



MEASURE NOISE AND TEMPERATURE

Running noise and temperature logs can be costly but if there's an underground blowout they can be vital in determining whether the insurance claim is admissible. Control of Well Insurance (also known as Operators Extra Expense or OEE) is a specialist insurance policy purchased primarily by oil and gas companies. It covers the costs associated with regaining control of a well, re-drilling the well or restoring it to operation following a blowout.

WHAT IS A BLOWOUT?

Blowouts can be triggered by imbalances in the drilling fluid (mud); by natural fluid flows within the formations; or by extraneous events such as equipment failure. Sometimes a pressure control problem can be managed or mitigated by swift onsite action before a blowout occurs. Sometimes it will even resolve itself without intervention, at least temporarily.

According to Keith Baker, Executive Adjuster with Integra Technical

Services in North America "minor pressure situations occur frequently, but only around 1% are estimated to become a full blowout." When it does result in a blowout it is a serious event, economically and environmentally. It can result in severe property and equipment damage and sometimes even human cost: serious injury or loss of life.

A blowout can be big or small. It can start off with something as tiny as a three-quarter inch flange being torn away by the force of escaped fluid.

Or it could be a huge explosion, like the natural gas leak in Uzbekistan in 1966 which the Soviet authorities eventually sealed off by detonating a nuclear bomb underground. Or think of the famous pictures of gushers from the early days of oil exploration. More likely, it will be something in between.

Whatever the size, they usually end up being noisy, wet, dangerous, scary and stressful for everyone involved. And it can often result in fire, triggered by the combination of hydrocarbons and stray sparks.

UNDERGROUND BLOWOUTS MORE COMPLEX

Keith explains “there are two main types of blowout: surface and underground. A surface blowout is usually plain for all to see, and not difficult to prove in terms of meeting OEE insurance policy conditions. An underground blowout, however, is more complicated.”

It usually results from an uncontrolled flow of fluid from a (deep) high pressure zone in the well up to a (shallower) low pressure zone via the wellbore. So it’s not usually as visible as a surface blowout. And when considering the potential for an insurance claim the onus falls on the well operator to prove that conditions in the well satisfy the insurance policy definition.

“One way of proving loss causation is by running noise and temperature logs in the wellbore when problems present themselves” says Keith.

A true underground blowout will result in a marked increase in noise at both the ‘source zone’ – where the fluid release originates, at the bottom of the bore – and the ‘thief zone’ – the zone further up the bore where the fluid escapes. In both places a blowout will result in a marked departure in temperature versus the expected standard gradients. Temperature increases with depth but in a predictable way. Keith suggests “any unexpected blips in that gradient often represent a clear smoking gun from a policy coverage perspective: evidence that a real blowout has occurred”.

According to Keith “most large well operators will run these logs when issues arise, but they can be costly

“NOISE AND TEMPERATURE LOGS CAN PROVE AN INSURANCE CLAIM”

and for the smaller operator on tight margins they might be considered a cost too far, given all the other health and safety costs that are part and parcel of running a rig. Perhaps more needs to be done to make engineers in the field aware of their importance in proving an insurance claim, as they are vital and often feature heavily in our discussions onsite.”

“If they don’t exist then we will look for secondary indications such as fluctuating casing pressure when the well is shut-in. If insurers and the insured do not share an agreed understanding of the incident, often independent drilling engineers are engaged to provide their opinion whether or not a underground crossflow (blowout) existed.”

Aside from this much of the negotiation centres on getting the well back up and running. If they can, the operator will want to get business back up and running as fast as possible, which often will mean continuing to drill at the blowout site. In many cases there is no reason why they shouldn’t. But if the well is repaired for ongoing use, there can sometimes be a grey area as to whether the post-incident wellbore has any ‘betterment’ (e.g. consisting of

additional casing in the well). As Keith clarifies “let’s assume a well had three casing strings before the blowout and as a result of the incident the operator added a fourth string as part of the pressure mitigation. That might have been necessary and defensible from an engineering perspective, but in the insurer’s eyes this would constitute betterment and thus need to be deducted from the claim”.

In the end the loss adjuster needs to keep a clear head: following up on logs and other data and evidence to prove the blowout, and encouraging resolution where there are differences of opinion – whatever the scale of damage and however difficult the conditions.

Blowout *noun*
(blow-out | blō-,aüt)

An unexpected release of fluid – hydrocarbons, drilling fluid (mud), or water – up a wellbore as a result of the loss of hydrostatic balance in the well.

WHAT DOES OEE INSURANCE COVER?

Typically, an unintended and uncontrollable flow of fluids (mud, oil, gas, water) through the wellbore from one subsurface zone to another, which cannot be controlled by the Blow Out Preventer (BOP) or other rig equipment. A kick, or sudden influx of gas or fluid into the wellbore that can be controlled by increasing mud weight and/or mud flow would not be considered an insured event.