Queensland Government

Department of Natural Resources and Mines
Mackay District Office
P.O. Box 1801, MACKAY QLD 4740
Phone: (07) 4999 8512, Fax: (07) 4999 8519

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
South Walker Creek	21,350	BHP Mitsui Coal Pty Ltd		Central	01/11/2010

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s68 of the Coal Mining 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 the 1st November 2010 an unannounced inspection of South Walker Creek Open Cut was carried out by Safety and Health Inspection Officer Mr Keith Brennan.

Opening Meeting:

An opening meeting was held with SSE s.73 irrelevant informa both SSHR's were unavailable. We briefly discussed current safety alerts and industry high potential incidents. Mining Manager s.73 irrelevant informat and Superintendent s.73 irrelevant infor reviewed the Safety Alerts and recent high potential incidents.

Mine Inspection:

In the company of Mining Manager s.73 irrelevant informati and Superintendent s.73 irrelevant info we travelled to Toolah Pit B circuit where a Liebherr 996 excavator was working. At Toolah cribb hut I took the opportunity to inspect CAT 793C rear dump truck 20. The log book was current and identified a diesel fuel leak; the leak was pronounced and spillage had soaked on to the ground under the fuel tank. The leak had been constantly reported previously by other operators as far back as the 27th August 2010. The operator was instructed by the mining manager to contact maintenance to have the leak repaired.

We then inspected Coldwell DR16 a Bucyrus overburden drill rig. The main access steps were not operational and we boarded from the rear steps. After inspecting the operator's cabin and pre-start log book I was aware that the air-conditioning system filters require a change out system when working in high dust areas. At the front of the drill rig a Hyab Crane had been fitted, there was no lever identification sticker attached to the control panel.

The operator advised me that he was not authorised in the use of the crane. I suggested that the crane should be tagged out until a lever identification tag is fitted; the lower window to the drill deck also required replacing and had been repeatedly reported.

Rele

On the return to administration we carried out an inspection of a 994 Leibherr excavator that was undergoing a planned maintenance shutdown. The area had been well prepared and entry to site signs required us to call up the project supervisor. We were given an overview of the work that was in progress and the planned maintenance.

I examined the Job Step Analysis JSA form SWC-HSEC-FOR-7049732 for the replacement of both final sprockets. I noted that the SWP for the job was attached to the JSA. However I suspect that the JSA was not carried out at the work location and by the persons involved in the work.

While the document was signed off by the coal mine workers carrying out the work the intent of the JSA is that it is developed by the persons carrying out the work. I also noted that there was no evidence that the JSA was Reviewed by a BMC Supervisor and had not been signed off or approved by? This also applied to all the other JSA documents compiled for the shutdown. The shutdown supervisor acknowledged the shortcomings in the documents and organised for the documents to be correctly completed.

We then carried out an inspection of the workshop with relief supervisor s.73 irrelevant informatio Housekeeping in the workshop was of a high standard. The boilermaker's workshop however was not to the same standard. An unguarded hydraulic press that had been recently delivered to site was tagged Out Of Service. The eye wash station access was cluttered by a welding curtain and other materials on the floor; this is unacceptable for obvious reasons.

Close Out Meeting:

SSE s.73 irrelevant ir was unavailable and the corrective actions from the inspection was discussed with Mining Manager s.73 irrelevant informati Confirmation of the corrective actions is to be forwarded to Safety and Health Mackay by 26th November 2010.

Keith Brennan
Inspection Officer
Central Region

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Queensland Government
Natural Resources, Mines and Water

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Mine Name	File No.	Operator	Activity Type	Region	Activity Date
South Walker Creek	21,350	BHP Mitsui Coal Pty Ltd		Central	04/11/2004

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Mine Record Entry

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An general inspection of the mine was conducted with s.73 irrelevant information SSE.

The following points were noted:

1. Overburden rehabilitation is proceeding along the spoil adjacent to the main haul road.
2. The haul road is rough in places but is in the process of being re-surfaced in the near future. The water cart was observed in operation laying the road way dust. A trial of a dust stabilisation chemical was recently completed on the haul road with some encouraging results that may reduce the dependence on water to control the dust.
3. The safety bund along sections of the haul road has been refurbished.
4. Repairs to the creek crossing on the haul road will stabilise the area and enable safe vehicle crossing during wet weather.
5. Cattle were observed on the side of the haul road. Vehicle communication was observed with the operators warning other personnel of the danger. Contact was made by management to the office to contact the cattle owner to remove the cattle away from the road side.

Mulgrave Pit.

1. Coal production was nearing completion in this Pit with the dragline planned to remove overburden in the near future.
2. A stand off bund was in place along the toe of the highwall to prevent vehicles getting too close to the wall and a potential accident with material falling from the wall.
3. The haul ramp out of this Pit had a slight wet area where water was seeping out of the low wall across the road. Management explained that remedial work was to commence to reduce the effect of the water on the road base and on the vehicles using the area.

Walker Pit.

1. Discussion was had with several crew members from this Pit at their cribroom. The crew had been withdrawn from the work area due to a slump of material from the highwall into the work area. The crew had recognised the danger potential of this area and had withdrawn until the material had settled down. It is encouraging to see the use of TARPS for this type of situation and the committment of management to their use.
2. The haul ramp out of this Pit was in good condition.

General.

The general state of the mine is excellent with congratulations going the workforce and management in keeping the standards high.

Kevin Clough
Inspection Officer
Central Region

Andrew Clough
Inspector of Mines
Region

Queensland Government
Natural Resources, Mines and Water

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Mine Name	File No.	Operator	Activity Type	Region	Activity Date
South Walker Creek	21,350	BHP Mitsui Coal Pty Ltd		Central	07/02/2002

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Today in the company with s.73 irrelevant informati the SSE, s.73 irrelevant informa Mine Manager (Thiess) and s.73 irrelevant informa Safety Officer a review was undertaken on the non compliance issues arising from the audit of the safety and health management system conducted on 13 December 2001 by s.73 irrelevant infor and Mr B McKinnon.

The results of these reviews are as follows: -

ACT

Section 62 of the Act:

- The mine has developed an overview document of safety and health management system to link its mine's operating systems including safe operating procedures.
- Training matrix developed for identifying training needs.

REGULATION

Section 15:

- TCC-OHS-SP01 being revised centrally as a corporate policy to comply with all aspects of legislation. Mine now using interim procedure. Planned to complete by 15/0202

Section 16 - Non - Compliance. Plan to complete by 15/02/02

Section 27 - Non - Compliance. Existing log book system is yet to be linked.

Section 38 - Partial Compliance. Draft TCQ0236-OHS-PP005 SOP planned to be signed off along with other SOPs by 1st week of March.

Section 41, 42 - Partial Compliance. Waiting for consensus of the employees.

Section 68 - Partial Compliance. SHMS needs to address system of record keeping and drawing updates.

Section 71 - Partial Compliance.

Section 80 - Partial Compliance.

Section 82 - Partial Compliance. Training matrix needs to be linked to SHMS. Induction to be

Re

reviewed to include current requirements of training of Safety and health representatives, safety and health management systems.

Section 88 (1) (2) & (3) - Partial Compliance. Procedure is linked, however 'Permit to dig' form to include test for dead and cutting into building walls etc.

Section 89 - Partial Compliance.

Section 92 - Partial Compliance.

Section 93 - Partial Compliance.

Section 98 - Partial Compliance.

Section 118 - Partial Compliance.

Section 140 - Partial Compliance. System planned to be incorporated into induction training.

It appeared that out on 33 sections identified for review for compliance to the legislation, 16 have been completed, and others are on schedule as submitted to this office on 11 Jan 2002.

With s.73 irrelevant information Mining Superintendent, pits Ramp H, Ramp H South, Ramp G South was visited. The pit working was found in good condition and no major safety and health issues of concern were identified.

Maheshwar Dahal
Inspection Officer
Central Region

Maheshwar Dahal
Inspection Officer
Region

Queensland Government
Department of Mines and Energy

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Mine Name	File No.	Operator	Activity Type	Region	Activity Date
South Walker Creek	21,350	BHP Mitsui Coal Pty Ltd		Central	11/01/2008

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An inspection was carried out in the presence of s.73 irrelevant informa SSE and general discussions s.73 irrelevant infor Thiess Health and Safety Manager regarding a light vehicle incident on the haulroad. The incident involved an apparent micro sleep of the driver following mid morning crib brake. Discussions regarding Fitness For Work provision with respect to section 41 & 42 of Coal Mine Regulation 2002. Fatigue, Physical and Psychological Impairment and Drug and Alcohol testing require an SOP and Risk Assessment Via section 10 and Section 6, a request for the investigation report, SOP and associated risk assessment was requested by the Inspector. A site inspection of the accident scene followed.

OCE Discussions

During the mine inspection discussion were held with s.73 irrelevant ir OCE for the dayshift regarding dump point procedures for the over burden truck fleet. The OCE explained the procedure for the mine, the Inspector explained a recent incident involving a large truck involved in an incident where slumping at the dump point occurred. The 450 tonne(including payload) was being operated near a recently filled excavation/on uneven ground and where the operating surface condition could not be ascertained and where there was a likelihood of it overturning. The SSE must take the necessary measures to protect the health and safety of coal mine workers. This includes providing protective barriers to restrict the access of powered mobile plant to areas near to open or recently filled excavations/taking action to prevent the powered mobile plant traversing unsafe surface gradients/clearing or levelling uneven surfaces/determine the surface conditions by physical inspection prior to powered mobile plant entering, and taking necessary action to ensure it safe operation.

The practise of dumping in disused voids where water and mud exists and the apparent ground bearing pressure of Rear Dump Truck was inadequately assessed for possible slumping from a geotechnical perspective. An interim measure has been implemented based on the U.S Department of Labour Mine Safety and Health Administration (MSHA) issued 30/4/2002 where by at least one truck length from the edge is required. The Principle Hazard Management Plan for strata control, traffic management and associated Safe Operating Procedures for Dump Points should be reviewed.

Road way dust was also discussed as roads appeared dusty at the time of inspection.

F Ramp Inspection

Dragline 28, Marion 8050 was operating in F Ramp Mulgrove pit. A pit pump was stranded with in the cut and attempts to recover the pump had failed. The trailing cable for the Dragline was very neat however an electrical plug was observed without a stand.

I Ramp Inspection

Two DK 45 drills operated by Brandrill were observed on the pit bench. Dust from the drill posed the question for the respiritable dust test for the operators. The SSE gave an undertaking to check the last results and provide them to the inspector.

Carborough Pit Inspection

The Carborough pit drilling area was inspected and it was observed that some hole were washed out from rain. The pit high wall was also washed out. It was explained that South Walker Creek has a series of meandering creeks and is subject to flow problems. Operational protection from water inrush was discussed.

Train Loadout

The train load conveyor Take Up Pulley was observed with orange guard mesh hung on a pipe frame. It was observed that the SSE has used guarding as a measure to control risk associated with the use of the conveyor systems. This guarding can be easily by-passed or disabled or not attached at all causing risk in itself because of the possibility of entanglement of employees.

The SSE has not ensured that the guarding on the load out conveyor cannot be disabled, bypassed or is in place in all circumstances.

The employer must ensure that the guarding on the crushing plant meets the requirements of the Australian Standard AS 1755. Accordingly, the SSE must ensure that guarding is applied as far as practicable to control any risk from ejected parts, entanglement or work pieces. The possibility of bypassing, disabling or ensuring the guarding is in place in all circumstances must be addressed.

Darryl Casey
Inspector of Mines
Central Region

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Natural Resources, Mines and Water

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Mine Name	File No.	Operator	Activity Type	Region	Activity Date
South Walker Creek	21,350	BHP Mitsui Coal Pty Ltd		Central	12/06/2002

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Mine Record Entry

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Today with s.73 irrelevant inform the coal preparation plant electrical engineering manager and s.73 s.73 irrelevant inform the plant electrical supervisor an inspection was made of the coal preparation plant area. Subsequent to this inspection a further inspection was made with s.73 irrelevant inf the field electrical engineering manager of the 66KV main switchyard and 66KV dragline powerlines. Generally the electrical equipment and installations appeared to be in good order, the following points were noted.

- The 11KV/415volt plant substation No1 low voltage chambers have accumulated a considerable layer of coal dust. It would appear that the current maintenance program is inadequate to maintain this equipment in a satisfactory condition and is to be reviewed to ensure that these chambers are cleaned and kept clean.
- In the course of this inspection it became apparent that for equipment owned by Ergon Energy the plant electrical engineering manager does not have access to electrical switchgear, is unaware of maintenance programs and is not advised of the results of maintenance undertaken. This was also found to be the case with regard to the field electrical engineering manager in relation to the 66 and 11KV powerline systems. This arrangement does not provide for the duties of the electrical engineering manager to be adequately fulfilled in accordance with the Coal Mines Safety and Health Regulation 2001 and is to be resolved.
- The 11KV/415volt plant substation No2 is heavily contaminated with coal slurry. This needs to be cleaned and consideration given to replacing the blue metal. Water drainage in the area of this substation has eroded the ground. It was advised that a concrete drain is to be provided to prevent erosion. Care will be required when excavations for this drain are made because of the buried cables in the area.
- Motor control centers No 1, 2, and 3 appeared to be in good order, but a number of electrical cubicle fasteners were found to be missing in No1. Electrical cubicle fasteners are to be kept in place at all time because of the risk of high energy electrical faults causing covers to be blown off.
- Lanyard pull wire stops have been fitted to SCP and diverter conveyors to replace single emergency stops. This initiative is commended.
- At the main 66KV switchyard the sensitivity of earth fault protection on the dragline feeder is to be advised. Generally the switchyard and 66KV dragline feeder appeared to be in good order.

As a general comment the condition of the coal preparation area appears to have deteriorated since the last inspection with considerable coal and slurry spillage in evidence. This situation is

not assisted by an apparent lack of infrastructure for the management of spillage, it is recommended that spillage control infrastructure be reviewed.

The new train load out and product stockpile area was being commissioned at the time of this inspection with the first fully electric train being loaded. This area was not inspected because of the high level of activity.

Discussions are summarised as follows

- All AC welding sets at the coal preparation plant are fitted with voltage reduction devices. It was reported that the function of these devices is regularly checked.
- As a result of a recent incident whereby an electric shock was received from a rattle gun the mine has minimised the use of electric portable tools in wet areas, replacing these with air tools. This initiative is commended.
- A review of the status of implementation of issues raised as a result of a recent audit on the electrical section of the Regulation was undertaken. Generally all issues raised appear to have been addressed. It is to be confirmed that security has been provided on the boom control system of the dragline and that personnel are authorised to enter electrical areas and their duties specified where this is appropriate.

Number	Substandard Condition or Practice	Due Date
1	**Duties of Electrical Engineering Managers**	**26/07/2002**

In the course of this inspection it became apparent that for equipment owned by Ergon Energy the plant electrical engineering manager does not have access to electrical switchgear, is unaware of maintenance programs and is not advised of the results of maintenance undertaken. This was also found to be the case with regard to the field electrical engineering manager in relation to the 66 and 11KV powerline systems. This arrangement does not provide for the duties of the electrical engineering manager to be adequately fulfilled in accordance with the Coal Mines Safety and Health Regulation 2001 and is to be resolved.

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

David Horner
Inspector of Mines (Electrical)
Central Region

David Horner
Inspector of Mines (Electrical)
Region

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Natural Resources, Mines and Water

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Mine Name	File No.	Operator	Activity Type	Region	Activity Date
South Walker Creek	21,350	BHP Mitsui Coal Pty Ltd		Central	19/10/2005

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An inspection of the operations of the Mulgrave Pit was conducted with the assistance of s.73 s.73 irrelevant informat Mine Manager and Site Senior Executive. Unfortunately, the Site Safety and Health Representative was off-site and not available for the inspection.

The main haul road is in a good condition. A chemical compound has been added to stabilise the road surface to prevent dust being raised into the atmosphere and reduce the use of water .

Several areas of the low wall in the Pit require a safety bund formed along the toe area to catch loose stone and rock that fall from the low wall. Refer to the Coal Mining Safety and Health Act 1999

1. s29 *What is an acceptable level of risk.*
2. s30 *How is an acceptable level of risk achieved,*
3. s31 *What happens if the level of risk is unacceptable.*

The highwall appears stable along its length, except for an area around a fault line slip. Some large slabs of stone have fallen away but have been caught by the stand off bund along the toe of the highwall.

One area of the highwall has been stepped out of line and is programmed to be straightened during the next blast to be done in this strip. The corner of the step has large cracks in the face and is an area to be aware of. A stand off bund has been constructed along this area.

1 North Dump has low safety bunds in several areas. Some cracks were appearing running parallel to the dump face. Mr. Lawrence indicated that this problem would be repaired immediately.

Dragline Shut-down Pad.

Dragline 28 will be walked out of the Pit on Sunday 23rd October to the adjacent pad for an extensive maintenance period to be conducted by Eagle Engineering.

An inspection of the pad and associated working areas conducted with the assistance of s.73 s.73 irrelevant information Project Manager Dragline Shut-down and s.73 irrelevant informa

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Eagle Engineering Safety Officer, identified the following:

1. A Visitor Induction was carried out to enable us to access the site.
2. The visitor sign-on sheet being used was the Project Isolation Permit. The sheet was marked in a column "Attendance Only". This is not acceptable as confusion will result when an Isolation Permit is required. A dedicated visitor sign-on/off book should be sourced immediately. s.73 irrelevan gave an undertaking to have this attended too immediately.
3. A Goonyella Riverside Mine "Working at Height Permit" book was in use and being signed by the personnel on site. Again, this is not acceptable. This use of this book marked as such, is to stop immediately and the correct book identifying South Walker Creek mine site is to be used. s.73 irrelevan gave an undertaking to have this attended too immediately.
4. Pressurised containers used for insect control and glass cleaning was left in direct sunlight. The warning label clearly indicates to keep the container below 50 degrees C. s.73 irrelevan was made aware of the importance of keeping any pressurised container within the temperature range indicated on the warning labels.
5. Rescue and resuscitation signs are required on all electrical control apparatus. s.73 irrelevant gave an undertaking to have signs placed on all the electrical apparatus that required them.
6. The transformer situated behind the workshop area had the retaining bolts missing from both access doors. The electrician was notified to replace the missing bolts immediately.
7. s.73 irrelevant i stated that an audit is being undertaken of all lifting, slinging and pulling chains on site and Bullivants from Mackay will be coming to site on Monday 24th October 2005 to test and check all chains.
8. s.73 irrelevant information gave an undertaking that drug and alcohol testing will be carried out on all personnel who come on the shut-down site during the maintenance period.

As a result of the above identified items reference to the Coal Mining Safety and Health Act 1999 s43 *Obligation of contractors* is required.

Back in the office, several documents from the Safety and Health Management System were examined.

1. The Principal Contractors have their own SHMS that incorporates BHP Billiton Health Safety Environment and Community Policy and integrate BHP Billiton Health Safety Environment and Community Management Standards, relevant legislation and standards as applicable.
2. BHP Mitsui Coal South Walker Creek Mine SHMS Overview Plan SWC.SAF.P-1.00, Date of Draft: 21.02.2005.
3. Incident / Accident and Near Miss Reporting Procedure SW-P-HSEC13-001.A1, dated May 03, requires notification responsibility matrix updated to reflect new SSE and any other personnel, e.g Department of Natural Resources and Mines on page 7, part 10 Reporting Obligations.
4. s.73 irrelevant inforr stated that the SMS is under review at the moment.

Kevin Clough
Inspection Officer
Central Region

Queensland Government
Department of Mines and Energy

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Mine Name	File No.	Operator	Activity Type	Region	Activity Date
South Walker Creek	21,350	BHP Mitsui Coal Pty Ltd		Central	22/07/2009

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Site Safety & Health Reps Consulted: s.73 irrelevant informa

Today the 22nd July 2009 an announced inspection of South Walker Creek Open Cut was carried out by Queensland Mines and Energy Inspection Officer Mr Keith Brennan.

Opening Meeting:

An opening meeting was held with SSE s.73 irrelevant informati, Thiess Project Manager s.73 irrelevant s.73 irrelev and SSHR s.73 irrelevant inform. A brief overview of the investigation carried out by Queensland Mines and Energy Inspector s.73 irrelevant inform of an HPI incident involving a DK90 overburden drill rig where a fitter received burns to his hands and singing of facial hair after the ignition of flammable gas. The ICAM investigation is to be forwarded to Inspector of Mines s.73 i s.73 irrelevant inf upon completion.

General discussion continued and a ***Work Procedure TCQ0236-PLT-WP002/A11*** was passed on to Inspection Officer Mr Keith Brennan and highlighted:-

4.10.2 *No hot work is to be undertaken on equipment whilst on the drill pattern unless it is not feasible to relocate such equipment. Where equipment cannot be relocated, gas detection shall be undertaken within the immediate work zone prior to hot work and a JSEA completed. Such hazards that need to be taken into consideration include the presence of methane, smoking, static electricity etc. Methane gas has been detected in drill holes at South Walker Creek.*

Other incidents discussed recent HPI's involving overpressure of a solvent canister that resulted in a contractor receiving severe leg injuries; a Safety Alert from the explosives inspectorate identifying the potential fatal hazard posed by the presence of Nox gases that result from blasting; the treatment of high pressure fluid injection and the immediate treatment required.

Inspection:

In the company of Mining Superintendent s.73 irrelevant informati, SSHR s.73 irrelevant inform an inspection was carried out of Brandrill DK 90 located on Ramp B North; Strip 10. Fitter s.73 irrelevant inform who was involved in the gas ignition incident was on shift as well as operator s.73 irrelevant inform The DK 90 was drilling to a depth of 68 meters with a seam touch every fifth hole.

Discussion took place as to the crews understanding of gas make from overburden drill holes and atmospheric conditions that may influence gas layering on open cut drill and blast benches. OCE s.73 irrelevant informatio was also at the location and had a gas detector in his possession. A gas test was taken of the most recent overburden drill hole and 0.0% flammable and noxious gases were detected. Two cracked windows in the drill rig require replacing.

Personal dust monitoring was also discussed given the type of strata being drilled highlighted the frequency of dust monitoring and dust suppression that was not evident during drilling operations. A copy of the most recent personal dust monitoring results are to be forwarded to Mines and Energy Mackay by Friday 14th August 2009.

An overburden TEREX RH 170 digger was undergoing a splitter box change out and track repairs, the inspection team were requested to remain out of the area during the lifting of an engine cover. On entering the area in was noted that drop zones had been well established; JSEA had been completed and signed off by all the workers in the area. The Franna 25 ton crane was compliant and pre-start log books correctly filled in and no faults recorded. The Registration Certificate Qld 16253 sticker was displayed on the front window and compliant until 31/01/2010.

"A" Dump Crib room facilities were inspected and it was noted that the demountable buildings were restrained in the event of a severe weather event. The heavy vehicle park up has been well set up with bunding and heavy vehicle approaches well defined. Inside the crib hut the Golden Rules were prominently displayed as well as pre-start isolation procedures.

A brief visit to Marion 8050 Dragline was undertaken. Again the material being moved by the dragline liberated considerable dust that due to wind direction travelled in part back over the dragline. The most recent Personal Dust Monitoring results from Dragline 8050 are required to be forwarded to the office of Queensland Mines and Energy by Friday 14th August 2009.

Close Out Meeting:

A close out meeting was held with SSE s.73 irrelevant informati Mining Superintendent s.73 irrelevant s.73 irrele and SSHR s.73 irrelevant inform The observations from the inspection was discussed and that the ICAM report from the incident involving the Brandrill Rig is to be forwarded to Inspector of Mines s.73 irrelevant inform upon completion.

Keith Brennan
Inspection Officer
Central Region

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Department of Mines and Energy

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Mine Name	File No.	Operator	Activity Type	Region	Activity Date
South Walker Creek	21,350	BHP Mitsui Coal Pty Ltd		Central	27/02/2007

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An unannounced inspection of the mine was conducted with the assistance of s.73 irrelevant s.73 irrelevant Site Senior Executive.

Walker Pit B South and B North were inspected. Blasting preparations were well advanced with holes drilled in the upper and lower strata. The highwall appeared stable in this area with the toe of the highwall back filled. The access ramp was dry but appeared to be stabilised without any rough areas.

Carborough Pit is in the process of forming the access ramp with Dragline 28 moving the surface material down to the harder strata.

Mulgrave Pit Ramp G appears to be in good condition without any detected soft spots.

A scraper fleet is in the process of removing top soil in preparation for future pit extensions.

The main haul road is in a dry condition with dust generated into the atmosphere from vehicles on the road reducing visibility during passing. This road requires watering to stabilise the surface and to reduce the dust make.

Kevin Clough
Inspector of Mines
Central Region

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Mine Name	File No.	Operator	Activity Type	Region	Activity Date
South Walker Creek	21,350	BHP Mitsui Coal Pty Ltd		Central	28/09/2011

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Today the 28th September 2011, I carried out an announced inspection of South Walker Creek Open Cut Mine. An opening meeting was held with Acting Senior Site Executive s.73 irrele s.73 irrelevant We discussed current Safety Alerts and Inspector of Mines s.73 irrelevant informati report " *Controlling uncontrolled movements of mine vehicles* "

SSE s.73 irrelevant introduced me to General Manager s.73 irrelevant inform we discussed the operation and the importance of communicating s39 Obligations of persons generally of the Coal Mining Safety and Health Act 1999 to the workforce.

Inspection:

In the company of SSE s.73 irrelevant EEM s.73 irrelevar and Workshop Manager s.73 irrelevar s.73 irrelevant info and Thiess General Manger s.73 irrelevant inf I carried out an inspection of the workshop and the new workshop site currently under construction by C & C Building Contractors.

The workshop housekeeping was of a high standard, fitters were currently servicing a rear dump truck installing a rear axle. I took the opportunity to inspect the pre-start log book of the Franna crane assisting with the axle change out; the book had been correctly filled in with no faults recorded.

I was escorted by Construction Project Manager s.73 irrelevant inf during my inspection of the construction site by C & C Building Contractors. After signing in I asked Supervisor s.73 irre s.73 irrelev to produce his supervisor authorisation, he was able to provide a copy of his authorisation. The construction site housekeeping was of an acceptable standard; I requested the MSDS sheets for the site.

A supervisor was able to provide a comprehensive list of all MSDS sheets used by C & C Builders. While the list was comprehensive I suggest that the list be condensed to what products

were actually on site at South Walker Creek. The location of the MSDS folders needs to be easily accessible and workers encouraged to consult the MSDS sheets prior to using products on site.

I was able to locate a rota hoist in the container that had a C & C Builders compliant yearly tag attached. However to align with South Walker Creek I suggest that evidence of compliance should be supplied to the South Walker Creek Contract holder who then would assign the correct South Walker Creek colour tag.

In the company of Thiess General Manger s.73 irrelevant infor, Acting Mining Manager s.73 irrelevant inforr and Mining Supervisor s.73 irrelevant in we travelled to the observation hut where I was given an overview of the mining operations. I observed an overburden drill that was operating on A South bench. During drilling operations the drill was engulfed in dust; I stated my intention to carry out an inspection of the drill rig.

We returned to administration and I was accompanied by Thiess General Manger s.73 irrelevant inforr and Acting Mining Manager s.73 irrelevant infor to A South Bench where Coldwell Drill Unit 78 was operating. The drill was shut down and we boarded and immediately I observed excessive dust/drilling chips and hydraulic oil spatters over the entire drill power systems. I enquired as to the clean down schedule and was informed by the operator at the end of a *hitch.* The frequency of cleaning is insufficient and poses an unacceptable level of risk to the operators from fire, slips, trips and inhalable/respirable dust.

The operators cabin had signs of inhalable/respirable dust and the air-conditioning filter was full of dust particles. I asked the operator how the cabin is cleaned out and I was informed with compressed air, I asked what PPE was worn, I was informed dust masks are worn, there were no dust masks in the operator's cabin.

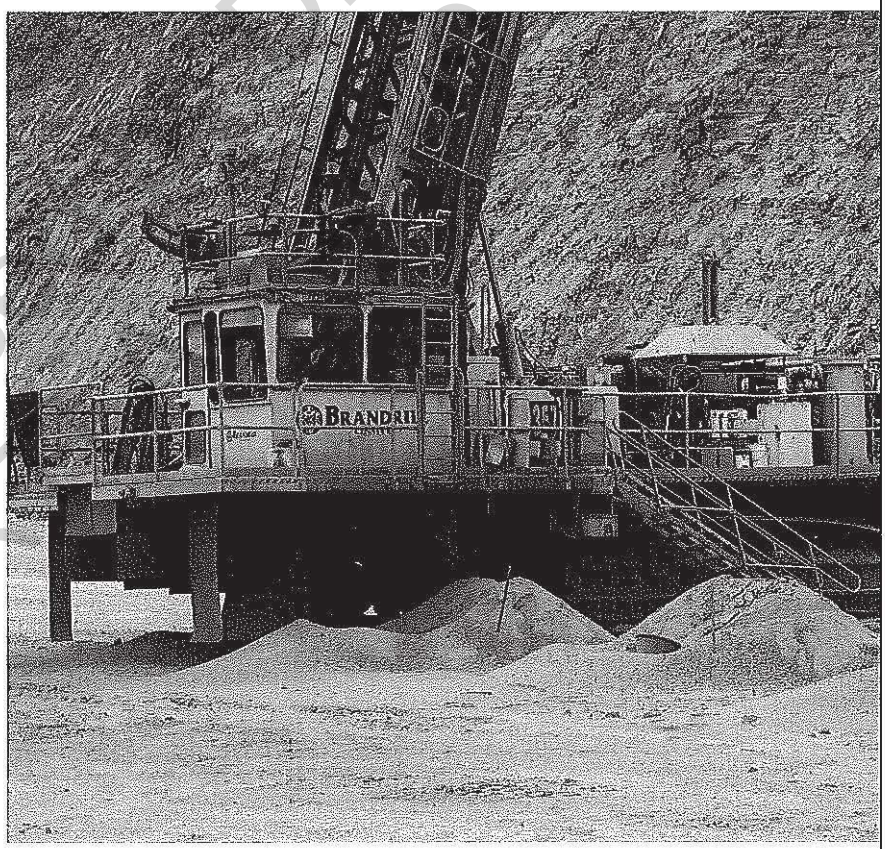
I entered the drill carousel deck and I noticed that the handrail bracket for access off the rear deck was damaged and the handrail could not be secured to the handrails. The lower glass door panel leading to the carousel was damaged and required replacing; a fire extinguisher had no test tag attached. I notified Acting Mining Manager s.73 irrelevant infor that unit 78 is to be stood down until satisfactory repairs have been carried out.

Close Out Meeting:

A close out meeting was held with Acting Mining Manager s.73 irrelevant inforr I expressed my concerns about the general state and faults on drill 78 and was informed that drill 78 is a stand-by rig. Coldwell drilling have the same obligation under the Coal Mining Safety and Health Regulation 2001 - ***s98 Reporting and rectifying defects*** - *A coal mine's safety and health management system must provide for— (a) reporting all defects in the mine's plant, structures and procedures; and (b) rectifying defects that create an unacceptable level of risk.*

I also require respirable dust monitoring to be carried of drill rig operators, digger operators and dump truck operators, as per s89 Coal Mining Safety and Health Regulation 2001, the results to be forwarded to Safety and Health Mackay by Friday 25th November 2011.

Keith Brennan
Inspector of Mines
Central Region

Queensland Government Department of Mines and Energy	**Inspection**
Inspection	South Walker Creek
Date of Inspection	22nd July 2009
Location	9 kilometres off the Peak Downs Highway
Observation	**Excessive Residual Ground Dust around the Brandrill DK90 overburden drill rig.**
Photograph Cannon Digital IXUS 801S	

Queensland Government Department of Mines and Energy	**Inspection**
Inspection	South Walker Creek
Date of Inspection	22nd July 2009
Location	9 kilometres off the Peak Downs Highway
Observation	**Cracked Window Glasses in the Operators Cab – Brandrill DK90**
Photograph Cannon Digital IXUS 801S	

BMC South Walker Creek Mine

bhpbilliton
resourcing the future

BHP Billiton Mitsui Coal Pty Ltd
South Walker Creek Mine
Peak Downs Highway
Via Nebo, QLD, 4742, Australia
Locked Bag 1014
Nebo, QLD, 4742, Australia
Tel +61 7 4949 4500

Thursday, 10th November, 2011

Department of Employment, Economic
Development & Innovation
Inspector of Mines Central Region
PO Box 1801
Mackay
Queensland 4740 Australia

Attention: Keith Brennan

Dear Keith,

South Walker Creek Mine – Response to Mine Record Entry dated 28/09/2011

In response to the Mine Record Entry dated the 28th September, 2011; below are the corrective actions and responses from South Walker Creek Mine.

- *Workshop Construction Project: Place MSDS in an easy and accessible place. Condense list to material used on job site only approved products are used onsite. (Please confirm the latest one is already in place).*

  The MSDS' have been relocated to a more visual location and communicated to the entire team. The MSDS' specific for South Walker Creek Mine are available in folders accessible for individual project / site.

- *Workshop Construction Project: Use SWC standard colour inspection tag for rota hoist, chains or sling.*

  C&C Building Contractors have re-inspected all there lifting equipment and retag everything with the correct colour coding for South Walker Creek Mine.

- *Coldwell Drills: Ensure proper PPE in place; Drill-78 stood-down until satisfactory repairs completed; Communicate Coal Mining Safety and Health Regulation 2001, section-98 Reporting and Rectifying defects to Coldwell Contractor.*

  As part of the action the following items have been completed on Drill 78 since the Inspection at South Walker Creek Mine:

  - The fire extinguisher on the front deck was changed with a new fire extinguisher.
  - The handrail and Safety Bar on the front deck was repaired.
  - AC Filters, both cab filter and primary filter were changed out for new filters. A Toolbox Talk held with fitters about changing the filters on the drills more frequently when in dusty conditions. There are many filters stored onsite.
  - The windows in the doors that were cracked have been replaced.
  - DR78 has been washed down as requested and will endeavour to be washed more regularly.
  - DR78 has been on a shutdown for a track replacement, a feed cylinder change out and campaign oil leaks across the machine.
  - All drillers have been supplied with dust masks.

- The dust suppression spray has been repaired on the shutdown with new parts.

Coldwell's process to capture equipment defects is conducted by recording them when completing prestarts, services and also via random audits. The defects are then entered in to a spreadsheet and are prioritised for actioning.

- *Conduct respirable dust monitoring for drill rig operators, digger operators and truck operators as per section 89 of Coal Mining Safety and Health Regulation 2001.*

  The dust monitoring was conducted at South Walker Creek Mine on the 27th October, 2011. We are currently waiting for the reports, which take a minimum of three (3) weeks.

If you have any queries please contact the undersigned.

Yours sincerely,

sch4p4(6) Personal information

Derrick Hammet
Site Senior Executive
BHP Billiton Mitsui Coal Pty Ltd
South Walker Creek Mine

Simtars

Report OM16910F1

169 Sydney Street, MACKAY, QLD 4740, Australia
PO Box 453, MACKAY, QLD, 4740 Australia
Phone +61 7 4957 4077 Fax +61 7 4957 4422

Respirable Dust Survey

for BHP Mitsui Coal
at South Walker Creek

Client Contact	s.73 irrelevant informatio *OHS Advisor* *BMC South Walker Creek Mine* *Peak Downs Highway* *Via Nebo Qld 4742*
Client Reference	*Purchase Order 5204750361*
Investigation Period	*27 October 2011*
Simtars Investigator(s)	*S. Fennell (+61 7 4957 4077)*
Reviewed	*Greg Manthey*
Approved Signatory	sch4p4(6) Personal information, signature *Greg Manthey* *Principal Occupational Health & Hygiene Specialist*
Report Date	*25 November 2011*

Executive Summary

- Personal respirable dust/quartz exposure monitoring was conducted at the South Walker Creek Mine operation on 27 October 2011.
- The Similar Exposure Groups involved in the survey were:
    - BMCSWC05 Mining – Drilling (Coldwell),
    - BMCSWC09 Mining – Truck/Shovel & Coaling,
    - BMCSWC12 – CHPP – Operations.
- All respirable dust concentrations measured on 27 October 201 were below the shift adjusted exposure standard and recommended action limits and therefore are unlikely to pose a risk to health, if current exposure continues.
- All respirable quartz concentrations measured on 27 October 2011 were below the shift adjusted exposure standard of 0.09 mg/m^3 however two workers, s.73 irrelevant information (both of the drilling-related SEG BMCSWC05), recorded respirable quartz exposures of 0.08 and 0.05 mg/m^3 respectively. These levels are above the recommended action limit of 50% of the shift adjusted exposure standard. Both workers reported that respiratory protection was not worn at any time during the survey period. Exposures in excess of the recommended action limit may indicate a process that is not adequately controlled and could potentially present a health risk to workers.
- All other respirable quartz concentrations measured on 27 October 2011 were below the shift adjusted exposure standard and recommended action limits and therefore are unlikely to pose a risk to health, if current exposure continues.

Below is the summary of worker's exposure levels to respirable dust and respirable quartz obtained during the survey conducted at South Walker Creek Mine on 27 October 2011.

Table 1:
Summary of Personal Respirable Dust and Quartz Exposures

Similar Exposure Group	Survey Date	Shift	No. of samples collected	No. exceeding the respirable dust regulation	No. exceeding the quartz regulation
BMCSWC05 Mining – Drilling (Coldwell)	27 Oct 11	Day	3	Nil	Nil
BMCSWC09 Mining – Truck/Shovel & Coaling	27 Oct 11	Day	9	Nil	Nil
BMCSWC12 – CHPP - Operations	27 Oct 11	Day	6	Nil	Nil

The three members of the drilling crew in SEG BMCSWC05 recorded the highest levels of quartz in this survey and all three reported not wearing Respiratory Protection Equipment (RPE) at any time during the survey. The dust control methods and work processes of this group should be reviewed and any deficiencies that are identified should be promptly rectified.

1 Objectives

The aim of the study was to determine worker's exposure levels to respirable dust and respirable quartz in the working environment and to compare them against the regulatory exposure limits.

2 Scope of Work

Simtars Mackay personnel conducted an occupational hygiene respirable dust survey to assess exposure to respirable dust and quartz at South Walker Creek Mine on 27 October 2011.

The survey included the sampling of the following Similar Exposure Groups (SEG's):

- BMCSWC05 Mining – Drilling (Coldwell);
- BMCSWC09 Mining – Truck/Shovel & Coaling;
- BMCSWC12 – CHPP – Operations.

3 Methodology

3.1 Sampling and Analysis

Respirable dust sampling and analysis was carried out in accordance Simtars procedure LP0013[1] to meet the requirements of Australian Standard AS 2985[2]. Workers were supplied with sampling devices that monitored their personal respirable dust and quartz exposures. These sampling devices remained with the operators for an extended period of their work shift to ensure that a representative sample of their activities was collected. Analysis of free quartz was conducted in accordance with Simtars procedure LP0016[3] that meets the requirements of the NHMRC [4].

Results derived using these methods represent time weighted average concentrations of respirable dust encountered by operators during their normal working shift. With respect to respirable dust, a time-weighted average implies a mass of respirable dust collected over a known time period (preferably more than 4 hours) from which an average mass/volume concentration is calculated. It is from time weighted average concentrations that assessments are made with respect to acceptable health levels and compliance with regulatory requirements.

3.2 Limitations

This survey represents a snap shot of exposure which may or may not be an accurate representation of exposure and consequent health impacts over a prolonged period of time. Any conclusions and recommendations are made subject to this limitation. Details of activities and conditions on the day of the testing which could potentially impact on the exposure levels are provided in Section 4 of this report.

4 Background

4.1 Site Operations

South Walker Creek Mine is located on the eastern flank of the Bowen Basin, 35km west of the town of Nebo and 132 km south west of the Hay Point port facilities. South Walker Creek is a contract mining operation owned by BHP Mitsui Coal. Annual production capacity is 3.2 million tonnes of marketable coal, which is suitable for Pulverised Coal Injection (PCI). Production data from the day of the survey was not available.

Operational and Environmental Observations

- Weather conditions on the day of testing were fine.
- Sampling equipment was observed to be worn correctly.
- All samplers were pre-programmed to run for 12 hours.
- It is understood by Simtars that respiratory protection equipment is available to all personnel.

4.2 Adverse Health Effects

Respirable Dust and Quartz

Most dusts contain particles of widely ranging sizes. The behaviour, deposition and fate of any individual particle after entry into the human respiratory system and the response that it elicits will depend on the nature and size of the particle[5].

The respirable fraction of dust (aerodynamic diameter less than approximately 16 micrometres) is capable of reaching the lower bronchioles and alveolar regions of the lung. If the respirable fraction contains a proportion of a fibrogenic component such as quartz (crystalline silica - SiO_2), a condition known as silicosis can result. Continued exposure to fibrogenic dusts causes irreversible damage to the lung tissue and a consequent reduction in lung function that can lead to diseases of the cardiovascular system.

The key factor in assessing health implications of exposure to dust is the size of the air-borne dust cloud. Dust that falls predominantly into a larger size fraction (inhalable dust) can still have debilitating health consequences if in sufficient concentration but such dust, if inherently non-toxic or does not contain toxic impurities, is generally considered a nuisance dust. Therefore, highly visible dust clouds that are predominantly made up of non-respirable particles and fall-out dust may not present a significant health risk. Conversely dust not visible to the naked eye made up of respirable particles could present a significant health risk especially if it contains a high percentage of crystalline silica.

According to the IARC Monographs on the Evaluation of Carcinogenic Risks to Humans[6], crystalline silica inhaled in the form of *quartz or cristobalite* from occupational sources is carcinogenic to humans (Group 1).

4.3 Regulations and Exposure Standards

Respirable Dust and Quartz

The Coal Mining Safety and Health Regulation 2001[7] states in Part 12, Section 89(1) that *"A coal mine's safety and health management system must provide ways of ensuring a worker does not breathe an atmosphere at the mine containing respirable dust exceeding an average concentration, calculated under AS2985, equivalent to the following for an 8 hour period -*

i) for coal dust – 3mg/m³ air;

ii) for free silica – 0.1mg/m³ air".

Exposure standards represent airborne concentrations of individual substances, which, according to current knowledge, should neither impair the health of, nor cause undue discomfort to, nearly all workers. The exposure standards detailed refer to airborne concentrations of substances in the breathing zone of the worker, determined by 'personal sampling'. Exposure standards do not represent 'no-effect' levels that guarantee protection to every worker. Given the nature of biological variation and the range of individual susceptibility, it is inevitable that a proportion of those who are exposed to concentrations around or below the exposure standard may suffer effects.

Extended Work Shifts

Section 89(2) of the Coal Mining Safety and Health Regulation 2001[7] also states that *"If a person works a shift of more than 8 hours at the mine, the system must provide ways of ensuring the person's dosage of respirable dust is not more than the equivalent dosage for a person working an 8 hour shift"*.

There are several models that can be used for adjusting occupational exposure limits for work schedules other than the "normal" 8-hour 5-day week rosters. Safe Work Australia (former National Occupational Health and Safety Commission)[8] recommends the use of the Brief and Scala model for calculating adjustments to the exposure standards. The exposure standard has been adjusted for extended shift in accordance with the Simtars Laboratory Procedure LP0064[9].

There are two equations that can be used to apply the Brief and Scala model - one for adjustment based on daily exposure and one for adjustment based on average weekly exposure.

The daily adjustment equation is:

$$RF = \frac{8}{h} * \frac{24-h}{16}$$ Equation 1

Where RF = reduction factor; and

h = hours worked per shift.

The average weekly hours adjustment equation is:

$$RF = \frac{40}{h} * \frac{168-h}{128}$$ Equation 2

Where h = average hours worked per week over full roster cycle.

The "reduction factor" is multiplied by the 8-hr exposure standard to obtain the shift adjusted standard.

The decision to adjust an exposure standard is based on the toxic effects of the agent under consideration. Generally those agents that have an instantaneous limit or are irritants are not adjusted at all, those agents that have acute toxicity are adjusted based on the daily exposure (Equation 1) and those agents that are cumulative toxicants are adjusted based on a weekly exposure basis (Equation 2).

Where an agent has both acute and chronic effects the most conservative adjustment equation should be used and that is usually Equation 1. As respirable dust and quartz have chronic effects, the adjustment factor is determined using Equation 2. This is the factor that has been applied to the exposure standards for respirable dust and respirable quartz in the table of results.

At South Walker Creek mine personnel work one of the following shifts:

- Tech Services personnel work eight 10.5hr shifts during a 14-day cycle;
- Other mine employees work fourteen 12hr shifts in a 28-day cycle.

Both these cycles result in an average of 42 shift hours over a 7-day cycle compared to 40 hours (8hr shifts, 5 days per week) used for the Regulatory Exposure Standard.

Applying the Brief & Scala model Equation 2 to the altered work shifts presently followed at South Walker Creek mine, where the average hours worked per week in the shift cycle is 42, gives an adjustment factor of 0.94. Therefore, the adjusted exposure standard for this shift regime currently followed at South Walker Creek is:

- 2.8 mg/m^3 for respirable dust;
- 0.09 mg/m^3 for respirable quartz.

All shift adjustments are calculated based on roster information as advised to Simtars.

4.4 Control Measures

Ensuring workers use respiratory protection in exposed situations is only effective if it is worn correctly, continuously and it's wearing is enforced. This can become problematic over the long term. Therefore it is imperative that controls are introduced to limit the reliance on respiratory protection.

Measures to reduce exposure to respirable dust should follow the order of priority listed below:

- Engineering control measures to eliminate or reduce dust at its source, or the modification of the routes by which dust impacts on employees,
- Administrative control measures to limit the number of persons exposed as well as the duration of exposure, and
- The use of PPE devices if all other control measures fail to reduce exposure to below the accepted exposure level.

All workers should seek to minimise their exposure to airborne dust as much as possible. To reduce the potential for worker exposure to respirable dust and respirable quartz continue, or implement where appropriate, the following processes:

- The use of water suppression and dust curtains on drill rigs;
- window/door seals and air conditioning filters on all enclosed mobile plant, control rooms and crib rooms should be regularly inspected for damage or deterioration and replaced according to manufacturer's specifications;
- ensure operator cabins are kept under HEPA filtered, positive pressure to ensure airborne dust is excluded from the cabin environment;
- ensure regular housekeeping, which includes damp wiping, mopping or vacuuming of all work surfaces, in cabins, control rooms and crib rooms, is conducted to assist in the reduction of airborne dust and therefore operator exposure to respirable dust;
- keep non-fixed windows and doors on mobile plant closed during operation;
- reduce the use of compressed air to clean surfaces as this generates significant amounts of airborne dust within the worker's breathing zone;
- use water on haul roads and during dust generating processes such as drilling, to assist in reducing airborne dust levels;
- ensure workers take care when conducting work in the field and be mindful of potential sources of airborne dust and position themselves upwind from airborne dust where possible;
- continually educate workers about the risks associated with exposure to high levels of respirable dust and respirable quartz, and encourage them to minimise their exposure at all times;
- ensure workers wear a minimum of P1 half face respiratory protection when conducting tasks that have the potential to generate high levels of airborne dust.

Respiratory Protection

The selection and use of respiratory protection equipment (RPE) should be done in consultation with AS1715[10]. This standard outlines the requirements to ensure adequate protection is achieved. This includes:

- appointing an RPE program administrator to develop an RPE policy and procedure and to coordinate the selection, purchase, training and auditing of the RPE system;
- training staff in the correct selection, use, maintenance and limitations of RPE (this training should include ensuring that RPE seals effectively on the wearer's face and the importance of a clean shaven policy to assist in achieving this seal);
- ensuring that RPE is worn in high contaminant areas;
- record keeping of training and usage of RPE;
- program evaluation to determine RPE effectiveness and acceptance by workers.

Currently P1 respiratory protection is available to operational personnel and this should provide workers with an adequate level of protection against airborne concentrations measured on 27 October 2001, provided the RPE is fitted and worn correctly.

5 Results

Personal respirable dust and quartz results for all samples collected are shown in Appendix A.

All respirable dust concentrations measured on 27 October 2011 were below both the shift adjusted regulatory exposure standard and the recommended action limit.

All respirable quartz concentrations measured on 27 October 2011 were below the shift adjusted exposure standard of 0.09 mg/m^3 however two workers, s.73 irrelevant information (both of SEG BMCSWC05), recorded respirable quartz exposures of 0.08 and 0.05 mg/m^3 respectively. These levels are above the recommended action limit of 50% of the shift adjusted exposure standard. Both workers reported that respiratory protection was not worn at any time during the survey period. Exposures in excess of the recommended action limit may indicate a process that is not adequately controlled and could potentially present a health risk to workers.

6 Discussion

Respirable Dust

Personal respirable dust exposures of the BMCSWC05 Mining – Drilling (Coldwell) Similar Exposure Group were all below the shift adjusted regulatory exposure standard. The highest exposure in this group was 0.4 mg/m^3 which is 14 % of the shift adjusted regulatory exposure standard. The person who received the highest exposure, s.73 irrelevant informati operated the drill rig DR16 for a period of 10 hours. It should be noted that s.73 irrelevan reported that RPE was not worn at any time during the survey.

Personal respirable dust exposures of the BMCSWC09 Mining – Truck/Shovel & Coaling Similar Exposure Group were all below the shift adjusted regulatory exposure standard. The highest exposure in this group was 0.2 mg/m^3 which is 7 % of the shift adjusted regulatory exposure standard. Of the four people who received this level of exposure, one person operated an excavator, the second person operated as floor dozer coal operator for a period of 10 hours and the third person operated a rear dump truck to haul overburden on

the 93 circuit for almost 5 hours. The fourth person (digger operator) did not complete the field activity worksheet.

Personal respirable dust exposures of the BMCSWC12 – CHPP - Operations Similar Exposure Group were all below the shift adjusted regulatory exposure standard. The exposure for this group was 0.1 mg/m^3 which is 4 % of the shift adjusted regulatory exposure standard. All six (6) persons surveyed received this exposure and worked at various tasks during the shift including traffic control, spotting and making shutters and formwork.

Respirable Quartz

Personal respirable quartz exposures of the BMCSWC05 Mining – Drilling (Coldwell) Similar Exposure Group were all below the shift adjusted regulatory exposure standard of 0.09 mg/m^3, however exposures in this group ranged between 0.04 and 0.08 mg/m^3 which is only marginally less than the standard. Two of the three members of this group recorded respirable quartz exposures above the recommended action limit of 50% of the shift adjusted exposure standard. Both workers reported that respiratory protection was not worn at any time during the survey period.

Personal respirable quartz exposures of the BMCSWC09 Mining – Truck/Shovel & Coaling Similar Exposure Group were all below the shift adjusted regulatory exposure standard. The highest exposure in this group was 0.03 mg/m^3 which is 33 % of the shift adjusted regulatory exposure standard. Of the two persons who received this exposure, one operated a rear dump truck to haul overburden on the 93 circuit for almost 5 hours and the other person (digger operator) did not complete the field activity worksheet.

Personal respirable quartz exposures of the BMCSWC12 – CHPP - Operations Similar Exposure Group were all below the shift adjusted regulatory exposure standard. The exposure for this group was <0.01 mg/m^3 which is less than 11 % of the shift adjusted regulatory exposure standard. All six (6) persons surveyed received this exposure and worked at various tasks during the shift including traffic control, spotting and making shutters and formwork.

7 Conclusions

1. None of the personal respirable dust or respirable quartz exposures measured on 27 October 2011 were in excess of the shift adjusted regulatory exposure standard.
2. All of the eighteen personal respirable dust exposures were below 50% of the shift adjusted regulatory exposure standard.
3. Sixteen of the eighteen personal respirable quartz exposures were below 50% of the shift adjusted regulatory exposure standard.
4. Two of the eighteen personal respirable quartz exposures were between 50% and 100% of the shift adjusted regulatory exposure standard.
5. Respirable quartz exposures were higher for the Mining – Drilling (Coldwell) SEG than for the other two monitored SEGs.
6. Only three of the eighteen surveyed workers reported wearing RPE at any time during the sampling period.
7. All three members of the Mining – Drilling (Coldwell) SEG, which recorded the highest respirable quartz exposures, reported not wearing RPE at any time during the survey.

8 Recommendations / Management Plan

1. Investigate the cause of the high respirable quartz concentrations measured for SEG BMCSWC05 (Mining – Drilling (Coldwell)), in particular s.73 irrelevant information

2. Ensure all workers wear a minimum of P1 half face respiratory protection when conducting any work where they may be exposed to excessive respirable dust, including when operating mobile plant or drill rigs outside of enclosed, air conditioned cabins.

3. Continue to use water sprays whenever possible on drill rigs and production conveyors to assist in the control of airborne dust. Ensure roadways/haul roads with high usage are regularly watered to reduce dust exposures to operators.

4. Ensure that window and door seals on mobile plant and drill rigs is regularly inspected and maintained in good condition.

5. Ensure all workers are trained in the correct selection, fitting and wearing of appropriate respiratory protection.

9 Acknowledgements

The cooperation and assistance of South Walker Creek Mine staff members during the project was most appreciated.

References

1. Simtars Laboratory Procedure, LP0013. *Workplace atmospheres test method – Respirable dust (AS2985).*

2. Standards Australia, 2009. *Australian Standard AS2985 (2009): Workplace Atmospheres - Method for Sampling and Gravimetric Determination of Respirable Dust.*

3. Simtars Laboratory Procedure, LP0016. *Procedure for Measurement of crystalline silica in airborne dust by infrared spectroscopy.*

4. National Health and Medical Research Council, 1984. *Methods for Measurement of Quartz in Respirable Airborne Dust by Infrared Spectroscopy and X-Ray Diffractometry.*

5. Parmigiana, L, 1983. *Encyclopaedia of Occupational Health and Safety*, International Labour Office, 3rd edition (revised).

6. International Agency for Research on Cancer, 1997. *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Silica, Some Silicates, Coal Dust and para-Aramid Fibrils.* Volume 68.

7. Coal Mining Safety and Health Regulation 2001, GoPrint.

8. National Occupational Health and Safety Commission, 1995, *Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]*, 3rd Edition, Canberra.

9. Simtars Laboratory Procedure, LP0064. *Workplace Exposure Standards – Adjustment for extended shifts.*

10. Standards Australia, 2009. Australian Standard AS/NZS 1715 (2009): Selection, use and maintenance of respiratory protective equipment.

Appendix A:

DETAILED RESPIRABLE DUST/QUARTZ

Table 1:
Personal Respirable Dust and Quartz Results (BMCSWC05 / Mining – Drilling (Coldwell))
Day Shift – 27 October 2011

Surname	First Name	Occupation	Time Start	Time Finish	Activity	Location	Equipment Type & ID	PPE	Exp. Time (mins)	Resp. Dust (mg/m^3)	Resp. Quartz (mg/m^3)
s.73 irrelevant informati		Drill operator	*1)* 06:30 *2)* 07:00 *3)* 17:30 *4)* *5)* *6)*	*1)* 07:00 *2)* 17:30 *3)* 17:45 *4)* *5)* *6)*	*1)* Drive to B North and pattern. Inspect all in cab of vehicle *2)* Production drilling, inside drill cab sealed *3)* Drive to office *4)* *5)* *6)*	*1)* B North walker *2)* B North walker *3)* B North office *4)* *5)* *6)*	*1)* Light vehicle-CDC51 *2)* Drill-97 *3)* Light vehicle-CDC51 *4)* *5)* *6)*	*1)* RPN *2)* RPN *3)* RPN *4)* *5)* *6)*	720	0.2	0.04
s.73 irrelevant informatio		Trainee	*1)* 06:30 *2)* 07:15 *3)* 11:30 *4)* 13:45 *5)* *6)*	*1)* 07:00 *2)* 08:15 *3)* 13:00 *4)* 15:30 *5)* *6)*	*1)* Drive to B North in vehicle *2)* Loading track presses onto vehicle, hooking up welding trailer *3)* Cleaning and washing vehicle *4)* Cleaning vehicle and wait for emergency all clear *5)* *6)*	*1)* B North walker *2)* Coldwell lay down pad *3)* Wash pad *4)* Coldwell lay down pad *5)* *6)*	*1)* Light vehicle-CDC51 *2)* Light vehicle-CDC51 *3)* Light vehicle- 5-0 *4)* Light vehicle-CDC51 *5)* *6)*	*1)* RPN *2)* RPN *3)* RPN *4)* RPN *5)* *6)*	720	0.3	0.05
Coal Mining Safety and Health Regulation – 2001										3	0.1
Regulation Limit Adjusted for Current Shift Roster										2.8	0.09

NOTE All activity / location /equipment data reported (where available) is based on information provided by the individual monitored.

LEGEND
RPW: Respiratory protection noted in field sheet "as worn"
RPN: Respiratory protection noted in field sheet as "not worn"
RPO: Respiratory protection observed to be worn
FNR: Field sheet not adequately completed or returned
INV: Invalid sample
TBA: To be advised – analysis in progress

Note: Red shading denotes level is equal to or exceeds the shift adjusted regulatory limit.
Orange shading denotes level is between 50% & 100% OEL.
Green shading denotes level is below 50% OEL.

Table 1 (continued):
Personal Respirable Dust and Quartz Results (BMCSWC05 / Mining – Drilling (Coldwell))
Day Shift – 27 October 2011

Surname	First Name	Occupation	Time Start	Time Finish	Activity	Location	Equipment Type & ID	PPE	Exp. Time (mins)	Resp. Dust (mg/m^3)	Resp. Quartz (mg/m^3)
s.73 irrelevant information		Driller	1) 06:00 2) 07:00 3) 07:30 4) 17:30 5) 18:00 6)	1) 07:00 2) 07:30 3) 17:30 4) 18:00 5) 18:15 6)	1) PSM/toolbox 2) Drive to drill 3) Operate drill rig 4) Drive to office 5) Toolbox 6)	1) Admin offices 2) B North highwall 3) B North highwall 4) B North highwall to admin 5) Admin office 6)	1) NA 2) Holden colarado- 5-3 3) Drill-DR16 4) Holden colarado- 5-3 5) NA 6)	1) RPN 2) RPN 3) RPN 4) RPN 5) 6)	720	0.4	0.08
						Coal Mining Safety and Health Regulation – 2001				3	0.1
						Regulation Limit Adjusted for Current Shift Roster				2.8	0.09

NOTE All activity / location /equipment data reported (where available) is based on information provided by the individual monitored.

LEGEND
RPW: Respiratory protection noted in field sheet "as worn"
RPN: Respiratory protection noted in field sheet as "not worn"
RPO: Respiratory protection observed to be worn
FNR: Field sheet not adequately completed or returned
INV: Invalid sample
TBA: To be advised – analysis in progress

Note: Red shading denotes level is equal to or exceeds the shift adjusted regulatory limit.
Orange shading denotes level is between 50% & 100% OEL.
Green shading denotes level is below 50% OEL.

Table 2:
Personal Respirable Dust and Quartz Results (BMCSWC09 / Mining – Truck/Shovel & Coaling)
Day Shift – 27 October 2011

Surname	First Name	Occupation	Time Start	Time Finish	Activity	Location	Equipment Type & ID	PPE	Exp. Time (mins)	Resp. Dust (mg/m^3)	Resp. Quartz (mg/m^3)
s.73 irrelevant information		Operator	*1)* 06:30 *2)* 07:00 *3)* 10:42 *4)* 13:20 *5)* 15:45 *6)* 17:15	*1)* 07:00 *2)* 10:42 *3)* 13:20 *4)* 15:45 *5)* 17:15 *6)* 18:00	*1)* Prestart room, Light vehicle to Digger 58 *2)* Operating Digger 55 digging coal, crib *3)* Digging coal Digger 58, parked up emergency siren *4)* Walking digger, parked up emergency siren *5)* Top of ramp waiting for blast, fitters working on machine, left door open *6)* Walking back to pit, loading coal trucks	*1)* Toolah *2)* Toolah *3)* Toolah *4)* Toolah *5)* Toolah *6)* Toolah	*1)* Excavator-EX1158(58) *2)* FNR *3)* FNR *4)* FNR *5)* FNR *6)* FNR	*1)* RPN *2)* FNR *3)* FNR *4)* FNR *5)* FNR *6)* FNR	720	0.2	0.01
s.73 irrelevant information		Operator (verbal)	*1)* 06:50 *2)* 07:10 *3)* 11:00 *4)* 11:30 *5)* 13:30 *6)* 15:30	*1)* 07:10 *2)* 11:00 *3)* 11:30 *4)* 13:30 *5)* 15:30 *6)* 18:10	*1)* Travel from toolbox to crib hut *2)* Enter 93 digger cab *3)* Gone to crib *4)* Digger 93 *5)* A South crib hut *6)* Digger 93	*1)* A South *2)* Toolah *3)* A South *4)* Toolah *5)* A South *6)* Toolah	*1)* Light vehicle-4.9 *2)* Digger 93 *3)* Light vehicle-4.9 *4)* Digger 93 *5)* NA *6)* Digger 93	*1)* FNR *2)* FNR *3)* FNR *4)* FNR *5)* FNR *6)* FNR	720	0.1	<0.01
Coal Mining Safety and Health Regulation – 2001										3	0.1
Regulation Limit Adjusted for Current Shift Roster										2.8	0.09

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Table 2 (continued):
Personal Respirable Dust and Quartz Results (BMCSWC09 / Mining – Truck/Shovel & Coaling)
Day Shift – 27 October 2011

Surname	First Name	Occupation	Time Start	Time Finish	Activity	Location	Equipment Type & ID	PPE	Exp. Time (mins)	Resp. Dust (mg/m^3)	Resp. Quartz (mg/m^3)
s.73 irrelevant informati		Operator	*1)* 07:00 *2)* 10:30 *3)* 14:30 *4)* *5)* *6)*	*1)* 10:00 *2)* 14:00 *3)* 18:00 *4)* *5)* *6)*	*1)* Floor dozer coal *2)* Floor dozer coal *3)* Floor dozer coal *4)* *5)* *6)*	*1)* EX 58 floor *2)* EX 58 floor *3)* EX 58 floor *4)* *5)* *6)*	*1)* Dozer-DZ1176 *2)* Dozer-DZ1176 *3)* Dozer-DZ1176 *4)* *5)* *6)*	*1)* RPN *2)* RPN *3)* RPN *4)* *5)* *6)*	720	0.2	0.01
s.73 irrelevant informati		Digger (verbal)	*1)* FNR *2)* *3)* *4)* *5)* *6)*	*1)* FNR *2)* *3)* *4)* *5)* *6)*	*1)* FNR *2)* *3)* *4)* *5)* *6)*	*1)* FNR *2)* *3)* *4)* *5)* *6)*	*1)* FNR *2)* *3)* *4)* *5)* *6)*	*1)* FNR *2)* *3)* *4)* *5)* *6)*	720	0.2	0.03
s.73 irrelevant informati		RD Operator	*1)* 06:30 *2)* 08:20 *3)* 11:05 *4)* 11:45 *5)* 13:30 *6)* 17:20	*1)* 07:00 *2)* 11:05 *3)* 11:40 *4)* 13:30 *5)* 17:20 *6)* 18:00	*1)* Prestart *2)* Haul overburden from pit to dump *3)* Crib *4)* Haul overburden from pit to dump *5)* Emergency *6)* Haul from pit to dump	*1)* Prestart room *2)* 93 circuit *3)* A south crib hut *4)* 93 circuit *5)* FNR *6)* 93 circuit	*1)* NA *2)* Dump truck-RD1464(17) *3)* NA *4)* Dump truck-RD1464(17) *5)* NA *6)* Dump truck-RD1464	*1)* FNR *2)* FNR *3)* FNR *4)* FNR *5)* FNR *6)* FNR	720	0.2	0.03
Coal Mining Safety and Health Regulation – 2001										3	0.1
Regulation Limit Adjusted for Current Shift Roster										2.8	0.09

NOTE All activity / location /equipment data reported (where available) is based on information provided by the individual monitored.

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Green shading denotes level is below 50% OEL.

Table 2 (continued):
Personal Respirable Dust and Quartz Results (BMCSWC09 / Mining – Truck/Shovel & Coaling)
Toolah/EX 58 Floor/Circuits 58 & 93 – Day Shift – 27 October 2011

Surname	First Name	Occupation	Time Start	Time Finish	Activity	Location	Equipment Type & ID	PPE	Exp. Time (mins)	Resp. Dust (mg/m^3)	Resp. Quartz (mg/m^3)
s.73 irrelevant information		Operator	*1)* 07:00 *2)* 10:52 *3)* 12:20 *4)* 17:40 *5)* *6)*	*1)* 10:00 *2)* 12:20 *3)* 15:40 *4)* 18:15 *5)* *6)*	*1)* Leave main go-line to Toolah ramp. Standby 07:15-07:40, haul coal from pit to ROM gate 7, crib at main go-line *2)* Picked up from workshop, head to Toolah ramp, haul coal from pit to ROM gate 7 *3)* Walked from main go-line (Truck 15) to workshop, picked up Truck 8, head to Toolah ramp, haul coal to ROM gate 7, standby fire 12:55-15:30-17:40 *4)* Main go-line to Toolah pit, haul to ROM to main go-line *5)* *6)*	*1)* Toolah pit to ROM gate 7 *2)* Toolah pit to ROM gate 7 *3)* Toolah pit to ROM gate 7 *4)* Toolah pit to ROM gate 7 *5)* *6)*	*1)* Dump truck-RD1225(15) *2)* Dump truck-RD1225(15) *3)* Dump truck-RD1054(8) *4)* Dump truck-RD1054(8) *5)* *6)*	*1)* RPN *2)* RPN *3)* RPN *4)* RPN *5)* *6)*	720	0.1	<0.01
s.73 irrelevant informatio		RD Operator (verbal)	*1)* FNR *2)* *3)* *4)* *5)* *6)*	*1)* FNR *2)* *3)* *4)* *5)* *6)*	*1)* FNR *2)* *3)* *4)* *5)* *6)*	*1)* FNR *2)* *3)* *4)* *5)* *6)*	*1)* FNR *2)* *3)* *4)* *5)* *6)*	*1)* FNR *2)* *3)* *4)* *5)* *6)*	720	0.1	0.01
					Coal Mining Safety and Health Regulation – 2001					3	0.1
					Regulation Limit Adjusted for Current Shift Roster					2.8	0.09

NOTE All activity / location /equipment data reported (where available) is based on information provided by the individual monitored.

LEGEND
RPW: Respiratory protection noted in field sheet "as worn"
RPN: Respiratory protection noted in field sheet as "not worn"
RPO: Respiratory protection observed to be worn
FNR: Field sheet not adequately completed or returned
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Green shading denotes level is below 50% OEL.

Table 2 (continued):
Personal Respirable Dust and Quartz Results (BMCSWC09 / Mining – Truck/Shovel & Coaling)
Day Shift – 27 October 2011

Surname	First Name	Occupation	Time Start	Time Finish	Activity	Location	Equipment Type & ID	PPE	Exp. Time (mins)	Resp. Dust (mg/m^3)	Resp. Quartz (mg/m^3)
s.73 irrelevant information		RD Operator (verbal)	1) 07:15 2) 09:55 3) 10:35 4) 11:40 5) 13:50 6) 17:35	1) 09:50 2) 10:30 3) 11:40 4) 13:50 5) 17:30 6) 18:10	1) Hauling coal from pit to ROM 2) Walk to and from crib hut for crib 3) Hauling coal from pit to ROM 4) Hauling coal from pit to ROM 5) Sitting at A south crib room/main 6) Hauling coal from pit to ROM	1) Circuit 58 to ROM 2) Main go-line to main crib 3) Circuit 58 to ROM 4) Circuit 58 to ROM 5) A south crib room/main 6) Circuit 58 to ROM	1) Rear dump truck-RD1054(8) 2) NA 3) Rear dump truck-RD1054(8) 4) Rear dump truck-RD1055(9) 5) Rear dump truck-RD1055(9) 6) Rear dump truck-RD1055(9)	1) FNR 2) FNR 3) FNR 4) FNR 5) FNR 6) FNR	720	0.1	<0.01
s.73 irrelevant information		Operator	1) 07:00 2) 08:13 3) 09:53 4) 10:36 5) 12:55 6) 15:56	1) 08:12 2) 09:53 3) 10:35 4) 12:55 5) 15:55 6) 18:30	1) Prestart at workshop, return to main crib area until RD ready to go 2) EX58 circuit 3) Walk to crib, walk back to truck 4) EX1158(58) circuit 5) Emergency delay, fire 6) Walk	1) Main industrial blocks 2) Toolah south, haul road, ROM, return to Toolah 3) Main industrial area 4) From main to Toolah south, haul road to ROM, return to Toolah 5) Toolah intersection 6) ROM to main crib room	1) NA 2) Rear dump truck-RD1163(11) 3) NA 4) Rear dump truck-RD1163(11) 5) Rear dump truck-RD1163(11) 6) NA	1) RPW 2) RPW 3) RPW 4) RPW 5) RPW 6) RPW	720	0.1	<0.01
Coal Mining Safety and Health Regulation – 2001										3	0.1
Regulation Limit Adjusted for Current Shift Roster										2.8	0.09

NOTE All activity / location /equipment data reported (where available) is based on information provided by the individual monitored.

LEGEND
RPW: Respiratory protection noted in field sheet "as worn"
RPN: Respiratory protection noted in field sheet as "not worn"
TBA: To be advised – analysis in progress
FNR: Field sheet not adequately completed or returned
INV: Invalid sample **RPO**: Respiratory protection observed to be worn

Note: Red shading denotes level is equal to or exceeds the shift adjusted regulatory limit.
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Green shading denotes level is below 50% OEL.

Table 3:
Personal Respirable Dust and Quartz Results (BMCSWC12 / CHPP – Operations)
Day Shift – 27 October 2011

Surname	First Name	Occupation	Time Start	Time Finish	Activity	Location	Equipment Type & ID	PPE	Exp. Time (mins)	Resp. Dust (mg/m^3)	Resp. Quartz (mg/m^3)
s.73 irrelevant information		Operator	1) 08:00 2) 3) 4) 5) 6)	1) 16:45 2) 3) 4) 5) 6)	1) Traffic controller 2) 3) 4) 5) 6)	1) Gate 4 2) 3) 4) 5) 6)	1) Dump truck, water truck, car, bus 2) 3) 4) 5) 6)	1) RPN 2) 3) 4) 5) 6)	720	0.1	<0.01
s.73 irrelevant information		Plant operator	1) 07:30 2) 11:00 3) 11:30 4) 13:30 5) 6)	1) 11:00 2) 11:30 3) 13:30 4) 16:00 5) 6)	1) Directing concrete trucks 2) Lunch room 3) Gate post 1 4) CPP Muster area, emergency 5) CPP Traffic control 6)	1) CPP 2) Compound 3) CPP 4) CPP 5) CPP Gate 1 6)	1) Ground, G8427 2) NA 3) Ground 4) Ground 5) Ground 6)	1) RPW 2) RPN 3) RPW 4) RPW 5) RPW 6)	720	0.1	<0.01
s.73 irrelevant information		Trades Assistant	1) 07:00 2) 07:30 3) 11:00 4) 14:00 5) 6)	1) 07:30 2) 11:00 3) 14:00 4) FNR 5) 6)	1) Prestart 2) Spotting gate 1, CPP area 3) Putting up signs 4) Emergency 5) 6)	1) Crib sheds 2) CPP gate 1 3) York lay down 4) Crib 5) 6)	1) FNR 2) FNR 3) FNR 4) FNR 5) 6)	1) RPN 2) RPN 3) RPN 4) FNR 5) 6)	720	0.1	<0.01
Coal Mining Safety and Health Regulation – 2001										3	0.1
Regulation Limit Adjusted for Current Shift Roster										2.8	0.09

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Green shading denotes level is below 50% OEL.

Table 3: (continued)
Personal Respirable Dust and Quartz Results (BMCSWC12 / CHPP – Operations)
Day Shift – 27 October 2011

Surname	First Name	Occupation	Time Start	Time Finish	Activity	Location	Equipment Type & ID	PPE	Exp. Time (mins)	Resp. Dust (mg/m^3)	Resp. Quartz (mg/m^3)
s.73 irrelevant information		Carpenter	1) 08:00 2) 3) 4) 5) 6)	1) 16:00 2) 3) 4) 5) 6)	1) Making shutters 2) 3) 4) 5) 6)	1) CPP 2) 3) 4) 5) 6)	1) FNR 2) 3) 4) 5) 6)	1) RPW 2) 3) 4) 5) 6)	720	0.1	<0.01
s.73 irrelevant information		Carpenter	1) 07:30 2) 3) 4) 5) 6)	1) 16:45 2) 3) 4) 5) 6)	1) Formwork 2) 3) 4) 5) 6)	1) CPP 2) 3) 4) 5) 6)	1) Hand tools 2) 3) 4) 5) 6)	1) RPN 2) 3) 4) 5) 6)	720	0.1	<0.01
s.73 irrelevant informatio		Carpenter	1) 07:00 2) 3) 4) 5) 6)	1) 16:30 2) 3) 4) 5) 6)	1) Formwork shuttering 2) 3) 4) 5) 6)	1) CPP 2) 3) 4) 5) 6)	1) Hand tools 2) 3) 4) 5) 6)	1) RPN 2) 3) 4) 5) 6)	720	0.1	<0.01
Coal Mining Safety and Health Regulation – 2001										3	0.1
Regulation Limit Adjusted for Current Shift Roster										2.8	0.09

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RPW: Respiratory protection noted in field sheet "as worn"
RPN: Respiratory protection noted in field sheet as "not worn"
RPO: Respiratory protection observed to be worn
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Green shading denotes level is below 50% OEL.

Queensland Government
Department of Mines and Energy

Mackay District Office
P.O. Box 1801, MACKAY QLD 4740
Phone: (07) 4999 8512, Fax: (07) 4999 8519

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
South Walker Creek	21,350	BHP Mitsui Coal Pty Ltd		Central	28/11/2007

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

This report forms part of the Mine Record under s68 of the Coal Mining 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 with Mr s.73 irrelevant Electrical Engineering Manager, an inspection of the workshop, dragline, main substations and overhead lines was made. During discussions on the power distribution system a request was made to supply to the Inspectorate a copy of the high voltage single line diagram for the site, a copy of the power system analysis results (single line diagram is acceptable), a copy of the touch and step potential calculations and a schedule showing when arc flash energy hazards will be assessed and associated controls introduced.

During an inspection of the workshop it was observed that all rear dump trucks were isolated, tagged and chocked whilst persons were working on them. The housekeeping in and around the workshop was to a satisfactory standard. No electrical defects were observed.

Whilst on dragline DRE28, which was operating at the time of inspection, s.73 irrele advised that limiting dust in the house was an issue. Some build up of dust was observed around the MG sets. The use of different filtration systems at other mines is being monitored with a view to modifying the current system in use on this dragline. In the meantime cleaners are bought in nearly every week to undertake machine cleaning. This is commended. At present the facility to trip the substation from the cab of the dragline is disabled due to problems with slip ring maintenance. This should be reinstated as soon as practicable. The provision of adequate isolation facilities for activities such as bucket work on the machine were discussed. s.73 irrelev advised that both control isolation and whole current isolation of the generator field supplies is undertaken. A copy of the risk assessment and associated procedures for work on dragline the bucket is to be forwarded to the Inspectorate.

The dragline substation TSS-SWC2 was well maintained. Vegetation is encroaching upon the 66kV overhead power line corridor and it was observed in close proximity to the line in one area. This is to be rectified.

The 66/11kV switchyard and the 66kV switchyard are owned and operated by Ergon. The 11kV lines are also owned and operated by Ergon. Although owned by Ergon the control of access under these lines on the lease needs to be undertaken by the mine.

In the preparation plant area inspections of MCC #1,#2,#3 and #6 were made with s.73 irrelevant ir s.73 irre Shift Electrician, and s.73 irrelevant inforn Mechanical Maintenance Planner. The MCCs were maintained to a satisfactory standard. Some of the crash bar door openers were difficult to operate. s.73 irreleva undertook to correct this immediately. It was observed that helmets for arc

flash hazard protection are located in substations. The level of the arc flash hazard is to be determined and a copy of the results forwarded to the Inspectorate. A single line diagram and touch and step potential study results are to be forwarded to the Inspectorate.

The replacement of the crushers and raw coal conveying system, which is about to commence, will greatly improve the safety standards in and around these areas which now suffer from excessive spillage and temporary installation standards. Where non UV protected cables are located in areas subject to sunlight they are to be adequately protected.

It is encouraging to observe the fitting of local control stations throughout the newer areas of plant and the retrofitting to the older items of plant. Spillage throughout this plant is an ongoing issue but it is improving. This was supported further with information supplied by s.73 irrelevan

In brief discussions with s.73 irrelevant informa BMA Contracts Manager, the issue of overhead power line clearing was raised. Information was provided to s.73 irrelevant that there were other minor issues and that some information was to be supplied to the Inspectorate.

Number	Substandard Condition or Practice	Due Date
1	**Fault Level and Touch and Step Study**	**18/01/2008**

Provide to the Inspectorate a copy of the mine's fault study, touch and step potential calculations and a high voltage single line diagram.

Number	Substandard Condition or Practice	Due Date
2	**Arc Flash Hazard Study and Controls**	**18/01/2008**

Provide to the Inspectorate a schedule for the completion of Arc Flash Hazard studies and the associated controls.

Number	Substandard Condition or Practice	Due Date
3	**Dragline Isolation Procedure**	**21/12/2007**

Provide to the Inspectorate a copy of the risk assessment and isolation procedures for undertaking bucket work on the dragline.

Number	Substandard Condition or Practice	Due Date
4	**Overhead power line clearance**	**21/12/2007**

Clear 66kV overhead power line corridor of vegetation likely to encroach on live conductors.

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

Peter Herbert
Inspector of Mines
Central Region

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Queensland Government
Natural Resources, Mines and Water

Mackay District Office
P.O. Box 1801, MACKAY QLD 4740
Phone: (07) 4999 8512, Fax: (07) 4999 8519

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
South Walker Creek	21,350	BHP Mitsui Coal Pty Ltd		Central	29/09/2003

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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Today in company with Mick McWilliam, Inspection Officer - Mechanical, we met with s.73 irrelev s.73 irrelevant info SSE and s.73 irrelevant informa Project Manager for Thiess, to examine the investigation documentation associated with an incident within the dragline work area, that occurred at 9.00pm on Wednesday 24th September 2003. We were advised that SSHR's were not on site.

Documents sighted included, the incident report, incident photos, witness statement, ICAM process documentation and corrective actions identified as a consequence of the ICAM process.

A number of issues relating to the incident were discussed, including consideration to additional restaint of the dead end of the dump rope when attempting to thread the end back through the socket after creating the loop for wedge. This can be achieved by attaching a leader line to the dead end and feeding through the socket and applying sufficient tension to assist in the effective deployment into the socket, thereby elliminating any possibility of the uncontrolled movement of the potential energy created by forming the loop.

We were further advised by s.73 irrelevant information of their proposed action to utilise both the knowledge base that exists within Thiess Operations and also within the BMA group to develop a revised procedure and the consequental implementation of the training in the procedure to include input from the dragline jewellery supplier representative.

A full report will be forwarded to the Inspectorate upon completion.

s.73 irrelevant informa later detailed the progress to date on the remedial work being conducted by G & S within the Train Load Out Tunnel to stabilise the structural problems currently being experienced. A site inspection of these activities with s.73 irrelevant inform indicated that work is progressing well.

A number of issues were raised with the G & S site supervisor, namely:- failure to ensure that safety clips are installed in ALL compressed air line couplings (where such provision exists), the lack of any documentation regarding the determination of the most effective location of the portable atmospheric monitor (Mini Gas 4) and in the absence of any challenge gas bieg available, the requirement to Auto Zero the instrument in "known fresh air" at the commencement of each shift, to ensure that readings indicated on the instrument are indicative of the actual atmosphere being monitored. s.73 irrelevant inform gave an undertaking to follow up on

these issues.

During this inspection the SSE was advised of an incident occuring within the mining opertions.

In company with s.73 irrelevant inform and Mr McWilliam we travelled to the incident site.

A CAT scraper had been performing top soil removal in conjunction with two other scrapers in the circuit . A loaded scraper slowed due to poor visibility from the dry and dusty conditions, and the following loaded scraper collided with the rear of the lead scraper, mounting the rear right tyre and subsequently came to rest on its side. No personal injury was sustained, with only minor damage resulting to the machines involved.

Mr McWilliam took some photos of the incident site and the site was secured, surveyors summoned to record incident site details.

All the parties then relocated to the conference room to participate in an ICAM Investigation. Mr McWilliam and myself sat in on this process and observed that it was conducted in a very professional manner with good input by all parties. A risk assessment was to be conducted following the ICAM investigation, for the retrieval of the sraper s.73 irrelevant inform undertook to forward a full report of the incident to the inspectorate upon completion.

Bruce McKinnon
Inspection Officer
Central Region

Mick McWilliam
Inspection Officer
Region

Queensland Government
Natural Resources, Mines and Water

Mackay District Office
P.O. Box 1801, MACKAY QLD 4740
Phone: (07) 4999 8512, Fax: (07) 4999 8519

Mine Name	File No.	Operator	Activity Type	Region	Activity Date
South Walker Creek	21,350	BHP Mitsui Coal Pty Ltd		Central	30/06/2004

Vision: Our Industries Free of Safety and Health Incidents

Mine Record Entry

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An inspection and familiarisation tour of the mine's operation areas including the workshop, dragline, preparation plant and train loadout, was made. The SSE s.73 irrelevant informatic outlined the operational set up of the mine and the relationship between the owner and contractors.

Accompanied by s.73 irreleva a check of the workshop area showed a good standard of maintenance of the electrical items. Dragline DE28 was operating whilst the inspection was carried out. The electrical equipment was maintained to a good standard. Minor dust ingress into switchrooms was evident but the regular maintenance checks included cleaning the installations. On inspection of the dragline transformer it was observed that one of the doors to the switchgear area had been left open. To prevent unauthorised entry into such areas access doors are to be securely closed. Since the earth mat is common to both the low and high voltage sides of the transformer, checks of the design and installation are to be made to ensure the earthing system is adequate to ensure touch and step potentials are kept within safe limits.

With s.73 irrelevant inf Preparation Plant Superintendent and s.73 irrelevant inform Electrical Foreman an inspection of the motor control centres in the preparation plant area, showed adequate standards of maintenance were being maintained. At the time a new rejects conveyor was being installed. This will help reduce the congestion and vehicle interaction in and around the raw coal areas. Information was provided to the effect that efforts to improve the housekeeping in and around the plant were ongoing with some upgrades planned. This needs to be continued as there are several areas that suffer from spillage and coal build up. This was particularly evident in some of the cable trays around the plant area. This is to be rectified and prevention measures put in place.

The areas in and around the train loadout area were to a satisfactory standard.

Upon an invitation from the SSE the monthly site safety meeting was attended. This involved persons from all areas of the mine. The stated intent of zero harm and putting people before production and profit is applauded.

Peter Herbert
Inspector of Mines
Central Region

Queensland Government

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P.O. Box 548, ROCKHAMPTON QLD 4700
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Mine Name	Mine ID	Operator	Activity Type	Region	Activity Date
Capcoal Surface Coal Mine (Ex German Creek)	MI00553	Anglo Coal (Capcoal Management) Pty Ltd	Inspection	Central	30/07/2014

Vision: Our Industries Free of Safety and Health Incidents

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This report forms part of the Mine Record under s68 of the Coal Mining Safety and Health Act 1999. It must be placed in the Mine Record and displayed on Safety Notice Boards.

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

Today I attended Capcoal Surface Mine to conduct an inspection of the mine's operations. Upon my arrival at site I was met by s.73 irrelevant informa (SSE), s.73 irrelevant information (SHE Manager), and we discussed the following items:-

- I enquired as to where the mine was at with the merging of Foxleigh and Capcoal Surface mines, and was informed of the following:-

1. Representatives from both sites are reviewing elements of the Safety & Health Management Systems, and this is scheduled to be completed by December 2014. The training and implementation of the one SHMS is scheduled to be completed by the end of March 2015.
2. Both mines are still operating their own Emergency Response resources, but there are plans to amalgamate these resources when it becomes one mine running under one SHMS.
3. Open Cut Examiner coverage is status quo, with OCE's dedicated to each mine, and there are no plans at this point in time for this to change.

- I informed s.73 irrelevant information of the incident at another open cut coal mine in the Bowen Basin where an explosion occurred inside an overburden drill's cabin, and how this resulted in the drill's operator being injured and hospitalised. I also made them aware of the hazards associated with hydrocarbon refrigerant gases being used in air conditioning systems, and encouraged the mine to add hydrocarbon refrigerant gases to the list of site Prohibited Items.
- I was informed that neither Site Safety & Health Representative was on shift at work today, and that they had not been informed of my presence on site.
- I enquired about the mine's current safety and health performance, and was informed the mine is currently achieving or bettering the site's injury frequency rate targets.
- I read through the Drug and Alcohol testing results for June 2014, and noted that there had been 111 coal mine workers tested during the month. These people had been tested as a result of random selection, being challenge, and post incidents.

s.73 irrelevant informa (Mining Manager) and myself then conducted an inspection of some of the

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mining operations, and I observed the following items of notice:-

- All roads we travelled on had been maintained to a reasonable standard, and dust suppression was adequate. There is good separation of light vehicles and heavy equipment on mine roads in many areas, and the use of centre bunding on site is of a high standard.
- Coal mining operations were running in EX 3 Pit. There was a fault apparent in the highwall to the west of the mining face, and I was informed that this highwall was being monitored by a Slope Stability Radar. I was also told that coal mining operations were working under a risk assessment when in this area of the fault.
- We inspected the W Central Pit in which coal mining was to commence in the near future, and pit conditions appeared satisfactory.
- At the Shovel 1 crib hut there was a 240 volt refrigerator being used that had an out of date test tag fitted. s.73 irrelevant informa committed to having this rectified asap.

s.73 irrelevant information (Maintenance & Engineering Manager) and myself then conducted an inspection of the Dragline 102 shutdown which was being carried out by G&S Engineering Services, and I observed the following items of notice:-

- When we entered the Dragline 102 shutdown area there were elements of the G&S Engineering Services' Safety & Health Management System on display on notice boards. I stressed that there can only be one single SHMS on site, and everyone must be working under it.
- There was some lifting equipment that never had a current test tag fitted, namely a Come-along (that also had a damaged hook safety catch), a sling, and a D shackle.
- General housekeeping in the dragline house was of an ordinary standard, and I encouraged the G&S Engineering Services people to conduct regular housekeeping exercises.
- Inside the dragline house there was a Come-along attached to one of the mast's main pendant ropes with a sling, and it was apparent it had been used for lifting. I pointed out that this mast pendant rope was not designed as a lifting point, and therefore should not be used for such.
- I was impressed with the overall set up of the shutdown area, it was well laid out with consideration given to the various forms of interactions taking place within.

Back at the Lake Lindsay offices I noticed that the Maintenance & Engineering safety board contained a lot of out of date information, and it was apparent it is not being kept up to date. There were MRE's 12mths old on display, as well as Safety Bulletins that were 18mths old. The last site statistics displayed on monthly Safes carried out was 4mths old. I encourage the mine to check all safety boards on site, and ensure they are kept up to date.

Prior to leaving site I held a close-out meeting with s.73 irrelevant informa discussing all of the above.

I would like to thank the team at Capcoal Surface Mine today for their time, and the information they shared with me.

Creswick Bulger
Inspector of Mines
Central Region