



BLASTING REPORT

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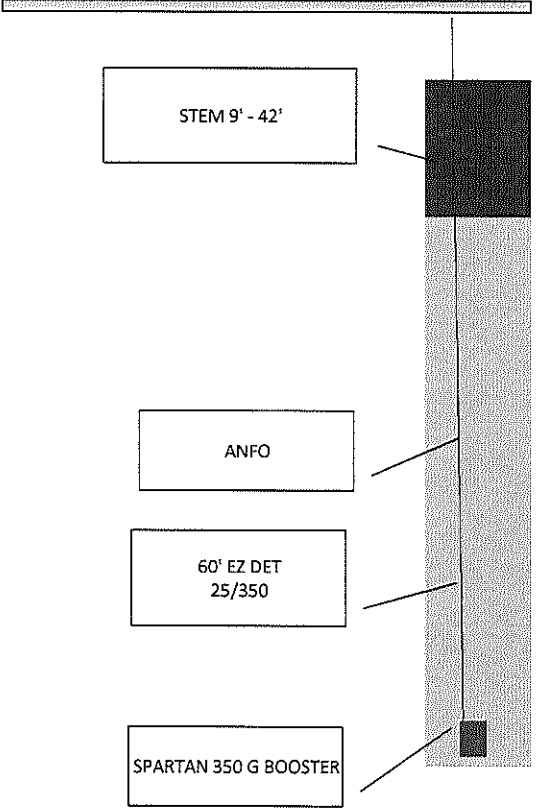
www.mccallumrockdrilling.com

CUSTOMER NAME:	Eastside Rock		DAY:	27	DIRECTION AND DISTANCE TO NEAREST (NON-MINE/CONSTRUCTION) RELATED STRUCTURE:	DISTANCE/FT.	DIR.	WEATHER:	Partly Cloudy
LOCATION/CITY:	Fall City		MONTH:	September	LOCATION/ADDRESS:	740	Southeast	TEMPERATURE/°F:	Warm
LOCATION/STATE:	Washington		YEAR:	2017	METHOD OF MEASUREMENT:	G.P.S.		WIND DIRECTION:	N/A
BLAST LOCATION:	Top Bench		TIME:	4:05	G.P.S. LOCATION (STATION/STRUCTURE):	N 47°33'04.85 W 121°54'07.96		WIND SPEED:	None
QUARRY/PIT ID.:	Raging River Quarry		AM/PM:	PM	G.P.S. ACCURACY +/- (STATION/STRUCTURE) /FT.:	15'		CEILING LEVEL:	High
BLAST NO.:	N/A				G.P.S. LOCATION (BLAST ZONE):	N 47°32.819' W 121°54.310'			
JOB NO.:	1952 #2				G.P.S. ACCURACY +/- (BLAST ZONE)/FT.:	9'			
	1	2	3	4		1	2	3	4
TYPE OF HOLES:	Vertical (production)				BURDEN/FT.:	9'			
NO. OF HOLES:	21				SPACING/FT.:	10'			
HOLE DIAMETER/ IN.:	3 1/2"				SUBDRILL/FT.:	0'			
HOLE DEPTH/RANGE/AVG.FT.:	62'-66'	64"			MATERIAL BLASTED:	basalt			
STEMMING LENGTH/RANGE/AVG.FT.:	9' - 42'	9'			STEMMING TYPE:	3/8"minus			
EXPLOSIVES COMPANY USED:	Dyno Nobel		EXPLOSIVE PRODUCTS USED	SIZE	UNITS	WEIGHT/LBS.	DETONATORS USED	SIZE/FT.	QUANTITY
DECKING:	NO		1 DYNOMIX	BAG(S)	65	3250.000	MS 350	16	9
BLASTING MACHINE USED:	R.C.B.M.		2 SPARTAN BOOSTER	350 G	22	16.500	MS 350	30	8
METHOD OF FIRING:	NONEL		3 DYNOMIX	1 1/8 X 16	.75 CS.	10.760	EZ DET 25/350	80	21
BLASTING MATS USED:	NO		4 BLASTEX	2 1/2 X 16	7 CS.	280.000	EZTL #42	20	4
QUANTITY OF BLASTING MATS USED:	N/A		5				EZTL #25	20	5
			6						
			7						
			8						
			9						
			10						
MAX. NO. OF HOLES/DECK PER 8 MS:	1		TOTAL EXPLOSIVES USED/LBS.:	3,557.260		TOTAL NO. OF DETONATORS USED:	47		
MAX. WT. OF EXPLOSIVES PER HOLE / DECK:	210		TOTAL VOLUME/CUBIC YARDS:	4,469.0		SHOT RESULTS			
MAX. WT. OF EXPLOSIVES PER ANY 8 MS INTERVAL:	210		ROCK DENSITY/SPECIFIC GRAVITY:	2.00		FRAGMENTATION:	MEDIUM		
GROUND RESPONSE(K) FACTOR:	75		TOTAL WEIGHT/TONS:	8,938		MUCK PILE CONFIGURATION:	SLOPED		
PREDICTED P.P.V.:	0.21		POWDER FACTOR/LBS./CUBIC YARDS:	0.80		FLYROCK:	NO		
SCALED DISTANCE:	51.06		POWDER FACTOR/LBS./TON:	0.40		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							
Josh Foster		N/A							
Tristan Winter		N/A							
Brandon Kofoed		N/A							
Ian Howard		N/A							
SEISMOGRAPH TYPE:	INSTANTEL		LOCATION OF SETUP:	6109 Preston/Fall City Rd. SE					
NO. OF SEISMOGRAPHS USED:	3		DISTANCE FROM BLAST/FT.:	740					
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:	Lost one Spartan 350G booster down a hole. The blast went as planned.								

CUSTOMER NAME:	Eastside Rock
LOCATION/CITY:	Fall City
BLAST LOCATION:	Top Bench
JOB NAME/#:	1952 #2
DATE:	9/27/2017

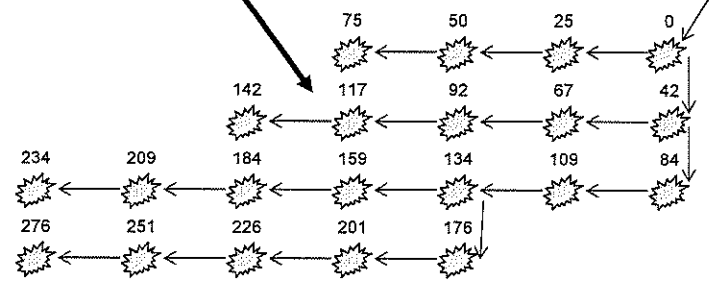


HOLE PROFILE



N 47°32.819' W 121°54.310'

INITIATION POINT



Date/Time Vert at 4:05:36 PM September 27, 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: Operator/Eastside 1.mmb

Serial Number UM10691 V 10-82 Micromate ISEE
Battery Level 3.7 Volts
Unit Calibration October 28, 2016 by InstanTel
File Name UM10691_20170927160536.IDFW
Scaled Distance 51.1 (740.0 ft., 210.0 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.

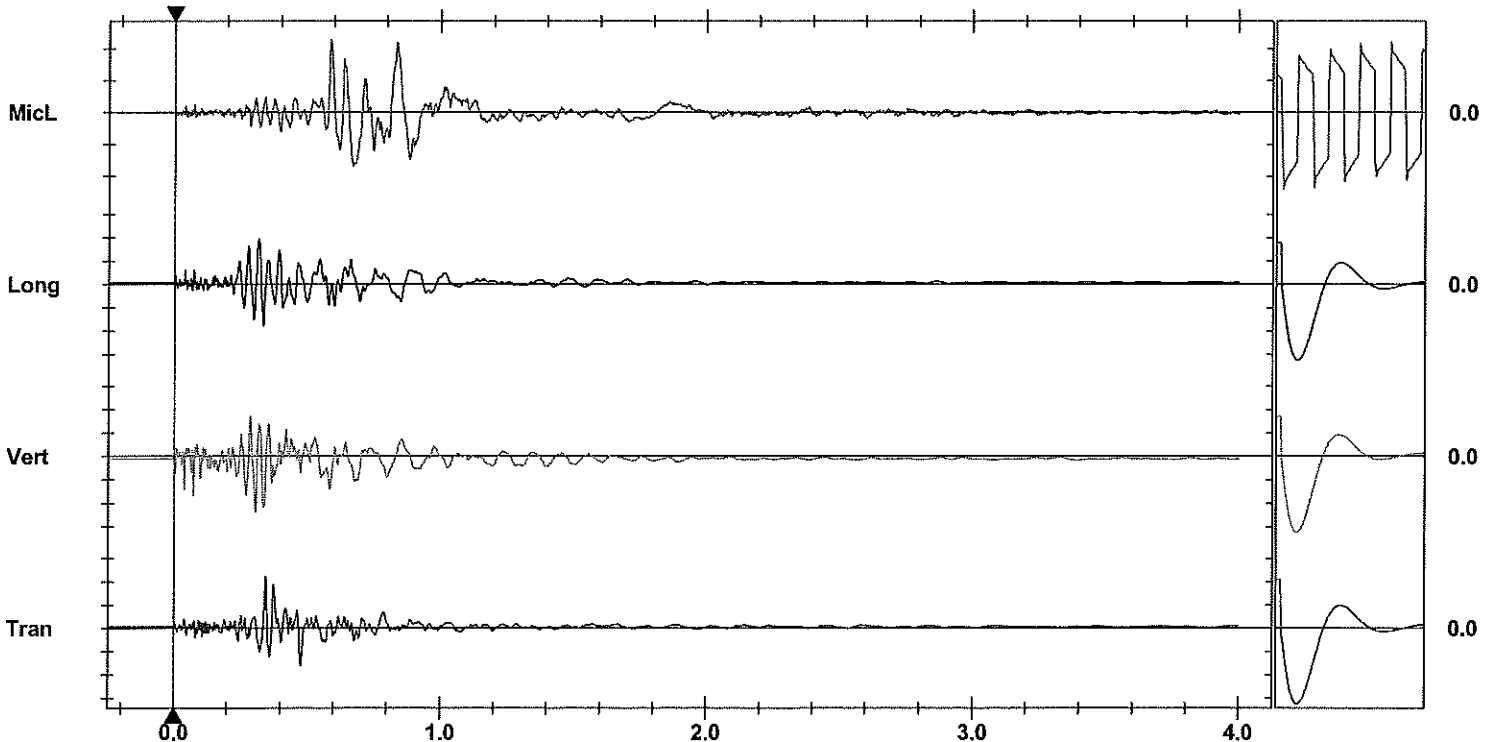
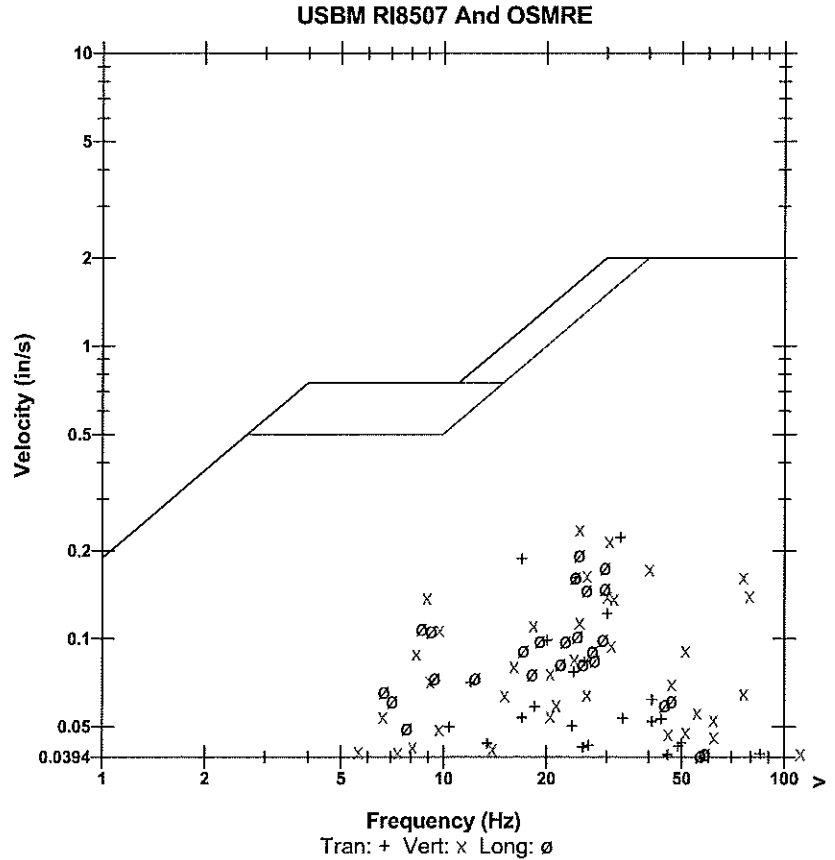
Notes
 Location: Raging River Quarry Fall City WA.
 Client: Eastside Rock Products
 User Name: Shelby Spahr / MRD
 General: Top Bench

Extended Notes
 Seismograph located at Station # 1. Seismograph located 20ft. from river. (N 47°32.813) (W 121°54.169)

Microphone Linear Weighting
PSPL 118.0 dB(L) 0.002 psi(L) at 0.587 sec
ZC Freq 20.1 Hz
Channel Test Passed (Freq = 19.7 Hz Amp = 1273 mv)

	Tran	Vert	Long	
PPV	0.222	0.237	0.194	in/s
PPV	37.92	38.51	36.77	dB
ZC Freq	33.0	25.0	25.0	Hz
Time (Rel. to Trig)	0.346	0.307	0.318	sec
Peak Acceleration	0.201	0.224	0.161	g
Peak Displacement	0.001	0.002	0.002	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.3	Hz
Overswing Ratio	3.3	3.5	3.5	

Peak Vector Sum 0.269 in/s at 0.335 sec



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

Sensor Check

Date/Time Vert at 4:05:36 PM September 27, 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 Fredricks/Eastside 4.mmb

Serial Number UM6219 V 10-81 Micromate ISEE
Battery Level 3.8 Volts
Unit Calibration August 2, 2016 by InstanTel.
File Name UM6219_20170927160536.IDFW
Scaled Distance 62.0 (898.0 ft., 210.0 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.

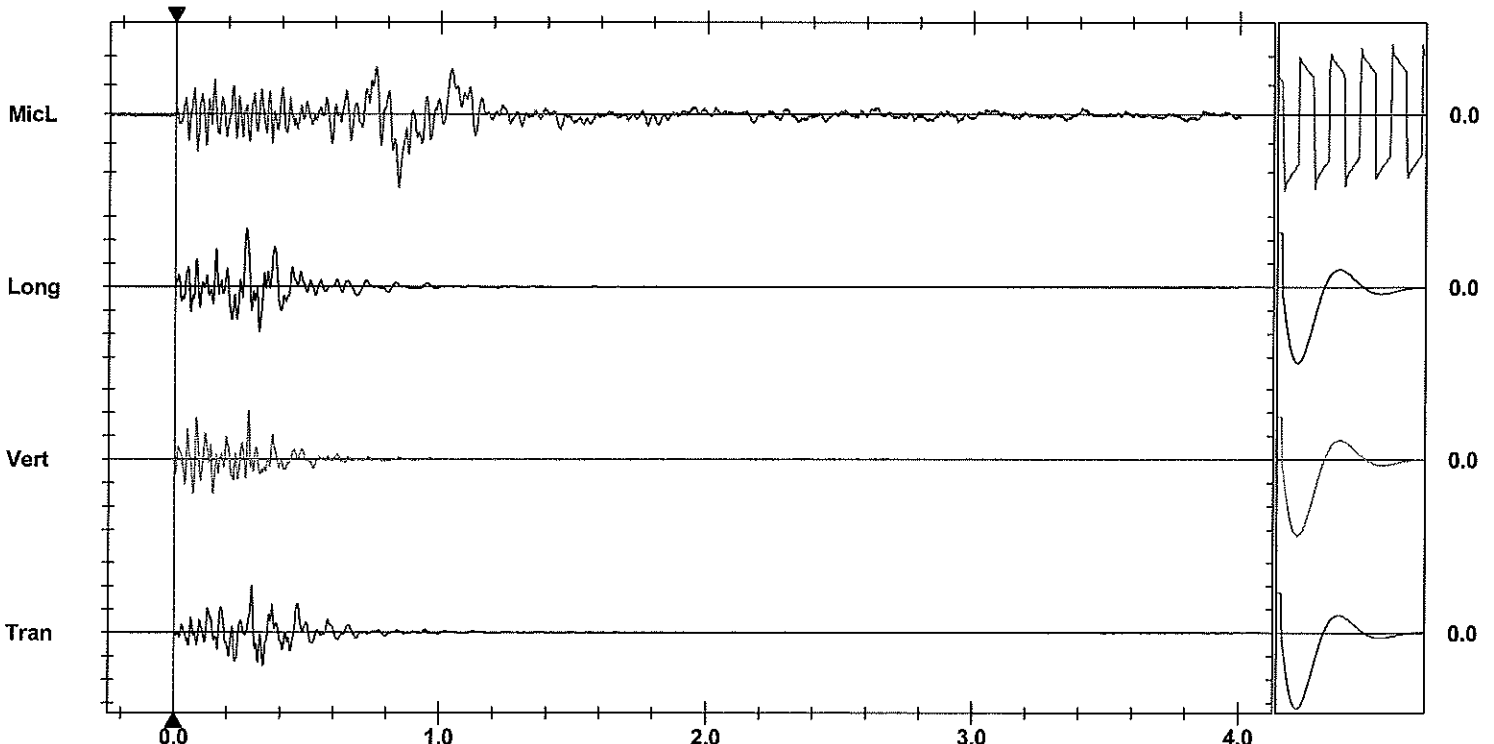
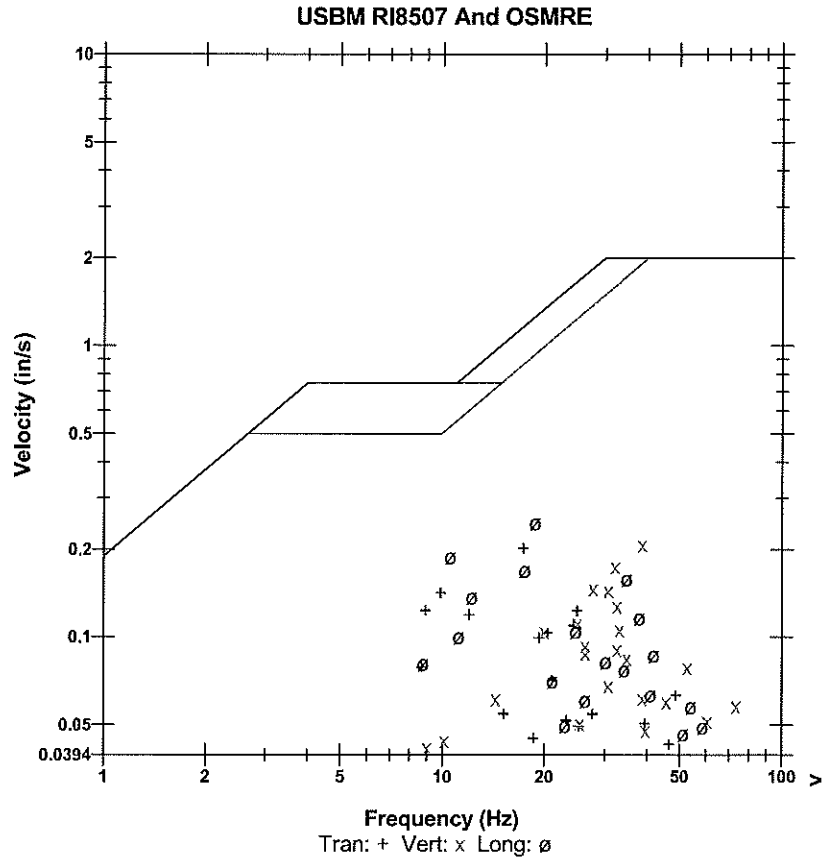
Notes
 Location: Raging River Quarry Fall City WA.
 Client: Eastside Rock Products
 User Name: Shelby Spahr / MRD
 General: Top Bench

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 104.8 dB(L) 0.001 psi(L) at 0.840 sec
ZC Freq 6.3 Hz
Channel Test Passed (Freq = 19.7 Hz Amp = 1219 mv)

	Tran	Vert	Long	
PPV	0.202	0.208	0.248	in/s
PPV	37.11	37.37	38.90	dB
ZC Freq	17.4	38.6	18.8	Hz
Time (Rel. to Trig)	0.294	0.279	0.269	sec
Peak Acceleration	0.204	0.214	0.148	g
Peak Displacement	0.002	0.001	0.002	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.3	7.3	Hz
Overswing Ratio	4.3	3.9	4.3	

Peak Vector Sum 0.260 in/s at 0.269 sec



Time Scale: 0.20 sec/div Amplitude Scale: Geo: 0.100 in/s/div Mic: 0.000 psi(L)/div
 Trigger =

Sensor Check

Date/Time Vert at 4:05:44 PM September 27, 2017
Trigger Source Geo: 0.030 in/s, Mic: 115.0 dB(L)
Range Geo: 10.000 in/s
Record Time 3.0 sec at 4096 sps
Job Number: 1

Serial Number BE12377 V 10.72-1.1 Minimate Blaster
Battery Level 6.3 Volts
Unit Calibration January 25, 2017 by Instantel
File Name N377H33U.1K0
Scaled Distance 62.0 (898.0 ft., 210.0 lb.)

Notes

Location: Fall City, WA
Client: Raging River Quarry Eastside Rock
User Name: Shelby Spahr/ McCallum Rock Drilling
General: Top bench

Extended Notes

Seismograph will be located in cauldassack on 329th Ave SE.
 (N 47°32.917') (W 121°54.168')

Microphone Linear Weighting

PSPL 124.0 dB(L) 0.005 psi(L) at 0.762 sec

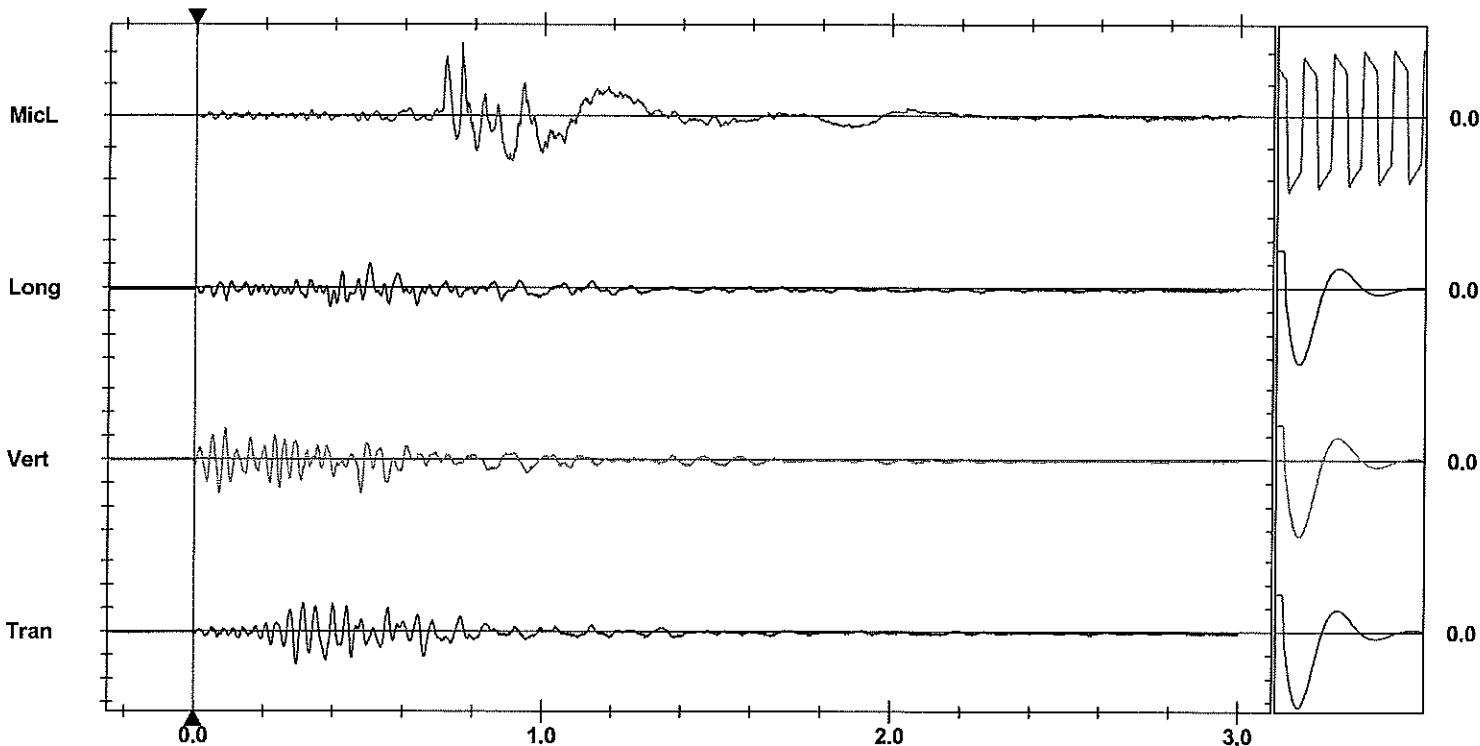
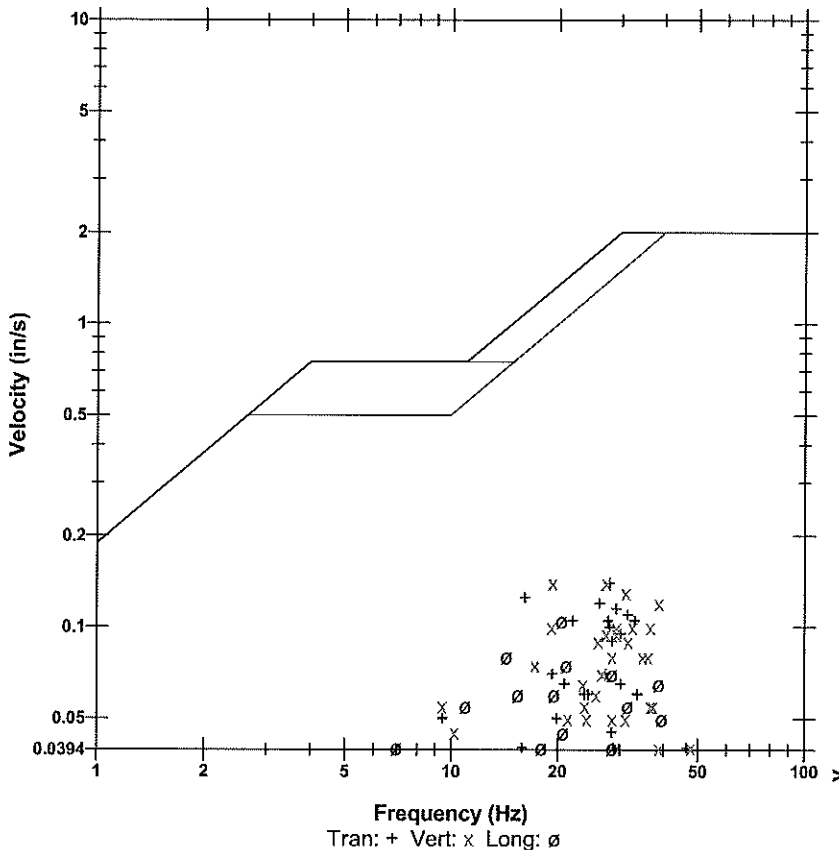
ZC Freq 17.7 Hz

Channel Test Passed (Freq = 20.1 Hz Amp = 548 mv)

	Tran	Vert	Long	
PPV	0.140	0.140	0.105	in/s
PPV	33.92	33.92	31.42	dB
ZC Freq	28.1	27.3	20.5	Hz
Time (Rel. to Trig)	0.295	0.071	0.501	sec
Peak Acceleration	0.106	0.106	0.106	g
Peak Displacement	0.001	0.001	0.001	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.8	7.8	7.7	Hz
Overswing Ratio	3.4	3.4	3.7	

Peak Vector Sum 0.153 in/s at 0.295 sec

USBM RI8507 And OSMRE



Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.100 in/s/div Mic: 0.002 psi(L)/div
Trigger =

Sensor Check