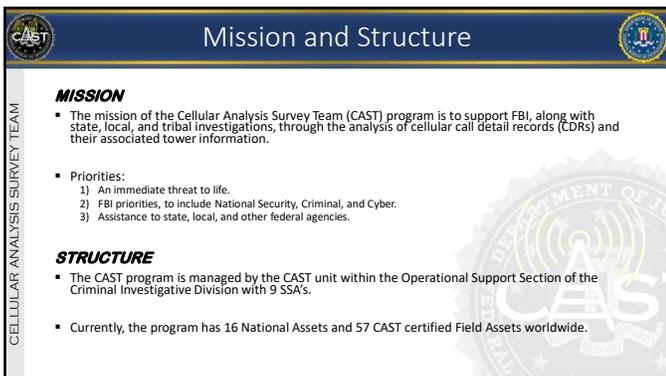




1



2



3

Organization

CELLULAR ANALYSIS SURVEY TEAM

- SSA & LIC (9)
- Field Assets (17)
- National Assets (14)
- FOs w/o Assets (14)

CAST has 82 personnel supporting operations worldwide.

4

Products and Services

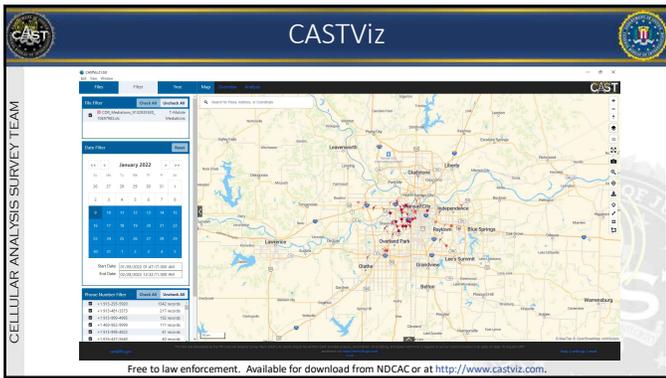
- Obtaining, collating, and analyzing cellular communication data.
- Historical CDR analysis and geospatial mapping.
- Common device analysis and comparisons to establish links between significant locations/persons and cellular site data.

- Drive tests to aid in verifying and measuring the actual coverage area of a cell tower.
- Target acquisition through the analysis of CDRs facilitates the deployment of a Wireless Identification and Direction-finding Team (WIDT).
- Expert witness testimony in support of cellular analysis.

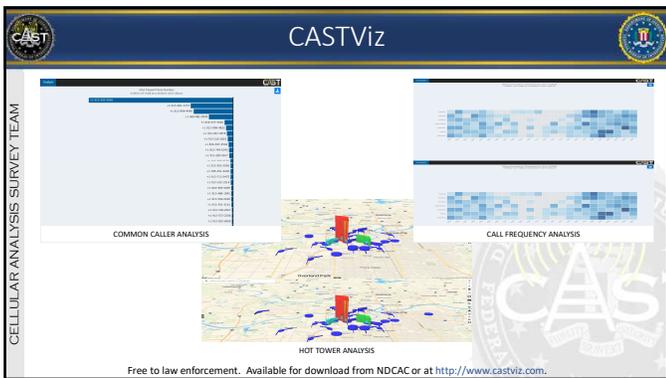
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Software and Tools

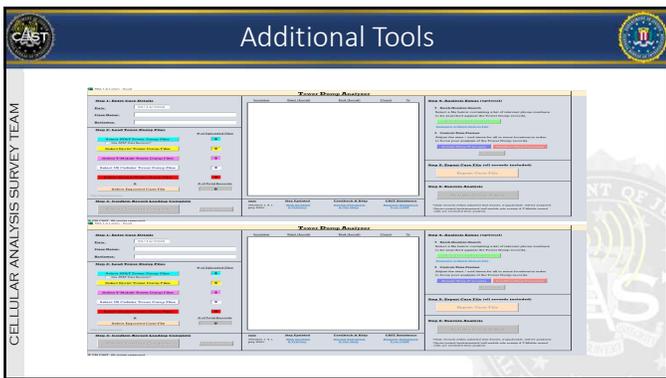
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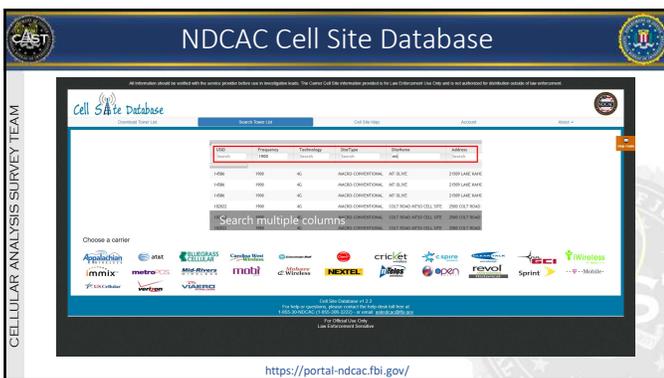
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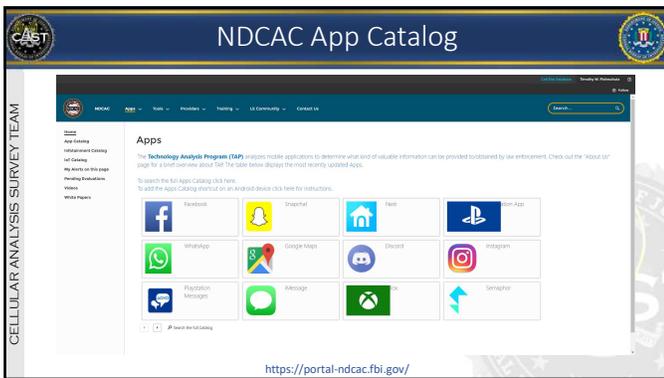
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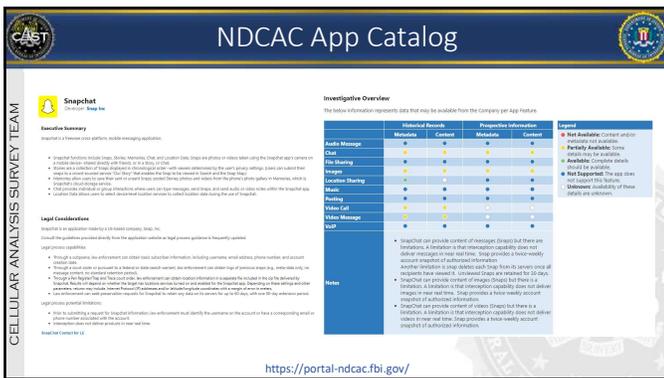
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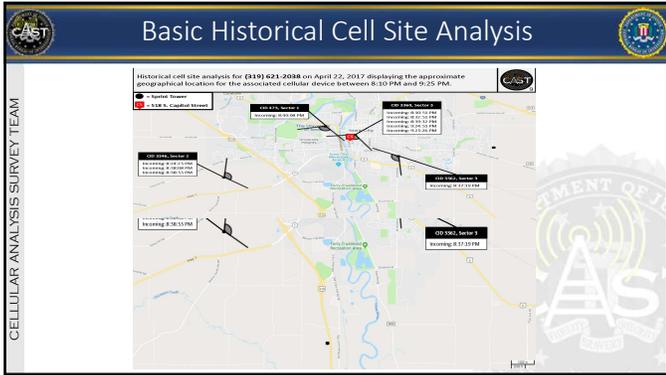
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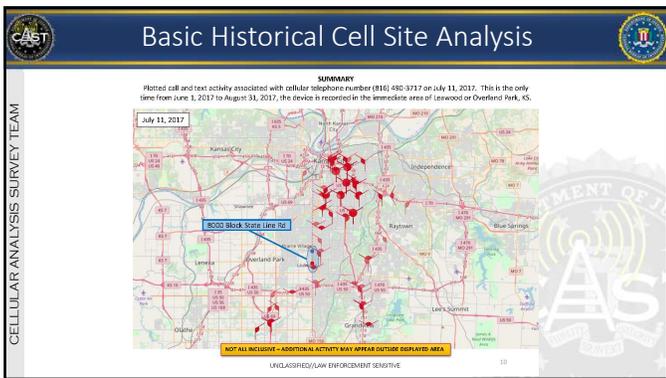
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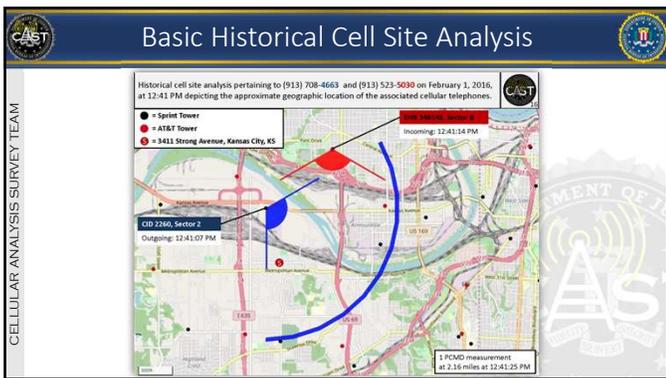
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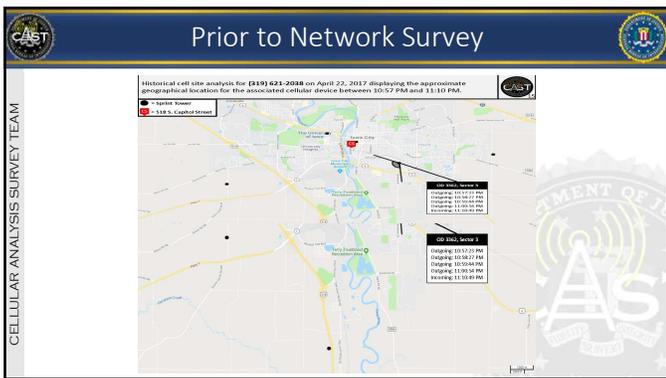
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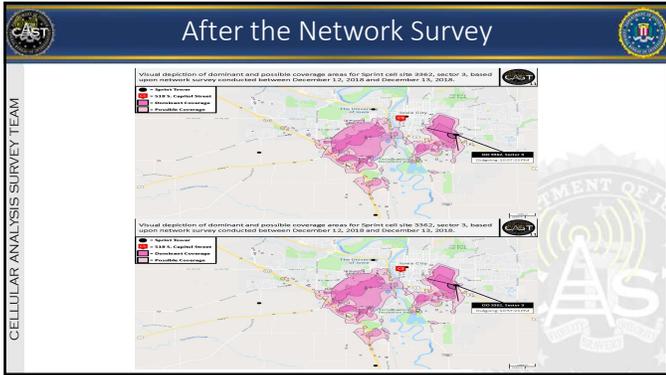
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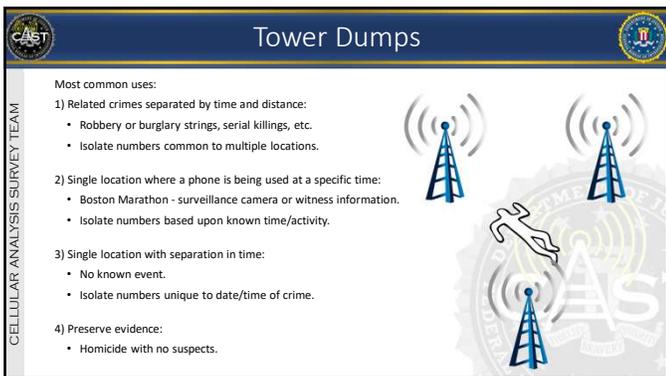
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28

The slide has a dark blue header with the CAST logo on the left and the FBI seal on the right. The title 'Third-Party Location Information' is in white. The main content area has a light blue background with the Google logo in its multi-colored font. A vertical text 'CELLULAR ANALYSIS SURVEY TEAM' is on the left. A bulleted list is on the left, and a large, faint watermark of the CAST seal is in the background.

- Google knows where you are via:
 - Global Positioning System (GPS)
 - WiFi
 - Cellular
- Provided with a latitude and longitude and a radius (very important to look at the radius).
- Can combine Google Location Information and cellular information to paint a complete picture. They can compliment each other.

29

The slide has a dark blue header with the CAST logo on the left and the FBI seal on the right. The title 'Not Phone but Still "Phones"' is in white. The main content area shows a collection of mobile devices: two tablets, a smartphone, and a laptop. In the center, there is a stack of colorful 3D cubes with various icons on them. A large, faint watermark of the CAST seal is in the background. The vertical text 'CELLULAR ANALYSIS SURVEY TEAM' is on the left.

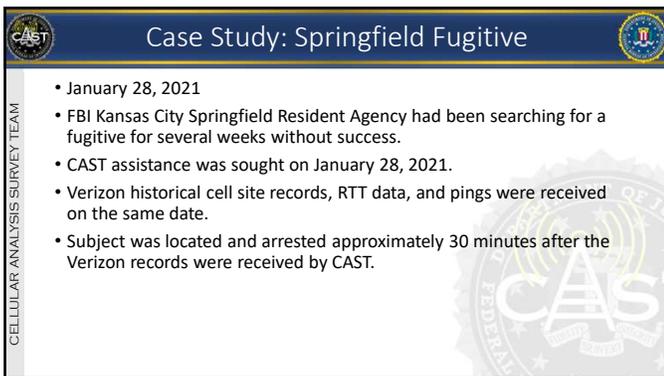
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**FBI CELLULAR ANALYSIS SURVEY TEAM
HISTORICAL MOBILE DEVICE LOCATION ANALYSIS**



SA Timothy Flohrschutz
FBI Kansas City

Case #: 176-KC-3369901

Telephone Number Analyzed
(417) 689-4394

January 28, 2021

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DRAFT ANALYSIS

THE FOLLOWING REPORT CONTAINS A DRAFT ANALYSIS OF HISTORICAL CALL DETAIL RECORDS WITH CELL SITE LOCATION INFORMATION, AND ANY OTHER AVAILABLE HISTORICAL LOCATION DATA, OBTAINED FOR DEVICE(S) DETERMINED BY THE PRIMARY INVESTIGATING AGENCY TO BE ASSOCIATED WITH THE CAPTIONED MATTER.

THE ANALYSIS CONTAINED HEREIN IS PRESENTED IN DRAFT FORMAT WHICH LACKS A PEER-REVIEW AND OTHER QUALITY CONTROL MEASURES REQUIRED FOR COURTROOM PRESENTATION. THE ANALYSIS MAY BE USED FOR LEAD PURPOSES BUT SHOULD NOT BE INTRODUCED INTO DISCOVERY PRIOR TO OBTAINING THE FINAL PEER-REVIEWED TRIAL REPORT.

Refer to FRCP Rule 26(b)(3)(A) and (B)

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INTRODUCTION

1. Background
The Federal Bureau of Investigation (FBI) Cellular Analysis Survey Team (CAST) was requested by Special Agent Isaac McPheeters of the Springfield Resident Agency to analyze cell phone records for (417) 689-4394 ("target cell phone"). The target cell phone was believed to be associated with Zachary Hayes Martin, a subject wanted on a federal arrest warrant issued in the District of Columbia for violations associated with the Capital Police on January 6, 2021.

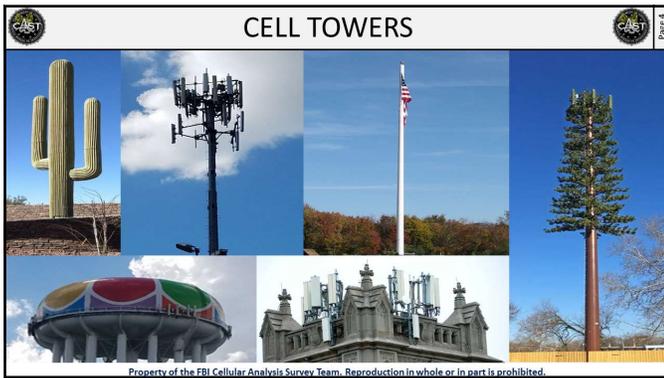
2. Methodology
An analysis was performed on the call detail records obtained for the target cell phone. The call detail records documented the network interaction to and from the target cell phone. Additionally, the records documented the cell tower and cell sector ("cell site") which served the cell phone during this activity. Used in conjunction, the call detail records and a list of cell site locations illustrate an approximate location of the target cell phone when it initiated contact with the network.

2.1 Cell Site Locations
Cell sites in existence during the time of the incident were input into mapping software using latitude/longitude coordinates of the cell sites provided by the service provider. The cell sites associated with the target cell phone(s), were located utilizing the mapping software and the plotted cell site data.

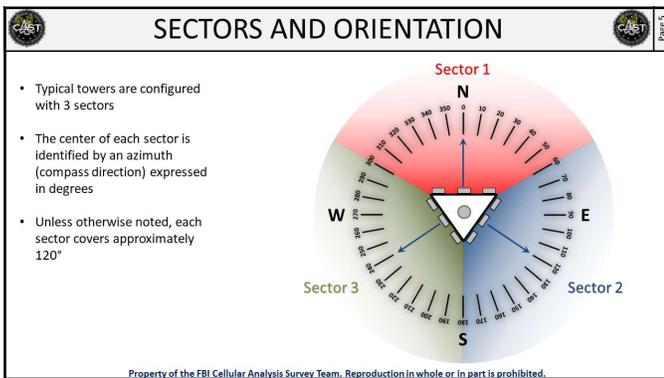
3. Conclusions
A historical cell site analysis was performed on the call detail records for the target cell phone. The methods detailed in Sections 2 and 2.1 were used to produce the attached historical cell site analysis maps.

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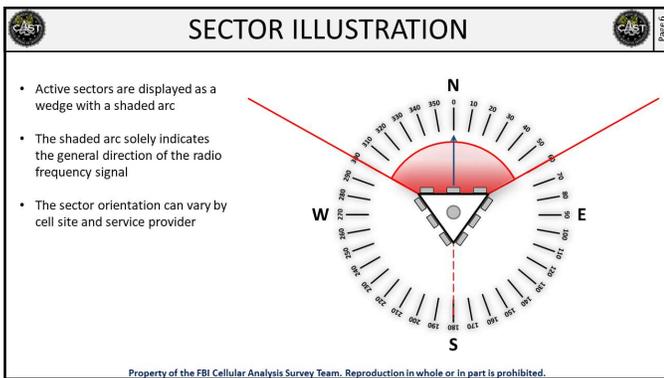
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SECTOR MAPPING ILLUSTRATION

- When displayed on a map, a sector illustration shows the general area of coverage as it relates to a specific geographic area and indicates incoming or outgoing call activity

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RTT EXPLANATION

- Round Trip Tool
- A roundtrip network measurement from tower to device and back referred to as a Timing Advance
- The device will be located no further than the outside edge of the shaded arc but may be located inside

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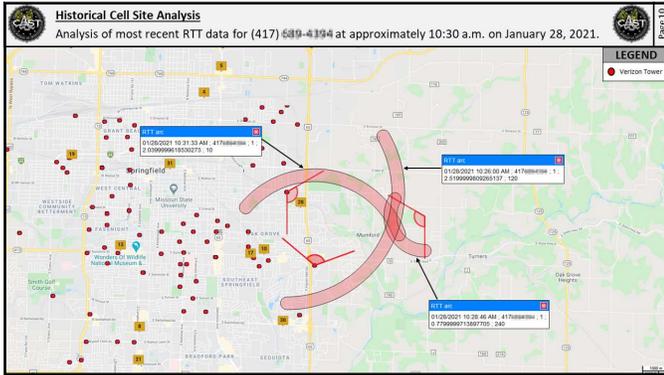
41

RTT ILLUSTRATION

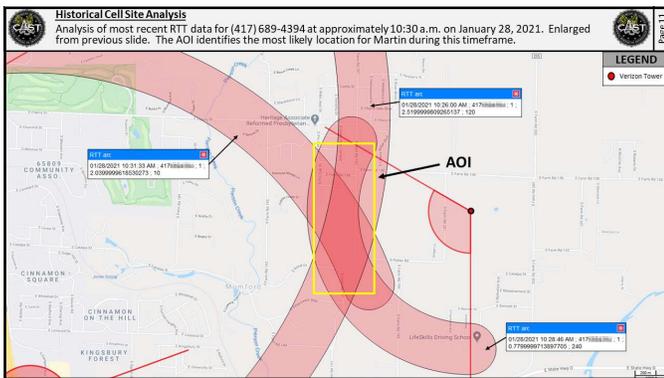
- When displayed on a map, an RTT illustration shows the area of coverage as it relates to a specific geographic area for a measurement taken during a call or data session

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END OF REPORT

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Case Study: Baby Sophia Kidnapping

CELLULAR ANALYSIS SURVEY TEAM

- November 16, 2017
- Boyfriend returns home from work to find victim had been executed and infant daughter missing.
- CAST analysis was critical to the location and recovery of the child alive and well.
 - Cellebrite extraction of victim's phone.
 - Historical cell site analysis.
 - Prospective surveillance of subject phone.

Regional alert goes out for baby kidnapped in Wichita

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FBI CELLULAR ANALYSIS SURVEY TEAM

TFO Joseph M. Daneff
FBI Kansas City
Case# 7C-KC-2102851
(316) 689-1026
May 3, 2017

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1. Background
 The Federal Bureau of Investigation (FBI) Cellular Analysis Survey Team (CAST) was requested by Detective Michelle Tennyson of the Wichita Police Department to analyze cell phone records for [316] 689-1026 ("target cell phone"). The target cell phone was believed to be associated with a homicide that occurred on November 17, 2016.

2. Methodology
 An analysis was performed on the call detail records obtained for the target cell phone. The call detail records documented the network interaction to and from the target cell phone. Additionally, the records documented the cell site and cell sector ("cell site"), which served the target cell phone during the activity. Used in conjunction, the call detail records and a list of cell site locations illustrate an approximate location of the target cell phone when they initiated contact with the network.

2.1 Cell Site Locations
 Cell sites in existence during the time of the incident were input into mapping software using latitude/longitude coordinates of the cell sites provided by the service provider(s). The cell sites associated with the target cell phone were located utilizing the mapping software and the plotted cell site data.

3. Conclusions
 A historical cell site analysis was performed on the call detail records for the target cell phone. The methods detailed in Sections 2 and 2.1 were used to produce the attached historical cell site analysis maps.

CAST

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Sector Orientations
 EXAMPLE ONLY
 EACH CELL SITE ORIENTATION CAN VARY

CAST

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If the orientation points at 30 degrees (1:00), the coverage can be approximated to be 60 degrees in either direction; (every 30 degrees is one hour on a clock).

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**Historical Cell Site Analysis
Sector Mapping** 

(316) 689-1026
Provider: T-Mobile 

Tower and Sector showing usage
Note: The shaded area inside sector arms is not illustrative of the coverage area of tower and sector, but is shown for directional purposes only.

Legend:
 215 N. Brunswick, Apt. 1, Wichita, KS
 910 Signet Street, Dallas, TX
 T-Mobile pings
 T-Mobile cell sites

5

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UTC Time and Daylight Savings Time Information 

T-Mobile historical call detail records (CDR's) display time in Coordinated Universal Time (UTC).

In the Central Time Zone, when it is Central Standard Time (CST), UTC is six (6) hours ahead. For example, a record that shows as 6:00 p.m. (or 18:00 on a 24 hour clock) in UTC would be 12:00 p.m. (noon) CST.

All times listed throughout this report have been converted from UTC to Central Standard Time.

6

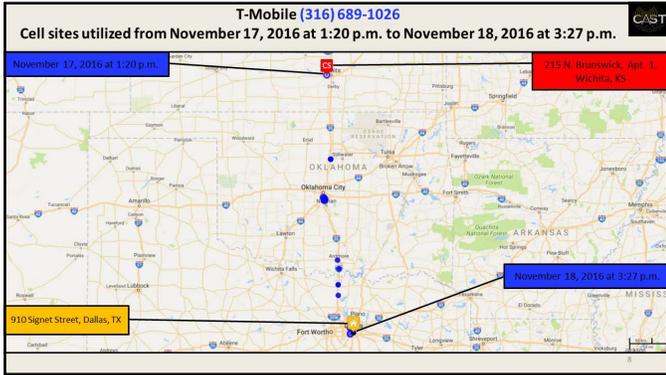
53

T-Mobile (316) 689-1026 



215 N. Brunswick, Apt. 1
Wichita, KS

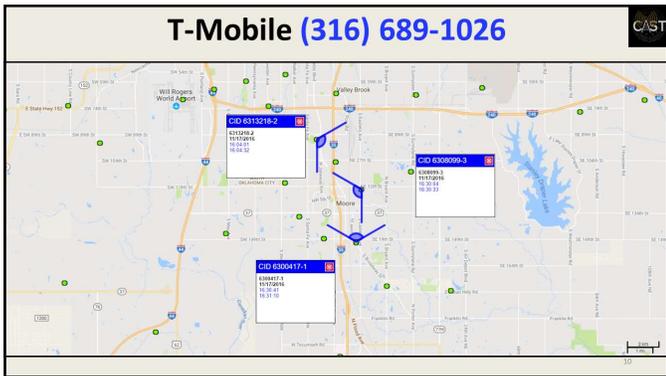
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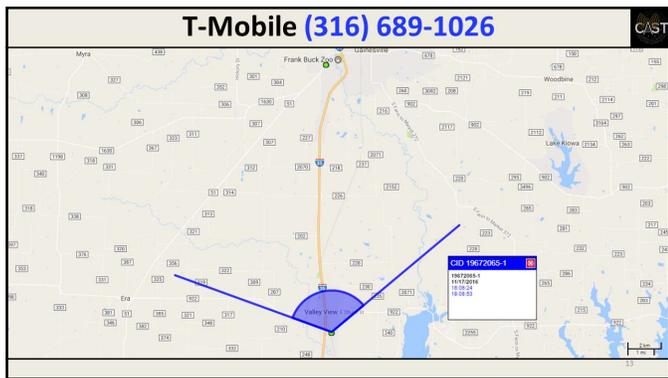
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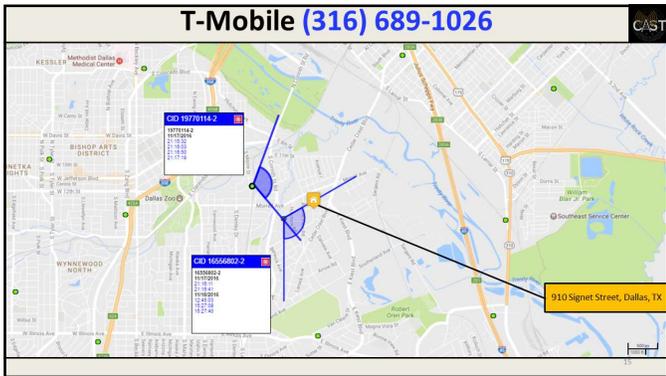
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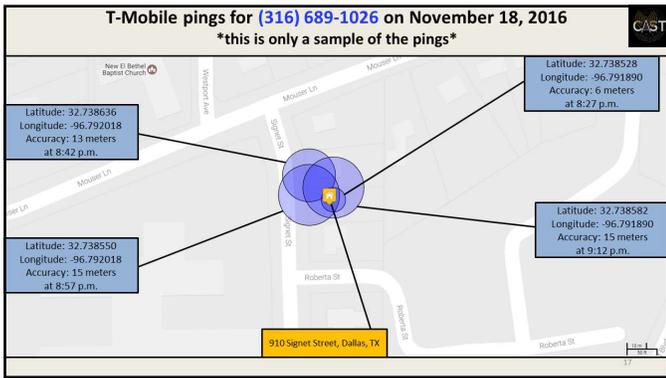
61



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<p>Location of 3166891026 at 11/18/2016 6:27:33 PM Pacific Standard Time</p> <p>=== Result === Lat: 32.738528 Lon: -96.792890 Uncertainty: 6m</p> <p>https://maps.google.com/maps?q=32.738528,-96.792890</p>	<p>T-Mobile pings for (316) 689-1026 on November 18, 2016</p> <p>*The first ping was on November 18, 2016 at 8:27 p.m. and the last ping was on November 20, 2016 at 8:17 p.m.*</p> <p>**this is only a sample of the pings**</p>
<p>Location of 3166891026 at 11/18/2016 6:42:28 PM Pacific Standard Time</p> <p>=== Result === Lat: 32.738636 Lon: -96.792018 Uncertainty: 13m</p> <p>https://maps.google.com/maps?q=32.738636,-96.792018</p>	
<p>Location of 3166891026 at 11/18/2016 6:57:27 PM Pacific Standard Time</p> <p>=== Result === Lat: 32.738550 Lon: -96.792018 Uncertainty: 15m</p> <p>https://maps.google.com/maps?q=32.738550,-96.792018</p>	
<p>Location of 3166891026 at 11/18/2016 7:12:25 PM Pacific Standard Time</p> <p>=== Result === Lat: 32.738582 Lon: -96.791890 Uncertainty: 15m</p> <p>https://maps.google.com/maps?q=32.738582,-96.791890</p>	

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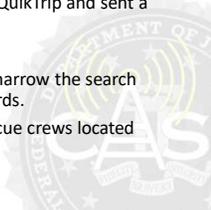


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CAST Case Study: Missing Person Toni Anderson

CELLULAR ANALYSIS SURVEY TEAM

- January 15, 2017
- Toni Anderson was stopped by a North Kansas City police officer at 4:30 a.m.
- Following the stop, Anderson pulled into a local QuikTrip and sent a text message at 4:42 a.m.
- Anderson was never seen again.
- CAST personnel conducted a network survey to narrow the search area for Anderson based upon cellular data records.
- Using the data provided by CAST, search and rescue crews located Anderson and her vehicle in the Missouri River.



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FBI CELLULAR ANALYSIS SURVEY TEAM



TFO Joseph M. Daneff
 FBI Kansas City
 FBI # 343A-KC-2125706
 KCPD CRN 17-3720
 T-Mobile (316) 516-0970
 January 24, 2017

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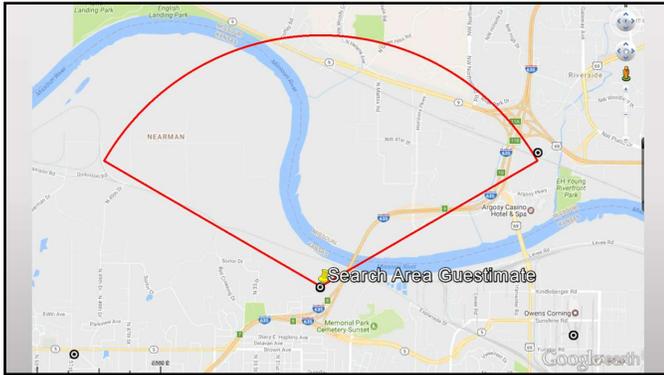
68

T-Mobile Data Session Records for target telephone number 316-516-0970. The T-Mobile Call Detail Records (CDRs) indicate the target telephone last connected to a cell site and sector was on January 14, 2017 at 20:49:56 hours.

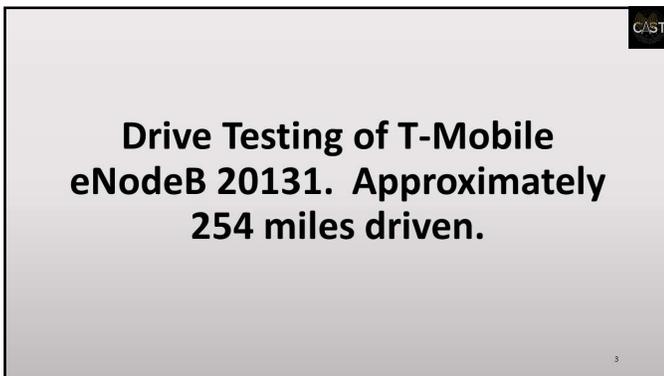
start_date	start_time	end_date	end_time	cell_sector_tracking_area_code	cell_sector_nodeb
1/15/2017 12:08	1/15/2017 6:00	1/15/2017 12:11	1/15/2017 6:11	42241	20333
1/15/2017 12:01	1/15/2017 6:05	1/15/2017 12:12	1/15/2017 6:12	42241	20333
1/15/2017 11:46	1/15/2017 5:48	1/15/2017 12:01	1/15/2017 6:01	42241	20333
1/15/2017 11:31	1/15/2017 5:31	1/15/2017 11:46	1/15/2017 5:40	42241	20333
1/15/2017 11:16	1/15/2017 5:16	1/15/2017 11:31	1/15/2017 5:31	42241	20333
1/15/2017 11:01	1/15/2017 5:01	1/15/2017 11:16	1/15/2017 5:16	42241	20333
1/15/2017 10:46	1/15/2017 4:46	1/15/2017 11:01	1/15/2017 5:01	42243	20024
1/15/2017 10:31	1/15/2017 4:31	1/15/2017 10:46	1/15/2017 4:46	42243	20024
1/15/2017 10:16	1/15/2017 4:16	1/15/2017 10:31	1/15/2017 4:31	42243	20024
1/15/2017 10:08	1/15/2017 4:08	1/15/2017 10:16	1/15/2017 4:08	42243	20024
1/15/2017 10:00	1/15/2017 4:00	1/15/2017 10:08	1/15/2017 4:00	42244	20026
1/15/2017 10:01	1/15/2017 4:01	1/15/2017 10:16	1/15/2017 4:16	42244	20026
1/15/2017 10:00	1/15/2017 4:00	1/15/2017 10:00	1/15/2017 4:00	42244	20026
1/15/2017 9:46	1/15/2017 3:46	1/15/2017 10:01	1/15/2017 4:01	42244	20026
1/15/2017 9:37	1/15/2017 3:37	1/15/2017 10:00	1/15/2017 4:00	42244	20026
1/15/2017 9:31	1/15/2017 3:31	1/15/2017 9:46	1/15/2017 3:46	42244	20026
1/15/2017 9:16	1/15/2017 3:16	1/15/2017 9:31	1/15/2017 3:31	42244	20026
1/15/2017 9:01	1/15/2017 3:01	1/15/2017 9:16	1/15/2017 3:16	42244	20026
1/15/2017 8:46	1/15/2017 2:46	1/15/2017 9:01	1/15/2017 3:01	42244	20026
1/15/2017 8:33	1/15/2017 2:33	1/15/2017 9:37	1/15/2017 3:37	42244	20026
1/15/2017 8:31	1/15/2017 2:31	1/15/2017 8:46	1/15/2017 2:46	42244	20026
1/15/2017 8:16	1/15/2017 2:16	1/15/2017 8:31	1/15/2017 2:31	42244	20026
1/15/2017 8:01	1/15/2017 2:01	1/15/2017 8:16	1/15/2017 2:16	42244	20026
1/15/2017 7:46	1/15/2017 1:46	1/15/2017 8:01	1/15/2017 2:01	42244	20026

- Tower 20333 is located at 39.15080, 94.65596
- Tower 20024 is located at 39.13856, 94.58008
- Tower 20026 is located at 39.13860, 94.56014
- Tower 20219 is located at 39.07189, 94.48936
- Tower 20137 is located at 39.05599, 94.48130
- Tower 20688 is located at 39.05640, 94.49410

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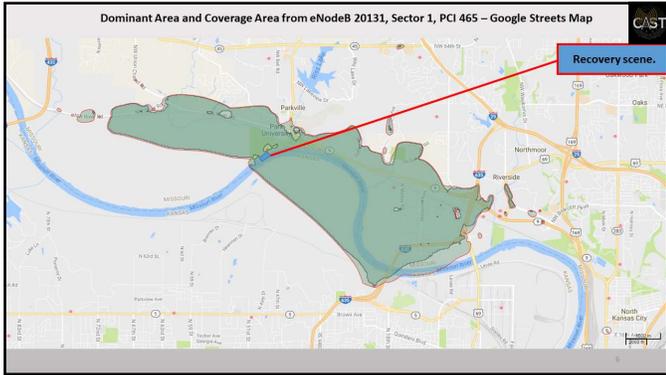
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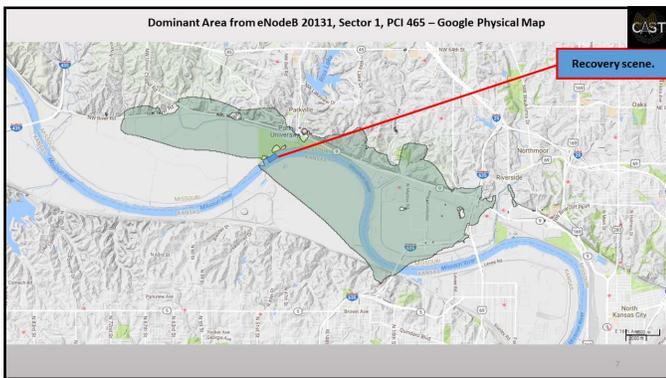
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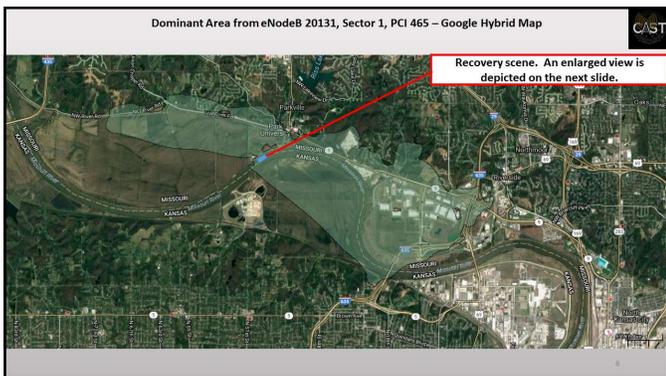
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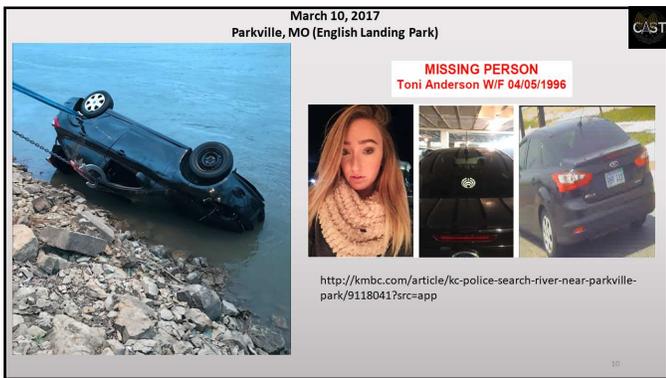
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CELLULAR ANALYSIS SURVEY TEAM

CAST Intake Request

Requester Information

First Name *

Last Name *

Email *

Cell Phone *

Fax Number *

Agency Information

Agency Name *

Address *

City *

State *

ZIP Code *

<https://forms.fbi.gov/cast-intake-form>

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CAST
FEDERAL BUREAU OF INVESTIGATION

Contacting CAST

CAST@fbi.gov (General Questions)
CASTVIZ@fbi.gov (CASTViz Questions)

SA Timothy Flohrschutz | twflohrschutz@fbi.gov | (816) 206-3863 (cell) | Kansas City
TFO Joseph Daneff | jmdaneff@fbi.gov | (816) 719-8381 (cell) | Kansas City
SA Bastian Freund | bfrend@fbi.gov | (314) 230-6553 (cell) | St. Louis

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