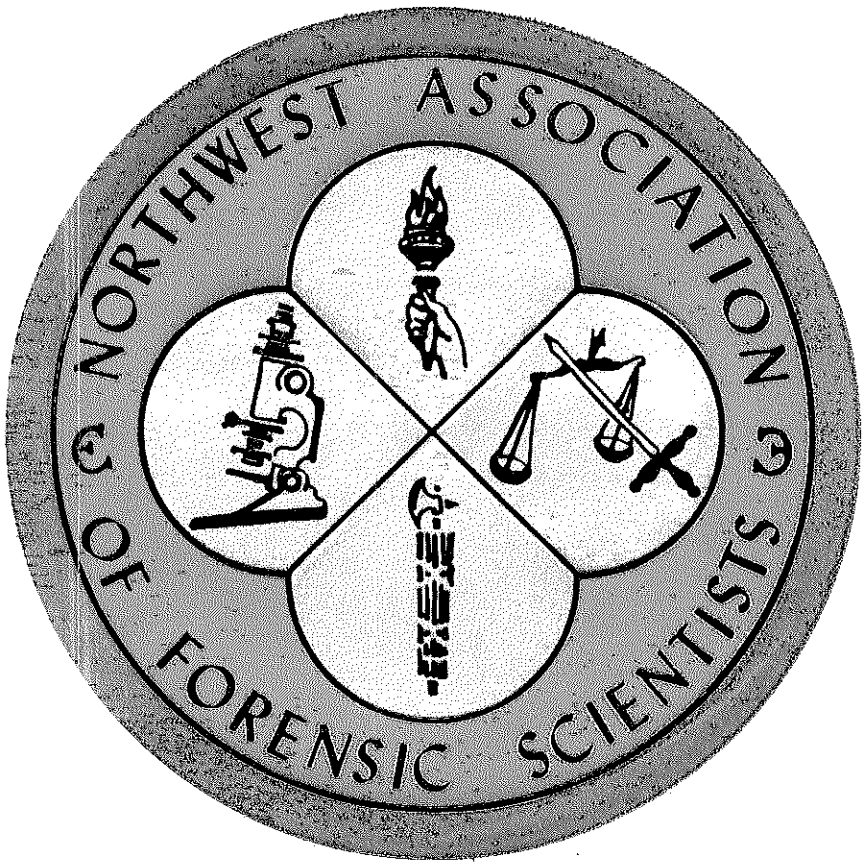
The Newsletter of



MARCH 1986 – VOL. XII, NO. 1

NORTHWEST ASSOCIATION OF FORENSIC SCIENTISTS

EXECUTIVE COMMITTEE

PRESIDENT:

Wally Baker
Idaho St. Crime Lab
2200 Penitentiary Rd.
Boise, Idaho 83702

PRESIDENT ELECT:

Beth Carpenter
Oregon State Police Crime Lab
1111 SW 2nd Ave.
Portland, Oregon 97204

SECRETARY-TREASURER:

Lionel Tucker
DEA Western Regional Lab
PO Box 36075
San Francisco, Calif. 94102

EXEC. COMM. MEMBER-AT-LARGE:

Daryl Brender
Wa. State Patrol Crime Lab
Rm-100 Public Safety Building
Spokane, Washington 99201

PAST PRESIDENT:

Richard Brooke
Oregon State Police Crime Lab
1111 SW 2nd Ave.
Portland, Oregon 97204

COMMITTEE CHAIRPERSONS

MEMBERSHIP	Robert Sager
PUBLICATION	Roger A. Ely
HISTORICAL	Brad Telyea
TECHNICAL ADVANCEMENT	Rick Groff
CONTINUING EDUCATION	Wayne Jeffrey

IN THIS ISSUE OF THE NEWSLETTER

VOLUME 12 NUMBER 1 MARCH 1986

PRESIDENT'S MESSAGE

This issue marks the first installation of the NWAFS Newsletter with Roger Ely as editor. Roger is very gung-ho (to say the least) about expanding the Newsletter to include more technical articles, case reports, legal decisions, etc. With the size of the Association growing as it is, the Newsletter should be more than just a format for publishing employment opportunities or minutes of the business meetings. If you have any technical procedures, interesting (or uninteresting) cases or helpful bench tips, take a few minutes to write it up and submit it for publication. Not only will our Association benefit, but (hopefully) Roger will stop pestering me for articles.

Rich Brooke returned from the American Academy meeting where he represented the NWAFS at a meeting of the regional association officers. Several people expressed concern over a perceived lack of communication between the regions. The Northwest Association receives copies of each regional association newsletter, and if time and space permits, we plan to publish abstracts of articles as well as other information from these newsletters to keep our members aware of what's happening in other organizations. Hopefully, they will do the same.

In addition, the American Academy will be requested to change their schedule for notifying the regional associations of the general section awards. In the past, as little as two weeks notice was given, which makes it impossible to obtain any input from the membership. A July deadline was recommended, which is consistent with the schedule set by our executive committee at the Spring 1985 meeting. Please submit your nominations to the executive committee.

The Spring meeting in Bend, Oregon is right around the corner. It sounds like Mike Howard has things well under control, with a significant portion of the program devoted to firearms examinations. There is still time available on the program for anyone interested in presenting a paper. Remember, since the next AAFS meeting is in San Diego, the NWAFS may be eligible for a regional association award, which is presented for the outstanding scientific paper at our 1986 meetings.

1986 is shaping up to be a good year for the Association. Make your plans now to be in Bend on April 29 - May 2. I'm looking forward to seeing many of you there.

Wally Baker
President

UPCOMING MEETINGS

THE USES OF FORENSIC SCIENCE

Date: April 4-5, 1986
Location: University of Strathclyde
Contact:
Mr. P.F. Nelson
Continuing Education Center
Univ. of Strathclyde
McCance Building
Richmond Street,
Glasgow G1 1XQ, UK

NORTHWEST ASSOCIATION OF FORENSIC SCIENTISTS

Date: April 29 - May 2, 1986
Location: Inn of the Seventh Montain, Bend, Oregon
Contact:
Mike Howard
Oregon St. Police Crime Laboratory
375 N.E. Franklin St.
Bend, OR 97701 (503) 388-6150

ASSOCIATION OF FIREARMS AND TOOLMARK EXAMINERS

Date: April 28 - May 2, 1986
Location: Holiday Inn - Inner Harbor
Contact:
Joe Rietz
Baltimore City Police Dept.
601 Fayette Street
Baltimore, MD 21202

CALIFORNIA ASSOCIATION OF CRIMINALISTS

Date: May 14-17, 1986
Location: Hilton Hotel
Contact:
Kathryn Holmes
Contra Costa Co. Crime Lab
1122 Escobar St.
Martinez, CA 94553 (415) 372-2455

COMBINED MEETING

Date: May 28-31, 1986
Location: Radisson Hotel
Contact:
Harold Alfultis
Loraine Co. Crime Lab
10005 Abbe Rd.
Elyria, OH 44035 (216) 365-4191

SOUTHERN ASSOCIATION OF FORENSIC SCIENTISTS

Date: Sept. 10-13, 1986
Location: Auburn Conference Center
Contact:
Carlos Raben
Alabama Dept. of Forensic Sciences
PO Box 231
Auburn, AL 36831 (205) 887-7001

NORTHWEST ASSOCIATION OF FORENSIC SCIENTISTS

Date: Oct. 8-10, 1986
Location: Red Lion Riverside
Contact:
Pam Server
Idaho State Crime Laboratory
2200 Penitentiary Road
Boise, ID 83712 (208) 334-2231

CALIFORNIA ASSOCIATION OF CRIMINALISTS

Date: Oct. 8-11, 1986
Location: Gene Autry Hotel
Contact:
Faye Springer
CA Dept. of Justice
PO Box 3679
Riverside, CA 92519

MIDWESTERN ASSOCIATION OF FORENSIC SCIENTISTS

Date: Oct. 8-10, 1986
Location: Springfield, Illinois
Contact:
Ted Elzerman or John Klosterman
Illinois Dept. of State Police
Bureau of Forensic Sciences
726 So. College St.
Springfield, IL 62707 (217) 782-4649

INTERNATIONAL ASSOCIATION OF FORENSIC SCIENCES

Date: Aug. 2-7, 1987
Location: Vancouver, B.C.
Contact:
Intn'l Assoc. of Forensic Sciences
801-750 Jervis St.
Vancouver, B.C., Canada V6E 2A9

CANADIAN SOCIETY OF FORENSIC SCIENCE

Date: September 15-19, 1986
Location: Sheraton Brock Hotel, Niagra Falls, Ontario
Theme: Environmental Risks and Forensic Science
Contact:
Executive Secretary
Canadian Society of Forensic Science
2660 Southvale Crescent, Suite 215
Ottawa, Ontario, Canada K1B 4W5

EMPLOYMENT OPPORTUNITIES

The Johnson County Criminalistics Laboratory of Mission, Kansas located in the metropolitan Kansas City area is seeking an experienced chemist to fill an additional position. Those applying must have a minimum of a Bachelor's Degree and be court qualified in one of the forensic chemistry disciplines, along with experience in GC/MS, IR and microscopy as well as an understanding of computer technology. Equal oppurtunity employer.

Salary: $28,766 to 38,916

Written resumes can be submitted to:

Deputy Lee Branum, Supervisor
Johnson County Criminalistics Laboratory
6000 Lamar
Mission, Kansas 66201
(913) 384-1100 ext. 620

The Arizona Department of Public Safety is seeking a Criminalist II - Forensic Toxicologist. The position utilizes chemical, microscopic, chromatographic and instrumental techniques to examine, identify and evaluate physical evidence. The position requires a four-year degree in chemistry or a closely related physical or natural science with a minimum of thirty (30) semester hours, or the equivalent quarter hours in chemistry from an accredited college or university. Three (3) years of experience engaged as a criminalist in a recognized laboratory actively engaged in forensic science is required. The candidate should have a minimum of two years in forensic toxicology.

Salary: $2,272.92 to 3,088.92 per month

Contact:

Arizona Department of Public Safety
2339 N. 20th Ave.
PO Box 6638
Pheonix, AZ 85005

****

SPRING MEETING TAKING SHAPE

Plans for the Spring 1986 meeting at the Inn of the Seventh Mountain, near Bend, Oregon, are in the finalizing stage. Mike Howard, program chairman, indicates this will be a very worthwhile and interesting meeting.

On April 30, ATF will present an approximate 3 hour program on automatic weapons. In addition, members of the firearms examination section of the Oregon State Police Crime Laboratory system will put on a workshop. A tour of the nearby Nossler bullet factory is also being arranged.

Wednesday evening there will be a wine and cheese testing where the exhibitors will be set up. Thursday and Friday, of course, will be devoted to technical papers and a business meeting from 4 pm until 5 pm on Thursday.

Mike has received some tentative offers of papers, however no abstracts have appeared yet.

One of the papers to be given is titled "Gunshot Residue Detection in a Scanning Electron Microscopy Using a Dedicated Automatic Search System."

KEVEX has offered to give a paper on the use of XRF.

Dr. Dean Fetterolf from the FBI Research Group will be attending and will present a paper dealing with the use of mass spectroscopy.

A representative from Hewlett-Packard will give a 3 hour presentation on gas chromatography columns: packed, mega-bore and capillary.

If you have a paper you'd like to present at this meeting, please contact Mike as soon as possible. At the back of the Newsletter is a form to use for abstracting your paper.

Rates for the Inn of the Seventh Mountain are:

Lodge room (1-2 people)	$40
Deluxe Lodge (1-4 people)	$50

Reservation can be made by:

1-800-452-6810 (from Oregon)
1-800-547-5668 (outside Oregon)

If you fly in, the Redmond airport is about 20 miles away. There is shuttle service from the airport, but it is not free. With advance notice, Mike has offered to arrange free transportation.

And, if you desire, there is a shuttle bus to the local ski area just a few miles away.

McCRONE MICROSCOPY COURSE

The McCrone microscopy course will take place. The Oregon State Police Crime Lab system has been able to make the proper number of sacrifices necessary to gain the approval of those who pull the purse strings, so the plans are as follows:

Date:	April 21-25, 1986
Place:	Camp Cascade, near Salem, OR
Instructor:	Walter McCrone or Thom Hopen
Course:	Forensic Microscopy
Cost:	$100 tuition plus expenses
Housing:	Dormitory arrangement at Camp Cascade, approximately $27/day for room and board (reportedly a nice place, especially for the price).
Attendance:	The NWAFS has 10 positions to fill. Several requests have been made in response to the last newsletter. If you are interested in taking this course call or write Beth Carpenter NOW. The selection of those attending will be made by the Continuing Education Committee in March.
Contacts:	Beth Carpenter Oregon State Police Crime Lab 1111 S.W. 2nd Ave. 12th Floor Portland, OR 97204 (503) 229-5017

****

CONTINUING EDUCATION COMMITTEE REFERENCE MATERIALS

Wayne Jeffrey of the RCMP laboratory in Vancouver, BC, was selected at the October meeting to chair the Continuing Education Committee. Now that the materials have successfully passed through Customs, Wayne has inventoried the materials on hand and available for use by the membership.

If you are interested in one or more of the items listed, please contact Wayne to arrange the shipping of those materials to you.

American Chemical Society Audio Tapes:

Thin Layer Chromatography
Infrared Spectroscopy
Mass Spectroscopy
Atomic Absorption
Statistics
Gas Chromatography

In the event you don't have a cassette recorder to play the above tapes, one is available.

Glass Manual (DOJ Training Manual)
In-Service Training Manual (So. Assn. of Forensic Scientists)
Animal Spermatozoa Reference Set (McCrone Institute)
Ultraviolet Spectroscopy Training Manual
Liquid Chromatography Training Manual
Micro-Color Reaction Training Guide
Phenethylamine Identification
Toxicology Training Guide w/ slide-cassette program

****

NEW CONTINUING EDUCATION SUB-COMMITTEE FORMED ON GAME

A new sub-committee has been formed under the continuing education direction. The new sub-committee will focus on the area of wildlife and game.

The sub-committee chairman, Tommy D. Moore of the Wyoming Game and Fish Department, has indicated the sub-committee's activities are well under way.

One of the first activities planned is a proficiency test involving either frozen or fresh meat. Patty Wakkinen, of the Idaho Fish and Game Department, will be sending out the samples in April.

Tommy has also indicated the committee is exploring the possibility of a hands-on workshop at the Fall meeting in Boise for animal hair identification. Raw hides of the major game animals will be available for sampling by the participants, as well as the identification of unknown samples.

Tommy has sent several technical papers dealing with various forensic aspects of game. These papers are abstracted in this newsletter, and are available by request. Unfortunately, space precluded the full reproduction of the papers.

If you are interested in the committee's activities and would like to participate, simply contact Tommy.

****

TECHNICAL ADVANCEMENT

Rick Groff, the technical advancement chairman, has indicated the proficiency testing program for 1986 is under way.

The primary goal of this committee is to continue the testing program at the same level as it has operated in the past. In addition, several secondary goals have been set.

Rick indicates that there are 19 different agencies representing 35 individual laboratories participating in the program this year. However, he would like to see this number increase.

The goals which have been set include:

1. Keep the exercise simple but worthwhile
2. Avoid trickery
3. An exercise may develop proficiency, point out current laboratory problems and develop methodology.

Those laboratories that did not have a NWAFS member on its staff were not invited to participate this year, even if they had participated in the past. However, if a laboratory had but one member in the NWAFS, they were invited to participate on a laboratory-wide basis.

Rick would like to encourage all participating laboratories to send their results to the exercise coordinator. It is only by sharing the methodology, experimental results and conclusions of a particular exercise that the summary report has any real value.

If you would like to participate in the testing program and have not yet signed up, there is an application attached to the newsletter.

If you have questions or comments about the technical advancement program, contact Rick Groff.

NWAFS FALL 1986 MEETING INFORMATION

It may seem a long way off, however, it is not too soon to begin planning for the Fall 1986 meeting to be held in **Boise, Idaho** at the Red Lion Riverside on October 8-10.

Twenty five [25] rooms have been reserved for the meeting. The rates will be $45 single or double with a registration fee to be announced.

The Red Lion Riverside is a deluxe hotel. Our hospitality suite [two levels] will have a fireplace, jacuzzi and a private deck on the Boise River.

More information will follow from Pam Server, the Fall 1986 Program Chairman.

****

ELISA COURSE

The University of New Haven Forensic Sciences Program in cooperation with the Northeastern Association of Forensic Scientists will run an ELISA [Enzyme Linked Immunosorbent Assay] one week short course/workshop in West Haven, Connecticut the week of May 12-17.

This course will be focused on serological applications of ELISA including basic procedures, applications to blood and body fluid identification, applications in blood grouping, applications with monoclonal antibodies and automation of ELISA procedures.

The principal instructor will be Dr. S. M. Fletcher, Home Office Central Research Establishment, Aldermaston, Reading, Berkshire, England, along with Dr. R. E. Gaensslen, Director Forensic Sciences, University of New Haven and Dr. Henry C. Lee, Chief, Connecticut State Police Forensic Science Laboratory.

The course/workshop fee is $350. Enrollment will be limited to enable hands-on participation by registrants.

For further information about the course, transportation to and lodging in the New Haven area, and registration forms, write to:

UNH-NEAFS ELISA Course
c/o T.A.K.A.
PO Box 208
GreenLawn, New York 11740

****

MEMBER CONTACT NOTE

Mr. Donald K. Phillips has returned to the employ of the Washington State Patrol Crime Laboratory System. Mr. Phillips may once again be contacted at:

Washington State Patrol Crime Laboratory
2nd Floor, Public Safety Building
Seattle, WA 98104
(206) 464-7074

****

CDC ISSUES AIDS PRECAUTIONS FOR LABS

The CDC has issued the following precautions for needle handling and other laboratory-related activity. For further details on this or other AIDS information, contact the AIDS hotline. 1-800-447-AIDS. In Atlanta, call 404-329-1295.

1. Needles should not be bent after use, but should be promptly placed in puncture-resistant containers used solely for disposal. They should be reinserted into their original sheaths before being discarded.
2. Mechanical pipetting devices should be used to manipulate all liquids. Mouth pipetting should not be allowed.
3. Lab coats, gowns, or uniforms should be worn while working with potentially infectious material and discarded appropriately before leaving the laboratory.
4. Gloves should be worn to avoid contact with blood, specimens containing blood, blood-soiled items, body fluids, excretions and secretions, as well as surfaces or objects exposed to them.
5. Procedures and manipulations of infectious material should be performed so as to minimize droplets and aerosols.
6. Biological safety cabinets or other containment devices are advised for procedures with high potential for creating aerosols or infectious droplets.
7. Laboratory work surfaces should be decontaminated with disinfectant following a spill of infectious material and after completion of work.
8. Potentially contaminated material should be decontaminated, preferably by autoclaving, before disposal or reprocessing.
9. All personnel should wash their hands following completion of laboratory activity and remove protective clothing before leaving.

– MLO, December 1985

****

TECHNICAL TIPS

Contributions for this section of the newsletter are solicited by the Editor. The types of material suitable for printing here include:

1. Methodology techniques
2. Unusual occurrences
3. Interesting applications of forensic science
4. Requests for data or reference materials

This feature of the newsletter will only be successful because of member participation. Before each newsletter is printed, the Editor will be calling the various members and their laboratories seeking contributions. You are encouraged to contribute as often as you wish.

CONTROLLED SUBSTANCES

ION-PAIRING EXTRACTIONS

The use of ion-pairing of drug salts with various chlorinated solvents, either by column chromatography or simple extraction, can provide separations that are not possible with acid/base extractions. Some applications of ion-pairing are:

Methamphetamine / Cocaine Mixtures

1. Dissolve in water
2. Add 0.1N NaOH to make basic
3. Extract with diethyl ether
4. Back extract with 1N nitric acid

5. Extract the nitric acid with chloroform

The acid phase will contain the methamphetamine and the chloroform will have the cocaine as a nitrate ion-pair.

Meperidine / Promethazine (MEPERGAN-Wyeth)

1. Add 0.5 ml of sample (usually received as an injectable) to 1.5 ml of 0.1N NaOH
2. Extract with 2 ml of chloroform, separate
3. Add to the chloroform layer 1 ml of 1N nitric acid (the aqueous turns red from a reaction with nitric acid and promethazine)
4. Separate and discard the aqueous (both drugs are in the chloroform as ion-pairs)
5. Add 2 ml of 0.2N sulfuric acid (the meperidine is back extracted from the organic while the promethazine remains in the chloroform)
6. Make the aqueous basic and extract the meperidine into diethyl ether or chloroform.

Methadone in Flavored Syrup Base

1. Prepare a 1N HCl Celite column by adding 0.5 ml of 1N HCl to 0.5 grams of Celite. Mix well until fluffy. Pack into a glass column (approximately 1.25 cm) and tamp firmly.
2. Add 1 ml of the syrup to 4 ml of 0.1N NaOH
3. Extract with 10 ml of ether and separate
4. Pour the ether through the Celite column
5. Repeat steps 3 and 4
6. Wash the column with an additional 10 ml portion of ether (water-washed)
7. Elute the methadone with 10 ml of chloroform

If your sample contains only methadone you can now recrystallize it at this point. However, some samples were received that also contained hydroxyzine. Hydroxyzine ion-pairs and is effectively extracted using this method.

To seperate, use TLC (Clarke's T1). Streak the residue across the bottom of a silica gel plate with fluorescent indicator and run in Methanol:Ammonia (100:1.5). Scrape off the lower of the two bands (approximately mid-plate) and put in 3 ml of 0.2N sulfuric acid. Place in an ultrasonic bath to break up the particles, centrifuge and separate. Make basic and extract with 1-2 ml of chloroform.

- Bill Marshall
Washington State Toxicology Laboratory

EXTRACTION OF HEROIN BY A "PANNING" TECHNIQUE

The procedure outlined below will afford reasonably pure white to off-white heroin base from "brown tar" materials. This extraction method offers several advantages over other methods in current use:

1. A minimum of materials are required (separation funnel, two test tubes, watch glass)
2. The extraction procedure is quick, taking less than 15 minutes to accomplish, and
3. It yields high quality heroin base free from colored impurities (meconin, meconic acid derivatives, etc.) and other adulterants, such as procaine.

The infrared spectra of extracted material are generally excellent.

Methodology

1. Dissolve 3 mg - 100 mg of "brown tar" in about 3-5 ml of water containing a little HCl (10% HCl works fine - Ed.). Filter through cotton.
2. Extract with about 5 ml of chloroform in a 30 ml separation funnel. Discard the aqueous layer, and rinse out the separatio funnel with water.
3. Back extract the chloroform layer from step 2 twice with 3-5 ml of plain water. Discard the chloroform layer after the second wash, saving BOTH water washes. Rinse out the separation funnel (many of the highly colored impurities present in "tar"heroin are left behind in the choroform in this step.)
4. Make the aqueous extract basic with sodium bicarbonate, extract with about 5 ml of chloroform and evaporate the chloroform on a watch glass.
5. The residue on the watch glass is generally pure enough to yield a usable IR spectrum or definitive crystal test as is.

If pure crystalline material is desired, add a couple of milliliters of 35-60 degree petroleum ether containing 10-20% methylene chloride. The methylene chloride will dissolve the residue on the glass and evaporete first; from this heroin can be fractionally crystallized from any materials which may have "carried" along with the extraction.

Generally, the last fraction to evaporate contains heroin; highly colored impurities will drop out of solution first, along with some heroin.

– Gary Mong
Washington State Patrol Crime Laboratory, Kennewick

COCAINE–COBALT THIOCYANATE COMPLEX

Cocaine is easily cleaned up for infrared identification using cobalt thiocyanate as a complexing agent. It separates cocaine even in the presence of other "caines". The method is as follows:

1. Approximately 2 ml of a 2% aqueous cobalt thiocyanate reagent is added to the sample containing a few milligrams of cocaine.
2. Add up to 0.5 ml of concentrated HCl, shake.
3. Extract the blue cocaine–cobalt thiocyanate into chloroform.
4. Dry the chloroform through sodium sulfate and evaporate it on KBr for the IR scan.

If pure cocaine is desired, the chloroform extract can be washed with aqueous ammonia to displace the cocaine from the complex. The chloroform will contain cocaine free base which can be worked up in the usual manner for further identification.

Note: Caffeine or other drugs extracted into chloroform from aqueous acid solutions can interfere in the extraction process.

AMINE DERIVATIVES USING PIT

Amphetamine, methamphetamine, as well as other primary and secondary amines, form derivatives with phenylisothiocyanate (PIT) that provide clean, sharp infrared spectra for identification. The method for extraction and derivatization is as follows:

1. An aqueous solution of any salt is made basic and extracted into petroleum ether.
2. Using a pasteur pipette, add one drop of PIT to the petroleum ether.
3. A white precipitate should form within minutes, which is suction filtered to isolate the crystals.
4. The crystals should be washed once with petroleum ether to remove excess PIT.

The method has several advantages over methods using other salt forms or derivatives:

1. Abundance of crystalline product
2. Stable, non-hygroscopic crystals
3. You can, in some cases, distinguish the pure enantiomer and the racemic mixture:
   a. d-amphetamine vs. d,l-amphetamine
   b. d-methamphetamine vs. d,l-methamphetamine
   (d-methamphetamine is non-crystalline).

– Wally Baker
Idaho State Crime Laboratory, Boise

SIMPLE METHAMPHETAMINE CLEAN-UP FOR CRYSTAL TESTS

Recently, this laboratory has been encountering exhibits described as "peanut butter crank" containing methamphetamine in a pungent, brownish, oily crystalline form.

It is suspected that the material gets its color and properties from reaction products present with the finished product.

The identification of methamphetamine using gold chloride in phosphoric acid proceeds without any problems. However, the identification of methamphetamine using picric acid fails to yield the typical "envelope" shaped crystals from the oily globs, even on standing.

It was found that the following procedure produces a clean enough sample to quickly form the "envelope" crystals with picric acid:

1. Take a crystal of the material and place it midway from the edge and center of a watch glass.
2. Tilt the watch glass over a beaker, and add approximately 0.5 ml of petroleum ether.
3. With the ether over the crystal, crush and mix the crystal with the bottom of a 6x50 disposable culture tube or glass stir rod.
4. Gently decant the petroleum ether into the beaker. Repeat the washing by allowing the solvent to rinse over the crystals. Crushing a second or third time is not necessary.
5. The resultant crystals will dry to a solid crystal and be white in color.
6. A portion of the material is placed on a microscope slide, and the picric acid crystal test performed.

On several occasions, the washing has produced a sufficiently clean product for infrared analysis without any further clean-up or manipulation.

- Roger A. Ely
Washington State Patrol Crime Laboratory, Kelso

TRACE EVIDENCE

HEAT DAMAGE TO FIBERS POINT TO ARSONIST

A plaid cotton shirt belonging to a suspect in an arson investigation was examined for evidence of exposure to heat. There was no apparent charring of the cotton fibers. However, the sewing thread was polyester and in exposed places on the sleeves and the front of the shirt, the thread had begun to melt.

In addition, microscopic examination of fibers in these areas showed some fiber tips with a faded color (e.g. red to light yellow). Dyes of cotton will often fade or "bleach out" when exposed to intense heat below the temperature that would char cotton. This can be achieved by bringing the cotton material against a hot object (stove, hot plate) or by exposing it to flame. In this case, the facing was more consistent with exposure to flame since only the tips of some fibers faded.

- Staff
Washington State Patrol Crime Lab, Seattle

SHOEPRINT COMPARISON

STIPPLING IN MOLD USED IN IDENTIFICATION

A rather poor partial shoeprint was matched to a suspect shoe because in the shoeprint was an area of the shoe sole that has a stippled pattern. The stippling pattern in most molds is made by hand by a skilled craftsman. Therefore, each mold presumably has unique features. In this case, both the stippling pattern and the amount of wear was consistent with the suspect's shoe.

[See William Bodziak, "Manufacturing Processes for Athletic Shoe Outsoles and Their Significance in the Examination of Footwear Impression Evidence", JFS, 31-1, pg. 153]

- Staff
Washington State Patrol Crime Laboratory, Seattle

FIREARMS EXAMINATION

MIKROSIL CASTING OF CARTRIDGE CASES

Frequently, when comparing cartridge cases, Mikrosil casts are made of the firing pin impressions in order to better observe the detail present on the nose of the firing pin. Often, the casting material does not flow completely into the impression, and several attempts are required before an acceptable cast is obtained.

I have found that thinning the Mikrosil with petroleum ether in a disposable beaker before adding the hardener, allows the casting material to flow more freely into the impression. The thinned Mikrosil is spread on a file card, mixed with the hardener and the case heads are pressed into this mixture.

After the Mikrosil sets up, the cases are removed and the casts (with the paper backing still attached) are cut out with a cork borer of an appropriate size. The cast is glued on a #3 cork with identifying marks. The casts are easily organized by using a test tube rack to the hold the corks and they are easily manipulated under the scope using the standard cartridge case holders.

- Wally Baker
Idaho State Crime Laboratory, Boise

FINGERPRINTS

SHELF PAPER USED TO RECOVER POST MORTEM PRINTS

The importance of gathering fingerprints of a deceased victim at the time of autopsy cannot be over stated. The prints may be used for identification, but are also crucial for elimination of the victim from questioned prints.

While most agencies collect post mortem fingerprints routinely, the collection of palm prints seems to be infrequent. Many times, the reason for not collecting palm prints has been the lack of a suitable method and procedure to insure quality impressions.

The use of self-sticking shelf paper (found at most grocery or hardware stores) is an easy method to use to collect post mortem palm and fingerprints:

Materials:

1. One roll of clear self-sticking contact paper
2. One roll of white self-sticking contact paper
3. Black fingerprint powder and brush

Method:

1. Since the papers usually come in 18 inch wide rolls, cut both rolls into pieces approximately 9x9 inches. Also cut several pieces of the white paper into 1x3 inch pieces. DO NOT REMOVE THE BACKING.
2. Wash the deceased's hands and dry them thoroughly with a towel. Wait for a few minutes until any residual moisture or dampness air dries.
3. Dust the palms and fingers of one hand with the black fingerprint powder. Open the hand so that the powder gets down into the creases of the palm and finger joints.
4. Remove the backing from a single sheet (9x9) of the clear shelf paper and place it sticky-side up on a counter top. It helps to lightly tape the corners with adhesive tape to prevent movement during the application process.
5. Take one of the small (1x3) pieces of white paper, remove the backing and apply (with the sticky side down) lengthwise to one of the fingers. The paper will adhere to the skin and you can gently rub the paper around the edges of the finger. Remove the paper, and the fingerprint will be present on the adhesive side. With a Sharpie felt pen, note which finger the print is from.
6. Place this piece along the lower edge of the clear paper, with the sticky sides facing each other. Place all fingerprints on the same piece of clear paper.
7. Continue until each finger on the hand has been printed.
8. To do the palm, lightly dust the hand again. Take a large (9x9) piece of the white paper, remove the backing and gently bring two of the edges together so that the adhesive is on the outside and the paper forms a gentle curved surface.
9. Work the hand so that this curve will fit into the palm, and gently press it into contact with the skin. Once the paper is in place, continue pressing the paper into place on the fingers, thumb and heel of the hand.
10. Carefully remove the paper by pulling off one finger at a time and finally off the palm.
11. Place this, print side down, onto another piece of clear paper (as described in #4).
12. Repeat the procedure for the other hand.
13. When completed, take a new piece of clear paper for each of the sets and apply it to the back of the white paper. This will create a "sandwich" and protect your print impressions. Trim the edges so that no adhesive is exposed.

This technique will yield high quality finger and palm prints, black on a high white surface and protected against smearing and smudging.

The technique of taking the palm print does require some practice, as does the even laying of the white paper on the clear.

– Roger A. Ely
Washington State Patrol Crime Laboratory, Kelso

****

REFERENCE ABSTRACTS

The following abstracts were obtained from a variety of sources including the newsletters of various forensic associations, agency-sponsored "newsletters" and members of NWAFS. If you are interested in obtaining a copy of an article or paper abstracted in this section or you have a paper that would be of interest to the rest of the membership, please contact Roger Ely.

CALIFORNIA ASSOCIATION OF CRIMINALISTS NEWSLETTER

January, 1986

"CAC Responds to Judicial Criticism"

A brief discussion of the findings of the Third District Court of Appeals decision in the People v. Reilly (17Cal.3d 24). One of the issues raised in the appeal was the validity of the serological tests performed by a criminalist. In the decision, the court found that the examinations were not acceptable under the principles set by the Kelly-Frye test. Accompanying the brief is a letter by then CAC President John Murdock to the court.

"Supreme Court Issues Brown Decision"

A brief discussion of the findings of the California Supreme Court decision in the matter of the People v. Brown [Crim 22501]. One of the issues on appeal was the validity of serological examination procedures performed by the prosecution's criminalist. Dr. Benjamin Grunbaum filed an Amicus Curiae on behalf of the defendant in this appeal.

"Isolation of Capsaicinoids by Solvent Extraction"
Thorton, John; Hendrickson, Beth; and Goldman, Grady

A solvent extraction scheme and clean-up for the examination of materials suspected as containing capsaicinoids is described. Personal security devices containing lacrymators [tear gas] may contain oleoresin of capsicum.

THE LANCET

September 28, 1985

"The Resistance of AIDS Virus at Room Temperature"
Barre-Sinoussi, F., Nugeyre, M.T., and Chermann, J.C.

LAV/HTLV-III, the agent causing AIDS, can be found in body fluids, in particular, saliva. Tests indicate that the virus is active when stored at room temperature for up to 20 days, either dried or in water. This resistance would seem to indicate a hazard to persons working with dried or moist body fluids for as many as twenty days.

IDENTIFICATION NEWS

December 1985

"Effects of New Fingerprinting Techniques On Bloodstains"
Bowles, S.A.

The use of various new fingerprint recovery techniques were examined to determine their effect on the typing of bloodstains. Primary techniques of study where cyanoacrylate fuming [Superglue] and Rodamine 6G. The study showed that the fingerprinting method had no effect on the ABO, PGM, AK, HP, Rh, EAP, EsD and GLO systems.

US DEPT. FISH AND WILDLIFE SERVICE

May 1984, No. 84-45

"Forensic Identification of Commercial Fish Fillets"
Todd, Tom

Breaded and battered frozen fish fillets suspected of being sauger and walleye, and being marketed as yellow perch from the Great Lakes was examined using horizontal starch gel electrophoresis to discriminate proteins in the muscle tissue.

SEROLOGICAL RESEARCH INSTITUTE

July 1985

"Homozygosity in Bighorn Sheep Blood Proteins: Evidence of Inbreeding Second Year Report"
Wraxall, Brian and Laurie Rawlinson DeHaan

This report provides methodologies and results compiled in the second year research study investigating possible inbreeding in Bighorn Sheep [Ovis canadensis]. 415 blood samples were received from herds located in Arizona, California, Canada, Colorado, Idaho, Mexico, Montana, Nevada, New Mexico, Oregon and Utah. These samples included 5 subspecies, O.c. californiana, canadensis, cremnobates, mexicana and nelsonii.

Blood samples were screened for polymorphism in 7 of the blood grouping systems used in the pilot study: PGM, EsD, GLO 1, PGM subtyping, Hb, CAII and PepA. Development and evaluation of 4 additional systems; EsD separation by isoelectric focusing, PGAM, PGI and SOD, were also initiated, Polymorphisms were found in some systems.

ENHANCEMENT PROJECT PROPOSAL

Approved February 14, 1986

"Physical and Chemical Changes Between Fresh and Frozen Game Muscle Tissue and Estimation of Length of Time Frozen"
Moore, Tom D. and Rey A. Field

This is a project proposal for the development of methods to allow the estimation of the length of time a meat has been frozen. Enzyme solubility and new biochemical methods for distinguishing fresh and

frozen meats, as well as physical changes in the tissue structure may provide a means to estimate how long the meat was frozen. Scheduled completion date is June 30, 1988.

SOUTHWESTERN ASSOCIATION OF FORENSIC SCIENTISTS JOURNAL

March 1986

"Automated Arson Analysis - A Dream Come True?"
Cornelius, Allen

A semi-automated approach to arson analysis is discussed. Samples are submitted in metal paint cans and samples of the vapors within the cans are collected by vacuum under heat on charcoal. Washing of the charcoal with carbon disulfide removes the volatiles.

The collected residue is sealed in a crimped autosampler vial. Gas chromatography is performed via an autosampler coupled with a data station to save chromatographic data on floppy disk. This method allows the examination of up to 20 samples without operator intervention, and is suited for overnight operation.

"The Effects of Frequency of Maintenance and Frequency of Usage on the Intoxilyzer 4011AS"
Baxter, Richard

A study was initiated, as an after thought, as to the relationship of frequency of maintenance vs. repairs, and the frequency of usage vs. repairs. No real conclusion was reached due to the author's acknowledgment of the study being an accident and a small [4] sample population.

"A Study of Duplicate Breath Analyses on Drinking Subjects"
Weatherman, Alvin

This study examines the correlation between duplicate breath analyses of drinking subjects using the Intoxilyzer 4011AS-A in an attempt to establish a "window" or renge of agreement in which these results should fall to be considered valid for evidentiary testing.

The study shows a strong linear correlation for replicate breath analyses on drinking subjects. The range and precision of the study suggests that an allowable variation of 0.02 g/210 L would be an acceptable and viable "window of agreement" for the Intoxilyzer 4011AS-A.

"Computer Controlled Breath Alcohol Instrumentation On a Statewide Basis"
Hyland, Mark D.

Telecommunications between Intoximeter 3000's and a central IBM PC-XT provide a central source of DWI chemical test information.

"Anodic Stripping Voltammetry (ASV) - An Alternative GSR Procedure"
Longwell, C.R. and R.C. Briner

The use of Anodic Stripping Voltammetry (ASV) for the determination of gunshot residue is discussed. Applications of this method have been found to be promising with a sufficient sensitivity to antimony. In addition, the technique is rapid, simple and inexpensive.

"Easy Paint Cross-Sections - A Technical Note"
Hegney, Thomas R.

A method for making cross-sections of paint chips using paraffin and a microtome is described.

"Which Cartridge Was Fired First?"
Stengel, Richard F.

The examination of evidence cartridges and and test fired cartridges for chamber marks allowed the determination as to the sequence of firing for two different brand .22 magnum cartridges.

"Isolation and Identification of Major Products And Reactants of Clandestine Amphetamine Laboratories"
Eaton, David K. and Glenn C. Harbison

The identification of phenyl-2-propanone, amphetamine and n-formylamphetamine from clandestine sources is discussed. Techniques include infrared and gas chromatography.

"Separation of Methamphetamine and Phenylacetone From Clandestine Laboratory Samples by HPLC"
Nguyen, Minh and Henry Forjohn

A HPLC method for the separation, identification and quantitation of methamphetamine and phenylacetone are discussed.

"Methamphetamine Optical Isomer Determination"
Hogan, Terry H. and Thomas F. Simonick

Both the d- and l- forms of methamphetamine are controlled in the state of Arizona. However, Vicks inhalers contain l-methamphetamine and are federally excluded. A simple crystal test using bismuth iodide provides a rapid determination of the optical form.

"Psilocin Extraction Procedure"
Burroughs, Robert E.

An acid-hydrolyzed extraction of material thought to contain psilocin is discussed.

"Prevention of Cell Lysing in the Absorption Inhibition Test Caused By Soap Contamination In The Stain Substrate"
Hogan, Terry H.

A case involving a semen stain on a towel caused the stain sample and control sample to lyse the indicator cells. A pre-wash of the cloth with chloroform was found to remove non-polar organic solvents as well as soap, however chloroform did not remove all synthetic detergents.

NORTHWEST ASSOCIATION OF FORENSIC SCIENTISTS

Proficiency Testing Program

MONTH	EXERCISE	ORGANIZER	PHONE NO.	# OF SAMPLES
1. January	Drug	Kurt Scudder	(208) 334-2231	
2. February*	Arson	Dale Mann	(206) 464-7074	
3. March*	Fibers	George Matsuda	(503) 229-5017	
4. April	Fish & Game (Meat for speciation)	Patty Wakkinen	(208) 334-3969	
5. May	Blood Alcohol	Jim Hutchinson	(406) 728-4970	
6. June	Serology	Peter Mange	(303) 759-1100	
7. July	Drugs	Don Chinn	(808) 471-9957	
8. August	Toolmarks	Bob Christensen	(307) 777-7607	
9. September	Serology	Don Wyckoff	(208) 232-9474	
10. October	Urine Toxicology	Wayne Jeffery	(604) 666-2045	
11. November	Match to Matchbook Comparison	Rocky Mink	(503) 889-3831	
12. December	Fish & Game (Hairs)	Tom Moore	(307) 766-5628	

* Exercises 2 and 3 will actually be received in reverse order.

Mail application to: Rick Groff
Forensic Section
2220 Old Penitentiary Road
Boise, ID 83712

Address and name of the person receiving the samples: _____

Phone # _____

_____

_____

_____

_____

NORTHWEST ASSOCIATION OF FORENSIC SCIENTISTS

Spring 1986 Meeting
Bend, Oregon

CALL FOR PAPERS

NAME _____

ADDRESS _____

_____ PHONE _____

TITLE OF PAPER _____

TO BE PRESENTED BY _____

AMOUNT OF TIME FOR PRESENTATION _____

AUDIO VISUAL EQUIPMENT NEEDED _____

ABSTRACT:

Send To:

Mike Howard
OSP Crime Laboratory
375 NE Franklin Street
Bend, Oregon 97701

(503) 388-6150

ABOUT THE NEWSLETTER

The NEWSLETTER of the NORTHWEST ASSOCIATION OF FORENSIC SCIENTISTS is published quarterly and is dedicated to the following goals:

1. To encourage the exchange of ideas and information within the field of forensic science through improving contacts between persons and laboratories engaged in the forensic sciences.

2. To stimulate research nd the development of new and/or improved techniques in the area of forensic science.

3. To promote the improvement of professional expertise or persons working in the field of forensic science.

SUGGESTIONS FOR CONTRIBUTORS

The NEWSLETTER seeks contributions for publication from its membership in the areas:

1. Correspondence and inquiries
2. Methodological notes
3. Abstracts of papers presented at NWAFS meetings
4. Short technical papers
5. Case reports
6. Employment announcements
7. News of meetings, schools, workshops, training announcements
8. Legal news
9. Editorials

Contributions should be titled, include author credits and pertinent references. The contributions may be typed, single spaced on plain white paper or contributions may be prepared by word processor and sent to the editor on 5 1/4 inch floppy disk in one of the following formats:

a. Kaypro 2
b. Kaypro 4
c. IBM PC

Communications with the NEWSLETTER Editor may be made by telephone during normal business hours, US Mail, or electronic mail via the SOURCE or COMPUSERVE:

Roger A. Ely
WSP Crime Lab
PO Box 888
Kelso, WA 98626
(206) 577-2087

SOURCE: EMail to STT299
COMPUSERVE: EMail to 76505,1655

Deadlines for contributions are Feb. 1, May 1, Aug. 1 and Nov. 1

IN THIS ISSUE OF THE NEWSLETTER:

- Plans are nearing completion for the Spring Meeting in Bend
- McCrone course update
- Technical tips for the benchtop:
    - Controlled Substances
    - Fiber Evidence
    - Shoeprint Examinations
    - Firearms Examinations
    - Fingerprint/Palm Print Recovery
- Abstracts from other newsletters
- New continuing education sub-committee formed

- **PLUS A LOT MORE .....**

NORTHWEST ASSOCIATION OF FORENSIC SCIENTISTS
Roger A. Ely, Editor
Washington State Patrol Crime Lab
PO Box 888
Kelso, WA 98626

Arnold Melnikoff
Div. of For. Sci. Lab
554 W. Broadway 6th Flr
Missoula MT 59802