



Detonation of Unrecoverable Geophysical Seismic Shot Holes

CAGC INFORMATION ALERT

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The following information is not a definitive guide to government legislation and does not release users of this document from their responsibilities under applicable legislation.

The purpose of this bulletin is to clarify seismic electric detonator manufacturers, the CAGC and regulators requirements for the safe detonation of seismic shot holes when being done during times other than the recording operation (clean-up operations).

It has been common practice throughout the geophysical seismic industry to detonate unrecoverable seismic shot holes by way of a nine volt battery, handheld radio battery, ATV battery, etc and an old set of leg wires or firing line. According to manufacturer's MSDS, regulations and industry Best Practice, this is not acceptable.

1. The manufacturer's of electric seismic detonator's state that a 'capacitor discharge blasting machine that will deliver a firing current greater than ten (10) amps RMS' is required. The reason for this is that when using i.e. a battery there may not be enough initial discharge energy to ensure the firing of the electric seismic detonator.

2. According to the Alberta Code (505 (3)) 'unrecoverable explosives' may only be detonated by using a 'battery system'.

Note: There is a blasting machine that meets the above criteria and is recognized by the electric seismic detonator manufacturers. This machine cost approximately \$200.00, can detonate up to 10 shot holes at a time and has a long life expectancy. The name of this blaster is the '#10 Handy Blaster' and the explosive suppliers sell them.

In addition it is important to remember that:

- As industry Best Practice (PITS 'Seismic Blaster's Safety' course) a seismic shot hole is to be checked prior to firing with an approved galvanometer;
- As per regulations and industry Best Practice only a **certified Seismic Blaster** can detonate a seismic shot hole;
- As per industry Best Practice only a firing line that when laid out and hooked up to the unrecoverable charge, has at least thirty metres distance between the **certified Seismic Blaster** and the closest shot hole that is being detonated.

In conclusion, there are occasions where by workers who are employed in clean-up operations may not be familiar with seismic explosives i.e. line construction and survey personnel. In order to meet legislation requirements the said workers are to be orientated to the hazards that may be encountered on the job (WCB Code and WHMIS). Remember to ensure that all clean-up workers have been orientated to the hazards of their job.