

Appendix I

Blasting Records (Orica)



Orica Mining Services

Customer Blast Summary Report 17.07.2018

Blast Information

Customer Name: MIKE MCPHERSON QUARRY	Firing Date: 09.07.2018
Customer No: 17015	Firing Time: 13:08:00
Bench Location: BENCH 1	ShotFirer: Breyon Gibson
Shot Number: MQ007	Purchase Order No:
Shot Type: PROD	Sales Order:
PRODUCTION	WBS Element: C/N0238

Pattern Design

Ave Burden: 3.50 M	Ave Spacing: 4.00 M
No of Holes: 46	Ave Hole Depth: 8.39 M
BCM: 5,403	Ave Hole Diameter: 102.00MM
Powder Factor(Per BCM): 0.80 KG	

Bulk Explosives Deliveries:

Product	Description	Quantity	UOM
BCAGDGT	CENTRA GOLD GT	4,323	KG

Initiating & Packaged Explosives Used:

Product	Description	Quantity (ea)
PPP400	*Pentex PowerPlus P Booster 30/Box	50.00
DPU600.15CZDCA	*uni tronic 600-15M C/Z SPL(50') 66PC	50.00
XBP75	BOREHOLE PLUG 75MM	50.00

Additional Blast Services Completed:

Blast Service	Description	Quantity	UoM
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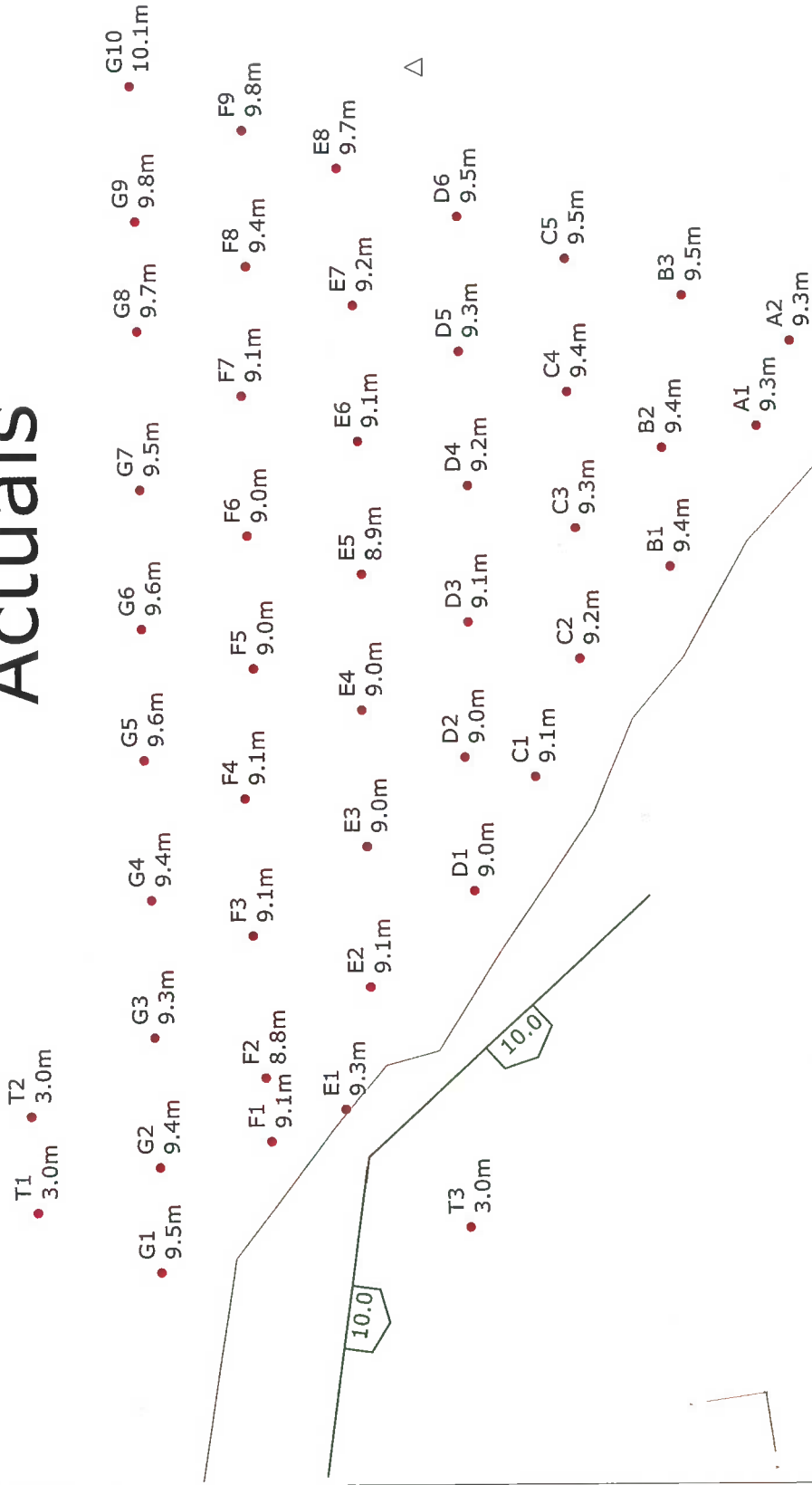
Comments

Orica Representative _____ Signature _____

Customer Representative _____ Signature _____

Blast Summary Data	
Burden: 3.5m	Spacing: 4.0m
1st row burden: 1.0m	Hole Diameter: 102.0mm
Total drilled: 409.0m	Subdrill: 0.5m
	Number of holes: 46
	Stemming: 2.8m
	Hole angle: 0.0°

Actuals



SHOTPlus 5.6.5.2	11/07/2018
Mine	Fulton Hogan
Location	Bench
Title/author	MQ00 Paul 021 926 032
Filename	MQ007.spf



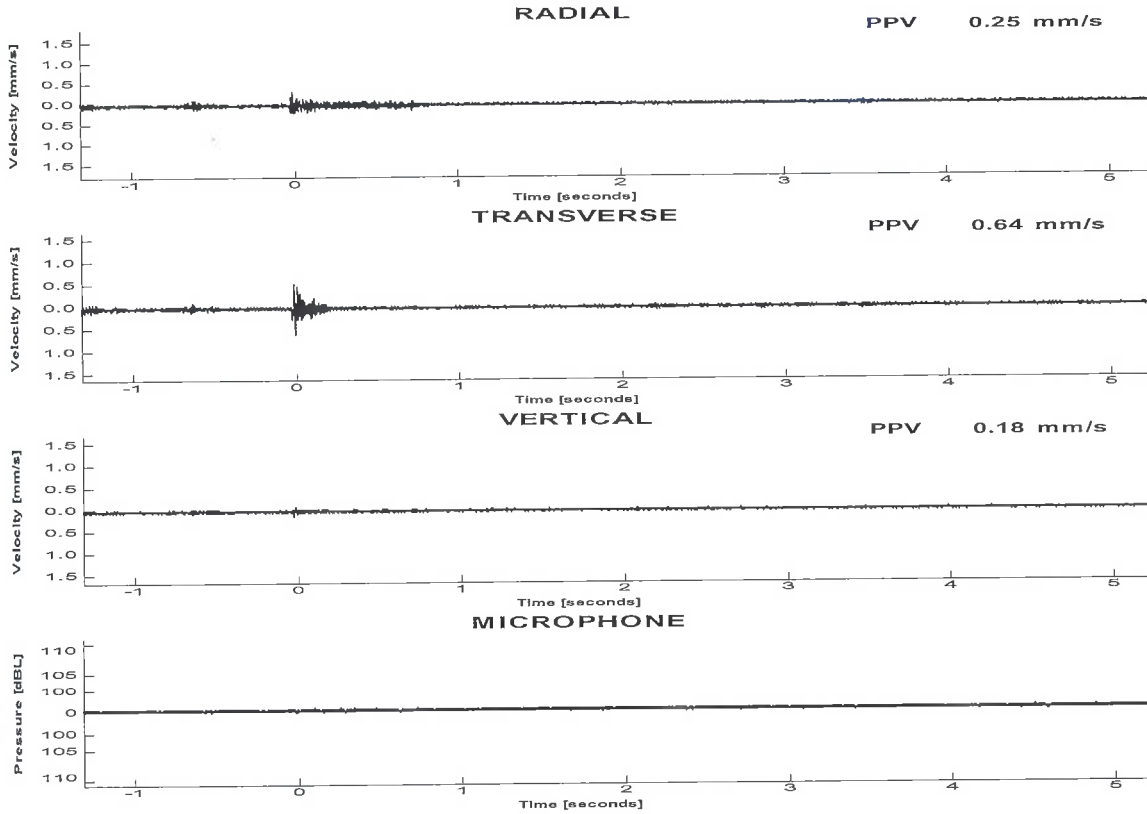
Not to scale

Mcpersons-TM MQ007

Location: Boundary
 Triggered by: Transverse

Date: 2018-07-09
 Time: 13:08:53

Triggers Set : Channels 1-3: 0.60mm/s



BLAST RESULTS

Peak Vector Sum Velocity : 0.73 mm/s at 0.0006 s
 Peak Overpressure : 80.6 dBL at 0.1026 s

	Peak [mm/s]	Frequency (ZC at Peak) [Hz]	Time (Rel. to Trigger) [s]	Acceleration (Est. from PPV) [mm/s ²]	Displacement (Est. from PPV) [μm]
Radial	0.25	92.6	-0.0119	110	0.7
Transverse	0.64	47.6	0.0006	153	3.4
Vertical	0.18	116.3	-0.0189	115	0.4

Monitoring conducted by:
 (:Breyon Gibson)

TM Serial Number : 4300 Last Calibration: 2017-03-17

Mcpersons\M4300 Mcpersons @ Boundary @ 2018-07-09 13.08.53.twf
 T-Link 1.2 - ANZEC OSMREDIN.rtt

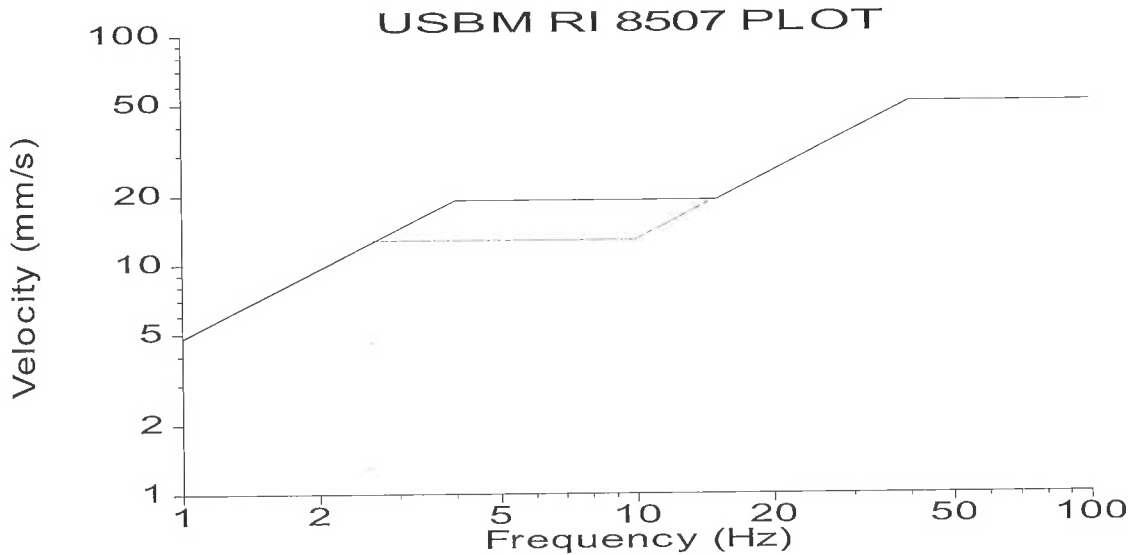
Texcel Monitors comply with Appendix J of AS 2187.2-2006

Mcphersons-MQ007

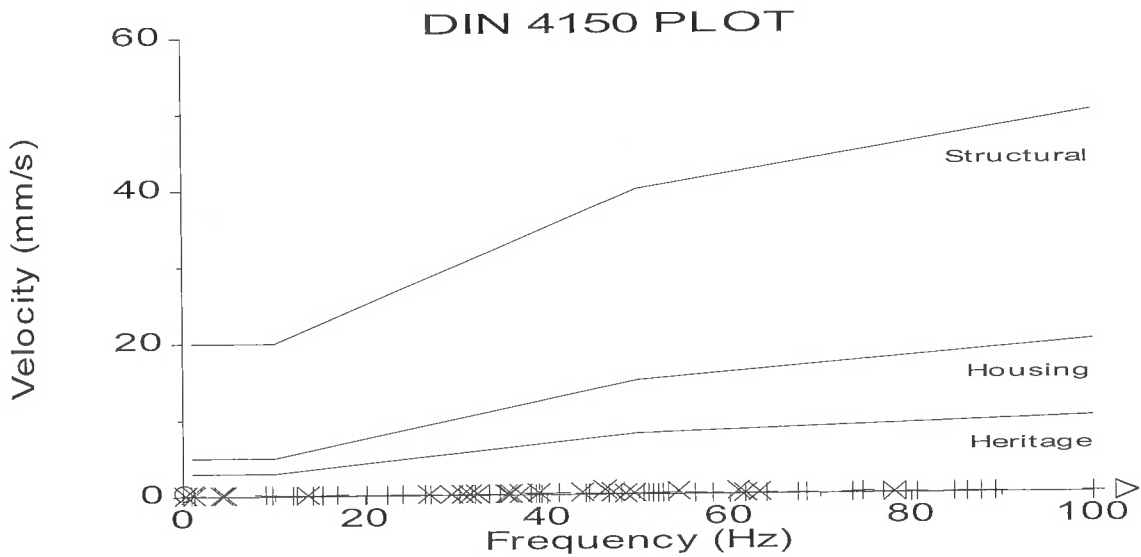
Location: Boundary
Triggered by : Transverse

Date: 2018-07-09
Time: 13:08:53

Triggers Set : Channels 1-3: 0.60mm/s



+ = RADIAL x = TRANSVERSE o = VERTICAL



+ = RADIAL x = TRANSVERSE o = VERTICAL

Monitoring conducted by:
(:Breyon Gibson)



Orica Mining Services

Customer Blast Summary Report 29.08.2018

Blast Information

Customer Name: MIKE MCPHERSON QUARRY	Firing Date: 27.08.2018
Customer No: 17015	Firing Time: 12:50:00
Bench Location: BENCH 1	ShotFirer: Jason Watkins
Shot Number: MQ008-18	Purchase Order No:
Shot Type: QUPD - QUARRY	Sales Order:
PRODUCTION	WBS Element: C/N0238

Pattern Design

Ave Burden: 3.50 M	Ave Spacing: 4.00 M
No of Holes: 70	Ave Hole Depth: 7.00 M
BCM: 6,860	Ave Hole Diameter: 102.00MM
Powder Factor(Per BCM): 0.71 KG	

Bulk Explosives Deliveries:

Product	Description	Quantity	UOM
BCAGDGT	CENTRA GOLD GT	4,900	KG

Initiating & Packaged Explosives Used:

Product	Description	Quantity (ea)
PPP400	*Pentex PowerPlus P Booster 30/Box	68.00
DPU600.09CZMCA	*uni tronic 600-09.0M CU/ZC(30')60PC	26.00
DPU600.20CZDCA	*uni tronic 600-20M CU/ZC SPL(65')66P	49.00
ESPF65X300	SENATEL POWERFRAG 65X300	25.00
XDHW400	Harness Wire Duplex 400m	1.00
XBP75	BOREHOLE PLUG 75MM	70.00

Additional Blast Services Completed:

Orica Representative _____ Signature _____
Customer Representative _____ Signature _____

SHOTPlus 5 Plan

Blast Summary Data	
Burden: 3.5m	Spacing: 4.0m
1st row burden: 3.5m	Subdrill: 1.0m
Total drilled: 560.3m	Hole Diameter: 102.0mm
	Number of holes: 70
	Stemming: 2.5m
	Hole angle: 0.0°

A7 A6 A5 A4 A3 A2 A1
 2.5m 2.5m 2.5m 2.5m 2.5m 2.5m 2.5m

2.5m toe holes

Actuals

50m

B7 B6 B5 B4 B3 B2 B1
 6.0m 6.0m 6.0m 6.0m 6.0m 6.0m 6.0m
 C7 C6 C5 C4 C3 C2 C1
 6.0m 6.0m 6.0m 6.0m 6.0m 6.0m 6.0m

C8
 6.0m

D13 D12 D11 D10 D9 D8 D7 D6 D5 D4 D3 D2 D1
 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m
 E13 E12 E11 E10 E9 E8 E7 E6 E5 E4 E3 E2 E1
 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m
 F12 F11 F10 F9 F8 F7 F6 F5 F4 F3 F2 F1
 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m 9.5m

G5 G4 G3 G2 G1
 9.5m 9.5m 9.5m 9.5m 9.5m

H3 H2 H1
 7.0m 9.5m 9.5m

W15 W14
 8.8m 9.5m

holes angled back to create back break in area which hasnt been cleared



Not to scale

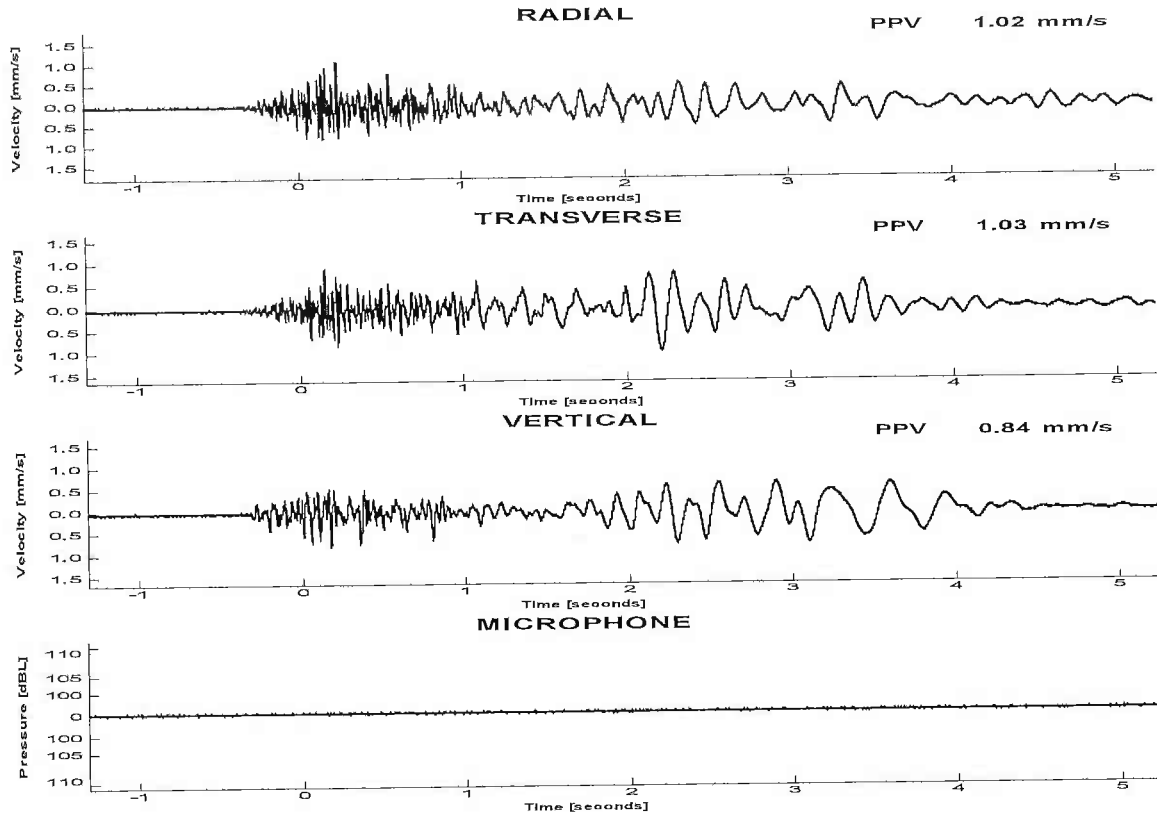
SHOTPlus 5.6.5.2	27/08/2018
Mine	Mcperson Quarry
Location	Pokeno
Title/author	MQ008-18 Paul 021 926 032
Filename	MQ008 Actuals.spf

McPhersons – MQ008-18

Location: Irish Road
 Triggered by : Radial

Date: 2018-08-27
 Time: 12:50:47

Triggers Set : Channels 1-3: 0.60mm/s



BLAST RESULTS

Peak Vector Sum Velocity : 1.29 mm/s at 0.2393 s'
 Peak Overpressure : 80.6 dBL at -1.1904 s

	Peak [mm/s]	Frequency (ZC at Peak) [Hz]	Time (Rel. to Trigger) [s]	Acceleration (Est. from PPV) [mm/s ²]	Displacement (Est. from PPV) [µm]
Radial	1.02	37.0	0.2393	149	6.9
Transverse	1.03	6.5	2.2152	30	39.5
Vertical	0.84	29.8	0.1814	126	7.1

Monitoring conducted by:
 (:jwatkins)

TM Serial Number : 4300 Last Calibration: 2017-03-17

McPhersons\M4300 McPhersons @ Irish Road @ 2018-08-27 12.58.47.twf
 T-Link 1.2 - ANZEC OSMREDIN.rtf

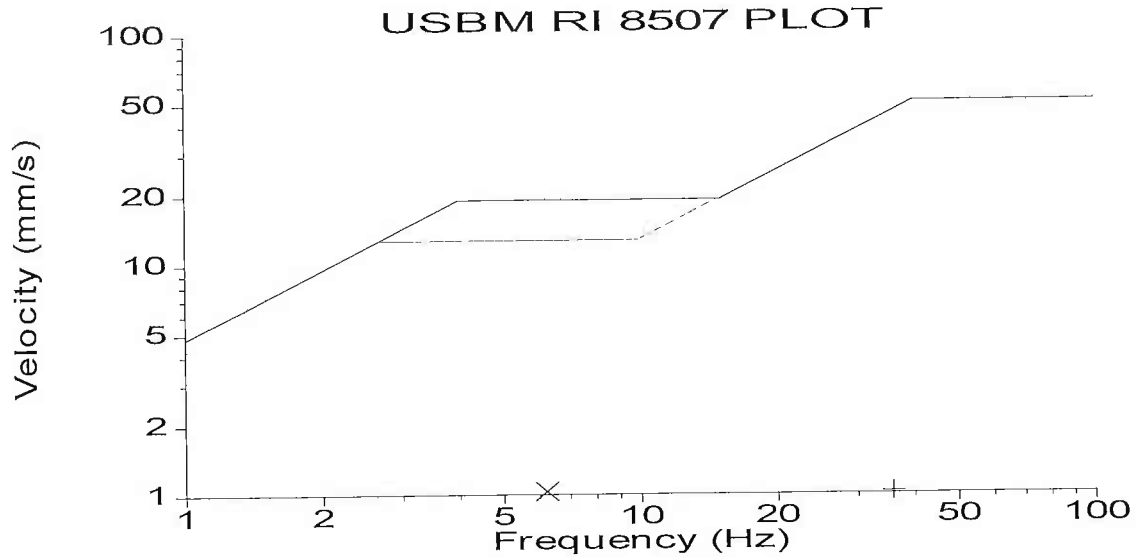
Texcel Monitors comply with Appendix J of AS 2187.2-2006

McPhersons – MQ008-18

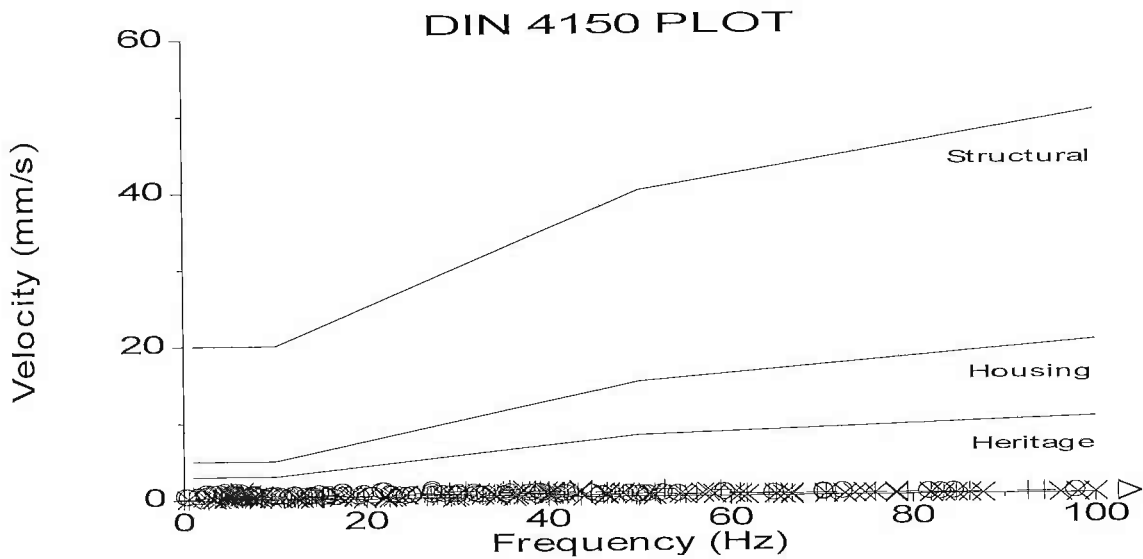
Location: Irish Road
 Triggered by : Radial

Date: 2018-08-27
 Time: 12:50:47

Triggers Set : Channels 1-3: 0.60mm/s



+ = RADIAL x = TRANSVERSE o = VERTICAL



+ = RADIAL x = TRANSVERSE o = VERTICAL

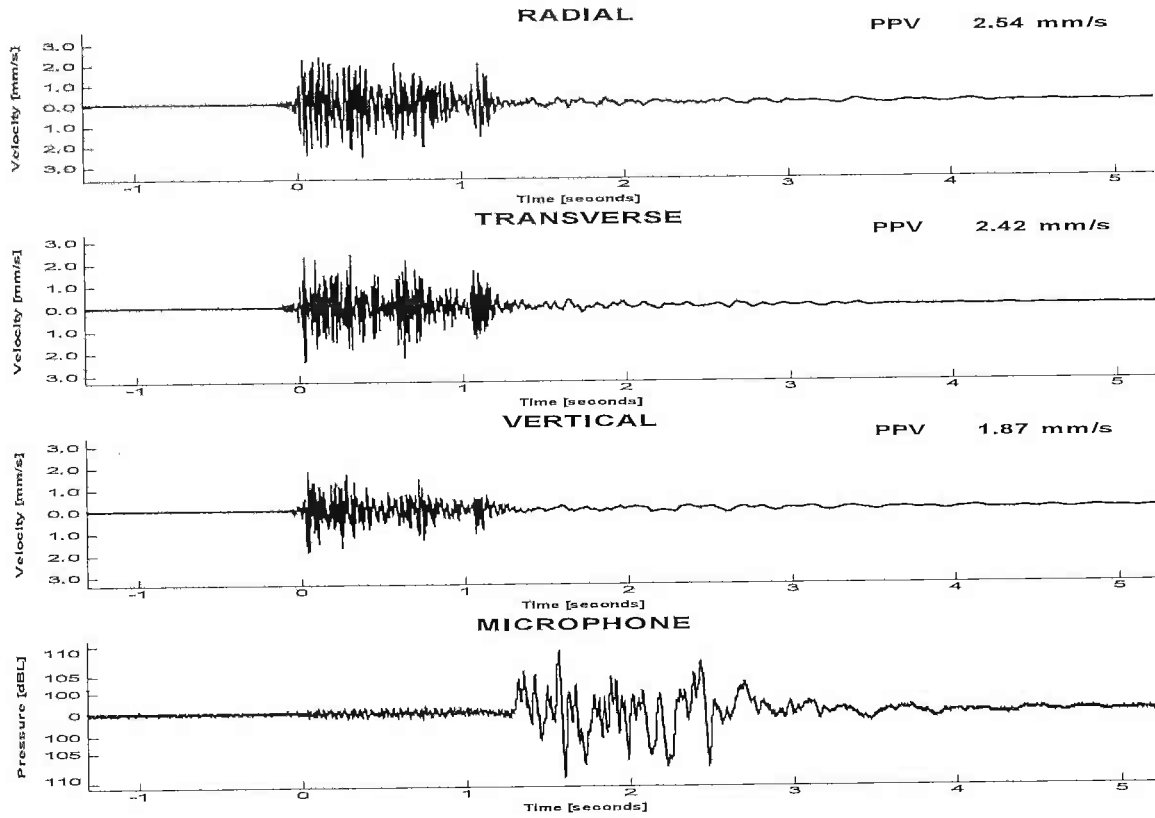
Monitoring conducted by:
 (:jwatkins)

McPhersons – MQ008-18

Location: Gate
 Triggered by : Transverse

Date: 2018-08-27
 Time: 12:50:01

Triggers Set : Channels 1-3: 0.60mm/s



BLAST RESULTS

Peak Vector Sum Velocity : 3.30 mm/s at 0.0416 s
 Peak Overpressure : 109.7 dBL at 1.6106 s

	Peak [mm/s]	Frequency (ZC at Peak) [Hz]	Time (Rel. to Trigger) [s]	Acceleration (Est. from PPV) [mm/s ²]	Displacement (Est. from PPV) [μm]
Radial	2.54	48.3	0.4030	513	13.2
Transverse	2.42	71.4	0.0422	801	8.5
Vertical	1.87	80.5	0.0520	682	5.8

Monitoring conducted by:
 (:jwatkins)

TM Serial Number : 4354 Last Calibration: 2017-03-03

McPhersons\M4354 McPhersons @ Gate @ 2018-08-27 12.58.01.twf
 T-Link 1.2 - ANZEC OSMREDIN.rtt

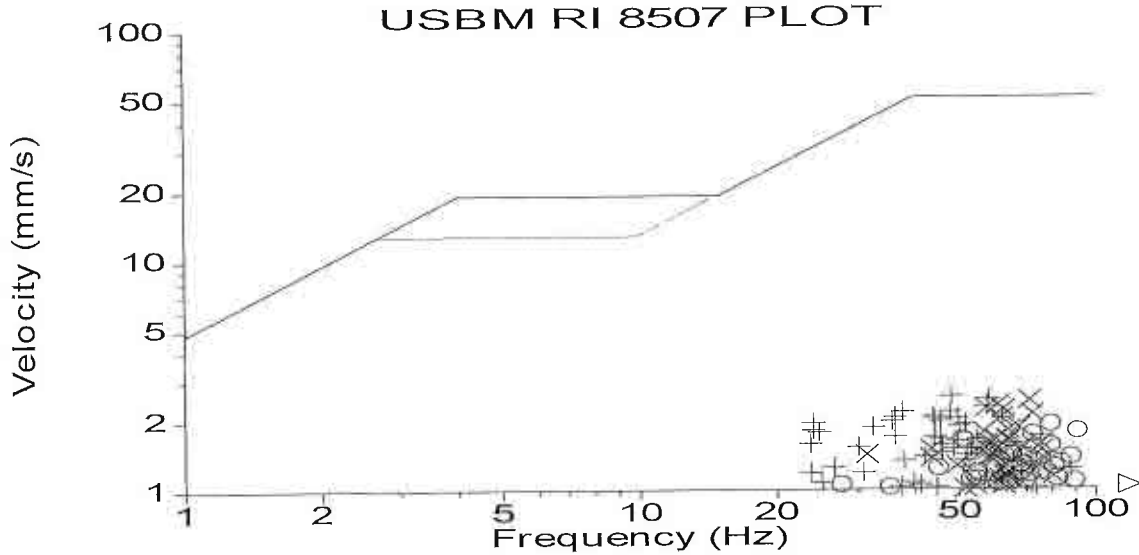
Texcel Monitors comply with Appendix J of AS 2187.2-2006

McPhersons – MQ008-18

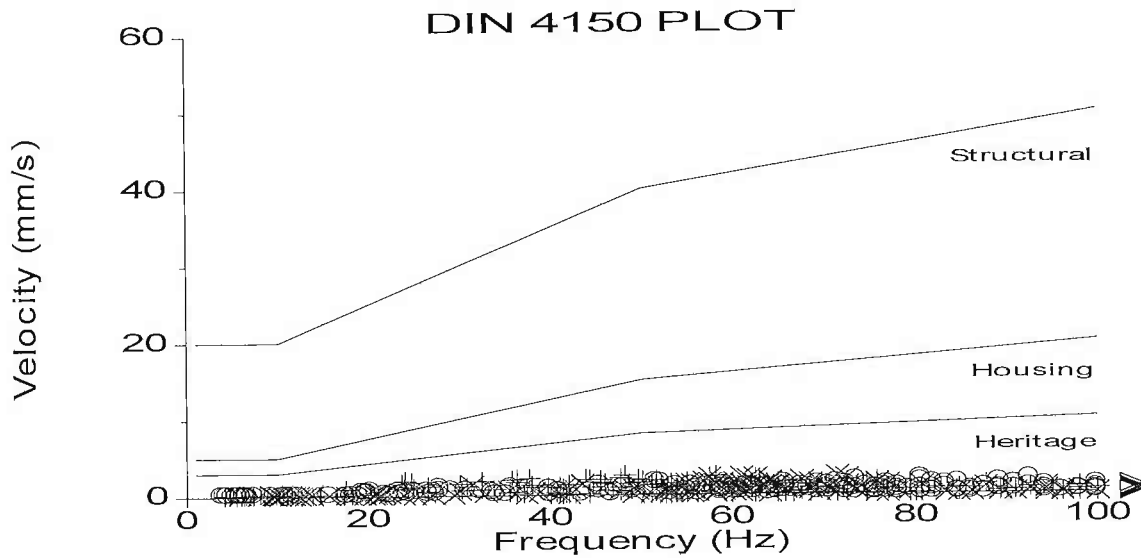
Location: Gate
Triggered by : Transverse

Date: 2018-08-27
Time: 12:50:01

Triggers Set : Channels 1-3: 0.60mm/s



+ = RADIAL x = TRANSVERSE o = VERTICAL



+ = RADIAL x = TRANSVERSE o = VERTICAL

Monitoring conducted by:
(:jwatkins)