Overview of TTL Associates, Inc.

**History**

Established in 1927 as Toledo Testing Laboratory, TTL Associates, Inc. has grown to be a full-service environmental, testing, and geotechnical engineering firm, serving private and public entities throughout the United States.

Established under the leadership of Thomas R. Uhler, P.E., President & CEO as a Service Disabled Veteran Owned Small Business and is EDGE certified. TTL has grown to multiple locations throughout Ohio and Michigan.

**Professional Expertise**

TTL’s staff includes certified industrial hygienists, professional engineers, professional geologists, hazardous materials managers and technicians, environmental microbiologists, AHERA building inspectors and management planners, lead-based paint inspectors and risk assessors, environmental project management analysts, certified roof inspectors, certified mold, asbestos and lead inspectors, environmental research scientists and technicians, drilling experts, and geotechnical engineers.

**Laboratory**

TTL’s staff is supported by a Certified Independent Construction Laboratory for Quality Construction Material Testing Services.

**Our Clients**

Our clients are commercial and industrial corporations, private owners, educational facilities including school systems, colleges and universities, retail, architectural, engineering, construction, development firms, and public entities including city, county, state and federal agencies.

**Quality**

TTL’s Management Team is “hands-on,” involved with your project from beginning to end, and are available to answer any questions at any time.

Our team strives to be responsive, honest and committed to providing you with experience, manpower, resources and the equipment needed for a successful project.

“Celebrating 80 years of business with our friends!”
TTL “In-House” Capabilities

**Environmental**
- Asbestos Laboratory Testing
- Brownfield Redevelopment & Management
- Employee Management Training Programs
- Environmental Audit & Compliance
- Environmental Drilling
- Environmental Site Assessments
- Hazardous Materials Assessment & Management - PCB’s, Mercury, Lead, Asbestos & Mold
- Hydrogeological Assessments
- Indoor Air Quality Programs
- Industrial Hygiene Programs
- LEED Building Certification
- Property Condition Assessments
- Spill Control & Countermeasure Plans
- Underground Storage Tanks
- Wetlands Determination & Delineation

**Testing & Inspections**
- Aggregate Testing
- Asphalt Inspection & Testing
- Caissons Inspection
- Concrete Inspection & Testing
- Foundation Inspection & Testing
- Masonry Inspection & Testing
- Parking Lot Assessment Programs
- Roof Inspection & Testing
- Roofing Assessment Programs
- Soils Inspection & Testing
- Structural Steel Inspection & Testing

**Geotechnical Engineering**
- Field Engineering & Testing
- Flexible & Rigid Pavement Design
- Foundation & Specialty Analysis
- Geoprobe
- Geotechnical Drilling
- Groundwater & Drainage
- Hard Rock Tunneling
- Retaining Walls
- Roadway & Transportation Studies & Pavement Designs
- Shallow & Deep Foundation Systems
- Soil Laboratory Testing
- Soil Permeability
- Soils Related Construction Procedures
- Slope Stability
- Subsurface Investigations
"Our success is based on shared values."

- Tom Uhler,
President & CEO

**Shared Values**

**Leadership**
Effective leadership is necessary to achieve our vision to provide superior client service.

**Urgency**
We take time to understand our client’s goals and put our client’s satisfaction at the forefront of our daily activities to exceed expectations.

**Quality**
Quality is the foundation for building confidence and trust with our clients so we insist on excellence from our employees. This builds and develops a well-communicated quality management program.

**Integrity**
Integrity is the cornerstone of all our relationships. We never compromise our integrity. Our employees are expected to be ethical, honest, and forthright.

**Commitment**
Dedicated and highly motivated professionals make it happen. Our teams are selected, trained and rewarded for living our values.

**Continuous Improvement**
Formal planning and implementation of proven systems with innovation, continuously improves our quality.

**Growth**
Superior customer service accounts for our growth. We operate as an entrepreneurial organization that attracts, trains, and retains leaders who listen, think, reason and act with a sense of urgency.

**Community**
We invest our time and resources in activities that are beneficial and enhance our community, our clients and our employees.
Contact Us

Locations

Toledo, OH
1915 North 12th Street
Toledo, OH 43604-5305
Phone: 419 324 2222

Cleveland, OH
8100 Grand Avenue, Suite 100A
Cleveland, OH 44104
Phone: 216 357 2335

Plymouth, MI
44265 Plymouth Oaks Boulevard
Plymouth, MI 48170-2585
Phone: 734 455 8600

Detroit, MI
16100 Moross Road
Detroit, MI 48205-2566
Phone: 313 527 8838

Chicago, IL
2328 Wellesley Court
Naperville, IL 60564
Phone: 312 771 2539

We invest our time and resources in activities that are beneficial and enhance our community, our clients and our employees.

Environmental Capabilities

Asbestos Laboratory Testing

Brownfield Redevelopment & Management
- Remedial Investigations
- Remediation/Site Closure

Demolition Specifications

Environmental Audit & Management Compliance Programs

Environmental Site Assessments - Phase I & II
- Site Condition Assessments

Hazardous Materials Assessment & Management
- PCB’s, Mercury, Lead, Asbestos & Mold

Indoor Air Quality

Industrial Hygiene Consulting

Project & Portfolio Due Diligence Management

Property Condition Assessments

Spill Control & Countermeasure (SPCC) Plans

Underground Storage Tanks

Wetland Determinations & Delineations
TTL’s Brownfield Redevelopment team has the expertise to maximize tax incentives, and obtain grants and low interest loans to offset project costs, to increase your return on investment. Brownfield Redevelopment Funding Mechanisms include the following:

**Single Business Tax (SBT) Credit**
The SBT Credit is available to property owners for redeveloping a Brownfield site. The SBT credit is 10% of the eligible investment of up to one million dollars in credit, claimed over a ten-year period. Qualifying activities include: construction, demolition, restoration, renovations, site improvements, addition of machinery, equipment and fixtures and leased machinery, equipment or fixtures. The SBT Credit can be assigned to eligible lessees.

**Tax Increment Financing (TIF)**
Act 381, Michigan’s Brownfield Redevelopment Financing Act, allows local Brownfield Redevelopment Authorities (BRA) to capture incremental increases in tax dollars generated from new development and property improvements on eligible properties. The BRA uses these captured tax dollars to reimburse eligible environmental activities include the following Due Diligence: Phase I, Phase II and Baseline Environmental Site Assessments. Included is a Due Care Plan with an investigation to define contamination and assessment of intended use including contaminant removal/isolation to prevent exposure or exacerbation, and relocation of public buildings or operations.

TIF is available for development-related eligible activities in 88 Core Communities. In lieu of being contaminated, sites are eligible when they are deemed blighted or functionally obsolete (not fit for intended purpose or reuse). Additional development-related eligible activities include: Infrastructure improvements, Demolition, Lead/Asbestos Abatement, and Site Preparation.

TTL understands the development process and brings proven expertise in successfully obtaining grants, low-interest loans and tax incentives for clients who need to offset project costs and increase their return on investment.
Environmental Audit Plan
Environmental Management System (EMS)

An Environmental Audit Plan summarizes and analyzes a facility’s processes, internal management systems, engineering controls, plant organization and responsibilities. TTL finds solutions to specific environmental problems, and is current on any upcoming regulatory requirements. This helps reduce long-term costs of compliance.

Our Approach
A senior member of TTL’s management team gathers the professional audit team together with key stakeholders of a facility to exchange first-hand knowledge and information for a successful audit.

Walk-through
Professionals conduct a thorough walk-through inspection to gather information on the operations and environmental impact of a facility. This intimate knowledge is collected with the support and input from key stakeholders and may include waste generation; the basic makeup of waste streams; waste management, emissions to the air, sewer and potential upset conditions; monitoring, measuring and control devices; worker training; and what regulations apply to each aspect of a process.

Evaluation of Information
A thorough regulatory and permit review is conducted to evaluate and identify compliance status for all applicable local, state and federal regulations.

Final Audit Report with Recommendations
A member of TTL’s management team gathers the professional audit team together with key stakeholders to review and clarify all findings. This information is compiled in a Final Audit Report with findings prioritized and recommendations for non-conformances observed during the audit.

Environmental Management Systems (EMS)
A comprehensive, proactive EMS guides a facility through operations and compliance. TTL assists by identifying any issues needed to obtain or comply with needed environmental permits and provides recommendations for proper monitoring, measurement, and control of the facility and its operational impacts.

Cost-Recovery Strategies
TTL can provide cost recovery strategies and cost recommendations on objectives that may be implemented, including waste minimization, source reduction, recycling and reuse. Other services available include a formal training program, internal auditing guidelines, and preparation of regulatory inspections.

The Environmental Compliance Manual is a customized response and action plan to help a facility meet and implement their environmental goals.
Phase I & II
Environmental Site Assessments

Phase I Environmental Site Assessments
The liability and risk, of owning/financing an environmentally impaired site or building, can be greatly reduced with a Phase I Environmental Site Assessment by an experienced, environmental professional.

A geologist leads a team of professionals to provide you with an in-depth analysis and report that identifies your environmental risk and liability, before you purchase a site.

Research & Discovery
Ownership History & Chain of Title
Visual, On-Site Survey
Underground & Aboveground Storage Tank Identification
PCB Electrical Equipment Identification
Review Federal, State, Local & Tribal Environmental Databases
Review & Identify from Aerial Photography, Past-Use Activities
Municipal & Regulatory Agencies - Hazardous Materials Identification
Review & Characterize General Geology and Hydrogeology.

Facts & Recommendations
Based upon TTL’s observations and information collected, all findings, conclusions and recommendations, as warranted, are summarized and presented in a written report.

If the potential for contamination is discovered, a Phase II ESA may be recommended.

Phase II Environmental Site Assessments
Phase II Environmental Site Assessments are individually designed for each particular site and may include various sampling and investigative methods including geophysical surveys, search for buried metallic objects, collecting soil and groundwater samples, and laboratory analysis.

TTL looks out for your best interests.
Hazardous Materials Professionals
TTL's experienced team of professionals maintain the necessary credentials and certifications to perform professional evaluations, management planning, abatement project design, abatement project management, and air monitoring and clearance sampling for hazardous materials including PCB’s, Mercury, Asbestos, Lead and Mold.

Asbestos Sampling & Analysis

“In-house” Asbestos Laboratory for Analysis
Bulk samples are collected of suspected ACMs and transported to TTL’s laboratory for Polarized Light Microscopy analysis. TTL's in-house analytical laboratory is part of the National Voluntary Laboratory Accreditation program administered by the National Institute of Standards and Technology.

Lead Paint Inspection Surveys & Analysis
TTL’s licensed and certified lead inspectors conduct comprehensive lead paint inspections to generate preliminary lead survey reports that contain detailed information on the location of surfaces that contain lead, the percent of lead content, and the physical condition of the surface materials.

Mold Identification, Monitoring & Abatement
TTL uses several sampling procedures to identify visible and not visible colonies of mold or fungi. A sample is taken and sealed for analysis by an accredited laboratory. Indoor Air Quality Monitoring identifies airborne fungal spores within the problem area that are compared to an outdoor air sample for comparison.

After a visual inspection and sampling, TTL’s professionals make recommendations and provide cost estimates to resolve the mold issue and resolve the moisture infiltration that has been vital in facilitating fungal growth.

After mold abatement activities, TTL conducts a Clearance Sampling to determine that the clean-up was complete.

TTL's Hazardous Materials Team is experienced in sampling, analysis, identification, monitoring and abatement activities for hazardous materials including PCB’s, Mercury, Lead, Asbestos and Mold.
TTL provides owners, property managers, facility managers of commercial, industrial, residential, and public properties with experienced and certified professionals who assess indoor air quality problems.

TTL successfully implements a customized approach for remediation from a simple “mold” investigation to an ongoing annual service contract.

**An Indoor Air Quality Evaluation includes:**
- Airborne Microbial Sampling
- Airborne Particles
- Air Flow/Air Pressure
- CO/CO2/Miscellaneous Gases
- Formaldehyde Levels
- Instrument Testing
- Measurement of Temperature/Relative Humidity
- Outdoor Analysis of Dusts, Gases, Bacteria, Fungi, Temperature & Relative Humidity.

**TTL Water Quality Testing**
- Legionella Bacteria Identification and Counting
- Microbial Analysis of Cooling Towers, Condensate Pans & Humidifier Reservoirs
- A Total Microbe Count

**On-Site Certified Professionals Provide:**
- Mechanical System Reviews
- Measurement of Indoor Contaminants
- Inspection & Specification Development
- Proactive Preventive Monitoring Program
- Identification of Potential Future Problems
- Documentation of Existing/Potential Problems
- Moisture Assessment through Infrared Thermal Imaging
- Baseline Sampling
- Post-Clearance Assessment & Evaluation
- Post-Abatement Sampling

**TTL’s Reporting Methodology Includes:**
- Air Supply/Exhaust/Conditioning System
- List of Tests Conducted
- Test Results
- Discussion & Comparison of Test Results
- Relevant Standards
- Summary of Analysis & Findings
- Photographic Record
- Practical Correction/Actions Recommended

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**Indoor Air Quality (IAQ)**

**Sampling Analysis Identification Monitoring Abatement**

**PCB’s, Mercury Asbestos Lead Mold**

**Industry Guidelines**
- EPA, OSHA, American Conference of Governmental Industrial Hygienists and American Industrial Hygiene Association.
Industrial Hygiene Consulting

Workplace hazards are now recognized as a serious concern for employees and the community. They have prompted companies to develop and implement an industrial hygiene program.

TTL's certified industrial hygienists are experienced professionals who develop and implement industrial hygiene programs that include:
- Asbestos/Lead Management Programs,
- Air Sampling Monitoring & Analysis,
- Lead Testing,
- Health & Safety Program Audits, and
- Mold Surveys & Evaluations.

The evaluation starts with an initial on-site walk-through, development of sampling and measurement plans, implementation, data analysis, and if necessary, corrective action recommendations.

Indoor Air Quality
Indoor air quality assessments include mold investigations, hazardous materials surveys, air contaminant monitoring and ventilation evaluations.

Employee & Management Training Programs
TTL's professionals provide training for employees and management to meet programs that include:
- OSHA Hazard Communication
- Worker Right-to-Know Programs
- Emergency Response Planning

Industrial Hygiene Health Hazard Evaluations
TTL professionals assist in recognizing and evaluating health hazards and make recommendations to control and minimize environmental hazards in the workplace.

TTL keeps you up-to-date on current and pending regulations from the EPA and OSHA.
Property Condition Assessments

Property Condition Assessment
A Property Condition Assessment begins with an on-site visit to the property to review all external and internal building components, available documentation, and public records, and necessary interviews to define and analyze present conditions with recommendations for repair or further review.

A summary of the condition of the property is assembled into a report that includes a description to the property defining the site, buildings, history, code compliance, maintenance, and addresses the following concerns:

Site Improvements
Access, parking, paving/drainage, walks/curbs, utilities, lighting, landscaping/irrigation, fences/walls, signage and disabled accessibility/ADA.

Building Improvements
Foundation, structure, floor construction, exterior wall construction, roof and canopy construction, windows, doors, balconies/terraces, stairs, interior floors and walls, appliances, cabinets, disabled accessibility/ADA.

Building Mechanical, Plumbing & Electrical Systems
HVAC, plumbing, electrical, vertical transportation, fire protection/life safety systems.

Tenant Spaces
Interior finishes, kitchen appliances, HVAC, plumbing/fixtures, electrical, fire protection/life safety systems.

Other Issues
Asbestos, lead and hazardous material identification, fixtures, furnishings and equipment for hotels, detailed mechanical studies, detailed ADA compliance surveys are available.

TTL defines the physical condition of a property anticipating the shortcomings that present financial risk or liability to an owner.

TTL performs all PCA services in accordance with the ASTM E2019-01 standard.
Preparation & Certification of SPCC Plans

In accordance with 40 CFR 112, SPCC Plans are required for most facilities with total aboveground oil storage greater than 1,320 gallons (in aboveground storage tanks, totes and drums) or total below ground storage greater than 42,000 gallons.

TTL assesses SPCC Plan needs on a facility-specific basis to efficiently bring clients into compliance with applicable regulations.

Licensed Professional Engineers conduct SPCC Plan inspections, interviews and evaluations and prepares and certifies the Plan. TTL prepares Integrated Contingency Plans for facilities required to have multiple plans.

Services include:
- Assessment of Applicability of Regulations to Facility
- Site Reviews & Evaluations
- SPCC Plan Preparation
- SPCC Plan Certification
- Periodic SPCC Plan Revisions & Re-certifications
- Integrated Contingency Plans

Our cost-effective consultation to attain and maintain regulatory compliance is accomplished by TTL’s focus on client’s needs and specific sites, including “big picture” planning and attention to detail.
**Underground Storage Tanks (USTs)**

Assessment & Remediation of Underground Storage Tanks

The assessment, corrective action, and remedial activities for releases from UST and the oversight of their removal is a specialty at TTL Associates.

TTL has traveled from coast to coast, throughout the United States to work with a client to evaluate conditions and make recommendations to meet federal, state, and local regulations.

Reimbursement programs for the assessment and remediation of impacted soil and groundwater associated with releases from USTs are available from many states. TTL’s assessment identifies if the site meets the requirements for reimbursement. If it does, TTL prepares a reimbursement claim for you.

TTL Services include:
- Environmental Oversight of UST Removal
- Management of Petroleum-Impacted Soils
- Confirmation Soil & Groundwater Sampling
- Closure Report Preparation
- Installation of Groundwater Monitoring Wells & Soil Borings
- Release Reporting & Investigation
- Soil & Groundwater Remediation

Efficient and cost effective service is the “routine” at TTL. We avoid disruptions in your day-to-day business while helping you comply with all federal, state and local standards.
Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and durations sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. In addition to the more obvious standing water with typical wetland vegetation (i.e., cattails and lily pads), wetlands can include grassy meadows, shrubby fields, and mature forests. Wetlands provide natural flood protection, water quality improvement, and important habitat for wildlife, and thus, are highly regulated.

Wetlands management is generally overseen by the US Army Corp of Engineers (ACOE). In addition, many state and local governments have regulations or ordinances protecting wetlands. Permits are required to discharge material into any wetland, or modify, destroy a regulated wetland. Failure to obtain a permit or comply with a permit can result in civil and/or criminal penalties. The liability and risk associated with purchasing/developing a property can be greatly reduced with a wetlands determination/delineation by an experienced professional.

### Wetland Determinations

A Wetland Determination is performed to identify the presence or absence of regulated wetlands and their approximately boundaries and size at a property. This is accomplished through a field survey by an experienced professional and a review of available documentation, including: National Wetlands Inventory Maps; U.S. Department of Agriculture Soil Survey Maps; National List of Hydric Vegetation; Aerial Photographs; and a comparison of site soils to Munsell Soil Color Charts.

### Wetland Delineations

In the event that wetlands are identified at a property, a Wetland Delineation will designate non-wetland and wetland boundaries and provide photographic documentation of the findings. In addition, soil samples are collected, and vegetation and hydrology are evaluated in order to verify the wetland boundaries. The boundaries of any area found to meet the criteria of a jurisdictional wetland are surveyed and the findings can be submitted to the ACOE and other regulatory agencies (if necessary) for verification.
Testing Capabilities

Aggregate Testing
Asphalt Inspection & Testing
Caissons Inspection
Concrete Inspection & Testing
Foundation Inspection & Testing
Masonry Inspection & Testing
Parking Lot Assessment Programs
Roof Inspection & Testing
Soils Inspection & Testing
Structural Steel Inspection & Testing

Certified Independent Construction Laboratory for Quality Construction Material Testing Services.
Geotechnical Engineering Capabilities

Field Engineering & Testing
Flexible & Rigid Pavement Design
Foundation & Specialty Analysis
Geoprobe
Geotechnical Drilling
Groundwater & Drainage
Hard Rock Tunneling
Retaining Walls
Roadway & Transportation Studies & Pavement Designs
Shallow & Deep Foundation Systems
Soil Laboratory Testing
Soil Permeability
Soils Related Construction Procedures
Slope Stability
Subsurface Investigations
TTL’s professionals provide field testing and geotechnical drilling services, comprehensive geotechnical soil laboratory testing, and geotechnical design and construction recommendations for structures, pavements, embankments and containment facilities.

**Subsurface Investigations Include:**
- Shallow & Deep Foundation Systems
- Retaining Walls
- Flexible & Rigid Pavement Design
- Soils Related Construction Procedures
- Slope Stability
- Groundwater Control & Drainage
- Soil Permeability
- Hard Rock Tunneling
- Field Engineering
- Drilling

**Soil Laboratory Testing Includes:**
- Grain Size Analysis/Atterberg Limits
- Unconfined Compressive Strength (Soil & Rock)
- Moisture-density Relationship Determination (Proctors)
- One-dimensional Consolidation
- California Bearing Ratio (CBR)
- Triaxial Shear Tests (UU, CU, CD)
- Direct Shear
- Specific Gravity Determination
- Flexible Wall & Constant Head Permeability
- Resistivity
- Percentage of Organics Determination (Loss On Ignition, LOI)
- Determination of Optimum Percentage of Cement for Stabilization

**Field Testing Includes:**
- Foundation & Construction Inspection
- Field CBR Tests
- Static Plate Load Tests
- Field Resistivity Tests
- Caisson Inspection

*Environmental testing, geotechnical engineering*