

**EXPLOSIVES USAGE/SURFACE HIF AUDIT - 17/06/2003 02:14:55 PM****1. RECORDS**

<b>Point</b>	<b>Standard</b>	<b>Standard Met</b>	<b>Comments</b>
1.1	Blasts are planned and designed to ensure required blast results eg good fragmentation, displacement of muck pile etc		
1.2	Drilling patterns are laid out in accordance with the design.		
1.3	Survey records of blast are kept.		
1.4	Records of every blast are kept including key blasting parameters.		
1.5	There is a system in place to assess and deal with dangers from fly rock to any person, property and public property		
1.6	Occurrences such as any accident or damage to property by fly rock (or close calls) are recorded.		
1.7	Where airblast overpressure or ground vibration could be a problem, records are kept including complaints.		

**2. DRILLING PRECAUTIONS**

<b>Point</b>	<b>Standard</b>	<b>Standard Met</b>	<b>Comments</b>
2.1	Drilling is not carried out on a face or bench until it has been checked for misfires		
2.2	Drilling is not carried out in a quarry operation where a portion of the hole is closer than 6 metres to a hole containing explosives or blasting agent except for clearing a misfire as per the instructions of the quarry manager or a competent person authorised by him		

**3. CHARGING OPERATIONS**

<b>Point</b>	<b>Standard</b>	<b>Standard Met</b>	<b>Comments</b>
3.1	Before charging commences personnel and machinery not required for charging operations are removed from the area.		
3.2	Warning signs that charging operations are in progress are displayed.		
3.3	Cartridges of explosives are not forced into holes.		
3.4	Only those holes that are intended to be blasted in that blast are charged		
3.5	Polythene lay flat blasthole liners are not used where loose ANFO is poured on top of a primer.		
3.6	The depth and condition of blastholes are checked prior to charging.		

3.7	No persons smoke while handling explosives or charging.		
3.8	Any blast hole that is hot from previous blasting, drilling or any other cause is not charged until sufficiently cool.		
3.9	A sufficient depth of each blasthole is left uncharged to permit adequate stemming.		
3.10	Care is taken in charging and stemming operations to avoid damaging down lines or allowing them to be pulled down in hole.		
3.11	Stemming is completed as soon as possible after charging.		
3.12	Explosive in cartridge form is not dropped into any blasthole.		
3.13	No rockdrill, shovel, machine or vehicle (except the vehicle or machine used for charging operations) is operated within 6 metres from any hole containing a charge.		
3.14	Any charge in a designated blast which has not been fired or has not exploded is treated as misfire.		

#### 4. WARNING PROCEDURES

Point	Standard	Standard Met	Comments
4.1	The Quarry manager determines the zone of influence of blasting.		
4.2	All persons in the vicinity of the blasting area are warned and moved to a safe place before the shot is fired.		
4.3	An audible warning device (a modulated frequency siren) is installed and used at the mine site.		
4.4	All means of entry to the place of blasting are securely guarded against entry by persons, or warning notices are erected to prevent entry.		
4.5	Notices are erected warning that the noise from the audible warning device is a signal that blasting is taking place.		

#### 5. FIRING TIMES

Point	Standard	Standard Met	Comments
5.1	Firing times are authorised by the Registered Manager.		
5.2	Blasting does not occur at night except for blasting to remove obstructions in crushers, making workings safe, or firing misfired holes if permission is received from the Quarry Manager or his representative in every case.		
5.3	The manager determines blasting times and any other controls necessary, where blasting is likely to constitute a public nuisance in a built up area.		

#### 6. HANDLING MISFIRES

Point	Standard	Standard Met	Comments
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6.1	There is a written procedure that provides a safe system of entry and inspection for misfires before resuming normal work in an area that has just been blasted.		
6.2	There is a procedure in place for dealing with misfires.		
6.3	There is a procedure in place that ensures that a misfire occurring at the end of a shift is reported to the relieving person as well as the Quarry Manager.		
6.4	Inspections carried out for misfires and any actions taken as a result of misfires are recorded in the record book.		

### 7. ELECTRIC BLASTING

Point	Standard	Standard Met	Comments
7.1	Only exploders approved by Chief Inspector of Explosives (CIE) are used.		
7.2	A system is in place that ensures that exploders are tested and maintained in good working order.		
7.3	Only circuit testers approved by CIE are used.		
7.4	A system is in place that ensures that circuit testers are maintained in good and efficient condition.		
7.5	There is a procedure in place that provides for safe connecting up, testing and firing.		
7.6	The shot firing personnel have been trained, tested and appointed in writing.		

### 8. EXTERNAL ELECTRICAL HAZARDS

Point	Standard	Standard Met	Comments
8.1	There is a system in place for the ceasing of charging and firing and withdrawal of personnel in the event of a threat from an electrical storm.		
8.2	There is a system in place to eliminate hazards caused by premature initiation of detonators by electro-magnetic radiation, static electricity or any other electrical apparatus.		

### 9. NON ELECTRIC FIRING

Point	Standard	Standard Met	Comments
9.1	There is a written procedure in place that provides a safe system of hook-up connection and initiation.		
9.2	The shot firing personnel have been trained, tested and appointed in writing.		

**10. BLASTING IN REACTIVE GROUND**

<b>Point</b>	<b>Standard</b>	<b>Standard Met</b>	<b>Comments</b>
10.1	The procedures used for charging and firing in oxidising or reactive ground and the precautions taken are in accordance with the manufacturer' s or supplier' s recommendations.		
10.2	The District Inspector is notified of any blasting that is to be done in oxidising or reactive ground.		