



## **RELEVANT CONTRACTOR EXPERIENCE**

*Diesel Fuel Remediation (ongoing):* Ridge performed comprehensive construction of a multi-faceted remediation system for cleanup of one of the largest petroleum releases in Georgia at a transportation facility. Cleanup is now in the O&M phase and includes the ongoing use of a bioslurp, dual phase extraction system with injection of treated clean water and reclamation, filtering, and reuse onsite of recovered diesel. The system incorporates 77 extraction wells and 1.5 miles of extraction piping along with 15 injection wells. The unique construction allows for remote operation and unparalleled efficiency through the use of state of the art controls. Over 35,000 gallons of diesel have been recovered at this facility.

*System Reconfiguration (June 2009):* Performed testing of lines on abandoned pump and treat system and reconfigured for flexible phased remediation to include free product recovery followed by dual phase extraction. Ridge applied construction expertise to minimize intrusive actions to meet a restrictive budget.

*Surgical Excavation (June 2009):* Ridge performed a 6'x 6' x 5.5' excavation at a manufacturing plant to remove a minimal amount of ammonia in soil. The project was performed on a rapid basis to avoid listing on the HSI.

*System Compound Repair (May 2009):* Replaced the roof in the system compound that had incurred extensive wind damage. Removed and disposed of the old roof and installed system with improved structural integrity to minimize likelihood of future similar damage.

*System Refurbish (April 2009):* Ridge refurbished 40 hP 3-Phase dual phase extraction system, including repair of motor and replacement of ancillary floats, sensors, and pumps. The work also included installing an additional access door for the liquid ring pump and extensive testing in Ridge's shop to confirm proper operation.

*Air Sparge / SVE System Installation (2008):* Completed construction active gas station in Winder, Georgia in which Ridge performed trenching and piping for recovery of vapors in shallow water table along with air sparge lines tie in for trailer-mounted system. Project included multiple unanticipated subsurface obstructions, utilities and revision of system location.

*Pilot Test for Accelerated Remediation Technology (2008):* Completed trenching / piping for injection and recovery well system for pilot test and for future permanent remediation at service station in Pensacola, Florida. Technology includes a subsurface methodology that allows for injection of surfactants and bioenhancement agents circulated with extraction methods. Performed work with design engineer of the trademark ART ® process.

Containment Assessment and Construction Plans (2007-2006): Completed assessment of 13 terminals for containment of loading petroleum products and designed cost-effective construction plans for containment that meet SPCC requirements for facilities located throughout the southeast U.S.

Iterative Construction / O&M Project (2007-2004): At metro-Atlanta facility, supervised installation of numerous wells for use of remediation and simultaneously operated a dual phase extraction system to allow for optimal recovery of free product. Recovered greater than 15% free product in liquid stream for 3 year period while installing greater than 100 wells for future extraction.

AS/SVE System Upgrades (2006-2005): Performed multiple upgrades to existing AS/SVE system over 18-month period at an active gas station in metro-Atlanta that included moving the compound area, heavy utility support, extensive concrete work, and extensive permitting and coordination efforts.

SVE System for Indoor Air Quality (2005): Installed, operated, and maintained package system for recovery of SVE vapors to prevent build up of volatile organics under active convenience store located in rural Georgia.

Excavation (2005): Removed approximately 500 tons of petroleum-impacted soil from former gas station in Dillard, Georgia as part of source removal excavation in area with utility, right-of-way, and health and safety concerns. Additional tasks included temporary abandonment and reinstallation of AS/SVE system to facilitate the excavation.

Low Flow AS System (2005): Installed cost-effective low flow air sparge system at rural Georgia farm for ammonia contamination for pilot test and full scale operation.

Dual Phase Extraction (2004): Installation of large-scale system including 15 extraction wells on two properties at active gas station in metro-Atlanta with extensive utility and logistical considerations.

Stream Remediation (2004): Performed remediation of over 1000 feet of petroleum-impacted sediments from overturned tanker truck upstream of tributary of the Chattahoochee River in Atlanta. Project included liberation of fuel from rocks and soil as well as free product collection and absorption through the use of collection systems (dams).

Soil Vapor Extraction / Air Sparge (2004): Designed flexible remediation approach and associated AS/SVE design for UST project in Monroe, Georgia, in which building was built over remediation area after the commencement of remediation. Project included extensive coordination with the building contractor conducting a multimillion dollar construction project. Ridge also performed oversight of the remediation contractor.

Dual Phase Extraction (2003): Constructed trenching, piping, and floor completion for Georgia HSRA project in Atlanta, Georgia at an indoor location with many logistical restrictions and subsurface obstructions. The work included supporting of the

building foundation, significant utility protection, and working with multiple entities performing building construction in the same area.

Major System Refurbish (2003): Removed antiquated system that was inactive for several years and replaced it with effective packaged system. Project included demolition, significant utility issues, tracing old piping systems, rebuilding manifolds, creating viable secure system compound area in urban area of high crime.

System Decommissioning Projects (2001-2003): Performed system decommissioning projects for 5 drycleaner and gas station facilities.

Evaluation of Remediation System Effectiveness (2000-2003): Participated with consultant partner in evaluation of over 70 remediation strategies and suggested changes and assisted in procurement of contractors in a portfolio of projects in the midwest U.S. for an independent oil company.

Oversight of Construction – DPE / O<sub>2</sub> injection System (2002): Performed oversight construction for consultant for DPE / O<sub>2</sub> system at an active gas station with urgent schedule due to off-site exposure of dissolved gasoline constituents.

AS/SVE Piping and Trenching Completion (2001): Successfully performed trenching, piping, and compound completion in low-lying area with wet soil conditions in which previous contractor was unable to complete.

Metals Treatment (2000): Designed / built and operated unprecedented metals treatment for protection of trout stream that included fabrication of trailer enclosure with remote telemetry at City of Alderson, West Virginia property. System involved catalyst, pH adjustment, and precipitation in an automated redundant fashion to allow flexibility in operation during maintenance or during partial system failure.

## **SAFETY AND INSURANCE**

Ridge places an extremely high value on safety for our employees, as well as our vendors, clients, and regulators that visit sites where we are working. In over 9 years that Ridge has conducted intrusive work, we have never had an incident that has resulted in lost work days. All of our field personnel are trained in accordance with HAZWOPR 29 CFR 1910.120 and each site supervisor is trained in CPR and First Aid.

Ridge maintains a standard \$1M (occurrence) / \$5M (aggregate) insurance policy through a leading national provider. Our insurance coverage includes general, commercial, professional (errors and omissions), automobile, workers compensation, and pollution liability. We also carry an umbrella of \$4M. Upon execution of a contract for services, we will forward to your office an Acord Certificate demonstrating the insurance coverage.

**TODD A. MIXON**  
*Field Services Manager*

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**EDUCATION AND PROFESSIONAL REGISTRATION**

Florida Water Well Contractor Licenses # 9208

National Ground Water Association Certified Water Well Contractor & Pump Installer

**CAREER SUMMARY**

Mr. Mixon has 23 years of experience in the environmental industry. Since 2007 he has served as Field Services Manager for Ridge Environmental Solutions, Inc., where he is responsible for supervision of construction and O&M services, proposal preparation, and the company safety program. Mr. Mixon's career experience is a mix of environmental remediation, dewatering, and drilling. Mr. Mixon has installed remediation systems from the ground up, including AS/SVE, dual phase, injection, and pump and treat. From 2004 to 2007 Mr. Mixon worked at ARCADIS BBL as a Senior Field Technician. This was his first experience on the engineering and consulting side of the industry. Here he gained additional knowledge of system O&M as well as groundwater and soil sampling. From 1998 to 2004 Mr. Mixon worked at Moretrench Environmental Services, Inc. starting as project foreman and moving up to project superintendent early on in his career path at Moretrench. Mr. Mixon was involved with large scale projects that included drilling, dewatering, remediation systems, concrete construction and landfill gas extraction. Most of these projects were for large corporations, mining operations, power plants, chemical plants and government entities, like The Air Force, Navy and Army Corps of Engineers. From 1986 to 1998 Mr. Mixon owned and operated F&T Water Systems, Inc. Most of the projects started out as residential wells & pumps, but grew to include commercial, industrial and environmental as the business grew. Mr. Mixon sold the business in 1998. From 1992 to 1986 Mr. Mixon worked for a family business Mixon Foundation & Drilling. Mr. Mixon learned the trade of well drilling and pump service/installation. During 1994 the business moved towards an environmental drilling focus where installing monitor well became the primary focus.

**GEOGRAPHICAL AREAS OF EXPERIENCE**

Florida, Georgia, Alabama, Mississippi, Tennessee, South Carolina, North Carolina, Ohio, and Louisiana

**PRIMARY TECHNICAL AND REGULATORY EXPERIENCE**

UST, Solid Waste, RCRA, GA HSRA and federally funded projects  
Remediation System AS/SVE, DPE  
Environmental Construction  
Water Well Drilling  
Pump Installation and Controls  
Construction Dewatering

**CAREER HISTORY**

2007 – Present – Ridge Environmental Solutions, Inc. Woodstock, GA  
2004 – 2007 ARCADIS BBL Inc, Kennesaw, GA  
1998 – 2004 Moretrench Environmental Services, Inc. Tampa, FL  
1986 – 1998 F&T Water Systems, Inc. Wesley Chapel, FL  
1992 – 1986 Mixon Foundation & Drilling Tampa, FL



## Todd A. Mixon, Key Project Experience:

- **Groundwater remediation projects at retail service stations.** Participated on various levels, primarily as the field supervisor throughout the Southeast U.S. Most of these were for major oil companies. Projects ranged from SVE, Air Sparge, Dual phase Extraction or a combination of the three. Completed well installation, trenching, piping, system install and operation. Provided monthly monitoring and sampling as a way to track the impact of the system and make adjustment to get the best level of performance possible. Valuable knowledge has been gained over the past 20 plus years that help take this type of project from concept to completion.
- **Construction Services.** Installed an Air Sparge SVE system for a petroleum client in Winder, GA. Performed all of the concrete cutting, trenching, piping and installation of the well vaults. Connected pre-packaged remediation system trailer and assisted with control panel issues after the system was vandalized.
- **System Compound.** Assisted a client with a remediation system compound that sustained damage from a storm. Removed all the old damaged equipment and rebuilt the compound roof. Provided additional O&M services to get the system back into operation.
- **Specialty Services.** Provide retrieval of lost equipment in monitoring and recovery wells for several different clients.
- **Storm water pilot study at a chemical plant in central Florida.** Built and operated a treatment plant for phosphates, experimenting with various technologies to obtain optimum results. The study lasted for 3 years. The treatment system used a multiple range of technologies to compare which technology worked best for the application. Some of the methods used included reverse osmosis, micro filtration, chemical injection, sand filtration and oxidation.
- **Diesel Fuel Release.** Provided remediation service to a trucking company in central Georgia. Installed a system that consisted of 80 wells plumbed into a permanent system which made up over 1.5 miles of underground extraction lines. Provided oversight of all concrete construction and steel building to house equipment. Was instrumental in the design of the process flow and controls that allow the system to sequence through the 80 wells connected to the system. Provide ongoing O&M to keep the project on track for closure.
- **Water Treatment Plant work in South Florida.** Provided specialty services in the well field that provided water to the plant. These services included setting large diameter submersible pumps, manufacturing specialized well seals and making wellhead connections which took extra care as these 12 “or larger wells could free flow 1,000 GPM or more. Using a heavy salt mixture injected into the wellhead to kill the flow and then make the installation within a short amount of time before the well started to flow again. Each piece had to be carefully planned

out and executed with precise detail to complete the installation correctly. Most of the plumbing was 6" 316 stainless steel, some of the pieces were custom made onsite or in our fabrication shop. Stainless steel was the choice materials because these wells were saltwater wells and the water treatment plant was reverse osmosis.

- **Groundwater remediation at an International Airport in Ohio.** Supervised the implementation of a large scale remediation project for over 1 year. On this project, several thousand gallons of Jet A fuel was lost out of a storage tank. The work was performed in inclement weather making the remediation installation and operation challenging. Several methods were used to bring the project to completion. The first method was the use of vacuum trucks to extract what was on the ground surface. Next the top soil was excavated and hauled off to a local disposal facility. Lastly a SVE system was installed to remove the small amount of product that had seeped into the ground. The system consisted of a SVE blower, oil water separator and multiple carbon units for treatment.
- **Groundwater treatment plant.** Supervised crew for a groundwater treatment plant. This project was for a government contractor who produced weapons for the military. This site was unique, because the PVC plumbing had to be dual contained because of the distance from the source and the treatment plant. In addition to the unique plumbing, none of the piping could be buried so all of the plumbing was above ground in pipe racks fabricated by our firm.
- **Lock and Dam work for the Army Corps of Engineers.** Performed supervisory services at multiple locations. All of these projects were located in south Florida. The general process included installing a permanent dewatering system so that periodic maintenance could be performed on the lock & dam. These systems included installing 8" or larger diameter screen wells along the edge of the locks; depending on the size of the lock most of these required a 10 or more wells. Large submersible pumps were installed in each well and then tied into a common header system that pumped the water down stream of the lock. Supervised all of the trenching, piping and electrical controls for these systems.
- **Incident response.** Project superintendent for project, in which a military aircraft crash landed in a remote area in south Florida. Days after the crash an effort was put together to use a dewatering system to control ground water contaminated with jet fuel. The dewatering system also aided in the on going excavation of the area to locate the black box from the plane. The site was heavily guarded with military personnel and access in and out was part of the daily routine for everyone involved. The relationship between contractor and the military personnel was a key component in the success of this project. All the equipment, materials and contract personnel had to meet the standards of operation of the military.
- **Landfill Gas Extraction.** Supervised the installation of the wells and all related piping was completed with HDPE piping. During the drilling process contract employees would typically work in level C or B depending on the conditions that

day. Other task involved with work included placement of HDPE liner material, erosion control and leach basins.

- **Relief Well System.** Managed the drilling of a relief well system and built the piping system. These systems are typically installed in mining operations where the water/slurry is stored in large above ground ponds created during the mining operation. Wells are drilled at the base of the mounded mined material and pump year round to provide pressure relief to the walls holding back the water/slurry. In the rainy season these system pump more frequently than normal to relief the added pressure from the rainfall. All the wells get tied into a centralized header pipe (normally 12” or larger) that is connected to a pump station. The pump station is constructed out of mainly stainless steel and HDPE components for protection from acidic water. Once the system is installed which normally takes up to a year O&M is ongoing for the life of the system.
- **Bioremediation.** Provided contract services for petroleum sites where conventional remediation systems have been ineffective. Working with several different chemical manufactures to utilize their products to test which method is most effective. Using a combination of bio remediation and conventional treatment systems has proven to be effective as well. Some methods include injection only and injection with recirculation.

# **GEORGE A. CATES**

*Environmental Technician*

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## **CAREER SUMMARY**

Mr. Cates has 3 years of experience in the environmental industry. Since joining Ridge in 2006, Mr. Cates has been performing operation and maintenance activities at one of the largest diesel releases in Georgia, in which more than 35,000 gallons have been recovered. Mr. Cates has been the site manager of this project and has performed trenching, piping, installation of major components, pump installation, major and minor modifications and repairs. Mr. Cates has also been responsible for managing the operations to maximize the amount of diesel recovered. In addition, Mr. Cates has assisted in equipment refurbishing, pump repairs, and control panel troubleshooting and repairs for other projects. Mr. Cates has also participated in soil and groundwater sampling for UST and CERCLA projects. Prior to joining Ridge, Mr. Cates spent 7 years as a maintenance manager for a condominium association. During this period of time, Mr. Cates was responsible for mechanical and electrical repairs, including plumbing and irrigation systems. Prior to the maintenance manager position, Mr. Cates drove a courier van, distributing printing and other supplies. Prior to the courier assignment, Mr. Cates worked in an electroplating plant (ENP), where he assembled a nickel plating system from the ground up, including all tanks, major components, wiring and plumbing. After completing the system, Mr. Cates performed nickel electroplating activities.

## **GEOGRAPHICAL AREAS OF EXPERIENCE**

Georgia  
Florida

## **PRIMARY TECHNICAL AND REGULATORY EXPERIENCE**

UST and CERCLA projects  
System Operation and Maintenance and Repairs  
Soil and Groundwater Sampling  
Environmental Remediation Construction

## **CAREER HISTORY**

2006 – Present - Ridge Environmental Sol's, Inc., Woodstock, GA Environmental Tech.  
1999 - 2006 – Gulf and Bayside Club, Sarasota, FL, Maintenance Manager  
1994 – 1999 – Courier Service, Sarasota, FL, Driver  
1991 – 1994 – Electroless Nickel Plating (ENP), Sarasota, FL, Technician

## George Cates – Key Project Experience

- Supervised the installation of remediation wells for large diesel release, well construction consisted on non-traditional installation methods that allowed for large diameter wells to be installed for less than ½ the cost of traditional methods.
- Performed installation of free product pumping systems at multiple Georgia sites, including installation of air compressors, regulators, filters, lines and pumps.
- Managed site activities for large scale 2-shift per day extraction prior to automation and performed remediation concurrent with large scale remedial construction for a dual phase extraction and bioslurping.
- Participated in remedial construction activities, including equipment operation, piping, compound construction for AS/SVE, dual phase extraction, and free product recovery systems.
- Decommissioned dual phase extraction system and replaced it with a more effective system for a project in Mobile Alabama. Project involved transporting the new system and rerouting utilities, restart and O&M activities.
- Assisted in a retrofit of an existing free product recovery system, including finding break in chaseway and replacing and establishing an alternative cost effective piping route. Completed system allow for functioning of free product recovery or dual phase extraction system, which minimized required intrusive trenching resulting in a savings of greater than \$20,000.
- Performed troubleshooting for pumps, injection systems, and groundwater treatment systems for UST projects in Georgia.
- Supervised soil and groundwater sampling activities for Georgia UST and Florida Pre-Approval projects.
- Participated in creation of controls system corresponding with the environmental design engineer and the PLC programmer for system monitoring. The remote program allows for optimization of recovery of contaminant by making computer adjustments.
- Refurbished dual phase extraction system for reuse on another site, including replacement of seals, floats, and sensors. Also included the repair of a liquid ring pump and troubleshooting.

# **PATRICK W. ZOMER, P.E.**

*Environmental Engineer*

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## **EDUCATION AND PROFESSIONAL REGISTRATION**

B.C.E., Georgia Institute of Technology, Atlanta Georgia, 1992

Professional Engineer, Georgia

## **CAREER SUMMARY**

Mr. Zomer has over 17 years of experience in the environmental industry. Since becoming president of Ridge in January 2000, Mr. Zomer's primary experience has consisted of assisting clients on over 50 remediation projects. Prior to January 2000, Mr. Zomer provided design and project management services to Delta Environmental Consultants for projects primarily involved in the UST area in the eastern / Midwest U.S. Mr. Zomer worked for Law Engineering and Environmental Services (Law) as a project manager participating primarily in large Georgia HSRA and RCRA projects involved in various phases of assessment and remediation. Mr. Zomer's experience while at Law generally consisted of hydrogeologic assessment and design of pump and treat systems. Prior to joining Law, Mr. Zomer worked for WEI Environmental Services (WEI) in Miami, Florida. While with WEI, Mr. Zomer managed projects that comprised over 90 percent of the company's revenue, which included comprehensive environmental work at the Miami International Airport. While at WEI, Mr. Zomer participated extensively in regulatory negotiations and served as the company-wide QA officer for field services. Prior to joining WEI, Mr. Zomer worked for Law Engineering first as a co-op and then as a staff and project engineer. During this timeframe, Mr. Zomer participated in over 100 large and small-scale field projects consisting of environmental assessment and remediation problem solving.

## **GEOGRAPHICAL AREAS OF EXPERIENCE**

Alabama	Illinois	Louisiana	North Carolina	South Carolina	West Virginia
Florida	Indiana	Mississippi	Ohio	Tennessee	
Georgia	Kentucky	New York	Pennsylvania	Virginia	

## **PRIMARY TECHNICAL AND REGULATORY EXPERIENCE**

UST, Solid Waste, RCRA, GA HSRA, and federally funded projects  
System design for AS/SVE, DPE, In-situ Chemical Oxidation projects  
Hydrogeologic Assessments in many settings  
Environmental Remediation Construction

## **CAREER HISTORY**

2000 – Present - Ridge Environmental Solutions, Inc. (FKA Ridge Technical), Woodstock, GA  
Principal Environmental Engineer  
1999 - 2000 – Delta Environmental Consultants, Norcross, GA, Project Engineer  
1996 – 1999 - Law Engr. and Environmental Services, Project Engineer, Kennesaw, GA  
1994 – 1996 - WEI Environmental Services, Project Manager, Miami, FL  
1992 – 1994 – Law Engr. and Environmental Services, Staff/Project Engineer, Kennesaw, GA  
1987 – 1992 – Law Engr. and Environmental Services, Co-op, Kennesaw, GA

### **Patrick W. Zomer, Key Project Experience**

- Designed comprehensive corrective action approach and supervised remedial construction utilizing proprietary Ridge remediation techniques for cleanup for one of the largest single releases of petroleum in the State of Georgia, for which more than 35,000 gallons of diesel have been removed from the ground. At the outset, the project involved extensive cooperation with regulatory agency and client to significantly minimize project costs through innovation and flexibility. The primary remediation process involves reclamation of fuel, while minimizing resources expended and significantly reducing air and water treatment costs.
- Designed and supervised the construction and operation and maintenance of a metals treatment unit with remote telemetry at City of Alderson, West Virginia property. System involved catalyst, pH adjustment, and precipitation in an automated redundant fashion to allow flexibility in operation during maintenance or during partial system failure. The effluent was discharged in a trout stream with lead standards 5 times less than drinking water standards.
- Developed an engineering alliance partnership for a book of projects in the mid-western United States. Tasks included training of partner's personnel, design of approaches for managing engineering projects, extensive regulatory negotiations, and development of comprehensive design methodologies for a portfolio of over 300 projects. Projects ranged in budget from \$10K to \$1M.
- Assessed existing corrective actions for a book of 70 projects in the mid-West United States and recommended changes as appropriate. Managed all remediation aspects of these projects, including remedial action plan preparation, well construction, regulatory communications, system construction, maintenance, sampling, and reporting.
- Designed SPCC plans for book of over 60 facilities throughout the southeastern United States, including design of diversion, containment, and separation processes. The effort also included development of training, reporting, and inspection efficiencies to allow for cost effective implementation of SPCC plans and amendments.
- Supervised construction of a dual phase extraction system for a Georgia HSRA project in Atlanta, Georgia at an indoor location with many logistical restrictions and subsurface obstructions. The project included supporting of the building foundation, significant utility protection, and working with multiple entities performing building construction in the same area.
- Participated in various southeastern petroleum and Georgia HSRA projects for source area remediation via dig and haul methods. Projects ranged in volume

from 50 tons to 15,000 tons of impacted material removed. Most extensive project consisted of 2-shift per day, 8-week project in which extensive sloping, shoring, free product removal, utilities protection, regulatory oversight, and change orders for a federally funded project under strict deadline. The largest project included excavation underneath a partially constructed concourse at Miami International Airport.

- Designed flexible remediation approach and associated AS/SVE design for UST project in Monroe, Georgia, in which a building was built over remediation area after the commencement of remediation. Project included extensive coordination with the building contractor conducting a multimillion dollar construction project.
- Invented a patented dynamic soil and groundwater remediation process that is currently being applied on a Ridge project. The patent primarily relates to remediation wells, controls, and software that result in optimization of remediation efficiency.
- Participated in design and implementation of enhanced bioremediation applications for numerous projects, including oxidation, reduction, biosparging, and bioslurping.
- Participated as engineer or construction manager or both for more than 35 remediation installation projects for various commercial clients and government agencies. Remediation systems included: dual phase extraction, soil vapor extraction, air sparging, metals treatment, free product removal systems, and groundwater pump and treat.
- Performed contracting and oversight of operation and maintenance activities for over 45 remediation projects for systems installed by Ridge and by others. Tasks included routine servicing, engineering evaluations / recommendations, and minor and major system modifications.
- Provided remediation seminar for dual phase extraction, which included extensive evaluation of GUST Trust Fund project spending and associated technical benefits. Also, have trained in excess of over 50 technicians and project professionals in the past 20 years.
- Performed or supervised more than 100 Phase I Environmental Site Assessments primarily in the southeastern United States.