

HM8 Hard Stone Quarry at Wied iz-Ziju, l/o Żejtun

20th November 2015

Details

Date	20-11-2015
Quarry number	HM8 – Hard stone Quarry at Wied iz-Ziju, l/o Żejtun
Quarry operator	Saliba Bros. Ltd
ANFO Supplier	Framegrip Ltd.
Police escort	PS 1277 – H Spiteri

Location and time of blasting

Two blasts were carried out at 09:40 at the points as approximately indicated on the attached site diagram.

Summary of blasting conditions

Max charge per delay: 50 Kg

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.

The maximum charge per delay was in the limits of permissible quantities.

Weather Conditions

Humidity ^[1]	Wind ^[1]	Atmospheric Pressure	Temperature ^[1]	Cloud Cover ^[2]
70%	8 knots NW	1022 hPa	21 C	Clear

[1] As reported by weather.maltairport.com on 20 Nov 2015 at 12:15 at Luqa Airport [2] Our observation

Comments

Holes are at the top shelf of the quarry at their respective location. Blasts number 1 and 2 were grouped together and detonated by means of two short circuit exploders in very quick sequence and captured as one event by the seismograph.

Notes about Monitoring

Seismograph was placed up the road in Triq il-Wied near an uninhabited building. Seismograph was set to trigger at 0.50 mm/s. Instrument used was a MiniMate Plus s/n BE9488.

Readings

Blast number	1	2
Time	09:40	
No. of holes	10	10
No. of delays	10	10
Depth of holes (m)	7.5	7.5
Max. Charge per delay (kg)	17	17
Total charge (kg)	163	163
Dist. from seismograph (m)	200	200
PPV (mm/s)	1.86	
Frequency (Hz)	16.0	
Air Overpressure (dB L)	106.0	
Scaled Distance (m kg^{-1/2})	48.5	48.5

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

No damage was observed during a brief visual inspection of the surroundings of the quarry after the blast.

Anthony Cini B.Sc.

DATA COLLECTION SHEET


Date:	20-11-15		MIC for HM8 is 50Kg	
Quarry Name & Number:	HM 8 - Wied iz-ziju, l/o Zejtun	Quarry Operator:	Saliba Bros Ltd.	
Police Escort:	No: 18 1277	Name:	HERMANN SPITERI.	
Blasting carried out by:	Company: FrameGrip Ltd.	Name:	MARIO CALLEJA	
Seismograph readings by:	A. CINI, RAPHAEL MICALF			

Blast	Time	Holes	Delays	Dist.		Depth		Total charge		Max. Chrg.	PPV mm/s	Freq. (Hz)	Air (dB)
				(m)	(ft)	(m)	Bags	(kg)					
1	09:40:00	10	10	200	25	7.5	6 1/2	162 1/2	17	1.86	16.0	106.0	
2		10	10	200	25	7.5	6 1/2	162 1/2	17				
3		20					13	325					
4													
5													
6													
7													
8													
9													

Location of Seismograph	() At the beginning of Sqaq Wied il-Ghajri	(X) Other location: UP THE ROAD - TRIQ IL-WIED, FIRST BUILDING (ABANDONED)
Burden	Distance between boreholes: 2.5 m	Distance from rock face (burden): 2 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>Yes</u> Why? <u>*f</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>Top Shell</u> Flyrock observation: <u>None Observed</u> any damage to quarry surroundings? <u>None Observed</u>	
Further Comments	* Yes, as indicated, to reduce blasts due to work process; * Cloud Cover Clear	

(use overleaf if more space is required)

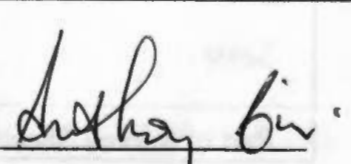
Signatures

181277 

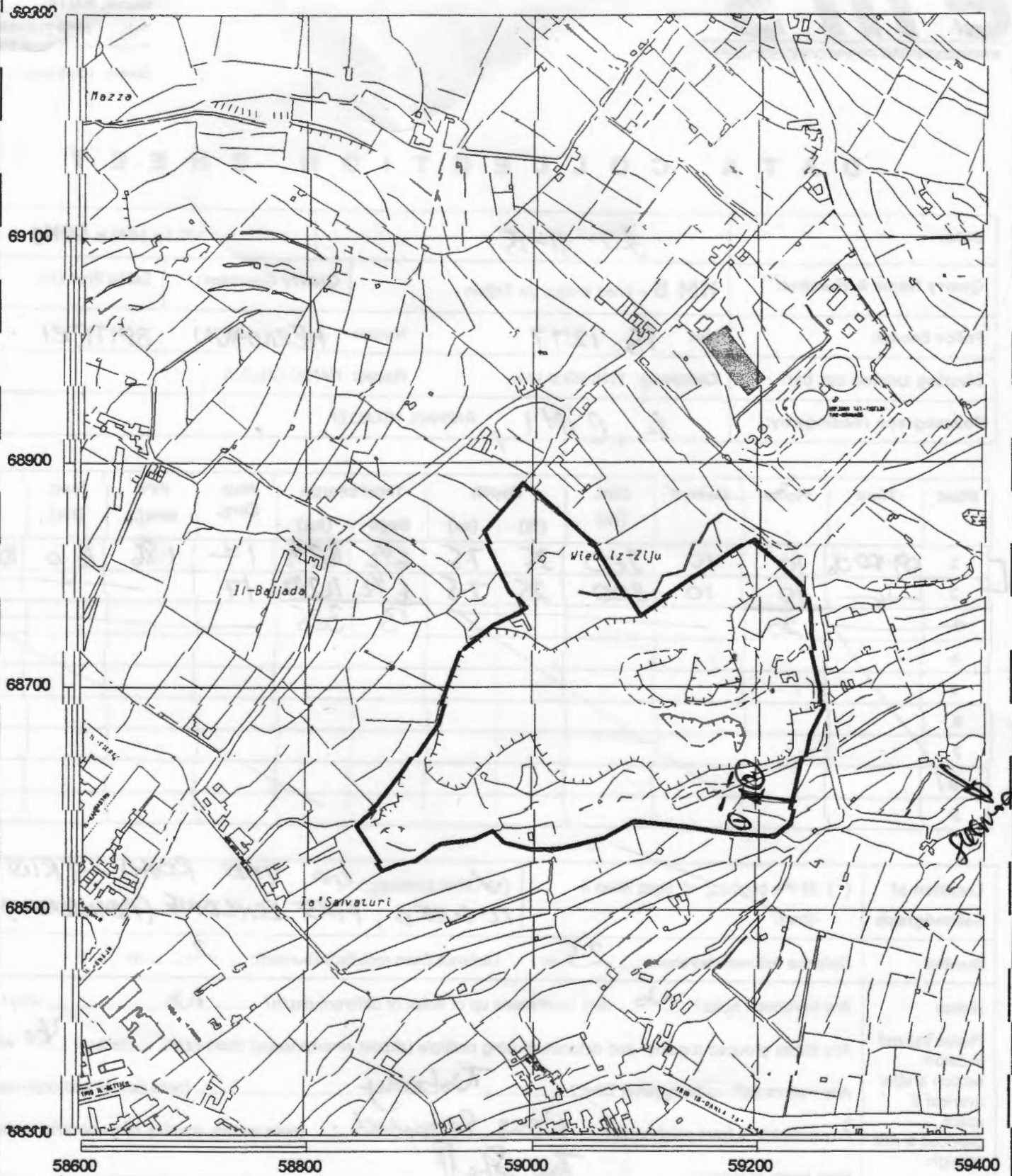
Police escort



f/ Quarry operator



f/ ems



Malta Environment & Planning Authority

St. Francis Ravelin
Floriana

hardstone (LC) Quarry Site Plan

PO Box 200, Valletta
Tel:240976 Fax:224846



Quarry No. :-

HM 8

Location :- Wied Iz-Ziju, Zejtun

Scale :-

1:5000

Permitted Quarry Area :- 82690.96 sqm

Permitted Quarry Depth :- 15 m amsl

Part of Survey Sheet(s): 5868 5869

Date :- 6/5/03

Handwritten notes:
 20-0-05
 10-0-05
 10-0-05

Date/Time Long at 09:40:06 November 20, 2015
Trigger Source Geo: 0.510 mm/s
Range Geo: 31.75 mm/s
Record Time 2.0 sec at 4096 sps

Serial Number BE9488 V 10.72-8.17 MiniMate Plus
Battery Level 6.2 Volts
Unit Calibration August 20, 2015 by Datum Monitoring
File Name K488G49M.UU0

Notes

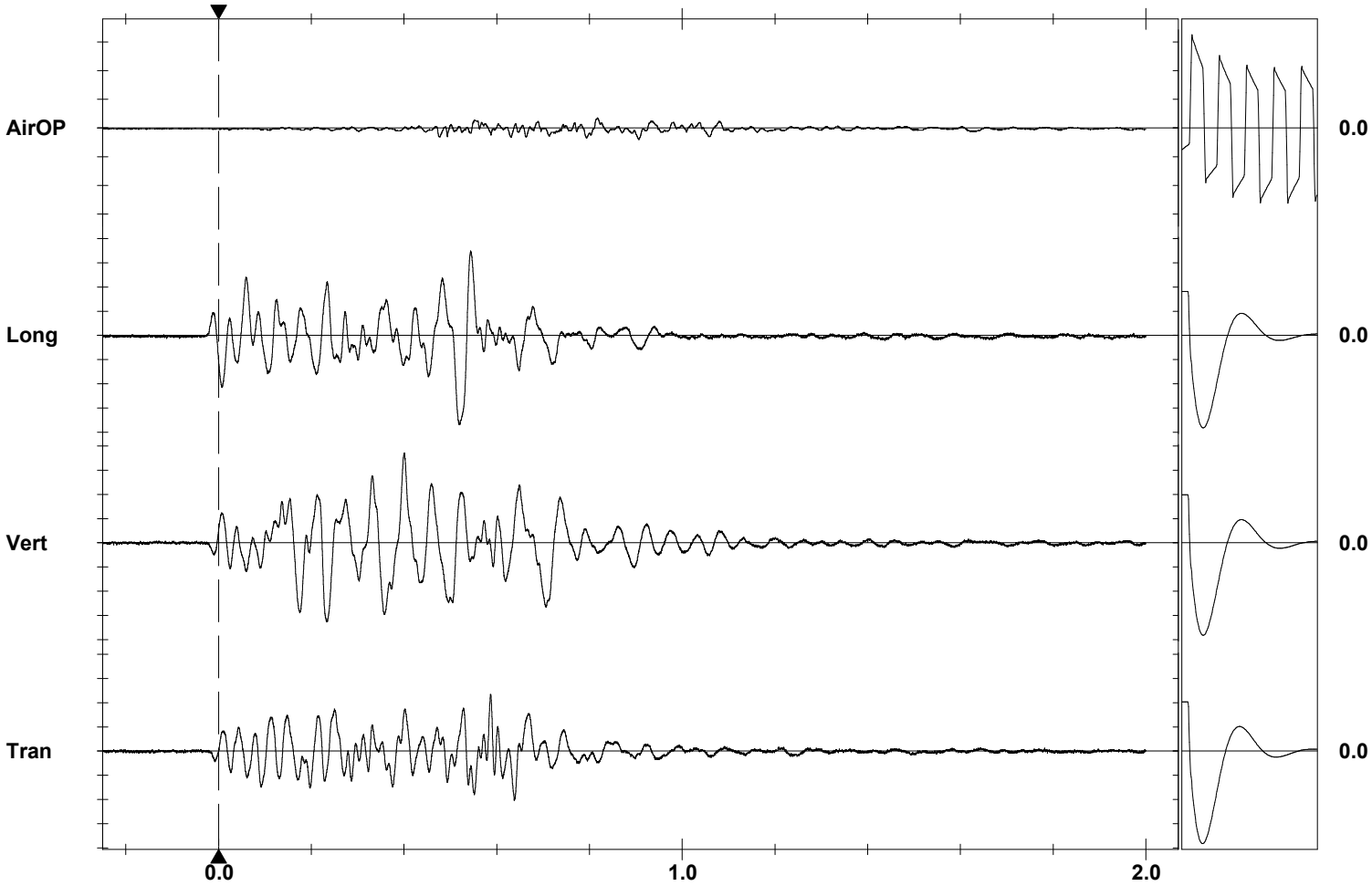
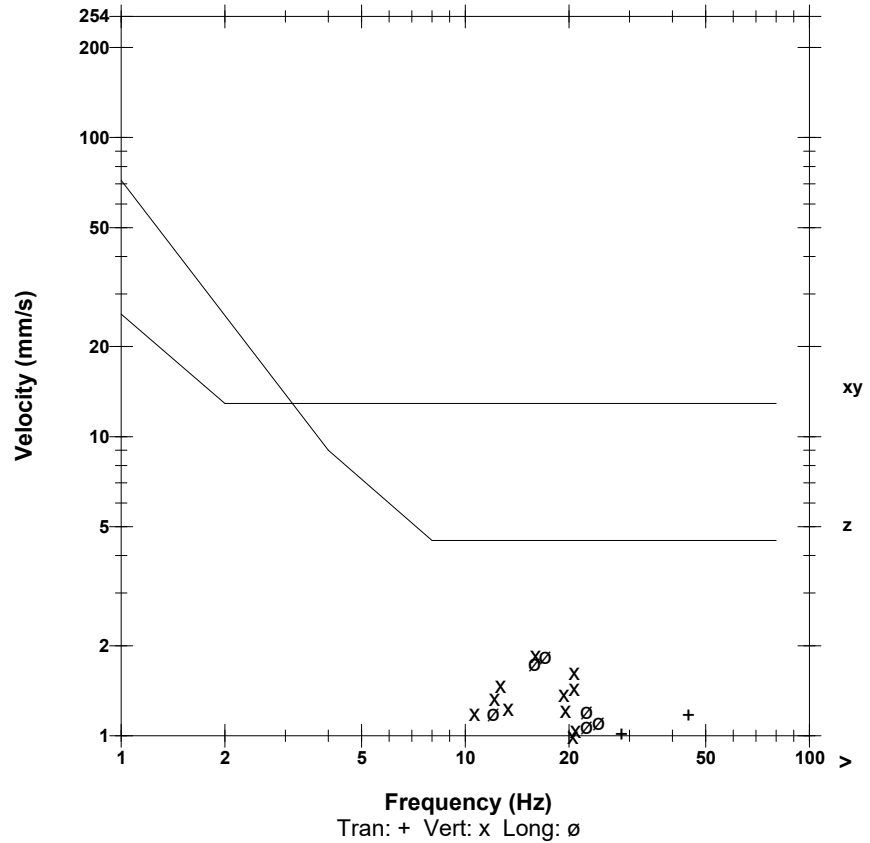
Location: Quarry Blasting
 Client:
 User Name: ems
 General:

Microphone Linear Weighting
PSPL 106.0 dB(L) 4.000 pa.(L) at 0.906 sec
ZC Freq 15.6 Hz
Channel Test Passed (Freq = 20.1 Hz Amp = 604 mv)

	Tran	Vert	Long	
PPV	1.175	1.857	1.841	mm/s
PPV	52.40	56.38	56.30	dB
ZC Freq	45	16.0	17.1	Hz
Time (Rel. to Trig)	0.586	0.400	0.518	sec
Peak Acceleration	0.046	0.046	0.046	g
Peak Displacement	0.008	0.017	0.018	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.3	7.3	Hz
Overswing Ratio	3.8	4.0	4.3	

Peak Vector Sum 2.123 mm/s at 0.521 sec

BS 6472:1992 CURVE 32



Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div
Trigger =

Sensor Check