



BLASTING REPORT

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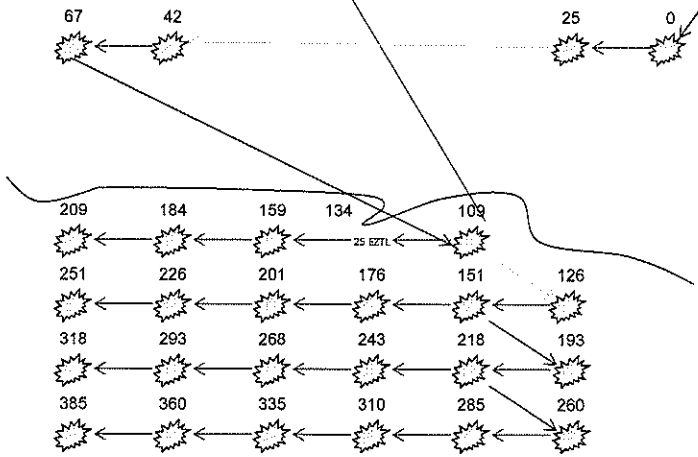
CUSTOMER NAME:	Eastside Rock		DAY:	10	DIRECTION AND DISTANCE TO NEAREST (NON-MINE/CONSTRUCTION) RELATED STRUCTURE:	DISTANCE/FT.	DIR.	WEATHER:	Partly Cloudy	
LOCATION/CITY:	Fall City		MONTH:	July		739	Southeast	TEMPERATURE/°F:	Warm	
LOCATION/STATE:	Washington		YEAR:	2017	LOCATION/ADDRESS:	6109 Preston/Fall City Rd. SE		WIND DIRECTION:	N/A	
BLAST LOCATION:	Top Bench				METHOD OF MEASUREMENT:	G.P.S.		WIND SPEED:	None	
QUARRY/PIT ID.:	Raging River Quarry		TIME:	3:50	G.P.S. LOCATION (STATION/STRUCTURE):	N 47°33'04.85 W 121°54'07.96				
BLAST NO.:	N/A		AM/PM:	PM	G.P.S. ACCURACY +/- (STATION/STRUCTURE) /FT.:	15'		CEILING LEVEL:	High	
JOB NO.:	1900				G.P.S. LOCATION (BLAST ZONE):	N 47°32.823' W 121°54.352'				
					G.P.S. ACCURACY +/- (BLAST ZONE)/FT.:	9'				
	1	2	3	4	1	2	3	4		
TYPE OF HOLES:	Vertical (production)	Toe hole			BURDEN/FT.:	9'	8'			
NO. OF HOLES:	22'	4			SPACING/FT.:	9'	8'			
HOLE DIAMETER/ IN.:	3 1/2"	3 1/2"			SUBDRILL/FT.:	0'	0'			
HOLE DEPTH/RANGE/AVG.FT.:	45' - 52'	48'	10'	10'	MATERIAL BLASTED:	basalt	basalt			
STEMMING LENGTH/RANGE/AVG./FT.:	8' - 28'	9'	7'	7'	STEMMING TYPE:	3/8"minus	3/8"minus			
EXPLOSIVES COMPANY USED:	Dyno Nobel		EXPLOSIVES PRODUCTS USED		SIZE	UNITS	WEIGHT/LBS.	DETONATORS USED	SIZE/FT.	QUANTITY
DECKING:	NO		1	ANFO P	BAG(S)	50	2500.000	MS 350	16	16
BLASTING MACHINE USED:	R.C.B.M.		2	ANFO WR	BAG(S)	6	300.000	EZ DET 25/350	16	4
METHOD OF FIRING:	NONEL		3	NONEL LEADLINE	2500' ROLL	1	0.024	EZ DET 25/350	60	22
BLASTING MATS USED:	NO		4	BLASTEX	2 1/2 X 18	1.92 cs.	76.610	EZTL #17	20	2
QUANTITY OF BLASTING MATS USED:	N/A		5	SPARTAN BOOSTER	350 G	2	1.500	EZTL #25	20	6
			6	DYNOSPLIT AP	1 1/8 X 16	40	26.640	EZTL #42	20	3
			7							
			8							
			9							
			10							
MAX. NO. OF HOLES/DECK PER 8 MS.:	1		TOTAL EXPLOSIVES USED/LBS.:		2,904.774		TOTAL NO. OF DETONATORS USED:		53	
MAX. WT. OF EXPLOSIVES PER HOLE / DECK:	144		TOTAL VOLUME/CUBIC YARDS:		3,144.0		SHOT RESULTS			
MAX. WT. OF EXPLOSIVES PER ANY 8 MS INTERVAL:	144		ROCK DENSITY/SPECIFIC GRAVITY:		2.00		FRAGMENTATION:		MEDIUM	
GROUND RESPONSE(K) FACTOR:	84		TOTAL WEIGHT/TONS:		6,288		MUCK PILE CONFIGURATION:		SLOPED	
PREDICTED P.P.V.:	0.17		POWDER FACTOR/LBS./CUBIC YARDS:		0.92		FLYROCK:		NO	
SCALED DISTANCE:	61.58		POWDER FACTOR/LBS./TON:		0.46		ALL HOLES DETONATED: YES			
BLASTING CREW	LICENSE NO.	B.I.C.	BLASTING CREW	LICENSE NO.	B.I.C.	BLASTING CREW	LICENSE NO.	B.I.C.		
Tim Fredericks	U-21478	YES								
Shelby Spahr		N/A								
Ethan Gillespie		N/A								
Jeremy Siefert		N/A								
SEISMOGRAPH TYPE:	INSTANTEL		LOCATION OF SETUP:		6109 Preston/Fall City Rd. SE					
NO. OF SEISMOGRAPHS USED:	4		DISTANCE FROM BLAST/FT.:		739					
SEISMOGRAPH OPERATOR(S):	Shelby Spahr		IF USED SEISMOGRAPH RECORD(S) ATTACHED TO BLAST REPORT							
	N/A									
	N/A									
	N/A									
	N/A									
COMPANY:	McCALLUM ROCK DRILLING		SIGNATURE OF BLASTER IN CHARGE		<i>Tim Fredericks</i>					
COMMENTS:	The seismograph at station #3 did not trigger.									

CUSTOMER NAME:	Eastside Rock
LOCATION/CITY:	Fall City
BLAST LOCATION:	Top Bench
JOB NAME/#:	1900
DATE:	7/10/2017

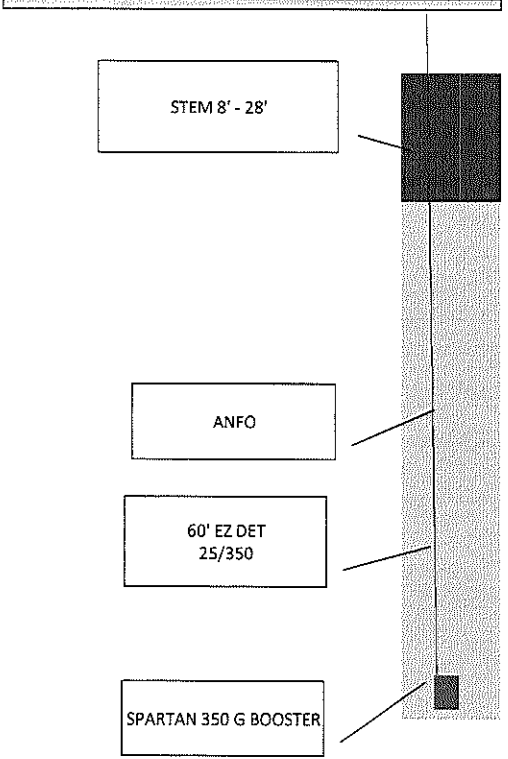


N 47°32.823' W 121°54.352'

INITIATION POINT



HOLE PROFILE



Date/Time Vert at 3:50:36 PM July 10, 2017
Trigger Source Geo: 0.030 in/s, Mic: 115.0 dB(L)
Range Geo: 10.000 in/s
Record Time 4.0 sec at 4096 sps
Job Number: 1
Operator/Setup: Tim Fredericks/Eastside 1.mmb

Serial Number UM8589 V 10-82 Micromate ISEE
Battery Level 3.5 Volts
Unit Calibration October 18, 2016 by Instantel
File Name UM8589_20170710155036.IDFW
Scaled Distance 61.6 (739.0 ft., 144.0 lb.)

GPS Location **Latitude** **Longitude**
 Source: 000 0.000 N 000 0.000 W
 Sensor1: 000 0.000 N 000 0.000 W
 Distance: 000.0 ft.

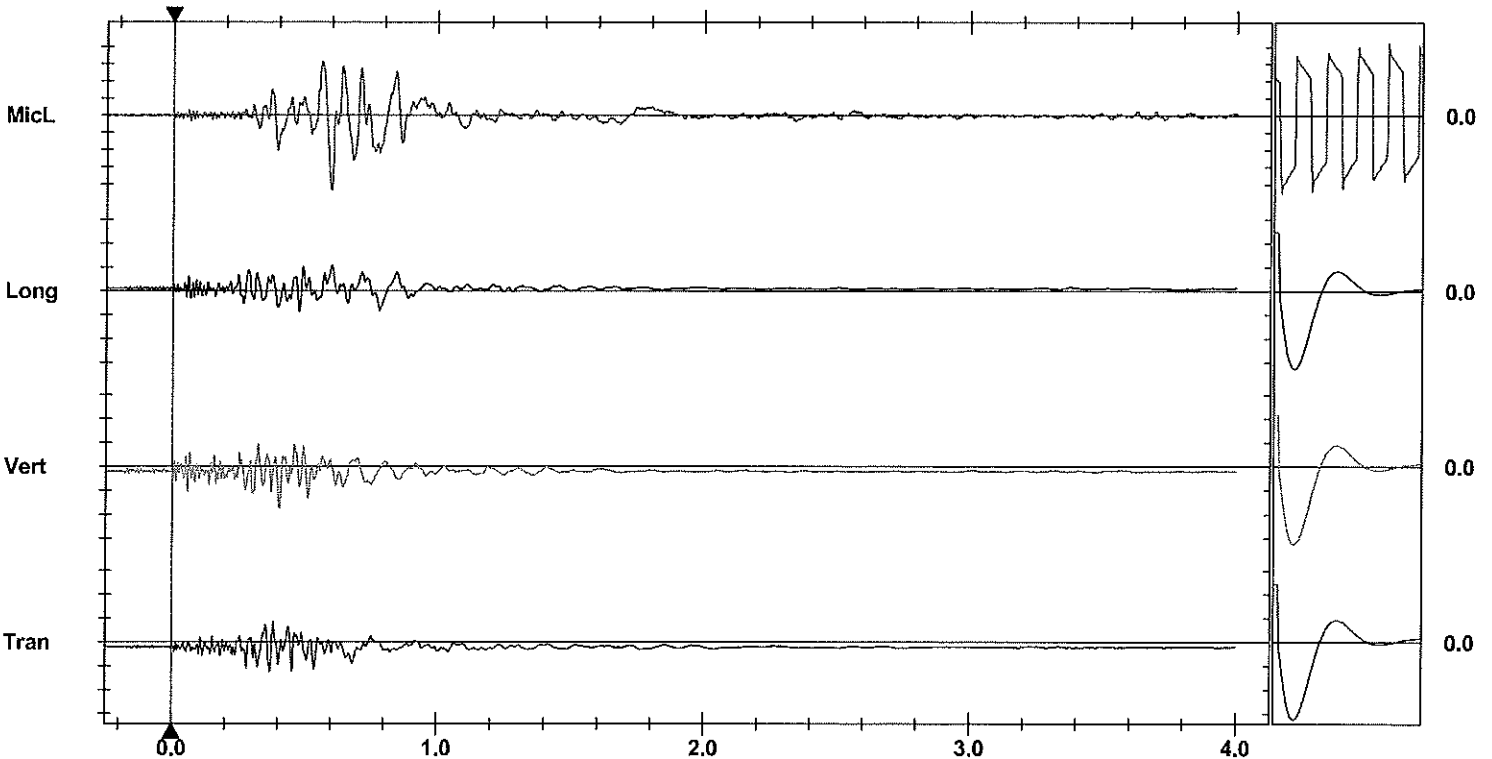
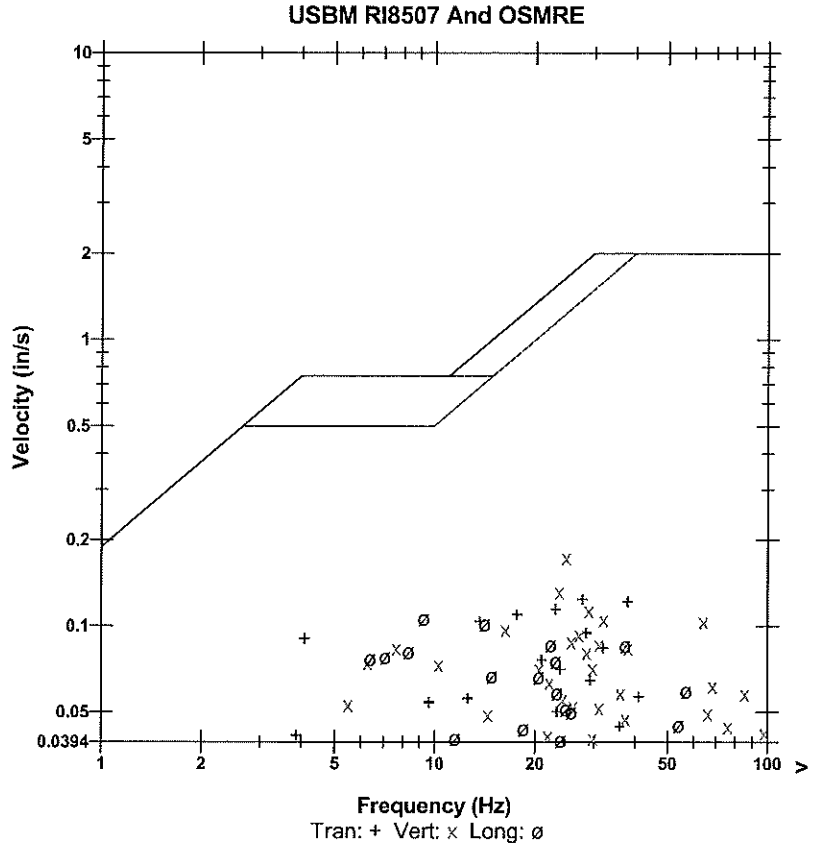
Notes
 Location: Raging River Quarry Fall City WA.
 Client: Eastside Rock Products
 User Name: Shelby Spahr / MRD
 General: Top Bench

Extended Notes
 Seismograph located at Station #1 (Designated area 172' off the NE corner of 6109 Preston/ Fall City RD. SE)

Microphone Linear Weighting
PSPL 117.5 dB(L) 0.002 psi(L) at 0.598 sec
ZC Freq 16.5 Hz
Channel Test Passed (Freq = 19.7 Hz Amp = 1324 mv)

	Tran	Vert	Long	
PPV	0.124	0.173	0.106	in/s
PPV	32.86	35.78	31.54	dB
ZC Freq	27.7	24.7	9.3	Hz
Time (Rel. to Trig)	0.372	0.405	0.600	sec
Peak Acceleration	0.092	0.142	0.102	g
Peak Displacement	0.004	0.003	0.002	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.3	Hz
Overswing Ratio	3.5	3.6	3.9	

Peak Vector Sum 0.202 in/s at 0.404 sec



Sensor Check

Date/Time Vert at 3:47:42 PM July 10, 2017
Trigger Source Geo: 0.030 in/s, Mic: 115.0 dB(L)
Range Geo: 10.000 in/s
Record Time 4.0 sec at 4096 sps
Job Number: 1
Operator/Setup: Brandon Babka/Eastside 2.mmb

Serial Number UM8590 V 10-86 Micromate ISEE
Battery Level 3.8 Volts
Unit Calibration October 18, 2016 by Instantel
File Name UM8590_20170710154742.IDFW
Scaled Distance 74.9 (899.0 ft., 144.0 lb.)

GPS Location **Latitude** **Longitude**
 Source: 000 0.000 N 000 0.000 W
 Sensor1: 000 0.000 N 000 0.000 W
 Distance: 000.0 ft.

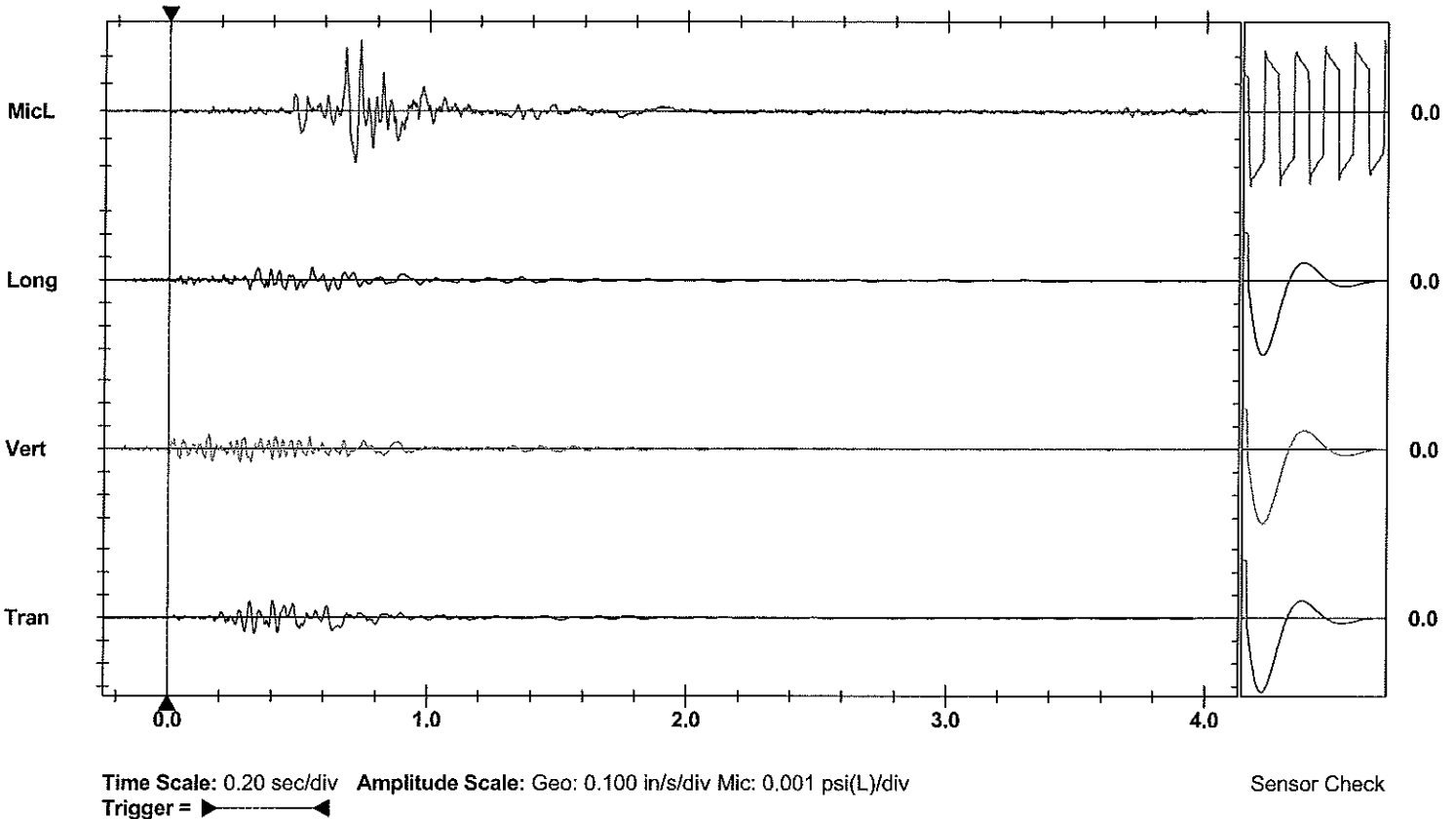
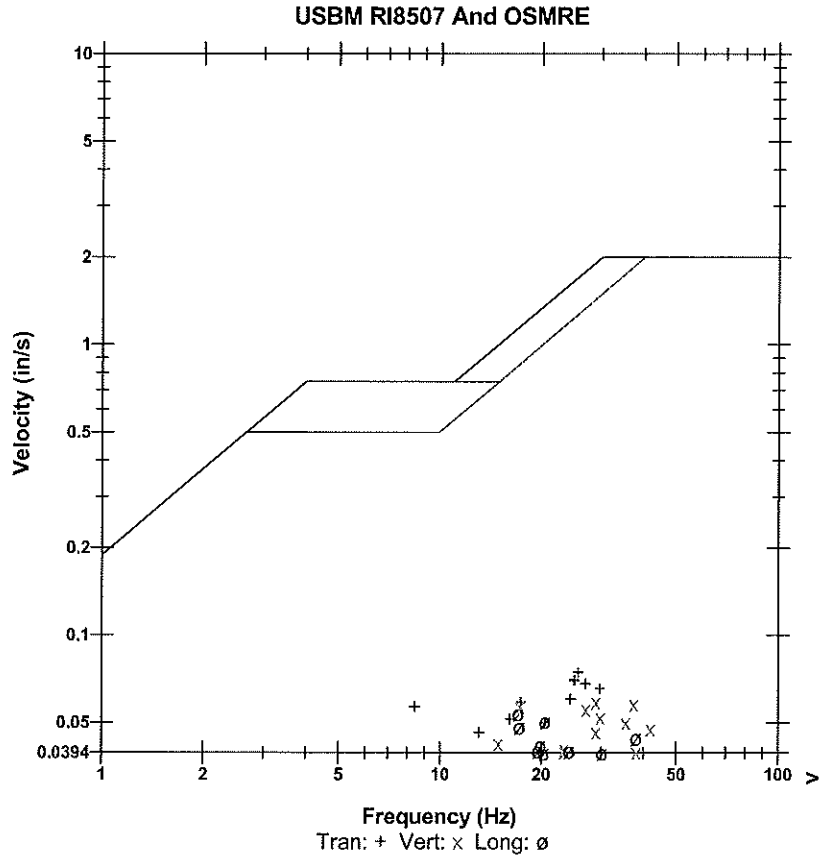
Notes
 Location: Raging River Quarry Fall City WA.
 Client: Eastside Rock Products
 User Name: Shelby Spahr / MRD
 General: Bench 2

Extended Notes
 Seismograph located at Station # 2. (Designated area at end of 329 Ave SE.)
 (N 47°32.917' W 121°54.170' acc. +/- 9')

Microphone Linear Weighting
PSPL 119.1 dB(L) 0.003 psi(L) at 0.735 sec
ZC Freq 29.3 Hz
Channel Test Passed (Freq = 20.5 Hz Amp = 1292 mv)

	Tran	Vert	Long	
PPV	0.074	0.059	0.054	in/s
PPV	28.44	26.41	25.65	dB
ZC Freq	25.6	28.8	17.1	Hz
Time (Rel. to Trig)	0.405	0.156	0.552	sec
Peak Acceleration	0.059	0.063	0.036	g
Peak Displacement	0.001	0.001	0.001	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.5	Hz
Overswing Ratio	4.3	4.0	4.1	

Peak Vector Sum 0.089 in/s at 0.318 sec



Date/Time Long at 3:47:41 PM July 10, 2017
Trigger Source Geo: 0.030 in/s, Mic: 115.0 dB(L)
Range Geo: 10.000 in/s
Record Time 4.0 sec at 4096 sps
Job Number: 1
Operator/Setup: Brandon Babka/Eastside 4.mmb

Serial Number UM6219 V 10-81 Micromate ISEE
Battery Level 3.7 Volts
Unit Calibration August 2, 2016 by InstanTel.
File Name UM6219_20170710154741.IDFW
Scaled Distance 79.2 (950.0 ft., 144.0 lb.)

GPS Location **Latitude** **Longitude**
 Source: 000 0.000 N 000 0.000 W
 Sensor1: 000 0.000 N 000 0.000 W
 Distance: 000.0 ft.

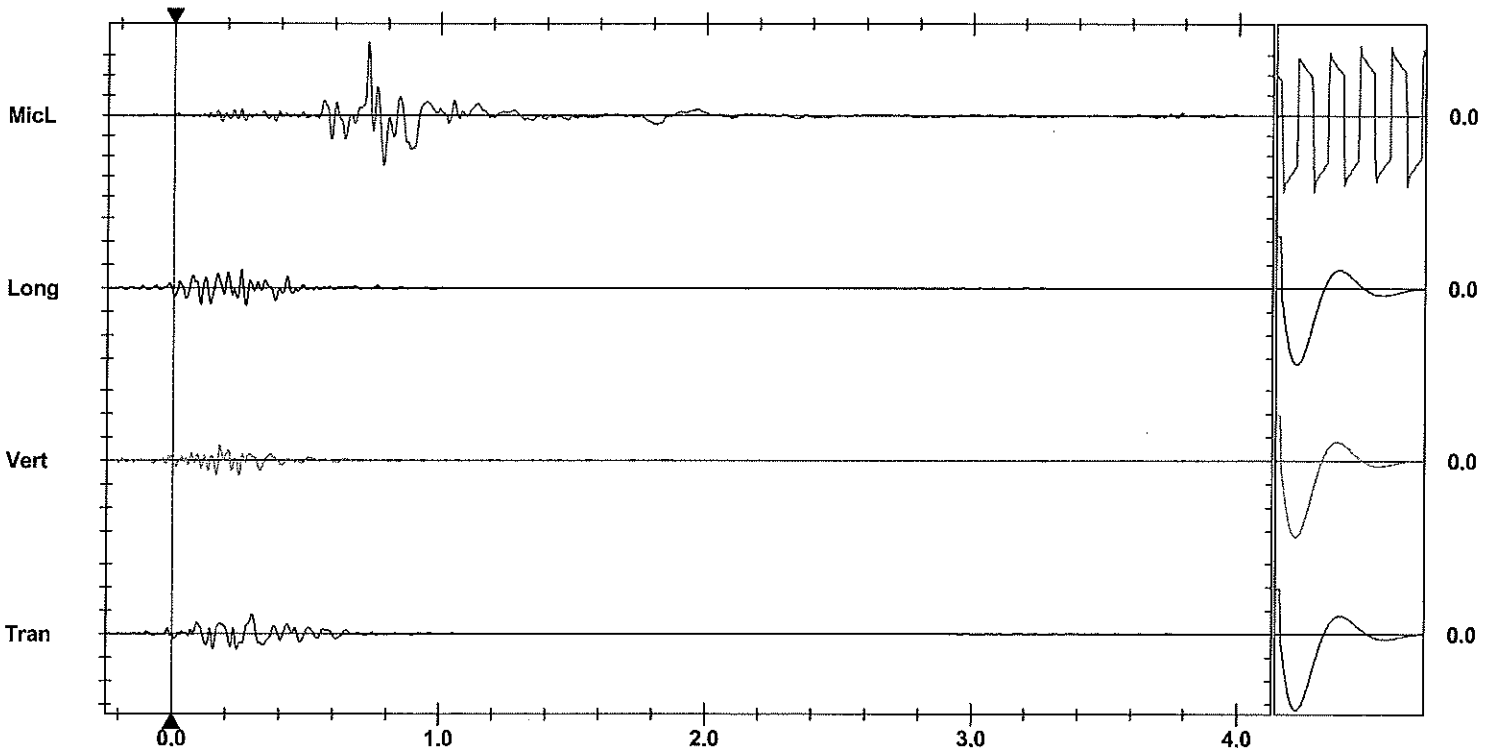
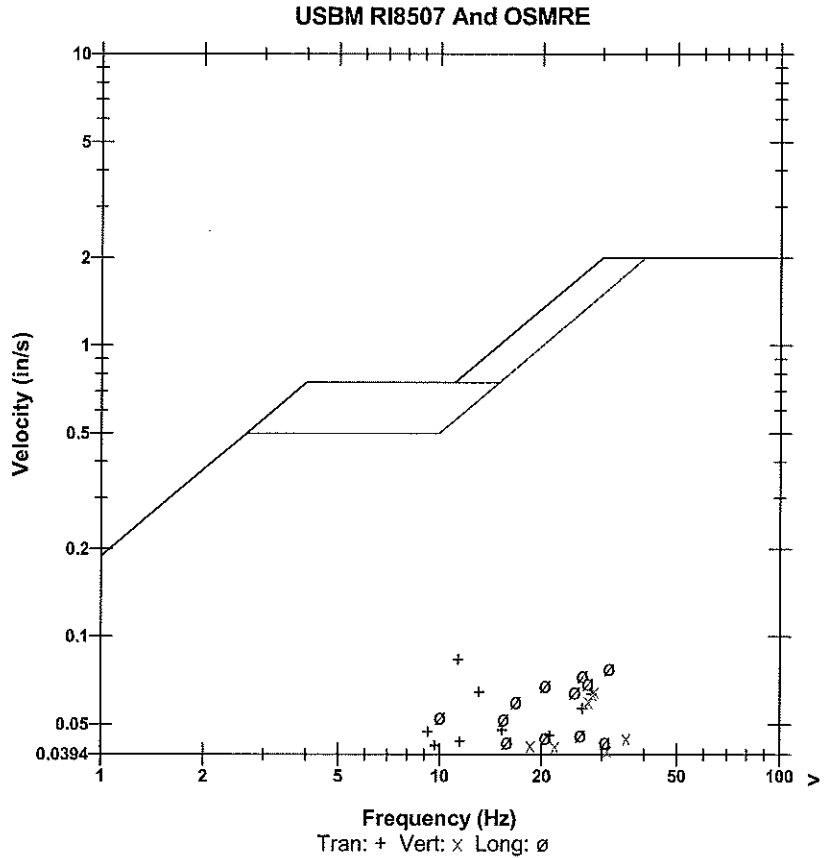
Notes
 Location: Raging River Quarry Fall City WA.
 Client: Eastside Rock Products
 User Name: Shelby Spahr / MRD
 General: Top Bench

Extended Notes
 Seismograph located at Station # 4. (Designated area at SE 58 st.)
 (N 47°32.942' W 121°54.492' acc. +/- 9')

Microphone Linear Weighting
PSPL 115.9 dB(L) 0.002 psi(L) at 0.726 sec
ZC Freq 9.0 Hz
Channel Test Passed (Freq = 19.7 Hz Amp = 1348 mv)

	Tran	Vert	Long	
PPV	0.083	0.065	0.078	in/s
PPV	29.43	27.28	28.86	dB
ZC Freq	11.3	28.4	31.5	Hz
Time (Rel. to Trig)	0.300	0.176	0.254	sec
Peak Acceleration	0.039	0.076	0.046	g
Peak Displacement	0.001	0.000	0.001	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.1	7.5	7.3	Hz
Overswing Ratio	4.2	4.0	4.1	

Peak Vector Sum 0.093 in/s at 0.253 sec



Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.100 in/s/div Mic: 0.001 psi(L)/div
Trigger =

Sensor Check