switch of long travel is not working.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
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**3 Training and refresher training process**

**N/A**

It is recommended to develop a process to ensure electrical personnel have Queensland certificates up to date (current), together with other relevant competencies such as high voltage switching, first aid or hazardous area qualifications as required by Section 91 of regulations. Records required by Section 93 have to be kept available.

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**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	20/01/2005

Vision: Our Industries Free of Safety and Health Incidents

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To the Mine Operator and Site Senior Executive,

I have today visited the Cannington mine to observe the sample monitoring of Diesel Particulate Matter in the underground environment. The monitoring program has been facilitated through SSE Neil Jansen and managed by Kevin Hedges (Occupational Hygienist). SIMTARS are collecting the samples under the stewardship of Gavin Irving. During the visit I observed the PASS meeting at change of shift and was then accompanied underground by Jesse Marriott. The underground inspection focused on mine ventilation, this being an aspect that has influence on Diesel Particulate levels. We visited several diesel operators with DPM monitoring equipment and also site safety and health representative, Mr. Tom Donovan. Mr. Donovan discussed several topics including ventilation, his major concern being that development is now commencing in areas of the mine that are not easy to ventilate and at this time of year are quite hot and humid to work in.

My general observations of the Cannington underground mine ventilation system as a result of the inspection are summarised as:

1. For this hot and humid time of year the control of airflow is poor giving a low overall volumetric efficiency (distribution of fresh air to working areas). This results in the lower workings of the mine not achieving the quality and quantity of air that would otherwise be available..
2. With wet bulbs in the region of 27 degrees Celsius, I found no evidence during my visit of the "system for managing risk to persons from heat " being enforced through measurement, monitoring or word of mouth. Section 143 of the Regulation refers.
3. Intake (fresh) air from the downcast shaft was observed to be allowed to travel across and pick up unnecessary moisture at the intake to the 450level. In addition broken plastic pipes carrying warm drainage water was spraying this water into the major fresh air source. This is contrary to good heat management and ventilation practice.
4. In two or more situations the location, performance and distribution method of secondary (auxiliary) ventilation did not reflect acceptable or good ventilation practice, particularly in the R4 development.

Following the underground inspection separate discussions with Neil Jansen and Jesse Marriott both referenced that since the primary ventilation automatic drop board regulator controls were damaged by blasting concussion, update and control of the mine ventilation system has not been given the attention that it warrants in recent times, but I understand



recruitment to address this is happening.

Attention to the above matters is required to be addressed and managed as soon as practicable. In addition persons who manage risk in relation to ventilation under section 48 of the Regulation, are reminded of their obligations in both the Act and the regulation.

**Terry Fisher**  
**Inspector of Mines**  
**Southern 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	20/01/2005

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To the Mine Operator and Site Senior Executive,

I have today visited the Cannington mine to observe the sample monitoring of Diesel Particulate Matter in the underground environment. The monitoring program has been facilitated through SSE Neil Jansen and managed by Kevin Hedges (Occupational Hygienist). SIMTARS are collecting the samples under the stewardship of Gavin Irving. During the visit I observed the PASS meeting at change of shift and was then accompanied underground by Jesse Marriott. The underground inspection focused on mine ventilation, this being an aspect that has influence on Diesel Particulate levels. We visited several diesel operators with DPM monitoring equipment and also site safety and health representative, Mr. Tom Donovan. Mr. Donovan discussed several topics including ventilation, his major concern being that development is now commencing in areas of the mine that are not easy to ventilate and at this time of year are quite hot and humid to work in.

My general observations of the Cannington underground mine ventilation system as a result of the inspection are summarised as:

1. For this hot and humid time of year the control of airflow is poor giving a low overall volumetric efficiency (distribution of fresh air to working areas). This results in the lower workings of the mine not achieving the quality and quantity of air that would otherwise be available..
2. With wet bulbs in the region of 27 degrees Celsius, I found no evidence during my visit of the "system for managing risk to persons from heat " being enforced through measurement, monitoring or word of mouth. Section 143 of the Regulation refers.
3. Intake (fresh) air from the downcast shaft was observed to be allowed to travel across and pick up unnecessary moisture at the intake to the 450level. In addition broken plastic pipes carrying warm drainage water was spraying this water into the major fresh air source. This is contrary to good heat management and ventilation practice.
4. In two or more situations the location, performance and distribution method of secondary (auxiliary) ventilation did not reflect acceptable or good ventilation practice, particularly in the R4 development.

Following the underground inspection separate discussions with Neil Jansen and Jesse Marriott both referenced that since the primary ventilation automatic drop board regulator controls were damaged by blasting concussion, update and control of the mine ventilation system has not been given the attention that it warrants in recent times, but I understand

recruitment to address this is happening.

Attention to the above matters is required to be addressed and managed as soon as practicable. In addition persons who manage risk in relation to ventilation under section 48 of the Regulation, are reminded of their obligations in both the Act and the regulation.

**Terry Fisher**  
**Inspector of Mines**  
**Southern 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	19/08/2004

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.***

Accompanied by Neil Jansen and Cameron Routley I had an underground inspection and familiarisation visit at Cannington mine. In the Northern zone several completed development faces were visited and found to be scaled and supported to the face. Examination of the face found the butts to be washed out and explosive free. On 160 level in the Northern Zone at the intersection of LaDS drive and C4 Crosscut East, cable bolts and other ground support has been installed in accordance with mine practice, however it was observed that a wedge in the roof appears to have escaped total support capture and further investigation is recommended to confirm stability.

In the Southern zone refuelling bay, a bag wall between the northern ore pass and the bay was found to have failed following sloughing of the ore pass. Immediate action was taken to control and monitor this hazard by the SSE who advised that tipping from above into this pass will not recommence until the risk is assessed as acceptable.

The primary crusher station was visited and no safety defects were observed. The Normet tool carrier adjacent to the crusher was observed to have a severely cracked window immediately behind the driving position.

On surface, accompanied by plant operator Martin Belsey, an inspection was made of the laboratory and sample preparation area, the ROM conveyor tunnel, the concentrator and the concentrate storage area. I noted that equipment relocation and some new plant installation in the laboratory and sample prep area is in progress. This discontinuation of routine tasks has introduced changes into this workplace and potential hazards that may not have been addressed. For instance food and eating utensils were found in the workplace, housekeeping was poor, including dust, and floor designated walking areas congested with plant and equipment. In addition the location of the ovens in a common walkway did not appear to be the best suited location, as when opened a cloud of sulphur dioxide is expected to be expelled.

The ROM tunnel relies on natural ventilation to disperse heat and some dust. At the time of inspection there was little if any through ventilation whilst the floor adjacent to the belt was being effectively cleaned by shovel, however the lack of through ventilation generated a dusty work environment. The reliance on a dust mask for the employee is not applying risk reduction in accordance with Section 8 of the Regulation,

Activities in the concentrator area were observed and the only items of note include quality of

housekeeping (hoses on walkways) and indifferent use of hose clips.

In the concentrate shed a new employee was loading a road truck for transportation. It was noted that the cab door was open and air-conditioning not used. When loading was completed the operator, whilst standing on the steps cleaned out the dust from the cabin using a small brush, the dust was then transferred onto his clothing and subsequently into the road train cab. I recommend that this practise be reviewed from the viewpoint of lead hygiene and whether a respirator should be continued to be worn in the roadtrain cabin.

sch4p4( 6) Personal information

**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	Postal Mine Record Entry	Northern	22/11/2005

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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### DETERMINATION OF STATUS AS MAJOR HAZARD FACILITY (MHF) OR POSSIBLE MAJOR HAZARD FACILITY (PMHF)

In response to an earlier mine record, you submitted a document that outlines how a determination was made about the level of off-site risk due to activities at your mine.

Based on the information you supplied, I accept Cannington Mine's determination that it should be 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.

**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	Inspection	Northern	26/08/2005

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, accompanied by Kevin Hedges - Occupational Hygienist, Andrew Williams - Reagent Operator, Darren Wyllie - Engineering Superintendent and Colin Gillespie - Process Trainer I inspected the system of safety management for sulphuric acid. Aspects considered were: documentation and procedures, training, emergency procedures, personal protective equipment, monitoring, storage, reticulation and disposal.

The inspection included interviewing, desktop reviewing and physical inspection at the offloading station, batching plant, storage and leaching areas.

The following items apply:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	<b>Personal protective equipment for work with sulphuric acid</b>	17/09/2005
	There was uncertainty about the correct way that PPE should be worn e.g. whether gloves should be over the acid suit or tucked in underneath the sleeves. (Similarly for boots and hood) (If worn incorrectly during an acid spill, acid may actually be guided into the suit towards a person's body) Please determine the correct method and put a system in place that will ensure that employees apply this method.	

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	<b>Splash guards around flanges of pipes that contain sulphuric acid</b>	23/09/2005

A number of splash guards were either absent or incorrectly installed. Please rectify.

<u>Number</u>	<u>Directive</u>	<u>Due Date</u>
3	<b>Patch on the roof of sulphuric acid tank A</b>	10/09/2005
	Pursuant to section 163 of the Mining and Quarrying Safety and Health Act 1999 I noticed a large sheet of thick plastic that was being used as a patch on a corroded area of the accessible part of the steel roof. It is unknown whether the plastic can carry the mass of a person standing on it. (It is unlikely to be of sufficient strength, especially if the metal below	

continued to corrode after the patch had been installed) Thus, if the plastic collapses under a person, the person will fall directly into the concentrated sulphuric acid of the tank.

Persons must immediately be prevented from accessing the affected area until the integrity of the roof structure had been assessed by a competent person and the necessary measures put in place to ensure the safety of persons accessing the area.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
4	<b>Transfer hoses for sulphuric acid</b> I noticed a transfer hose that was being used outside the period for which its hose test was valid. Please implement a system that will prevent recurrence.	29/09/2005

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
5	<b>Condition monitoring for sulphuric acid tanks</b> Except for thickness testing, I could not find evidence of a program to monitor and ensure the structural integrity of the storage tanks. Please rectify. Please note that thickness testing is likely to only detect the effect of uniform corrosion, but not other mechanisms of material deterioration that could compromise the structural integrity of the tank material.	29/09/2005

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

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	Inspection - Weekend or Backshift	Northern	02/08/2005

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.***

Tonight, accompanied by Grant Farrows - Manager, Les Norton - Chemist and Shayne Jenkins - Shift Chemist I inspected the system of safety management in the laboratory. Aspects considered were: Job safety analysis, Storage, Security, Ventilation, Compressed gases and Emergency response.

The following items apply:

<u>Number</u>	<u>Area of Achievement or Excellence</u>	<u>Due Date</u>
1	Chemical storage	N/A

I noticed that chemicals are now stored in accordance with a compatibility table. Copies of the table are displayed in various positions around the laboratory. This should help to minimise the risk of incompatible chemicals coming in contact with each other. (See mine record of 17 March 04)

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	Access to chemicals storage areas	18/08/2005

The access card for opening the doors to the chemical stores was kept openly and in close proximity to the stores, potentially providing easy access to unauthorised persons. Please rectify this arrangement.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
3	Gas cylinders stored indoors	N/A

I noticed a set of gas cylinders that were being stored indoors. It contained a mixture of argon with 10% methane. It is recommended that a risk assessment be performed for this arrangement and that appropriate action be taken if required.

***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, post or e-mail) when item 2 had been completed.

**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	Inspection	Northern	02/08/2005

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today, accompanied by Grant Farrow - Manager and Gavin Borresen - Tailings dam construction manager I inspected the system of safety management for tailings.

Aspects considered were: monitoring, design, the annual geotechnical report, operation and general safety.

At the time of inspection, the wall of tailings dam stage 1 was being lifted. Also, a new effluent dam to the western side of stages 1 & 2 was under construction. Tailings were being deposited into the stage 2 dam.

The following items apply:

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
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<b>1</b>	<b>Water in Tailings Dam Stage 2</b>	<b>N/A</b>
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During the inspection and due to construction work on the western side, tailings were being deposited on the eastern side of stage 2. This resulted in a water build up on the wall on the western side. It is recommended that the position of deposition be managed such that water build ups directly on the wall are minimised.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
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<b>2</b>	<b>Rescue equipment at Tailings Dams</b>	<b>02/09/2005</b>
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I noticed that there were no rescue equipment in the close proximity of bodies of deep water in the tailings system. Please rectify.

***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 item 2 had been completed.

**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	Postal Mine Record Entry	Northern	30/03/2005

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.***

Please refer to the notification form you submitted to the Chief Inspector on 2 March 2005, advising of your status as Major Hazard Facility (MHF) or Possible Major Hazard Facility (PMHF).

In terms of Section 60(1)b of the Regulation, you must now determine whether a hazardous materials emergency at your mine could pose an unacceptable level of risk to persons, property or the environment outside the mine.

When you have made this determination, please supply me with a copy of the document that details how this determination was made and what the outcomes are. The outcomes of your assessment should determine whether your mine is a MHF or not.

Please submit the information on or before 31 May 2005.

You may utilize the *Hazardous Industry Advisory Paper No 4 (HIPAP 4)* to determine whether risk levels are acceptable. This document is published by the New South Wales *Department of Urban Affairs and Planning* (Previously *Department of Planning*) and sold through the NSW bookstore at website:  
<http://www.bookshop.nsw.gov.au/index.jsp>

Please note the meaning of *hazardous materials emergency* is defined in Section 60 of the Regulation i.e:

*'hazardous materials emergency', at a place, means a situation involving hazardous materials or suspected hazardous materials at the place that includes a loss of control, or an imminent risk of loss of control, of the materials or a loss of control of anything that may impact on the materials if the loss of control causes, or the loss of control or imminent risk of loss of control has the potential to cause, material harm to persons, property or the environment.*

**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	Inspection	Northern	18/02/2005

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, accompanied by Glenn Clarke, Senior Metallurgist and Peri Barone, Acting Shift Supervisor, I inspected the system of safety management in the concentrator.

Aspects considered were: Documentation and procedures, Operation and Maintenance, Isolation and lockout, Training, Emergency Preparedness, Confined Spaces and Reticulation. We reviewed some procedures and documentation in the office and then proceeded to do a physical inspection in the plant.

The following items apply:

<u>Number</u>	<u>Area of Achievement or Excellence</u>	<u>Due Date</u>
1	<b>Procedures, Work Instructions and Training Material</b>	N/A
The quality of the sample of procedures, work instructions and training material observed during the inspection was of high quality and will assist in transferring knowledge to new and current employees.		

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	<b>Signage</b>	22/03/2005
Signage that indicate the location of emergency showers and the AG mill emergency stop switch were not clear. Please enhance signage so that persons needing these in an emergency can easily locate them, both during the day and night.		

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

**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	Postal Mine Record Entry	Northern	21/02/2005

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

I had a telephonic discussion with Kevin Hedges, Occupational Hygienist about the Major Hazard Facility materials on site. There is uncertainty about the classification of the ammonium nitrate emulsion in the Orica Explosives Compound. This will also determine the outcome of the PMHF/MHF aggregate calculation. Kevin undertook to obtain the necessary information to enable the correct classification. If required, the MHF/PMHF notification will be amended accordingly. This entry should be read in conjunction with my mine record entry on the same subject on 18 Feb 2005.

**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	Inspection	Northern	18/02/2005

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Yesterday and today, I physically inspected the approximate current quantities of materials listed in the mine's completed: *Form 1: Notification of Possible Major Hazard Facility or Major Hazard Facility*.

Yesterday, accompanied by Tony Farcich, Stope Superintendent; Dale Miller, Orica Explosives Compound Operator; Jeff Munyard, Orica Explosives Compound Operator I inspected the Underground Explosives Magazines at 240 Level, 425 Level (empty) and 60 Level. We also inspected the charged face at 40B 49 stope. On the surface we inspected the contents of Magazines 1 to 4 & 6 at the Orica Explosives Compound and reviewed details of the Ammonium Nitrate emulsion tank at the same location. I was informed that magazines 5 & 7 were empty.

Today, accompanied by Glenn Clarke, Senior Metallurgist, I inspected the stored quantities of Sodium Ethyl Xanthate and MIBC.

The masses of MIBC and Ammonium Nitrate shown to me did not exceed 2% of their respective threshold quantities and need not be included in the aggregate calculation.

I am satisfied that the result of the aggregation rule calculation, based on the quantities currently on site, exceeds one. (Please refer to the National Occupational Health and Safety Commission Standard: *NOHSC:1014; Control of Major Hazard Facilities* ). Cannington mine is therefore either a *Major Hazard Facility* or *Possible Major Hazard Facility*.

**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	Inspection	Northern	20/01/2005

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today, accompanied by Glenn Clarke, Senior Metallurgist and Kevin Hedges, Occupational Hygienist, I inspected the system of water safety management. While on site, I met Michael ten Lohuis, Consultant from Envirocheck, who provides an advisory service to the mine on water treatment. Envirocheck also does the testing on the mine's water samples.

Aspects considered were: Management System, Training, Maintenance, System design, Potable water, process water (including treatment), raw water, fire water, mine water and tailings return.

I was informed that relevant staff are currently being trained by Envirocheck about aspects of water treatment and monitoring.

The following items apply:

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
1	<b>Potable Water Storage</b>	N/A

I noted that treated potable water is stored in a tank before being distributed in the reticulation system. From the ground it appeared that there may be gaps between the roof and the tank wall. If so, the water could be re-contaminated after treatment. It is therefore recommended that this interface be inspected and gaps sealed as required.

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
2	<b>Water Process Diagram</b>	24/02/2005

The process diagram designated "Potable Water Pumps", indicates a potable water line entering the flocculant plant. During a physical inspection, we noted that the line had since been removed. Please update the process diagram.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
3	<b>Chlorine Dosing for Potable Water</b>	N/A

Potable water downstream from the reverse osmosis plant is currently being protected from



re-contamination with a manually adjusted chlorine dosing system. Unfortunately, chlorine readings were varying substantially from day to day. (Based on the recent readings I observed) This could compromise the level of protection against re-contamination in the system. I was informed that an automated system is in the process of being installed. It is recommended that special attention be given to the process of manual dosing until the automated system had been commissioned successfully.

***Please provide a written status report on each SCP 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

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	07/10/2004

Vision: Our Industries Free of Safety and Health Incidents

## Mine Record Entry

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Today, accompanied by Robert Alford, Metallurgist; Kevin Hedges, Occupational Hygienist and Andrew Williams, Operator/maintainer (Reagents), I inspected the system of process chemical safety management. Aspects covered were: Documents & Procedures, Emergency Preparedness, Inspection & Monitoring, Storage, Fire Protection, Personal Protective Equipment, Pipelines and Disposal.

The following items apply:

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
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<b>1</b>	<b>Inspection program for reagent transfer hoses</b>	<b>N/A</b>
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The hoses used for transferring chemicals from vehicles to offloading points may be considered safety critical items. It is therefore recommended that an inspection and testing program be established to ensure the integrity of the hoses.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
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<b>2</b>	<b>Interlock for sulphate batching processes</b>	<b>N/A</b>
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The batch processes for making sulphate solutions involves the mixing of water, an oxide and sulphuric acid. (In that sequence) The order of addition is controlled by human action and could potentially be done in another sequence. Adding water to acid will probably result in a violent exothermic reaction and the reactor will probably spill over.

It is therefore recommended that measures be implemented that will prevent injury to persons resulting from an out-of-order mixing of reagents. Such measures could include interlocks and/or procedures that will exclude pedestrians from the immediate area of the reagent reactors during the initial phase of mixing.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
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<b>3</b>	<b>Information sign for MIBC</b>	<b>N/A</b>
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At the offloading station for MIBC, a chemical information sign was erected on the inside of the fire wall. It is recommended that similar signage be attached to the outside of the wall.

**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	Inspection	Northern	13/05/2004

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, accompanied by Brendan Green, Occupational Hygienist, I inspected Dust Safety Management at the surface operations of the mine. Aspects covered included: Management System, Monitoring (Personal-Airborne dust, Personal-Blood lead and Statistical Analysis, Sampling Techniques and Testing), Nature of the dust, Dust Control, Personal Protective Equipment and Training.

We physically inspected the following areas in the process plant:: Collection pits for lead and Zinc waste; Thickeners; Comminution areas (Including conveyors), Cyclones, Concentrate Storage Shed and the laboratory's sample preparation area.

The following items apply:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	<b>Exposure of Plant Operators to Airborne Lead Concentrate Dust</b>	<b>11/06/2004</b>

It was noted from the test results for personal monitoring for respirable and inspirable airborne dust that some operators are exposed to very high levels - Particularly persons working with high pressure water hoses used to clean concentrate spillage. It was also noted that excessive spillage occurs at some areas in the plant - Particularly noticeable at the lead concentrate thickener.

Due to a computer problem at the time of the inspection, we could not access blood lead test results. The Occupational Hygienist was thus requested to notify the Inspectorate, after further analysis, of any correlation between blood lead levels and airborne dust exposure.

Management is requested to put measures in place that will effectively protect persons on the mine site from unhealthy exposure levels to lead concentrate dust. It is preferred that the "hierarchy of controls" as described in the Regulations be applied.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
2	<b>Exposure to Silica dust in the Laboratory</b>	<b>N/A</b>

Some uncertainty was expressed about the level of exposure of persons in the sample preparation area to silica dust. It is recommended that respirable silica dust sampling and

testing be undertaken. It is also recommended that these samples be tested for crystalline silica content. If required, applicable control measures should be implemented to preserve persons' health.

***Please provide a written status report on each SCP 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



Mine Name	File No.	Operator	Activity Type	Region	Activity Date
Cannington Mine	9748 / 02	Bhp Billiton Minerals Pty Ltd	Inspection	Northern	17/03/2004

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 Les Norton, Acting Principal Chemist, I inspected the system of safety management in the laboratory. Aspects reviewed included: Management system, Laboratory lay out, Emergency Procedures, Hazardous Substance information, Safety Equipment, Ventilation and fume cupboards, First Aid, Storage, Chemical Aspects and Handling of Wastes.

The following items apply:

<u>Number</u>	<u>Substandard Condition or Practice</u>	<u>Due Date</u>
1	<b>Signage for gas isolation valves</b>	16/04/2004

It was noted that the isolation valves for the gas supplies to the laboratory are all positioned in the same area. There were no signs to indicate that they were the points of isolation. Please install a sign that indicate same.

<u>Number</u>	<u>Recommendation</u>	<u>Due Date</u>
2	<b>Compatibility of Chemicals in Storage</b>	N/A

It was noted that chemicals in the dry chemical store were kept in alphabetical order. While this is an easy way of finding an item, it does not necessarily mean that adjacent chemicals are compatible. It is recommended that compatibilities are assessed and the storage system be reviewed accordingly.

Information is available in Australian Standard AS 2243 and the Australian Dangerous Goods Code.

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

**Theo Kahl**  
Inspector of Mines  
Northern Region