

**BLAST MONITORING REPORT**  
**HM9C Hard Stone Quarry at Ta' Qaduma, l/o Mosta**  
**12th February 2013**

**Details**

Date	12-02-2013
Quarry number	HM9C – Ix-Xagħra Ta' Qaduma, l/o Mosta
Quarry operator	Carmel Vella Ltd.
ANFO Supplier	Framegrip Ltd.
Police escort	PC450 – C Bartolo

**Location and Time of Blasting**

One blast was carried out at 09:34 at the point as approximately indicated on the attached site diagram.

**Summary of Blasting Conditions**

Maximum charge per delay: 50Kg

Vibration limit: <4 mm/s (20 to 40Hz) at the nearest residential areas.

Air overpressure limit: 120 dB (L).

**Site Specific Permit**

Holes were within quarry boundaries and within the permitted depths.

Blasts were carried out according to the site specifications.

**Weather Conditions**

Humidity <sup>[1]</sup>	Wind <sup>[1]</sup>	Temperature <sup>[1]</sup>	Atm. Pressure <sup>[1]</sup>	Cloud Cover <sup>[2]</sup>
58%	8 Knots SW	14C	1006 hPa	100% low cloud

[1] As reported by weather.maltairport.com on 12 February 2013 at 09:15 at Luqa Airport [2] Our observation

**Comments**

All holes are at a middle shelf of the quarry in their respective locations.

**Notes**

Seismograph was placed at the side of the road adjacent to the back of Ta' Randa farmhouse as indicated on the attached site diagram. This is in front of the gate to the field very close to the quarry.

Seismograph was set to trigger at 0.50 mm/s. Seismograph used is MiniMate serial number BE9488.

**Readings**

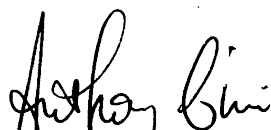
<b>Blast Number</b>	1
<b>Time</b>	09:34
<b>No. of Holes</b>	7
<b>No. of delays</b>	7
<b>Depth of Holes (m)</b>	15
<b>Max. Charge per Delay (Kg)</b>	40
<b>Total Charge (Kg)</b>	275
<b>Dist. from Seismograph (m)</b>	450
<b>PPV (mm/s)</b>	<0.50
<b>Frequency (Hz)</b>	N/a
<b>Air Overpressure (dB L)</b>	N/a
<b>Scaled Distance (m<sup>-1/2</sup>)</b>	71.2

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

*Weights in kilograms are rounded-up to the nearest unit, and depth in metres is rounded to the nearest ½ unit. Displacement between holes and the seismograph is measured using the online version of MEPA's Map Server and is accurate to the nearest 10 metres. Number of holes, their depth, burden, and the amount of ANFO used are as given by the quarry operator. Scaled distance and maximum charge per delay are calculated from the primary data. Weights are rounded-up to the nearest kilogram and the depth is rounded to the nearest ½ meter.*

**Observations**

There was no flyrock outside quarry boundaries. No damage to the surroundings was observed after the blast. The ground vibration and air overpressure measured for all blasts are within the limits.





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Anthony Cini B.Sc.

## DATA COLLECTION SHEET

Date:	12-2-13	MIC for HM9C is <b>50Kg</b>	
Quarry Name & Number:	<b>HM9C</b> - Ix-Xaghra ta' Qaduma, l/o Mosta	Quarry Operator:	Carmel Vella Ltd.
Police Escort:	No: PC450 Name: <b>CHRIS BARTOLO</b>		
Blasting carried out by:	Company: Framegrip Ltd.	Name: <b>MARIO CALLETA</b>	
Seismograph readings by:	<b>KAPHAEL MICALIEF</b>		

Blast	Time	Holes	Delays	Dist. (m)	Depth		Total charge		Max. Chrg.	PPV mm/s	Freq. (Hz)	Air (dB)
					(ft)	(m)	Bags	(kg)				
1	09:34.43	7	7	450	50	15	11	275	40	60.5	NA	NA
2												
3												
4												
5												
6												
7												
8												
9												

Location of Seismograph	<input checked="" type="checkbox"/> On the road, adjacent to the back of Ta' Randa Farmhouse (opposite gate to fields touching with quarry)	<input type="checkbox"/> Other location: 
Burden	Distance between boreholes: <u>2.5</u> m      Distance from rock face (burden): <u>2</u> m	
Notes	Any horizontal holes? <u>No</u> Any blast made up of holes of different-depth? <u>No</u> Why? <u>!</u> Any blasts grouped together and detonated using multiple (almost simultaneous) short-circuit exploders? <u>No</u> Why? <u>!</u> Any visitors before/during/after blast? <u>Nobody</u> (note names and organizations) Any complaints from neighbours? <u>None Reported</u> (note names, number of persons/households?) Note levels of holes: <u>(1) Middle shelf</u> Flyrock observation: <u>None Outside</u> Any damage to quarry surroundings? <u>None Observed</u>	
Further Comments	* Cloud Cover - 100% low clouds	

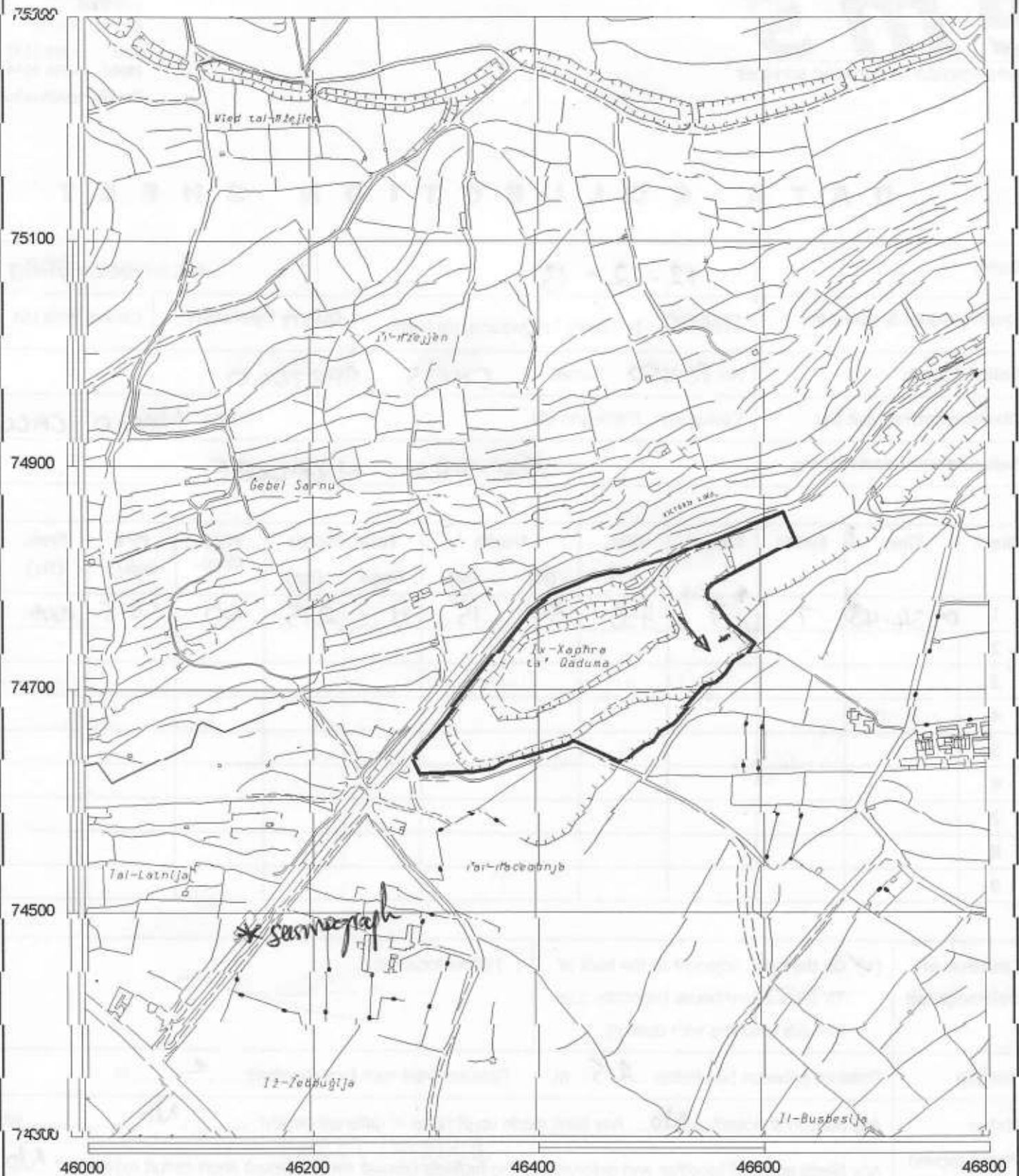
(use overleaf if more space is required)

**Signatures**

PC450 Bartolo  
Police escort

[Signature]  
f/ Quarry operator

[Signature]  
f/ ems



**Malta Environment & Planning Authority**

**Hardstone (LC) Quarry Site Plan**

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



Quarry No. :-

**HM 9C**

Location :- Xaghra ta' Qaduma

Permitted Quarry Area :- 35537.46 sqm

Scale :- 1:5000

Permitted Quarry Depth :- 50 m amsl

12/2-13

Part of Survey Sheet(s): 4674 4675

Date :- 6/5/03