

PB80-807670

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Forensic Science

Citations from the NTIS Data Base

Search period covered

1964-April 1980

74541

National Technical Information Service
Springfield, VA 22161

PUBLISHED SEARCH

National Technical Information Service

U.S. DEPARTMENT OF COMMERCE



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BIBLIOGRAPHIC INFORMATION

PB80-807670

Forensic Science (Citations from the NTIS Data Base).

Apr 80,
Diane M. Cavagnaro.

National Technical Information Service, Springfield, VA.

Report period covered: Rept. for 1964-Apr 80,

Supersedes NTIS/PS-79/0377 and NTIS/PS-78/0323.

The two major areas covered are forensic medicine and chemistry. Applications include breath alcohol tests, blood analyses, explosives identification, drug detection, pathology, and chemical analytical techniques, especially neutron activation analysis. The use of these techniques in the field and in the courts is discussed. (This updated bibliography contains 157 abstracts, 9 of which are new entries to the previous edition.)

PRICE CODE: PC N01/MF N01

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Sample Citation from the NTIS Data Base

_____		Title
Compilation of State Data for Eight Selected Toxic Substances, Volume I		
_____		Corporate Author
Mitre Corp., McLean, VA. *Environmental Protection Agency, Washington, D.C. Office of Toxic Substances. (402-364)		Sponsoring Agency
Final rept.		
AUTHOR: Roberts, Elizabeth, Spewak, R., Stryker, S., Tracey, S.		
C5945F4 FLD: 06T 06F 57Y*, 57H, 68*		NTIS Subject Categories
USGRDR7606 Sep 75 165p*		Pages in Report
_____		Report Date
REPT NO: MITRE-75-52-Vol-I		
CONTRACT: EPA-68-01 2933		
MONITOR: EPA/560/7-75/001-1		
Paper copy also available in set of 5 reports as PB-248 649-SET, PC\$36.00		
ABSTRACT: In June 1974, toxic substances data in the U.S. were collected and analyzed in 20 key states. This report describes that effort and discusses the amount, type and usefulness of the data and toxic substances monitoring capabilities of the state agencies contracted.		
DESCRIPTORS: *Environmental surveys, States (United States), Monitors, Toxicology, Arsenic, Beryllium, Cadmium, Cyanides, Lead (Metal), Mercury (Metal), Chlorine aromatic compounds, Data acquisition, Data processing, Water pollution, Air pollution, Chemical compounds		
IDENTIFIERS: *Toxic agents, Biphenyl/chloro, State agencies, NTISEPOATS		Order Number
PB-248 660/3ST NTIS Prices: PC A08/MF A01		Microfiche Price Code
_____		Paper Copy Price code
Keywords		

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A Multispectral Look at Oil Pollution Detection Monitoring and Law Enforcement

National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, Md.

AUTHOR: Catoe, C. E.; Mclean, J. T.

G046213 Fld: 7D, 68D, 99A STAR1803

Oct 79 25p

Rept No: NASA-TM-80573

Monitor: 18

Abstract: The problems of detecting oil films on water, mapping the areal extent of slicks, measuring the slick thickness, and identifying oil types are discussed. The signature properties of oil in the ultraviolet, visible, infrared, microwave, and radar regions are analyzed.

Descriptors: *Multispectral band scanners, *Oil pollution, *Pollution monitoring, *Remote sensors, Law (Jurisprudence), Color photography, Infrared imagery, Infrared photography, Infrared radiometers, Microwave imagery, Signature analysis, Spectral signatures, Ultraviolet photography

Identifiers: *Water pollution detection, *Water analysis, Chemical analysis, NTISNASA

N80-12622/0 NTIS Prices: PC A02/MF A01

Toxic Trace Metals in Mammalian Hair and Nails

National Inst. of Scientific Research, Rancho Santa Fe,
CA.*Environmental Monitoring and Support Lab., Las Vegas, NV. (060350000)

AUTHOR: Jenkins, Dale W.

G012484 Fld: 6T, 6A, 57Y, 57B GRAI8002

Aug 79 195p

Contract: EPA-68-03-0443

Monitor: EPA/600/4-79/049

Abstract: Data have been compiled from the available world literature on the accumulation and bioconcentration of selected toxic trace metals in human hair and nails and other mammalian hair, fur, nails, claws, and hoofs. The toxic trace metals and metalloids include antimony, arsenic, boron, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, tin, and vanadium. These have been tabulated by toxic metal, geographic area, subjects, sex, age, exposure gradient, analyses in ppm, and authority, from over 400 references. This compilation should provide background baseline reference information to help evaluate the usefulness of tissues for biological monitoring, and to help in the establishment of national or worldwide biological monitoring systems and networks. The various uses of hair for biological monitoring are reviewed for correlating with environmental exposure gradients, diseases associated with excesses and deficiencies, geographic distribution, and historic trends. The advantages and disadvantages of using hair for biological monitoring are discussed. It appears to be that if hair and nail samples are collected, cleaned, and analyzed properly with the best analytical methods under controlled conditions by experienced personnel, the data are valid. Human hair and nails have been found to be meaningful and representative tissues for biological monitoring for most of these toxic metals.

Descriptors: *Metals, *Hair, *Nails (Anatomy), *Trace elements, *Toxicology, Humans, Concentration (Composition), Age, Sex, Metalloids, Accidents, Exposure, Diseases, Distribution, Trends, Chemical analysis

Identifiers: *Toxic substances, Bioaccumulation, *Heavy metals, Forensic medicine, NRISEPAORD

PB80-103997 NRIIS Prices: PC A09/MF A01

Increased D.U.I. Enforcement Program, Stockton, California

Stockton Police Dept., CA.*National Highway Traffic Safety
Administration, Washington, DC. (060301000)

Annual rept. no. 3, Jan-Dec 77

AUTHOR: Hause, Janet; Chavez, Edward; Hannon, Roseann

F2454J2 Fld: 5K, 91C, 85D GRAI7926

Aug 79 147

Contract: DOT-HS-5-01194

Monitor: DOT-HS-804-838

See also Annual rept. no. 2, PB-280 626.

Abstract: The report is a compilation and evaluation of data relating to the enforcement and roadside survey activities during calendar year 1977. The Project applies increased levels of personnel toward the reduction of alcohol related accidents through the detection and apprehension of persons driving under the influence of intoxicants. The roadside surveys measuring Blood Alcohol Contents indicated a reduction in the number of persons drinking during Experimental Hours, Particularly during the hours of 2 a.m. to 4 a.m.

Descriptors: *Motor vehicle operators, *Law enforcement, Diagnosis, Detection, California, Motor vehicle accidents, Traffic safety, Blood chemical analysis, Accident prevention, Social effect

Identifiers: *Drinking drivers, *Stockton (California), NTISDOTHS

PB-301 133/5ST NTIS Prices: PC A07/MF A01

Controlling Narcotics

AUTHOR: Fant, Jeanne B.; Schroeder, Clyde N.

F2185T1 Fld: 6E, 44T GRAI7924

1978 4p

Monitor: 18

Pub. in Nursing Homes v27 n6 p2-5 Nov-Dec 78.

Abstract: A discussion is provided of the narcotics control system developed at Alton Ochsner Medical Foundation's Hospital Division. After a careful study of procedures and an identification of real and potential problems, two forms were devised by the nursing staff, the pharmacy, data processing and an outside specialist. Problems encountered through the use of the forms are reviewed. After input from the individuals concerned, two new forms were designed -- a 'Drug Administration Record' and a 'Narcotics Inventory Control' sheet. The new forms simplify data recording, decrease writing time, and improve accuracy and control within the total system. A description of the workings of the narcotics control program is presented. The new filing system as well as the capability of cross-checking prescriptions provides much greater control capability. In addition, nurses can devote more of their time to patients and less to the system. Nurses have to enter information only one time, even when they are waiting for an item to be replenished. A financial improvement has also resulted because all charges are picked up every day. Other benefits of the new system are outlined.

Administration, Data processing systems, Data processing, Drug therapy, Drug utilization, Health care delivery organizations, Health care services, Health care technology, Health care, Medical records, Methodology, Nursing services, Personal health services, Therapy

Identifiers: HRP/TBCA, HRP/ZG, HRP/UA, HRP/HDCB, HRP/KG, HRP/KW, HRP/GEY/YN0, HRPOCC/XZ, Reprints, *Narcotics, *Drug treatment programs, NTISHRANHP

HRP-0028634/4ST NTIS Price: Not Available NTIS

A Plan for Forensic Mental Health Services in Pennsylvania

Pennsylvania Governor's Task Force on Maximum Security Psychiatric Care, Harrisburg.

Final rept.

AUTHOR: Fishman, Robert M.

F1893E4 Fl1: 6E, 5J, 44J, 92B GRAI7921

1 Dec 77 51p

Monitor: 18

Abstract: The document contains the findings and recommendations of the Task Force established by Governor Shapp to review the current status of Maximum Security Psychiatric Care in Pennsylvania and to make recommendations concerning the steps the Commonwealth should take to ensure the provision of the best possible care for the mentally ill offender who requires treatment in a maximum security setting.

Descriptors: *Pennsylvania, Psychiatry, Development, Design, Surveys, Implementation, Organizational structure, Legislation, Cost estimates, Recommendations

Identifiers: *Mental health services, Forensic medicine, *Health plans, Public hearings, Health care delivery systems, NTISLLC

BB-297 723/9SE NTIS Prices: PC A04/MF A01

On the Theory and Practice of Voice Identification

National Research Council, Washington, DC.*Federal Bureau of Investigation, Washington, DC. (407 401)

F1694E2 Fld: 17A, 5D, 46A*, 92D GRAI7919

Feb 79 171p*

Rept No: ISBN-0-309-02873-6

Monitor: 18

Sponsored in part by Federal Bureau of Investigation, Washington, DC. Library of Congress catalog card no. 79-63355.

Abstract: The report examines the scientific, technical, and legal aspects of the use of sound spectrograms as evidence in courts of law.

Descriptors: *Spectrograms, *Voice communication, *Identification systems, Courts of law, Spectroscopy, Speech, Recommendations, Law (Jurisprudence), Legislation, Equipment

Identifiers: Forensic science, Voiceprints, NTISNASNRC

DB-296 717/2ST NTIS Prices: MF A01

Chemical Spot Test Kits for Preliminary Identification of Drugs of Abuse

National Bureau of Standards, Washington, DC.*National Inst. of Law Enforcement and Criminal Justice, Washington, DC.

Final rept.

AUTHOR: Mills, R.; Velapoldi, R. A.

F1501E1 Fld: 60, 7D, 57Q, 99A, 86V GRAI7917

Dec 78 19p

Monitor: 18

Sponsored in part by National Inst. of Law Enforcement and Criminal Justice, Washington, DC.

Pub. in NILECJ-STD-0604.00, 19p, Dec 78.

Abstract: This is a performance standard for field testing kits that use chemical spot tests for the preliminary identification of drugs of abuse. Performance requirements and methods of test are given for such attributes as specificity, sensitivity, color development, and labeling.

Descriptors: *Drugs, *Identifying, Tests, Performance standards, Sensitivity, Requirements, Methodology, Color

Identifiers: Labeling, NTISCOMNBS, NTISJDLEAA

DB-295 586/2ST NTIS Prices: Not available NTIS

Sex and Race Determination of Crania by Calipers and Computer: A Test of the Giles and Elliot Discriminant Functions in 52 Forensic Cases

Federal Aviation Administration, Washington, DC. Office of Aviation Medicine. (264320)

AUTHOR: Snow, Clyde C.; Hartman, Steve; Giles, Eugene; Young, Fontaine A.

F1172D2 Fld: 6C, 12A, 57A, 72 GRAI7914

Jan 79 19p

Rept No: FAA-AM-79-2

Monitor: 18

Abstract: The Giles and Elliot discriminant functions diagnosing sex and race from cranial measurements were tested on a series of forensically examined crania of known sex and race. Of 52 crania of known sex, 46 (88%) were correctly diagnosed. Racial diagnoses were correct in 30 (71%) of 42 crania of known race. Analysis of the facial data indicates that most of the errors resulted from the misclassification of American Indian crania as White or Negro. This suggests that the temporally remote and geographically limited prehistoric Indian crania used in developing the functions do not provide a data base representative of the present-day U.S. American Indian population. Cranial size, age at death, and certain pathological conditions altering cranial form can also contribute to misdiagnoses of sex and /or race by the function. We conclude, that despite some shortcomings, the Giles and Elliot discriminant functions provide a useful tool in forensic anthropology. (Author)

Descriptors: *Discriminate analysis, *Anthropology, Race (Anthropology), Test methods, Skeleton, Sex, Computer aided instruction, Minicomputers

Identifiers: NTISDODXA

AD-A065 448/3ST NTIS Prices: PC A02/MF A01

Health Care in Jails -- Inmates' Medical Records and Jail Inmates' Right to Refuse Medical Treatment

American Medical Association, Chicago, IL.*Law Enforcement Assistance Administration, Washington, DC.

AUTHOR: Isele, William Paul

EO57114 Fld: 6E, 5K, 44S, 92C GRAI7908

1978 25p

Grant: 78ED-AX-0023

Monitor: 18

Available from American Medical Association, 535 N. Dearborn Street, Chicago, IL 60610.

Abstract: Information is presented concerning inmates' medical records and the right of those inmates to refuse medical treatment. The ethical principle of confidentiality is explained, and cases are cited to illustrate the point that, in some instances, there is no violation of patient confidentiality when a physician discloses information. A hypothetical case of a detainee relating symptoms of drug withdrawal to a jail physician is presented. It is noted that the detainee would probably not relate his symptoms because he would be afraid that the physician's testimony would help convict him on a drug charge. By failing to assure confidentiality between physician and patient, jail officials could effectively deny the inmate the treatment he needs. The duty of the physician employed in a correctional institution is explored, and it is pointed out that the fact of his contractual relationship with the institution should have no effect on his relationship with his patients. It is concluded that the inmate does, indeed, have a right to confidentiality. It is also pointed out that the right of any competent adult to refuse medical treatment also applies to jail inmates. Jail physicians must observe the same principles of informed consent that apply to the treatment of the general population.

Descriptors: *Health care, Administration, Confidentiality, Data processing systems, Data processing, Data, Health legislation, Health occupations, Health planning agencies, Health related organizations, Information, Law(Jurisprudence), Legislation, Medical records, Methodology, Physicians, Regulations

Identifiers: HRP/SC, HRP/ZL, HRP/TBCA, HRP/TD, HRP/BH, HRPGE0/YNO, HRP0CC/XA, *Correctional institutions, Patients rights, *Prisoners, NTISHRANHP

HRP-0027871/3ST NTIS Price: Not Available NTIS

Recognition of Jail Inmates with Mental Illness, Their Special Problems and Needs for Care

American Medical Association, Chicago, IL.*Law Enforcement Assistance Administration, Washington, DC.

FO50563 Fld: 6E, 5J, 44K, 92B GRAI7907

1978 13p

Grant: 78-FD-AY-0023

Monitor: 18

Abstract: Detection and management of mental illness in jail inmates are discussed. At the time of booking, jail personnel have the responsibility of screening the arrestee for mental illness or alcohol/drug abuse. It is cautioned that medical conditions such as diabetes, high blood pressure or head injuries may produce symptoms similar to those of mental illness. Signs of real mental illness which may be detected after longer observation include feelings of persecution or personal grandeur, talking to oneself or hearing voices, hallucinating, sensations of being watched, impossible bodily ailments, extreme panic, self-endangering behavior, and depression. Immediate management involves looking over the situation and allowing the prisoner to calm down, taking care not to threaten or to deceive the individual or to respond to goading. Restraint of an uncontrollably violent individual may call for a show of force, assistance, isolation of the prisoner in a cell, and medical attention. Depression may be an advance sign of suicidal tendencies. Other special conditions which can occur are mental retardation (signalled by slow learning and speech), advanced age, alcoholism with delirium tremens 3 to 8 days after cessation of drinking, and drug addiction. It is recommended that the affected inmate be kept in the general inmate population but checked regularly, that a safely equipped psychiatric/suicidal observation room be provided, and that suicidal inmates be placed in the safe room and kept under close supervision.

Ambulatory health services, Communities, Demography, Health care services, Health care, Health screening, Personal health services, Socioeconomic status, Sociology

Identifiers: HEP/KF, HEP/ZJ, HEP/KBC, HEP/CH, HEP/PCB, HEPGTO/YNO, HEPQCC/XZ, *Mental disorders, *Prisoners, *Mental health care, Diagnosis, Therapy, NTISHFANHP

HEP-0027536/2ST NTIS Prices: PC A02/MF A01

Orienting Health Providers to the Jail Culture

American Medical Association, Chicago, IL.*Law Enforcement Assistance
Administration, Washington, DC.

F0505G2 EId: 6E, 44K GRAI7907

1978 11p

Grant: 77-ID-99-0011

Monitor: 18

Abstract: Recommendations to assist physicians in providing adequate medical care in jails are discussed in an American Medical Association brochure. Jails may function for pretrial detention, for serving a sentence or for detention of material witnesses; law enforcement agencies and the court are the primary users of jails, especially of local facilities. The jail is an extension of the community, reflecting community wishes and attitudes. For treatment of prisoners within the closed system, it is recommended that the physician be acquainted with guard-inmate relationships, that health providers avoid being institutionalized within jails, that providers not allow inmates any opportunity to break security, and that the physicians' knowledge be shared with guards. Medical providers must beware of morbidity rates and psychological problems or suicidal dangers in their particular jail situations. The jail setting is not ideal for medical treatment, but it is challenging, as statements of medical personnel demonstrate. Problems arise from the provider-inmate adversary relationship and especially from use of medications for illicit drug trafficking. Sleeping pills, tranquilizers or aspirins with codeine as well as psychotropic drugs should not be used as alternatives to mental health care, education or physical activities, and health providers must be aware of guards' administration of drugs.

Descriptors: *Physicians, Communities, Demography, Drug therapy, Drug utilization, Health care delivery, Health care services, Health care technology, Health care, Institutions, Medical services, Personal health services, Research, Socioeconomic status, Sociology, Therapy

Identifiers: HEP/KE, HEP/ZJ, HRP/RCB, HEP/KWA, HRP/CH, ~ HRP/JC, HEP/HDCFA, HEPGFC/YMO, HRPCC/XA, *Correctional institutions, *Medical care, Recommendations, American Medical Association, NTISHRANHP

HEP-0027535/4ST NTIS Prices: PC A02/MF A01

Neutron Activation Analysis of Single Human Hairs and Possible Applications for Forensic Purposes

Institute of Nuclear Research, Warsaw (Poland). (3253800)

AUTHOR: Dybczynski, R.; Boboli, K.

PO315A3 EId: 7D, 5D, 99A, 92D, 91C GRAI7905

1975 58p

Monitor: 18

U.S. Sales Only.

Abstract: A new analytical procedure that enables one to determine more than 10 trace elements in single, 3 cm human hair segments by neutron activation analysis (NAA) was elaborated. Application of a special washing procedure of hair (before irradiation) made it possible to lower sodium content by two orders of magnitude without affecting trace element content. After irradiation in the thermal neutron flux of about $10 \times 10^{14} \text{ n.cm}^{-2} \text{ sec}^{-1}$ the activity of hair was measured with 70 cm exp 3 Ge(Li) detector coupled to 4000 channel pulse height analyser. As an alternative method, a destructive version of NAA with ion exchange group separation of radionuclides was applied. It was found that sometimes high gradients of element concentration along the hair length exist and that there is without any doubt a distinct influence of environmental factor on the content of some trace elements in hair. The criminalistic aspects of hair analysis were also studied using new statistical criterion for elimination (identification). Both possibilities and limitations of the method are discussed. (Atomindex citation 09:375257)

Descriptors: *Hair, Crime detection, Elements, Gamma spectra, Gamma spectroscopy, Irradiation, Probability, Sample preparation, Thermal neutrons, Trace amounts

Identifiers: EPDA/400101, Poland, Neutron activation analysis, Criminal investigation, NTISINIS

INR-1504/8/C/A NTIS Prices: PC A04/MF A01

A Seroepidemiological Survey for Crimean-Congo Hemorrhagic Fever Virus
in Humans and Domestic Animals in Egypt

Egyptian Organization for Biological and Vaccine Production Agouza
Cairo (391368)

AUTHOR: Darwish, Medhat A.; Imam, Imam Z. E.; Omar, Ferial M.;
Hoogstraal, Harry

F0292F3 Fld: 6E, 57U, 57E GPAI7905

1977 12p

Contract: M00014-74-C-0391

Project: MR04109

Task: MR0410901

Monitor: NAMPU-3-ACC-1122

Prepared in cooperation with Ain Shams Univ. Cairo (Egypt). Faculty of
Medicine.

Availability: Pub. in the Jnl. of the Egyptian Public Health
Association, v52 n3 p156-163 1977.

Abstract: No abstract available.

Descriptors: *Serology, *Epidemiology, *Surveys, *Hemorrhagic fevers,
Humans, Animals, Egypt, Reprints

Identifiers: *Viruses, NTISDODXR

AD-A060 920/6ST NTIS Prices: PC A02/MF A01

Laser Optoacoustic Explosives Detection

Aerospace Corp., Washington, DC.**Beckman Instruments, Inc., Anaheim, CA. Advanced Technology Operations.*Law Enforcement Assistance Administration, Washington, DC. (407 979)

Final rept.

AUTHOR: Weagant, P. A.; Beebe, C. H.

E2745G1 Fld: 14B, 19A, 99A, 79A GRAI7826

1977 52p

Contract: J-LEAA-025-73

Monitor: NCJ-44884

Prepared in cooperation with Beckman Instruments, Inc., Anaheim, CA. Advanced Technology Operations.

Abstract: Results of a 1977 program to evaluate the feasibility of using a laser optoacoustic system to detect hidden explosives are reported. Numerous measurements were made on ethylene glycol dinitrate (EGDN), a compound similar to nitroglycerine. The technique uses a laser beam passed through an absorption cell containing a trace gas of interest. If the laser line is absorbed by the gas, the resulting sound waves are detected by a sensitive microphone. Researchers aimed at constructing a system with a limit of detection about two orders of magnitude better than that reported to date, and at ascertaining whether explosive vapor concentrations of 100 parts per trillion or less could be detected and distinguished. Performance sufficient to detect EGDN vapor at concentrations of about 10 parts per billion was demonstrated. Researchers know of no existing gas separation device which would allow the system to be employed at its theoretical limits, approx. one part per trillion. It is concluded that since the principle studied has a sensitivity substantially better than most other analytic techniques, and it also provides spectra which can be used for discrimination and identification, it is an attractive candidate for explosive detection. Experimental data are provided.

Descriptors: *Explosives, *Gas detectors, Detection, Feasibility, Performance evaluation, Design criteria, Laser beams

Identifiers: Ethylene glycol/dinitrate, *Acoustooptics, NTISJDLAA

PB-285 556/7ST NTIS Prices: PC A04/MF A01

Constitutional Issues of the Prisoner's Right to Health Care

American Medical Association, Chicago, Ill. Office of the General Counsel.*Law Enforcement Assistance Administration, Washington, D.C.
E2651B4 Fld: 6E, 5D, 44S, 92E GRAI7825

1977 24p

Grant: 75-12-01-03

Monitor: 18

Available from American Medical Association, 535 N. Dearborn Street, Chicago, IL 60610.

Abstract: This paper presents the general principles of law -- specifically the eighth amendment and the Civil Rights Act and decisions referring to them -- that govern the rights of prisoners regarding medical care. Court rulings regarding the constitutionality of the prisoner's right to adequate care, legal definitions of adequacy, physician competence, prison medical facilities and the right and access to specialized treatment as well as economic considerations are reviewed. It is concluded that a prisoner does not lose all of his civil rights during and because of imprisonment. He continues to be protected by the due process and equal protection clauses of the Federal Constitution and retains the constitutional right to adequate medical treatment. The extent and manner of medical treatment will vary with individual cases and are ordinarily left to the medical judgement of the attending physician. The courts, however, can intervene when there is evidence that care is not given or that gross and intentional mistreatment occurs. Disagreements over proper care and simple malpractice are not considered constitutional questions. Furthermore, prison physicians are accountable for providing adequate care, not to a higher standard than their civilian colleagues. Prison officials, however, might be held liable for not providing adequate facilities to care for routine health needs of prisoners.

Descriptors: *Health care, *Health legislation, Health care delivery systems, Law (Jurisprudence), Legislation, Regulations

Identifiers: HEP/SC, HEP/ZL, HEP/SA, HEPGEO/YNO, HEPPOCC/XZ, *Prisoners rights, Civil Rights Act, NTISHRANHP

HRP-0025129/8ST NTIS Price: Not Available NTIS

Increased D.U.I. Enforcement Program Stockton, California

Stockton Police Dept., Calif.*National Highway Traffic Safety Administration, Washington, D.C.

Annual rept. no 2, Jan 76-Dec 76

AUTHOR: Hause, Janet: Chavez, Edward: Hannon, Poseanna; Matheson, Douglas

E1733B1 EId: 13L, 13F, 85D, 43G GRAI7817

30 Jun 77 106p

Contract: DOT-HS-5-01194

Monitor: DOT-HS-803-296

See also report dated Jan 77, PB-264 088.

Abstract: The Second Annual Report for the Increased D.U.I. Enforcement Program represents the first full year of enforcement activity and the evaluation of the productivity and effectiveness of that application. The D.U.I. Enforcement Project utilizes increased levels of personnel specifically for the purposes of impacting alcohol related accidents through the detection and apprehension of persons driving under the influence of intoxicants. The evaluation design plans provided for the City of Stockton to be divided into two operational areas with increased enforcement being provided in each area for a period of six months.

Descriptors: *Motor vehicle operators, *Alcohol usage, *Accident investigations, Law enforcement, Motor vehicle accidents, Accident investigations, Program effectiveness, Urban areas, Traffic safety, Collision research, Blood chemical analysis, Statistical analysis, Crimes, Accident prevention, California

Identifiers: *Drinking drivers, *Alcohol related crashes, Blood alcohol concentration, Stockton (California), NTISDOTHS

PB-280 626/3ST NTIS Prices: PC A06/MF A01

Alcoholism Prevention and Treatment Services in Counties: Report on a National Survey

National Association of Counties Research Foundation, Washington, D.C.
Alcoholism and Alcohol Abuse Program.*National Inst. on Alcohol Abuse and Alcoholism, Rockville, Md.

AUTHOR: Adams, Pegina D.; Benjamin, Michael L.; Berberian, Rosalie; Kline, Gilbert M.

E1632C4 Fld: 6E, 5K, 44J, 91F*, 92C* GRAI7816

1977 64p*

Grant: PHS-5-H84-AA-01747-02

Monitor: NIAAA/NCALI-77/11

Abstract: Results of a comprehensive national survey assessing the efforts of counties to provide alcoholism prevention and treatment services for their citizens are reported. Included for consideration are the ways counties are funding such services, who is responsible for them, and what is being done to plan and coordinate them. Additional information is provided on the involvement of county criminal-justice systems. The extent of occupational alcoholism programming in the counties, and major obstacles to the provision of alcoholism services. Extensive tabular data on the county alcoholism services referred to in text are provided in the appendices.

Descriptors: *Alcoholism, Law enforcement, Health care services, Drug addiction, Funds, Financing, Counties, Therapy, Tables(Data), Health surveys, Health statistics, Assessments, Availability, Agencies, Coordination, Evaluation, Planning, Barriers

Identifiers: Drug abuse, *Drug treatment programs, NTISADAAA

PB-280 263/557 NTIS Prices: PC A04/ME A01

Auto Headlight Glass: Visible Features of Forensic Utility

National Bureau of Standards, Washington, D.C. Law Enforcement Standards Lab.*National Inst. of Law Enforcement and Criminal Justice, Washington, D.C.

AUTHOR: Steinberg, Harold L.; Mills, Robert

E1361B3 Fld: 13A, 13F, 5D, 85H, 85D, 91C, 86V GRAI7814

Feb 78 142p

Rept No: LESP-REF-0607.00; NBS-SPECIAL PUB-480-17

Monitor: 18

Library of Congress Catalog Card no. 78-600010. Sponsored in part by National Inst. of Law Enforcement and Criminal Justice, Washington, D.C.

Abstract: The report documents those visual aspects of sealed beam headlights which may be of use in criminal investigations involving such evidence. These visual aspects include fluting pattern, lampmaker monogram, mold markings, beam and lamp type markings, and curvature. Only sealed beam headlights used in passenger vehicles having significant U.S. sales are considered.

Descriptors: *Headlamps, *Accident investigations, *Glass, Criminal investigations, Patterns, Marking, Coloring, Identifying, Lenses, Reflectors, Manufacturers, Passenger vehicles

Identifiers: NTISCOMNBS, NTISJDLEAA

PB-279 053/3ST NTIS Prices: PC A07/MF A01

Hazard Evaluation and Technical Assistance Report No. TA 77-34, New York State Police Scientific Laboratories

National Inst. for Occupational Safety and Health, Cincinnati, Ohio.
Hazard Evaluations and Technical Assistance Branch.

AUTHOR: White, Gary L.

E1354A2 EId: 6J, 6T, 57U, 57Y, 94D, 68G 3PAI7814

Aug 77 17p

Rept No: NIOSH/TF/TA-77/34

Monitor: 18

Abstract: A Hazard Evaluation and Technical Assistance survey was conducted by NIOSH on May 2-5, 1977, at the New York State Police Scientific Laboratories, Albany, New York. The survey was prompted by a request from the management to determine whether exposure to laboratory chemicals were such as to adversely affect the health of the approximately 50 laboratory workers. Based on air sampling and work practice observations, it was determined that the levels of acetone, ammonia, benzene, 1,2-dichloroethane, and ethyl acetate in the air were below potentially toxic concentrations, while the concentration of chloroform was potentially toxic. Swipe samples for inorganic lead indicated that there was lead contamination throughout the weapon testing area. Ventilation measurements revealed that the laboratory had inadequate exhaust ventilation for control of toxic chemicals. Recommendations are made for controlling toxic materials in the laboratories.

Descriptors: *Hazardous materials, *Industrial medicine, *Lead poisoning, *Metals, *Chlorohydrocarbons, *Chloromethanes, Toxicity, Criteria, Inspection, Standards, Recommendations, Industrial hygiene, Concentration(Composition), Medical examination, Environmental engineering, Environmental surveys, Acetone, Ammonia, Benzene, Ethyl acetate, Chlorine organic compounds, Ethane/dichloro

Identifiers: *Toxic substances, *Occupational safety and health, Threshold limit values, Maximum permissible exposure level, Indoor air pollution, New York State Police Scientific Laboratories, NIOSH/TF/TA-77/34

PB-278 837/OST NTIS Prices: PC A02/MF A01

Migratory Missiles (Conditions for the Penetration of Vessels by Bullets) (Projectiles Migrateurs (Conditions de Penetration des Balles dans les Vaisseaux))

Army Medical Intelligence and Information Agency Washington D C (409112)

AUTHOR: Pidelievre, R.; Etienne-Martin, P.

FO954L1 Fld: 6U, 570 GRAI7811

16 Feb 78 10p

Rept No: USAMIIA-K-8760

Monitor: 18

Trans. of La Presse Medicale (France) n87 p1680-1683, 1 Nov 33.

Abstract: Missiles that penetrate the body can come in contact with a large vessel, perforate it, and be carried well away from the point of impact by the bloodstream. These missiles, under these conditions, are called migratory missiles. The coroner is concerned with them because he is the one who tries to locate them in the course of a criminal autopsy. Moreover, these foreign objects have been tolerated, in certain cases. The time that has elapsed before they had become the cause of arterial obstruction accompanied by gangrene, or of cardiac irritation having caused death, has varied.

Descriptors: *Bullet wounds, Penetration, Small arms ammunition, Arteries, Autopsy, Veins, Human body, Anatomy, Translations, France

Identifiers: *Forensic medicine, Pathology, NTISDCDXA

AD-A050 548/7ST NTIS Prices: PC A02/MF A01

The Epidemiology of Heroin and Other Narcotics

National Inst. on Drug Abuse, Rockville, Md. Div. of Research.

AUTHOR: Bittenhouse, Joan Dunne

E0795L4 Fld: 6F, 5J, 5K, 57F*, 92C*, 92B GDAI7809

Nov 77 249p*

Rept No: DHEW/PUB/ADM-78/559; RESEARCH MONOGRAPH SEP-16

Monitor: 18

Library of Congress Catalog Card no. 77-88154.

Abstract: The report is of a task force meeting sponsored by the National Institute on Drug Abuse on the epidemiology of heroin and other narcotics. The purpose was to examine the state of the art of measurement of heroin-narcotic use and to recommend improved research technologies--to identify gaps in knowledge, suggest how such gaps might be addressed through research, and to identify implications for research policy. Each paper received critique and commentary, included in the publication. Among subject areas are estimates of user populations; available methodologies and their limitations; epidemiological inferences from treatment data; consequences of use, including organizational and institutional consequences. The diversity of views reflect the complexity of the heroin phenomenon.

Descriptors: *Narcotics, *Drug addiction, *Epidemiology, Recommendations, Methodology, Estimates, Drugs, Populations, Tables(Data), Research, Reviews, Economic analysis

Identifiers: *Heroin, Drug utilization, Drug treatment programs, Medical research, Drug abuse, NTISHEWCDA

DB-276 357/1ST NTIS Prices: PC A11/XF A01

Psychodynamics of Drug Dependence

National Inst. on Drug Abuse, Rockville, Md. Div. of Research.

AUTHOR: Blaine, Jack D.; Julius, Demetrios A.

E0795F4 Fld: 5J, 6E, 92B*, 57T* GPAI7809

May 77 198p*

Rept No: DREW/PUB/ADM-77/470; RESEARCH MONOGRAPH SER-12

Monitor: 18

Library of Congress Catalog Card no. 77-77369. See also PB-269 175.

Abstract: The monograph results from a conference on the Psychodynamics of Drug Dependence. Both theoretical and clinical, the papers present varied views of psychoanalysts, psychiatrists, and psychologists concerned with the complex issues of substance use and abuse in relation to individual psychodynamics. Use of drugs as an adaptive mechanism helping the individual to cope with overwhelming anxiety, depression, or destructive impulses during the adolescent stage of development is stressed, as well as the pharmacologic effects of drugs being substituted for defective ego functions. It is suggested that an individual will self-select different drugs based on his/her personality organization and the nature of the ego impairment. The purpose of these studies is to increase the likelihood of successful therapeutic outcomes for heroin-dependent people and drug abusers more generally by stimulating new research directions and innovative treatment approaches.

Descriptors: *Drug addiction, *Behavior, Narcotics, Alcoholism, Psychology, Therapy, Diagnosis, Research, Personality, Human behavior, Motivation, Emotions, Pharmacology, Anxiety, Neurotic depression, Psychotic depression, Ego

Identifiers: Teenagers, *Drug abuse, *Psychodynamics, Heroin, Adolescents, NTISHEWCDA

PB-276 084/1ST NTIS Prices: PC A09/MF A01

Estimation of Stature from the Vertebral Column of American Negroes

Air Force Inst of Tech Wright-Patterson AFB Ohio (012200)

Master's thesis

AUTHOR: Tibbets, Gary Lynn

EO48114 Fld: 6C, 57A GRAI7806

Sep 77 155p

Rept No: AFIT-CI-78-5

Monitor: 18

Availability: Microfiche copies only.

Abstract: The only other study which addressed the estimation of stature from the vertebral column had been conducted by an American, Thomas Dwight, in 1894, prior to Pearson's comments. Dwight's study utilized intact vertebral columns from cadavers and, although providing an indication of the usefulness of the column for stature estimation, is of little value when dealing with skeletal remains. The purpose of this research is to at least partially fill this void by developing regression formulae for the estimation of stature from the vertebrae of American Negroes. Negroes were chosen for study because of the total lack of previous vertebral studies on this race, and because of the availability of Negro specimens from the Terry Anatomical Collection now located in Washington, D.C.

Descriptors: *Anthropology, *Negroes, *Anthropometry, History, Literature surveys, Statistical analysis, Skeleton, Cadavers, Ethnic groups, Identification, Computer applications, Computer programs, Tables (Data)

Identifiers: Forensic medicine, Forensic science, Vertebrae, *Black Americans, NTISDOIXA

AD-A048 118/4ST NTIS Prices: MF A01

Laboratory Coordination and Consolidation

Garland Urban Observatory, Tex.**League of Cities-Conference of
Mayors, Inc., Washington, D.C.*Department of Housing and Urban
Development, Washington, D.C. Assistant Secretary for Policy
Development and Research.

Final rept.

AUTHOR: Wolf, Harold W.; Andrews, Donald Craig

D362384 Fld: 14B, 13B, 91G, 43 GRAI7724

Apr 77 37p

Rept No: HO-ICCM-GAR-77-008

Monitor: HUD/EFS-1122

Prepared in cooperation with League of Cities-Conference of Mayors,
Inc., Washington, D.C. Contract HUD-H-2196E.

Abstract: Municipalities are faced with many laboratory needs, ranging
from crime analysis to analysis of drinking water. This study
describes the alternatives and costs open to a city for each type of
laboratory analysis.

Descriptors: *Urban planning, *Municipalities, *Laboratories,
Biological laboratories, Blood chemical analysis, Criminology,
Chemical laboratories, Water analysis, Potable water, Cost analysis

Identifiers: NTISHUDEDR

PB-271 639/7SE NTIS Prices: PC A03/MF A01

Radionuclear Forensic Investigations

Pennsylvania State Univ., University Park. Dept. of Nuclear Engineering. (403 447)

Final project rept.

AUTHOR: Pillay, K. K. S.; Levine, S. H.; Jester, W. A.

D3163E4 Pld: 7E, 5D, 99E, 91C GRAI7720

Cct 74 207p

Monitor: 18.

Abstract: This report briefly narrates the various tasks undertaken and the findings of a three year research and developmental program called Radionuclear Forensic Investigations conducted at the Nuclear Engineering Department of The Pennsylvania State University. The objectives of the program were to bring the applications of nuclear analytical techniques to forensic science investigations and to introduce some of these methods to the Pennsylvania State Police. One of the accomplishments of this investigation was the development of a simple but extremely efficient method for the collection of physical evidence during criminal investigations involving the use of firearms. This investigation also undertook the development of radiochemical methods capable of analyzing several trace elements (Ba, Sb, Cu and Au) which are characteristic constituents of firearm discharge residues resulting from the use of almost all the ammunitions distributed in the United States. Also a physical evidence that is almost always found at the scene of violence is human hair. Some of the accomplishments of this investigation were introduced to a select group of officers of the Pennsylvania State Police. The evidence gathered by these officers are now being analyzed by a specially trained criminalist from the State Police Laboratory using the nuclear analytical techniques developed during this investigation.

Descriptors: *Chemical analysis, *Radiochemistry, *Criminal investigations, Neutron activation analysis, Trace element, Metals, Police, Ammunition, Small arms, Personnel management, Isotopic labeling, Hair, Humans, Law enforcement, Residues, Samples, Californium

Identifiers: *Forensic science, NTISSLLC

PE-269 266/3ST NTIS Prices: PC A10/MF A01

The Hazard of Benzidine to Criminal Justice Personnel

National Bureau of Standards, Washington, D.C.*National Inst. of Law Enforcement and Criminal Justice, Washington, D.C. (240 800)

Final rept.

AUTHOR: Steinberg, Harold

D2891L1 Fld: 6J, 57U, 94D, 68G, 44G, 86V GRAI7717

Feb 77 20p

Rept No: NBS-SP-480-21

Monitor: 18

Abstract: Benzidine is a hazardous material which can cause bladder cancer in man. Yet it is used by criminalists and by investigative personnel in the detection of blood and in the preparation for photography of fingerprints found on bloody substrates; significant benzidine uptake by these personnel is possible. The forensic techniques which utilize benzidine, and the most likely routes by which contamination of personnel may occur, are described. Recommendations regarding its handling and use are presented.

Descriptors: *Hazardous materials, *Carcinogens, *Industrial medicine, Blood analysis, Recommendations, Law enforcement, Criminology, Industrial hygiene, Morbidity, Bladder neoplasms, Malignant neoplasms, Epidemiology, Materials handling, Recommendations

Identifiers: Fingerprints, Toxic substances, *Benzidines, Forensic science, Forensic chemistry, Cancer, Occupational safety and health, Reagents, NTISCOMNES

PB-267 611/2ST NTIS Prices: PC A02/MF A01

Manual for Analysis of Ethanol in Biological Liquids

Oklahoma Univ. Health Sciences Center, Oklahoma City. Coll. of Medicine. *Transportation Systems Center, Cambridge, Mass. *National Highway Traffic Safety Administration, Washington, D.C. Office of Driver and Pedestrian Research.

Final rept. Jul 72-Feb 74

AUTHOR: Dubowski, Kurt M.

D2665L4 Fld: 7L, 6E, 57E, 99A GRAI7715

Jan 77 127p

Contract: DOT-TSC-472

Monitor: DOT-HS-802-208

Abstract: This manual covers selected aspects of the analysis of ethanol in biological liquids and the interpretation of the results of such analyses. Recommendations are made concerning the selection, collection, identification, and preservation of suitable biological liquid specimens from living and dead subjects for traffic law enforcement and related purposes. Procedural details are given for analysis of ethanol in such biological liquids by both automated and manual versions of gas chromatography of headspace vapors, with and without internal standards; and the analytical performance characteristics of the method are set forth. Brief consideration is also given to the interpretation of the results of alcohol analysis in blood and other biological liquids.

Descriptors: *Manuals, *Chemical analysis, *Ethanol, *Body fluids, Gas chromatography, Blood chemical analysis, Law enforcement, Samples, Laboratory equipment, Experimental design, Quality assurance, Data analysis, Automation, Urine, Blood, Saliva, Cerebrospinal fluid, Recommendations, Criminology, Pathology

Identifiers: Forensic pathology, Procedures, Forensic techniques, *Forensic science, Blood alcohol concentration, Drinking drivers, Forensic chemistry, Criminal investigations, NTISDOTHTS, NTISDOTTSC

PB-266 688/1ST NTIS Prices: PC A07/MF A01

Determination of Subpicogram Quantities of Drugs and Narcotics in
Urine of Human Subjects

Stanford Research Inst Menlo Park Calif (332500)

Final rept. 1 Mar 73-29 Feb 76

AUTHOR: Heck, Henry d'A.; McReynolds, James H.; Anbar, Michael

D2561A4 Fld: 60, 570 GRAI7715

Apr 76 61p

Contract: DATA17-73-C-3036

Monitor: 18

Abstract: The urinary excretions of methaqualone and 6-hydroxymethaqualone (free and conjugated) were studied in a normal male subject over a period of 30 days using stable isotope dilution analysis and field ionization mass spectrometry. The terminal half-lives of three compounds were estimated to be about 70 hr. These results were tentatively interpreted in terms of a multicomponent pharmacokinetic model. The ability of isotope dilution analysis using field ionization mass spectrometry to detect minute quantities of drugs in urine was thoroughly evaluated by these experiments. The sensitivity limit was between 0.1 and 1 ng/ml of urine, and was primarily limited by the chemical purity of the isolated drug or metabolite. (Author)

Descriptors: *Drug abuse, *Methaqualone, Chemical analysis, Pharmacokinetics, Humans, Males, Urine, Mass spectrometry, Metabolites, Excretion

Identifiers: NTISDODXA

AD-A039 107/8ST NTIS Prices: PC A04/MF A01

Increased D. U. I. Enforcement Program. Stockton, California Project
Evaluation

Stockton Police Dept., Calif.**University of the Pacific, Stockton,
Calif.*National Highway Traffic Safety Administration, Washington,
D.C.

Interim rept. Jan-Jun 76

AUTHOR: Hause, Janet; Matheson, Douglas; Hannon, Roseanne; Chavez,
Edward

D1953H4 Fld: 13L, 13F, 85D, 43G GRAI7710

Jan 77 99p

Contract: DOT-HS-5-01194

Monitor: DOT-HS-802-205

Prepared in cooperation with University of the Pacific, Stockton,
Calif.

Abstract: The report concerns the evaluation of the first six-month operational phase of the Increased DUI Enforcement Demonstration Project in Stockton, California. The DUI Enforcement Program involves the use of varying levels of personnel specifically for the purpose of detecting and apprehending persons driving under the influence of intoxicants. A team of ten officers was assigned to saturate operational Area B for six months. Their effect on alcohol-related accidents, BAC levels of drivers and street crimes during experimental times was evaluated and compared to other times of the day, to the control area and to baseline years. As might be expected, our DUI arrest rate per officer increased over previous years. A study of the data indicates there was a significant decrease in total collisions in Areas A and B summed together. Further, the results show the Traffic Task Force did impact Area B in the reduction of DUI collisions and total collisions. There were, however, no significant changes in the BAC levels or street crime arrests when compared to baseline years.

Descriptors: *Motor vehicle accidents, *Alcoholic beverages, *Law enforcement, *Accident investigations, Human factors engineering, Blood chemical analysis, Accident prevention, Collision research, Traffic safety, Statistical data, Crimes, California

Identifiers: *Alcohol related crashes, *Drinking drivers, Blood alcohol concentration, Stockton (California), NTISDOTHS

PB-264 088/6ST NTIS Prices: PC A05/MF A01

Clinical Approaches to Teaching Legal Medicine to Physicians:
Medicolegal Emergencies and Consultations

Johns Hopkins Univ., Baltimore, Md. School of Hygiene and Public Health.

Dietz, Park Elliott

D1322B3 Fld: 6E, 5I, 44P, 92D GRAI7706

1976 14p

Monitor: 18

Pub. in American Jnl. of Law and Medicine v2 n1 p133-145 1976.

Abstract: Two strategies are explored by which legal medicine might be brought into the mainstream of academic medicine in such a way as to provide the physician-in-training with knowledge necessary to deal with medicolegal problems. The first strategy involves providing physicians-in-training with a didactic course presenting useful ideas and information about situations having medicolegal implications for the physician. The second strategy is to set up a medicolegal consultation service through which physicians-in-training have access to a consultant who can discuss the medicolegal implications of their work in traditional clinical settings. Both strategies entail the organization of medicolegal information into clinically applicable categories rather than along traditional subspecialty lines. In this context, the tripartite division of labor in American legal medicine -- psychiatrists, pathologists, and medicolegal consultants -- is considered. The information needed in medicine can best be imparted by using the medicolegal emergency as a teaching tool and by use of consultation services. It is concluded that the two strategies which are considered can be used to promote the integration of legal medicine into the mainstream of contemporary medicine.

Descriptors: *Health manpower education, Health education, Curricula, Advanced programs

Identifiers: HRP/PAAA, HRP/ZM, HRP/GEY/NO, HRPOCC/XZ, Reprints, *Legal medicine, Forensic medicine, *Medical education, NTISHRANHP

HRP-0014312/3ST NTIS Price: Not available NTIS

The Luminescence of Luminol xi

Army Biological Labs Frederick MD (036 550)

Weber, K., Mikulovic, V.

D120212 Fld: 6A, 5K d7705

12 Aug 64 23p

Rept No: Trans-1177

Monitor: 18

Trans. of Arhiv za Higijenu Rada (Yugoslavia) v10 p101-119 1959.

Distribution limitation now removed.

Abstract: The luminol reaction may serve very well for the detection of blood spots and traces of blood on various objects in judicial-medical and criminological practice. There are various recipes for preparing the luminol reagent, among which that with sodium hydroxide yields equally intensive chemiluminescence regardless of whether it is a matter of fresh traces of blood (oxyhemoglobin) or dried spots (methemoglobin). The reagents with sodium carbonate or with sodium perborate, on the contrary, yield stronger luminescence with dried blood spots than with solutions of fresh blood under otherwise like experimental conditions. The clarity of this reaction is exceptionally great. The correct manner of effecting this reaction to detect blood spots is shown, and the results of the quantitative measurements concerning the influence of various natural substances on the chemiluminescence of luminol are given. Both catalytic and inhibitory effects were noted in the action of these substances.
(Author)

Descriptors: (*Criminology, Yugoslavia), (*Hemoglobin, *Detection), Chemical analysis, Chemiluminescence, Hydrazones, Nitrogen heterocyclic compounds, Brightness, Oxidation, Hydrogen peroxide, Hydroxides, Carbonates, Antioxidants, Catalysts

Identifiers: Hydrazides, Phthalic acids, Translations, NTISDODXD

AD-839 541/OST NTIS Prices: PC A02/MF A01

Fort Lauderdale Selective Traffic Enforcement Program Final Evaluation

PRC Public Management Services, Inc., McLean, Va.*Fort Lauderdale City Police Dept., Fla.*National Highway Traffic Safety Administration, Washington, D.C. (409 582)

Final rept.

Francis, Donald, McEwen, Tom, Lynn, Philip
D0062B3 Fld: 13L, 13F, 85D, 43G GRAI7626

Aug 76 306p

Contract: DOT-HS-259-2-463

Monitor: DOT-HS-801-955

Prepared in cooperation with Fort Lauderdale City Police Dept., Fla.

Abstract: The report contains an evaluation of the Fort Lauderdale Selective Traffic Enforcement Program. There were two components to the STEP: (1) use of trained civilian employees to investigate traffic accidents, and (2) use of a uniformed task force in selective enforcement. The use of civilians to investigate accidents is an idea that has been frequently discussed but never completely tested. The Fort Lauderdale project demonstrated that the concept is viable and operationally feasible. The evaluation showed that training of civilians was a key element. Once trained, the civilians performed better traffic accident investigations and wrote better reports than their police counterparts. The second part of the Fort Lauderdale project involved the formation of a STEP Task Force which conducted five experiments. Results were mixed as to impact on traffic accidents.

Descriptors: *Motor vehicle accidents, *Alcoholic beverages, *Accident investigations, Blood chemical analysis, Statistical analysis, Collision research, Law enforcement, Civilian personnel, Personnel selection, Specialized training, Florida

Identifiers: Drinking drivers, Alcohol breath testing, Blood alcohol concentration, Fort Lauderdale(Florida), STEP project, NTISDOTHTS

PB-257 472/1ST NTIS Prices: PC\$9.75/MF\$3.00

Sacramento, California Selective Traffic Enforcement Program

Sacramento City Police Dept., Calif.*PRC Information Sciences Co.,
McLean, Va.*National Highway Traffic Safety Administration,
Washington, D.C.

Final rept. Jun 71-Mar 75

McEwan, Tom, Brazil, Fran

DC062A2 Fld: 13L, 13F, 85D, 43G GRAI7626

Aug 76 124p

Contract: DOT-HS-109-1-155

Monitor: DOT-HS-801-983

Prepared in cooperation with PRC Information Sciences Co., McLean, Va.

Abstract: The report presents an evaluation of the Sacramento, California Selective Traffic Enforcement Program. The Sacramento STEP involved seven different experiments. The most significant was enforcement for driving under the influence (DUI) which was a continuing experiment over the life of the project. The evaluation revealed an exact correlation between fatal accidents and the times of DUI enforcement. Other countermeasures tested under the Sacramento STEP were patrol, radar and fixed point efforts. As part of the evaluation effort a mathematical model was also developed. Another part of the Sacramento STEP was the development of judges' conferences. These conferences were meetings with representatives of the police, prosecution and judicial elements of the traffic system. These meetings were very effective in improving the system and alleviating problems that previously existed.

Descriptors: *Motor vehicle accidents, *Alcoholic beverages, *Accident investigations, Blood chemical analysis, Collision research, Mathematical models, Project management, Law enforcement, California

Identifiers: *Drinking drivers, *Alcohol breath testing, *Blood alcohol concentration, STEP project, Sacramento(California), NTISDOTHTS

PB-257 451/5ST NTIS Prices: PC\$5.50/MF\$3.00

Selective Traffic Enforcement Program-STEP-BAC Study in Fort
Lauderdale, Florida

Fort Lauderdale City Police Dept., Fla.*National Highway Traffic
Safety Administration, Washington, D.C.

Final rept. 1 Jul-30 Sep 75

Taubenslag, W. N., Taubenslag, M. J.

D0062A1 Fld: 13L, 13F, 85D, 43G GRAI7626

Aug 76 118p

Contract: DOT-HS-224-2-384

Monitor: DOT-HS-801-956

Abstract: A three month experiment was conducted in Fort Lauderdale in which a Blood Alcohol Content sample was taken on those drivers who received a citation for a traffic violation. The data were analyzed and studied for relationships between BAC amount and types of citation issued, taking into account the timing, day of week and demographic indicators.

Descriptors: *Motor vehicle accidents, *Alcoholic beverages, *Accident investigations, Blood chemical analysis, Statistical analysis, Collision research, Law enforcement, Florida

Identifiers: Drinking drivers, Alcohol breath testing, Blood alcohol concentration, Fort Lauderdale(Florida), STEP project, NTISDOTHTS

PB-257 450/7ST NTIS Prices: PC\$5.50/MF\$3.00

El Paso, Texas Selective Traffic Enforcement Program

El Paso City Police Dept., Tex.*National Highway Traffic Safety Administration, Washington, D.C.

Final rept. Jun 71-Mar 75

McEwen, Tom

DO061L2 Fld: 13L, 13F, 85D, 43G GRAI7626

Aug 76 72p

Contract: DOT-HS-110-1-156

Monitor: DOT-HS-801-984

Abstract: The report presents an evaluation of the El Paso, Texas Selective Traffic Enforcement Program. The El Paso STEP involved six different experiments conducted over a thirty month period. Countermeasures tested included fixed point enforcement, patrol and radar. In addition one experiment was a special effort conducted for the holiday season in December 1973. This effort reduced accidents through the combination of newspaper publicity, TV spots, radio announcements and selective enforcement. The result was the lowest volume of accidents for the holiday season in three years. Overall the other experiments did not produce accident decreases. In one experiment line patrol was employed but was not effective. In other experiments a mixture of radar and patrol were tried but were not successful.

Descriptors: *Motor vehicle accidents, *Alcoholic beverages, *Accident investigations, Blood chemical analysis, Collision research, Accident prevention, Publicity, Law enforcement, Traffic safety, Texas

Identifiers: Drinking drivers, Alcohol breath testing, Blood alcohol concentration, STEP project, El Paso (Texas), NTISDOTHTS

PB-257 430/9ST NTIS Prices: PC\$4.50/MF\$3.00

Sex-Chromatin Bodies in Penile Washings as an Indicator of Recent Coitus

Armed Forces Inst of Pathology Washington D C (034500)
Given, B. W.

C7164J2 Fld: 6E, 5D, 57E, 92D GRAI7621

28 May 75 6p

Monitor: 18

Availability: Pub. in Jnl. of Forensic Sciences, v21 n2 p381-386 1976.

Abstract: A technique for the collection and examination of penile washings for the possible presence of vaginal cells is presented. Various characteristics of cellular form and structure are discussed insofar as they pertain to the primary goal of this study-the detection of evidence of recent sexual intercourse on the part of a male by the examination of cellular content of penile washings. (Author)

Descriptors: *Chromatin, Cytology, Cells(Biology), Chromatin, Sex, Indicators, Urine, Morphology, Laboratory tests, Reprints

Identifiers: *Coitus, Sex-chromatin bodies, Rape, Penis, Forensic Medicine, Vagina, NTISDODXR

AD-A028 005/7ST NTIS Prices: PC\$3.50/MF\$3.00

The Laboratory Management of a Medicolegal Specimen

Armed Forces Inst of Pathology Washington D C (034500)

Froede, Richard C.

C716412 Fld: 6E, 6T, 6A, 57O, 57D, 57Y, 92D GRAI7621

1976 5p

Monitor: 18

Availability: Pub. in Annals of Clinical and Laboratory Science, v6 n3
p251-255 1976.

Abstract: The medicolegal specimen refers to any material, biologic or nonbiologic, that is analyzed by the laboratory as part of an investigative procedure, the results of which may be presented as evidence in a court of law. The medicolegal specimen is an example of physical evidence and has an intrinsic credibility based on the reliability of the person handling it, the reliability of methods of laboratory analysis and the reliability of testimony with relationship to the interpretations of the findings. Aspects of specimen integrity, re: chain of custody, sample collection, specifications for samples and utilization of samples, are outlined. The responsibilities for the management of the specimen are defined and discussed with suggested guidelines recommended. (Author)

Descriptors: *Body fluids, *Tissues(Biology), Specifications, Collection, Toxicology, Laboratory tests, Clinical laboratories, Reprints

Identifiers: *Medicolegal specimens, Forensic medicine, Chain of custody, NTISDODXR

AD-A028 001/6ST NTIS Prices: PC\$3.50/MF\$3.00

Detection of Urinary 'Cannabis' Metabolites: A Preliminary Investigation

Walter Reed Army Inst of Research Washington D C (368450)

Kelley, James A., Arnold, Kenneth P.

C7155G3 Fld: 60, 57Q, 57D, 99A GRAI7621

25 Apr 75 12p

Monitor: 18

Presented at the Annual Meeting of the American Academy of Forensic Sciences (27th), 20 Feb 75, Chicago, Ill.

Availability: Pub. in Jnl. of Forensic Sciences v21 n2 p252-262 1976.

Abstract: Cannabinol and 11-hydroxy--delta-9-tetrahydrocannabinol have been detected in the individual urines of five professed marijuana or hashish smokers. Both compounds exist primarily as urinary conjugates with the concentration of cannabinol being substantially greater than 11-hydroxy-delta-9-tetrahydrocannabinol in all urines. These findings are discussed in light of present knowledge of delta-9-tetrahydrocannabinol metabolism and in view of current analytical procedures for the determination of delta-9-tetrahydrocannabinol and its metabolites in physiological fluids. (Author)

Descriptors: *Cannabis, Urine, Metabolites, Drug abuse, Laboratory tests, Test methods, Marijuana, Body fluids, Reprints

Identifiers: Forensic medicine, Cannabis sativa, Hashish, Tetrahydrocannabinol, Cannabinol, *Urinalysis, Detection, NTISDODXR

AD-A027 800/2ST NTIS Prices: PC\$3.50/MF\$3.00

Forensic Psychology

Joint Publications Research Service, Arlington, Va. (193 300)

Dulov, A. V.

C7124F4 Fld: 5J, 5K GRAI7620

21 Jun 76 146p

Monitor: 18

Trans. of mono. Sudebnaya Psikhologiya, Minsk, 1970 p7-12, 76-95, 107-166, 169-177, 183-190, 216-244, 322-335, 373-382.

Abstract: Contents: Introduction to forensic psychology; Psychological structure of the administration of justice; The methods of forensic psychology; Psychological fundamentals of preliminary investigation; Psychological fundamentals of court proceedings; Psychological fundamentals of the activity of corrective labor institutions.

Descriptors: *Social psychology, *Criminology, Education, Rehabilitation, Personality, Methodology, Psychometrics, Data acquisition, Research, Translations, USSR, Behavior, Organizations

Identifiers: Criminal justice, Behavior modification, Forensic psychology, NTISJPRS

JPRS-67486 NTIS Prices: PC\$6.00/MF\$3.00

Determination of Subpicogram Quantities of Drugs and Narcotics in
Urine Of Human Subjects

Stanford Research Inst Menlo Park Calif (332500)

Annual rept. no. 3(Final)
Heck, Henry d'A., McReynolds, James H., Anbar, Michael
C6632I4 Fld: 60, 7D, 57D, 57Q, 99A GRAI7614
Apr 76 60p
Contract: DADA17-73-C-3063
Monitor: 18

Abstract: The objective of this research program has been to determine very low concentrations of drugs and their metabolites in human urine by the use of nonradioactive isotope dilution analysis. By the use of multilabeled organic molecules as isotopic dilutants and nonfragmenting field ionization mass spectrometry as the analytical instrument, subnanogram quantities of drugs can be quantitatively determined. This high sensitivity of detection may allow determination of the rates of excretion of drugs and their metabolites over far longer time periods than ever before possible. Such data will only provide a better understanding of long-term effects of drugs, but may also permit more effective drug control by the positive identification of drug abusers even after long periods of abstinence.

Descriptors: *Methaqualone, *Quantitative analysis, Urine, Pharmacokinetics, Humans, Test methods, Laboratory tests, Quinazolines, Drug abuse, Detection, Extraction

Identifiers: Methaqualone/C-4 hydroxy, *Urinalysis, NTISDODXA, NTISDODA

AD-A024 488/9ST NTIS Prices: PC\$4.50/MF\$2.25

A Compliance Testing System for NILECJ

National Bureau of Standards, Washington, D.C. Law Enforcement Standards Lab.*National Inst. of Law Enforcement and Criminal Justice, Washington, D.C.

Final rept.

Mills, Robert

C6482E1 Fld: 14B, 94B, 86V GRAI7612

Feb 76 24p

Rept No: NBSIR-75-719

Monitor: 18

Abstract: In order to assure that NILECJ equipment standards have the impact intended, a Compliance Testing and Laboratory Accreditation program is needed to establish which items available on the market do, in fact, meet the requirements of the standards. This report contains recommendations for such a NILECJ program. In brief, the proposed program would (a) result in a body of qualification and acceptance test data, (b) establish a list of testing laboratories competent to perform these tests, and (c) set up a 'compliance information system' for the dissemination of this information to officials in the criminal justice system.

Descriptors: *Performance evaluation, *Test facilities, Standards, Quality control, Laboratories, Acceptability, Equipment specifications, Feasibility, Payment, Criminology, Law enforcement

Identifiers: Compliance testing, NTISCOMNBS, NTISJDLEAA

PB-251 410/7ST NTIS Prices: PC\$3.50/MF\$2.25

Drug Abuse. Volume 2. 1974-1976 (A Bibliography with Abstracts)

National Technical Information Service, Springfield, Va. (391 812)

Rept. for 1974-Apr 76

Adams, Gerald H.

C6464I2 Fld: 060, 05J, 57Q*, 92C*, 86W GRAI7612

May 76 138p*

Monitor: 18

Supersedes NTIS/PS-75/147. See also Volume 1, NTIS/PS-76/0323.

Abstract: The bibliography covers the abuse of barbiturates, amphetamines, marijuana, cannabis, heroin, cocaine, morphine, hallucinogens, and similar substances. Discussions are made of usage patterns, detection, therapy, and prevention. Individuals concerned include military, juvenile, college, and motor vehicle operators. Studies are reported on methadone maintenance, neurosis, and physiology. Attention is devoted also to community relations, legal aspects, and control. (This updated bibliography contains 133 abstracts, 124 of which are new entries to the previous edition.) See also the Published Searches, NTIS/PS-75/506, Alcoholism, and NTIS/PS-76/0323, Drug Abuse. Vol. 1. 1964-1973.

Descriptors: *Bibliographies, *Drug addiction, *Drugs, Classifications, Narcotics, Hallucinogenic drugs, Hemp, Information systems, Hypnotics and sedatives, Amphetamines, Barbiturates, Detection, Chemical analysis, Body fluids, Legal opinions, Personnel, Community relations, Public opinion, Abstracts

Identifiers: *Drug abuse, Dangerous drugs, Marijuana, Methadone, Psychoneuropharmacology, NTISNTIS

NTIS/PS-76/0324/4ST NTIS Prices: PC\$25.00/MF\$25.00

Apply Statistics in Criminalistics

National Bureau of Standards, Washington, D.C.*National Inst. of Law Enforcement and Criminal Justice, Washington, D.C. (240 800)

Final rept.

AUTHOR: Lechner, James A.

C5535E1 FLD: 05D, 12A, 86V USGRDR7526

Aug 74 11p

PROJECT: NBS-2050431

MONITOR: 18

Sponsored in part by National Inst. of Law Enforcement and Criminal Justice, Washington, D.C.

Pub. in Paper on Proceedings of Carnahan and International Crime Countermeasures Conference (1974), UKY Bulletin 105 p113-123 Aug 74.

ABSTRACT: This paper is intended to tell 'why-we-do-it-this-way'. After preliminary remarks on randomness, errors, and distribution functions, various techniques of statistical analysis are discussed. These include significance tests, confidence intervals, and goodness of fit tests. Finally, several examples are discussed: (1) Performance requirements for breath alcohol testers; (2) bivariate discrimination for gunshot residue detection; and (3) matching 'profiles', e.g., trace element analyses or the output of a speech frequency analyzer.

DESCRIPTORS: *Criminal investigations, *Statistical analysis, Confidence limits, Trace elements

IDENTIFIERS: Reprints, Goodness of fit tests, Breath alcohol analysis, Forensic chemistry, NTISCOMNBS, NTISJDLEAA

COM-75-50602/2ST NTIS Prices: Not available NTIS

Stability of Aqueous Ethanol Solutions Stored in Glass Ampules

National Bureau of Standards, Washington, D.C. (240 800)

Final rept.

AUTHOR: Pella, P. A., Diamondstone, B. I.

C5534G2 FLD: 07D, 99F, 86V USGRDR7526

1975 2p

MONITOR: 18

Pub. in Jnl. of Forensic Sciences Technical Note, v20 n3 p537-538
1975.

ABSTRACT: Stability studies were carried out on ampules samples of ethanol-water solutions. These solutions are used to measure performance capabilities of breath alcohol detection instruments.

DESCRIPTORS: *Ethyl alcohol, Performance standards, Solutions

IDENTIFIERS: *Breath alcohol analysis, Forensic techniques, Reprints,
NTISCOMNBS

COM-75-50548/7ST NTIS Prices: Not available NTIS

Physical Principles of Thermoluminescence and Recent Developments in
Its Measurement

Brookhaven National Lab., Upton, N.Y. (0936000)

AUTHOR: Levy, P. W.

C5485G2 FLD: 7E, 99E NSA3208

1974 18p

REPT NO: CONF-7409128-1

MONITOR: 18

ABSTRACT: The physical principles which are the basis of thermoluminescence techniques for dating and authenticating archaeological and fine art objects are described in non-technical terms. Included is a discussion of the interaction of alpha particles, beta rays, i.e., energetic electrons, and gamma rays with solids, particularly electron-hole ion pair formation, and the trapping of charges by crystal imperfections. Also described is the charge-release process induced by heating and the accompanying emission of luminescence resulting from charge recombination and retrapping. The basic procedure for dating and/or authenticating an artifact is described in a "how it is done" manner. Lastly, recently developed apparatus is described for simultaneously measuring luminescent light intensity and wavelength and sample temperature. Examples of studies made with this "J-D" apparatus are given and applications to dating and authenticating are described.

DESCRIPTORS: (*Age estimation, Thermoluminescence), (*Thermoluminescence, *Radioinduction), (*Archaeological specimens, Age estimation), Alpha particles, Beta particles, Crime detection, Electric charges, Electrons, Gamma radiation, Measuring methods, Physical radiation effects, Solids, Trapping

IDENTIFIERS: NTISERDA

BNL-20210 NTIS Prices: PC\$4.00/MF\$2.25

Research at Institute of Forensic Psychiatry imeni Serbskii

Joint Publications Research Service, Arlington, Va.

AUTHOR: Arzumanov, Yu. L.

C5243A2 FLD: 05J, 06P, 57R USGRDR7522

30 Jul 75 26p

MONITOR: 18

Trans. of Zhurnal Vysshei Nervnoi Deyatel'nosti (USSR) v24 n5 p917-923,
1048-1051; n6 p115-1121 1974.

ABSTRACT: The report contains articles on the development of temporary associations in man by means of imperceptible visual stimuli, somatosensory evoked potentials in man in response to self-stimulation, and on decision-making time in man.

DESCRIPTORS: *Psychophysiology, Visual perception, Stimulus (Psychophysiology), USSR, Translations, Responses, Psychophysics, Humans, Decision making, Evoked potential, Senses

IDENTIFIERS: NTISJPRS

JPRS-65356 NTIS Prices: PC\$3.75/MF\$2.25

Materials Identification and Coding

Westinghouse Electric Corp., Bloomfield, N.J. Fluorescent and Vapor Lamp Div.*Bureau of Mines, Pittsburgh, Pa. Pittsburgh Mining and Safety Research Center. (407 508)

Final rept. 27 Apr 72-30 Apr 74

AUTHOR: Vodoklys, Frank M.

C4914L2 FLD: 19A, 79A, 99A USGRDR7517

Apr 74 103p

CONTRACT: H0220049

MONITOR: BuMines-OFR-44-75

ABSTRACT: The objective of the contract was to develop and evaluate materials and methods to achieve post-explosion identification of explosives reliably and economically through the use of phosphor-coded grains incorporated into the explosive during its manufacture. A coding system of two spotting phosphors and seven coding phosphors was successfully developed during the execution of the contract. The ability of the coded grains to survive detonation in many different types of explosives was demonstrated and the complete code was extracted from a single 100 micron post-explosion fragment. A laboratory method for manufacturing the coded grains was established and ten one-pound samples, each with a different code, were fabricated. Finally, a method was developed for applying a coating of polyethylene to the grains to prevent sensitization of the the tagged explosives.

DESCRIPTORS: *Phosphors, *Explosives, *Labeled substances, Coatings, Grains, Coding, Fluorescence, Emission spectra, Identifying

IDENTIFIERS: Forensic chemistry, NTISDIBM

PB-242 487/7ST NTIS Prices: PC\$5.25/MF\$2.25

The Role of Criminalistics in the World of the Future

Stanford Research Inst., Menlo Park, Calif.*National Science Foundation, Washington, D.C. Div. of Advanced Productivity Research and Technology. (332 500)

Final rept.

AUTHOR: Parker, Brian, Gurgin, Vonnice

C4731F3 FLD: 05K, 92C USGRDR7514

Jul 72 228p

GRANT: NSF-GI-30011

PROJECT: SRI-PYU-1359

MONITOR: NSF/RA/S-72-001

ABSTRACT: Criminalistics, or the derivation by scientific and technological means of physical evidence in the administration of law, has frequently been heralded as one activity which, if its potential were exploited, would greatly enhance the solution of the 'crime problem'. The objective of the research reported was to provide a set of empirical guidelines which would be of assistance to government decision-makers when considering the size and form of the investment they should make in the area of criminalistics. The central research question raised was: What can we anticipate the character and nature of the social benefit of increasing criminalistic services to be in the future.

DESCRIPTORS: *Criminal investigation, *Laboratories, Law enforcement facilities, Crimes, Police, Test facilities, Policies, California

IDENTIFIERS: *Criminalistics, Santa Clara County(California), NTISNSFRA

PB-241 349/OST NTIS Prices: PC\$7.50/MF\$2.25

Blood-Alcohol Proficiency Test Program

Transportation Systems Center, Cambridge, Mass.*National Highway
Traffic Safety Administration, Washington, D.C. Office of Driver
Performance Research. (407 082)

Interim rept. Sep 73-May 74

AUTHOR: Flores, A. L.

C4514C4 FLD: C7D, 05K, 99A, 85D, 92C USGRDR7511

Jan 75 21p

REPT NO: DOT-TSC-NHTSA-74-5

MONITOR: DOT-HS-801-332

ABSTRACT: A preliminary survey has been performed to ascertain the
validity of the blood alcohol analysis performed by a number of
laboratories on a voluntary basis. Values of accuracy and precision of
the tests are presented.

DESCRIPTORS: *Blood chemistry, *Gas analysis, *Alcohols, Tests,
Accuracy, Precision, Detection, Gas chromatography

IDENTIFIERS: *Blood alcohol levels, Forensic chemistry, Alcohol
ingestion, Drinking drivers, NTISDOTHTS

PB-239 849/3ST NTIS Prices: PC\$3.25/MF\$2.25

Rebreathed Air as a Reference for Breath-Alcohol Testers

Transportation Systems Center, Cambridge, Mass.*National Highway
Traffic Safety Administration, Washington, D.C. (407 082)

Interim rept. Sep 73-May 74

AUTHOR: Flores, A. L.

C4514B3 FLD: 07D, 05K, 92C, 85D, 99A USGRDR7511

Jan 75 26p

REPT NO: DOT-TSC-NHTSA-74-4

MONITOR: DOT-HS-801-333

ABSTRACT: A technique has been devised for a reference measurement of the performance of breath-alcohol measuring instruments directly from the respiratory system. It is shown that this technique is superior and simpler than comparison measurements based on blood-alcohol analysis.

DESCRIPTORS: *Alcohols, *Gas analysis, *Respiratory system, Lung, Gas chromatography, Samples, Instrumentation, Detection

IDENTIFIERS: *Breath alcohol analysis, Drinking drivers, Alcohol ingestion, Forensic chemistry, NTISDOTHTS

PB-239 843/6ST NTIS Prices: PC\$3.75/MF\$2.25

The Utilization of Criminalistics Services by the Police. An Analysis of the Physical Evidence Recovery Process

National Inst. of Law Enforcement and Criminal Justice, Washington, D.C.*Law Enforcement Assistance Administration, Washington, D.C.

AUTHOR: Peterson, Joseph L.

C4394B3 FLD: 05D, 92D*, 91C* USGRDR7509

Mar 74 56p*

MONITOR: 18

Prepared in cooperation with Law Enforcement Assistance Administration, Washington, D.C.

Paper copy also available from GPO as SN-2700-249.

ABSTRACT: In its discussion of the role and functioning of criminalistics operations, this report presents data describing the low frequency of laboratory involvement in criminal cases and details police investigative and evidence retrieval practices that can restrict the flow of available physical material to the criminalistics lab for analysis. A decision-making model is presented which represents the progression of an investigation from initial police awareness of a criminal offense to submission of evidence for laboratory analysis. The model thoroughly explores the activities of the evidence technician and indicates the current and potential successful utilization of such police specialists. Finally, the report presents recommendations on organization and resource management necessary for adequate evidence recovery programs, improved education and training provisions, and the initiation of research efforts to attack fundamental investigative problems.

DESCRIPTORS: *Criminal investigations, Laboratories, Criminology, Police, Training programs, Paraprofessional personnel

IDENTIFIERS: Criminalistics, NTISJDLEAA

PB-239 564/8ST NTIS Prices: PC\$2.95/MF\$2.25

Alabama's Master Plan for a Crime Laboratory Delivery System

Alabama State Dept. of Toxicology and Criminal Investigation,
Auburn.*Alabama Law Enforcement Agency, Montgomery.

AUTHOR: Rehling, C. J., Rabren, C. L.

C4311J1 FLD: 05D, 92D USGRDR7508

10 Dec 74 115p

REPT NO: SPA-73-01

MONITOR: 18

Paper copy available from GPO.

ABSTRACT: The historical events in Alabama which shaped the growth of the present crime laboratory system are outlined and descriptive information about the laboratories presently in operation is presented. The present status of these crime laboratories and their relationship to other criminal justice agencies, as well as to agencies in the government and community, is discussed. The effect which the distance of a crime laboratory from the scene of a crime makes on the laboratory's effectiveness is examined in detail. All of this information is used to identify areas in the system where improvements will be needed in order for it to respond to the unique needs of the state. Specific recommendations for these improvements are listed. Appended material includes proposed legislation for the department of forensic science. This document describes and analyzes the state-wide forensic science laboratory system with suggestions for improving its efficiency and effectiveness.

DESCRIPTORS: *Criminal investigations, *Laboratories, Planning, Forensic science, Evaluation, Objectives, Standards, Systems analysis, Toxicology, Personnel, Alabama

IDENTIFIERS: NTISJDLEAA

PB-238 854/4ST NTIS Prices: MF\$2.25

The Study of Chemical Interactions as Applied to Forensic Science

Maryland Univ College Park Dept of Chemistry*Picatinny Arsenal, Dover,
N.J. (219625)

Final technical rept. 15 Sep 73-21 Dec 74

AUTHOR: Freeman, David H.

C4262J4 FLD: 7D, 19A, 99A, 79A USGRDR7508

20 Dec 74 63p

GRANT:

DAHC04-74-G-0027,

DAHC04-74-G-0218

MONITOR: 18

ABSTRACT: Adsorbent materials were prepared and found to show wide variation in their chromatographic performance. One of these showed excellent reversible adsorption of nitromethane, and even stronger possible adsorption of ethyleneglycoldinitrate. The use of such materials to preconcentrate explosive dopant vapors is quite promising. The adsorptive liquid chromatography of TNT was demonstrated using a PSDVB (poly(styrene-divinylbenzene)) adsorbent and ethanol as the moving phase. Polyvinylpyrrolidone was demonstrated for its use as a 'steric reagent' due to selective binding to HMX. A series of seven adsorbent polymers were tested for their value in RDX-HMX separations. The best selectivities were given (1) by the ammonium sulfonate form of PSDVB and (2) by polyvinylpyrrolidone.

DESCRIPTORS: *Adsorbents, *Chromatographic analysis, *Explosives, *Polymers, Adsorption, TNT, RDX, HMX, Nitromethane, Vinylpyrrolidone, Synthesis(Chemistry), Separation

IDENTIFIERS: Polyvinyl pyrrolidone, Liquid chromatography, Performance evaluation, NTISDODA

AD/A-005 078/1ST NTIS Prices: PC\$4.25/MF\$2.25

Oil Spill Identification System

Coast Guard Research and Development Center Groton Conn*Coast Guard,
Washington, D.C. Office of Research and Development. (408730)

Interim rept.

C4133D4 FLD: 13B, 7D, 68D, 99A USGRDR7506

Oct 74 96p

REPT NO: CGR/DC-31/74

MONITOR: USCG-D-41-75

ABSTRACT: The U.S. Coast Guard Research and Development Center has developed a system for forensic identification and classification of oil spills. This system is comprised of procedures for sampling, sample transmittal and four independent analytical techniques: infrared and fluorescence spectroscopy, gas chromatography, and thin-layer chromatography. Each analytical technique has been developed to a high degree of reliability and its effectiveness tested under controlled conditions (simulated spills and weathering). The methods were tested in ten simulated spills involving 63 samples. Probabilities for each method were: Infrared 0.944, Fluorescence 0.911, Gas Chromatography 0.911, Thin-Layer Chromatography 0.629. The combined probability for all techniques was 99.9%. The merits of the identification system have been demonstrated in thirty-eight real world spill cases. In every case, all analytical methods agreed on one source as responsible for the oil spill. In all verifiable cases (approx. 25%) the analytical methods identified the true source.

DESCRIPTORS: *Water pollution, *Monitoring, Handbooks, Oil spills, Chemical analysis, Infrared spectroscopy, Fluorescence, Oil pollution, Chromatographic analysis, Gas chromatography, Classification, Sampling, Distillation, Law enforcement, Fuel oil, Spectrophotometers

IDENTIFIERS: *Oil pollution detection, Fluorometers, Water pollution sampling, Water pollution detection, DOT/5C, DOT/4BZ/BL, *Forensic chemistry, Water analysis, NTISDODCG, NTISDOT

AD/A-003 803/4ST NTIS Prices: PC\$4.75/MF\$2.25

A Study in Wound Ballistics

Edgewood Arsenal Aberdeen Proving Ground Md (401007)

Technical rept. Jul 71-Jan 72

AUTHOR: Masaitis, Ceslovas

C3905F2 FLD: 6U, 570 USGRDR7502

Nov 74 23p

REPT NO: EB-TR-74060

PROJECT: DA-1-T-062110-A-027

MONITOR: 18

ABSTRACT: The wound ballistics problem is divided into a series of subproblems. A specific definition of each subproblem is chosen by quantification of biophysical, physiological, and pathological variables that are relevant to the problem. The choice of the quantification leads to a number of hypotheses about functional relations among statistics of quantified variables. Experimental and observational data for testing the proposed hypotheses are discussed. Two aspects of synergism of multiple wounds are discussed and an approach for estimation of their effects is proposed. The first of these two aspects concerns biomechanical interaction of physical impairments inflicted by wounds. The second aspect is the interrelation between systemic response to injury and the wounds. Serious and lethal wounds are discussed in terms of morbidity and mortality. Mathematical models for mortality and morbidity are proposed.

DESCRIPTORS: *Wounds and injuries, Ballistics, Biophysics, Physiological effects, Pathology, Biomechanics, Mathematical models, Mortality rates, Morbidity, Projectiles

IDENTIFIERS: Forensic pathology, *Wound ballistics, NTISDODA

AD/A-001 470/4SL NTIS Prices: PC\$3.25/MF\$2.25

The Use of Chemical Spot Tests Kits for the Presumptive Identification of Narcotics and Drugs of Abuse

National Bureau of Standards, Washington, D.C.*National Inst. of Law Enforcement and Criminal Justice, Washington, D.C. Law Enforcement Standards Lab. (240 800)

Final rept.

AUTHOR: Velapoldi, R. A., Wicks, S. A.

C4083C4 FLD: 060, 57Q, 99A, 86V USGRDR7505

1974 21p

MONITOR: 18

Sponsored in part by National Inst. of Law Enforcement and Criminal Justice, Washington, D.C. Law Enforcement Standards Lab.

Pub. in Jnl. of Forensic Science, v19 n3 p636-656 1974.

ABSTRACT: Numbers and colors from the Inter Society Color Council - National Bureau of Standards Centroid Color Charts have been assigned to the colors produced by the reactions of typical narcotic field test reagents with pure drugs and other substances. A short discussion of the colors produced with street samples of drugs is also given. Flow charts are presented whereby increased selectivity is obtained by multiple reagent testing. Experimental detection limits were obtained for two drugs, heroin and LSD, by a rigorous, statistically meaningful method and for several other drugs by a less rigorous method. Reagent stabilities and temperature effects are also discussed.

DESCRIPTORS: *Narcotics, *Drugs, *Field tests, Chemical analysis, Detection, Tests, Kits

IDENTIFIERS: Reprints, Drugs of abuse, NTISCOMNBS

COM-74-51132/OST NTIS Price: Not available NTIS

FY 75 Project Plans: Law Enforcement Standards Laboratory

National Bureau of Standards, Washington, D.C. Law Enforcement Standards Lab.*National Inst. of Law Enforcement and Criminal Justice, Washington, D.C.

Final rept.

AUTHOR: Treado, Marshall J., Eliason, Lawrence K., Mills, Robert, Dobbryn, Ronald C.

C3691C2 FLD: 5K, 91C, 86V USGRDR7425

Sep 74 63p

REPT NO: NBSIR-74-568

MONITOR: 18

Sponsored in part by National Inst. of Law Enforcement and Criminal Justice, Washington, D.C.

ABSTRACT: Plans are presented for seventeen projects approved and funded for FY-75. They involve the preparation of performance standards, user guidelines, and reports on law enforcement equipment in the communications, security, protective equipment, investigative aids, courtroom equipment and compliance testing areas.

DESCRIPTORS: *Law enforcement, *Laboratories, *project planning, Performance standards, User needs, Communication equipment, Security, Protectors, Test facilities, Reviews

IDENTIFIERS: Investigative aids, Forensic science, Courtroom equipment, Standards compliance, NTISCOMNBS

COM-74-11578/3ST NTIS Prices: PC\$4.25/MF\$2.25

Project Plans, Fiscal Year 1974: Law Enforcement Standards Laboratory

National Bureau of Standards, Washington, D.C. Law Enforcement Standards Lab.* National Inst. of Law Enforcement and Criminal Justice, Washington, D.C.

Final rept.

AUTHOR: Diamond, Jacob J.

C3612J2 FLD: 05D, 91C, 86V USGRDR7424

Jul 73 73p

REPT NO: NBSIR-74-529

PROJECT: NBS-4009380

MONITOR: 18

Sponsored in part by National Inst. of Law Enforcement and Criminal Justice, Washington, D.C.

ABSTRACT: Plans are presented for nineteen law enforcement projects approved and funded for FY-74. They include plans for the preparation of performance standards, user guidelines, and reports on enforcement equipment in the communications, security, protective equipment, and clothing areas.

DESCRIPTORS: *Law enforcement, *Federal programs, *project planning, Performance standards, User needs, Communications management, Security systems, Protective clothing, Criminal investigations, Detectors, Emergency preparedness, Lighting equipment, Sirens, Body armor, Warning systems

IDENTIFIERS: Forensic science, NTISCOMNBS

COM-74-11495/0SL NTIS Prices: PC\$4.25/MF\$2.25

Bias and Quality Control in Forensic Science: A Cause for Concern

Armed Forces Inst of Pathology Washington D C (034500)

AUTHOR: Thomson, M. A.

C3604I2 FLD: 5K USGRDR7424

27 Dec 73 15p

MONITOR: 18

Revision of report dated 23 Aug 73.

Availability: pub. in Jnl. of Forensic Sciences, v19 n3 p504-517 1974.

ABSTRACT: This paper examined the growth of the role of forensic science within the criminal justice system and how the system has become dependent on it. It also noted that other mainstays of law enforcement have been limited by overreliance upon them by police. The constitutional and statutory provisions for expert assistance in the United States were examined and compared with foreign provisions, and proposed reforms in the area of expert assistance noted. The treatise examined the current forensic science function within the criminal justice system and noted inherent problems of access, availability, bias, and alignment. It demonstrated the need for a quality control and accreditation program for forensic science facilities. In survey, it has concluded with a proposal to improve the service that forensic facilities provide to the criminal justice system and to relieve some of the inequities currently in the system.

DESCRIPTORS: *Criminology, Law enforcement, Quality control, Reviews

IDENTIFIERS: *Forensic science, *Criminal justice, NTISDODAF

AD-786 158/6SL NTIS price: Reprint

Determination of the Sensitivity and Specificity of Vapor Detection Systems for Explosives, Narcotics, and Related Compounds

Army Land Warfare Lab Aberdeen Proving Ground Md (038950)
AUTHOR: Wall, William A., Gage, Herbert M.
C3585B2 FLD: 14B, 7C, 19A, 60, 99A, 79A, 57Q USGRDR7424
1973 16p
MONITOR: 18

ABSTRACT: During the past decade a number of portable vapor detection systems have been developed in response to military and law enforcement problems. The report concerns efforts to evaluate the capabilities of certain of the most promising of these detection systems. The following detection systems have been examined: (1) Ion Mobility Spectrometer (a type of plasma chromatograph), Franklin Institute Research Laboratories; (2) Bioluminescent Sensor System, RPC Corporation; (3) Portable Quadrupole Mass Spectrometer, Varian Associates; (4) Model 27 Gelignite Detector and Model 58 Explosive Detector, Ion Track Instruments; (5) Explosive Detection Dogs, trained by Southwest Research Institute. Emphasis is on sensitivity and specificity. The compounds selected for sensitivity studies were ethylene glycol dinitrate (EGDN), trinitrotoluene (TNT), acetic anhydride, and cocaine.

DESCRIPTORS: *Gas detectors, *Explosives, *Narcotics, Mass spectrometers, Test methods, Performance(Engineering), Sensitivity, Chromatographic analysis, Bioluminescence, TNT, Acetic anhydride, Dogs, Cocaine, Experimental design

IDENTIFIERS: Specificity, Ionic mobility, Plasma chromatography, Ethylene glycol/dinitrate, NTISDODA

AD-785 693/3SL NTIS Prices: PC\$3.25/MF\$2.25

Determination of Subpicogram Quantities of Drugs and Narcotics in Urine of Human Subjects

Stanford Research Inst Menlo Park Calif*Army Medical Research and Development Command, Washington, D.C. (332500)

Interim annual rept. no. 1, 1 Mar 73-28 Feb 74

AUTHOR: Heck, Henry d'A., McReynolds, James H., Lawson, John A., Anbar, Michael

C3471B2 FLD: 6A, 57D, 99A USGRDR7422

Mar 74 59p

CONTRACT: DADA17-73-C-3063

PROJECT: SRI-2473

MONITOR: 18

ABSTRACT: A feasibility study of the use of field ionization mass spectrometry for the analysis of drugs and narcotics in urine by isotope dilution was completed. Multilabeled methaqualone, 6-hydroxymethaqualone, morphine, and codeine were synthesized. The drugs and their isotopic carriers were extracted from urine on columns of Amberlite XAD-2 resin and were purified by one-dimensional thin-layer chromatography. The isotopic compositions of the extracted compounds were determined by mass spectrometry. Analyses of the methaqualone and 6-hydroxymethaqualone concentrations in a few urine samples obtained from human volunteers indicate that the sensitivity of the present technique is of the order of nanograms/ml. More effective purification steps and the use of higher purity carrier compounds will permit the analysis of lower drug concentrations. (Author)

DESCRIPTORS: *Narcotics, *Drugs, Humans, Urine, Chemical analysis, Mass spectrometry, Chromatographic analysis, Methaqualone Morphine, Labeled substances

IDENTIFIERS: *Urine analysis, Codeine, NTISDODA

AD-784 632/2 NTIS Prices: PC\$3.75/MF\$2.25

Aerosol Explosive Indicator Kit

Franklin Inst Research Labs Philadelphia Pa*Army Land Warfare Lab.,
Aberdeen Proving Ground, Md. (142925)

Final rept.

AUTHOR: Sweeney, F. T., Mitchell, P. W. D.

C3452A4 PLD: 7C, 19A, 99A, 79A USGRDR7422

Jun 74 19p

REPT NO: FIRL-F-C3776-02

CONTRACT: DAAD05-74-C-0723

PROJECT: LWL-24-C-74

MONITOR: LWL-CR-24C74

ABSTRACT: The authors investigated development of aerosol spray systems for the detection of traces of explosives on envelopes, packages and personnel. Several reagent systems were screened using spot techniques on filter paper, and the most promising of these packaged in aerosol cans for preliminary field tests. The reagents are useful for detecting aromatic nitro explosives and aliphatic nitrate esters in the microgram range. (Modified author abstract)

DESCRIPTORS: *Detectors, *Chemical indicators, Test methods, Nitrates, Aerosols, TNT, PETN, RDX

IDENTIFIERS: *Spot tests, *Explosives detection, Aerosol sprays, Dynamite, Nitrocompounds, Forensic chemistry, NTISDODA

AD-784 196/8 NTIS Prices: PC\$3.00/MF\$2.25

Effect of the Manner of Death, in Medicolegal Cases on Insurance Settlements Involving Double Indemnity

Armed Forces Inst of Pathology Washington D C (034500)

AUTHOR: Curvey, C. E.

C3331G2 FLD: 5D, 6E USGRDR7420

8 Jun 73 9p

MONITOR: 18

Availability: Pub. in Jnl. of Forensic Sciences, v19 n2 p390-397 1974.

ABSTRACT: The classification of a manner of death as accidental by a medical examiner does not necessarily mean that an insurance company will honor double-indemnity, accidental-death benefits. While in many cases their determinations are supportive, there are numerous other factors that enter into the final determination of the settlement. If two persons die in different jurisdictions under identical circumstances, it is possible for double-indemnity, accidental-death benefits to be paid in one case and to be denied in the other case.

DESCRIPTORS: *Death, *Litigation, *Accidents, Pathology

IDENTIFIERS: *Insurance companies, Claims, Payments, NTISDODA

AD-783 220/7 NTIS Price: Reprint

The Use of Bite Mark Evidence as an Investigative Aid

Armed Forces Inst of Pathology Washington D C (034500)

Master's thesis

AUTHOR: Dinkel, E. H. Jr

C3331C4 FLD: 6E USGRDR7420

16 Oct 73 14p

MONITOR: 18

Revision of report dated 26 Jun 73.

Availability: Pub. in Jnl. of Forensic Sciences, v19 n3 p535-547 1974.

ABSTRACT: The paper has shown that the use of bite marks can be an extremely important aid in criminal investigations. To become fully effective, however, action is needed in three areas. First, law enforcement personnel must understand the uses of bite mark evidence. This information must be incorporated into law enforcement curricula and texts. Second, there is a need for further interest and research in forensic odontology, particularly in the field of bite mark comparisons, within the medical and dental professions of this country. Third, there are several unanswered legal questions pertaining to the collection of bite mark evidence that need clarification. Currently, the major contribution of bite mark evidence is the elimination of suspects, since the establishment of a positive identification is rare. Although work is required in the three areas mentioned, bite mark identification deserves a valid place along with other forensic procedures. To become fully effective, the utilization of this evidence must be supported by the entire forensic community.

DESCRIPTORS: *Teeth, *Criminology, Wounds and injuries, Theses, Litigation, Identification

IDENTIFIERS: *Forensic pathology, Post mortem analysis, NTISDODA

AD-783 206/6 NTIS Price: Reprint

Legal Aspects of Obtaining Evidence for Analysis by Forensic Techniques

Armed Forces Inst of Pathology Washington D C (034500)

AUTHOR: Gianelli, P. C.

C3331C3 FLD: 6E, 5D USGRDR7420

13 Dec 73 14p

MONITOR: 18

Revision of report dated 28 Sep 73.

Availability: Pub. in Jnl. of Forensic Sciences, v19 n3 p428-440 1974.

ABSTRACT: Through the examination of trace evidence, many forensic techniques can establish a link between a suspect and the scene of a crime. Blood, saliva, semen, hairs, fibers, soils, glass, and fingerprints have all been used in this manner. All these methods require some form of cooperation on the part of the suspect, ranging from his passive presence for fingerprinting and extraction of blood to his more active participation in providing voice and handwriting exemplars. This contact between the investigator and the suspect has generated constitutional litigation. Defendants have argued that submission to these techniques: (1) violated the privilege against self-incrimination under the Fifth Amendment, (2) violated the right to counsel under the Sixth Amendment, (3) infringed upon the right to be free of unreasonable searches and seizures under the Fourth Amendment, and (4) deprived them of due process of law. This paper will examine the judicial response to these constitutional challenges and the impact these decisions will have on the forensic sciences.

DESCRIPTORS: *Criminology, Pathology, Litigation

IDENTIFIERS: *Forensic pathology, Crime laboratories, Law enforcement, Criminal investigations, NTISDODA

AD-783 205/8 NTIS Price: Reprint

Biophysical Determination of Time of Death (Some Theoretical and Some Experimental Bases) (Materialy k Opredeleniyu Davnosti Smerti Biofizicheskimi Metodami (Nekotorye Teoreticheskie i Eksperimentalnye Obosnovaniya))

Army Foreign Science and Technology Center Charlottesville Va (038300)

AUTHOR: Vladimirov, Yu. A., Kebedmagomedova, Kh. A., Melnikov, Yu. L.

C311513 FLD: 6E USGRDR7417

7 Oct 72 8

REPT NO: FSTC-HT-23-2265-72

MONITOR: 18

Trans. of Sudebno-Meditsinskaya Ekspertiza (USSR) n1 p10-14 1971.

ABSTRACT: The first biophysical process that takes place after death is deterioration of phospho-lipid cellular membranes due to lack of oxygen. A polarograph can monitor the process, giving accurate readings from 30 min. to six hrs. after death. Decrease of chemiluminescence can also be measured. (Author)

DESCRIPTORS: *Death, *Phospholipids, *Membranes (Biology), *Biophysics, Cells (Biology), Chemiluminescence, Polarographic analysis, Determination, USSR, Translations

IDENTIFIERS: Forensic medicine, NTISDODA

AD-780 996/5 NTIS Prices: PC\$4.00/MF\$1.45

The Translation and Reproduction of Scientific Treatises in Blood
Group Immunology 1963-1964

Army Medical Research Lab Fort Knox Ky (039650)

Second edition

AUTHOR: Camp, Frank R. Jr, Ellis, Frank R., Conte, Nicholas F.

C3112K1 FLD: 6E, 57J USGRDR7417

Mar 74 154p

MONITOR: 18

Library of Congress Catalog Card no. 76-188448. Selected Contributions
to the Literature of Blood Groups and Immunology.

ABSTRACT: ;Contents: Gammelgaard thesis; ABO system--Dunsfore
Memorial; Secretion of blood group substances and Lewis system; M N
and P systems; Anthropologic and other applications of blood grouping
data; Landsteiner centennial; Grethe Hartmann monograph.

DESCRIPTORS: *Immunology, *Blood groups, Translations, Bibliographies,
Genetics

IDENTIFIERS: Forensic medicine, NTISDODA

AD-780 856/1 NTIS Prices: PC\$5.00/MF\$1.45

A Chromatographic Comparison of the Constituents of Nutmeg and Mace ('Myristica fragrans Houtt') with those of Marihuana and Hashish ('Cannabis Sativa L.')

National Research Council of Canada Halifax (Nova Scotia) Atlantic Regional Lab (045500)

AUTHOR: Forrest, Janet E., Heacock, R. A.

C3122A1 FLD: 60, 7D USGRDR7417

19 Oct 73 6p

MONITOR: NRC-13697

Availability: Pub. in Jnl. of Chromatography, v89 p113-117 1974.

ABSTRACT: In all the solvent systems utilized, the cannabinoids can readily be distinguished from the nutmeg and mace phenolics, which cannot be demonstrated by the preliminary field test. The cannabidiol, cannabinol and tetrahydrocannabinol have high RF values in the systems used, whilst the cannabinoids having an acid function in the molecule tend to migrate more slowly. These studies have shown that with the chromatographic systems used for the Fast Blue salt B (FBB) positive substances extractable from nutmeg and mace with cold light petroleum tend to be in the lower half of the chromatogram in the cannabinoid acid region.

DESCRIPTORS: *Cannabis, Chromatographic analysis, Drugs, Narcotics, Plants(Botany), Canada

IDENTIFIERS: *Myristica fragrans, *Nutmeg, *Mace, Seasonings, Marijuana, NTISDODSD

AD-781 059/1 NTIS Price; Not available NTIS

Analysis of Drugs and Drug Metabolites in Body Fluids by CVA-Mass Spectrometry. Analysis of Morphine in Urine by CVA-Mass Spectrometry

Varian Associates Palo Alto Calif (364100)

Final rept.

AUTHOR: Abbott, Seth R., Loeffler, Kay O., Arnold, James T.
C2525A4 FLD: 7D, 60, 57D*, 57Q, 99A* USGRDR7409

Feb 74 154p*

CONTRACT: DAAD05-72-C-0111

PROJECT: LWL-02-P-72

MONITOR: LWL-CR-02P72

ABSTRACT: ;Contents: The problem -- drug abuse; The concept of CVA-mass spectrometry; CVA-mass spectrometry of standard solutions of drugs; Therapeutic non-abuse drug analyses; Drug poisoning analyses; Rapid drug screening; detection of heroin abuse; Detection of drugs in saliva, breath, skin wipings; Detection of methadone and amphetamine use; Description of instrument.

DESCRIPTORS: *Mass spectrometry, *Drugs, *Morphine, Body fluids, Urine, Chemical analysis, Detection, Drug abuse, Drug addiction, Heroin, Barbiturates, Amphetamines, Narcotics, Tranquilizers, Hallucinogens

IDENTIFIERS: Methadone, A

AD-775 465/8 NTIS Prices: PC\$5.00/MF\$1.45

Insect Chemical Detection

Army Land Warfare Lab Aberdeen Proving Ground Md (038950)

Final rept.

AUTHOR: Frumkin, Kenneth, Zych, Kenneth

C2281F2 FLD: 6C, 57B USGRDR7406

Nov 73 14p

REPT NO: LWL-CR-08B73

MONITOR: 18

ABSTRACT: Thorpe (1939) found that fruitflies (*Drosophila melanogaster*) reared on a medium containing peppermint oil would show a preference for this substance as adults, whereas normally-reared flies avoid peppermint oil. The practical applicability of this phenomenon for narcotic detection was tested by rearing *Drosophila* on a medium containing either marijuana or heroin. When released in a 6 ft. x 1 ft. x 1 ft. screened chamber designed to approximate an open room, flies reared on narcotics showed no tendency to approach them. (Author)

DESCRIPTORS: *Narcotics, *Insects, Drugs, Entomology, Detection, Chemicals, Experimental data

IDENTIFIERS: *Chemotaxis, *Drosophilidae*, *Drosophila melanogaster*, Cannabis, Marijuana, Heroin, A

AD-772 965/0 NTIS Prices: PC\$3.00/MF\$1.45

Detection of Drugs by an Enzyme Method

Franklin Inst Research Labs Philadelphia Pa (142925)

Final rept.

AUTHOR: Hannessian, Tamar Der, O

C1694A3 FLD: 6E, 7C, 57D, 59A, 99A USGRDR7322

Aug 73 23p

REPT NO: FIRL-F-C3538-01

CONTRACT: DAAD05-73-C-0145

MONITOR: LWL-CR-07B73

ABSTRACT: A study was conducted using the standard Army 'G' Agent Detector Kit, ABC-M30A1 as a means for detecting drugs (heroin). The objective of this study was to establish the sensitivity of the enzyme inhibition method for morphine detection and to determine a procedure for rapidly cleaving the glucuronide. (Modified author abstract)

DESCRIPTORS: (*Cholinesterase inhibitors, Chemical analysis), (*Morphine, Chemical analysis), Cholinesterase, Fluorescence, Narcotics, Synthesis (Chemistry), Urine, Thin layer chromatography, Detection, Colorimetric analysis

IDENTIFIERS: Spectroscopic analysis, *Heroin, A

AD-767 275/1 NTIS Prices: PC\$2.75/MF\$1.45

Modern Trends in Activation Analysis. Volumes 1 and 2

National Bureau of Standards, Washington, D.C. Inst. for Materials Research. (401 937)

Final rept.

AUTHOR: DeVoe, James R., LaFleur, Philip D.
C1631B1 FLD: 7E, 59A, 59J, 99A, 99E, 86V USGRDR7321

Jun 69 1365p

REPT NO: NBS-SP-312

MONITOR: 18

Pub. in Proceedings of International Conference held at National Bureau of Standards, Gaithersburg, Md., 7-11 Oct 68.

ABSTRACT: A conference on modern trends in activation analysis was held at the National Bureau of Standards, October 7-11, 1968. These volumes contain the texts of five plenary lectures namely, applications of activation analysis, radiochemical separations, nuclear reactions, radiation detectors, data processing, and computation methods in activation analysis. Also included are the contributed papers, remarks by honored guests, and synopses of discussion session by each chairman. Topics covered include application of activation analysis to the environmental sciences, biology, medicine, archaeology, criminology, geochemistry, geology, industry, nuclear reactions in activation analysis, radiation detectors, data handling and processing, computation methods, error analysis and information retrieval.

DESCRIPTORS: (*Radioactivation analysis, *Reviews), Medicine, Meetings, Nuclear reactions, Radiochemistry, Separation, Radiation measuring instruments, Data processing, Biology, Archaeology, Criminology, Geochemistry, Geology, Error analysis, Ecology

IDENTIFIERS: Industrial research, NBS

COM-73-11439/9 NTIS Prices: PC\$70.25/MF\$1.45

Addicts Identification Kits

Midwest Research Inst Kansas City Mo (230350)

Final rept. 3 Oct 72-2 Jul 73

AUTHOR: Woodhouse, E. J., Graves, S. W., Huerner, J. G., Webb, G. W.

C1613A2 FLD: 6A, 60, 57D*, 57Q, 99A USGRDR7321

Jul 73 41p*

REPT NO: MRI-3707-C

CONTRACT: DAAD05-73-C-0103

MONITOR: LWL-CR-03C73

ABSTRACT: The report details work conducted on a project designed to determine the feasibility of development of a simple, inexpensive field test kit for detecting cocaine, barbiturates and amphetamines in urine. Color reagents, extraction techniques and detection techniques were evaluated to produce a prototype kit capable of detecting cocaine, barbiturates, and amphetamines at levels of one microgram drug/ml urine or less. Prototype kits capable of 200 assessments have been assembled and are being submitted for evaluation. (Author)

DESCRIPTORS: (*Narcotics, Detection), (*Drugs, Detection), Body fluids, Urine, Chemical analysis, Microanalysis, Amphetamines, Barbiturates

IDENTIFIERS: Drug addiction, Drug users, Cocaine, *Drug detection field kits, A

AD-766 735/5 NTIS Prices: PC\$3.00/MF\$1.45

A Survey of Analytical Methods for Determination of Controlled Drugs
in Body Fluids

Little (Arthur D.), Inc., Cambridge, Mass. (208 850)

Final rept.

AUTHOR: Bullock, F. J., Callahan, M. A., Whittier, W., Granchelli, F.
E.

C1571C1 FLD: 6A, 57D* USGRDR7320

Dec 72 246p*

CONTRACT: BNDD-J-72-22

MONITOR: SCID-TR-8

ABSTRACT: The purpose of this work was to survey and evaluate published quantitative methods for determination of certain drugs included in the Controlled Substances Act of 1970. Only methods applicable to determination of drugs in mammalian fluids and tissues were considered. Criteria were established to evaluate the various procedures as they are published. From the results of the evaluation the work was arranged according to Quantitative Methods of Choice, Alternative Quantitative Methods, Quantitative Methods of Uncertain Reliability. Qualitative Detection Methods, Metabolic and Biological Data and finally Supplementary Information and Comments. Methods of Choice are available for only fifteen drugs covered in the Controlled Substances Act. Alternative methods are also available for fifteen drugs, twelve of which are the same drugs for which methods of choice are available. Methods of unknown reliability are available for thirty-four of the controlled drugs. With demonstration of adequate precision, several of these methods might be useful in forensic science.

DESCRIPTORS: (*Narcotics, Body fluids), (*Chemical analysis, Narcotics), (*Drugs, Chemical analysis), Toxicology, Detection, Quantitative analysis

IDENTIFIERS: Bureau of Narcotics and Dangerous Drugs, Forensic medicine, BNDD

PB-222 502/7 NTIS Prices: PC\$5.75/MF\$1.45

Medical Journal. Volume 94, Number 8, 1972

National Library of Medicine, Bethesda, Md.

C1511L2 FLD: 6E, 57E USGRDR7319

1973 85p

MONITOR: 18

Trans. of Liječnicki Vjesnik (Yugoslavia) v94 n8 1972. The above journal is translated on a regular basis. Sponsored in part by National Science Foundation, Washington, D.C. Special Foreign Currency Science Information Program.

ABSTRACT: ;Contents: The role of screening in the early detection of disease; A study of the etiology of short-lived febrile conditions during an epidemic of enteroviroses in Zagreb in 1969; Risk factors in myocardial infarction and peripheral obliterative atherosclerosis of the lower limbs; The use of anti-D immunoglobulin for the prevention of Rh sensitization; Thrombocytopenic purpura in pregnancy; How to improve forensic medicine in Croatia; The work of the Public Health Service in viral infections; A model of international data collection and dissemination in the field of psychopharmacology.

DESCRIPTORS: (*Medicine, *Yugoslavia), (*periodicals, Medicine), Translations, Diseases, Diagnosis, Enteroviruses, Fever symptom, Myocardial infarction, Arteriosclerosis, Leg (Anatomy), Rh incompatibility, Immunology, Thrombocytopenia, Pregnancy, Public health, Viral diseases, Psychoneuropharmacology

IDENTIFIERS: Forensic medicine, SFC SI

TT-72-56000/08 NTIS Prices: PC\$3.75/MF\$1.45

Medical Malpractice. Report of the Secretary's Commission on Medical Malpractice

Department of Health, Education, and Welfare, Washington, D.C. Office of the Secretary.

Final rept.

C1341A1 FLD: 6E, 5D, 57E, 95G USGRDR7317

Jan 73 170p

REPT NO: DHEW/OS-73-88

MONITOR: 18

See also report dated Apr 73, PB-220 916.

Paper copy available from GPO \$9.60 as Stock no. 1700-00114.

ABSTRACT: ;Contents: Magnitude and impact of the medical malpractice problem; The fundamental nature of the problem; Contributing causes of the malpractice problem; Prevention of medical injuries; The human dimension; Prevention of unnecessary malpractice claims; Resolving medical malpractice disputes; Compensation for medical injuries; Implementation of recommendations.

DESCRIPTORS: (*Medical services, *Law(Jurisprudence)), Litigation, Insurance, Health insurance, Claims, Physicians, Patients

IDENTIFIERS: *Medical malpractice, *Forensic medicine, HEWOS

PB-220 917/9 NTIS Prices: PC-GPO/MF\$1.45-NTIS

Mental Anguish as an Element of Damages in Malpractices Cases

Armed Forces Inst of Pathology Washington D C (034500)

AUTHOR: Zimmerly, James G., Oleniewski, Walter A.

C1244E3 FLD: 6E, 57E USGRDR7316

1973 3p

MONITOR: 18

Availability: Pub. in Maryland State Medical Jnl., Jul 73.

ABSTRACT: In recent medical malpractice actions, claims for damages for alleged mental anguish have become more prominent. Mental anguish as an element of damages is undergoing a gradual transformation in our courts. Early decisions limited recovery for mental suffering to this narrow area because it was felt that such a claim could easily be fabricated. If some physical impact could be shown, however slight, there was a valid foundation for determining its genuineness and the extent to which it would have affected an injured party. This doctrine is slowly being eroded. In some jurisdictions the courts have gone to unusual extremes to find evidence of physical impact in order to allow a party the opportunity to recover for mental suffering. A brief sampling of decisions including damages for mental anguish in medical malpractice cases are illustrated.

DESCRIPTORS: (*Medicine, *Law), Anxiety, Reaction(psychology)

IDENTIFIERS: Medical malpractice, *Forensic medicine, *Forensic pathology, SD

AD-763 008 NTIS Price: Reprint

Application of Gm Typing in Cases of Disputed Paternity

Army Medical Research Lab Fort Knox Ky (039650)

Progress rept.

AUTHOR: Ellis, Frank R., Camp, Frank R. Jr, Litwin, Stephen D.

C0975L1 FLD: 6E, 57J, 57E USGRDR7313

18 Jan 73 14p

REPT NO: USAMRL-1016

PROJECT: DA-3-A-062110-A-821

TASK: 3-A-062110-A-82100

MONITOR: 18

ABSTRACT: The purpose of this study was to reappraise the usefulness of the Gm markers of human IgG immunoglobulins as a basis for exclusion in cases of disputed paternity. Fifty cases were tested for Gm factors, and five (10%) alleged fathers were excluded. Thirty-three of these 50 cases were also tested for blood groups, and four (12%) alleged fathers, none among the five excluded by Gm tests, were shown incapable of being the biologic fathers of these children. The use of Gm typing provided about twice as many genetic exclusions as could be excluded by blood groups alone. Serum genetic markers, such as Gm, have a valid and useful place in the solution of forensic problems. (Author)

DESCRIPTORS: (*Blood groups, *Antigens + antibodies), (*Gamma globulin, Blood groups), Genetics, Identification, Serodiagnosis

IDENTIFIERS: *Forensic medicine, *Paternity suites, Genetic coding, A

AD-759 922 NTIS Prices: PC\$3.00/MF\$0.95

Pilot Computerized Infrared Data File for Forensic Science
Laboratories: An Evaluation Study

New York State Div. of Criminal Justice Services, Albany.
Criminalistics Research Bureau.

Final rept., 1 Aug 70-Sep 72

AUTHOR: Madrazo, Frank G.

C1025H3 FLD: 5K, 9B, 5B, 91C*, 62B USGRDR7313

Nov 72 126p*

REPT NO: DJCS-219

GRANT: LEAA-NI-70-065-PG-17

MONITOR: LEAA-NI-70-065-PG-17

ABSTRACT: The objective of the study was to increase the efficiency and effectiveness with which forensic laboratories handle difficult identification problems involving infrared data. The project called for a pilot operation of a centrally located infrared data file search service. Located at the division of Criminal Justice Services (Albany, N.Y.), the central registry serviced its Criminalistics Research Bureau, the New York State Police Science Laboratory, and the New York Medical Examiners Laboratory. The research indicates that a central registry of science information data enhances the operations of a forensic laboratory. Products of the research include a final report describing the system and containing a Preliminary Laboratory Manual (Appendix A) and a Programatic Operator's Instructions (Appendix B) for the system.

DESCRIPTORS: (*Criminal investigations, *Data retrieval), Data storage, Infrared analysis, Computer programming, Infrared spectrophotometers, Evaluation, Laboratories, Manuals

IDENTIFIERS: *Forensic science, LEAA

PB-220 206/7 NTIS Prices: PC\$5.45/MF\$0.95

Appendix: Report of the Secretary's Commission on Medical Malpractice
Secretary's Commission on Medical Malpractice, Washington, D.C.

Final rept.

C1335L4 FLD: 6E, 5D, 57E, 95G USGRDR7317

Apr 73 1 reel mag tape

REPT NO: DHEW/OS-73-89, SCMM-AB-00

MONITOR: 18

See also report dated Jan 73, PB-220 917.

Specify tape recording mode desired: 7 track, 556 and 800 BPI, odd and even parity; or 9 track 800 BPI, odd parity.

ABSTRACT: ;Contents: Medical malpractice insurance claims files closed in 1970; Malpractice claims in the Federal Sector; Medical injuries described in hospital patient records; The incidence of iatrogenic injuries; Medicare and malpractice; Comments on a medical opinion survey of physicians attitudes on medical malpractice; The media and malpractice; Patient grievance mechanisms in health care institutions.

DESCRIPTORS: (*Medical services, *Law(Jurisprudence)), Magnetic tapes, Litigation, Insurance, Claims, Physicians, Patients

IDENTIFIERS: *Medical malpractice, *Forensic medicine, HEWOS

PB-220 916/1 NTIS Prices: Mag Tape \$6.00

Mental Anguish Claims in Medical Malpractice Cases

Armed Forces Inst of Pathology Washington D C (034500)

AUTHOR: Oleniewski, Walter A., Zimmerly, James G.

C0814H3 FLD: 5D, 6E, 57E USGRDR7312

1973 4p

MONITOR: 18

Availability: Pub. in Postgraduate Medicine (Editorials), v53 n3
p131-132 Mar 73.

ABSTRACT: Claims alleging mental anguish are becoming more common in medical malpractice actions. The reasons for this trend are not readily apparent. One factor may be that, although mental anguish is more difficult to prove than physical injury, the amount of money awarded often is much larger. Along with this trend, the interpretation of mental anguish is undergoing gradual transformation in our courts. As courts become more receptive to the arguments of persons claiming mental anguish, they will continue to modify the criteria of physical injury and physical impact and give greater consideration to the genuineness of the claim. This will allow the courts to grant claimants the same protection and damages for mental injuries as presently apply to physical injuries. Thus, after establishing that the defendant has violated a duty owed to the plaintiff, the court can consider the effect on the plaintiff's state of mind and the causal relationship between the defendant's act or omission and the mental anguish of the plaintiff.

DESCRIPTORS: (*Medicine, Law), Stress(Psychology)

IDENTIFIERS: *Medical malpractice, *Forensic medicine, A

AD-759 310 NTIS Price: Reprint

Trace Metal Detection Technique in Law Enforcement

Law Enforcement Assistance Administration, Washington, D.C. National
Inst. of Law Enforcement and Criminal Justice.

C0573I3 FLD: 14B USGRDR7308

Oct 70 21p

MONITOR: LEAA-NI-PR-71-1

Paper copy available from GPO \$0.20, as stock no. J1.36:71-1.

ABSTRACT: A trace metal detection technique (TMDT) has been developed, to determine whether a suspect or nonmetallic material has been in contact with metal objects. The method uses a test solution to treat skin, clothing or other material which produces visible metal trace patterns when the treated area is subjected to ultraviolet light. The metal trace patterns give-off fluorescent colors that are unique to types of metals. The location size and shape of the metal traces are compared to cataloged signatures to identify specific objects. The identification may be as specific as type, make, model and caliber of a weapon. Interpretation of test results may be influenced by contact with nonsignificant metal objects, disassembly or assembly of a handgun, false positives by similar but not identical traces and exposure of hands to soap and water. Equipment test procedures, and photographic techniques are described. (Author)

DESCRIPTORS: (*Criminal investigations, *Ultraviolet equipment),
Metals, Pistols, Guns(Ordinance), Fluorescence, Photographic
techniques

IDENTIFIERS: *Forensic chemistry, *Trace metal detection technique

PB-214 749/4 NTIS Prices: PC-GPO/MF\$0.95-NTIS

The Swedish Forensic-Psychiatric System

Illinois Univ., Urbana.

C0491A2 FLD: 5D, 6E, 57T, 91C, 92C USGRDR7307

17 Jul 72 96p*

CONTRACT: LEAA-NI-72-062

MONITOR: LEAA-NI-72-062

ABSTRACT: The report considers the functions, operations, and methodologies used within the Swedish forensic-psychiatric system as they apply to criminal justice handling the mentally abnormal offender. Research involved a descriptive analysis of the changes in the mode of processing mentally ill and/or retarded offenders as a result of the 1965 law abolishing the insanity defense. In addition, the report examines the roles of the various actors in the system who deal with the mentally abnormal offender, particularly those of the forensic-psychiatrist.

DESCRIPTORS: (*Criminal law, *Mental disorders), (*Criminology, *Sweden), Revisions, Reviews, Psychiatric tests, Public opinion, Factor analysis, Decision making, Trends

IDENTIFIERS: *Mentally abnormal offenders, *Forensic psychiatry, Insanity defense

PB-214 789/0 NTIS Prices: PC\$3.00/MF\$0.95

Flight Characteristics and Stain Patterns of Human Blood

National Inst. of Law Enforcement and Criminal Justice, Washington, D.C.

AUTHOR: MacDonell, Herbert L.

C0481H2 FLD: 5K, 91C USGRDR7307

Nov 71 90p

REPT NO: LEAA-NI-PR-71-4

MONITOR: 18

Paper copy available from GPO \$0.45, as stock no. 2700-0079.

ABSTRACT: Information about blood stains which provides basic knowledge for interpreting blood pattern evidence with understanding and knowledge is reported. Rules and guides are given for interpreting bloodstains at the scene of bloodshed to obtain sufficient information to reconstruct the conditions existing at time of bloodshed. The characteristics of human blood in free fall-and after impact on a surface are described and the characteristics and properties of human blood itself. Over 60 representative blood stain patterns showing the effect and appearance of blood impacting on various surfaces at different angles, at different velocities and from different heights are pictured. The author cautions the investigator that the rules and guidelines enumerated are not conclusive in themselves but will assist in deciding a further course of action. Little attempt has been made to express the collected data in a statistical manner. (Author)

DESCRIPTORS: (*Blood analysis, *Criminal investigations), Humans, Biological stains, Blood, Analysis

IDENTIFIERS: *Forensic techniques

PB-214 528/2 NTIS Prices: PC-GPO/MF\$0.95-NTIS

Physical Evidence Utilization in the Administration of Criminal Justice

California Univ., Berkeley. School of Criminology.

AUTHOR: Parker, Brian, Peterson, Joseph

C0483P3 FLD: 5K, 91C USGRDR7307

Feb 72 57p

GRANT: LEAA-NI-0032

MONITOR: 18

Prepared in cooperation with Berkeley Police Dept., Calif.

ABSTRACT: The research project was conducted to measure the potential impact of the crime laboratory on the solution of ordinary crimes. The study focused on the collection of physical objects from the site of a crime which might determine the event sequence for a given violation and connect the criminal to that event. Six observers were familiarized with the project design and were then assigned to field work involving the recognition of physical objects that could have possible evidentiary significance. They found that crime laboratory resources were under-utilized, and were used most often as a last resort when all else had failed. For example, only twelve percent of all the burglaries are an offense class where few service requests are made of a laboratory--less than 5 percent of known offenses. Statistical graphs and tables are used to describe the relationship between different offense types and sites with retrievable physical objects. The authors conclude that most crime scenes have some type of physical evidence and that system limitations, i.e., resources for documentary and technical retrieval, appear to be major factors in the low utilization of scientific knowledge for criminal investigations. (Author)

DESCRIPTORS: (*Criminal investigations, Methodology), Analyzing, Laboratories

IDENTIFIERS: *Criminal justice, Physical evidence (Criminology), Crime laboratories

PB-214 618/1 NTIS Prices: PC\$3.00/MF\$0.95

The physician's Legal Duty to Refer a Patient to a Specialist

Armed Forces Inst of Pathology Washington D C (034500)

AUTHOR: Zimmerly, James G., Gocke, James W.

C0242B2 FLD: 6E, 5D, 57E USGRDR7304

1972 2

MONITOR: 18

Availability: Pub. in the Maryland State Medical Jnl., Dec 72.

ABSTRACT: In a recent medical malpractice case against the United States, a major contention of the plaintiff was that the physician was negligent for not having consulted specialists in the area of the patient's disorder. The claim was settled out of court for a sum in excess of \$100,000. For purposes of comparison, the facts of a different case in which a similar allegation of negligence has been made is discussed.

DESCRIPTORS: (*Medical personnel, Law), (*Medicine, Medical personnel), Medical personnel, Diagnosis, Efficiency

IDENTIFIERS: *Forensic medicine, Medical services, *Medical malpractice

AD-753 377 NTIS Price: Reprint

Mercury Content of Hair from Normal and Poisoned Persons

Iraq Atomic Energy Commission, Baghdad. Nuclear Research Inst. (3353600)

AUTHOR: Al-Shahristani, H., Al-Haddad, I. K.

A6312E2 FLD: 7D, 99A NSA2903

Mar 73 23p

MONITOR: 18

U.S. Sales Only.

ABSTRACT: For abstract, see NSA 29 03, number 04792.

DESCRIPTORS: (*Mercury, *Activation analysis), (*Hair, Activation analysis), Mercury compounds, Neutron reactions, Quantitative chemical analysis, Toxicity, Forensic chemistry

IDENTIFIERS: AEC

CONF-720920-5 NTIS Prices: PC\$3.25/MF\$1.45

ABSTRACT:

Several hundred samples of human head hair are analyzed to establish the range and variation of mercury concentration in "normal" people and in persons ingesting organic mercury compounds. Instrumental neutron activation analysis was used. The 77-keV line of ^{197}Hg was counted on a Ge(Li) detector. The pattern of concentration variation along hair is shown to be a more reliable criterion for hair individualization than average concentration values. The hair mercury content of "normal" people in uncontaminated and contaminated areas was from 0.1-4 and 1-12 ppM, respectively. People who ingested mercury compound but showed no symptoms had hair mercury concentrations from few ppM to 300 ppM. Mild symptoms appeared with 120-600 ppM hair mercury level; moderate with 200-800 ppM; and severe with 400-1600 ppM. There was no correlation with sex or age except that infants showed more severe symptoms than expected and people over 55 had mild or no symptoms with hair mercury level of 1000 ppM and higher.

Reliability in Scientific Evidence Based on Multi-Trace Forensic Naa

Oak Ridge National Lab., Tenn.

AUTHOR: Lyon, W. S., Ricci, E., Bate, L. C., Dyer, F. F.

A5562L4 FLD: 7D, 59A NSA2622

1972 9p

MONITOR: 18

From 2. International Conference On Forensic Activation Analysis-
Glasgow, Scotland (27 Sep 1972).

ABSTRACT: For abstract, see NSA 26 22, number 52896.

DESCRIPTORS: *Activation analysis, *Forensic science,

CONF-720920-2 NTIS Prices: PC\$3.00/MF\$0.95

ABSTRACT:

Neutron activation analysis has been accepted in the courts and successfully used in a number of trials. Some individualistic solutions (such as hair) that once appeared to offer an easy road to criminal identification and prosecution are now viewed more realistically. It is in these areas that more care must be taken. Biological material, such as blood and hair, and many inhomogeneous organic-inorganic mixtures, such as soil, may never be amenable to complete identification by neutron activation.

Time Dependent Electron Paramagnetic Resonance Characteristics of
Detonated Primer Residues

EG and G, Inc., Goleta, Calif. Santa Barbara Div. (387 685)

Technical rept. Jun-Nov 71

AUTHOR: Franks, L. A., Mullen, R. K.

C0212H4 FLD: 7D, 5K, 91C, 59A USGRDR7303

Nov 71 41p*

GRANT: LEAA-NI-71-108-PG

MONITOR: LEAA-NI-71-108-PG

ABSTRACT: The report is a preliminary study examining the EPR characteristics of detonated primer materials in order to determine the feasibility of determining if a primer compound had been discharged recently, estimating the elapsed time since discharge, and establishing the manufacturer of the primer compound. The study found it was feasible to distinguish between manufacturers, although current instrumentation needs some improvements in sensitivity to make the findings more definitive. Time delay data indicates the definite feasibility of determining delay constants for the discharged primers and extrapolating the zero time point within acceptable limits.
(Author)

DESCRIPTORS: (*Criminal investigations, Gun propellants), (*Residues, *Electron paramagnetic resonance), (*Gun propellants, Pyrolysis), Primers(Explosives), Spectroscopy, Free radicals, Firing tests(Ordnance), Half life, Spectrum signatures

IDENTIFIERS: Forensic chemistry, *Primer residues

PB-213 611/7 NTIS Prices: PC\$3.00/MF\$0.95

Compendium of PPBS (Planning, Programming and Budgeting System) Issue Papers: Crime Laboratories in the San Diego County Region. City Recreation Programs. Program Analysis on Public Laboratories in San Diego County

San Diego City Budget Office, Calif.

AUTHOR: Lewis, Lantz

C0203G1 FLD: 5K, 91H, 91C, 70B USGRDR7303

26 Jun 70 136p

CONTRACT: HUD-H-1026

MONITOR: 18

ABSTRACT: An analysis is made of public laboratory resources to identify and define problems which may be preventing their effective utilization, and to develop a framework for analysis of these problems. Selection of this single category was necessitated for reducing the scope of the analysis to manageable limits and by the fact that there was a particularly critical need for increased scientific support existing in the area of law enforcement. Thus health and medical, engineering, and utility laboratories were analyzed in terms of their present or potential capability to service law enforcement needs. An analysis is given of methods of increasing the benefits received from city recreation resources. Identification and analysis of alternative ways to achieve government objectives used as the cornerstone of PPBS. The objective of this paper was to analyze public laboratory resources, identifying and defining problems which may be prevented by their effective use, and an investigation of possible methods of solving these problems. (Author)

DESCRIPTORS: (*Recreational facilities, *Project control), (*Criminal investigations, Facilities), (*Laboratories, *California), Information systems, Budgeting, Local government, Urban planning, Law enforcement, Constraints, Cost engineering, Investments, Problem solving, Community relations, Objectives, Recommendations

IDENTIFIERS: *Planning programming and budgeting, *San Diego(California)

PB-213 361/9 NTIS Prices: PC\$9.00/MF\$0.95

Development of a Tritium Exchange Method for Detection of Drugs of Abuse. Final Report, January 1, 1973--July 31, 1974

Panametrics, Inc., Waltham, Mass. (5017000)

AUTHOR: Goodman, P., Rennert, A., Downs, J.

A6821J2 FLD: 7D, 99A NSA3104

1974 30p

CONTRACT: AT(11-1)-2292

MONITOR: 18

ABSTRACT: For abstract, see NSA 31 04, number 08188.

DESCRIPTORS: (*Benzedrine, *Chromatography), (*Morphine, Chromatography), (*Barbiturates, Chromatography), (*Narcotics, Chromatography), Isotopic exchange, Quantitative chemical analysis, Radiochemical analysis, Radiometric analysis, Tritium, Tritium compounds

IDENTIFIERS: NTISAEC

COO-2292-1 NTIS Prices: PC\$4.50/MF\$2.25

NO ABSTRACT AVAILABLE

Activation Analysis: A Literature Search

Philippine Atomic Energy Commission, Diliman, Quezon City. (5184900)
A6724F2 FLD: 7D, 99A NSA3011
4 Oct 73 233p
MONITOR: 18
U.S. Sales Only.

ABSTRACT: For abstract, see NSA 30 11, number 28919.

DESCRIPTORS: (*Activation analysis, *Bibliographies), Crime detection,
Neutron reactions

IDENTIFIERS: NTISAEC

PAEC(A)-7332 (Suppl. 1) NTIS Prices: PC\$14.75/MF\$2.25

ABSTRACT:

This bibliography contains 1,266 entries which were abstracted in NSA during the period December 1972 to January 1974.

Health Physics and Medical division Progress Report, January--December
1972

Ukaea Research Group, Harwell. Atomic Energy Research Establishment.
(6408000)

AUTHOR: Johnston, J. E., Suttar, T. V.

A6262K4 FLD: 6R, 57V, 77F NSA2901

Jul 73 73p

MONITOR: 18

U.S. Sales Only.

ABSTRACT: For abstract, see NSA 29 01, number 00362.

DESCRIPTORS: (*Radiation protection, *Research programs), Air
pollution, Autoradiography, Biology, Biomedical radiography, Crime
detection, Environment, Fallout, Inhalation, Medicine, Neutron
dosimetry, Personnel dosimetry, quantitative chemical analysis,
Radioactive aerosols, Radiobiology, Toxicity, United kingdom,
Whole-body counting

IDENTIFIERS: AEC

AERE-PR/HPM-17 NTIS Prices: PC\$5.75/MF\$1.45

NO ABSTRACT AVAILABLE

Pattern Recognition as a Statistical Method for Analyzing the
Confidence Level in the Identification of Objects

Interuniversitair Reactor Instituut, Delft (Netherlands). (4241000)
AUTHOR: de Bruin, M., Korthoven, P. J. M., Duin, R. P. W., Groen, F.
C. A., Bakels, C. C.
A6145C2 FLD: 7D, 59A NSA2808
1972 21p
MONITOR: 18
U.S. Sales Only.

ABSTRACT: For abstract, see NSA 28 08, number 17853.

DESCRIPTORS: (*Crime detection, Activation analysis), (*Activation
analysis, *Statistics), Archaeological specimens, Biological materials
, Distribution, Minerals, Neutron beams, Neutron reactions,
Nondestructive analysis, Nuclear reactions

IDENTIFIERS: AEC

IRI-133-72-11 NTIS Prices: PC\$3.25/MP\$1.45

ABSTRACT:

A statistical identification method to be used with nondestructive
neutron activation is described that is basically a pattern recognition pro-
cedure.

Application of Nuclear Technology to ART Identification Problems.
Final Report

Mellon Inst., Pittsburgh, Pa.
AUTHOR: Keisch, Bernard, Miller, Holly H.
A5564I1 FLD: 5D NSA2622
Feb 72 89p
CONTRACT: AT(11-1)-3034
MONITOR: 18

ABSTRACT: For abstract, see NSA 26 22, number 52898.

DESCRIPTORS: *Activation analysis, *Carbon isotopes c-14, *Forensic science, *Moessbauer effect,

COO-3034-2 NTIS Prices: PC\$3.00/MF\$0.95

ABSTRACT:

A brief summary of general conclusions reached regarding the use of various nuclear methods explored during the four-year research period is presented.

Sensitive Spectrophotometric Method for Determining Methadone in
Biologic Specimens

School of Aerospace Medicine Brooks AFB Tex (317000)

AUTHOR: Wallace, Jack E., Hamilton, Horace E., Payte, James T., Blum,
Kenneth

A5473G2 FLD: 60, 7D, 57Q, 57D, 59A USGRDR7224

2 May 72 6p

REPT NO: SAM-TR-72-310

CONTRACT: AF-7753

TASK: 775300

MONITOR: 18

Revision of report dated 15 Mar 72.

Availability: Pub. in Jnl. of Pharmaceutical Sciences, v61 n9
p1397-1400 Sep 72.

ABSTRACT: The extensive use of methadone for the treatment of opiate addiction increases significantly the need for quantitative determination of methadone in urine and tissues. Existing spectrophotometric methods are limited in sensitivity by the low molar absorptivity of this compound. Results demonstrate that a markedly enhanced sensitivity may be achieved by oxidizing the methadone to benzophenone. Methadone is extracted into n-hexane at an alkaline pH and then back-extracted into dilute sulfuric acid. Refluxing the acid solution with barium peroxide and n-heptane oxidizes the methadone to benzophenone, which is immediately extracted into the heptane. The heptane layer is removed and washed, and the benzophenone is measured spectrophotometrically. The method is sufficiently sensitive to quantitate therapeutic levels of methadone in small volumes of urine.
(Author)

DESCRIPTORS: (*Drugs, Quantitative analysis), (*Narcotics,
Quantitative analysis), (*Spectrophotometers, Drugs), Urine,
Tissues (Biology), Body fluids, Chemical analysis

IDENTIFIERS: *Methadone, Heroin addiction

AD-750 839 NTIS Price: Reprint

Significance of Detector Sensitivity in Detection of Drug Abusers

Army Land Warfare Lab Aberdeen Proving Ground Md (038950)

Final rept.

AUTHOR: Egner, Donald O., Campbell, Donald
A5365D2 FLD: 6E, 6B, 57E, 58B, 56C USGRDR7223

Sep 72 16p

REPT NO: LWL-TR-72-07

MONITOR: 18

ABSTRACT: To gain an understanding of the relationship of drug detector sensitivity to the actual detection of drug abusers, those parameters which are considered of prime importance in determining the probability of detecting drug abusers were examined. In addition, attempts were made to quantify the important relations of drug concentration in urine to elapsed time after drug administration and elapsed time after urination. (Author)

DESCRIPTORS: (*Drugs, *Detectors), Detection, Cannabis, Urine, Psychiatry, Narcotics, Morphine, Concentration(Chemistry), Sensitivity

IDENTIFIERS: *Drug abuse

AD-750 136 NTIS Prices: PC\$3.00/MF\$0.95

Medicolegal Interest of the Immunofluorescent Pregnancy Test

Fort Detrick, Frederick, Md. (401 661)

AUTHOR: Querci, V.

A5285L3 FLD: 6E, 57E USGRDR7222

7 Oct 66 9p

REPT NO: Trans-1868

MONITOR: 18

Trans. of Minerva Medicolegale (Italy) v85 p61-64 1965. Distribution
Limitation now Removed.

ABSTRACT: It is now clearly established that the IFPT, despite a certain technical complexity which impedes its routine application, possesses the characteristics of an absolutely certain diagnostic test and is recommendable in those conditions of obstetrical and medicolegal interest which cannot be solved unequivocally by means of the usual tests. (Author)

DESCRIPTORS: (*Pregnancy, Serodiagnosis), Fluorescent antibody techniques, Pituitary hormones, Antigen-antibody reactions, Fluorescence, Urine, Blood serum, Accuracy, Law, Italy

IDENTIFIERS: Translations

AD-834 395 NTIS Prices: PC\$3.00/MF\$0.95

A Sensitive Thin-Layer Chromatographic Technique for Determining
Morphine in Urine

School of Aerospace Medicine Brooks AFB Tex (317000)
AUTHOR: Wallace, Jack E., Biggs, John D., Merritt, James H., Hamilton,
Horace F., Blum, Kenneth

A528311 FLD: 6A, 7D, 57D, 59A USGRDR7222
20 Mar 72 9p

REPT NO: SAM-TR-72-297
PROJECT: AF-7753

TASK: 775300
MONITOR: 18

Revision of report dated 25 Feb 72.

Availability: Pub. in Jnl. of Chromatography, v71 p135-140 1972.

ABSTRACT: A screening procedure is described for determining morphine and other narcotics in acid-hydrolyzed urine. A simple pH adjustment and extraction are followed by washing the extracting solvent with a phosphate buffer which effectively removes hydrolytic products that normally produce inferior chromatograms. Interfering substances are discussed, with special reference to methodone, nicotine, caffeine, and phenothiazine compounds. (Author)

DESCRIPTORS: (*Thin layer chromatography, Morphine), (*Morphine, Chemical analysis), (*Urine, Morphine), Body fluids, Narcotics, Detection, Drugs

AD-749 585 NTIS Price: Reprint

Voice Identification Research

Michigan Dept. of State Police, East Lansing.

Rept. on Phase 2, 3 Nov 69-31 Dec 70.

A5254B1 FLD: 17B, 5D, 56J, 56C USGRDR7221

Feb 71 136p

CONTRACT: LEAA-NI-70-004

MONITOR: LEAA-NI-PR-72-1

Paper copy available from GPO \$1.25 as stock no. 2700-0144.

ABSTRACT: A two-year voice identification experiment employing visual inspection of spectrograms was performed to check Lawrence Kersta's claims and test models including variables related to forensic tasks. A total of 34,996 experimental identification trials were performed by 29 trained examiners. Each task involved up to 40 known voices, in various conditions: closed and open trials, contemporary and non-contemporary spectrograms, 9 or 6 clue words spoken in isolation, in a fixed context, and in random context, etc. Examiners based their decision solely on spectrogram inspection. (Author)

DESCRIPTORS: (*Speech recognition, *Identification systems), (*Speech, Identification), (*Law enforcement, Speech recognition), Waveform recognition, Spectrograms, Statistical analysis

IDENTIFIERS: *Voice prints, *Speaker verification, Forensic techniques

PB-211 998 NTIS Prices: PC-GPO/MF\$0.95-NTIS

Activation Analysis: A Bibliography Through 1971

National Bureau of Standards, Washington, D.C. Analytical Chemistry Div.

Technical note

AUTHOR: Lutz, G. J., Boreni, R. J., Maddock, R. S., Wing, J.

A5233C4 FLD: 7E, 59A, 59J, 86V USGRDR7221

Aug 72 885p

REPT NO: NBS-TN-467

MONITOR: 18

Supersedes COM-71-50275-01, and COM-71-50275-02.

Paper copy available from GPO \$7.00 as stock no. 0303 0999, C13.46:467.

ABSTRACT: References to papers published in the open literature which describe work using activation analysis are printed from a computer based storage and retrieval system. Published as a two-part volume, part 1 is a listing of references according to accession numbers (approximately 6200) while part 2 is composed of four appendices. Appendix I is an index for the element determined; Appendix II is an index of the matrix analyzed; Appendix III is an index of the technique used; and Appendix IV is an author index. The two parts when used together, permit a literature search defined by the several indices. (Author)

DESCRIPTORS: (*Radioactivation analysis, *Bibliographies), Neutron activation analysis, Gamma ray spectroscopy, Nondestructive tests, Clinical chemistry, Air pollution, Archaeology, Minerals, Gas analysis, Water analysis, Water pollution, Trace elements, Metals

IDENTIFIERS: Forensic chemistry

COM-72-50871 NTIS Prices: PC-GPO/MF\$0.95-NTIS

Symposium on Forensic Toxicology

European Research Office London (England) (406512)

Technical rept.

AUTHOR: Bateman, John B.

A5043B4 FLD: 60, 6T, 57Q, 57Y USGRDR7219

Jul 72 15p

REPT NO: ERO-10-72

ABSTRACT: A symposium on Forensic Toxicology was held at the Chemical Research Establishment, Porton WDown, UK, on 29 - 30 June 1972. In this report eight of the verbal presentations given in the second half of the program are summarized, dealing with (a) paraquat poisoning, (b) hallucinogens, (c) cyanide poisoning, (d) inorganic and organic mercury toxicity, (e) anticholinesterases, (f) organophosphate residues, (g) teratogenicity. Special mention is made of Professor E.G.C. Clarke's field kit for drug detection which is remarkable sensitive and selective. (Author)

DESCRIPTORS: (*Drugs, Toxicity), Poisons, Mercury compounds, Cyanides, Hallucinogens, Cholinesterase inhibitors, Detection, Symposia, Pathology

IDENTIFIERS: *Forensic toxicology, Paraquat herbicide, Bipyridinium compounds, Teratology

AD-746 953 NTIS Prices: PC\$3.00/MF\$0.95

Military Blood Banking. Immunohematology for the Reference and Forensic Testing Laboratory

Army Medical Research Lab Fort Knox Ky (039650)

Monograph

AUTHOR: Camp, Frank R. Jr, Conte, Nicholas F., Ellis, Frank R.

A5031C2 FLD: 6E, 57E USGRDR7219

15 Sep 71 83p

PROJECT: DA-3-A-062110-A-821

TASK: 3-A-062110-A-82100

Library of Congress catalog card no. 77-175027.

ABSTRACT: The important problems and pitfalls involved in whole blood and blood component therapy are discussed. Some aspects of immunohematology are emphasized, but the central theme stresses means of preventing injury from blood transfusion. The major areas covered in this monograph include: medicolegal problems, general considerations of transfusion reactions, pitfalls of blood grouping and pretransfusion tests, blood components and plasmapheresis, donor immunization and hyperimmunization, tissue transplantation, scientific treatises in blood group immunology, consumption coagulopathy, and blood group antigens stored over five months in ACD-adenine. (Author)

DESCRIPTORS: (*Blood transfusions, *Immunology), Hematology, Blood groups, Antigens + antibodies, Blood plasma, Blood coagulation, Erythrocytes, Pathology, Test methods, Biological laboratories, Military medicine

IDENTIFIERS: *Forensic medicine, *Blood banks, Plasmapheresis

AD-746 619 NTIS Prices: PC\$3.00/MF\$0.95

Antisera Evaluation and Other Consultation Services Available in the
Blood Bank Center Reference Laboratory

Army Medical Research Lab Fort Knox Ky (039650)

Brochure

AUTHOR: Coley, Virgil R., Levan, Mary J., Camp, Frank R. Jr, McPeak,
Margaret E., Shirley, Ima G.

A4931B1 FLD: 6L, 57A USGRDR7218

Jun 72 55p

PROJECT: DA-84121689000000

ABSTRACT: A brochure has been prepared describing the various quality control tests of blood group reagents and consultation services available at The Blood Bank Center Reference Laboratory. The role of The Blood Bank Center Reference Laboratory in evaluating blood group reagents for the Armed Services is described as well as the interrelationship of this quality control testing with the Defense Medical Materiel Board, the Defense Personnel Support Center, and the Division of Biologics Standards of the National Institutes of Health. Other consultation and testing services include immunohematological studies, forensic studies, Gm testing, and pyrogen testing. A listing of available scientific literature includes 121 laboratory reports, five monographs, and a translation series in blood group immunology. (Author)

DESCRIPTORS: (*Blood groups, Immune serums), (*Immune serums, Standards), Quality control, Hematology, Biological laboratories, Immunology, Antigens + antibodies, Test methods, Armed Forces (United States)

IDENTIFIERS: *Blood banks, Forensic medicine

AD-745 890 NTIS Prices: PC\$3.00/MF\$0.95

Activation Analysis in Research and Forensic Medicine. Final
Progress Report, July 1, 1971-September 30, 1971

New England Deaconess Hospital, Boston, Mass. Cancer Research Inst.

AUTHOR: Maletskos, Constantine J.

A5165D3 FLD: 6E, 57E NSA2618

6p

CONTRACT: AT(30-1)-3371

MONITOR: 18

ABSTRACT: For abstract, see NSA 26 18, number 42692.

DESCRIPTORS: *Activation analysis, *Chromium isotopes cr-50, *Gold,

COO-3371-15 NTIS Prices: PC\$3.00/MF\$0.95

ABSTRACT:

The foil used as a standard in activation analysis for determination of Au was found to be, not gold, but Dutch metal (Cu and Zn). A study of ⁵⁰Cr-enriched material by activation analysis concentrated on finding a way to separate ⁵¹Cr simply.

Military Blood Banking. Immunohematology for the Reference and Forensic Testing Laboratory

Army Medical Research Lab Fort Knox Ky (039650)

Monograph

AUTHOR: Camp, Frank R. Jr, Conte, Nicholas F., Ellis, Frank R.

A5031C2 FLD: 6E, 57E USGRDR7219

15 Sep 71 83p

PROJECT: DA-3-A-062110-A-821

TASK: 3-A-062110-A-82100

Library of Congress catalog card no. 77-175027.

ABSTRACT: The important problems and pitfalls involved in whole blood and blood component therapy are discussed. Some aspects of immunohematology are emphasized, but the central theme stresses means of preventing injury from blood transfusion. The major areas covered in this monograph include: medicolegal problems, general considerations of transfusion reactions, pitfalls of blood grouping and pretransfusion tests, blood components and plasmapheresis, donor immunization and hyperimmunization, tissue transplantation, scientific treatises in blood group immunology, consumption coagulopathy, and blood group antigens stored over five months in ACD-adenine. (Author)

DESCRIPTORS: (*Blood transfusions, *Immunology), Hematology, Blood groups, Antigens + antibodies, Blood plasma, Blood coagulation, Erythrocytes, Pathology, Test methods, Biological laboratories, Military medicine

IDENTIFIERS: *Forensic medicine, *Blood banks, plasmapheresis

AD-746 619 NTIS Prices: PC\$3.00/MF\$0.95

Putrefactive Ethanol Sources in Postmortem Tissues of Conventional and Germ-Free Mice

Armed Forces Inst of Pathology Washington D C (034500)
AUTHOR: Davis, Gustave L., Leffert, Robert L., Rantanen, Norman W.
A4935A2 FLD: 6E, 570 USGRDR7218
23 Feb 72 4p
Availability: Pub. in Archives of Pathology, v94 p71-74 Jul 72.

ABSTRACT: Putrefaction produces high levels of ethanol (alcohol) in brain, liver, and lung of intact mice. Previously eviscerated organs produce ethanol in much lower concentrations, while no ethanol is produced in the organs of germ-free mice. These latter animals do not putrefy. Toxicologic analyses of postmortem material, therefore, should be specific for ethanol, and cultures for bacteria and fungi should be made a routine part of such analyses. The presence of high levels of acetaldehyde and acetone early in the postmortem period is an additional indication of the process of putrefaction. In view of the amount of ethanol produced by putrefaction, 50 to 100 mg/100 ml, interpretation of 'alcohol analyses' under these conditions should be made with caution. Interpretation requires correlation with historical events before postmortem ethanol can be implicated in the cause of an accident. (Author)

DESCRIPTORS: (*Proteins, Decomposition), (*Ethanol, Tissues(Biology)), Pathology, Alcohols, Bacteria, Fungi, Aviation accidents, Brain, Liver, Lungs, Analysis

IDENTIFIERS: *Putrefaction, Forensic medicine

AD-746 079 NTIS Price: Reprint

Antisera Evaluation and Other Consultation Services Available in the
Blood Bank Center Reference Laboratory

Army Medical Research Lab Fort Knox Ky (039650)

Brochure

AUTHOR: Coley, Virgil R., Levan, Mary J., Camp, Frank R. Jr, McPeak,
Margaret E., Shirley, Ima G.

A4931B1 FLD: 6L, 57A USGRDR7218

Jun 72 55p

PROJECT: DA-84121689000000

ABSTRACT: A brochure has been prepared describing the various quality control tests of blood group reagents and consultation services available at The Blood Bank Center Reference Laboratory. The role of The Blood Bank Center Reference Laboratory in evaluating blood group reagents for the Armed Services is described as well as the interrelationship of this quality control testing with the Defense Medical Materiel Board, the Defense Personnel Support Center, and the Division of Biologics Standards of the National Institutes of Health. Other consultation and testing services include immunohematological studies, forensic studies, Gm testing, and pyrogen testing. A listing of available scientific literature includes 121 laboratory reports, five monographs, and a translation series in blood group immunology. (Author)

DESCRIPTORS: (*Blood groups, Immune serums), (*Immune serums, Standards), Quality control, Hematology, Biological laboratories, Immunology, Antigens + antibodies, Test methods, Armed Forces (United States)

IDENTIFIERS: *Blood banks, Forensic medicine

AD-745 890 NTIS Prices: PC\$3.00/MF\$0.95

Ballistic Characteristics and Wounding Effects of a Tear Gas Pen Gun
Loaded with Ortho-Chlorobenzalmalononitrile

Armed Forces Inst of Pathology Washington D C (034500)

AUTHOR: Ayers, K. M., Stahl, C. J.

A4751G2 FLD: 6U, 570 USGRDR7216

22 Nov 71 6p

Revision of report dated 12 Oct 71.

Availability: Pub. in Jnl. of Forensic Sciences, v17 n2 p292-297
1972.

ABSTRACT: The ballistic characteristics and wounding effects of a tear gas pen gun loaded with ortho-chlorobenzalmalononitrile (CS) were determined. The velocity of the wad 14.3 cm from the muzzle was 154.0 m/s. It was demonstrated that the wad or its fragments could not penetrate the skin of experimental animals at distances greater than 2.5 cm. The degree of injury when the pen gun was fired at contact range varied. At contact range the wad penetrated the thorax but did not penetrate the skin of the thigh, even though it caused a fracture of the femur. (Author)

DESCRIPTORS: (*CS agents, Wounds + Injuries), (*Tear gas, Projectiles)
, Ballistics, Irritating agents, Pathology, Non-lethal agents, Guns

IDENTIFIERS: Forensic medicine, *Tear gas pen guns

AD-744 600 NTIS Price: Reprint

Drug Identification, Properties and Characteristics: Narcotics, Stimulants, Depressants, Marijuana and Hallucinogens.

Army Land Warfare Lab Aberdeen Proving Ground Md (038950)

Final rept.

AUTHOR: Sansonetti, Craig J., Reilly, Hugh T.

A4305B3 FLD: 60, 6E, 6T, 57Q, 56C USGRDR7212

Mar 72 250p*

REPT NO: LWL-TR-72-04

ABSTRACT: A general survey of the literature regarding drug abuse and drug identification has been conducted. Illicit drugs in five categories--narcotics, stimulants, depressants, marijuana, and hallucinogens--are listed and described. In each category the history of the drug type, its clinical use, and the physical and psychological effects of its abuse are discussed. Analytical data such as melting point, solubility, color and microcrystal tests, chromatography data, and spectra are provided for approximately 125 individual drugs. General analytical techniques both for pharmaceutical preparations and for drugs in body fluids are briefly summarized. Numerous references are provided for additional data. (Author)

DESCRIPTORS: (*Drugs, Identification), (*Narcotics, Chemical analysis), (*Psychotropic agents, Chemical analysis), (*Addiction, Drugs), Biochemistry, Hallucinogens, CNS depressants, CNS stimulants, Cannabis, Physiology, Psychology, Pharmacology, Toxicity, Therapy, Body fluids, Detection

IDENTIFIERS: *Drug abuse, Clinical chemistry, Prescription drugs

AD-741 338 NTIS Prices: PC\$6.75/MF\$0.95

The Examination and Typing of Bloodstains in the Crime Laboratory

Metropolitan Police Forensic Lab., London (England).

A4134L3 FLD: 6A, 5D, 57B, 56C USGRDR7210

Dec 71 271p

CONTRACT: LEAA-NI-70-059

MONITOR: LEAA-NI-70-069

Paper copy available from GPO \$2.00 as stock no. 2700-0083.

ABSTRACT: scientific techniques used in the laboratory for typing of bloodstains in the crime laboratory are reviewed, drawing from relevant published material and considerable work by the authors. The study covers techniques, red cell antigen systems, polymorphic enzyme and protein systems, and future grouping systems. It is designed as a useful tool from which the forensic scientist may make a reasonable start. (Author)

DESCRIPTORS: (*Blood groups, *Blood analysis), (*Criminal investigations, Blood groups), (*Blood chemical analysis, Criminal investigations), Electrophoresis, Antigens, Chemical analysis, Antigen antibody reactions, Enzymes, Cholinesterase, Laboratory equipment, Spectroscopic analysis, Enzyme inhibitors, Coenzymes

IDENTIFIERS: *Forensic chemistry, *Bloodstains, Forensic medicine, Benzidines, Antiserums, Phosphomutase/glucose, Kinases (Phosphorylating)/adenylate, Dehydrogenase/glucose-6-phosphate, Haptoglobins, Isomerase/glucose-phosphate, Deaminase/adenosine, Dehydrogenase/phosphogluconate

PB-207 761 NTIS Prices: PC-GPO/MF\$0.95-NTIS

Reactor Radiation Division: Annual Progress Report for the Period
Ending October 31, 1971

National Bureau of Standards, Washington, D.C. Reactor Radiation Div.

Annual progress rept. 1 Oct 70-1 Oct 71

AUTHOR: Carter, Robert S.

A4125J4 FLD: 18M, 20B, 7D, 20H, 20N, 80, 59G, 86V USGRDR7210

Mar 72 110p

REPT NO: NBS-TN-714

Paper copy available from GPO \$1.00 as C13.46:714.

ABSTRACT: The document contains various reviews concerning the operation of the NBS research reactor and the use of the reactor in neutron activation analysis, neutron diffraction, crystal studies, molecular studies, and nuclear reactions. The reactor is also used in the areas of medical and dental research, Food and Drug Administration research, and crime detection.

DESCRIPTORS: (*Nuclear research and test reactors, Operations), (*Crystal lattices, Neutron scattering), (*Neutron activation analysis, Reviews), Neutron diffraction, Molecular structure, Semiconductor devices, Dosimetry, Strong interactions, Weak interactions, Medical services, Dental services, Food analysis, Criminology

IDENTIFIERS: NBS research reactor

COM-72-50277 NTIS Prices: PC-GPO/MF\$0.95-NTIS

Military Blood Banking. Genetics for the Reference and Forensic Testing Laboratory. A Monograph

Army Medical Research Lab Fort Knox Ky (039650)

AUTHOR: Camp, Frank R. Jr, Conte, Nicholas F., Ellis, Frank R.

A3972K1 FLD: 6C, 57F USGRDR7209

15 Sep 71 109p

PROJECT: DA-3-A-062110-A-821

TASK: 3-A-062110-A-82100

Library of Congress Catalog Card no. 77-175026 Errata sheet inserted.

ABSTRACT: The historic milestones of genetics are reviewed beginning with Mendel's Laws up to the genetic markers known today. Mitosis and meiosis are reviewed with examples of human gametogenesis. Polymorphisms in the blood of man are discussed and an example of gene interaction in the A-B-O system is presented in some detail. Other major areas covered in the monograph include: Gm and Inv factors of human serum, forensic applications (paternity studies), blood group substances, twins, determination of zygosity, blood group statistics, gene frequency studies (A-B-O, Rh, and M-N-S-s), the Hardy-Weinberg Law, and chromosomal aberrations. (Author)

DESCRIPTORS: (*Blood groups, *Genetics), Serodiagnosis, Blood serum, Chromosomes, Mutations, Cell division, Meiosis, Mitosis, Antigens + Antibodies, Military medicine

IDENTIFIERS: *Blood banks, Forensic medicine .

AD-738 586 NTIS Prices: PC\$3.00/MF\$0.95

The Examination and Typing of Bloodstains in the Crime Laboratory

Metropolitan police Forensic Lab., London (England).

A4134L3 FLD: 6A, 5D, 57B, 56C USGRDR7210

Dec 71 271p

CONTRACT: LEAA-NI-70-059

MONITOR: LEAA-NI-70-069

Paper copy available from GPO \$2.00 as stock no. 2700-0083.

ABSTRACT: Scientific techniques used in the laboratory for typing of bloodstains in the crime laboratory are reviewed, drawing from relevant published material and considerable work by the authors. The study covers techniques, red cell antigen systems, polymorphic enzyme and protein systems, and future grouping systems. It is designed as a useful tool from which the forensic scientist may make a reasonable start. (Author)

DESCRIPTORS: (*Blood groups, *Blood analysis), (*Criminal investigations, Blood groups), (*Blood chemical analysis, Criminal investigations), Electrophoresis, Antigens, Chemical analysis, Antigen antibody reactions, Enzymes, Cholinesterase, Laboratory equipment, Spectroscopic analysis, Enzyme inhibitors, Coenzymes

IDENTIFIERS: *Forensic chemistry, *Bloodstains, Forensic medicine, Benzidines, Antiserums, Phosphomutase/glucose, Kinases (Phosphorylating)/adenylate, Dehydrogenase/glucose-6-phosphate, Haptoglobins, Isomerase/glucose-phosphate, Deaminase/adenosine, Dehydrogenase/phosphogluconate

PB-207 761 NTIS Prices: PC-GPO/MF\$0.95-NTIS

Activation Analysis in Research and Forensic Medicine. Progress
Report V, May 1, 1970-June 30, 1971

New England Deaconess Hospital, Boston, Mass. Cancer Research Inst.

AUTHOR: Maletskos, Constantine J.

A3372G4 FLD: 6E, 57E NSA2522

82p

CONTRACT: AT (30-1)-3778

ABSTRACT: For abstract, see NSA 25 22, number 51963.

DESCRIPTORS: *Activation analysis, *Forensic science,

NYO-3778-13 NTIS Prices: PC\$3.00 MF\$0.95

ABSTRACT:

All efforts to date were combined and applied to the investigation of a specific patient at the New England Deaconess Hospital who had large quantities of iron stores. The case was used as an opportunity to test the authors methods, overall and quantitatively, on malignant and normal tissue and on the iron binding protein, ferritin. Some quantitative results are presented.

Application of Nuclear Technology to ART Identification Problems.
Third Annual Report, February 1, 1970-February 28, 1971

Mellon Inst., Pittsburgh, Pa.

AUTHOR: Keisch, Bernard, Miller, Holly H.

A3372H1 FLD: 14B, 73B, 56C NSA2522

Feb 71 52p

CONTRACT: AT(30-1)-3953

ABSTRACT: For abstract, see NSA 25 22, number 51410.

DESCRIPTORS: *Activation analysis, *Forensic science, *Nuclear
reaction analysis, *Radiometric analysis,

NYO-3953-3 NTIS Prices: PC\$3.00 MF\$0.95

ABSTRACT:

A preliminary exploration of the application of alpha-recoil track dating techniques to materials of art is described.

Detection and Semi-Quantitative Estimation of Free Morphine in Human Urine by Spectrofluorometry

Naval Medical Research Inst Bethesda Md (249650)

Medical research interim rept.

AUTHOR: Rodkey, Frederick Lee, Collison, Harold A., Petrin, Matthew J., O'Neal, John D.

A3242L3 PLD: 6A, 57D USGRDR7201

7 Sep 71 15p

PROJECT: MR011.0001.001.0001

MONITOR: NAVMED-MR011.0001.001.0001-1

ABSTRACT: A simplified procedure for detection of free morphine in human urine by use of spectrofluorometry is described. The procedure involves (a) extraction of morphine from urine at pH 8.5-9 into an organic phase, (b) treatment of the organic phase with sodium hydroxide to remove morphine and other phenolic compounds from the organic phase into the aqueous hydroxide. This simple extract is added to a boric acid-borate mixture for spectrophotofluorometric analysis directly and after addition of potassium ferricyanide. The ferricyanide of pH about 9 converts morphine to pseudo-morphine with a marked increase in fluorescence. The procedure detects only free unconjugated morphine. It is sufficiently sensitive to detect one microgram per ml of urine or less and can be performed in a semi-quantitative manner. False positive reactions are minimized by the solubility requirements and by utilizing the effects of a specific chemical reaction on the fluorescence. (Author)

DESCRIPTORS: (*Morphine, Urine), (*Urine, Chemical analysis), (*Spectroscopy, Urine), Fluorometers, Detection, Quantitative analysis, Narcotics

IDENTIFIERS: *Spectrofluorometry

AD-732 759 NTIS Prices: PC\$3.00 MF\$0.95

The Forensic Testing Laboratory, 1971--Problems, Progress, and People
Army Medical Research Lab Fort Knox Ky (039650)

Progress rept.

AUTHOR: Craycroft, Mary Jessie, Camp, Frank R. Jr, Ellis, Frank R.,
Conte, Nicholas F., McPeak, Margaret E.

A3225D3 FLD: 6E, 5D, 57E, 56G USGRDR7201

30 Jun 71 26p

REPT NO: USAMRL-937

PROJECT: DA-3-A-062110-A-821

TASK: 3-A-062110-A-82100

ABSTRACT: Current technics of blood group serology are presented as useful tools of forensic identification. These procedures cover human and animal sources of blood, bone, hair, saliva, semen, and nails. Various problems and pitfalls are discussed as they relate to validity of testing and reporting medicolegal materials. Special consideration is given to the problem of staffing a forensic laboratory and deciding who is qualified to perform tests. A criterion of qualifications is suggested as representative of the minimum requirement. (Author)

DESCRIPTORS: (*Medicine, *Law), (*Blood groups, Serodiagnosis),
Medical laboratories, Blood, Humans, Animals, Identification, Test
methods, Standards, Scientific personnel

IDENTIFIERS: *Forensic medicine, Paternity tests

AD-732 387 NTIS Prices: PC\$3.00 MF\$0.95

Multi-Element Analysis of Glass Fragments by Neutron Activation and
the Application to Forensic Science

Atomic Weapons Research Establishment, Aldermaston (England).
AUTHOR: Goode, G. C., Wood, G. A., Brooke, N. M., Coleman, R. F.
A3063D3 FLD: 7D, 59A, 56C NSA2518
May 71 32p
U. S. Sales only

ABSTRACT: For abstract, see NSA 25 18, number 41758.

DESCRIPTORS: *Glass,

AWRE-O-24/71 NTIS Prices: PC\$3.00 MF\$0.95

NO ABSTRACT AVAILABLE

Hydrolysis: A Requisite for Morphine Detection in Urine

School of Aerospace Medicine Brooks AFB Tex (317000)

Final rept. Sep-Dec 70

AUTHOR: Wallace, Jack E., Payte, James T., Blum, Kenneth

A3025F1 FLD: 6A, 57D USGRDR7122

6 Apr 71 7p

REPT NO: SAM-TR-71-273

PROJECT: AF-7753

TASK: 775312

Availability: Pub. in Current Therapeutic Research, v13 n6 p412-416
Jun 71.

ABSTRACT: The sensitivity for detecting morphine in urine by both thin-layer and gas-liquid chromatography can be increased by acid hydrolysis of the glucuronide metabolite. Results of gas-liquid chromatographic analysis demonstrated significantly higher values for morphine in hydrolyzed compared to unhydrolyzed split urine samples. A commercial laboratory that subjected 200 urine samples to acid hydrolysis prior to thin-layer chromatographic testing reported 27 morphine 'positives'. In contrast, another laboratory which did not utilize hydrolysis observed only two 'positives.' The present investigation emphasizes the necessity of releasing morphine from its glucuronic acid conjugate to effectively determine its presence in urine. (Author)

DESCRIPTORS: (*Morphine, detection), (*Hydrolysis, Morphine), (*Urine, Chemical analysis), Chromatographic analysis, Acids, Thin layer chromatography, Narcotics, Psychotropic agents, Monitors

AD-730 803 NTIS Price: REPRINT

Management Planning for Forensic Science Laboratories

University City Science Center, Philadelphia, Pa. (387 737)

Final rept., Mar-Aug 71

AUTHOR: Krendel, Ezra S., Dummer, R. Michael, Preifelder, Leonard R.

A2961H3 FLD: 5D, 12B, 56C, 70E USGRDR7121

1 Aug 71 190p*

REPT NO: UCSC-U-3-1

CONTRACT: LEAA-NI-71-070-6

ABSTRACT: The report presents methods for determining optimal forensic science service for any catchment area, given its criminal justice organizationa and crime pattern. Using original systems studies and a resurvey of the 106 laboratories listed in the John Jay College survey, the report presents a mathematical model of the forensic science laboratory seen as a series of filtered queues determined by the requirements of the criminal justice system, methods of operation, and professional standards. The authors document a simulation program to evaluate a laboratory configuration on the basis of total cost. Using this simulation, the authors develop a dynamic programming model for making capital expenditure equipment decisions on the basis of cost effectiveness. The authors recommend measures to aid internal communication, use of search theory in evidence gathering and analysis, research on sequential testing, and increased responsibility for the National Institute of Law Enforcement in providing evaluation techniques, information exchange, and managerial assistance to local facilities.

DESCRIPTORS: (*Criminal law, Operations research), (*Criminal investigations, Laboratories), Management planning, Cost effectiveness, Dynamic programming, Computer programming, Pattern recognition, Queueing theory, Systems analysis

IDENTIFIERS: *Forensic science laboratories

PB-202 725 NTIS Prices: PC\$3.00 MF\$0.95

Forensic Aspects of Transfusion Reactions

Army Medical Research Lab Fort Knox Ky (039650)

Progress rept.

AUTHOR: Camp, Frank R. Jr, Nalbandian, Robert M., Conte, Nicholas F., Ellis, Frank R.

A2854D2 FLD: 6E, 57E, 58H USGRDR7120

24 May 71 29p*

REPT NO: USAMRL-933

PROJECT: DA-3-A-062110-A-821

TASK: 3-A-062110-A-82100

ABSTRACT: A description of the problems and progress occurring in the realm of blood grouping, blood banking, and blood transfusion since 1940 is presented. Three areas of legal importance concerning transfusion reactions are defined: Patient and sample identification; Prevention, detection, and management of Incompatible hemolytic blood transfusion diseases; Document of test results and events in a Blood Transfusion Reaction Report. Specific legal statutes and cases have resulted in the establishment of guidelines for blood banks. These guidelines, compiled by Professor Charles H. Randall, Jr., have been interrelated to main problem areas. A Blood Transfusion Reaction Report form is described as essential to the Hospital Transfusion Board, the Blood Bank Pathologist and laboratory staff, and other hospital departments and staff such as surgery, anesthesiology, and nursing. (Author)

DESCRIPTORS: (*Blood transfusions, Reviews), (*Blood groups, Blood transfusions), Law, Medicine, Diagnosis, Therapy, Medical laboratories, Cardiovascular diseases, Allergy, Gas embolism

IDENTIFIERS: *Forensic medicine, Blood banking, *Blood transfusion reactions, Incompatible hemolytic blood transfusion diseases

AD-729 306 NTIS Prices: PC\$3.00 MF\$0.95

Applications of Neutron Activation Analysis in Scientific Crime Investigation. A Comprehensive Report Covering the Six-Year Period May 1, 1962 Through May 31, 1968

Gulf General Atomic, Inc., San Diego, Calif.
AUTHOR: Guinn, V. P., Lukens, H. R., Schlesinger, H. L.
A2815J2 FLD: 14B, 59A, 56C NSA2515
30 Jun 70 263p
CONTRACT: AT(04-3)-167

ABSTRACT: For abstract, see NSA 25 15, number 34542.

DESCRIPTORS: *Activation analysis, *Forensic science,

GA-9807 NTIS Prices: PC\$3.00 MF\$0.95

NO ABSTRACT AVAILABLE

Forensic Neutron Activation Analysis of Paint

Gulf General Atomic, Inc., San Diego, Calif.

AUTHOR: Schlesinger, H. L., Lukens, H. R., Bryan, D. E., Guinn, V. P.,
Hackleman, R. P.

A2733H2 FLD: 07E, 11C, 59A, 71E, 56C NSA2514

30 Jun 70 261p

CONTRACT: AT(04-3)-167

ABSTRACT: For abstract, see NSA 25 14, number 31845.

DESCRIPTORS: *Activation analysis, *Forensic science, *Paints,

GA-10142 NTIS Prices: PC\$3.00 MF\$0.95

NO ABSTRACT AVAILABLE

Applications of Neutron Activation Analysis in Scientific Crime
Investigation. Final Report

Gulf General Atomic, Inc., San Diego, Calif.

AUTHOR: Lukens, H. R., Schlesinger, H. L.

A2642K4 FLD: 14B, 7D, 59A, 56C NSA2513

2 Sep 70 109p

CONTRACT: AT(04-3)-167

ABSTRACT: For abstract, see NSA 25 13, number 29012.

DESCRIPTORS: *Activation analysis, *Forensic science,

GA-10276 NTIS Prices: PC\$3.00 MF\$0.95

NO ABSTRACT AVAILABLE

Neutron Radiography with /Sup 252/CF in Forensic Science

Battelle-Northwest, Richland, Wash. Pacific Northwest Lab.

AUTHOR: Cason, John L.

A2543B1 FLD: 18D, 18B, 77E, 77B NSA2512

Oct 69 17p

CONTRACT: AT (45-1)-1830

ABSTRACT: For abstract, see NSA 25 12, number 26437.

DESCRIPTORS: *Californium isotopes cf-252, *Radiography/ industrial,

BNWL-SA-2865 NTIS Prices: PC\$3.00 MF\$0.95

NO ABSTRACT AVAILABLE

Special Report on Gunshot Residues Measured by Neutron Activation Analysis

Gulf General Atomic, Inc., San Diego, Calif.

AUTHOR: Schlesinger, H. L., Lukens, H. R., Guinn, V. P., Hackleman, R. P., Korts, R. F.

A2351A2 FLD: 14B, 7D, 59A, 56C NSA2510

10 Aug 70 144p

CONTRACT: AT(04-3)-167

ABSTRACT: For abstract, see NSA 25 10, number 20946.

DESCRIPTORS: (*Neutron activation analysis, *Gunshot propellants),
*Forensic chemistry,

GA-9829 NTIS Prices: PC\$3.00 MF\$0.95

ABSTRACT:

Studies which aid in an accurate interpretation of results of neutron activation analysis of residue material removed from the back of a gunhand are reported.

Forensic Neutron Activation Analysis of Bullet-Lead Specimens

Gulf General Atomic, Inc., San Diego, Calif.

AUTHOR: Lukens, H. R., Schlesinger, H. L., Guinn, V. P., Hackleman, R. P.

A2345L4 FLD: 18B, 56C NSA2510

20 Jun 70 48p

CONTRACT: AT(04-3)-167

ABSTRACT: For abstract, see NSA 25 10, number 20948.

DESCRIPTORS: (*Neutron activation analysis, *Lead(Metal)), *Forensic chemistry,

GA-10141 NTIS Prices: PC\$3.00 MF\$0.95

NO ABSTRACT AVAILABLE

Forensic Neutron Activation Analysis of Paper

Gulf General Atomic, Inc., San Diego, Calif.

AUTHOR: Lukens, H. R., Schlesinger, H. L., Settle, D. M., Guinn, V. P.

A2345L3 FLD: 14B, 7D, 59A, 56C NSA2510

22 May 70 50p

CONTRACT: AT(04-3)-167

ABSTRACT: For abstract, see NSA 25 10, number 20947.

DESCRIPTORS: (*Neutron activation analysis, *Papers), (*Inks, Neutron activation analysis), *Forensic chemistry,

GA-10113 NTIS Prices: PC\$3.00 MF\$0.95

NO ABSTRACT AVAILABLE

The Physician-Patient Privilege, Article 31, and the Military Doctor

Armed Forces Inst of Pathology Washington D C (034500)

AUTHOR: Knoll, David D.

A2851B3 FLD: 6E, 5D, 57E, 56G USGRDR7120

1971 4p

Availability: Pub. in Military Medicine, v136 n7 p640-643 Jul 71.

ABSTRACT: The military physician should be aware of the absence of a doctor-patient privilege in military law, and should be cautious in his assurances to his patients that the information they may divulge to him will be kept confidential. His ethical duty not to reveal the secrets of his patient is still applicable to his practice, but must give way to his official duties as a military officer when the two are in conflict and a clear legal obligation requires him to speak. His relations with military defense counsel should always inspire the highest professional confidence, and where possible he should be prepared to cooperate with him in his efforts in defense of an accused client, even to the extent of tacitly ignoring an Article 31 warning. (Author)

DESCRIPTORS: (*Military medicine, Law), Medical personnel

IDENTIFIERS: *Military law, *Forensic medicine

AD-729 155 NTIS Price: REPRINT

Reactor Radiation Division: Annual Progress Report for the Period
Ending October 31, 1970

National Bureau of Standards, Washington, D.C. Inst. for Materials
Research. (401 937)

Technical note

AUTHOR: Carter, Robert S.

A2221F2 FLD: 20B, 7D, 14B, 80D, 59G, 73D, 86V USGRDR7113

Mar 71 68p

MONITOR: NBS-TN-567

Paper copy available from GPO \$0.70/copy as C13.46:567.

ABSTRACT: The document contains reviews of work in the field of
neutron diffraction analysis of crystal and molecular structures of
materials, Neutron sources, trace elements in geological materials,
neutron activation analysis programs of the Food and Drug
Administration, scientific crime detection, and other areas.

DESCRIPTORS: (*Crystal structure, Neutron diffraction), (*Molecular
structure, Neutron diffraction), (*Neutron activation analysis,
Reviews), Neutron sources, Criminology, Trace elements, Food analysis

COM-71-50170 NTIS Prices: PC-GPO/MF\$0.95-NTIS

Determination of Drugs in Biologic Specimens

School of Aerospace Medicine Brooks AFB Tex (317000)

Final rept. May-Oct 70

AUTHOR: Wallace, Jack E., Ladd, Sheldon L.

A1871D2 FLD: 6T, 57D, 56C USGRDR7109

Oct 70 10p

REPT NO: SAM-TR-70-289

PROJECT: AF-7753

TASK: 775312

Availability: Pub. in Industrial Medicine, v39 n10 p412-419 Oct 70.

ABSTRACT: The increasing use of drugs in our society has created a most complex problem for the analytical toxicologist. Detection of drugs in biologic systems is unique to most clinical laboratories for specialized techniques must be employed. Since increasing demands for toxicologic analyses are being placed on laboratories, it is necessary to conceive and develop procedures that can be used on a routine basis. A combination of thin-layer and gas-liquid chromatography along with ultraviolet spectrophotometry is proposed as an analytical scheme to screen biologic specimens for drugs of abuse. Because the ultraviolet spectro-photometer is becoming a familiar part of present-day laboratories, several methods that permit analysis of many drugs by ultraviolet spectrophotometry are presented. Problems applicable to analysis of biologic specimens for the presence of drugs are discussed. (Author)

DESCRIPTORS: (*Drugs, Chemical analysis), (*Psychotropic agents, Detection), Toxicity, Medical laboratories, Chromatographic analysis, Ultraviolet spectrophotometers

IDENTIFIERS: *Forensic chemistry, Drug analysis

AD-720 494 NTIS Price: REPRINT

Applications of Neutron Activation Analysis in Scientific Crime Investigation. Annual Report, June 1, 1968-May 31, 1969

Gulf General Atomic, Inc., San Diego, Calif.

AUTHOR: Guinn, V. P., Hackleman, R. P., Lukens, H. R., Schlesinger, H. L.

A1502F2 FLD: 07D, 59A, 56C NSA2424

21 Jan 70 94p

CONTRACT: AT(04-3)-167

ABSTRACT: For abstract, see NSA 24 24, number 50356.

DESCRIPTORS: *Activation analysis, *Antimony, *Barium, *Explosives, *Forensic science, *Paints, *Paper,

GA-9822 NTIS Prices: PC\$3.00 MF\$0.95

NO ABSTRACT AVAILABLE

The Determination of Carbon Monoxide in Blood and Tissue

Flying Personnel Research Committee London (England) (140500)

AUTHOR: Blackmore, D. J.

A1801H3 FLD: 6E, 57D USGRDR7108

16 Oct 69 22p

REPT NO: FPRC-1294

Availability: Pub. in The Analyst (Jnl. of the Society for Analytical Chemistry), v95 p439-458 May 70. No copies furnished.

ABSTRACT: The determination of carboxyhaemoglobin in blood and tissue taken at post-mortem is examined. Spectrophotometric and differential protein precipitation techniques have been found to be unsatisfactory. The use of gas chromatography has been studied and is found to be the method of choice. (Author)

DESCRIPTORS: (*Blood analysis, *Carbon monoxide), (*Gas chromatography, Blood analysis), Tissues(Biology), Hemoglobin, Pathology, Iron, Colorimetric analysis, Great Britain

IDENTIFIERS: Carbonyhemoglobin, Post mortem analysis, *Forensic pathology

AD-719 981 NTIS Price: REPRINT

Proceedings of the Annual Conference of Air Force Behavioral Scientists (17th)

School of Aerospace Medicine Brooks AFB Tex (317000)

AUTHOR: McGuire, Terence F.

A1295C3 FLD: 6E, 5J, 57T, 56K USGRDR7102

Jan 70 318p*

See also Conference no. 16, AD-702 102.

ABSTRACT: The document contains the proceedings of the seventeenth annual conference of Air Force behavioral scientists. It was the decision for this conference that, instead of a central theme, the emphasis would be upon a broad sampling of areas of concern for behavioral scientists. The topics ranged from concern over the diagnosis and treatment of alcoholism, and psychoendocrinology, to 'How to be a good witness.' (Author)

DESCRIPTORS: (*Psychiatry, *Symposia), Military psychology, Mental disorders, professional personnel, Behavior, Therapy, Programming(Computers), Uncertainty, Stress(Psychology), Transformations, Attitudes, Abnormal psychology, Addiction, Children, Fear

IDENTIFIERS: Computer analysis, Forensic medicine

AD-715 216 NTIS Prices: PC\$6.00 MF\$0.95

Medico-Legal Aspects of Aviation. Recent Advances in Aerospace
Medicine: Life Support and Physiology

Advisory Group for Aerospace Research and Development Paris (France)
(400043)

Conference proceedings.

A1285D1 FLD: 6S, 5D, 6K, 6E, 57W, 56G, 58F, 57E USGRDR7102

Sep 70 310p*

REPT NO: AGARD-CP-61-70

NATO furnished. Presented at Aerospace Medical Panel Meeting (26th)
Florence (Italy) 21-24 Oct 69.

ABSTRACT: The volume contains the text of twenty nine papers presented at the 26th Meeting of the Aerospace Medical Panel of AGARD. The main theme was 'Medico-Legal Aspects of Aviation', divided into three sections: Legal medicine in a strict sense, with papers on toxicology, pathology and international law; Accidents, with papers on acoustic damage, traumatic illness, ejection, radar exposure, barotrauma; Clinical, with papers on pathology, ophtalmology, selection of personnel. A collateral theme was 'Recent Advances in Aerospace Medicine', which was divided into two sections: Life support (ergonomics, aviation occupational medicine, contributions of NASA research work); Physiology (stress biochemistry, circadian rhythms, histological alterations in hyperoxia, vestibular function in weightlessness). A list of the participants, with their addresses, is given. The volume closes with the Panel Chairman's concluding remarks and with a Technical Summary which also includes the discussion on the papers. (Author)

DESCRIPTORS: (*Aviation medicine, *Law), (*Life support, Reports), (*Stress(Physiology), Reports), (*Space medicine, Reports), Space biology, Pathology, Toxicity, Aviation accidents, Ophthalmology, Aviation personnel, Symposia

IDENTIFIERS: *Forensic medicine, *Aerospace medicine, *Exobiology

AD-714 977 NTIS Prices: PC\$6.00 MF\$0.95

INVESTIGATION OF SUDDEN DEATH IN ADDICTS WITH EMPHASIS ON THE
TOXICOLOGIC FINDINGS IN THIRTY CASES

Armed Forces Inst of Pathology Washington D C (034500)

AUTHOR: Johnston, Edward H., Goldbaum, Leo R., Whelton, Richard L.
6983L4 FLD: 6T, 6E, 923 USGRDR7002

1969 6p

Availability: Pub. in Medical Annals of the District of Columbia, v38
n7 p375-380 Jul 69.

ABSTRACT: Morphine was detected in the body tissues and fluids of 30 cases of sudden death following intravenous injection of narcotic. The concentration of morphine in the kidneys appears to be a good indicator of death occurring after a recent injection of narcotic. Morphine was detected in the bile and urine, but the concentration was not a good indicator of a recent intravenous injection. Foreign material was found in the pulmonary vessels. This material can produce very early lesions that may easily go undetected. Polarized light should be used routinely in the microscopic examination of lung tissue in addicts. (Author)

DESCRIPTORS: (*Morphine, Toxicity), Pathology, Histology, Quantitative analysis, Mortality rates, Lungs, Kidneys, Concentration (Chemistry), Urine, Bile, Narcotics, Addiction

IDENTIFIERS: Forensic medicine

AD-697 487

Retention Indices for Compound Identification by Gas Chromatography

Walter Reed Army Inst of Research Washington D C (368450)

AUTHOR: Kazyak, Leo, Permisohn, Robert

A1214D2 FLD: 7D, 59A, 56C USGRDR7101

21 Apr 70 12p

Presented at the Annual Meeting of the American Academy of Forensic Sciences (22nd), Chicago, Illinois, 27 Feb 70.

Availability: Pub. in Jnl. of Forensic Sciences, v15 n3 p346-356 Jul 70.

ABSTRACT: Operating parameters and column differences complicate standardization of gas chromatographic data based on retention time alone. Retention indices provide reference data independent of these influences so that standardization is possible. With the standard indices from three columns that have different characteristics of separability, significant improvement in identification of compounds of toxicological importance was attainable. (Author)

DESCRIPTORS: (*Gas chromatography, Retention), Alkaloids, Insecticides, Drugs

IDENTIFIERS: *Forensic chemistry, Column packings, Law enforcement

AD-714 352 NTIS Price: REPRINT

PROGRAM TO EXPLORE AND EVALUATE POTENTIAL APPLICATIONS OF RADIOISOTOPE
EXCITED X-RAY FLUORESCENCE TECHNIQUES IN CRIMINALISTICS AND NATIONAL
SECURITY

Panametrics, Inc., Waltham, Mass. (403 420)

Final rept.

AUTHOR: Sellers, Bach, Hunerwadel, Jean L., Ziegler, Charles A.

AC503E2 FLD: 7D, 5K, 59A, 56C NSA2411

31 May 69 36p*

CONTRACT: AT(40-1)-3561

DESCRIPTORS: (*X-ray spectroscopy, Terminal ballistics), X-ray
spectroscopy

IDENTIFIERS: *Bullet holes, *Forensic chemistry, *X-ray fluorescence
analysis

ORO-3561-2 CPSTI Prices: HC\$3.00 MF\$0.65

NO ABSTRACT AVAILABLE

FORENSIC SCIENCE: A BIBLIOGRAPHY OF ACTIVATION ANALYSIS PAPERS

National Bureau of Standards, Washington, D.C. Chemistry Div.

Technical note

AUTHOR: Lutz, G. J.

A0153H1 FLD: 7E, 6A, 909, 923 USGRDR7011

Mar 70 47p*

MONITOR: NBS-TN-519

Paper copy also available from Superintendent of Documents, GPO, Washington, D.C. 20402 \$0.50 as C13.46:519.

ABSTRACT: The report gives references to activation analysis in forensic science and is indexed into 32 categories for precise literature searching by the forensic scientist. An author index is included. (Author)

DESCRIPTORS: (*Radioactivation analysis, *Bibliographies), (*Drugs, Radioactivation analysis), Narcotics, Neutron activation, Archaeology, Food, Glass, Hair, Paints, Plastics, Fibers

IDENTIFIERS: *Forensic chemistry, *Neutron activation analysis

PB-190 760 CFSTI Prices: HC\$0.50 MF\$0.95

CRIME LABORATORIES--THREE STUDY REPORTS: JOHN JAY COLLEGE NATIONAL
SURVEY: MASSACHUSETTS GOVERNOR'S COMMITTEE STATE STUDY: PUBLIC
ADMINISTRATION SERVICE CONSOLIDATION STUDY EXCERPT

John Jay Coll. of Criminal Justice, New York.

7272K4 FLD: 5K, 14B, 942 USGRDR7006

1969 121p*

GRANT: LEAA-013, LEAA-140

ABSTRACT: As essential as modern laboratory services may be to effective law enforcement, good local facilities are currently beyond the means of the majority of police departments in the United States. The study includes data on existing facilities and manpower, presents recommendations for regional laboratories and other improvement measures, offers estimates on personnel needs, and seeks to define training and college level programs to upgrade personnel and develop new technicians for forensic work. It also confirms the disparity between the extensive need for forensic analysis in the solution of major crimes and those limited instances in which scientific evidence is effectively employed in present criminal investigations. Excerpts from two other project reports have been included. One is a special study of crime laboratories in Massachusetts. The other is an excerpt from a study on consolidation of police services in Chicago dealing with coordination and pooling of laboratory services. (Author)

DESCRIPTORS: (*Criminology, Laboratories), Reviews, Police, Personnel management, Training, Scientific research, Massachusetts, Costs, Problem solving, Reports

IDENTIFIERS: Advanced degrees, Law enforcement, *Crime laboratories

PB-188 993 CFSTI Prices: HC\$6.00 MF\$0.95

THE WORLD-WIDE STATUS OF FORENSIC ACTIVATION ANALYSIS

Gulf General Atomic, Inc., San Diego, Calif. (388 247)

AUTHOR: Guinn, V. P., Pinker, R. H.

6872L1 FLD: 7D, 909 NSA2320

10 Feb 67 24p

CONTRACT: AT(04-3)-167

MONITOR: CONF-670223-1

Presented at the Annual Meeting of the American Academy of Forensic Sciences (19th), Honolulu (Hawaii) 20-25 Feb 67.

DESCRIPTORS: (*Criminology, *Radioactivation analysis), Chemical analysis, Neutron activation, Hair

IDENTIFIERS: *Forensic chemistry, *Neutron activation analysis

GA-7688 CFSTI Prices: HC\$6.00 MF\$0.95

NO ABSTRACT AVAILABLE

MODERN TRENDS IN ACTIVATION ANALYSIS

National Bureau of Standards, Washington, D.C. Analytical Chemistry Div.

AUTHOR: DeVoe, James R., LaFleur, Philip D.

6373D2 FLD: 14B, 7D, 7E, 945, 909 USGRDR6917

Jun 69 688p*

Proceedings of the 1968 International Conference, National Bureau of Standards, Gaithersburg, Md., 7-11 Oct 68. Paper copy also available from Superintendent of Documents, GPO, Washington, D. C. 20402. \$8.50 per set of 2 Volumes. See also NBS-SP-312-Vol-2.

ABSTRACT: A conference on Modern Trends in Activation Analysis was held at the National Bureau of Standards, October 7-11, 1968. This volume contains texts of two invited plenary lectures, one on the applications of activation analysis and one on radiochemical separations, contributed papers, remarks by honored guests, and synopses of discussion sessions by each chairman. Topics covered include applications of activation analysis in the environmental sciences, biology, medicine, archaeology, criminology, geochemistry, geology, and industry. Also included are studies on radiochemical separations. (Author)

DESCRIPTORS: (*Radioactivation analysis, Symposia), (*Neutron activation, Symposia), Radiochemistry, Biology, Industries, Geochemistry, Criminology, Archaeology, State-of-the-art reviews, Air pollution, Separation

IDENTIFIERS: Neutron activation analysis

NBS-SP-312-Vol-1 CFSTI Prices: HC\$8.50 per set 2 vols. MF\$0.95

FORENSIC MEDICINE

Assistant Chief of Staff for Intelligence (Army) Washington D C (266000)

6235G2 FLD: 6E, 923 USGRDR6915

11 Feb 69 128p

REPT NO: ACSI-J-5127

Trans. of mono. Fa i Hsueh, Canton, Aug 54 p1-103.

PORTIONS OF THIS DOCUMENT ARE ILLEGIBLE. SEE INTRODUCTION SECTION OF THIS ANNOUNCEMENT JOURNAL FOR CFSTI ORDERING INSTRUCTIONS.

ABSTRACT: Contents: Summary of forensic medicine; Life reactions; Necrosis and necrotic phenomena; Causes of death and violent deaths; Mechanical injuries; Poisoning and tests for poisons; Mechanical suffocation; Injury and death from burns and scalds; Electrocutions; Problems regarding potency and crimes of a sexual nature; Acts of abortion; Acts of infanticide; Examinations of physical (material) evidence; Malpractice.

DESCRIPTORS: (*Medicine, Law), Criminology, Wounds + injuries, Poisoning, Reproductive system, Textbooks, China

IDENTIFIERS: Translations, Forensic medicine

AD-688 724 CFSTI Prices: HC\$6.00 MF\$0.95

FORENSIC ASPECTS OF TEAR-GAS PEN GUNS

Armed Forces Inst of Pathology Washington D C (034500)

AUTHOR: Stahl, Charles J., Young, Bruce C., Brown, Richard J., Ainsworth, Clayton A.

555313 FLD: 15B, 6E USGRDR6905

23 Jul 68 29p

Availability: Pub. in Jnl. of Forensic Sciences, v13 n4 p442-469 Oct 68.

ABSTRACT: Legal implications related to the offensive and defensive firing of tear-gas pens are discussed, and the pathologic findings in injuries in an experimental animal are presented, as well as an original method for quantitative determination of chloroacetophenone in tissues and body fluids by toxicologic methods. (Author)

DESCRIPTORS: (*Tear gas, *Wounds + injuries), (*Criminology, Tear gas), Guns, CS agents, Law, Non-lethal agents, Exterior ballistics, Terminal ballistics, Tolerances (Physiology), Pathology, Wound ballistics, Laboratory animals

IDENTIFIERS: Tear gas pen guns, CN agents

AD-680 558 CFSTI Prices: PC\$6.00 MF\$0.95

PROGRAM TO EXPLORE AND EVALUATE POTENTIAL APPLICATIONS OF RADIOISOTOPE
EXCITED X-RAY FLUORESCENCE TECHNIQUES IN CRIMINALISTICS AND NATIONAL
SECURITY

panametrics, Inc., Waltham, Mass. (403420)

Annual rept.

AUTHOR: Sellers, Bach, Wilson, Henry H., Ziegler, Charles A.

5202E3 FLD: 18B, 7A, 5K NSA2217

29 Sep 67 23p*

CONTRACT: AT(40-1)-3561

DESCRIPTORS: (*Radioactive isotopes, X-ray spectroscopy), (
*Criminology, Identification systems), Fluorescence, Excitation,
Feasibility studies, Money

ORO-3561-1 CFSTI Prices: PC\$6.00 MF\$0.95

NO ABSTRACT AVAILABLE.

APPLICATIONS OF NEUTRON ACTIVATION ANALYSIS IN SCIENTIFIC CRIME
DETECTION

General dynamics, San Diego, Calif. General Atomic Div. (146 850)

Summary rept. 1 Jan-31 Oct 66

AUTHOR: Guinn, V. P.

4861B2 FLD: 5K, 7D, 20H NSA2212

20 Oct 67 62p

CONTRACT: AT(04-3)-167

DESCRIPTORS: (*Criminology, *Radioactivation analysis), Thermal
neutrons, Gamma-ray spectra, Detectors, Semiconductor devices, Test
methods, Programming (Computers), Chemical analysis, Impurities, Paints
, Neutron activation, Nuclear industrial applications

GA-8013 CFSTI Prices: PC\$6.00 MF\$0.95

NO ABSTRACT AVAILABLE

LONG-TERM PRESERVATION OF BIOLOGICALS FOR THE FORENSIC LABORATORY AND
THEIR AREAS OF APPLICATION

Army Medical Research Lab Fort Knox Ky (039650)

Progress rept.

AUTHOR: Camp, Frank R. Jr, Ellis, Frank R., Shields, Charles E.,
Werline, Madonna M.

5402C2 FLD: 6A, 14B USGRDR6903

19 Jun 68 25p

REPT NO: USAMRL-781

PROJECT: DA-3-A-025601-A-821

TASK: 3-A-025601-A-82100

Presented at meeting of American Academy of Forensic Sciences,
Chicago, Ill., 22-24 Feb 68.

ABSTRACT: The requirement for a wide range of controls in a forensic laboratory testing blood stains, blood crusts, saliva, semen, and whole blood or serum specimens is a unique and problem-posing situation. Controls are absolutely necessary to substantiate results and reagent specificity. Methods of preserving red cells, human bone, semen, and saliva in liquid nitrogen for indefinite periods without deterioration are described. The maintenance of controls and their implementation in a forensic laboratory are presented. The importance of nomenclature in the field of forensic immunohematology is reviewed for workers in this field. (Author)

DESCRIPTORS: (*Body fluids, Preservation), Medical laboratories,
Erythrocytes, Blood serum, Saliva, Blood analysis, Histological
techniques, Storage, Bone, Blood, Nitrogen, Test methods, Freezing

IDENTIFIERS: Forensic medicine

AD-678 545 CFSTI Prices: PC\$6.00 MF\$0.95

PROBLEMS OF BOTULISM IN FORENSIC MEDICINE

Army Biological Labs Frederick Md (036550)

AUTHOR: Marcinkowski, Tadeusz

5182D3 ELD: 6E, 6T USGRDR6823

Feb 66 9p

REPT NO: Trans-2301

Trans. of Wiadomosci Lekarskie (Poland) v8 n2 p74-77 Feb 55, by Edward Lachowicz.

ABSTRACT: A case of botulinal poisoning is described. The report illustrates certain difficulties in connection with the medicolegal evaluation of such diseases and, particularly, the difficulties in detection of eventual sources of poisoning. (Author)

DESCRIPTORS: (*Food poisoning, *Clostridium botulinum), Diseases, Toxins + antitoxins, Diagnosis, Meat, Biological contamination, Law, Poland

IDENTIFIERS: Translations

AD-675 850 CFSTI Prices: PC\$3.00 MF\$0.95

THE IDENTIFICATION AND DETERMINATION OF MICROGRAMS OF MORPHINE IN BIOLOGICAL SAMPLES

Armed Forces Inst of Pathology Washington D C (034500)

AUTHOR: Goldbaum, Leo R., Williams, Melvin A.

4903B1 FLD: 6E USGRDR6818

2 Mar 68 10p

Availability: Pub. in Jnl. of Forensic Sciences, v13 n2 p253-261 Apr 68.

ABSTRACT: The presence and concentration of morphine in urine and tissues can be determined by the procedure which is described. The identification is made after purification by ionophoresis followed by spraying with iodoplatinate to form the purplish-black iodoplatinic acid complex with morphine. The morphine is recovered after liberation from the complex and identified by its highly characteristic ultraviolet differential spectrum in acid and base. The sensitivity of the procedure is increased by use of long light-path cells. (Author)

DESCRIPTORS: (*Morphine, Microanalysis), Body fluids, Tissues(Biology), Urine, Absorption spectrum, Identification, Pathology

IDENTIFIERS: Forensic pathology

AD-672 533 CFSTI Prices: PC\$3.00 MF\$0.95

THE REGISTRY OF FORENSIC PATHOLOGY

Armed Forces Inst of Pathology Washington D C (034500)

AUTHOR: Stahl, Charles J.

4903A3 FLD: 6E, 5I USGRDR6818

1968 13p

Presented at the Annual Meeting of the American Academy of Forensic Sciences (19th), Honolulu, Hawaii, 19 Feb 67.

Availability: Pub. in Jnl. of Forensic Sciences, v13 n2 p151-162 Apr 68.

ABSTRACT: The development of the Registry of Forensic Pathology since its origin in 1958 is discussed, and an analysis of various factors involved in nearly 900 cases is given. Information concerning the contribution of cases as well as the selection, diagnostic coding, and retrieval of cases has been provided. The role of the Registry of Forensic Pathology as a source of material for reference and a national repository for information related to forensic pathology, as well as its activities in postgraduate education and research, are reviewed. Further contributions of forensic cases and the full support and recognition of pathologists, particularly the members of the American Academy of Forensic Sciences, are necessary for the Registry to achieve full usefulness. (Author)

DESCRIPTORS: (*Scientific organizations, *Medicine), Pathology, Law, Data processing systems, Information retrieval, Medical personnel, Education, Training devices, Statistical data, Tables

IDENTIFIERS: Forensic pathology

AD-672 531 CFSTI Prices: PC\$3.00 MF\$0.95

FORENSIC MEDICINE AND MATERIAL EVIDENCE IN THE USSR

Joint publications Research Office, Washington, D. C. (193 300)

AUTHOR: Bronnikova, M. A., Garkavi, A. S.

4574K2 FLD: 6E USGRDR6812

20 Feb 68 9p

Trans. of Sudebno-Meditsinskaya Ekspertiza (USSR) n4 p3-7 1967.

DESCRIPTORS: (*Medical examination, *Criminology), Law, Medical personnel, Blood analysis, Blood groups, Body fluids, Identification, Antigens + antibodies, Hair, USSR

JPRS-44435 CFSTI Prices: PC\$3.00 MF\$0.95

NO ABSTRACT AVAILABLE

METHODS OF SPECTRAL ANALYSIS

Department of the Navy Washington D C (110050)

AUTHOR: Levshin, V. L.

2581G3 FLD: 20F, 7A, 7B, 8F USGRDR6613

1966 2p

REPT NO: Trans-2073

MONITOR: TT-66-61253

Partial trans. of mono. Metody Spektralnogo Analiza, Moscow, 1962.

ABSTRACT: CONTENTS (Translations of Chapters 20 and 21 of 'Analysis of Luminescence', Section 5, Moscow Univ. Pub. House, 1962). Chapter 20, CHEMICAL ANALYSIS OF LUMINESCENCE: Excitation and recording of radiance during the qualitative and quantitative analysis of luminescence; qualitative and quantitative analyses of luminescence; polarization methods of luminescence analysis; luminescence analyses of organic and inorganic compounds, and minerals and oils. Chapter 21, LUMINESCENCE ANALYSIS OF DETECTION: Detection of invisible radiance; luminescence analyses of detection as applied in biology and medicine, industry, and agriculture and the foodstuff industry; detection of hidden currents; luminescence analysis of detection as applied to paleontology, archaeology, and criminology.

DESCRIPTORS: (*Luminescence, Chemical analysis), USSR, Spectrum analyzers, Quantitative analysis, Chromatographic analysis, Polarographic analysis, Theory, Inorganic compounds, Organic compounds, Rare earth compounds, Tungstates, Molybdates, Uranyl radicals, Vitamins, Hormones, Pigments, Antibiotics, petroleum, Spectra(Infrared), Spectra(Visible + ultraviolet), X rays, Elementary particles, Gamma rays, Biology, Medicine, Industries, Agriculture, Foods, Archaeology, Criminology

AD-632 799 CFSTI Prices: PC\$3.00 MF\$0.95

BALLISTIC AND FORENSIC PATHOLOGIC ASPECTS OF MISSILE WOUNDS.
CONVERSION BETWEEN ANGLOAMERICAN AND METRIC-SYSTEM UNITS

Armed Forces Inst of Pathology Army Medical Center Washington D C (C00000)

AUTHOR: Finck, Pierre A.

1895I4 USGRDR6517

1965 2p

PROJECT: 5010780000

Pub. in Military Medicine v130 n6 p545-69 Jun 1965 (Copies not available to DDC or Clearinghouse customers).

ABSTRACT: The purpose of the paper is to provide means of interpreting and converting some of the various factors involved in the kinetic energy of projectiles. It is intended for those who deal with missile wounds: investigators, lawyers, and physicians, particularly pathologists and surgeons. The word 'missile' or 'projectile' as used here implies bullets, pellets from shotguns, and fragments from devices such as grenades and explosive shells. Conversion tables between Anglo-American and metric-system units are provided for the convenience of those, particularly the members of the Armed Forces, who have to evaluate data coming from other countries and who do not always have numerous bulky reference books at their disposal. (Author)

DESCRIPTORS: (*Wounds + injuries, Ballistics), (*Bullet wounds, Ballistics), (*Projectiles, Wounds + injuries), (*Law, Wounds + injuries), Reports, Standardization, Measurement, Tables, Pathology, Battle wounds, Accidents, Criminology

IDENTIFIERS: Metrology

AD-618 581

A RAPID AND SPECIFIC SPECTROPHOTOMETRIC METHOD FOR DETERMINING
PROPOXYPHENE

USAF Epidemiological Lab Lackland AFB Tex (000000)
AUTHOR: Wallace, Jack E., Biggs, John D., Dahl, Elmer V.
1784H1 USGRDR6521

15 Mar 65 2p

Pub. in Journal of Forensic Sciences v10 n2 Apr 1965 (Copies not
available to DDC or Clearinghouse customers). Presented at the Annual
Meeting of the American Academy of Forensic Sciences, (17th) Chicago,
Ill., 25 Feb 1965.

ABSTRACT: A rapid method for the quantitative determination of
propoxyphene in biological materials is presented. The method
involves formation of a steam distillable product which has a molar
absorbancy for ultraviolet light many times greater than that of
propoxyphene. Ultraviolet absorbancy of the steam distilled product,
whose chemical structure has not been completely defined, adheres to
the Beer-Lambert law over a wide concentration range. The method is
sufficiently sensitive to permit determination of propoxyphene in the
urine of patients who have taken a single therapeutic dose of the drug
orally. For forensic toxicologic purposes, the procedure is specific
for propoxyphene. (Author)

DESCRIPTORS: (*Analgesics + antipyretics, Chemical analysis), (
*Narcotics, Chemical analysis), Amines, Alcohols, Esters, Blood, Urine
, Spectra(Visible + ultraviolet), Absorption spectrum, Excretion

IDENTIFIERS: Propoxyphene

AD-621 329

APPLICATION OF NEUTRON ACTIVATION ANALYSIS IN SCIENTIFIC CRIME
DETECTION, 18-MONTH SUMMARY REPORT FOR THE PERIOD MAY 1, 1962-OCTOBER
31, 1963

General Atomic, San Diego, Calif. John Jay Hopkins Lab. for Pure and
Applied Science.

AUTHOR: Bryant, D. E. , Guinn, V. P. ,

0511C1 FLD: 5K USGRDR6613

27 Jul 64 94p

CONTRACT: AT(04-3)-167

DESCRIPTORS: (*Criminology, Scientific research), (*Neutron activation
, Criminology),

GA-5556 CFSTI Prices: PC\$6.00 MF\$0.75

NO ABSTRACT AVAILABLE

USE OF NEUTRON ACTIVATION ANALYSIS IN SCIENTIFIC CRIME DETECTION.
12-MONTH SUMMARY REPORT FOR THE PERIOD NOVEMBER 1, 1963-OCTOBER 31,
1964

General Atomic, San Diego, Calif. John Jay Hopkins Lab. for Pure and
Applied Science.

AUTHOR: Bryan, D. E., Guinn, V. P.,

0434H3 FLD: 20H, 5K USGRDR6608

15 Feb 65 59p

CONTRACT: AT(04-3)-167

DESCRIPTORS: (*Criminology, Neutron activation), (*Neutron activation,
Criminology), Radioactivation analysis

GA-6152 CFSTI Prices: PC\$6.00 MF\$0.75

NO ABSTRACT AVAILABLE

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