

Encoded date : UTC 2017-10-27 10:10:15
Tagged date : UTC 2017-10-27 10:10:15
gsst : 0
gstd : 183739

Video

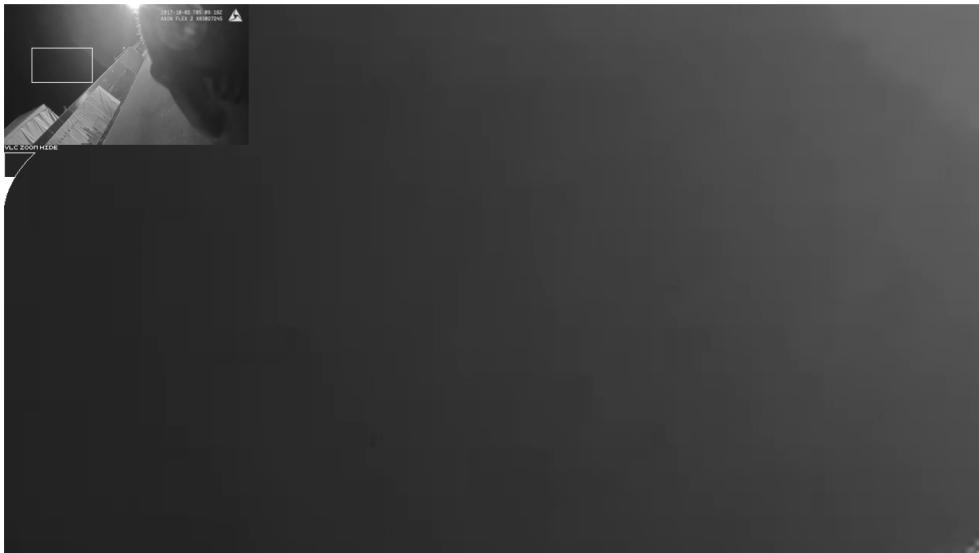
ID : 1
Format : AVC
Format/Info : Advanced Video Codec
Format profile : Main@L3.1
Format settings : CABAC / 3 Ref Frames
Format settings, CABAC : Yes
Format settings, RefFrames : 3 frames
Codec ID : avc1
Codec ID/Info : Advanced Video Coding
Duration : 3 min 3 s
Bit rate : 1 744 kb/s
Width : 1 280 pixels
Height : 720 pixels
Display aspect ratio : 16:9
Frame rate mode : Constant
Frame rate : 29.970 (30000/1001) FPS
Color space : YUV
Chroma subsampling : 4:2:0
Bit depth : 8 bits
Scan type : Progressive
Bits/(Pixel*Frame) : 0.063
Stream size : 38.2 MiB (93%)
Title : ISO Media file produced by Google Inc. Created on: 10/27/2017.
Encoded date : UTC 2017-10-27 10:10:15
Tagged date : UTC 2017-10-27 10:10:15
Color range : Limited
Color primaries : BT.709
Transfer characteristics : BT.709
Matrix coefficients : BT.709

Audio

ID : 2
Format : AAC
Format/Info : Advanced Audio Codec
Format profile : LC
Codec ID : mp4a-40-2
Duration : 3 min 3 s
Bit rate mode : Variable
Bit rate : 126 kb/s
Channel(s) : 2 channels
Channel positions : Front: L R
Sampling rate : 44.1 kHz
Frame rate : 43.066 FPS (1024 SPF)
Compression mode : Lossy
Stream size : 2.75 MiB (7%)
Title : ISO Media file produced by Google Inc. Created on: 10/27/2017.
Encoded date : UTC 2017-10-27 10:10:15
Tagged date : UTC 2017-10-27 10:10:15

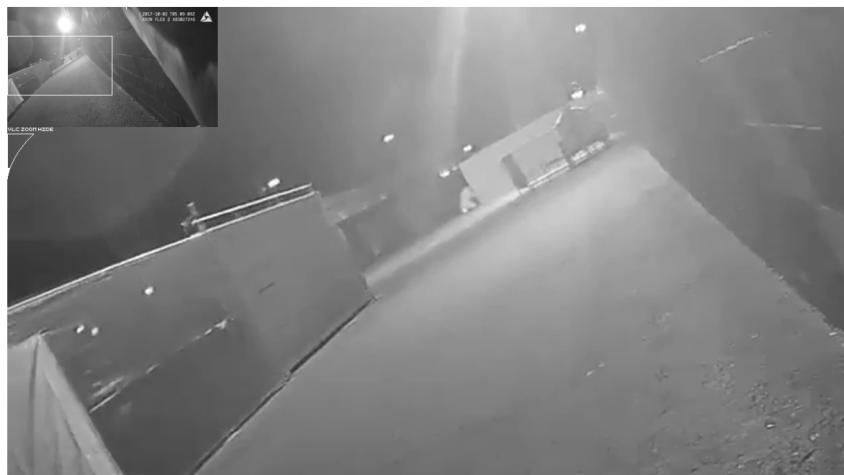
Camera/Video Posterization

The color bit depth is 8 bits, limiting the number of colors to 256. This leads to considerable "posterization" of images of similar tones. This effect is aggravated in regions of large lighting changes. The dark sky and fence netting are particular examples where "shadows" or images can be viewed which don't correspond to any real "objects", but are simply artifacts of the limited color depth and/or lighting.



Camera Pixel Issues

At times small movements of the camera result in massive loss of detail on the video, one example occurs at/near 6.333 seconds. There and for several more frames, an entire upright fence post "disappears" from the video. This phenomena is viewable several times over the course of the fifty-eight second video. This phenomena appears to be more prevalent in the left-right plane than the up-down plane. The following pictures were taken within a few frames of each other. The upper left corner of each picture contains the "zoom" box from VLC which was used to snapshot these images.



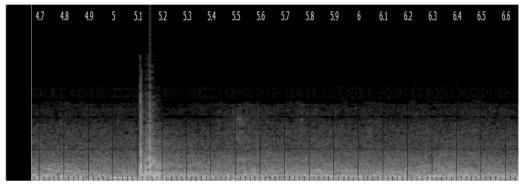
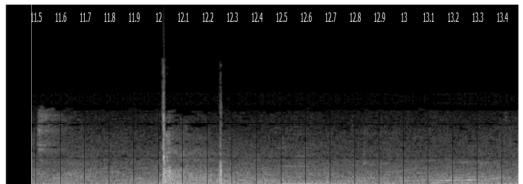
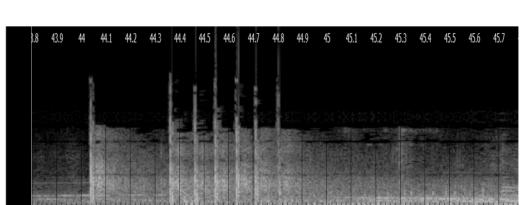
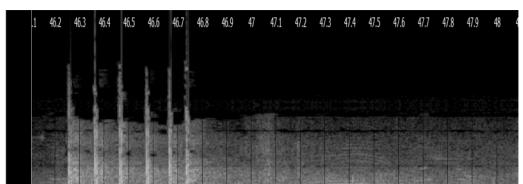
Cameras Segments (five)

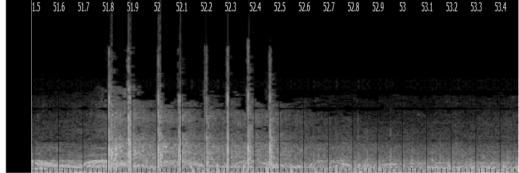
The three minute long video is a composite of "samplings" of five camera segments:

1. Officer 245, 0:00.000 – 0:57.166,
2. Officer 245, 0:57.166 – 1:28.533,
3. Officer xxx, 1:28.566 – 0:00.000,
4. Officer 514, 1:57.xxx – 0:00.000,
5. Officer 245, 2:49.xxx – 3:03.000, Z05:26:44

"Percussive" Events

At least six "percussive" events are recorded in the first fifty-eight seconds of the video. Shown below are db² spectrums (sonic visualiser) for each segment.

#	<u>Start Time</u>	<u>Id</u>	<u>Type</u>	<u>Count</u>	<u>Notes</u>
1		B05a	single	1	
2		B05b	single	1	
3		B05c	single	1	
4		B05d	burst	7	
5		B05e	burst	6	

<u>#</u>	<u>Start Time</u>	<u>Id</u>	<u>Type</u>	<u>Count</u>	<u>Notes</u>
6		B05g	burst	8	

"Percussive" Sound Classification

<u>Id</u>	<u>Pic</u>	<u>Description</u>
thud		Pebble hitting board
ding		Pebble hitting 2 inch galvanized pipe
sanp		Fingers snapping, bull-whip crack
boom		Heavy door closing fast
whoosh		
zing		Coboy western gunshot ricoet
thump		Foot kicking hollow log
pop		

People Present on Video

At the start of the video and at the distant end of the side walk can be seen one person squatting and another roaming back and forth between the front and back of the fence. Eventually another person wearing a cowboy hat strolls into this same area.

Closer to the officer and behind the fence is one person standing on something in an elevated position, looking toward the Mandalay Bay. Eventually a total of three people visit this spot.

Closer examination may reveal many more people behind the fence.

A total of **four officers** are seen on this tape, two are prominent and two are just "glimpsed".

Body Camera Movement Over Time

1. Start

2. 27s starts moving south
3. 34s stops after moving about 12 ft to tell dude to get back and down
4. 39s still yelling at guy, other officer shows up in screen, position about equal to end of cloth tent/booth
5. 43s starts moving
6. 48s stops again, about even with positionary portion of gate (north end)
7. end of tape, looks like 3 or 4 other officers there with him

Theories for Fence Buldge

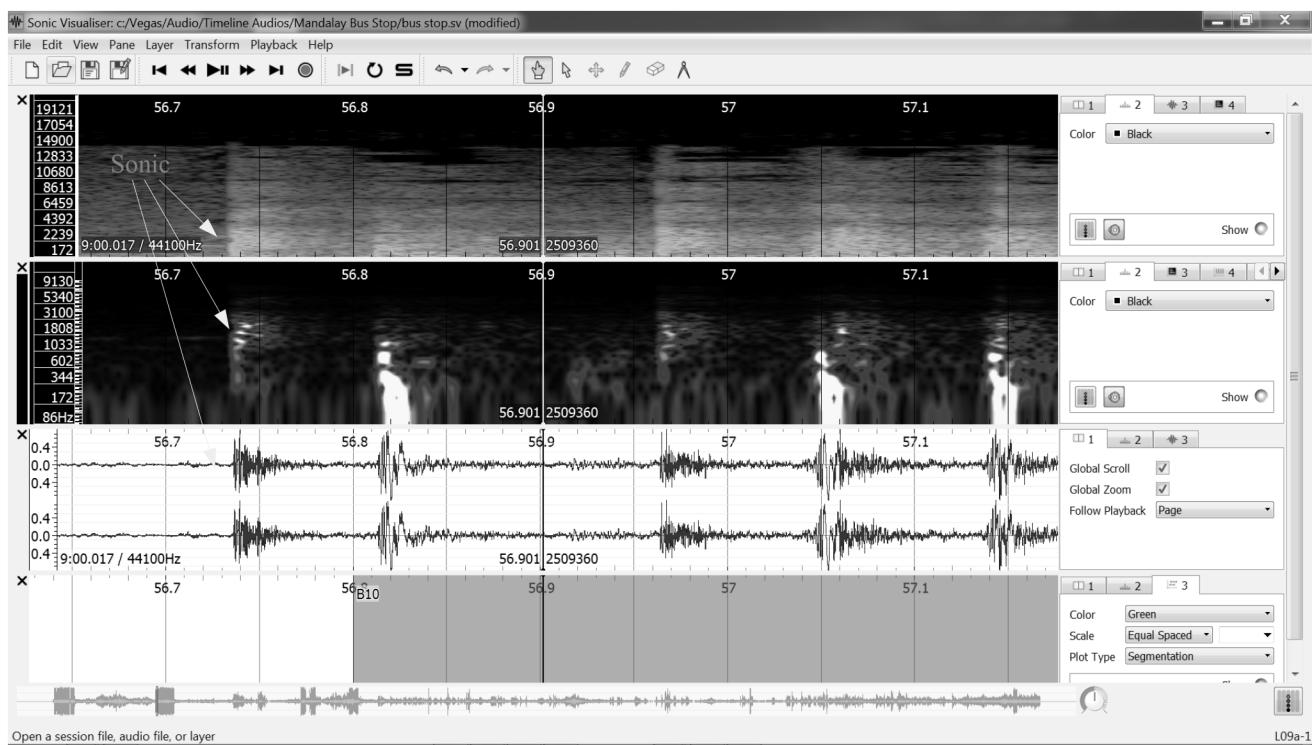
Coincidental

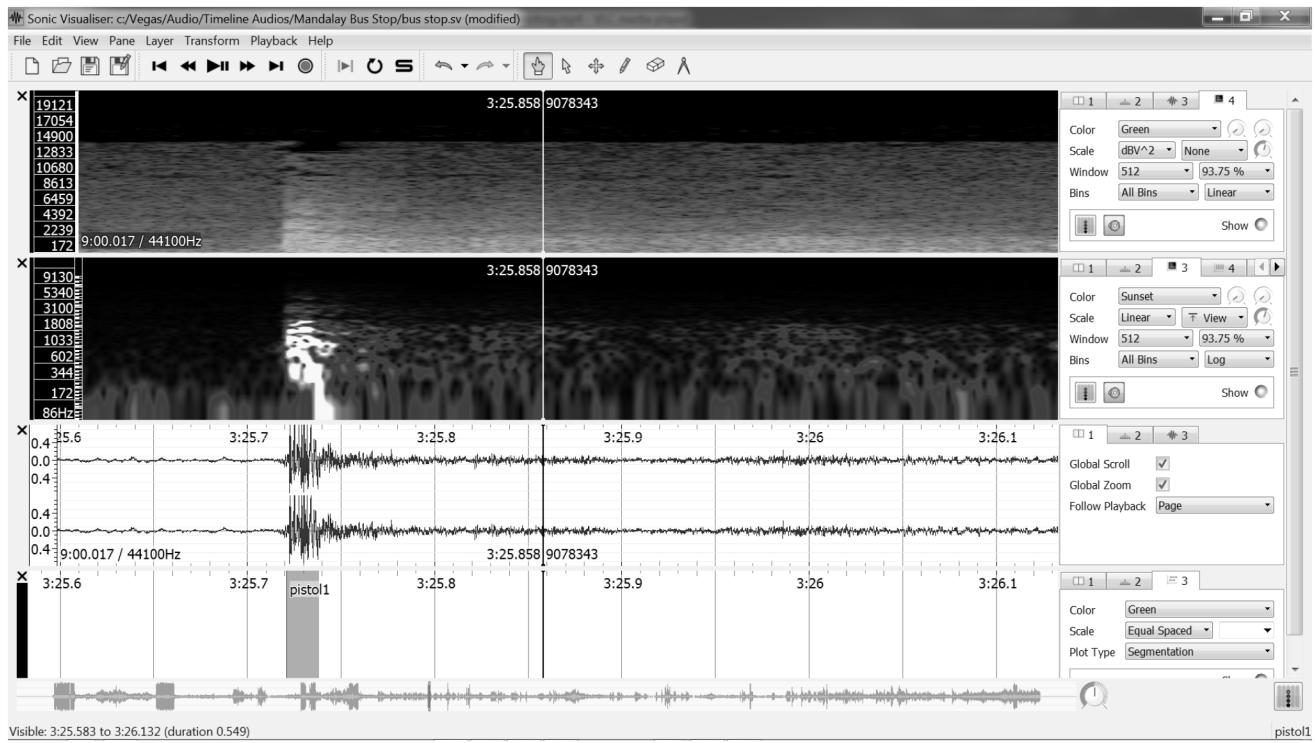
Bullet Fragments

Fingers

People Wrestling Behind Fence

Elbow Recoil From Pistol Recoil





bus pistols

- 1 - 0.039 width, 10k at 512 bin size, some smearing
- 2 - 0.032 width, 14.9k at 512 bin size, some smearing, not decay slope

Events Individually

Event B05a Details

- has 3 parts
 - A Primary Sonic
 - clipped
 - data points in clipping indicate substantially larger peak waveform
 - 0.0012 s width
 - 5 front
 - 7 back
 - B Echo/Boom
 - non-clipped
 - peak to peak reflection time is 0.003945 us
 - C Hit/Ring
 - clipped
 - higher peak frequency than primary (A)
 - more energy
 - has decay waveform of damped system
 - D
 - echo?
 - Reflection?
 - Timing (lvmpd) Bleachers Woman Killing Ray
 - A->B 19.5 ms not 24.1 24.4 16.9
 - A->C 35.7 ms 32.5 28.4 30.6 31.2
 - A->D 135 ms 131.2 not not not
 - A 6.1 ms 3.6
 - B 6.3 ms
 - C 7.0 ms
 - D 1.8 ms
- 0.237 on 12 sec shot from sonic to echo/boom
- Nearest burst 1st shot
 - 0.007256 peak to peak reflection
 - retort immediately follows sonic
 - sonic to retort is 0.001587
- Buldge takes 5 frames (0.167s) from first show to "peak" out, a distance of about 1.5 feet. Or about 9 feet per second.

Event: 0m 05.109s Single Shot

- Start: 0m 05.109s
- Type: Audio
- Duration: 0.089s
- Summary:

Event: Video, Fragments, Bulges, Disappearing Post, Netting Oscillations

- 5.266 1st signs of bulge (spots A & B)
- 5.300 1st sign spot C, forms line and angle upwards, biggest bulge near A & B
- 5.333 "Bulge" gets substantially bigger, particularly near C, first 2-3 feet of netting tighten up
- 5.366 "Bulge" continues to increase, cone forms where netting tight extending 5 or more feet
- 5.400 "bulge" continues another 1 or 2 feet, tension getting maxed out
- 5.433 "bulge" grows particularly top and bottom, consumes all points top thru bottom
- 5.466 "bulge" grows north 2 more feet to edge of visible region close to next upright
- 5.500 wave near top develops on bulge, 3 small points 2 at top develops
- 5.533 "bulge" now converting to standing wave as middle of fence oscillates
- 5.566 wave from top propagates down towards ground
- 5.600 top wave starts to oscillate below middle tensor
- 5.633 more oscillations both horizontal and vertical
- thru 5.933 oscillations and A,B,C are returning to normal
- thru 6.300 oscillations (11 frames)
- 06.333 post disappears or is smudged out of existence for 8 frames
- then pops back into focus/existence
-
- after watching many times, there are numerous places where this defocusing occurs
- watch tape to 56, couple places where can clearly see some bullet holes in fence
- near 35 secs there are some clear frames

Event: Single Shot

- 0m 12.019

20.116 Single Shot

44.034 7 shot Burst

46.254 6 shot Burst

51.803 8 shot Burst

57.133 10pm 9m 59s on bodycam

57.166 ===== Split to 2nd bodycam unit 245 just later in time
57.166 10:11:28 on bodycam 2
1:02.110 Burst
• Duration: 9.102s

1:28.566 ===== Split to 3rd bodycam no time displayed
1:36.716 Burst
• Duration 9.575
1:57.171 Single Shot ?
1:58.401 Single Shot ?
2:10.465 Burst
• Duration 8.166
2:27.700 Single Shot ?
2:29.651 Burst of some kind
• Duration: 9.291
Event: Fence Deformation
Event: Single Shot
Event: Burst

Profile of bullet is single,single, single, 7 burst, 6 burst, 8 burst, time must be approximately 10:09:08

This series of shots exists in the long gap between the 5th volley and the next long volley.
Looks like B05a, not on taxi video, so can't tell if it is there also.

Does this shot exist on other sound tracks, if so what does it look like there?

Left & Right Channels

The sound(s) recorded by the officers body camera contain two channels. Because of their physical separation these channels have a small delay between them of approximately

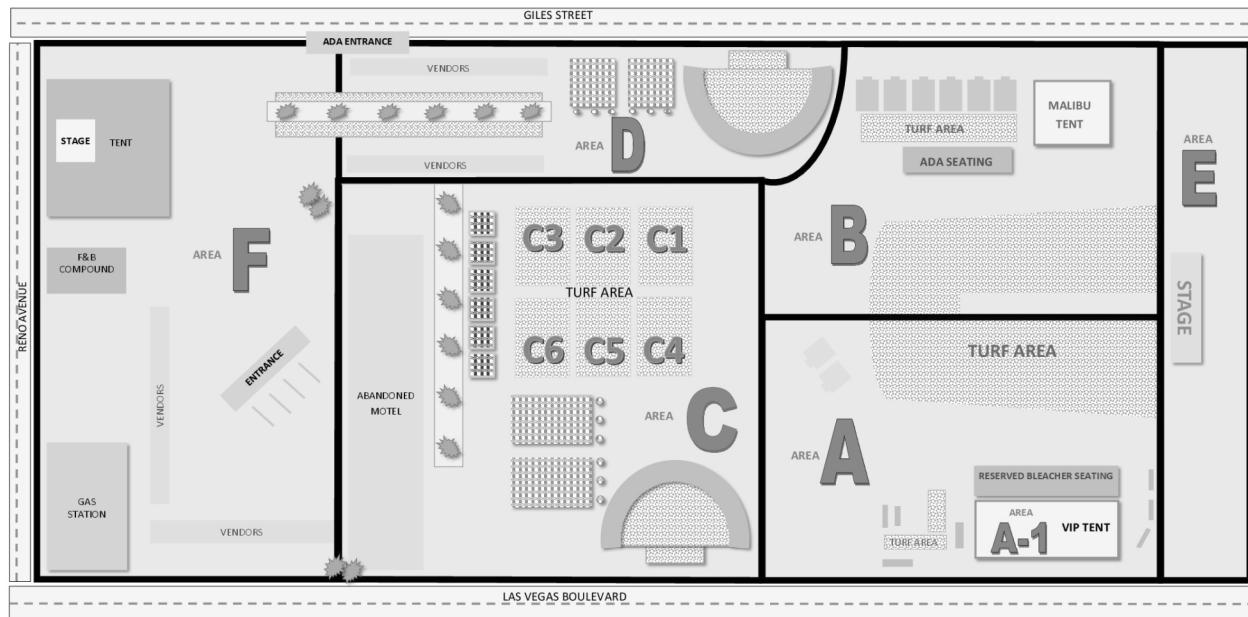
Near 33.31, Channel A precedes B by about 7 samples. Each sample being about 22.675 us is approximately 158.7 us or 0.0001587. At about 1000 ft/sec this is the equivalent of 1.9 inches.

At this point in the video the officer is facing east, looking towards the cloth tent north of the gate and wagging his fingers at some folks, yelling, telling them to go back. He uses his left hand. Channel A is on the "inside", not sure whether his right or left shoulder.

At 5 seconds, near the fence buldge the officer is kneeling next to the cinder block wall looking south, his left shoulder facing east. Channnel A leads Channel B by about 6 ticks when the "ringing" sound is recorded. When the "bullet" sound is recorded, again chan A leads by about 6 ticks. All that can be asserted is that the "sounds" are all coming from the same general direction.

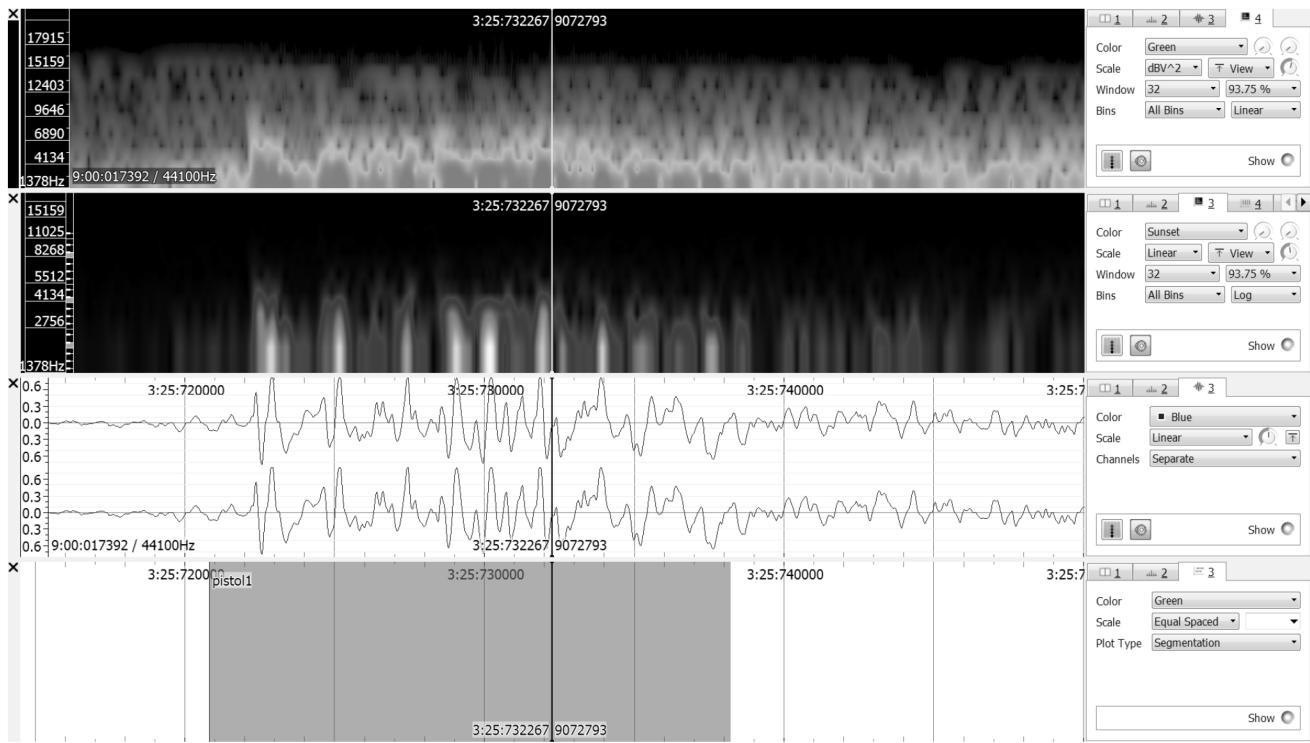
Chan B appears to have a slightly different frequency response or is more muffled than chan A as it recovers more quickly to stimulus.

Route 91 Harvest Festival Site

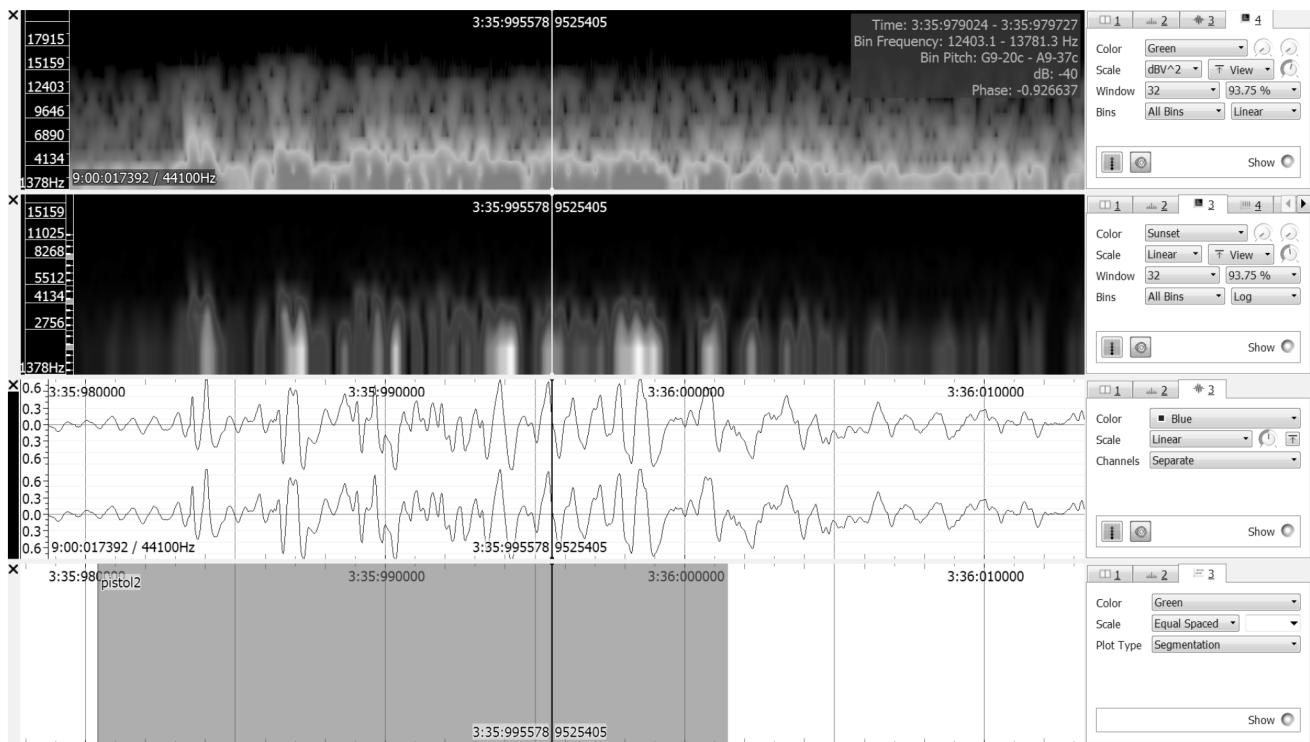


Spectographs & Waveforms

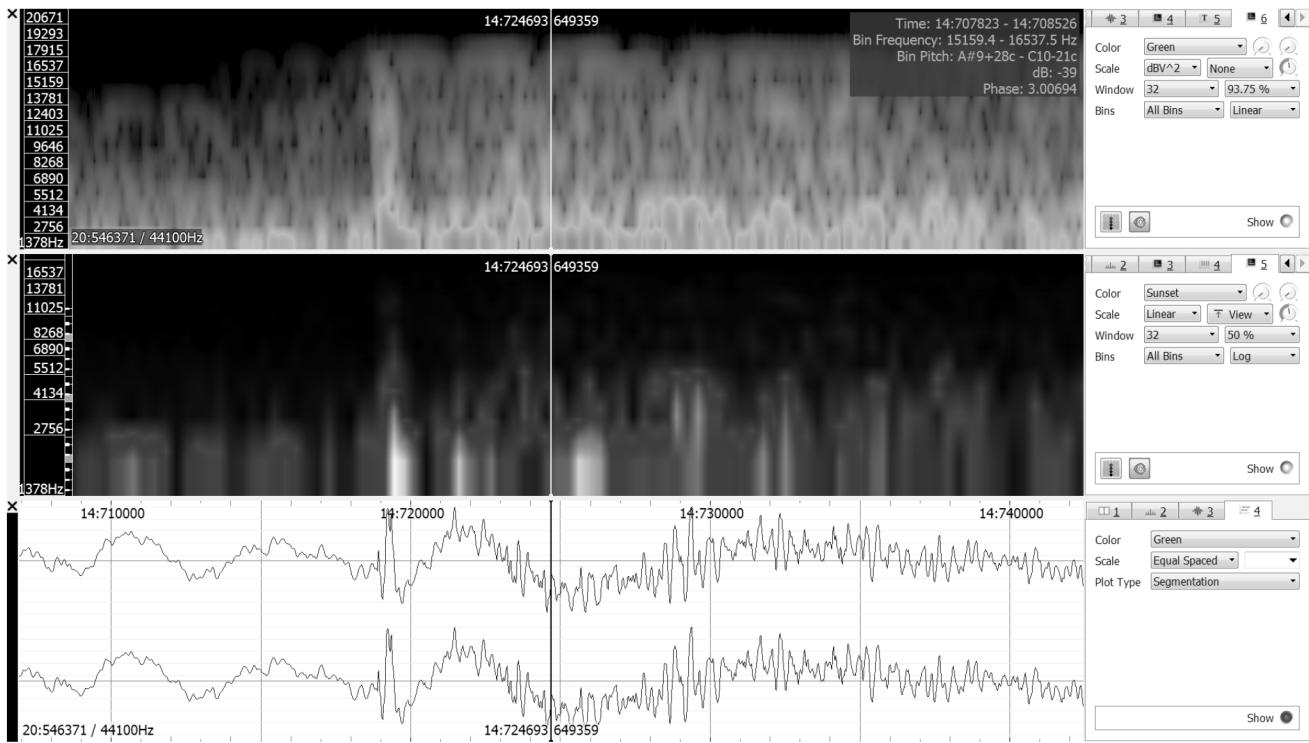
Pistol Shot 1 – Mandalay Bay Bus Stop



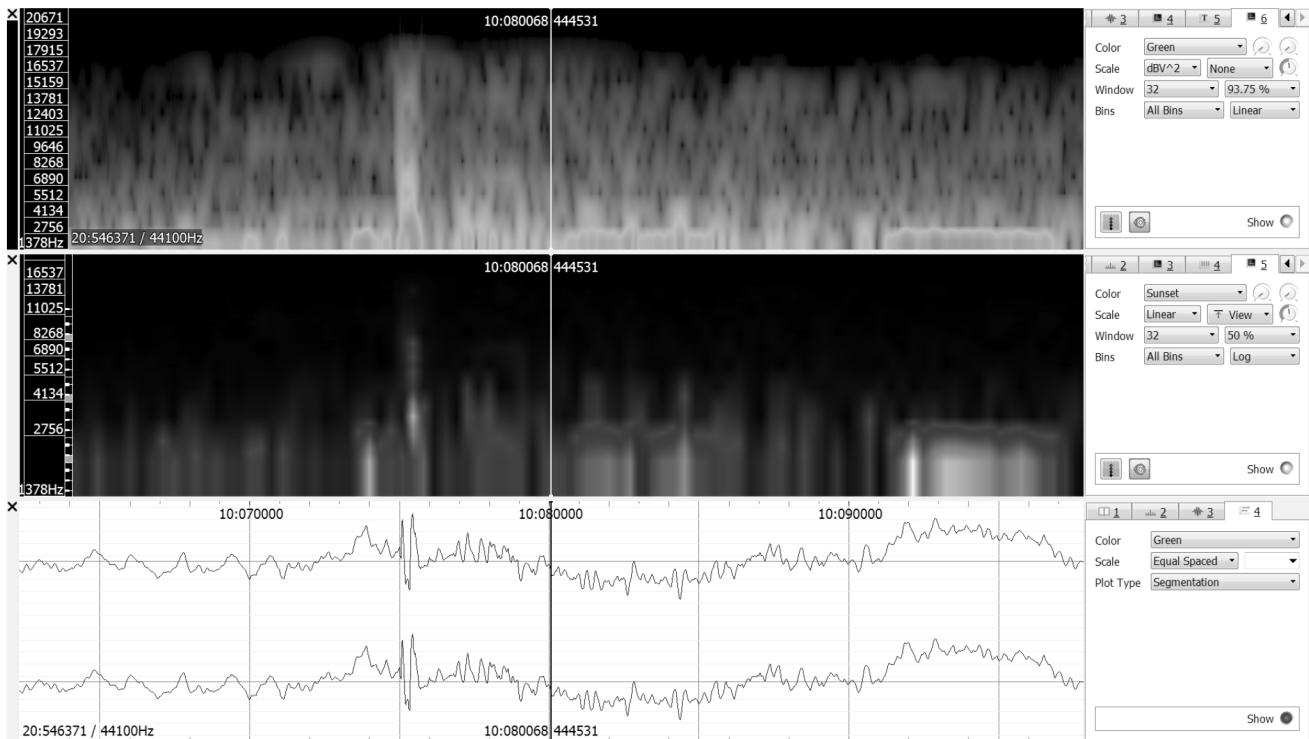
Pistol Shot 2 – Mandalay Bay Bus Stop



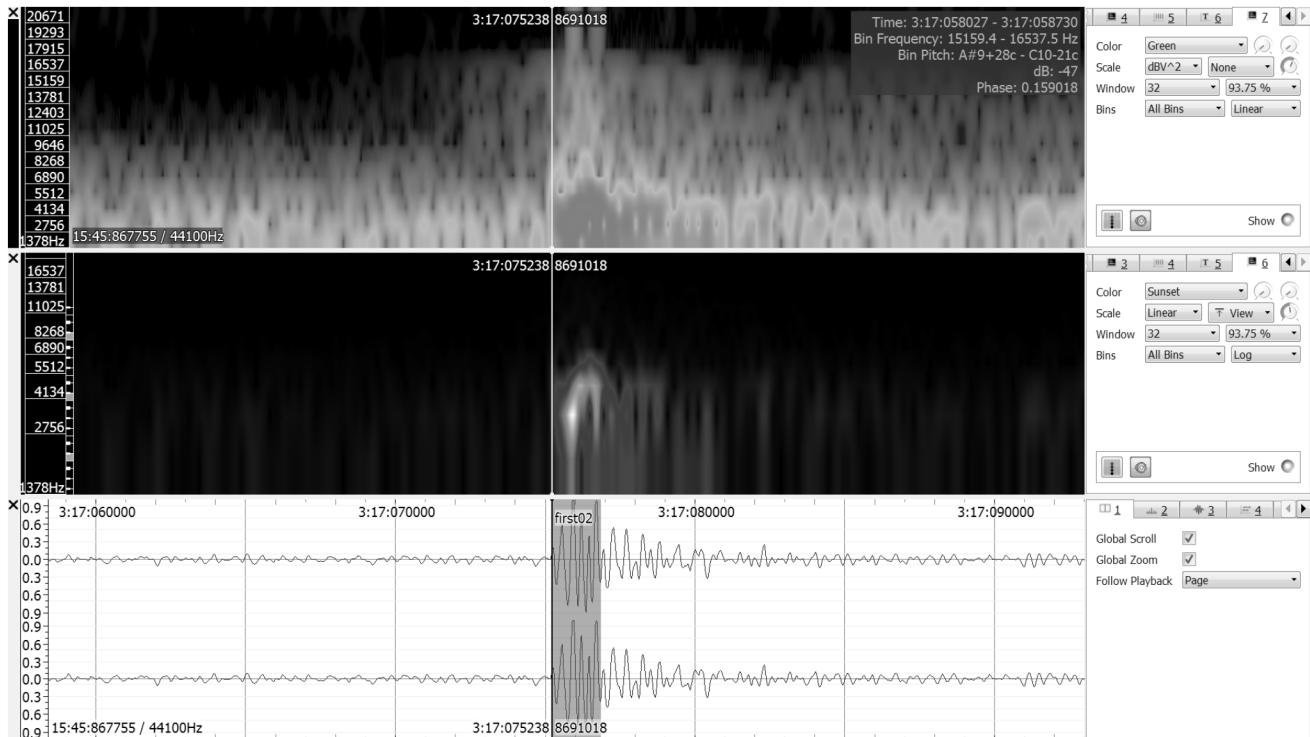
Single (hit) – Tonelli



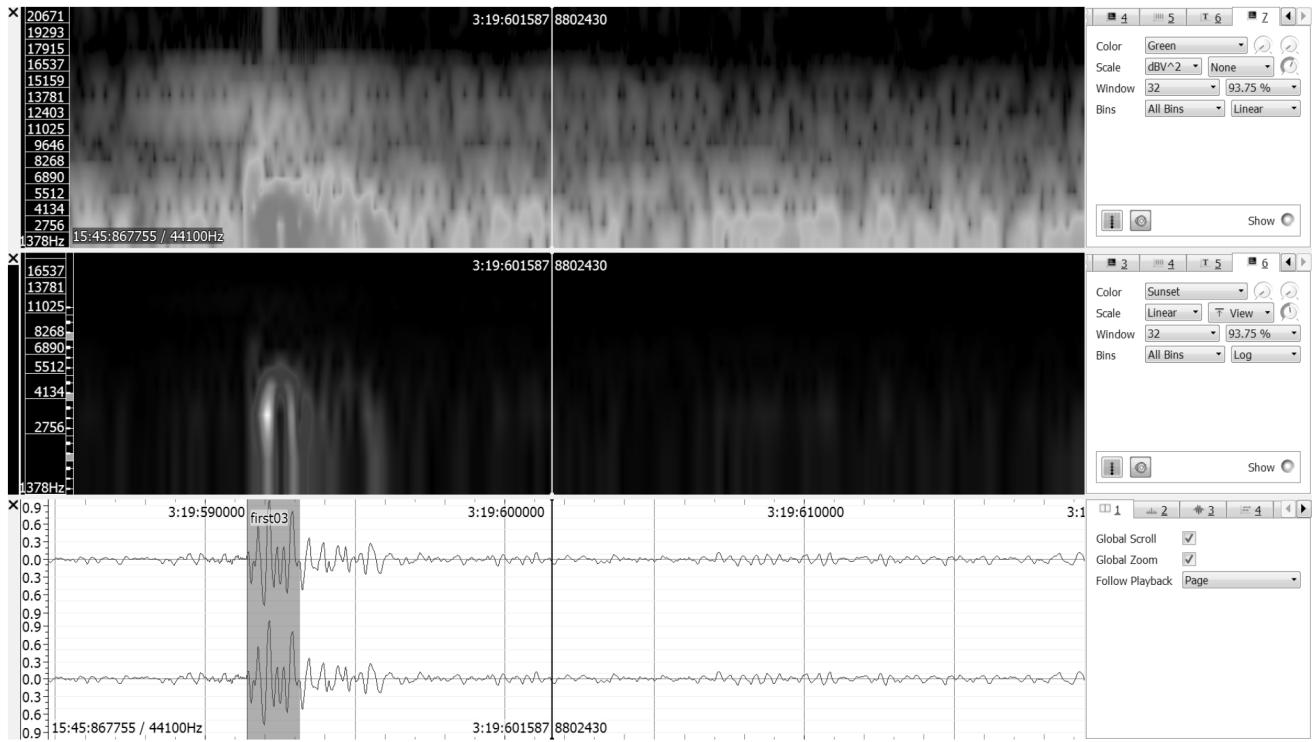
Single (no hit) – Tonelli



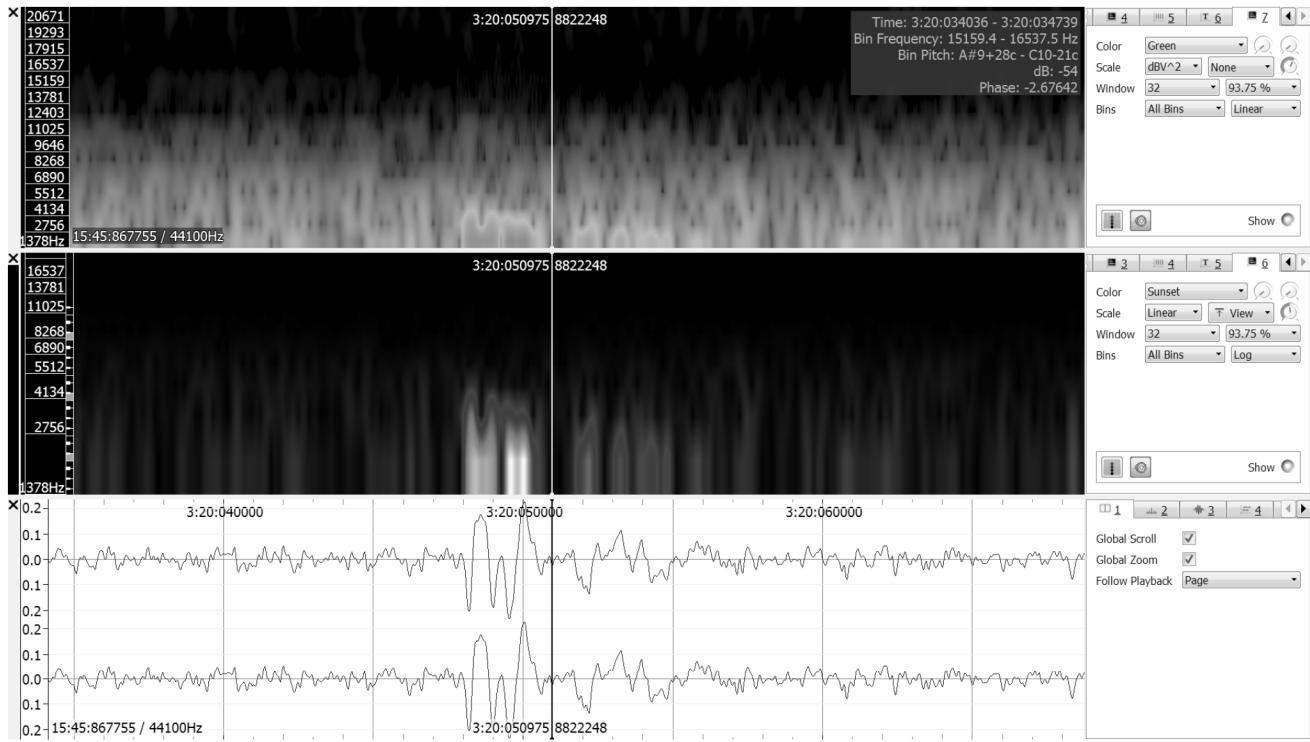
First02 – First Shots Fired – Gate 7



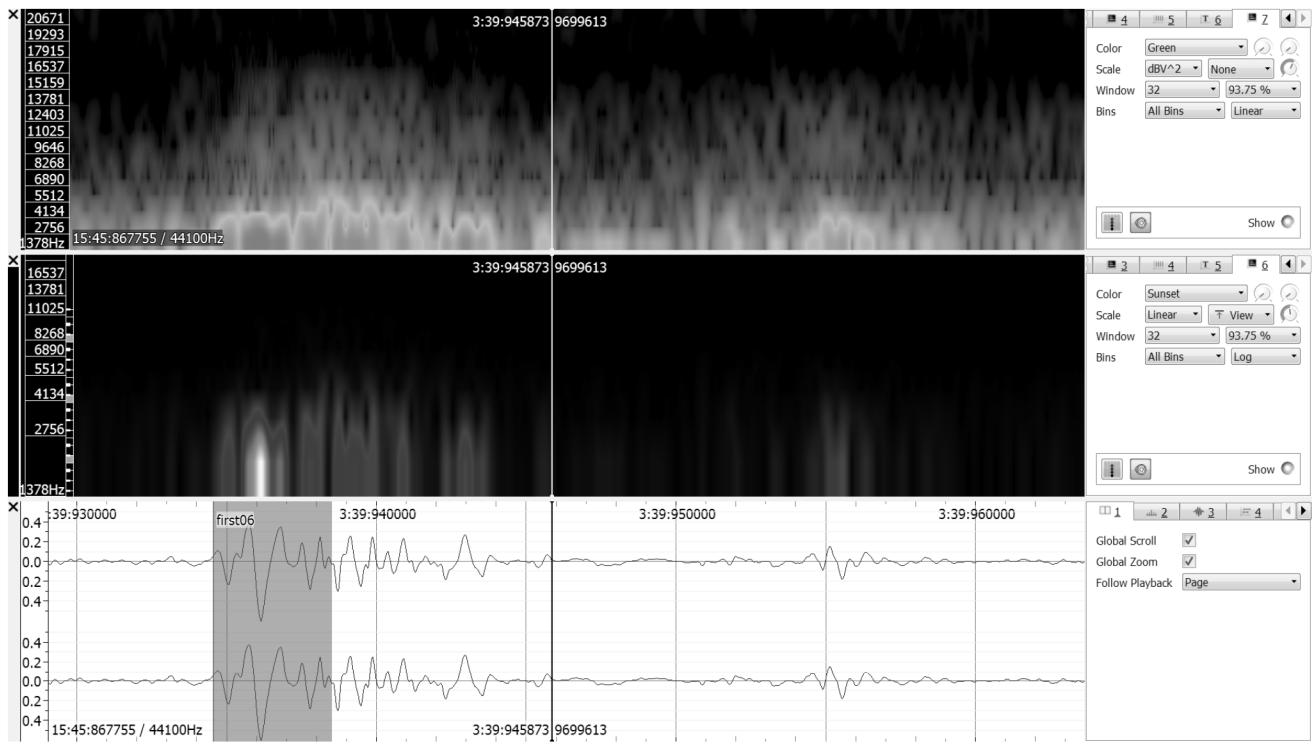
First03 – First Shots Fired – Gate 7



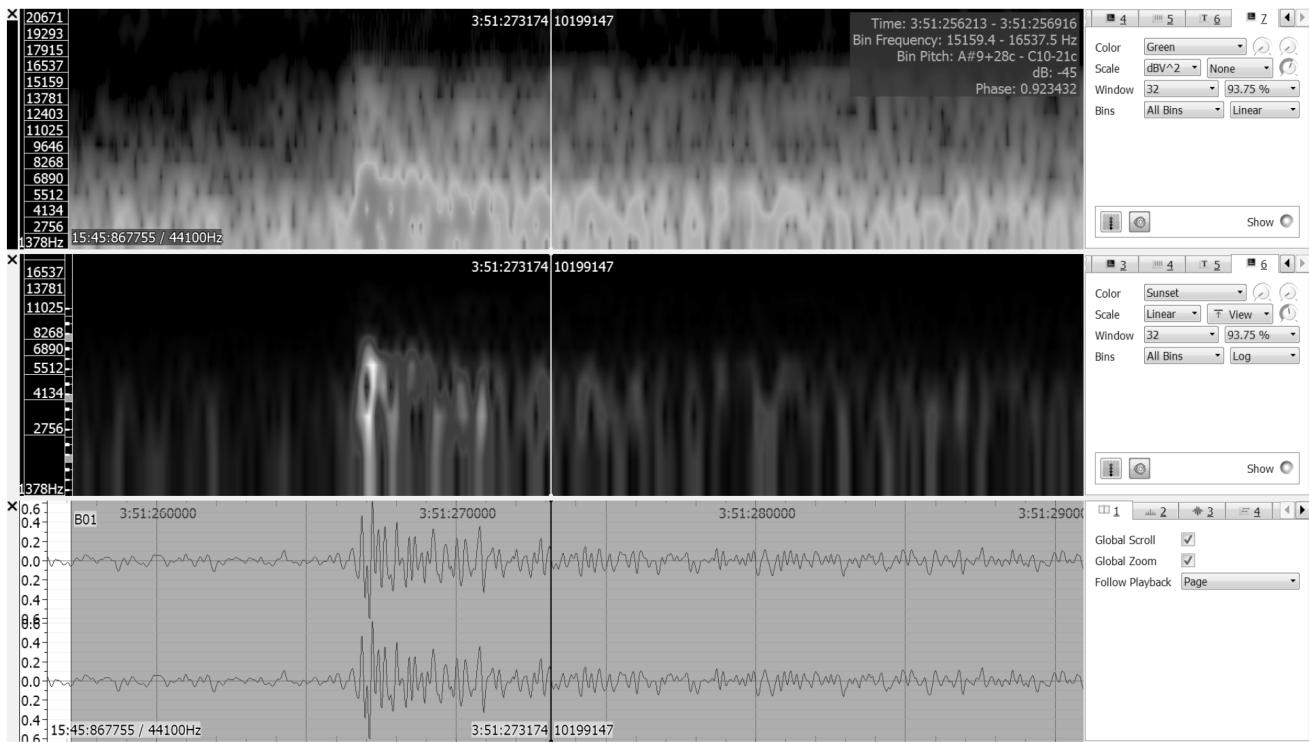
First03 (muzzle?) – First Shots Fired – Gate 7



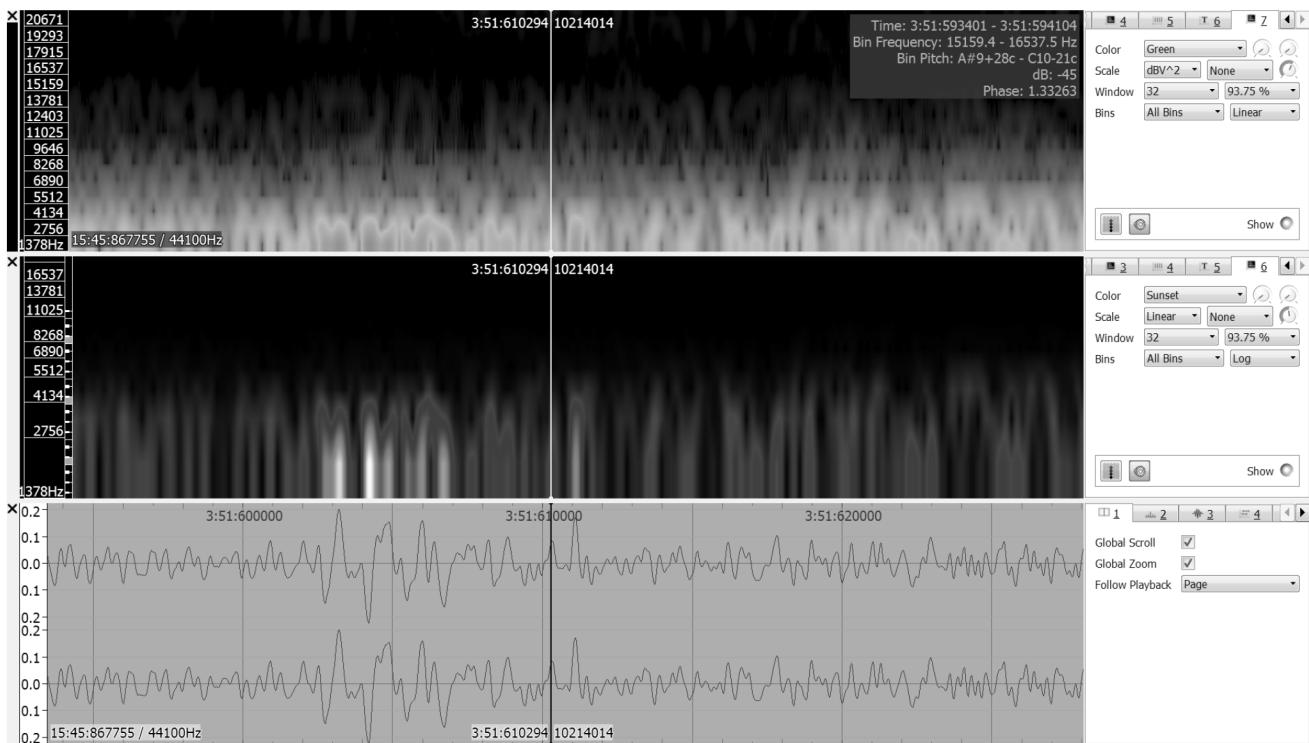
First06 – First Shots Fired – Gate 7



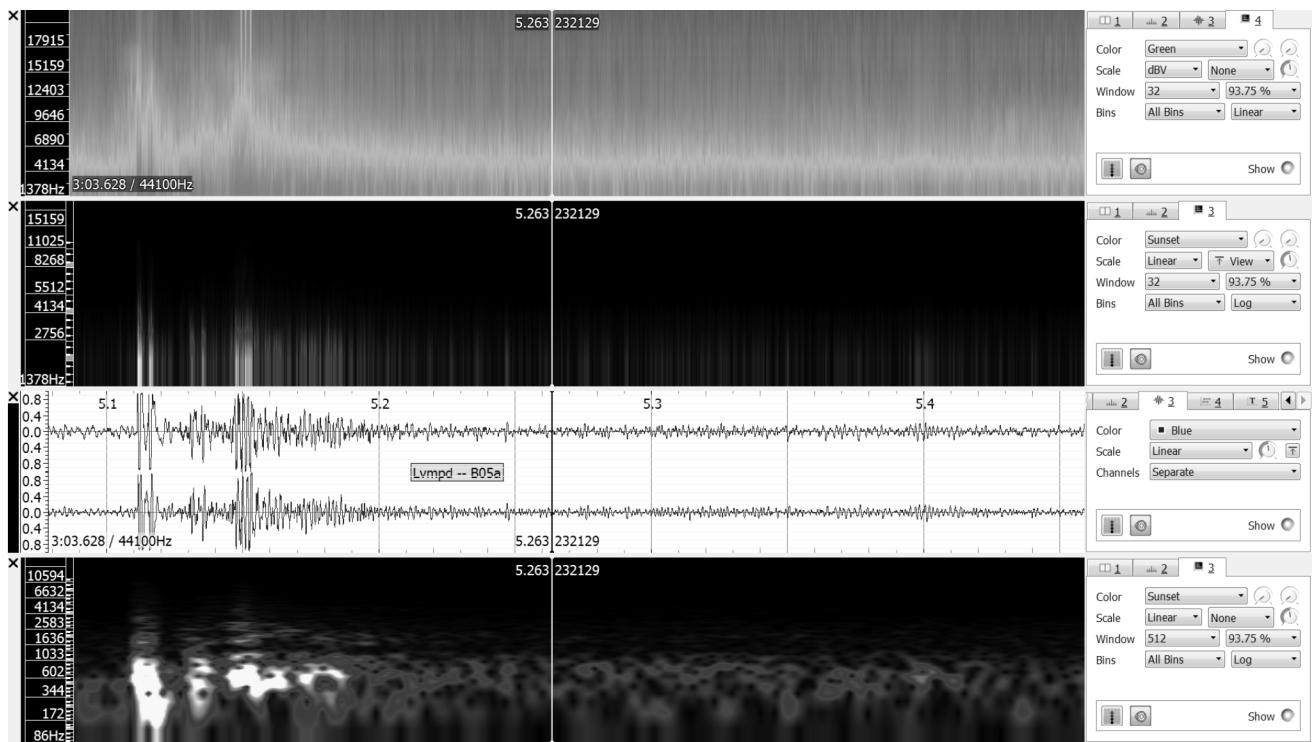
Burst01 – first shot – First Shots Fired – Gate 7



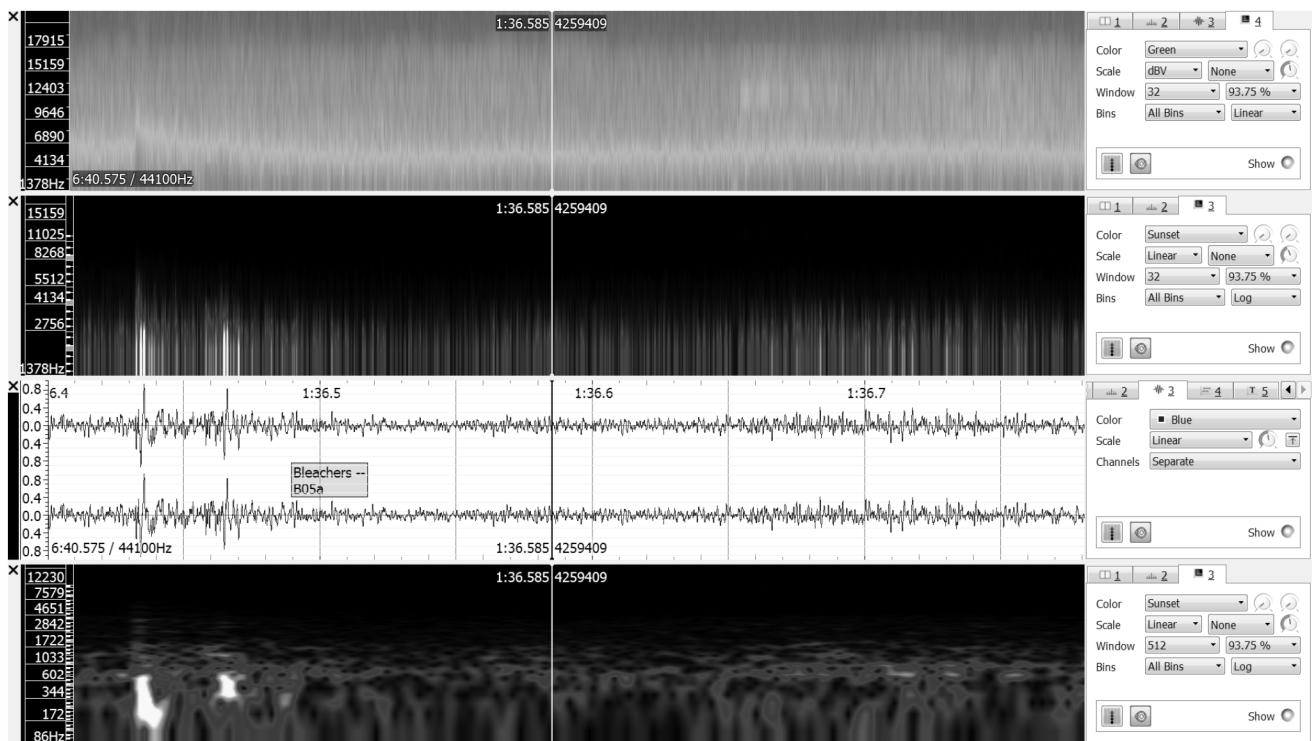
Burst01 – first shot – muzzle -- First Shots Fired – Gate 7



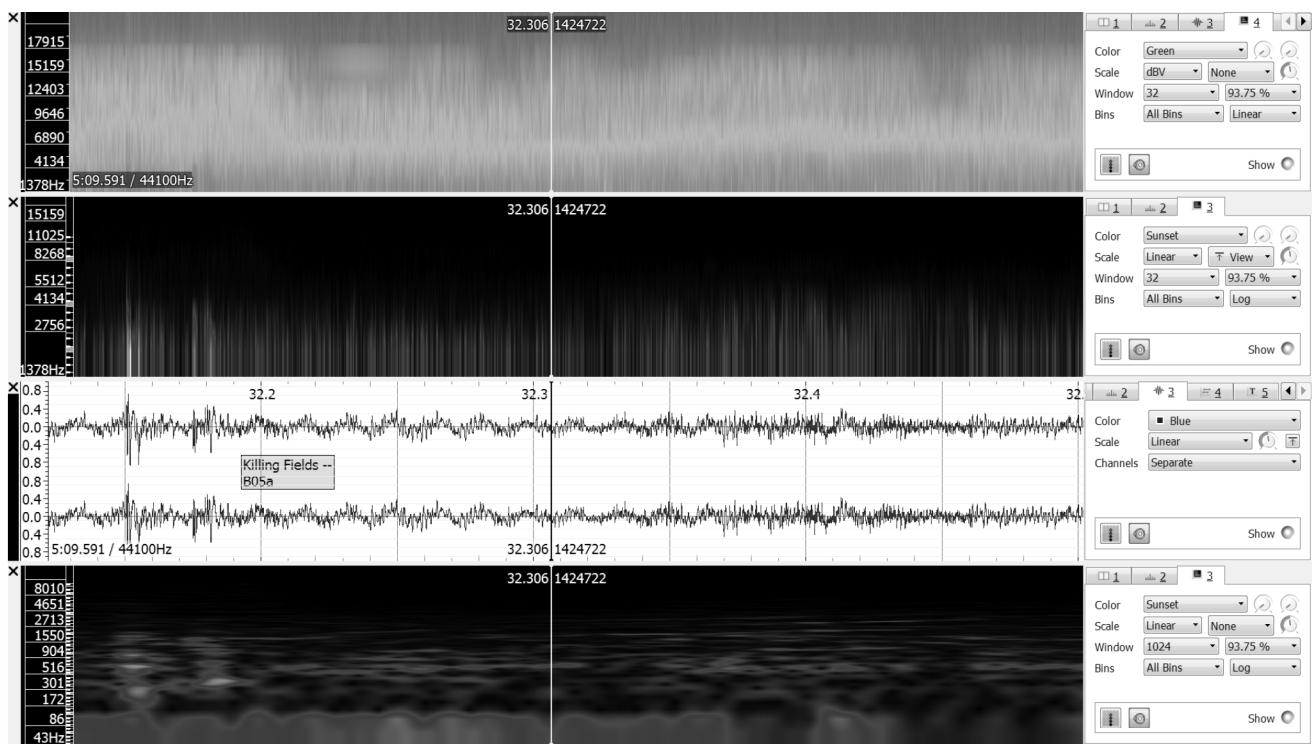
Spectographs & Waveform -- Lvmpd 5 Second Mark Event



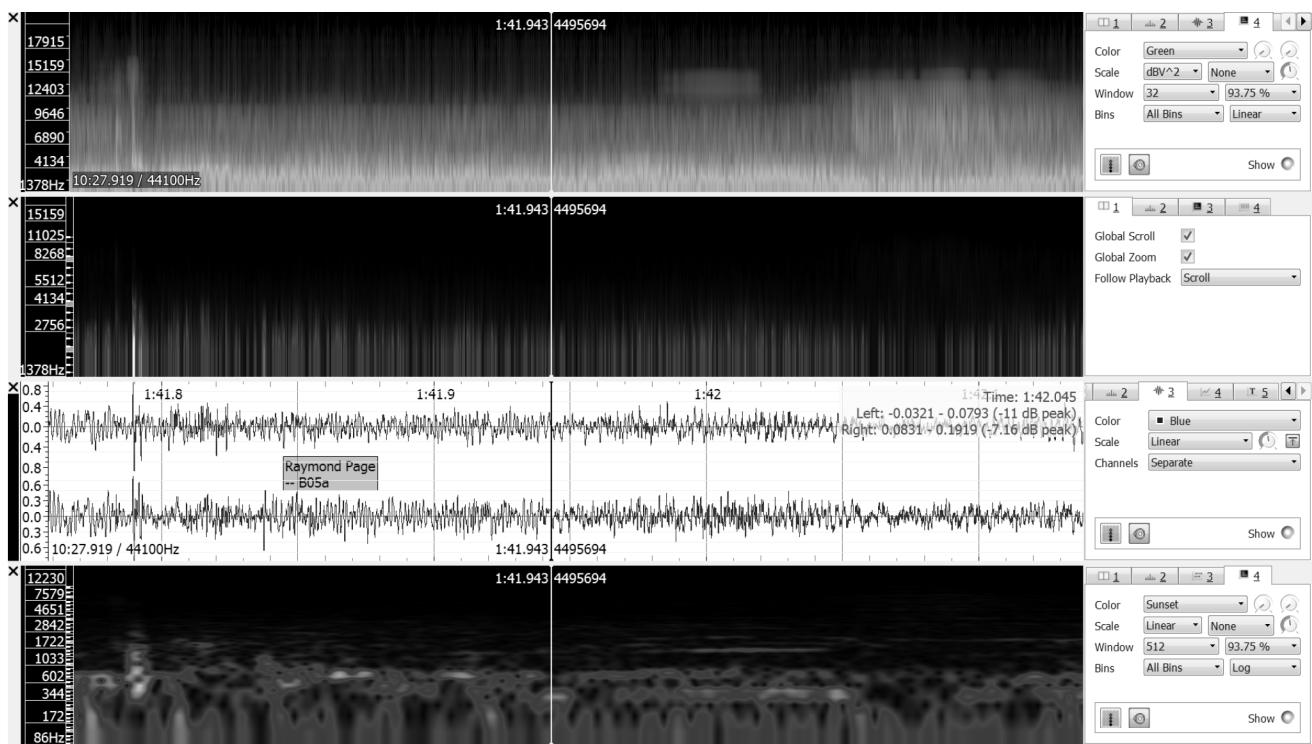
Spectographs & Waveform – Under Bleachers (fence event)



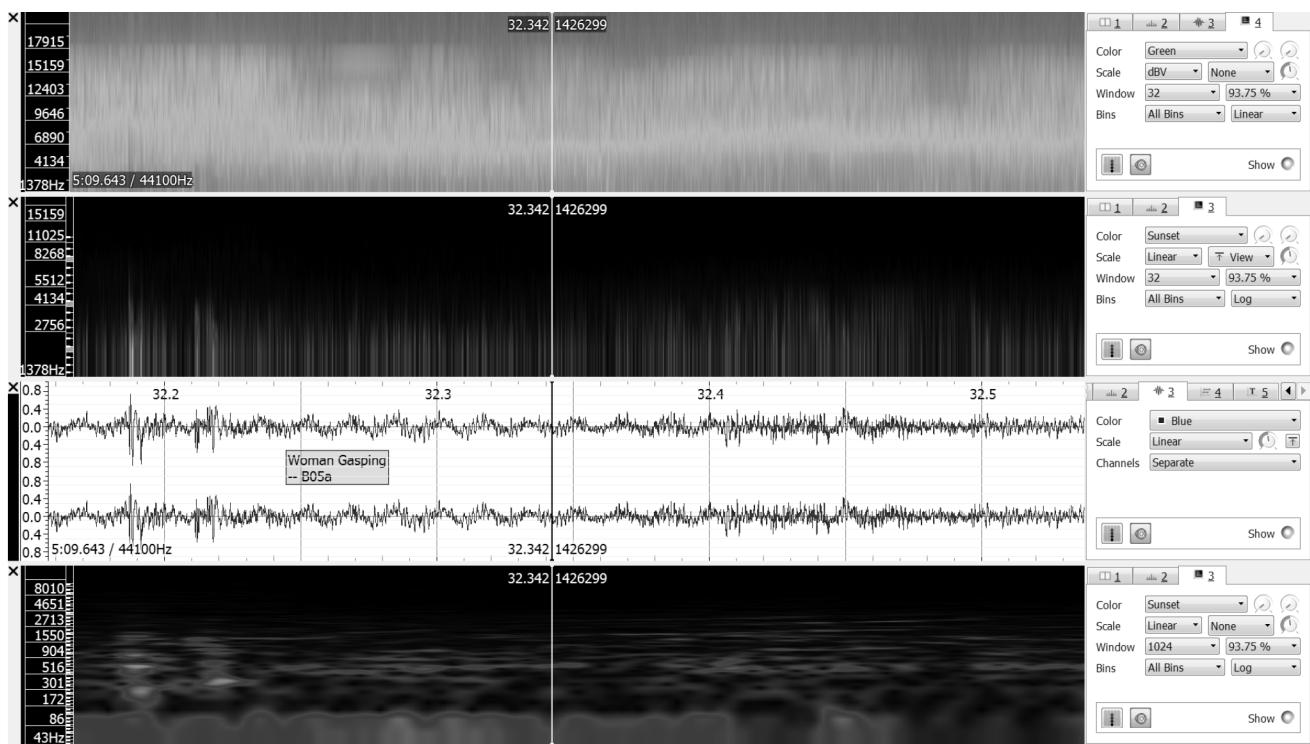
Spectographs & Waveform – Stage Left (fence event)



Spectographs & Waveform – Raymond Page (fence event)



Spectographs & Waveform – Stage Right? (fence event)



Definition of Terms

FFT

Sample Sounds

whoosh



URLs

Raymond Page

1st Shots (angel)

Timeline Spreadsheet

HAPPENINGS TIMELINE	TIME	DESCRIPTION	VIDEOS
PD Scanner Link: https://www.youtube.com/watch?v=qpHrm1xU40			
Approximately 7 tentative/snipe shots fired, presumably at fuel tanks adjacent to Harvest Festival.	10:04 PM	These 23 shots are thus far only heard/seen on the Cabbie vid as she was only one close enough to 32nd Floor position to hear shots from Mandalay hallway from WITHIN the room	FIRST SHOTS VID https://www.youtube.com/watch?v=QCNeC0mTbg
No one seems to notice or taken any action to initial shots. See FIRST SHOTS vid.			
Fuel tanks not exploding despite patient shots. Plan already going south. Fikt? Time to unload. BLAST head near heart of concert. Dozens start exiting IMMEDIATELY before any auto-fire breaks out.	10:05 PM	Vegas shooting synchronized with Cabbie vid.	VEGAS SHOOTING SYNCED https://www.youtube.com/watch?v=t2d8KUo_Vc
RADIO @ 0:01: "1610: we got shot fires at 415AS, route to 91 sounded like automatic firearm."	10:06 PM		
Shooter dumps 4x100 round mag into crowd. Avg gap between fire bursts 25 sec.	10:07 PM		
RADIO @ 0:58: "We have an active shooter within the surroundings."	10:08 PM		
Conspicuous 2min reload. Shooter sees security coming in position. DOUBLE FUNK! Its only been 5min!	10:09 PM	CANNOT HEAR INTERIOR SHOTS	CANNOT HEAR INTERIOR SHOTS
More tentative shots. Keeping eye on security and/or aiming again at fuel tanks?	10:10 PM		
These green shots are infamous "gun talk" witnessed @ start of Cabbie vid (there WERE echoes).	10:11 PM		
Shooter fires exactly 23 shots into hallway at Security. These are infamous "far shots" in Cabbie vid.	10:12 PM		
Security neutralized in 1min. Back to dumps. Next 5x100 mags go off w/26sec avg gap between bursts.	10:13 PM		
RADIO @ 6:30: "Officer on PL31, can hear automatic fire coming from one floor ahead. One floor above us."	10:14 PM		
2nd conspicuous reload gap. Shooter's methodical rythm again interrupted. Has wind of PD on approach.	10:15 PM		
*10:16 p.m. - The last shots are fired from the suspect per body worn camera.	10:16 PM		
Let's see if 2nd last fired sound like revolver versus AR fire. Can only hear distinctly on Bus Stop vid. Gif on Bus Stop vid says @6:30 still hear "gun talk" from Mandalay Bay" while still hearing other shots.	10:17 PM		
RADIO @ 6:37: "I'm hearing some gunshots now, but I don't know if they're real or not."	10:18 PM		
*10:17 p.m. - The first two officers arrive on the 32nd floor.	10:19 PM		
RADIO @ 12:45: "It's been a while since we heard any shots. Does anybody have eyes on shooter?"			
RADIO @ 14:36: "haven't seen any shots from Mandalay but there is a strobe emanating from East side."			
*10:18 p.m. - The last shots are fired from the suspect per body worn camera.			
WHITE = 100 round magazine, sprayed. WHITE = Anomolies of severe interest. WHITE = PD Scanner transcripts. BLUE = Average gaps between fire 25 sec. PURPLE = Outlier gaps. Trouble afford. GREEN = Tentative and/or Snipe shots. RED = Hallway shots at security.			
Are these revolver shots versus AR shots?			
Compare audio of final shots of auto-fire at: https://www.youtube.com/watch?v=x9gKem0Zyag&feature=youtu.be&t=2m46s			
Versus final singular shots fired at 3:25 & 3:35 https://www.youtube.com/watch?v=x9gKem0Zyag&feature=youtu.be&t=3m35s			

TIME	FIRST SHOTS WOLF AUDIO	FIRST SHOTS VID																																																																									
10:04 PM	<table border="1"> <thead> <tr> <th>GAP</th><th>START</th><th>SHOTS</th><th>END</th></tr> </thead> <tbody> <tr><td>:20</td><td>1</td><td>:20</td><td></td></tr> <tr><td>:05</td><td>25</td><td>1</td><td>:25</td></tr> <tr><td>:01</td><td>26</td><td>1</td><td>:26</td></tr> <tr><td>:01</td><td>27</td><td>1</td><td>:27</td></tr> </tbody> </table> <p>VEGAS SHOOTING SYNCED</p> <table border="1"> <thead> <tr> <th>GAP</th><th>START</th><th>SHOTS</th><th>END</th></tr> </thead> <tbody> <tr><td>:09</td><td>100</td><td>:19</td><td></td></tr> <tr><td>:36</td><td>55</td><td>100</td><td>:105</td></tr> <tr><td>:18</td><td>123</td><td>100</td><td>:133</td></tr> <tr><td>:20</td><td>1:53</td><td>93</td><td>2:01</td></tr> </tbody> </table>	GAP	START	SHOTS	END	:20	1	:20		:05	25	1	:25	:01	26	1	:26	:01	27	1	:27	GAP	START	SHOTS	END	:09	100	:19		:36	55	100	:105	:18	123	100	:133	:20	1:53	93	2:01	<table border="1"> <thead> <tr> <th>GAP</th><th>START</th><th>SHOTS</th><th>END</th></tr> </thead> <tbody> <tr><td>:31</td><td>2</td><td>3:12</td><td></td></tr> <tr><td>:05</td><td>3:17</td><td>2</td><td>:3:18</td></tr> <tr><td>:01</td><td>3:18</td><td>1</td><td>:3:19</td></tr> <tr><td>:01</td><td>3:19</td><td>1</td><td>:3:19</td></tr> <tr><td>:01</td><td>3:20</td><td>1</td><td>:3:20</td></tr> </tbody> </table> <p>AXON FLEX 2 BODYCAM</p> <table border="1"> <thead> <tr> <th>GAP</th><th>START</th><th>SHOTS</th><th>END</th></tr> </thead> <tbody> <tr><td>:20</td><td>5:35</td><td>93</td><td>5:43</td></tr> </tbody> </table>	GAP	START	SHOTS	END	:31	2	3:12		:05	3:17	2	:3:18	:01	3:18	1	:3:19	:01	3:19	1	:3:19	:01	3:20	1	:3:20	GAP	START	SHOTS	END	:20	5:35	93	5:43	7 initial shots fired. PLAID GIRL is looking around from first shot, asking questions. At BLAST at 3:36 in FIRST SHOTS vid, PLAID GIRL DROPS FOR COVER. DOZENS IN VICINITY IMMEDIATELY EXIT LEFT WHILE LOOKING BACK TOWARDS THEIR RIGHT.
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FIRST SHOTS WOLF AUDIO		Are these revolver shots versus long-gun shots?																																																																									
https://streamable.com/ylydy		Compare audio of final shots of auto-fire at: https://www.youtube.com/watch?v=x96Kem0ZYag&feature=youtu.be&t=2m46s																																																																									
FIRST SHOTS VID		Versus final singular shots fired at 3:25 & 3:35 https://www.youtube.com/watch?v=x96Kem0ZYag&feature=youtu.be&t=3m35s																																																																									
KEY																																																																											
= 100 round magazine, sprayed.																																																																											
Wut? = Anomalies of severe interest.																																																																											
0:00 = Outlier gaps. Signals "change" of tactic.																																																																											
BLUE = Average gaps between auto-fire dumps.																																																																											
GREEN = Tentative and/or Snipe shots.																																																																											
RED = Small/Medium burst targeting.																																																																											