

Microgram

Bulletin

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MARCH 2003

- SAFETY AND INTELLIGENCE ALERT -

TNT AS “METHAMPHETAMINE” IN PERRYVILLE, MARYLAND

The DEA Mid-Atlantic Laboratory (Largo, Maryland) recently received a submission of a piece of aluminum foil containing suspected methamphetamine (see Photo 1). The exhibit was seized by a Maryland State Trooper during a routine traffic stop on Interstate 95 near Perryville, Maryland. When unwrapped, the aluminum foil was approximately one inch in width and three inches in length, and contained 1.0 gram of fine brown powder. Analysis of the powder by GC/MS, FTIR and ITMS (Ion Trap Mobility Spectrometry), however, indicated not methamphetamine but rather 2-methyl-1,3,5-trinitrobenzene, better known as 2,4,6-trinitrotoluene (TNT), a high explosive. The exhibit was subsequently transferred to the Bureau of Alcohol, Tobacco and Firearms National Laboratory in Rockville, Maryland for



Photo 1

further analysis and safekeeping. This was Mid-Atlantic Laboratory's first encounter with TNT being submitted as a suspected controlled substance.

[Editor's Notes: This sample appears to resemble a much larger seizure (2.5 kilograms) of TNT reported in the September 2002 issue of *Microgram Bulletin*. In that case, the TNT was being sold as "heroin". Any laboratory encountering similar exhibits is asked to report their findings to the BATF Laboratory, at: 1401 Research Blvd., Rockville, MD 20850; Attn: E. Bender.]

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- INTELLIGENCE ALERT -

METHAMPHETAMINE/MDMA TABLETS IN COPLEY, OHIO

The DEA North Central Laboratory (Chicago, Illinois) recently received 99 green tablets, 8.2 x 3.4 mms, with a horse imprint on one side and a single score on the other side, suspected Ecstasy (see Photo 2). The exhibit was purchased in Copley, Ohio, by the DEA Cleveland Resident Office in an undercover operation. Analysis by GC, GC/MS, and FT-IR, however, indicated a mixture of MDMA (19 mg/tablet) and d-methamphetamine (23 mg/tablet). While this combination in Ecstasy tablets is not unusual, the fact that the methamphetamine is the predominant controlled substance is noteworthy. This was the Laboratory's first encounter with these type tablets.



Photo 2

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- INTELLIGENCE ALERT -

**OPIUM-"STARCHED" BLANKET INSERTS SEIZED
AT WASHINGTON/DULLES INTERNATIONAL AIRPORT**

The DEA Mid-Atlantic Laboratory (Largo, Maryland) recently received a submission of 61 small blankets containing suspected opium (see Photo 3). The blankets (total net mass 25.1 kilograms) were aboard a passenger flight originating from Laos (transiting Korea), and were seized by the United States Customs Service at Washington/Dulles International Airport. Each blanket was approximately 3 feet long by 3 feet wide. The blankets themselves did not contain opium; however, each also contained a hard, black



Photo 3

cheesecloth-like insert that had an opium-like odor (see Photo 4). Analysis of extracts from this latter fabric by GC and GC/MS confirmed the presence of opium, specifically codeine, morphine, thebaine, papaverine, and noscapine. A representative portion of the blankets was extracted for quantitative analysis, and it was calculated that the total net mass of opium was 9.6 kilograms. This was Mid-Atlantic Laboratory's first encounter with opium-starched blankets.



Photo 4

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- INTELLIGENCE ALERT -

UNUSUAL "ICE" METHAMPHETAMINE EXHIBITS IN STOW, OHIO

The DEA North Central Laboratory (Chicago, Illinois) recently analyzed two unusual methamphetamine exhibits submitted by the DEA Cleveland Resident Office. The exhibits were obtained in Stow, Ohio via an undercover purchase, and had the appearance of "ICE" (1/4 inch long white crystals). The first had a net mass of 7.0 grams and was packaged in a single, clear zip-lock plastic bag, while the second had a net mass of 3.2 grams and was packaged in 14 small zip-lock plastic bags all contained within a larger zip-lock plastic bag (photos not available). Analysis by GC, GC/MS, and FT-IR, however, indicated not high purity methamphetamine but rather a mixture of methamphetamine and dimethylsulfone. The first exhibit contained only 34% d-methamphetamine hydrochloride, while the second contained only 25% d-methamphetamine hydrochloride.

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- INTELLIGENCE BRIEF -

UNUSUAL PRISON SMUGGLING METHODS

Officials at Corcoran State Prison in California report that heroin and methamphetamine are being smuggled into the prison by several unconventional methods. Prison officials report that heavy paper, such as that used to make greeting cards, is soaked in methamphetamine solution. Once dried, the paper is inserted into an envelope and mailed to an inmate. Inmates administer the drug by tearing the paper into small pieces, generally 1-inch squares, and then placing the pieces in their mouths. They either ingest the drug themselves or sell it to others. Prison officials also report that black tar heroin is smuggled into the prison by individuals who place small quantities of the drug between two sheets of paper and press the pages together with an iron. The pages are then included in a stack of documents and mailed to the inmate. Officials further report that methamphetamine and heroin are smuggled into the prison by individuals who

insert small amounts of drugs into five or six colored balloons that are then coated with honey, covered with multi-colored cereal, and placed in boxes of cereal. The cereal boxes are resealed - using a heat sealer and glue - and mailed to inmates.

[Editor's Notes: The above Intelligence Alert was prepared by the Narcotics Drug Intelligence Center (NDIC), and was originally published in the NDIC's *Narcotics Digest Weekly* on January 21, 2003 (reprinted with permission). A similar technique for smuggling methamphetamine into a prison by "starching" coloring book pages was reported by the Arizona Department of Public Safety Southern Regional Crime Laboratory (Tucson, Arizona) in the December 2002 *Microgram Bulletin*.]

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- MEETING BRIEF -

INTERNATIONAL DRUG PROFILING CONFERENCE IN DULLES, VIRGINIA

On December 2 - 5, 2002, delegates from 11 countries gathered at the DEA Special Testing and Research Laboratory to discuss drug profiling and initiate the development of an International Drug Profiling Database (IDPD). Represented were: Austria, Australia, England, Finland, Germany, Hong Kong, Japan, Sweden, Switzerland, The Netherlands, and the United States. The conference was funded by the Office of National Drug Control Policy (ONDCP) and was hosted by Mr. Thomas J. Janovsky, Deputy Assistant Administrator, DEA Office of Forensic Sciences. Mr. Joseph P. Bono, Quality Assurance Manager, Office of Forensic Sciences, organized and facilitated the meeting. This conference was the first of its type ever held in the United States, and recognized the importance of strategic intelligence gathering and its potential value in determining, monitoring, and interdicting drug trafficking (and thereby impact on a principal funding source for international terrorist groups). Some of the topics included formally defining drug profiling and source determination terms, standardizing critical drug profiling elements, establishing a universal database platform, information distribution and sharing, and establishing a centralized command and control oversight.

Three Subcommittees were established: The first will address the criteria for a heroin database; the second will address the criteria for the amphetamine type stimulants (ATS) database; and the third will develop the criteria for a universal database platform. Additional topics of critical importance (e.g., cocaine) were deferred for later consideration.

Initial reports will be submitted by the three subcommittees by March 25, 2003. The next meeting is tentatively scheduled to be held in June 2003; the delegates from Sweden and Finland both offered to host the next Conference.

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Selected Intelligence Brief

THE EVOLUTION OF THE DRUG THREAT: THE 1980'S THROUGH 2002

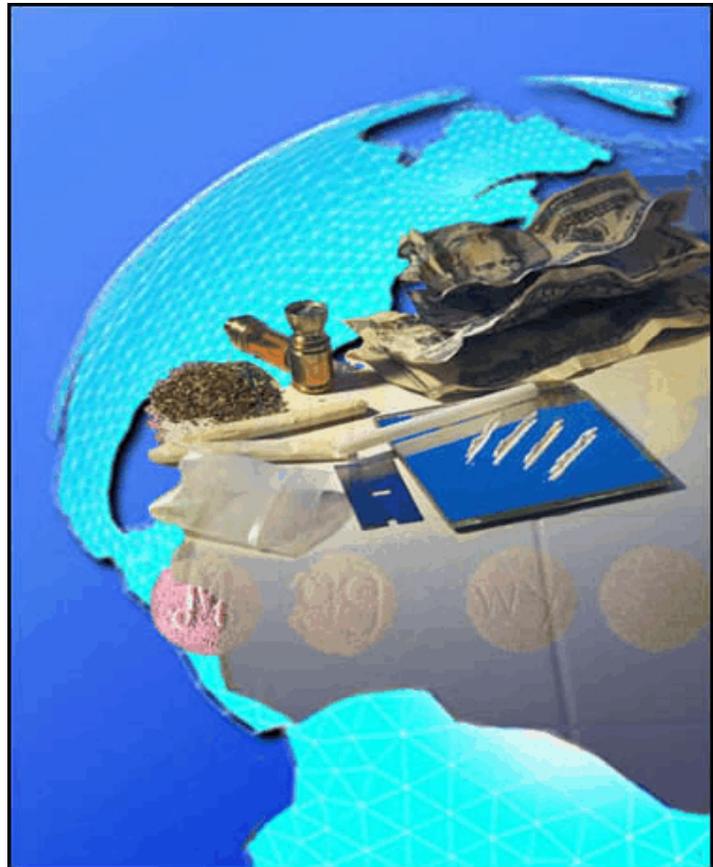
DEA Intelligence Division
International Strategic Support Section
Europe/Asia/Africa Unit

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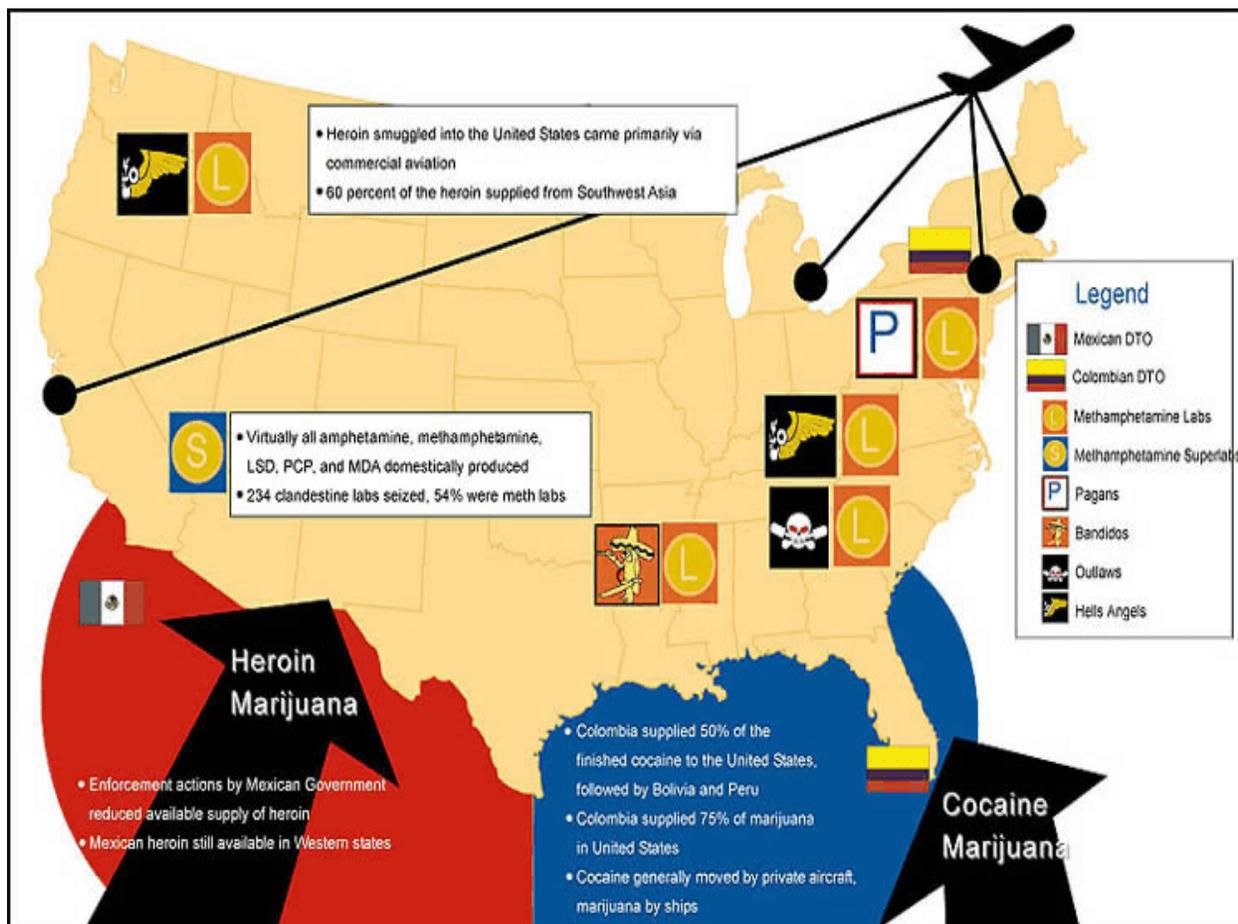
The illicit drug trade in the United States is affected by numerous factors, including consumer demand, sources of supply, the organizational strengths and adaptability of criminal groups, and the ability of law enforcement and interdiction assets to disrupt or dismantle drug distribution systems. Identifying the most significant drug threats to the United States requires the fusion of current intelligence with a historical perspective to fully assess the dynamics of the illicit drug trade.

This report identifies the most significant changes in the drug threat over the past twenty years, as identified in past issues of the National Narcotics Intelligence Consumers Committee Report (NNICC). The first part of the report serves as a historical foundation for a current drug threat assessment, and offers a perspective on the dynamics that will affect the drug threats facing the United States in the near future. The second part of the report provides a summary of the most significant factors shaping the distribution of illicit drugs.



The first-level evaluation of the current drug threat assessment was derived from field division assessments, open-source reports, drug abuse indicators, and reports from the El Paso Intelligence Center (EPIC) and Joint Interagency Task Force East. The second-level evaluation involved a survey of Drug Enforcement Administration (DEA) field managers who precisely identified the most significant drug problems in the field divisions, and the factors that affected those priorities, such as levels of violence associated with the trade, abuse indicators, and the volume of drugs moved. Rather than a comprehensive study of the drug trade, this report provides a snapshot of a highly dynamic criminal environment, and the challenges facing U.S. intelligence and enforcement agencies.

Drug Smuggling in the 1980's



The 1980's: A Radical Transformation of the Consumer Market

The single most important transformation of the U.S. illicit drug market in the 1980s was the rampant growth of cocaine trafficking and abuse. Fed by the perception that the drug was a benign stimulant, cocaine trafficking and abuse radically transformed the illicit drug environment. The ready supply of cocaine virtually replaced the demand for the synthetic drug, phencyclidine, or PCP. The introduction of crack cocaine, an easily obtained form of smokeable cocaine, increased demand and fueled violent gang wars between rival suppliers.

Although Bolivia and Peru were the largest coca and cocaine base producers, Colombian traffickers dominated the final production of cocaine hydrochloride. Colombian sources supplied at least 50 percent of the cocaine smuggled to the United States, with Colombian distribution organizations firmly entrenched in South Florida. The Caribbean remained the primary cocaine smuggling corridor, utilizing maritime and air smuggling routes through The Bahamas.

Southwest Asia was the primary source of heroin to the United States, supplying approximately 60 percent of the U.S. heroin market. Pakistan was the largest and most accessible heroin producer in the

region. Opium poppy cultivation in Afghanistan was severely disrupted as a result of the fighting between Soviet forces and the Mujahedeen; however, because interdiction efforts in the country were primarily directed at controlling the flow of weapons to Afghan guerillas, heroin exports continued, albeit at a reduced level. Mexican heroin continued to supply the western United States, although enforcement actions by the Mexican Government severely disrupted heroin sources.

Colombia was the primary source of foreign-produced marijuana in the United States, supplying approximately 80 percent of the marijuana smuggled into the United States. Mexico and Jamaica supplied the balance of the foreign-produced marijuana, with domestic production supplying less than 10 percent of the market. Most of the marijuana from Colombia was smuggled through the Caribbean corridor, using maritime conveyances.

The production and trafficking of synthetic drugs was relatively limited in the 1980s. Domestic clandestine laboratories supplied nearly all of the available synthetic drugs in the United States, with the exception of diverted pharmaceuticals. In 1980, Drug Abuse Warning Network (DAWN) Emergency Room data identified diazepam (Valium) as the most frequently cited cause for admission. Although the majority of clandestine laboratories in the United States produced methamphetamine, PCP was the only clandestinely produced drug that was identified as a significant problem in DAWN Emergency Room data. Outlaw Motorcycle Gangs (OMGs), such as the Hells Angels, the Bandidos, the Outlaws, and the Pagans, dominated the production and trafficking of methamphetamine, as well as marijuana distribution. Lysergic acid diethylamide (LSD) made a comeback in the early 1980s; however, its abuse was limited primarily to California and larger urban areas in the East and Midwest.

The 1980s demonstrated the increasing power of drug trafficking organizations to disrupt civil governance of the cocaine-producing regions. The July 1980 coup in Bolivia, led by Garcia Meza and reportedly backed by the “Santa Cruz Cocaine Mafia,” severely undermined drug control efforts in the country. In 1981, the Colombian paramilitary group M-19 kidnapped Martha Nieves Ochoa, the sister of Medellín cartel head Jorge Luis Ochoa. The cartel responded by organizing a death squad that methodically killed guerillas and their families until Nieves was released. The cartel further directed its squads against journalists and political leaders in an effort to force the repeal of Colombia’s extradition treaty with the United States. In one of the more violent acts of the decade, 95 people, including 12 members of the Colombian Supreme Court, were killed when 42 members of M-19 seized the Palace of Justice in Bogota in 1985. In a common cause with the cartel, M-19 demanded the repeal of the extradition treaty.

The 1980s witnessed substantial changes in the law enforcement and security resources directed against drug trafficking. The resources of the Central Intelligence Agency were brought into the counternarcotics mission by Executive Order in 1982. In 1986, National Security Decision Directive 221 articulated the policy that, “The international drug trade threatens the security of the United States by potentially destabilizing democratic allies.” United States military assets were formally directed to provide support to the counternarcotic mission under the National Defense Authorization Act of 1989.

The Anti-Drug Abuse Act of 1988 authorized the Director of the Office of National Drug Control Policy (ONDCP) to designate regions of the United States as “high intensity drug trafficking areas” (HIDTAs). The diversity of the drug trafficking threat was reflected in the geographic diversity of the initial five HIDTAs: the cities of New York, Los Angeles, Miami, and Houston, as well as the Southwest border (all counties along the United States–Mexico border from San Diego to Brownsville, Texas).

Drug Smuggling in the 1990's



1990's: Supply Shifts

During the 1990s, Mexico emerged as the most significant transshipment corridor for illicit drugs smuggled into the United States. Although cocaine continued to move through the Caribbean corridor, increased radar coverage from Aerostats along the Southeast coast deterred the use of aircraft flights directly to the United States. Traffickers thwarted the increased radar surveillance by combining drug airdrops with high-speed boats operating beyond the range of the new systems. The increased law enforcement and military presence in the Caribbean forced traffickers to explore more elaborate smuggling avenues, including the purchase of Soviet cargo aircraft; a surplus Soviet diesel submarine; and experimentation with semi-submersible vehicles.

Colombian traffickers increasingly relied upon Mexican and Dominican trafficking organizations to smuggle cocaine shipments to the United States. By the mid-1990s, Colombian organizations started paying Mexican transportation organizations with portions of the smuggled cocaine load, with up to half of the load provided to the transporters. This arrangement reduced the need for large financial transactions, and firmly established Mexico-based drug trafficking organizations as significant illicit drug wholesalers in the United States. The Central American corridor was increasingly used for air and

overland cocaine shipments to Mexico. Aircraft were used to move cocaine from Colombia to Northern Mexico. Although smaller, twin-engine aircraft were most often used to smuggle cocaine, larger surplus jet aircraft were also used to transport multi-ton quantities of cocaine.

Drug-related violence continued to undermine government control in South America. Over 150 groups loosely organized in cartels operating out of Medellín and Bogota, dominated the cocaine trade. Colombian insurgent groups such as the Revolutionary Armed Forces of Colombia (FARC) and the Army of National Liberation (ELN) also benefitted from the cocaine trade by taxing narcotics profits; protecting crops, laboratories, and storage facilities; and occasionally extracting payment in weapons. Insurgent groups also carried out kidnappings and terrorism in support of traffickers' aims.

By 1988, Southeast Asian (SEA) heroin dominated the East Coast heroin market, while Mexican heroin was supplied to users in the Western United States. New York was the primary importation and distribution center for SEA heroin, with San Francisco, Seattle, Los Angeles, and Washington also identified as points of entry. SEA heroin continued to dominate the market throughout the early 1990s, all but replacing Southwest Asian heroin. In 1994, however, a joint Royal Thai Government/DEA endeavor - Operation TIGER TRAP - led to the incarceration in Thailand and extradition to the United States of more than a dozen high-level violators who had played key roles in moving SEA heroin to the United States. These successful actions disrupted long-standing SEA heroin trafficking *modus operandi*, not only in Asia, but also in the United States.

Expanded opium poppy cultivation and heroin production in Colombia in the early 1990s allowed Colombian traffickers to fill the void created by the decreased flow of SEA heroin to east coast markets. During the mid-to-late 1990s, Colombian heroin traffickers easily undermined the SEA heroin market with a readily available supply of high-quality, low-priced white heroin. They also undercut their competitors' price and used established, effective drug distribution networks to facilitate supply. Since Colombian heroin, often sold on the street with a purity of 90 percent, can be snorted like cocaine, it avoided the stigma of needle usage; thus, Colombian traffickers had a built-in marketing advantage over traffickers from Southeast or Southwest Asia. Throughout the 1990s, Mexico-supplied heroin continued to dominate user preferences in the Western United States.

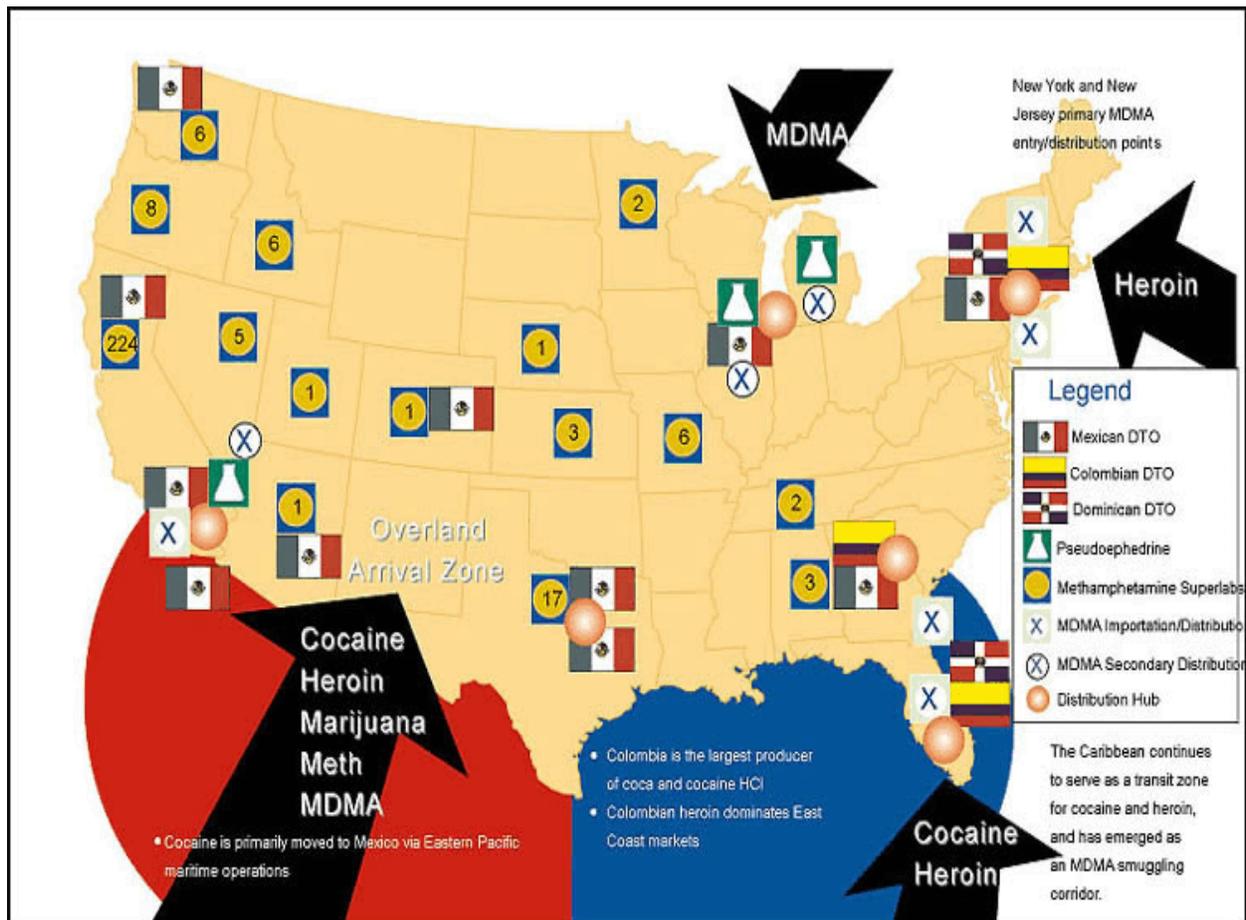
By 1990, Mexico was the largest supplier of marijuana to the United States. According to the National Household Survey, the number of then current marijuana users (any use within the past 30 days) decreased from 22.5 million in 1979 to 10.2 million in 1990. Despite decreased demand, the profit margin for marijuana not only fueled Mexican trafficking organizations, but led to an increase in domestic marijuana cultivation - particularly indoor-grow operations producing high-potency marijuana.

Synthetic drugs, especially methamphetamine, continued to be primarily produced domestically. In the early 1990s, high-purity "ice" methamphetamine (80- to 90-percent pure methamphetamine with a crystalline appearance) appeared on the West Coast. In addition to domestic production, primarily in California, ice was supplied from laboratories in South Korea and the Philippines. OMGs dominated the production of methamphetamine through the early 1990s. In the mid-1990s, however, Mexican drug trafficking organizations started large-scale production and trafficking of methamphetamine. The introduction of high-quality, low-priced methamphetamine undercut the monopoly once held by outlaw bikers. Some OMGs, including the Hells Angels, reportedly relied upon Mexico-based sources of supply for their methamphetamine, preferring to avoid the risks associated with the manufacture of the drug. A sharp decrease in the purity of Mexican methamphetamine at the end of the 1990s reportedly pushed OMGs back into drug production.

LSD and PCP remained available throughout the 1990s. In the late 1980s and early 1990s, methylenedioxymethamphetamine (MDMA) also called Ecstasy, gained popularity among young, middle-class college students in limited areas of the United States. Ecstasy use and availability greatly escalated in 1997 when clandestine laboratories, operating in Europe, began exporting significant quantities of MDMA tablets to distributors in the United States.

Drug Threat Assessment 2002

Current Drug Threat



Regional Abuse Patterns

Most DEA field divisions continue to identify cocaine as the primary illicit drug of concern, based upon abuse indicators, the violence associated with the trade, and/or the volume of trafficking through their areas of responsibilities. Heroin remains readily available in major metropolitan areas. Despite the availability of high-purity white heroin, which can be snorted, abuse appears to have stabilized in recent years. Methamphetamine trafficking and abuse dominate the West Coast and much of the Rocky Mountain and Midwest regions of the country. Polydrug trafficking along the Southwest border continues to tax allocated resources, and cocaine remains the drug of choice along the Atlantic seaboard.

Smuggling Patterns

The Southwest border remains the most vulnerable region of the United States for border security, followed by the Gulf Coast. Interagency assessments report over 60 percent of the cocaine entering the United States moves across the Southwest border. The U.S. Customs Service identified an increase in the movement of drugs between ports of entry over the last several years, as well as a trend toward smaller drug loads. EPIC reports that traffickers have not changed smuggling methods or routes following the September 11, 2001, terrorist attacks. Although the transportation centers are likely to be located near the border, the command and control centers could operate from nearly any location in the United States. Mobile communications and internet encryption allow Drug Trafficking Organizations (DTOs) to operate from remote locations.

Availability

The 9-percent decline in cocaine purity over the past 4 years illustrates a vulnerability of crop-based illicit drugs. One possible explanation for the increased use of cutting agents by Colombian DTOs is the expansion of the non-U.S. drug market beyond the traffickers' means to maintain world supplies. Cocaine and heroin production are limited not only by the same factors that affect any agricultural product, but also by the traffickers' abilities to either control production regions or to thwart government crop eradication efforts. Supplies of synthetic drugs, such as methamphetamine, MDMA or Ecstasy, PCP, and LSD are not limited by these same factors. The traffickers' capability to quickly move production sites of synthetic drugs presents a significant challenge to law enforcement authorities.

Cocaine

Colombian drug trafficking organizations increasingly rely upon the eastern Pacific Ocean as a trafficking route to move cocaine to the United States. Law enforcement and intelligence community sources estimate that 72 percent of the cocaine shipped to the United States moves through the Central America-Mexico corridor, primarily by maritime conveyance. Fishing vessels and go-fast boats are used to move multiton cocaine loads to Mexico's west coast and Yucatan Peninsula. The loads are subsequently broken down into smaller quantities for movement across the Southwest border. Despite the shift of smuggling operations to the eastern Pacific, the Caribbean corridor remains a crucial smuggling avenue for Colombian cocaine traffickers. Puerto Rico, the Dominican Republic, and Haiti are the predominant transshipment points for Colombian cocaine transiting the Caribbean.

Traffickers operating from Colombia continue to control wholesale level cocaine distribution throughout the heavily populated northeastern United States and along the eastern seaboard in cities such as Boston, Miami, Newark, New York City, and Philadelphia. There are indications that other drug trafficking organizations, especially Mexican and Dominican groups, are playing a larger role in the distribution of cocaine in collaboration with Colombian organizations. Mexican drug trafficking organizations are increasingly responsible for the transportation of cocaine from the Southwest border to the New York market. Mexico-based trafficking groups in cities such as Chicago, Dallas, Denver, Houston, Los Angeles, Phoenix, San Diego, San Francisco, and Seattle now control the distribution of multiton quantities of cocaine.

Heroin

The Office of National Drug Control Policy's publication, Pulse Check: Mid-Year 2000, reports new heroin users continue to be attracted to high-purity Colombian heroin because it can be snorted rather

than injected. Reports of Mexico-produced white heroin continue to surface. Although heroin abuse indicators are stable, the increasing purity of Mexican heroin, as well as ready supplies of high-purity white heroin, may result in geographic “pockets” of overdoses as seen in Chimayo and Espanola, New Mexico, in the late 1990s. The high rate of overdose in these locations served as the initial impetus for Operation TAR PIT, which identified the operations of a Mexico-based heroin distribution organization that operated throughout the western United States and in sections of the Midwest.

Marijuana

Marijuana trafficking is prevalent across the nation, with both domestic and foreign sources of supply. Lax public attitudes regarding marijuana’s effects, the high seizure threshold required for federal prosecution, and various state legalization efforts undermine public support of law enforcement endeavors. The Houston Field Division reports that some Mexican DTOs use marijuana as a “cash crop”; the proceeds are used to cover the expenses associated with the trafficking of other drugs. Multiton seizures of marijuana have had a negligible effect on street prices and availability. Moreover, the increased availability of high-quality sinsemilla and a new generation of marijuana users are threats that cannot be ignored.

Methamphetamine

Methamphetamine, from either foreign or domestic sources, is available in nearly every DEA field division. Large-scale methamphetamine laboratories, located primarily in the western United States, and to a lesser extent in Mexico, provide the majority of the drug. However, even the smaller clandestine laboratories pose a significant public health and safety threat. The majority of the small toxic laboratories are not connected to large-scale drug trafficking organizations. “Super labs” (laboratories capable of producing in excess of 10 pounds of methamphetamine in one 24-hour production cycle), however, are generally funded and supplied by larger DTOs. An increase in the number of super labs in the Midwest suggests an increased demand for methamphetamine. The increased availability of methamphetamine in urban environments, especially the indications that the drug is occasionally sold in conjunction with, or in place of, club drugs such as MDMA, may usher in a new generation and class of drug abuser. The appearance of Southeast Asian methamphetamine tablets in the United States further threatens to introduce the drug as a substitute for, or supplement to, MDMA, although intelligence reporting on this issue suggests the availability of methamphetamine tablets is isolated. Since methamphetamine laboratories can operate in nearly any remote location, either foreign or domestic, identifying production sources poses a substantial challenge for law enforcement assets at the local, state, and federal levels. One response to the growing problem of clandestine laboratories has been the creation of the National Clandestine Laboratory Database maintained by EPIC. Prior to the creation of this database, there was no reliable system capable of obtaining clandestine laboratory seizure information from state or local investigations. EPIC’s database provides a valuable instrument for both strategic assessments and a clearinghouse for investigative intelligence.

MDMA

Both field division and epidemiology reports identify club drugs, most notably MDMA, as a significant threat. The increase in domestic MDMA production, although still limited by stringent precursor chemical controls, further illustrates the profitability of this drug. Although the majority of MDMA production takes place in the Netherlands, and to a lesser extent in Belgium, the transferability of the laboratories adds a dynamic to the drug trade that cannot be addressed at this time. Laboratories can be relocated to any nation in the European Union, Eastern Europe, or the former Soviet Union, as long as precursor chemicals can be obtained and transported.

Post-September 11, 2001 Assessment

The September 11, 2001 terrorist attacks on the United States introduced a new set of variables to drug threat assessments: The reallocation of law enforcement, intelligence, and military assets from counternarcotics to counterterrorism reduces available enforcement assets, yet brings a concurrent strengthening of national borders. If history serves as a guide, DTOs will continue to identify and exploit vulnerabilities in order to maintain a steady supply of drugs to the illicit drug market in the United States.

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[Note: Selected references are a compilation of recent publications of presumed interest to forensic chemists. Unless otherwise stated, all listed citations are published in English. If available, the email address for the primary author is provided as the contact information. Listed mailing address information (which is sometimes cryptic or incomplete) exactly duplicates that listed by the abstracting services.]

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Additional References of Possible Interest:

1. Caulfield WV, Stewart JT. **Rapid determination of selected drugs of abuse in human plasma using a monolithic silica HPLC column and solid phase extraction.** Journal of Liquid Chromatography and Related Technologies 2002;25(19):2977. [Editor's Notes: Presents an novel methodology for improved determination of tropanoid or opioid drugs and metabolites in human plasma. Contact: Stewart JT, Univ Georgia, Coll Pharm, Dept Pharmaceut and Biomed Sci, Athens, GA 30602.]
2. Saint-Marcoux F, Lachatre G, Marquet P. **Evaluation of an improved general unknown screening procedure using liquid-chromatography-electrospray-mass spectrometry by comparison with gas chromatography and high-performance liquid-chromatography-diode array detection.** Journal of the American Society for Mass Spectrometry 2003;14(1):14. [Editor's Notes: The authors claim that the technique is better than and complements standard GC/MS and HPLC/DAD general screening techniques. The primary focus is toxicological. Contact: Department of Pharmacology and Toxicology, University Hospital, Limoges, Fr.]
3. Mohr GJ, Wenzel M, Lehmann F, Czerney P. **A chemoreactand for optical sensing of amphetamine.** Analytical and Bioanalytical Chemistry 2002;374(3):399. [Editor's Notes: Presents the use of a bisazo dye for sensitive detection of amphetamine. Contact: Institute of Physical Chemistry, Friedrich-Schiller University Jena, 07743 Jena, Germany.]
4. Mesloh C, Henych M, Wolf R. **Sniff test: Utilization of the law enforcement canine in the seizure of paper currency.** Journal of Forensic Identification 2002;52(6):704. [Editor's Notes: Presents an overview of the title subject. Contact: Dept. of Criminal Justice and Legal Studies, P.O. Box 16100, University of Central Florida, Orlando, Florida (zip code not provided).]
5. Sherma J. **A field guide to instrumentation: Capillary electrophoresis.** Inside Laboratory Management (AOAC International) 2003;7(1):19. [Editor's Notes: Presents an overview of the technique, and a brief review of recent advances in commercial CE instrumentation. Contact: shermaj@lafayette.edu]
6. Harris CM. **Shrinking the LC landscape.** Analytical Chemistry 2003;75(3):65A. [Editor's Notes: Presents a conversational overview of recent developments in chip-based technologies. Contact: No contact information was provided.]
7. Harris CM. **Raman on the run.** Analytical Chemistry 2003;75(3):75A. [Editor's Notes: Presents a conversational overview of recent developments in portable Raman, and includes a comparative listing of five commercially available instruments. Contact: No contact information was provided.]
8. Pavilova GV, Bezhanishvili GS. **Analytical chemistry in forensics.** Rossiiskii Khimicheskii Zhurnal 2002;46(4):76. [Editor's Notes: Presents a short review and discussion of the analytical methods used in forensic chemistry (no details in abstract). This article is written in Russian. Contact: Lab. Instrumental'nykh Metodov Issled., Ross. Fed. Tsentr Sudebnoi Ekspertizy, Moscow, Russia.]

EMPLOYMENT OPPORTUNITIES

1. Johnson County Sheriff's Office Criminalistics Laboratory (2 Positions)

(First Posting)

Position 1: DNA Technical Leader/ Forensic Chemist

Location: Mission, Kansas (Kansas City metropolitan area)

Salary: \$50,564.80 to \$72,280.00 per year

Application Deadline: Open Until Filled

Duties: This position will serve as the laboratory's DNA Technical Leader and section coordinator. The major duties of this position include overseeing the technical operations of the Biology Section to ensure compliance with the American Society of Crime Laboratory Directors/Laboratory Accreditation Board Standards (ASCLD/LAB) as well as the Quality Assurance Standards for Forensic DNA Testing Laboratories standards. In addition, this position will have some casework responsibility; including evaluating the nature, origin and significance of physical evidence both in the laboratory and at crime scenes; performing physical, chemical, biochemical and genetic analysis of biological material associated with evidence using DNA analysis methods; maintaining laboratory records, preparing written technical reports of analysis, and providing effective expert testimony in courts of law. This position will oversee the training of laboratory examiners and the evaluation and implementation of new scientific techniques for the DNA section of the laboratory. The successful applicant will also be a commissioned Deputy Sheriff.

General Requirements: Candidates must meet the educational and experience requirements for a DNA Technical Leader as published in Section 5.2 of the Quality Assurance Standards for Forensic DNA Testing Laboratories (U.S. Department of Justice, Federal Bureau of Investigation, 07/15/98). These guidelines are available on-line at:

<http://www.cstl.nist.gov/biotech/strbase/dabqas.htm> Candidates without a Master's degree must already possess a waiver of the degree requirements as provided in section 5.2.1.1 of the above standards. The successful candidate must also meet the minimum qualifications of a Deputy Sheriff.

The applicant will be required to successfully complete the Kansas Law Enforcement Training Center curriculum. Also, the applicant will be required to successfully complete a laboratory training program in biology and a qualifying test before beginning independent casework responsibilities.

Position 2: Firearms and Tool Mark Examiner

Location: Mission, Kansas (Kansas City metropolitan area)

Salary: \$50,564.80 to \$72,280.00 per year

Application Deadline: Open Until Filled

Duties: The major duties include examining firearms for function; comparison with bullets and cartridge cases; serial number restoration; GSR examination of clothing associated with firearm cases; and tool mark examinations. Other duties may be assigned based upon the qualifications of the successful applicant. The successful applicant will become a commissioned Deputy Sheriff and will be required to complete the Kansas Law Enforcement Training Center curriculum. Also, the successful applicant will be required to successfully complete a qualifying test before beginning independent casework responsibilities.

General Requirements: A minimum of three years of experience in firearm and tool mark examination. Experience must include the completion of a two-year, full-time training program under the direction of an experienced firearms and tool mark examiner. In addition, the successful candidate must have a least one-year of experience doing independent casework examination and being qualified as an expert witness in a court of law in the area of firearms and tool mark examination. Experience with the National Integrated Ballistic Information Network (NIBIN) and familiarity with the Association of Firearms and Tool Mark Examiners' (AFTE) Guidelines and the American Society of Crime Laboratory Directors/Laboratory Accreditation Board's (ASCLD/LAB) Standards is desired. Applicants must also meet the minimum qualifications of a Deputy Sheriff.

Application Procedures for both Positions: Applications can be obtained by contacting the Sheriff's Department Personnel Division at the following address.

Johnson County Sheriff's Department, Personnel and Training, 125 N. Cherry, Olathe, KS 66061; Phone: (913) 791-5511 (or Toll Free at: (866) 262-3744).

Additional Information about this position can be obtained from Director L. Keith Kerr at the Crime Laboratory by calling: (913) 826-3209.

The Johnson County Sheriff's Department does not discriminate on the basis of race, color, national origin, sex, religion, age, or disabled status in employment or the provision of programs and services.

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2. Oklahoma State Bureau of Investigation

(First Posting)

Position: Senior Criminalist, Drug Analysis

Location: Lawton, Oklahoma

Salary: \$46,250 per year

Application Deadline: Open Until Filled

Duties: Plan and perform advanced scientific and technical analysis of physical evidence in criminal cases, report on, and testify in court as expert witness. Successful applicants for OSBI Criminalist are required to become certified law enforcement officers in the state of Oklahoma, and are therefore required to satisfy related requirements, including a psychological examination. Applicants must possess the ability and willingness to perform job-related travel; willingness to carry and use deadly force, or less than lethal force, as required. Applicants must be willing and able to be called back to work at irregular times during the evenings and on weekends, willing to transfer where needed and to accept assignments anywhere in the state.

Minimum Requirements: A baccalaureate degree in Chemistry, Biochemistry, Criminalistics, Forensic Science, or a closely related field and three years or more of experience as a laboratory criminalist. Preference is given to those applicants whose coursework includes General Chemistry, Organic Chemistry, and Analytical Chemistry. The required experience must be in the analysis and identification of controlled dangerous substances (drugs) and marijuana, and/or in the analysis and identification of controlled substances (drugs) and alcohol in human blood, all using GC and GC/MS instrumental analysis.

Application Procedures: Application Procedure: Send resume and photocopy of all transcripts (certified copies are not required) to:

Phyllis Decker, HR Management Specialist
OSBI Human Resources Section
6600 North Harvey
Oklahoma City, OK 73116
Fax: (405) 842-0675
E-mail: phyllisd@osbi.state.ok.us

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**THE DEA FY - 2003 STATE AND LOCAL
FORENSIC CHEMISTS SEMINAR SCHEDULE**

The remainder of the FY - 2003 schedule for the DEA's State and Local Forensic Chemists Seminar is as follows:

June 9 – 13, 2003
September 15 – 19, 2003

Note that the school is open only to forensic chemists working for law enforcement agencies, and is furthermore intended for chemists who have already completed their agency's internal training program and have been working on the bench for at least one year. There is no tuition charge for this course. The course is held in Northern Virginia, near the Washington/Dulles International Airport. For additional information, eligibility requirements, or to enroll, see the September 2002 issue of *Microgram Bulletin*, or call 703 668-3337.

Computer Corner

Digital Evidence Laboratory Accreditation

#168

by Michael J. Phelan
DEA Special Testing
and Research Laboratory

A major milestone was reached in the Fall of 2002, when the American Society of Crime Laboratory Directors (ASCLD/LAB) formally recognized the subdiscipline of Digital Evidence. ASCLD/LAB recognition is significant, and means that Digital Evidence programs seeking accreditation will be held to the same standards as the other, more traditional forensic sciences (e.g., drug analysis or fingerprint identification).

The potential benefits of ASCLD/LAB accreditation are substantial. Prosecutors, judges, and defense attorneys will become more accepting of digital evidence admissibility, handling, and examination protocols, because accreditation means that the laboratory has validated evidence examination procedures, evidence handling safeguards, and support infrastructure. The resulting products will therefore be considered to be more consistent and reliable. This should in turn result in fewer requests to testify (i.e., more stipulations), thereby saving valuable examiner time and increasing conviction rates.

ASCLD/LAB recognition has been one of the long-term goals of the Scientific Working Group on Digital Evidence (SWGDE). SWGDE is a group of Federal, state, and local subject matter

experts that have been meeting regularly to discuss digital evidence issues since 1999. SWGDE has reduced the complex and fast evolving technology of digital evidence to its core essence, and crafted evaluation criteria for digital evidence programs that are consistent with the existing ASCLD/LAB inspection standards for the more traditional forensic subdisciplines. These criteria accommodate the unique aspects of digital evidence while maintaining the more general concepts common to all forensic sciences.

Many of the ASCLD/LAB inspection criteria mimic standard themes such as examiner training and evidence handling. For example, the digital evidence training requirement covers the universal need to have professional development, staff development seminars, and technical training.

However, more significant differences exist in the area of evidence handling and control. Some of the unique features of digital evidence include the recognition that automated analysis of either original or duplicate evidence may have to proceed unattended during overnight or weekend runs. Similarly, the relatively large size of computers means that

locked cabinets or lock boxes are not feasible for securing evidence while an examiner is away from the work bench. Therefore, the evidence needs to be more generally secured in a "limited access" area such as a work area that is restricted to only examiner personnel.

The concern for evidence integrity is further strengthened by the requirement to scan evidence for computer viruses using current anti-virus software. Similar to concerns with, e.g., biological evidence, issues such as loss, cross-transfer, contamination, and/or destructive analysis are all matters that concern digital evidence examiners.

Other general inspection issues include a requirement for a quality assurance program that includes an annual proficiency test. ASCLD/LAB has recognized three digital evidence specializations: Computer Forensics, Audio, and Video and Imaging. The scope of the proficiency tests for these separate subdisciplines has yet to be determined. SWGDE is focusing on this requirement because it is considered to be an essential element by ASCLD/LAB.

Currently, there is no external proficiency test provider - and in fact only a few agencies such as

DEA and the FBI are even performing annual *internal* proficiency testing. Clearly, this is an issue that needs to be promptly addressed, so that all Digital Evidence programs can participate in the ASCLD/LAB accreditation process.

The ASCLD/LAB Digital Evidence inspection section also downgrades the basic educational qualifications for practitioners by rating as “important” (not “essential”) the need for “a baccalaureate degree with some science courses.” In most other forensic science subdisciplines, the baccalaureate degree requirement is rated by ASCLD/LAB as “essential” (i.e., mandatory). The decision by ASCLD/LAB to allow a lower educational requirement is a significant compromise, which recognizes that the educational background of the vast majority of Information Technology practitioners’ is quite often informal, consisting of a multitude of technical courses and sometimes rather unusual work backgrounds.

It will still be many months before the first Digital Evidence ASCLD/LAB laboratory inspection. Most likely, it will not occur until late 2003. In the interim, prospective inspectors with excellent subject matter expertise need to be identified and trained. Given the overall lack of digital evidence practitioners, this will not be a trivial matter. Proficiency tests need to be developed for the three recognized specializations (Computer Forensics, Audio, and Video and Imaging). Practice inspections need to be

conducted to determine the suitability and practicality of the proposed inspection protocols.

It is important to understand that the establishment of digital evidence laboratory inspection criteria will only apply to organizations that wish to be ASCLD/LAB accredited. However, a broader impact beyond the forensic community will undoubtedly be realized in the years ahead. Probably 85% or more of the current digital evidence examination practitioners are not located in a forensic or crime laboratory. Instead, these examiners are members of investigative or enforcement agencies such as police departments, sheriffs’ offices, or prosecutors’ offices. In many cases, the digital evidence examination “group” is just a single individual. In other cases, their digital evidence examination activities are only part-time. ASCLD/LAB recognition of the Digital Evidence subdiscipline raises the bar for everyone, and a comprehensive set of recognized “Best Practices” standards needs to be established for (and followed by) all non-ASCLD/LAB accredited organizations who are involved in the collection and/or analysis of digital evidence. Fortunately, there are already at least three “Best Practices” documents available on the Internet in draft or final form. They are: 1) SWGDE Best Practices (draft) at www.swgde.org; 2) the International Organization on Compute Evidence (IOCE) at www.ioce.org; and 3) the International Association of Computer Investigation

Specialists (IACIS) at www.cops.org.

Longer term, ASCLD/LAB is rapidly moving to adopt international standards (ISO 17025) which will bring the North American, European, Asian, and Australian forensic communities together. Despite the milestone achievement of ASCLD/LAB to recognize the Digital Evidence subdiscipline, it is evident that the last chapter in Digital Evidence laboratory inspection criteria has not yet been written.

If you want to get further information on the accreditation topic or ISO-17025 topic, contact ASCLD/LAB at www.ASCLD/LAB.org, or the National Center for Forensic Sciences at www.ncfs.ucf.edu.

Questions or comments?
E-mail mphelan@erols.com.