

# Annual Report 2012

## Message from the Director: Achievements, Challenges and Change

### Inside this issue:

Biology	<a href="#">2</a>
Chemistry	<a href="#">7</a>
Criminalistics	<a href="#">12</a>
Toxicology	<a href="#">14</a>
Bemidji Lab	<a href="#">17</a>

The year 2012 brought some achievements and challenges. On the achievement side, the deployment of the Datamaster was completed statewide. This new breath alcohol testing instrument replaced the ageing fleet of Intoxilyzers. The instruments are integrated with the new DWI e-charging system. We have seen an increase in the use of breath alcohol testing of about 20% in the last six months. Not surprisingly, as the use of the Datamaster has increased the submissions of blood and urine for DWI alcohol testing has decreased, by about 35%.

The most significant challenge resulted from the closing of the St. Paul Police Department Crime Lab section in July. Besides handling cases from Ramsey County, they had been accepting drug cases from Dakota and Washington Counties as well (for a fee). This has resulted in a 50% increase in drug case submissions to our laboratory over the same period last year. Our normal backlog for drug cases was 200 to 300 cases with a turnaround time of about 30 days. The backlog by the end of 2012 has 1,281 and increasing.

After almost 29 years at the BCA and 45 years in Forensic Science, I have decided to retire on June 4, 2013. I have witnessed some amazing advances since I began my forensic

career at the Wisconsin Crime Laboratory in 1968. The most significant developments have been computers, robotics and DNA. As with everything else the rate of change in all aspects of forensic science has accelerated. I want to assure the readers that the BCA Forensic Science Laboratory has the best and brightest scientists who are up to the challenge for the changes the 21<sup>st</sup> century will bring.

Superintendent Wade Setter has appointed Cathy Knutson as my replacement effective May 1, 2013. She has served as supervisor of our FBI Regional Mitochondrial DNA Program. Cathy holds a master of science degree from the University of Minnesota and a bachelor of science degree from the University of Illinois. She is committed to maintaining a world class forensic laboratory and to providing quality forensic science services.

The following report will highlight the activities of the various sections of our laboratory.

-Frank C. Dolejsi, BCA Lab Director



ASCLD/LAB-  
International accredited  
since  
December 10, 2009

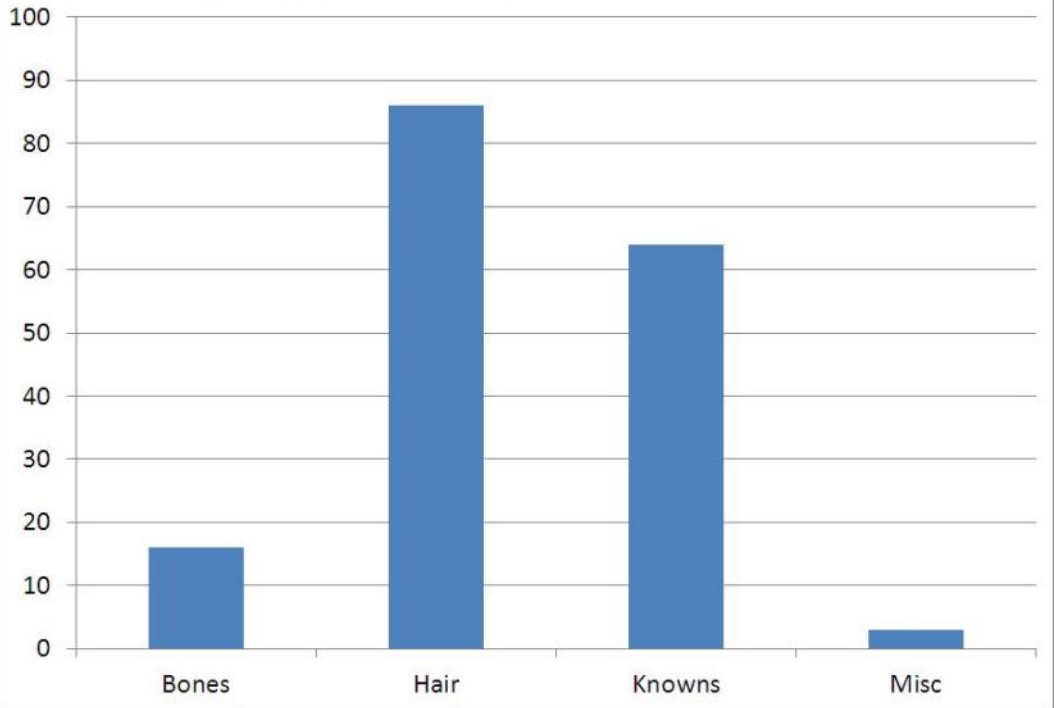


# Mitochondrial DNA

The Minnesota Bureau of Criminal Apprehension (BCA) continues to function as one of two FBI Regional Mitochondrial DNA Laboratories in the United States. The BCA began offering mitochondrial DNA (mtDNA) testing in 2005 after spending approximately a year and a half preparing the laboratory space, training, and conducting validation studies. Mitochondrial DNA testing is a highly sensitive and potentially powerful DNA typing tool for law enforcement entities in Minnesota and throughout the United States. Thus far, the BCA has conducted mtDNA testing for over 750 cases involving homicides, kidnappings, and sexual assaults. Due to the inherent sensitivity of the testing and the robust quality of mtDNA, this technology is particularly beneficial to cold case investigations. Additionally, mtDNA testing has been an integral piece of the puzzle when dealing with cases involving the missing and unidentified. The types of evidence most commonly subjected to mtDNA testing include hair, bones, and teeth.

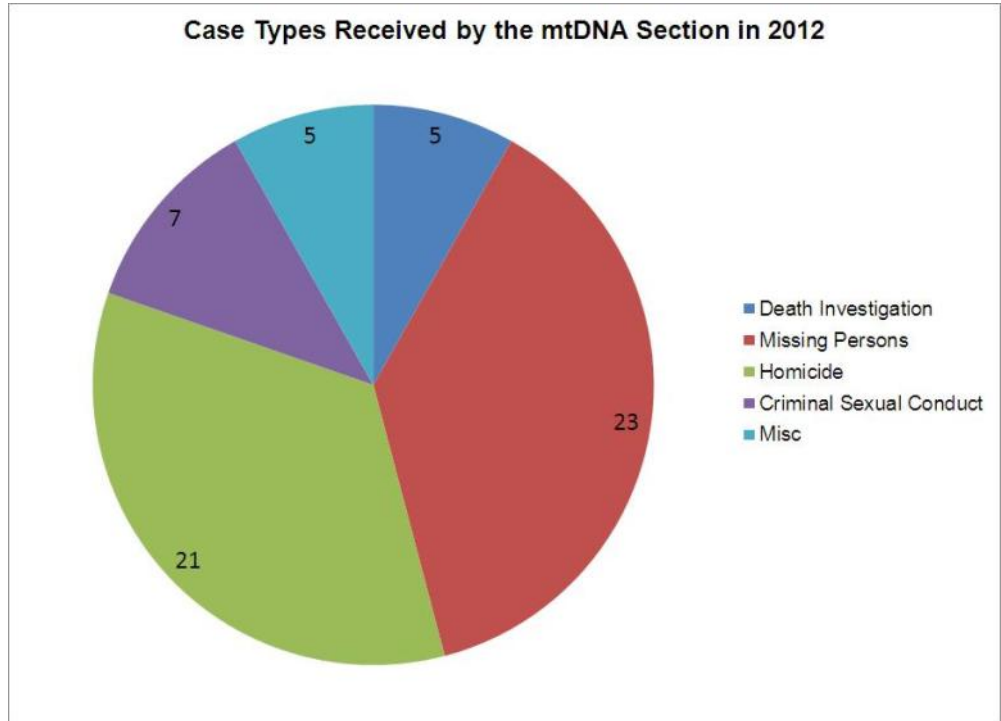
*The Minnesota Bureau of Criminal Apprehension (BCA) continues to function as one of two FBI Regional Mitochondrial DNA Laboratories in the United States.*

**Samples Types Tested by the mtDNA Section in 2012**



### mtDNA Section Stats—2012

In 2012, 69 cases were submitted for mtDNA testing with a majority of these cases involving missing persons and homicide investigations. Approximately 30% of the 2012 caseload was dedicated to Minnesota law enforcement agencies.



*Mitochondrial DNA profiles generated for unidentified human remains cases and those involving the missing are entered into the Combined DNA Index System or CODIS.*

In addition to mtDNA laboratory analysis, data interpretation, and reporting, the scientists are responsible for providing courtroom testimony when needed. During 2012, mtDNA examiners provided testimony in Michigan, Louisiana, and Missouri.

Mitochondrial DNA profiles generated for unidentified human remains cases and those involving the missing are entered into the Combined DNA Index System or CODIS. People who are missing a family member can submit samples for mtDNA testing (as well as nuclear DNA testing). If the identity of a set of remains is suspected, many times known samples will be submitted for direct comparison to the remains without using CODIS. For many of these cases, a statistical application referred to as kinship analysis utilizes DNA information obtained from relatives to assist in human identification. By including mtDNA associations in these types of statistical analyses, over 14 individuals were identified by the BCA in 2012.

Some notable historic identifications made using mtDNA analysis include the remains of outlaw Jesse James, the Russian Czar Nicholas II, and most recently, the notorious English King Richard III.

# Federal DNA Grants

## Department of Justice, Office of Justice Programs, National Institute of Justice

### **Solving Cold Cases with DNA—Fiscal Year 2011**

In early 2011, the Bureau of Criminal Apprehension (BCA) Investigations Unit and Laboratory DNA Section collaborated in the preparation of a proposal to secure federal funding for the investigation and DNA analysis of cold cases within the state of Minnesota. In September of 2011, the BCA was notified that this collaborative effort had paid off with an award amount totaling over \$450,000. Starting in January of 2012, BCA investigators and laboratory personnel finally had the financial resources to conduct comprehensive case reviews for over 240 violent crimes that, for various reasons, had remained unsolved.

The unique staffing model and capabilities of the BCA played a large part in the successful procurement of this grant award. The Investigations Division, with its vast knowledge of the challenges encountered while working cold cases, has immediate access to highly qualified and experienced DNA scientists due to the close working relationships that have been encouraged and supported throughout the history of the BCA. The state of the art crime laboratory, located within the same building, has a commendable history of keeping abreast of current technology, research, and development.

DNA analysts regularly perform numerous types of DNA procedures including traditional STR testing, targeting of male DNA, and testing processes specific to degraded samples and mitochondrial DNA. These technologies, several of which are not readily available to law enforcement in other states, have proven critical to the successful DNA testing of the cases covered under this grant.

Out of 40 cold cases subjected to DNA testing so far, 39 of these cases have yielded some level of DNA information. Twenty DNA profiles have been uploaded to the National and/or State DNA databases (CODIS) and have resulted in 4 database hits that are presently under investigation. The teamwork approach currently implemented at the BCA has allowed for the continued development of innovative and creative approaches to cold case investigation. The additional resources provided under this grant award will continue to support the various activities required to move these cases towards a successful resolution.

### **Using DNA Technology to Identify the Missing—Fiscal Year 2012**

In September of 2012, the BCA Forensic Science Services was awarded over \$350,000 in competitive funds to be used solely for cases involving the missing and unidentified. The approved proposal outlined a unique, collaborative model for the processing of unidentified human remains that utilizes concurrent processing of the necessary anthropological examinations and the sample collection process for DNA testing. This model is expected to minimize any further delays in getting the pertinent information into the National and/or State DNA Databases (CODIS) and the National Missing and Unidentified Persons System (NamUs). Funding was obtained for one full-time forensic scientist, additional overtime for existing personnel, as well as anthropological examinations by a local ABFA certified Forensic Anthropologist. Funding was also obtained for the DNA testing supplies and equipment needed to conduct the specialized DNA testing procedures most appropriate for aged, degraded, limited, or otherwise compromised biological evidence. Successful implementation of this project will provide Minnesota's unidentified individuals with the best chance at identification.

## Nuclear DNA

In 2012, the Nuclear DNA Section experienced a 22% increase in the number of cases received. In spite of this increase they were able to decrease their turnaround time by 9 days/report. Submitting agencies were able to receive a report within an average of 33 days. Progress was made on the number of cases in our backlog. Dedicated staff continued to put in hundreds of extra hours to ensure the equipment used to generate DNA profiles was utilized to its fullest extent. Scientists were also called to testify in 113 trials/hearings in counties across Minnesota.

The cooperative agreement between the BCA and the Minneapolis Police Department (MPD), originally signed in 2007 and renewed in 2012, continues to help both agencies. The four scientists assigned to MPD issued 1,003 reports – almost 25% more than in 2011, while lowering the turnaround time to less than 30 days.

The section continues to use the Tecan EVO robot for known samples (reference samples from case principals). By using the Tecan EVO, they are able to utilize high throughput technology while keeping the known samples separated from the casework (crime scene) samples. The Nuclear DNA unit also utilizes three Applied Biosystems 3130 Genetic Analyzers. The Maxwell® 16 robotic system is now routinely used for extraction of DNA from casework samples and has greatly improved the number of cases processed by a single scientist. The QI-Agility® robot, made by Qiagen, makes the process by which they quantify DNA faster and more efficient. In 2012, the Nuclear DNA section acquired an AutoMate Express robotic liquid handler made by Applied Biosystems. This instrument will allow for the once manu-

ally processed sexual assault samples to be automated. It is hoped that this new robot will speed the analysis of these samples.



Tecan EVO Robot



ABI 3130 Genetic Analyzer



Qiagen QIAgility Robot



Applied Biosystems AutoMate



*Even with a 22% caseload increase in 2012, the Nuclear DNA section continues to improve turnaround time with robotics and dedicated staff.*

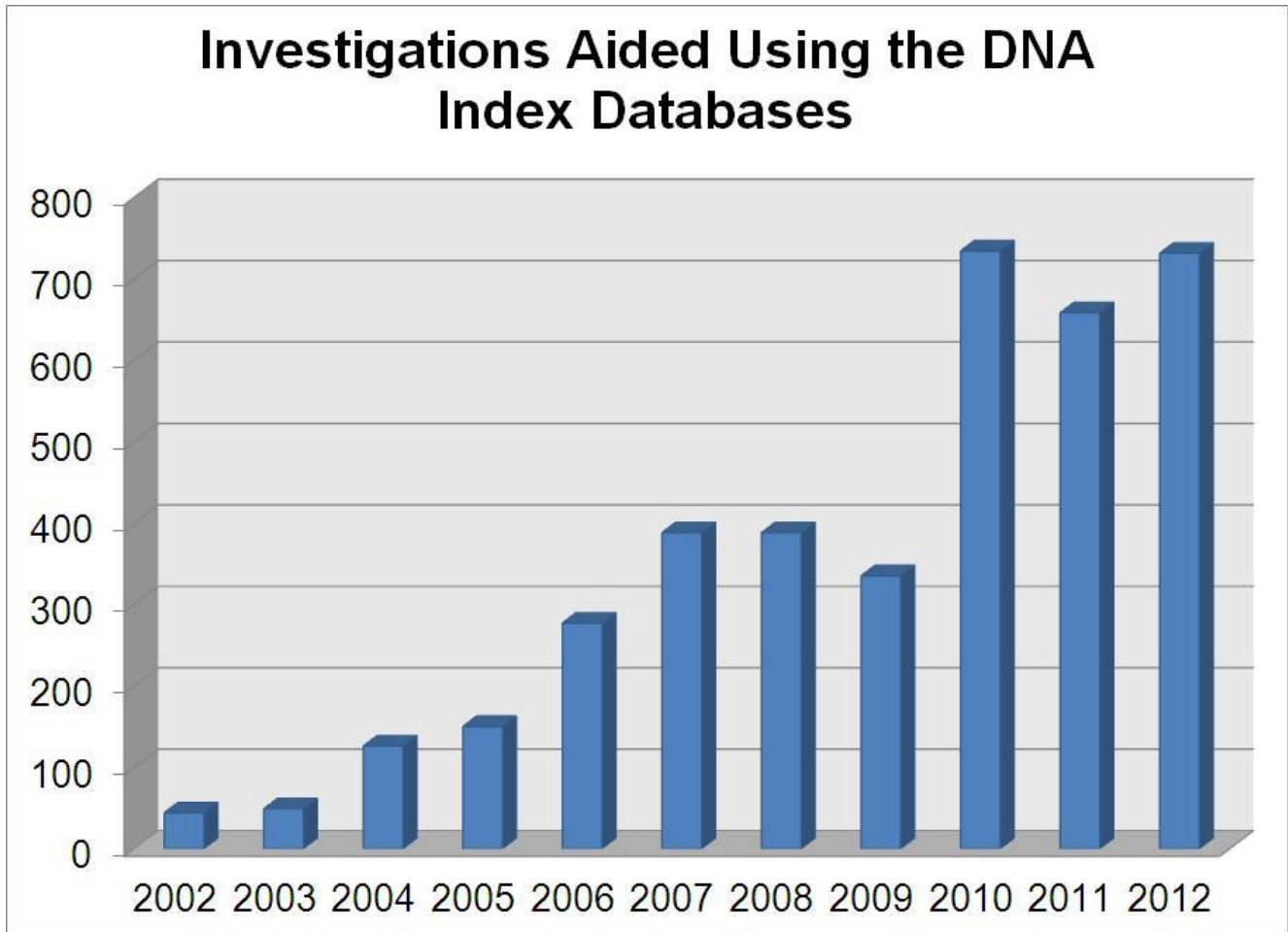


**-Nuclear DNA (continued from page 5)-**

The BCA Lab also analyzes samples collected from convicted offenders. In 1990, under a statute passed during the 1989 legislative session, anyone convicted of a sex offense was required to submit a DNA sample for testing and inclusion in the State DNA Index System (SDIS) and the National DNA Index System (NDIS) as part of the Combined DNA Index System (CODIS). The controlling legislation has been modified several times since then.

- In 2002, a bill was passed that required the collection of DNA from everyone convicted of a felony.
- In 2005, the language was changed to include everyone “charged with a felony and convicted of that offense, or any other offense arising from the same set of circumstances”.

The expansion of the databases has resulted in a number of investigations aided. Previously unsolved crimes are now being solved at a rate of more than 2 per day!



## Drug Chemistry

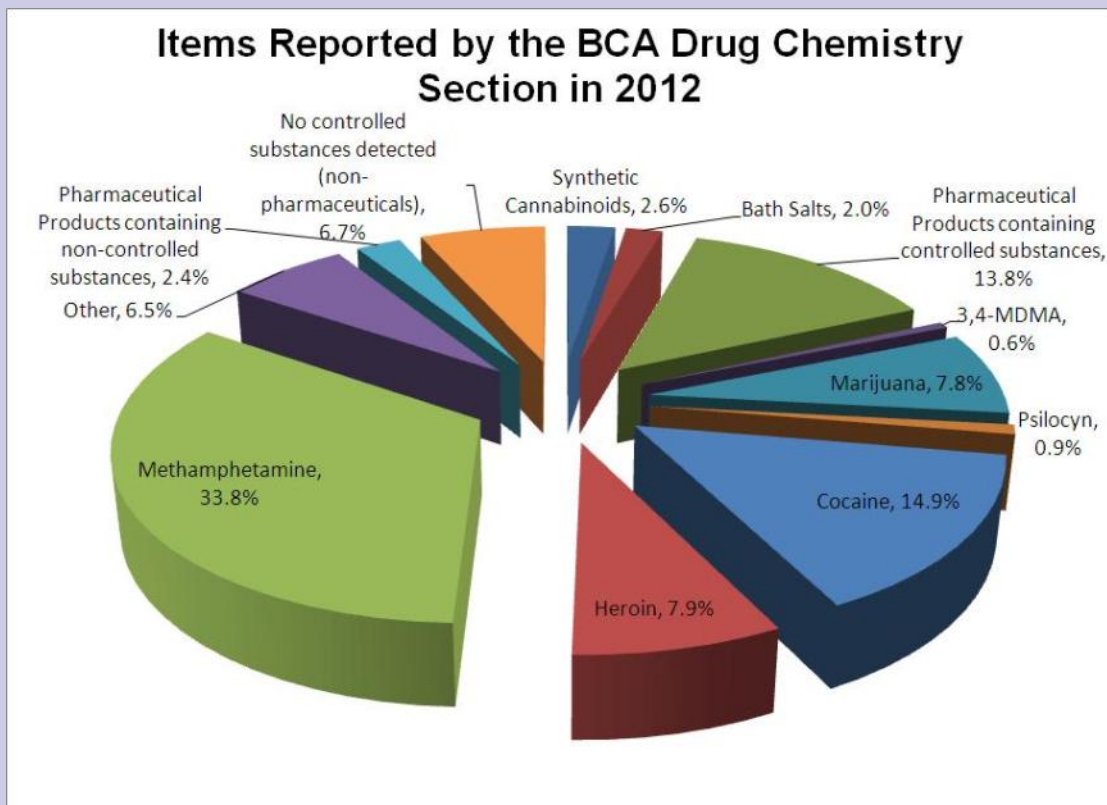
The primary responsibilities of the Drug Chemistry Section include analyzing items of evidence for the presence of controlled substances and testifying in court. Evidence submitted is comprised of solids in various forms (crystalline material, powders, plant material, tablets, capsules, etc.) and liquids.

In 2012, the Drug Chemistry Section received 1,400 more cases than in 2011. 5,506 cases were submitted for analysis and 4,464 cases were analyzed. There were 7,506 items reported which is approximately 370 more items than in 2011. The average turnaround time for a case was 38 days. The turnaround time in the first quarter of 2012 was 27 days, gradually increasing each quarter leading to a turnaround time of 54 days during the last quarter of 2012. Cases with court dates continued to be expedited.

Of the 7,506 items reported, the five most reported controlled substances were as follows:

- Methamphetamine (2,539 items)
- Cocaine (1,123 items)
- Pharmaceutical products (tablets, capsules, liquids) containing controlled substances (1,032 items)
- Heroin (596 items)
- Marijuana (585 items), despite the Drug Chemistry Section's policy on only analyzing suspected marijuana with a court date

Keep in mind, with some items, more than one controlled substance was identified.



The Drug Chemistry Section noted an increase in the amount of heroin and methamphetamine submitted during the last year. Submissions of pharmaceutical products containing controlled substances, marijuana, "synthetic cannabinoids", and "bath salts" stayed relatively steady from last year. There was, however, a decrease in the amount of items containing cocaine.

### Drug Chemistry Trends

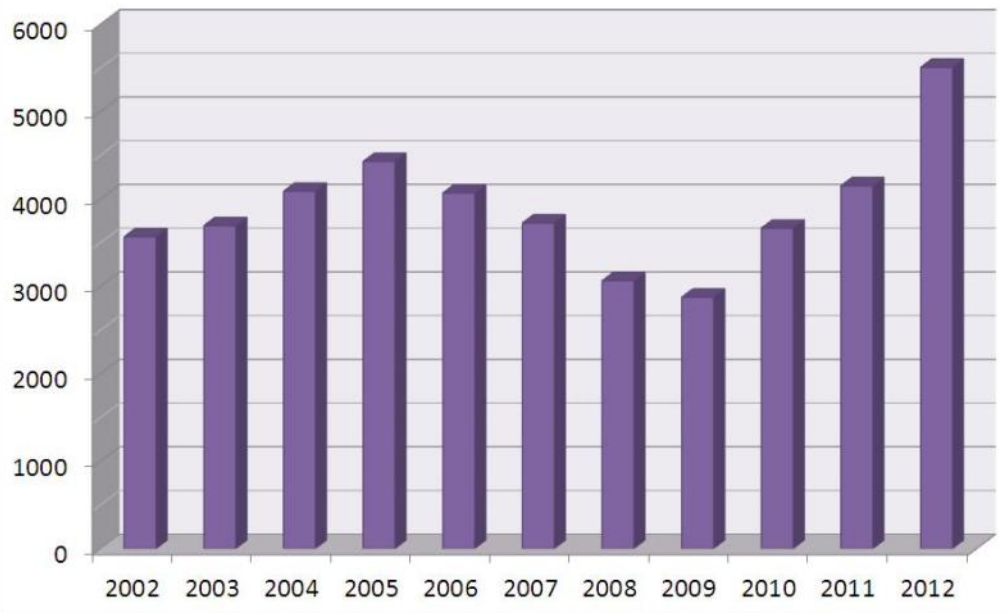
The Drug Chemistry Section has seen a significant increase in case submissions and as a result, a longer turnaround time. This is due in part to three counties that recently started to send their evidence to the BCA, when they previously had not. Another factor that has affected turnaround time has been the change in wording in the Minnesota State Statutes regarding synthetic cannabinoids and substituted cathinones. Rather than listing specific names of controlled substances, the statutes categorize them based on their molecular structure. Occasionally, there have been instances where the Drug Chemistry Section does not have the standard of a suspected controlled substance and there may be a delay in the reporting of the results until the section acquires the standard.

Over the past several years, the number of cases received in the Drug Chemistry section has fluctuated with the increase in caseload in 2012 resulting in the highest number of cases received in the Drug Chemistry Section.



An example of Synthetic Cannabinoids

### Drug Chemistry Cases Received from 2002-2012



*In 2012, the Drug Chemistry Section received the highest number of cases—5,506 cases .*



## Trace Evidence Section: Chemical Testing

Chemical Testing within Trace covers two sub-disciplines: fire debris analysis and the analysis of chemical unknowns.

The Chemical Testing (CT) group saw some big changes this year. A longtime BCA Scientist and technical leader retired after many years of service. While his experience and expertise is sorely missed, we wish him a wonderful retirement! After a long summer, the CT group gained a new employee; an experienced fire debris analyst joined us from the private sector. Her prior experience in fire debris analysis is an asset to the section, and allowed us to drastically reduce our backlog. The CT section received 198 cases and completed 171 cases in 2012. As many of the cases in the CT section are investigatory in nature, the group continually strives to reduce the turnaround time for casework while maintaining a quality work product. The CT group has for years utilized methods developed and approved by ASTM International, ensuring the highest level of excellence and consistency in their work.

*The Chemical Testing section within Trace covers two sub-disciplines: fire debris analysis and the analysis of chemical unknowns.*



A metal can suspected of having been used as an incendiary device

A shoe recovered from a burned victim of a suspected homicide



## Trace Evidence

*The Trace Section has six scientists, two of which are full time hair examiners. All of the scientists, with the exception of a newer scientist, are board certified.*

In 2012, the Trace Section completed 257 examinations. This was 54 examinations more than last year. In addition to these cases, our hair examiners completed 26 cases for the FBI Mitochondrial DNA Regional Program.

The Trace Section currently staffs six scientists, two of which are full time hair examiners. All of the scientists, with the exception of a newer scientist, are board certified. Many of the scientists serve on forensic committees including the Scientific Working Group for Materials Analysis. Last year several scientists also attended regional forensic meetings and presented relevant research and casework experiences.

Type of Evidence (based on trace sub-discipline)	# of Cases
Hair (non-comparison)	83
Hair (comparison)	9
Shoe/Tire Impressions	59
Paint	15
Glass	8
Fibers, Ropes & Cordage, Fabric Impressions, and Fabric Damage	13
Physical Match	12
Rubber	1
Air Bag	2
Tape	4
Metal	1
Headlamp-on/off determination	0
Building Materials	1
Misc.	5
<b>Total</b>	<b>213</b>

### New Look for Trace Evidence Reports

You may have noticed in the last few years that trace examination reports have a new look. To provide context to the opinions reached in our reports, we are providing descriptions of the types of associations, non-associations and eliminations that can be reached in the different types of examinations we conduct. No two examinations are identical so providing a clearer description of our conclusions is important.

Types of Associations:

*Type 1*– an identification by means of a physical match or distinctive characteristics for that evidence

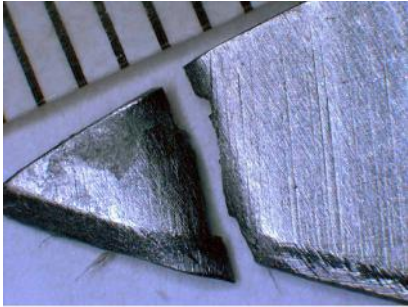
*Type 2*– an association with distinctive characteristics and shared class characteristics but no physical match and/or enough distinctive characteristics for an identification

*Type 3*– an association of evidence based on class characteristics

*Type 4*– an association of evidence based on class characteristics with limitations such as quality and quantity of evidence

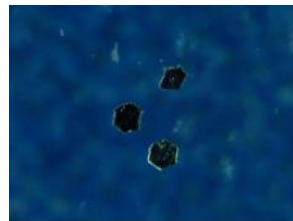
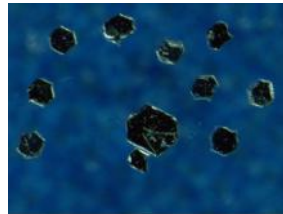
An important thing to remember is that not every type of conclusion is applicable in every case or for every material type.

## 2012 Case Examples from the Trace Evidence Section



**Type 1 Association—A physical match of a broken knife related to a homicide case**

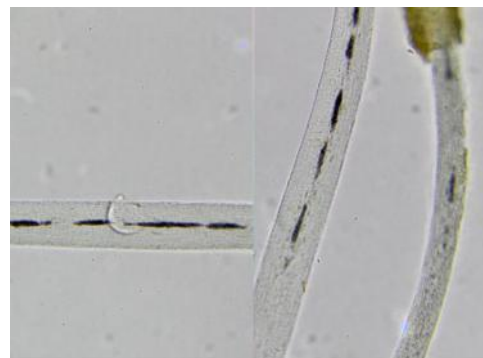
**Type 2 Association—A determination of who was driving during a crash. A single pattern found on a shirt correlates to the driver side airbag and glitter particles found on the airbag correlate back to the shirt.**



**Type 3 Association—A questioned and known rope consistent in color, construction, and fiber types.**



**Type 4 Association—A comparison of gray head hairs with limited microscopic characteristics.**





## Crime Scene Team

The St. Paul Crime Scene Team had 38 responses in 2012 including a shooting where an officer lost his life while protecting his community. Crime scene work can be demanding and difficult, but losing a law enforcement officer is gut wrenching. The team processed seven additional officer involved situations, a dismemberment case and a multitude of other death scenes.

The forensic scientists, who volunteer for the crime scene team, maintain their expertise in various disciplines throughout the laboratory; drug chemistry, biology, trace analysis, firearms, and latent prints. Each team member, however, is trained to collect all types of evidence for subsequent analysis by any laboratory section. A “typical” response will consume about 12 hours, depending on the scene and travel time. More complicated scenes may require more than one day to process. The crime scene team is a crucial part of the overall investigation conducted by local law enforcement and/or our BCA special agents.

## Firearms and Toolmarks

While the section workload of 560 cases was a 23% increase from 2011, the turnaround time was reduced by 16%. The section is comprised of three full time examiners and one part time technician. One of the examiners completed her training in toolmark comparisons and has been able to make significant contributions to the backlog. Routine examinations include the comparison of shell casings and/or bullets to test fires from a firearm to determine if the items were fired in the submitted firearm. Toolmark examinations could include pry marks and pry bars and various cutting tools such as bolt cutters, snips, and knives.



Test Firing a Pistol into the Water Tank

## Latent Prints

Due to retirement and other job opportunities, the Latent Print Section lost two valuable examiners with a combined experience level of over 50 years. The section was fortunate to identify and hire two experienced examiners, one of whom brings a unique set of skills; the ability to develop latent prints on bits and pieces of detonated ordinance from two war zones. Minnesota will provide a much safer environment!

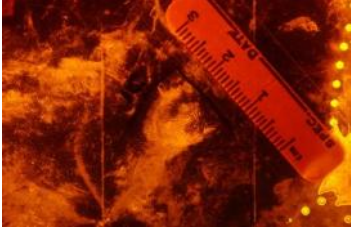
The workload of the section remained steady at just over 1,000 cases with no loss in turnaround time. This was a remarkable accomplishment as the section was without two examiners for several months. In order to accomplish this, one major task was redistributed. Each day, the fingerprints of new arrestees are searched against latent prints in an unsolved file in the Automated Fingerprint Identification System (AFIS). Clearing the queues on a daily basis took a tremendous amount of time and effort. Last year, this activity was transferred out of the laboratory to the BCA Fingerprint Technicians who maintain the AFIS database. Potential identifications are screened by the latent print examiners, streamlining the workflow. Throughout the year, several cases were solved using this method.

The section was honored to host a Dutch Police Latent Print Examiner from the Netherlands who wanted to observe our workflow. Many ideas and practices were shared between agencies and the visit was beneficial to both.

## Questioned Documents

While the number of cases remained constant, the section, staffed by two examiners, was able to drop its turnaround time by 23%. Handwritten or computer generated threatening letters continue to dominate the type of cases examined. The examination of indented handwriting is frequently performed on most documents submitted to the section. The examiners also assessed the genuine characteristics of a one-hundred dollar bill at the request of one law enforcement agency who suspected it was counterfeit.

The NIJ Handwriting Research Grant is progressing. The research project will be assessing software designed to analyze individual handwriting characteristics. Handwriting and hand printing was collected from students presently in the 1st, 2nd, 3rd, and 4th grades. This process will repeat during the next two years, tracking each student's writing habits, as well as comparing the writings analyzed to other writers in the study.



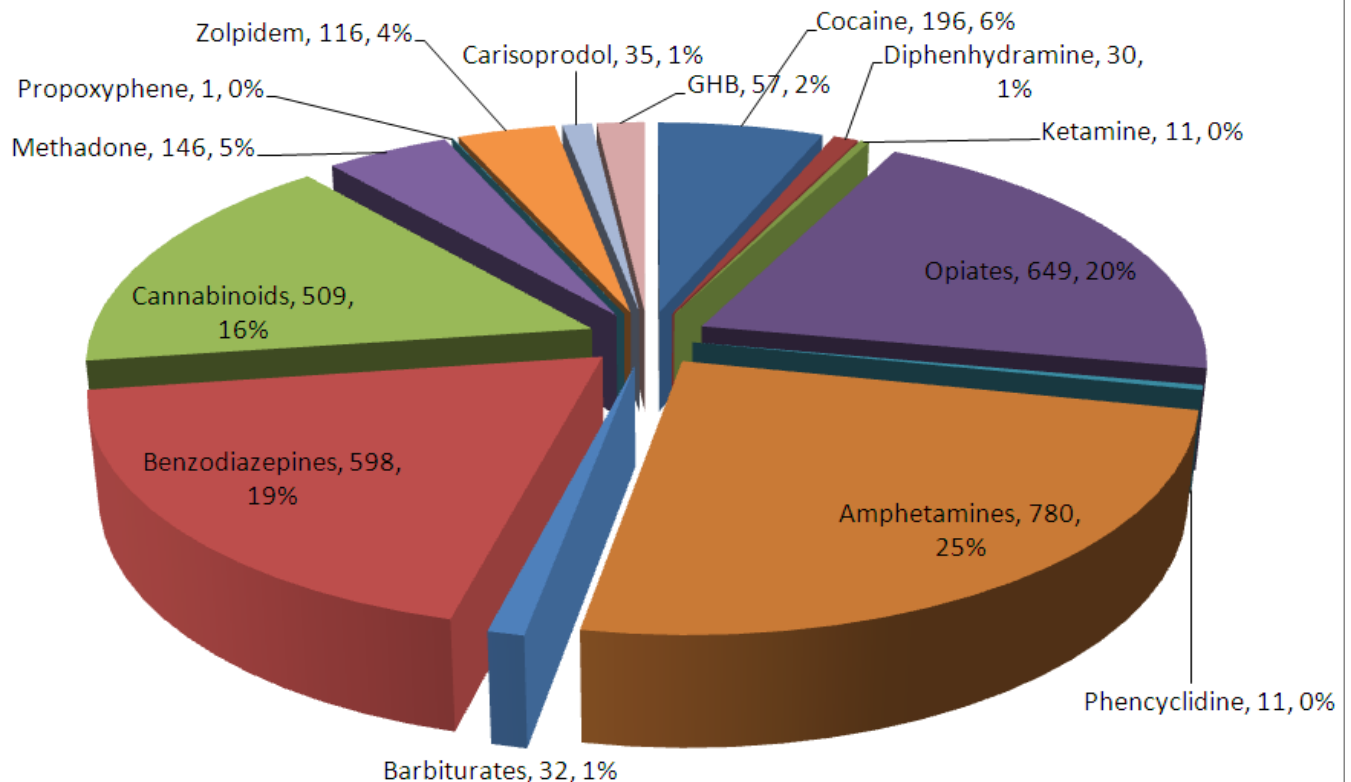
## Toxicology

### Blood and Urine Kits:

Scientists in the Toxicology Section, at both the St. Paul and Bemidji Labs, tested a combined 9,700 samples for the presence of alcohol, down 22% from 2011. This was a welcome trend as the demand for analysis of drugged drivers has remained high in 2012. With the full deployment of the Datamaster DMT-G breath alcohol instruments, the lab should continue to see fewer fluid samples requesting alcohol only analysis.

In 2012 the section screened 1,451 blood samples and 1,072 urine samples for drugs of abuse leading to 3,171 controlled substance confirmation tests. Altogether 5,694 tests were performed on 2,523 samples for controlled substance identification. The most prominent drug categories detected were: Amphetamines, Opiates, Benzodiazepines, and Cannabinoids combining to represent approximately 80% of all confirmation tests performed. With the continued effort of police officers to identify drugged drivers, our controlled substance testing is expected to remain high in 2013.

### Total Drug Tests Performed in 2012



### **-Toxicology (continued from page 14)-**

To help with the increased demand of blood drug testing seen in the past few years, the Toxicology Section worked with the Office of Traffic Safety (OTS) to purchase the TECAN EVO 75/2 automated screening system. The TECAN was installed and fully validated during the summer months and has since been in full use. With the TECAN being a fully automated system, it not only allows scientists to move samples to confirmation testing at a faster rate, but also frees up time for them to perform other duties once the instrument is running. Currently scientists have been analyzing samples on a semi-weekly basis with the TECAN as opposed to monthly runs performed previously. This has resulted in the average analysis time dropping from five days per batch to three days per batch.

*To help with the increased demand of blood drug testing, the Toxicology Section worked with the Office of Traffic Safety (OTS) to purchase the TECAN EVO System.*



TECAN EVO 75/2 Automated Screening System

Also, a new LC/MS/MS (TQD) was purchased to replace the old Quatro Micro LC/MS/MS. The TQD was fully validated to perform all the tasks of the old Quatro Micro and will be used for the validation of the synthetic cannabinoid confirmation assay. To help with the validation of new confirmation assays ( Synthetic Cannabinoids/K2 and Bath Salts/Mephedrone) OTS funded a new research scientist position in Toxicology. The research scientist has been working hard to get these assays up and running, and while they are not online yet, progress is moving forward. With less time needing to be spent on alcohol testing, we fully expect these confirmation tests to be available in the first half of 2013.

### **Future Toxicology Testing Advancements:**

Looking forward to 2013, the Toxicology Section will be working to re-validate their Capillary Electrophoresis instrument. This will expand their capabilities for testing prescription and over the counter drugs. Additionally there will be a continued effort to validate a general confirmation assay to help scientists identify rarely seen drugs of abuse.

## Breath Testing

### Instrument Replacement:

In 2012, all remaining Intoxilyzers were removed from the field and replaced with new DataMaster DMT-G instruments. Approximately 200 new DMTs were sent into the field, with the last ones being deployed in September. In conjunction with the DMT deployment, many departments are now using the eCharging system to electronically file the forms necessary to revoke a person's driver's license and charge that person for driving impaired.

With deployment complete, each instrument in the field will return to the BCA annually for maintenance. The annual maintenance schedule, which started in December, will ensure that each DMT is checked and maintained regularly.

### DMT Fuel Cells:

The fuel cells in the new DMT instruments were deactivated in May of 2012 due to durability issues and excessive maintenance costs. National Patent Analytical Systems, the manufacturer of the DMT, is currently working on finding a new, more durable fuel cell. That process is ongoing.

### Operator Training:

Transition training courses were held both at the BCA and at remote sites around the state during the first half of 2012. The six hour course was taught often, sometimes twice a day, in an effort to bring existing Intoxilyzer operators up to speed on the new device. Over 2,400 Intoxilyzer operators went through the transition training and became certified DMT operators.

October 2012 saw the return of the basic operator course, designed to train new DMT operators. This three day training course, taught monthly at the BCA, produced over 120 new certified DMT operators for the State of Minnesota by the end of the year. Demand for the basic school is high, and most of the courses offered for 2013 are already nearly full.

### Source Code:

In June, the Minnesota Supreme Court issued a ruling on the source code appeal, affirming that the Intoxilyzer 5000EN Breath Instrument is accurate and reliable. Furthermore, Intoxilyzer results were ruled admissible, allowing approximately 4,000 cases to move forward. As a result, the breath test court calendar received a bump in case load as old Intoxilyzer cases returned to the surface.

### Breath Tests:

Over 19,000 breath tests were completed during 2012, which is a slight increase over 2011. Over 12,000 tests were run on DMT instruments and about 7,000 were run on Intoxilyzers. Now that the DMTs are fully deployed and new operator training has begun, we expect breath test numbers to continue to increase.



DMT Instrument

*In 2012, all remaining Intoxilyzers were removed from the field and replaced with the new DMT instruments.*



## Bemidji Laboratory



The Bemidji Laboratory receives evidence submissions from 30 counties in the northern half of the state. The Bemidji staff includes a total of nine scientists and two evidence intake specialists offering forensic testing in the areas of Nuclear DNA analysis, Latent Print analysis, Drug Chemistry, Alcohol testing, Firearms and Toolmarks and Crime Scene processing. As of the end of 2012, all staff were fully trained in their area of expertise and performing casework in those areas.

Although on a somewhat smaller scale than the increase seen in the St. Paul Laboratory, the Bemidji Laboratory also experience a marked increase in the number of controlled substance cases submitted in 2012 compared to the previous year. As a result of this trend and the decreasing number of alcohol kits being submitted, due to the new DMT breath testing instruments, alcohol testing was suspended at the Bemidji Laboratory in July. This made more resources available to concentrate on the growing Drug Section backlog. BCA Laboratory Management will continue to monitor trends in both alcohol and controlled substance requests with an eye on resuming alcohol testing in Bemidji in the future. The Bemidji DNA Section saw a modest, yet manageable increase in the number of cases submitted in 2012. The section had a third scientist complete the DNA training program and come on-line for DNA analysis. In addition, the section implemented a new case assignment and workflow structure based in Six Sigma principles. Under this new structure, batches of cases are assigned approximately every 15 days with the same scientist working the case from start to finish. These changes have resulted in a downward trend in the Bemidji DNA section backlog and a slight improvement in turnaround time, even as the number of case submissions continues to increase.

There were no big changes in the Criminalistics Section of the lab, which includes Firearms & Toolmarks, Latent Prints, and Crime Scene sections. The case submissions were fairly consistent with the previous year. One highlight in the Latent Print Section was one of the two latent print examiners successfully renewed his certification as a Latent Print Examiner through the International Association for Identification (IAI) and the other examiner successfully obtained her IAI certification for the first time. Certification in latent prints involves a difficult four step testing process and is highly regarded in the latent print discipline, especially since the National Academy of Sciences (NAS) released the 2009 report titled, "Strengthening Forensic Science in the United States; A Path Forward."

The Bemidji Firearms examiner, who also acts as the Crime Scene Coordinator maintains several certifications. His is certified through the Association of Firearms and Toolmark Examiners (AFTE) in the area of Firearms examinations, Toolmarks examinations, and Distance Determination. He also holds Fellow status with the American Board of Criminalistics (ABC) in Criminalistics.

*The Bemidji Laboratory offers forensic testing in the areas of Nuclear DNA analysis, Latent Print analysis, Drug Chemistry, Alcohol testing, Firearms/ Toolmarks, and Crime Scene processing.*