



STATEMENT OF QUALIFICATIONS



March 6, 2009

1.0 INTRODUCTION

Terraquest Environmental Consultants, P.C. (Terraquest) formed to provide competent, efficient, and cost-effective environmental consulting services to clients in industry, banking, law, and commercial real estate. Professionally prepared environmental site assessments, hydrogeological assessments, and geophysical surveys in addition to consulting in groundwater resource development, underground storage tank management, and expert witness testimony are the products offered by Terraquest. Our clients benefit from our many years of experience in environmental consulting and are provided a level of confidence that comes from knowing that all professional services provided by Terraquest are supervised by licensed professionals.

Terraquest concentrates on project management instead of corporate management and we are able to consistently meet our goal of completing projects on time and within budget despite the many complications which often arise. Terraquest constantly strives to help solve clients' environmental problems through professional application of good environmental practice.

This Letter of Interest was prepared to introduce Terraquest and summarize some of the many services offered. This document presents specific areas of technical expertise, the resumes of key personnel, and examples of successfully completed environmental consulting projects.



2.0 AREAS OF EXPERTISE

Terraquest Environmental Consultants, P.C. offers a broad range of expertise in the following environmental service areas:

2.1 Petroleum Tank Release Response and Remediation

Federal and State regulations and an increasing public awareness of environmental impacts from leaking aboveground (ASTs) and underground storage tanks (USTs) have resulted in the need for specific expertise in petroleum storage tank assessment and remediation. Terraquest has extensive experience in the closure of storage tanks containing petroleum products and the subsequent assessment and remediation of petroleum impacted soil and groundwater. Specific areas of expertise include:

- ➔ Removal of existing aboveground and underground storage tank systems and subsequent field screening and soil sampling beneath the excavated tank to confirm the presence or absence of soil contamination.
- ➔ Utilization of several methods for the successful remediation of petroleum contaminated soils. Soil remediation methods include bioremediation, the incorporation of contaminated soils into brick manufacture, incineration, and in situ techniques including soil vapor extraction and bioventing.
- ➔ Investigation of groundwater quality at sites where released petroleum products have potentially impacted saturated soils. Terraquest has mapped groundwater contaminant plumes associated with petroleum releases and determined the rate/extent of contaminant plume migration. Terraquest has also utilized methyl tertiary-butyl ether, ethylene di-bromide, and known petroleum product gas chromatograms (in addition to BTEX and TPH) to trace specific sources of contamination.
- ➔ Completion of various state trust fund applications in an effort to obtain reimbursement of costs associated with the investigation/remediation of sites with leaking USTs. We average 99% reimbursement from the North Carolina State Trust Fund.



2.2 Hydrogeological Assessments

Terraquest provides soil and groundwater assessment services to determine site suitability and assess potential contaminant sources. These services are utilized primarily to evaluate potential landfill sites and conduct soil and groundwater studies of properties contaminated with heavy metals, herbicides, pesticides, chlorinated solvents, and other hazardous wastes.



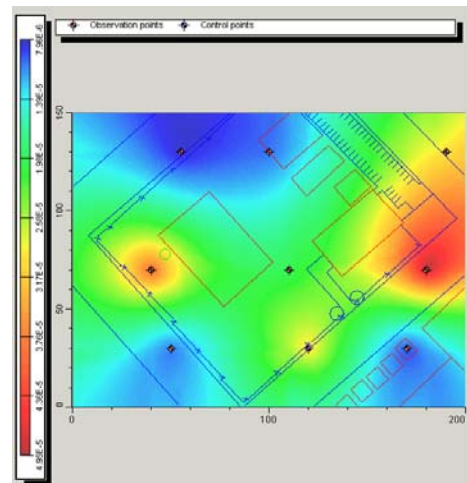
Terraquest owns a Geoprobe 6610DT Direct Push/Augering Machine that can be used to conduct soil and groundwater investigations. The 6610DT has hollow-stem auger capability for the installation of Type II groundwater monitoring wells. Having in-house direct push/drilling capabilities allows Terraquest to be very cost-competitive.



All subsurface studies are planned, implemented, and interpreted by professional geologists licensed to practice in the states of North Carolina, Tennessee, and Virginia. Terraquest also has two North Carolina licensed drillers. Once a remedial investigation study is completed, Terraquest utilizes the data collected to specify the most efficient and cost-effective groundwater remediation alternative.

2.3 Contaminant Fate and Transport Modeling

Computer modeling of contaminant fate and transport in groundwater environments is primarily used to determine the degree of risk associated with contaminant plumes that migrate to sensitive receptors (drinking water wells, surface water bodies, and other structures). Numerical and analytical models may be used to simulate the processes of advection, dispersion, sorption, degradation, and volatilization of substances to predict the distribution of contaminants in the groundwater environment. Terraquest's professional staff is trained and experienced at using these models to determine alternative cleanup standards and support arguments for remediation through natural attenuation and biodegradation. Corrective action strategies which use alternative treatments or rely on natural attenuation to achieve remediation are well known to save considerable amounts of money over the life of a project.



2.4 Field Scale Pilot Testing

Field scale pilot testing is used to establish critical parameters of the soil and groundwater environment at sites that require active remediation or at sites that require a rigorous contaminant fate and transport modeling effort. Terraquest has conducted pilot tests to support the design of soil vapor extraction, bioventing, air sparging, biosparging, and pump-and-treat systems. Data collected during the pilot tests is reduced by licensed professionals and incorporated into reports for submittal to clients and/or federal or state environmental regulators.

2.5 Environmental Site Assessments

Environmental property surveys are utilized by lending institutions, industry, and commercial real estate brokers to establish the environmental baseline conditions of a given site prior to a property transaction. The purpose of an environmental property survey is to identify environmental risk at a given site in order to avoid acquiring a liability associated with soil or groundwater contamination. Terraquest utilizes a two-phased approach during these property assessments.

Phase I includes a physical reconnaissance and historical review of the subject property. During Phase I, a visual observation of the property is conducted to identify overt signs of potential environmental risk. Close scrutiny is also paid to surrounding properties that could potentially contribute contamination from off-site. A public record and regulatory agency review is conducted to establish the history of the site and surrounding properties. Historical aerial photographs and a property title search are examined to augment the regulatory file review. Finally, site geology and topography are investigated to determine direction of flow of surface and groundwaters. All Phase I Environmental Site Assessments are conducted in accordance with ASTM Standard Practices or US EPA All Appropriate Inquiry rules.



If areas of concern are identified on- or off-site during Phase I, a Phase II field sampling effort is initiated upon client approval. This second phase typically includes the sampling of soil, groundwater, surface waters or suspected hazardous materials, both on- and off- property, to determine the extent of environmental liability at the site.

All data collected during the Phase I and Phase II evaluations are assembled in a comprehensive site assessment report. The report becomes an integral portion of the property transfer package during negotiation of the subject property's divestiture or acquisition.

2.6 Geophysical Surveys

Geophysical surveys can be cost-effective and useful for obtaining subsurface information at sensitive study sites. Information such as depth to groundwater, depth to bedrock, subsurface stratigraphy, presence or absence of buried metal, and groundwater contaminant plume geometry can be determined using geophysical techniques without disturbing existing structures at the study site. Data collected during geophysical surveys can be utilized to identify the location of buried underground storage tanks, locate buried drums, delineate the extent of groundwater contamination, and gain a preliminary understanding of subsurface structures prior to initiating a remediation plan.



2.7 Environmental Permitting

Environmental permits are required for many activities including the discharging of treated groundwater to surface water systems, accessing public right-of-ways to install wells, trenches or discharge pipelines on right-of-way properties, landfarming contaminated soil, installing closed-loop groundwater remediation systems, and many other activities. Terraquest is experienced at procuring permits from state and local agencies for these and other circumstances.

2.8 Groundwater and Soil Remediation Systems

Terraquest offers sound technical experience in the installation, and operation of groundwater and soil remediation systems. The experienced staff can evaluate the specific characteristics of a contaminated site and recommend an effective treatment strategy. Remediation system design is a subcontracted engineering service. Both traditional and more advanced technologies are used, depending on the site and the treatment objectives.

For system installations, Terraquest offers complete project management. Only reputable contractors are used, and on-site supervision is provided to assure high quality.

Even a well designed and installed system can not provide optimal performance unless operated properly. Terraquest recognizes this fact and provides complete maintenance and operation services. The focus of these services is optimization of system operation to minimize the duration of the cleanup effort and, therefore, the cleanup cost.

The staff at Terraquest can also provide solutions which take advantage of regulatory allowances in alternate cleanup standards and natural attenuation. Terraquest



continues to strive for quick response to changes in regulations and technologies as part of our commitment to client advocacy.

Terraquest also offers remediation installation and maintenance services. Terraquest employs service technicians with over 15 years of remediation system installation and maintenance. This technical experience allow for Terraquest to provide excellent remediation system services to clients.

2.9 Litigation Support

Environmental contamination incidents are often the subject of intense litigation which is undertaken to determine the identity of a party responsible for site remediation. Many times, the opinion of experts are required to determine facts related to the litigation. Terraquest is experienced at providing expert witness testimony for clients when professional environmental, geological, or hydrogeological considerations may influence the outcome of litigation.

2.10 Brownfields Program

Terraquest works with local commercial real estate developers and the North Carolina Division of Waste Management – Brownfields Program to develop properties that would otherwise be unused due to potential contamination concerns. These properties are commonly referred to as Brownfields. A "Brownfields site" is an abandoned, idled, or underused property where the threat of environmental contamination has hindered its redevelopment. The goal of a Brownfields agreement is to allow the underused property to have a productive use rather than building in a green space or undeveloped area and contributing to urban sprawl.

2.11 Chlorinated Solvent Remediation (Dry Cleaners)

Terraquest has the ability to characterize releases of chlorinated solvents, typically from dry cleaners, and to interface with the appropriate regulatory agency in developing an appropriate remedial strategy. Terraquest also has a network of subcontractors specialized in various aspects of site decontamination. Specialized services include hazardous waste characterization, disposal, and the injection of various chemicals into the subsurface to remediate the contaminant plume.

3.0 RESUMES OF KEY PERSONNEL

MICHAEL J. BROWN, P.G.

EDUCATION

B.S. Earth Science - 1987
University of North Carolina at Wilmington
Wilmington, NC

Significant post-graduate education in mining geology, hydrogeology, groundwater modeling, aquifer testing, and shallow geophysical techniques

PROFESSIONAL REGISTRATION

North Carolina Licensed Geologist
Registration No. 1185

Virginia Professional Geologist
Registration No. 1369

Tennessee Professional Geologist
Registration No. 2240

SPECIALTIES

- ◆ Hydrogeologic investigations
- ◆ UST and AST management including permanent system closure, soil and groundwater assessments
- ◆ Computer assisted data analysis and presentation
- ◆ Soil vapor extraction and bioventing tests for vadose zone soil remediation
- ◆ Environmental site assessments for commercial property transactions
- ◆ Oversight of specialty drilling operations
- ◆ Geophysical surveys using various instruments to locate mineralized zones

MEMBERSHIPS

National Groundwater Association
Groundwater Professionals of North Carolina

EXPERIENCE

11/00 - Present President
Terraquest Environmental Consultants, P.C.
Mebane (formerly in Carrboro), NC

- Oversee technical staff, coordinate project activities, develop marketing plans, and manage daily operations
- Prepare underground storage tank closure, Phase I and II Limited Site Assessments, Comprehensive Site Assessments, and Corrective Action Plan reports
- Interface with state environmental regulatory personnel on behalf of clients in various negotiations including access to the state underground storage tank trust fund
- Oversee specialty drilling operations (coring, deep air hammer/rotary, multi-cased wells)
- Conduct contaminant fate and transport modeling

7/97 - 11/00 Vice President
3/97 - 7/97 Principal in Charge
6/93 - 3/97 Senior Project Manager
Turner Environmental Consultants, P.C.
Carrboro, NC

- Managed technical staff, coordinated project activities, and managed daily operations
- Prepared underground storage tank closure, Phase I and II Limited Site Assessments, Comprehensive Site Assessments, and Corrective Action Plan reports
- Interfaced with state environmental regulatory personnel on behalf of clients in various negotiations
- Supervised specialty drilling operations (coring, deep air hammer/rotary, multi-cased wells)
- Conducted contaminant fate and transport modeling
- Presented innovative remedial technologies to regulatory personnel
- Performed environmental site assessments of commercial properties for area banks

9/91 - 6/93

Environmental Geologist
ENSCI Engineering, P.A.
Raleigh, NC

- Completed hydrogeologic assessments at various petroleum spill sites, supervised various stages of investigations and assisted in implementation of clean-up program
- Participated in the removal of buried drums at a hazardous waste site (Level B responder)
- Conducted various aquifer tests to determine aquifer properties prior to the design and installation of remedial systems

2/91 - 9/91

Project Geologist/Exploration Geologist
Cominco American Resources
Chapel Hill, NC

- Conducted soil and rock sampling programs for the location of base- and precious-metals in the southeastern United States; primary targets were old mining sites
- Conducted geophysical surveys to locate mineralized zones prior to drilling

4/87 - 2/91

Project Geologist/Project Manager
Carolina Exploration Company
Burlington, NC

- Conducted soil and rock sampling programs for the location of base- and precious-metals in the southeastern United States; primary targets were old mining sites
- Supervised reverse circulation and rock core drilling; logged core

JONATHAN REED GRUBBS, P.G.

EDUCATION

B.S. Geology & B.A. History - 1995
University of North Carolina at Chapel Hill
Chapel Hill, NC

Post-graduate education in hydrogeology, groundwater modeling, aquifer testing, and Phase I Environmental Site Assessments

Extracurricular experience gained in accounting, marketing, finance, operations, and organizational behavior by participating in a program offered by the Kenan-Flagler Business School at UNC

PROFESSIONAL REGISTRATION

North Carolina Licensed Geologist
Registration No. 1691

North Carolina Licensed Driller
Registration No. 3001

SPECIALTIES

- Hydrogeologic investigations
- Liaison between client and regulatory agencies
- Risk-based Corrective Action regulations and guidelines
- Computer assisted data analysis and presentation
- ASTM Phase I and Phase II Environmental Site Assessments for commercial property transactions
- Oversight of specialty drilling operations
- Analysis and management of landfill groundwater monitoring analytical databases
- Non-commercial UST regulation
- Locating sites by GPS equipment

MEMBERSHIPS

National Groundwater Association
Groundwater Professionals of North Carolina

EXPERIENCE

11/00 - Present Vice President
Terraquest Environmental Consultants, P.C.
Mebane (formerly in Carrboro), NC

- Oversee technical staff, coordinate project activities, and manage daily operations
- Prepare underground storage tank closure, Phase I and II Limited Site Assessments, Comprehensive Site Assessments, and Corrective Action Plan reports
- Interface with state environmental regulatory personnel on behalf of clients in various negotiations including access to the state underground storage tank trust fund
- Oversee specialty drilling operations (coring, deep air hammer/rotary, multi-cased wells)
- Conduct contaminant fate and transport modeling
- Perform environmental site assessments of commercial properties for area banks
- Conduct hydrogeologic pilot studies including constant rate aquifer tests, slug tests, soil vapor extraction tests, and bioventing tests

9/97 - 11/00 Project Manager
Turner Environmental Consultants, P.C.
Carrboro, NC

- Managed technical staff, coordinated project activities, and managed daily operations
- Prepared underground storage tank closure, Phase I and II Limited Site Assessments, Comprehensive Site Assessments, and Corrective Action Plan reports
- Interfaced with state environmental regulatory personnel on behalf of clients in various negotiations including access to the state underground storage tank trust fund
- Supervised specialty drilling operations (coring, deep air hammer/rotary, multi-cased wells)
- Conducted contaminant fate and transport modeling
- Performed environmental site assessments of commercial properties for area banks and the University of North Carolina at Chapel Hill
- Conducted hydrogeologic pilot studies including constant rate aquifer tests, slug tests, soil vapor extraction tests, and bioventing tests

9/95 - 9/97

Project Geologist
Turner Environmental Consultants, P.C.
Carrboro, NC

- Implemented underground storage tank closures by supervising subcontractors, collecting soil and water samples for site assessment purposes, and documenting site conditions for inclusion in technical reports
- Reduced data and prepared groundwater monitoring reports
- Prepared underground storage tank closures, Phase I and II Limited Site Assessments, Comprehensive Site Assessments, and Corrective Action Plan reports
- Conducted hydrogeologic pilot studies including constant rate aquifer tests, slug tests, soil vapor extraction tests, and bioventing tests
- Supervised monitoring well and soil boring installation

8/93 - 5/95

Laboratory Technician
Geology Department
University of North Carolina
Chapel Hill, NC

- Documented paleoenvironmental conditions by analyzing smear slides for coccoliths
- Developed an efficient method of sample processing allowing for large amounts of samples to be processed in a short time

[Ryan D. Kerins](#)

EDUCATION

B.S. Environmental Resource Management, Minor Marine Science - 1999
The Pennsylvania State University
University Park, PA

Recipient of Raymond F. Russell Scholarship, Twice recipient of N.C. Harris Scholarship,
Former Member of Penn State Marine Science Society

PROFESSIONAL REGISTRATION

Water Pollution Control System Operator – Physical / Chemical Grade 1
Certification No. PC-1 / 986481

SPECIALTIES

- Hydrogeologic investigations
- Liaison between client and regulatory agencies
- Risk-based Corrective Action regulations and guidelines
- Computer assisted data analysis and presentation
- Supervision of monitoring well and soil boring installation
- Sampling soil, surface water, and groundwater according to US EPA and state guidelines
- Remediation system maintenance
- Maintenance of field equipment
- Data compilation and validation of field data for use in technical reports

MEMBERSHIPS

National Groundwater Association
Groundwater Professionals of North Carolina

EXPERIENCE

8/01 - Present	Project Manager
11/00 - 8/01	Environmental Field Technician Terraquest Environmental Consultants, P.C. Mebane (formerly in Carrboro), NC

- Oversee technical staff and coordinate project activities
- Prepare underground storage tank closure, Phase I and II Limited Site Assessments, Comprehensive Site Assessments, and Corrective Action Plan reports

- Interface with state environmental regulatory personnel on behalf of clients
- Oversee specialty drilling operations (coring, deep air hammer/rotary, multi-cased wells)
- Conduct hydrogeologic pilot studies including constant rate aquifer tests, slug tests, soil vapor extraction tests, and bioventing tests
- Maintenance manager of the remediation systems
- Prepare bid specifications for remediation systems

8/99 - 11/00 Environmental Field Technician
Turner Environmental Consultants, P.C.
Carrboro, N.C.

- Collected soil, surface water, and groundwater samples according to US EPA guidelines for analysis
- Supervised monitoring well and soil boring installation
- Maintained operation of field systems
- Conducted hydrologic pilot studies

CHRIS L. BOGGS, P.G.

EDUCATION

Bachelor of Science, Geology,
University of Cincinnati,
Cincinnati, Ohio, 1991

PROFESSIONAL REGISTRATION

North Carolina Professional Geologist
Registration #1418

South Carolina Professional Geologist
Registration #2101

Georgia Professional Geologist
Registration #1382

SPECIALITIES

- ➡ Soil and Groundwater investigations
- ➡ Groundwater modeling including fate and transport of contaminants
- ➡ Environmental site assessments for property transactions
- ➡ Design and implementation of aquifer tests
- ➡ Negotiation with regulatory agencies

EXPERIENCE

4/08-Present Project Manager
Terraquest Environmental Consultants, P.C.
Mebane, North Carolina

- Oversee technical staff, coordinate project activities, develop marketing plans, and manage daily operations
- Prepare underground storage tank closure, Phase I and II Limited Site Assessments, Comprehensive Site Assessments, and Corrective Action Plan reports

- Interface with state environmental regulatory personnel on behalf of clients in various negotiations including access to the state underground storage tank trust fund
- Oversee specialty drilling operations (coring, deep air hammer/rotary, multi-cased wells)
- Conduct contaminant fate and transport modeling

3/06- 2/08 Project Manager
SEI Environmental, Inc.
Raleigh, North Carolina

- Management of 30+ PFP sites in South Carolina in accordance with SCDHEC requirements.
- Negotiated closure of a number of these sites within South Carolina guidelines.
- Supervising geologist for projects in North Carolina, South Carolina, and Georgia.

1/06-3/06 Independent Contractor
Various Environmental Firms

- Contract experience in sampling, drilling, and project oversight.

8/05-1/06 Project Manager
Piedmont Geologic Services
Raleigh, North Carolina

- Management of projects of various size and type including UST removals and closures and soil and groundwater investigations. Completion of Phase I Environmental Site Assessments on industrial and commercial properties
- Groundwater remediation system O&M, installation, and troubleshooting

1/02-8/05 Senior Geologist
VEETech, P.C.
Cary, North Carolina

- Generated proposals for a wide variety of environmental projects for federal, state, and local government agencies
- Gained approval for a proprietary bioremediation product in North and South Carolina

- Implemented bioremediation at ten petroleum sites in South Carolina achieving greater than 90% reduction in contaminant concentrations at seven sites within one year.
- Managed a two year ID/IQ contract for UST assessment and remediation services for the NCDOT. Completed Phase I and Phase II Limited Site Assessments, Comprehensive Site Assessments and Corrective Action Plans. Managed a contamination assessment at the Marine Corps Air Station in Beaufort, South Carolina. Assessment tasks included: geophysical survey, multi-media sampling, well installation, and hydrogeologic evaluation.

1/01 -12/01 Director of Business Development
 Agra Environmental, Inc.
 Cary, North Carolina

- Developed teaming strategies for an 8a SDB to enhance business opportunities.

11/96-12/00 Manager, Environmental Assessments
 Canal Environmental Services
 Florence, South Carolina

- Conducted Phase I Environmental Site Assessments on over 700,000 acres of timber land as well as a number of industrial and commercial properties.
- Conducted soil and groundwater assessments at Underground Storage Tank and non-UST facilities in North Carolina and South Carolina.
- Participated in wetlands delineation, endangered species assessment, and shoreline inventory projects in North Carolina, South Carolina, and Georgia.

6/94-8/96 Project Geologist
 Aquaterra, Inc.,
 Greensboro, North Carolina

- Management of projects of various size and type including UST removals and closures and soil and groundwater investigations.
- Direction of field activities including the excavation of 10,000 cubic yards of impacted soil, collection of 2,100 soil samples, and the installation of 80 bioventing and vapor extraction wells during the installation of a soil and groundwater remediation system in Winston-Salem, North Carolina.
- Completion of Phase I Environmental Site Assessments on industrial and commercial properties.

- Preparation of reports for a variety of projects including Comprehensive Site Assessments, Site Characterization Reports (Virginia), UST Closure Reports, Initial Soil and Groundwater Assessment Reports, and Phase I Environmental Site Assessment Reports.

9/91-6/94

Staff Geologist
ENSCI Corporation,
High Point, North Carolina

- Contractor Quality Control Manager for federal government projects at the Army Reserve Centers in Winston-Salem and Durham, North Carolina, the USMC Base, Camp Lejeune, North Carolina, the Naval Weapons Station in Yorktown, Virginia, and the US Coast Guard Reserve Training Center in Yorktown, Virginia. Responsibilities included: management of submittals, direction of company employees and subcontractors, cost management, and invoicing.
- Project Geologist for 10 former UNOCAL facilities in North Carolina and Virginia. Responsibilities included: direction of field activities including UST removal, soil excavation, and drilling, preparation of reports including UST closure reports, quarterly groundwater monitoring reports, Comprehensive Site Assessment reports, Corrective Action Plans for soil and groundwater, and preparation of North Carolina Tank Trust Fund reimbursement claims.

[Nicholas Perry](#)

PROFESSIONAL REGISTRATION

North Carolina Licensed Driller
Registration No. 3329

SPECIALTIES

- Supervision of monitoring well and soil boring installation
- Sampling soil, surface water, and groundwater according to US EPA and state guidelines
- Remediation system maintenance
- Field maintenance on equipment
- Data compilation and validation of field data for use in technical reports

EXPERIENCE

8/04 – Present Lead Driller / Environmental Technician
Terraquest Environmental Consultants, P.C.
Mebane (formerly in Carrboro), NC

- North Carolina licensed driller. Oversee drilling activities
- Collect soil, surface water, and groundwater samples according to US EPA guidelines for analysis
- Maintain operation of remediation systems
- Conduct hydrologic pilot studies

11/01 – 8/04 Environmental Technician
Terraquest Environmental Consultants, P.C.
Carrboro, NC

- Collect soil, surface water, and groundwater samples according to US EPA guidelines for analysis

Wesley Sorrells

EDUCATION

B.S. Recreation Administration - 1995
Mars Hill College
Mars Hill, NC

PROFESSIONAL REGISTRATION

North Carolina Licensed Driller
Registration No. 3577

SPECIALTIES

- Supervision of soil boring installation
- Sampling soil, surface water, and groundwater according to US EPA and state guidelines
- Remediation system maintenance
- Field maintenance on equipment
- Data compilation and validation of field data for use in technical reports

EXPERIENCE

10/05 – Present Assistant Driller / Environmental Technician
Terraquest Environmental Consultants, P.C.
Mebane (formerly in Carrboro), NC

- Assist with drilling activities
- Collect soil, surface water, and groundwater samples according to US EPA guidelines for analysis
- Maintain operation of remediation systems
- Conduct hydrologic pilot studies

[Andy Wrenn](#)

EDUCATION

B.S. Natural Resources Management- 2007
Western Carolina University
Cullowhee, NC

SPECIALTIES

- Supervision of soil boring installation
- Sampling soil, surface water, and groundwater according to US EPA and state guidelines
- Remediation system maintenance
- Field maintenance on equipment
- Data compilation and validation of field data for use in technical reports

EXPERIENCE

10/07 – Present Environmental Technician
Terraquest Environmental Consultants, P.C.
Mebane, N.C.

- Collect soil, surface water, and groundwater samples according to US EPA guidelines for analysis
- Maintain operation of remediation systems
- Conduct hydrologic pilot studies

4.0 REPRESENTATIVE PROJECT EXPERIENCE

NOTE: This is only a partial list of Terraquest's representative project experience. Please contact us for additional information or assistance.

Quality Oil Company, LLC - Winston-Salem, NC

UST Closure Supervision and Reporting, Initial Site Characterizations, Phase I and II Limited Site Assessments, Free Product Recovery, Comprehensive Site Assessments, Corrective Action Plans, and Installation and Maintenance of Remediation Systems - Multiple Sites

As principle consultant to Quality Oil Company, Terraquest has supervised UST closure activities and completed Initial Site Characterizations and Phase I and II Limited Site Assessments at multiple active service stations and bulk fuel facilities in North Carolina and Virginia. We have completed several groundwater monitoring well networks which have completely defined the horizontal and vertical extent of contaminated groundwater and free-phase product at the sites, and initiated free product recovery operations as required by state and federal regulations. Terraquest has assisted with the design, installed, and currently maintains a number of active remediation systems such as pump and treat, air- and bio-sparging, bioventing, and soil vapor extraction.

Main Street Properties of Chapel Hill, LLC – Chapel Hill, NC

Development of a Brownfields Agreement for a petroleum bulk storage facility in Carrboro, NC

Terraquest worked with the prospective developer (Main Street Properties) in crafting the letter of intent, subsequent site assessment, and final Brownfields agreement for a former petroleum bulk storage facility. The Brownfields agreement established the limited liability exposure Main Street Properties has concerning the release incident at the property, established property tax incentives, allowed the lending institution to provide financing, and redeveloped an underused property in Carrboro.

Confidential Client - Durham, NC

Release discovery, initial assessment, and completion of the Certification and Assessment and Remediation Agreement processes for admittance into the North Carolina Drying Cleaning Solvent Cleanup Program

Terraquest completed the release discovery and initial assessment of a former dry cleaner property in Durham, NC. The primary contaminant tetrachloroethylene was discovered in the soil and groundwater in concentrations above the applicable regulatory standards. Terraquest was the liaison between the client and the North Carolina Drying Cleaning Solvent Cleanup Program (DCSP) and completed the certification application and the assessment and remediation agreement for entry into the DCSP.

Crossroads Express – Cary, NC

Completed an expedited site assessment and excavation of contaminated soils to allow the closure of \$7 million real estate transaction

Terraquest completed an expedited limited site assessment (LSA) of a former gas station and excavated over 7,000-tons of contaminated soil to satisfy the requests of the developer purchasing the property. All of the assessment and excavation activities were completed in less than two months after the release discovery and allowed for the property sale to close on schedule.

Redox Tech, LLC – Morrisville, NC

Provide Geoprobe services for the purpose of subsurface injection and soil vapor extraction well installation

Terraquest has provided Geoprobe services at various sites for Redox Tech, LLC. Services include the injection of chemicals to reduce contaminant concentrations in the subsurface and the installation of soil vapor extraction wells.

Portnoy Environmental – Houston, TX

Provide Geoprobe and consulting services at various pipeline facilities.

Terraquest has provided Portnoy Environmental Geoprobe and consulting services at various pipeline facilities. Soil sampling of old oil pits was conducted to assess the horizontal and vertical extent of impact.

Stancil Oil Company - Selma, NC

Initial Site Characterizations, Phase I and II Limited Site Assessments, Free Product Recovery, Comprehensive Site Assessments, Corrective Action Plans, and Installation and Maintenance of Remediation Systems - Multiple Sites

Terraquest has performed Initial Site Characterizations and Phase I and II Limited Site Assessments on multiple active service stations in and around Smithfield, NC for Stancil Oil Company. We have completed several groundwater monitoring well networks which have completely defined the horizontal and vertical extent of contaminated groundwater and free-phase product at the sites, and initiated free product recovery operations as required by state and federal regulations. Completion of Comprehensive Site Assessments and Corrective Action Plans are ongoing. Terraquest has proposed and implemented both natural attenuation and active remediation systems such as pump and treat and air-sparging.

Berth Oil Company - Winston-Salem, NC

Environmental Audits, Groundwater Monitoring Plans, Free Product Recovery, Comprehensive Site Assessments, and Corrective Action Plans - Multiple Sites

Terraquest has performed environmental audits on multiple active and inactive service stations in North Carolina. We have completed several groundwater monitoring well networks which have completely defined the horizontal and vertical extent of contaminated groundwater and free-phase product at the sites, and initiated free product recovery operations as required by state and federal regulations. Terraquest has assisted with the design, installed and currently maintains a number of active remediation systems such as pump and treat, air-sparging, and soil vapor venting.

Multiple Residential UST Site Checks

Terraquest has performed multiple site checks for residential UST systems in conjunction with real estate property transactions. Soil borings were advanced to beneath the UST where soil samples were collected. Samples were analyzed in the field with an organic vapor monitor and in the laboratory using standard protocols. Standardized reports were then generated to document all site check activities including the location of the subject tank and any samples collected during field activities. Further assessment work and site remediation were completed when required.

Branch Banking and Trust - Chapel Hill and Graham, NC

Multiple Phase I Environmental Site Assessments

Terraquest has performed Phase I Environmental Site Assessments on numerous vacant tracts of land and commercial properties in Guilford, Orange, and Wake counties in accordance with the ASTM Standards E 1527-00 and E1528-00. Inspections of subject properties were conducted to determine evidence of soil and/or groundwater contamination by searching for evidence of Recognized Environmental Conditions such as stained soil or tainted surface water, UST systems, drains, sumps, etc. Records research was conducted at multiple state and local government agencies to determine if historical releases had occurred at the subject property or at properties within a one half mile radius.

CitiGroup – New Jersey

Multiple Phase I Environmental Site Assessments

Terraquest has performed Phase I Environmental Site Assessments for CitiGroup at operating petroleum facilities in North Carolina in accordance with the ASTM Standards E 1527-00 and E1528-00. Inspections of subject properties were conducted to determine evidence of soil and/or groundwater contamination by searching for evidence of Recognized Environmental Conditions such as stained soil or tainted surface water, UST systems, drains,

sumps, etc. Records research was conducted at multiple state and local government agencies to determine if historical releases had occurred at the subject property or at properties within a one half mile radius.

Randolph Oil Company - Asheboro, NC

Expedited UST Closure and Site Assessment

Terraquest personnel planned and executed the removal of multiple USTs at a former gas station for the client within a short time period. A limited site assessment of the site was quickly completed to expedite site closure so future development of the property could progress as scheduled with no delays. The state trust fund was also accessed to reimburse the client of cleanup costs.

Bessemer Improvement Company - Greensboro, NC

Site Check and Initial Abatement Activities at Multiple UST Sites

Terraquest personnel have supervised the excavation and proper disposal of several hundred tons of petroleum contaminated soil at multiple UST sites for the Bessemer Improvement Company. An excavation contractor was selected and soil confirmation and waste characterization samples were collected for laboratory analysis. Technical and field data reports were written and submitted to the NC Division of Environmental Management.

Lee County Landfill

Landfill Monitoring Well Network Management

Terraquest has monitored and reported groundwater quality data to the North Carolina Division of Waste Management - Solid Waste Section for Lee County Landfill in Lee County, North Carolina.

University of North Carolina at Chapel Hill

UST Closure Supervision and Reporting, Initial Site Characterizations, Phase I and II Limited Site Assessments, Free Product Recovery, Comprehensive Site Assessments, Multiple Phase I Environmental Site Assessments for Commercial Real Estate

Under UNC-CH's Environmental Services Contract, Terraquest has supervised UST Closure activities and completed Initial Site Characterizations, Phase I and II Limited Site Assessments, and Comprehensive Site Assessments at multiple commercial and non-commercial UST locations on university property. Initiated free product recovery operations were initiated as required by state and federal regulations at certain commercial UST sites. The state trust fund so the client could be reimbursed for money spent on assessment and

corrective action. Phase I Environmental Site Assessments for Commercial Real Estate were performed on numerous vacant tracts of land and commercial and residential properties throughout North Carolina. The assessments were performed in accordance with the American Society for Testing and Materials Standards E 1527-00.

Knoll Environmental, Inc. – Needham, MA

Provide drilling and consulting services for property transactions.

Terraquest has provided Knoll Environmental, Inc. Geoprobe and consulting services at shopping centers in central North Carolina to aid in property transactions. Terraquest installed groundwater monitoring wells, logged soils, and collected soil samples. A secondary assessment was conducted at one of the properties to investigate a release of chlorinated solvents.

Shifrin & Associates – St. Louis, MO

Provide drilling and consulting services for Apex Oil terminal.

Terraquest has provided Shifrin & Associates drilling and consulting services at the Apex Oil bulk terminal in Wilmington, NC. Terraquest collected soil samples, installed groundwater monitoring wells, and installed groundwater recovery wells to investigate a significant petroleum release that was impacting the Cape Fear River. Terraquest assisted Shifrin & Associates with developing a free product recovery plan and preparation of various site maps.

Confidential Client – Durham, NC

Provide expert witness testimony

Terraquest provided assessment of an environmental release as well as expert witness testimony about the assessment and potential cause and remedial actions required to remedy the environmental release. The case was settled.

Numerous Clients

Public Awareness

Terraquest has completed public notification of assessment and remediation activities of UST Petroleum and Brownfield Agreements for numerous sites throughout North Carolina and Virginia. Public notification involves not only notification of the general public, health directors, local and state officials through publications, but also through registering of Notice of Residual Petroleum documents with local register of deed departments for petroleum releases and managing public comment periods for Brownfield Agreements.

5.0 REFERENCES

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