Oklahoma State Bureau of Investigation - Criminalistics Services Division (OSBI CSD)
Facilities and Available Services

FACILITIES:

The OSBI CSD provides services at the following 5 facilities:

OSBI Forensic Science Center (FSC)
800 East Second Street
Edmond, OK 73034
(405) 330-6724

OSBI Eastern Regional Laboratory
701 West Carl Albert
McAlester, OK 74501
(918) 423-6672

OSBI Northwest Regional Laboratory
1305 E. Garriott
Enid, OK 73701
(580) 242-2600

OSBI Northeast Regional Laboratory
1995 Airport Parkway
Tahlequah, OK 74464
(918) 456-0653

OSBI Southwest Regional Laboratory
5 Northeast 22nd Street
Lawton, OK 73507
(580) 355-6144

For the convenience of OSBI CSD customers, evidence may be submitted at any CSD facility. OSBI CSD personnel will transport evidence between facilities when necessary to provide the appropriate or most timely analysis.

SERVICES:

The following services/analytical methods are available. However, the OSBI reserves the right to select the most appropriate method and to select the item(s) most appropriate for analysis (see **"Notice to Customers" – OSBI CSD QMA 1.1**). If a particular test method or service is desired for a specific item, please contact a Criminalist from the discipline in question for assistance with the review of the request.

Biology (FSC and NERL):

1. **Screening**

   Evidence can be screened for biological material including blood, semen, and hair.

2. **Confirmatory Testing**

   Tests are available to confirm the presence of blood and semen.

3. **Hair Evaluation**

   Hair samples can be evaluated to determine whether the hair is animal or human and, if human, whether adequate sample is present for nuclear or mitochondrial DNA testing.

4. **DNA Analysis**

   The OSBI CSD can perform two types of Short Tandem Repeat (STR) DNA analysis – autosomal and/or Y-STR analysis. Y-STR analysis generates a DNA profile based on locations on the Y-chromosome only, which means in order to generate a profile, the sample must contain male DNA. Y-STR analysis is only available at the FSC and NERL facilities.

   The OSBI CSD can forward evidence to an FBI Regional Mitochondrial DNA Laboratory for analysis.

5. **Database Entry/Search**

   All eligible DNA profiles obtained during the analysis of casework can be entered into the state CODIS (Combined DNA Index System) database and national database (NDIS).

Controlled Substances (FSC, ERL, NERL, NWRL, SWRL):

1. **Controlled Substance Identification**

   Identification of controlled and some non-controlled substances.

2. **Clandestine Laboratory Analysis**

   Analysis can be conducted on clandestine laboratory samples to detect controlled substances, precursors, and chemicals related to the illegal manufacture of controlled substances.

3. **Poison Identification**

   Some poisons such as Strychnine can be identified by the drug lab. Other compounds such as Ethylene Glycol (antifreeze) that can be used as poisons can also be identified.

Firearms/Toolmarks (FSC):

1. **Function Test**

   Guns submitted for analysis can be tested to determine if the weapon is functional.

2. **Fired Bullet and Casing Analysis**

   Fired projectiles and/or fired casings can be compared to other fired evidence (bullets/casings) or to a suspect gun.

   In addition, fired projectiles and fired casings can also be examined and may sometimes provide information regarding potential makes and models of guns that could have fired the evidence. This is dependent on the amount and type of characteristics present on the fired evidence.

3. **Serial Number Restoration**

   When requested, analysis can be performed to attempt to restore the serial number of a gun.

4. **Distance Determination**

   In some cases, evidence can be examined to determine an approximate distance between an object and the point/location from which a gun was fired.

5. **Database Entry/Searching**

   Test fires from suspect weapons or fired evidence can be evaluated to determine suitability for entry into the Integrated Ballistic Identification System (IBIS). Items entered into IBIS will be automatically searched against the region (Oklahoma and Texas). The OSBI can request searches through other regional databases as well.

6. **Toolmark Analysis**

   Analysis can be conducted to determine, if possible, whether or not a particular tool was used to generate impressions or striations on the item submitted (padlock, window frame, etc.). In addition, analysis can be done to determine if the toolmarks on multiple evidence items were made by the same tool.

Latent Evidence (FSC):

1. **Footwear Analysis**

   Photos or casts of questioned footwear impressions can be compared to known shoe samples.

   The OSBI CSD cannot examine questioned footwear impressions without known shoes for comparison purposes.

2. **Tire Impression Analysis**

   Photos or casts of questioned tire impressions can be compared to casts or photos of known tire impressions. Tires will not be accepted for comparison purposes.

   The OSBI CSD cannot examine questioned tire impressions without known tire impressions for comparison purposes.

3. **Latent Print Analysis**

   Processing:

   Items suitable for latent print development which have been properly collected and packaged can be processed to detect and lift/capture latent prints for comparison or AFIS entry.

4. **Latent Print Comparison**

   Questioned latent prints submitted or recovered from items submitted for processing can be compared to known inked impressions submitted or to known impressions from retained records when the subject's information (name, race, sex, date of birth, and SID number) is provided.

5. **Database Entry/Searching**

   All latent prints (including palm prints) of appropriate quality that are not identified to a known can be evaluated for entry into the Oklahoma Automated Fingerprint Identification System (AFIS).

   The OSBI CSD can also request a search be conducted using the Integrated Automated Fingerprint Identification System (IAFIS), which searches records from the FBI files.

Toxicology (FSC):

1. **DUI Cases**

   Blood or urine collected from individuals suspected of driving under the influence can be analyzed for the presence of alcohol or drugs.

2. **Drug Facilitated Sexual Assault**

   Blood and/or urine collected from an individual reporting a drug facilitated sexual assault can be analyzed for the presence of impairing substances.

3. **Alcoholic Content**

   Liquids suspected of containing alcohol can be analyzed to determine the presence and quantity of alcohol. (Ex: suspected moonshine)

4. **Poisons**

   Samples suspected of containing poison can be tested for select poisons, such as the active ingredient in Visine.

5. **Toxic Vapors**

   Blood may also be analyzed for other substances which cause impairment such as toxic vapors inhaled by a suspect (i.e. huffing).

Trace Evidence (FSC):

1. **Ignitable Liquids Residue Analysis**

   Properly packaged samples of fire debris can be analyzed for the presence of ignitable liquids such as gasoline, paint thinner, or diesel, etc.

2. **Primer Gunshot Residue Analysis (GSR)**

   Evidence submitted using an OSBI GSR Evidence Collection Kit can be analyzed for the presence of elements that are characteristic of gunshot residue (lead, antimony, and barium).

3. **Manufactured Fibers:**

   Questioned fibers can be analyzed and compared to reference or known samples submitted to determine if the questioned and known sample may have originated from the same source. This comparison applies to man-made fibers only.

   Analysis of questioned fibers can also be conducted to determine the composition of the fiber(s). However, this analysis is limited to the material (e.g. nylon, acetate, etc.) and color. The OSBI CSD does not have the capability to indicate what item(s) may have been a source of the questioned fiber(s).

   The OSBI CSD does not perform hair comparisons.

4. **Paint Evidence:**

   Questioned paint samples can be analyzed and compared to known samples, when available, to determine if the questioned and known samples may have originated from the same source.

   If known paint samples are unavailable, then unknown samples may be submitted for possible Make and Model determination utilizing the Paint Data Query (PDQ) database.

5. **Elemental/Chemical Analysis:**

   Evidence can be analyzed to determine its elemental composition. The most common application of this analysis is to identify the presence of poisonous materials such as lead, arsenic, and mercury. Elemental analysis can also be conducted to identify elements used in clandestine drug manufacturing, such as phosphorus and iodine.

6. **Fracture Matches:**

   Miscellaneous types of evidence that are torn or broken can be compared to a sample suspected to be the source of the evidentiary sample. For example, duct tape removed from a victim can be compared to a roll of duct tape found in a suspect's possession.