

BLAST MONITORING REPORT

HM29 Hard stone quarry at Ta' Torri Falka, I/o Mgarr
12th April 2012

Details

Date	12-04-2012
Quarry number	HM29 – Hard stone Quarry at Ta' Torri Falka, I/o Mgarr Malta
Quarry operator	Hardrocks Ltd.
ANFO Supplier	Framegrip Ltd.
Police escort	PC1107 – W Damien

Location and time of blasting

One blast was carried out at 09:24 at approximately the point as indicated on the attached site diagram.

Summary of blasting conditions

Maximum charge per delay: 50Kg

Recommended vibration limit: <4 mm/s at the nearest residential/commercial areas.

Site Specific Permit

All holes were within quarry boundaries and within maximum depth.

Maximum charge per delay of 50Kg was not exceeded.

Weather Conditions

The current conditions as reported on www.maltaweather.com on 12/04/2012 at 09:30 in Naxxar Malta are the following: humidity 71%, wind: 14.2km/h NNW, temperature: 15.4C, cloud cover: 90% high cloud.

Comments

All holes are at the middle shelf of the quarry.

Notes

Seismograph was placed at the front of the farmhouse on the main road across from the quarry.

Seismograph was set to trigger at 0.51 mm/s. Seismograph used is MiniMate+ serial number BE9488.

Readings

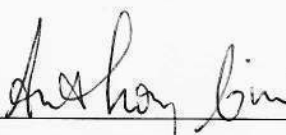
Blast number	1
Time	09:24
No. of holes	10
No. of delays	10
Depth of holes (m)	12
Max. Charge per delay (kg)	20
Total charge (kg)	200
Dist. from seismograph (m)	150
PPV (mm/s)	1.05
Frequency (Hz)	10.7
Air Overpressure (dB)	118.3
Scaled Distance (m kg^{-1/2})	33.5

Burden is an average of 2 metres, and distance between holes is around 2.5 metres.

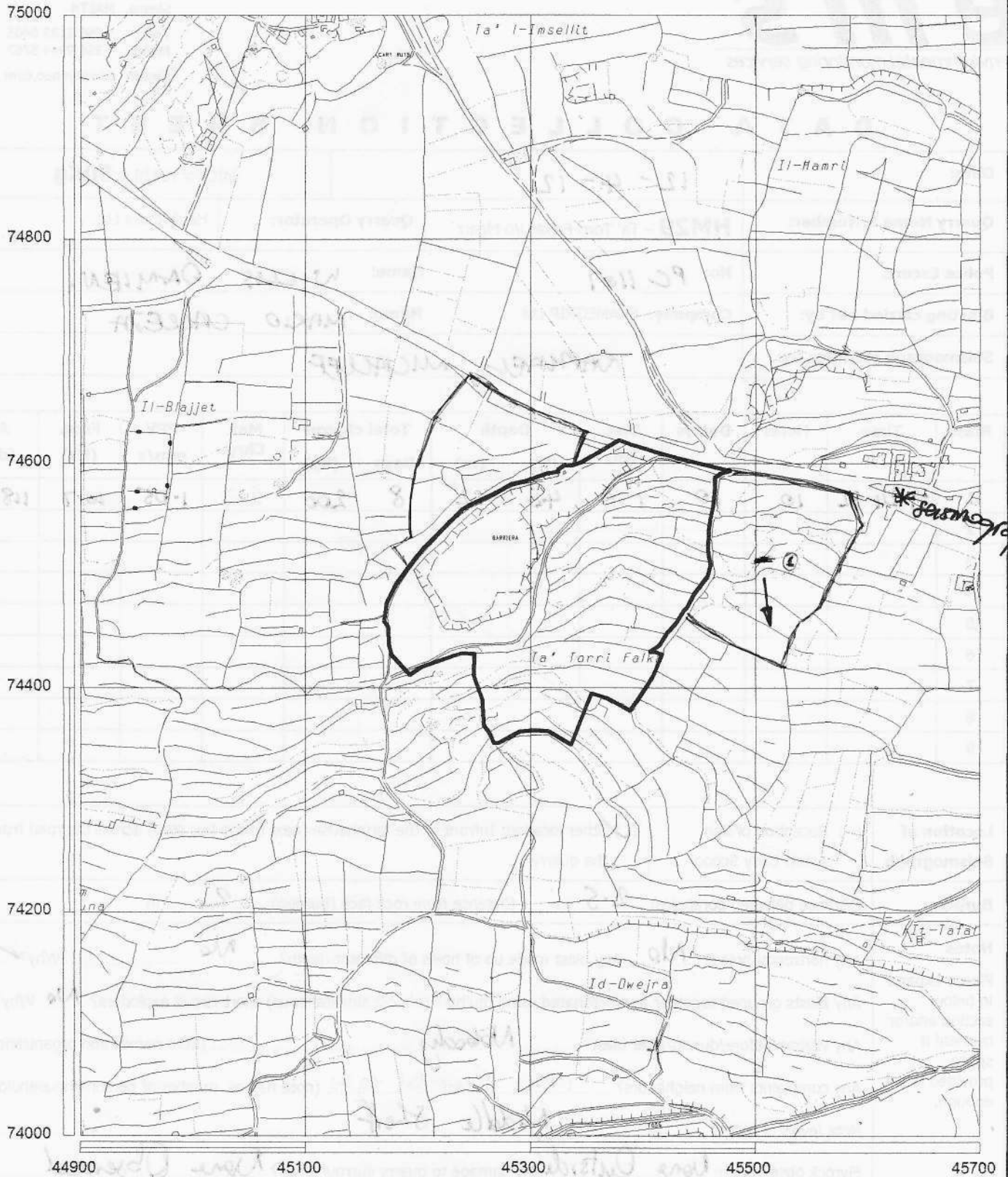
Weights in kilograms are rounded-up to the nearest unit, and depths in metres are rounded to the nearest 1/2 unit. Distance between the bore-holes and the instrument is to the nearest 10 metres.

Observations

From a brief visual inspection after the blast, no damage to the immediate surroundings of the quarry was observed.



Anthony Cini B.Sc.



Malta Environment & Planning Authority

Hardstone (UC) Quarry Site Plan

St. Francis Ravelin
 Floriana
 PO Box 200, Valletta
 Tel:240976 Fax:224846



Quarry No. :-

HM 29

Location :- Torri Falka, l/o Mgarr

Permitted Quarry Area :- 50956.54 sqm

Scale :- 1:5000

Permitted Quarry Depth :- 55 m amsl

12-4-12
[Handwritten signature]

Part of Survey Sheet(s): 4473 4474

Date :- 6/5/03

DATA COLLECTION SHEET

Date:	12-4-12		MIC for HM29 is 50Kg	
Quarry Name & Number:	HM29 - Ta' Torri Falka, l/o Mgarr	Quarry Operator:	Hard Rocks Ltd.	
Police Escort:	No: PC 1107	Name:	WILLIS DAMIEN.	
Blasting carried out by:	Company: FRAMEGRIP Ltd	Name:	MARIO CALLETA	
Seismograph readings by:	RAPHAEL MICALFEF			

Blast	Time	Holes	Delays	Dist. (m)	Depth		Total charge		Max. Chrg.	PPV mm/s	Freq. (Hz)	Air (dB)
					(ft)	(m)	Bags	(kg)				
1	09:24:32	10	10	150	40	12	8	200	20	1.05	10.7	118.3
2												
3												
4												
5												
6												
7												
8												
9												

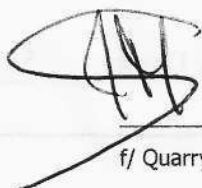
Location of Seismograph	() Reception of San Anton Early School	(<input checked="" type="checkbox"/>) Other location: Infront of the farmhouse (next to the bus stop) across the road from the quarry
Burden	Distance between boreholes: 2.5 m	Distance from rock face (burden): 2 m
Notes	<p>Any horizontal holes? <u>No</u> Any blast made up of holes of different-depth? <u>No</u> Why? ✓</p> <p>Any blasts grouped together and detonated using multiple (almost simultaneous) short-circuit exploders? <u>No</u> Why? !</p> <p>Any visitors before/during/after blast? <u>Nobody</u> (note names and organizations)</p> <p>Any complaints from neighbours? <u>None Reported to us</u> (note names, number of persons/households?)</p> <p>Note levels of holes: <u>Middle Shelf</u></p> <p>Flyrock observation: <u>None Outside</u> Any damage to quarry surroundings? <u>None Observed</u></p>	
Further Comments	Cloud Cover - High Clouds - 90%	

(use overleaf if more space is required)

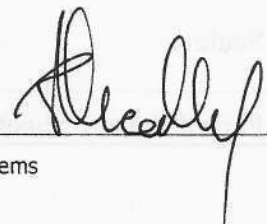
Signatures

PC 1107 D. Willis

Police escort



f/ Quarry operator



f/ ems

Date/Time Tran at 09:24:32 April 12, 2012
Trigger Source Geo: 0.510 mm/s
 Mic: 113 dB(L)
Range Geo: 31.7 mm/s
Record Time 2.0 sec at 4096 sps

Serial Number BE9488 V 8.01-8.0 MiniMate Plus
Battery Level 6.1 Volts
Calibration September 9, 2011 by Datum Monitoring
File Name K488E8IQ.4W0

Notes

Location: Quarry Blasting
 Client:
 User Name: ems
 General:

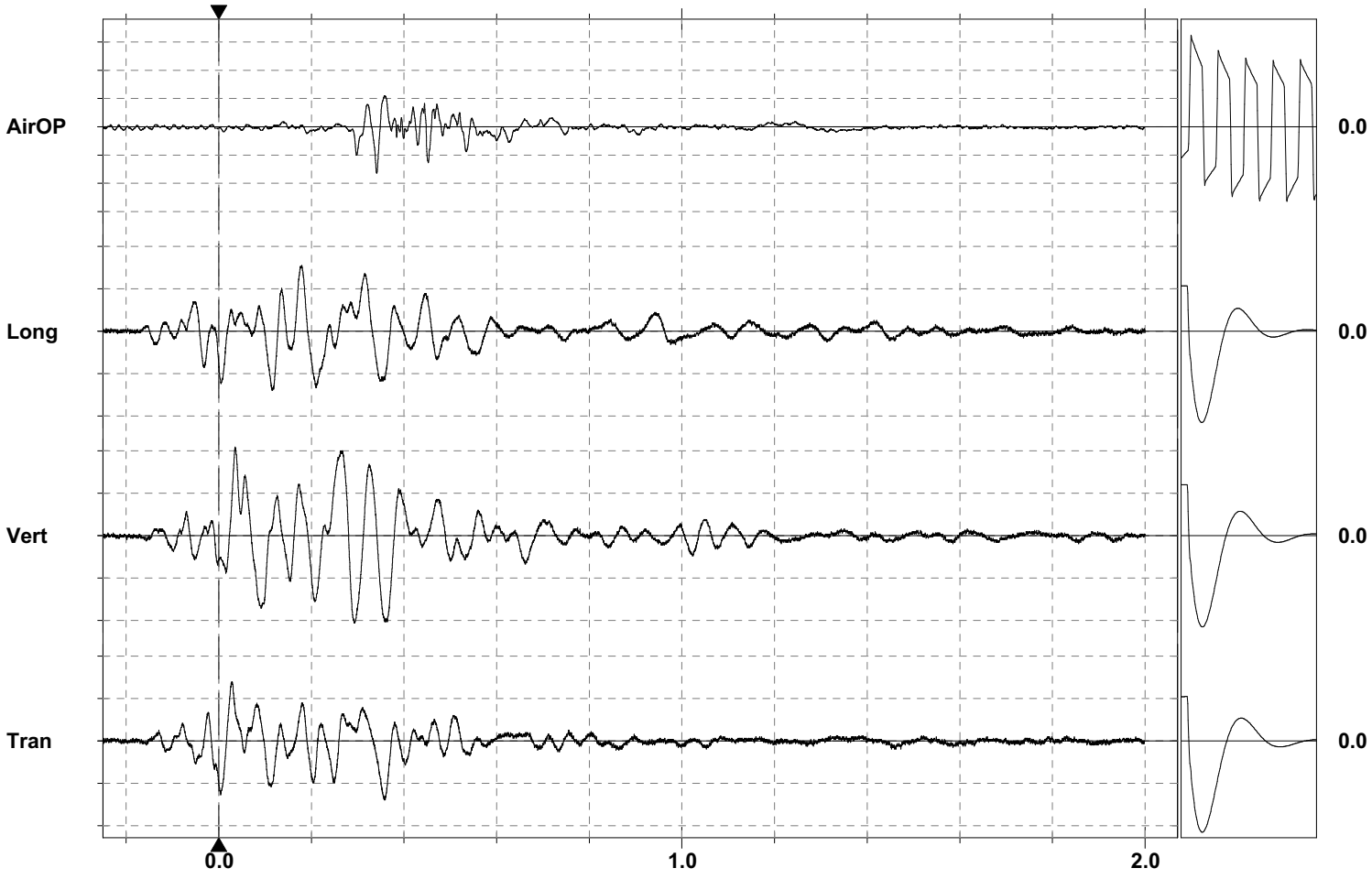
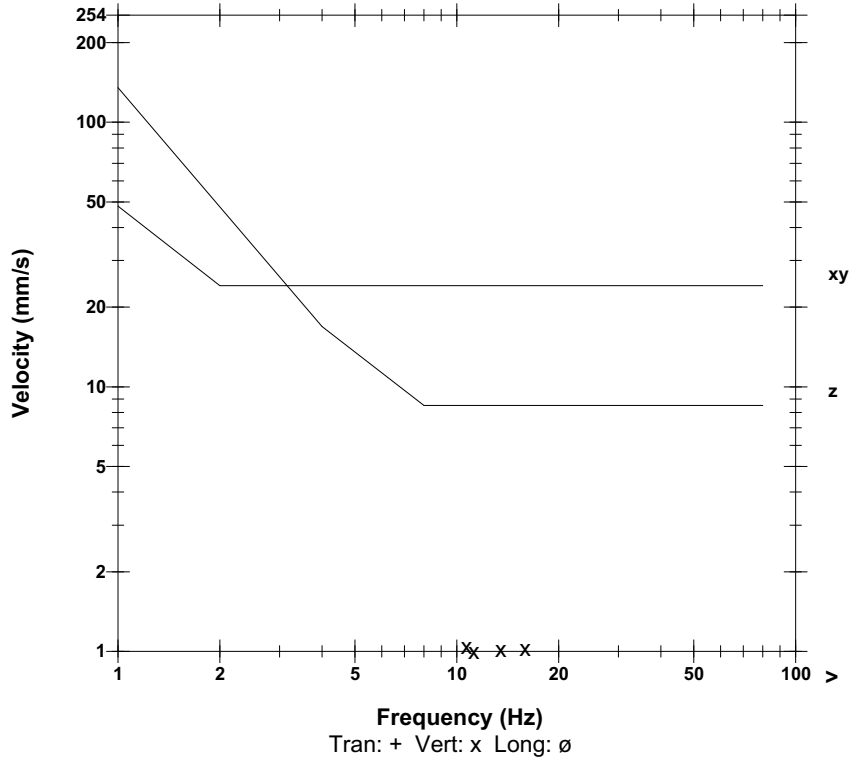
Post Event Notes

Microphone Linear Weighting
PSPL 118.3 dB(L) at 0.341 sec
ZC Freq 27.7 Hz
Channel Test Passed (Freq = 20.1 Hz Amp = 596 mv)

	Tran	Vert	Long	
PPV	0.698	1.05	0.778	mm/s
ZC Freq	14.9	10.7	18.6	Hz
Time (Rel. to Trig)	0.028	0.036	0.179	sec
Peak Acceleration	0.0265	0.0265	0.0265	g
Peak Displacement	0.00792	0.0135	0.0114	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.7	Hz
Overswing Ratio	4.0	3.8	4.0	

Peak Vector Sum 1.34 mm/s at 0.358 sec

BS 6472:1992 CURVE 60



Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.00 pa.(L)/div
Trigger = ▶ ◀

Sensor Check