

**DIGITAL EVIDENCE:
FROM A TWINKLE IN
YOUR EYE TO THE END
OF A TRIAL**

**NOW THAT YOU'VE GOT IT
AND CAN READ IT, WHAT
CAN YOU DO WITH IT?**



**Part
II**

TOPIC 4



**YOU NEED TO KNOW HOW
TO ANALYZE THE DATA**

In a criminal case, 5 entities will
potentially analyze the data



- **FORENSIC
EXAMINER**
- **INVESTIGATOR OR
DETECTIVE**
- **CRIME ANALYST**
- **EXPERT**
- **PROSECUTOR OR
DEFENSE
ATTORNEY**

A screenshot of a software interface, likely a data analysis tool, showing a table with multiple columns and rows of data. The interface includes a sidebar on the left with various menu options and a main window displaying the data table. The data appears to be organized in a structured format, possibly a spreadsheet or a database query result.

you need to know what you're looking for



- **WHAT IS IN THE RECORDS
THAT YOU HOPE TO CAPTURE?**

- Is it location?
- Is it communications?
- Is it financial transactions?
- Is it social media or other internet accounts?
- Is it photographs or videos?

The source of the information and the investigative question will help narrow the focus of the search in large amounts of data.

How to analyze the data is dependent on the source you are working with.



- ❖ **CELL PHONE**
- ❖ **COMPUTER/ TABLET/
EXTERNAL MEDIA
STORAGE**
- ❖ **CALL DETAIL RECORDS**
- ❖ **OTHER LOCATION
INFORMATION**
- ❖ **SOCIAL MEDIA RECORDS**
- ❖ **OTHER BUSINESS
RECORDS (BANK, TRAVEL,
ETC.)**

CONSIDER MULTIPLE DATA SOURCES



Similar information may be available in multiple sources.

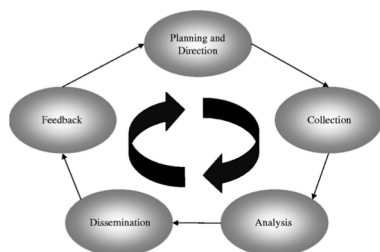
- Location information can be found in Call Detail Records, the Phone Extraction, and other internet information (social media).
- Social Media Messages can be found on the device and in a search warrant return.
- Photographs and remnants of photographs may be found on a device, in a cloud return, and/or on an external drive or computer.

What tools do you have to analyze the data?



- Many companies provide a variety of tools to help analyze the data.
- In some cases, the data needs to be re-formatted.
 - Specialized software exists to assist with this.
- Common Challenges
 - Date/Time Formatting
 - Records provided in PDF
 - Records provided in formats not natively read by Windows software

BEST WAYS TO VIEW AND ANALYZE THE DATA

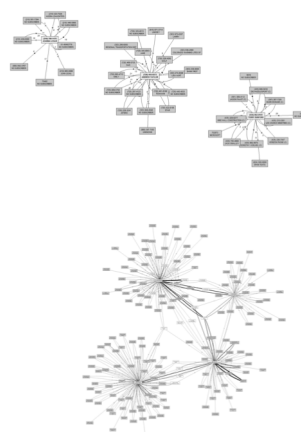


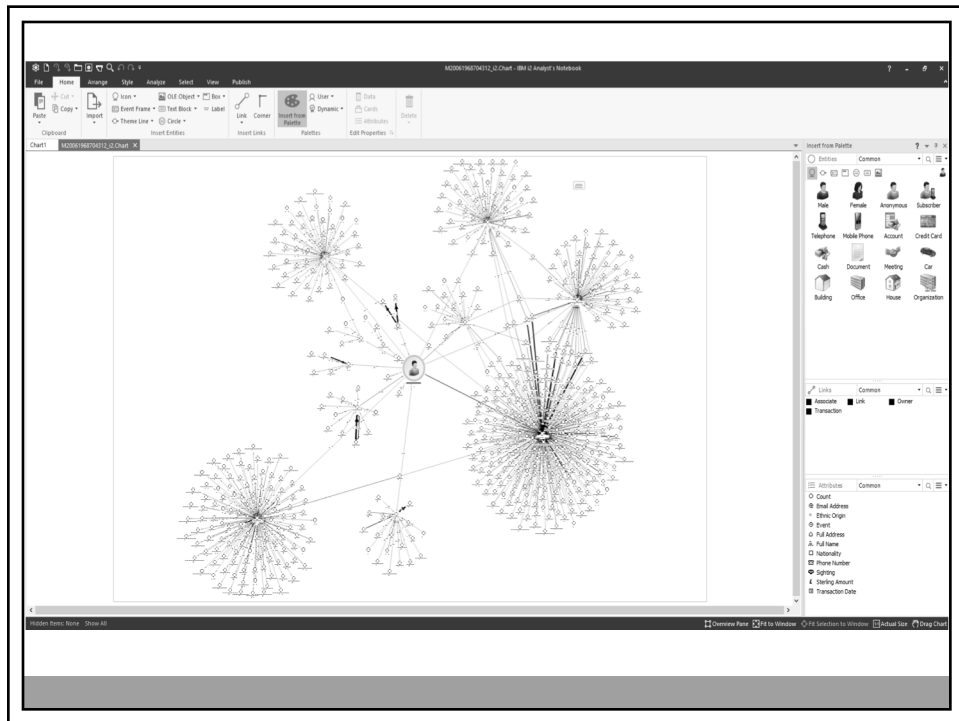
WHAT CAN YOU DO TO GET THE MOST OUT OF THE DATA IN FRONT OF YOU?

- As I work through a case, I am constantly adding new relevant information into a variety of timelines.
- Work with investigators, attorneys and crime analysts to build a picture.

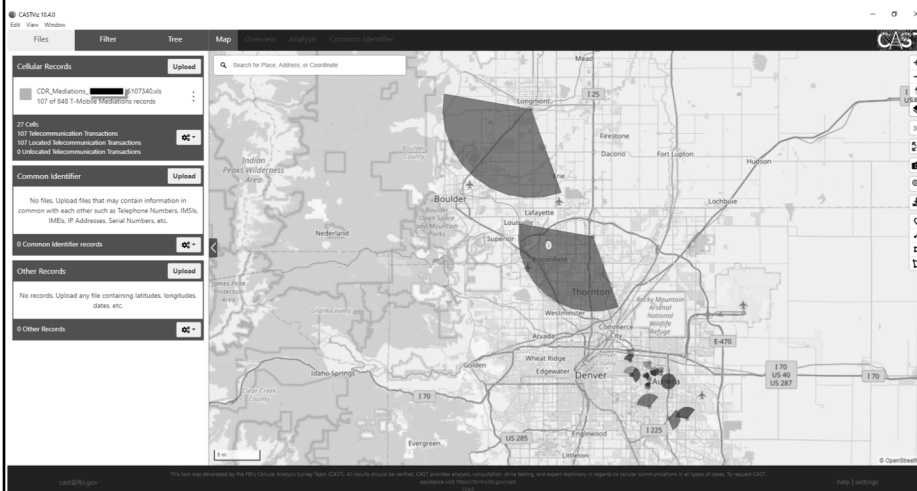
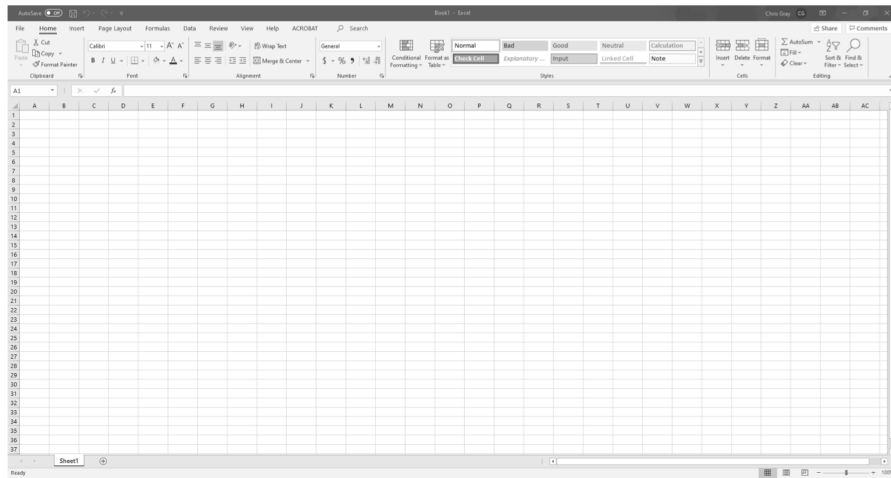
COMBINING AND CHARTING DATA CAN HIGHLIGHT NEW INFORMATION

- Can reveal previously unknown connections
- Can uncover additional witnesses and/or suspects
- Prove or disprove a party's knowledge of another person

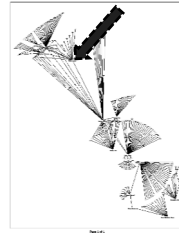
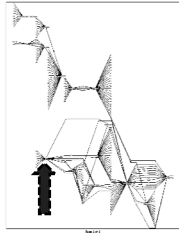




GOOD OL' TRUSTY TOOL



**EXAMPLE OF USE OF LAW
ENFORCEMENT RECORDS TO
IDENTIFY ROBBERY SUSPECTS IN
DENVER**



**EXAMPLE
USING SOCIAL MEDIA AS FOLLOW-UP
TO DATA ANALYSIS**



SPECIAL PLACE IN MY



Twon Wright

February 20, 2015 · 🌐

...

Do you know who your FB friends are. they police analysis poses as female or other males to gain access to your FB so they can legally use it against you in court. DO YOU JUST EXCEPT ANYONE.



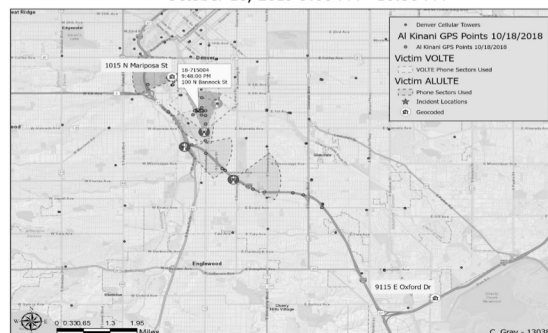
12

5 Comments 1 Share

COMBINING MULTIPLE SOURCES OF DATA INTO ONE PACKAGE



GPS and Phone
October 18, 2019 9:00 PM - 10:30 PM



CONSIDER REPROCESSING THE DEVICE/RAW DATA IF UPDATES TO YOUR FORENSIC TOOL MAKE ADDITIONAL DATA RETRIEVAL LIKELY

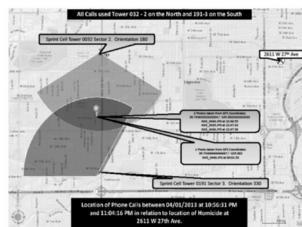


- **UPDATES TO FORENSIC SOFTWARE CAN SHOW NEW DATA THAT WAS NOT READABLE IN THE FIRST EXTRACTION.**
- **ADDITIONAL DATABASES MAY BECOME AVAILABLE.**

Does your data tell a story?



- ❑ **DATA DOES NOT LIE, BUT IT CAN BE MISINTERPRETED.**
- ❑ **DOES THE DATA CONFIRM OR CONTRAVENE YOUR THEORY OF EVENTS?**
- ❑ **NOW THAT WE KNOW THE STORY, HOW CAN WE EFFECTIVELY CONVEY IT TO A JURY?**



TOPIC 5



YOU NEED TO KNOW HOW TO
PRESENT IT EFFECTIVELY AT
TRIAL

TRADITIONAL VISUAL EXHIBITS



- **Surveillance video**
- **911 and jail calls**
- **Crime scene photos**
- **Interrogations and interviews**

OTHER FORMS OF VISUAL EVIDENCE TO CONSIDER

- **Social media images and posts**
- **Text messages and emails**
- **Location based exhibits and simulations**



RELEVANT & ADMISSIBLE

- Evidence must be relevant to the issues in the case. Rule 401
- Evidence can be excluded, even if relevant, if its probable value is substantial outweighed by undue prejudice. Rule 403
- Consequently, exhibits depicting evidence must be admissible and based on evidence that will be or has been properly admitted at trial.



BE CAREFUL OF EDITORIAL COMMENTS



AUTHENTICATION



- Authentication of evidence: IT IS WHAT WE ARE SAYING IT IS
- Methods of authentication:
 - Defendant's admissions, either direct or indirect, made through statements relating to the evidence
 - Witness can testify that –
 - ✦ He or she had communicated with the defendant in the past at this number or email address
 - ✦ The defendant told the witness to contact him or her at the number or email address
 - ✦ The witness knows that the number or email belongs only to the defendant

OTHER METHODS OF AUTHENTICATION



- Authentication by reply – a witness who sent a message to a known address can testify to getting a reply from the defendant where:
 - ✦ the reply relates to the communication sent
 - ✦ the circumstances show that the reply came from the address of the email, SMS, or MMS message
- Authentication by circumstance:
 - ✦ unique details of the message that relate to the defendant that only he or she would know
 - ✦ dates, times and events referred to in the message are corroborated
 - ✦ the use of monikers or nicknames
 - ✦ conduct of the parties is consistent with the message (either before or after)
- Any other evidence that shows it was the defendant using the device or accessing a website or app at that time – INCLUDING OTHER DATA SOURCES



HEARSAY



Hearsay responses and exceptions most likely to be applicable:

- Not hearsay because not offered for truth
- 801(a)(1) not an “oral or written assertion”
- 801(a)(2) not a statement made by a declarant
- 801(d)(2)(D) Admission by Party-Opponent
- 801(d)(2)(E) Admission by co-conspirator
- 803(1) Present Sense Impression
- 803(2) Excited Utterance
- 803 (3) State of Mind
- 803 (6) Business Records

EXAMPLES OF VISUAL EXHIBITS THAT CAN ENHANCE YOUR TRIAL PRESENTATION

- **Social media data**
- **SMS, MMS, or email communications**
- **Location data, enhanced with cell mapping and other techniques**
- **Cellphone records**
- **Internet search history**
- **Incriminating jail calls**



SOCIAL MEDIA– POSTS, PIX, AND OTHER STUPID THINGS PEOPLE DO

DEFENSE:
“NO, I’M NOT A
PIMP. WHAT
WOULD MAKE
YOU THINK
THAT?”

Case Study #1

1. RECORDS ANALYZED

PHONE NUMBER XXX-XXX-7857
VERIZON PHONE

- ❑ ALUTE – THERE ARE 1260 RECORDS OF WHICH 16 WERE ANALYZED.
- ❑ VOLTE (VOICE OVER LTE) CALL DETAIL RECORDS – THERE ARE 55 RECORDS OF WHICH 3 RECORDS ARE INCLUDED IN THE ANALYSIS.

2. RECORDS ANALYZED

- ❑ GPS DATA
 - ❑ September 18, 2018 from 7:30 PM thru 8:30 PM – 85 Records
 - ❑ September 29, 2018 from 8:30 PM thru 9:16 PM – 46 Records
 - ❑ October 11, 2018 from 8:00 PM thru 10:00 PM – 121 Records
 - ❑ October 18, 2018 from 9:00 PM thru 10:30 PM – 91 Records

ALL DATA CONNECTED TO BETWEEN 4 AND 12 SATELLITES.

Verizon VoLTE Explanation Form



VERIZON SECURITY ASSISTANCE TEAM
180 Washington Valley Rd | Bedminster, NJ 07921
Phone: 855-451-5242 | 888-667-0026, 888-667-0028

VOLTE Call Detail w/ Cell Sites Explanation Form

Record Open Date/Time	Record Open D4/Tm(GMT)	SD	MD	Cell ID	Cell Name	Market ID	END #	DIR	MISSION	Called #	CPN	SOU	RAT	VOLTE / Endpoints	VZW (Network Extension) - VAB
Start Time of the call local time. Note that calls involving forwarding or voicemail will reflect in GMT.	Start Time of the call (GMT)	Serving System ID	Switch Number (HSCN)	This is the cell site that the target phone was using at the time of the call. Cell ID is approximately 120 degrees. Check cell site for the exact sector's Azimuth.	This is the cell site sector of the target call. This information describes the direction the target was facing the tower at the time of the call. Cell ID is approximately 120 degrees. Check cell site for the exact sector's Azimuth.	3 Digit Switch Number	6 Digit Cell Site Number (Frac 3 Digits + Market ID Number, Last 3 = Tower Number)	SD = Outbound Call MT = Inbound Call or = Unknown Forwarded Call	This is your target #	This is the number dialed to initiate the call. For inbound calls the number will be the same as the Mobile Directory Number (MSDN) column and for outbound calls this is the number your target dialed.	This is the calling party that initiated the call. If the call is reflected the column will be the same as the Mobile Directory Number (MSDN). If the call is inbound, this is the number that dialed your target.	Call Location in Seconds (UTC)	Radio Access Technology (e.g. Voice over LTE)	VOLTE Internal Connected Endpoints Indicator	Indicates if the call processed through a network extension device or a using that Verizon for Business service.
Cell Face (Sector) Breakdown		*96 is voicemail retrieval #225 is checking account balance #640 is checking minutes #777 is data/voicemail services #738 is prepaid voicemail retrieval #729 is adding minutes for prepaid *87 Authorizes Selective Caller ID Block *82 Deactivates Selective Caller ID Blocking													
1 = Sector "01" (Alpha)															
2 = Sector "02" (Beta)															
3 = Sector "03" (Gamma)															
32 = Sector "03" (Gamma)															

Verizon Subscriber and VoLTE Files



Searched-Value Account Number Last Name First Name Middle Name Business Name Addr Line1 Addr Line2 Addr Line3 City State Zip Code
8433377857 61368101-1 STEEN DONNA 954 J VANN ANDERSON RD PAGELAND SC 297287192

Record Open Date/Time	Record Open Dt/Tm(GMT)	SID	NID	Cell ID	Cell Face	Market ID	eNB ID	Dir	MSISDN	Called #	CPN	SOU	RAT	ENDPOINT	VZWNE/V4B
2018/10/18 01:00:11(GMT +0)	10/18/2018 1:00:11	N/A	N/A	N/A	N/A	N/A	N/A	MT	8433377857	18433377857	19043271530	7	N/A	N/A	N/A
2018/10/18 01:00:11(GMT +0)	10/18/2018 1:00:11	N/A	N/A	N/A	N/A	N/A	N/A	MF	8433377857	18433377857	19043271530	7	N/A	N/A	N/A
2018/10/18 01:00:51(GMT +0)	10/18/2018 1:00:51	N/A	N/A	N/A	N/A	N/A	N/A	MT	8433377857	18433377857	19043271530	4	N/A	N/A	N/A
2018/10/18 01:00:51(GMT +0)	10/18/2018 1:00:51	N/A	N/A	N/A	N/A	N/A	N/A	MF	8433377857	18433377857	19043271530	4	N/A	N/A	N/A
2018/10/18 17:08:35(GMT -6)	10/18/2018 23:08:35	N/A	N/A	N/A	2	14	14436	MO	8433377857	9139092376	18433377857	15	LTE	N/A	N/A
2018/10/18 17:11:56(GMT -6)	10/18/2018 23:11:56	N/A	N/A	N/A	24	14	14436	MT	8433377857	18433377857	19139092376	124	LTE	N/A	N/A
2018/10/18 17:19:01(GMT -6)	10/18/2018 23:19:01	N/A	N/A	N/A	34	14	14444	MO	8433377857	19043271530	18433377857	19	LTE	N/A	N/A
2018/10/18 17:22:42(GMT -6)	10/18/2018 23:22:42	N/A	N/A	N/A	12	14	14444	MT	8433377857	18433377857	14017490810	22	LTE	N/A	N/A
2018/10/18 17:46:47(GMT -6)	10/18/2018 23:46:47	N/A	N/A	N/A	26	14	14105	MT	8433377857	18433377857	19139092376	89	LTE	N/A	N/A
2018/10/18 17:49:06(GMT -6)	10/18/2018 23:49:06	N/A	N/A	N/A	16	14	14105	MO	8433377857	9043271530	18433377857	59	LTE	N/A	N/A
2018/10/18 17:50:19(GMT -6)	10/18/2018 23:50:19	N/A	N/A	N/A	16	14	14105	MO	8433377857	14017490810	18433377857	26	LTE	N/A	N/A
2018/10/18 17:51:07(GMT -6)	10/18/2018 23:51:07	N/A	N/A	N/A	1	14	14105	MO	8433377857	1678337385	18433377857	76	LTE	N/A	N/A
2018/10/18 18:49:41(GMT -6)	10/19/2018 0:49:41	N/A	N/A	N/A	2	14	14151	MO	8433377857	19139092376	18433377857	73	LTE	N/A	N/A
2018/10/18 20:15:13(GMT +0)	10/18/2018 20:15:13	N/A	N/A	N/A	N/A	N/A	N/A	MF	8433377857	18433377857	17817978000	7	N/A	N/A	N/A
2018/10/18 20:15:13(GMT +0)	10/18/2018 20:15:13	N/A	N/A	N/A	N/A	N/A	N/A	MT	8433377857	18433377857	17817978000	7	N/A	N/A	N/A
2018/10/18 21:24:31(GMT -6)	10/19/2018 3:24:31	N/A	N/A	N/A	16	14	14105	MO	8433377857	9043271530	18433377857	2	LTE	N/A	N/A
2018/10/18 21:25:09(GMT -6)	10/19/2018 3:25:09	N/A	N/A	N/A	16	14	14105	MO	8433377857	14017490810	18433377857	63	LTE	N/A	N/A
2018/10/19 00:44:13(GMT +0)	10/19/2018 0:44:13	N/A	N/A	N/A	N/A	N/A	N/A	MT	8433377857	18433377857	19139092376	0	N/A	N/A	N/A
2018/10/19 00:44:13(GMT +0)	10/19/2018 0:44:13	N/A	N/A	N/A	N/A	N/A	N/A	MF	8433377857	18433377857	19139092376	0	N/A	N/A	N/A
2018/10/19 00:44:49(GMT +0)	10/19/2018 0:44:49	N/A	N/A	N/A	N/A	N/A	N/A	MF	8433377857	18433377857	19139092376	3	N/A	N/A	N/A
2018/10/19 00:44:49(GMT +0)	10/19/2018 0:44:49	N/A	N/A	N/A	N/A	N/A	N/A	MT	8433377857	18433377857	19139092376	3	N/A	N/A	N/A
2018/10/19 03:25:03(GMT +0)	10/19/2018 3:25:03	N/A	N/A	N/A	N/A	N/A	N/A	MT	8433377857	18433377857	18649058647	2	N/A	N/A	N/A
2018/10/19 03:25:03(GMT +0)	10/19/2018 3:25:03	N/A	N/A	N/A	N/A	N/A	N/A	MF	8433377857	18433377857	18649058647	2	N/A	N/A	N/A
2018/10/19 03:53:27(GMT +0)	10/19/2018 3:53:27	N/A	N/A	N/A	N/A	N/A	N/A	MF	8433377857	18433377857	16312413492	4	N/A	N/A	N/A
2018/10/19 03:53:27(GMT +0)	10/19/2018 3:53:27	N/A	N/A	N/A	N/A	N/A	N/A	MT	8433377857	18433377857	16312413492	4	N/A	N/A	N/A
2018/10/19 03:58:35(GMT +0)	10/19/2018 3:58:35	N/A	N/A	N/A	N/A	N/A	N/A	MT	8433377857	18433377857	16312413492	91	N/A	N/A	N/A
2018/10/19 03:58:35(GMT +0)	10/19/2018 3:58:35	N/A	N/A	N/A	34	14	14281	MF	8433377857	18433377857	16312413492	91	LTE	N/A	N/A

Alulte File (Alcatel-Lucent LTE)



Record End Date*	Procedure Start Time*	Procedure End Time*	Proc Duration (secs)	Subscriber # (MSISDN)	IMEI	IMSI	MNC	Rollup Mkt #	Rollup eNB #	Rollup Cell ID #*	First Distance (miles)	Last Distance (miles)
10/18	22:29:01.605	22:29:01.605		0.8433377857	3529909856547	311480194841261	17	14	143	12		
10/18	22:29:21.599	22:29:21.699		0.18433377857	3529909856547	311480194841261	17	14	143	12		
10/18	22:29:19.601	22:29:19.812		0.18433377857	3529909856547	311480194841261	17	14	143	12		
10/18	22:29:19.965	22:29:19.100		0.048433377857	3529909856547	311480194841261	17	14	143	1	0.24	0.24
10/18	22:29:16.230	22:29:16.324		0.098433377857	3529909856547	311480194841261	17	14	143	1		
10/18	22:29:16.038	22:29:16.080		0.048433377857	3529909856547	311480194841261	17	14	143	1	0.29	0.29
10/18	22:28:48.959	22:28:49.663		0.78433377857	3529909856547	311480194841261	17	14	143	1		
10/18	22:28:48.228	22:28:48.853		0.638433377857	3529909856547	311480194841261	17	14	143	1		
10/18	22:24:21.112	22:24:21.112		0.8433377857	3529909856547	311480194841261	17	14	143	1	0.19	0.19
10/18	22:24:15.662	22:24:15.756		0.098433377857	3529909856547	311480194841261	17	14	143	1		
10/18	22:24:14.269	22:24:14.789		0.528433377857	3529909856547	311480194841261	17	14	143	1		
10/18	22:24:13.244	22:24:13.285		0.048433377857	3529909856547	311480194841261	17	14	143	1		
10/18	22:24:07.943	22:24:08.677		0.738433377857	3529909856547	311480194841261	17	14	143	1		
10/18	22:24:07.267	22:24:07.819		0.558433377857	3529909856547	311480194841261	17	14	143	1		
10/18	21:52:27.830	21:52:28.027		0.28433377857	3529909856547	311480194841261	17	14	529	2		
10/18	21:52:25.915	21:52:26.155		0.248433377857	3529909856547	311480194841261	17	14	529	2		
10/18	21:52:25.510	21:52:25.550		0.048433377857	3529909856547	311480194841261	17	14	529	22	0.19	0.24
10/18	21:52:19.493	21:52:19.586		0.098433377857	3529909856547	311480194841261	17	14	529	22		
10/18	21:50:38.680	21:50:38.697		0.028433377857	3529909856547	311480194841261	17	14	105	34		
10/18	21:50:36.139	21:50:36.170		0.038433377857	3529909856547	311480194841261	17	14	283	24	0.58	0.58
10/18	21:50:24.794	21:50:25.814		1.028433377857	3529909856547	311480194841261	17	14	283	24		
10/18	21:50:18.257	21:50:18.315		0.068433377857	3529909856547	311480194841261	17	14	283	24		
10/18	21:46:25.051	21:46:25.087		0.048433377857	3529909856547	311480194841261	17	14	478	32	0.39	0.44
10/18	21:46:19.517	21:46:19.560		0.068433377857	3529909856547	311480194841261	17	14	478	32		
10/18	21:46:09.713	21:46:09.746		0.038433377857	3529909856547	311480194841261	17	14	105	14	0.63	0.68

Cellular Towers

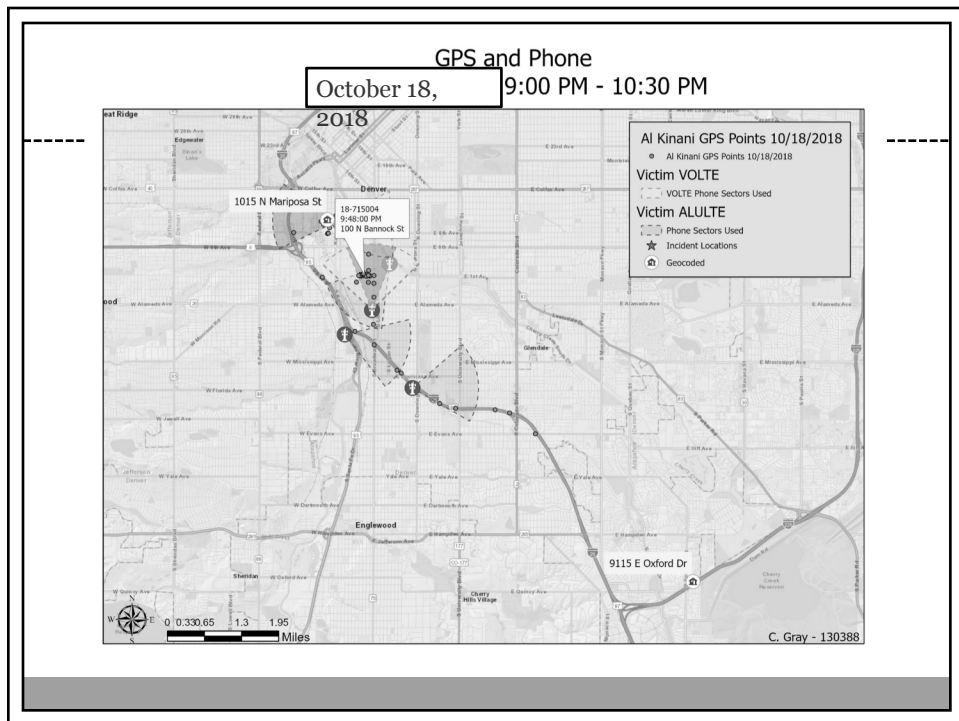
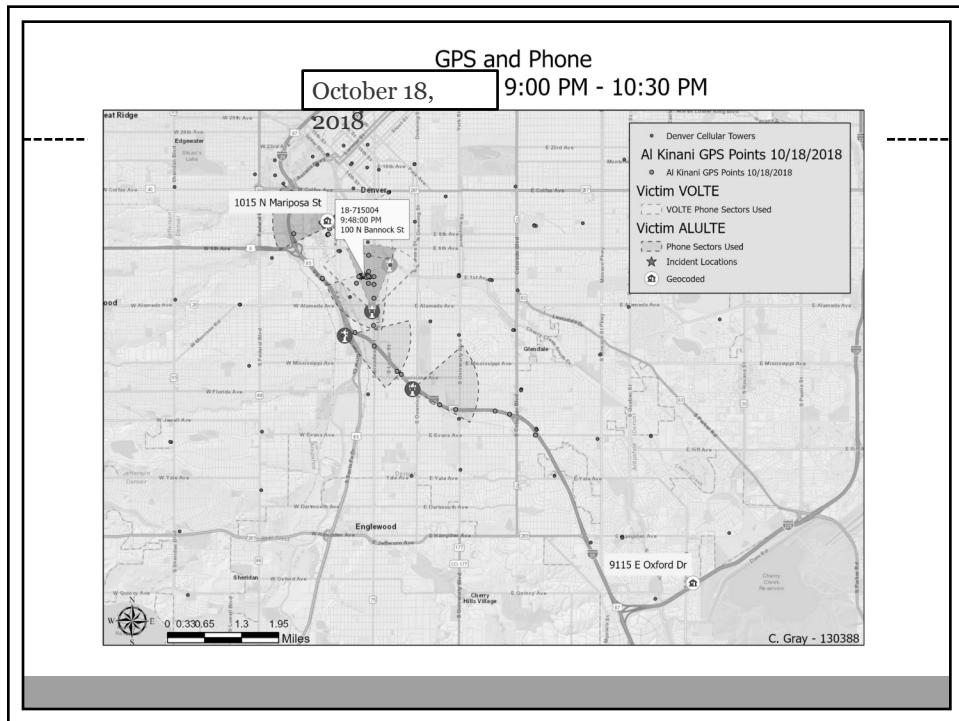


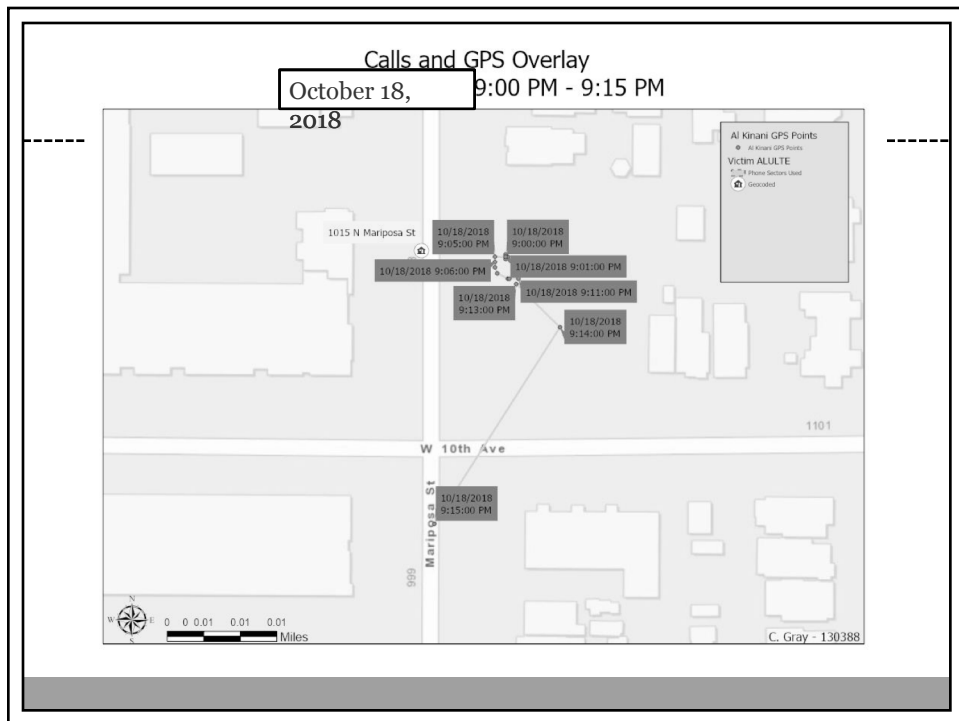
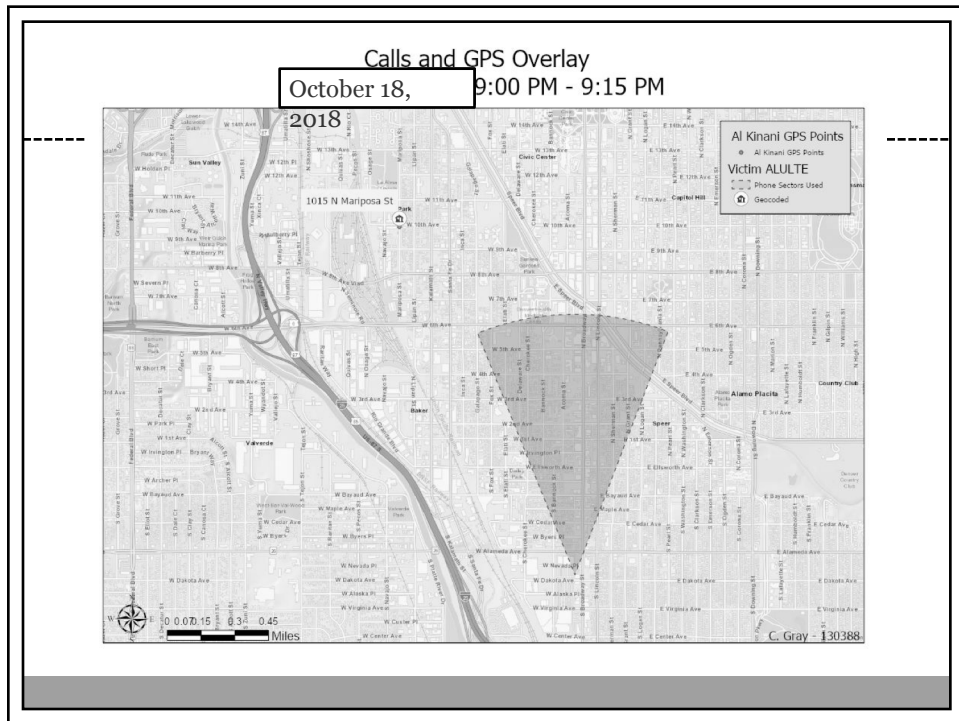
Market SID	Switch Number	Switch Name	Site Number	E-911 Latitude Degrees (NAD83)	E-911 Longitude Degrees (NAD83)	Street Address	City	State	Zip Code	Sector	Azimuth (deg)	Antenna H-BW (deg)
58	4	MTX03	626	43.042181	-105.042194	3500 A Airport Road	RIVERTON	WY	82901	2	40	61.75
58	4	MTX03	626	43.042181	-105.042194	3500 A Airport Road	RIVERTON	WY	82901	3	200	61.75
58	4	MTX03	626	43.042181	-105.042194	3500 A Airport Road	RIVERTON	WY	82901	3	200	61.75
58	4	MTX03	626	43.042181	-105.042194	3500 A Airport Road	RIVERTON	WY	82901	3	200	61.75
58	4	MTX03	627	42.850767	-105.080006	238 N Washington St	Grover	WY	83122	1	340	64
58	4	MTX03	627	42.850767	-105.080006	238 N Washington St	Grover	WY	83122	1	340	64
58	4	MTX03	627	42.850767	-105.080006	238 N Washington St	Grover	WY	83122	1	340	64
58	4	MTX03	627	42.850767	-105.080006	238 N Washington St	Grover	WY	83122	1	340	64
58	4	MTX03	627	42.850767	-105.080006	238 N Washington St	Grover	WY	83122	2	90	64
58	4	MTX03	627	42.850767	-105.080006	238 N Washington St	Grover	WY	83122	2	90	64
58	4	MTX03	627	42.850767	-105.080006	238 N Washington St	Grover	WY	83122	2	90	64
58	4	MTX03	627	42.850767	-105.080006	238 N Washington St	Grover	WY	83122	2	90	64
58	4	MTX03	627	42.850767	-105.080006	238 N Washington St	Grover	WY	83122	3	170	64
58	4	MTX03	627	42.850767	-105.080006	238 N Washington St	Grover	WY	83122	3	170	64
58	4	MTX03	627	42.850767	-105.080006	238 N Washington St	Grover	WY	83122	3	170	64

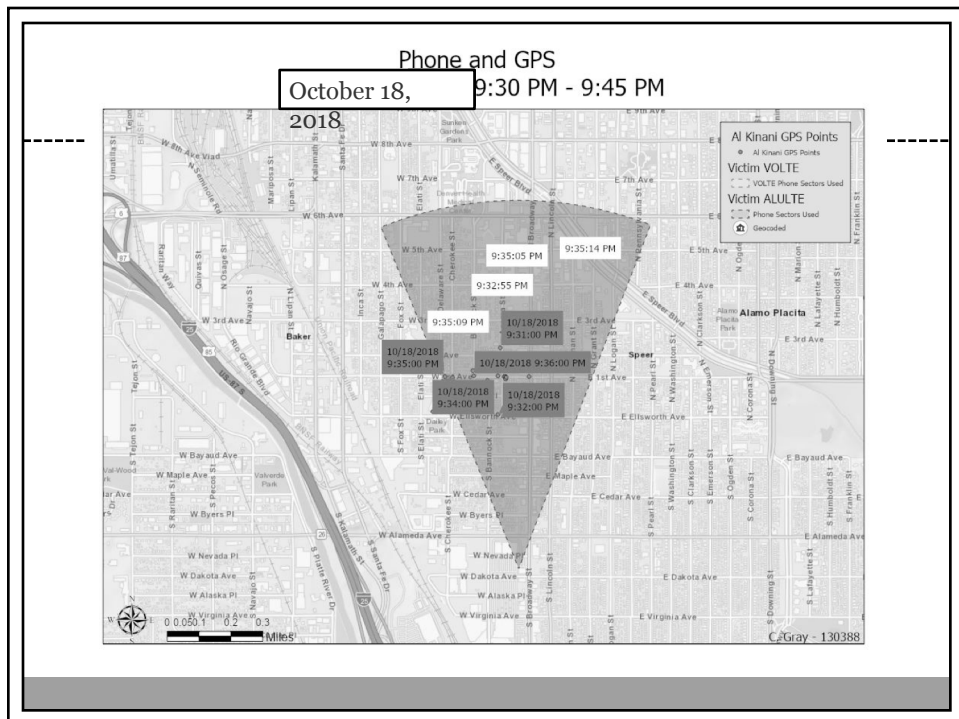
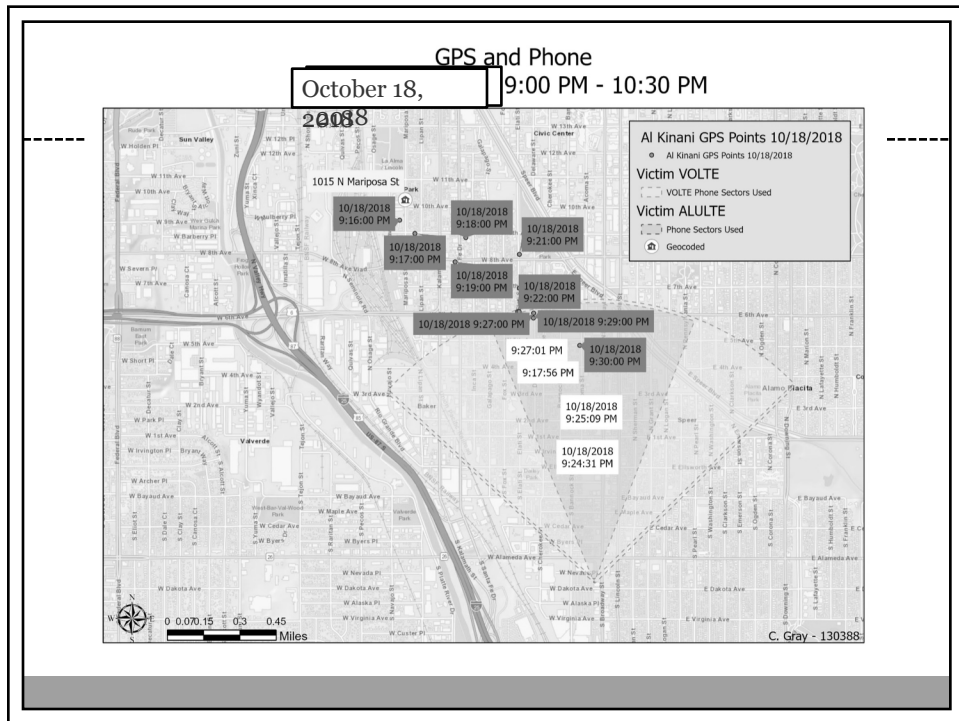
GPS Data

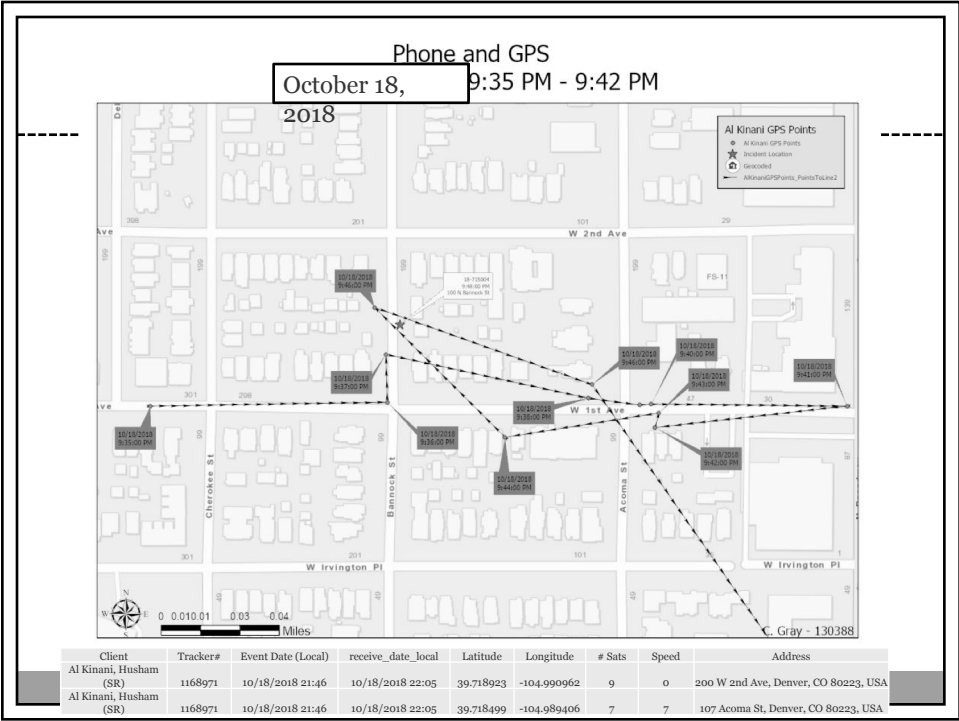
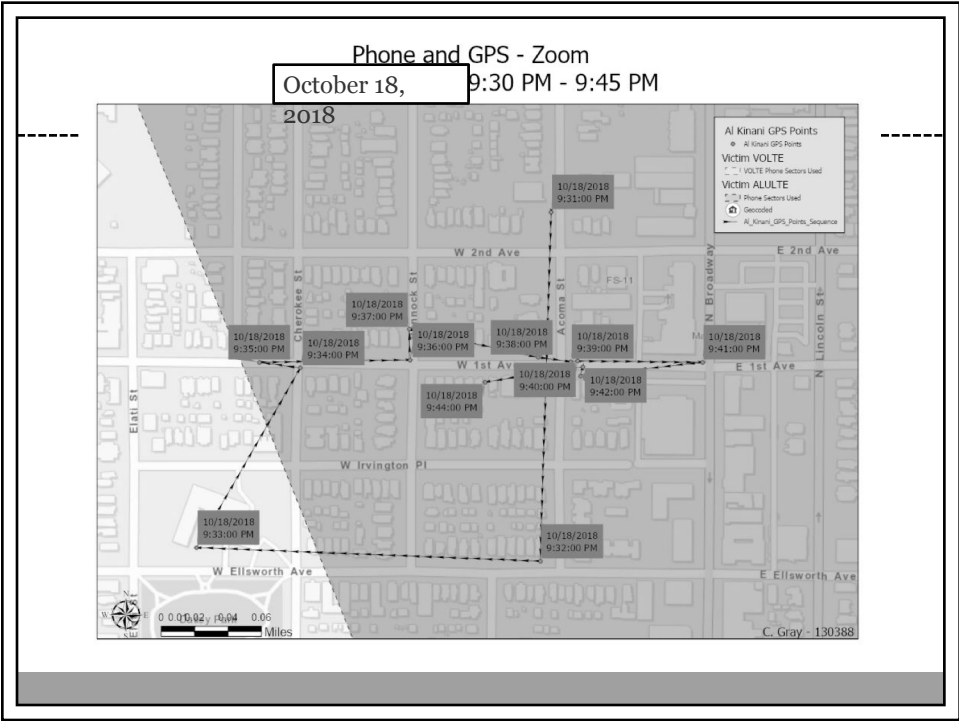


Client	Tracker	Event Date (Local)	receive_date	local	Latitude	Longitude	# Sats	Speed	Address
AI Kinani, Husham (SR)	1168971	10/18/2018 21:00	10/18/2018 21:05	39.732468	-105.002629	7	0	1201 W 10th Ave, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:01	10/18/2018 21:05	39.732463	-105.002629	8	0	1201 W 10th Ave, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:02	10/18/2018 21:05	39.732468	-105.002624	8	0	1201 W 10th Ave, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:03	10/18/2018 21:05	39.732473	-105.002629	7	0	1201 W 10th Ave, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:04	10/18/2018 21:35	39.732468	-105.002629	8	0	1201 W 10th Ave, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:05	10/18/2018 21:35	39.732468	-105.002656	5	0	1201 W 10th Ave, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:06	10/18/2018 21:35	39.732457	-105.002656	7	0	1201 W 10th Ave, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:07	10/18/2018 21:35	39.732447	-105.002656	6	0	1006 Mariposa St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:08	10/18/2018 21:35	39.732436	-105.002651	8	0	1006 Mariposa St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:09	10/18/2018 21:35	39.732425	-105.002624	7	0	1006 Mariposa St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:10	10/18/2018 21:35	39.732425	-105.002619	7	0	1006 Mariposa St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:11	10/18/2018 21:35	39.732425	-105.002597	6	0	1006 Mariposa St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:12	10/18/2018 21:35	39.732414	-105.002581	6	0	1006 Mariposa St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:13	10/18/2018 21:35	39.732414	-105.002602	7	0	1006 Mariposa St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:14	10/18/2018 21:35	39.732329	-105.00249	9	2	1129 W 10th Ave, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:15	10/18/2018 21:35	39.731942	-105.002812	8	2	983 Mariposa St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:16	10/18/2018 21:35	39.731277	-105.003284	7	1	939 Mariposa St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:17	10/18/2018 21:35	39.730478	-105.002098	9	22	1120 W 9th Ave, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:18	10/18/2018 21:35	39.730236	-104.99815	7	15	878 Santa Fe Dr, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:19	10/18/2018 21:35	39.728788	-104.998981	8	0	938 W 8th Ave, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:20	10/18/2018 21:35	39.720515	-104.998021	9	19	809 W 9th Ave, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:21	10/18/2018 21:35	39.729239	-104.994003	7	29	439 W 8th Ave, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:22	10/18/2018 21:35	39.725816	-104.994137	9	0	603 Elati St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:23	10/18/2018 21:35	39.726454	-104.993917	8	2	642 Elati St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:24	10/18/2018 21:35	39.727222	-104.993993	8	2	678 Elati St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:25	10/18/2018 21:35	39.727318	-104.992909	9	2	701 Delaware St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:26	10/18/2018 21:35	39.726465	-104.992946	8	2	645 Delaware St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:27	10/18/2018 21:35	39.725741	-104.992887	8	3	403 6th Ave, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:28	10/18/2018 21:35	39.725427	-104.994025	9	2	603 Elati St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:29	10/18/2018 21:35	39.725446	-104.992914	7	1	572 Delaware St, Denver, CO 80204, USA	
AI Kinani, Husham (SR)	1168971	10/18/2018 21:30	10/18/2018 21:35	39.723815	-104.989309	7	19	118 W 5th Ave, Denver, CO 80204, USA	









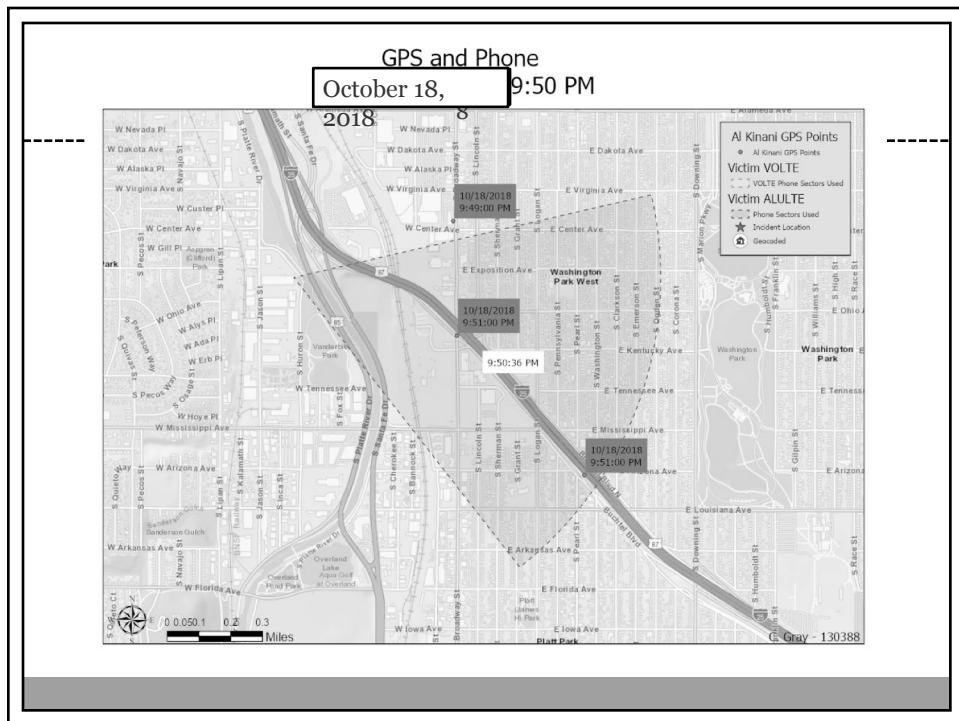
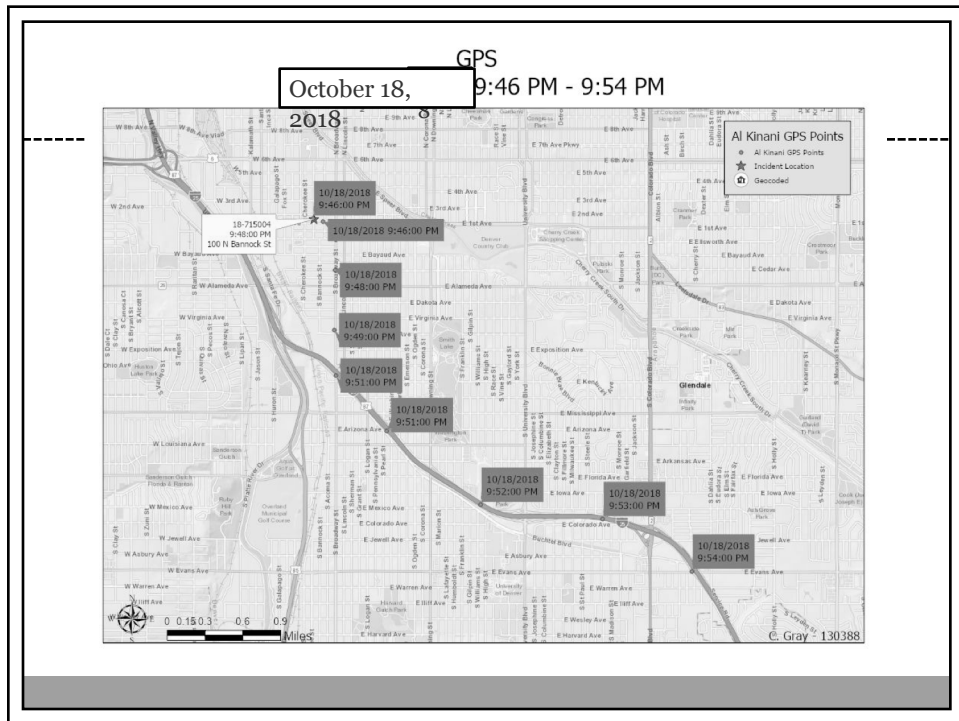
Phone and GPS
October 18, 2018 9:35 PM - 9:42 PM

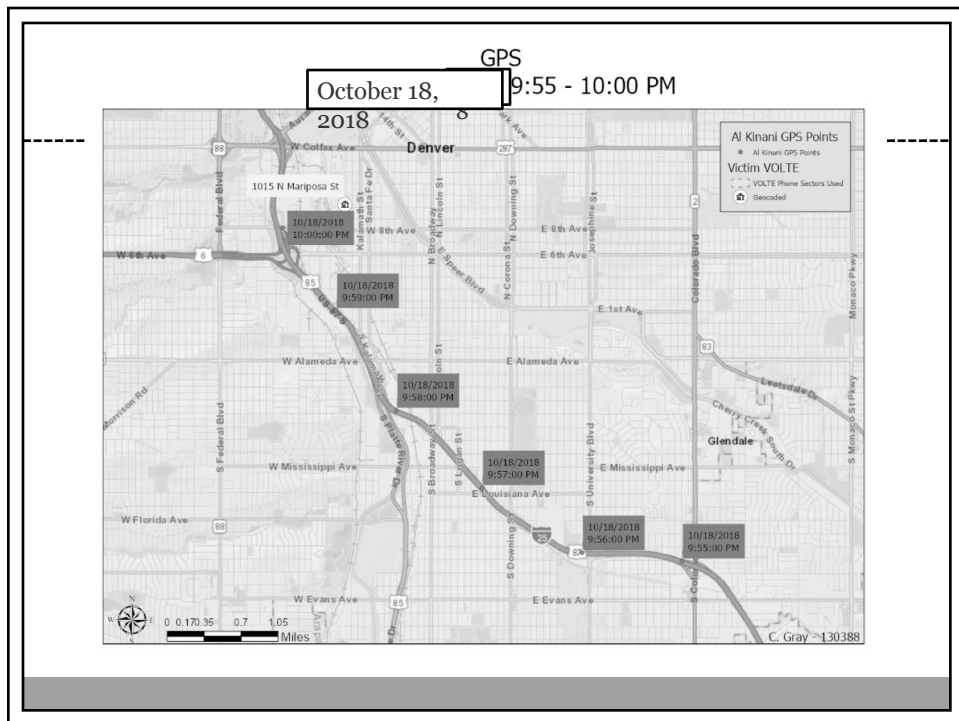
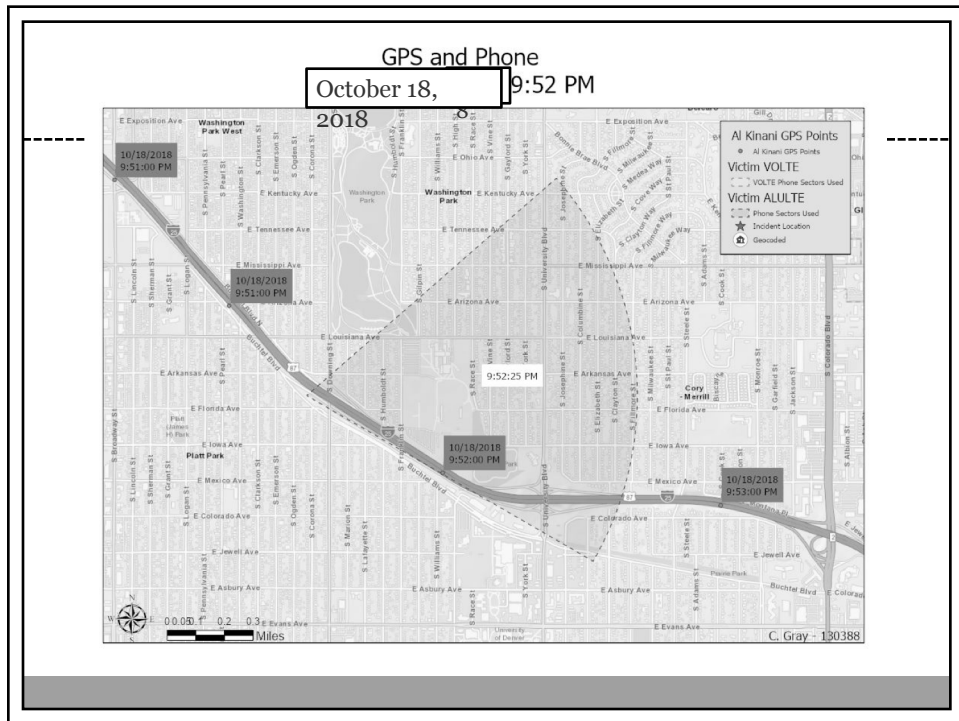


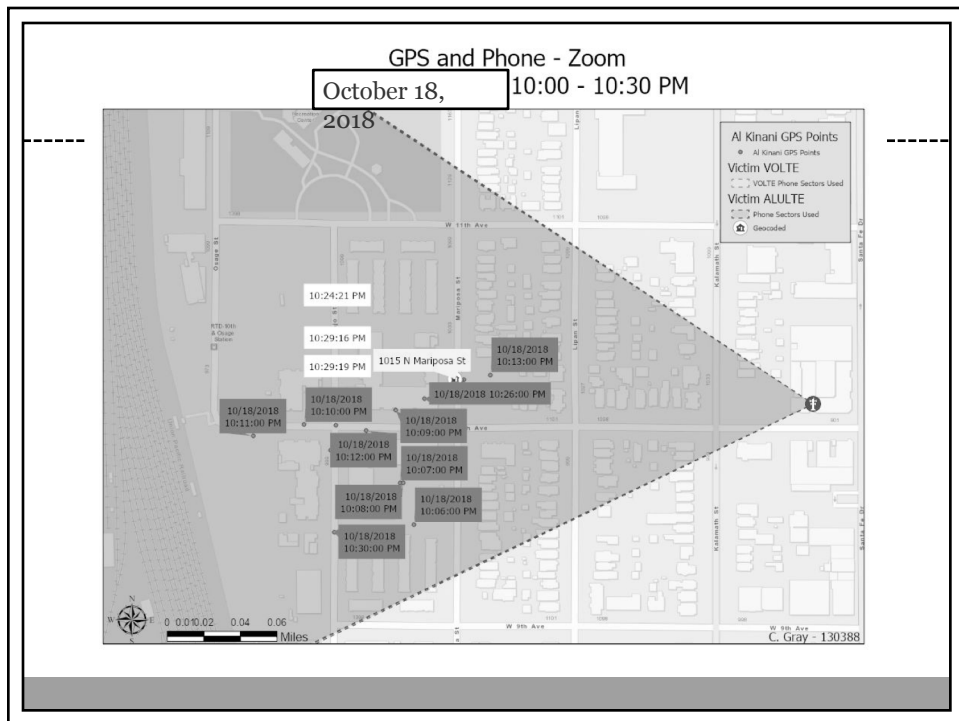
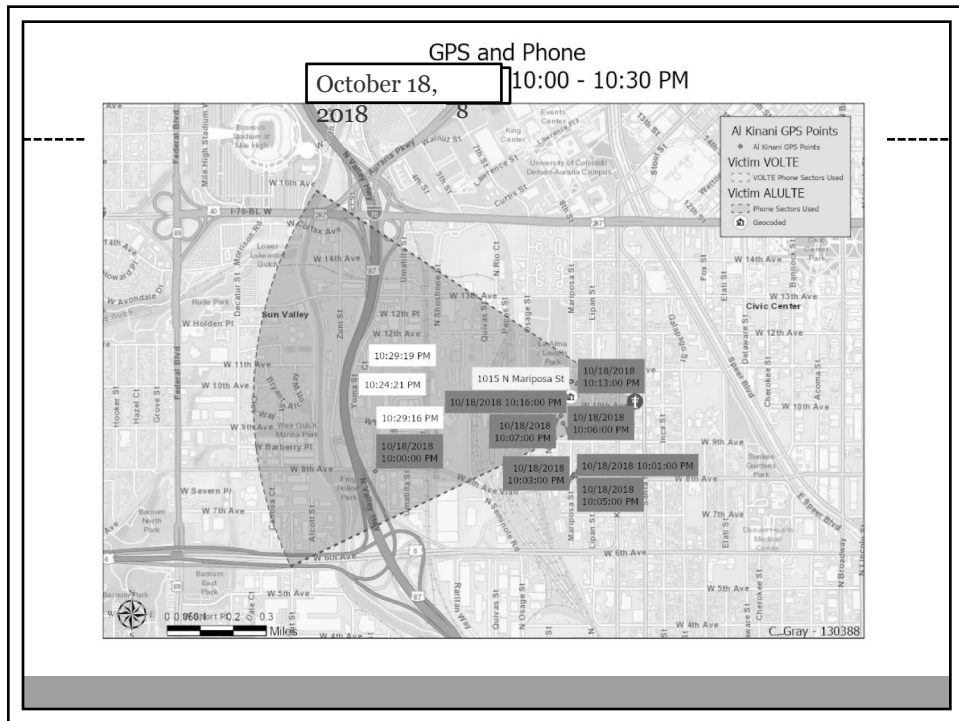
Client	Tracker#	Event Date (Local)	receive_date_local	Latitude	Longitude	# Sats	Speed	Address
Al Kinani, Husham (SR)	1168971	10/18/2018 21:46	10/18/2018 22:05	39.718923	-104.990962	9	0	200 W 2nd Ave, Denver, CO 80223, USA
Al Kinani, Husham (SR)	1168971	10/18/2018 21:46	10/18/2018 22:05	39.718499	-104.989406	7	7	107 Acoma St, Denver, CO 80223, USA

Phone and GPS
October 18, 2018 9:46 PM - 9:50 PM



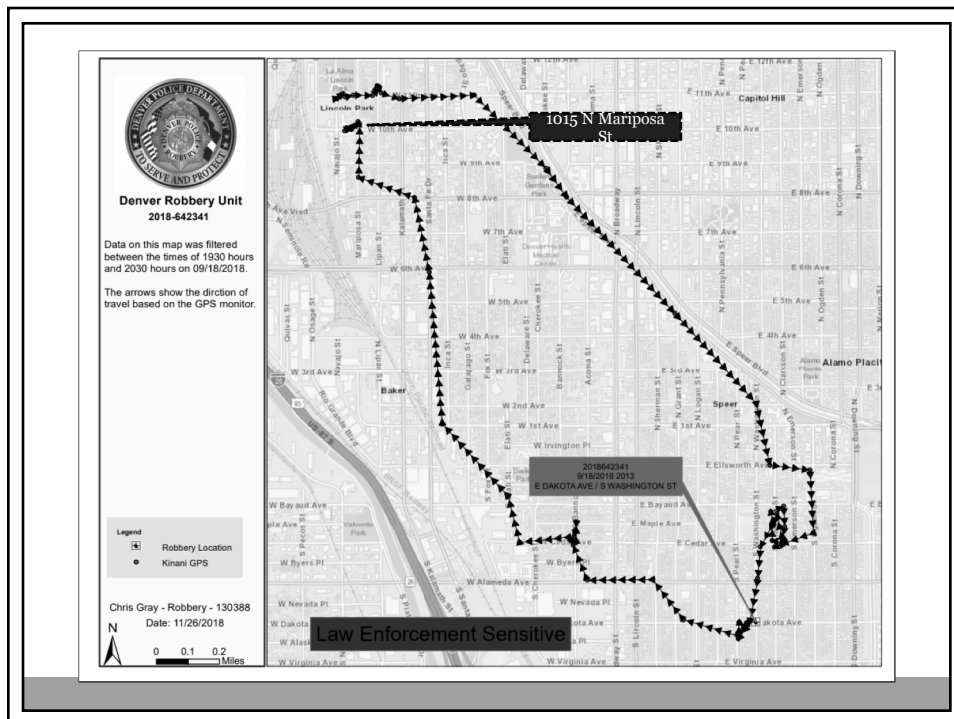


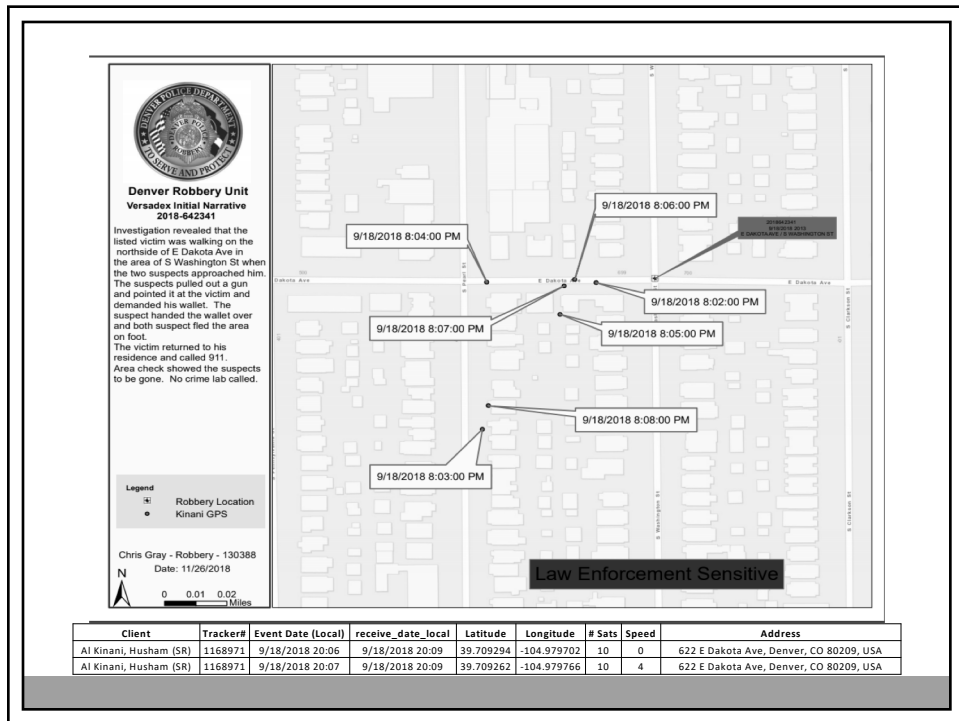







SEPTEMBER 18,
2018







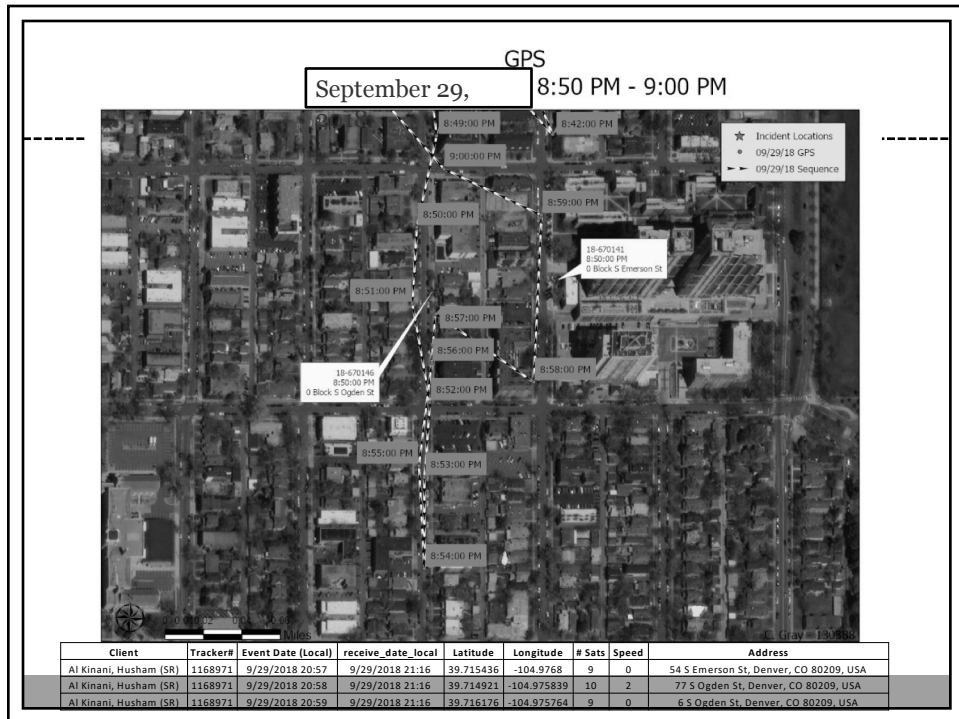
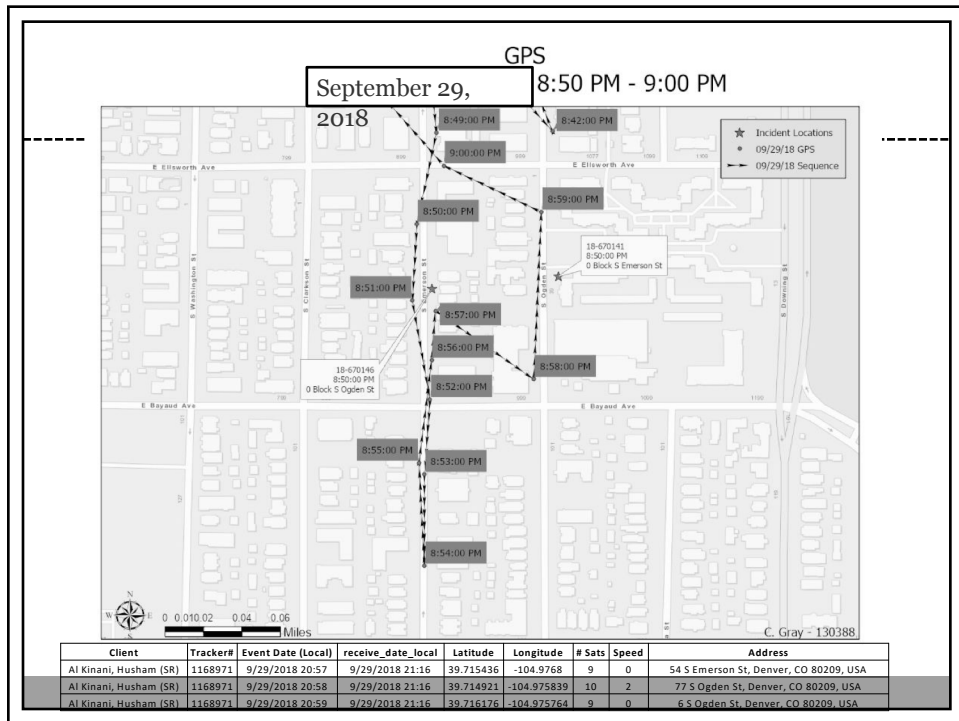
SEPTEMBER 29, 2018

GPS
September 29, 2018 8:30 PM – 9:15 PM

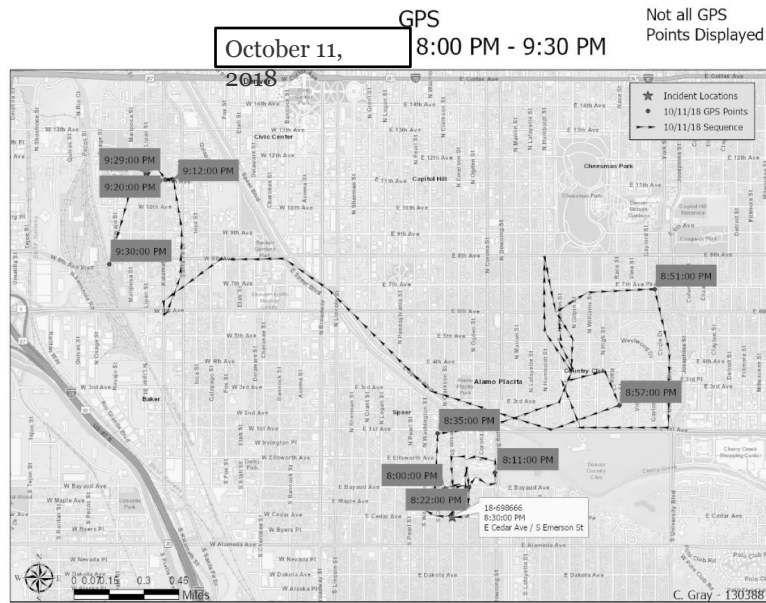


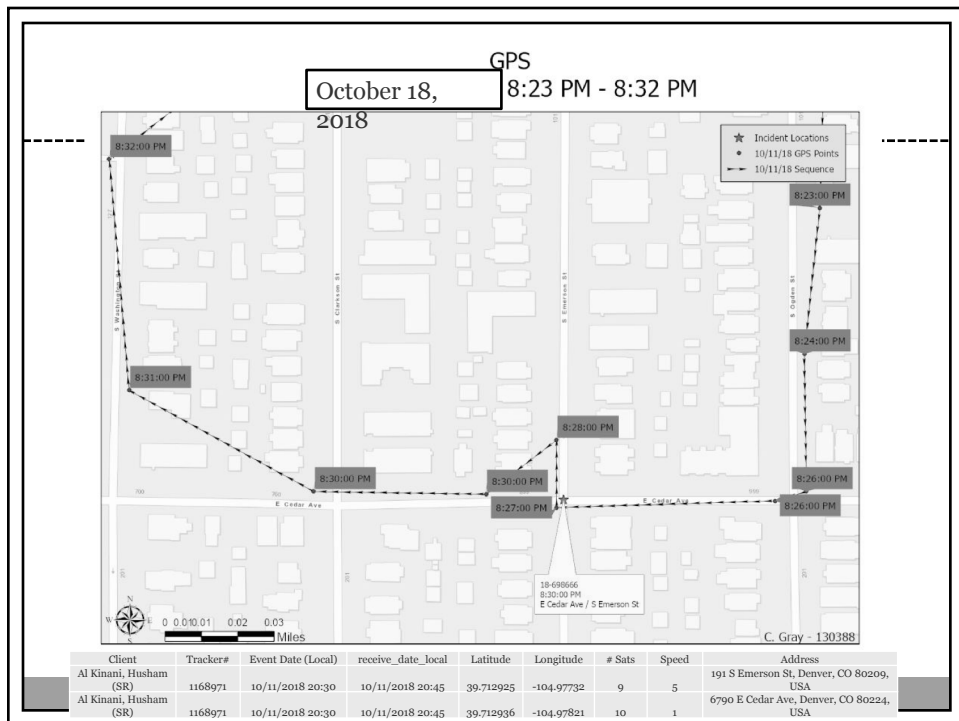
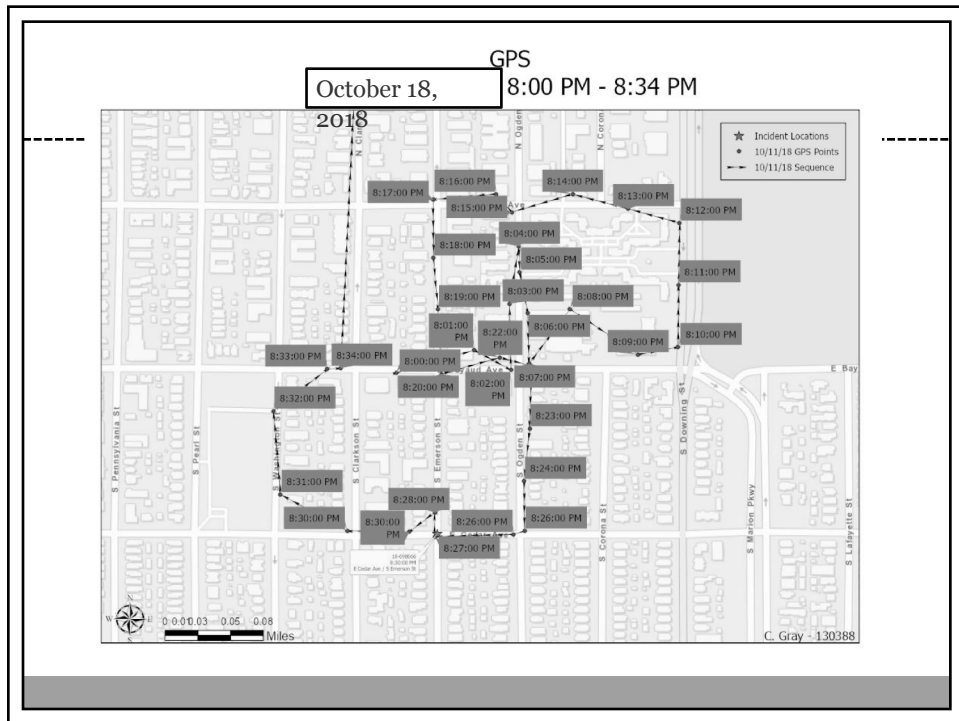
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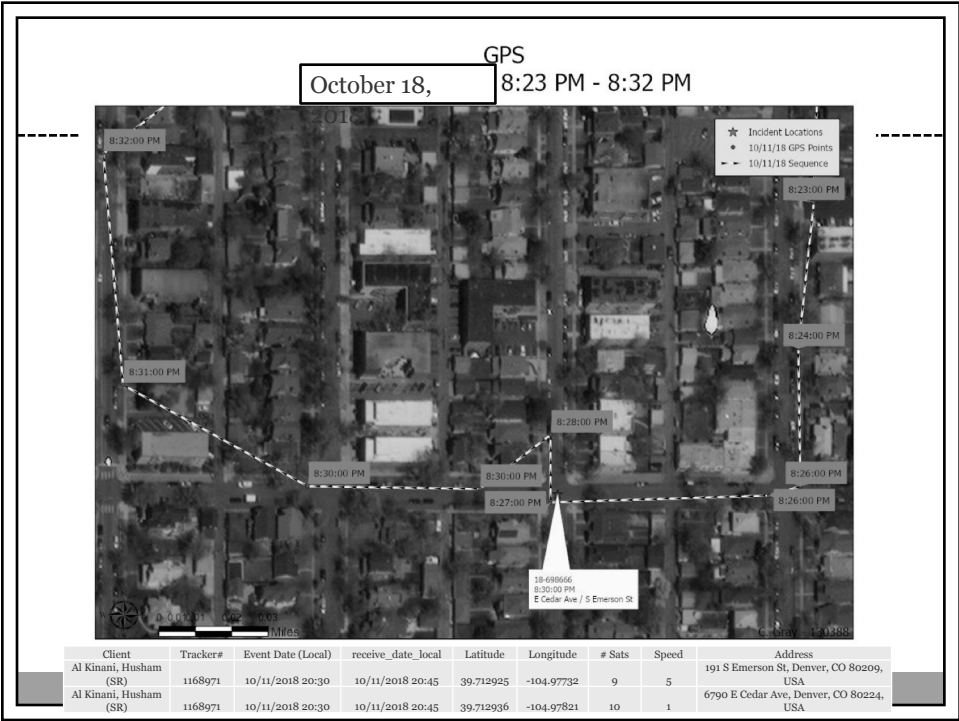




October 11, 2018



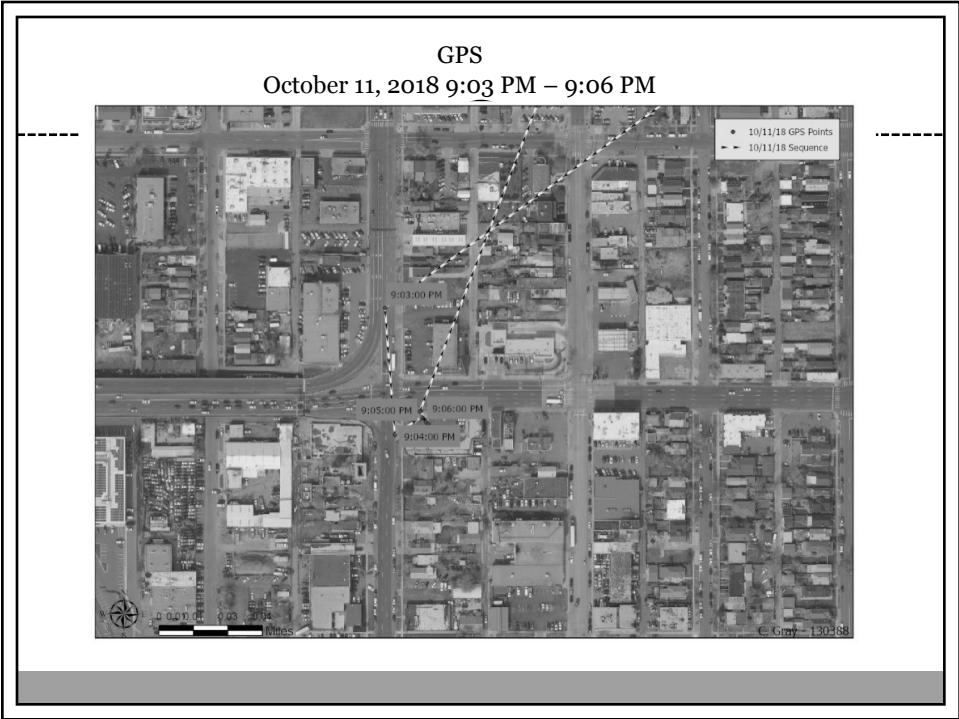
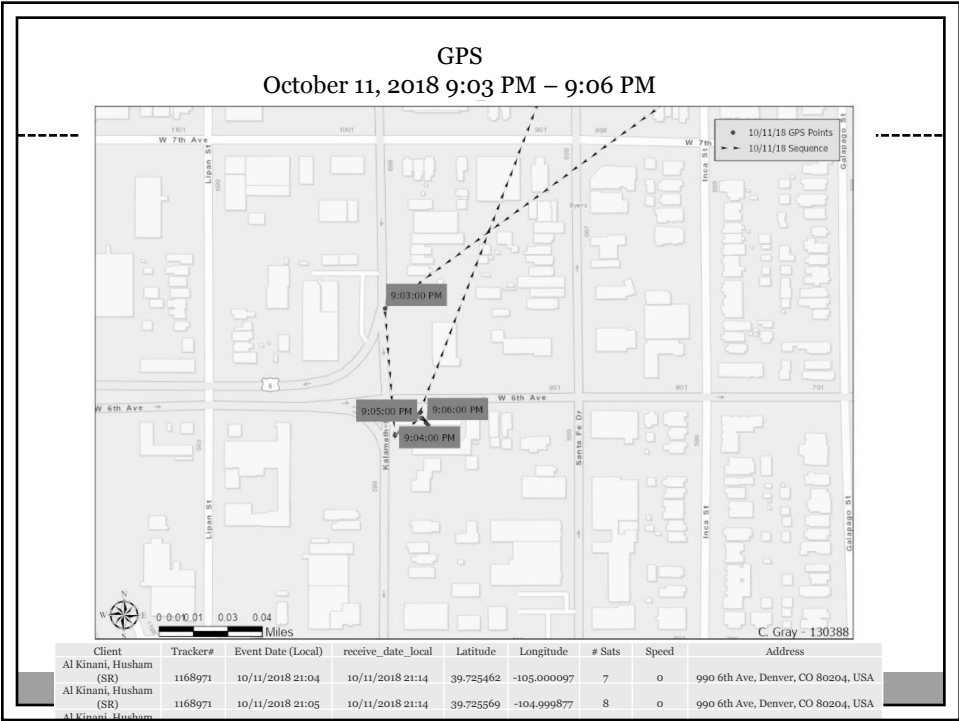




Kalamath Liquors Surveillance

8:12:38 PM (Video Time)
54 Minute Offset from Actual Time
per
Denver Police Forensic Imaging Unit

8:13:18 PM (Video Time)
54 Minute Offset from Actual Time
per
Denver Police Forensic Imaging Unit



Case Study #2



Some logs are in UTC time, therefore, you may see transaction results with the next day's date stamp on them.

Also, you may see duplication between the logs provided from the AT&T Messages Cloud and the other records returned from AT&T's SCAMP system.

Depending on the information requested, you will receive one or more of the following file types:

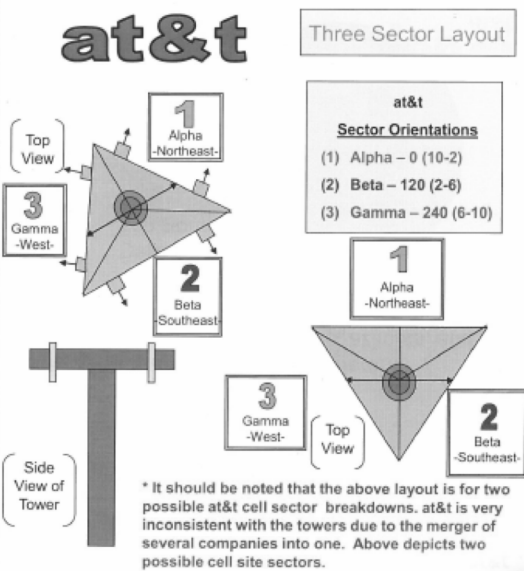
Type	Description
CALL Records	
Inbound and Outbound Call Logs	Each record will be identified as Inbound or Outbound. This includes calls to voicemail and voicemail retrieval. <ul style="list-style-type: none"> • Disposition: Left message, hung up, answered, rejected, or busy. • Duration: Length of call in seconds. • Time: The day/date and time the call was made. Time is in UTC (see conversion chart above). • Source Phone Number: The number the call was sent from. • Destination Phone Number: The number the call was made to.
MMS Records	
Inbound and Outbound MMS Logs	Each record will be identified as Inbound or Outbound. <ul style="list-style-type: none"> • Time: The day/date and time the call was made. Time is displayed in CDT with the UTC offset. The negative number to the right of (CDT) reflects the UTC offset. The -0500 means 5 hours were subtracted from the UTC time to display the time in CDT. • Source Phone Number: Displays the number the message was sent from with an extension of "@tel.metasphere.metaswitch.com". This extension does not imply a valid email address that is associated with the phone number. This is simply an internal extension used by AT&T to deliver the information. • Destination Phone Number: The number the message was sent to with the same extension used in the From field. • Source IP: When a MMS message is sent from the AT&T Messages Web User Interface (WUI) instead of a handset, the IP address will be captured. This information is returned only if location information is requested in the legal process.
Text Message Records	
Inbound and Outbound Text Records	Each record will be identified as Inbound or Outbound. <ul style="list-style-type: none"> • Time: The day/date and time the call was made. Time is in UTC (see conversion chart above). • Source Phone Number: The number the call was sent from. • Destination Phone Number: The number the call was made to.

Important Note: There is currently a bug which affects the week day returned in the Time field. The date is correct, however, you may find 'Mon' for Monday is populated the majority of the time which is erroneous in most cases.

All information provided by Cricket from the Search Warrant is provided in UTC (Universal Coordinated Time). Times were corrected by 6 hours to adjust for Mountain Time.

Cell Location	<p>Identifiers:</p> <p>3G Network cell Site= LAC/CID</p> <p>4G Network Cell Site= ECGI</p> <p>Examples:</p> <p>3G Network Cell Site. [27077/11621;-80.05629:26.74779:350:90.0] LAC/CID LONG:LAT Sector:Beamwidth</p> <p>4G Network Cell Site {133151247:520122;-96.912452:33.013937:358;-1.0 ECGI:ENB-ID LONG:LAT Sector:Beamwidth</p> <p>Definitions:</p> <p>LAC-Location Area Code. This number identifies the specific region a cell tower is located in. The number is used internally in AT&T and for network purposes.</p> <p>CID-Cell Identity. This number identifies the location of the tower within a specified region. The number is used internally in AT&T and for network purposes.</p> <p>ECGI-Enhanced cell global identity. A ten digit number that indicates the location of a cell tower when 4G technology is being used. The number is used internally in AT&T and for network purposes.</p>
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at&t does not have a typical three sector layout. This is because the at&t used to be Cingular Wireless. Before that Cingular Wireless was SBC as well as some other small GSM companies. As a result, at&t's network is comprised of many different cellular towers that are a conglomeration of several companies which used to operate independently.



at&t

Three Sector Layout

at&t Sector Orientations


(1) Alpha - 0 (10-2)

(2) Beta - 120 (2-6)

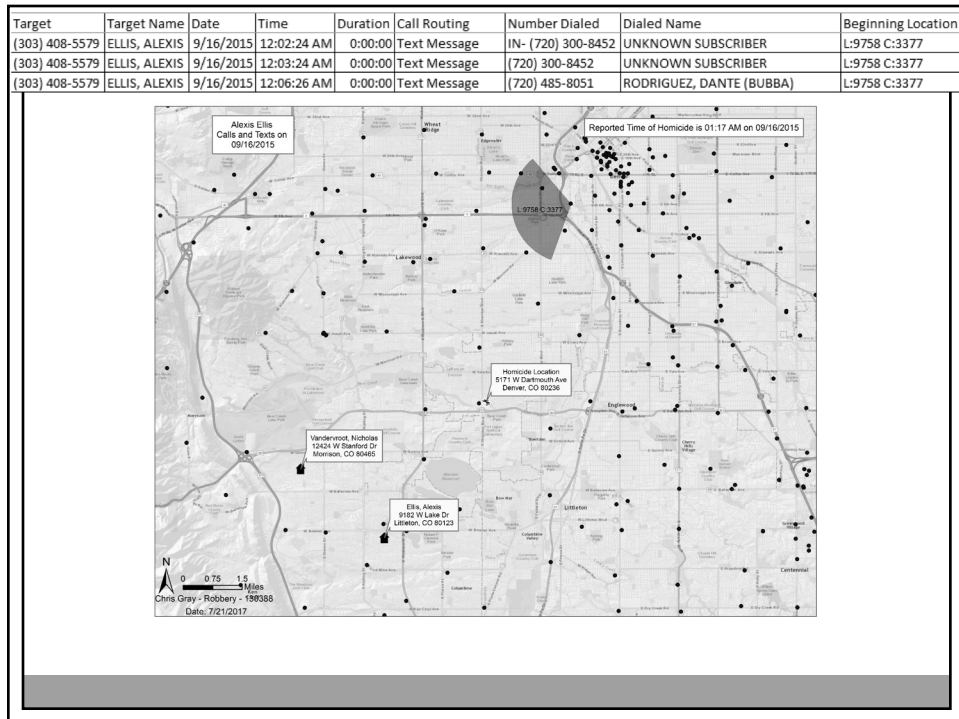
(3) Gamma - 240 (6-10)

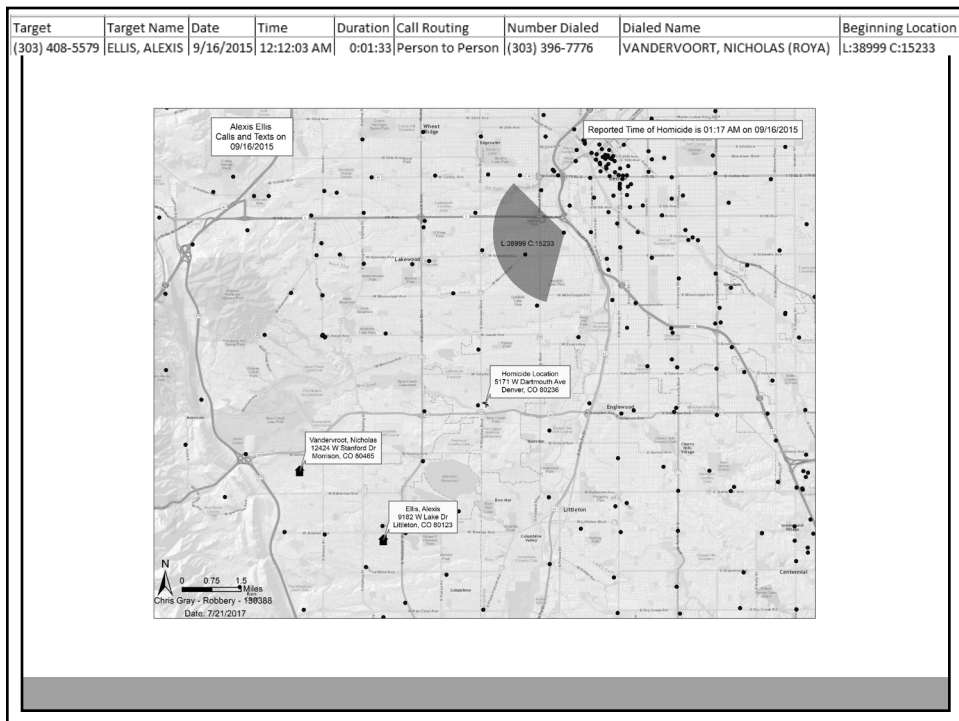
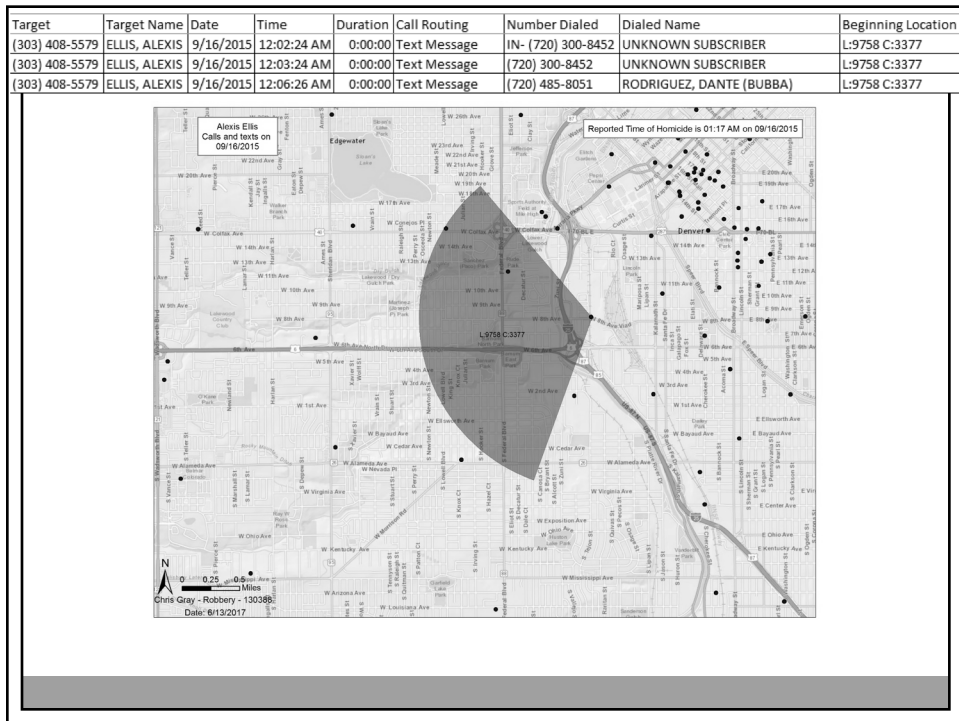
* It should be noted that the above layout is for two possible at&t cell sector breakdowns. at&t is very inconsistent with the towers due to the merger of several companies into one. Above depicts two possible cell site sectors.

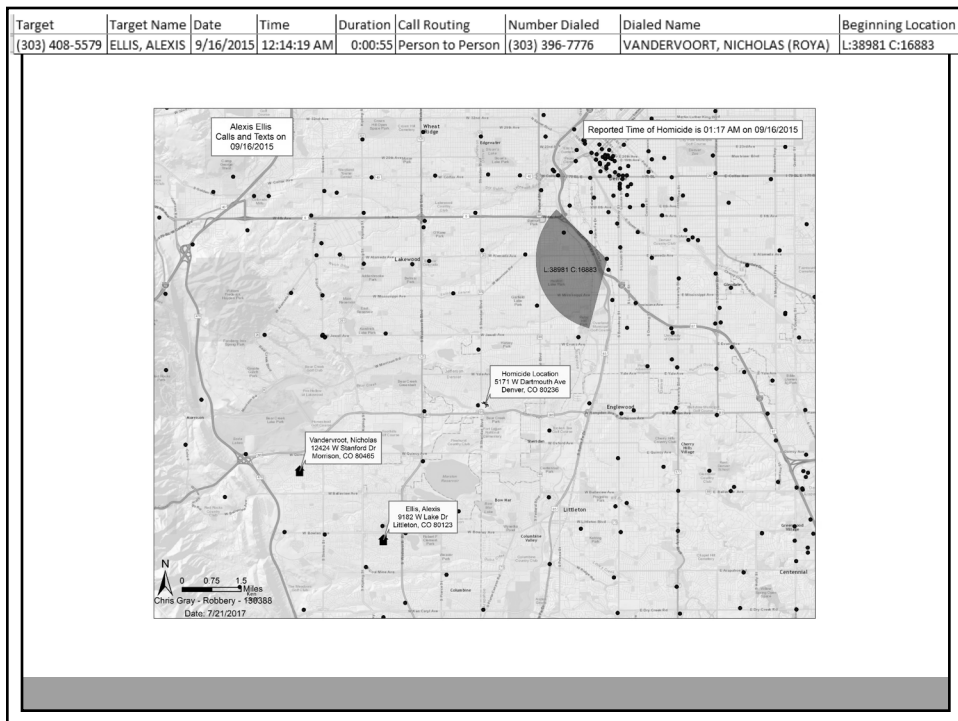
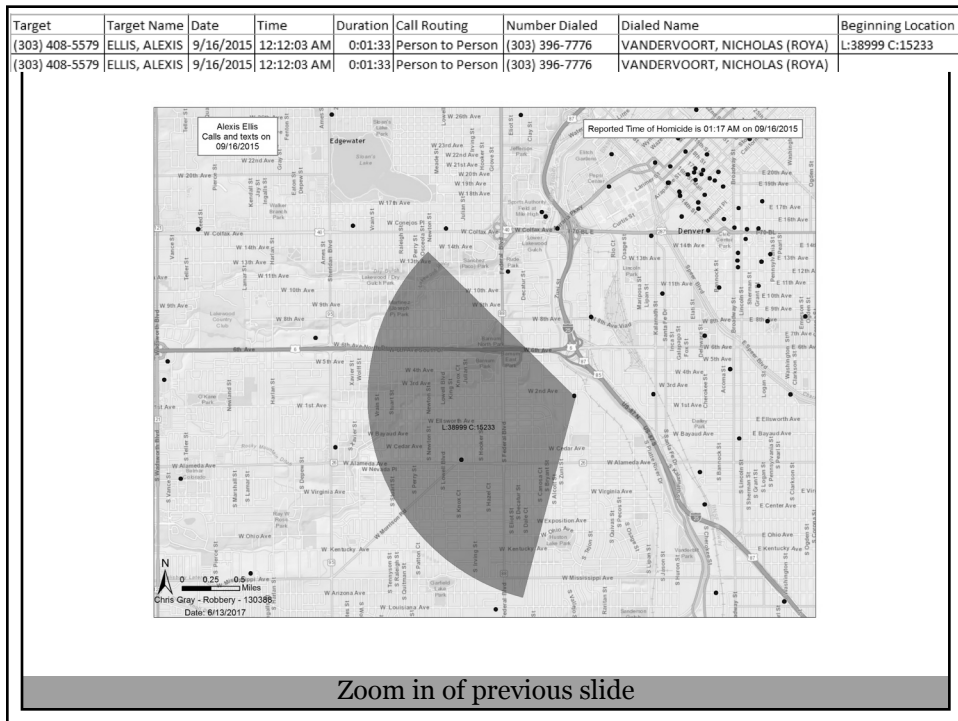
Example of Cell Tower layout for AT&T.

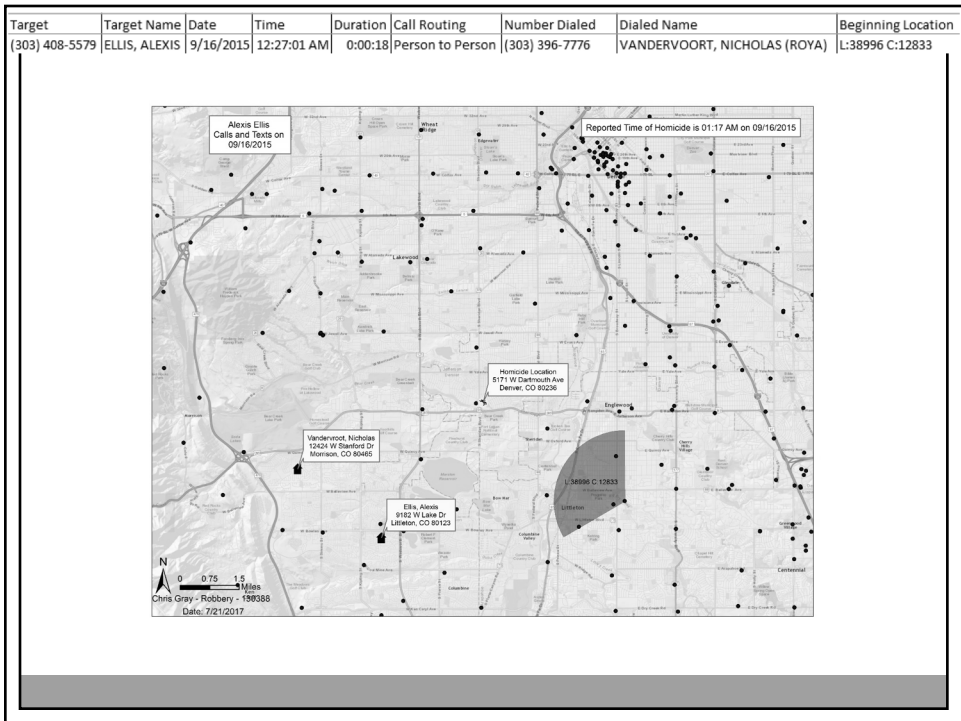
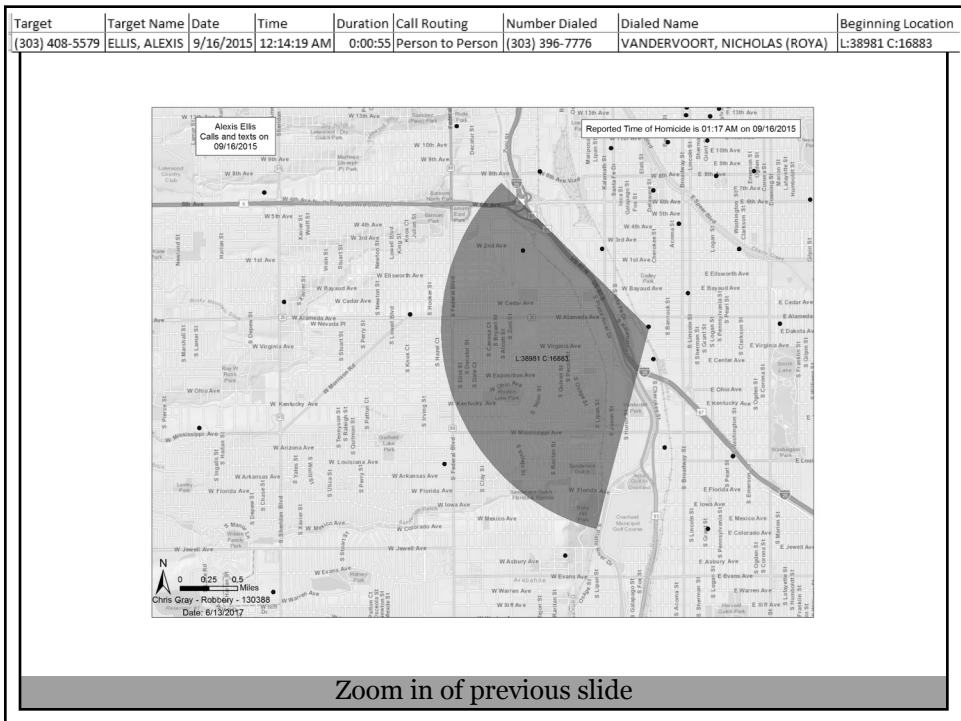
MOBILITY USAGE (with cell location)											
1953804 02/18/2016 SCAMP											
AT&T has queried for records using Mountain Time Zone. AT&T's records are stored and provided in UTC.											
											
Run Date: 02/25/2016 Run Time: 15:44:12 Data Range For: 1301408-5579 Account Number: 890571297											
Item	Comm. Date	Comm. Time (UTC)	Originating Number	RT	Bytes Sp	Bytes Rn	IMSI	IMSI	NAI	MODEL	Cell Location
270	09/15/15	08:51:14	13034085579	0.13	156	52	0140870020738404	310410799289134	LG	D631	[097608976,381285;-105.1005936;39.6120833;145.-1.0]
271	09/15/15	08:51:27	13034085579	0.22	27501	23378	0140870020738404	310410799289134	LG	D631	[38977/12852;-105.1005936;39.6120833;145.65.0]
272	09/15/15	08:51:49	13034085579	0.39	20130	64797	0140870020738404	310410799289134	LG	D631	[097608976,381285;-105.1005936;39.6120833;145.-1.0]
273	09/15/15	08:52:28	13034085579	0.23	21823	16143	0140870020738404	310410799289134	LG	D631	[097608976,381285;-105.1005936;39.6120833;145.65.0]
274	09/15/15	08:52:51	13034085579	1.59	26948	15677	0140870020738404	310410799289134	LG	D631	[097608976,381285;-105.1005936;39.6120833;145.65.0]
275	09/15/15	08:54:50	13034085579	0.23	7611	5006	0140870020738404	310410799289134	LG	D631	[38977/12852;-105.1005936;39.6120833;145.65.0]
276	09/15/15	08:55:13	13034085579	0.42	1142	208	0140870020738404	310410799289134	LG	D631	[097608976,381285;-105.1005936;39.6120833;145.-1.0]
277	09/15/15	08:55:55	13034085579	0.23	26419	54064	0140870020738404	310410799289134	LG	D631	[38977/12852;-105.1005936;39.6120833;145.65.0]
278	09/15/15	08:56:18	13034085579	37.18	329932	546758	0140870020738404	310410799289134	LG	D631	[097608976,381285;-105.1005936;39.6120833;145.-1.0]
279	09/15/15	09:33:36	13034085579	0.23	30380	58173	0140870020738404	310410799289134	LG	D631	[38977/12852;-105.1005936;39.6120833;145.65.0]
280	09/15/15	09:33:59	13034085579	2.00	49667	101461	0140870020738404	310410799289134	LG	D631	[097608976,381285;-105.1005936;39.6120833;145.-1.0]
281	09/15/15	09:35:59	13034085579	0.23	27018	36360	0140870020738404	310410799289134	LG	D631	[097608976,381285;-105.1005936;39.6120833;145.65.0]
282	09/15/15	09:36:22	13034085579	2.18	13109	6668	0140870020738404	310410799289134	LG	D631	[097608976,381285;-105.1005936;39.6120833;145.65.0]
283	09/15/15	09:39:20	13034085579	0.23	28281	54554	0140870020738404	310410799289134	LG	D631	[38977/12852;-105.1005936;39.6120833;145.65.0]
284	09/15/15	09:39:43	13034085579	0.28	40560	105854	0140870020738404	310410799289134	LG	D631	[097608976,381285;-105.1005936;39.6120833;145.-1.0]
285	09/15/15	09:40:11	13034085579	0.22	39519	50996	0140870020738404	310410799289134	LG	D631	[38977/12852;-105.1005936;39.6120833;145.65.0]
286	09/15/15	09:40:33	13034085579	0.08	12980	12474	0140870020738404	310410799289134	LG	D631	[097608976,381285;-105.1005936;39.6120833;145.-1.0]
287	09/15/15	09:40:41	13034085579	0.23	41320	88059	0140870020738404	310410799289134	LG	D631	[38977/12852;-105.1005936;39.6120833;145.65.0]
288	09/15/15	09:41:04	13034085579	5.24	104203	156186	0140870020738404	310410799289134	LG	D631	[097608976,381285;-105.1005936;39.6120833;145.-1.0]
289	09/15/15	09:46:28	13034085579	0.22	40240	63545	0140870020738404	310410799289134	LG	D631	[38977/12852;-105.1005936;39.6120833;145.65.0]
AT&T Proprietary The AT&T network constantly communicates with internet enabled devices when they are powered on. These communications will show as data usage on the customer records but do not necessarily indicate a customer initiated a transaction. AT&T does not retain records that can definitively show whether a transaction was customer initiated or AT&T's network initiated the data transaction.											
kjc											
Page 51											
The information contained here is for use by authorized persons only and is not for general distribution.											

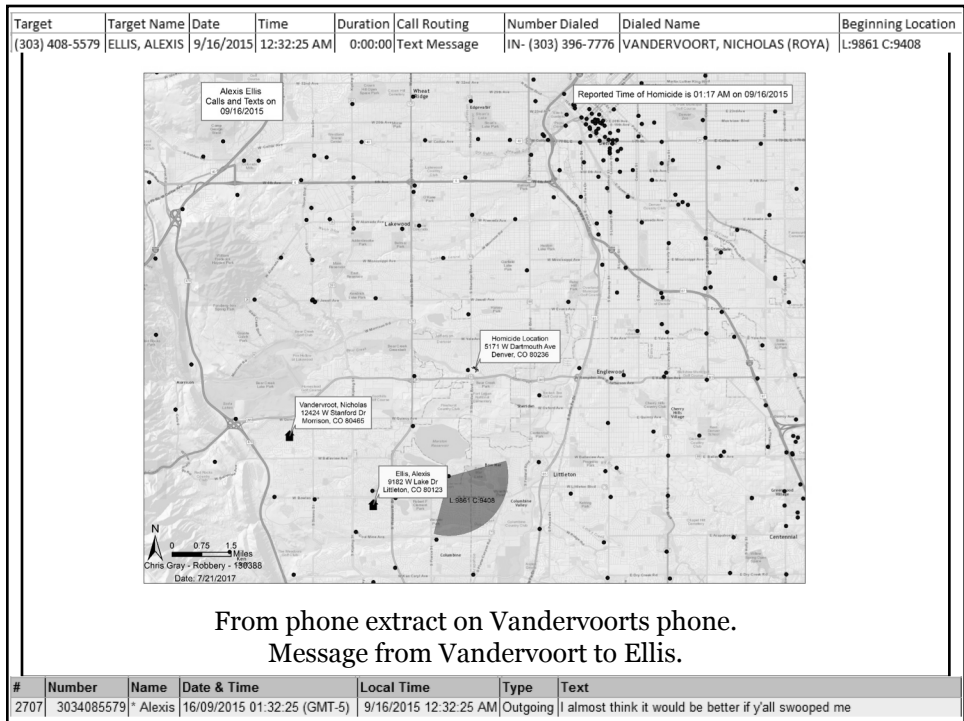
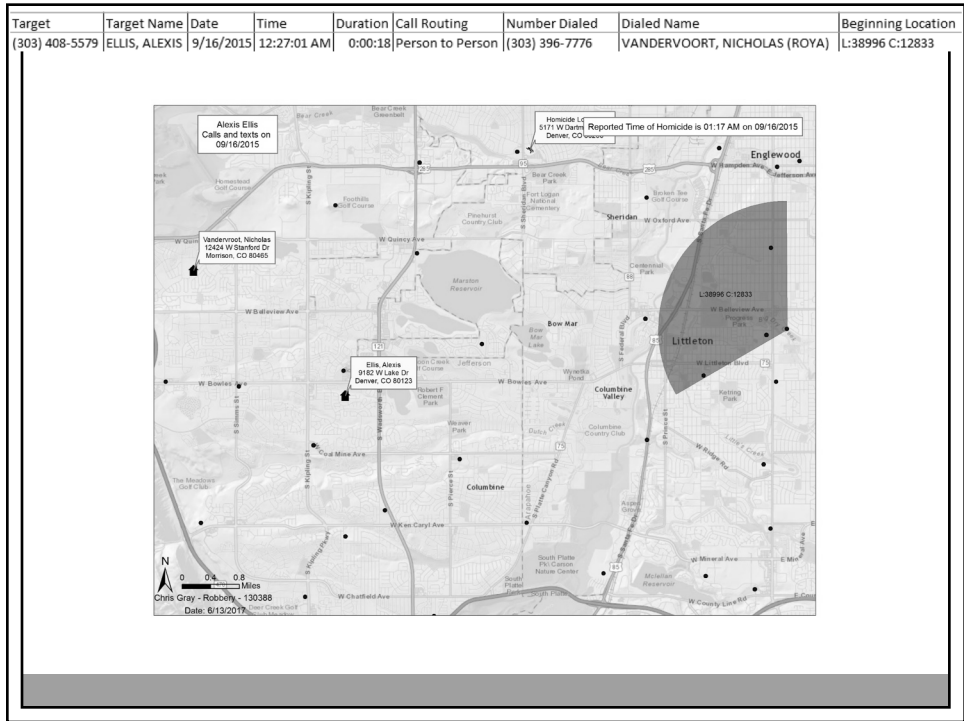
Example of Call Detail Records data supplied by AT&T.

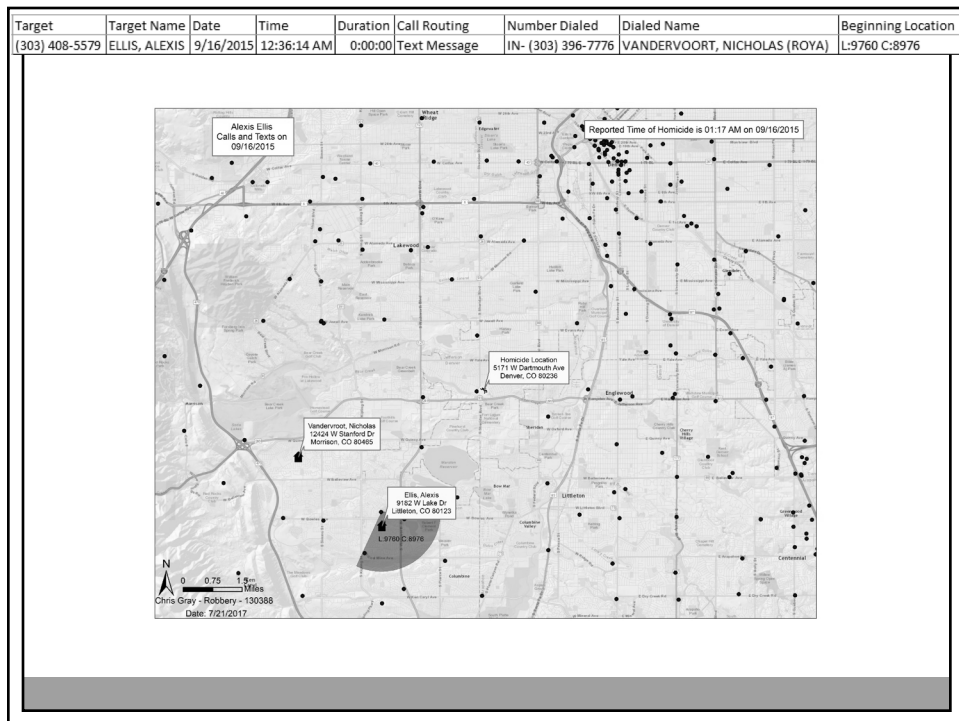
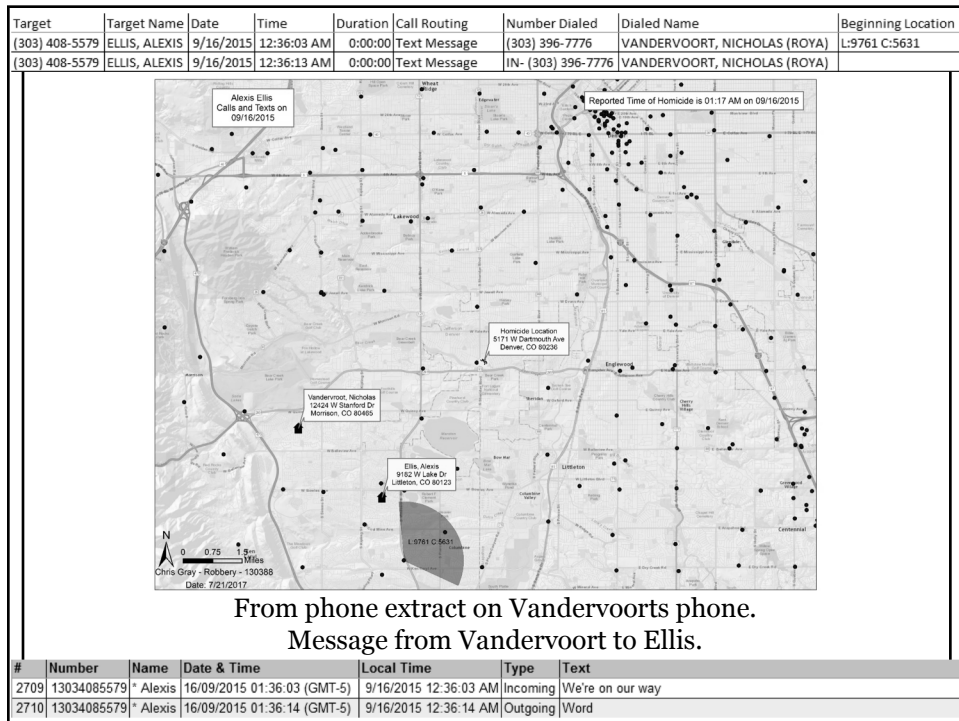












Target	Target Name	Date	Time	Duration	Call Routing	Number Dialed	Dialed Name	Beginning Location
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	12:44:44 AM	0:00:00	Text Message	(303) 396-7776	VANDERVOORT, NICHOLAS (ROYA)	L:9758 C:1329
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	12:45:25 AM	0:00:00	Text Message	IN- (303) 396-7776	VANDERVOORT, NICHOLAS (ROYA)	L:9758 C:1329

From phone extract on Vandervoort's phone. Message from Vandervoort to Ellis.

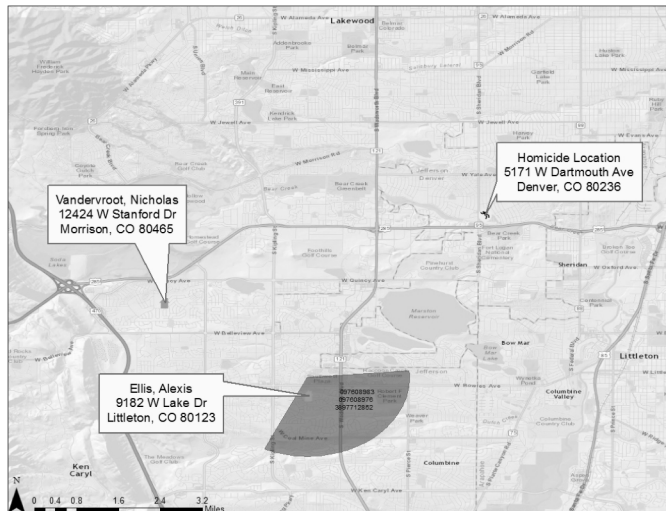
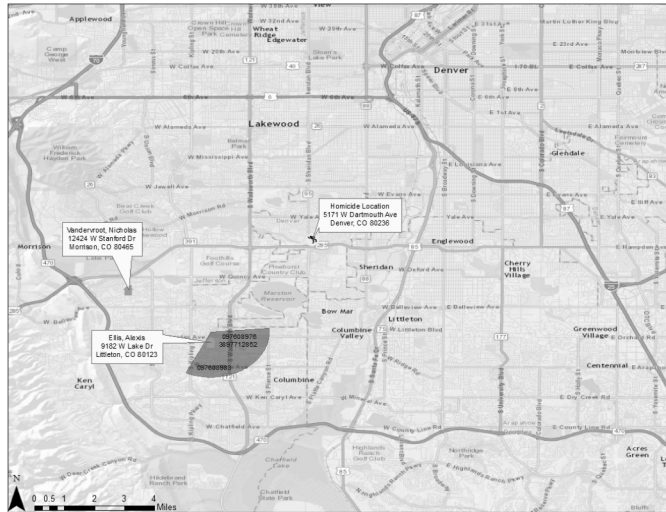
#	Number	Name	Date & Time	Local Time	Type	Text
2711	13034085579	Alexis	16/09/2015 01:44:44 (GMT-5)	9/16/2015 12:44:44 AM	Incoming	Come out side
2712	13034085579	Alexis	16/09/2015 01:45:26 (GMT-5)	9/16/2015 12:45:26 AM	Outgoing	Word

There are no phone calls or text messages made by this phone between 12:45 AM and 08:05 AM on 09/16/2015.

The spread sheet below shows calls and texts between 8:05 AM and 11:30 AM on September 16, 2015.

Calls with associated antennas are mapped on the next slide.

Target	Target Name	Date	Time	Duration	Number Dialed	Call Routing	Dialed Name	Beginning Location
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:05:43	0:00:00	IN- (720) 434-4442	Text Message	NO SUBSCRIBER.	
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:14:44	0:00:00	IN- (720) 434-4442	Text Message	NO SUBSCRIBER.	L:9760 C:8976
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:16:07	0:00:00	(720) 434-4442	Text Message	NO SUBSCRIBER.	
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:16:08	0:00:00	(720) 434-4442	Text Message	NO SUBSCRIBER.	
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:16:50	0:00:00	(303) 638-3261	Text Message	NO SUBSCRIBER.	
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:17:55	0:00:00	IN- (720) 434-4442	Text Message	NO SUBSCRIBER.	
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:17:56	0:00:00	IN- (720) 434-4442	Text Message	NO SUBSCRIBER.	L:9760 C:8983
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:19:14	0:01:55	IN- (720) 434-4442	Person to Person	NO SUBSCRIBER.	L:38977 C:12852
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:21:35	0:01:45	IN- (720) 434-4442	Person to Person	NO SUBSCRIBER.	L:38977 C:17852
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:23:36	0:00:00	(303) 638-3261	Person to Person	NO SUBSCRIBER.	L:38977 C:17852
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:23:40	0:00:00	(303) 638-3261	Person to Person	NO SUBSCRIBER.	
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:28:01	0:00:03	IN- (303) 495-1733	Voice Mail	NO SUBSCRIBER.	L:38977 C:17852
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:28:01	0:00:03	(970) 371-9275	Voice Mail	AT&T VOICEMAIL	
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:37:15	0:00:02	IN- (303) 396-7776	Voice Mail	VANDERVROOT, NICHOLAS	
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	8:37:15	0:00:02	(970) 371-9275	Voice Mail	AT&T VOICEMAIL	
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	10:05:35	0:00:00	IN- 70626	Text Message	NO SUBSCRIBER.	
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	10:05:36	0:00:00	IN- 1870626	Text Message	NO SUBSCRIBER.	L:9760 C:8983
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	10:30:34	0:00:00	IN- 326-6510~1	Text Message	NO SUBSCRIBER.	
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	10:30:36	0:00:00	IN- 1-832-6651~01	Text Message	NO SUBSCRIBER.	L:9760 C:8983
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	11:30:01	0:00:00	IN- (720) 434-4442	Text Message	NO SUBSCRIBER.	
(303) 408-5579	ELLIS, ALEXIS	9/16/2015	11:30:02	0:00:00	IN- (720) 434-4442	Text Message	NO SUBSCRIBER.	L:9760 C:8983



Zoom in of previous slide

USE OF POWERPOINTS



- Can be very effective – many people process materials better visually than simply by hearing about them
- CAUTION: only use materials that have been or will be admitted at trial
- Stay away from mugshots or “altered” photos
- Avoid argumentative slides, particularly during opening statement

Closing Argument PowerPoint



**A PERFECT OPPORTUNITY TO
USE DIFFERENT TYPES OF
VISUAL EVIDENCE TO
ESTABLISH THE STRENGTH
OF YOUR EVIDENCE**

COMPARING STATEMENTS TO PHOTOS

**To Det. Bueno:
I was at McDonalds**

**McDonald's Surveillance
still shot @ 5:43 pm**



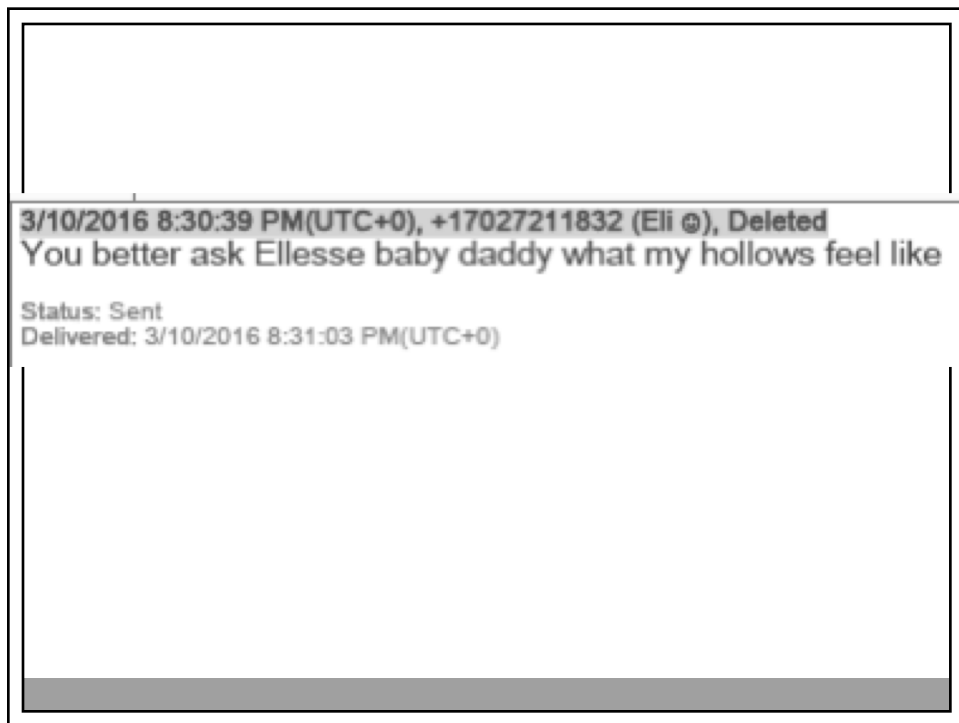
USE OF TEXT MESSAGES SHOWING DEFENDANT'S KNOWLEDGE THAT A SHOOTING WAS ABOUT TO GO DOWN

3/10/2016 3:11:10 AM(UTC+0)	From: +17027211832 Eli 👤	Get out the car Source Extraction: File System
3/10/2016 3:12:10 AM(UTC+0)	nicy1005@icloud.com	Source Extraction: File System
3/10/2016 3:12:10 AM(UTC+0)		I can't his rolling Source Extraction: File System

8:12:26 pm, Denver

3/10/2016 3:12:26 AM(UTC+0)	From: +17027211832 Eli ☹	No Get out now Now !!!!! Source Extraction: File System
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The term “after deliberation” means not only intentionally, but also that the **decision to commit the act has been made after the exercise of reflection and judgment concerning the act.** An act committed after deliberation is never one which has been committed in a hasty or impulsive manner



Alvin Hunter – Eli Told Him:	Completely Supported by Independent & Physical Evidence
He told me he did the shooting	Ask Ellesse’s baby daddy how my hollows feel
Ta’Rell had a .38 in the car	Ta’Rell had a .380 in the car
Walked to the window first and tried to fire	All gunshots in the windows/driver side
9mm Ruger	All were 9mm Ruger shell casings / bullets also consistent
“Jacked” / “popped” one bullet out	1 live round on scene consistent with being ejected from the gun on scene
Hit her first by accident, then decided might as well take her out too	Shots at driver seat hit Bernice because Ta’Rell was so far reclined
Right after it happened he got to his “brother’s” job. Was at Cricket.	Mayfield at Cricket on video surveillance after the shooting.

**IN -COURT
RECREATIONS
THAT SHOW
DISTANCE AND
SPACE, WHERE
RELEVANT,
CAN BE VERY
EFFECTIVE**

**AND SOMETIMES IT CAN PROVIDE THE NAIL
IN THE DEFENDANT'S COFFIN!**



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Senior Criminal Investigator

CHRIS GRAY
Crime Analyst

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