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OVERVIEW

I am currently founder and President of American Toxicology Institute Inc., a laboratory with primary emphasis in testing, education, and research in toxicology. I have been an expert in the field of forensic toxicology, as well as forensic chemistry, for over 30 years, first qualifying in a Nevada District Court in 1971. I have given many seminars, workshops, lectures, and classes in chemistry and toxicology for private companies, law enforcement agencies, University of Nevada Continuing Education, attorneys, state and local government, school districts, counseling agencies, parents, labor unions, physicians, nurses, medical laboratory personnel, judges, arbitrators, military, and others. My past experience includes Emergency Medical Technician, Mercy Ambulance; Highway Patrolman, State of Nevada; Identification Field Specialist, Las Vegas Metro Crime Lab; Criminalist and Reserve Narcotics Police Officer, North Las Vegas Police Department; Supervisor Chemistry & Toxicology Department, University Medical Center; Chief Chemist, Western Technology Corporation; Director of Toxicology and founder of American Toxicology Institute, and National Judicial Consultant for Anonymous Data Corporation in biometric identification of defendants and litigants in court proceedings. I am a consultant and expert witness for federal, state, and local government agencies, private agencies, and for the military. I am certified as a Medical Technologist in Chemistry and Toxicology in the State of Nevada, hold a Bachelors Degree in Chemistry from University of Nevada Las Vegas (UNLV), and have completed a considerable amount of graduate work in the Department of Education at UNLV with emphasis on drug education. I am past adjunct faculty and member of the Advisory Committee of the College of Health Sciences at UNLV, toxicology consultant for the National Association of Alcohol and Drug Abuse Counselors, and resource advisor for Toxilab Corporation, and Roche Diagnostics. I have testified several thousand times as a forensic expert, and signed many times more affidavits in lieu of testifying in additional case work.

EDUCATION

University of Nevada Las Vegas Graduate School, 1987 - 1994 GPA 4.00
Completed all requirements for Masters of Science degree in Post Secondary Education, taking more classes than required. The thesis requirement was not completed in time to meet the six year time requisite for the degree. After beginning

my thesis, which was near the end of the six year period, I realized after some delays that I would not be able to finish in time even with one six month extension granted. Another extension was denied. I decided to continue anyway to complete the degree. My thesis consisted of conducting a survey of the success and effectiveness of DARE. (Drug Abuse Resistance Education) in two Clark County Nevada high schools, which I completed in the fall of 1994, about a year beyond curriculum requirements to award a degree. I had previously donated an employee to DARE, who became President of the Southern Nevada chapter. The employee was able to help the school district gather the information needed, and to assist in conducting the survey. In graduate school, I was a member of Phi Kappa Phi representing academic standing in the top 2% of the graduate class, which I held for six years. As adjunct faculty member, I taught drug education to students on and off campus using my own laboratory as a teaching site, which received accreditation by the Board of Education as an off campus teaching facility. Art Meyers, Ph.D., and professor responsible for assigning students to off campus teaching sites, related to me that I had received the highest student evaluations he had ever recorded. Teaching has been my favorite pursuit, and the ability to explain things has helped me as an expert witness as well.

University of Nevada
Las Vegas, Nevada

Bachelors Degree Chemistry 1975
GPA 3.62

Special Achievements: One of two students selected by the Chemistry Department to conduct research on an organic synthesis project funded by a federal grant. The research was directed under Dr. Robert Smith, Dean of UNLV's Chemistry Department. Research continued for two years involving comprehensive research and documentation to support eventual published findings. We were given our own offices and laboratory to conduct the research, which was unique for undergraduate students at the time. The research required extensive use of instrumentation and quality control with emphasis on methods development and innovative approaches to testing.

University Medical Center 1970 to 1974
Las Vegas, Nevada

Received four years of formal training in the Toxicology Department under Dr. Thorne Butler, a Board Certified Forensic Toxicologist and Pathologist. Originally hired by Dr. Butler as his research assistant, I later phased into the requisitioned testing of the laboratory because of needs that arose. Later, I supervised the laboratory's Toxicology Department.

Kemper High School
Booneville, MO

High School Diploma

Special Achievements: Valedictorian, Bausch & Lomb Promise in Science Award (limited to one student), certifications for outstanding achievements in math, chemistry, and physics; membership in the Scholastic and General Honor Societies. Succeeded in obtaining the highest grades given in the prior 100 years of the school's history (published in several newspapers).

SPECIAL CERTIFICATIONS

State of Nevada
Division of Health

Certified Medical Technologist
in Chemistry and Toxicology.
Current Standing

Abbott Diagnostic
Laboratories
Dallas, TX

40 hour course in operation and maintenance
of fluorescence polarization immunoassay
instrumentation. Certification 1989

Instrumental Laboratory
of Redwood City, CA

40 hour course in operation and maintenance
of flame and flameless atomic absorption
spectroscopy. Certification 1979.

Professional Certifications

Numerous certifications from professional organizations hosting seminars, workshops, and course studies in the forensic and clinical sciences including forensic and clinical toxicology and pharmacology, clinical chemistry, criminalistics, medical examiner, laboratory testing, medical technology, instrumentation analysis, research, new methods of testing, and many more. Certifications continue on a yearly bases for continuing education (CEUs) required by the Nevada Revised Statutes for certified medical personnel.

EXPERT WITNESS

I testify and consult as an expert for both the defense and the prosecution. I teach and consult judges, arbitrators, hearing officers, and referees in general drug education in specific cases they may be adjudicating (which I am not involved in). My expertise in chemistry and toxicology include laboratory certification; drug and alcohol testing policies; laboratory testing methods, procedures and quality control; instrumentation operation, maintenance and analytical data evaluation; metabolism,

elimination, extrapolation, dosage, clinical effects, and impairment of drugs and alcohol; collection, accessioning, handling, chain-of-custody, storage, and stability of specimens; medical review, interpretation, and reporting of results. I have been qualified as a forensic chemist and toxicologist in District, Justice, and Municipal Courts in Nevada, Utah, and Arizona; in labor arbitrations in a number of states; in Federal Court; by the U.S. Army, Navy, and Air Force; by the National Park Service, Fish and Game, and the U.S. Department of Treasury; and by state and local government agencies. I have been approved by the Drug Enforcement Administration to retest samples initially tested by federal laboratories upon request of the Federal Public Defender. I routinely retest samples submitted to police laboratories for drug and alcohol related arrests. I have been qualified as an expert in hair testing in the District Courts of Nevada. I have been contracted by the State of Nevada as an expert for the Nevada Highway Patrol, the Department of Parole and Probation, and the State Industrial Insurance System for testing and/or interpreting blood and urine samples for drugs and alcohol, the results of which is used to adjudicate violation of Nevada law, determine parole or probation violations, or arbitrate workman's compensation for injured workers. I am currently contracted by Nevada to interpret drug related workman's compensation claims for the Nevada Attorney for Injured Worker's state agency.

RESEARCHER

Developed special testing methods utilized by the University Medical Center providing faster, more accurate, and more cost effective testing. Developed numerous methods for improved environmental and chemical testing at Western Technology Corporation and Atlas Chemical Testing Laboratory. Much of the testing was unique and designed specifically for the sought for results. As an example, when self lighting charcoal briquettes came out, I was asked by the developing company to prove analytically which of four prototypes produced the most heat over the longest period of time. I designed a special closed insulated system to determine this which I never used again. I authored the instructions for using the first self lighting briquettes which appeared on packages of the superior prototype. In another research project, at ATI, I developed a blood testing method for drugs that is substantially quicker to perform and is just as, if not more, accurate than existing methods, which continues to be used today. Also, at ATI, I developed a hair testing method for drugs in the early 90s, which, like in other cases, I researched alone, taking me a year and a half to develop. This hair test has now generated over a million tests for ATI nationwide. Before introducing the hair test into the workplace, however, I tested its legal prowess in the court system for a year and a half without incident. Today, local courts continue to use this hair test almost exclusively in adjudicating child custody cases. Testing that takes children away from parents must be extremely accurate which was my aim in its development. In the thousands of hair tests performed by the courts since its introduction, not a single one has been challenged. Only one legal challenge has ever occurred against my hair test, and that was in a Gaming Control case in which the challenge failed.

PROFESSIONAL EXPERIENCE

- 1982 - Present American Toxicology Institute Inc.
3330 Sunrise Avenue Suite 110
Las Vegas, NV 89101
Founder, President, and Director of Toxicology. Originally set up company including accounting, accessioning, reporting, chain of custody, laboratory methods, testing procedures, sample storage and preservation, quality control, instrument operation, calibration, maintenance, training, certifications, licensing, policies, computer programming, inventory, safety, and completed Nevada and Federal licensing requirements for a Medical Laboratory. Currently, ATI employs approximately 30 people involved in the collection, testing, and reporting results of specimens for drugs. I consult clients on a regular bases pertaining to specific cases, giving written interpretations when necessary, assisting in writing company drug testing policies, and providing education through seminars, lectures, and workshops. I continue to conduct research and development at ATI for better testing methods and services. ATI's clients include hotels and casinos, public service companies, fast food restaurants, retail stores, construction companies, car dealerships, and other private business; hospitals, clinics, physicians, universities, sports, and state, county, and municipal agencies including Juvenile Court and District Court, Family Division.
- 1981 - 1983 University Medical Center
1810 W Charleston Blvd., Las Vegas, NV
Supervised Toxicology Department on Night Shift. Performed toxicology analysis for the hospital and emergency room workload during the evening. Monitored patients and their clinical condition associated with drug and alcohol use when brought into the ER. Continued to monitor drug levels, effects, and metabolism in patients who remained in the hospital. Performed testing for other hospitals and a significant amount of testing for law enforcement in local and outlining jurisdictions, Nevada Parole and Probation, and the Clark County Coroner's Office.
- 1976 - 1986 North Las Vegas Police Department
1300 E Lake Mead Blvd, North Las Vegas, NV
Criminalist performing crime lab testing for the police department and reserve narcotics officer in narcotic investigations and arrests. Worked 15 - 20 hours a week overlapping with other employment. During the 11 year period, I performed testing in over 10,000 cases for this agency, each one accompanied by court testimony or submitted affidavits..
- 1978 - 1981 Western Technology Corporation
300 W Boston, Las Vegas, NV
Chief Chemist for the analytical laboratory. Managed laboratory. Certified the lab for State regulated water testing. Analyzed drinking water for constituents, quality, and compliance to state requirements, conducted soil testing, atomic absorption analysis, fire assays of ore for gold and silver content, purity testing of gold and

silver bullion bars, testing drugs from foreign countries, product liability evaluation and testing for manufacturing companies involved in civil litigation, quality control studies of ingredients in commercial products, oil and gasoline testing for trace elements and purity, and much more.

1976 - 1978

Metro Police Department Crime Lab

Identification Specialist for the ID Bureau. Investigated crime scenes such as burglaries, robberies, shootings, rape, accidents, and homicides. Performed specialty photography, fingerprint recovery and comparisons, gun powder residue detection, comparison microscopy, drug detection, documentation, mapping, and numerous other crime scene duties as they were needed. Court testimony was routine.

1974 - 1976

Nevada Highway Patrol

State Trooper. Graduated from Nevada Highway Patrol Academy (12 weeks). Received Certificates of Achievements in accident investigation, civil defense, drug enforcement, firearms, riot control, self defense, crime scene investigation, and others. As a state trooper, I patrolled the highways of Nevada enforcing Nevada laws, investigating motor vehicle accidents, assisting motorists, issuing citations, making arrests, confiscating stolen property, illegal weapons, and controlled substances, observing and documenting impairment effects and characteristics associated with the use of various types of controlled substances and alcohol. Special assignment in addition to police duties was to maintain gas chromatograph for breath testing, and to train other officers in its use.

1970 - 1974

University Medical Center

1810 West Charleston, Las Vegas, NV

Chemist/Toxicologist in laboratory. Performed chemistry and toxicology analysis under the direction and training of Dr. Thorne Butler. Involved in considerable research and development of new methods of analysis, evaluating testing systems, establishing protocols for surveys, and the efficiency and capability of new products to be marketed for drug testing. Dr. Butler was a well known and highly regarded forensic toxicologist and pathologist, and I believe just about every drug testing survey, every product about to be marketed for testing drugs, and every new method for testing and identification of drugs were sent to Dr. Butler for evaluation, which were all given to me to do the actual work under Dr. Butler's supervision. I spent much time on the operation, quality control, and maintenance of various instrumental testing methods including gas chromatography, ultraviolet and visible spectrophotometry, chemistry analyzers, analytical balances, and high power microscopes, as well as non-instrument testing systems such as thin-layer and column chromatography, adsorption and absorption extraction and elution, volatile distillation, diffusion, wet chemistry, liquid-liquid extraction, and more.

1968 - 1970

Mercy Ambulance

1800 West Charleston, Las Vegas, NV

Ambulance EMT. Rendered on-scene medical treatment to the sick and injured and transported patients to medical facilities. Often worked on patients delivered to the ER to assist during overload times, which occurred frequently.

PRIVATE CONSULTING

Commencing in 1978

Nevada Gold Company - Chemist for quality control and recovery in cyanide leach operation of placer gold, Searchlight, Nevada.

Atlas Chemical Testing Labs - Analytical testing and specific determination analysis of various materials including water, fuel, liquids, soil, gases, building materials, concrete, metals, wood, fabric, solvents, and others. Performed a large amount of fire assays to determine gold and silver content of ore samples. Conducted arson testing for the fire department. Consulted and tested for insurance companies on product/liability claims. Managed company for three months while owner was away.

Degenerative Disease Medical Center - Consultant for setting up clinical research laboratory including methods development, laboratory testing, procedures, quality control, instrumentation operation and maintenance, specimen accessioning, handling and storage, and reporting results.

Private Attorney's - Testing and consulting civil and criminal litigation in city, county, District, and Federal courts, in labor arbitrations, and in military court martial hearings.

Private Individuals/Corporations - Analyze pills, powders, liquids, and other unknown substances from local and foreign sources. Evaluate and endorse commercial products. Evaluate testing and quality control of other laboratories. Perform special toxicological and criminalistic testing for private individuals or companies, and state and local government agencies. I personally performed toxicological testing in the deaths of Elvis Presley, Sonny Liston, Howard Hughes, and Teddy Binion.

PUBLICATIONS

"Drug Testing of Biological Samples," Pro\Counsel ExpertEase, 3rd Quarter 2000, p 3.

Sample articles printed in American Toxicology Institute Newsletter between 1986 -1997. Over five hundred articles of various topics published:
"Drug Testing in Biological Samples"

"Tetrahydrocannabinol (THC) Metabolism and Elimination"
"Environmental Contamination of Cocaine"
"Primary Reason for Testing Hair for Drugs of Abuse"
"Interpretation of Blood Alcohol from Nyquil Ingestion"
"Cutoff Levels, a Mystery to Drug Testing"
"Defense Issues of Drug or Alcohol Ingestion"
"Assumed Impairment"
"Analytical Errors in Laboratories"
"Cocaine Metabolism and Elimination"
"What is a Nanogram"
"Screening vs Confirmation in Drug Testing"
"Products Sold to Pass a Drug Test, Do They Work"
"SAMHSA Laboratory Certification in the Private Sector - What Does it Mean"
"Breath Alcohol Testing"
"Elimination Rates of Drugs in Blood, Urine, and Hair"
"What Constitutes Impairment by Drugs"
"Can Passive Inhalation of Marijuana Smoke Produce a Positive Test Result"
"Pre-Employment Drug Testing"

"New Method for Determining Urine Alcohol by Dichromate Diffusion,"
Toxilab, Dec 1989.

"False Negative Rate for EMIT Cannabinoids," Journal of Analytical Toxicology,
Jan/Feb 1989, p 63.

"Modified Smith - Widmark Procedure, Determination of Blood Alcohol,"
Communique, Clark County Bar Association, Vol. 7, No. 1, Jan 1988, p 10.

"Blood Alcohol by Gas Chromatography," Communique, Clark County Bar
Association, Vol. 7, No. 8, Nov 1988, p 9.

"Critique, Face off with the American Disease," Substance Abuse Screening
Symposium, Roche Diagnostics, Sep 1987.

"Designer Drugs - New Dangers," Communique, Clark County Bar Association,
Vol. 6, No. 7, Oct 1987, p 4.

"Drug Abuse and Infectious Diseases: An Ecological Comparison," Paper
presented at American Toxicology Institute Seminar, Dec 17, 1987.

"Sources of Error in the Modified Smith-Widmark Procedure," Law & Science
DWI Journal, Dec 1987, p 8.

"Drug Testing," Editorial, Las Vegas Review Journal, Jun 20, 1986, p 14B.

"Drug Testing - Reliability," The Counselor, National Association of Alcohol and Drug Abuse Counselors, Sept/Oct 1986, p 6.

"GC Mass Spectroscopy - Do we need it for Drug Testing," American Toxicology Institute Symposium, Dec 3, 1986.

MEMBERSHIPS

Alpha Beta Gamma (Honorary)
Phi Kappa Phi
American Association of Bioanalysts
American Association for the Advancement of Science
Inclusion into Who's Who Registry (Original Who's Who)
Inclusion into Distinguished Men of Southern Nevada

RECENT MAJOR CASES RETAINED ON

Jessica Williams vs State of Nevada (new motion and affidavit), 2003, Criminal
Claudychel Levva vs State of Florida (homicide) 2003, Criminal
Charles Webb (deceased) vs City of North Las Vegas, 2002, Civil
William Witter vs State of Nevada (murder 1), 2002, Criminal
Clarence Haywood vs State of Nevada (Sexual Assault), 2002, Criminal
Republic vs Anderson (deceased), 2002, Civil
Centofanti vs State of Nevada (murder 1), 2002, Criminal
Jason Webber vs State of Nevada (murder 1), 2001 Criminal
Michael Williams (deceased) vs City of Phoenix, 2001, Civil
Sandra Murphy vs State of Nevada (murder), 2001, Criminal
Jessica Williams vs State of Nevada, (felony DUI 6 deaths), 2000, Criminal
Clifton Redd vs United States Treasury, 2000, Employment

OTHER CASES

Since beginning of 2000, 30 - 40 possession, use, manufacturing, or trafficking controlled substances cases, and 30 - 40 more DUI cases. Additionally, 40 - 50 workman's compensation cases from NAIW (Nevada Attorney for Injured Workers), and 20 - 30 more from private attorneys in Nevada and Arizona.

MOST RECENT SEMINAR

Two hours CLE approved seminar given to Nevada Attorney for Injured Workers in Las Vegas, and simultaneous transmission to Carson City office, April 19, 2002. Topics related to drug testing and impairment issues for worker's compensation.