



Project Details:

Location: Northumberland, United Kingdom
Client: Northumberland County Council
Dates: 2011
Project Value: N/A
Sector: Training

Brief Description:

A one day workshop for mineral planners on the environmental effects of blasting - vibration and air-overpressure.

The screenshot shows a presentation slide with the following text:

Environmental Impact of Blasting

One day Seminar

Northumberland M.P.A.

Predicting Vibration Levels

Designing a Blast to Comply

oc	1	2	3	4	5	6	7	8	9	
	452844	375477	100	452807	375490	116	55.7	42.35564	67	5.1745
	452844	375477	100	452767	375549	100	20.8	105.4182	67	12.878
	452844	375477	100	452908	375692	116	3.3	224.8933	67	27.471
	452844	375477	100	452867	375596	118	7.9	122.5316	67	14.965
	452844	375477	100	452722	375454	108	8.6	124.4066	67	15.191
	452844	375477	100	452955	375664	114	4.0	217.9128	67	28.622
	452844	375477	100	452806	375511	112	15.1	62.3832	67	6.3996
	452844	375477	100	452722	375444	108	7.9	126.6373	67	15.471

Distance (m)	Log method	Non-log
100	11.1	11.1
200	44.4	44.4
300	99.8	99.8
400	177.4	177.4
800	709.7	709.7

Charge (kg)	95% PPV level
20	9.35
50	18.61
100	31.34
200	52.77

Table of distance and charge weights for Max PPV @ 95% = 8 mm/s

Detailed Project Description:

As a part of Northumberland County Council's on going commitment to CPD, Blast Log was engaged to provide a short course on the environmental impacts of blasting (primarily vibration and air-overpressure). The course was a one day workshop where attendees carried out exercises on their own laptops as well as traditional lecturing.

The vibration section included a thorough understanding of vibration limits, test blasts vs. production blasts, understanding the benefit of a comprehensive monitoring scheme, employing different site factors to design blasts, location response effects, the use of databases to store and analyse results, predicting vibration levels and how to design a blast to to comply with its statutory vibration limit. In addition, there was a blast vibration workshop on using MS Excel spreadsheet.

Air-overpressure was also discussed, this included non-controllable factors such as topography and meteorological effects, in addition to new developments in controlling air-overpressure levels from quarry blast. These included the effectiveness of increasing burden, the effects of stemming, statistical analysis of air-overpressure, the effects of orientation from the blast, detonator delay time optimisation and effects of flyrock.

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