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- INTELLIGENCE ALERT -

VERY LARGE OPIUM POPPY PLANTATION DISCOVERED IN THE SIERRA NATIONAL FOREST, CALIFORNIA

[From the July 8, 2003 *Narcotics Digest Weekly* (NDIC);
Unclassified, Reprinted with Permission]

On June 20, 2003, U.S. Forest Service officers, responding to information provided by a hiker, discovered approximately 40,000 opium poppies that were growing in a remote area of the Sierra National Forest. When Forest Service officers arrived at the location, they observed three men scoring the poppy pods (making thin cuts in the pods to allow opium to seep out for later collection). The men fled when approached by the officers. Most of the opium poppies were between 1 and 3 feet tall and were growing in six plots over 1.5 acres on a south-facing slope. Forest Service officials reported that the opium poppies would be eradicated, and that no chemicals or materials commonly used to convert opium to morphine or heroin had been discovered.

NDIC Comment: Opium poppies primarily are cultivated in four foreign source areas (Mexico, South America, Southeast Asia, and Southwest Asia). Very limited opium cultivation has been sporadically reported in areas of the United States including Idaho, Montana, Oregon, and

Washington. The above incident is notable because of the large number of plants, and because it is the first documented occurrence of opium cultivation on National Forest Service lands.

[Editor's Comments: Within the U.S. counter-narcotics communities, the conventional wisdom has held that large-scale cultivating of coca and/or opium poppies within the continental United States is highly unlikely, because both are highly labor-intensive enterprises, and also difficult to conceal. The above finding suggests that this conventional wisdom needs to be rethought.]

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- INTELLIGENCE ALERT -

PSILOCYBIN MUSHROOM CHOCOLATES IN CLARA COUNTY, CALIFORNIA

The Santa Clara County Crime Laboratory (San Jose, California) recently received a polydrug submission which included its first exhibits of chocolate/ psilocybin mushroom "candies". The seizures were made by the Mountain View Police Department at a rock concert. The five chocolates were star-shaped, wrapped in colored foil (four in silver, one in gold), and weighed between 12 and 15 grams each (see Photo 1). Pieces of mushrooms were visible throughout the chocolates (see Photo 2). Soaking one full gram of the concoction in 0.2N H_2SO_4, multiply washing with methylene chloride, basifying the solution, and extraction into n-butyl chloride gave a clean psilocin peak by GC/MS. No quantitation was performed. This case also included a small amount of mushroom stems (by themselves), which also analyzed positive for psilocin (not quantitated). Finally, two ziploc bags containing an unknown white powder (suspected Ecstasy) were submitted (total net mass 1.89 grams). Analysis by color testing and FTIR confirmed 3,4-methylene-dioxymethamphetamine (MDMA, not quantitated). The submission of MDMA in powdered form (rather than as tablets) has not occurred in Santa Clara County for several years.

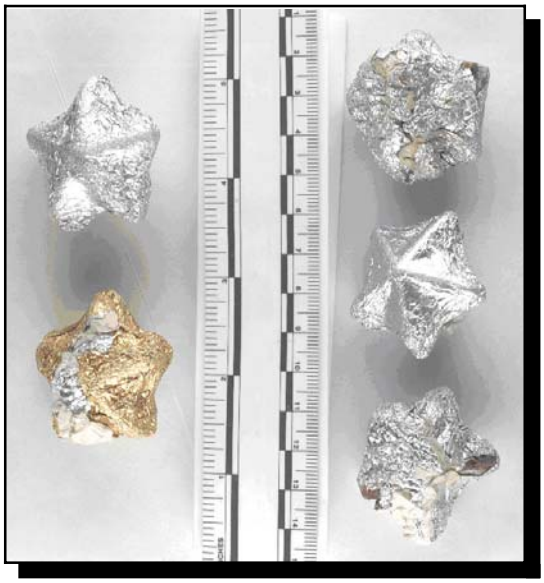

Photo 1

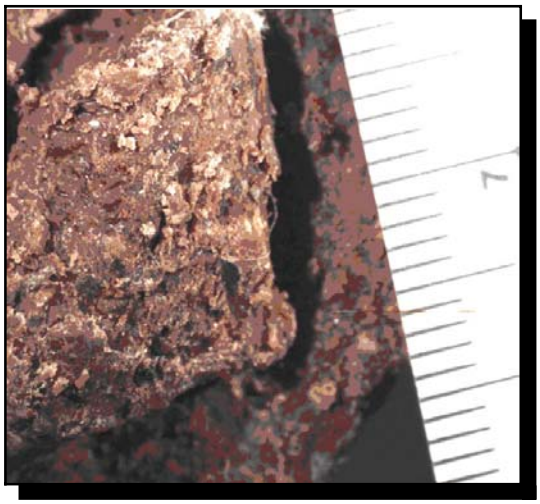

Photo 2

[Editor's Notes: Previous seizures of psilocybin mushroom chocolates were detailed in the May and June 2003 issues of *Microgram Bulletin*. Again, all subscribers are reminded that the DEA Dangerous Drugs Strategic Intelligence Unit (NTSG) and the National Drug Intelligence Center (NDIC) remain

interested in this issue. Subscribers encountering these concoctions are asked to forward details to NTSG by FAX to 202/307-7916, Attn: J. Hines; and to NDIC by email to < ronald.strong2@usdoj.gov >.]

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- INTELLIGENCE ALERT -

LIQUID COCAINE INSIDE THE LININGS OF PLASTIC MUGS IN MIAMI, FLORIDA

The DEA Southeast Laboratory (Miami, Florida) recently received six colored acrylic/plastic mugs containing liquid inside the linings, suspected liquid cocaine (see Photo 3). The mugs (three gray/blue, two clear, and one red/pink) were contained in an express mail package, and were intercepted by DEA Miami at the Miami International Airport Foreign Mail Facility. Analysis of the liquid (total net volume 1331 milliliters) by GC, GC/MS, IR, color testing, and anion testing confirmed 53 percent cocaine hydrochloride (610 milligrams/milliliter). This is the first encounter with this type of smuggling technique by the Southeast Laboratory.

Photo 3

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- INTELLIGENCE BRIEF -

"FOXY-METHOXY" TABLETS IN SALEM, OREGON

The Oregon State Police Forensic Laboratory (Springfield, Oregon) recently received a polydrug submission consisting of numerous 0.2 gram bindles of cocaine and four tablets of suspected Ecstasy (MDMA). The exhibits were seized near a high school by the Salem Police Department. The tablets (total net mass 0.95 grams) were 9 millimeters in diameter, off-white with pink

speckles, and had a spider logo on one face and two dimples on the opposite face (see Photo 4). Analysis by color testing and GC/MS, however, indicated not MDMA but rather 5-methoxy-N,N-diisopropyltryptamine (5-MeO-DIPT), sometimes referred to as "Foxy" or "Foxy-Methoxy" (not quantitated). This is the third time this substance has been seen by the Oregon State Police Forensic Division, the other times being at the Portland and Central Point laboratories.

[Editor's Notes: According to the analyst, the Portland submission also had a spider logo, but was a salmon/pink color and lacked the double dimple on the opposite tablet face. The Central Point submission (reported in *Microgram* 2001;34(11):290) was a tan powder.]

Photo 4

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- INTELLIGENCE BRIEF -

5-METHOXY-*ALPHA*-METHYLTRYPTAMINE IN MESA, ARIZONA

The City of Mesa Police Department Crime Laboratory (Mesa, Arizona) recently received a unusual submission consisting of six small plastic zip-lock style bags (imprinted with green marijuana leaf logos), each containing approximately 32 milligrams of a hard, brittle, and deep green colored material that appeared to be pieces of broken glass or plastic, each approximately 0.5 - 1.0 cm in size, suspected LSD (see Photos 5 and 6). The exhibits were seized by the City of Mesa Police Department as a result of a traffic stop. The material would not dissolve in water, and preliminary color tests (Marquis, cobalt thiocyanate, sodium nitroprusside, Froehde's, and p-DMBA) were negative or inconclusive. Analysis of a hexane/ethanol extract by GC/MS indicated 5-methoxy-*alpha*-methyltryptamine (5-MeO-AMT), as published in the May 2003 issue of *Microgram Bulletin* (page 96). Quantitation was not performed. This was the first encounter with this substance at the Mesa Crime Laboratory.

Photo 5

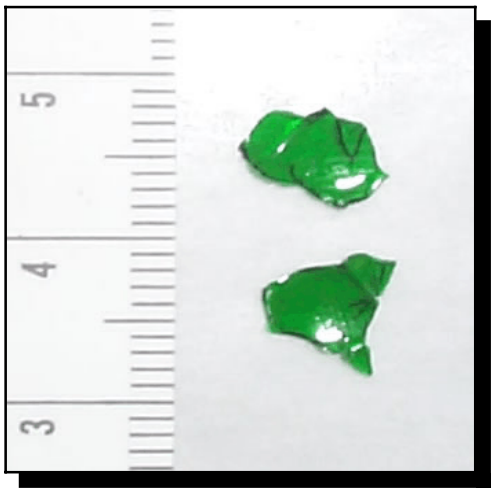

Photo 6

- INTELLIGENCE BRIEF -

SALVIA DIVINORUM IN MIAMI-DADE COUNTY, FLORIDA

Photo 7

The Miami-Dade Police Department Crime Laboratory Bureau (Miami, Florida) recently received a submission of 0.4 grams of dried, partially crushed plant material, dark green in color, suspected *Salvia Divinorum* (see Photo 7). The material was seized by a Miami-Dade County Public Schools police officer from a student. Microscopic examination showed none of the characteristics of marijuana, and the modified Duquenois-Levine test gave a wine-red color that did not transfer to chloroform. Extraction following the procedure by Giroud, et al. (*Forensic Science International* 2000;112(2-3):143) followed by GC/MS analysis confirmed salvinorin A, the psychoactive component in *salvia divinorum*. Purchased *salvia divinorum* containing artificially enhanced concentrations of salvinorin A (10X) was used as a comparison standard, and was extracted and analyzed in the same manner. This is the Crime Laboratory's first encounter with this material.

[Editor's Notes: This is the first mention (in *Microgram Bulletin*) of *salvia divinorum* containing artificially enhanced concentrations of salvinorin A. According to the analyst, the source now provides *salvia divinorum* containing up to 15X enhancement of salvinorin A. Further details not provided in accordance with Journal policy (crime laboratories with a legitimate need to know may contact the Editor for additional information). A comprehensive Selected Intelligence Brief on *Salvia Divinorum* (published by the National Drug Intelligence Center (NDIC)) was reprinted in the June 2003 issue of *Microgram Bulletin*.]

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- INTELLIGENCE BRIEF -

SALVIA DIVINORUM IN ROCHESTER, MINNESOTA

The Minnesota Bureau of Criminal Apprehension Forensic Science Laboratory (St. Paul, Minnesota) recently received a submission of approximately one ounce of small fragments of a green leafy plant material, suspected *Salvia Divinorum* (see Photo 8, next page). The exhibit was seized by the Rochester Police Department as a result of a DWI traffic stop (Rochester is located in southeastern Minnesota). The suspect claimed to have purchased the material on a street corner for $50. A microscopic examination revealed no characteristics similar to marijuana. Analysis of a methanol extract by GC/MS gave poor results; however, analysis of a chloroform extract confirmed salvinorin A. A sample of *salvia divinorum* (bought at a local

"head shop") was used as a comparison standard. Quantitation was not performed. The Rochester Police Department had been receiving information about *salvia divinorum* in their area; however, this was the Forensic Science Laboratory's first encounter with this material.

Photo 8

[Editor's Notes: The analyst in the above case indicated that extraction with methanol gave unsatisfactory results, and that a "chloroform soak" was required in order to extract salvinorin A from *salvia divinorum*. Similarly, the DEA North Central Laboratory also reported poor results with attempted methanol extraction, and used a 10 minute extraction with boiling chloroform in order to extract salvinorin A from *salvia divinorum* (as reported in the July 2003 issue of *Microgram Bulletin*). These findings suggest that chloroform (preferably hot) should be substituted for methanol as the standard extraction solvent for analysis of *salvia divinorum*.]

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- INTELLIGENCE BRIEF -

MIXED *l*- AND *d*-METHAMPHETAMINE / MDMA TABLETS IN PHILADELPHIA, PENNSYLVANIA

The DEA Northeast Laboratory (New York, New York) recently received a polydrug submission which included 86 tan colored tablets with a Kangaroo logo on one face and a half-score on the opposite face, total net mass 15.4 grams, suspected Ecstasy (see Photo 9). The tablets were purchased in Philadelphia by the DEA Philadelphia Division. Analysis by GC/IRD, GC/MSD, FTIR, HPLC, CE, and also GC/MS after TFAP derivatization, indicated 28 mg of methamphetamine and 21 mg of 3,4-methylenedioxymethamphetamine (MDMA) per tablet (salt forms not determined). Unusually, the isomeric composition of the methamphetamine was approximately 87 percent *l*- and 13 percent *d*-. This is the first time the Northeast Laboratory has encountered *l*-methamphetamine with MDMA in an ecstasy tablet.

Photo 9

- INTELLIGENCE ALERT -

BLACK TAR HEROIN AND METHAMPHETAMINE IN CANS AT LOS ANGELES INTERNATIONAL AIRPORT

The DEA Southwest Laboratory (Vista, California) recently received a box containing nineteen 32 ounce (approximate) food cans of "Chongos Zamoranos Tres Reyes", a curdled milk dessert (see Photo 10). The box was seized by the US Customs Service from a passenger arriving at the Los Angeles International Airport. The cans had been recrimped at one end; opening them revealed packages wrapped in brown tape and cellophane (see Photo 11). Eleven of the packages contained a black, tarry substance, total net mass 7587 grams, suspected heroin. The remaining eight cans contained a slushy white substance, total net mass (after solvent evaporation over 24 hours) 3228 grams, suspected methamphetamine. Analysis of a composite of the black tar samples by color testing, GC, IR, and MS confirmed 6.1 percent heroin and approximately an equal percentage of O6-monoacetylmorphine (salt forms not determined). Analysis of a composite of the dried white material by color testing, GC, and LC confirmed 89 percent *d*-methamphetamine hydrochloride. The removed solvent was identified as toluene.

Photo 10

Photo 11

- INTELLIGENCE BRIEF -

DEXTROMETHORPHAN TABLETS IN BALLSTON SPA, NEW YORK

The New York State Police Forensic Investigation Center (Albany, New York) recently received fifteen plastic bags containing a total of 1467 round, unmarked, white tablets, total net mass 654 grams, suspected Ecstasy (photos not taken). The exhibits were seized by the New York State Police as a result of an undercover sale and subsequent search warrant in Ballston Spa (located about 20 miles north of Albany). Analysis by color testing, TLC, FTIR, GC/MSD, and crystal testing, however, indicated not MDMA but rather dextromethorphan, a non-controlled substance (quantitation not performed). Dextromethorphan is rarely encountered in this laboratory, especially in such a large quantity.

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FOLLOWUP TO:

CLARIFICATION OF LISTING OF "TETRAHYDROCANNABINOLS" IN SCHEDULE I AND EXEMPTION FROM CONTROL OF CERTAIN INDUSTRIAL PRODUCTS AND MATERIALS DERIVED FROM THE CANNABIS PLANT; FINAL RULES

[As reprinted in *Microgram Bulletin* 2003;36(6):125]

The final rules are currently the subject of litigation in the United States Court of Appeals for the Ninth Circuit. The case is Hemp Industries Association, et al. v. Drug Enforcement Administration, No. 03-71366.

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Selected Intelligence Brief

PCP: The Threat Remains

DEA Intelligence Division
Office of Strategic Intelligence
Domestic Strategic Intelligence Unit and Dangerous Drugs Strategic Intelligence Unit

202/307-8726

[Unclassified; Reprinted With Permission]

Overview

Since its emergence as a drug of abuse in the late 1960s, phencyclidine (PCP) has been described as one of the most dangerous of all synthetic hallucinogens. Its niche in the drug world is usually one characterized by abusers exhibiting hostile behavior that manifests itself in extremely violent episodes.

PCP in tablet form is commonly sold under the guise of MDMA

Despite the negative effects associated with PCP, there remains an illicit market for the drug. Illicit organizations producing and distributing PCP are still active in the United States. These organizations, composed primarily of African-Americans operating mainly in Los Angeles, and, to a lesser extent, in Houston, supply most of the PCP available in the nation. The recent emergence of large PCP laboratories in other locations, such as Indiana and Maryland, are cause for concern because this may be an indication that the demand for PCP is on the rise. Lending support to this claim is a Drug Abuse Warning Network (DAWN) survey indicating that the number of PCP-related emergency room (ER) visits has increased 78 percent from 1998 to 2001; however, it is still too early to determine if PCP will return as a significant drug of abuse.

Background

Although PCP was first synthesized in 1926, it was not until the mid-1950s that the pharmaceutical company Parke-Davis began to investigate PCP's use as a human anesthetic. In 1963, PCP was patented and marketed in the United States as a surgical analgesic and anesthetic under the trade name Sernyl. However, due to adverse collateral symptoms (i.e., severe confusion, agitation, delusion, and irrational behavior), Sernyl was withdrawn from the market in 1965. PCP was subsequently marketed in 1967 as a veterinary anesthetic and tranquilizer under the trade name Sernylan. Also in 1967, the first reported illicit use of PCP occurred in the Haight-Ashbury District in San Francisco. In January 1978, PCP was transferred from Schedule III to Schedule II under the Controlled Substances Act of 1970.

Forms, Effects, and Methods of Administration

PCP is available in powder, crystal, tablet, capsule, and liquid forms, and can be abused by snorting, smoking, or swallowing the drug. Smoking PCP is the most common method of abuse. Abusers typically saturate leafy material, such as mint, parsley, oregano, tobacco, or marijuana, with PCP, and then roll the saturated material into a cigarette called a joint. Another variation on this theme is effected by dipping cigarettes or marijuana joints in liquid PCP. Powder/crystal PCP, also known as Angel Dust, also can be smoked by abusers when it is mixed with marijuana and/or tobacco. However, this is a less favored method because of "hot spots" created by the uneven distribution of powder throughout the joint.

PCP in liquid form

On the street, PCP is commonly referred to as Angel Dust, Hog, Ozone, Rocket Fuel, Shermans, Wack, Crystal, and Embalming Fluid. PCP combined with marijuana is referred to as Killer Joints, Super Grass, Fry, Lovelies, Wets, and Waters. Today, PCP joints are often referred to as "dippers" because users dip the joints into a PCP-laced liquid referred to as "water."

The onset of PCP's effects varies with the route of administration. PCP abusers usually begin to feel the effects of the drug within 2 to 5 minutes after smoking it, and within 30 to 60 minutes after oral ingestion. The "time-to-peak" effect also varies with the route of administration, but the "peak" usually occurs after 15 to 30 minutes for smoking, and from 1½ to 2½ hours after oral ingestion. PCP intoxication may last between 4 and 8 hours when consuming a recreational dose, although some users report subjective effects for between 24 and 48 hours.

PCP is known as a "dissociative anesthetic" because it distorts perceptions of sight and sound and produces feelings of detachment, i.e., dissociation from one's environment and one's self. The effects of PCP also vary depending on the dosage. Low-to-moderate doses-from 1 to 5 milligrams (mg)-often cause the user to feel detached, distant, and estranged from his surroundings. Other effects can include numbness, slurred speech, and loss of coordination that at the same time may be accompanied by a sense of strength and invulnerability. A blank stare, involuntary rapid eye movements, and an exaggerated gait also are observable effects. High doses of PCP (10 mg or more) produce illusions and auditory hallucination. PCP may cause acute anxiety and a feeling of impending doom in some users; in others, paranoia and violent hostility. In addition, in some users the drug may produce effects that mimic symptoms of schizophrenia, such as delusions, paranoia, catatonia, disordered thinking, and a sensation of distance from one's environment.

Individuals on PCP often have been observed committing violent uncontrolled acts toward other people; however, there is no scientific basis that PCP specifically causes violent or criminal behavior.

Chronic abuse of PCP can impair memory and thinking. The user can have persistent speech difficulties, such as slurred speech or stuttering, inability to articulate, and inability to speak. Other symptoms associated with long-term use include suicidal thoughts, anxiety, depression, social withdrawal, and social isolation. PCP has not been proven to be physically addictive, but it can lead to psychological dependence, craving, and compulsive addictive behavior.

Evolution of Abuse

PCP first appeared on the streets of San Francisco in 1967, mainly in tablet form. Often it was sold under the name of other popular hallucinogens, such as LSD, MDA, mescaline, and THC. The acronym PCP is believed to have been derived from the phrase "Peace Pills" (PeaCe Pills). By 1968, PCP abuse briefly escalated with the drug becoming available in other major cities including Chicago, Miami, New York City, and Philadelphia. It was sold under the names Crystal, Angel Dust, and Hog. PCP abuse subsequently waned throughout the 1970s until the early 1980s, when abuse rose again-particularly among teenagers in the cities of Baltimore, Chicago, Detroit, Los Angeles, New Orleans, New York City, San Diego, San Francisco, St. Louis, and Washington, DC. It is believed that the widespread abuse and availability of crack cocaine in the late 1980s and early 1990s reduced the demand for PCP. Presently, PCP is considered a "club drug" because of its synthetic manufacture and abuse by some individuals involved in the "rave culture." However, it is important to note that PCP abuse at rave events and nightclubs is not widespread.

Abuse Indicators

Current data from drug abuse surveys provide conflicting information relative to PCP abuse. According to DAWN, the number of PCP-related ER visits has increased 78 percent from 1998 to 2001 (from 3,436 to 6,102 visits). In 2001, ER visits involving PCP significantly increased in Philadelphia, and Washington, DC. Of note, PCP ER mentions in Chicago dropped to 874 in 2001 from its previous 6-year high of 1,003 in 2000.

PCP ER Mentions 1998 - 2001

1998	1999	2000	2001
3,436	3,663	5,404	6,102

SOURCE: DAWN

Preliminary DAWN 2002 data indicate that the number of PCP-related ER visits remained close to those seen in 2001. DAWN estimated that there were 3,257 PCP-related ER visits in the first 6 months of 2002, compared to 3,028 in the last 6 months of 2001. During the first half of 2002, the number of ER visits involving PCP remained stable in Washington, DC, and Los Angeles, but rose by almost 40 percent in Philadelphia, from 407 to 569. PCP ER mentions in Chicago continued to decline, decreasing by approximately 31 percent, from 355 to 244.

On the other hand, data from the National Household Survey on Drug Abuse indicated that past year use of PCP among the U.S. population (persons aged 12 or older) remained stable from 2000 to 2001. There was only a slight increase in past year use among adults aged 18 to 25, from 0.3 to 0.4 percent between 2000 and 2001. Among adults aged 26 and older, there was no measurable past year use. In addition, past year use among youths aged 12 to 17 remained unchanged between 2000 and 2001 at 0.5 percent. In addition, data from the Monitoring the Future Survey indicated that PCP use among high school seniors decreased from 2.3 percent in 2000 to 1.8 percent in 2001. (PCP abuse data are available for high school seniors only.)

Rates of PCP use detected through the urinalysis of male and female arrestees, as reported by the Arrestee Drug Abuse Monitoring Program, were relatively low in 2000 compared to marijuana, cocaine, heroin, and methamphetamine. Cities having the highest positive test results for PCP among male arrestees were Cleveland (8.1%), Oklahoma City (5.2%), Houston (4.8%), and Dallas (3.9%). Cities having the highest positive test results for PCP among female arrestees were Cleveland (4.5%), Oklahoma City (4.5%), Seattle (4.3%), and Philadelphia (3.7%). In most cities, male and female arrestees who tested positive for PCP were primarily African-American. It is important to note that Hispanic male and female arrestees in San Jose and Las Vegas as well as Caucasian male arrestees in Philadelphia tested positive for PCP more frequently than did African-American arrestees.

Manufacture

The Los Angeles area is the primary source for the majority of PCP found in the United States. According to the El Paso Intelligence Center (EPIC) Clandestine Laboratory Database, 17 of the 24 PCP laboratories seized throughout the United States from 1998 to 2002 were located in California. As they have for decades, African-American organizations and street gangs, operating primarily in Los Angeles and San Bernardino County, produce most of the PCP available nationwide. These groups typically produce PCP in liquid form and subsequently handle the wholesale distribution of the drug to mid-level distributors in Chicago, Houston, Los Angeles, Milwaukee, New Orleans, Newark, New York City, Philadelphia, and Washington, DC. It has been determined that some of the individuals involved with these organizations were formerly part of PCP trafficking groups and street gangs that have operated in the Los Angeles area since the late 1980s and early 1990s. In July 2002, and, more recently, in February 2003, the DEA and the Southern California High Intensity Drug Trafficking Area (HIDTA) seized two operational PCP laboratories in the Los Angeles area. These laboratories were operated by African-American members of a Los Angeles-based PCP trafficking organization.

Methodology

PCP is relatively easy to manufacture and is commonly produced in liquid form via the "bucket method." This method, in which chemicals are mixed in either a bucket or trash bin to produce liquid PCP, requires approximately eight to ten hours to complete. Although easy to manufacture, it is extremely dangerous to produce PCP because most of the chemicals are toxic as well as highly flammable.

PCP is also produced by Mexican drug trafficking organizations operating in the United States. These organizations typically produce PCP in powder or crystal form versus the liquid form normally produced by African-American organizations. In addition, these organizations are suspected of distributing wholesale quantities of PCP powder to Hispanic street gangs and other distributors in San Jose, New York City, and various locations in Oklahoma. In 2001, a clandestine laboratory that produced PCP in powder and crystal form was seized in San Jose. A Mexican national serving as a laboratory operator in San Jose was recently released from prison, having served time for prior PCP-related offenses.

In California, independent operators have, for many years, been suspected of producing PCP. Because these operators normally produce small amounts of PCP for personal use and/or localized distribution, they are usually of little significance. However, in 2001, a large clandestine laboratory that produced crystal PCP was seized in California's Mariposa County. The Caucasian operators of this laboratory,

described as "biker-types," appeared to be operating independently from other PCP trafficking organizations. As in the case of the San Jose laboratory, one of the operators of this laboratory was recently released from prison for prior drug-related offenses.

PCP production via the bucket method

Despite California being the primary production area, significant PCP production operations recently have been found in Baltimore, Maryland, and Gary, Indiana. In November 2002, an operational PCP laboratory was seized at a residence in Baltimore. It was one of the largest PCP laboratories ever seized on the East Coast, as it contained an enormous amount of chemicals consistent with the manufacture of PCP and approximately 4 gallons of finished product. The African-American operators of the laboratory apparently intended to lace marijuana with PCP to increase its marketability and profit margin. In December 2001, federal, state, and local law enforcement authorities disrupted an organization, responsible for the manufacture and wholesale distribution of PCP in Gary, and arrested many of its African-Americans members. This organization had been producing PCP for several years-primarily supplying a Chicago-based street gang.

PCP Laboratory Seizures 1998 - 2002

1998	1999	2000	2001	2002
5	5	4	4	6

SOURCE: EPIC

Chemical Sources

Precursors, reagents, and solvents used to manufacture PCP are obtained primarily from sources in California. Other sources of supply have been identified in Connecticut, Indiana, Maryland, Nevada, Oklahoma, and Texas. In most cases, the precursors are obtained from legitimate commercial and bulk chemical companies under false pretenses. The use of falsified information is a popular method of deception. For example, one illicit organization alleged that the chemicals were to be used for industrial cleaning purposes. PCP traffickers are known for establishing "front" companies for the sole purpose of obtaining chemicals necessary for the production of PCP as well as other illicit synthetic drugs. The PCP laboratory seized recently in Baltimore had obtained chemicals from a company in Maryland that had been set up by the laboratory operators.

Distribution

New York City is one of the largest mid-level distribution hubs for PCP, usually obtained from wholesale producers and distributors in the Los Angeles area. Much of the PCP seized from retail distributors in Philadelphia, Newark, and New England is obtained from mid-level distributors operating in New York

City. Belizean, and to a lesser extent, African-American organizations appear to control much of the PCP distribution in New York City. In addition, the New York City Police Department reports that many members of local street gangs are actively involved in the retail distribution of PCP as well as other illicit drugs, such as heroin and cocaine.

PCP is commonly transported in plastic beverage containers

Since the early 1990s, groups of Belizean nationals operating in the United States have been acting as the PCP distribution middlemen between Los Angeles-based street gangs and African-American distribution organizations in New York City. Evidence indicates that Belizean nationals have expanded their operations by establishing their own mid-level distribution organizations in New York City. These distribution organizations still obtain and transport PCP from wholesale distributors in the Los Angeles area. Since 2001, several Belizean nationals have been arrested while transporting PCP from sources in Los Angeles to the New York area. In March 2001, there were two significant PCP seizures involving Belizean nationals who were transporting multikilogram quantities at the Los Angeles and Phoenix International Airports. In February and March 2002, Belizean nationals arrested at train stations in Albuquerque and Los Angeles also were in possession of multikilogram quantities of PCP.

Street gangs control much of the mid-level and retail distribution of PCP in Los Angeles, Las Vegas, and Chicago. Since the early 1980s, Los Angeles-based street gangs, such as the Crips, have been responsible for both the production and distribution of PCP. In fact, these gangs are the primary suppliers of PCP and other drugs to smaller local gangs operating throughout Los Angeles. DEA reporting indicates that some of these Los Angeles-based gangs currently are sending multiounce quantities of PCP by courier and/or mail services to distributors in Cleveland, Dallas, and Las Vegas. In Chicago, most of the PCP distribution is controlled by a local street gang, which was formed in the 1960s. In December 2001, the laboratory responsible for supplying this gang was seized in Indiana. In May 2002, the DEA Chicago Field Division subsequently arrested several individuals in Chicago who were connected to this laboratory.

Many PCP distributors in Houston, Omaha, Kansas City, and Washington, DC, have links to major PCP trafficking organizations operating in the Los Angeles area. In Houston, some distributors are supplied directly with PCP while others are supplied with PCP-related products that must be further converted to an ingestible form of PCP. In Washington State, mid-level and retail distributors of PCP maintain connections to sources of supply in southern California. However, other user groups, such as those affiliated with Outlaw Motorcycle Gang activity or the rave scene, tend to have local and/or East Coast sources of supply in New York City, Newark, and Philadelphia.

Distribution of PCP also is an emerging problem in Omaha and Kansas City. In December 2001, authorities arrested a PCP and marijuana distributor and seized 20 ounces of PCP in Omaha. Authorities believe that the PCP was obtained from West Coast suppliers, and was going to be used to soak marijuana cigarettes. In Kansas City, authorities arrested two individuals following the seizure of approximately 32 kilograms of PCP from their residences.

Transportation and Seizures

Since 2000, seizures of PCP and related products while in transit have occurred in Arizona, California, Kansas, Maryland, Missouri, New Mexico, Oklahoma, Texas, and Washington, DC. Most of the PCP seized originated in the Los Angeles area and was destined for the major metropolitan areas of Chicago, Dallas, Oklahoma City, St. Louis, New York City, and Washington, DC. As with other illicit drugs, PCP is shipped via mail services and by couriers aboard trains, buses, airplanes, and automobiles. PCP commonly is transported in plastic and glass beverage containers that are typically used for fruit, herbal, and sports-related drinks. Seizures of liquid PCP from both couriers and mail parcels usually are less than 2 gallons; however, larger seizures are not uncommon. In October 2002, law enforcement authorities in both Texas and Oklahoma made 4-gallon PCP seizures of PCP from individuals traveling by vehicle from California.

Prices

PCP-laced cigarettes and joints reportedly sell between $5 and $30 each. PCP is available in tablet form costing from $20 to $30, although availability is limited. Usually the tablet form is sold as MDMA, also known as Ecstasy. PCP also is available in powder and liquid forms, selling for between $20 and $30 per gram, and for between $125 and $1,000 per liquid ounce. At the wholesale level, gallon quantities of liquid PCP sell for between $6,500 and $8,000 in Los Angeles, and between $12,000 and $20,000 in New York City.

Conclusion

At this point, it is still too early to determine if PCP is going to reemerge as a significant drug of abuse. However, there are indications of a PCP resurgence. Recent large seizures of the drug, coupled with the discovery of clandestine laboratories operating outside of traditional source areas, may be an indication that demand for PCP is increasing. Even though the trafficking and abuse of PCP is not as widespread as with other illicit drugs, the violent consequences of its abuse are always causes for concern.

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SELECTED REFERENCES

[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 provided by the abstracting services.]

1. Reddy MM, Suresh V, Jayashanker G, Rao BS, Sarin RK. **Application of capillary zone electrophoresis in the separation and determination of the principal gum opium alkaloids.** Electrophoresis 2003;24(9):1437. [Editor's Notes: The presented method does not require sample purification or derivatization. Contact: Central Forensic Science Laboratory, Bureau of Police Research & Development, Ministry of Home Affairs, Government of India, Ramanthapur 500 013, India.]

2. Cole MD, Lea C, Oxley N. **4-Bromo-2,5-dimethoxyphenethylamine (2C-B): A review of the public domain literature.** Science & Justice 2002;42(4):223. [Editor's Notes: Presents a

review of the identification and quantitation of 2C-B. Contact: Dept. of Forensic Science and Chemistry, Anglia Polytechnic University, Cambridge, UK CB1 1PT.]

3. Aalberg L, DeRuiter J, Noggle FT, Sippola E, Clark CR. **Chromatographic and spectroscopic methods of identification for the side-chain regioisomers of 3,4-methylenedioxyphenethyl-amines related to MDEA, MDMMA, and MBDB.** Journal of Chromatographic Science 2003;41(5):227. [Editor's Notes: Presents the synthesis and GC and GC/MS analyses of ten closely related 3,4-methylenedioxyphenethylamines all having a molecular weight of 207. Contact: School of Pharmacy, Department of Pharmacal [sic] Sciences, Auburn University, Auburn, AL 36849.]

4. Rothchild R. **Identification of a heroin diluent: One- and two-dimensional proton and carbon-13 NMR studies of procaine hydrochloride: Computational studies of procaine and its conjugate acid.** Spectroscopy Letters 2003;36(1&2):35. [Editor's Notes: Presents the isolation (from a street sample of heroin) and identification of the title compound, and also presents *ab initio* molecular modeling calculations. Contact: John Jay College of Criminal Justice, Science Department, The City University of New York, NY 10019.]

5. Willers LJ. **The detection of phosphine gas produced from hydriodic acid and the evaluation of detection instruments for use in clandestine laboratory environments.** Journal of the Clandestine Laboratory Investigating Chemists Association 2003;13(2):14. [Editor's Notes: Presents a comprehensive overview of the problem and a detailed evaluation of a number of electronic detection devices. Contact: Los Angeles County Sheriff's Department, Scientific Services Bureau, 2020 W. Beverly Blvd., Los Angeles, CA 90057.]

6. Tavares MFM, Jager AV, da Silva CL, Moraes EP, Pereira EA, de Lima EC, Fonseca FN, Tonin FG, Micke GA, Santos MR, de Oliveira MAL, de Moraes MdLL, van Kampen MH, Fujiya NM. **Applications of capillary electrophoresis to the analysis of compounds of clinical, forensic, cosmetological, environmental, nutritional and pharmaceutical importance.** Journal of the Brazilian Chemical Society 2003;14(2):281. [Editor's Notes: The utility of CE across a variety of disciplines is presented. Contact: Instituto de Quimica, Universidade de Sao Paolo, CP 26077, Sao Paolo - SP 05513-970, Brazil.]

7. Iwata YT, Kanamori T, Ohmae Y, Tsujikawa K, Inoue H, Kishi T. **Chiral analysis of amphetamine-type stimulants using reversed-polarity capillary electrophoresis/positive ion electrospray ionization tandem mass spectrometry.** Electrophoresis 2003;24(11):1770. [Editor's Notes: Presents the specialized CE/MS-MS analyses of a variety of ATS's, ranging from precursor ephedrines to methylenedioxy- substituted drugs. Contact: National Research Institute of Police Science, Chiba, Japan.]

8. Janusz A, Kirkbride KP, Scott TL, Naidu R, Perkins MV, Megharaj M. **Microbial degradation of illicit drugs, their precursors, and manufacturing by-products: Implications for clandestine laboratory investigation and environmental assessment.** Forensic Science International 2003;134(1):62. [Editor's Notes: Presents a study of the enviromental degradation of phenylacetone and methamphetamine sulfate at clandestine laboratory dumpsites (in Australia). Contact: Physics and Earth Sciences, School of Chemistry, Flinders University of South Australia, Bedford Park, Australia.]

9. Herraez-Hernandez R, Campins-Falco P, Verdu-Andres J. **Strategies for the enantiomeric determination of amphetamine and related compounds by liquid chromatography.** Journal

of Biochemical and Biophysical Methods 2002;54(1-3):147. [Editor's Notes: Presents a review of recent advances in the title field, with an emphasis on biological samples. Contact: Departamento de Quimica Analitica, Facultad de Quimica, Universitat de Valencia, Burjassot, Valencia, Spain 46100.]

10. Sullivan D, Wehrmann J, Schmitz J, Crowley R, Eberhard J. **Determination of ephedra alkaloids by liquid chromatography/tandem mass spectrometry.** Journal of AOAC International 2003;86(3):471. [Editor's Notes: Presents an LC-MS/MS methodology for determination of six major ephedra alkaloids in various substrates, ranging from raw ephedra to a high-protein drink mix containing ephedra. Contact: darryl.sullivan@covance.com]

11. Glattstein O, Glattstein B. **A method for the detection of compounds comprising methylenedioxyphenyl and testing kit for the same.** PCT Int. Appl. WO 2003052426 A1 26 Jun 2003, 22 pp. CLASS: ICM: G01N033-94. APPLICATION: WO 2002-IL1024 19 Dec 2002. PRIORITY: IL 2001-147185 19 Dec 2001. [Editor's Notes: The abstract did not provide specifics on the testing reagents. Contact: Israel (No further addressing information was provided).]

12. Hu Y, Li L, Han H. **HPLC determination of loureirin A and B in Dragon's Blood.** Yaowu Fenxi Zazhi 2003;23(1):7. [Editor's Notes: Presents an HPLC/UV method for detection of the title compounds. This article is written in Chinese. Contact: Medical College of Chinese People's Armed Forces Police, Tianjin 300162, Peop. Rep. China.]

Additional References of Possible Interest:

1. Lora-Tamayo C, Tena T, Rodriguez A, Sancho JR, Molina E. **Intoxication due to 1,4-butanediol.** Forensic Science International 2003;133(3):256. [Editor's Notes: Presents the analysis of a seized sample; however, the primary focus is the toxicological analysis of various biological fluids. Of note, GHB was detected in the biological fluids, resulting from *in vivo* conversion of 1,4-BD. Contact: Ministerio de Justicia. C/ Luis Cabrera, Instituto Nacional de Toxicologia, 9, 28002, Madrid, Spain.]

2. Kueh AJ, Marriott PJ, Wynne PM, Vine JH. **Application of comprehensive two-dimensional gas chromatography to drugs analysis in doping control.** Journal of Chromatography A 2003;1000(1-2):109. [Editor's Notes: Presents a mini-review of GC/GC, followed by an illustrative overview of the technique as applied to forensic toxicology. Contact: GPO Box 2476V, Department of Applied Chemistry, Australian Centre for Research on Separation Science, RMIT University, Vic., Melbourne 3001, Australia.]

3. Speir JP. **Method for the application of FT-MS to drug testing.** U.S. Pat. Appl. Publ. US 20030108876 A1 12 June 2003. CLASS: ICM: C12Q001-68. ICS: G01N033-53; G06F019-00; G01N033-48; G01N033-50. NCL: 435006000; 435007100; 702019000. APPLICATION: US 2001-14279 11 Dec 2001. [Editor's Notes: Presents an FT-MS methodology for analysis of drugs in biological samples. Contact: No contact information was provided.]

4. Burendic E, Penov-Gasi K, Medic-Mejacevic L. **Anabolic-Androgenic steroids.** Hemijski Pregled 2002;43(4):82. [Editor's Notes: Presents a mini-review of the title compounds (not specified), concentrating on their chemistry and biological applications. This article is written in Serbian. Contact: Prir.-Mat. Fak., Inst. Hem., Novi Sad, Yugoslavia.]

5. Herzler M, Herre S, Pragst F. **Selectivity of substance identification by HPLC-DAD in toxicological analysis using a UV spectra library of 2682 compounds.** Journal of Analytical Toxicology 2003;27:233. [Editor's Notes: The UV spectra and relative retention data of 2682 toxicologically relevant compounds is presented. Contact: Institute of Legal Medicine, Humboldt University, Hannoversche Strasse 6, D-10115 Berlin, Germany.]

6. Enculescu AL, Steiginga JR. **Raman spectroscopy - A powerful tool for non-routine analysis of pharmaceuticals.** American Pharmaceutical Review 2002;5(1):81. [Editor's Notes: Presents a mini-review of the title technique, with an emphasis on non-routine pharmaceutical samples. Contact: Pfizer Inc., Morris Plains, NJ (no zip code provided).]

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THE DEA FY - 2003 AND FY - 2004 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:

September 15 – 19, 2003

The FY - 2004 schedule is as follows:

December 8 - 12, 2003
February 9 - 13, 2004
April 19 - 23, 2004
June 14 - 18, 2004
September 20 - 24, 2004

Note that the school is open only to forensic chemists working for law enforcement agencies, and is intended for chemists who have completed their agency's internal training program and have also been working on the bench for at least one year. There is no tuition charge for this course. The course is held at the AmeriSuites Hotel in Sterling, Virginia (near the Washington/Dulles International Airport). For additional information, eligibility requirements, or to enroll, call 703 668-3337.

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EMPLOYMENT OPPORTUNITIES

1. State of Connecticut, Department of Public Safety, Scientific Services Division (Third and Final Posting)
Position: Director of Toxicology, Controlled Substances / Toxicology Section
Location: Hartford, Connecticut
Salary Range: Negotiable
Application Deadline: Open Until Filled

Overview: The State of Connecticut is offering you that opportunity to create your own vision as Director of the Controlled Substances and Toxicology Laboratory, in the Scientific Services Division, Department of Public Safety, which has one of the most professional and prestigious reputations in the United States. As the Chief Toxicologist, you can focus your energies on directing staff and operations of the laboratory, as administrative responsibilities are shared. Your working environment will be with a highly dedicated and professional staff supported by cutting edge tools and technology.

Duties: We are seeking an individual with proven leadership abilities, a passion for research and development, and the ability to complete the laboratory accreditation process. Responsibilities include: Directing staff and scientific operations of a forensic toxicology laboratory; coordinates, plans and manages laboratory programs; formulates program goals and develops laboratory policy; develops and implements techniques necessary to examine chemical and biological evidence; researches new methodology; reviews laboratory findings and supervises report preparation; interprets and administers pertinent laws; trains, supervises and evaluates staff; responds to queries regarding drug effects and chemical actions; serves as expert witness on relevant issues in court cases; and performs related duties as required.

Qualifications: A minimum of 10 years experience and training in toxicology and criminalistics in a public health or general toxicology laboratory. Two years of this experience must have been in a supervisory capacity in a major program in forensic toxicology. You must have a comprehensive understanding of the principles and techniques of analytical chemistry (to include infrared and ultra violet spectrophotometry, gas and high performance liquid chromatography, mass spectrometry, and immunoassays). Also, a comprehensive knowledge of the principles of pharmacokinetics and pharmacodynamics is required. Passing an extensive background check is a hiring requirement. The ideal candidate will have a Ph.D. in Toxicology, pharmacology, or related biological or chemical science and will be Board Certified or eligible for Board Certification in Forensic Toxicology.

In addition to a competitive salary, the State of Connecticut total compensation plan includes a generous benefit package worth over 36% of an employees' annual salary. Benefits and options include: A choice of medical and dental plans designed to suit your need, long and short term disability, life insurance, an excellent retirement plan, deferred compensation plan, 12 paid holidays, personal leave days, sick time, and a generous vacation plan. For more information go to: www.das.state.ct.us.

Application Procedures: Please forward your resume, cover letter and salary requirements to:

Patsy McLaughlin
Manager of Recruitment
State of Connecticut
Department of Administrative Services
165 Capitol Avenue, R. G-1
Hartford, CT 06106

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2. Indian River Crime Laboratory (Second Posting)
Position: Forensic Chemist
Location: Fort Pierce, Florida
Salary: $45,000 – $60,000, Depending on Experience
Application Deadline: Open Until Filled

Duties: Responsibilities include the analysis of controlled substances; interpretation of laboratory analyses and results; preparation of written reports; and the ability to testify as an expert witness.

General Requirements: The applicant must be skilled in using gas chromatography, mass spectroscopy, ultraviolet and infrared spectrophotometry and other drug analysis equipment and methodologies. A familiarity with the technical and safety requirements of ASCLD-LAB, and demonstrated proficiency testing in controlled substance analysis are required. A Master's degree in chemistry or forensic science (with chemistry undergraduate degree) and two years of forensic laboratory experience are preferred. Experience in head-space BAC analysis is desirable. An extensive background investigation is required, and laboratory personnel are subject to random drug testing. EEO.

Application Procedure: Applications may be obtained on-line at www.stluciesheriff.com or by contacting:

Saint Lucie County Sheriff's Office
Human Resources Department
4700 W. Midway Road
Fort Pierce, Florida 34981-4825
Phone: (772) 462-3206
Fax: (772) 462-3218

For information about the position, contact:

Daniel C. Nippes (continued next page)

Chief Criminalist
Indian River Crime Laboratory
2502 S. 35th Street
Fort Pierce, Florida 34981
dnippes@ircc.edu
Phone: (772) 462-4765

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3. Houston Police Department (First Posting)
Position: Crime Laboratory Director
Location: City of Houston, Texas
Salary Range: $92,066 - $100,000 Annually, Dependant on Qualifications
Application Deadline: Open Until Filled

Duties: Manages the daily operations of the Crime Laboratory, including DNA Analysis, Serology, Toxicology, Drug Identification, Trace evidence analysis, Firearms/Toolmark Examination and evidence registration; will serve as Crime Laboratory Director; hires, supervises and evaluates staff of fifty (50) persons; prepares, administers and monitors division budget; ensures compliance with all federal, state and local laws and regulations regarding physical evidence; oversees development and implementation of standard forensic testing practices and procedures for all sections of Crime Laboratory in accordance with standards set forth by ASCLD-LAB or other appropriate accrediting entity to achieve and maintain laboratory accreditation; plans and implements programs to ensure quality control of laboratory including the generation and storage of laboratory case reports and records; reviews reports and documents concerning evidence analysis and findings; plans directs and oversees the continuous training for all aspects of forensic laboratory services to keep Criminalists up-to-date with all methods of forensic work; works with Investigative Division supervisors to develop protocols for prioritizing laboratory services usage; coordinates division operations with outside agencies and other government agencies; provides physical evidence information to law enforcement agencies, attorneys, judges, the District Attorney's Office and other scientific professionals; reports to an Assistant Chief; performs related duties as required.

Qualifications: Educational: Graduation from an accredited college or university with an Advanced Degree and major course of study in Criminalistics, Chemistry or any natural or physical science - or - graduation from an accredited four-year college or university with a major course of study other than one of the described sciences plus fifteen (15) or more years of increasingly complex forensic work experience in a crime laboratory. Experience: Seven (7) years progressively responsible Crime Laboratory experience including two (2) years supervisory experience in an accredited laboratory; or an equivalent combination of education and experience. License: Valid Texas Driver's License and compliance with city's policy on driving (AP 2-2).

Application Procedures: Original applications only are accepted and must be received by the Human Resources Department, at 611 Walker, First Floor, Houston, Texas, 77002.

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4. Office of the Johnson County Sheriff **THREE POSITIONS** (First Postings)
Location: Mission, Kansas (Kansas City metro area)

Position 1: Forensic Chemist/Drug Analysis
Salary Range: $50,564.80 to $72,280.00 Annually, Dependant on Qualifications
Application Deadline: Open Until Filled

Overview: The Criminalistics Division of the Johnson County Sheriff's Office is seeking a qualified applicant for a position in our Drug Chemistry Section.

Duties: The major duties of the position include qualitative analyses using wet chemistry, color reagent tests, microcrystalline tests, and instrumental techniques to identify controlled substances, precursors and other substances used in the preparation and synthesis of illicit drugs.

Qualifications: Graduation from an accredited college or university with a bachelor's degree in chemistry or other related physical or biological science and two years of experience in drug chemistry. Applicants 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 drug chemistry and a competency/proficiency test before beginning independent casework responsibilities.

Position 2: Forensic Examiner/Latent Prints
Salary Range: $50,564.80 to $72,280.00 Annually, Dependant on Qualifications
Application Deadline: Open Until Filled

Overview: The Johnson County Crime Laboratory, a division of the Johnson County Sheriff's Department, is seeking a qualified applicant for a position in our Latent Print Section.

Duties: The major duties of this position include:
· Processing crime scenes to recover latent prints; document and protect evidence following laboratory procedures and maintains chain of custody;
· Select methods, techniques, and instruments to examine and analyze evidence which includes various processing techniques, and obtaining prints from deceased persons;
· Examines latent finger, palm, and foot prints for comparison and identification; writes reports giving conclusions and opinions from observations and test results; prepares exhibits, photographic enlargements and reports for presentation as evidence in court; testifies as an expert witness;
· Enter latent prints into the Automated Fingerprint Identification System (AFIS)
The successful applicant will also be a commissioned Deputy Sheriff.

Qualifications: Applicants must have a bachelor's degree and three (3) years of basic latent print experience; however, two (2) additional years of full time experience working with latent print material can be substituted for the bachelor's degree. The three years of basic experience shall include one (1) year of full time experience in filing and searching of inked fingerprints and two (2) years of full time experience in the comparison and identification of latent prints. If the applicant's basic experience does not include one year of experience in classification, filing and searching of fingerprints, then their basic experience must include a minimum of three years full time experience in the comparison and identification of latent print material or related matters.

The successful candidate must also meet the minimum qualifications of a Deputy Sheriff. The successful applicant will be required to successfully complete the Kansas Law Enforcement Training Center curriculum. The successful applicant will be required to successfully complete a latent print competency test prior to assuming independent casework responsibilities.

Position 3: Forensic Chemist/DNA Analyst
Salary Range: $50,564.80 to $72,280.00 Annually, Dependant on Qualifications
Application Deadline: Open Until Filled

Overview: The Criminalistics Division of the Johnson County Sheriff's Office is seeking a qualified applicant for a position in our DNA Section. This position will serve as the laboratory's DNA Technical Manager and section coordinator.

Duties: 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.

Qualifications: Candidates must meet the educational and experience requirements for a DNA Technical Manager 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). 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 successful applicant will be required to successfully complete the Kansas Law Enforcement Training Center curriculum. Also, the successful applicant will be required to successfully complete a laboratory training program in biology and a qualifying test before beginning independent casework responsibilities.

Application Procedures: Applications for all three positions can be obtained by contacting the Sheriff's Office Personnel

Division at the following address.

Johnson County Sheriff's Office
Personnel and Training
125 N. Cherry, Olathe, KS 66061

Phone: (913) 791-5511 or Toll Free: (866) 262-3744

Additional Information about this position can be obtained from Assistant Director Hamm at the Crime Laboratory by calling (913) 826-3209.

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5. Greenwood Police Crime Laboratory (First Posting)
Position: Forensic Chemist
Location: City of Greenwood, Indiana
Salary Range: Starting at $48,435 per Year
Application Deadline: Open Until Filled

Duties: Responsibilities will include the search, collection, examination and evaluation of scientific evidence; interpretation of laboratory analysis and results; preparation of written reports, and the ability to testify as an expert witness. Ancillary responsibilities include maintenance of laboratory equipment and supplies; management of caseloads and attendance at workshops and seminars as required.

Qualifications: The applicant must be skilled in using gas chromatography, mass spectroscopy, ultraviolet and infrared spectrophotometry and other drug screening equipment, and must be able to work independently. Minimum requirements of the position include, but are not limited to: Bachelor's degree in chemistry, biology, forensics or other related scientific field; practical working experience in a forensic laboratory including court testimony as an expert witness; and above average knowledge of and ability to apply scientific methods and disciplines of laboratory testing and analysis.

Application Procedures: Applicants should come to the Human Resources Department and complete an application or send/fax their résumé to:

City of Greenwood
Human Resources Department
Katie White-Knartzer
300 S. Madison Ave., Ste. 410
Greenwood, IN 46142

hr@cityofgreenwood.com
Phone: 317-887-5604
Fax: 317-887-5868
Website: www.cityofgreenwood.com

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6. Hamilton County Coroner's Crime Laboratory (First Posting)
Position: Drug Analyst
Location: Cincinnati, Ohio
Salary Range: $33,467.00 (Note: Hamilton County has an excellent retirement and benefits program.)
Application Deadline: Open Until Filled

Duties: Primary responsibility is to analyze and identify controlled substances using GC-MS, FTIR, and other analytical techniques. Analyst is required to present expert testimony in court. Staff members must comply with safety, quality control, technical and administrative procedures required by accrediting agencies. Analysts also routinely instruct law enforcement officers and other criminal justice professionals on matters relating to forensic science.

Qualifications: A BS/BA degree in forensic science or related natural science from an accredited college. Applicants must have completed an internship in a forensic laboratory. A strong background in mass spectrometry, pharmaceutical analysis, or analytical chemistry is desirable. Applicants must possess, or be able to obtain, a valid drivers license.

Application Procedures: Submit resume with cover letter to the contact listed below. Individuals selected for interviews are responsible for their own travel expenses.

William L. Dean
Chief of Forensic Sciences
Hamilton County Coroner's Crime Laboratory
3159 Eden Ave.
Cincinnati, Ohio 45219

Phone: 513-946-8755
E-mail: bill.dean@hamilton-co.org
Fax: 513-946-8772
Website: www.hamilton-co.org/coroner

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SCIENTIFIC MEETINGS

1. Title: 3rd European Academy of Forensic Science Triennial Meeting (Third and Final Bimonthly Posting)
Sponsoring Organization: European Academy of Forensic Science
Inclusive Dates: September 22 - 27, 2003
Location: Instanbul, Turkey (Instanbul Convention Centre)
Contact Information: [No Contact Name Provided, +90 212 287-5800 (FAX 263-4581, eafs2003@enfsi.org]
Website: [www.eafs2003.enfsi.org]

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2. Title: Clandestine Laboratory Investigating Chemists Association, 13th Annual Technical Training Seminar (Third and Final Posting)
Sponsoring Organization: Clandestine Laboratory Investigating Chemists Association
Inclusive Dates: September 3 - 6, 2003
Location: Richmond, VA (Omni Richmond Hotel)
Contact Information: Two Contacts listed: 1) Roger Ely, 415/744-7051, rogely@atdial.net; 2) Rick Fortune, 804/786-9637, rfortune@dfs.state.va.us
Website: [None]

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3. Title: American Academy of Forensic Sciences - 56th Annual Meeting (First Posting)
Sponsoring Organization: American Academy of Forensic Sciences
Inclusive Dates: February 16 - 21, 2004
Location: Dallas, TX
Contact Information: [See website]
Website: [www.aafs.org]

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4. Title: 44th Annual International Drug Conference (First Posting)
Sponsoring Organization: International Narcotic Enforcement Officers Association
Inclusive Dates: October 19 - 25, 2003
Location: Fort Lauderdale, FL (Wyndham Bonaventure Resort and Spa)
Contact Information: [None Listed]
Website: [None Listed]

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Computer Corner #173

Enhancing Technical Productivity – Doing More with Less

by Michael J. Phelan
DEA Digital Evidence Laboratory

Most digital evidence laboratory managers would state that their programs are understaffed. For many organizations, backlogs are usually measured in months. Steadily increasing backlogs and continued understaffing are the norms. Current Federal and state budgets are lean. Deficits are up, and tax revenues are down. Competing priorities within the agency, department, and/or laboratory system itself, can make it very difficult to secure needed resources. And human resources are (usually) the most costly requirement, and therefore the least likely to be satisfied in tight budget times.

What To Do???

An often overlooked aspect of digital evidence laboratory operations is the opportunity to gain marginal relief through the selective introduction of updated technology. New, more powerful software and hardware are not nearly as expensive as additional employees, especially when training costs and employee benefits are factored into the decision. Here are some ideas to consider as interim measures while awaiting additional staff:

Software

A very useful advance is purchasing and utilizing at least one comprehensive and unified digital examination software platform. Examples include Encase from Guidance Software, Forensic Tool Kit from Access Data, Ilook, or the British Vogon software. These platforms only cost from $600 to $2,000 per licensed copy, and offer several important productivity benefits, as follows:

First, evidence can be sequentially processed, by scheduling standard examination tasks that can run (unattended) overnight or on weekends. Examples of such tasks include keyword searching, file carving, and compressed file recovery (deconstruction).

Second, there is an immediate synergy benefit in having all members of the examiner staff proficient in the same software. Everyone can build upon the experiences of their fellow examiners. This makes it easier to solve technical problems, and also to run advanced searches using scripts (specialized search programs).

Third, examiner personnel can be teamed if necessary, and cases can also be easily transferred.

Fourth and finally, use of a limited number of software platforms simplifies both the scope of training, qualification testing, and methods validation. In the larger scheme of laboratory operations, this can result in significant overall time savings – and when you're short-staffed, any time savings boosts productivity.

Hardware

Additional CPU Memory

Another opportunity to enhance examiner productivity involves ensuring that the examiners' workstations have ample computer memory (RAM). Comprehensive examination software platforms are very memory intensive, because they are manipulating a "virtual" copy of the evidence (in the computer's memory) to produce the feel or appearance that there is an operating evidentiary hard drive. While each software vendor will have their own RAM memory recommendations, DEA has found that the workstations with one gigabyte of RAM operate substantially more quickly than the standard 128, 256 or 512 megabytes of RAM. The cost to upgrade a standard computer RAM configuration from 256 megabyte to 1 gigabyte is only $300 - $400. The added costs are almost negligible when considering the time savings when executing keyword searches and copying hard drives; i.e., a few hours versus as much as an entire work day.

Dual Processing

Another optimization technique is the purchase and use of dual-processor workstations. Some examination software packages can utilize dual processors to dramatically speed up examinations. Given the labor rates of senior computer forensic examiners, and the falling price of computer hardware, the money spent for a dual processor ($600 or $1000) will "break even" after just a few examinations. DEA has begun to collect productivity statistics comparing a 512-megabyte single processor CPU versus a one-gigabyte dual processor CPU, using Encase (Version 4). In tasks involving keyword searches, file hashes, and file carving, there is a five- to six-fold increase in speed! In addition, dual processor computers can truly multitask, running various processes in the background while displaying recovered data to the examiners in the foreground.

Autoloader Technology

Another means to increase examiner productivity is to improve data archiving. Many organizations still use CD's to archive hard drive images. However, archiving a 60 or 100 gigabyte hard drive to dozens of CD's is a very labor intensive process. In such cases, the low cost of the CD's is offset by the examiner labor it takes to split and record the hard drive image. Alternatively, the use of tape drives with autoloader features can make the entire archive process a background exercise if a sufficient amount of tapes are placed into the autoloader queue. Typically, the archive process with CD technology (or tape technology without an autoloader) can consume an examiner's computer for up to two days if the hard drive is large. However, with an autoloader, the archive process can usually run overnight or over a weekend without any substantive loss in examiner work time.

Autoloader technology is a little more expensive than better software platforms, additional memory, or dual processing. A typical DDS-4 tape drive with an autoloader feature sells for $2500. However (as was noted above), when examiner labor rates are $65-$100 per hour, the additional expenditures for autoloader technology is quickly recovered.

SAN Technology

One other interesting possibility involves the use of Storage Access Network (SAN) or Network Access Storage (NAS) technologies for processing multiple exhibits simultaneously. The technology involves the use of high performance network client computers or server technology to access a number of high data storage capacity hard drives very quickly. The mounting of multiple drives on a high performance computer system can simplify evidence work copy handling, and allow multiple drives to be searched simultaneously (as opposed to sequential searches, which take much more time). The use of the SAN or NAS technologies may be beneficial for organizations that typically have a large number of exhibits per case or enormous amounts of data (terabytes) to search.

The Big Picture

The decision by digital laboratory management to implement technology upgrades will pay quick dividends in terms of examiner productivity. Technology upgrades are relatively cheap and the payoffs can be substantial. Although technical upgrades are not a long-term solution to staffing shortages, DEA's experience has shown that such investments are a very worthwhile and viable interim strategy.

Questions or comments?
e-mail: mphelan@erols.com