McCALLUM ROCK DRILLING

mccallumrock.com

CUSTOMER NAME:	Eastside Rock	DAY:	18	DIRECTION AND DISTANCE TO NEAREST STRUCTURE (non mine related if available) :	DISTANCE/FT.: 809	DIR.: NW	WEATHER: Clear
LOCATION/CITY:	Falls City	MONTH:	June	LOCATION/ADDRESS:	Station 1		TEMPERATURE/°F: Hot
LOCATION/STATE:	Washington	YEAR:	2018	METHOD OF MEASUREMENT:	G.P.S.		WIND DIRECTION: South
BLAST LOCATION:	Multiple Benches			G.P.S. LOCATION (STATION/STRUCTURE):	N47.32562 W121.540294		
QUARRY/PIT ID.:	Raging River Quarry	TIME:	4:00	G.P.S. ACCURACY +/- (STATION/STRUCTURE) /FT:	9'		WIND SPEED: Light
BLAST NO.:	N/A			G.P.S. LOCATION (BLAST ZONE):	10T0582348 UTM5266558		
JOB NO. :	52150	AM/PM:	PM	G.P.S. ACCURACY +/- (BLAST ZONE)/FT.:	9'		CEILING LEVEL: N/A

	1		2		3		4	
TYPE OF HOLES:	Vertical (production)		Vertical (production)					
NO. OF HOLES:	21		22					
HOLE DIAMETER/ IN. :	3.5"		3.5"					
HOLE DEPTH/RANGE/AVG.FT. :	8'-10'	8'	34'-44'	43'				
STEMMING LENGTH/RANGE/AVG./FT. :	6'-7'	6'	9'-31'	9'				

	1	2	3	4
BURDEN/FT. :	7'	9'		
SPACING/FT. :	7'	10'		
SUBDRILL/FT. :	0'	0'		
MATERIAL BLASTED:	basalt	basalt		
STEMMING TYPE:	5/8"minus	5/8"minus		

EXPLOSIVES COMPANY USED:	Austin Powder Co.
DECKING:	NO
BLASTING MACHINE USED:	R.C.B.M.
METHOD OF FIRING:	NONEL
BLASTING MATS USED:	NO
QUANTITY OF BLASTING MATS USED:	N/A

	EXPLOSIVE PRODUCTS USED	SIZE	UNITS	WEIGHT/LBS.	DETONATORS USED	SIZE/FT.	QUANTITY
1	AUSTINITE 15	BAG(S)	17	850.000	IN - HOLE	16	17
2	AUSTINITE 15 WR	BAG(S)	23	1150.000	DUAL DELAY	24	18
3	HYDROMITE 880	2 1/2 X16	117	389.610	DUAL DELAY	60	24
4	EAGLE	340 G	41	30.750	QRC # 17	20	2
5	RED-E-PRIME	1 1/4 X 8	18	7.560	QRC #42	20	10
6	QUICKSTART	1000' ROLL	2	0.048			
7							
8							
9							
10							

MAX. NO. OF HOLES/DECK PER 8 MS :	3	TOTAL EXPLOSIVES USED/LBS.:	2,427.968	TOTAL NO. OF DETONATORS USED:	71
MAX. WT. OF EXPLOSIVES PER HOLE / DECK :	129.5				
MAX. WT. OF EXPLOSIVES PER ANY 8 MS INTERVAL :	259	TOTAL VOLUME/CUBIC YARDS :	3,341.0	SHOT RESULTS	
		ROCK DENSITY/SPECIFIC GRAVITY :	2.00	FRAGMENTATION:	MEDIUM
GROUND RESPONSE(K) FACTOR:	150	TOTAL WEIGHT/TONS :	6,682	MUCK PILE CONFIGURATION:	SLOPED
PREDICTED P.P.V.:	0.42	POWDER FACTOR/LBS./CUBIC YARDS:	0.73	FLYROCK:	NO
SCALED DISTANCE :	50.27	POWDER FACTOR/LBS./TON:	0.36	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.
Tyler Hallett	EXUS00021692	YES						
Andrew Bustamante		N/A						
Caleb Corona		N/A						
Andrew Sipp		N/A						
Ethan Gillaspie		N/A						

SEISMOGRAPH TYPE:	WHITE INDUSTRIES	LOCATION OF SETUP:	Station 1
NO. OF SEISMOGRAPHS USED :	2		
SEISMOGRAPH OPERATOR(S):	Tyler Hallett	DISTANCE FROM BLAST/FT.:	809
		IF USED SEISMOGRAPH RECORD(S) ATTACHED TO BLAST REPORT	
		SIGNATURE OF BLASTER IN CHARGE	Tyler Hallett
COMPANY:	McCALLUM ROCK DRILLING	Tyler_Hallett	
COMMENTS:	Looked good. Customer happy.		

CUSTOMER NAME: Eastside Rock

LOCATION/CITY: Falls City

BLAST LOCATION: Multiple Benches

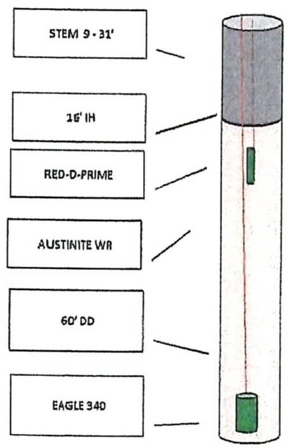
JOB NAME/#: Raging River Quarry 52150

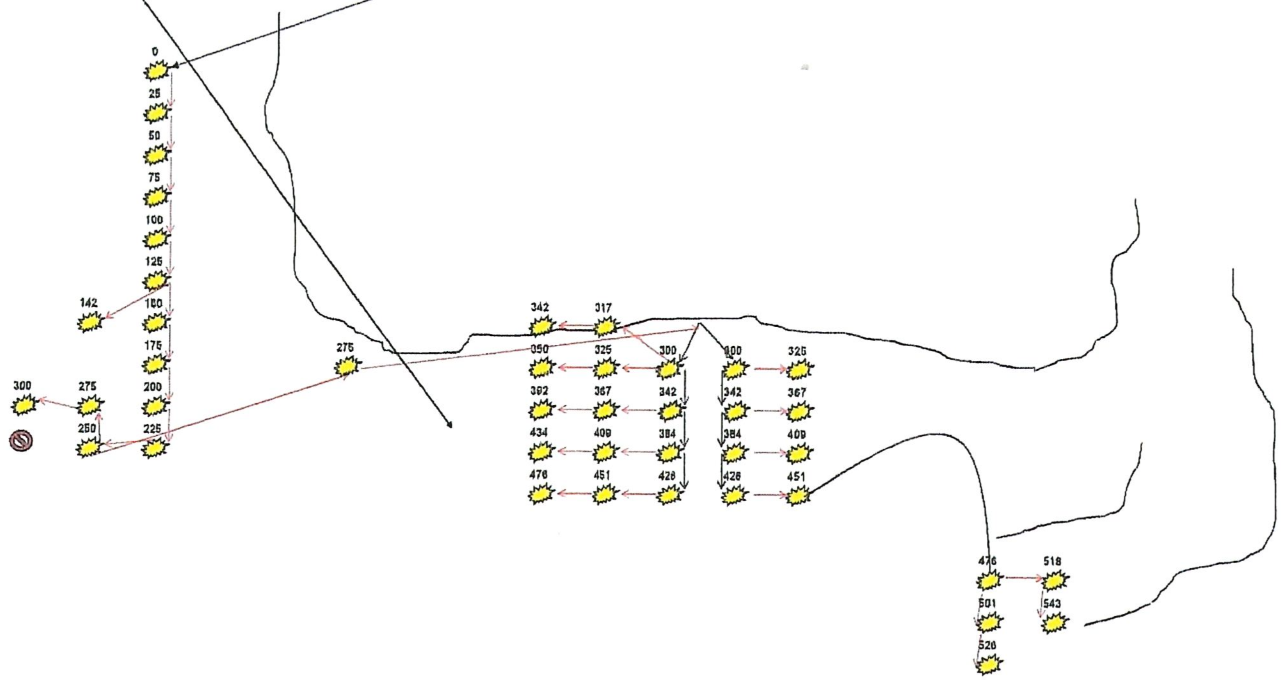
DATE: 6/18/2018

10T0582348 UTM5266558

INITIATION POINT

HOLE PROFILE





File: 6309201806181559027.dtb
Number: 027
Date and Time: 6/18/2018 3:59:00 PM
SN: 6309
Seismic Trigger: 0.0500 in/sec
Air Trigger: 130 dBL
Sample Rate: 1024
Duration: 4 Seconds
Pre-Trigger: 0.5 Second
Seismic Range: 5.00 in/s
Acoustic Range: 142 dBL
Gain: 2.0x
Voltage: 6.50

Eastside Rock Products
Multiple Benches (N47.54723 W121.90562)
Seismograph located at designated area Station 1
N47.32562 W121.540294
809' from blast location.

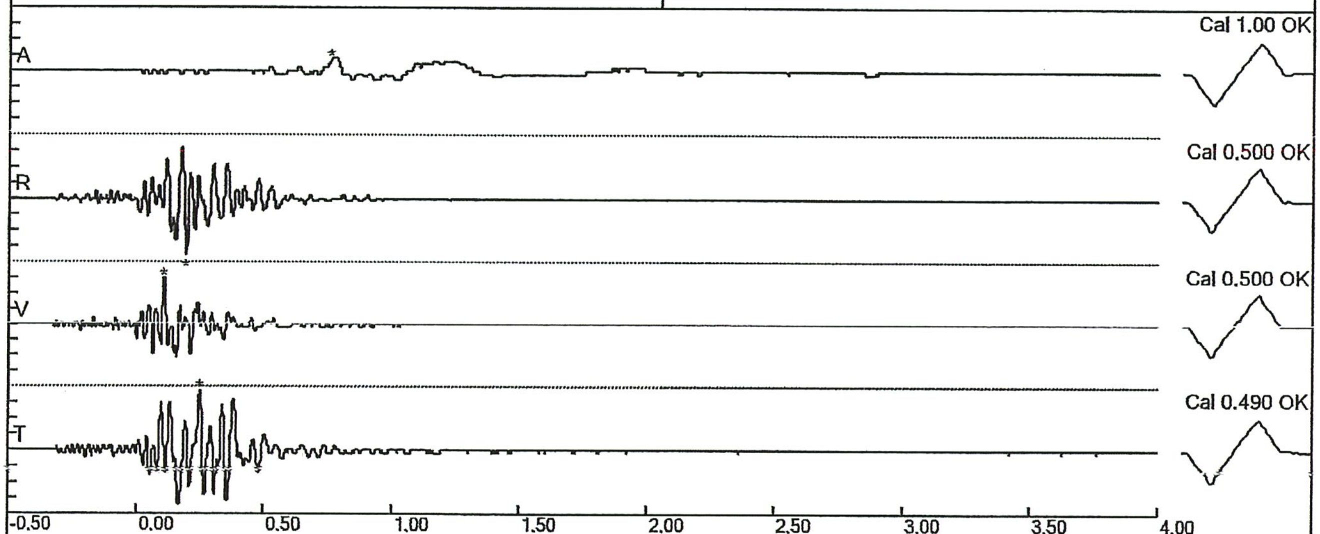
(58 STREET)

Peaks and Frequencies

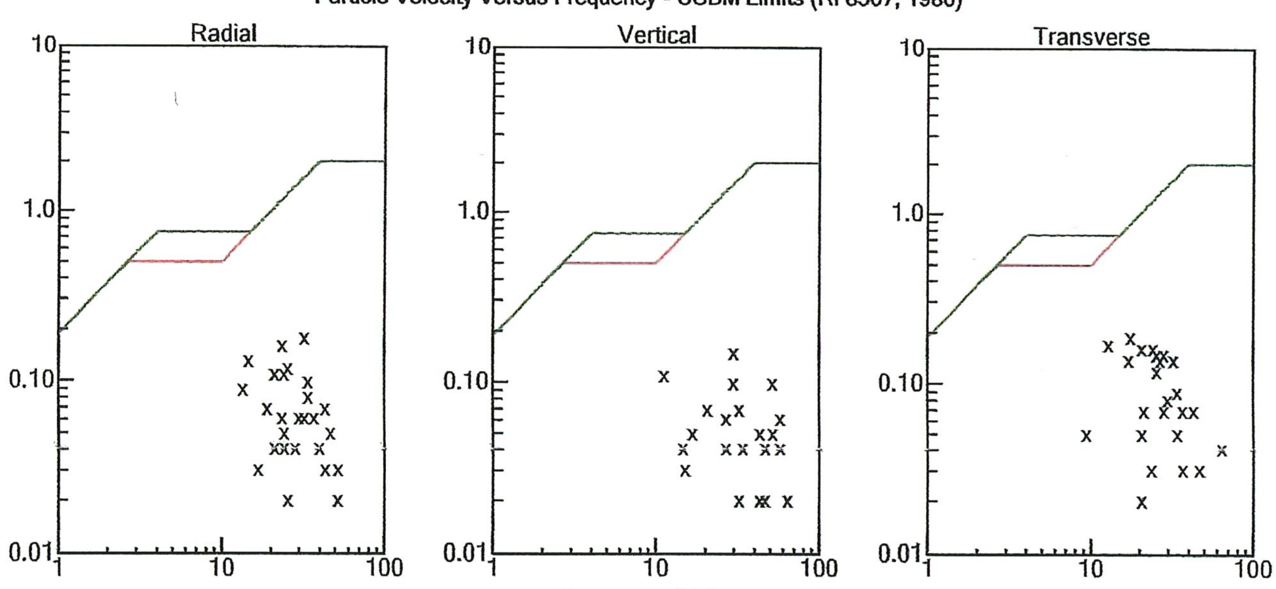
PPV Maximum: 0.190 in/sec (0.2490 sec)
Acoustic: 112 dBL @ 10.0 Hz (0.7588 sec)
Radial: 0.180 in/sec @ 32.0 Hz (0.1924 sec)
Vertical: 0.150 in/sec @ 30.1 Hz (0.1064 sec)
Transverse: 0.190 in/sec @ 17.6 Hz (0.2490 sec)
Last Calibration Date: 4/17/2018

Graph Information

Duration: -0.500 s To: 4.000 s
Acoustic Scale: 126 dBL
Seismic Scale: 0.200 in/sec (0.0500 in/sec/div)
Time Intervals: 0.50 sec



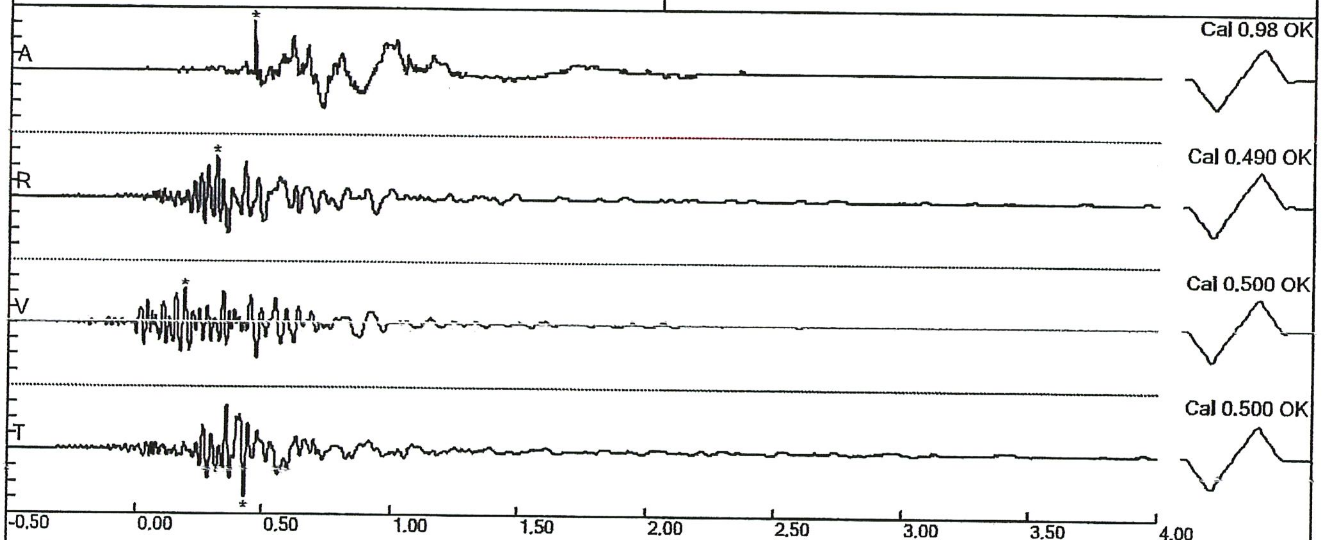
Particle Velocity Versus Frequency - USBM Limits (RI 8507, 1980)



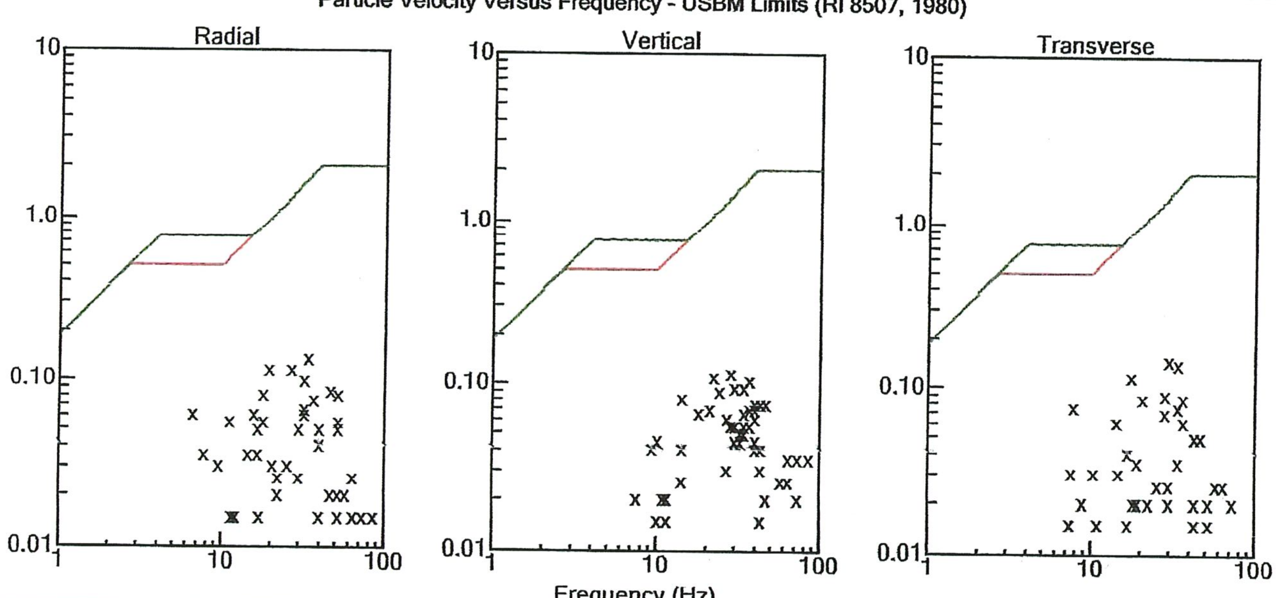
White Seismograph Data Analysis V11 - Version 11.1.0.104

Eastside Rock Products **Multiple Benches (N47.54723 W121.90562)** **Seismograph located at designated area Station 3** **N47.32548 W121.541013** (CULDESAC) **823' from blast location.**	File: 630820180618160038.dtb Number: 038 Date and Time: 6/18/2018 4:00:00 PM SN: 6308 Seismic Trigger: 0.0400 in/sec Air Trigger: 142 dBL Sample Rate: 1024 Duration: 4 Seconds Pre-Trigger: 0.5 Second Seismic Range: 2.50 in/s Acoustic Range: 142 dBL Gain: 2.0x Voltage: 6.50

Peaks and Frequencies	Graph Information
PPV Maximum: 0.145 in/sec (0.4287 sec)	Duration: -0.500 s To: 4.000 s
Acoustic: 124 dBL @ 64.0 Hz (0.4570 sec)	Acoustic Scale: 126 dBL
Radial: 0.135 in/sec @ 34.1 Hz (0.3115 sec)	Seismic Scale: 0.200 in/sec (0.0500 in/sec/div)
Vertical: 0.115 in/sec @ 28.4 Hz (0.1895 sec)	Time Intervals: 0.50 sec
Transverse: 0.145 in/sec @ 30.1 Hz (0.4287 sec)	
Last Calibration Date: 4/17/2018	



Particle Velocity Versus Frequency - USBM Limits (RI 8507, 1980)

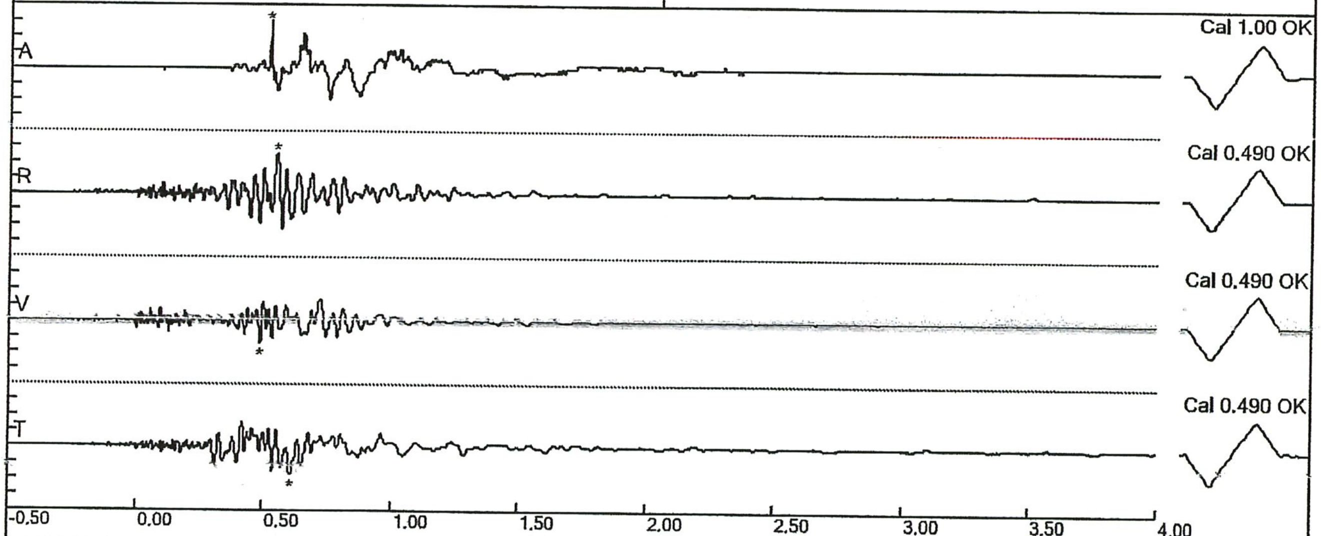


White Seismograph Data Analysis V11 - Version 11.1.0.104

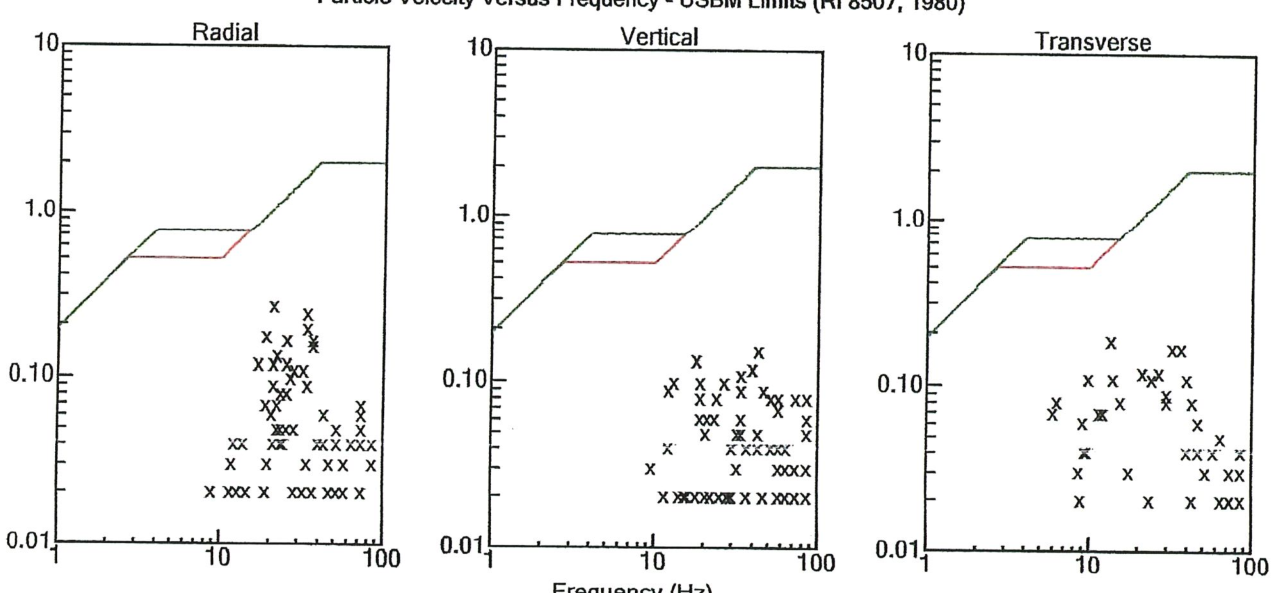
Eastside Rock Products
Multiple Benches
Setup at designated location at
(Station #4) (WELL)
N 47*32'50"
W 121*54'5"
850' away

File: 63072018061816000011.dtb
Number: 011
Date and Time: 6/18/2018 4:00:00 PM
SN: 6307
Seismic Trigger: 0.0500 in/sec
Air Trigger: 130 dBL
Sample Rate: 1024
Duration: 4 Seconds
Pre-Trigger: 0.5 Second
Seismic Range: 5.00 in/s
Acoustic Range: 142 dBL
Gain: 2.0x
Voltage: 6.50

Peaks and Frequencies	Graph Information
PPV Maximum: 0.260 in/sec (0.5479 sec)	Duration: -0.500 s To: 4.000 s
Acoustic: 124 dBL @ 51.2 Hz (0.5195 sec)	Acoustic Scale: 126 dBL
Radial: 0.260 in/sec @ 21.3 Hz (0.5479 sec)	Seismic Scale: 0.400 in/sec (0.100 in/sec/div)
Vertical: 0.150 in/sec @ 42.6 Hz (0.4854 sec)	Time Intervals: 0.50 sec
Transverse: 0.180 in/sec @ 13.4 Hz (0.6074 sec)	
Last Calibration Date: 4/17/2018	



Particle Velocity Versus Frequency - USBM Limits (RI 8507, 1980)



White Seismograph Data Analysis V11 - Version 11.1.0.104