

Brownfield Cleanup Program Off-Site Investigation Work Plan

for

31/32 LIC LLC 37-25 31ST STREET LONG ISLAND CITY, NEW YORK

BCP SITE #C241182

October 2016 Revised November 2016

Prepared for:

New York State Department of Environmental Conservation Division of Environmental Remediation 625 Broadway Albany, NY 12233-7020

On Behalf of:

31/32 LIC LLC 100 Ring Road West, Suite 101 Garden City, New York 11530

Prepared by:

CA RICH Consultants, Inc. 17 Dupont Street Plainview, NY 11803 (516) 576-8844



November 11, 2016

New York State Department of Environmental Conservation 625 Broadway, 12th Floor Albany, NY 12233-7020

Attention: Caroline Eigenbrodt, Project Manager

Re: Off-Site Investigation Work Plan

31/32 LIC LLC/#C241182 37-25 31st Street Long Island City, New York

Dear Ms. Eigenbrodt:

CA RICH Consultants, Inc. (CA RICH) is pleased to provide you with this Off-Site Investigation Work Plan (OIWP) for the above-referenced project. This OIWP has been revised in accordance with comments in the Department's letter dated October 5, 2016, October 7, 2016, and November 10, 2016 and therefore supersedes our earlier versions.

If you have questions or require any additional detail, please do not hesitate to call our Office.

Respectfully submitted,

CA RICH CONSULTANTS, INC.

Victoria Whelan, QEP, CPG Associate

Guy Bobersky, NYSDEC via email CC:

Fredric Oliver, Volunteer via email Stephanie Selmer, NYSDOH via email Justin Deming, NYSDOH via email Richard Izzo, CA RICH via email Karen Mintzer, NYSDEC via email Larry Schnapf, Schnapf Law, via email

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A. RESUMES

Off-Site Investigation Work Plan

"31/32 LIC LLC"

37-25 31ST STREET

LONG ISLAND CITY, NEW YORK

BCP SITE #C241182

CERTIFICATION

I, Victoria Whelan certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Off-Site Investigation Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

02140003 November 11, 2016

IPEP QEP No. Date Signature

QEP Stamp

1.0 INTRODUCTION

This Off-Site Investigation Work Plan (OIWP) was prepared by CA RICH Consultants, Inc. (CA RICH) of Plainview, NY on behalf of 31/32 LIC LLC, for the Brownfield Cleanup Program (BCP), Site #C241182 relative to the planned residential redevelopment and improvement of 37-25 31st Street in Long Island City, Queens, New York, (hereinafter referred to as the 'Site' or the 'Property'). The Volunteer was accepted into the BCP in March 2016. This Off-Site Investigation Work Plan is based upon the guidelines set forth in Section 3 of NYSDEC's Draft Brownfield Cleanup Program Guide dated May 2004 (Ref. 1); NYSDEC's DER-10 Technical Guidance for Site Investigation and Remediation (Ref. 2); and the New York State Department of Health "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006 (Ref. 3). The proposed work discussed in this Work Plan will be conducted in accordance with procedures and plans previously approved by the NYSDEC in the April 2016 Remedial Investigation Work Plan (Ref. 4) which includes the Quality Assurance Project Plan and Health & Safety Plan prepared for this Site. For the purposes of this Work Plan, the contaminants of concern are Volatile Organic Compounds (VOCs).

This Work Plan addresses the off-site investigation activities to be completed as a further characterization and follow-up investigation based upon the results already reported from three subsurface investigations performed on the Property: 1) Limited Remedial Investigation Report dated February 2015 conducted by GZA Geo Environmental Inc. (Ref. 5); 2) Remedial Investigation Report dated October 2015 conducted by CA RICH (Ref. 6); and 3) BCP Remedial Investigation Report dated July 2016 by CA RICH (Ref. 7). This OIWP has been prepared because of elevated VOC detections in the soil vapor beneath the Property. Soil vapor detections are summarized below:

Soil Vapor - Soil vapor sample results contained petroleum-related VOCs present in low concentrations. Total concentrations of petroleum-related VOCs (BTEX) had a maximum concentration of 192.1 $\mu g/m^3$. Sample results indicated elevated levels of chlorinated VOCs including tetrachloroethene (max. of 250 $\mu g/m^3$) and trichloroethene (max of 12,500 $\mu g/m^3$). These compounds were detected above the monitoring/mitigation ranges established within the NYSDOH Final Guidance on Soil Vapor Intrusion. Elevated TCE levels were confirmed across the entire property.

A Remedial Action Work Plan (RAWP) was prepared for the Site. As part of the RAWP an off-site soil vapor intrusion study is required. This is the subject of this Work Plan. The purpose of this OIWP is to outline the scope of work to be followed during the off-site investigation of soil vapor contaminants near the subject Site.

2.0 PHYSICAL SITE CHARACTERISTICS

2.1 Site Description

The subject Site consists of a .40 acre, irregularly-shaped tax Lot. The Site address is 37-25 31st Street, Queens NY, 11101 (formerly 37-26 32nd Street and 37-27 31st Street). The New York City Tax map identifies the Site as Block: 373 Lot: 6. The Property has frontage on both 31st Street and 32nd Street and is located between 37th and 38th Avenue. The Site recently underwent demolition and is vacant, the old building slab remains in place.

The current zoning designation is M1-2/R6A which includes light manufacturing and residential use. The proposed use is consistent with existing zoning for the Property. The Site is relatively level and has no natural or artificial surface water bodies or impoundments. Water from rain events runs off into street storm drains. The depth to shallow groundwater ranges from 22 to 23 feet below grade. A Property Location Map is included as Figure 1.

2.2 Surrounding Land Use

The Site is bordered by a six-story, mixed-use residential and commercial building (zoned M1-2/R6A for mixed residential and commercial) to the north, 32nd Street to the east, several one-story industrial buildings (zoned M1-2/R6A for industrial, manufacturing and transportation utility) to the south, and 31st Street to the west. There are no schools, hospitals, or daycare centers within a 500-foot radius of the Property.

2.3 Hydrogeologic Setting

The Site is relatively level and has no natural or artificial surface water bodies or impoundments. Water from rain events runs off into street storm drains. The depth to shallow groundwater ranges from 22 to 23 feet below grade. Shallow groundwater beneath the Site flows to the southwest towards the East River and Dutch Kills. Underlying groundwater in this area of Queens is not used for potable supply purposes. New York City currently utilizes up-State reservoirs for its potable water supply. As the underlying groundwater is not used for potable supply purposes, no potable resources appear to be threatened by local groundwater contamination. According to maps and reports published by the United States Geological Survey (USGS), the Property is underlain by Quaternary age glacial and alluvial deposits with Harrison Gneiss underlying. The Site is underlain by medium grained sand and fill.

3.0 OFF-SITE INVESTIGATION

3.1 Objectives

The objective of the Off-site investigation is to determine the nature, extent and potential sources of impacted soil vapor near the Site. The scope of the investigation includes installation of temporary soil vapor points, sub-slab soil vapor, indoor air, and outdoor air sample collection.

3.2 Off-Site Access

Nine buildings have been selected for the off-site soil vapor intrusion evaluation. The addresses are listed below:

- 37-31 32nd Street
- 37-29 32nd Street
- 37-27 32nd Street
- 37-21 31st Street
- 37-11 30th Street
- 37-36 31st Street & 37-40 31st Street
- 31-01 38th Avenue
- 31-17 38th Avenue

First, letters will be sent via U.S. certified mail to each of the properties listed above requesting permission to perform this soil vapor intrusion sampling. A Property Access Agreement will be included with each letter. If permission is not granted as per the letter, CA RICH will visit each property in an attempt to speak with each tenant and/or owner about gaining access. Lastly, if permission is not granted, CA RICH will confer with NYSDEC about the NYSDEC helping in obtaining access to these properties. Should permission then be granted by the property owner, a walk through inspection will be completed to inventory any chemicals stored within the area of the proposed sampling, then a temporary sub-slab soil vapor sampling point will be installed in the basement, or the lowest floor level.

3.3 Sampling Point Installation and Sampling

During the heating season, four temporary soil vapor samples will be collected beneath the sidewalks surrounding the Site. In addition, ten sub-slab soil vapor sample locations have been proposed. Pending access to the ten locations, temporary sub-slab soil vapor points will be installed. All points will be installed utilizing a Bosch™ Hammer Drill in accordance with the NYSDOH "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October

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2006. Concurrently co-located indoor air samples will be taken with all sub-slab vapor samples. In addition, at least one outdoor air sample will be collected per day of sampling in accordance with New York State Department of Health, "Guidance for Evaluation Soil Vapor Intrusion in the State of New York" dated October 2006.

The sub-slab/soil vapor points will be constructed of a six-inch long stainless steel screen connected to ¼-inch poly-tubing. The annular space will be packed with coarse sand, creating a sampling zone two inches beneath the existing concrete slab/sidewalk. A clay seal will then be placed at the surface of the concrete.

One sample will be collected from each temporary sampling point at least 24-hours after installation. Concurrently four indoor air and four outdoor air samples will be collected. The indoor air samples will be collected from inside the neighboring structures if permission is granted. The indoor air sample locations may vary based on site access.

Prior to sampling, one to three volumes of soil gas will be purged from the soil vapor point using a calibrated air sampling pump. A bucket will be placed over the sample assembly and helium gas will be used to enrich the atmosphere around the sample location in combination with real-time air monitoring (for helium) to verify that ambient air was not infiltrating the sampling assembly during purging and sampling.

Once confirmed that ambient air is not being drawn into the assembly, the soil vapor will be screened for the presence of VOCs using a Photo-Ionization Detector (PID). After field screening is completed, the tubing will be connected to the SUMMA canister and a sample will be collected. The SUMMA canister regulators for the soil vapor, indoor air and outdoor air samples will be set to restrict the sample collection to not exceed 0.2 liters per minute over a 24-hour-time period for sub-slab sample locations and an eight-hour period for samples located in the sidewalks. The canisters will be submitted to a NYSDOH-certified laboratory for analysis of VOCs via EPA method TO-15 under chain-of-custody documentation.

Soil vapor point installation logs will be generated and will be included as an Appendix in the Off-Site Investigation Report. The logs will contain any local condition(s) that occurred during the sampling that may influence interpretation of the results (ie. weather). The proposed sampling locations are illustrated on Figure 2.

3.4 Sampling QA/QC Protocol

Field notes including observations of soil conditions, pertinent observations, diagrams (if appropriate) will be maintained and appropriate photographs will be taken. A record of each sample, including any pertinent observations about the sample, will be kept in a field notebook and/or appropriate logs and copies will be included within the Off-Site Investigation report.

Samples will be collected in laboratory-issued SUMMA canisters by CA RICH personnel and stored and shipped to CA RICH's subcontracted State-certified laboratory. Additional field and laboratory QA/QC protocols are included in the Site QAPP, which is included as an Appendix to the approved RIWP.

3.5 Health & Safety

A site-specific Health and Safety Plan (HASP) has been prepared and approved for the field portion of the Investigation. The HASP covers all activities, as well as emergency procedures and available emergency services in proximity to the Site. All proposed work discussed in this Work Plan will be conducted in accordance with the HASP, which is included as an Appendix to the approved RIWP.

3.6 Updated Key Personnel

Responsibility	Name and Phone Number	Task Description
Client Representative	Fredric Oliver (516) 816-9944	Volunteer
Project Manager	Victoria Whelan (516) 576-8844	Oversee and coordinate all technical aspects for the project
Site Safety Officers:	<u>Jason Cooper (516)576-8844</u> <u>William Fitchett (516)576-8844</u>	Coordinate and inspect all health and safety operations from the project site

Project Manager Alternate: Richard Izzo (516) 576-8844

Site Safety Officer Alternate: <u>Jessica Proscia (516) 576-8844</u>

Analytical Laboratory: Accutest Laboratories: Matt Cordova (732) 329-0200

Laboratory Validation: L.A.B Validation Corp. Lori Beyer (516) 523-7891

Updated resumes are attached in Appendix A.

3.7 Off-Site Investigation Report

Once the laboratory results are obtained and verified, an Off-Site Investigation report will be prepared for the NYSDEC. At a minimum, the Report will include the following items:

- A description of the work performed;
- Chemical inventories;
- Soil vapor point construction details;
- Laboratory summary tables compared to applicable guidance values;
- Maps including sampling locations;
- NYSDEC Electronic Data Deliverable (EDD);
- A Data Usability Summary Report including the laboratory data; and,
- Conclusions and Recommendations

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4.0 SCHEDULE

Activity	Time to Complete	
Submittal an Off-site Soil Vapor Investigation Work Plan	October 7, 2016	
DEC issues approval letters for RAWP	October 2016	
Issue Construction Notice Fact Sheet	November 2016	
Submission of Contractor Submittals	December 2016	
Implement the DEC approved Off-site Investigation	December - January 2017	
Begin redevelopment (construction) along with Implementation of RAWP	January 2017	
Off-Site Investigation Report Submittal	February 2017	
Completion of Remedial Activities	April 2017	
Final Engineering Report Submittal	June 2017	
Final Engineering Report approval and Fact Sheet	July 2017	
Certificate of Completion and Fact Sheet	December 2017	
Completion of Building	August 2018	

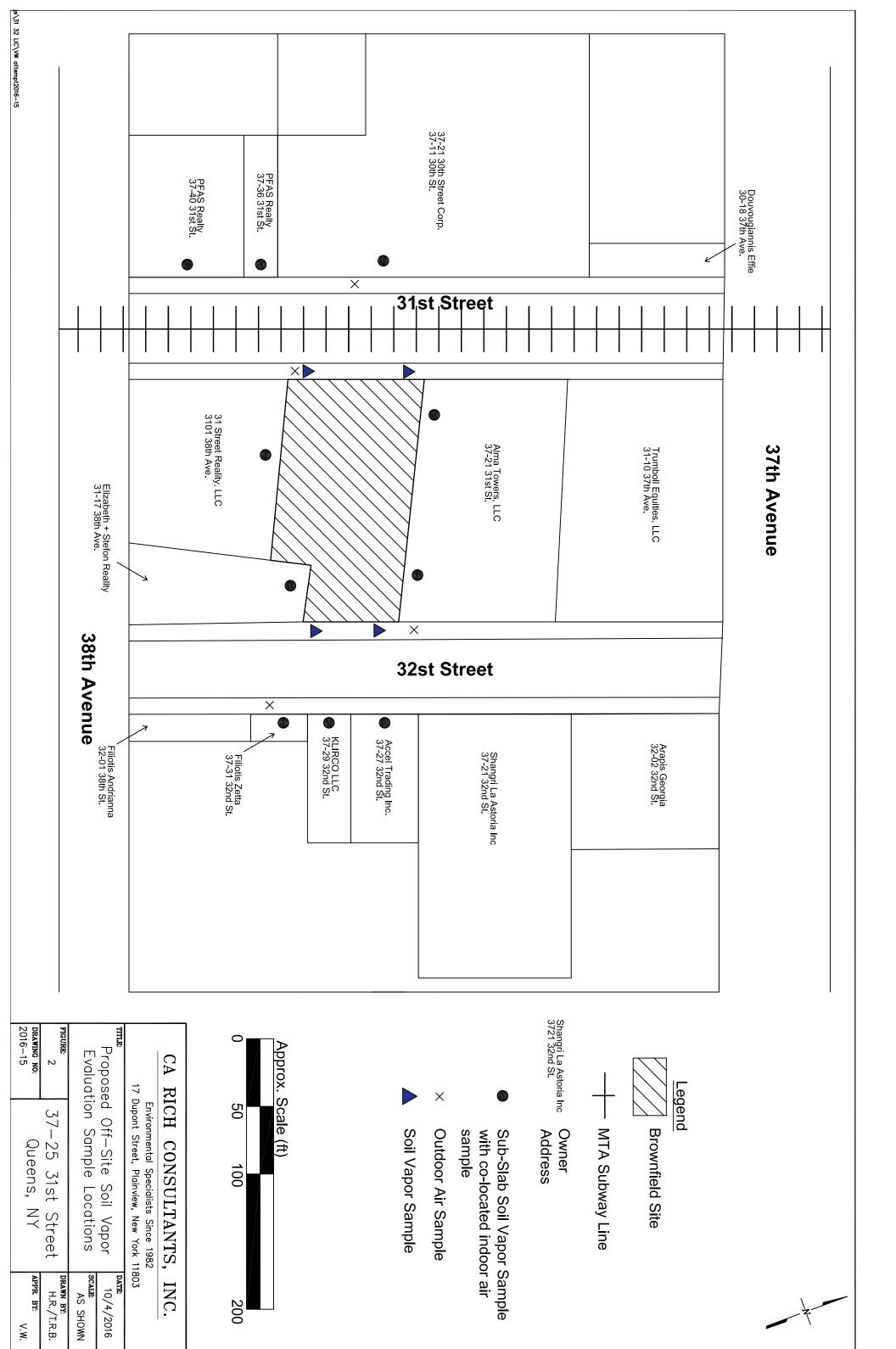
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5.0 REFERENCES

- 1. NYSDEC, May 2004, Draft Brownfield Cleanup Program Guide
- 2. NYSDEC, December 2002, Draft DER-10 Technical Guidance for Site Investigation and Remediation.
- 3. NYSDOH "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006.
- 4. CA RICH Consultants, Inc., Remedial Investigation Work Plan, 37-27 31st Street and 37-26 32nd Street, Queens, NY, April 2016.
- 5. GZA Geo Environmental, Inc., Limited Remedial Investigation Report, 37-27 31st Street and 37-26 32nd Street, Long Island City, NY, February 2015.
- 6. CA RICH Consultants, Inc., Remedial Investigation Report, 37-27 31st Street and 37-26 32nd Street, Queens, NY, October 2015.
- 7. CA RICH Consultants, Inc., Remedial Investigation Report, 37-25 31st, Queens, NY, June 2016.

FIGURES





Appendix A

RICHARD J. IZZO, CPG

TITLE

Associate

EDUCATION

Bachelor of Science, Geology, State University of New York at Oneonta, 1985

CERTIFICATIONS AND REGISTRATIONS

AIPG Certified Professional Geologist No. 9644
Hazardous Waste Operations & Emergency Response Supervisor (29 CFR 1910.120)
Health & Safety Operations at Hazardous Materials Sites (29 CFR 1910.120)

PROFESSIONAL AFFILIATIONS

Association of Groundwater Scientists and Engineers American Society for Testing and Materials (ASTM)

PROFESSIONAL EXPERIENCE

Associate, CA Rich Consultants, Inc., 1985 - Present

Mr. Izzo possesses over twenty five years experience in the design, implementation, and management of environmental testing and remediation programs throughout the Tri-State Area. Examples of these programs include a NYSDEC Brownfields Investigation in Bushwick, NY, a Remedial Investigation for a Superfund Site in Maybrook, NY and a NYSDEC Phase II investigation in Croton-on-Hudson, NY. His responsibilities included design of monitoring well networks, including well location and depth selection; supervision of drilling and well installation; design of sampling and analysis programs including sampling methodology, protocol, and analytical parameters; sampling of soil, groundwater, surface water, ambient air, soil vapor, building materials, and interior radon testing; data reduction (including interpretation of laboratory results, determination of ground water flow direction and rate), and preparation of written reports; interface between responsible parties and regulatory agencies.

Mr. Izzo has designed, implemented, and managed several remediation programs in the Tri-State Area including a NYSDEC Voluntary Cleanup of a former decal manufacturing facility in Mount Vernon, NY to restore the site to "unrestricted usage" conditions. Mr. Izzo has managed remedial investigative testing and analysis as well as conceptual design of active soil vapor extraction and groundwater treatmant systems. In addition, Mr. Izzo has participated in the design and implementation of passive and active floating product removal systems utilizing pump and treatment methods, oil-sorbent materials and oxygenreleasing products to remove light non-aqueous phase liquids (LNAPLS) and enhance natural bioremediation of dissolved hydrocarbons. Additional remedial action programs managed by Mr. Izzo include removal, testing and proper disposal of abandoned underground storage tanks, as well as contaminated soils and water at a US Postal Service construction site in Manhattan: and identification, testing, excavation and proper disposal of over 7,000 tons of hydrocarbon-impacted soils under a NYSDEC consent Order at a Suffolk County, NY former industrial property as part of site re-development into a residential community.

Mr. Izzo implemented quarterly water quality monitoring program at a New Jersey Site contaminated with chlorinated hydrocarbons. As part of this project, he directed testing and remedial activities including excavation and disposal of contaminated soil based on soil vapor screening with real-time vapor monitoring equipment; removal and disposal of buried 1000 gallon storage tank; removal of contaminated groundwater through installation of small scale recovery well system. In addition, Mr. Izzo assisted in the design of a pilot-scale pump and treatment operation involving the installation of an air stripper to mitigate volatile organic contamination in shallow groundwater.

Mr. Izzo designed, authored, and assisted in the implementation of a Site Health and Safety Plan for the construction and eventual occupation of a United States Postal Service General Mail Facility/Vehicle Maintenance Facility on a former landfill in Brooklyn, NY. Mr. Izzo assisted in development of the Firm's Phase I and Phase II assessment capabilities, and currently serves as the Firm's Environmental Assessment Manager. Related responsibilities include technical and budgetary management of Phase I/Phase II capabilities, as well as assessment sales and client liaison.

Mr. Izzo managed and participated in several ground water resource investigations for potential developers in Westchester, Putnam, and Dutchess Counties in New York. His experience includes seismic profiling, fracture trace analysis, selection of test well locations, supervision of test well installation, design and implementation of 24, 48 and 72-hour pumping tests, as well as reduction and analysis of pumping test data. Mr. Izzo managed a hydrogeologic investigation in support of a ground water allocation permit application for a golf course in Monmouth County, New Jersey. His responsibilities included a drainage basin recharge estimate, analysis of pumping test data and a computer model assessing pumpage impacts to surrounding wells. Additional related responsibilities included preparation of written report and expert testimony at a NJDEP hearing.

Mr. Izzo designed and implemented a town-wide ground water resource management study for the Town of North Castle, New York. This study included mapping of stratified drift and fracture bedrock aquifers, analysis of hydrogeologic information from existing well inventory, development of water budget and estimate of current and potential future ground water resource demand. Mr. Izzo managed a water resource feasibility study for a golf course DEIS application in northern Westchester County. Activities included determination of irrigation requirements and ground water resource exploration. In addition, Mr. Izzo designed and managed a hydrogeologic assessment for a community water supply system in Westchester County. Activities include determination of normal well system operation impacts on nearby surface water bodies, and prediction of well interference effects through utilization of computer modeling.

PUBLICATIONS

Izzo, Richard J. "Buyer Beware: User Responsibilities under All Appropriate Inquiry Standards" New York Real Estate Journal; December 2007

Izzo, Richard J. & Rich, Charles A. "Monitored Natural Attenuation is not NO ACTION" Long Island Business News; April 1999

Izzo, Richard J. "Lead Based Paint Risk and Risk Management"
Long Island Business News, New England Real Estate Journal; May 1993

JASON T. COOPER, B.S.

TITLE

Project Environmental Scientist

EDUCATION

Bachelor of Science, Geology, State University of New York at Buffalo, 1999

CERTIFICATIONS

40-hour OSHA Hazardous Waste Operations and Emergency Response Training (OSHA 29 CFR 1910.120)
8-hour OSHA Hazardous Waste Operations and Emergency Response Refresher Training
Standard First Aid Training - American Red Cross
CPR Training - American Red Cross

PROFESSIONAL AFFILIATIONS

Long Island Association of Professional Geologists (LIAPG)

PROFESSIONAL EXPERIENCE

Project Environmental Scientist, C A Rich Consultants, Inc., 2005 - Present

As a Project Environmental Scientist with CA RICH, Mr. Cooper's responsibilities include the conductance of Phase I and Phase II Environmental Site Assessments (ESAs). Jason's Phase I and Phase II ESA experience includes coordinating historical and regulatory database searches, conducting Property inspections, collecting soil, groundwater, and sediment samples and authoring Phase I and Phase II reports.

Mr. Cooper has also assisted with the construction and start-up tests for an air sparge/soil vapor extraction (AS/SVE) system for the remediation of PCE contamination. In addition, he has conducted quarterly monitoring and troubleshooting for the AS/SVE system.

Mr. Cooper also conducts annual property inspections for the highly successful Tenant Environmental Compliance Program, which helps to ensure that the tenants are not contaminating a landlord's properties. This Program now covers almost two million square feet of multi-tenanted buildings on Long Island, NY.

Geologist, Geologic Services Corporation, 2001 - 2005

As a Geologist with Geologic Services Corporation, Mr. Cooper's responsibilities included the authoring of quarterly monitoring reports, sub-surface investigation reports, and sensitive receptor survey reports. In addition he has conducted monitoring well installation oversight with logging and sampling, remediation system maintenance, well surveying, groundwater sampling, 24-hour pump tests, equipment maintenance and peer mentoring.

Mr. Cooper developed and implemented a program for the management and oversight for the collection of over 1,000 groundwater samples for a retail gasoline station in Smithtown, New York. His duties included the training of

Ca RICH Environmental Specialists

personnel, management and QA/QC of samples, and meeting monthly deadlines. In addition, he conducted monthly mass flux calculations, MTBE vertical cross-section contour maps, vertical cross-section groundwater flow maps (flow nets), and aerial groundwater flow maps.

Jason has also assisted with the construction of a groundwater pump and treat remediation system and determined the most affective locations for the submersible pumps for maximum contamination recovery.

Jason has completed the ExxonMobil Loss Prevention Safety (LPS) program and participated in monthly Health and Safety meetings. Jason conducted health and safety oversight of drilling activities, tank cleanings and removals and soil removal. The LPS and health and safety programs were implemented in the field by Jason as a health and safety officer with zero incidences.

<u>Field Technician, Environmental Assessment and Remediation (EAR) 2000 - 2001</u>

As a field technician with EAR, Mr. Cooper's responsibilities included the construction of remediation systems, operations and maintenance along with troubleshooting of remediation systems, groundwater sampling, air sampling and well abandonment.

VICTORIA D. WHELAN

TITLE

Project Hydrogeologist

EDUCATION

Bachelor of Science, Geology, State University of New York at Oswego, 2005

CERTIFICATIONS

40-hour OSHA Hazardous Waste Operations and Emergency Response Training (OSHA 29 CFR 1910.120)

Standard First Aid Training - American Red Cross- Bohemia Fire Department CPR Training - American Red Cross - Bohemia Fire Department

PROFESSIONAL EXPERIENCE

Project Hydrogeologist, C A Rich Consultants, Inc., 2006 - Present

As a Project Hydrogeologist with CA RICH, Ms. Whelan's responsibilities include the conductance of Phase I and Phase II Environmental Site Assessments (ESAs). Ms. Whelan has also conducted all aspects of environmental investigations including monitoring well design/installation, groundwater, indoor air, soil gas, subslab vapor, and soil sampling, UST removals, soil delineation, excavation, petroleum and hazardous waste disposal, analytical interpretation, groundwater contouring, and report preparation.

Ms. Whelan conducts annual property inspections for the highly successful Tenant Environmental Compliance Program, which helps to ensure that the tenants are not contaminating a landlord's properties. This Program now covers almost two million square feet of multi-tenanted buildings on Long Island, NY.

Project Hydrogeologist, Walden Associates, P.L.L.C, 2005 - 2006

As a Hydrogeologist with Walden Associates, Ms. Whelan's responsibilities included the quarterly monitoring report write ups, sub-surface investigation reports, monitoring well installation oversight with logging and sampling, remediation system maintenance, well surveying, groundwater sampling, and free product recovery.

Ms. Whelan assisted with the start-up tests and monitoring for an air sparge/soil vapor extraction (AS/SVE) system for the remediation of PCE contamination on a Federal Superfund site.

PROFESSIONAL AFFILIATIONS

National Ground Water Association, member *Sigma Xi*, member

PUBLICATIONS

Andrews, J., and **Whelan, V.,** Department of Earth Sciences, State University of New York at Oswego NY 13126, <u>Ordovician Carbonates in Northwest Lewis and parts of Southeastern Jefferson counties, New York</u> Northeastern Section and Southeastern Section joint Meeting

FIELD RESEARCH FOR PAPER CONTRIBUTIONS

Bauer, M., Valentino, D., Chiarenzelli, J., Solar, G., Department of Earth Sciences, State University of New York at Oswego, NY 13126, <u>Metamorphic Petrology and Unit Distribution in The Oliver hill Dome, Eastern Adirondack Mountains, New York,</u> Northeastern Section and Southeastern Section joint Meeting

Smith, N., Valentino, D., Chiarenzelli, J., Solar, G., Department of Earth Sciences, State University of New York at Oswego, NY 13126, <u>Distribution of Land L-S Tectonite in the Oliver Hill Dome, Eastern Adirondack Mountains, New York,</u> Northeastern Section and Southeastern Section joint Meeting

Stilwell, S., Garwron, J., Andrews, J., Bauer, M., Crocetti, A., Meneilly, N., Piaschyk, D., Smith, N., and **Whelan, V.,** Earth Sciences, SUNY Oswego, Oswego, NY 13126, <u>Fracture analysis along the southern shore of Lake Ontario in the Oswego Formation, Oswego County, New York,</u> Northeastern Section and Southeastern Section joint Meeting

JESSICA E. PROSCIA, B.S.

TITLE

Project Environmental Scientist

EDUCATION

Bachelor of Science, Health Science, Environmental Health and Safety, State University of New York at Stony Brook, 2007

CERTIFICATIONS

40-hour OSHA Hazardous Waste Operations and Emergency Response Training (OSHA 29 CFR 1910.120)

8-hour OSHA Hazardous Waste Operations and Emergency Response Refresher Training

Standard First Aid Training - American Red Cross

CPR Training - American Red Cross

PROFESSIONAL EXPERIENCE

Project Environmental Scientist, C A Rich Consultants, Inc., Oct. 2008 - Present

As a Project Environmental Scientist with CA RICH, Ms. Proscia's responsibilities include the conductance of Phase I and Phase II Environmental Site Assessments (ESAs). Ms. Proscia has also conducted all aspects of environmental investigations including UST removals, supervision of drilling and well installation, sanitary system or dry well clean-outs, groundwater, and soil sampling, soil delineation, excavation, petroleum and hazardous waste disposal, analytical interpretation, groundwater contouring, and report preparation.

Environmental Scientist/Health and Safety Officer, Hydro Tech Environmental, Corp., 2007 - 2008

As an Environmental Scientist with Hydro Tech Environmental, Ms. Proscia's responsibilities included Phase I ESA's through Subsurface Investigations. Ms. Proscia was also involved in site supervision on several properties in New York State.

Ms. Proscia performed on site safety inspections for the company's field crew as well as trained staff for the OSHA 40-hour and 8-hour refresher course.

PROFESSIONAL AFFILIATIONS

Long Island Association of Professional Geologists (LIAPG)

WILLIAM FITCHETT

TITLE

Staff Environmental Scientist

EDUCATION

Bachelor of Science, Environmental Science, State University of New York at Oneonta, 2014

CERTIFICATIONS AND REGISTRATIONS

Health & Safety Operations at Hazardous Material Sites; 29 CRF 1910.120

PROFESSIONAL AFFILIATIONS

Long Island Association of Professional Geologists

PROFESSIONAL EXPERIENCE

Staff Environmental Scientist, CA Rich Consultants, Inc., 2014- Present

Mr. Fitchett has supervised numerous subsurface investigations on Long Island and throughout the five Boroughs of NYC. He is well versed in the collection of soil samples, soil vapor samples and groundwater samples in accordance with accepted industry standards. William regularly works with many local contractors employing the use of drill rig and excavating equipment for the collection of subsurface samples.

He is also proficient with the performance of Phase I and II Environmental Site Assessments (ESA) following the procedures outlined in the ASTM standard for these assessments and in the recognition of Recognized Environmental Conditions (RECs).

L.A.B. Validation Corp. Qualification Summary

Services Overview

L.A.B. Validation is an independent outside source that evaluates data integrity, compliance and usability. L.A.B Validation utilizes the USEPA National Functional Guidelines, as well as other program specific requirements supplied by the client. L.A.B. Validation has a dedicated office facility and secure data storage area. Projects are scheduled and completed within client specified deadlines. Reports are issued via hardcopy and or fax/email/disk deliverables. L.A.B. Validation Corp. operates under Employer Identification Number 58-238-1714 and maintains General Liability Insurance for all projects.

Personnel Overview

L.A.B. Validation has a unique blend of technical expertise and environmental laboratory operational experience. Ms. Beyer has 25 years of progressive positions that required analytical and QA working knowledge. She is well versed in Organic and Inorganic analyses and the associated USEPA requirements as well as other Federal Agency (i.e. USCOE) and State regulations. She has completed data validation training for both Organic and Inorganic analyses (see attached Certificates).

References

Mr. Scott Haas
Foster Wheeler Environmental Corporation
4960 Corporate Drive, Suite 140
Huntsville, AL 35805
Phone (256) 830-4100
Program: US NAVY RAC

Mr. Chris Candela Clean Tech 2700 Capitol Trail Newark, DE 19711 Phone (302) 999-0925 Program: USACOE

Mr. David Allen
The Kevric Company, Inc.
Silver Spring Metro Plaza One
8401 Colesville Road, Suite 610
Silver Spring, Maryland 20910
Program: US NAVY RAC

Mr. Andy Coenen Environmental Resources Management 510 Broadhollow Road, Suite 210 Melville, New York 11747 Phone (631) 756-8900 Program: NYSDEC RI/FS Mr. Steve Malinowski
CA Rich Consultants
17 Dupont Street
Plainview, New York 11771
Phone (516) 589-0093
Program: USEPA/NYSDEC SUPERFUND

Mr. Carl Hsu Tetratech, Inc. 58 West Main Street Christiana, DE 19702 Phone (302) 738-7551 Program: USACOE

Mr. Joseph Heaney Walden Associates 16 Spring Street Oyster Bay, New York 11771 Phone (516) 624-7200 Program: NYSDEC

Mr. Dan Palmer Modern Continental Construction Co., Inc. 950 Fountain Avenue Brooklyn, New York Program: NYCDEP

L.A.B. Validation Corp., 14 West Point Drive, East Northport, New York

Lori A. Beyer

SUMMARY:

General Manager/Laboratory Director with a solid technical background combined with Management experience in environmental testing industry. Outstanding organizational, leadership, communication and technical skills. Customer focused, quality oriented professional with consistently high marks in customer/employee satisfaction.

EXPERIENCE:

1998-Present

L.A.B. Validation Corporation, 14 West Point Drive, East Northport, NY

President

Perform Data Validation activities relating to laboratory generated Organic and Inorganic Environmental Data.

1998-Present American Analytical Laboratories, LLC. 56 Toledo Street, Farmingdale, NY

Laboratory Director/Technical Director

- Plan, direct and control the operation, development and implementation of programs for the entire laboratory in order to meet AAL's financial and operational performance standards.
- Ensures that all operations are in compliance with AAL's QA manual and other appropriate regulatory requirements.
- Actively maintains a safe and healthy working environmental that is demanded by local laws/regulations.
- Monitors and manages group's performance with respect to data quality, on time delivery, safety, analyst development/goal achievement and any other key performance indices.
- Reviews work for accuracy and completeness prior to release of results to customers.

1996-1998 Nytest Environmental, Inc. (NEI) Port Washington, New York

General Manager

- Responsible for controlling the operation of an 18,000 square foot facility to meet NEI's financial and operational performance standards.
- Management of 65 FTEs including Sales and Operations
- Ensure that all operations are in compliance with NEI's QA procedures
- Ensures that productivity indicators, staffing levels and other cost factors are held within established guidelines
- Maintains a quantified model of laboratory's capacity and uses this model as the basis for controlling the flow of work into and through the lab so as to ensure that customer requirements and lab's revenue and contribution targets are achieved.

1994-1996 Nytest Environmental, Inc. (NEI) Port Washington, New York

Technical Project Manager

- Responsible for the coordination and implementation of environmental testing programs requirements between NEI and their customers
- Supervise Customer Service Department
- Assist in the development of major proposals
- Complete management of all Federal and State Contracts and assigned commercial contracts
- Provide technical assistance to the customer, including data validation and interpretation
- Review and implement Project specific QAPP's.

1995-1996 Nytest Environmental, Inc. (NEI) Port Washington, New York

Corporate QA/QC Officer

- Responsible for the implementation of QA practices as required in the NJDEP and EPA Contracts
- Primary contact for NJDEP QA/QC issues including SOP preparation, review and approval
- Responsible for review, verification and adherence to the Contract requirements and NEI QA Plan

Nytest Environmental, Inc. (NEI) Port Washington, New York 1992-1994

Data Review Manager

- Responsible for the accurate compilation, review and delivery of analytical data to the company's customers. Directly and effectively supervised a department of 22 personnel.
- Managed activities of the data processing software including method development, form creation, and production
- Implement new protocol requirements for report and data management formats
- Maintained control of data storage/archival areas as EPA/CLP document control officer

Nytest Environmental, Inc. (NEI) Port Washington, New York

Data Review Specialist

- Responsible for the review of GC, GC/MS, Metals and Wet Chemistry data in accordance with regulatory requirements
- Proficient with USEPA, NYSDEC, NJDEP and NEESA requirements
- Review data generated in accordance with SW846, NYSDEC ASP, EPA/CLP and 40 CFR Methodologies

1986-1987 Nytest Environmental, Inc (NEI) Port Washington, New York

GC/MS VOA Analyst

EDUCATION:

1982-1985 State University of New York at Stony Brook, New York; BS Biology/Biochemistry

1981-1982 University of Delaware; Biology/Chemistry

Rutgers University; Mass Spectral Data Interpretation Course, GC/MS Training 5/91

Westchester Community College; Organic Data Validation Course 8/92

Westchester Community College; Inorganic Data Validation Course 9/93

Westchester Continuity Couge Professional Development

Awards this Certificate of Achievement To

LORI BEYER

for Successfully Completing

ORGANIC DATA VALIDATION COURSE (35 HOURS)

Dr. John Samuelian

Date AUGUST 1992

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Awards this Certificate of Achievement To

LORI BEYER

for Successfully Completing

INORGANIC DATA VALIDATION

Dale Boshart Instructor:

MARCH 1993

Professional Development Center



The Professional Development Center

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On the Aeconomendation of the Haculty and by Virtue of the Authority nested in them the Trustees of the University have conferred on

Anri Am Isenhery

the Degree of

Nachelar af Science

Finen at Stony Drook, in the State of New York, in the United States of America on the theortieth day of December one thousand nine and have granted this Diploma as evidence thereof hundred and eighty-fine.

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State University at Strong Brook



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Accutest Laboratories



Statement of Qualifications and Experience 2012







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Our Mission

To SAFELY produce quality data that is accurate, timely and of the highest integrity.

To provide **service** that consistently exceeds our clients' expectations.

To continuously improve our performance by developing and implementing the latest technology.

To achieve steady growth benefiting our clients, our employees and our company.













Total Performance You Can Count On



Section 1

Introduction

Overview

Accutest Laboratories is a nationwide environmental testing laboratory that has successfully delivered defensible data for over 50 years. Founded in 1956, Accutest is the nation's 3rd largest environmental testing laboratory combining advanced technology and experienced personnel to deliver "Total Performance You Can Count On". Our commitment is to provide our clients with appropriate test methods that meet the most stringent quality standards in the environmental testing industry.

Headquartered in Dayton, New Jersey, Accutest operates from state-of-the-art, integrated laboratories in New Jersey, Massachusetts, Florida, Texas, Louisiana, Colorado, and California. **The Company operates over 220,000 square feet of total laboratory space.** Accutest maintains ten fully-staffed Service Centers conveniently located in New York, Pennsylvania, North Carolina, Louisiana, Illinois, Colorado, California, and Arizona. Accutest has a fleet of courier services for sample pickup and container delivery within a 100-mile radius of its laboratories. We also provide contract courier services nationwide.

Accutest provides reliable and comprehensive testing services including organic and inorganic analysis of air, water, soil, waste characterization, petroleum forensics, gas fractioning, energetics and explosives, and emerging contaminants to industrial, consulting/engineering and government clients in support of Federal and State Environmental Programs. Accutest's extensive Federal and State regulatory experience provides clients with the required expertise to assist in the development of analytical protocols and sampling and analysis plans.

Our staff consists of over **629 professionals** including chemists, biologists, chemical engineers, computer scientists, technicians, and support personnel. The Accutest senior management team averages over 16 years experience with the company. This translates into the environmental expertise that clients have come to rely on.

The National Environmental Laboratory Accreditation Program (NELAP) forms the foundation of our stringent Corporate Quality Assurance Program. This enables Accutest to hold multi-state accreditations and certifications that conform to a National standard. Accutest has also received Department of Defense Environmental Laboratory Accreditation (DoD ELAP) and ISO/IEC 17025:2005 Certificate of Accreditation from the Laboratory Accreditation Bureau (L-A-B) to perform environmental testing in support of environmental restoration programs.

LabLinkSM, the most comprehensive data retrieval and information management system in the industry, provides real-time data resources that enables clients to generate electronic data deliveries on demand 24/7/365 days a year.



Overview (continued)

Through LabLinkSM, **Accutest manages an extensive historical database of more than 915 million archived test results** which can be easily searched and retrieved.

Accutest's quality of service consistently exceeds our client's expectations. This is exemplified by the fact that **85% of our business is from repeat clients**. Accutest participates in National Corporate Analytical Programs which are routinely audited by independent third parties. Through steady, carefully managed growth, leading technology, and outstanding service, Accutest provides quality data of the highest integrity that is delivered reliably and uniformly to clients nationwide.

Client Services and Project Management

Accutest provides services that consistently exceed our clients' expectations. Our primary objective is to create and maintain long-term relationships with a dedication to quality, client services, technology and strong, consistent project management. We take great pride in our customer focus and the ability of our highly qualified staff to provide consistent, accurate information and support to the clients we serve.

Serving clients' needs and striving to find better ways to fulfill those needs has been the heart of Accutest since 1956. Our philosophy "Total Performance You Can Count On" is our promise to deliver the best customer service in the industry. Our clients can count on us to be there to address and resolve the challenges which they face.

We strive to enhance communications and teamwork through a work environment dedicated to continuous process evaluation, redesign and improvement. Our project managers have a sense of ownership which fosters their commitment to total customer satisfaction.

Clients are assigned to project managers who become their advocates and their dedicated representatives and contacts for all analytical inquiries. The assigned project manager ensures that client expectations and program objectives are met by obtaining a thorough understanding of all relevant technical and contractual requirements.

Effective and timely communication develops trusted client partnerships, which in turn leads to successful project outcomes. Our project managers are committed to delivering the full measure of our expertise to ensure complete client satisfaction with each and every Accutest service. Project managers understand through experience that successful completion of every project requires up-front planning. Accutest's Life Cycle of Project Management Services is exhibited by the following flow diagram.



Life Cycle of Project Management Services

Project Initiation

The client's decision to employ Accutest is the first step in the project lifecycle. Upon contacting Accutest, a project manager is assigned to the client who coordinates all project phases.

Specifications Defined Project specifications originate from QAPPs, RFPs, work plans and other related documents. Accutest representatives provide the client with technical assistance, translating their specifications into clear laboratory instructions.

Project Setup & Bottle Configuration

Once the specifications are defined, the setup process begins. The representative develops a schedule with the client and generates the bottle order configuration to match the analytical specifications.

Bottle Order &
Sample Pickup

Bottle kits are delivered to the client's site in advance of sampling. Accutest employs local courier services for most clients or commercial carriers when the site is beyond the courier's service range.

Chain-of-Custody & Login Review Upon arrival at the laboratory, all samples are thoroughly checked to assure regulatory integrity. Chain-of-Custody information is translated to electronic login information and compared to the project specifications.

Status Monitoring & Update

The project manager verifies the login accuracy and resolves specification discrepancies prior to analysis. Representatives monitor project status during analysis, which is communicated to the client using Accutest's electronic tools.

Data Delivery

When the analysis is completed electronic reports are generated to the client's specifications, which can be delivered by using Accutest's sophisticated electronic tools or by conventional means.

Interpretation Assistance

Representatives are available to provide assistance after data delivery. Responses to client queries are prompt and accurate, frequently providing them with key information to aid their decision process.

Invoicing

Invoices are generated from the same electronic information used to communicate analytical specifications to the laboratory. This guarantees that it accurately reflects the specification requested by the client.

The efforts of our client service group; project managers, and technical sales representatives, field and analytical staff; combine to make Accutest an extension of your capability.



Laboratory Information Management System (LIMS)

The Accutest Laboratory Information Management System (LIMS) is the most critical and central tool in the operation of the laboratory. Accutest's LIMS is one of the most powerful and sophisticated tools in the industry today. The LIMS at each location resides on an independent server sized to ensure highly efficient performance for internal users and on-line customers simultaneously. The LIMS is based on a state-of-the-art Oracle relational database that has been specifically designed to handle the complex issues faced by environmental laboratories. The LIMS automates virtually every phase of laboratory operations, including sample receipt/login, sample scheduling and tracking, data acquisition, calculations, quality control (QC), final reports, electronic deliverables, and invoicing. As a result, it allows Accutest to deliver the most accurate and consistent product in the industry.

Electronic Data Deliverables

One of the most significant trends in this industry is the increased dependence on Electronic Data Deliverables (EDDs). EDDs that are produced or modified manually cannot be relied upon for accuracy. Accutest consistently provides the most accurate EDDs through totally automated data transfer. At the front end, virtually all laboratory data is transferred automatically to the LIMS without manual transcription, followed by multiple levels of technical review. From this point, the LIMS becomes the single source for all deliverables including data reports, QC reports, and EDDs. Simply put, this means that the raw data matches the paper reports, and the reports match the EDDs.

LabLinkSM

LabLinkSM is the live, on-line client interface to the Accutest LIMS, the most comprehensive on-line data service in the industry. Available via the internet to all Accutest clients, LabLinkSM provides real-time access to project status, current and historical data, on-line reports, EDDs, and billing information. LabLinkSM can be configured to send reports via email automatically upon data completion.

We provide clients with a personal, secure internet account that encrypts all communications to maintain data confidentiality. LabLinkSM has established a new standard for electronic data management. From the minute samples are received, LabLinkSM provides up-to-the-minute access to project information from a PC via a secure website.

The Most Comprehensive On-Line Service in the Industry, LabLinkSM service saves time, effort and money. Through LabLinkSM, Accutest has made a long term commitment to provide the most comprehensive on-line service in the industry that includes the following features:

Automated Sample Receipt Confirmation: Allows client verification that samples have arrived
at the laboratory safely and have been logged in properly. This ensures the correct tests,
sample identification (IDs) and Turn-Around-Time (TAT) have been accurately communicated
from the client to Accutest. An electronic copy of the chain-of-custody is delivered with the log in
report for review.



LabLinkSM (continued)

- Compare Results to Multiple Regulatory Limits: Summary tables compare project results to multiple regulatory limits in real time. The Tables include highlights for hits and exceedances.
- Complete Project Status Information: From the minute samples are received, there is complete access to job, sample, and test information. In addition, status information is available in real time through LabLinkSM, which allows tracking sample progress through the laboratory.
- On-line Chain-of-Custody Documents: As part of sample login, chain-of-custody documents are scanned into PDF files that are available on-line to LabLinkSM users with a single click.
- Immediate Access to Test Results: LabLinkSM provides complete access to test results the minute they are approved by the laboratory. The LabLinkSM data query provides powerful options (e.g. hits only) to get data feedback as quickly as possible. The results can also be compared to a variety of Federal and State regulatory limits.
- Access to Quality Control Data: Method blank, MS/MSD, blank spike and surrogates are available on-line. Chromatograms, spectra and other raw data can also be reviewed.
- Historical Data Query: With LabLinkSM, it is just as easy to view historical data. Powerful query
 options and sort criteria can be specified and executed in seconds to evaluate trends.
- e-Hardcopy Reports available via Auto-email or on-line: Finished data may be generated in e-Hardcopy format complete with a signed cover page, chain-of-custody and comprehensive QC data. LabLinkSM allows the user to activate Auto-email on projects of interest, which automatically initiates generation of an e-Hardcopy report that will be sent automatically upon completion of a job.
- **Billing/Invoice Information:** LabLink SM also allows access to preliminary billing information. This enables the user to check quote prices **before** the invoice is delivered. In addition, historical billing information is maintained, allowing up-to-the-minute project financial summaries. Final invoices can be downloaded on demand in PDF format.
- Electronic Deliverables on Demand: EDDs may be generated on demand through LabLinkSM. This
 capability is unprecedented in the industry.
- How to Get On-Line? Getting started with LabLinkSM couldn't be easier. All that is needed is access
 to the Internet. Accutest will then set up a secure LabLinkSM account and user to be on-line. Best of
 all, access to LabLinkSM is provided at no additional charge simply for doing business with Accutest.



Section 2.0

Analytical Methodology & Regulatory Programs

Analytical Methodology

The Accutest staff has extensive knowledge and experience applying analytical chemistry methods employed in environmental monitoring. This includes methods approved for Federal and State environmental regulatory programs and in-house methods developed for client's unique analytical needs. This expertise combined with a quality assurance system that meets national and international standards enables the Company to consistently produce data of known and documented quality. In 2011, Accutest logged in more than 107,532 jobs, processed over 576,768 samples and reported well over 1,809,276 tests. All tests were performed within the framework of the Accutest Quality Assurance System in compliance with method specifications, regulatory requirements and client specific data quality objectives. Accutest routinely employs methods from the following compendiums:

- Test Methods for Evaluating Solid Waste, SW-846 (USEPA);
- Methods for Chemical Analysis of Water and Wastes (USEPA);
- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater (USEPA);
- Methods for the Determination of Metals in Environmental Samples (USEPA);
- Methods for the Determination of Inorganic Substances in Environmental Samples (USEPA);
- Methods for the Determination of Organic Compounds in Drinking Water (USEPA);
- Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (USEPA);
- Standard Methods for the Examination of Water and Wastewater (APHA, AWWA.WEF); and
- Technical Standards American Society for Testing and Materials (ASTM).

Regulatory Programs

Analysis of environmental samples using methods from these compendiums is performed in accordance with Federal and State regulatory programs including:

- RCRA Resource Conservation and Recovery Act (USEPA);
- CWA Clean Water Act (USEPA);
- NPDES National Pollution Discharge Elimination System (USEPA);
- SDWA Safe Drinking Water Act (USEPA);
- CERCLA Comprehensive Environmental Response Compensation Liability Act (USEPA);
- CAA Clean Air Act (USEPA);
- TSCA Toxic Substances Control Act (USEPA);
- OSHA Occupational Safety and Health Act;
- Brownfields Recovery Act (USEPA); and
- Numerous State Specific Programs Supporting Waste Management Activities and Natural Resource Protection.



Analytical Methodology & Regulatory Programs (continued)

Analytical Support Activities

Accutest routinely produces analytical data in support of projects that require testing in conformance with Federal and State remediation and regulatory compliance programs including:

- Site Characterization Investigations;
- Remedial Investigations and Feasibility Studies;
- Remedial Action Activities (Cleanup and/or Removal);
- Delineation Monitoring;
- Groundwater Monitoring (Natural Resource Protection & Drinking Water);
- Underground Storage Tank Monitoring and Cleanup;
- Ambient & Indoor Air Monitoring;
- NPDES Compliance Monitoring;
- Hazardous Waste Identification/Classification;
- Hydraulic Fracturing Groundwater Contaminants; and
- Hydraulic Fracturing Fluids Analysis

Gas Exploration/Hydraulic Fractioning

Accutest has broad expertise providing analytical chemistry services in support of Hydraulic Fracturing activities. Hydraulic Fracturing support analysis are conducted in all Accutest facilities and include the analysis of fracturing fluids, flow-back waters and pre- and post- drilling groundwater.

Fracturing Fluid Analysis includes Metals, Acrylamides, Cyanides, Phenolics, Residual Chlorine, Ions, Volatile Organics and Semi-Volatile Organics using a combination of USEPA methodology. Method selection is customized to reflect the constituents of each drilling fluid.

Groundwater Analysis includes pre- and post-drilling monitoring including Metals Acrylamides, Cyanides, Phenolics, Herbicides, Ions, Volatile Organics, Semi-Volatile Organics, Pesticides and PCBs, Tetrachlordibenzodioxin (TCDD) using a combination of USEPA SW-846 methodology.

Standard pre-drilling parameters; Inorganic include Alkalinity, Chloride, Conductivity, Hardness, Oil and Grease, pH, Sulfate, TDS, TSS, Turbidity, MBAS (surfactants); Metals: Barium, Calcium, Iron, Magnesium, Manganese, Potassium, Sodium, Strontium, Lithium, Cadmium, Mercury, Silver, Lead, Arsenic, Chromium, Selenium, Sulfur. Organics include BTEX, dissolved gases (methane, ethane, butane, propane), TPH (GRO, DRO).

Drinking Water Analysis includes Metals, Cyanides, Coliforms, Phenolics, Ions, Volatile Organics, Semi-Volatile Organics, Haloacetic Acids and Dibromoethane (EDB) using USEPA drinking water methods.

Air Analysis includes USEPA TO-3, TO-14 and TO-15 for volatile organics.



Reports and Deliverables

Accutest's user friendly data reports can be produced in several formats varying in complexity from basic results to fully documented deliverables depending on client needs. Regardless of the report format, all analysis is performed to meet the quality control specifications of the analytical method and the specified regulatory program. The delivered report can therefore be configured with full confidence that the data is supported by the required quality control practices. These reports are designed for easy interpretation and efficient data validation.

Reports can be produced in hard copy format or as a fully indexed electronic document. Accutest specializes in electronic data products, which not only complement the data report, but also provide the client with numerous electronic products and delivery options that simplify data management and review. These options include EDDs in over 1093 data formats, including commercial and custom client formats, which are delivered in over 95% of projects. Access to leading edge, interactive online features enables the user to configure data reports that meet data reporting needs, including the ability to automatically receive data upon completion which has been formatted to client specifications. Hardcopy and electronic deliverable options are as follows:

Hard Copy

- Full Deliverables Comprehensive, Validation Ready (Level 4)
- Reduced Deliverables Summary Data with Quality Control (Level 2 & 3)
- Standard Commercial Format Results only (Level 1)
- State Specific Formats

Electronic

- GIS/Key, Locus & more)
- Customized Client Specific Database Import Formats
- Custom Spreadsheet Reports
- State Regulatory Required EDD Formats
- Department of Defense (ADR, SEDD, IRPIMS & others)

Interactive Online Reporting

- LabLinkSM Accutest Proprietary On-Line Data Management Service
- e-Hard Copy Fully Navigable, Indexed, Interactive PDF Report

Section 3.0

Quality Assurance Program

At Accutest, we continually build quality into the product delivered to clients as a design specification. This is accomplished by incorporating the elements of our Quality System into every laboratory process as an intrinsic component of day-to-day operations. This approach reflects our dedication to a quality system that meets national and international standards. This is achieved through a Corporate Quality Assurance Program that establishes the framework for the quality systems operated and maintained at each Accutest facility. This Program reflects knowledge of the regulatory analytical process and the role our product plays in safeguarding human health and the environment.



Quality Assurance Program (continued)

Policy Statement

The management and staff of Accutest share the responsibility for product quality. The Quality System is designed to ensure that all processes and procedures, which are components of environmental data production, meet established industry requirements. These processes and procedures must be adequately documented from a procedural and data traceability perspective as executed by the staff. It also assures that analytical data of known quality, meeting the quality objectives of the analytical method in use and the data user's requirements, are consistently produced in the laboratory. This enables the ultimate data user to make rational, confident, cost-effective decisions on the assessment and resolution of environmental issues.

The Quality System provides staff with data quality and operational feedback data. This enables a determination whether the laboratory has achieved the established quality and operational standards, which are dictated by the client or established in regulation. The information obtained from the Quality

System is used to assess operational performance from a quality perspective and to perform corrective action as necessary.

The Quality Assurance Standard

Accutest operates a quality program which meets the requirements for laboratory operations established by the international community. Accutest has implemented a Quality System that follows ISO Guide 17025, General Requirements for the Competence of Calibration and Testing Laboratories. The structure

of ISO Guide 17025 has been adopted by the National Environmental Laboratory Accreditation Program (NELAP), the voluntary national accreditation program originally established by the USEPA. NELAP has established a uniform national standard for environmental laboratories that places a strong emphasis on quality systems.

The Quality System at Accutest has been designed to meet NELAP Standards. Accutest was among the first laboratories to submit applications to the approved state accrediting authorities for recognition as a NELAP Accredited laboratory. All laboratories in the Accutest network are NELAP Accredited.



Corporate Quality Assurance Program

The Corporate Quality Assurance Program establishes the quality framework for each individual Accutest facility. The Corporate Quality Assurance Director determines corporate policies and defines the quality responsibilities at the facility level. He is responsible for monitoring the quality system at each facility and providing feedback to the management staff.

The reporting relationship between Corporate Quality Assurance and the Quality Assurance Officers at each laboratory reflects a dotted line responsibility. This type of relationship enables the Corporate Program to be implemented locally while enhancing day-to-day operational efficiency at each facility.



Quality Assurance at Each Laboratory

The Accutest philosophy enables each facility to implement a quality policy using their unique operating style. This approach provides the autonomy needed to meet the requirements of the local regulatory jurisdictions using procedures that efficiently meet their operational objectives.

The Quality Assurance Program at each facility incorporates the elements of NELAP and ISO Guide 17025. The operations management staff is responsible for implementing the program elements and operating the quality system.

The Quality Assurance Officer monitors the program, provides feedback to local and corporate management, and assists with corrective action and training if needed.

In order to measure the success of the Corporate Quality Assurance Program, Accutest participates in the following regulatory proficiency test programs:

- Water Pollution Study (NELAP fields of testing);
- Water Supply Study (NELAP fields of testing);
- RCRA Water PT Samples;
- RCRA Soil PT Samples;
- Independent Single Blind PT Samples; and
- Independent Double Blind PT Samples.

Accutest also participates in numerous national corporate proficiency test programs/audits sponsored by our clients, utilizing independent, third party consulting firms.

Accutest State Certifications & Accreditations

Accutest maintains accreditation for the majority of the state regulatory analytical programs offered in the United States. The program specific accreditations maintained in each state are essential for submitting analytical data to meet data reporting requirements.

Many states maintain accreditation programs for drinking water only. In these states, accreditation is not required to conduct analysis for other regulatory programs administered by them. The Accutest State Certification & Accreditation Map is available at www.accutest.com. Or, you may contact your Accutest Representative for a current list of our certifications.



Accutest Laboratories' Certifications, Accreditations & Permits

Accutest Laboratories' Certifications, Accreditations & Permits

April 19, 2012

New Jersey Facility (Mid-Atlantic) - USEPA Federal Identification Number NJ00141

Florida Facility (Southeast) - USEPA Federal Identification Number FL00946

Texas Facility (Gulf Coast) - USEPA Federal Identification Number TX01484

Massachusetts Facility (New England) - USEPA Federal Identification Number MA00136

California Facility (West) - USEPA Federal Identification Number CA00150

Colorado Facility (Mid-West) - USEPA Federal Identification Number CO00049

Louisiana Facility (ALGC-Louisiana) - USEPA Federal Identification Number LA00013

Certifying Authority	Accutest Facility	Certification Program	Expiration Date
Alaska	Southeast	Contaminated Sites	August-12
Alaska	West	Contaminated Sites	September-12
Arizona	Gulf Coast	Non-Potable Water, Solid/Hazardous Waste, Air Toxics	July-12
Arizona	West	Non-Potable Water, Solid/Hazardous Waste	November-12
Arkansas	ALGC-Louisiana	Solid/Hazardous Wastes, Non-Potable Water	August-12
Arkansas	Gulf Coast	Non-Potable Water, Solid/Hazardous Waste	March-12
Arkansas	Southeast	Solid/Hazardous Wastes, Non-Potable Water	September-12
California (NELAP)	Mid Atlantic	Potable/Non-Potable Water, Solid/Hazardous Waste	July-12
California (NELAP)	Southeast	Potable Water, Solid/Hazardous Waste	June-12
California (NELAP)	West	Non-Potable Water, Solid/Hazardous Waste	July-12
Colorado	Mid West	Potable Water	May-12
Colorado	New England	Potable Water	January-13
Connecticut	Mid Atlantic	Potable/Non-Potable Water, Solid/Hazardous Waste	June-13
Connecticut	New England	Potable/Non-Potable Water, Solid/Hazardous Waste, ETPH	June-13
Delaware	Mid Atlantic	DNREC HSCA Program	Recognized
DoD ELAP	Mid Atlantic	Non-Potable Water, Solid/Chemical Waste, Air Toxics	April-13
DoD ELAP	New England	Non-Potable Water, Solid/Chemical Waste, Air Toxics	January-13
DoD ELAP	Southeast	Non-Potable Water, Solid/Chemical Waste	December-12
DoD ELAP	West	Non-Potable Water, Solid/Chemical Waste	March-13
Florida (NELAP)	ALGC-Louisiana	Potable, Non-Potable, Solid Waste	June-12
Florida (NELAP)	Gulf Coast	Non-Potable Water, Solid/Hazardous Waste, Air & Emissions	June-12
Florida (NELAP)	Mid Atlantic	Potable, Non-Potable, Solid Waste, UST, Air Toxics	June-12_
Florida (NELAP)	New England	Potable, Non-Potable Water/Solid/Hazardous Waste, Air Toxics	June-12
Florida (NELAP)	Southeast	Potable, Non-Potable, Solid Waste, Air Toxics	June-12
Georgia	ALGC-Louisiana	Non-Potable Water, Solid/Chemical Materials	June-12
Georgia	New England	Non-Potable Water, Solid/Chemical Materials, Air and Emissions	June-12
Georgia	Southeast	Potable Water	June-10
Georgia	Southeast	Solid/Hazardous Wastes	June-12
ldaho	Mid West	Potable Water	May-12
Illinois (NELAP)	Mid Atlantic	Potable & Non-Potable Water; Haz Waste	May-12
Illinois (NELAP)	New England	Potable & Non-Potable Water; Haz Waste	July-12
Illinois (NELAP)	Southeast	Non-Potable Water; Haz Waste	August-12
Indiana	Mid Atlantic	Potable Water	June-12
Iowa	Southeast	UST, Solid/Hazardous Wastes, Non-Potable Water	February-14



Accutest Laboratories' Certifications, Accreditations & Permits (continued)

Certifying Authority	Accutest Facility	Certification Program	Expiration Date
			,
ISO/IEC 17025:2005	Mid Atlantic	Non-Potable Water, Solid/Chemical Waste, Air Toxics	April-13
ISO/IEC 17025:2005	New England	Non-Potable Water, Solid/Chemical Waste, Air Toxics	January-13
ISO/IEC 17025:2005	Southeast	Non-Potable Water, Solid/Chemical Waste	December-12
ISO/IEC 17025:2005	West	Non-Potable Water, Solid/Chemical Waste	March-13
Kansas (NELAP)	Gulf Coast	Solid/Hazardous Wastes, Non-Potable Water	July-12
Kansas (NELAP)	Mid Atlantic	Potable/Non-Potable Water, Solid/Hazardous Wastes	October-12
Kansas (NELAP)	Southeast	Solid/Hazardous Wastes, Non-Potable Water	October-12
Kentucky	ALGC-Louisiana	Underground Storage Tank Program	June-12
Kentucky	Gulf Coast	Underground Storage Tank Program	February-13
Kentucky	Mid Atlantic	Potable Water	December-12
Kentucky	New England	Underground Storage Tank Program	January-13
Kentucky	Southeast	Underground Storage Tank Program	August-13
Louisiana (NELAP)	ALGC-Louisiana	Non-Potable Water, Solid/Hazardous Waste	June-12
Louisiana (NELAP)	Gulf Coast	Non-Potable Water, Solid/Hazardous Waste	June-12
Louisiana (NELAP)	Mid Atlantic	Non-Potable Water, Solid/Hazardous Waste, Air Toxics	June-12
Louisiana (NELAP)	Southeast	Solid/Hazardous Wastes	June-12
Louisiana DHH (NELAP)	ALGC-Louisiana	Potable Water	December-12
Maine	New England	Potable & Non-Potable Water, Maine DRO/GRO	April-12
Maryland	Mid Atlantic	Potable Water	March-13
Massachusetts	Mid Atlantic	Potable/Non-Potable Water	June-12
Massachusetts	New England	Potable & Non-Potable Water	June-12
Massachusetts	Southeast	Non-Potable Water	June-12
Minnesota	New England	Potable/Non-Potable Water, Solid/Chemical Waste, Air Toxics	December-12
Mississippi	Southeast	Potable Water	N/A
Montana	ALGC-Louisiana	Petroleum Release Section	Recognized
Montana	Mid Atlantic	Petroleum Release Section	Recognized
Montana	New England	Petroleum Release Section	Recognized
Nebraska	Mid West	Private/Non-Compliance Potable Water	May-12
Nevada	Southeast	Non-Potable Water, Solid/Hazardous Wastes	July-12
Nevada	West	Potable/Non-Potable Water, Solid/Hazardous Wastes	July-12
New Hampshire (NELAP)	New England	Potable/Non-Potable Water, Solid & Chemical Materials	January-13
New Jersey (NELAP)	Mid Atlantic	Potable/Non-Potable Water, Solid Waste, Air Toxics	June-12
New Jersey (NELAP)	New England	Non-Potable Water/Solid/Hazardous Waste	June-12
New Jersey (NELAP)	Southeast	Solid/Hazardous Wastes, Non-Potable Water	June-12
New York (NELAP)	Mid Atlantic	Potable/Non-Potable Water, Solid/Hazardous Waste, Air	April-13
New York (NELAP)	New England	Potable/Non-Potable Water/Solid/Hazardous Waste, Air	April-13
North Carolina	ALGC-Louisiana	Solid/Hazardous Wastes, Non-Potable Water	December-12
North Carolina	New England	Solid/Hazardous Wastes, Non-Potable Water	December-12



Accutest Laboratories' Certifications, Accreditations & Permits (continued)

Certifying Authority	Accutest Facility	Certification Program	Expiration Date
North Carolina	Southeast	Solid/Hazardous Wastes, Non-Potable Water	December-12
North Dakota	Mid West	Potable Water	May-12
North Dakota	New England	Potable/Non-Potable Water, Solid/Hazardous Waste	June-12
Ohio Voluntary Action Pr.	Mid Atlantic	Solid/Hazardous Wastes, Non-Potable Water	March-13
Oklahoma	Gulf Coast	Non-Potable Water, Solid/Hazardous Waste	August-12
Oklahoma	Southeast	Non-Potable Water, Solid/Hazardous Waste	August-12
Oregon (NELAP)	West	Potable & Non-Potable Water; Haz Waste	October-12
Oregon (NELAP)	West	NWTPH-Dx/Gx in Non-Potable Water, Haz Waste	July-12
Pennsylvania (NELAP)	Gulf Coast	Non-Potable Water	January-13
Pennsylvania (NELAP)	Mid Atlantic	Potable & Non-Potable Water; Haz Waste	May-12
Pennsylvania (NELAP)	New England	Non-Potable, Solid/Hazardous Waste	September-12
Rhode Island	Mid Atlantic	Potable/Non-Potable Water, Air	June-12
Rhode Island	New England	Potable/Non-Potable Water	June-12
South Carolina	ALGC-Louisiana	Potable/Non-Potable Water, Solid/Hazardous Waste	June-12
South Carolina	Mid Atlantic	Solid/Hazardous Wastes, Non-Potable Water	June-12
South Carolina	Southeast	Solid/Hazardous Wastes, Non-Potable Water	June-12
Texas (NELAP)	ALGC-Louisiana	Potable/Non-Potable Water, Solid/Hazardous Waste	December-12
Texas (NELAP)	Gulf Coast	Non-Potable Water, Solid/Hazardous Waste	March-13
Texas (NELAP)	Mid Atlantic	Non-Potable Water, Solid/Hazardous Waste, Air Toxics	July-12
Texas (NELAP)	Mid West	Potable Water	February-13
Texas (NELAP)	Southeast	Non-Potable Water, Solid/Hazardous Waste	May-12
US Army Corps of Eng.	Gulf Coast	HTRW, Solid/Hazardous Waste	Self Declared
US Dept. of Agriculture	ALGC-Louisiana	Foreign Soils Permit	November-14
US Dept. of Agriculture	Gulf Coast	Foreign Soils Permit	April-14
US Dept. of Agriculture	Mid Atlantic	Foreign Soils Permit	August-12
US Dept. of Agriculture	New England	Foreign Soils Permit	February-13
US Dept. of Agriculture	Southeast	Foreign Soils Permit	March-13
US Dept. of Agriculture	West	Foreign Soils Permit	January-13
Utah (NELAP)	Mid West	Potable, Non-Potable Water, Solid/Hazardous Wastes	January-13
Utah (NELAP)	Southeast	Potable, Non-Potable, Solid/Chemical Materials	June-12
Virginia	Mid Atlantic	Potable Water	June-12
Virginia (NELAP)	Gulf Coast	Air Toxics	March-13
Virginia (NELAP)	Mid Atlantic	Potable, Non-Potable, Solid/Chemical Materials, Air Toxics	September-12
Virginia (NELAP)	Southeast	Potable, Non-Potable, Solid/Chemical Materials	September-12
Washington	Southeast	Non-Potable, Solid/Chemical Materials	March-12
Washington	West	Potable, Non-Potable, Solid/Chemical Materials	October-12
West Virginia	ALGC-Louisiana	Non-Potable Water, Solid/Hazardous Wastes	June-12
West Virginia	Mid Atlantic	Non-Potable Water, Solid/Hazardous Wastes	August-12
Wisconsin	Southeast	Solid/Hazardous Wastes, Non-Potable Water	August-12
Wyoming	Mid West	Potable Water	May-12



Audits & Proficiency Testing

Accutest participates in national proficiency test programs to maintain the accreditations required by the NELAP states and those required by non-NELAP states. Accutest traditionally obtains acceptable performance on over 98% of the parameters evaluated. In 2011 Accutest reported results for over 14,000 proficiency test parameters performed under the following programs:

- Water Pollution Study (NELAP fields of testing);
- Water Supply Study (NELAP fields of testing);
- RCRA Water PT Samples; and
- RCRA Soil PT Samples
- Clean Air Act Emissions PT Samples

Accutest also participates in numerous single and double blind proficiency test programs sponsored by national, corporate clients, utilizing independent, third party consulting firms.

Audits are an essential component of Accutest's Quality Assurance Program. Accutest conducts extensive, internal audits of every aspect of the analytical system annually. This includes an assessment of numerous analytical methods and an assessment of the laboratory quality system. Audit findings are the basis of corrective actions that continually elevate the Company's performance.

Audits are also conducted by state accrediting bodies for initial and continued accreditation. Findings from these audits are also used to improve process performance.

Accutest continuously monitors key indicators to measure operational efficiency which is essential to project execution. The indicators used to evaluate performance include analytical report turn-around-time, reissued reports, holding times and rejected data.

Statistical evaluations are used to measure and refine overall performance, promoting continuous improvement.



Section 4.0

Facilities and Resources

Laboratories

Accutest's state-of-the-art facilities have been designed specifically for environmental testing. Each facility is functionally designed to provide efficient processing of a large volume of samples and provide a comfortable, safe working environment for laboratory staff. The facilities are equipped with centralized process gas distribution, water purification centers and separate, dedicated HVAC systems. These systems maintain critical positive/negative pressure relationships between internal laboratories, ensuring adequate ventilation and preventing atmospheric cross-contamination. A site location map is provided on the next page.



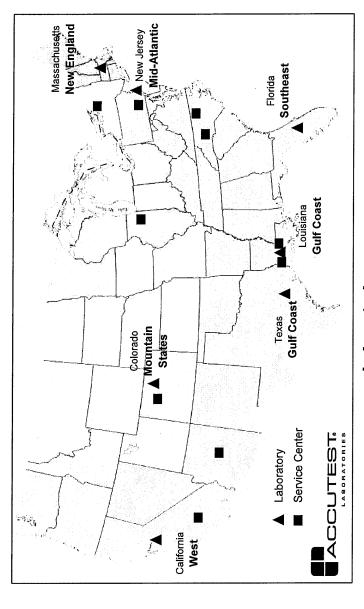
Service Centers

Accutest operates ten (10) Service Centers conveniently located in the States of New York, Pennsylvania, North Carolina, Louisiana, Illinois, Colorado, California, and Arizona to ensure that samples can be shipped to each of the laboratories quickly and to accommodate project specific locations in that region.

Courier Services

Accutest maintains a fleet of couriers that handle sample pickup and container delivery within a 100-mile radius of our laboratories. All employees are trained and have experience in handling environmental samples and sample documentation. Accutest has established contract courier services in a number of other states to provide local delivery and pickup services.

Accutest Locations



Laboratories

Gulf Coast (TX)

Mid-Atlantic 2235 US HWY 130

Dayton, NJ 08810 Tel: 732-329-0200

New England

495 Tech Center West Marlborough, MA 01752 Tel: 508-481-6200

Southeast

4405 Vineland Road Orlando, FL 32811 Tel: 407-425-6700

ries

10165 Harwin Drive Houston, TX 77036 Tel: 713-271-4700

2105 Lundy Avenue San Jose, CA 95131

West

Tel: 408-588-0200

.

Gulf Coast (LA)

500 Ambassador Caffery Pkwy Lafayette, LA 70583 Tel: 337-237-4775

Mountain States

4036 Youngfield Street Wheat Ridge, CO 80033 Tel: 303-425-6021

Service Centers

Syracuse Service Center 6780 Northern Blvd. Ste 202 East Syracuse, NY 13057 Tel: 315-329-4763

Exton Service Center 924 Springdale Drive Exton, PA 19341 Tel: 610-363-7400

Raleigh Service Center 6308 Angus Drive, Ste C Raleigh, NC 27617 Tel: 919-208-7171

Charlotte Service Center 2828-C Queen City Drive Charlotte, NC 28208 Tel: 704-929-1533

Baton Rouge Service Center 17485 Opportunity Ave. Ste 1B Baton Rouge, LA 70817 Tel: 225-752-8929

Lake Charles Service Center 2818 S. Beglis Pkwy Sulphur, LA 70665 Tel: 337-287-4879

Chicago Service Center 1449 Tonne Road Elk Grove Village, Illinois 60007 Tel: 847-258-3057

Rifle Service Center 3161 Baron Lane, Unit F Rifle, CO 81650 Tel: 970-309-5460

Irvine Service Center 17165 Von Karman Ave. Ste 112 Irvine, CA 92614 Tel: 949-250-9900

Phoenix Service Center 1741 W. University Drive, #149 Tempe, Arizona 85281 Tel: 602-501-5673

St. Louis, MO

Nashville, TN Tampa, FL

Sales Centers: Southbury, CT

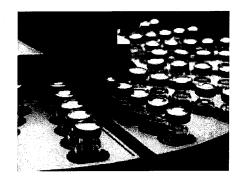


Equipment and Instrumentation

Accutest maintains automated, computerized analytical instrumentation to support large complex projects and routine analyses of standard analytical parameters. Our commitment to clients is reflected by the capital investment in facilities, equipment and technology. Our production capability, capacity and redundancy of instrumentation assure the reliability and performance needed to deliver major analytical projects successfully. Instruments are dedicated to specific matrices and analyses to accelerate productivity and prevent cross contamination. A major factor when evaluating a laboratory is the age, model and condition of its equipment. Accutest maintains a significant proportion of advanced late model instrumentation.

Major Instrumentation Summary

Analytical Instrument	Accutest Network Total
GC/MS VOA	93
GC/MS SVOA	38
GC VOA	46
GC SVOA	83
HPLC	15
ICP/ICPMS	18/7





Health and Safety Program

Accutest operates a formal Health and Safety Program that complies with the requirements of the Occupational Safety and Health Administration (OSHA). Our goal is to provide a safe and healthy working environment for our employees and clients while protecting the public and preserving the Company's assets and property. Accutest complies with all applicable government regulations pertaining to the safety and health in the laboratory and the workplace.

The objective of our Health and Safety Program is to promote safe work practices that minimize the occurrence of injuries and illness to the staff through proper health and safety training, correct laboratory technique application and the use of engineering controls. The program consists of key policies and practices that are essential to safe laboratory operation. All employees receive training on the program's elements. Job specific training is conducted to ensure safe practices for specified tasks. All employees are required to participate in the program, receive initial and annual training, and comply with the program requirements.

Key elements of the program include Safety Education and Training, Hazard Communication, Chemical Protection (with an emphasis on Personal Protective Equipment and Engineering Controls), Chemical Hygiene, Waste Handing and Emergency procedures. The program is administered at the corporate level by the Health & Safety Director, and each facility has a designated Health & Safety Officer and Safety Committee. Regular facility audits are conducted to ensure compliance to the program.

All field personnel receive appropriate OSHA training which is updated on a regular basis. In addition, they receive training and approval to cover client and site specific requirements.





Field Services

Accutest's Field Services Department offers Occupational Safety and Health Administration (OSHA) certified sampling technicians to support environmental projects. Accutest has the capacity to fully equip

and mobilize teams utilizing the appropriate level of protection to accommodate project safety requirements.

Our field technicians have extensive experience in a wide range of field sampling situations. They have been successfully audited by State regulatory agencies and are accredited to perform analysis for the short holding time field parameters in the "analyze immediately" category (pH, specific conductance, temperature, residual chlorine and dissolved oxygen).



The field staff is also well versed in sample collection using conventional grab techniques, time weighted compositing using automated or manual procedures using sequential-discrete or single jar composite and soil core collection. Customized sampling approaches based on unique client needs can also be developed upon request.

Accutest Sampling Programs & Capabilities:

- National Pollution Discharge Elimination System (NPDES)
- RCRA (Resource Conservation & Recovery)
 Wastes
- Groundwater Wells
- Wastewater
- Ambient Air

- Drinking Water Municipal & Residential
- Low Flow Groundwater Wells
- Subsurface Soil
- Sediment
- Statistical Sampling Design



Section 5.0

Key Staff Profiles

Reza Tand Vice President, Operations Years with Firm: 23 Total Years Experience: 26 Degree: BS, Chemistry

Experience: Mr. Tand is Corporate Vice President of Operations, and provides technical, operational, strategic growth and administrative leadership and management of personnel. Previously, Mr. Tand was the Director of the New England division and brings over 29 years of analytical expertise in all facets of environmental testing. He is directly responsible for lab operations in Mid-Atlantic (Corporate), New England, Louisiana, and Mountain States divisions which specialize in analysis of organics and inorganics in water, soil and air matrices.

Harry Behzadi Vice President, Operations Years with Firm: 17
Total Years Experience: 28

Degree: Ph.D., Analytical Chemistry

Experience: Dr. Behzadi is currently Vice President of Operations. Previously, Dr. Behzadi was the Director of the Southeast and Gulf Coast Divisions. He has extensive experience in trace organics and inorganic analyses of environmental samples. He has been responsible for laboratory management, analytical method development, professional training and QA/QC in both the environmental and pharmaceutical industries. Dr. Behzadi has extensive experience in the R&D, operation, maintenance and trouble shooting of the following instrumentation: GC/MS, GC, HPLC, ICP, AA, IR, GPC and UV/VIS. Previously, Dr. Behzadi has served as an environmental laboratory organics manager and a pharmaceutical laboratory manager.

Dr. Kesavalu Bagawandoss

Technical Director

Years with Firm: 3

Total Years Experience: 31

Degree: BS, Chemistry; MS, Chemistry; Ph.D. Engineering (Environmental);

Jurist Doctor (Law); Licensed to Practice Law in Louisiana

Experience: Dr. Doss served as Chief Operations Officer for Integrate, Inc., providing Data Validation Services, Laboratory Audits and Litigation Support Services for 6 years. He served as a Laboratory Director for 15 years providing analytical services to the Gulf Coast Region. Additionally, he served as the Laboratory Director for Industrial Hygiene services accredited by AIHA. Provided Superfund Analytical Services for USEPA for 20 years continuously for various contracts, including Dioxins/Dibenzofurans, Organics and Inorganics. Expertise also includes Laboratory setups, Clean room setups, Methods development, Fingerprinting, Alkylated PAH's, Biomarkers, Frac Fluid Analyses, Air Toxics, Biota Analyses by MSPD and Land Treatment of Oil Refinery Wastes.



Andrew Dexter Vice President, Chief Information Officer Years with Firm: 17

Total Years Experience: 30

Experience: Mr. Dexter has developed an overall IT strategy for Accutest and has taken the lead role in implementing a new state-of-the-art LIMS system at all Accutest Laboratories. He has over 30 years of experience in systems and laboratory automation as well as 24 years of environmental laboratory experience. Before joining Accutest, Mr. Dexter was one of seven founding members of Automated Compliance Systems, where he played a key roll in developing the LIMS software now implemented at Accutest. He was the sole designer/developer of Seedpak2, an Oracle-based instrument interfacing package that was later licensed to Perkin-Elmer for use in its SQL-LIMS product. Mr. Dexter was the sole designer/developer of AQUARIUS, a software package for automated GC/MS data acquisition.

Brian Davis Systems Manager Years with Firm: 25 Total Years Experience: 29 Degree: BA, English

Experience: Mr. Davis is currently the Corporate Systems Manager for Accutest Laboratories and reports directly to the Vice President/Chief Information Officer located in Dayton, NJ. His responsibilities include System Administration, Database Administration, Network Administration, Software design and development with a specialty in electronic data deliverables (EDD's) and support. His industry experience includes 10 years in Quality Assurance, 2 years auditing external laboratories and 26 years in information technology. Mr. Davis was instrumental in the design and implementation of the state-of-the-art LIMS System at all Accutest Laboratories.

Paul Ioannidis Laboratory Director, Mid-Atlantic Years with Firm: 4

Total Years Experience: 29

Degree: B.S. Biology, M.S. Environmental Science, Ph.D. Environmental Sciences, M.S. International Relations

Experience: Mr. Ioannidis is responsible for managing the daily operations and all facets of activities at the NJ laboratory. He has over 25 years management experience in commercial environmental laboratories including technical operations, quality assurance, business development, international programs and facility general management. Mr. Ioannidis has extensive laboratory management experience, and has been very active in supporting numerous DoD environmental programs, as well as numerous superfund activities at the state and the Federal EPA level. He has extensive experience in international programs, and has supported field, testing, and consulting activities in West Africa, Central America, Europe and South/Central Asia.



Phillip M. Worby
Director, Corporate Quality Assurance

Years with Firm: 5

Total Years of Experience: 34

Degree: B.S., Environmental Studies/Water and Wastewater Treatment

Experience: Mr. Worby is Accutest's Director of Corporate Quality Assurance. He is responsible for the corporate quality assurance program in each of Accutest's laboratory facilities. Phil brings over 34 years of environmental chemistry experience to Accutest and has previously held management positions in commercial environmental laboratories as a Technical Director and as a Quality Assurance Director. Mr. Worby also has extensive environmental regulatory experience throughout the country and is currently serving as the Past President of the Pennsylvania Association of Accredited Environmental Laboratories and is past Chairman of the New Jersey DEP Environmental Laboratory Advisory Committee.

Wen-Wen Chi Corporate Technical Director/Organics Years with Firm: 21

Total Years Experience: 32

Degree: BS, Chemical Engineering

Experience: Ms. Chi has strong knowledge in the end-to-end Organics Operations from sample preparation/extraction, through sample analysis, data interpretation/review, to report generation. She has extensive experience in Priority Pollutant Analysis using GC-GCMS & HPLC, covering EPA 500/600 Series, SW846, MAEPH/NJEPH, CLP work for EPA, Appendix IX, Dioxin Analysis, and T03/T015/NJT015LL for Ambient Air & Soil Vapor Methodologies. She also has expertise in special projects (EPA, SAS), new equipment/methodology evaluations, instrumentation & Lab start-up planning, technical consultation with clients, and application programs development for laboratory operations standardization and automation.

Nancy Cole Corporate Technical Director/Inorganics Years with Firm: 22

Total Years Experience: 27

Degree: MS. Inorganics Chemistry

Experience: Ms. Cole is the Corporate Technical Director/Inorganics for Accutest Laboratories. The Inorganics division includes metals, wet chemistry, and microbiology. Metals includes a variety of analytical techniques such as ICP, ICP/MS, CV AAS, and Atomic Fluorescence Spectrometry. Wet chemistry includes a broad range of classical and instrumental techniques ranging from ion chromatography to UV/Vis and titrametric analyses. Ms. Cole has extensive experience in EPA, SW846, Standard Methods, and ASTM methodologies as well as NELAC and DOD testing standards. She is involved in daily laboratory operations, including project set-up, data review, and client services and client interactions.



Brad Madadian Regional Laboratory Manager, Northeast Years with Firm: 22 Total Years Experience: 22 Degree: Masters, Chemistry

Experience: Mr. Madadian is responsible for overseeing the operation, procurement, and personnel in New England, Louisiana, and Mountain States divisions. He is directly involved in design and renovation of facilities and infrastructure to improve work flow and efficiency with utmost emphasis in safety. He works closely with the client services group to better serve client inquiries. Previously, Mr. Madadian was the Laboratory Manager of the New England division and has 23 years of experience in environmental testing. He has been involved in various method developments, studies, and has attended numerous technical training and seminars.

Ronald Benjamin Laboratory Director, Gulf Coast, LA Years with Firm: 19
Total Years Experience: 33
Degree: BA, Urban Planning

Experience: Mr. Benjamin is responsible for the day to day operations at Accutest's Gulf Coast, LA Laboratory in Lafayette, LA. He has extensive experience in analytical chemistry applied in the fields of chemical manufacturing, wastewater processing, waste management and environmental monitoring. His experience includes bench expertise in the application of organic and inorganic EPA methodology and methods development associated with environmental monitoring for oil and gas exploration and production under API contract. Mr. Benjamin has over twenty years management experience including independent commercial laboratories and compliance management for public utilities.

Paul Canevaro
Laboratory Director, Gulf Coast, TX

Years with the Firm: 5
Total Years Experience: 33
Degree: BS, Chemistry

Experience: Mr. Canevaro is responsible for day to day laboratory operations at Accutest Gulf Coast laboratory in Houston, Texas. He has extensive experience performing analysis in support of the Safe Drinking Water Act, Clean Water Act, Resource Conservation and Recovery Act and USEPA Contract Laboratory Program. His experience includes bench expertise in metals analysis and inorganic chemistry. He has held senior staff positions including lead technical support functions, laboratory oversight and general management of laboratory operations. In those roles, he implemented laboratory operations and grew the operation from a staff of two to seventy, establishing the largest drinking water laboratory in the State of Florida with accreditation in nineteen states.





Norman Farmer Regional Technical Director, Southeast Years with Firm: 16
Total Years Experience: 22

Degree: BS, Chemical Oceanography

Experience: Mr. Farmer currently oversees the technical operations for Accutest Laboratories, Southeast, Northern California, and Gulf Coast divisions. This includes project coordination between the facilities; instrument trouble shooting, repair, and installation; method validation guidance; and laboratory design and expansion. Mr. Farmer is familiar with the various QC and reporting criteria for Navy, U.S. Army Corps of Engineers, and AFCEE. He is responsible for implementing the DoD QSM processes throughout Accutest. Mr. Farmer also reviews Quality Assurance Project Plans to ensure that all data quality objectives and reporting requirements are met by laboratory.

James Roush Technical Manager, New England Years with Firm: 2

Total Years Experience: 15 Degree: BS, Marine Biology

Experience: Mr. Roush is Technical Manager with Accutest New England. As an accomplished environmental scientist and analytical chemist with knowledge of IT administration, his experience includes laboratory and project management, interpretation of chemical data used in environmental forensic, investigations of manufactured gas plants, petroleum releases, railroads, pipelines, and utility sites, environmental and forensic sample analysis including hydrocarbon fingerprinting, alkylated PAHs, and petroleum biomarkers. Mr. Roush has substantial experience with soil, groundwater, sediment, NAPL and soil vapor sampling techniques and has performed vapor and particulate air monitoring on large remediation sites.

Stephen Grant Vice President, Sales and Marketing

Years with Firm: 13

Total Years of Experience: 25 Degree: BS, Chemistry

Experience: Mr. Grant is Vice President, Sales and Marketing, and has over 24 years of experience in both operations and sales roles in environmental laboratories. The last 14 years have been in direct sales and sales management. He is responsible for developing and implementing the company's sales and marketing strategy on a national basis. In addition, Mr. Grant manages Accutest's National Accounts Program. Prior to working in the environmental industry, he worked as a chemist in a research laboratory.



Kevin Gibbons National Sales Manager Years with Firm 3 Total years of experience 15 Degree: BA, History

Experience: Mr. Gibbons is the National Sales Manager, where he is responsible for developing many of Accutest's largest national clients. Mr. Gibbons has over 14 years of environmental industry experience, all in a sales capacity. He also serves as Regional Sales Manager for the New England region and is responsible for managing the sales program in that territory. Prior to joining Accutest Mr. Gibbons worked for Environmental Data Resources as National Account Manager.

Matthew Cordova
Director, Corporate Client Services

Years with Firm: 14

Total Years of Experience: 31 Degree: BS, Marine Biology

Experience: As the Client Services Director, Mr. Cordova is responsible for the implementation of the client services and project management activities within the lab. He also manages the sample log in process, to ensure that project specifications are accurately entered into the LIMS and communicated to the laboratory. Working in conjunction with the production managers, Mr. Cordova ensures that the Client Services Department meets project commitments and data quality objectives. Mr. Cordova's environmental laboratory experience includes, Atomic Spectroscopy, Inorganic Chemistry and management of Client Services, Quality Assurance, Health and Safety and Laboratory Operations.



Section 6.0

Major Project Experience (continued)

	Experience (Engineering Firms)				
Project Type		Project Description			
1	RIFS	Site Investigation/Remediation Soil and groundwater investigation for Fortune 50 Manufacturing Company. Full TCL/TAL analyses with emphasis on hexavalent chromium analyses. Project included treatability and leaching studies.	Mid- Atlantic		
2	RCRA	Background Pre-Drill Groundwater analysis in support of hydraulic fracturing activities in the Marcellus Shale. Analyses include volatiles, dissolved gases, metals and various wet chemistry parameters.	Mid- Atlantic		
3	RI	Long-Term RI to Establish Extent/Range of Pollutants in lake and stream sediments and water. Additional investigation/remediation of surrounding industrial sites.	Mid- Atlantic		
4	RCRA	Massachusetts Turnpike Authority, Central Artery Concentrated effort to process 3000 post-excavation samples for a full suite of analysis. 48-72 hour TAT. LabLink used to electronically transfer the data for immediate validation and use.	New England		
5	RIFS RCRA	Site Investigation/Remedial Investigation for Major Aerospace Company. Large on-going Site Investigation/Remedial Investigation in support of on-going construction activities. Full TCL/TAL analysis, expedited TAT, custom EDD and 3 rd party validation.	Southeast		
6	RIFS RCRA	Multiple Superfund RIFS Activities for Large Utility Company Full TCL/TAL analyses for Superfund sites in Puerto Rico, North Carolina and Florida. Full deliverables and extensive electronic deliverables.	Southeast		
7	CLP RIFS RCRA	EPA Region 6 Laboratory Testing Support Contract Performed laboratory analytical services in support of evaluating on shore contamination originating from the Deep Water Horizon Oil Spill in the Gulf of Mexico. Services involved collection and analysis of environmental samples from field teams on a daily basis for over six months.	Gulf Coast		
8	RCRA UST	Kentucky Natural Resources and Environmental Protection Underground Storage Tanks (UST) Program for over 300 sites in Eastern Kentucky. Analyzed groundwater and soil samples for BTEX, PAHs, Metals and RCRA Characteristics. Analyzed over 1000 samples in a 4 month period, all of which required expedited turnaround.	Central		
9	RCRA	Major Petroleum Company Analysis of soil and water in support of oil and gas exploration activities. Analytical suite includes volatiles, semivolatiles, metals and various hydrocarbon analyses.	Mid-West		
10	RIFS	Brownfields Investigations Multiple Brownfields sites throughout Oklahoma through a contract with a national consulting firm.	Mid-West		
11	RCRA	Groundwater Monitoring and Waste Characterization Analysis at several major landfills including Full Appendix IX parameters and site-specific compounds. Modified analytical methods to reach site reporting limits.	West		
12	RIFS	Site Investigation at Former Aerospace Manufacturing Site Full suite of analyses including Perchlorate and hexavalent chromium.	West		



Major Project Experience (continued)

	Experience (Industrial Projects)			
	Project Type	Project Description		
1	RCRA NPDES	Electric & Gas Company Extensive contract to support the Materials Management Group. Analytical services for MGP sites and facilities. Contract also includes emergency response and field sampling.	Mid-Atlantic	
2	RCRA	Petroleum Refinery, St. Croix US Virgin Islands Large, on-going sampling and analysis program requiring Full Appendix IX and Appendix III analyses as part of a RCRA Facility Investigation (RFI) and RCRA permitted land and wastewater treatment unit monitoring. Customized preprinted chains of custody and sample bottle labels were supplied to the client in order to minimize time spent in the field.	Mid-Atlantic	
3	RIFS RCRA	Blanket Analytical Contract for large Aerospace Manufacturer Contract includes Corporate Remediation and Facility Environmental Management. Full TCL/TAL, Appendix IX and RCRA analysis. Extensive development of electronic deliverable for integration into client database. Field sampling services supplied upon request.	New England	
4	RCRA NPDES	Regional Petroleum Distributor Analytical support throughout New England for groundwater monitoring and site investigations. Major analyses include volatiles, PAH's, metals, soil vapor and ambient air. Provide routine courier service in multiple states.	New England	
5	RIFS RCRA	Superfund Site in West Palm Beach Exclusive laboratory contract to support RIFS activity. Analyzed over 1800 samples for full suite of analysis. Extensive PCB studies.	Southeast	
6	RCRA NPDES UST	Texas Natural Resource Conservation Commission Analytical Services Contract in support of Field Operations Division. Programs include UST, RCRA, and NPDES, utilizing EPA 600 and 8000 Series Methods.	Gulf Coast	
7	RCRA	Electric/Utility Company, Gulf Coast Region Serve as the primary analytical testing laboratory for a major electric utility company in the Gulf Coast region in support of RCRA characterization of waste and transformer oils. Provided rapid TAT and emergency response capabilities.	Gulf Coast	
8	RCRA	Custom analysis of hydraulic fracturing fluid for several oil & gas exploration companies. Also developed specialized analysis for dissolved gases and air.	Gulf Coast	
9	RIFS RCRA	Multiple RIFS/RCRA sites throughout the mid-west. Analyses of soil and ground-water for full TCL/TAL. State-specific methods utilized as needed. Custom electronic data deliverables.	Central	
10	RCRA	Former Steel Manufacturing Site Waste Characterization and groundwater monitoring. Analysis included full TCLP on rush turnaround.	Mid-West	
11	DOE	High Profile Groundwater and Soil Investigation and Remediation Project of a two mile linear accelerator. Thousands of samples on an expedited turnaround time during the life of the project.	West	



Major Project Experience (continued)

	Experience (DoD Projects)			
Project Type		Project Description		
1	DoD	US Army Corps of Engineers, Philadelphia District. Indefinite delivery contract for several large scale investigation and remediation projects within the district. Provide full data deliverable packages, SEDD EDD and ADR EDD.	Mid-Atlantic	
2	DoD	Regulatory Compliance Sampling and Analysis throughout Naval Air Station. Sampled groundwater monitoring wells, wastewater grab and 24-hour composites, soil and waste drum samples. Analyzed for priority pollutants, waste classification and general chemistry parameters.	New England	
3	DoD	Department of the Army, Natick R&D Laboratories Analytical to support Field Site Investigations, Treatability Studies and Groundwater Monitoring. Analyses included full TCL+ and Mercury.	New England	
4	DoD	Department of the Airforce, Airforce Center for Environmental Excellence Multiple RIFS, SI and Groundwater Monitoring Programs at Cape Canaveral. 600 samples analyzed on an expedited basis for TCL Volatiles and EPA Method 8310. Provided reduced CLP deliverables package and an ERPIMS EDD.	Southeast	
5	DoD	Department of the Navy, Southern Division Navy Clean Contract 1600 samples analyzed according to NFESC protocol. Analyses included Full TCL/TAL and EPA Method 8330. Sites include NAS Cecil Field, NAS Jax, NAS Key West, NTC Orlando, NAS Pensacola, and Eglin AFB.	Southeast	
6	DoD	Department of the Navy, Atlantic Division Navy Clean Contract RIFS activities at Camp Lejuene, USN Cherry Point, and Yorktown Naval Weapons Station. Data electronically transferred via LabLink to expedite the validation of 250 samples.	Southeast	
7	DoD	US Army Corps of Engineers Fort Wingate, New Mexico, site investigation: Expedited 150 samples for Full TCL/TAL plus Explosives.	Gulf Coast	
8	DoD	US Army Corps of Engineers quarterly ground-water and soil monitoring at The Plum Brook Ordnance Works Sandusky, Ohio and The West Virginia Ordnance Works remediation, Mason County, WV. 300 samples per quarter analyzed for Nitroaromatics, Volatiles, Semi-Volatiles, TAL Metals and PCB's. Results in ERPIMS deliverables and custom EDDs.	Central	
9	DoD	Department of the Army, Chicago District Treatability Study for the Indiana Harbor Confined Disposal Facility. Analysis included Full TCL/TAL using SW846 Methodology.	Central	
10	DoD	Department of the Air Force, Air Force Center for Environmental Excellence Multiple groundwater and soil monitoring programs at McConnell Air Force Base, Kansas. 450 samples analyzed for Volatiles, Semi-Volatiles, PCB's, TPH, Pesticides and Herbicides. Soil and ground-water disposal parameters including a full suite of TCLP parameters.	Mid-West	
11	DoD	US Army Corps of Engineers Quarterly ground-water and soil monitoring at former BRAC installation. 300 samples analyzed for Volatiles and inorganic analysis. Project requires utilization of Passive Diffusion Sampling Bags (PDS) provided prefilled by laboratory. Level 4 deliverables and ADR EDD.	West	
12	DoD	Department of the Air Force RIFS over 400 samples from Air force base located in the Hawaiian Islands. 2-3 day TAT for Pesticides, PAH's and PCB's with level 4 deliverables and ERPIMS EDD.	West	



Representative Client List

AECOM

AMEC

Amerada Hess

Arcadis

Ashland Chemical

ATC

Atofina Petroleum Chemicals

Beazer

BEM Systems Brenntag

Brown and Caldwell Cabot Oil & Gas

Chesapeake Energy

Chrysler Citgo

Clean Harbors

Conestoga-Rovers & Associates

Conoco Phillips

CSXT

Dow Chemical

EA Engineering

El Paso Ensafe ERM

Exxon Mobil

Ford

Gannet Fleming

General Electric
GEI Consultants, Inc

GES

Getty Petroleum

Golder Associates

Granite Construction

HDR Engineering

Hoffman - La Roche Inc. Honeywell International Inc.

IBM

Kleinfelder

Langan Engineering

MACTEC

Marathon Petroleum

MWH Americas

NiSource

O'Brien & Gere Engineers, Inc.

Occidental

OP-TECH Environmental Services

PPG Industries

PSI

Republic

Roux Associates

Shaw

Shell

SouthWest Water Corp.

Sovereign Consulting

Stantec

Sunoco

Terracon

Tetra Tech

TRC

United Technologies

Warren Equities

Weston Solutions

Williams Energy

WSP





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