Health & Safety

Providing Essential
Materials for Britain

QUARRY PRODUCTS ASSOCIATION

Best Practice and Innovation :

. . . . the challenge of communication

Martin Isles

Director, Health and Safety, QPA

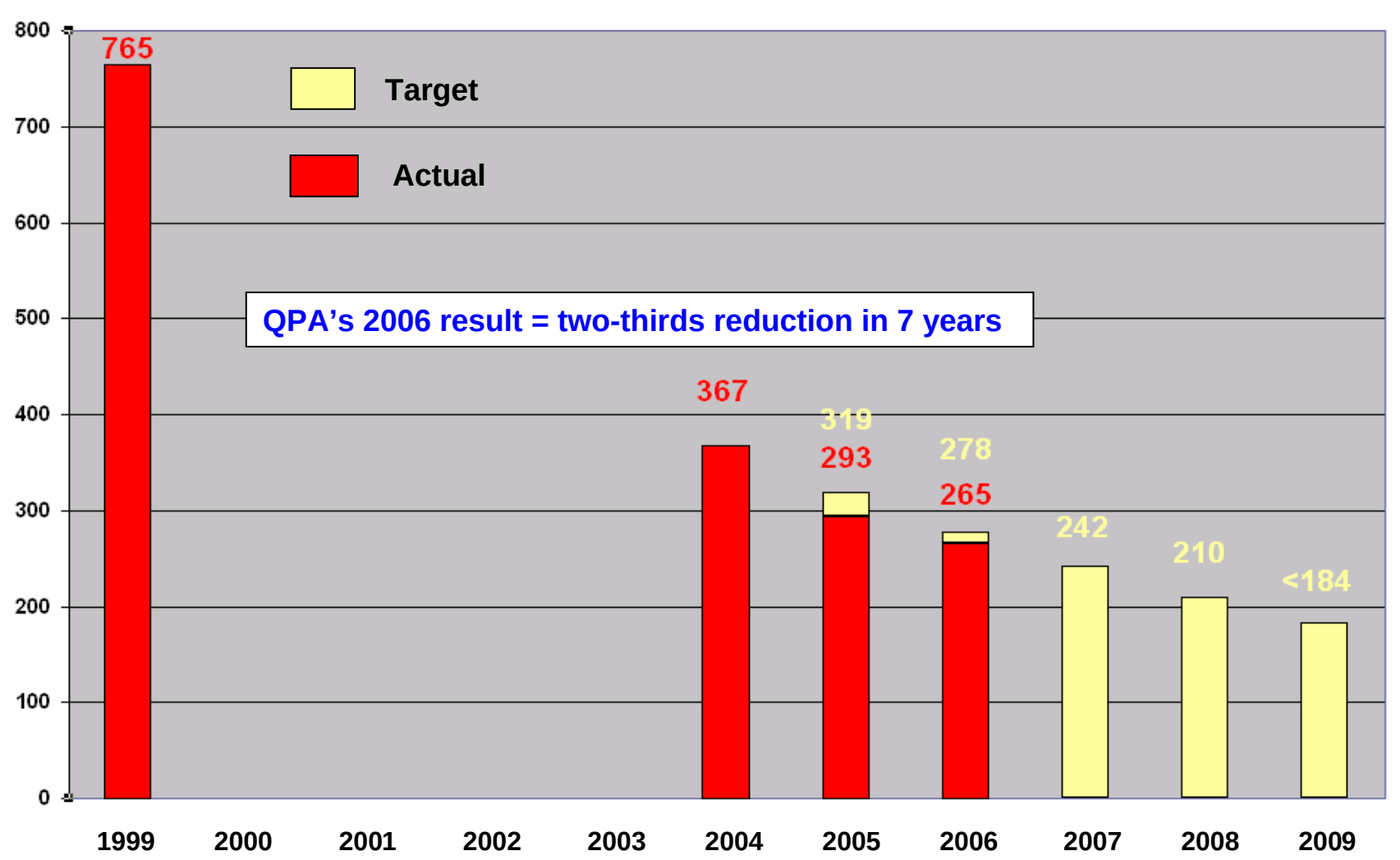
21 April 2007 - Munich

Atlantic Alliance

QPA Hard Target : *A 10 year view*

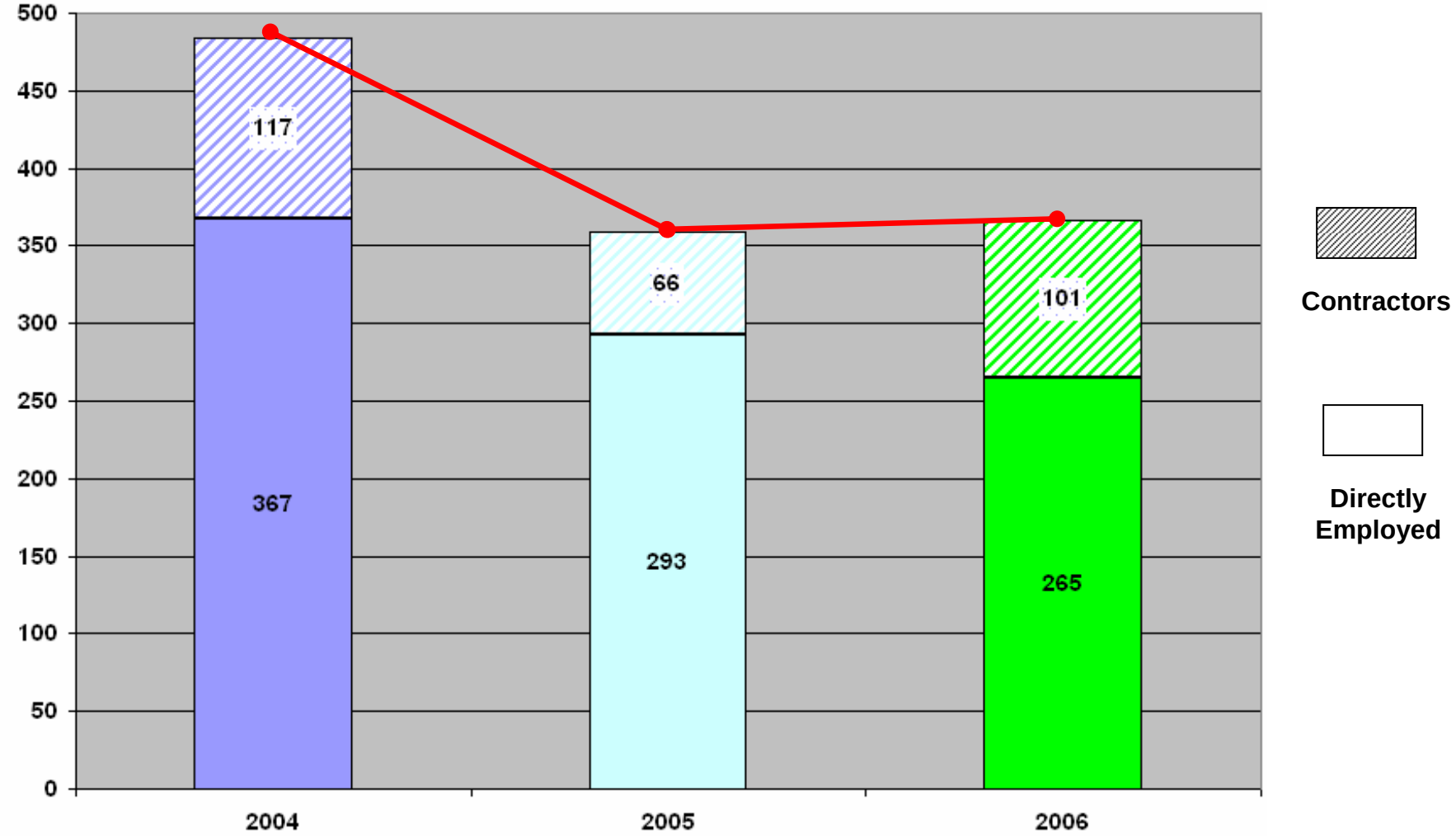
HSE Reportable Injuries (Direct Employees)

Overarching expectation: ZERO INCIDENTS



All Activities (total workforce)

HSE reportable injuries



Key Factors . . . .

- **Leadership**
- **Behavioural safety**
- **Competent workforce**

. . . . all of which need . . . .

GOOD COMMUNICATIONS!

need to visit...

www.safequarry.com

What is it?

Web-based database of:

- Best practice guidance
- Incident alerts
- Hot topics
- Toolbox talks
- Email alerts.

www.safequarry.com

For whom?

You, your colleagues – *anyone!*

SHARING GOOD PRACTICE

www.safequarry.com

HEALTH & SAFETY

Across the quarrying and quarry products industry

Welcome to safequarry.com

dedicated to sharing health and safety best practice across the UK quarrying industry

Through the use of automated incident alerts, best practice case studies and toolbox talks, we aim to provide a dynamic focus on everything to do with health and safety. The website covers such issues in quarries, ready-mix concrete, mortar and asphalt plants, contract surfacing sites and slag, lime, marine and recycling sites. It enables personnel at all levels in all types of organisations to learn from the experiences and innovation of others.

Continuing Professional Development CPD material

Find out more about safequarry.com

Click the photo to run our video introduction

Register for free to set up an information basket, and receive latest:

• incident alerts • toolbox talks • hot topics

Register

Help in training your team

Review toolbox talks

Sharing best practice

Solutions to common problems

This site has been produced by the Quarry Products Association, its members and partners and supported by the Mineral Industry Sustainable Technology (MIST) Program.

Best Practice

Incident Alerts

Hot topics

Toolbox talks

Home | About this site | Best practice | Incident alerts | Hot topics | Toolbox talks | Links

Best practice

Register

The Best Practice entries are a compilation of solutions that companies have applied to minimise and, where possible, eliminate health and safety risks arising from their daily operations. The ideas and innovative approaches are often very simple and could readily be applied to a range of common industry problems. The entries have been selected from the Quarry Products Association's annual Health and Safety Best Practice Awards.

To find out more about submitting an entry to the Quarry Products Association's Health and Safety Awards, click here.

To return to all the Best Practice solutions on the database simply press the 'Search' button without selecting any criteria.

To search on a date range you must place a tick in the check box first otherwise any supplied date range will be ignored.

Publication Year ☐ From: 2007 To: 2007

Search by activity: Production and Processing

Search by location: Quarry

Enter upto 6 keywords separating each with a space

Search by keywords (max six)

Entries with Video ☐

Entries - Prize Winners ☐

Enter all or part of a title.

Search by Title

Search

Publication Year ☐ From: 2007 To: 2007

Search by activity: Production and Processing

Search by location: Quarry

Enter upto 6 keywords separating each with a space.

Search by keywords (max six)

Entries with Video ☐

Entries - Prize Winners ☐

Enter all or part of a title.

Search by Title

Search

Clicking an underlined column heading sorts the results by that column and toggles the sort between ascending and descending order.

32 Best Practice Article(s) returned

Title	Activity	Location	Year	Prize	Video	
Lifting drill rig percussion hammers	Production and Processing	Quarry	2006	Y	Y	
Modified return roller bracket	Production and Processing	Quarry	2001	N	N	
New hopper to remove semi-dry concrete sticking	Production and Processing	Quarry	2006	N	N	
Plough removal of snow from conveyer belts	Production and Processing	Quarry	2005	N	N	
Preventing burner fuel fires	Production and Processing	Quarry	2001	N	N	
Reduced glare for crusher operator	Production and Processing	Quarry	2001	N	N	
Remote generator at readymix plant	Production and Processing	Quarry	2006	N	N	
Roller frames for crusher conveyor	Production and Processing	Quarry	2005	N	Y	
Sample point chute	Production and Processing	Quarry	2006	N	N	
Tail pulley guard	Production and Processing	Quarry	2005	N	N	
Thermally activated ice warning signs	Production and Processing	Quarry	2006	N	N	
Use of electronic detonators to control vibratrion from blasting - MIST funded project	Production and Processing	Quarry	2005	N	N	

BEST PRACTICE

LOCATION:	Quarry	ARTICLE YEAR	2006
ACTIVITY:	Production and Processing	COMPANY:	Exchem Explosives
SUB ACTIVITY:	Face activity	COMPANY LOCATION:	Blasting Services, Derbyshire
BEST PRACTICE No:	BP272	COMPANY TEL:	01492 518358

TITLE

run video

Lifting drill rig percussion hammers

ARTICLE

A tool has been fabricated to combat the risks associated with lifting heavy percussion hammers for drill rigs. The hammer is left on the ground with the plant tracked up and the mast positioned above the hammer. The adaptors are attached to the rotation motor tube adaptor and hammer top, the chain is then connected to the rotation motor lift eye and passed through the dust collector pot and guide rings and finally attached to the top of the adaptor hammer adaptor lifting eye. The operator then returns to the cab so there is now no one in the lift area. The hammer can then be lifted remotely and safely.

ARTICLE IMAGES

Incident Alerts

www.safequarry.com

products industry

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Home | About this site | Best practice | Incident alerts | Hot topics | Toolbox talks | Links

Incident alerts

Register

Incident alerts are submitted by companies from across the industry. They explain how accidents or near hits have occurred and make recommendations as to how this can be avoided in the future. By sharing this knowledge companies will be able to identify similar potential hazards in their own operations and take appropriate action to minimise these risks. Users can register to receive e-mail alerts when new incident alerts have been added to the system.

Click here to register to recieve e-mail alerts.
Click here to find out how you could submit an incident alert.

This form provides an advanced search facility to help you find the incident alert you are interested in. Please follow the instructions provided to get the most from this facility.

To return all the incident alerts on the database simply press the 'Search' button without selecting any criteria.

To search on a date range you must check the 'Search by date' box first.

Search by date: ☐

From: 28 / 2 / 2007

To: 28 / 2 / 2007

Incident Number

Search by location category: Please Select

Search by activity category: Please Select

Enter upto 6 keywords separating each with a space.

Search by keywords (max. 6): inject

Search

Clicking an underlined column heading sorts the results by that column and toggles the sort between ascending and descending order.

1 Incident Alert(s) returned

Incident No.	Title	Date	Location	Activity	
00012	Employee injected with hydraulic oil	17/07/2006	Quarry	Maintenance & Housekeeping	

Employee injected with hydraulic oil

ACCIDENT / INCIDENT DETAILS

A quarry supervisor suffered a serious hand injury when a hydraulic hose burst and he was injected with hydraulic mineral oil.

The supervisor was undertaking maintenance activities on site and was in the process of raising the hood of a mobile primary crusher to gain access to the isolated rotor chamber, when a hydraulic hose connected to the hood's lifting ram ruptured.

The supervisor's hand was directly in front of the ruptured hose and a high-pressure 'needle-like' jet of hydraulic oil projected from a small hole in the hose wall, penetrated through the supervisor's leather 'rigger' glove into the palm of his hand, injecting him with hydraulic mineral oil.

The supervisor required emergency surgery in hospital to treat his injured hand.

Cause of failure

On inspection the ruptured hydraulic hose was found to have surface abrasion damage.
The damage was caused by plant vibration and the hose chafing against a steel floor-plate.

ACCIDENT / INCIDENT IMAGES

RECOMMENDATIONS / ACTIONS TAKEN

Action:

Are all hydraulic hoses suitably positioned, supported and given sufficient physical protection to prevent chafing and abrasion damage?
Do you have a formal inspection regime to ensure all hydraulic hoses are maintained in a safe and serviceable condition?
Ensure all workers who may come into contact with pressurised hydraulic systems receive the
toolbox talk

RECOMMENDATION / ACTIONS IMAGES

Toolbox talks

Toolbox Talk

High-Pressure Fluid Injection Injuries

This toolbox talk discusses the potential harm that can result from 'pinhole' leaks in high-pressure hydraulic systems.

Background

In January a Supervisor suffered a serious injury when a hydraulic hose burst and injected hydraulic oil into his hand. The Supervisor needed emergency surgery in hospital to treat the injury.

This is not the first incident of its kind. A few years ago a quarry operative suffered a fluid injection injury from a 'pinhole' break in a hydraulic hose. On that occasion the operative did not realise he had been injected and did not seek immediate medical attention. It was several hours later, when swelling and pain appeared, that medical attention was sought. By that time he also needed to undergo emergency surgery in Hospital.

It is likely that the circumstances, which led to both these injuries, have occurred many times on sites. It is only by good fortune that they did not result in fluid injection injuries to persons working close by.

Introduction

High-pressure equipment such as hydraulic lines, high-pressure grease guns and high-pressure fuel injection systems, has the potential to cause serious injury or even death, if not properly used and properly maintained.

Fluid in this type of equipment is under pressure ranging from 600psi to 12,000psi (4MN/m^2 to 83MN/m^2).

The velocity of fluid forced through a pinhole break in a hydraulic hose can be in excess of 250 metres per second (600ft/s). This is close to the muzzle velocity of a rifle, and is sufficient to drive fluids through protective clothing, including protective gloves.

Penetration of the skin can occur at pressures as low as 100psi (700kN/m^2).

Skin penetration can occur up to 100mm (4") away from the fluid source.

Why are high-pressure injection injuries so serious?

High-pressure injection injuries usually require emergency surgical treatment.

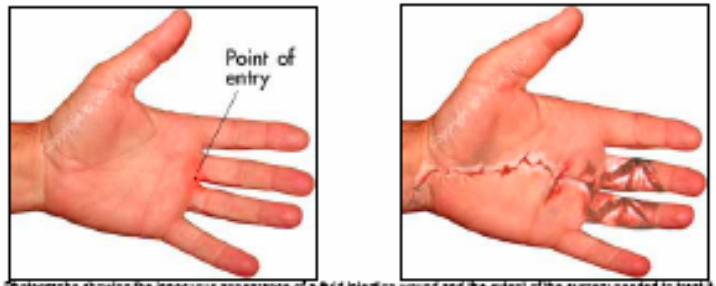
When fluid enters the body it begins to kill tissue. Gangrene can set in if the injury is not treated promptly. There is also a risk of blood poisoning and bacterial infection. Surgery is usually required to remove the dead tissue and clean out the injected fluid from the wound.

Failure to act quickly may result in the need to amputate fingers and limbs.

Risk of amputation significantly increases if the wound is not treated within 10 hours.

Unfortunately, fluid injection is often painless and the point of entry through the skin is usually very small and has a harmless appearance (see photographs below).

Pain and swelling may not appear for several hours after injection (sometimes it can take a couple of days before pain and swelling are experienced)



Photographs showing the innocuous appearance of a fluid injection wound and the extent of the surgery needed to treat it.
(Use of photographs by kind permission of Fluid Power Safety Institute, Salt Lake City, USA)

The severity of the injury depends upon several factors:

- Type of fluid injected into the body
- Amount of fluid injected
- Pressure of fluid injected
- Presence of toxins or bacteria within the fluid
- Degree of spread of injected fluid within the body
- Time between injection and surgical treatment. (This is the most important factor – the sooner the surgical treatment the less long-term disability will result)

What to do if someone is injected with high-pressure fluid
(or you suspect they have been injected)

Get the injured person to the nearest Hospital Accident & Emergency (A&E) Unit immediately.

Tell the Hospital staff that the injury is a fluid injection injury, or you suspect it to be so. The nature of the injury may not be apparent to medical staff from its appearance and it could be misdiagnosed.

Take the material safety data sheet for the fluid with you. It contains important information to help Hospital staff treat the injury properly. Make sure you know where to find the COSHH data sheets on your site.

- Guarding
- Marine Munitions
- “Silica” Social Dialogue Agreement
- Occupational Health
- Drugs & Alcohol
- Ammonium Nitrate
- Conferences
- Entry Forms

HILLHEAD 2007 COMPETITION ENTRY FORM

"Designing for Safety" is the theme for the IQ/QPA stand at the show which will display the best examples of good health & safety design by participating exhibitors.

As an **Exhibitor at Hillhead 2007, you are invited to submit entries** for this display on any aspect of plant and equipment supplied to the extractive and processing industries which includes new, updated or innovative features ***designed to make a contribution to a safer and/or healthier working environment***

Health & Safety Best Practice Awards '07 — Extending the Culture

in association with the:

Institute of Quarrying + Construction Equipment Association

MY COMPANY'S CONTRIBUTION TO SAFETY &/OR HEALTH, RELATES TO:	Tick: ONE box only
Protection from Noise; Vibration; Dust;	
Slips, trips, falls; Working at height	
Access and egress; or Guarding	
Improved ergonomics ; Easing maintenance	
Reduced manual handling; remote control	
All-round Vision; Hazard warning systems	
OTHER INITIATIVES	

Title of Your Entry	

Hillhead 2007 STAND NUMBER:		**Contact Name:**	
Company Name:		**Office Tel. No.:**	
Address:		**Mobile Tel. No.:**	
		Date of Entry:	
Post Code:			

PERSON MAKING ENTRY

Name (BLOCK CAPS.)	
Job Title:	
Signature:	
Email:	

In making this entry, I confirm that the content is an accurate reflection of the product/service featured. **I agree that this Entry may receive publicity.**

INSTRUCTIONS for Hillhead Exhibitors

Entrants are asked to complete page 2 of this form and to email this file plus two good quality electronic photo image files (preferably jpeg/jpg format) as additional separate attachments.

Email to: barker@qpa.org

Entry Deadline: Wednesday 28 March 2007

Best entries will generate :-

- Certificates of Merit
- Feature in Hillhead 2007 Catalogue
- Feature on posters on IQ/QPA Stand
- Upload onto www.Safequarry.com

ENTRY REFERENCE NUMBER (For QPA Office Use Only)	H

Complete sections below. Email with separate image (photo) files – **attach these to your email** and send to: Siân Barker barker@qpa.org **before 28/3/2007**

Health & Safety Best Practice Awards '07 — Extending the Culture

BRIEF DESCRIPTION

in association with:

The Institute of Quarrying

The Construction Equipment Association

Continue description on additional sheet (if you need more space)

SAFETY AND/OR HEALTH BENEFITS

Note
Have you checked for similar previously published entries on www.Safequarry.com ? (Search "Best Practice"). If yours is similar, it will help the Judges if you highlight the differences/benefits of this 2007 Entry

PHOTOS WITH CAPTIONS

Place photos here, but **ALSO** attach separate good quality electronic photo image files (jpeg/jpg preferred)

What Happens Next?

On receipt of your entry, you will be emailed a QPA Reference Number which you NEED TO QUOTE in any correspondence. All entries will be acknowledged and considered by the "Hillhead 2007" Judging Panel. The Judges' decisions will be final.

Require further information?

contact QPA's Siân Barker
barker@qpa.org tel: 01329 314854

Sole Sponsor for 2007 QPA Awards

rba THE BEST ROADS ARE ASPHALT

‘Sharing Good Practice’ guide

‘Sharing Good Practice’ guide

Making the most of ‘Safequarry’

need to REGISTER in order to receive email alerts of new . . .

- *Incident Alerts*
- *Toolbox talks*
- *Hot topics*

SHARING GOOD PRACTICE

www.safequarry.com

HEALTH & SAFETY

Across the quarrying and quarry products industry

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Register

You can register to receive email alerts when a new incident alert, toolbox talk or hot topic is added to the website. You will also be able to set up an information basket, where you can store information from this site. Registration is free, and it is easy to unsubscribe.

2 minutes – maximum!

First Name

Surname

Job Title

Company Name

Email Address

Password

Confirm Password

Sign up to receive Email Alerts

Incident Alerts	(•) Yes	( ) No
Toolbox	(•) Yes	( ) No
Hot Topics	(•) Yes	( ) No

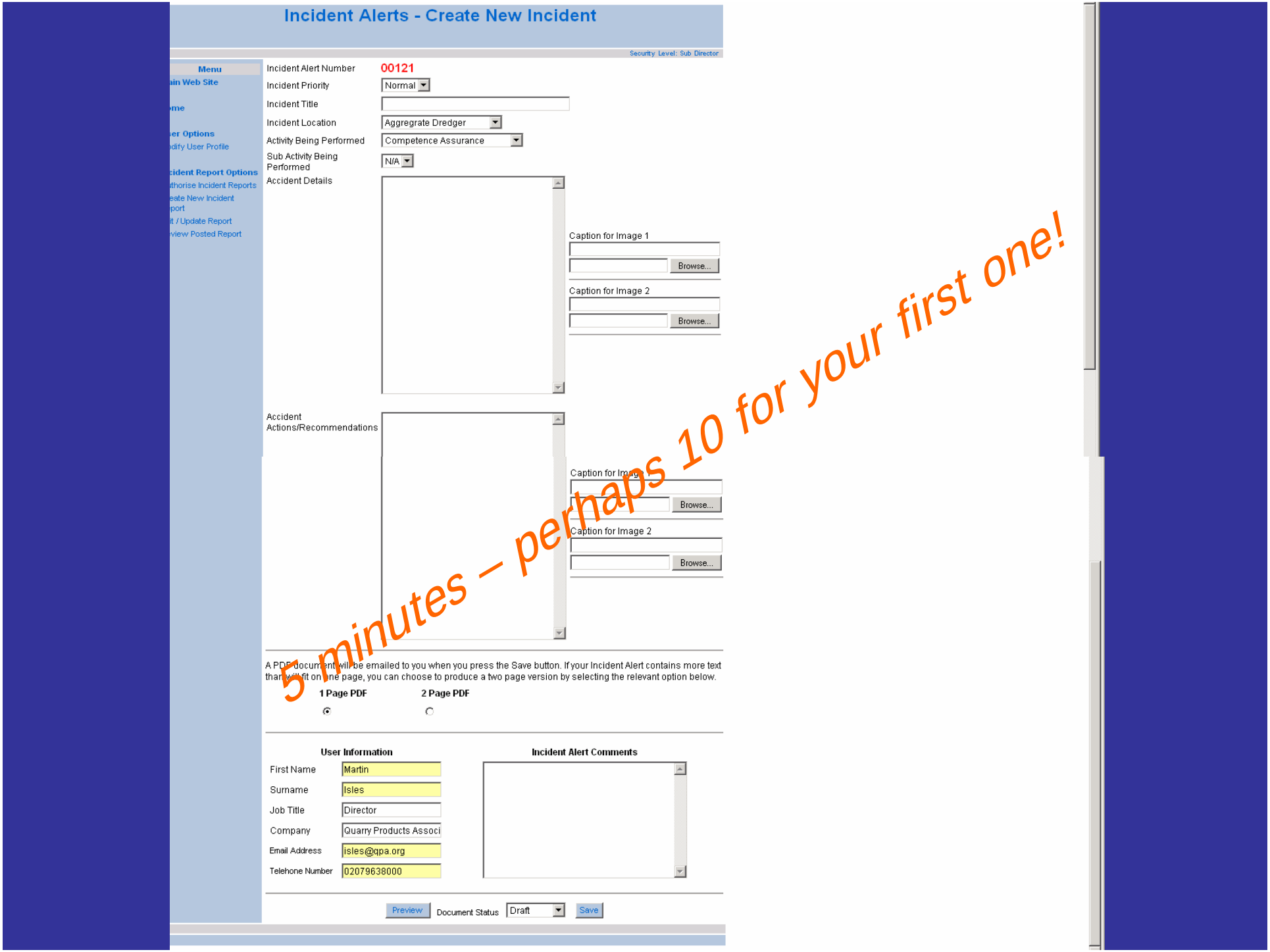
Save

You will derive benefit . . .

so please put something back!

need to upload YOUR Company's latest . . .

- *Incident Alerts*
- *Toolbox talks*



5 minutes – perhaps 10 for your first one!

Best Practice

Incident Alerts

Hot topics

Toolbox talks

www.Safequarry.com

The No.1 Health & Safety Resource for the Quarrying and Quarry Products Industry

It's FREE; it's LIVE - Use it to make us an even SAFER industry!

www.Safequarry.com

Thank you for listening!

For more details please contact :
Martin Isles, QPA

Tel: ***+4420 7963 8000***

e-mail: ***isles@qpa.org***