

TERRY L. FRIEDLAN

Wyoming Regional Director

Experienced in the examination of many types of environmentally related samples including water, natural gas and crude petroleum.

Education

Associate of Science, University of Wyoming, 1982
Engineering courses in Petroleum Engineering, University of Wyoming, 1982-1983
Organic chemistry, Northeastern Wyoming Community College, 1998
PC Repair and Operation, Northeastern Wyoming Community College, 1994
Visual Basic Programming, Northeastern Wyoming Community College, 2000

Professional Experience

2017 to Present, Wyoming Regional Director Energy Laboratories, Inc., Gillette, WY and Casper, WY.
Responsible for leading the management teams of the Wyoming branches of ELI. Responsibilities include ensuring accountability, leading by example, improving technical knowledge and quality of work, and aiding in strategic direction and development.

1987 to Present, Laboratory Manager Energy Laboratories, Inc., Gillette, WY.
Responsible for routine analysis and quality control of water, natural gas and petroleum products.
Develop test methods, select equipment, train and supervise all laboratory staff.

1983 – 1987, Laboratory and Field Technician, Energy Laboratories, Inc., Gillette, WY.
Responsible for water, natural gas, and petroleum products' sampling and testing. Responsible for natural gas meter calibrations in the field.

Professional Organizations

Society of Petroleum Engineers, 1982 to present
Society of Metallurgical and Mining Engineers, 2005 to present



www.energylab.com

STEVEN E. CARLSTON

Casper Laboratory Technical Director

Education

University of Northern Colorado, Greeley, Colorado
B.A., Chemistry, with Physics minor, 1980

Professional Experience

2014- Present ENERGY LABORATORIES, INC., Casper, Wyoming
Senior Project Specialist – Developing and Implementing the tools and processes for the analysis of company data streams.

2011 – 2014 ENERGY LABORATORIES, INC., Casper, Wyoming
Branch Manager – Responsible for collecting and analyzing data, establishing, planning and implementing business objectives, directing staff, recommending actions; tracking and evaluating results.

2008 - 2009 Interim QA Director - Responsible for Quality Assurance programs, QA/QC documentation, training records, PE studies and SOPs. Perform technical data review prior to releasing final data reports.

2005 – 2008 IT Department Supervisor - Responsible for: all programs, internal applications, commercial LIMS (Omega) system, Operating Systems, servers and PC support activities. Provided specific support to Radiochemistry Department for commercial software and hardware procurement

1988 – 2005 Organic Chemistry Department Supervisor - Responsible for: Supervision and performance of analyses for the Gas Chromatography and Hazardous Waste Departments, backup analyst for crude oil, radiochemistry, and soils analysis during peak activity periods.

1979 – 1988 NAVY DRUG SCREENING LABORATORY, Oakland, California
Quality Control Coordinator and Chemist - Prepared QA/QC blind samples; tracked and reported results of RIA and GC/MS analyses; trained personnel; and suggested and implemented changes to laboratory Standard Operating Procedures. As a chemist, performed extraction, derivatization, and GC/MS analysis of drugs of abuse. Responsible for the technical maintenance of nine GC/MS instruments.

TRANSCONTEC, Golden, Colorado
Chemist - Organized the Environmental Analysis Laboratory which specialized in the detection and remediation of radon contamination.

NEWPARK RESOURCES, INC., Denver, Colorado
Chemical Engineer - Prepared and presented fluid system proposals. Field-tested and adjusted chemical properties of fluid tested and adjusted chemical properties of fluid systems. Responsible for the laboratory testing of new fluid formulations prior to and during initial field-testing.

Technical Training

Control Data Corporation, Denver, Colorado
Certificate in Computer Programming and Operations, 1987
American Chemical Society, Philadelphia, Pennsylvania
Certificate in Gas Chromatography, 1989
Testing Requirements in EPA Regulations, TNI Webinar, 10/9/2015



www.energylab.com

Professional Organizations

American Chemical Society
Society of Petroleum Engineers
American Petroleum Institute
Wyoming State Committee on Pesticides in Groundwater



Donny C. Juarez

Casper Laboratory Quality Assurance Officer

Education

Casper College, Casper, Wyoming
A.S., Chemistry, 2017

Professional Experience

June 2014 – Present Quality Assurance Manager, Energy Laboratories, Inc., Casper, Wyoming
Maintains laboratory certifications, quality assurance and control criteria. Responsible for annual employee ethics training. Maintains employees training folders. Manages Quality Systems of laboratory including annual reviews of Standard Operating Procedures, QA Manual and employee training folders. Technically reviews data and reports. Well-versed in NELAC, EPA, SW-846, Clean Water Act, and Safe Drinking Water Act regulations and guidelines.

2012 – May 2014 Quality Assurance Assistant, Energy Laboratories, Inc., Casper, Wyoming
Assisted in management of quality and client service standards, implemented and maintained quality initiatives, and assessed quality system performance. Was actively involved with peer auditing of branch laboratories and assisted with the development of internal test method assessments.

2006 – 2012 Soils and Semi-Volatile Organics Dept. Supervisor, Energy Laboratories, Inc., Casper, Wyoming. Performed supervisory duties pertaining to the Agronomic Soils and Semi Volatile Organics Departments. Responsibilities included; prioritization of sample analyses, sample scheduling, ordering, data review and report generation. Managed sample loads, maintained quality assurance and control criteria, and performed method development and improvements.

1995 – 2006 Semi-Volatile Organic and Agronomic Soils Analyst, Energy Laboratories, Inc., Casper, Wyoming. Responsibilities included analysis of samples for semi-volatile organics using Gas Chromatographs, routine maintenance, optimization of instrument performance, data documentation and review, and report generation. Instrumentation included various HP Gas Chromatographs equipped with FIDs to include automated injectors, trays, and controllers. Proficient in analytical and preparation methods including EPA 8015B DRO, 3510, 3550, 1010A, and 1664. As Soil Analyst, responsibilities included analysis, and data review for agronomic and mining samples utilizing various agronomic testing methods.

SPECIAL TRAINING

Supervisor Interaction Management Training, 2009 Energy Laboratories, Inc., Lean Training, 2012
Manufacturing-Works, Environmental Laboratory Assessment
Basic Assessor Training – TNI Standard
Testing Requirements in EPA Regulations, TNI Webinar, 10/9/2015



APPENDIX D
EQUIPMENT AND METHODS LIST



ENERGY LABORATORIES, INC – CASPER, WYOMING

<u>Equipment</u>	<u>Quantity</u>	<u>Methods</u>
Gas Chromatograph-FID with auto sampler	3	EPA 8015 DRO
Gas Chromatograph-PID/FID with purge and trap & auto sampler	2	EPA 8015 GRO
Gas Chromatograph-Dual ECD with auto sampler	1	EPA 504.1, EPA 552.2
Gas Chromatograph-Mass Spectrometer with purge and trap & auto sampler	2	EPA 524.2, EPA 624, EPA 8260
Closed Cup Flashpoint Analyzer	2	EPA 1010
Atomic Absorption Fluorescence Spectrophotometer with cold vapor apparatus	1	EPA 245.7
Inductively Coupled Argon Plasma Spectrophotometer	1	EPA 200.7, EPA 6010
Inductively Coupled Argon Plasma Spectrophotometer-Mass Spectrometer	2	EPA 200.8, EPA 6020
Quick Trace Mercury Analyzer - Cold Vapor Atomic Absorption Analyzer	1	EPA 245.1, EPA 7470, SM 3112B,
Ion Chromatograph	3	EPA 300.0
Conductivity and pH	1	SM 2510 B, SM 4500-H+- B
Turbidimeter	2	SM 2130 B
Auto Titrator / ISE	1	SM 2320B, SM 4500-F C
Manual Solid-Phase Extractor	1	EPA 1664 A
Spectrophotometer	2	Hach 8000, SM 4500-NO2 B
Autoanalyzer (FIA)	1	EPA 351.2, EPA 353.2, EPA 365.1, SM 4500-NH3 G
TOC Analyzer	2	SM 5310 C
Liquid Chromatography (HPLC)	2	EPA 549.2, EPA 531.1, EPA 547
Liquid Scintillation Counter	2	EPA 906.0, EPA 909.0, ASTM D5072 92
Alpha / Beta Gas Proportional Counters Detectors	4 64	EPA 900.0, EPA 903.0, EPA 905.0, EPA Ra-05
Gamma Ray Spectrometers (1 HPGe, 3 NaI(Tl))	4	EPA 901.1
Alpha Spectrometers Detectors	6 48	EPA 908.0, SM 7500-U C
BOD/DO Analyzer	1	SM 5210 B
TCLP Extractor/Rotator	2	EPA 1311
Serial numbers and associated support equipment are located in the ELI-Casper's LIMS database.		
Additional Methods: SM 2340 B, SM 2540 C, SM 2540 D		



**RECORD OF REVIEW/REVISION
CASPER, WYOMING**

Date of Review/ Revision	Revision Number	Performed By	QA Officer Approval Initials/Date	Action (Review with no changes/ Detailed modifications)
5/15/2015	5/15/2015	D Juarez	D Juarez 5/15/2015	Updated Laboratory Manager and Quality Assurance Officer Changed all reference to "Branch Manager" to "Laboratory Manager" Removed all reference to the Laboratory Policy SOP Removed all reference to the Roles and Responsibilities SOP Removed reference to Rapid City Lab Updated the Table of Contents Removed Appendix A and renamed Appendix B, C, D, E and F to A, B, C, D and E Updated the Introduction Section Updated Chapter 4 Updated Chapter 6 Updated Chapter 7 Updated Chapter 8 Updated Chapter 11 Major update Chapter 12 moved equipment list the Appendix E Updated Chapter 15 Updated all Appendices Removed Attachment 2 Multiple grammatical corrections See redline document for all changes Added Management of Change Chapter
7/29/2015	July 29, 2015	D. Juarez	D. Juarez 7/29/15	Removed Dr. Vien as Technical Director from the title page. Added Acting Technical Director to Daniel Lashbrook's title on the title page. Replaced Appendix C (Casper Organization Chart) with current version indicating Daniel Lashbrook as Acting Technical Director. Removed Dr. Vien from Appendix D (Curricula Vitae). Fixed minor typographical errors.
1/29/2016	January 29, 2016	D. Juarez	D. Juarez 1/29/16	Fixed minor typographical errors and format irregularities. Removed all reference to the Qualifications Manual Removed reference to Peer Audits Chapter 1 – Quality Control Program Updated Quality Assurance Program Section



Date of Review/ Revision	Revision Number	Performed By	QA Officer Approval Initials/Date	Action (Review with no changes/ Detailed modifications)
				Chapter 2 – Quality Assessment Program Updated Quality Assurance Audits Section Chapter 4 – Personnel Requirements and Laboratory Organization Updated Laboratory Organization Section Chapter 5 – Sampling Procedures Removed reference to sample condition report Removed reference to preservation check at log in and added reference to the <i>Bench Level pH Preservation Verification, Documentation and Communication SOP</i> Chapter 6 – Sample Handling Updated Sample Receipt Section Chapter 9 – General Laboratory Practices Updated Chemicals and Reagents Section Updated Employee Training Section Updated Standard Operating Procedures Section Chapter 11 – Corrective Action Clarified required re-analysis in the event that an instrument has been determined to be out of control Chapter 13 – Major Equipment and Methods Clarified contents of Appendix E Updated Appendix A – Quality Systems Controlled Documents Updated Appendix C – Organizational Charts Updated Appendix D – Curricula Vitae of Key Laboratory Personnel Updated Appendix E – Equipment and Methods List See “redline” (tracked changes) word file for detailed information on all changes
3/3/2016	March 3, 2016	D. Juarez	D. Juarez 3/3/2016	Changed title page; Laboratory Manager from Daniel Lashbrook Dr. Chrystal Sheaff and Technical Director to Steven E. Carlston. Updated Chapter 14 Preventive Maintenance; ICP-Mass Spectrometer maintenance items Updated Attachment C Organizational Charts; Current Organization Updated Attachment D Curricula Vitae of Key Personnel; Removed Daniel Lashbrook
1/11/2017	January 11, 2017	D. Juarez	D. Juarez 1/11/2017	Changed title page; Updated page numbers in Table of Contents; Fixed minor typographical and grammatical errors; Removed reference to College Station Lab; Removed Attachment A and renamed all subsequent Attachments, changed all relevant references to all Attachments; Added ANSI N13.30-2011 to References Section; Updated Attachment B Organizational Charts; Update Attachment C <i>Curricula Vitae</i> ; See “redline” (tracked changes) word file for detailed information on all changes.



Date of Review/ Revision	Revision Number	Performed By	QA Officer Approval Initials/Date	Action (Review with no changes/ Detailed modifications)
6/1/2017	June 1, 2017	D. Juarez	D. Juarez 6/1/2017	Removed all reference to the Safety Manual & Chemical Hygiene Plan; Removed all reference to “branch” were appropriate; Changed all reference to the Technical Services and Fee Schedule to the Professional Services Guide; Changed all Chapter references to numerical; Removed stipulation that SOPs are not allowed to be removed; Added website reference to facility description (Chapter 3); Changed all reference to Quality Assurance Manager to Quality Assurance Officer; Changed wording to the analyst training section (Chapter 4); Removed reference to 40 CFR 141.25 (c) from MDL determination (Chapter 7); Re-defined approved documents (Chapter 8); Changed SOP review to annually (Chapter 10); Updated example preventative maintenance table (Chapter 14); Added definitions (Chapter 16); Incorporated example QA/QC Parameters into .doc (Appendix A); Updated organizational chart (Appendix B); Updated Curricula Vitae (Appendix C); Updated and incorporated equipment and methods list (Appendix D).
7/27/2017	July 27, 2017	D. Juarez	D. Juarez 7/27/2017	Introduction – Added reference to USNRC License and adherence to Reg. Guide 4.15.
1/23/2018	January 23, 2018	D. Juarez	D. Juarez 1/23/2018	Entire Document – updated header and footer; Signature Page – removed PO Box, added Wyoming Regional Director; Table of Contents – updated; Chapter 16 – added sensitivity definition; Appendix B – updated Organizational Charts; Appendix C – updated Curricula Vitae.

