

SAN RAFAEL ROCK QUARRY VIBRATION REPORT

SEISMIC INFORMATION
 Location: PR7 Max. Charge Weight: 420 Date of Blast: 10/13
 Northing: 37°59'11" Time of Blast: 11:52
 Easting: 1222330 Blast Duration: 39.2ms Blast Number: 121

SEISMOGRAPH INFORMATION	UNIT #1	UNIT #2	UNIT #3	UNIT #4
Seismograph Model	11000	11000	11000	11000
Serial Number	240	250	260	270
Last Calibration Date	5/17/12	5/17/12	5/17/12	5/17/12

LOCATION INFORMATION	UNIT #1	UNIT #2	UNIT #3	UNIT #4
Location	W. Quarry	W. Quarry	W. Quarry	W. Quarry
Northing	37°59'11"	37°59'11"	37°59'11"	37°59'11"
Easting	1222330	1222330	1222330	1222330
Distance from Blast	120	120	120	120
Scaled Distance	59	164	120	95

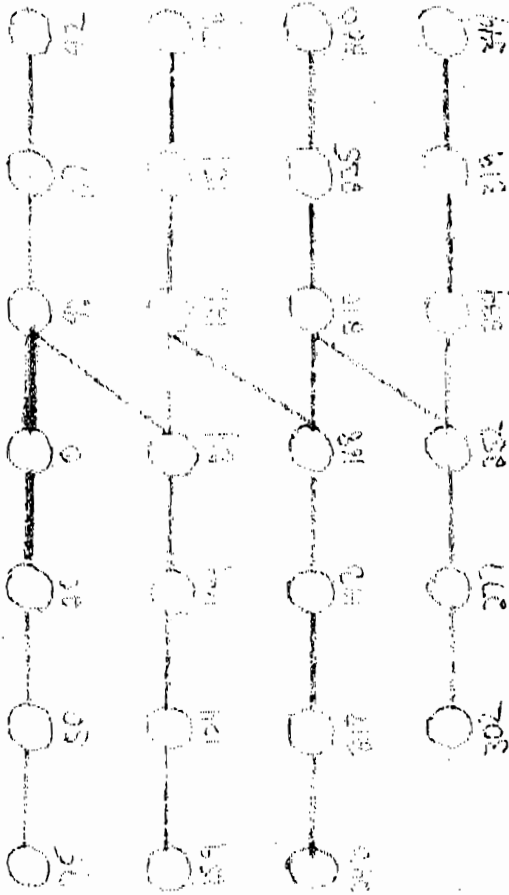
VIBRATION INFORMATION	UNIT #1	UNIT #2	UNIT #3	UNIT #4
Longitudinal Peak Particle Velocity (ips)	.02	.07	.09	.09
Longitudinal Peak Frequency (Hz)	24.4	13.8	18.5	18.5
Transverse Peak Particle Velocity (ips)	.08	.07	.05	.05
Transverse Peak Frequency (Hz)	33.2	16.8	13.5	13.5
Vertical Peak Particle Velocity (ips)	.02	.06	.10	.10
Vertical Peak Frequency (Hz)	35.7	0.9	41.6	41.6
Peak Vector Sum (ips)	.10	.10	.11	.11
Peak Air Overpressure (db)	119	112	117	117

GENERAL COMMENTS
 Ground very wet at seismic locations

Seismograph Operator: Peter Lopez Signature: Peter Lopez

1.30.13
PB-7
#1591

Face 40



main 12.14
Via Mont 3329
SM 2534
MN 1952

37° 59' 11" N
122° 27' 12" W

depth 43

18.54

430 15.000

27 holes
27-50' det
37-86' det
7-49' MC EITL
1-17 MS
54-450 grams

11320 lbs titom

Seismic Analysis

Velocity Waveform Analysis

Serial Number: 8030
Firmware Version: 08-03.23
Event Date: 01/30/2013 11:33:45 (UTC -08:00)
Event number: 12
Recording Time: 5 s
Client: COUNTY OF MARIN
Operation: SAN RAFAEL ROCK QUARRY
Location: ON QUARRY PROPERTY
Distance:
Operator: VIBRA-TECH GSM
Comment:
Seismic Trigger: 0.03 in/s
Sound Trigger: 75.9 DB

Additional Info:
 j-GEO-01253
 N37 59.481, W122 27.256

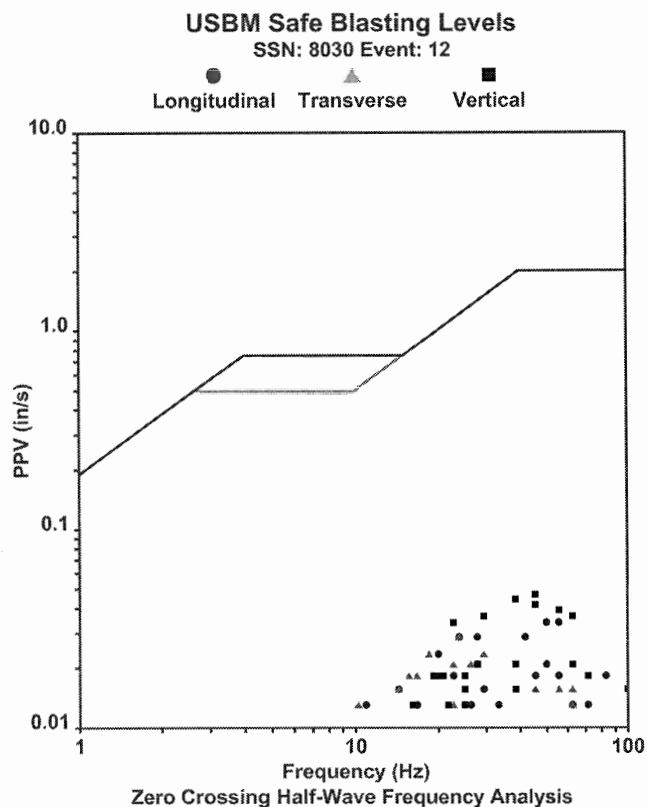
Summary Data

	L	T	V
PPV (in/s):	0.0325	0.0275	0.045
FREQ (HZ):	50	23.8	41.7
PD (.001"):	0.3875	0.3075	0.245
PPA (g):	0.02604	0.01953	0.05208

Peak Vector Sum: 0.055 in/s
Peak Air Pressure: 114.4 DB
 0.00164 psi @ 3.5 HZ

Shaketable Calibrated

On: 05/14/2012 (UTC -08:00)
By: Vibra-Tech, Inc.
 2700 Holloway Road - Suite 113
 Louisville, KY 40203 U.S.A.

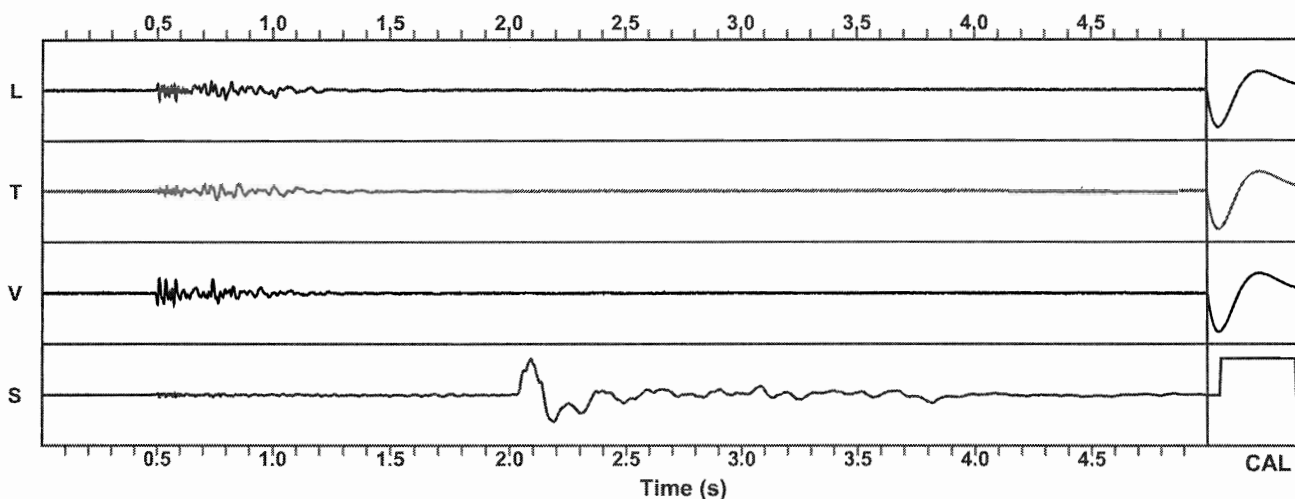


Waveform Graph Scale

Time Scale: 0.1 s
Seismic Scale: +/- 0.16 in/s
Sound Scale: +/- 0.0023 psi

Velocity Waveform

SSN: 8030 Event: 12



Seismic Analysis

Velocity Waveform Analysis

Serial Number: 8056
Firmware Version: 08-03.23
Event Date: 01/30/2013 11:33:45 (UTC -08:00)
Event number: 10
Recording Time: 5 s
Client: COUNTY OF MARIN
Operation: SAN RAFAEL ROCK QUARRY
Location: 16 MARIN BAY PARK CT.
Distance:
Operator: VIBRA-TECH GSM
Comment: WILLIAM HOSKEN RES.
Seismic Trigger: 0.03 in/s
Sound Trigger: 75.9 DB

Additional Info:

j-GEO-01252
 N37 59.524, W122 27 373

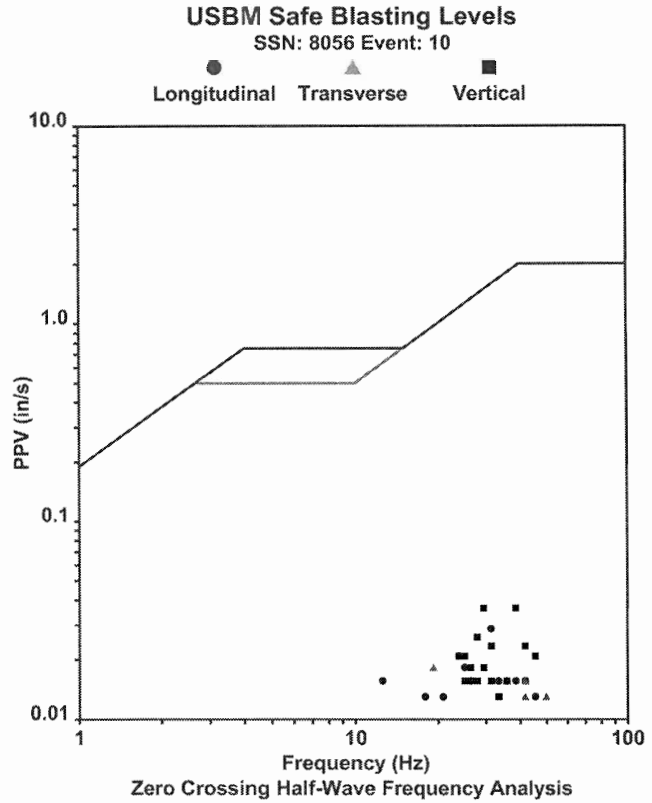
Summary Data

	L	T	V
PPV (in/s):	0.0275	0.0175	0.035
FREQ (HZ):	26.3	17.9	33.3
PD (.001"):	0.2675	0.1375	0.18
PPA (g):	0.01953	0.01302	0.02604

Peak Vector Sum: 0.04 in/s
Peak Air Pressure: 114.3 DB
 0.001622 psi @ 3.8 HZ

Shaketable Calibrated

On: 05/16/2012 (UTC -08:00)
By: Vibra-Tech, Inc.
 2700 Holloway Road - Suite 113
 Louisville, KY 40203 U.S.A.



Waveform Graph Scale

Time Scale: 0.1 s
Seismic Scale: +/- 0.16 in/s
Sound Scale: +/- 0.0023 psi

Velocity Waveform

SSN: 8056 Event: 10

