



**WHITEROCK**  
RESOURCES

# **Environmental Compliance Consulting Restoration**

Statement of Qualifications





## Company Overview

**Built on a foundation of Integrity, Work Ethic, Professional Excellence, and Loyalty, Whiterock cultivates ongoing relationships with clients like you who expect high-quality, comprehensive environmental services. These values describe each of our team members and, collectively, Whiterock Resources. They are what differentiates us from our competition and makes us your true partner.**

Based in Enid, Oklahoma, Whiterock Resources was formed as an alliance of environmental professionals, dedicated to providing support activities to corporations and consultants in the energy and environmental industries across the United States.

Our team caters to a diverse trade base by providing a range of services from pre-construction environmental compliance to complete environmental restoration utilizing experienced and trained personnel.

In 2021 Whiterock acquired Clearwater Environmental Services, an environmental consulting company specializing in Petroleum Storage Tank Services, including underground storage tank (UST) removals and subsurface hydrological investigations throughout Oklahoma. In addition to enhancing Whiterock's core service areas of UST investigations and complex environmental clean-up, Clearwater strengthens our depth and breadth of technical expertise. Whiterock now has offices in Enid, Tulsa, and Oklahoma City, OK and has tripled its team of professionals dedicated to providing solutions-focused environmental services to clients and communities throughout Oklahoma and the United States.

In conjunction with its strategic partners, Whiterock possesses the resources and experience to provide timely and innovative remediation services for you and your business. When you choose Whiterock, you save time and money. Our team listens to your needs and pays strict attention to safety, logistics, and the quality of our work through communication, teamwork, and technical skills.

# Services

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## Consulting

Whiterock's experienced staff provides soil and groundwater remediation services for many types of projects that will exceed your expectations while staying within budget. We understand the importance of characterizing and remediating sites in the most cost-effective manner while ensuring that all applicable standards and regulations are met or exceeded. Our in-situ remediation strategies achieve cleanup while minimizing impacts to site operations which is advantageous in remediating sites with active operations.

### Soil and groundwater remediation services include:

- Case Management
  - Bureau of Indian Affairs (BIA)/ Tribal Nation Environmental
  - Licensed Leaking Underground Storage Tank (LUST)
  - USEPA Brownfields
  - Voluntary Cleanup Program
- Drilling, Direct-Push Oversight and Soil Sampling
- Groundwater Monitoring Networks (Sampling and Well Installation and Maintenance)
- Indoor Air, Soil Gas, and Sub-Slab Vapor Monitoring
- Limited Phase II Environmental Site Assessments
- Oklahoma Risk-Based Corrective Action (ORBCA)
- PFAS, Dioxin/Furan & RCRA Metals Investigation
- Post-Construction Vapor Intrusion Abatement
- Remediation System Design, Installation and Operation
  - Air Sparge/Multi-Phase Extraction Systems
  - Free Product Recovery Systems
  - In Situ Bioremediation
  - Interceptor Collection Trench
  - Phytoremediation
  - Pump and Treat Systems
  - Vacuum Extraction/Chemical Injection
- Waste Characterization and Management

## Compliance

Whiterock understands ever-changing regulatory requirements and advocates for you. Our staff's partnership with state and local regulators allows us to integrate industry knowledge to cost-effectively resolve deficiencies. These partnerships are developed and maintained through consistent interaction and communication with key municipal and state agencies.

### Compliance services provided at a single site or across broad geographic regions include:

- AST/UST Removal/Closure
- NPDES and OPDES Permits
- RCRA Permits

## Restoration

Whiterock provides unique and customizable site restoration services to the Construction and Energy industries. We understand the importance of maintaining production schedules while facilitating regulatory compliance. Our team's resources and expertise ensure every job is executed correctly and cost-effectively.

### Restoration services include:

- Contaminated Soil Excavation and Disposal
- Remediation of Salt/Hydrocarbon Impacted Soil
- In Situ Soil Mixing/Soil Stabilization

## Licenses, Registrations & Memberships

- Oklahoma Licensed Environmental Consultant
- Oklahoma Licensed UST Remover
- Oklahoma Licensed Monitoring Well Technician
- OWRB Category 2 Drilling License
- OSHA 10-hour Construction / General Industry
- OSHA 40-hour Hazwoper
- OSHA Hazwoper Supervisor
- Excavation, Trenching, and Shoring Competent Person OSHA 29 CFR 1926.650
- Confined Space Trained
- First Aid/CPR/AED
- Neilson Environmental Field School Trained
- ISNetwork
- Avetta
- SafeLand USA
- Member, Vance Air Force Base Restoration Advisory Board (RAB)

# Key Personnel

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## Jennifer Douma **CEO & Owner**

Jennifer Douma graduated from the University of Oklahoma and, since then, has gained over 20 years of experience in the environmental remediation field. Jennifer has extensive experience in soil and groundwater investigation, remediation at oil and gas, leaking underground storage tank (LUST), and Resource Conservation and Recovery Act (RCRA) sites. Her work experience includes permit writing and compliance to include RCRA, UIC, and OPDES permits, project administration, reporting, and contracting for sites utilizing in situ remediation techniques, including groundwater treatment systems, phytoremediation, and bioremediation. Jennifer works directly with our partners. Her expertise in establishing and maintaining long-term, professional relationships qualifies her to welcome new clients to our company and ensure their goals and desires are met by our team.



## Bryan Fischer **COO & Owner**

After graduating from Oklahoma State University, Bryan Fischer pursued a career in the environmental and energy industry. Bryan's work ethic, along with 13 years experience on extensive remediation projects, has allowed him industry insight from a diverse group of colleagues and peers. Due to his work with large corporations and independent operators, Bryan has a broad understanding of remediation and a desire to return the land to its natural state. He has experience in phytoremediation, multi-phase extraction, in situ bioremediation, groundwater treatment systems, and soil/groundwater monitoring. He also provides licensed oversight for the decommissioning and removal of Underground Storage Tank (UST) systems, pre-construction compliance for pipeline Right-of-Way (ROW) projects, site restoration, and maintenance project management.



## Bob Felder **Senior Project Manager**

Since obtaining his BS in Petroleum Engineering, Bob Felder has built his career as a Senior Hydrologist and Project Manager for hydrocarbon-impacted sites. His loyalty to his colleagues and clients is unmatched. For nearly 40 years, he has worked in all aspects of UST/AST investigations, removals, remediations, and site closures as well as various other environmental services including property assessments and miscellaneous hazardous waste projects. Bob's diverse experience includes SPCC plans, stormwater plans, air & vapor intrusion sampling, hydrocarbon recovery at refineries, terminals, pipelines, and fuel & oil spill cleanup.



## Andrew Foreman **Senior Project Manager**

With a BS in Geology, an AM in Earth and Planetary Science, and 12 years of professional experience as a project geologist in the field of environmental and geotechnical consulting, Andrew Foreman has experience managing, coordinating, and performing field activities for Limited Phase II Environmental Site Assessments (ESA) and United States Environmental Protection Agency (USEPA) Brownfields, Oklahoma Corporation Commission (OCC) petroleum storage tank division (PSTD), and Oklahoma Department of Environmental Quality (ODEQ) regulated sites. Andrew performs and manages numerous environmental investigations including delineation, remediation, and abatement of soils, groundwater, soil gas, sub-slab vapor, and indoor air for OCC PSTD, ODEQ, and tribal-owned properties. Andrew works directly with our clients and team to ensure we provide the highest level of professional excellence to each project.



### **Joel Siler** Senior Project Manager

With a Geology degree and 29 years of experience, Joel Siler is an OCC-licensed environmental consultant and senior project manager. He specializes in environmental remedial technologies and educates the junior staff on OCC protocol and reporting. Joel currently uses his expertise in in-situ chemical oxidation. Co-author of a patent related to this technology, Joel has perfected the methods he utilizes on dozens of sites over the past 15 years. With the utmost integrity, he also designs and installs air sparge/soil vapor extraction systems for both large and small impacts.



### **Phil Kelley** Senior Project Manager

With over 15 years of experience, Phil Kelley is known for his willing attitude, diligence and analytical skills. With a BS in Agricultural Sciences & Natural Resources and an MS in Environmental Science, he specializes in regulatory compliance, environmental subsurface investigations, and remediation system implementation. Phil serves as a technical lead, subject matter expert, and/or project manager for a wide variety of projects including Oklahoma Corporation Commission (OCC) Leaking Underground Storage Tank (LUST) cases, Oklahoma Department of Environmental Quality (ODEQ) Voluntary Cleanup Program (VCP) projects, and a Coal Combustion Residuals (CCR) landfill groundwater monitoring project.



### **Chris Mathew** Project Manager

With a BS in Biology and a MS in Environmental Science, Chris Mathew is an OCC-licensed environmental consultant and UST remover. He started his career in the environmental industry as a Field Technician and progressed to Project Manager at Whiterock Resources/Clearwater Environmental. Chris is skilled in computer-aided architectural design (CAAD) and is experienced in the collection of soil and groundwater samples, report preparation, and Oklahoma Risk-based Corrective Action (ORBCA) at sites regulated by the OCC PSTD.



### **Matthew Payne** Field Scientist

With a BS in Physics and 8 years of experience, Matthew Payne is an environmental scientist working in field project management, environmental media sampling, and report preparation for Oklahoma sites. His past experiences include independent contracting for the USEPA and conducting laboratory research on the corrosive effects of E-85 fuel. His experience includes Oklahoma Risk-Based Corrective Action (ORBCA) assessments, Phase I and Phase II Environmental Site Assessments, PST removal oversight, site characterization, monitor well installation, plugging & abandonment oversight, remedial excavation oversight, chemical laboratory analysis, and optical and scanning-electron microscopy.



### **Doug Whitmer** Field Scientist

With a BS in Geology, Doug Whitmer has over 15 years of experience in the environmental consulting business. Additionally, Mr. Whitmer has four years of oil field experience as an onsite geologist. He is a licensed Monitoring Well Technician and licensed UST Remover. He is skilled at monitoring and remediation well installation oversight and reporting as well as installation and operation and maintenance (O&M) of remediation systems.

# Project Experience

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## Oklahoma Corporation Commission LUST Case Management

Whiterock staff assist clients with Oklahoma Corporation Commission Indemnity Fund acceptance and perform LUST case management tasks on their behalf through site closure. These activities include Initial Site Characterization and Response, soil and groundwater monitoring for impact delineation, Oklahoma Risk-Based Corrective Action reporting, and implementation of a wide variety of remediation strategies. While closing ~1 site per month each year, Whiterock currently performs work on 45 active OCC cases, with a history of activity at hundreds of UST/AST projects in Oklahoma.



## Phytoremediation Installation

To date, Whiterock has installed approximately 1,700 TreeWell® Units across 18 states. Sites include active refineries, manufacturing plants, chemical storage, landfills, and golf courses. TreeWell® Systems provide contaminant mass reduction and hydraulic control in remediation of impacted sites. TreeWell® installation consists of augering a 36 to 72-inch hole through shallow silts and clays to the underlying sand zones. Each hole is fitted with a plastic liner and backfilled with a soil mix designed to provide nutrients for the tree. In addition to the drill rig, the installation process requires multiple skid steers and wheel loaders. Whiterock provides equipment operators, oversight of backfill material delivery, and waste characterization and coordination for excavated soils requiring off-site disposal. Maintenance on these projects includes limited watering, pruning, fertilizer application, herbicide and insecticide treatment, growth and stability documentation, water level data collection and reporting, and replacement of trees lost.



## RCRA Site Management, System Operation and Maintenance (O&M)

Provide regulatory compliance administration, labor, and equipment for operation and maintenance of 360-acre active remediation site. O&M includes groundwater monitoring, residential water well monitoring and community outreach, Natural Source Zone Depletion (NSZD) data collection, and contractor coordination and oversight. In addition, we provide installation, operation, maintenance, and removal of Air Sparge, Multiphase Extraction, Oxygen Injection, Free Product, and Phytoremediation systems at the site.



## Aboveground and Underground Storage Tank Removal

Whiterock removes ~50 Aboveground and Underground Storage Tanks and associated dispensers, product piping, and vent lines annually. Removal activities include closure soil sampling and reporting in accordance with Oklahoma Corporation Commission Petroleum Storage Tank Division guidelines.

## Air Sparge/Soil Vapor Extraction Remediation

Designed and installed a Pay-for-Performance air sparge (AS)/soil vapor extraction (SVE) remediation system to remediate hydrocarbon-impacted soils and groundwater. The AS/SVE system consisted of 24 AS wells and 24 SVE wells. Though the remediation was originally estimated to be completed in 3 years, diligent O&M practices ensured the AS/SVE system operated efficiently and effectively which resulted in the remediation criteria being met in only 1.5 years following system startup.

## Vacuum Extraction/Chemical Injection

Conducted a four-day/night Mobile Dual Phase Extraction (MDPE) event to recover hydrocarbon vapors and free product. Over 900 gallons of gasoline were removed from the subsurface in liquid phase and vapor phase. Once the groundwater was lowered, a proprietary Surfactant Enhanced Product Recovery blend was injected to affect the newly exposed soil media. The surfactants desorb and reduce the viscosity of the NAPL (Non-Aqueous Phase Liquids), enabling greater mobility toward recovery wells. The decomposition of hydrogen peroxide simultaneously releases oxygen gas, causing the surfactant to create bubbles which helps loosen the NAPL from soil media and facilitate surfactant encapsulation of NAPL for follow-up extraction.

## Hydrocarbon Dig and Haul

Excavation, transportation, and disposal of approximately 3,100 cubic yards of hydrocarbon-impacted soils. The soils were excavated to remove source material, resulting in significantly impacted soil gas vapors at the subject property. Beam and plate shoring were utilized to prevent sidewall collapse and to protect several underground utilities in the adjacent rights-of-way. Significant groundwater infiltration occurred during excavation activities, resulting in the removal, transportation, and disposal of approximately 98,000-gallons of hydrocarbon-impacted groundwater. Confirmation soil samples were collected for laboratory analysis to confirm the concentrations of chemicals of concern at the excavation boundaries were below the cleanup criteria. To mitigate significant groundwater in the excavation, a subgrade geotechnical system was engineered and utilized to successfully stabilize the excavation base prior to backfilling and compaction.

## Groundwater Interceptor Trench

Pre-construction subsurface investigation and the installation oversight of a 950-foot-long groundwater interceptor trench installed as part of an Interim Remedial Measure to control a chlorinated solvent plume downgradient of a former aircraft manufacturing facility.

## Hydrocarbon Vapor Intrusion Abatement

Installation of a post-construction vapor barrier to mitigate the intrusion of petroleum vapors from impacted surficial and subsurface soils. Flooring materials and room fixtures were removed from the commercial and residential areas of the subject property building and the concrete slab floor was prepared prior to installation of the vapor barrier. A one-inch-thick concrete subfloor was poured on top of the vapor barrier to allow tile and other flooring materials to be easily installed and prevent damage to the vapor barrier should future renovation at the facility occur.



