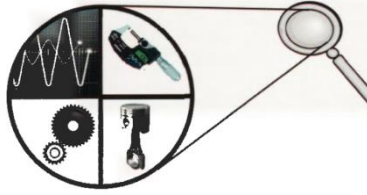


## ADVANCED ANALYSIS ASSOCIATES



Pete Sullivan  
Consultant

5380 W. 34th St.  
Suite 347  
Houston, TX 77092

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Vehicle Maintenance and Workplace Safety | Vehicle Systems Testing & Analysis | Transportation Safety and Digital Forensics

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**Automotive, Truck, Motorcycle, ATV, Heavy Industrial Equipment, and Marine Industries Consultant**

**Mechanical, Hydraulic, and Electronic Systems Performance Testing & Analysis, Digital Forensics**

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### PROFESSIONAL SUMMARY

- Bachelor of Science (Chemistry and Physics) from Texas State University, 1984.
- World Class Certified ASE Technician, ASE Certified Master Technician in Heavy Duty Truck, Passenger Car/Light Truck, Collision Repair, and Machinist, (National Institute for Automotive Service Excellence), certified digital forensics expert (automotive modules, mobile phones, tablets, GPS, mass storage devices).
- 38 years of technical, academic, operational, and managerial experience in the private and commercial transportation, heavy equipment, marine, recreational vehicle, and electronic mobile device industries.
- Extensive experience performing vehicle inspections and imaging/downloading of event data recorders and Electronically Stored Information (ESI) in motor vehicles, equipment, and hand-held electronics, including analysis and application to elements of accident reconstruction, validation, testing, application, and preservation on almost all makes and models of vehicles and electronic devices, including on and off-road equipment, mobile phones, tablets, GPS, and mass storage devices.
- Developed software, firmware, and hardware for diagnostic test tool manufacturers to interrogate and image/download ESI from vehicle electronic systems for companies such as OTC/SPX, Tektronix, Actron/Kal-Equip and Progressive Diagnostics Co. Worked with Genuine Parts Company/NAPA to develop industry leading shop management software for repair facilities. Authored numerous technical training, operational, and safety manuals.
- Primary areas of consultation: mechanical, electronic, mobile phones, electronic modules and mass storage devices, Controller Area Networks (CAN), airbag/Supplemental Restraint Systems, hydraulic, refrigeration, automotive, CMV/truck, heavy industrial equipment, motorcycle, bicycle, marine,

recreational vehicle, fire investigation cause and origin, collision repair; Failure Modes and Effects Analysis of electronic control modules and CANs, tires, and component parts, fluid analysis, FMCSA/DOT compliance, commercial motor vehicle driver/operator qualification and compliance, ANSI/OSHA/ASTM/ASME/ITSDF compliance, NFPA Codes application, railroad/Hy-Rail, motor vehicle racing, race track and race team management, workplace and transportation safety claims.

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## EMPLOYMENT RECORD

- 1998 - Present      **ADVANCED ANALYSIS ASSOCIATES**  
*Consultant and Accident Reconstructionist:* Responsible for consulting with law firms, corporations, and insurance carriers as an expert witness, conducting investigations and providing deposition, and trial testimony. Perform data downloads/imaging of Electronic Control Modules and ESI, including analysis and application to elements of accident reconstruction, validation, and electronic testing, on almost all makes and models of vehicles, equipment, and hand-held electronics. Perform accident site and vehicle/equipment inspections, fire investigations, documenting of accident scenes/sites (including rapid-response), reconstruction of accidents, perform compliance audits for FMCSA, DOT, ANSI, OSHA, ASTM, ASME, ITSDF, State and Federal codes, statutes, and other applicable safety requirements, the standards of care within the vehicle, equipment, and digital forensics inspection, maintenance, service, and transportation industries. Perform product testing, product failure mode and effects analysis, laboratory testing and analysis of fluids, compounds, metals, subsystems, components, and tires; product development, heavy industrial equipment testing and analysis, fabrication of demonstrative aids, case/project strategy and management, cost control, professional photography, video, and digital microscopy, chain of custody, evidence preservation and evidence storage. Experience presenting and testifying at deposition, trial, binding arbitration, mediation, and OSHA Abatement and EPA and other governmental Hearings.
- 1985 - 2013      **SULLIVAN'S ADVANCED FLEET SERVICE**  
*Co-Founder, President.* Solid strength in the execution, management, and growth of four full-service, high volume, automotive, truck, motorcycle, ATV, and marine, repair shops across the state of Texas. Sullivan's Advanced Automotive Care and Sullivan's Advanced Fleet Service was awarded, "Top AAA Shop" from the American Automobile Association numerous times. Diagnostic and digital forensics technician, crash investigator, vehicle fire and facility fire investigator.
- 2013 - 2013      **SOUTHERN TIRE MART**  
*Manager, Maintenance Plus.* Responsible for sales, marketing, operations, P&L, inventory, HR, policy and best practices development.
- 1992 - 1994      **THE TECHNICIAN'S COMPANY, INC.**  
*Co-Founder, President* Contracted with the U.S. E.P.A and various other engineering firms and organizations in numerous capacities including:
- Testified at numerous state and national Inspection/Maintenance (I/M) hearings concerning repair information and enhanced emissions testing, repair, and repair verification.
  - Developed a DOS based waveform database and data download tool for the Tektronix 222 series digital storage oscilloscope that met Federal U.S. E.P.A. specifications.
  - Trained automotive and truck technicians, section chiefs, and lab engineers at the

Motor Vehicle Emissions Testing Laboratory in Ann Arbor, Michigan on waveform analysis, data downloading, analysis, diagnostic, and repair verification techniques for the Federal Test Procedure, SHED evaporative tests, the high tech I/M tests such as the IM240, BAR 90, and the purge and pressure evaporative system tests. Active participant in several IM240 vehicle emissions diagnostic repair studies in conjunction with Automotive Testing Labs, Inc., Envirotec Engineering, and consulted with EPA, and with the EPA I/M Planning and Strategies Division and the Technical Support Branch on various vehicle Inspection, Maintenance, health, and safety issues.

1998- 2013

*Consultant to SHELL PENNZOIL*

Technical publication author and Conducted pre and post-production product development testing on lube oils and other automotive chemicals and assisted with development of testing protocols.

1996- 2008

*Consultant to PROGRESSIVE DIAGNOSTICS COMPANY*

Developed and tested a novel software product, WaveFile AutoPro, a hand-held diagnostic and data download, Windows®-based, software tool. Procured distribution agreements with Alldata/Motor Publications, Mac Tools, KAL-Equip/Actron Manufacturing Co., and NAPA Auto Parts. Motor Publications awarded the “Motor Top 20 Tool Award” to WaveFile Auto Pro in 1996. In 1998, performed product design, software, firmware, and hardware development and applications testing for motor vehicle diagnostic and electronic test tools, including the Tektronix 2020 Digital Storage Oscilloscope (DSO), MAC ET2020 DSO, Actron/KAL- Equip DSO and diagnostic hand-held scan tool. In 2006 through 2008, participated in the product development team and the primary Beta test site for the OTC Med/Heavy Duty Truck Diagnostic Scan Tool.

1996 - 1998

*PENNZOIL-QUAKER STATE CORPORATION*

*Industry Liaison and Consultant to the Chief Marketing Officer.* Authored bi-monthly publication named “Pete The Mechanic”, which was an insert in “Motor Age,” and “Oil and Lube News” trade magazines. Consulted for the Jiffy Lube chain of lube centers and Pennzoil-Quaker State’s product development, technician training, and research center.

1977 - 1985

*EXXON COMPANY U.S.A.*

*Advanced Drivability and Diagnostic Troubleshooter, Tire Specialist.* Automotive technician and tire salesman at #1 highest volume Exxon repair facility in the U.S. Formally trained in tire inspection, failure analysis, repair, and warranty processes, assisted in the evaluation and procurement of technical training for Exxon service technicians nationwide.

## **EDUCATION**

Bachelor of Science in Chemistry and Physics  
Texas State University, 1984

## **CERTIFICATIONS, LICENSING, TRAINING, AND ASSOCIATIONS**

ASE World Class Technician (one of approx. 1800 worldwide)

ASE Master Certified Auto Technician(1977-2015)

ASE Master Certified Paint & Body Technician (1987-2014)

ASE Master Certified Heavy Duty Truck Technician (1991-2014)

ASE Master Certified Machinist (1987)

ASE L1 Advanced Engine Performance Certified (1991-2015)

ASE L2 Advanced Diesel Engine Performance Certified; (2005-2015)

4 Time NAPA / ASE Technician of the year finalist

Associate Member Society of Automotive Engineers

Charter Member, SAE Service Technician's Society

Member, Technology Maintenance Council

Licensed Private Investigator, State of Texas, #061236

Commercial Driver License, State of Texas, Motorcycle Endorsement

American Motorcyclist Association, Professional Racing License

Fundamentals of Motor Vehicle Accident Reconstruction, Dr. Rudy Limpert (Spring 2015, Webster, TX)

SAE C1022 Accessing and Interpreting Heavy Vehicle Event Data Recorders, Mastered

Collision Safety Institute, Bosch Crash Data Retrieval (CDR) Tool, Certified Technician, Level 2

CDR/EDR Summit 2015, 2017, Collision Safety Institute, Collision Publishing, Accreditation

Commission for Traffic Accident Reconstruction, Attendee

Texas State Bar CLE, November 20<sup>th</sup> and 21<sup>st</sup>, 2014, Houston Texas, Prosecuting and Defending Truck and Auto Collision Cases 2014, Presenter: "Black Box Issues and Telematics"

Member, Texas Association of Accident Reconstruction Specialists

ARC-CSI Crash Conference Attendee, May 23-26, 2016, Las Vegas, NV

"Comparison of IIHS driver and passenger side small overlap crash tests" - Becky Mueller

"Photography for Crash Reconstruction" - Wes Grimes

"Comparative Crash Analysis Using NHTSA NASS Crash Data and Other Sources" - Larry Wilson

"Motorcycle reconstruction techniques tied to testing" - Mike DiTallo

"Scene and Vehicle Data Analysis to Evaluate Pre-crash Brake Application" - Dr. Rudy Limpert

"Evaluation of Wheel Impact in a Rollover Collision Through Simulation and Comparison to a Crash Test" - Eric Deyerl

"Crash Reconstruction Case Studies" - Rich Yoder

"Lateral Acceleration Through a Curve, Real World Measurements of Normal Drivers at the Expected higher End" - Tim Reust

"When do Airbags Deploy?" - Rusty Haight

Accident Reconstruction Seminar-July 7<sup>th</sup> and 8<sup>th</sup>, 2016: Accident Reconstruction Physics and Mathematics, Drag Factors, Determination of Vehicle Speed Based on Crush Damage, Barrier Equivalent Speeds, Application of NHTSA NASS, FARS, and CIREN Database Information, Derived Airbag Control Module DeltaV's vs Calculated DeltaV's, Computer Modeling of Brake System Effectiveness, Use and Application of "PC Brake" and MARC Software, Dr. Rudy Limpert, Franco Gamero, Webster, Texas

Berla iVe Equipped, Licensed, and Certified: Vehicle Navigation and Infotainment module imaging, data analysis, and situational applications to elements of accident reconstruction and criminal cases, May 2017 (40+ hrs.)

Intrepid Control Systems, Vehicle Spy 3, licensed, equipped, and trained, Controller Area Network (CAN) message authoring, transmitting, and receiving, analog and digital data acquisition and analysis, reverse engineering of public and proprietary CAN data stream messages, FMEA of CAN

systems, requesting and receiving DTC and Freeze Frame data from Electronic Control Modules, August 2017 and October 2017. Also licensed and equipped with Microchip, Vector, Kvaser, and Bosch CAN Master.

Mobile Phone, Tablet, GPS, and mass storage device – digital forensics credentials: Cellebrite Mobile Forensics Fundamentals, Cellebrite Certified Operator, Cellebrite Certified Physical Analyst, 2018

International Association of Computer Investigative Specialists, member 2018

Texas Air Care Certified Emissions Repair Technician

Mobile Air Conditioning Society certified A/C technician

Certified Harsco Hy-Rail Technician, April 2011

National Fire Protection Association Member #2928376

State of Texas Certified Vehicle Safety Inspector

Qualifies as PHD level (PL4) for government consulting contracts

Member, Houston Chapter of Safety Professionals,

Member, Texas Motor Transport Association

Member, Texas Trucking Association

Member, Texas Aggregates & Concrete Association

## **PUBLICATIONS**

- NAPA AUTO PARTS ASSOCIATION (NAPA), “Using The Digital Storage Oscilloscope to Master Drivability and Emissions Diagnosis”, book and video, NAPA Part#: 6212, 1995, Author
- NAPA AUTO PARTS ASSOCIATION (NAPA), “On-Board Diagnostics Generation II and Second Generation Scan Tools”, book and video, 1997, Co-Author
- KAL SCOPE, “Ignition, Drivability, & Emissions Systems Diagnosis Waveform Reference Manual”, book and video, 1995, Author.
- MAC TOOLS QUICK SCOPE, “Ignition, Drivability, & Emissions Systems Diagnosis Waveform Reference Manual”, book and video, 1995, Author.
- PETE THE MECHANIC, Pennzoil Corporation, Copyright 1996, 1997, 1998, Author. Technical industry publication insert regarding lube oils and chemicals.
- Numerous automotive and truck trade publication articles and Texas Bar CLE Presentations from 1985 to present on various vehicle service and lubrication topics with application to accident reconstruction. Numerous articles on motorcycle testing and racing published in Dirt Rider Magazine and Cycle News.
- US Patent awarded in 1996 for “Feedback Control Systems and Oxygen Sensor Signal Analysis”