土木工程拓展署 - 礦務部

Mines Division, CEDD

引爆手實習員訓練記錄表

Trainee Shot Firer Training Log Sheets

甲部 -工作紀錄
Part A : Working Record

引爆手實習員姓名 Name of Trainee Shot Firer		實習爆破更數 No. of blast undertaken
工程項目 Project		
地盤位置 Site Location		
地盤編號 Site Code		爆破編號 Blast No.
日期 Date	爆破時間 Blasting Time	天氣 Weather
引爆手導師姓名 Name of Trainer		礦場燃爆證書號碼 MBC No.

乙部 – 爆破設計詳情
Part B : Blast Design Details

a) 爆破類型 (例如台階、預裂、隧道、豎井、溝渠): Type of Blasting (e.g. bench, pre-split, tunnel, shaft, trench)			
b) 炮孔排列 (例如方形、交錯形、扇形掏槽、楔形掏槽、瑞典式掏槽): Drill pattern (e.g. square, staggered, fan cut, wedge cut, burn cut):			
c) 使用炸藥類型及數量(個及公斤): Type and quantity of explosives used (nos. & kg)			
d) 起爆方法 (例如非電方式、電子方式): Initiation system (e.g. non-electric, electronic):			
e) 炮孔數目(個): Number of blastholes (nos.):		f) 台階高度 (米) (如適用): Bench height (m) (if applicable):	
g) 炮孔直徑 (毫米): Blasthole diameter (mm):		h) 負荷 (米): Burden (m):	
i) 孔距 (米): Spacing (m):		j) 超深 (米) (如適用): Sub-drill depth (m) (if applicable):	
k) 填塞長度 (米): Stemming length (m):		l) 炮孔總深度 (米): Total blasthole depth (m):	
m) 層間填塞長度 (米): Inter-deck stemming length (m):		n) 炮孔角度: Blasthole inclination:	

o) 爆破面積 (平方米): Blast area (m^2):		p) 岩石體積 (立方米): Volume of rock (m^3):	
q) 每段延時最大藥量 (公斤): Maximum charge weight per delay (kg):		r) 炸藥系數 (公斤/立方米): Powder factor (kg/m^3):	

丙部 – 平面圖，切面圖及草圖
Part C – Plan, Cross-sections and Sketches

a. 如屬地面爆破 (例如台階、預裂、溝渠)，請提供:
For opencast blasting operation (e.g. bench, pre-split, trench), please submit:
1) 標示爆破位置及保護措施(如有)之規劃圖
A layout plan showing the blast location, and protective measures (if required)
2) 標示炮孔排列高度(如負荷、孔距、台高、孔深、超深)之切面圖(X-X 及 Y-Y)
Cross-section (X-X and Y-Y) showing elevation of drilling pattern (e.g. burden, spacing, bench height, blasthole depth, subdrill)
3) 標示炮孔裝藥詳情，起爆延時順序及炮孔起爆時間之草圖
Sketches showing blasthole charging details, delay firing sequence and timing of blastholes.

b. 如屬地下爆破 (例如隧道、豎井)，請提供:
For underground blasting operation (e.g. tunnel shaft), please submit:

爆破設計草圖
A sketch showing the blast design

如有需要請另加附頁
* Please use Supplementary Sheets if necessary

丁部 – 裝藥及起爆方法
Part D : Charging and initiation Method

1) 檢查自由面及爆破位置 Examination of free face and blasting location		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement
2) 根據爆破設計查核炮孔佈局 Checking of drilling pattern against blast design		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement
3) 標示炮孔 / 延時起爆佈局 Marking up of holes / delay pattern		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement
4) 量度炮孔 (檢查炮孔大小、孔深、孔距及負荷) Measuring of blast holes size, depth, spacing, and burden		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement
5) 配裝起爆器炸藥 Preparing of primer		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement
6) 裝填炸藥(尤其是地面爆破的前排負荷控制，以及填塞控制) Loading of explosives (in particular front row burden control for surface blasting, and stemming control)		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement
7) 接駁雷管 Hook-up of detonators		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement
8) 執行疏散程序、預防及保護措施 (例如臨時封路、炮籠、排柵、鐵網、炮門) Implementation of evacuation procedure, precautionary and protective measures (e.g. temporary road closure, blasting cages, vertical screens, hanging wire mesh screens, blast door)		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement
9) 指定疏散區及路口警戒位置(用圖表示詳情)以及發出之警告訊號 (如敲鑼、警號) Designated evacuation area with sentries guarding (give details with a site plan) and warning signal issued (e.g. gong, siren)		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement
10) 爆破前的檢查工作和引爆炸藥 Checking to be carried out before firing and firing of charges		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement
11) 引爆後檢查燃爆位置及處理拒爆和未爆炸的炸藥 Checking of the blasting location after firing and handling of misfires and unexploded explosives		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement
12) 於保護對象(如有)監察爆破震動 (以質點速度峰值 PPV 表述) Ground vibration monitoring in terms of Peak Particle Velocity (PPV) at sensitive receiver concerned (if any)		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement
13) 於保護對象(如有)監察空氣衝擊波 (線性分貝) 或 (加權分貝) Air-overpressure (dBL) or airblast (dBA) at sensitive receiver concerned (if any)		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement

14) 事故 / 意外報告 (例如失響、飛石) (如有) Reporting of incident / accident (e.g. misfire, flyrock) (if any)		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement
15) 其他 Others		☐ 滿意 Satisfactory ☐ 仍需改善 Need improvement

戊部 – 引爆手實習員爆破後個人觀察及所注意事項
Part E – Post-blast comments given by the Trainee Shot Firer

己部 - 引爆手實習員聲明
Part F –Trainee Shot Firer's Declaration

我謹此聲明，據我所知所信，我就這份申請所呈交的一切資料及詳情，均屬正確無訛。
I hereby make application and declare the information provided to be true and accurate to the best of my knowledge at this time.

引爆手實習員簽署 Signature of Trainee Shot Firer
( )

日期 Date

庚部 – 引爆手導師爆破後評語
Part G – Post-blast comments given by the Approved Trainer

辛部 - 引爆手導師聲明
Part H – Approved Trainer's Delaration

我謹此聲明，據我所知所信，我就這份申請所呈交的一切資料及詳情，均屬正確無訛。
I hereby make application and declare the information provided to be true and accurate to the best of my knowledge at this time.

引爆手導師簽署 Signature of Approved Trainer
( )

日期 Date