

REGIONAL FORENSIC SCIENCE CENTER SEDGWICK COUNTY, KANSAS



Timothy P. Rohrig, Ph.D. — Director
Jaime L. Oeberst, M.D. — District Coroner-Chief Medical Examiner
Shari L. Beck — Forensic Administrator/Chief Medical Investigator

FORENSIC SCIENCE LABORATORIES 2008 ANNUAL REPORT

HISTORY

The Regional Forensic Science Center officially opened on December 21st, 1995. The Center houses the Office of the District Coroner and the Forensic Science Laboratories [FSL]. The Forensic Science Laboratories are composed of three major sections: Criminalistics, Forensic Biology/DNA and Forensic Toxicology. The staff currently consists of 19 scientific and support personnel.

The FSL is staffed with highly-trained and experienced forensic scientists, many who have advanced scientific degrees [MS, MSFS, Ph.D.]. The technical staff has well over a 150 years worth of combined professional experience.

In April of 1996, the Forensic Science Laboratories began accepting cases for firearms examinations. Three months later, the Biology Section provided forensic examinations for the identification of biological fluids. After mandatory accreditation by the State of Kansas, the Toxicology Laboratory began producing comprehensive examinations in post-mortem toxicology in support of the District Coroner in September of 1996. This was followed by the FSL providing forensic drug identification for local and regional law enforcement agencies. In November of 1996, arson/fire debris analysis was added to the Criminalistics Section. In January of 1997, The Center opened the first STR DNA Laboratory in the State of Kansas. The Trace Evidence Unit was expanded in 1998 to provide forensic analysis of paint and fibers.

The Forensic Science Laboratories are accredited by the American Society of Crime Laboratory Directors/Laboratory Accreditation Board [ASCLD/LAB].

The FSL of the Center continues to grow, providing timely and comprehensive forensic science services to local and regional law enforcement.

LABORATORY LEADERSHIP

The laboratory management staff are all case-working scientists.

Director and Chief Toxicologist
Timothy P. Rohrig, Ph.D., DABFT

Chief of Criminalistics
Gary L. Miller

Toxicology Lab Manager
Connie L. Huber

Forensic Biology/DNA Manager
Shelly A. Steadman, M.S.

Quality Assurance Manager
Robert Hansen, M.S.F.S.

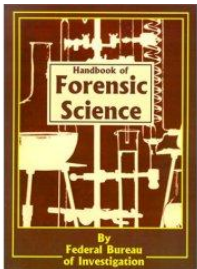


SIGNIFICANT ACHIEVEMENTS

- The laboratory presented 7 papers at various professional meetings:
 - T.P. Rohrig, “Toxicology of Pain Management Drugs – An Overview”, Presented at the “Postmortem Toxicology; Interpretation of Drug Concentrations in Hair” Workshop, American Academy of Forensic Sciences Annual Meeting, February 2008, Washington, DC.
 - S. Steadman, D. Fahnestock, and R. Hansen, Poster presentation “DNA Analysis of Pitbull Stomach Contents Following Infant Maiming”, Presented at American Academy of Forensic Sciences 60th Annual Meeting, February 22, 2008, Washington, DC.
 - S. Steadman, “DNA Analysis of Pitbull Stomach Contents Following Infant Maiming”, Presented at the MidAmerica 2008 Forensic DNA Conference, April 17, 2008, Columbia, Missouri.
 - S. Steadman, Poster presentation “Performance Verification of the ABI PRISM® 3130 Genetic Analyzer following upgrade from an ABI PRISM® 3100-Avant in Sedgwick County Kansas”, Presented at The NIJ Conference 2008, US department of Justice – National Institute of Justice, Marriott Crystal Gateway Hotel, July 21-23, 2008, Washington DC.
 - T.P. Rohrig, “Introduction to Analytical Techniques and Colorimetric Tests”, Presented at the “Symposium on Special Topics in Forensic Toxicology”, August 2008, Ames, Iowa.
 - T.P. Rohrig, “Toxicological Challenges in Decomposed or Embalmed Bodies”, Presented at the “Symposium on Special Topics in Forensic Toxicology”, August 2008, Ames, Iowa.
 - T.P. Rohrig, “Interpretation of Postmortem Toxicology-Pitfalls to Avoid”, Presented at the “Symposium on Special Topics in Forensic Toxicology”, August 2008, Ames, Iowa.



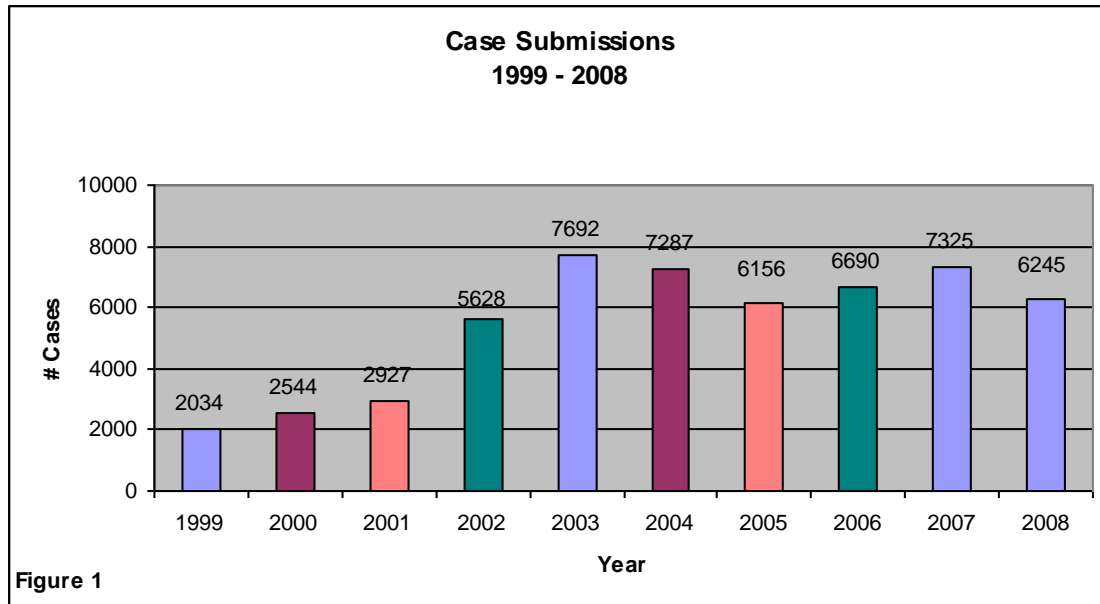
- Peer-reviewed Scientific Publications:
 - Steadman, S., J.D. McDonald, J.S. Andrews, and N.D. Watson (2008) Recovery and STR Amplification of DNA from RFLP Membranes. Journal of Forensic Sciences. 53:2, 349-358.
- 2008 Grant Funding:
 - Justice Assistance Grant
 - National Forensic Science Improvement Grant
 - NIJ DNA Capacity Enhancement Grant



FORENSIC SCIENCE LABORATORIES SERVICE OVERVIEW

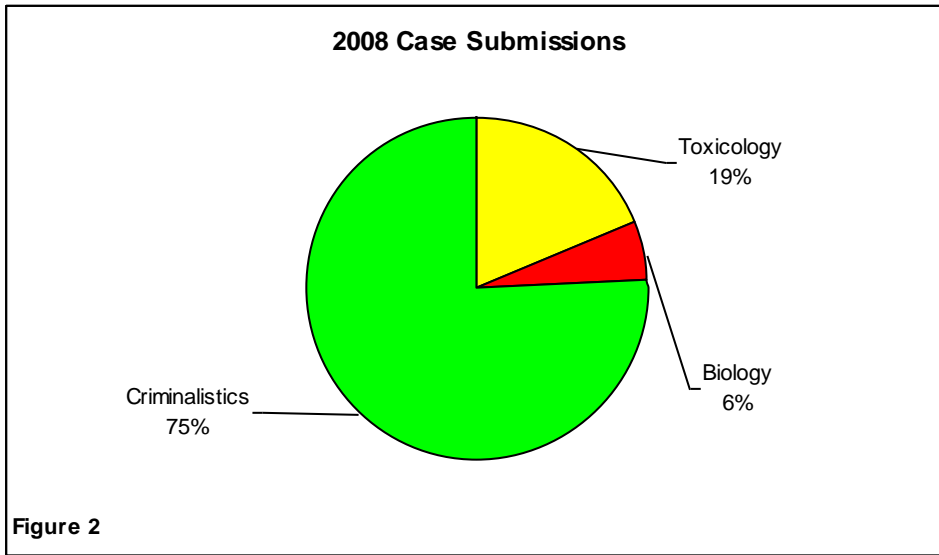
Case Submissions

The Forensic Science Laboratory continues to experience a significant demand for its expert services. This year the Laboratory Division worked several high-profile cases, each case involving hundreds of exhibits requiring forensic analysis. While case submissions only slightly decreased as compared to last year, the number of items of evidence examined rose dramatically. As compared to 2001, case submissions increased approximately 2 fold. The apparent drop in case submissions for Y2004 and Y2005 as compared to the previous year is due in part to the temporary suspension of Fire Debris Analysis and a change in counting of illicit drug case submissions. Fire Debris Analysis was discontinued in the 3rd quarter of 2004 to September 2005 and in October 2007 to August 2008. Figure 1 illustrates the number of forensic laboratory cases submitted for examination for the past decade.



2008 Case Submissions

Figure 2 illustrates the breakdown of case submissions by Laboratory section. The Criminalistics section continues to receive the majority of evidence submitted.



Although Biology accounts for a small percentage of the overall caseload – a significant portion of the casework required analysis of “hundreds” of exhibits. Also the increasing number of CODIS entries and “hits” entails a large amount of analyst time, which is not reflected in the percent breakdown of cases.

Requests For Expert Testimony

The professional staff is frequently called upon to present expert testimony in the courts [Figure 3]. In Y2008, the FSL received 3,376 subpoenas for court appearances, an approximate 3.6 % increase over the last year. Nevertheless, as compared to Y2002, the number of courtroom appearance requests has increased approximately 19%.



Figure 3

AGENCIES SERVED

The Forensic Science Laboratories provides expert testing services and consultation for a variety of law enforcement agencies within and outside of Sedgwick County. In 2008, the FSL provided expert testing services and consultations to 79 Law Enforcement Agencies, Fire Departments, and District Coroners. Figure 4 indicates [yellow highlight] the counties within the state in which forensic laboratory services were provided.

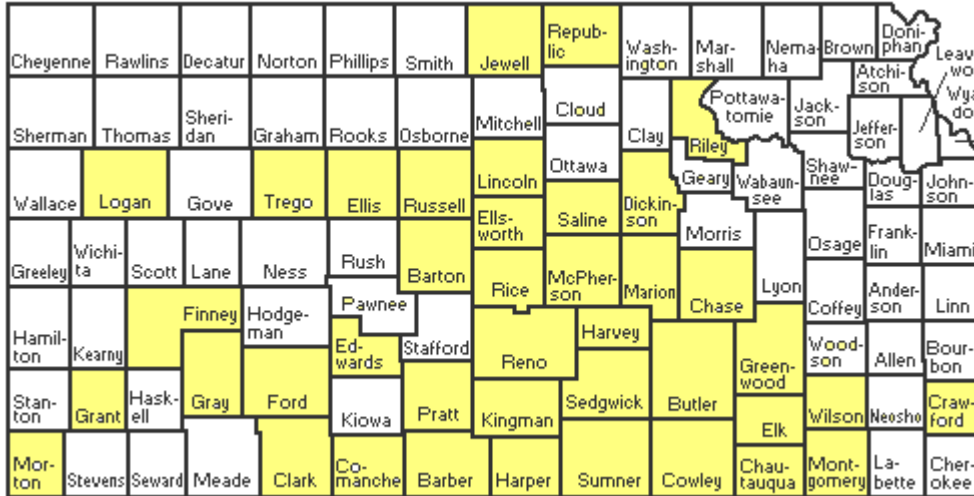


Figure 4

Sedgwick County vs. Out-of-County Cases

The Sedgwick County Regional Forensic Science Center serves as the principle Forensic [Crime] Laboratory for all of Sedgwick County [Kansas] Law Enforcement Agencies and provides forensic services to many other counties and municipalities within the state. However, the vast majority of forensic laboratory services were provided for Sedgwick County Law Enforcement agencies. Figure 5 illustrates the In-County [Sedgwick] and Out-of-County breakdown of cases submitted to the Forensic Science Laboratories. A significant portion of the out-of-county cases was in support of the Sedgwick County Coroner’s out-of-county autopsies.

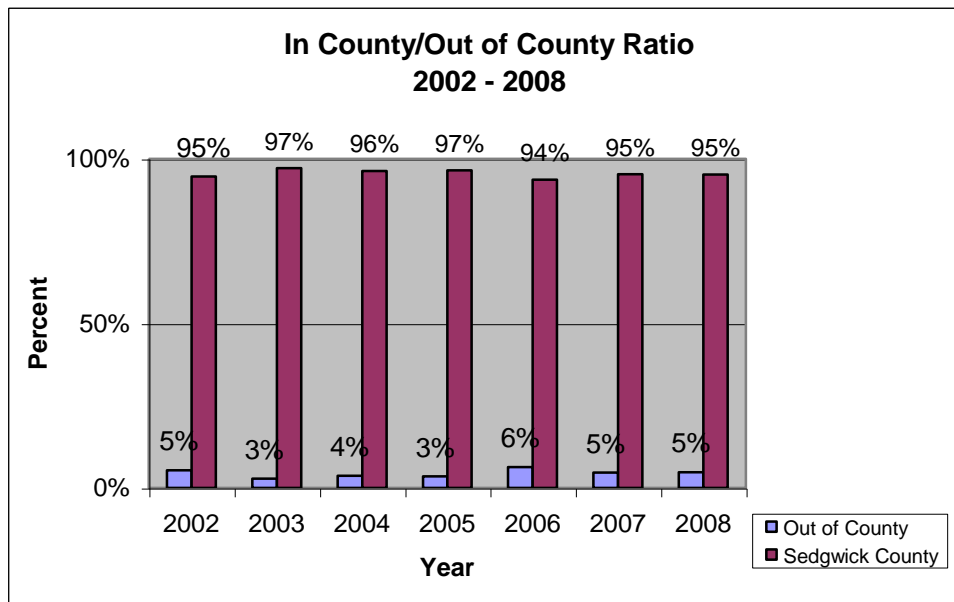


Table 1 is a list of Law Enforcement Agencies and Fire Departments that forensic laboratory services were provided for in Y2008.

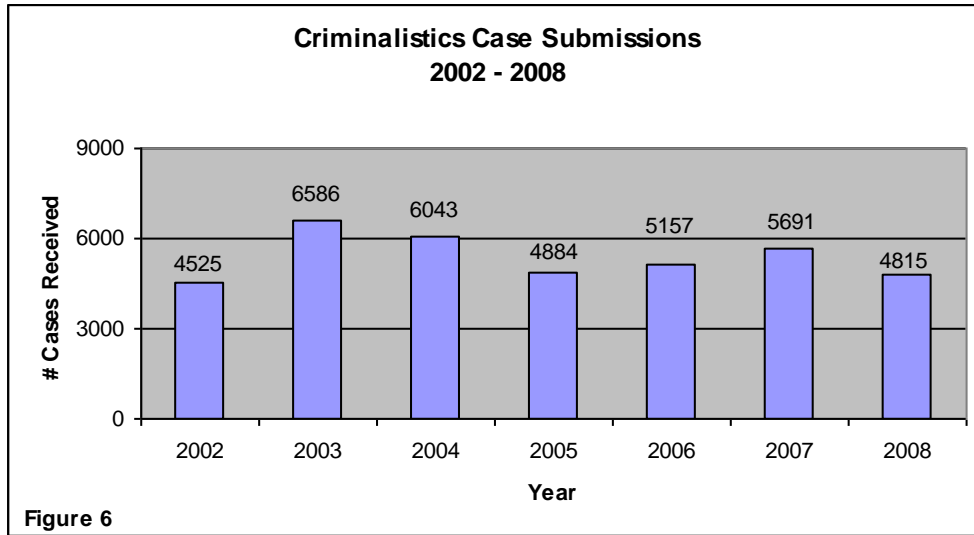
Table 1: Agencies Served

Air Force Legal Agency	Ford Co. Coroner	Pawnee Co. Coroner
Alcoholic Beverage Control Unit	Garden Plain PD	Pratt Co. Coroner
ATF Task Force	Gray Co. Coroner	Reno Co. Coroner
Barber Co. Coroner	Goddard PD	Republic Co. Coroner
Barton Co. Sheriff	Grant Co. Coroner	Rice Co. Coroner
Bel Aire PD	Greenwood Co. Coroner	Riley Co. Coroner
Butler Co. Coroner	Harper Co. Coroner	Riley Co. PD
Butler Co. Sheriff	Harvey Co. Coroner	Russell Co. Coroner
Chase Co. Coroner	Haysville PD	Saline Co. Coroner
Chautauqua Co. Coroner	Hutchinson Correctional Facility	Sedgwick Co. Coroner
Cheney PD	Hutchinson FD	Sedgwick Co. FD
Clark Co. Coroner	Jewell Co. Coroner	Sedgwick Co. Sheriff
Clearwater PD	Kansas Bureau of Investigation	Seward Co. Coroner
Comanche Co. Coroner	Kansas Dept. of Corrections	Sumner Co. Coroner
Cowley Co. Coroner	Kansas Highway Patrol	Trego Co. Coroner
Crawford Co. Coroner	Kingman Co. Coroner	USD 265 PD (Goddard)
Derby PD	Lincoln Co. Coroner	Valley Center PD
Dickinson Co. Coroner	Logan Co. Coroner	Wichita FD
Drug Enforcement Administration	Maize Pd	Wichita PD
Edwards Co. Coroner	Marion Co. Coroner	Wichita State University PD
El Dorado Correction Facility	McPherson Co. Coroner	Wilson Co. Coroner
El Dorado FD	Montgomery Co. Coroner	Winfield FD
Elk Co. Coroner	Morton Co. Coroner	
Ellis Co. Coroner	Mulvane PD	
Ellsworth Co. Coroner	Newton FD	
Finney Co. Coroner	Park City PD	

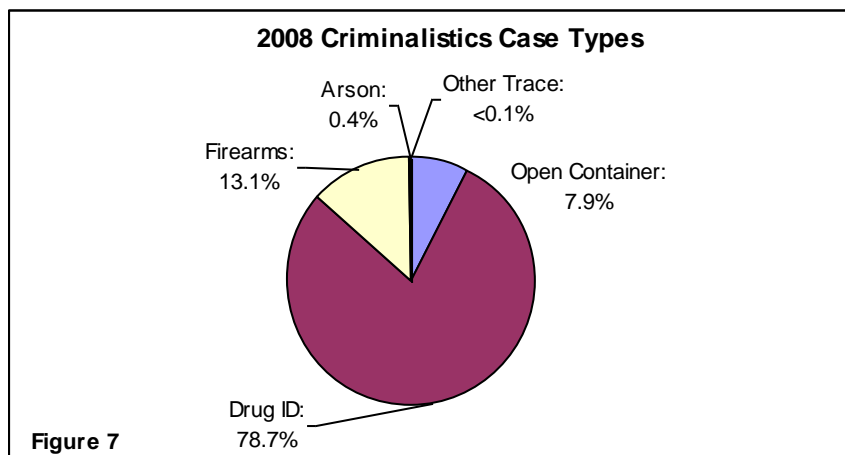


CRIMINALISTICS SECTION

The Criminalistics Section accounts for the majority of the casework submitted to the Forensic Laboratories. Figure 6 illustrates the trend in forensic cases submitted to the Criminalistics Section. The apparent drop in case submissions for Y2004 and Y2005 as compared to the previous year is due, in part, to the temporary suspension of Fire Debris Analysis and a change in counting of illicit drug case submissions. Fire Debris Analysis was discontinued in the 3rd quarter of 2004 and was not re-instated until September 2005. Fire Debris Analysis was again discontinued due to the loss of the sole examiner in October 2007. In August 2008, Fire Debris Analysis was re-instated.



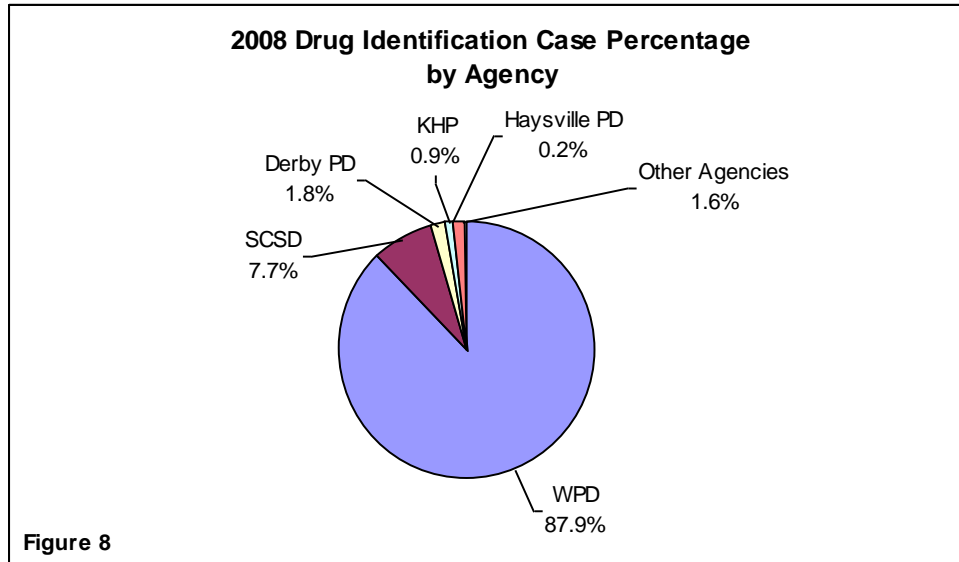
The Criminalistics Section provides forensic examinations in the following disciplines; Drug Identification, Open Container [Beverage Alcohol] Analysis, Firearms & Toolmarks, Serial Number [Firearms] Restoration and Trace Evidence – including sub-disciplines of Ignitable Liquids [Arson], and Fiber and Paint Analysis. The section also provides Physical Match Analyses and Identification of Unknown Materials. In Y2005, the Trace Unit suspended analysis of paint and fibers. This was due to the loss of the sole qualified scientist. While Fire Debris Analysis was again suspended in Fall of 2007, another scientist has undergone training and service has been re-instated upon qualification of the scientist on August 1, 2008.



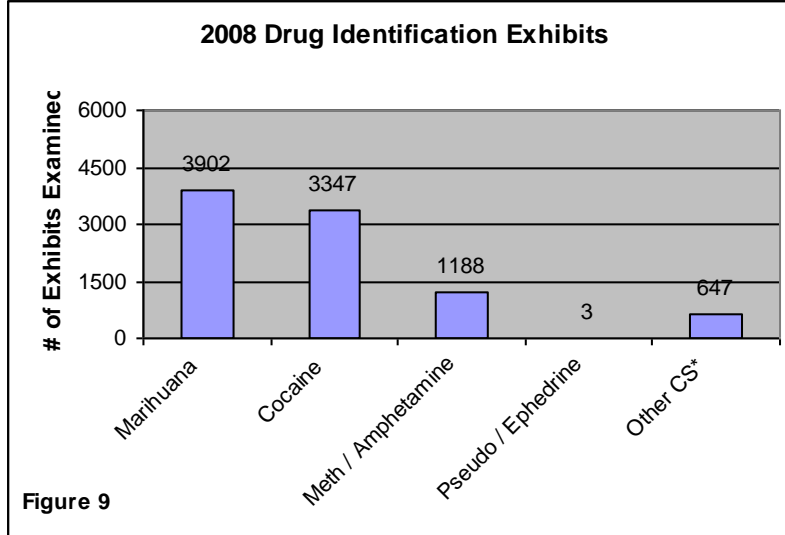
The majority of cases submitted to the Criminalistics Section [Figure 7] are for illicit drug identification. This accounts for approximately 79% of the case load. Firearms are the second most abundant case type, accounting for approximately 13% of the cases submitted for analysis to the section.

Drug ID Unit

The major submitter [Fig 8] of illicit drug evidence is the Wichita Police Department [WPD].



The Drug Identification Unit examined over 9,087 exhibits for the presence of controlled substances. The majority of drug exhibits were cocaine and methamphetamine (49.9%). Marijuana accounts for 42.9% of the total exhibits examined. The number of other controlled substances represents 7% of the exhibits examined. Figure 9 illustrates the number of exhibits in which various types of drugs were positively identified.

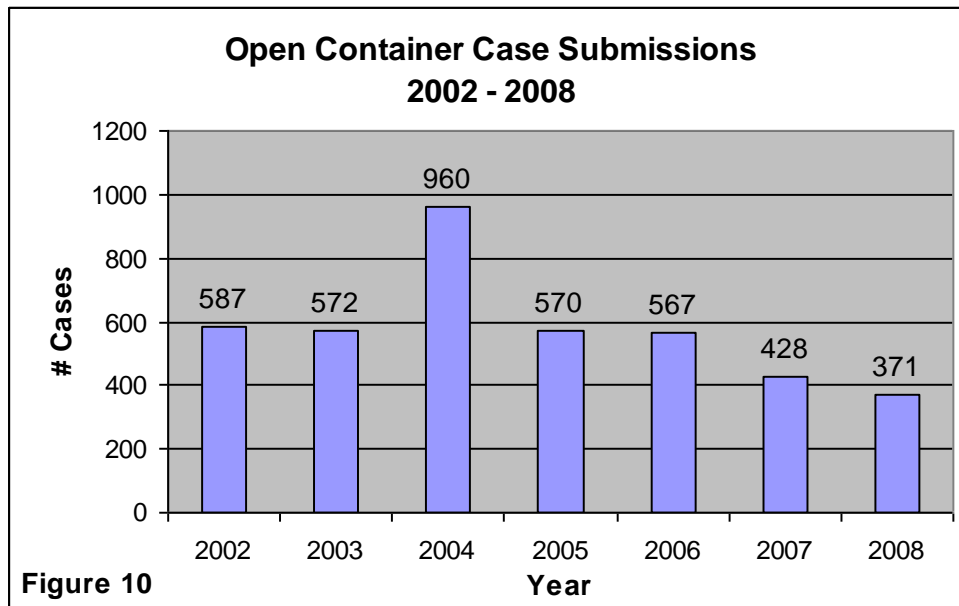


*CS: Controlled Substances



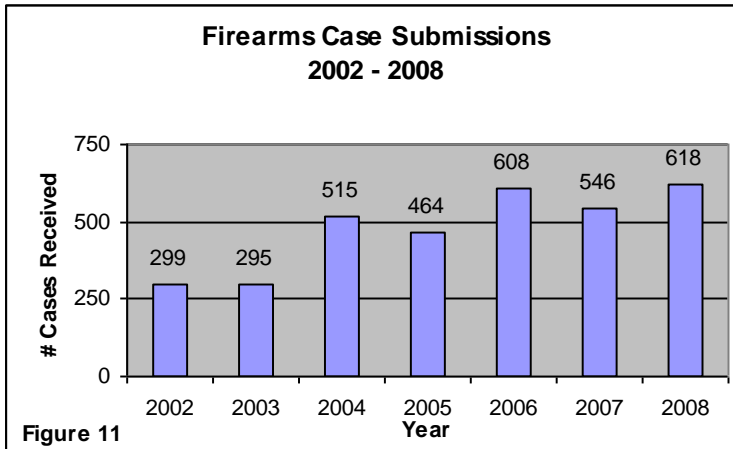
Open Container [Alcohol] Unit

Open Container/Beverage Alcohol Analysis [Figure 10] is conducted in support of the state and local DUI laws and prohibition of minors to possess alcohol. The number of cases submitted has remained somewhat constant from Y2002 to Y2003; however, in 2004 the unit experienced a 68% increase in submissions. In Y2005 and Y2006, the number of case submissions dropped back to submission volumes similar to Y2002 and Y2003. In Y2007, submittals were down by 24.5%, and remained in this range throughout 2008.



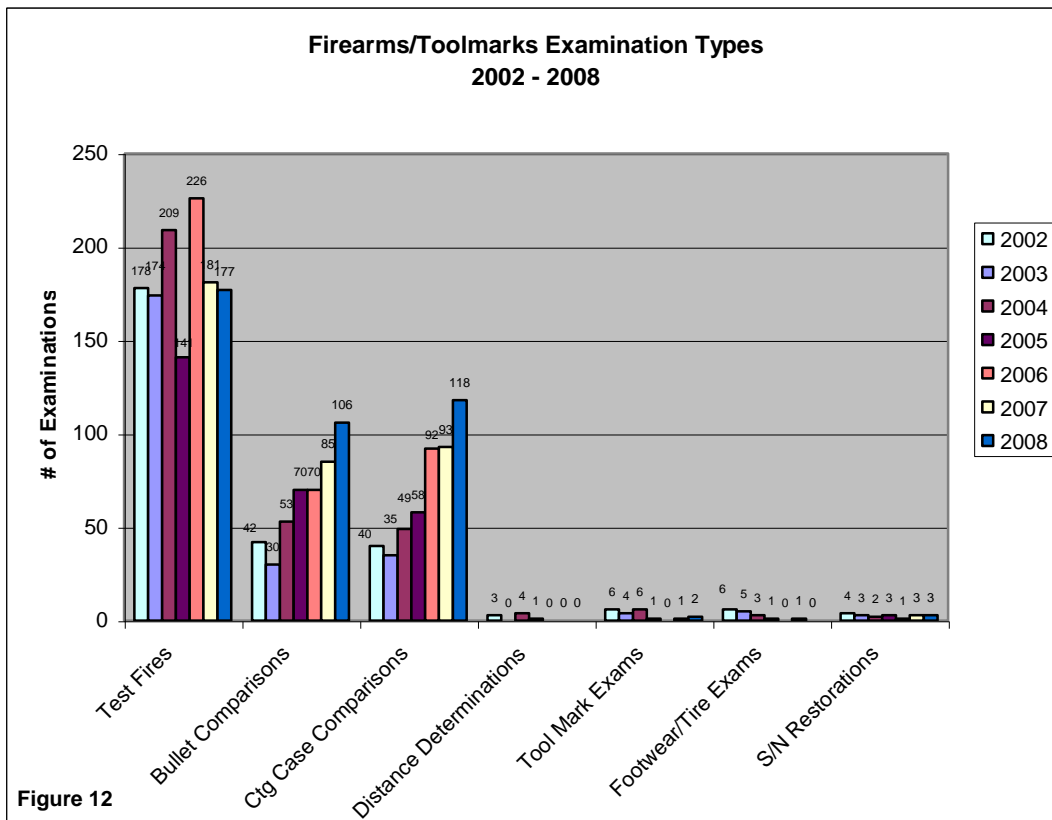
Firearms/Toolmarks Unit

The Firearms/Toolmarks Unit conducts many types of forensic examinations. The majority of examinations involve operability (function) tests on the submitted firearms. As shown in Figure 11, the unit experienced approximately a 13.2% increase over last year for examination requests.



Bullet comparison examinations increased in the same manner as the previous year and cartridge case comparisons were up 26.9% over last year. Figure 12 illustrates the case types submitted to the unit; classified as test fires, bullet comparisons, cartridge case comparisons, distance determinations, tool mark exams, footwear/tire impression examinations, and serial number restorations.

In early 2004, the Firearms/Toolmarks Unit lost its Firearms Technician who was responsible for serial number restorations, test fires, and NIBIN entries. In Y2006, a trainee was hired and began his 2-year apprenticeship, completing the training August 2008.

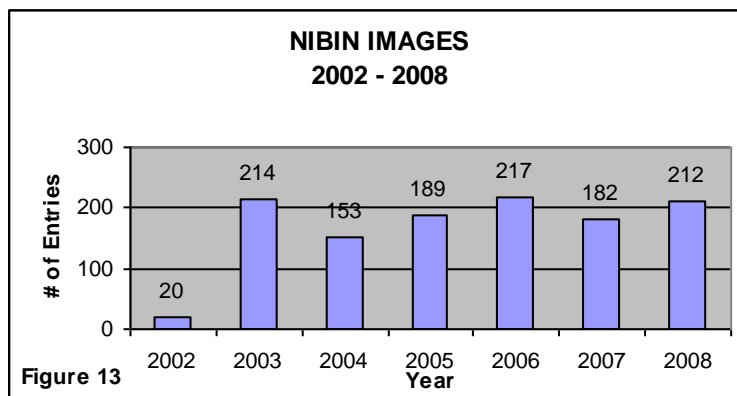


National Integrated Ballistic Information Network [NIBIN]

NIBIN is a national program, in partnership with the Bureau of Alcohol, Tobacco, Firearms, and Explosives [ATF] that provides a database of fired bullets and cartridge casings. Images of test-fired bullets and test-fired cartridge casings from submitted firearms, as well as images of bullets and cartridge cases from crime scenes where no firearms were recovered, are inputted into NIBIN. Searches are then made of images entered with images previously entered, attempting to link serial-type crimes where the same firearm is used. This may result in linking crimes that may have occurred at an earlier date, locally and/or nationally. This system was used successfully in the Washington D.C. Sniper serial killings, in linking the various crimes from multi-jurisdictions to one firearm.

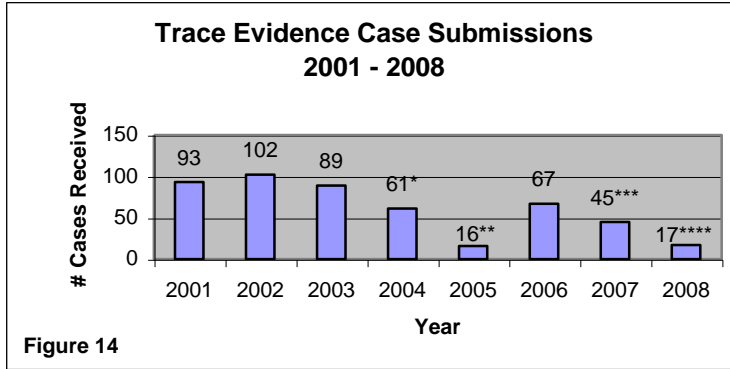


Since the acquisition of the NIBIN system in late 2002, the laboratory has made 1,187 NIBIN entries [Figure 13]. In Y2005 there were two hits in NIBIN, resulting in one investigation aided. In Y2006, there were no hits in NIBIN. In Y2007 there were 2 hits in NIBIN, resulting in 2 investigations aided. In Y2008 there were 3 hits in NIBIN, resulting in three investigations aided.



Trace Evidence Unit

Trace Analysis is the forensic identification of unknown compounds and fire debris evidence in casework ranging from product tampering to assault and homicide [Figure 14]. The majority of casework in the Arson/Trace Evidence Unit is the investigation of suspicious fires. All of the cases submitted to the Trace Evidence Unit in Y2007 consist of fire debris evidence. The unit will continue to see a high demand for this forensic service.



*The Arson/Trace Evidence Unit lost its sole examiner in October 2004.

**The Arson/Trace Unit reinstated arson analysis in September 2005.

*** The Arson/Trace Unit lost its sole examiner in October 2007.

****The Arson/Trace Unit reinstated arson analysis in August 2008.

In addition to assisting arson investigations, the Arson/Trace Evidence Unit provides microscopic/physical/chemical analyses for a variety of evidence submissions associated with criminal investigations. The trace analysis case-type category also includes fracture analysis. Table 2 lists the different types of trace evidence [non-arson] examination requests.

Table 2: Non-Arson Trace Evidence Examinations

Paint Characterization

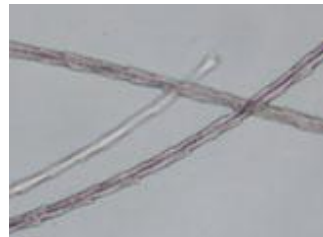
Fiber Characterization

Identification of Unknown Liquids & Solids

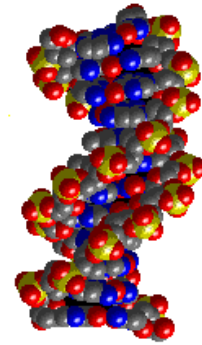
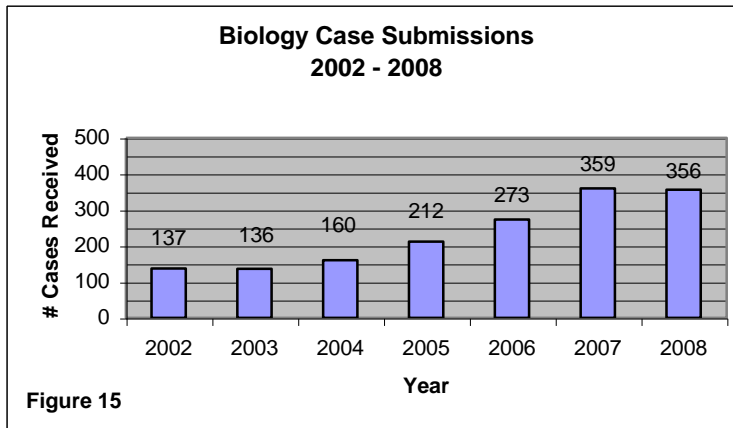
Fracture Analysis

Bank-Dye Analysis

Tear Gas/Pepper Spray Analysis



FORENSIC BIOLOGY/DNA SECTION

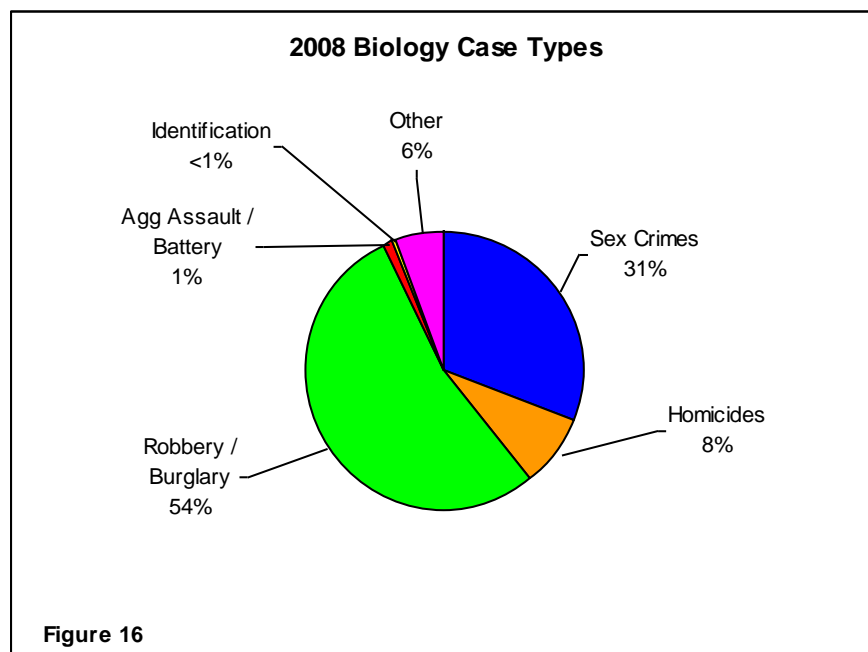


In Y2008, the Biology/DNA section received 356 cases for forensic DNA examination. This constitutes a 30.4% increase of 2006 and a doubling of case volume as compared to Y2002 [Figure 15]. In addition to the increase in cases, the number of exhibits for each case has increased.

The Forensic Biology Section provides forensic examinations in the identification of body fluids and STR DNA [profile] analysis. As depicted by Figure 16, the majority of cases submitted for biological examination are Robbery/Burglary. The section continues to work a variety of case types, including other sex crimes (indecent liberties, incest, etc.), homicides, property crimes, assaults, and forensic identifications [unidentified bodies].

While property crimes constitute the majority of the cases worked, it should be noted that these generally are single exhibit cases that are processed only if the evidence submitted has a high likelihood of resulting in a profile suitable for CODIS entry. Given that these crimes have a high recidivism rate, they have an exceptional solvability factor when crime scene profiles are searched against the database. This is exemplified by the fact that property crimes constitute 79% of the total 2008 investigations aided by CODIS hits.

Four percent of the cases indicated in Figure 16 are listed as other. The majority of these are felony possession (weapons) cases, however also included in this category are a variety of case types such as arson, species identification of unknown substance, narcotics, and vandalism.



Combined DNA Index System (CODIS)

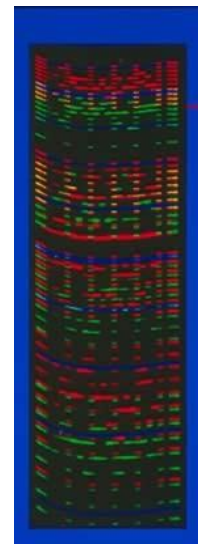
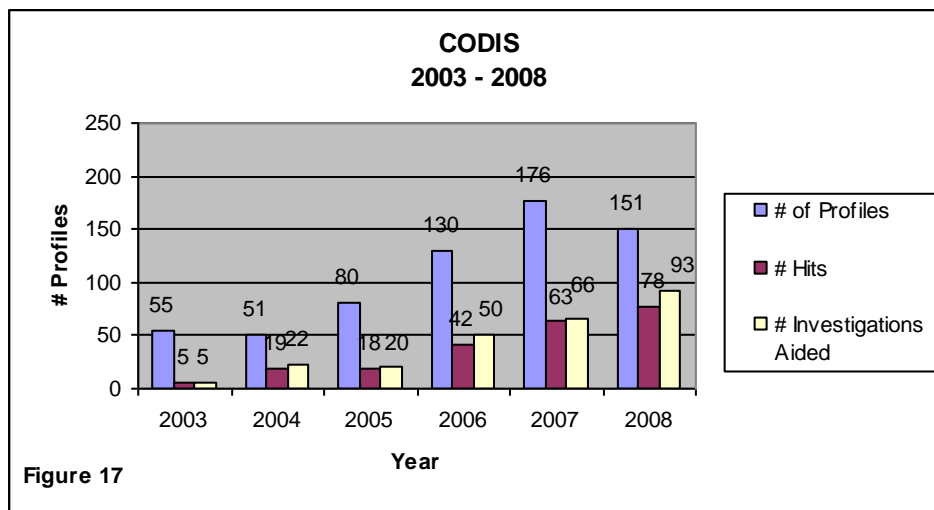
The FBI Laboratory's Combined DNA Index System (CODIS) blends forensic science and computer technology into an effective tool for solving violent crimes. CODIS enables federal, state, and local crime labs to exchange and compare DNA profiles electronically, thereby linking crimes to each other and to convicted offenders.



CODIS began as a pilot project in 1990, serving 14 state and local laboratories. The DNA Identification Act of 1994 (Public Law 103 322) formalized the FBI's authority to establish a national DNA index for law enforcement purposes. In October 1998, the FBI's National DNA Index System (NDIS) became operational. CODIS functions with three hierarchical levels (or tiers) – local, state, and national. NDIS is the highest level in the CODIS hierarchy, and enables the laboratories participating in the CODIS Program to exchange and compare DNA profiles on a national level. All DNA profiles originate at the local level (LDIS); then flow to the state (SDIS) and national (NDIS) levels. SDIS allows laboratories within states to exchange DNA profiles. The tiered approach allows state and local agencies to operate their databases according to their specific legislative or legal requirements.

The success of the CODIS program is measured by the crimes it helps solve. With a CODIS hit, there is no prior physical evidence indicating that the matching DNA profiles are related. Hits add value by linking cases that were previously unlinked, by providing investigators with the identity of a known convicted offender, or by saving the investigative resources required to link cases without DNA. While tracking the number of hits is important, a better measure of the value of CODIS to our community is the number of criminal investigations it assists. To date investigations ranging from homicides, sexual assaults, and even burglaries have been aided by the use of CODIS.

As the number of forensic profiles entered into the CODIS database [Figure 17], along with the increased population of the Convicted Offender Database, there has been an increase in the number of "hits" and investigations aided.



In Y2008, there were an additional 151 profiles entered into CODIS. Of those entered, 27 hits were made at LDIS, 43 hits were made at SDIS, and 8 hits were made at NDIS, resulting in a total of 93 investigations aided this year. Over 600 forensic profiles have been entered since the inception of the program at the Center.

FORENSIC TOXICOLOGY SECTION

The Forensic Toxicology Section has experienced a steady increase in casework [Figure 18] over the last few years. The number of cases submitted in Y2008 was slightly lower than the year prior. The section continues to expand the number of drugs and poisons it can detect and quantitate. The Forensic Toxicology Section provides comprehensive examinations of post-mortem [autopsy] samples to assist in the determination of cause and manner of death. Specimens collected during the investigation of driving-under-the-influence-of-drugs/alcohol cases and drug-facilitated sexual assault cases are also examined by this section. The Toxicology Laboratory also provides drug testing on children removed from clandestine methamphetamine laboratories.

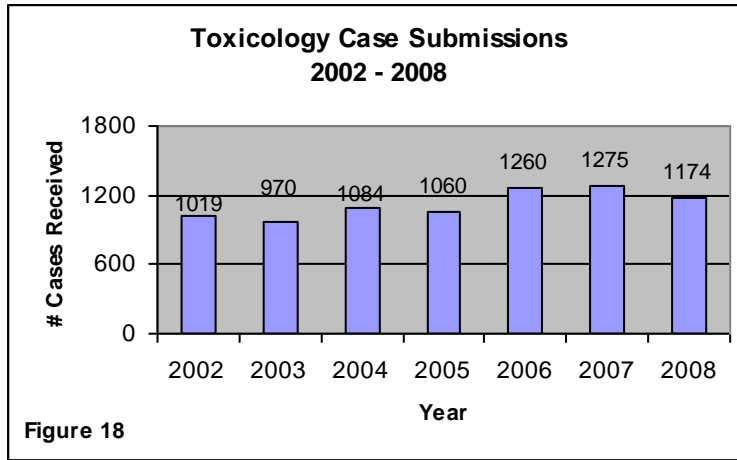
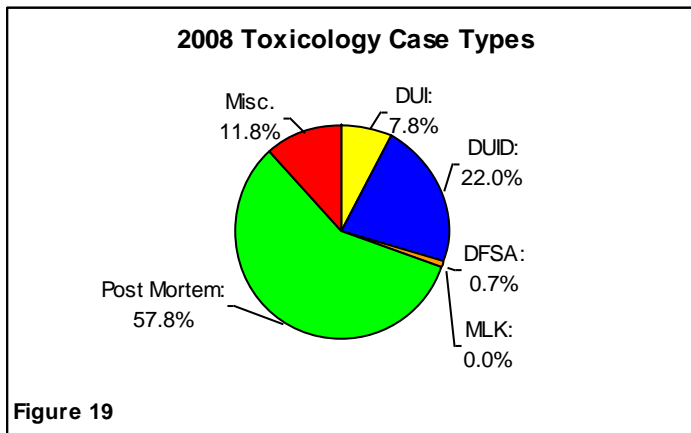


Figure 19 depicts the percentage of toxicology cases submitted by case type. Toxicological examinations in support of the District Coroner accounts for approximately two-thirds of the forensic case work performed by the section.



BAC: Driving-under-the-influence of alcohol
DUID: Driving-under-the-influence of drugs
DFSA: Drug-facilitated sexual assault
MLK: Meth Lab Kids
Misc: Proficiency Tests and Untested Cases

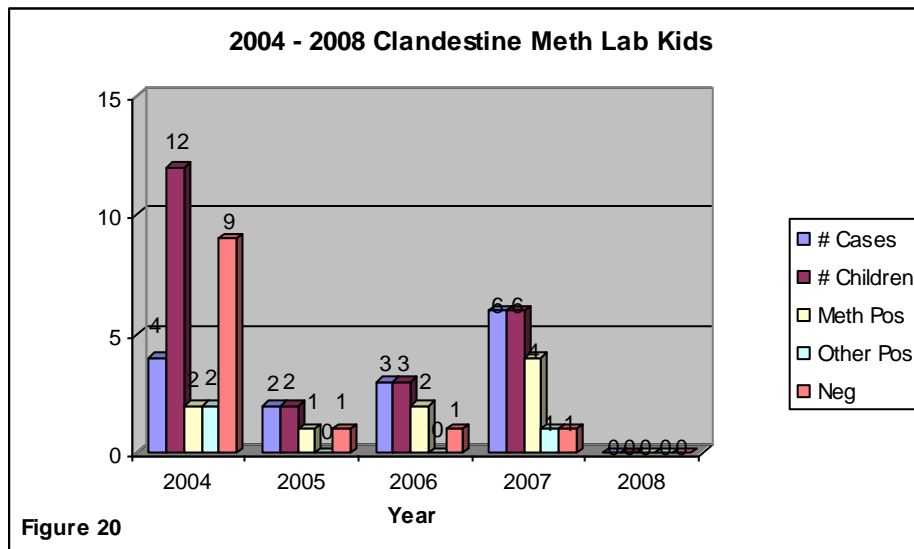
Children Removed from METH LABS

The RFSC is a partner in the Sedgwick County “Meth Kids Initiative Task Force” and the Kansas Alliance for Drug Endangered Children [DEC]. The DEC program is a multidisciplinary approach to protecting children found in clandestine methamphetamine laboratories. Children in these laboratories are at a great risk for physical, emotional, and developmental harm.



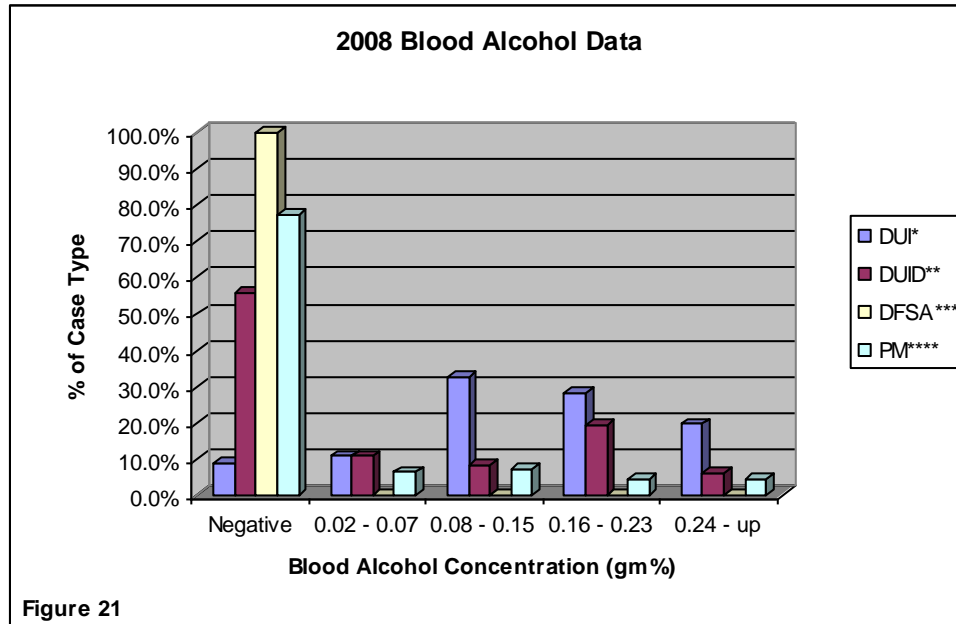
As shown in Figure 20, the Toxicology Laboratory evaluated 12 children [4 cases] removed from clandestine methamphetamine laboratories for exposure to methamphetamine in Y2004.

In Y2005, the Toxicology Laboratory evaluated 2 children [2 cases] removed from clandestine methamphetamine laboratories for exposure to methamphetamine. In Y2006, the Toxicology Laboratory evaluated 3 children [3 cases] removed from clandestine methamphetamine laboratories for exposure to methamphetamine. In Y2007, the Toxicology Laboratory evaluated 6 children [6 cases] removed from clandestine methamphetamine laboratories for exposure to methamphetamine. Overall, 66.6% of all children tested had detectable amounts of methamphetamine in their systems prior to 2008.



Alcohol and Drugs

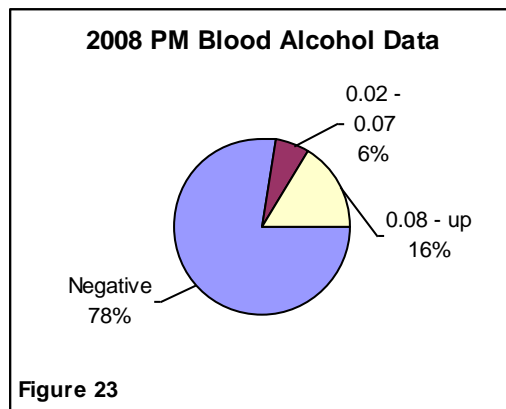
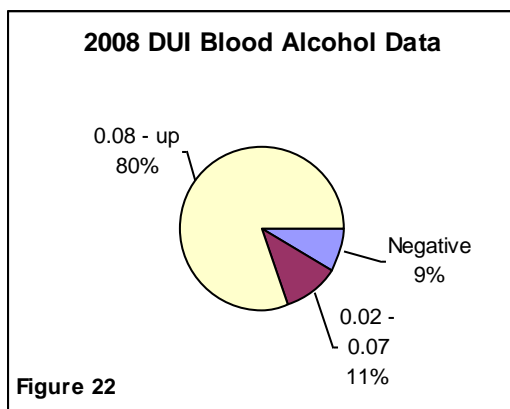
Alcohol continues to play a significant role in all of the FSL toxicology case types [Figure 21]. In more than 20.6% of the toxicology alcohol positive cases, the driver/decedent was greater than twice the legal limit (0.08 gm%).



- *DUI = Driving-under-the-influence (Alcohol exclusively tested)
- **DUID = Driving-under-the-influence (Alcohol and/or drugs tested)
- ***DFSA = Drug-Facilitated Sexual Assault
- ****PM = Post-Mortem

The vast majority of samples submitted in Driving-Under-the-Influence [DUI] cases were found to have alcohol concentrations at or above the legal limit of 0.08 g% [Figure 22].

In approximately 22% of the postmortem case investigation there was a positive finding of alcohol [Figure 23].



Drug-Related Deaths

Aside from alcohol, cocaine is the most commonly found drug in post-mortem cases. Table 3 depicts the 50 most common drug findings in post-mortem Toxicology cases [excluding ethyl alcohol] for Y2008.

Table 3: 2008 Most Commonly-Found Drugs (Post-Mortem)

6-Monoacetylmorphine/6-Acetylcocaine (Heroin)	
Acetaminophen & Other NSAIDs	Ketamine/Norketamine
Alprazolam/ α -Hydroxyalprazolam	Lamotrigine
Amitriptyline/Nortriptyline	Lorazepam
Amphetamine/Methamphetamine	MDA/MDMA
Butalbital	Methadone/Normethadone/EDDP/EMDP
Carbamazepine/Carbamazepine Epoxide	Metoclopramide
Carisoprodol/Meprobamate	Mirtazapine
Chlorpromazine	Morphine/Codeine
Citalopram/Desmethylcitalopram	Oxycodone
Clonazepam/7-Aminoclonazepam	Promethazine/Norpromethazine
Cocaine/Benzoylcocaine/Cocaine	Propoxyphene/Norpropoxyphene
Cyclobenzaprine/Norcyclobenzaprine	Paroxetine
Dextromethorphan	Phencyclidine
Diazepam/Nordiazepam	Phenobarbital
Difluorochloromethane	Phenytoin
Difluoroethane	Quetiapine
Diltiazem	Salicylates
Diphenhydramine & Other Antihistamines	Sertraline/Norsertaline/Desmethylsertraline
Doxepin/Nordoxepin	Tetrahydrocannabinol/Carboxy tetrahydrocannabinol
Duloxetine	Tramadol/n-Desmethyltramadol/o-Desmethyltramadol
Fentanyl	Valproic Acid
Fluoxetine/Norfluoxetine	Venlafaxine/o-Desmethylvenlafaxine
Haloperidol	Verapamil/Norverapamil
Hydrocodone/Hydromorphone/Dihydrocodeine	Zolpidem

Alcohol Positive Drivers

Alcohol plays a significant role in driving under the influence cases [Figure 24]. Approximately 58% of drivers [DUI and DUID] tested had some detectable alcohol in their blood, the largest group being over twice the legal limit. Approximately 47% of alcohol positive drivers were at or above “per se” limit of 0.08 gm%.

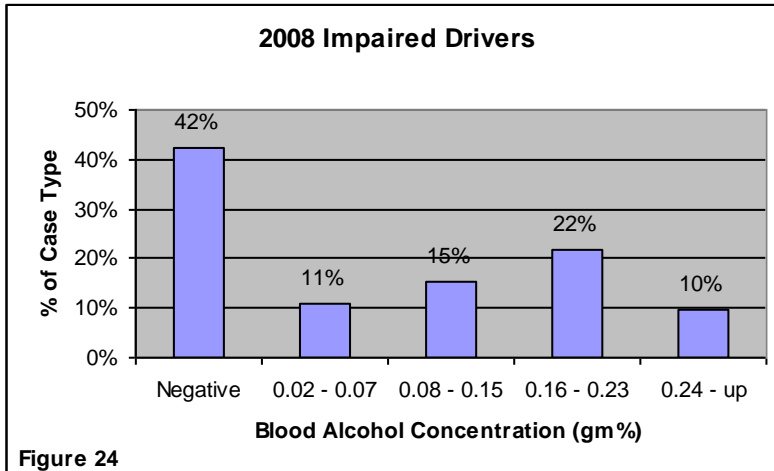


Figure 24



Alcohol Positive Drivers – Under the Age of 21

The legal age for possession of alcohol is 21 years old. A significant portion [13%] of all motor vehicle drivers testing positive for alcohol were under the age of 21 [Figure 25].

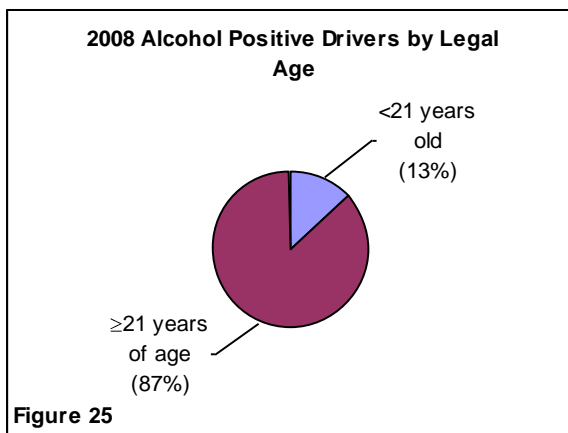


Figure 25

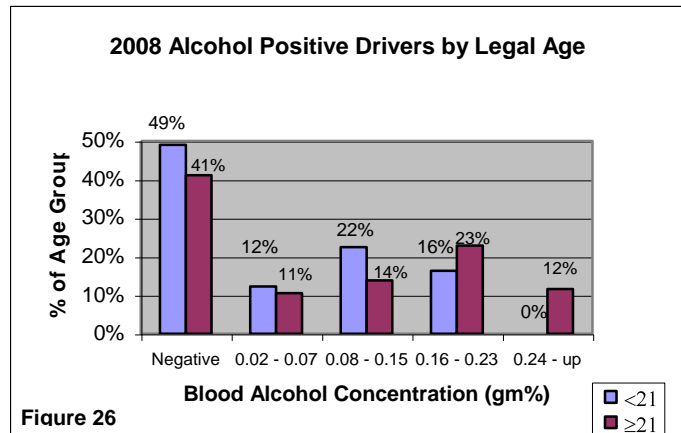
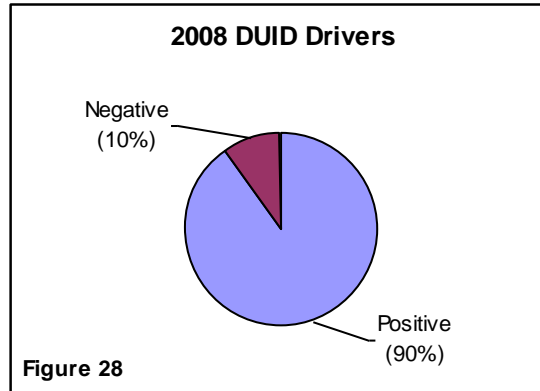
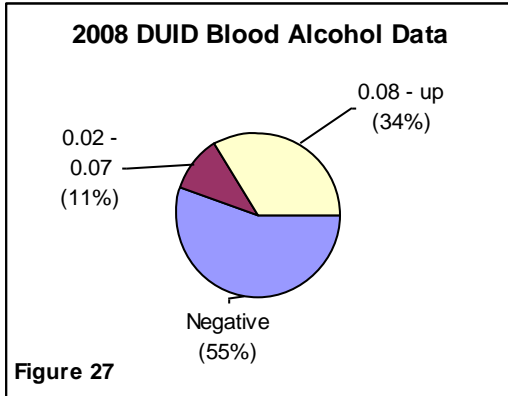


Figure 26

Figure 26 breaks down the percentages of suspected alcohol impaired drivers by age. In the under 21 year old age group, 38% of the suspected drivers had alcohol concentrations $\geq 0.08\%$.

Drugs and Driving

Drugs play a significant role in driving under the influence cases. A significant portion of the driving cases submitted for drug analysis are positive. Generally, they are prescreened in one fashion or another [Figure 27]. In approximately 90% of cases, drugs were detected [Figure 28]. The detectable drugs range from illicit [illegal] to licit [legal, prescription] drugs. In those cases where drugs were detected, greater than 32% were illicit drugs or a mixture of illicit and licit [Figure 29].



Drivers Drug Usage: Licit and Illicit Drugs

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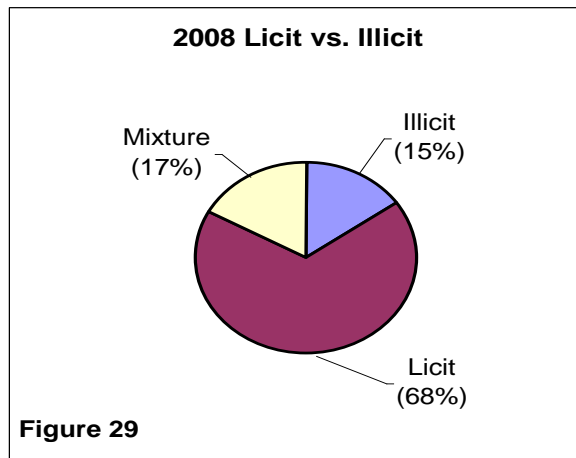


Table 4 depicts the 45 most common drug findings in Driving-Under-the-Influence-of-Drugs [DUID] toxicology cases [excluding ethyl alcohol] for Y2008.

Table 4: 2008 Most Commonly-Found Drugs (DUID)

Tetrahydrocannabinol/Carboxytetrahydrocannabinol	Diphenhydramine
Alprazolam/ α -Hydroxyalprazolam	Fluoxetine
Nordiazepam	Pentobarbital
Hydrocodone	Promethazine
Diazepam	Quetiapine
Cocaine	Tramadol
Amphetamine/Methamphetamine	Venlafaxine
Carisoprodol	Benzotropine
Methadone	Bupropion
Morphine	Dextromethorphan
Oxazepam	Lamotrigine
Zolpidem	Olanzapine
Temazepam	Phenytoin
Oxycodone	Propoxyphene
Citalopram	Pseudoephedrine/Ephedrine
Butalbital	Toluene
Clonazepam/7-Aminoclonazepam	Verapamil
Phencyclidine	
Sertraline	
Chlorpheniramine	
Codeine	
Cyclobenzaprine	
Difluoroethane	

Drug-Facilitated Sexual Assaults



Drug-Facilitated Sexual Assaults [DFSA] continue to be difficult forensic investigations. In Y2006 alcohol was detected in 33% of the cases [Fig 30], in Y2007 only 13% of the DFSA cases involved alcohol [Fig 31], where as in Y2008 alcohol was not detected in any of the DFSA cases. The cases involve a perpetrator who will surreptitiously administer a drug to a victim to render them unconscious and sexually assault them. In Y2008, the Toxicology Laboratory investigated 5 suspected DFSA cases. Cocaine was a common drug finding in DFSA cases.

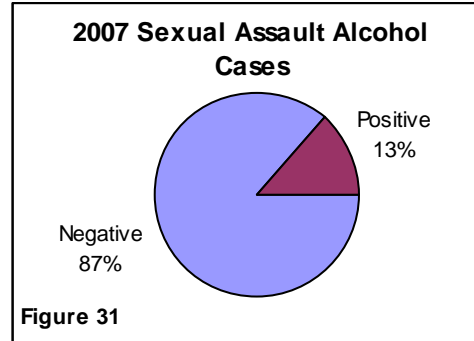
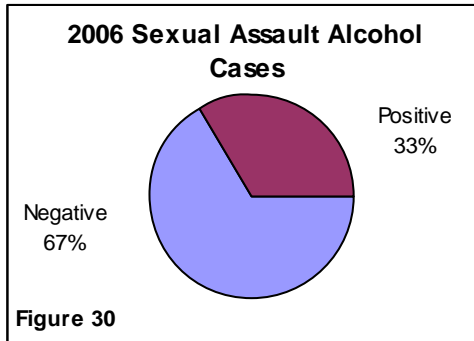


Figure 32 and 33 depict the most common drug findings in Drug-Facilitated Sexual Assault [DFSA] toxicology cases [excluding ethyl alcohol] for Y2007 and Y2008.

