

SAN RAFAEL ROCK QUARRY VIBRATION REPORT

Location: South Hill E1-75 Max. Charge Weight: 180 Date of Blast: 3-22-11
 Northing: 37°59'03 N Blast Duration: 2.17 ms Time of Blast: 11:34
 Easting: 122°27'20 W Blast Number: 1545

SEISMOGRAPH INFORMATION		VIBRATION INFORMATION		
Seismograph Model	2000	Micro	Micro	Micro
Serial Number	2481	4550	4567	4870
Last Calibration Date	5 10 10	5 17 10	5 17 10	5 17 10
LOGARITHMIC AVERAGE				
Location	Marin ag	Via Mont	San Marina	McNear Park
Northing	37°59'19 N	37°59'18 N	37°59'31 N	37°59'30 N
Easting	122°27'22 W	122°27'53 W	122°27'30 W	122°27'16 W
Distance from Blast	1690	3062	3001	2745
Scaled Distance	125	228	223	204
VIBRATION INFORMATION				
Longitudinal Peak Particle Velocity (ips)	/			
Longitudinal Peak Frequency (Hz)	/			
Transverse Peak Particle Velocity (ips)	/			
Transverse Peak Frequency (Hz)	/			
Vertical Peak Particle Velocity (ips)	/			
Vertical Peak Frequency (Hz)	/			
Peak Vector Sum (ips)	-	-	-	-
Peak Air Overpressure (db)	-	-	-	-

Seismograph Operator: _____

Signature: V. Lopez



A Dyno Nobel Distributor

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DYNO
Dyno Nobel

Blast Report

Company Dutton Group Blast Date 3-22-11 Time 1134
 Location San Rafael Rock Weather Overcast Wind W 0-5
 City/State San Rafael, CA Blaster D. Heller Jr License No. 8219
 Shot Location Summit Hill Total Holes 16 Material Blasted King Valley
 Hole Diameter 8 1/2" Depth 14-62 Burden 30-40 Spacing 7-8
 Bench Height 56 Sub Drill 9 Stemming 10-18 Stem Material stem
 Decking — % Water 15 Nearest Structure (ft) 1690 off property

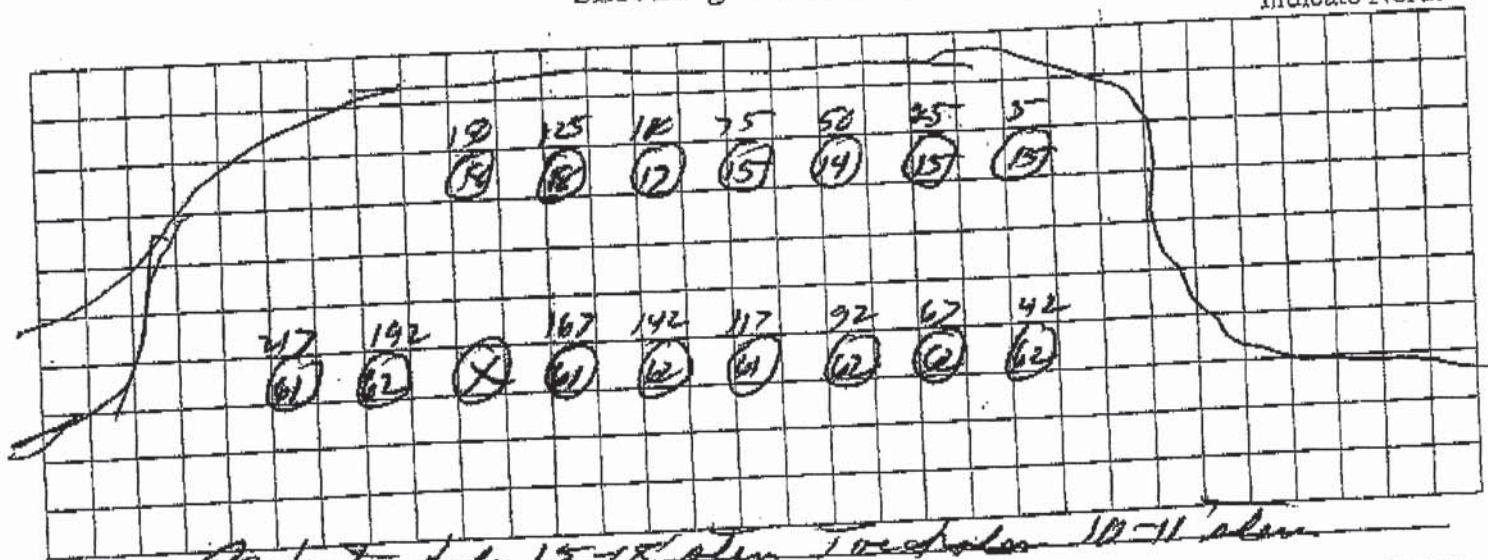
Detonators Electronic
 Length 65 Times/MS — Qty 10
 Length 30 Times/MS — Qty 20
 Length — Times/MS — Qty —
 Length — Times/MS — Qty —
 Length — Times/MS — Qty —
None used Total Detonators 30
 NIL 2000
 Max loaded lbs/Hole 180
 Max lbs Delay 180
 Holes per Delay 1

Explosives
 Type Spartan 350 Qty 30
 Type Dyno AP 2 1/2 x 16 Qty 22 1/2
 Type Truggak Qty 117
 Type — Qty 440
 Type — Qty 850
 Type — Qty —

Total Explosives 1427 1/2
 Total Tons/yardage 5226
 Powder Factor lbs Ton/yd 127

Shot Diagram/Timing

Indicate North



Comments Production holes 15-18 stem 10-11 stem

Blaster Signature D. Heller Jr Labor —

GeoSonics Inc. Seismic Analysis

Stop Event Report

Serial No: 9856 v3.23
Client: COUNTY MARIN
Operation: SAN RAFAEL ROCK QUARRY
Location: ON QUARRY PROPERTY
Distance:
Operator: VIBRA-TECH GSM
Comment:

Begin Date: 03/22/2011 06:00:48 (UTC-7)
End Date: 03/22/2011 12:00:35 (UTC-7)
Events over Trigger: 0 (2-1)
Record Time: 5.0 s
Seismic Trigger: 0.030 in/s
Sound Trigger: N/A
Battery Level: 8.7

Additional Info:

j-GEO-01253
N37 59.481, W122 27.256

Shaketable Calibrated: 01/27/2011
By: Vibra-Tech, Inc.
2700 Holloway Road - Suite 113
Louisville, KY 40299 U.S.A.
TEL: 502.240.9900 FAX: 502.240.9902

Dynamic Calibration Graph:



Cal Test Results:

Longitudinal:	Pass
Transverse:	Pass
Vertical:	Pass
Sound:	Pass

The seismograph on Quarry Property (S/N 9856) did not trigger during the shot on March 22, 2011 at approximately 11:34 indicating the ground vibrations produced were below the ground trigger level of 0.030 in/sec.

GeoSonics Inc. Seismic Analysis

Stop Event Report

Serial No: 7155 v3.23
Client: COUNTY OF MARIN
Operation: SAN RAFAEL ROCK QUARRY
Location: 16 MARIN BAY PARK CT.
Distance:
Operator: VIBRA-TECH GSM
Comment: WILLIAM HOSKEN RESIDENC

Begin Date: 03/22/2011 07:00:50 (UTC-7)
End Date: 03/22/2011 12:03:46 (UTC-7)
Events over Trigger: 0 (2-1)
Record Time: 5.0 s
Seismic Trigger: 0.030 in/s
Sound Trigger: N/A
Battery Level: 8.8

Additional Info:

j-GEO-01252
N37 59.524, W122 27.373

Shaketable Calibrated: 01/26/2011
By: Vibra-Tech, Inc.
2700 Holloway Road - Suite 113
Louisville, KY 40299 U.S.A.
TEL: 502.240.9900 FAX: 502.240.9902

Dynamic Calibration Graph:



Cal Test Results:

Longitudinal:	Pass
Transverse:	Pass
Vertical:	Pass
Sound:	Pass

The seismograph located across the street from 16 Marin Bay Park Court (S/N 7155) did not trigger during the blast on March 22, 2011 at approximately 11:34 indicating the ground vibrations produced were below the ground trigger level of 0.030 in/sec.

GeoSonics Inc. Seismic Analysis

Stop Event Report

Serial No: 9669 v3.23
Client: COUNTY MARIN
Operation: SAN RAFAEL ROCK QUARRY
Location: 114 SAN MARINO DRIVE
Distance:
Operator: VIBRA-TECH GSM
Comment: VERONIQUE RASKIN

Begin Date: 03/22/2011 07:00:50 (UTC-7)
End Date: 03/22/2011 12:03:37 (UTC-7)
Events over Trigger: 0 (2-1)
Record Time: 5.0 s
Seismic Trigger: 0.030 in/s
Sound Trigger: N/A
Battery Level: 8.9

Additional Info:

j-GEO-01254
N37 59.395, W122 27.700

Shaketable Calibrated: 01/26/2011
By: Vibra-Tech, Inc.
2700 Holloway Road - Suite 113
Louisville, KY 40299 U.S.A.
TEL: 502.240.9900 FAX: 502.240.9902

Dynamic Calibration Graph:



Cal Test Results:

Longitudinal: Pass
Transverse: Pass
Vertical: Pass
Sound: Pass

The seismograph at 114 San Marino Drive (S/N 9669) did not trigger during the shot on March 22, 2011 at approximately 11:34 indicating the ground vibrations produced were below the ground trigger level of 0.030 in/sec.