

Just Investigating a No-Body Homicide in Canada

Introduction [00:00:01] RTI International's Justice Practice Area presents Justice Science.

Voiceover [00:00:09] Welcome to Just Science, a podcast for justice professionals and anyone interested in learning more about forensic science, innovative technology, current research and actionable strategies to improve the criminal justice system. In episode one of our Case Studies season, Just Science sat down with Ian Oxtan, Forensic Identification Specialist for the Calgary Police Service to discuss a triple homicide case involving the longest lasting Amber Alert in Alberta Canada's history. Operation Amber started as a race against the clock for a missing child, and his grandparents then quickly evolved into a massive search effort on a 40-acre property. During the investigation, a wide range of forensic techniques, including aerial photography, bloodstain, pattern analysis, forensic ontology, and footwear analysis, were utilized to resolve the case. Listen along as Ian describes his role as the primary forensics investigator, the challenges of prosecuting a no body homicide, and the many lessons learned from this groundbreaking case. This episode is funded by the National Institute of Justice's Forensic Technology Center of Excellence. Some content in this podcast may be considered sensitive, and they evoke emotional responses or may not be appropriate for younger audiences. Here's your host, Jaclynn McKay.

Jaclynn McKay [00:01:16] Hello and welcome to Just Science. I'm your host, Jaclynn McKay, with the Forensic Technology Center of Excellence, a program of the National Institute of Justice. On today's episode, we will discuss the forensic case review of Operation Amber, a triple homicide investigation in Canada. Here to guide us in this discussion is Calgary Police Service Forensic Identification Specialist, Ian Oxtan. Welcome, Ian. Thank you for talking with us today.

Ian Oxtan [00:01:43] Thank you. Thanks for the invite.

Jaclynn McKay [00:01:44] Of course. So let's start off with a brief overview of Operation Amber. Ian, what was your role in this investigation.

Ian Oxtan [00:01:51] In this particular case, I was what we call in Calgary, the primary forensic or lead forensic investigator. So in our agency, when we attend the major crimes such as homicides, we usually attend with a minimum of three people. We have a sergeant or a supervisor. The primary is the person who's going to put down the scene markers and physically collect the evidence using our protocols. And then another member will come and take photographs, so they're strictly the photographer. That's in an ideal situation. So this case, when we first initially received the call, starting our regular day shift in the morning, we were initially informed that it was an abduction case. At least, this is how it was presented. So myself and my partner started making our way to the residence. As soon as we got there and we initially kind of saw what we had, it became very obvious very quickly that if it was an abduction then it was extremely violent and very likely a homicide case as well. So this case involves the abduction of two adults and their five year old grandson. And over the period of the case, we spent several days processing the house. The homicide unit eventually developed a suspect in the lead who was arrested very quickly. And then from there, we moved to their residence, an acreage about 10 minutes drive north of Airdrie, which was about 40 acres in size. We spent around 30 days searching and examining that particular farm.

Jaclynn McKay [00:03:07] I know there's a lot involved with this case, but I want to specifically hone in on the forensics and the technology used in its resolution. For our listeners, this case has also been featured on the Global News Crime Beat podcast, so we'll be sure to link that podcast episode on the FTCOE's landing page for this podcast episode if you want more information on the case. So this case is known as Operation Amber. Can you describe a little bit about how it got that name?

Ian Oxtan [00:03:38] Operation Amber just based because of - with the five year old boy being reported missing, an Amber Alert was issued and it's actually the longest lasting Amber Alert in Canada. So that was - generated the name Operation Amber.

Jaclynn McKay [00:03:49] You mentioned that you responded to a house of a potential abduction case. Can you walk us through what evidence was found and how bloodstain pattern analysis was involved?

Ian Oxtan [00:04:00] When we first got our initial entry walk through through the house, we recognized immediately that we needed a certified blood stain analyst to attend. So we put that request in and she arrived the following day. But as we went through the house, there was large areas of bloodstains, both bedrooms, the front bedroom and the primary bedroom had blood stains. We had drag marks going through the house, down the stairs of the residence into the kitchen and some of it towards the front door as well. We also had indications of a clean up. We could see there was a mop left out. So we suspected right away that whoever it was, was walking backwards to the kitchen, mopping up any footprints on the floor, which we later on developed with the liquid crystal violet. We had two pieces of teeth in the hallway beside the rear door or the side door, and we had an earring on the floor, and we could see there was a lot of movement and disturbance in the house.

Jaclynn McKay [00:04:48] So based on the bloodstains throughout the house, was the bloodstain pattern analyst able to determine whether the victims were alive when they left the home?

Ian Oxtan [00:04:56] Yes, she had some assistance with a chief pathologist, came in, Dr. Brooks, and then she attended with the bloodstain analyst Jodi Arns. And the two of them, they concluded that we didn't have any DNA results from the bloodstain initially. That came later and even though there was a large amount of blood spatter, they couldn't say definitively that the subjects were deceased. They didn't know if it's all one person or multiple people were bleeding. So from that, they concluded that there was a survivability chance for the people who were missing and that assisted with the Amber Alert.

Jaclynn McKay [00:05:24] So the bloodstain pattern analyst, is she also a forensic investigator, kind of like you and just has an additional duty?

Ian Oxtan [00:05:32] Yes, that's right.

Jaclynn McKay [00:05:33] Okay. And then the actual medical examiner came to the scene?

Ian Oxtan [00:05:37] So the assigned pathologist, Dr. Brooks, actually came to the scene to walk through with the bloodstain analyst.

Jaclynn McKay [00:05:41] That doesn't usually happen in the United States, so that is very unique.

Ian Oxtan [00:05:46] It's very helpful.

Jaclynn McKay [00:05:46] Okay. So you process the house and then you were able to identify a potential suspect and that led you to a 40 acre property. Can you walk us through what evidence was found there?

Ian Oxtan [00:06:00] Certainly. So the previous night before I entered the property, once the suspect was in custody and secured and his vehicle had been towed to the forensic building, the Royal Canadian Mounted Police Emergency Response Team entered the farm and did an initial sweep for just to check if the subjects to see if anyone was still alive or anyone could be found, and they didn't find anything obvious and they then pulled out and left the farm. So the following morning I entered under a search warrant and we very quickly found some very obvious and significant pieces of evidence. In one of the outbuildings we found a large backpack, like a duffel bag, which contained two sets of handcuffs, two rifle magazines with 22 caliber ammunition, a blackjack and a dagger. So that became a key piece of evidence. Around the same time, I was calling for assistance from the search teams. It's 40 acres, so it was hard to determine where to start. There was a large burn barrel that's about 1.2 meters high, one meter in diameter. That was still warm to the touch and had some ashes inside it. I called for search dogs, the human remains detection dogs. I often refer to them as cadaver dogs. We brought in the Calgary Police services human remains dog called Sully. He came in and he did a sweep of the area and he gave us multiple hits around the certain parts of the farm, which is where we started our search. After he left, we call in again the RCMP's search dog, human remains detection dog. He came in and did the same sweep. He also indicated on the same areas. That gave us a good indication we were starting in the right place and working outwards. In one of the outbuildings, we found a large bone saw, which is about 50 centimeters long, I think it's about 19 inches, that looked very clean and very pristine considering everything else in that particular building was covered in dust. We found a number of meat hooks, about half a dozen cutting knives that we found that were out of place and looked very recent. A pair of large latex gloves and a pair of rubber boots, which is very key to these kind of files when you have this kind of cases, the rubber boots, the offenders wearing very rarely gets cleaned effectively.

Jaclynn McKay [00:07:53] How long did it take you to investigate the scene at this 40 acre property?

Ian Oxtan [00:07:57] We were on scene for around, I believe, I think it's around 30 days. And my days would usually start, I would go to the scene midmorning. That gave the search teams time to search the search area of that day, and they would mark whatever evidence they had found. So I would come in a few hours after them. Then I'd start collecting. I would stay till late evening, maybe into the night, collecting evidence and do the same thing the following day. The first day when I first arrived, we worked through the night and did I think it's one 36 or 40 hour shift because what was happening is, as we were finding evidence, the homicide unit had already cleared things with the lab in Edmonton, our forensics, our crime scene lab. They had shut the lab down just for this case. So they were waiting for our exhibits. So as I found items from the farm, they were driven straight to the DNA lab to rush the DNA results. Because our initial search warrant was five days. We wanted to extend that if we needed to and also we had an active Amber Alert and we needed to extend the Amber Alert as well.

Jaclynn McKay [00:08:49] So as you're getting this information back from the lab on the evidence that you're submitting, was it shedding any light on the evidence that was found at the home that you processed prior to moving to the 40 acre property?

Ian Oxtan [00:09:04] Yes, we had the connection and we will find that the DNA from all three persons on the items, the rubber boots, the saw, the hooks. We were getting their DNA on those items because we'd taking known samples of DNA from their house, their residence. And we had some objects from the family that we used as the known samples from the three victims.

Jaclynn McKay [00:09:21] So were you able to link up any of the bloodstains you found at the house to any specific victim?

Ian Oxtan [00:09:28] Yes. At that point, we were getting the first and second round through from the blood spatter analysis. Yes.

Jaclynn McKay [00:09:32] Your team was able to determine that there was a high rate of survivability when the victims were abducted from the house. Were you able to determine any other type of crime scene reconstruction information based on knowing whose blood was associated with what blood stain?

Ian Oxtan [00:09:54] Yes, the BP analyst, later on a trial, she presented the case. At the very end of the trial, she showed a case in conjunction with the DNA expert Vivien Moore, but they showed what happened in the house. Yes, so they could determine the grandfather was in the primary bedroom at the back of the house. There was DNA from Nathan and his grandmother, Catherine, at the front of the house. Then we had, I think it was Catherine's DNA through the kitchen and the teeth were a match to Alvin's Liknes later on. And so we had -

Jaclynn McKay [00:10:19] And that's - Alvin is the grandfather?

Ian Oxtan [00:10:20] Yes. Yeah. So we had an indication of who was in which rooms when the incident initially occurred, as far as we could see.

Jaclynn McKay [00:10:27] So after the 30 days of processing on the 40 acre property and getting all the information from the crime lab and piecing everything together, could you make any conclusions on what ultimately happened to the victims? Were you able to find them?

Ian Oxtan [00:10:44] No. We never recovered anything as close to a body as we would hoped or anything indicating what happened. We had the blood DNA. We had a few fragments of small fragments of charred flesh from Catherine and Alvin. And we had a small tooth that we recovered from the burn pile, which is where Douglas Garland would empty his burn barrel while he was burning things or burning garbage. As we sifted through those ashes, we recovered a very small tooth, which our forensic or odontologist, Dr. Bill Blair, said was from a child approximately five years old. That's all that we could recover.

Jaclynn McKay [00:11:13] In homicide cases, finding a body provides so much information to the pathologists and the crime scene investigators and all those involved.

And in this case, you were not able to find the the full bodies of the victims. Can you talk about some of the challenges that that created for the investigation?

Ian Oxtan [00:11:34] Certainly. So, obviously, with - if you have the deceased, if you find the deceased victim, you can clearly declare it a homicide. When you have little to no physical evidence that they are deceased and they've disappeared, you then have to go through a whole process proving that they have - they are no longer alive or present. So, for example, in this case, we had a detective assigned to the footprints of life of the three persons. So he was looking into the background, the social media, the movement, the bank accounts, vehicles. He was proving that they had not gone anywhere else. So it wasn't just a case of showing what happened. It's also showing what hasn't happened. They had recently purchased a, they had a, I think it was a condo in Mexico. So we sent detectives to Mexico to check that apartment or that condo to just to prove they hadn't left the country. And that's where they were so it becomes very difficult because instead of focusing on what you have, you're proving what you don't have, which makes it a challenge.

Jaclynn McKay [00:12:27] That's really interesting. And it's kind of crazy that this turned into an international case, especially if you're sending detectives down to Mexico. So pivoting just a little bit. Fortunately, at the time of this incident, a photographer took aerial photographs of the communities in Calgary for land surveying purposes. And these photos just so happened to encompass that 40 acre property. Can you talk about how these photos ultimately ended up helping the case?

Ian Oxtan [00:12:58] Certainly. So, the company is called I think it's Paragon Aerial Surveys. He's currently based out of British Columbia in Abbotsford. Paul Gagnon was a camera operator who had rented a plane. He was taking photographs for the city of Airdrie. They were doing mapping for construction of future projects. It was just a coincidence. He happened to fly over the farm on one of the mornings, and later on he did a second pass, coming in the opposite direction to the second set of photographs. So what we see in the first image is you can see all three of the subjects, Alvin, Nathan and Catherine on the property in the grass. You can see what's happening there. The second pass the following day, they are no longer where they were seen. And you can see the burn barrel and a lot of equipment around the barrel. And you can see a alone figure standing, walking through the grass beside the barrel. So it was just a coincidence. Now what happens is, while we are searching and examining the farm, we have a lot of volunteer search and rescue doing a massive search around, I think it was a ten kilometer radius, just in case the suspect had driven off and thrown evidence out of his car window of his vehicle. So we were searching a massive area. And so there was a separate command post just for that operation. One of the employees from the city of Airdrie approached the command post and said we had someone around that time taking photographs. That was written down in a notebook and later on, as the homicide detectives were reviewing everyone's notes, someone picked up that we might have photographs, and then the company was contacted and we were able to obtain the photographs.

Jaclynn McKay [00:14:18] And so were the photographs obtained after this 30 day processing?

Ian Oxtan [00:14:23] During the 30 days.

Jaclynn McKay [00:14:24] During the 30 days. The camera that was used for land surveying, was it like a typical camera that a crime scene investigator would use?

Ian Oxtan [00:14:34] No. From what I understand from the website of the company, they're currently using a like a DMC three. This is the type of camera they use in specific surveying. So I'm thinking around the time of this nine years ago, it may have been a like a DCM two model is what he was using. It's a very different camera. The image had fantastic resolution and he later on provided us with a hard drive with the images and the software to open them. So I was able to later on look into these images and zoom in and zoom around what was happening. Later on the following year, we reattended the farm with a second search warrant and I collected some evidence that we didn't know it was involved during the first event.

Jaclynn McKay [00:15:10] This is such a crazy coincidence and a fortunate one at that. You've spoken about how big of an investigation this was, and it was one of the biggest police search efforts in Calgary police history. Can you discuss what ultimately happened in this case?

Ian Oxtan [00:15:28] Based on the evidence we found, and this is just my conclusion, is that the offender, Douglas Garland, he gained access to the home of the three victims. At that point, I don't believe he knew Nathan was in the house. He was just expecting the two grandparents. He drilled his way through the lock, which he had researched online how to defeat that lock. He did a lot of studying and research specifically to that make and model of lock. About a week prior to that, he had gone to the house and snuck up on the house and noted what kind of lock it was. He went home and then researched that later on. We got that from his harddrive, from his computer. Once he gained access, I'm not sure the sequence of events on the BPA side, but at some point he obviously attacks all three. He's able to get them from the house out of the side door and into a vehicle, which is his truck. Later on at the crime scene, we found a the key fob from a Toyota Tundra truck. And we suspect that it may be that he was trying to take their truck and use it to dispose of them or to take them offsite. However, that's not what happened. So he takes them from their residence. He drives them through Calgary. And at this time in the morning, it's daylight. So he's driving through the city of Calgary in daylight. We have him on multiple different video cameras all the way through the city limits, leaving the city limits north on Highway two. He passes a way station, which has a camera on it, which is between Airdrie and Calgary. We see him on camera, his truck passing, and then he goes past the local detachment, which is a bit further up, and then he drives to his residence. From there, we know that he leaves the three victims on his farm. He cleans up. He goes to his psychiatrist appointment in the morning. He has a meeting with a psychiatrist and then he comes back. From there, there's a two or three day gap while we're still processing the house where we - the homicide unit, are working on suspects. They're developing who they think this could be. There's a house just west of where the victims lived. It had a video camera which captured his truck on view. So they have an image of video of what kind of vehicle. So they start looking for the type of truck. It was an old green F-150. They eventually put out a notification to the public asking if anyone's seen this truck. Then someone text into the detectives. This is Douglas Garland's truck. They receive an answer and that triggers the response to the farm. So as our members and the RCMP members are approaching the farm, he happens to drive out right into them. And then he's taken into custody. Which triggers - we then get the search warrant and into the farm. So he had a couple of days to dispose of the three people. I believe he cremated them. He did some dismembering. I don't know how much because of the DNA on the hooks, on the the large metal saw. I don't know how much he got into because the burned barrel was very large

and probably wasn't necessary. But he did some dismembering and then he obviously cremated them in the barrel. And he had a lot of time to do it. We had a witness who was a neighbor testify at the trial that he noticed he was burning through the night. So that day he was burning the burn barrel all day and into the - through the night and into the next morning. So he was definitely disposing of the evidence overnight.

Jaclynn McKay [00:18:17] Was this ultimately successfully prosecuted?

Ian Oxtan [00:18:20] Yes. Yes. This was prosecuted. We had an overwhelming amount of circumstantial evidence. And every - there's multiple things that linked him to this case.

Jaclynn McKay [00:18:26] In the United States, prosecution of no body homicides are rare, let alone homicide cases involving three victims. But when they are prosecuted, there is usually overwhelming circumstantial evidence that ties the defendant to the case and strong evidence that indicates that the victims are deceased. And it sounds like you had that in this case.

Ian Oxtan [00:18:47] Yes. So in addition to finding indications of the three people being on his farm, we had a few things that linked him directly to their house. So we didn't get his fingerprints or his DNA from their residence, even though he's a family member to some degree. What linked him was the research on his computer to the lock on the victim's door. Inside the garage we had a bloody footprints, which we ran through the SICAR database. It's the Shoe Image Capture and Retrieval database. So you put a footprint in it will tell you, ideally, if it's in the database, it will tell you the make and model of shoe. So it gives you a range of what that shoe could be. So we put that in. We knew what kind of shoe it was, a Dr. Scholl's Delta two shoe from the footprint. And later on, when we get to his farm, we're looking for the shoes and we don't find that particular model of shoes, but we find 80 other pairs of shoes that he's never thrown away that are really worn down and old. So we're showing that he's kept all of the shoes over the past 20 years or so, except the Delta two shoes. And then in the basement we find the Delta two shoe box. So we have the shoe box, not shoes, but 80 of the pairs of size 13 shoes. So we had the footprint that linked him to the scene and obviously the video camera on the west, the house to the west of the victim's house, that was probably the breakthrough of the case, was the video camera picking up the truck in the neighborhood.

Jaclynn McKay [00:19:58] Were you able to find any biological evidence tying the defendant to the Liknes home?

Ian Oxtan [00:20:05] No, we didn't have his fingerprints and DNA in the victim's house at all. And we just had the footprint, the lock with the holes drilled and obviously the CCT footage. Those are the three things that link him to that house. And also, we examined his truck later on. We did a forensic search of his truck. Initially the first week, we didn't get any of the victim's DNA in the back and which we thought was obviously unusual, given the circumstance of the crime scene. So I took the plastic bed liner out of the truck and I took the tailgate off and I stripped the tailgate down and I took the license plate off and then we reexamined it with Bluestar and we got positive results. And from that we then developed it was Katherine's DNA. We only sent a few of those swabs in, but we got Katherine's DNA on the back of the license plate and inside the truck. Later on in the investigation, we'd gone through his garage, which has an abundance of chemicals. We find RNA's away and DNA cleaners in his garage. So he was researching and looking into how to clean up a crime scene. And he had the correct equipment and he did a fairly good job on the box liner. But we looked underneath and found the DNA.

Jaclynn McKay [00:21:05] Ian, you mentioned that you found two of Alvin's teeth in the Liknes home. Were you able to find any items within the home that were potentially involved in the incident and could have been used as a weapon?

Ian Oxtan [00:21:21] Yes. So the area where we found the tooth, the two pieces of teeth, just to the right of that area is the doorway into the garage. And that's where we had the blood stained footprints of the Delta two shoe going into the garage. And those footprints walk up to two dumbbell weights. Each one's 45 lbs, and it looked like one of them had been picked up and used as a weapon of opportunity and then put back. So when we submitted that dumbbell in its entirety to the lab, we got blood from Alvin and Katherine on the dumbbell.

Jaclynn McKay [00:21:47] Due to the complexity of the scene, were there any biological materials found that never match to Nathan or his grandparents?

Ian Oxtan [00:21:58] Yes. Yeah. So we had DNA samples from Douglas's parents as well so that we could use to exclude any samples that we had. And after we finished our search, we had three female DNA profiles that were not part of this investigation. And since then, it's been a while, but since then we've sent those to genealogy. They didn't match in any database we had or the missing person index. We sent them to genealogy, and it's the Paragon Labs in Virginia, and they provided us with images of who they think they should look like. And as a result of that, we've identified all three women and they are all healthy, alive and unrelated to this incident. It was just a coincidence how their DNA got into this particular area. For example, one of the profiles we found was related to these large canvas bags that were hand - that were stitched. And we later on determined through our cold case unit and detective Carrier, determined that these bags were made and produced for hospital staff. And what had happened is Douglas Garland, at some point in his past, was in medical school, and it looks like he obtained these either while he's in medical school or some time after the fact. Maybe he purchased them, but he had pallets of some of these bags, a few hundred of these bags. And as we were doing our search, we came across a droplet of blood on one of these bags, which was one of the unknown subjects. Later on, we've just discovered that that blood is from the person who was stitching the bags together. As she was making them, she pricked a finger and bled onto one of the bags. So, had nothing to do with the case. It just happened to end up in this particular crime scene.

Jaclynn McKay [00:23:25] I think that's an amazing testament to the job that you all did in this scene, because for you to be able to find a drop of blood on a bag on a 40 acre property, that's impeccable.

Ian Oxtan [00:23:37] Well, that's the search teams. I was just the guy who collected the bag. But yes.

Jaclynn McKay [00:23:41] Well, speaking of the search teams and the complexity of this case in having multiple scenes, do you have a rough estimate of the number of people that were actually involved in this effort?

Ian Oxtan [00:23:55] I can pretty much say that I think anyone who served in the Calgary Police Service that year was involved in some context. We had search teams running all the detectives, General Investigations, arson unit involved, sex crimes involved. We had a lot of RCMP members assisting with both the forensic side. We had the RCMP drone

command. The traffic recon unit came down through the drone. Our helicopter came in. We had the cadaver dogs, we had the hazmat team from Airdrie came in to assist. We had the clandestine lab team from the RCMP assist because the garage was full of chemicals. We couldn't manage that. We had a lot of commanders rotating through, running the searches, keeping things going. Back at the Westwinds, I heard stories of people walking through and if you were in the wrong place at the wrong time, you were press ganged, and brought out to the search area to assist because we needed search members. So yeah, I think there wasn't many people who didn't get involved in the case.

Jaclynn McKay [00:24:45] Just to kind of put it into context, how large is the Calgary Police Department?

Ian Oxtan [00:24:50] We have I believe it's around 2,200 sworn members and around 1,200 non sworn members.

Jaclynn McKay [00:24:54] Due to the amount of people involved and all of the moving pieces, can you talk about any lessons learned as far as trying to coordinate and collaborate with such a large search effort?

Ian Oxtan [00:25:09] Yes. So this is one of the cases that blew our protocols kind of out of the water. We generally try to use one team as much as we can for each major case. So we do the crime scene. The same team should do any vehicles and then later on maybe the suspect or offender's house so when you go to court, you have one person who has intimate knowledge of all the different elements. This case, that wasn't going to work. I couldn't be across 40 acres at one time. So what we learned from this and what we've done since is when we have a large scene such as this, which we have had several since this one, we put one team in each building. So one crime scene team, two constables, a photographer and an evidence gatherer, if you like. We'll examine each building and when we have search teams deployed and we'll start finding high volumes of evidence quickly, we put a forensic team with each search team. So it's almost like a disaster victim identification deployment rather than having two or three people trying to manage everything. So yeah, we learned a lot about managing ourselves, our time, our schedules, and also some of the cases we've had since then, it's not an Amber Alert. You're not rushing and trying to keep up. It's been very planned. We have a months to get ready for the warrant. So we hit the ground running and it's been very effective so far.

Jaclynn McKay [00:26:16] But in this case, you were really up against time.

Ian Oxtan [00:26:20] Yes, we were trying to keep up with, because of the Amber Alert, we needed results fast. So the usual methodical system of documenting everything, taking measurements or we have a scanner now scanning, all of that went out the window because it was grab what you can as quick as you can, photograph it in place, and it's going to the lab right away. So we had to adapt and roll with the punches to get things going to the lab as quick as we could.

Jaclynn McKay [00:26:40] For those who may not know, can you describe what an Amber Alert is and why that creates such a condensed time frame for getting this work done?

Ian Oxtan [00:26:51] Yes. So the Amber Alert is a system that allows law enforcement to communicate to the public within a certain area that a child is missing. And there's criteria for that. It has to be a confirmed abduction. This is the main criteria. And obviously, when the message goes out, it breaks into social media, it breaks into radio communications and

sometimes television communications within that area. So it's not something that's taken lightly. It has to be confirmed and there's a very strict protocol to issuing the Amber Alert. And the reason it's used is that the survivability and abducted child decreases very quickly in the first day or two, like very fast. So you have to have momentum to establish who or how they were taken to recover them while they're still alive. It's about survivability of the child.

Jaclynn McKay [00:27:31] Ian, I just want to get the timeline straight for our listeners. Can you walk us through kind of a brief overview of what happened from when the victims were noticed to be missing all the way through when this case was actually prosecuted?

Ian Oxtan [00:27:48] Yes. So this investigation really starts, it's June 29th, 2014. The Alvin and Katherine Liknes are having an estate sale in the house. They're selling everything they own and their planning to move to Mexico. So during that day, they had around more than 100 people come through the house looking to purchase items or pick up whatever they were selling. That night as their settling down, all the rest of the family members are leaving and Nathan asked to stay home with the grandparents, which is obviously that's how he ends up being in the house. He stays behind for a sleepover. Everyone else leaves the house. During the night, I believe it's around 2 - 2:00 in the morning, our offender, Douglas Garland, makes entry into the house, takes all three of them to his property. And he's leaving, he's driving back to Airdrie, I believe it's around 6:30, 7:00 in the morning. At that time, later that morning, Katherine Likness comes to the house to collect her son, their grandson. She comes to the house and she finds the doors open and she goes in the house and realizes she sees the crime scene. So she makes the initial 911 call. We then respond. And later that morning, I arrive and we begin processing the scene for the two or three days, I think was three days. Around that time it was on the 4th of July, the homicide unit decided to release the images of the truck from the video. That goes public and within a few minutes they get the text saying this is Douglas Garland's truck. So that afternoon is when they go to the farm and Douglas Garland is arrested. So the following morning, on July 5th is when I enter with a search warrant. And that starts the 30 day search and examination of the farm.

Jaclynn McKay [00:29:16] And then how long did it take for the case to actually be prosecuted?

Ian Oxtan [00:29:20] So the case was prosecuted. It was May 2016 is when I believe he was prosecuted, and we were given six weeks allocated to the trial. We finished - the prosecution finished with our witnesses in four weeks, and sentencing came in February 2017.

Jaclynn McKay [00:29:37] So, Ian, with regards to the land surveying photographs, when you first initially look at them, what do they show?

Ian Oxtan [00:29:47] So actually, when we first got notification of those photographs, we received, Paul Gagnon had sent us, he had converted the images from his software into a JPEG. So he sent that to us. So we first saw the images, we had a lot of losses because of the conversion down. So we initially thought they were wrapped in the bed sheets. They looked - the images didn't have much resolution. It wasn't until a few days later we realized that it was our people laying in the fields. Like they were there, it wasn't them wrapped up. So there's some confusion over that. But it gave us a very precise location of where they were at one point that we could go back and reexamine.

Jaclynn McKay [00:30:22] And so you zoomed in to these photographs to see what was occurring on the property.

Ian Oxtan [00:30:29] Only a few of us had access to those.

Jaclynn McKay [00:30:32] But, if you were fully zoomed out, you would just see the swath of land that was -

Ian Oxtan [00:30:39] No, even when you were fully zoomed out using his software it was the specific to his - we had to access it from a hard drive because the images were so large, we had to use his software. Anything else, you wouldn't - you would miss the details. So we had the hard drive, or I had the hard drive and we would access from there. But from the overall view, you could make out the three people. You could make out the person walking through the grass, which was Douglas Garland. You could make out a lot of the items very clearly. When you zoomed in, you could see a lot more.

Jaclynn McKay [00:31:06] So has using land surveying photographs been incorporated into kind of a standard operating procedure?

Ian Oxtan [00:31:17] I'd like to say hopefully. I know since this investigation occurred, at the time we used a drone that was flown by the Royal Canadian Mounted Police Traffic Reconstruction Unit. We've since purchased our own. None of the crime scenes, our recon unit has it as well. But every time we've called them, they've been able to come out and photograph it a really good resolution to give us mapping in anything of the crime scene that could be relevant from above that we might not know. In the future I can see I'm looking at the conference here and seeing there's a lot of drone technology being put out already. So I think it's just a question of time until those systems are in place. It's just a cost on getting the folks trained to use it.

Jaclynn McKay [00:31:55] I think this happy coincidence with using land surveying photographs is a good lessons learned to impart to our audience members. And just knowing that something like this could happen to any agency, it's good to start having these conversations about how to be able to pivot and possibly incorporate disaster victim identification systems to the way that we respond. Ian, you mentioned that due to Amber Alerts, it can truly condense timeframes for investigations and processing crime scenes. Is there anything else that you would like to elaborate on with regards to that?

Ian Oxtan [00:32:40] Yes. When you issue an Amber Alert as an agency, you have to be ready for the consequences of that Amber Alert. You're going to probably have, depending on the size of your city or your area that you send the alert out to, you're going to have thousands of people call in and complain that you interrupted their day with the Amber Alert. You're also probably going to get I think we had thousands, maybe over 5000 tips coming in. So we had to create a team. Detective Mike Cavilla led that team in looking into all of the tips because some of them could be relevant, but there are thousands that might come in. We had sightings for this case of the three family members across the country and in foreign countries, obviously, which were not true. But we had to look into them and close them. We had psychics calling in again. Now, you look at that, depending on what they're saying, how specific they are, sometimes it can be very vague, sometimes they're very direct so you can listen and see what they say and see if it's useful. But you will get an overwhelming response from the public. When we were searching out in the farm, we had several areas of spontaneous volunteers. They wanted to help, so they just deployed themselves and showed up on our search area. Again, the public want to help. If you

turned them away, they'll do it anyway so you can bring them into your search and put them into what I call lower probability areas that they can cover the distance. But it's an area you have to cover, but you don't think there's going to be much there. So it sounds a little bit abusive, but if you tell them, no, they're going to search without your permission and get in the way. So it's better if you just have them assist you in some form.

Jaclynn McKay [00:34:13] And, you know, police agencies only have so many people. So having that extra manpower can prove to be beneficial. Do you have any other lessons learned that you would like to leave our listeners with, with regards to crime scene responses like this one?

Ian Oxtan [00:34:30] Yes, this investigation occurred quite early in my forensic career, so I learned a lot very quickly, very much, you know, we had to cope. It was a sink or swim situation. I do believe you're right with a mapping, if you can fly a drone or something over the crime scene, if it's a large physical area, it gives you a good indication of what to expect and what you're up against and what resources you need. I'd like to say that you have to, quite early on in this investigation, I remember some of my coworkers saying no we need to get going on this one in case a big file comes in. I remember that from one of my supervisors and I said, this is the big one coming in. So it was a failure to recognize. Initially it was a crime scene in a house. We had no idea it was going to expand to 40 acres. So it's just being ready that things can jump really quickly into a large area. So you have to be ready. If you can have the protocols in place, that's great. But usually the key issue is the staffing people to follow those protocols.

Jaclynn McKay [00:35:25] I think that's one of the interesting things about this field is you can have something that might seem very minimal at first, and then as information starts coming in, it can really snowball and turn into something so massive and involve one of the largest police searches in history for your area. Ian, it has truly been a pleasure talking with you today. Thank you so much for your time discussing this case review with us.

Ian Oxtan [00:35:54] Thank you very much for the invite.

Jaclynn McKay [00:35:55] If you enjoyed today's episode, be sure to like and follow Just Science on your platform of choice. For more information on today's topic and resources in the forensics field, visit ForensicCOE.org. I'm Jaclynn McKay and this has been another episode of Just Science.

Voiceover [00:36:16] Next week, Just Science sits down with Brian Turner and Roberto Caceres to discuss using new technology for recovery of DNA and latent prints from cartridge casings. Opinions or points of views expressed in this podcast represent a consensus of the authors and do not necessarily represent the official position or policies of its funding.