# Daniel Claycomb, P.G. Principal Geologist

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# **Areas of Specialization**

- Quality assurance oversight services in response to environmental emergencies
- Prepare emergency response planning and preparedness documents relating to sampling, analytical, and data management programs
- Third-party field auditing of multi-media sampling activities and waste vendor facilities
- Coordination of sampling and laboratory activities on large-scale sampling projects
- PA Land Recycling Program (Act 2) and Management of Fill Policy
- Sediment and surface water quality investigation and quality assurance oversight in major surface water bodies
- Risk-based investigations and corrective actions
- Environmental investigations involving air emissions/vapor intrusion, subsurface soil, rock exploration, and groundwater contamination
- Fate and transport modeling
- Geological boring design and installation management
- Groundwater monitoring well design and installation management
- Rock coring design/installation management
- Soil and groundwater remediation system design and implementation

# **Overview of Professional Experience**

- Mr. Claycomb has 35 years of experience as a geologist for engineering and environmental consulting firms providing quality oversight services (several in response to historic environmental disasters) and multi-media sampling coordination and oversight.
- Mr. Claycomb served in the role of Sample Management Team Lead for two years of sampling activities associated with the Deepwater Horizon incident. Mr. Claycomb was the point of contact for scheduling and coordinating sampling activities with US Coast Guard, SCAT, field sampling, and laboratory personnel.
- Mr. Claycomb has managed, field supervised, and field audited multiple sediment contaminant assessment programs in the Niagara, St. Lawrence, Hudson, Upper Columbia, Emory, Clinch, and Tennessee Rivers.

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#### Education

B.S., Earth Science, Pennsylvania State University, State College, Pennsylvania, 1987

OSHA 29 CFR 1910.120 40-hour HAZWOPER Training, 1989.

Transport and Fate of Contaminants in the Subsurface, Stevens University, 1990.

Groundwater Pollution and Hydrology, The Princeton Course, 1992.

Multimedia Exposure Assessment Modeling, Allison Geoscience, Gainesville, Georgia, 1993.

Advanced Environmental Law, Penn State University, 1997.

Leadership Development Certificate, Penn State University School of Graduate Studies, 2018

#### **Registration/Certification**

Professional Geologist

State of Pennsylvania Cert. No. PG-000210-G

State of Delaware Reg. No. S4-0000848

State of New York Lic. No. 000404

State of Tennessee Lic. No. 5965

#### Affiliations

The Geological Society of America, Member 1993



- Mr. Claycomb has been a lead field auditor for 27 years and has conducted over 200 field audits of environmental field programs of multi-media sampling events, remedial excavation activities, remedial system installation activities and monitoring well installation activities.
- Mr. Claycomb has managed risked-based investigations, prepared environmental sampling plans, generated contaminant fate and transport models, and designed and installed soil, groundwater, and air/ vapor remediation systems for petroleum-contaminated and chlorinated hydrocarbon-contaminated sites.
- Mr. Claycomb has provided technical support services in multi-million dollar environmental litigation cases.
- Mr. Claycomb has managed a multi-year waste vendor auditing program for a large oil and gas client at disposal facilities located across the US.

#### Select Projects - Energy / Utility

- Sediment Quality Investigation, Niagara River, Niagara County, NY Conducted a sediment quality investigation for a public utility in Niagara County, New York, as part of the renewal of its operating license. The two objectives of the sediment quality assessment were to document the extent of sedimentation and the physical/chemical quality of sediment encountered in the investigated surface water bodies. Sampling activities in the Niagara River (both upstream and downstream of Niagara Falls) and within two large on-site water bodies were conducted using a boat and a 220-foot crane equipped with ponar dredge samplers and sediment corers.
- Hexavalent Chromium Investigation, Western US Managed multiple projects in western US for a energy company involving assessment of hexavalent chromium usage and potential impact to soil and groundwater as well as human and ecological receptors. Assessment activities included search of legal and engineering files, site visits to confirm existing data and fill in data gaps, preparation of investigation work plan and Quality Assurance Project Plan, evaluating and summarizing investigation data, and attending meetings with the regulatory agency.
- Pentachlorophenol Investigation, Colmar, PA Managed a precedent-setting investigation for a national utility company in Colmar, Pennsylvania. A strategic soil and surface water sampling plan was prepared and implemented to determine the horizontal and vertical extent of pentachlorophenol migration from a storage area at the facility. Upon completion of the investigation, an innovative remedial approach was recommended for the site.
- PCB Investigation, Western US Managed the preparation of a Request for Proposal (RFP) for the delineation of PCB impacts to soils at multiple compressor stations for a large energy client. Visited sites in Wyoming and Colorado, as well as supervised site visits to Kansas, Oklahoma, and Texas. Tasks included compiling and assessing existing data; identifying data gaps; developing the Scope-of-Work to fill in the data gaps; and defining the sampling and quality assurance procedures to be used in collecting additional information.

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# **Select Projects - Industrial**

- Multi-Media Investigations ay Aeronautical Research and Design Facility, Southeast FL -Managed and participated in field activities for several multi-media sampling events at a major aeronautical and aerospace research and design facility in southeast Florida. Investigative activities were conducted to provide the client a baseline of environmental conditions prior to divesting multiple parcels on the site including manufacturing and testing areas, wastewater treatment facilities, office complexes, water production fields, numerous surface water bodies, and recreation areas. Prepared reports of findings for use by the client's legal counsel and real estate personnel in selling these parcels.
- **Risk-Based Soil and Groundwater Investigation, Northern NC** Managed a risk-based soil and groundwater investigation of a major plastics manufacturing facility in North Carolina. The investigation was designed not only to characterize and delineate constituents of concern but also to provide the necessary data to conduct a site-specific risk assessment. Successful implementation of the investigation and risk assessment limited remediation requirements to one constituent at a localized area on the site.
- **Biological and Vegetation Sampling Program, Southeast FL** Implemented a biological and vegetation sampling program at several solid waste management units at an aeronautical research and testing facility. Analytical results from the sampling program were used in the development of an ecological risk assessment presented to the US EPA.

#### Select Projects—Emergency Response

- Oversight of Sampling Activities for the Deepwater Horizon Incident, Gulf of Mexico Managed staff that was responsible for the QA/QC oversight of sampling activities for the first six months of the Deepwater Horizon Incident. Responsibilities consisted of overseeing the production and implementation of field sampling protocol, training field sampling personnel, and auditing sampling activities. Subsequently was assigned the Sample Management Team Lead role by BP coordinated sampling and laboratory activities with project stakeholders for two years.
- Oversight of Sampling Activities for the TVA Fly Ash Release, Kingston, TN Managed senior staff conducting quality assurance oversight services in response to the TVA release of over a billion gallons of fly ash to the Emory, Clinch, and Tennessee Rivers in eastern Tennessee. Staff provided oversight of multi-media sampling including groundwater, surface water, soil, sediment, fly ash, waste materials, air, and various biological specimens. Also managed and provided senior technical review for the preparation of over a dozen Sampling Plans and over 40 SOPs used by the field sampling teams.
- Oversight of Sampling Activities for a 100 Million Gallon Fly Ash Release, Bangor, PA Managed a field sampling program that was implemented in response to a release of 100 million gallons of fly ash slurry that spilled across a power plant property and into the Delaware River. The project required a rapid implementation of comprehensive measures to assess, contain, and remediate the fly ash spill and to provide information regarding site status, analytical data, cleanup plans, and on-going progress reports to regulatory agencies and to the general public. The sampling programs consisted of surface water sampling program (more than 5500 samples over 4 months); municipal water intake sampling program (232 residential wells sampled in Pennsylvania and New Jersey); and a special round-the-clock, high frequency storm water sampling program spanning approximately 80 miles of river and lasting for the duration of high water flow.



# **Select Projects - Field Auditing**

- Field Auditing Program for Groundwater Sampling for CCR Rule Compliance, Multi-State -Conducted a multi-year field auditing program for an electric generation company at plants located in Pennsylvania, Ohio, West Virginia, Virginia, Arkansas and Texas. The auditing program focused on groundwater sampling being conducted for compliance with federal and state requirements associated with the Coal Combustion Residuals Rule (CCR Rule).
- Multi-Media Field Auditing Program for Manufacturing Facility, Southern CT Conducted numerous field audits of multi-media sampling activities at a Fortune 500 company in southern Connecticut. Audited field activities that included soil sampling and monitoring well installation utilizing the rotosonic drilling method; conducted a test pit program in a former landfill in Level B personal protective equipment (PPE); groundwater sampling utilizing the low-flow purge and sample technique; and installation of a soil-vapor extraction system.
- Field Auditing Program for a 10-year Sampling Program along Thousands of Miles of Natural Gas Pipeline, Eastern US - Conducted independent third-party auditing of a 10-year surface and shallow subsurface soil sampling investigation along thousands of miles of natural gas pipeline in eastern US. Audited numerous characterization and remediation field crews in several different states to assess compliance with project control documents and client goals.
- Waste Vendor Audit Program, Nationwide Managed a multi-year waste vendor auditing program for a large oil and gas client at disposal facilities located across the US. Audit program consisted on both onsite and off-site audits. Coordinated with client and disposal facility personnel, assigned internal technical and operational leads, assisted in risk rankings, reviewed and approved all final reports.

## **Select Projects—Remediation**

- Precedent Setting Lead Remediation Project, Southwestern PA Managed a precedent setting multiyear/multi-million-dollar lead assessment and remediation project in southwestern PA. Affected media includes soil, groundwater, sediment, and surface water. Developed a background standard for soils at off -site properties. Project also included wetlands delineation, human health and ecological risk assessment, and NPDES permitting. Project was enrolled in PA DEP's Act 2 program.
- Co-design and Installation of Groundwater Pump and Treat System for Petroleum Hydrocarbons, Canton, NY - Co-designed and installed a groundwater pump and treat system for a petroleum hydrocarbon-contaminated site in Canton, New York. The system utilized two pumping wells from which contaminated water was extracted and treated via an air stripping tower and granular activated carbon. Effluent discharges to subsurface and surface waters were permitted under the New York State NPDES permitting system.

## **Select Publications**

- Claycomb, D. P. "The Role of Field Auditing in Environmental Quality Assurance Management." <u>Quality</u> <u>Assurance</u>, Volume 8, Numbers 3-4, Taylor & Franas, 2000.
- Claycomb, D. P., K. G. Lawrence, and J. C. Kotanchik. "Chapter 39: Risk-Based Investigation of Inorganic Constituents in Fly Ash." <u>Hydrocarbon Contaminated Soils</u>, Vol. 6, Amherst, MA: Amherst Scientific Publishers, 1996.



#### **Select Presentations / Papers**

Claycomb, D. P., R.J. Vitale, and R.L. Forman. "Emergency Response Planning – Does Your Plan Address a Sound Sampling, Analytical, and Quality Assurance Program?" International Oil Spill Conference 2014. Savannah, GA, May 2014.

Claycomb, D. P., R.J. Vitale, and R.L. Forman. "Emergency Response Planning – Does Your Plan Address a Sound Sampling, Analytical, and Quality Assurance Program?" Clean Gulf 23<sup>rd</sup> Annual Meeting. Tampa, FL, November 2013.

Claycomb, D. P., H. A. Brown, and M. J. Young. "Sampling and Analysis Workshop - Elements of Sampling and Analytical Plan and SOP Implementation, Collection of Field QC Samples and Equipment Decontamination Procedures." Shale Insight 2013. Philadelphia, PA, September 2013.

Claycomb, D. P., H. A. Brown, and P. Sellers. "Sampling and Analysis Workshop - Elements of Sampling and Analytical Plan and SOP Implementation, Collection of Field QC Samples and Equipment Decontamination Procedures." Shale Insight 2012. Philadelphia, PA, September 2012.

Claycomb, D. P. "The Role of Field Auditing in Environmental Quality Management." The Environmental Monitoring & Data Quality (EMDQ) Workshop, Louisville, KY, 2010.

Claycomb, D. P. "**Dump that Antique Pump.**" Environmental Roadshow (All4, Inc.). Phoenixville, PA. 2008.

Claycomb, D. P. "The Role of Field Auditing in Environmental Quality Management." The Business of Brownfields. Pittsburgh, PA, April 2007.

Arthur, J. R., K. W. Frysinger, D. P. Claycomb, and S. M. Gilday. "Developing a Conceptual Site Model of Petroleum and Chlorinated Hydrocarbons by Pairing Membrane Interface Probe Results with Environmental Visualization Software Modeling." 2006 North American Environmental Field Conference and Exposition. Tampa, FL, January 10-12, 2006.

Claycomb, D. P. **"The Role of Field Auditing in Environmental Quality Assurance Management."** SETEC North America 27<sup>th</sup> Annual Meeting. Montreal, Quebec, Canada, November 5-9, 2006.

Arthur, J. R. and D. P. Claycomb. "Reductive Dechlorination of Chlorinated Solvents Using In-Situ Biostimulation." The 8<sup>th</sup> International In-Situ and On-Site Bioremediation Symposium. Baltimore, MD, June 2005.

Claycomb, D. P. and D. R. Blye. "The Quality Life Cycle – The Value of Auditing Throughout a Project to Ensure Data Usability." Entech 2002. Atlantic City, NJ, March 2002.

Claycomb, D. P. "The Role of Field Auditing in Environmental Quality Management." US EPA 20<sup>th</sup> Annual Conference on Managing Environmental Quality Systems. St. Louis, MO, April 2-6, 2001.

Claycomb, D. P., J. C. Kotanchik, and K. G. Lawrence. "Risk-Based Investigation of Inorganic Constituents in Fly Ash." Superfund XVI. Washington, DC, November 6-8, 1995.

Claycomb, D. P., J. C. Kotanchik, and K. G. Lawrence. "Risk-Based Investigation of Inorganic Constituents in Fly Ash." Tenth Annual Conference on Contaminated Soils. Amherst, MA, October 23-26, 1995.

