



Brine well incident report

On Saturday 18 June at around 6am, the wellhead of a disused brine well on Halite's land failed, resulting in brine being ejected into the air and the temporary closure of Cemetery Lane and Back Lane.

Halite's chief executive, Keith Budinger and other members of the team were onsite soon afterwards that morning in order to assess the situation and minimise the impact of the event on local surroundings. As a result, swift action was taken to erect safety fencing around the wellhead and begin a clean-up operation.

Halite is committed to being a good and responsible steward of the land in

its ownership. With safety and security our priority an immediate and thorough investigation into the causes of the incident was launched and you can read details of the findings inside this issue.

It is important to highlight that the incident happened in an old brine well which was built and constructed many decades ago. Within the land owned by Halite there are over 100 abandoned historic brine wells which require ongoing monitoring and maintenance.

More on pages two and three...



Welcome from
John Roberts

Dr John Roberts CBE
Chairman, Halite Energy

Welcome to a special edition of *infocus* in which we share with you the findings of our technical assessment into the Brine Well 45 incident which happened on 18 June 2011 and the additional safety and security measures that have been taken as a result.

This issue also includes an update on the important remediation work being undertaken to minimise the impact of the event on the local environment.

I would like to reassure the community that geological survey work carried out following the incident has demonstrated that the cavern is stable and that the cavern roof and cavern floor remain intact and unchanged. Concerns about any future cavern collapse or ground subsidence have therefore been removed and the incident will not affect our Project proposals.

The team is therefore currently preparing the detailed reports and documents that will form our application to the Infrastructure Planning Commission (IPC) which, subject to IPC planning requirements, we expect to submit within the next few weeks.

I hope that you find the information in this issue useful. Our website has further details and information and we would be happy to answer your questions.



Halite's chief executive, Keith Budinger, answers questions on the brine well incident.



1. Brine flowing from the area surrounding the red wellhead casing



2. The air and brine flow eroded the soil surrounding the casing causing a hole to develop which filled with brine



3. One of the trenches dug to intercept the brine and soil flow

Q What happened on 18 June?

A In the early morning of Saturday 18 June, brine and air was ejected from the area immediately surrounding Brine Well 45 in what is commonly referred to as a 'blow out'. The brine mixed with the soil around the wellhead casing and flowed downhill to Back Lane causing the area to flood and the lane to be closed. The air and brine flow eroded the soil surrounding the casing causing a hole to develop which then filled with brine. At first, air bubbled vigorously to the surface before gradually subsiding and then stopping altogether at around 9pm that evening.

Q What happened next?

A We quickly began working closely and co-operating fully with all the relevant agencies including the Environment Agency, Lancashire County Council, Wyre Borough Council and the Health & Safety Executive. Emergency mitigation and management measures undertaken at this time included digging a trench in the field above Back Lane to intercept brine and soil flow, erecting security fencing, beginning clean-up operations and arranging for both geological and environmental advisors to be on site.

Q How and when was the incident investigated?

A As soon as it was safe to do so, scaffolding was erected on site in order to gain access to the wellhead. The detailed technical assessment work was carried out when the wellhead had fully depressurised by senior geologist Colin Harding who featured in the last edition of infocus and is a divisional director at Mott MacDonald – an international management, engineering and development consulting firm. A range of investigation techniques were used including geophysical surveys and sending CCTV cameras down the casing into the cavern.

Q Are geological reasons, such as the collapse of the cavern, to blame for the incident?

A No. We have compared the results of CCTV and physical and geophysical surveys completed after the incident with high quality data gathered from a sonar survey of the same brine well in June 2010. This work shows that the cavern is stable and the cavern floor and roof remain intact. Cavern instability neither caused, nor was triggered by, the incident. There is therefore no reason to be concerned for any future cavern collapse or ground subsidence to occur in the adjacent area.

Q What did cause the event?

A Our investigations show that a short section of borehole casing was distorted and ruptured in an airlock in the brine well 190 metres below ground. This caused air and brine to rise up under pressure to the wellhead. However, the wellhead flange (the disc-shaped top which secures the wellhead) was able to withstand the increase in pressure. Highly pressurised brine and air travelled back down the gap that exists between the inner and outer casings and then back to the ground surface around the outside of the outer casing.

Q Why were the Police involved?

A The primary cause of the incident has been identified as ruptured casing at depth, which was most likely damaged during installation or operation many decades ago.

However, this in itself would not have caused the incident. Forensic experts identified information which was consistent with third party interference being the cause of the damage at the wellhead. Safety and security remain our number one priority and any information suggesting a deliberate attempt to cause a dangerous incident of this kind must be treated extremely seriously. The board of Halite felt it right, proper and the responsible course of action to share information that came to light as a result of our investigations with the Police. The strength of the information resulted in a case being opened and an investigation being carried out. The Police have stated that they have found no verifiable evidence either way to indicate whether a crime has or has not been committed but, should further information come to light, the case will be re-opened.

Q What measures have you taken to stop this from happening again?

A Our monitoring and maintenance programme has been thoroughly reviewed and additional activity undertaken which includes completing a full risk assessment on all existing brine wells.

Onsite security has been stepped up to provide visible reassurance to the local community of our commitment to security and safety. A 24-hour ranger patrol has been introduced to monitor land in our ownership, paying particular attention to areas with wellheads from historic workings.

Q What environmental and technical work has been carried out?

A Following the incident a multi-agency response group was established, led by the Environment Agency to protect local people, animals and the environment from the impact of the event.

Approximately 2.5 acres of agricultural land and roads were contaminated by the brine and soil slurry. We engaged soil scientists and ecologists to monitor the situation and take samples of potentially affected soil and water. The results of this monitoring work have been analysed by the company's environmental consultants at Hyder who are working closely with local authorities, the Environment Agency and other groups on the vitally important incident remediation.

We are also in the process of filling the cavern at Brine Well 45 with brine to give it further support and stability.



Further information, including a full technical assessment report and summary document, is available from our website at www.halite-energy.co.uk

Project team focus **Brian Stanley**

Halite's project director Brian has over 40 years' experience in the energy industry. He holds an Electrical Engineering degree from Nottingham Regional College of Technology and is a Member of the Institution of Electrical Engineers (MIEE).

Brian has held a number of high profile positions including plant manager of a Teesside power station. He has also been responsible for global construction, engineering and operations of power generation and gas processing facilities in Europe, the United States and Central America.

"From my experience in the energy industry I know just how important safety and security is," said Brian who is overseeing Halite's monitoring and maintenance programme of historic wellheads and has worked closely with the Health & Safety Executive in responding to the brine well blow out incident and developing the proposals for the Underground Natural Gas Storage Facility at Preesall.



Brian Stanley
Project Director

IPC application update

Following the completion of our public consultation, Halite's team has been preparing the final Project proposals ready for submission to the Infrastructure Planning Commission (IPC). We expect to make our application for a Development Consent Order to the IPC in the next few weeks.

Once the application has been submitted the IPC will have 28 days to decide whether or not to accept it. The decision will be based on

the information provided by Halite including the adequacy of the public consultation undertaken and quality of supporting documents on issues such as the environment. If the application is accepted, people will then have the opportunity to submit their views on the proposals to the IPC.

Find
out
more

If you want to find out more about the process visit the IPC website at **www.independent.gov.uk/infrastructure**.

Keep up to date

Get
involved

There are a number of ways for you to keep up-to-date with our plans to develop an Underground Natural Gas Storage Facility at Preesall. Our regularly updated website features all the latest Halite news and gives you the opportunity to post questions or comments in an online forum. You can also view minutes of Halite's Community Liaison Panel (CLP) meetings.

The CLP was formed in April this year and provides a direct way for the community to ask questions and request information from Halite's Project team. The group meets on a monthly basis. If you would like to nominate yourself, or someone you know to take part in the CLP please email **clp@writeanglepr.co.uk** or call **01772 450990**.

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For more
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