

OCE Reporting Tool BMA - BHP Mitsubishi Alliance

The Problem and Initiative

OCE reporting is a legislated requirement to ensure hazard communication between the out going and on coming Open Cut Examiner. It is stipulated in the Coal Mining Safety and Health Regulation 2001 that these reports are kept in the Mine Record (s106-3(a)) and the Coal Mining Safety and Health Act 1999 requires the Mine Record be made available to all Mine Workers (s68 -4). The standard OCE reporting template used at the majority of surface coal mines are hand written or typed and simply convey from one OCE to the next the observed condition and actions taken to rectify unacceptable risk in the work areas inspected during the previous shift. While this satisfies the legislated requirement for OCE reporting, hand written OCE reports are unable to effectively retain knowledge of existing hazards in areas that may not have been active for several shifts or longer. The burden of knowledge for all working areas then falls onto the OCE, Supervisors and Mine Workers which is impractical and potentially high risk, as was the case of a near miss at Norwich Park where a previously reported and managed geotechnical hazard was forgotten due to the work area being inactive for an extended period.

The Solution

While some sites started developing site specific OCE reporting databases a BMA wide OCE Reporting Tool (OCERT) would offer a consistent OCE reporting process at all sites that, satisfies the legislated requirements under the Coal Mining Safety and Health Act (1999) and Regulations (2001) and, effectively communicates hazard information to the Mine Workers and retains knowledge of all previously reported hazards.

The BMA OCE Reporting Tool has two software components, a field application and a web application. For mobility the project chose the Panasonic CF-19 Toughbook and suitable car mounting kits. While the field application can be used on any PC the Toughbook offers touch screen capability, large screen and near normal size key pad and has a built in GPS.

The field application allows the Open Cut Examiner to compile the end of shift report while in the field, attach photographs, mud maps and GPS coordinates to each observation and then complete the end of shift report when back in the office at the end of shift. The OCE can also view previously logged details of all unresolved observations or hazards while in the field. On completion of the shift report a hard copy printed report is generated that is filed as part of the mine record and posted on notice boards. Once the shift is ended an email of the shifts Key Points is generated automatically and distributed to all mail users at the respective sites. A Key Point HTML file is also automatically generated at close of shift which can be used for muster area screens. The field application also allows multiple examiners to be entering data on the one mine site.

Panasonic CF-19 Toughbook



Permanent Vehicle Mount for Toughbook



OCE Reporting Tool Field Application – Data Entry

BMA OCE Field System Logged On User – Andrew Johnstone Role – Global Administrator

File Edit Tools Windows Help **TEST MODE**

Observation Details

ID: Area: Type:

Location: GPS Easting: Resolved:

Direction: Northing:

Inspection Details

Shift: Actions / Comments:

Time: **Affected work areas are isolated; Awaiting Geotechnical Assessment**


Condition:

Approx. Extent (m): Monitoring Rqd : Access:

Severity: JSA:

Key Point:

Key Point Text:

Photos: 

OCE Reporting Tool Web Application


BMA **OCE Reporting System** **TEST SITE**

Key Points **Search** **Advanced**

Mine: Shift: DAY

Key Points


- HMP working in Ramp 8 and R10S
- Misfires in R6N, R10 and R14
- R1 GMS North of Bridge Highwall Cracking / Instability Call up Operator
- R14 GLS North of Bridge Floor Heave Approach with caution
- R2 GLS North of Ramp Highwall Cracking / Instability Restricted Access

 R2N Highwall Cracking

Version : 1.4.1
Developed by i.Power Solutions Pty Ltd - <http://www.ipowersolutions.com.au>

The OCE Reporting Tool web application is available to all BMA personnel with Intranet access. The web application allows any mine worker to view the key points from previous shifts and compile mine site and work area specific hazard searches. Advanced users of the web application are able to create more detailed searches and export the search data for statistical and spatial assessment.

OCE End of Shift Report – A3 hard copy is part of Mine Record.



Open Cut Examiners - Inspection Report

GRM 1 14/04/2008 DAY

Outgoing Examiner (This Shift)
 Name: Andrew Johnstone
 Signature: _____
 Date: 14/04/2008
 Time: 13:38

Incoming Examiner (Next Shift)
 Name: _____
 Signature: _____
 Date: ___/___/2008
 Time: _____

Key Points:

| | |
|---|--|
| RMP working in Ramp 8 and R10S R1 GLS North of Bridge Highwall Cracking / Instability Call Up Operator R2 GLS North of Ramp Highwall Cracking / Instability Restricted Access | Mistres in R8N, R10 and R14 R14 GLS North of Bridge Floor Heave Approach with caution |
| | |
| | |
| | |

| Area | Status | Visited | Time | Area | Status | Visited | Time | Area | Status | Visited | Time | Area | Status | Visited | Time |
|-----------------------|--------|---------|------|---------------------|--------|---------|------|------------------|------------|---------|-------|-----------------------|--------|---------|-------|
| Airstrip Haul Road | Open | No | | All Areas | Open | No | | Back Access Road | Restricted | No | | Goonyella CPP | Open | No | |
| Goonyella Haul Road | Open | No | | R0 | Open | No | | R1 | Open | Yes | 13:29 | R10 | Closed | No | |
| R12 | Open | No | | R13 | Open | No | | R14 | Open | Yes | 13:30 | R2 | Closed | Yes | 13:24 |
| R21 | Closed | No | | R22 | Closed | No | | R23 | Closed | No | | R24 | Closed | No | |
| R25 | Closed | No | | R27 | Closed | No | | R3 | Closed | No | | R32 | Closed | No | |
| R4 | Closed | No | | R6 | Closed | No | | R8 | Closed | No | | R420 TOWERS | Closed | No | |
| Riverside CPP | Closed | No | | Riverside Haul Road | Closed | No | | SHECON | Closed | No | | Twin Tanks Stockpiles | Closed | No | |
| Underground Stockpile | Closed | No | | | | | | | | | | | | | |

| Area | Location | Condition | Comment / Action | Severity | JSA | Access |
|------|----------|---------------------------------|---|----------|-----|-----------------------|
| R1 | GLS | Rock fall / Excessive Ravelling | Area Specific JSA in place, Affected work areas are isolate | 3 | Yes | Call Up Operator |
| R14 | GLS | Floor Heave | Awelling Geotechnical Assessment, Monitoring in place, Monitoring in place further movement observed, | 3 | No | Approach with caution |
| R2 | GLS | Highwall Cracking / Instability | Affected work areas are isolated, Awelling Geotechnical Assessment | 4 | No | Restricted Access |

OCE Report
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Benefits/Effects

The Open Cut Examiner can access previously reported information, including photos and mud maps, on observed hazards while in the field.

Touch screens and drop down lists allow the OCE to generate hazard observations more easily with minimal typing.

Existing or previously reported hazards are retained and the OCE simply adds new comments to track observed changes and required actions to the existing observation compiling a history of how the hazard was managed.

End of Shift OCE reporting can be compiled during the shift while in the field allowing report generation at end of shift to be a simple review and print process when back in the office.

The generated end of shift report satisfies the legislated requirements under the Coal Mining Safety and Health Act (1999) and Regulations (2001)

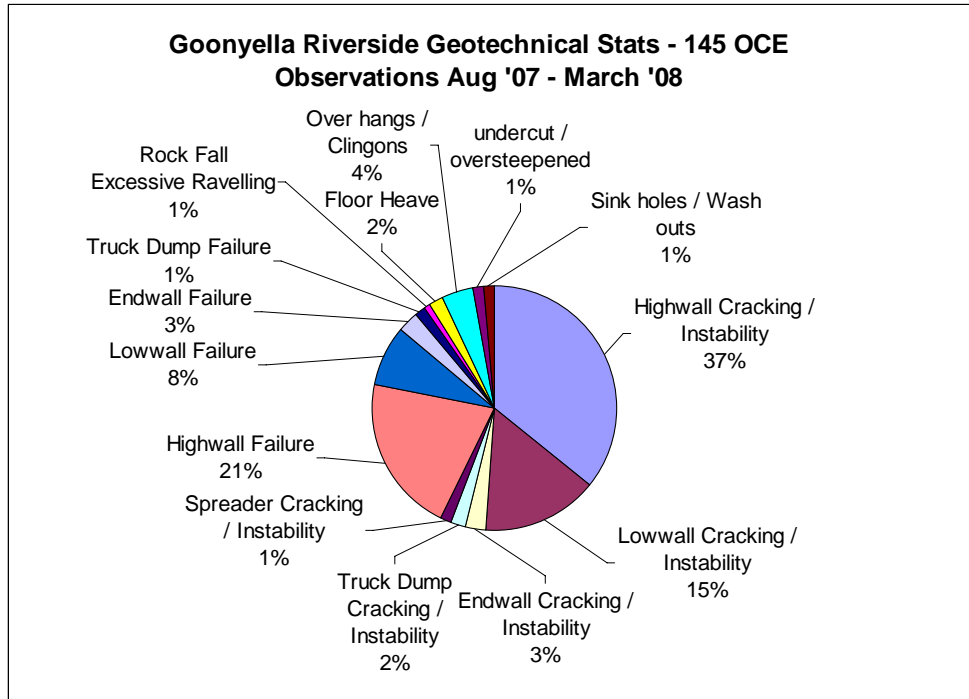
Effective communication to all mine workers of the Open Cut Examiners Key Points from the shift is achieved through automatically generated Email at close of shift, automatically generated HTML files that can be viewed on muster area screens at close of shift, ability to compile work area specific observed hazard searches.

Allows management to quickly review previous shifts activities and issues.

Allows Mine Engineers to review pit performances and determine need for design review for next strip.

The OCE Reporting Tool offers the ability to statistically and spatially assess observed hazards in any given work area so that improvements in Geotechnical and Operational Management can be easily identified. Statistical and spatial analysis of historically observed hazards allows improvement and safety strategies to be more focused.

Example of statistical analysis



A BMA wide approach to developing the OCE Reporting Tool allowed several participating sites to contribute funding to develop a reporting tool that surpasses any such database that any of the sites could have developed separately. The field and web applications are fully supported IT software systems.

Transferability Across Industry

Replacing hand written reporting with a functional database matched to an appropriate logging device could be easily replicated throughout industry and not just for the OCE End of Shift Reporting. Underground Deputy Reports, for example, have been discussed as having potential for a similar reporting tool.

Innovation

Designing an appropriate field application that allows the OCE or multiple OCEs to easily enter and retrieve relevant observation data in the field quickly and with minimal typing was key to the Open Cut Examiners acceptance of the tool. While including all the data entry and retrieval functionality was challenging, the task was further complicated by the underlying need for the field application to be simple enough for virtually first time computer users to be easily trained.