



Successful installation of new headgear at Potash Mine

The successful installation of replacement Headgear at Cleveland Potash's Boulby Mine culminated in the spectacular demolition of the old shaft tower, which took place on 5th August 2013.

→ George Orton, Managing Director, on behalf of Qualter Hall, comments:

'The project, which is quite unique, is certainly an engineering challenge and is a credit to all concerned, particularly the meticulous design, planning and execution of all aspects of the project.'

Key to the successful outcome of the project is the close liaison, communications and cooperation we have with the mine engineers and engineering staff of Cleveland Potash and with our key subcontractors, with the team approach adopted.'

Cleveland Potash Limited, which owns Boulby Mine, awarded this major turnkey contract to Qualter Hall, back in December 2011.

The Headgear and associated equipment was constructed by Qualter Hall on site, adjacent to the existing tower during 2012. Final installation was scheduled from the outset for the mine holiday shutdown during August/September 2013, so as not to interrupt vital production time.

Qualter Hall developed the highly specialised fast-build procedure, which involved jacking and then sliding out the old shaft tower on polished stainless steel slide paths, initially 25 metres south and then a further 50 metres east away from the shaft, where this 50 metre tall, 2700 tonne, concrete structure was then successfully demolished.

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QUALTS



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- 1 The new headgear prior to final positioning
- 2 The old tower slides away
- 3 The slide tracks



<http://youtu.be/vmcFc9KpYlc>

Prior to the demolition of the old structure the new 700 tonne steel Headgear, which was pre-built on slide paths about 20m from the shaft, was slid into its final position over the shaft, ready for completion and making fully operational during the remaining holiday shutdown period. A new concrete tower shroud is currently being built around the new steel Headgear for aesthetics/planning requirements, and also to act as an airlock building for future mine plans.

The scope of Qualter Hall's turnkey works is extensive and involves the design, manufacture, build and installation of the new 50m high Headgear structure along with four 6.2 diameter Headgear pulleys, two 23 tonne capacity skips, skip operating gear, receiving hopper, load out conveyor, gantry, shaft cover, safety systems and all associated pneumatic / electrical equipment including shaft communications and interlocks. Qualter Hall is also responsible for the civil works and foundations, concrete outer tower, airlock arrangement and demolition of the old concrete Headgear structure.

The new design also allows for future uprating of the system, to allow the 23 tonne capacity skips to be increased to two 30 tonne capacity skips.

Cleveland Potash Limited, which has been operating since 1973 and is currently the UK's only potash mine, supplies around 55% - 65% of the UK's potash consumption from its Boulby mine. Employing over 1000 people, the mine is located in the stunning landscape of the



The remains of the old tower and headgear

North Yorkshire Moors on the northeast coast of England. Workings extend down to over 1300m below ground level and as far as 12km out underneath the North Sea.

The mine can hoist up to 3 million tonnes of potash ore and more than half a million tonnes of salt each year, producing up to 1 million tonnes of potash. Potash is used for fertiliser production as well as for glass making and applications in the chemical and pharmaceutical industries. The mine also produces salt as part of the potash mining process, which is used for a variety of needs, from road de-icing in winter to sugar beet cultivation and as an ingredient in animal feeds.

→ The installation of the headgear is playing a crucial role in safeguarding the future of Boulby Mine. Phil Baines (MD Cleveland Potash Ltd) comments...

'The installation of the new rockshaft tower is a key element in a £300M major investment programme now underway at Boulby which will allow us to extend the life of the mine for potentially decades to come. The old tower was one of the first structures to be built when work began at Boulby in 1969 and the operation to install its replacement has been a highly complex undertaking.'



Old tower and new headgear after final slide



<http://youtu.be/XCOim7iaZw4>

- 1 Scale Lane bridge at dusk
- 2 The new bridge swings across the river
- 3 The landscaped approach
- 4 The bridge spine being lifted into place



→ At the official opening on 28 June Councillor Nadine Fudge, Lord Mayor of Hull and Admiral of the Humber, said...

'It's an honour to open this unique footbridge on behalf of the city, which links the Old Town to the east banks of Hull. Our Old Town has wonderful museums and attractions and it's great that we're able to add another experience for people to enjoy. Hull's strong maritime history is echoed in the ships bells ringing as the bridge opens and we should be proud that we are continuing to reflect on our heritage.'

→ Jacquie Boulton, Area Manager at the Homes & Communities Agency said...

'The opening of this bridge gives the city an excellent opportunity to connect the east bank of the river to the city centre creating opportunities for new economic development. It is great that we have been able to work with our partners to create a bridge that is not only useful to local residents and visitors to the city but is also such a fantastic design.'



Scale Lane Bridge completed and commissioned!

Qualter Hall's new Scale Lane Bridge was handed over to Hull City Council and opened to the public in June 2013. Believed to be a world first, the bridge offers pedestrians and cyclists the unique experience of being able to walk/cycle on and off the bridge while it is in motion. Its sleek black steel appearance and distinct robust form make it a memorable landmark that reflects Hull's industrial and maritime heritage.

The winning entry in an international 3-stage design competition held in 2005, the bridge was designed, fabricated, installed and commissioned by Qualter Hall.

Manufactured in sections at Qualter Hall's facilities in Barnsley, the bridge was then transported to site, welded together on the river bank and lifted into place. The scheme also includes a new landscaped garden and square situated at the threshold of the bridge on the West Bank.

Located east of Hull city centre, the bridge connects Hull's Old Town Conservation Area to the undeveloped industrial landscape of the East Bank helping to unlock the potential of the riverside and promote wider regeneration in the area.

The bridge's sweeping form creates two generous pedestrian routes, one gently sloping and a shorter stepped walkway. The 15 metre diameter drum provides a 265m² interior space with panoramic views, suitable for a bistro / restaurant, while the roof of the drum provides an upper viewing deck with a seamless steel balustrade, as though on board an ocean liner.

The 1000 tonne structure has a span of 57 metres. The central spine of the bridge includes a variety of seating areas and rises into a back-lit rooflight which provides a spectacular marker for the bridge at night. The new bridge is capable of carrying up to 1000 people during opening, and up to 4000 people when closed. The bridge has been designed to cater for both able and disabled people to use with ease.

There is enough room for smaller boats to pass under without the need to operate the bridge. When required, an electrical drive mechanism is used to rotate the spine and open the route to river traffic. When activated the mechanical movement of the bridge is sufficiently slow to allow passengers to safely step onto the bridge from the West bank whilst it is rotating.

When the bridge opening is activated a new sequence of rhythmic bells is triggered which increases in urgency and combines with a pulsing light. This has a practical purpose in alerting pedestrians to the imminent opening rotation and it heightens the drama of the 'ride'.

At night low level fluorescents integrated into the parapet posts light the profile of the bridge and bring colour and sparkle to the blackened industrial riverscape.

IN BRIEF

Project | Won

Funicular Railway System, South Korea

Posco Engineering, a major South Korean civil company, has awarded Qualter Hall a prestigious contract to provide a Funicular Railway system for the High 1 Switchback Resort located in Gangwon Province, South Korea. The resort, which currently provides a variety of leisure activities including skiing, mountain views, nature trails and golf is now being significantly extended. The new train system has been specially designed to take family rail bikes to the top of the mountain. The bikes are then detached and used for travelling down the mountain on a separate scenic line.

The new system is due for shipment from the UK later on this year, with installation and commissioning planned for early 2014.

Projects | Won

Nuclear

Qualter Hall continue with their successful and highly specialised work in supplying sophisticated equipment including robotics, for nuclear related projects. This currently includes:

- Two contracts with Nuvia for nuclear decommissioning equipment for Sellafield
- Two contracts with Babcock for nuclear decommissioning equipment for Bekeley
- A contract with AWE for Shield Doors and Labyrinths
- A further contract with Alstom for specialist fabrications for the Astute programme.

Project | Completed

Manriding Cars for Selebi Phikwe Mine, Botswana



BCL Limited awarded Qualter Hall the contract for the design and manufacture of three replacement, updated Rope Hauled GMT Manriding Cars comprising 1 x 36 seat rope Hauled Anchor Car, 1 x 36 seat Leading Manrider Car and 1 x 36 seat Trailing Manrider Car.

The contract was completed in August and the Selebi-Phikwe Nickel Mine, located in the central district of Botswana are now operating the cars. These cars are similar to those originally supplied to the same mine over 20 years ago.

On-going Service

Qualter Hall continues to provide an important regular maintenance / service solution for customers, this includes contracts with:

- Environment Agency for the Hull Tidal Surge Barrier
- C.RO Ports for the Humber Sea Terminal
- North Yorkshire County Council for the Selby Swing Bridge

Production

A major investment in a new Soraluec FR Milling Centre, recently installed in Qualter Hall's production facility, will enhance the company's production capabilities.

This state of the art milling centre has a table loading capacity of 35 tonne and various machining facilities.

New Starters

We are pleased to welcome the following new starters to Qualter Hall.

- **Andy Allinson** - Sales and Marketing Engineer
- **Charles Kenney** - QA Manager (Designate)
- **Alan Bingham** - Mechanical Design Engineer (Hugh Smith)

Long Service Awards



Congratulations to **Neil Bentley, Gary Bestall, Frank Ellis and Dave Leek** who celebrate 25 years continuous service with Qualter Hall this year.

Qualter Hall Sponsors Darfield Junior Football Club Under 13 Side



Qualter Hall is delighted to support the Darfield Junior Football Club Under 13 Side and has entered into a 2 year sponsorship deal for the supply of the team's football kit.



QUALTER HALL

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