Brian F. Oram 15 Hillcrest Drive Dallas, PA 18612

Education:

Master of Science in Environmental Pollution Control, specializing in wastewater/water treatment, forest hydrology, modeling, and watershed management May 1987). The Pennsylvania State University, University Park, PA. 16802 Thesis: Giardia Removal Using Coagulant-Coated Diatomaceous Earth.

Bachelor of Science in Earth and Environmental Sciences, specializing in water quality, earth sciences, and hydrogeology (May 1985). Wilkes University, Wilkes-Barre, PA. 18766.

Work Experience:

Environmental Consultant: self-employed (January 1989 to present)

B. F. Environmental Consultants, Inc. 15 Hillcrest Drive Dallas, PA. 18612

Laboratory Director (January 1989-September 2011)

Wilkes University Center for Environmental Quality Environmental Engineering and Earth Sciences Wilkes-Barre, PA. 18766

Project Scientist (May 1985 to Nov. 1985, May 1987 to Jan. 1989)

F. X. Browne, Inc. Engineers, Scientists, and Planners Lansdale, PA. 19446

Continuing Education:

-ELJEN GEOTEXTILE Sand Filters, PA Association of Sewage Enforcement Officers, ELJEN GEOTEXTILE Sand Filters, February 2022. - ECOFLO In PA, PA Association of Sewage Enforcement Officers, COCO BIOFilters, February 2022. - Enforcement I, PSATS, November 2013. - Master Project Management, American Academy of Project Management, 2012. - Soil Morphology/Stormwater and Wastewater Management, Wilkes University (Instructor), 2011. -Introduction to Web-Based Soil Mapping and Applications for Land-Based Disposal, Wilkes University (Instructor), 2011. - Structural and Hydro-Structural Geology: Theory and Applications for Practicing Professional, 2011. - Hazardous Waste Site Operations, 8-hour Refresher, 2011. - Chain-of-Custody Procedures for Samples and Data, EPA, 2011. - IGSHPA accreditation as a Ground Source Heat Pump Installer, 2009. - Design and Sizing of Drip Irrigation On-lot Wastewater Management Systems, 2009. - Site Evaluation and Testing, PADEP, 2008. - Oil and Gas Operation Basics, 2008. - Oil and Gas Production, 2008. - Soil Genesis and Classification, North Carolina State University,

2006.

Continuing Education (continued):

- Advanced Problems in Hydric Soil Evaluation, 2005. - TDM for Malfunction Resolution, PADEP, 2005. - Introduction to Hydric Soils, Wilkes University, 2005. - Soil Profile Descriptions, PADEP 2005. - Environmental Applications in Soil Science, North Carolina State University, 2005. - Enforcement I, PADEP, 2004. - Construction Inspection Techniques, PADEP, 2004. - Agronomy and Soil Science, Stephen F Austin State University, 2004. - Soil Fertility and Fertilizers, North Carolina State University (Professor: Dr. John Havlin, 2004). - Hydric Soils, North Carolina State University, (Professor: Dr. Michael J. Vepraskas, 2003). - Advanced Soils, PADEP, 2002. - Environmental Applications Using GIS, ArcView version 3 and 8, 2002. - Siting and Designing Drip Irrigation Systems, PADEP, 2000. - Drip Irrigation, PADEP, 2000. - Inspecting the Construction of On-lot Sewage Disposal Systems, PADEP, 1998. - Basic New Land Developing Planning for SEOs, PADEP, 1998. - Global Positioning and GIS Systems, 1998. - Confined Space Entry, 1998. - Design and Permitting of Individual Residential Spray Irrigation Systems, PADEP, 1996. - Reviewing Designs and Issuing Permits for Individual Residential Spray Irrigation Systems, PADEP, 1996. - Wetland Delineation Training Course, Environmental Concern, Inc, 1996. - Aquifer Test Analysis, Wright University, 1996. - Ground Water Hydrology: Principles, Exploration, and Measurement, Wright University, 1995. - Current Issues Regarding Act 537 / Act 149, 1995. - Analysis and Design of Aquifer Test, NGWA, Columbus, Ohio, March 1995. - Soil Interpretation Skill Building for SEOs, PADEP, 1995. - Fracture Tracing and Lineament Analysis, PSU, University Park, PA, April 1994. - On-lot Sewage Disposal System Design Review, PADEP, 1994 - Local Agency Administration Issues, PADEP, 1994. - IBM PC Applications in Ground Water Pollution and Hydrology, NGWA, 1993. - Computer Aided Design, Wilkes University, 1993. - Princeton Ground Water and Hydrology Course, 1993. -Recognizing, Diagnosing, and Repairing Malfunctioning On-lot Systems, 1993. - Water Treatment Plant Operator Correspondence Courses-Vol. 1, 1993. - Design of Water and Wastewater Treatment Facilities, Wilkes University, 1991. - Small Wastewater Systems Workshop-Short Course, PSU, 1990. - Critical Issues in Underground Storage Tank Management, AGWS&E, 1989. - Principles of Ground Water Hydrology, Ohio State University, 1989. - Wastewater Operation Training Course, Volume II, PADEP, 1988 - Wastewater Operation Training Course, Volume I, PADEP, 1987.

Presentations:

"Effect of Coagulants on Removal of Particles", American Water Works Association Annual Conference, Kansas City, Missouri, 1987.

"Environmental Impact and Assessment Associated with Leaking Underground Storage Tanks (LUST)", Wilkes University, Wilkes-Barre, Pennsylvania, 1989.

"The Development of Laboratory Protocols for a Regional Monitoring Program in the Soviet Republics", Ecologia, Wilkes-Barre, PA, 1991.

"Proper Use of On-Lot Disposal and Impact of Large Volume On-Site Wastewater Disposal on Surface Water and Groundwater Quality", 1991. Sustainable Wastewater Management Conference, Pocono Streams Project, Matamoras, PA, 1991.

"Lake Acidification and Liming Technologies", Tobyhanna Sportsman's Club, Tobyhanna, PA, 1992.

"Groundwater and Hydrology in Pennsylvania- Private Well Owner Maintenance", Laurel Lake Property Owners Association, Brakney, PA, 1992.

"Real-Time Water Quality Monitoring for Watershed Management, Assessment, and Monitoring", Wilkes University, Wilkes-Barre, PA, 2001.

"Proper Siting, Design, and Operations of Individual On-Lot Disposal Systems: A Pennsylvania Perspective, Wilkes University, PA 2002.

Instructor- Wilkes University, Wilkes-Barre, PA, Field Course in "Applied GeoSciences (Hydrology, Water Quality, Soil Science, and Geology)", 1999-2006.

"Preliminary Assessment: Pocono Creek Watershed Data Gap Analysis", Wilkes University, Wilkes-Barre, PA, 2003.

"Final Report: Pocono Creek Watershed Data Gap Analysis", Wilkes University, Wilkes-Barre, PA, 2003.

"Lohman Workshop- Low Impact Development - Soils and Hydrological Conditions Related to the Design of Stormwater BMPs - Infiltration and Permeability Testing and Interpretation", 2004.

"Using GIS and On-site Soil Investigations to Conduct Soil Mapping and Estimated the Extent of Wetlands and Development Potential for a Project Site- Test Site - Undeveloped Parcel in Bushkill, PA", 2007.

"Groundwater Availability Analysis and Well Field Capacity for the Roamingwood Water and Sewer Authority", 2007.

"Developing a Wellhead Protection Plan for the Roamingwood Water and Sewer Authority using Hybrid Groundwater Model with GIS Interface", 2007.

"Private Water Well Construction Standards and Private Well Water Treatment and Management", 2008 - 2011.

"County-based Groundwater and Surface Water Management, Water Allocation and Reuse", 2008.

"Soils and Engineering Analysis as Part of the Developing Stormwater Management Systems", 2008 - 2011.

"Royalty Owners - Land and Environmental Issues and Concerns Related to Natural Gas Development", 2009 - 2011.

"Getting the Waters Tested- The Marcellus Shale Factor" - 2010 and 2011.

"Conserving Water Begins at Home - Rain Water Gardens - Rain Barrels" - 2010 and 2011.

"Tap Water, Bottled Water, Spring Water - Is There a Difference?" - 2010 and 2011.

Past and Current Research

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Applied Research: Minearlization and Chemical Complexing Phosphate in Soil and Aqueous Systems Applications related to water, wastewater, soil nutrient control and stormwater treatment and management (2002 -2020).

Applied Research: Chemical Complexing and Fixation of Arsenic and Phosphate in Aqueous/ Soil Systems (2002 - 2020).

Hybrid Treatment Systems - "POW" for the treatment of Mine Water, Flowback Water and Production Water (2008 - 2020)

Applied Research: Testing and Development of a Denitrification System using a Fixed Film Up-flow Treatment Unit (2000 - 2003).

Case Study: Biostimulation and Soil Microbiological Monitoring/Testing for Environmental Release of Fuel Oil Products in Dallas, Pennsylvania (2000 - 2002).

Case Study: Evaluating the Hydrologic and Nutrient Loading for a Forested and Turf Grass Wastewater Reclamation and Reuse System (1999-2000).

Applied Research: Development, Evaluation, and Interpretation of Soil and Plant Material Testing Protocols for Determining Nutrient Deficiencies, Estimating Soil Amendments, and Evaluating Trace Metal Uptake (1998 - 2001).

Applied Research: Development of Land-Reclamation Strategies for Abandoned Mine Lands, Wyoming Valley, Pennsylvania (1998 - 2009).

Awards and Certification:

Licensed Professional Geologist - Pennsylvania. Licensed PA Well Driller - Pennsylvania. Sewage Enforcement Officer- Certification No. 02072. Certified Professional Soil Scientist by Soil Science Society of America (CPSS- #36209). BSA Woodbadge (1992). Outstanding Young Men of America (1989). Sigma Xi Research Award for Independent Research (1984, 1985). Eagle Scout (1979). Professional Associations:

Water Quality Association Eastern Region Water Quality Association Pennsylvania Association of Professional Soil Scientists Professional Member of the Pennsylvania and West Virginia Soil Science Professional Association.